



*Dry Bulk and Liquid Tank Services, Inc.
T/A DBL Tank Services, Inc.*

Parts and Service Catalog



Proud Distributors of



EMCO WHEATON

A **CARLISLE** COMPANY



 **Kuriyama of America, Inc.**

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How to find replacement parts using the Appendix

For ease in finding replacement parts (gaskets, o-rings, springs, spacers, etc.) DBL has set up an appendix with full parts breakouts. In the **appendix**, look up the name of the item you want to find parts for. When you find the item, you will be referred to a page containing the parts breakout for that particular item.

Example: If you are looking for replacement parts for a Betts Standard Wet-R-Dri Valve, you simply look under the **valves** category in the **appendix** for a Betts Standard Wet-R-Dri valve and turn to the appropriate page. On this page you'll find a parts breakout. Find the replacement part you need and write down the item number(s) or letter(s), the description, and the appendix page number. When calling in an order to DBL or to discuss a part, please reference the appendix page number, the replacement part item number and the description. This information helps cut down on errors in ordering and will help ensure that you will receive the necessary part or parts. It also helps when discussing parts with our customers. Knowing that we are both looking at the same diagram and talking about the same part greatly increases accuracy. If you cannot find the part you are looking for in the appendix, call DBL and we will do our best to help you find what you need.



Walker Stainless Equipment Company, Inc. has served the Dairy, Food, Beverage, Pharmaceutical and Chemical industries with over five decades of service. Walker prides itself in being one of the most versatile transport manufacturers in the industry. When it comes to special needs or customization, Walker will assist you with a great collection of designs, fabrication, accessories, and options that will perfectly match your required needs. We here at DBL offer *unparalleled flexibility* in tank repairs and modifications and find it a perfect match to be teamed up with a company such as Walker who strives to be the very best. DBL is a licensed Walker dealer for the Mid-Atlantic region and offers Walker's full line of trailers and transports.



For more information on any of Walker's fine line of trailers and/or transports, please call DBL and ask for our sales department. One of our knowledgeable sales representatives will help find the Walker that is right for you.

Can't find what you are looking for? DBL Tank Services also offers quality used tank trailers at competitive prices. Call today or visit our website to see what DBL has to offer. Our website is updated on a regular basis.



Trail King Industries, Inc., is the only equipment trailer manufacturer in the country with a complete line of trailers for the construction, transportation, and industrial markets. Trail King trailers range from 6,000 to 1 million pounds and are sold the world over.

Whether it be the Advantage Pneumatic Dry Bulk Trailer Series, the Red River Manufacturing bottom dump and live bottom trailers, or the Ti-Brook line of dump body and end-dump trailers; Trail King is sure to have the piece of equipment your company is looking for.

DBL is proud to be the Northeastern distributor for the full line of Trail King products. Call today and ask one of our sales associates for more information on what Trail King has to offer your company with their diverse line of trailers.

www.dbltank.com
tanksales@dbltank.com



Considered a leader in truck tank technology, Trans-Tech has developed units that have a lower center-of-gravity for safer road handling while still staying aesthetically pleasing. With a state-of-the-art facility, Trans-Tech produces expertly crafted tanks that have earned them a reputation as being one of the best in the industry.

For more information on any of the various models produced by Trans-Tech, please call one of our sales associates today for assistance in learning more about the model that will best suit your company's needs.



With 75 plus years of experience and pride, Amthor International produces a top-notch, reliable tank truck. With a wide array of styles and models to choose from, Amthor International takes it one step further by providing innovative ideas and solutions to customize any tank truck to meet your company's exact needs.

For further information on any of the models that Amthor International offers, please contact one of our sales associates for assistance.

Tanks Assembled By Advanced Tank Systems, Inc.
PA - MD -DE

DBL Used Equipment

DBL offers a wide variety of quality used equipment. Whether it be a tank for standing storage or a transport unit, DBL can find the right piece of used equipment for your company. DBL can also modify any used unit to meet your company's needs, offering greater flexibility when searching for a used unit. Several financing options are available upon request. Our stock of used trailers changes on a regular basis, so contact us today to see what we have to offer.

1-877-DBL-TANK
email: tanksales@dbltank.com



Emulsion Units



Farm Pick Up Units



Transport Units



Sweetener Units



Pneumatic Units



Petroleum Units



Chemical Units



Truck Mount Units



Standing Storage

Rental and Lease Equipment

As-well-as offering used equipment for sale, DBL also offers several different rental and lease options. With the needs of the trailer industry constantly changing, DBL offers the flexibility of renting equipment on a short term or long term basis. Whatever your company's needs are DBL will work with you to meet those needs. DBL's lease programs are just as flexible. Call us today for more information

1-877-DBL-TANK



Visit our website - www.dbltank.com
Used units updated on a regular basis

DBL Tank Services is the one stop location for all your trailer needs

National Board "R" Stamp Certificate #5221

From start to finish, DBL Tank Services prides itself in doing the job right. Whether it be fixing a simple crack or completely rebuilding a tank, DBL treats all repairs and modifications with equal importance. When it comes to repairing or modifying a tank or trailer, DBL offers *unparalleled flexibility* to meet the ever changing needs of the tank industry. Besides repairs, DBL also offers preventative & general maintenance programs, meter calibrations, HM 183 Testing & Inspections, FHWA Inspections, and much, much more. With an in-house fabrication department and a large selection of stock items, DBL is sure to be your one stop location for all of your trailer needs.

D.O.T. Reg #CT-7756



D.O.T Reg #CT-7756
National Board "R" Stamp
Certificate #5221

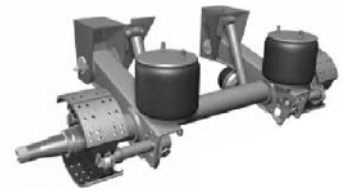
Testing and Inspections

DBL is a certified testing and inspection station that has full-time staff dedicated to the testing and inspection of your unit. Whether it be HM 183 Testing and Inspections or an FHWA Inspection, DBL can get you in and out in as little time as possible.

Suspensions



From replacing worn out brake shoes, re-bushing, or converting your trailer suspension from spring to an air ride; DBL can do it all. DBL uses quality suspension parts such as the Hendrickson Intraxx Air Ride Suspension and the Reyco 21B Spring Suspension. Whatever your suspension needs are DBL will be there to get the job done right.



Frame Repair

DBL is well known for its frame repair work. With our in-house fabrication department, DBL offers *unparalleled flexibility* when it comes to frame repairs and modifications. Whether it be duplicating an existing tank frame, converting one from carbon steel to stainless steel or from mild steel to aluminum, DBL will meet the needs of its customers.

Besides complete rebuilds, DBL also offers frame extension work as-well-as re-engineering poorly designed frames. No job is too big or too small when it comes to frame repair. Whether it's fixing a crack or rebuilding an entire frame, the same precision and detail is given to every job.



Modifications

Since its inception, DBL's goal has been to offer professional and expert service to the tank industry while offering *unparalleled flexibility* to meet the needs of its customers. Modifications offered, but not limited to are:

Spring to Air Ride Suspension
Cabinets
Vapor Recovery
Bulk Transport Trailer Modified to Remove Mini-Bulk
PTO Wet Line Systems
Vacuum Pumps
Food Grade Pumps
Tank Stretching
Manifold Systems for Gasoline Trailers
Steel to Stainless Steel Tandem and/or Frame

As hauling needs change, DBL will be there to assist you and your company to meet those changes. With professional advice and quality workmanship, DBL can help solve any problem you might have.



Preventive General Maintenance Programs

DBL offers a wide array of maintenance programs:

Tractor A & B Service
FHWA
Trailer PM Programs
Petroleum Home Delivery PM
Brakes
Customized PM Program designed by DBL and your company
DBL Summer PM Program (designed for home heating oil delivery trucks)

DBL works with many companies in designing and implementing a precise PM program to exactly meet their needs. Whatever your company's needs are, DBL will strive to meet them.

Major Barrel Repair

Whether it be a 3A Sanitary W2 Finish or ASME certified, you'll never know your trailer had barrel work done. From a simple crack to a complete rebuild, DBL can handle it all. With ASME accreditation, DBL is the barrel repair specialist to meet all the needs of your company.



Hydraulics

Let DBL help you get the load off quicker with hydraulic technology. DBL offers specialized hydraulics for the chemical, food grade, pneumatic, and petroleum transportation industry. From custom remote controlled operated hydraulic systems to the installation of the PTO and pump on your tractor, DBL can engineer and install it all. DBL can also trouble shoot any problems that you might have with your hydraulic system and fix it. Whether it be a complete overhaul or replacing a broken hydraulic line, no job is too big or too small for DBL to handle.



Fuel Delivery Truck Repair & Meter Calibration

DBL is the one stop location for your fuel delivery truck needs. With staff on hand dedicated to the repair and calibration of fuel delivery trucks, DBL ensures professional and quality service. Whether your unit needs a new hose reel, a crack repaired, new gaskets, or the meter needs recalibrated; DBL can get the job done.

In need of a part? DBL stocks a wide array of petroleum gear. To see what we offer refer to pages 164 thru 187 or call us today for further information.



Accident Damage

From broken outriggers to major roll-overs, DBL repairs accident damage on a regular basis and gets your tank or trailer back into service as-soon-as possible. DBL offers free estimates on accident damage and deals with all major insurance companies. When available, DBL offers rental units so that your company can reduce downtime when a trailer is out of service. For more information on accident damage repair and what DBL has to offer, please call or email us today.

phone: 1-877-DBL-TANK
email: dbltank@dbltank.com



DBL's Fabrication Department offers:

**Bend and shear capability of up to 3/8" mild steel
Stocking a full line of aluminum, stainless steel, and mild steel sheet metal,
pipe, angle, channel, box tube, sanitary tubing, ASME certified metals,
catwalk, and diamond plate
Standard Rolling & Buffalo Roll Capabilities
Punches
&
Much, Much More**



DBL's fabrication department offers *unparalleled flexibility* in designing, incorporating, and duplicating any part or design to meet our customers' needs. Whether it be a simple light bracket, a customized stainless steel bumper or cabinet, a customized car carrier, specialized parts made to customer specifications, or a complete rebuild of a tandem frame; DBL's fabrication department can get the job done.



DBL's Fabrication Department Stocks:

**Light Boxes, Upper Coupler Plates
Fenders, Bumpers
Light Brackets, Ladders
Catwalk, Hose Tube Straps
Customized Parts
&
Much, Much More**

Light Boxes & Light Brackets

DBL's fabrication department stocks 13 different styles of the tank industry's most popular light boxes. All light boxes are made in-house with attention given to every detail to ensure a clean and appealing light box. If you cannot find the light box you are looking for we can custom make a light box to your exact specifications. Whatever your light box needs are DBL's fabrication department can meet them.

In addition to light boxes, DBL stocks 5 different styles of light brackets with the option of customizing your own light bracket for your tank or trailer.

Hell Stainless Steel Light Box

18 gauge stainless steel construction with a 10 gauge mounting plate for extra support. Dimensions: 8" tall, 5" deep, and 27" long. Four 7/16" holes for mounting. Available in two hole sizes to accommodate Betts or Trucklite Lights. Standard 2-3/4" marker light on both. Please specify Betts or Trucklite style when ordering.



Butler Stainless Steel Light Box

18 gauge body and face, 14 gauge light end, and 10 gauge mounting plate. Dimensions; 8-1/4" tall, 5-1/2" deep, and 26-1/4" long. Two 4-3/4" holes for Betts lights and one 2-3/4" standard hole for marker light. Mounting plate has five 7/16" holes plus wiring holes.



Fruehauf Stainless Steel Light Box

16 gauge body and face, 14 gauge light end, and 10 gauge channel mount. Dimensions; 10" tall, 5-1/2" deep, and 26-1/4" long. Channel mount style with wiring holes and four 7/16" holes for mounting. Two 4-3/4" holes for Betts lights and one 2-3/4" hole for marker light.



Fruehauf Aluminum Light Box

.125 light end and face, .090 body, and .250 channel mount. Dimensions; 10" tall, 5-1/2" deep, and 26-1/4" long. Channel mount style with wiring holes and four 7/16" holes for mounting. Two 4-3/4" holes for Betts lights and one 3" hole for marker light.



Brenner Stainless Steel Light Box

18 gauge stainless steel construction with a 10 gauge channel style mount for extra support. Dimensions; 7-5/8" tall, 4-5/8" deep, and 27-1/2" long. Two 4-1/2" holes for Trucklite lights and one 2-3/4" hole for standard side marker. Four 7/16" mounting holes.



Polar Stainless Steel Light Box

18 gauge body, 14 gauge light end, and 10 gauge mounting plate. Dimensions; 7" tall, 4-1/4" deep, and 27-1/4" long. Two 4-1/2" holes for Trucklite lights and one 2-3/4" hole for standard side marker. Four 9/16" holes for mounting.



Hell Aluminum Extruded Light Box

.125 extrusion, .090 back, .190 light end and .250 mounting plate. Dimensions; 6" tall, 5" deep, and 28-1/2" long. Two 4-3/4" holes for Betts lights and one 2-3/4" hole for standard side marker. Four 7/16" holes for mounting.



Hell Aluminum End Mount Light Box

.125 body, .125 light end, and .250 mounting plate. Dimensions; 6" tall, 4-1/2" deep, and 27-1/2" long. Two 4-3/4" holes for Betts lights and one 2-3/4" hole for standard side marker. Four 7/16" x 5/8" slotted holes for mounting.



Hell Aluminum Back Mount Light Box

.125 body, light end, and wire end. Dimensions; 6" tall, 3-1/2" deep, and 27-1/2" long. Two 4-3/4" holes for Betts lights and one 2-3/4" hole for standard marker light. Three 7/16" x 5/8" slotted holes for mounting. Stainless steel reinforcement plate included.



Walker Stainless Steel Farm Pick-Up Light Box

Completely 16 gauge. Dimensions; 16" tall, 11-1/2" wide, and 12" deep. Three 4-1/2" holes for Trucklite lights and one 2-3/4" hole for standard side marker. No mounting holes.



Walker Stainless Steel Transport Light Box

18 gauge BA body and 10 gauge mounting plate. Dimensions 8" tall, 8" wide, and 28" long. Two 4-1/2" holes for Trucklite lights and one 2-3/4" hole for standard side marker. Three 9/16" holes for mounting.



Walker Stainless Steel Farm Pick-Up Light Box

Completely 16 gauge #4F. Dimensions; 21" tall, 9" deep, and 6" wide. Three 4-1/2" holes for Trucklite lights and 2-3/4" for standard side marker. 1-1/2" wire hole in back for wiring access. No mounting holes.



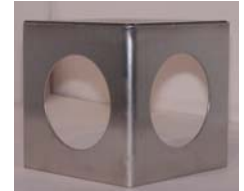
Stainless Steel Oval Midship Light Bracket

16 gauge stainless steel with 2-1/2" x 6-3/4" oval hole.



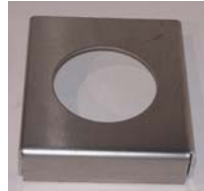
Rear Marker Light Bracket

Made of 16 gauge stainless steel with two 2-3/4" holes and a 4-1/2" square base for mounting. Dimensions: 4-1/2" x 4-1/2".



Walker Marker Light Bracket

Made of .090 Aluminum 5052 with standard 2-3/4" opening for side marker. Does not accept 1" x 4" reflector.



Walker Front Fender Marker Light Bracket

Made of .090 Aluminum 5052 with standard 2-3/4" opening for side marker. Accepts 1" x 4" reflector.

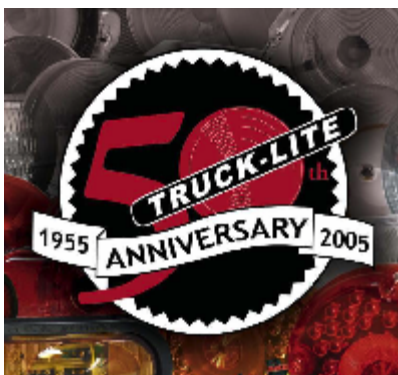


Walker Aluminum Oval Midship Light Bracket

Made of .090 aluminum 5052 with 2-1/2" x 6-3/4" oval hole.



DBL carries a large selection of Betts and Truck-Lite lights and accessories. To see what DBL has to offer please refer to pages 46-89 in the Electrical Section.



Upper Coupler Plates

All of DBL's upper coupler plates are fabricated and welded in-house in our Fifth Wheel Department. Made with AR36 Carbon Steel (abrasion resistant and used as armor plating), a double spool king pin, and quality crafted parts from DBL's own fabrication department, DBL offers a top notch upper coupler plate that exudes superior craftsmanship.

With over 20 styles of upper coupler plates in stock, DBL is likely to have the one you are looking for. Need a special upper coupler plate? DBL can make any customized upper coupler plate to meet the needs of your company. Call today for details.

Upper Coupler Plates

ALLIED

Side Angle Size	3"
Side Angle Hole Spacing	3"
Side Angle Bolt Hole Size	11/16"
Cross Member Length	38-3/8"
King Pin Offset	1"
Bolt Hole Spacing Across Plate	42-1/2"
Plate Size	38-1/2" x 41"

BARBEL

Side Angle Size	3"
Side Angle Hole Spacing	4"
Side Angle Bolt Hole Size	11/16"
Cross Member Length	36-7/8"
King Pin Offset	1"
Bolt Hole Spacing Across Plate	41"
Plate Size	38-1/2" x 38-1/2"

BRENNER

Side Angle Size	3"
Side Angle Hole Spacing	5-1/2"
Side Angle Bolt Hole Size	11/16"
Cross Member Length	38-3/8"
King Pin Offset	1"
Bolt Hole Spacing Across Plate	42-1/2"
Plate Size	38-1/2" x 41"

BUTLER #1

Side Angle Size	3"
Side Angle Hole Spacing	2"
Side Angle Bolt Hole Size	11/16"
Cross Member Length	36-7/8"
King Pin Offset	1"
Bolt Hole Spacing Across Plate	41"
Plate Size	38-1/2" x 38-1/2"



BUTLER #2

Side Angle Size	3"
Side Angle Hole Spacing	2"
Side Angle Bolt Hole Size	11/16"
Cross Member Length	31-7/8"
King Pin Offset	1"
Bolt Hole Spacing Across Plate	36"
Plate Size	36-1/2" x 38-1/2"

CUSTOM

Side Angle Size	2-1/2"
Side Angle Hole Spacing	3"
Side Angle Bolt Hole Size	9/16" or 11/16"
Cross Member Length	35-1/8"
King Pin Offset	1"
Bolt Hole Spacing Across Plate	38-1/4"
Plate Size	36-1/2" x 38-1/2"

FRUEHAUF

Side Angle Size	3"
Side Angle Hole Spacing	3"
Side Angle Bolt Hole Size	11/16"
Cross Member Length	34-7/8"
King Pin Offset	1"
Bolt Hole Spacing Across Plate	39"
Plate Size	38-1/2" x 38-1/2"

HEIL

Side Angle Size	2-1/2"
Side Angle Hole Spacing	3"
Side Angle Bolt Hole Size	11/16"
Cross Member Length	37-1/8"
King Pin Offset	1"
Bolt Hole Spacing Across Plate	40-1/4"
Plate Size	38-1/2" x 38-1/2"

KARI KOOL

Side Angle Size	3"
Side Angle Hole Spacing	4"
Side Angle Bolt Hole Size	11/16"
Cross Member Length	36-7/8"
King Pin Offset	1"
Bolt Hole Spacing Across Plate	41"
Plate Size	38-1/2" x 38-1/2"

POLAR #1

Side Angle Size	3"
Side Angle Hole Spacing	4"
Side Angle Bolt Hole Size	11/16"
Cross Member Length	36-1/8"
King Pin Offset	1"
Bolt Hole Spacing Across Plate	40-1/4"
Plate Size	38-1/2" x 38-1/2"

POLAR #2

Side Angle Size	3"
Side Angle Hole Spacing	4"
Side Angle Bolt Hole Size	11/16"
Cross Member Length	36-3/8"
King Pin Offset	1"
Bolt Hole Spacing Across Plate	40-1/2"
Plate Size	38-1/2" x 38-1/2"

TRAILMOBILE #1

Side Angle Size	2-1/2"
Side Angle Hole Spacing	3"
Side Angle Bolt Hole Size	11/16"
Cross Member Length	35-1/8"
King Pin Offset	1"
Bolt Hole Spacing Across Plate	38-1/4"
Plate Size	38-1/2" x 38-1/2"

TRAILMOBILE #2

Side Angle Size	2-1/2"
Side Angle Hole Spacing	3"
Side Angle Bolt Hole Size	11/16"
Cross Member Length	36-7/8"
King Pin Offset	1"
Bolt Hole Spacing Across Plate	40"
Plate Size	38-1/2" x 38-1/2"

WALKER #1

Side Angle Size	3"
Side Angle Hole Spacing	3"
Side Angle Bolt Hole Size	11/16"
Cross Member Length	30-7/8"
King Pin Offset	1"
Bolt Hole Spacing Across Plate	35"
Plate Size	36-1/2" x 38-1/2"

WALKER #2

Side Angle Size	3"
Side Angle Hole Spacing	2"
Side Angle Bolt Hole Size	11/16"
Cross Member Length	30-7/8"
King Pin Offset	1"
Bolt Hole Spacing Across Plate	35"
Plate Size	36-1/2" x 38-1/2"

WALKER #3

Side Angle Size	3"
Side Angle Hole Spacing	3"
Side Angle Bolt Hole Size	11/16"
Cross Member Length	36-3/8"
King Pin Offset	1"
Bolt Hole Spacing Across Plate	40-1/2"
Plate Size	38-1/2" x 38-1/2"

HEIL LARGE BULKER PLATE

Side Angle Size	3"
Side Angle Hole Spacing	2"
Side Angle Bolt Hole Size	11/16"
Cross Member Length	31-7/8"
King Pin Offset	28" from front
Bolt Hole Spacing Across Plate	36"
Plate Size	custom

HEIL SUPER WIDE

Side Angle Size	2-1/2"
Side Angle Hole Spacing	3"
Side Angle Bolt Hole Size	11/16"
Cross Member Length	43-1/8"
King Pin Offset	1-1/2"
Bolt Hole Spacing Across Plate	46-1/4"
Plate Size	custom

Other available upper coupler plates: Nova, Acro, Mississippi, J & L, West Mark, and Beall. For more information and specifications on these or any other upper coupler plates please call DBL.

Phone: 1-877-325-8265

Fax: 1-717-653-4106

Email: dbltank@dbltank.com

Ladders

Whether it be a standard manufacturer ladder or a customized ladder, DBL can make the ladder that is right for your trailer. Specializing in stainless steel ladders (aluminum and steel ladders also available upon request), DBL stocks ladder parts from Polar, Brenner, Walker, and Tremcar. Is your ladder damaged? DBL can duplicate parts to fix your ladder instead of having to completely replace it.



Cabinets

DBL offers a full range of cabinets in stainless steel, aluminum, or mild steel. Styles include, but are not limited to; full belly cabinets, gull wing cabinets, box trailer cabinets, utility cabinets, sanitary cabinets, and custom cabinets made to customer specifications. DBL uses only quality hardware on all its cabinets.

All cabinets are made in-house. Special dies allow for precision bending and better fit with the end result being a strong, aesthetically pleasing cabinet. For your next cabinet be sure to call DBL.

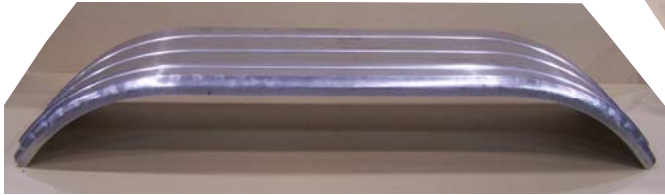


Fenders and Bumpers

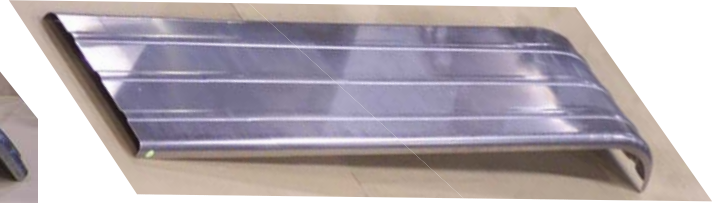
DBL stocks several varieties of fenders and bumpers. If you cannot find the fender or bumper that you need, DBL can custom make the one that is right for you.

DBL stocks these quality fenders:

Heil Front and Rear Aluminum Contour Fenders
Walker Front and Rear Aluminum Contour Fenders
Polar Front and Rear Aluminum Contour Fenders
Brenner Front and Rear Stainless Steel Contour Fenders



Walker Rear Aluminum Contour Fender



Walker Front Aluminum Contour Fender

Walker Stainless Steel Bumper

10 gauge stainless steel channel style bumper measuring 96" long. Dimensions: 3" x 10" x 3" with a 2" return flange.



Walker Aluminum Bumper

Channel style, aluminum extruded bumper measuring 96" long. Dimensions: 3" x 13" x 3" with a 2-1/2" return flange.



Stainless Steel Chemical Bumper

10 gauge #4F stainless steel channel style bumper measuring 96" long. Dimensions: 2" x 8-1/2" x 2"



Bumper Block

Box tube style bumper block made of 3/16" stainless steel measuring 60" long.

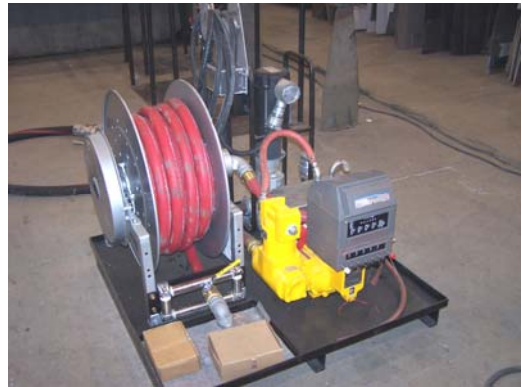


Custom Fabrication

DBL's fabrication department is well known for its diversity and ability in making duplicate and customized parts for tank repairs, but our fab department can do much more than this. Whether it be a crunch catcher, specialized petroleum gear, custom car carriers, racks for pick up trucks, or customized cabinets; DBL's fab department offers *unparalleled flexibility* when it comes to the needs of our customers. For more information on what our fabrication department has to offer you and your company, please call DBL today.



Customized racks for vehicles



Portable petroleum metering system



Gull wing cabinet



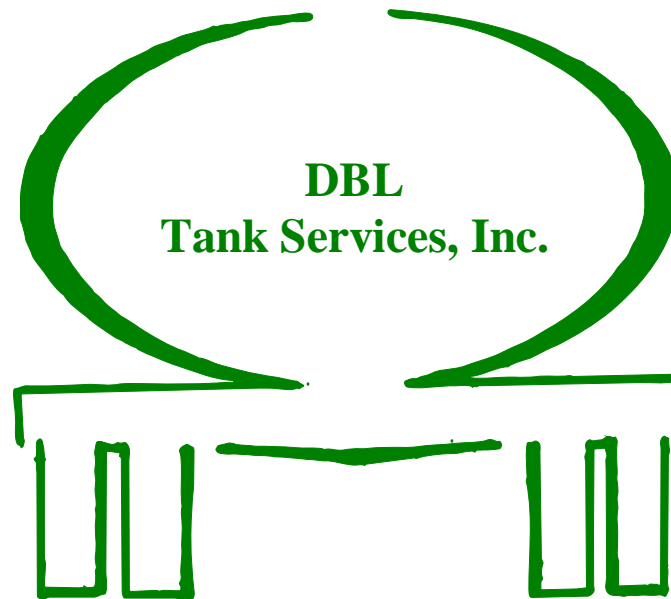
Crunchy-Catcher: stainless steel screen in center to breakdown clumps to speed up unloading



Customized car carrier frame work



Customized carrier with diamond plating and storage area



For Pricing

Call DBL Toll Free: 1-877-DBL-TANK

Monday thru Friday

7:00 AM - 5:00 PM

Saturdays

6:00 AM - 12:00 AM

**Or you can fax or email us at anytime and
we will get back to you ASAP**

Fax: 717-653-4106

Email: dbltank@dbltank.com

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16-1/2" Brake Shoes

DBL stocks brake shoes for the 16-1/2" Fruehauf XEM Series and 16-1/2" Rockwell Q Series. Other brake shoes are available upon request.



Part#	Description
ACSSHOEF	16-1/2" Fruehauf
ACSSHOER	16-1/2" Rockwell

Wabco ABS Sensor

This sensor is compatible with the Easy Stop and the Enhanced Easy Stop ABS system.



Part#	Description
ELEABSS12	ABS Sensor
ELEABSSC	ABS Sensor Clip

16-1/2" Brake Spring Kits

Kits include return and retainer springs, spring clips, roller retainers, anchor pins, mild steel bushings, rollers, and cotter pin. Kits also available with brake shoes included.



Part#	Description
ACS4515X01	Fruehauf XEM Series Kit
ACS4515Q01	Rockwell Q Series Kit

ABS Valves

Standard ABS valve for ABS systems



Part#	Description
ELEABSECU	Wabco 400-500-103-0 Brake Valve
AIR110800	Sealco ABS Service Valve

S-Cam Bushing Kits

Part#	Description
ACS08-132110	1-3/4" diameter bushing w/ 4 bolt mounting plate
ACS08-132111	1-1/2" diameter bushing with 3 bolt mounting plate
ACS08-132100	1-3/4" bushing with 4 bolt mounting plate for Dana systems
ACS08-132800	1-5/8" diameter bushing with 4 bolt mounting plate

5/8" -18 Clevis With Pin

Part# ACSCLEVIS

Standard clevis pin for 30/30 brake chamber and manual slack adjuster.



Clevis For Auto Slack Adjuster

Part# ACSCLEVISA

Standard clevis pin for 30/30 brake chamber and auto slack adjuster.



S-Cam Kit For Intraxx

Part# ACS08-130311

This kit provides all the necessary hardware to service cam shaft bushings on Hendrickson Intraxx AA-230 and AA-250 axles.



S-Cam Shaft Seal

DBL carries a wide array of S-Cam shaft seals. Featured are our most commonly requested s-cam shaft seals.



Part#	Description
SUS02-304	S-Cam Shaft Seal 1.5" x 1.87" x .25"
SUS02-313	S-Cam Shaft Seal 1.62" x 2" x .25"

Midland Gladhand Seals

Part# **AIR35007**

Midland Gladhand seals are made to fit with Midland Emergency and Service Gladhands.



Air Brake Chamber

Part# **AIRBKCHAM**

30/30 standard stroke tandem brake chamber.



Hendrickson S-Cam

28 Spline s-cam shaft for Intraxx 1-1/2" diameter x 11-3/16" long.



Part#	Description
SUSS24636-1L	Left Hand S-Cam
SUSS24636-1R	Right Hand S-Cam

Midland Emergency and Service Gladhands

DBL stocks a wide variety of both service and emergency gladhands for straight mount or 38° angle mount.



Part#	Description
AIR11451	Emergency Gladhand
AIR11452	Service Gladhand
AIREGH38	Angle Emergency Gladhand
AIRSGH38	Angle Service Gladhand

Midland Gladhand Blocks

Aluminum blocks used to mount gladhands on popular style nose boxes.



Part#	Description
AIRB26003	
AIRB26004	

Sealco Standard Service Valve
Part# AIR110700

Service valve for non-ABS braking systems. Designed for use with a single reservoir on a typical single or tandem axle trailer application.



Sealco ABS Service Valve
Part# AIR110800

Service valve for ABS braking systems.



Air Tank Drain Valve With Cable
Part# AIR12105

Remotely operated steel valve to drain air tanks.



1/4" Humphrey Toggle Valve
Part# AIR125V

Steel cylinder type air valve for retail truck flow control system.



3/8" Humphrey Dump Valve
Part# AIR250V

3/8" cylinder type valve, used as dump valve for air ride suspension systems.



B/W Inversion Valve
Part# AIR277340

Steel multi-port valve for use in truck brake-lock applications.



Air Pressure Protection Valve
Part# AIR31000

One way steel check valve designed to protect air brake system.



Set of Two 3/8" Air Hose Fittings
Part# AIR31402

Quik-Fix air brake fittings for field installation on 3/8" air brake hose.



Set of Two 1/2" Air Hose Fittings
Part# AIR31403

Quik-Fix air brake fittings for field installation on 1/2" air brake hose.



Schrader Bellows Air Valve
Part# AIR34190099

Brass lever operated air valve used to operate trailer brakes and air vapor vents.



Air Protection Valve
Part# AIR378414

One way steel check valve designed to protect air brake system.



Schrader Air Valve
Part# AIRW2P

Brass body push/pull valve used as a manual dump for air suspensions.



Humphrey Air Valve

Part# **AIR41PPX**

Brass body, 1/4" manually operated valve used to open and close air operated Solimar dome lids.



B/W Double Check Valve

Part# **AIRDC-4**

All ports 3/8" NPT and may be mounted in any position. Replaces Velvac 2-way shuttle valve.



3/4" Full Function Valve

Part# **AIRFF-2-3/4**

Single valve system for single and tandem axle trailers. Prevents automatic braking in the event of in-service, service system failure. Protects supply line to 70 PSI.



B/W Inversion Valve

Part# **AIRTR-3**

3/8" air valve used for various brake interlock applications.



Humphrey 3/8" Shuttle Valve

Part# **AIRQE3**

Humphrey Super Quick Exhaust valves feature a special molded shuttle designed especially for quick exhaust valve service. **Other sizes and models available.**



3/8" Air Quick Release Valve

Part# **AIRQR-1**

3/8" NPT exhaust port, (2) 11/32" mounting holes at 1-1/2" on center, and cracking pressure of 1 PSI. 3/8" and 1/2" supply port sizes available.



Clippard Valves

Brass body 1/8" air valves used for fuel oil delivery and various other applications.



AIRTV4-DMP



AIRMJTV-3



AIRMJVO-3



AIRMPA3P

Air Relay Valves



Part#	Size
AIRRG-2	1/2" Reservoir and Delivery Ports
AIRRT-4	Multi-Function Trailer Valve

Trailer Spring Brake Air Valve

Part# **AIRSR-5**

3/4" NPT reservoir mounting port, 1/4" NPT service/spring brake reservoir, trailer supply and trailer service ports, four 3/8" delivery ports and anti-compounding.



Part#	Description
AIRFV3P	Inversion Valve
AIRMJSV1	Shuttle Valve
AIRMJTV-3	Air Switch
AIRMJVO-3	Valve
AIRMPA3P	Valve Actuator
AIRTV4-DMP	Dump Valve

Air Toggle Valve

Part# **AIRWM219-C4**

Steel 1/8" manually operated open/close air valve.



Dixon 1/4" Mini-Oiler
Part# **DIXF00-02AMB**

DBL stocks a complete line of 1/4" air components for air panels on fuel delivery trucks and for various other uses.



Air Brake Regulator
Part# **AIRR-12**

This air brake regulator is used to supply air to the service side of the brake system.



1/2" Full Function Regulator
Part# **AIRFF-2**

Single valve system for single and tandem axle trailers. Prevents automatic braking in the event of in-service, service system failure. Protects supply line to 70 PSI.



Double Hose Hanger
Part# **AIRHH**

Two piece, plastic clamp with steel eye bolt designed to hold two 1/2" air hoses.



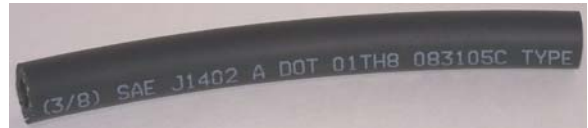
Hose Spring
Part# **AIRHS**

Steel coil spring with loop ends designed to suspend air hoses from hose pole on tractor.



3/8" Air Hose
Part# **AIRHOSE6**

3/8" ID DOT specification air hose with black weather proof cover.



Nylon Coiled Supply and Emergency Hose

Nylon coiled air supply hoses with 1/2" NPT ends. Available in blue for service or red for emergency.



Hose Separators

Plastic clips designed to separate two air brake hoses.



Part#	Description
AIRSCB	Blue
AIRSCR	Red

Part#	Size
AIRHSS	5/8"
AIRHSM	3/4"
AIRHSL	7/8"

Air Tube

Nylon DOT spec. air tube for use in trailer brake and various other applications. Various sizes and colors available.



Part#	Size
AIRTUBE2	1/8"
AIRTUBE3	3/16"
AIRTUBE4	1/4"
AIRTUBE6	3/8"
AIRTUBE8	1/2"
AIRTUBE10	5/8"

Air Tanks

Steel, pressure tanks designed to supply air for trailer brake applications.



Part#	Size
AIRTANK8	8"
AIRTANK10	10"
AIRTANK12	12"

1/4" Drain Cock

Part# MISDC

Brass body 1/4 turn valve used for various applications in air, water, or Petroleum service.

Various sizes and configurations available.

Please call DBL for further information.



Male X Female Petcock

DBL stocks a diverse line of brass body 1/4 turn valves.

Various sizes and configurations available.

Please call DBL for further information.



Can't Find The Part You Are Looking For?

Call DBL today. We are expanding our inventory on a regular basis to meet the needs of our customers.

In Need Of a Special Order?

DBL will help your company when it comes to ordering those special items that are hard to come by or those orders that need to be customized to meet your company's specific needs.

For help regarding any questions,
call 1-877-DBL-TANK
Business hours
Monday-Friday
7 AM - 5 PM
Saturday
6 AM - 12 PM

Clamps

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Morris Clamps

Used for Dry Bulk transfer lines, this T-bolt style clamp is made of steel and available in three different sizes. Other sizes also available upon request.



DRYC3501



DRYC6-3C

Part#	Size
DRYC3501	3"
DRYC4501	4"
DRYC6-3C	6"

Allegheny Aluminum Clamps

This inexpensive aluminum clamp is used for grooved end pipes for dry bulk transfer lines.



Part#	Size
ALG20358	2"
ALG20359	2-1/2"
ALG20360	3"
ALG20361	4"

Victaulic Bolt and Nut

Mild steel, flanged head bolt and nut for use with Victaulic clamps. Available in other sizes upon request.



Part#	Size
CLABL38200	3/8" x 2"
CLABL50212	1/2" x 2-1/2"
CLABL50234	1/2" x 2-3/4"
CLABL58314	5/8" x 3-1/4"

Civacon 3" Valve Mounting Clamp

Part# MISCIV865K-3

Steel clamp mounts on vapor pipe and drilled and tapped to accept air interlock valve. Available for 3" or 4" pipe.



Voss Sanitary Hose Clamps

Stainless steel 3A Sanitary hose clamps with knurled wheel for quick removal. Available in other sizes upon request.

Part#	Size
CLAVOSS238	2-3/8"
CLAVOSS300	3"
CLAVOSS350	3-1/2"
CLAVOSS400	4"

Victaulic Clamp with T Seal

Cast iron, lightweight clamp for grooved end pipes. Available in other sizes upon request.



Part#	Size
CLAVIC2	2"
CLAVIC2.5	2-1/2"
CLAVIC3	3"
CLAVIC4	4"

Stainless Steel U-Bolt Clamps

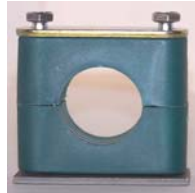
Made of 304 stainless steel, these clamps are ideal for a wide variety of applications.



Part#	Description
CLAU1/4	1/4"
CLAU3/8	3/8"
CLAU1/2	1/2"
CLAU3/4	3/4"
CLAU1	1"
CLAU1-1/4X4	1-1/4" X 1/4"
CLAU1-1/4X5	1-1/4" X 5/16"
CLAU1-1/2	1-1/2"
CLAU1-1/2L	1-1/2" Long
CLAU2	2"
CLAU2L	2" Long
CLAU3	3"
CLAU3L	3" Long
CLAU4	4"
CLAU5	5"
CLAU6	6"
CLAU8	7"

Anti-Vibration Clamps

Two piece, polymer clamps used to absorb vibration in air and hydraulic lines. Comes complete with all necessary parts.



Part#	Description
CLAAV3/4P	3/4" Pipe
CLAAV3/4T	3/4" Tubing
CLAAV1P	1" Pipe
CLAAV1T	1" Tubing
CLAAV1.5P	1-1/2" Pipe
CLAAV2P	2" Pipe

Ideal Clamps

Heavy duty, stainless steel worm gear type hose clamp. Available in many different styles and useful for many different applications.



Part#	Hose O.D. Range
CLA#4	1/2"
CLA#6	32/64" to 58/64"
CLA#12	44/64" to 1-16/64"
CLA#20	52/64" to 1-48/64"
CLA#24	1-4/64" to 2"
CLA#28	1-20/64" to 2-16/64"
CLA#32	1-36/64" to 2-32/64"
CLA#36	1-52/64" to 2-48/64"
CLA#40	2-4/64" to 3"
CLA#48	2-36/64" to 3-32/64"
CLA#56	3-4/64" to 4"
CLA#80	2-32/64" to 5-32/64"

Stainless Steel CIP Clamp For Sanitary Pipe

3A Sanitary stainless steel single pin clamp for clean in place fittings.



Part#	Size
SANC1.5	1-1/2"
SANC2	2"
SANC2.5	2-1/2"
SANC3	3"
SANC4	4"

Dixon Bayco Stainless Steel Punch-Lock Clamps

Used for hose clamping operations where a permanent type clamp is required. Made of heavy-duty stainless steel, this clamp is made to stand up to the rigors of everyday use.



Part#	Size
DIXFS8	2"
DIXFS16	4"
DIXFS20	5"
DIXFS24	6"
DIXFS32	8"

Victaulic Clamps with Handles

Aluminum body, lever operated clamp designed for quick removal and installation on dry bulk transfer pipes. Available styles: groove x groove, groove x pipe, and pipe x pipe.



Part#	Description
DRYCA3GGW	3"
DRYCA4GGW	4"
DRYCA5GGW	5"
DRYCA6GGW	6"

Double Hose Hanger

Part# AIRHH

Two piece plastic clamp with steel eye bolt designed to hold two 1/2" air hoses.



Betts 5" Vent Clamp

Part# BET26235SL

Stainless Steel clamp used in conjunction with Betts 5" push vent. Also available in 3".



Special Orders

DBL can special order items upon request. Many times these include parts on discontinued items or oddball, hard-to-find parts that are not easily found. DBL will do its best to help you and your company find the parts it needs while delivering the quality service that will help keep your business up and running.

Service and Repairs

With an “R” Stamp of approval and ASME Certification, DBL is your one stop location for parts and quality service. DBL offers HM 183 and FHWA Testing and Inspections as-well-as repair and modification work for all types of tankers and trailers.

For more information
call
1-877-DBL-TANK

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Aluminum Dry Bulk Tee

Cast lightweight aluminum, one piece casting, groove x groove x flange design, and dimensionally interchangeable with industry standard offerings. **Other sizes available upon request.**



Part#	Size
DRYT444	4"x 4"x 4"
DRYT544	5"x 4"x 4"
DRYT644	6"x 4"x 4"

Heil 1 & 3 Port Aerator

Heil aerators mount in the hopper of dry bulk trailers and use air flow and vibration to eliminate clogging and to speed up unloading time. **For parts breakout see Appendix A-1.**



Part#	Description
DRYAH1	Heil 1 Port Aerator
DRYAH3	Heil 3 Port Aerator
DRYHHS	Heil Hopper Seal
DRYHAG	Heil Aerator Gasket
DRYCONEH	Heil Blue Cone

Sure Seal 1 & 3 Port Aerators

The SureFlo system has increased efficiencies of 20% to 50% over that of some competitors. *SureFlo aerators are interchangeable with Solimar, Heil, Polar, and Fruehauf aerators.* **See Appendix A-2 for a full parts breakout.**



Part#	Description
DRYA101	Sure Seal 1 Port Aerator
DRYA103	Sure Seal 3 Port Aerator
DRYA105	Gray Housing
DRYA108	Gasket
DRYA110	Wing Nut
DRYCONESS	Blue Cone

Drop Bottom Tee and Parts

Cast lightweight aluminum, one piece casting, groove x groove x flange design, and dimensionally interchangeable with industry standard offerings and easy to use swing out bottom drop. **Other sizes available upon request. See Appendix O-1 for parts breakout.**



Part#	Description
DRYBOLT	9"x 5/8"-11 Bolt
DRYT644DB	6"x 4"x 4" Aluminum Drop Bottom Tee
DRYT666DB	6"x 6"x 6" Aluminum Drop Bottom Tee
DRYDOORDBT6	Door Assembly for 6" D/B Tee
DRYDOORDBT8	Door Assembly for 8" D/B Tee
DRYWDBT	5/8"-11 Wing Nut
DRYG6DBT	Gasket for 6" D/B Tee
DRYG8DBT	Gasket for 8" D/B Tee

Sollmar 1 & 3 Port Assembly

Sollmar's disk fluidizer system provides aeration and vibration for fast, efficient unloading of dry bulk materials.



See Appendix A-3 & A4 for parts breakout.

Part#	Description
DRYS111141	Sollmar 1 Port Assembly
DRYS111161	Sollmar 3 Port Assembly
DRYS4124	Blue Cone
DRYS4125	Gray Stem
DRYS4126B	Stainless Steel Hopper Saver
DRYS4127	Blue Disc
DRYS4129	Stainless Steel Tee Handle
DRYS4621	1 Port Clear Manifold
DRYS4623	3 Port Clear Manifold

Sollmar Fluidizer Plates

Fluidizer plates replace fabric pads and aerator plates used in Fruehauf and other bulk trailers. Installed in the trailer hopper plenum, the plate provides far superior unloading performance compared to fabric pads - faster unloading and better cleanout all with less mess. **Please refer to Appendix A-5 thru A-6 for a full parts breakout.**



**Faster Unloading
Less Maintenance
Longer Life
Better Clean-out
No Plugged Lines**



CEMENT / SAND / FLYASH / PEBBLE / LIME / PLASTICS / FLOUR

For a complete list of replacement parts and parts breakout, please refer to **Appendix N-7 thru N-9**.

Drum 450 Series Dry Bulk Truck Drum Blower

High Performance Blower Package for Dry Bulk Discharge

Simple design for easy field maintenance.

325 CFM up to 25 psi (HPD 450), 29 psi (XHPD 450)

Features and Benefits:

Low noise pollution: Low rotor speed and internal compression provide a smoother air stream.

Compact design: Allows direct PTO mount and easy installation. Dual rotation: Allows any 6 or 8 bolt PTO installation.

Plated components: Nickel Chrome plated rotor and PTFE coated side plates for corrosion free operation.

Minimal maintenance: Grease packed roller bearings. 100% oil free air: Special carbon vanes which automatically adjust for wear giving continuous full performance.

Low horsepower: Efficient design allows use of 6-bolt PTO.

Cooler Truck Blower: Allows for greater machine life and extends hot hose life on the trailer.

Quick Strip Design: For easy service in the field.

DRUM 807 and 907 Blowers

DRUM has designed the most versatile blower available today that will off load or vacuum load any product you can carry

Twin Drive Shaft allows for either direction of rotation and correct alignment of drive shaft upon installation.

Oil Lubrication both ends, reduce bearing temperatures and no greasing required.

Diamond Port Design greatly reduces noise and smoothes out airflow.

Computer Designed Ribbing on body, end plates, and gear cases.

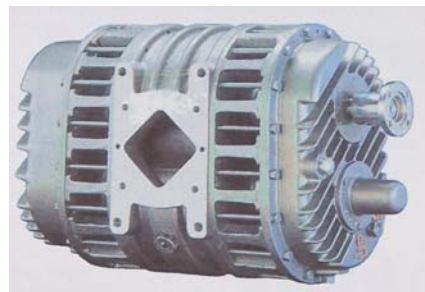
Drum Blowers Geared for Higher Efficiency

Cooler running; more efficient rotor profile.

Higher pressure; shorter rotor; less deflection.

Precision ground, helical gears keyed to shaft providing positive timing and easy maintenance.

Dynamically balanced rotors.



For a complete list of replacement parts and parts breakout, please refer to **Appendix N-1 thru N-6**.

Morris 6" Dry Bulk Clamp

Used for Dry Bulk transfer lines, this T-bolt style clamp is made of steel.

Other sizes also available upon request.



Part#	Description
DRYC6-3C	6" Clamp
DRYC6-3CG	6" Gasket

White Dry Bulk Clamp Gasket

White FDA approved Nitrile gasket for use in dry bulk line clamps.



Part#	Size
DRYGW3	3"
DRYGW4	4"
DRYGW5	5"
DRYGW6	6"

Miscellaneous Seals and Parts for Dry Bulk Domes

DBL offers a wide array of dome lid gaskets and related parts. If you do not see what you need please call DBL's parts department for further help in getting the replacement part you need.

Part#	Description
DRY3519	Knappco LM Cover Latch Assembly
GASDOMEBUTDB	Butler Dry Bulk Dome Seal
GASDOMEFRUBK	Fruehauf Black Dome Gasket
GASDOMEFRUWH	Fruehauf White Dome Gasket
GASDOMEKNBKMM	Knappco Black Buna Gasket
GASDOMEKNWHLM	Knappco White Lid Gasket
GASDOMEKNWHMM	Knappco White Buna Gasket
GASDOMESOLI	Solimar Inner Lid Seal
GASDOMESOLO	Solimar Outer Lid Seal

Gardner Denver Fusible Plug

Part# **MISGD8501246**

This plug is used on the CDL 9, 12, and 15 Series blowers. This plug audibly alerts operator when blower is in danger of over heating.



Morris Dry Bulk Clamps

Used for Dry Bulk transfer lines, this T-bolt style clamp is made of steel.

Other sizes also available upon request.



Part#	Description
DRYC3501	3" Clamp
DRYC4501	4" Clamp
DRYC3501G	3" Gasket
DRYC4501G	4" Gasket

Victaulic Clamps with Handle

Aluminum body, lever operated clamp designed for quick removal and installation on dry bulk transfer pipes.

Available styles: groove x groove, groove x pipe, and pipe x pipe.



Part#	Description
DRYCA3GGW	3"
DRYCA4GGW	4"
DRYCA5GGW	5"
DRYCA6GGW	6"

Hell Six Hole Aluminum Valve Flange

Aluminum 6 hole flange designed to attach to tank hopper for mounting discharge valves. **Four sizes kept in stock with other available upon request.**

Part#	Size
DRYFR3	3"
DRYFR4	4"
DRYFR5	5"
DRYFR6	6"

Drum Melt Plug

Shure Melt plug audibly alerts operator and allows continued operation at lower pressure with a consistent release of temperature from each plug.



Hell Six Hole Aluminum Valve Flange

Aluminum 6 hole flange designed to attach to tank hopper for mounting discharge valves. **Four sizes kept in stock with others available upon request.**

Part#	Size
DRYFR3	3"
DRYFR4	4"
DRYFR5	5"
DRYFR6	6"

Dixon Bayco 4" Check Valve Repair Kit

Part# **DRY4040RK1**

Flapper replacement kit and necessary hardware for 4040RD check valve.

3" Square Aluminum Flange

Part# **DRYFS3**

Aluminum 4 bolt weld flange designed to mount 3" check valve.



Dixon Bayco 4" TTMA Flanged Check Valve

Part# **DRY4040RD**

4" swing check valve with white Nitrile disc for use in air or product lines on dry bulk transfer applications.



Dixon Bayco 3" Swing Check Valves

High flow body design, drop in flapper assembly, high temperature white food grade seal, easy maintenance inspection lid, captive springs and shaft to prevent contamination, and stainless steel hardware.

Available in many different styles. For details, please contact DBL.



Dixon Bayco 3" and 4" Swing Check Valves

Cast aluminum and bronze inspection caps. Safety flapper assembly - all flapper assemblies are drilled and pinned and will not come apart. Choice of seals: metal to metal, Buna or Silicon rubber seals. Choice of models with or without spring loaded flapper. Full flow design - flappers swing out of flow path for maximum flow and low resistance. Designs with large caps allow flapper repair/rebuild on unit.

Available in many different styles, call for further details.



3" Round Flange



3" Threaded Ends



3" Squared Flange



4" Round Flanged or Threaded Ends

Dixon Bayco 2" Swing Checks

Aluminum cast, square flanged and threaded models. Self-aligning, molded "white food grade EPDM" rubber flapper assembly (350° Fahrenheit) with externally mounted springs to prevent ingestion of parts. Easy Open (no tools required) inspection cap and full flow performance.



Squared Flange



Female NPT

Dixon Bayco Horizontal Swing Check Valves

Female NPT x Female NPT

A positive seating disc allows flow only in one direction and a screw in cap provides easy access for cleaning. For horizontal or vertical use. Rated to 200PSI WOG. Brass body and disc. Temperature range -20° Fahrenheit to 150° Fahrenheit.



Dixon Bayco In-line Sight Glass

Designed for dry bulk transfer applications. Available in combination of 3" or 4" coupler or adapter ends. Includes aluminum bodies, Buna seals, acrylic sight glass, stainless steel hardware and bronze arm cams where applicable.



Dixon Bayco Butterfly Valves with Nodular Iron Disc

Aluminum body with nodular iron disc. Stem bushings are made of thermal plastic polymer top and bottom. Stem packing is a Buna-N. Nitrile, FDA approved resilient black seat. Handle is high strength 713 alloy aluminum with retrogressive rearing process - stronger than industry standard cast iron handles. Five position, high strength aluminum alloy throttling plate.

Available in 2", 3", 4", 4" TTMA, 5" and 6"

For replacement parts, accessories, and further specs see [Appendix K-6 & K-7](#)



Dixon Bayco Butterfly Valves with Stainless Steel Disc

Aluminum body with stainless steel disc. Stem bushings are made of thermal plastic polymer top and bottom. Stem packing is a Buna-N. Nitrile, FDA approved white seat. Handle is high strength 713 alloy aluminum with retrogressive rearing process - stronger than industry standard cast iron handles. Five position, high strength aluminum alloy throttling plate.

Available in 3", 4", 5" and 6"

For replacement parts, accessories, and further specs see [Appendix K-6 & K-7](#)



Butterfly Valves with 316 Stainless Steel Disc

Aluminum body with stainless steel disc. Stem bushings are made of thermal plastic polymer top and bottom. Stem packing is a Buna-N. Nitrile, FDA approved white seat. Handle is high strength 713 alloy aluminum with retrogressive rearing process - stronger than industry standard cast iron handles. Five position, high strength aluminum alloy throttling plate. Available in 3", 4", 5" and 6"



For replacement parts, accessories, and further specs see Appendix K-6 & K-7

Handle Assembly for Ultra Flow

Aluminum handle with notched plate and mounting hardware for use on any ultra-flo dry transfer valve.



Part#	Description
DRYH23	2" - 3"
DRYH46	4" - 6"

Milwaukee Valve With Handle Part# DRYV4MV

With a cast iron body this valve is used for many dry bulk line applications. Available in other sizes upon request. Available in sizes 2" thru 12".



Sure Seal Valve With Handle Part# DRY890-3

Butterfly type valve designed for use in air or product lines. Standard with steel handle. Available in sizes 2" thru 12".





Butler Aluminum Manhole

Butler style 6-cam manhole for dry bulk applications. **DBL offers all assemblies and spare parts for this series of manholes.** Please refer to **Appendix C-1** for a full breakdown of replacement parts.

Solimar Hopper Cones

Aluminum hopper cones for dry bulk trailer applications. Whether you are looking for bolt-on, or weld on (26"/45° only) applications, DBL offers a variety of sizes to fit your needs.

Available Hopper Cones

- 26" ID / 45° SLOPE
- 30" ID / 38° SLOPE
- ALUMINUM
- WELD ON
- BOLT ON

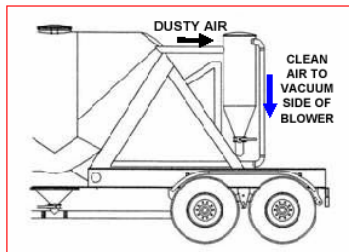


Solimar Easy Out Hopper Access Door

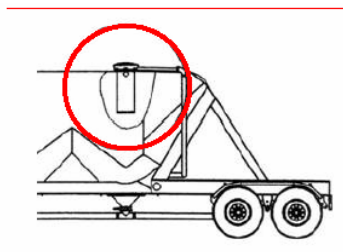
Access door allows easy hopper interior inspection or install Solimar aerators without getting inside the product compartment. Stainless steel construction makes Solimar's E-Z Out Access Door ideal for food, chemicals, and plastics.

Molded on food grade gasket provides low profile for minimum product hang-up. Standard tee-handle makes it easy to tighten or open by hand. Available in two models; flat for square hoppers and curved for conical hoppers.

Solimar Filter Systems



External Canister Filter System



Internal Manway Filter System

Solimar Filter Systems eliminate product dust by using unique filtering media of engineered porous polymer. Using multiple tubes with up to 1/2 ft.² of filter area, each, provides a large filtering surface in a compact space.

The filter tubes are rated for 50 µ particle size and can be used continuously up to 180° F (82° C). Tubes are fit and gasketed in a machined aluminum mounting plate, which allows for individual inspection and replacement.

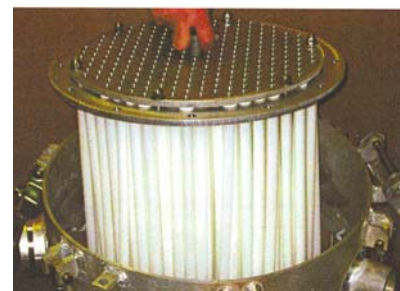
Large Filter Area in a Compact Space
Easy Individual Inspection
400 or 900 SCFM – Internal System
600 to 900 SCFM – External System
Longer Life

INTERNAL MOUNT FILTER ASSEMBLIES

Model	Mounting Ring Diameter	Filter Tube Length	Air Flow (SCFM)
6054	20"	24"	400
6055	20"	36"	600
6056	24"	24"	600
6057	24"	36"	900

EXTERNAL MOUNT FILTER ASSEMBLIES

Model	Canister Diameter	Filter Tube Length	Air Flow (SCFM)
6071	20"	36"	600
6070	24"	36"	900



Pneumatic or Gravity Unloading

Two Way Hauling of Different Products

Easy Clean Out

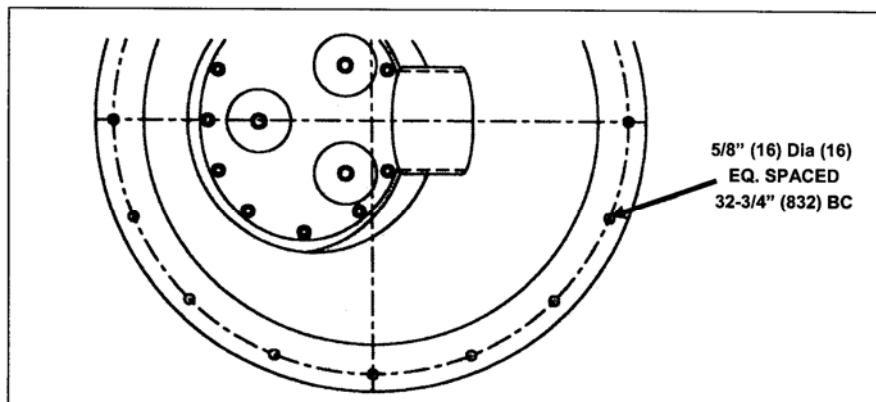
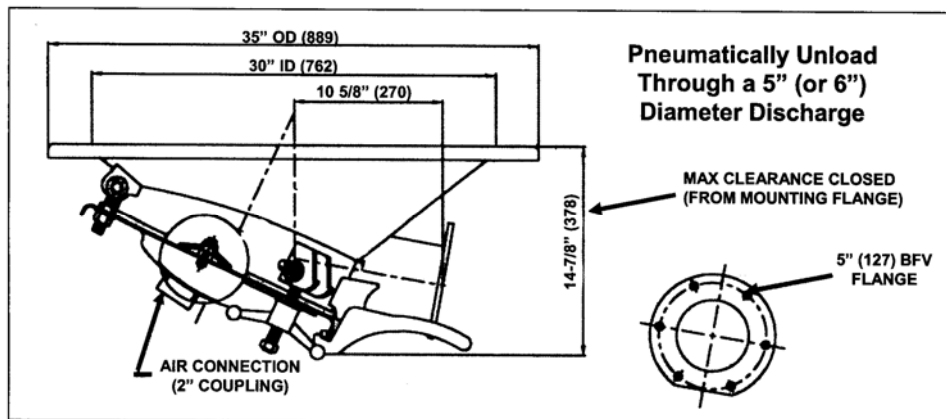
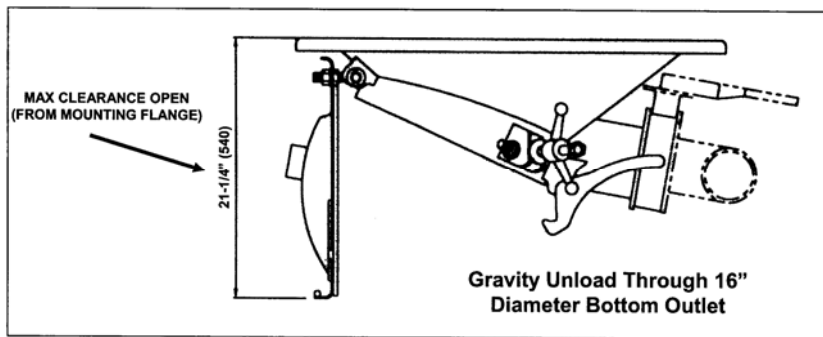
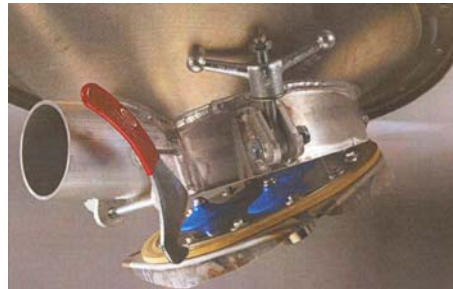
5" or 6" Unloading Pipes

Rugged Design for Long Service

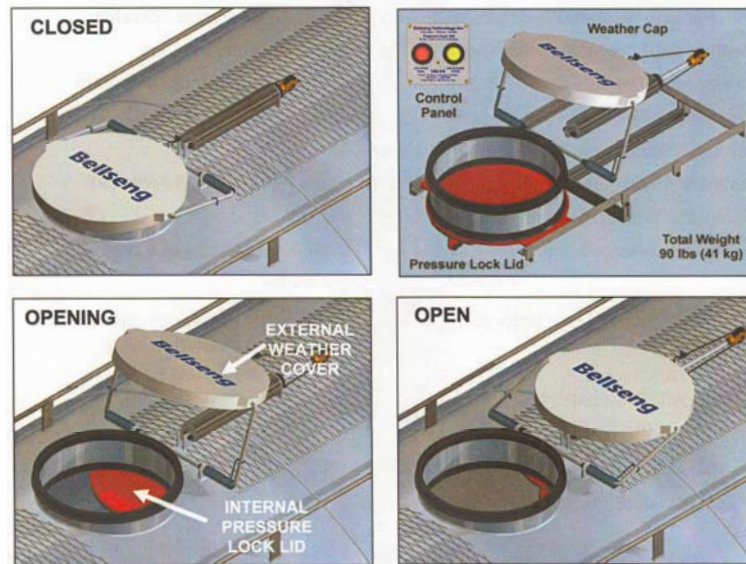
Bolt On or Weld On

Sollmar Swing Away Trailer Bottom

Swing away bottoms offer the best in versatility for customers looking for multipurpose use of their bulk trailer. Swing Away Bottoms permit pneumatic or gravity discharge, allow for easy clean out and washing. Can be used for two-way hauling of different products.



Bellseng Pressure Lock Manhole Cover



The Bellseng Pressure Lock Manhole Cover is an innovative internal port closure that eliminates the need for drivers to climb on the trailer before loading. The one button operation not only greatly improves driver safety, but equally improves the driver's working conditions and vastly improves rig turnaround time.

For kits and options such-as non-pressurized applications please refer to **Appendix C-3**

Special Orders

DBL can special order items upon request. Many times these include parts on discontinued items or oddball, hard-to-find parts that are not easily found. DBL will do its best to help you and your company find the parts it needs while delivering the quality service that will help keep your business up and running.

Electrical

Betts Clearance and/or Side Markers..... 47-54

Betts License Lamp and Stop, Turn, Tail, and/or Clearance and License..... 55-57

Betts Stop, Turn, and/or Tail..... 57-63

Betts Back-up Lamps..... 64-65

Betts Cabinet/Meter/Dome (Single Contact)..... 66-68

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Trucklite Lights..... 79-81

Solenoids, Switches, Breakers, Fuses, Boxes, etc..... 82-83

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Trucklite Mounts and Grommets..... 87-89

Information for Betts Lighting

s.c. = single contact
d.c. = double contact
N.P.T = National Pipe Thread

Easy Reference Color Coding For Betts Light Fixtures

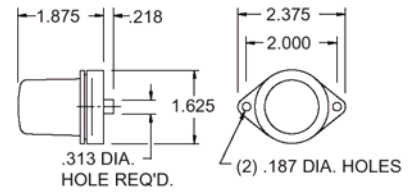
Red = Incandescent Lighting
Blue = LED Lighting
Black = Halogen/Strobe
Green = Miscellaneous (lenses, bulbs, etc.)

Replacement parts for lighting (bulbs, lenses, etc.) can be found mostly in the descriptions for each series of lights.

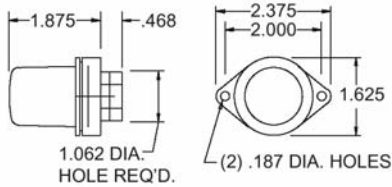


Combination Clearance and Side Marker

Features a deep **BEL920053** red or **BEL920054** amber deep lens. Uses a **BEL67** s.c. bulb. Surface mount.



Part#	
BEL240004	Red, aluminum body
BEL240005	Amber, aluminum body



Combination Clearance and Side Marker

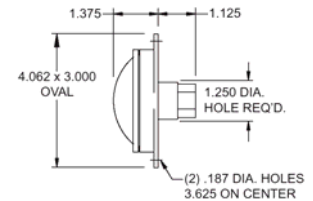
Features a deep **BEL920053** red or **BEL920054** amber deep lens. Uses a **BEL67** s.c. bulb. Provided with a 1/4" N.P.T. rear entry. Surface mount.



Part#	
BEL240011	Red, aluminum body
BEL240012	Amber, aluminum body

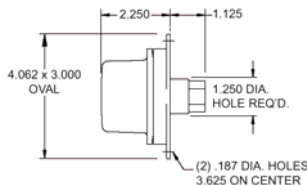
Combination Clearance and Side Marker

Incandescent bulb version features a **BEL920109** red or **BEL920110** amber shallow lens. Uses s.c. bulb socket **BEL920125** and a **BEL67** s.c. bulb. LED version features a s.c. bulb base **BEL510007** red or **BEL510008** amber shallow LED lens assembly. Both lamps are provided with a 1/4" N.P.T. rear entry and surface mount. Aluminum lamps to be discontinued upon Valox replacement availability.



For more information please contact DBL today

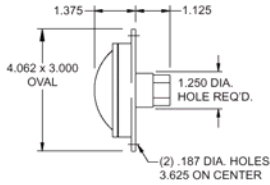
Part#	
BEL500012	Red, aluminum body
BEL500013	Amber, aluminum body
BEL500212	Red LED, aluminum body
BEL500213	Amber LED, aluminum body



Combination Clearance and Side Marker

Incandescent bulb version features a **BEL920116** red or **BEL920117** amber deep lens. Uses s.c. bulb socket **BEL920127** and a **BEL67** s.c. bulb. LED version features s.c. bulb base **BEL510017** red or **BEL510018** amber deep LED lens assembly. Both lamps are provided with a 1/4" N.P.T. rear entry and surface mount. Aluminum lamps to be discontinued upon Valox replacement availability.

Part#	
BEL500014	Red, aluminum body
BEL500015	Amber, aluminum body
BEL500018	Red LED, aluminum body
BEL500019	Amber LED, aluminum body



Combination Clearance and Side Marker

A special purpose d.c. incandescent lamp featuring a **BEL920116** red or **BEL920117** amber deep lens. Uses a d.c. bulb socket **BEL920126** and a **BEL1157** bulb.

LED version is available in either a shallow or deep lens. The deep version features a d.c. bulb base **BEL510037** red or **BEL510038** amber LED lens assembly. The shallow version features a d.c. bulb base **BEL510027** red or **BEL510028** amber LED lens assembly. Both lamps are provided with a 1/4" N.P.T. rear entry and surface mount.

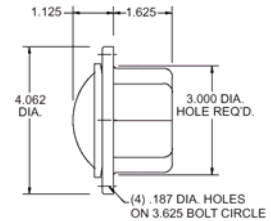
Part#	Description
BEL500018	Red deep, aluminum body
BEL500019	Amber deep, aluminum body
BEL500218	Red deep LED, aluminum body
BEL500219	Amber deep LED, aluminum body
BEL500223	Red shallow LED, aluminum body
BEL500224	Amber shallow LED, aluminum body

Combination Clearance and Side Marker

Incandescent bulb version features a **BEL920109** red or **BEL920110** amber shallow lens. Uses a s.c. shock mount bulb socket **BEL920367** and a **BEL67** s.c. bulb.

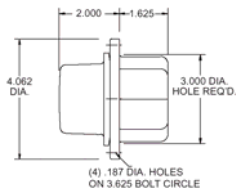
LED version in aluminum features a **BEL510005** red or **BEL510006** amber LED lens assembly. The Valox version features a **BEL510001** red or **BEL510002** amber LED lens assembly.

Both bodies must be drilled and tapped for wire entry unless otherwise stated. Recess mount. Available with choke seals installed upon request.



Part#	Description
BEL560002	Red shallow, aluminum body
BEL560003	Amber shallow, aluminum body
BEL560019	Red shallow, Valox body
BEL560020	Amber shallow, Valox body

Part#	Description
BEL560202	Red shallow LED, aluminum body
BEL560203	Amber shallow LED, aluminum body
BEL560219	Red shallow LED, Valox body
BEL560220	Amber shallow LED, Valox body



Combination Clearance and Side Marker

Incandescent bulb version features a **BEL920116** red or **BEL920117** amber deep lens. Uses a s.c. shock mount bulb socket **BEL920104** and a **BEL67** bulb.

LED version in aluminum features a **BEL510015** red or **BEL510016** s.c. LED lens assembly. Valox lamps use **BEL510011** red or **BEL510012** amber s.c. LED lens assembly. Body must be drilled and tapped for wire entry unless otherwise stated. Recess mount. Also available with choke seal or ground strap.

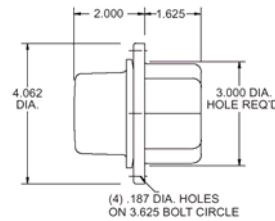
Part#	Description
BEL560004	Red deep, aluminum body
BEL560005	Red deep, Valox body
BEL560006	Amber deep, aluminum body
BEL560007	Amber deep, Valox body

Part#	Description
BEL560204	Red deep LED, aluminum body
BEL560205	Red deep LED, Valox body
BEL560206	Amber deep LED, aluminum body
BEL560207	Amber deep LED, Valox body

Combination Clearance and Side Marker

A special purpose lamp with all the features of above lamps but equipped with a double contact shock mount bulb socket **BEL920103**. Uses a **BEL1157** d.c. bulb.

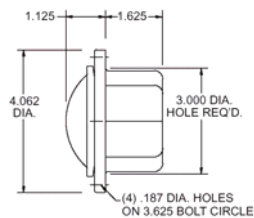
The LED version is available in both aluminum and Valox bodies. The lamp is also available in either a shallow or a deep lens. The deep lens aluminum body lamp uses a d.c. **BEL510035** red or a **BEL510036** amber LED lens assembly. The shallow lens aluminum body lamp uses a d.c. **BEL510025** red or a **BEL510026** amber LED lens assembly. The deep lens Valox lamp uses a d.c. **BEL510031** red or a **BEL510032** amber LED lens assembly. The shallow lens Valox body uses a d.c. **BEL510021** red or a **BEL510022** amber LED lens assembly. All bodies must be drilled and tapped for wire entry unless otherwise stated. Recess mount.



Also available with choke seals and ground straps

Part#	Description
BEL560015	Red deep, aluminum body
BEL560016	Amber deep, aluminum body
BEL560023	Red deep, Valox body
BEL560024	Amber deep, Valox body

Part#	Description
BEL560215	Red deep LED, aluminum body
BEL560216	Amber deep LED, aluminum body
BEL560223	Red deep LED, Valox body
BEL560224	Amber deep LED, Valox body



Combination Clearance and Side Marker

A special purpose Valox lamp featuring a single, Multi-voltage d.c. diode. Lamps are available in either a shallow or a deep lens version. The deep lens version uses a **BEL510054** red or **BEL510053** amber LED lens assembly. The shallow lens version uses a **BEL510052** red or a **BEL510051** amber LED lens assembly. Body must be drilled and tapped for wire entry unless otherwise noted. Recess mount.

Available with cable choke seal installed.

For more information on Betts Lighting call DBL today

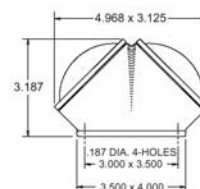
Part#	Description
BEL560323	Red deep Multi-voltage single LED, Valox body
BEL560324	Amber deep Multi-voltage single LED, Valox body
BEL560351	Red shallow Multi-voltage single LED, Valox body
BEL560352	Amber shallow Multi-voltage single LED, Valox body

Combination Clearance and Side Marker

A dual lens lamp available in an incandescent bulb or LED version. The bulb version features (2) shallow lenses, either (2) **BEL920109** red or **BEL920110** amber. The lamp uses (2) s.c. shock mount sockets and (2) **BEL67** s.c. bulbs.

The LED version features (2) s.c. **BEL510005** red or **BEL510006** amber LED lens assemblies.

Body must be drilled and tapped for wire entry. Surface mount.



Part#	Description
BEL560011	Red shallow, aluminum body
BEL560012	Amber shallow, aluminum body
BEL560211	Red shallow LED, aluminum body
BEL560212	Amber shallow LED, aluminum body

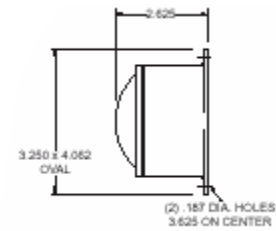
Combination Clearance and Side Marker

A lamp only previously available in aluminum is also now molded in tough durable Valox material as well. Both versions are available with a shallow or deep lens option. The incandescent bulb shallow lens version features a **BEL920109** red or **BEL920110** amber lens. The lamp uses a s.c. shock mount bulb socket **BEL920367** and a **BEL67** s.c. bulb. The incandescent bulb deep lens version features a **BEL920116** red or a **BEL 920117** amber lens. The lamp uses a s.c. shock mount bulb socket **BEL920104** and a **BEL67** s.c. bulb.

The LED shallow lens version features a **BEL510001** red or **BEL510002** amber s.c. LED lens assembly. The LED version is only available in Valox. The shallow version features a **BEL510001** red or a **BEL510002** amber s.c. LED lens assembly and the deep lens version features a **BEL510011** red or a **BEL510012** amber s.c. LED lens assembly.

Body must be drilled and tapped for wire entry. Surface Mount.

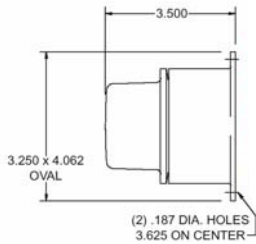
For more information please contact DBL



Part#	Description
BEL570001	Red shallow, aluminum body
BEL570002	Amber shallow, aluminum body
BEL570021	Red shallow lights, Valox body
BEL570022	Amber shallow lights, Valox body

Part#	Description
BEL570221	Red shallow LED, Valox body
BEL570222	Amber shallow LED, Valox body

Combination Clearance and Side Marker

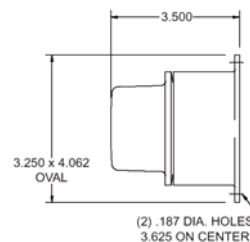


Part#	Description
BEL570003	Red deep, aluminum body
BEL570004	Amber deep, aluminum body
BEL570023	Red deep, Valox body
BEL570024	Amber deep, Valox body
BEL570223	Red deep LED, Valox body
BEL570224	Amber deep LED, Valox body

Combination Clearance and Side Marker

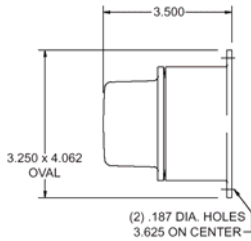
A special purpose lamp with all the features of the above lamps but equipped with a d.c. shock mount bulb socket **BEL920103** and a **BEL1157** d.c. bulb.

The LED version is only available in Valox. The shallow version features a **BEL510021** red or a **BEL510022** amber d.c. LED lens assembly and the deep lens version features a **BEL510031** red or a **BEL510032** amber d.c. LED lens assembly. Body must be drilled and tapped for wire entry. Surface Mount.



Part#	Description
BEL570014	Red deep, aluminum body
BEL570015	Amber deep, aluminum body
BEL570034	Red deep, Valox body
BEL570035	Amber deep, Valox body

Part#	Description
BEL570234	Red deep LED, Valox body
BEL570235	Amber deep LED, Valox body
BEL570239	Red shallow LED, Valox body
BEL570240	Amber shallow LED, Valox body



Combination Clearance and Side Marker

A special purpose d.c., Valox lamp, featuring an LED lens assembly consisting of a single, multi-voltage d.c. diode.

The LED version is only available in Valox. The shallow version features a **BEL510052** red or a **BEL510051** amber d.c. LED lens assembly and the deep lens version features a **BEL510054** red or a **BEL510053** amber d.c. LED lens assembly.

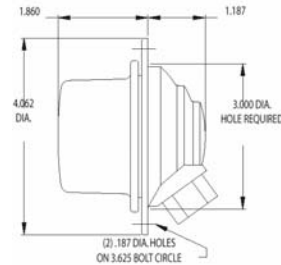
Part#	Description
BEL570334	Red deep LED, Valox body
BEL570335	Amber deep LED, Valox body

Part#	Description
BEL570339	Red shallow LED, Valox body
BEL570340	Amber shallow LED, Valox body

Clearance or Side Marker

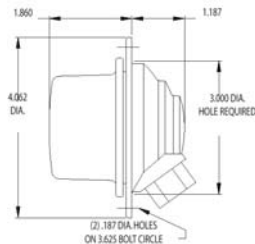
Incandescent version features a **BEL920109** red or a **BEL920110** amber shallow lens. Uses a s.c. bulb socket **BEL920125** and a **BEL67** s.c. bulb.

The shallow lens LED version uses a s.c. bulb base **BEL510007** red or **BEL510008** amber LED lens assembly. Provided with a 1/4" N.P.T. threaded entry. Recess mount. Aluminum lamps to be discontinued upon Valox replacement availability.



Part#	Description
BEL600011	Red shallow, aluminum body
BEL600012	Amber shallow, aluminum body

Part#	Description
BEL600211	Red shallow, LED aluminum body
BEL600212	Amber shallow, LED aluminum body



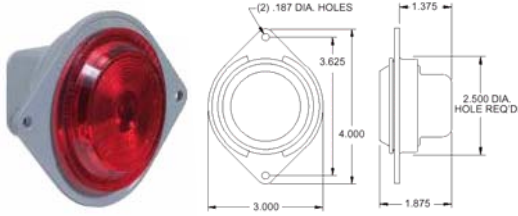
Clearance or Side Marker

A special purpose lamp featuring a **BEL920116** red or **BEL920117** amber deep lens. Uses a d.c. bulb socket **BEL920126** and an **BEL1157** bulb. The LED version is available in either a shallow or a deep lens.

The deep lens lamp uses a d.c. bulb base **BEL510037** red or a **BEL510038** amber LED lens assembly. The shallow lens lamp uses a d.c. bulb base **BEL510027** red or a **BEL510028** amber LED lens assembly. Provided with a 1/4" N.P.T. threaded entry. Recess mount. Aluminum lamps to be discontinued upon Valox replacement availability.

Part#	Description
BEL600013	Red deep lens, aluminum body
BEL600014	Amber deep lens, aluminum body

Part#	Description
BEL600213	Red deep, LED lens, aluminum body
BEL600214	Amber deep, LED lens, aluminum body
BEL600215	Red shallow, LED lens, aluminum body
BEL600216	Amber shallow, LED lens, aluminum body



Clearance or Side Marker Two Side Entrances

Incandescent bulb version features a **BEL920228** red or a **BEL920229** amber shallow lens and is available in a gray or black Valox body. The **BEL168** s.c. bulb is mounted in a shock mount assembly for longer life. Provided with (1) or (2) **BEL920413** watertight and vapor proof choke seals.

The LED version is available in the same body colors and entrance configurations. It uses a **BEL660001** red or a **BEL660002** amber LED lens assembly. Recess mount.

For more information please contact DBL

Part#	Description
BEL650001	Red, Gray Valox body
BEL650002	Amber, Gray Valox body
BEL651001	Red, Black Valox body
BEL651002	Amber, Black Valox body

Part#	Description
BEL650201	Red LED, Gray Valox body
BEL650202	Amber LED, Gray Valox body
BEL651201	Red LED, Black Valox body
BEL651202	Amber LED, Black Valox body

Clearance or Side Marker One Rear Entrance

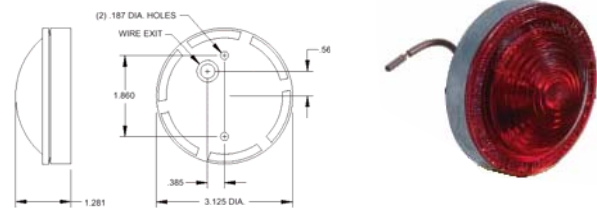
Part#	Description
BEL650007	Red, Gray Valox body
BEL650008	Amber, Gray Valox body
BEL651007	Red, Black Valox body
BEL651008	Amber, Black Valox body

Part#	Description
BEL650207	Red, LED, Gray Valox body
BEL650208	Amber LED, Gray Valox body
BEL651207	Red LED, Black Valox body
BEL651208	Amber LED, Black Valox body

Clearance and Side Marker

A conventional grommet entry lamp with a shallow lens. Uses a **BEL67** s.c. bulb and **BEL910109** red or **BEL910110** amber lens. Surface mount.

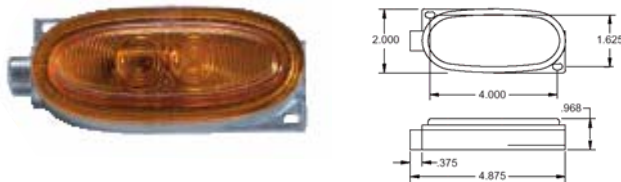
Part#	Description
BEL100011	Red, aluminum body
BEL100012	Amber, aluminum body



Clearance and Side Marker One 1/8" N.P.T End Entrance

A low profile incandescent bulb version that features a **BEL920049** red or **BEL920050** amber lens. Lamp uses a **BEL67** s.c. bulb.

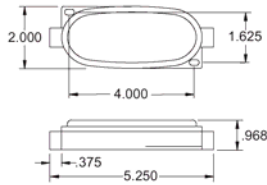
LED version features a **BEL201201** red or **BEL201202** amber LED lens assembly. Surface mount, can be mounted horizontally or vertically.



Part#	Description
BEL200011	Red, aluminum body
BEL200012	Amber, aluminum body

Part#	Description
BEL200211	Red LED, aluminum body
BEL200212	Amber LED, aluminum body

**Clearance and Side Marker
Two 1/8" N.P.T Side Entrances**

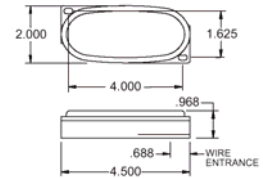


Part#	Description
BEL210001	Red, aluminum body
BEL210002	Amber, aluminum body
BEL210201	Red LED, aluminum body
BEL210202	Amber LED, aluminum body



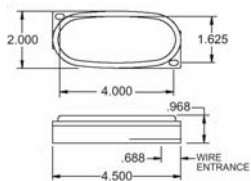
**Clearance and Side Marker
One 1/4" N.P.T Rear Entrance**

Part#	Description
BEL211001	Red, aluminum body
BEL211002	Amber, aluminum body
BEL211201	Red LED, aluminum body
BEL211202	Amber LED, aluminum body



**Clearance and Side Marker
Two 1/4" N.P.T Rear Entrances**

Part#	Description
BEL212001	Red, aluminum body
BEL212002	Amber, aluminum body
BEL212201	Red LED, aluminum body
BEL212202	Amber LED, aluminum body



**Clearance and Side Marker
Two 1/4" N.P.T Rear Entrances**

Part#	Description
BEL213001	Red, aluminum body
BEL213002	Amber, aluminum body
BEL213201	Red LED, aluminum body
BEL213202	Amber LED, aluminum body



Clearance and Side Marker

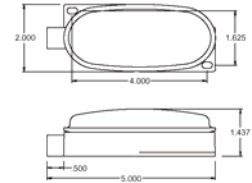
Incandescent bulb version features a REFLEX **BEL920058** red or a **BEL920059** amber lens. The lamp features a bulb replaceable shock mount socket and brass inserts with machine screws for positive connections and uses a **BEL168** s.c. bulb.

LED version uses a **BEL221201** red or **BEL221202** amber LED REFLEX lens assembly. Surface mount, can be mounted horizontally or vertically.

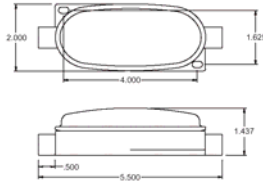
**Clearance or Side Marker
One 1/4" N.P.T Side Entrance**



Part#	Description
BEL200017	Red, Valox body
BEL200018	Amber, Valox body
BEL200217	Red LED, Valox body
BEL200218	Amber LED, Valox body



**Clearance or Side Marker
One 1/4" N.P.T End Entrance**



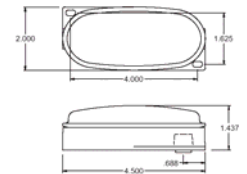
Part#	Description
BEL210005	Red, Valox body
BEL210006	Amber, Valox body
BEL210205	Red LED, Valox body
BEL210206	Amber LED, Valox body



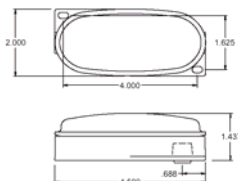
**Clearance and Side Marker
One 1/4" N.P.T Rear Entrance**



Part#	Description
BEL211005	Red, Valox body
BEL211006	Amber, Valox body
BEL211205	Red LED, Valox body
BEL211206	Amber LED, Valox body



**Clearance and Side Marker
Two 1/4" N.P.T Rear Entrance**



Part#	Description
BEL212003	Red, Valox body
BEL212004	Amber, Valox body
BEL212203	Red LED, Valox body
BEL212204	Amber LED, Valox body



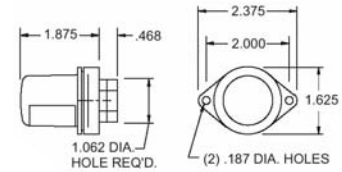
**Clearance and Side Marker
Two 1/8" N.P.T Side Entrances**

BEL215001	Red, Valox body
BEL215002	Amber, Valox body
BEL215201	Red LED, Valox body
BEL215202	Amber LED, Valox body

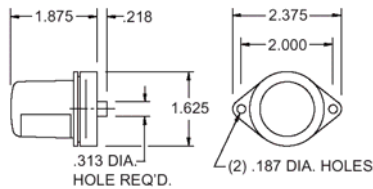


License Lamp

Threaded entry model license lamp. Uses a **BEL67** s.c. bulb and a **BEL920055** silver lens. Furnished with a 1/4 N.P.T. entrance. Surface mount.



Part#	Description
BEL240001	Silver, aluminum body
BEL240002	Silver, aluminum body with a 920088 choke seal installed
BEL240009	Silver, aluminum body with a 920045 choke seal installed and 4' of 2 conductor cable



License Lamp

Features a **BEL920055** silver lens. Uses a **BEL67** s.c. bulb. Surface mount.

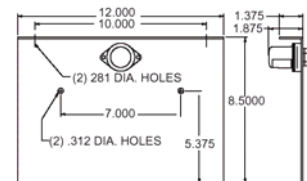
Part#	Description
BEL240003	Silver, aluminum body
BEL240008	Silver, aluminum body with 4' of BSXL wire installed



License Lamp

A grommet entry lamp **BEL240002** comes attached to a gray powder coated 12 gauge. steel license plate bracket **BEL920062**. Lamp features a silver **BEL920055** lens and uses a s.c. **BEL67** bulb.

Part#	Description
BEL240010	Silver, aluminum body



License Lamp

A tough Valox body lamp available in an incandescent bulb or LED version. The incandescent bulb version features a **BEL920141** red lens, a **BEL920459** d.c. shock mount socket and an **BEL1157** bulb.

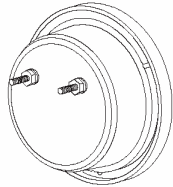
The LED version uses a **BEL710025** Multi-voltage single diode lens assembly. Body must be drilled and tapped for wire entry unless otherwise stated. Recess mount.

Part#	Description
BEL400041	Red, Valox body
BEL400061	Red, Valox body with choke seals installed
BEL400068	Red, Valox body (replaces 70-03222)
BEL400088	Red, Valox body with ground strap (replaces 40-03222)

Part#	Description
BEL403041	Red Multi-voltage single diode LED, Valox body
BEL403061	Red Multi-voltage single diode LED, Valox body with (3) 920413
BEL403068	Red Multi-voltage single diode LED, Valox body with ground strap
BEL403088	Red Multi-voltage single diode LED, Valox body with chassis ground

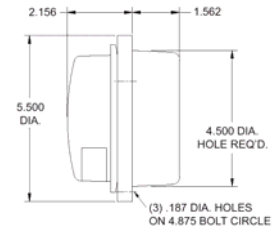


Valox Model



Stop/Turn Tall or Clearance and License

A compact size lamp available in both incandescent or LED. The lamp bodies are both currently offered in both aluminum or molded Valox. The incandescent bulb version features a **BEL920141** red lens and uses a **BEL920459** d.c. shock mount socket and **BEL1157** bulb. The LED version is only available in Valox and uses a **BEL710025** multi-voltage single LED lens assembly. Aluminum lamps to be discontinued at a future date.



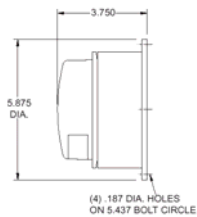
Other light options available, please call DBL for further details

Part#	Description
BEL450030	Red, Valox body
BEL450043	Red, Valox body with 18" pigtails installed
BEL453030	Red, Multi-voltage single diode LED, Valox body
BEL453043	Red, Multi-voltage single diode LED, Valox body with 18" pigtails installed

Stop/Turn or Clearance and License

A tough Valox body lamp available in an incandescent bulb or LED version. The incandescent bulb version features a 920141 red lens, a **BEL920459** d.c. shock mount socket and an **BEL1157** bulb.

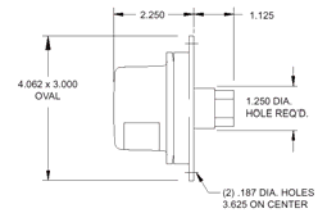
The LED version uses **BEL710025** Multi-voltage single diode lens assembly. Surface mount. Body must be drilled and tapped for wire entry.



Part#	Description
BEL470022	Red, Valox body
BEL473022	Red, Multi-voltage single diode LED, Valox body

License (S.C.)

An aluminum body lamp that features a **BEL920113** lens. Uses a **BEL920127** s.c. socket and **BEL67** bulb. Provided with a 1/4 N.P.T. rear entry. Surface mount. Aluminum lamps to be discontinued upon Valox replacement availability.

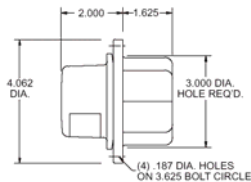


Part#	Description
BEL500021	Red, aluminum body

License (S.C.)

An incandescent lamp available in either aluminum or molded Valox. Features a **BEL920113** red lens and a uses a **BEL920104** s.c. shock mount socket and **BEL67** bulb.

Body must be drilled and tapped for wire entry unless otherwise stated. Recess mount. Aluminum lamps to be discontinued at a future date.

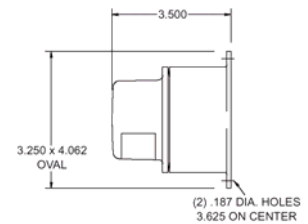


Part#	Description
BEL560017	Red, aluminum body
BEL560025	Red, Valox body
BEL560034	Red, Valox body with (1) 920413 choke seal installed

License (S.C.)



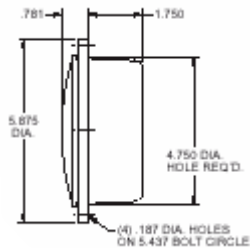
A lamp that was only previously offered in aluminum is now available in tough molded Valox. They both feature a **BEL920113** red lens and use a s.c. **BEL920104** shock mount socket and **BEL67** bulb. Surface mount. Body must be drilled for wire entry. Aluminum lamps to be discontinued at a future date.



Part#	Description
BEL570016	Red, aluminum body
BEL570036	Red, Valox body

Stop, Turn, Tall Lamps

A Valox body lamp available in both incandescent and LED versions. The incandescent version features either a **BEL920134** red or a **BEL920135** amber shallow lens. Lamps are available in either a single contact or double contact function. The single contact uses a **BEL920460** socket and **BEL1156** bulb and the double contact uses a **BEL920459** socket and **BEL1157** bulb.



The LED version has two options for the number of LED's used in the assemblies. The 60 diode option uses a **BEL710001** red or **BEL710002** amber shallow LED lens assembly that can be used either as a single contact or double contact lamp. The Multi-volt-age single diode option is currently only available in a red double contact lamp and consists of a **BEL920134** red lens and **BEL920680** diode assembly. Body must be drilled for wire entry unless otherwise stated. Recess mount. Below are but a few of the different models available.



If you do not see what you need, please call DBL for our full line of Betts lights.

Turn (S.C.)

Part#	Description
BEL400037	Amber, Valox body
BEL400056	Amber, Valox body with choke seals installed
BEL400083	Amber, Valox body with ground strap

Part#	Description
BEL402037	Amber LED, Valox body
BEL402056	Amber LED, Valox body with choke seals
BEL402083	Amber LED, Valox body with ground strap

Stop or Turn (S.C.)

Part#	Description
BEL400036	Red, Valox body
BEL400055	Red, Valox body with choke seals installed
BEL400064	Red, Valox body with ground strap and a 1/4 N.P.T. hole in rear center
BEL400074	Red, Valox body with 18" pigtails installed
BEL400082	Red, Valox body with ground strap

Stop, Turn, Tall or Clearance (D.C.)

Part#	Description
BEL400039	Red Valox body
BEL400053	Red, Valox body with 18" pigtails installed
BEL400086	Red, Valox body with ground strap

Part#	Description
BEL402039	Red LED, Valox body
BEL402053	Red LED, Valox body with 18" pigtails
BEL402086	Red LED, Valox body with ground strap

Multi-Volt Stop, Turn, Tall or Clearance (D.C.)

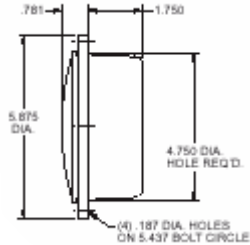
Part#	Description
BEL403039	Red LED, Valox body

Part#	Description
BEL403086	Red LED, Valox body with ground strap

Stop, Turn, Tall Lamps

Valox body lamp available in both incandescent and LED versions. The incandescent version features either a **BEL920144** red or a **BEL920145** amber deep lens. Lamps are available in either a single contact or double contact function. The single contact uses a **BEL920460** socket and **BEL1156** bulb and the double contact uses a **BEL920459** socket and **BEL1157** bulb.

The LED version uses a **BEL710011** red or **BEL710012** amber deep LED lens assembly that can be used either as a single contact or double contact lamp. Body must be drilled for wire entry unless otherwise stated. Recess mount.



If you do not see the style you need please call DBL for our full line of Betts Lights.

Turn (S.C.)

Part#	Description
BEL400058	Amber, Valox body with choke seals installed
BEL400070	Amber, Valox body
BEL400085	Amber, Valox body with ground strap

Part#	Description
BEL402058	Amber LED, Valox body with choke seals
BEL402070	Amber LED, Valox body
BEL402085	Amber LED, Valox body with ground strap

Stop or Turn (S.C.)

Part#	Description
BEL400038	Red, Valox body
BEL400057	Red, Valox body with choke seals installed
BEL400084	Red, Valox body with ground strap

Stop, Turn, Tall or Clearance (D.C.)

Part#	Description
BEL400040	Red, Valox body
BEL400060	Red, Valox body with choke seals installed
BEL400067	Red, Valox body with ground strap and a 1/4 N.P.T. hole in rear center
BEL400087	Red, Valox body with ground strap

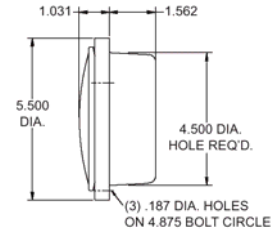
Part#	Description
BEL402040	Red LED, Valox body
BEL402060	Red LED, Valox body with choke seals
BEL402067	Red LED, Valox body with ground strap and a 1/4 N.P.T. hole in rear center
BEL402087	Red LED, Valox body with ground strap

Stop, Turn, Tall Lamps

A compact size lamp available in both incandescent and LED versions. The lamp bodies are both currently offered in both aluminum or molded Valox. The incandescent version features either a **BEL920134** red or a **BEL920135** amber shallow lens. Lamps are available in either a single contact or double contact function. The single contact uses a **BEL920460** socket and **BEL1156** bulb and the double contact uses a **BEL920459** socket and **BEL1157** bulb.



The LED versions have two options for the number of LED's used in the assemblies. The Valox 60 diode version uses a **BEL710001** red or **BEL710002** amber shallow LED lens assembly. The Valox Multi-voltage single diode version uses a **BEL20134** red lens and **BEL920680** diode assembly. The aluminum 60 diode version uses a **BEL710003** red or a **BEL710004** amber shallow LED lens assembly. The aluminum Multi-voltage single diode version uses a **BEL920134** red lens and **BEL920680** diode assemble. The LED lens assemblies can be used either as a single contact or double contact lamp. Body must be drilled for wire entry unless otherwise stated. Recess mount



Note: Aluminum bodies to be discontinued at a future date.

Models with choke seals, conductor cables, and mount studs also available, please call DBL if you have any questions

Turn (S.C.)

Part#	Description
BEL450002	Amber, aluminum body
BEL450025	Amber, Valox body
BEL450048	Amber, Valox body with 18" pigtail

Part#	Description
BEL452002	Amber LED, aluminum body
BEL452025	Amber LED, Valox body
BEL452048	Amber LED, Valox body with 18" pigtail

Stop or Turn (S.C.)

Part#	Description
BEL450001	Red, aluminum body
BEL450024	Red, Valox body
BEL450047	Red, Valox body with 18" pigtail

Part#	Description
BEL452020	Red LED, aluminum body with 18" pigtail
BEL452047	Red LED, Valox body with 18" pigtail
BEL453047	Red Multi-voltage LED, Valox body with 18" pigtail installed

Stop or Turn (S.C.)

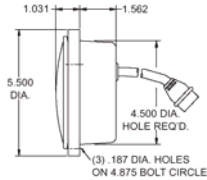
Part#	Description
BEL450005	Red, aluminum body
BEL450012	Red, aluminum body with 18" pigtail
BEL450028	Red, Valox body
BEL450042	Red, Valox body with 18" pigtail

Part#	Description
BEL452005	Red LED, aluminum body
BEL452012	Red LED, aluminum body with 18" pigtail
BEL452028	Red LED, Valox body
BEL452042	Red LED, Valox body with 18" pigtail



Stop, Turn, Tall or Clearance

No more replacing of expensive throw-away lamps. The Betts "Smart 45" is a permanent lamp with either a replaceable bulb or LED version. It replaces most 4" lamps. It features a 6" 3 conductor plug that will fit most existing harnesses from other manufacturers. The incandescent version uses a **BEL920134** red lens and **BEL920459** double contact shock stopper socket with a **BEL1157** bulb or a **BEL920135** amber lens with a **BEL920460** single contact shock stopper socket and **BEL1156** bulb.



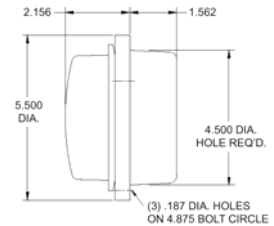
The LED version is available in two versions. The 60 diode version uses a **BEL710001** red or a **BEL710002** amber LED lens assembly. The single Multi-voltage diode version uses a **BEL920134** red lens and either a **BEL920680** or **BEL920691** diode assembly.

Part#	Description
BEL452069	Red LED, black Valox body
BEL452070	Amber LED, black Valox body
BEL453069	Red Multi-voltage LED, black Valox body

Part#	Description
BEL453070	Amber Multi-voltage LED, black Valox body
BEL450069	Red, with black Valox body

Stop, Turn, Tall Lamps

A compact size lamp available in both incandescent and LED versions. The lamp bodies are both currently offered in both aluminum or molded Valox. The incandescent version features either a **BEL920144** red or a **BEL920145** amber deep lens. Lamps are available in either a single contact or double contact function. The single contact uses a **BEL920460** socket and **BEL1156** bulb and the double contact uses a **BEL920459** socket and **BEL1157** bulb.



The LED is available in both aluminum and Valox 60 diode versions. The Valox version uses a **BEL710011** red or **BEL710012** amber deep LED lens assembly. The aluminum LED version uses a **BEL710013** red or a **BEL710014** amber deep LED lens assembly. The LED lens assemblies can be used either as a single contact or double contact lamp. Body must be drilled for wire entry unless otherwise stated.
Note: Aluminum bodies to be discontinued at a future date.

For any additional information or question please call DBL today

Turn (S.C.)

Part#	Description
BEL450004	Amber, aluminum body
BEL450027	Amber, Valox body
BEL450053	Amber, Valox body with choke seals

Part#	Description
BEL452004	Amber LED, aluminum body
BEL452027	Amber LED, Valox body
BEL452053	Amber LED, Valox body with choke seals

Stop or Turn (S.C.)

Part#	Description
BEL450003	Red, aluminum body
BEL450026	Red, Valox body
BEL450052	Red, Valox body with choke seals

Stop, Turn, Tall or Clearance (S.C.)

Part#	Description
BEL450006	Red, aluminum body
BEL450029	Red, Valox body
BEL450055	Red, Valox body with choke seals

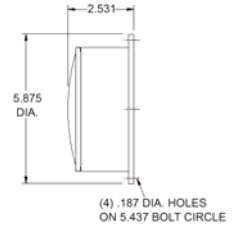
Part#	Description
BEL452006	Red LED, aluminum body
BEL452029	Red LED, Valox body
BEL452055	Red LED, Valox body with choke seals



Stop, Turn, Tall Lamps

A surface mount lamp available in both incandescent and LED versions. The incandescent version features a **BEL920134** red or a **BEL920135** amber shallow lens and uses a **BEL920460** s.c. socket and a **BEL1156** bulb or a **BEL920459** d.c. socket and a **BEL1157** bulb.

The LED version uses a **BEL710001** red or a **BEL710002** amber LED lens assembly. Surface mount. Body must be drilled and tapped for wire entry.



Turn (S.C.)

Part#	Description
BEL470017	Amber, Valox body
BEL472017	Amber LED, Valox body

Stop, Turn or Tall (S.C.)

Part#	Description
BEL470020	Red, Valox body
BEL472020	Red, LED Valox body
BEL473020	Red Multi-voltage single LED, Valox body

Stop or Turn (S.C.)

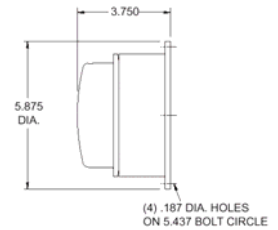
Part#	Description
BEL470016	Red, Valox body



Stop, Turn, Tall Lamps

A surface mount lamp available in both incandescent and LED versions. The incandescent version features a **BEL920134** red or a **BEL920135** amber shallow lens and uses a **BEL920460** s.c. socket and a **BEL1156** bulb or a **BEL920459** d.c. socket and a **BEL1157** bulb.

The LED version uses a **BEL710001** red or a **BEL710002** amber LED lens assembly. Surface mount. Body must be drilled and tapped for wire entry.



Turn (S.C.)

Part#	Description
BEL470019	Amber, Valox body
BEL472019	Amber LED Valox body

Turn (S.C.)

Part#	Description
BEL470021	Red, Valox body
BEL472021	Red, LED Valox body

Stop or Turn (S.C.)

Part#	Description
BEL470018	Red, Valox body

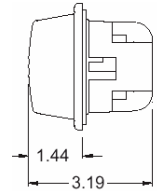
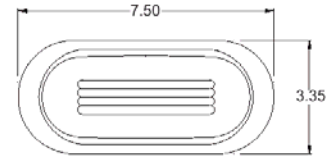
Stop, Turn, Tail Lamps

A tough nylon bodied lamp available in both an incandescent or Multi-voltage LED version. Both versions feature a **BEL920454** red or a **BEL920464** amber lens. The incandescent version uses a **BEL920460** s.c. socket and **BEL1156** bulb or a **BEL920459** d.c. socket and **BEL1157** bulb.



The LED version features a **BEL920685** red LED assembly for front or rear stop, turn, and tail. For amber, two assemblies are utilized - a **BEL920686** LED assembly for a side turn and marker or a **BEL920692** for rear turn only. Bodies are available with either a cable choke seal entrance or a wire choke seal entrance. Recess mount.

If you cannot find the part you are looking for please call DBL for assistance.



Turn (S.C.)

Part#	Description
BEL730003	Amber, with 920413 cable choke seal
BEL730013	Amber, with 920420 wire choke seal
BEL735003	Amber Multi-voltage single diode LED, with 920413 cable choke seal

Stop or Turn (S.C.)

Part#	Description
BEL730002	Red, with 920413 cable choke seal
BEL730012	Red, with 920420 wire choke seal

Side Turn/Marker (D.C.)

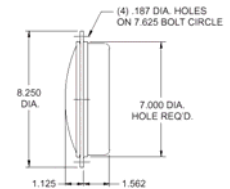
Part#	Description
BEL730005	Amber, with 920413 cable choke seal
BEL730007	Amber, plug-in replacement lamp with 3 conductor female plug
BEL733003	Amber Multi-voltage single diode LED, with 920413 cable choke seal
BEL733007	Amber Multi-voltage single diode LED, plug in replacement lamp with 3 conductor plug

Stop, Turn, Tail or Clearance (D.C.)

Part#	Description
BEL730001	Red, with 920413 cable choke seal
BEL730006	Red, plug-in replacement lamp with 3 conductor plug
BEL733001	Red Multi-voltage single diode LED, with 920413 cable choke seal
BEL733006	Red Multi-voltage single diode LED, plug in replacement lamp with 3 conductor plug

77 Series Stop, Turn, Tail Lamps

77 series lamps feature a Valox body and are available in an incandescent or a red LED version. The incandescent bulb version features a **BEL920152** red or a **BEL920153** amber lens. The single contact lamp uses a **BEL920460** socket and **BEL1156** bulb and the double contact lamp uses a **BEL920459** socket and **BEL1157** bulb. The LED version uses a **BEL920687** red LED assembly that can either be used as a single or double contact lamp. Bodies must be drilled and tapped for wire entry unless otherwise stated. Recess mount.



Turn (S.C.)

Part#	Description
BEL770002	Amber
BEL770005	Amber, with 12 feet of 2 conductor cable

Stop Turn, Tail or Clearance (D.C.)

Part#	Description
BEL770003	Red, Valox body
BEL770006	Red, Valox body with 12 feet of 3 conductor cable
BEL773001	Red, Multi-voltage single diode LED
BEL773006	Red, Multi-voltage single diode LED, with 12 feet of 3 conductor cable installed

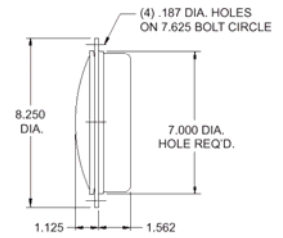
Stop or Turn (S.C.)

Part#	Description
BEL770001	Red
BEL770004	Red, with 12 feet of 2 conductor cable
BEL773023	Red, Multi-voltage single diode LED

Series 77 Turn (S.C.)



77 series lamps feature a Valox body and are available in an incandescent or a LED version. The incandescent bulb version features a **BEL920156** red arrow or a **BEL920157** amber arrow lens and uses a **BEL920460** socket and **BEL1156** bulb. The LED version uses a **BEL920687** red LED assembly for the red arrow or a **BEL920688** amber LED assembly for the amber arrow lens. Bodies must be drilled and tapped for wire entry unless otherwise stated. Recess mount. Also available with conductor cable and mounting studs (not listed).



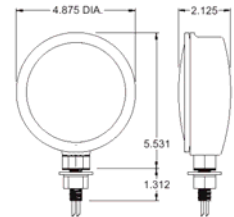
Part#	Description
BEL770021	Red, Valox body
BEL770022	Amber, Valox body

Part#	Description
BEL773021	Red, Multi-voltage single diode LED
BEL773022	Amber, Multi-voltage single diode LED

Stop, Turn and Tall



Pedestal mount aluminum body lamp available in a incandescent and LED version. Incandescent bulb version features a **BEL920134** red or **BEL 920135** amber lens. The single contact bulb version uses a **BEL920015** s.c. socket and **BEL1156** bulb and the double contact lamp uses a **BEL920013** d.c. socket and **BEL1157** bulb. The LED versions use a **BEL710003** red or **BEL710004** amber LED lens assembly. Requires a mounting hole large enough to accommodate a 9/16 inch diameter stud mount. Lamps include 18 inch pigtails.



Turn (S.C.)

Part#	Description
BEL810012	Amber, aluminum body
BEL810212	Amber LED, aluminum

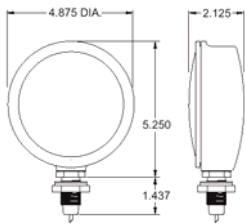
Stop Turn, Tall, or Clearance (D.C.)

Part#	Description
BEL810013	Red, aluminum body
BEL810213	Red LED, aluminum

Stop or Turn (S.C.)

Part#	Description
BEL810011	Red, aluminum body

Stop, Turn and Tall



Pedestal mount aluminum body lamp available in a incandescent and LED version. Incandescent bulb version features a **BEL920134** red or **BEL920135** amber lens. The single contact bulb version uses a **BEL920015** s.c. socket and **BEL1156** bulb and the double contact lamp uses a **BEL920013** d.c. socket and **BEL1157** bulb. The LED versions use a **BEL710003** red or **BEL710004** amber LED lens assembly. Requires a mounting hole large enough to accommodate a 13/16 inch diameter stud mount. Lamps include 18 inch pigtails.



Turn (S.C.)

Part#	Description
BEL800012	Amber, aluminum body
BEL800212	Amber LED, aluminum

Stop, Turn, Tall, or Clearance (D.C.)

Part#	Description
BEL800013	Red, aluminum body
BEL800213	Red LED, aluminum

Stop or Turn (S.C.)

Part#	Description
BEL800011	Red, aluminum body

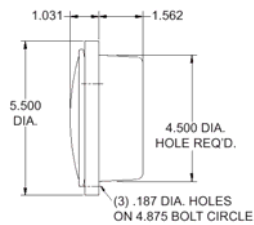
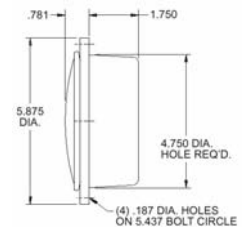
Back-Up Lamps

Back up lamps are now available in incandescent or LED versions. The incandescent version features a **BEL920139** clear lens and a **BEL920460** socket and **BEL1156** bulb. The LED version uses a **BEL920691** clear LED assembly. Bodies must be drilled and tapped for wire entry unless otherwise noted. Recess mount.

NOTE: Two back up lamps are required per vehicle to meet F.M.V.S.S. 108 conformance.



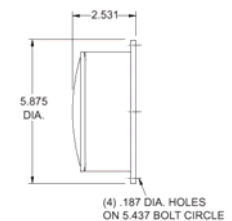
Part#	Description
BEL400043	Clear, Valox body
BEL400063	Clear, Valox body with choke seals
BEL400075	Clear, Valox body (replaces 70-04112)
BEL400089	Clear, Valox body with chassis ground
BEL405043	Clear, Multi-voltage single diode LED, Valox body



Part#	Description
BEL450008	Clear, aluminum body
BEL450018	Clear, aluminum body conductor cable
BEL450032	Clear, Valox body
BEL450057	Clear, Valox body with choke seals
BEL450067	Clear, Valox body with conductor cable
BEL455032	Clear, Multi-voltage single diode LED, Valox body
BEL455067	Clear, Multi-voltage single diode LED, Valox body with conductor cable



Part#	Description
BEL470024	Clear, Valox body
BEL475024	Clear, Multi-voltage single diode LED, Valox body

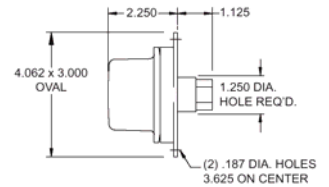




Back-Up Lamp

Back-up lamp with a 1/4" N.P.T. threaded rear entry. Lamp features a **BEL920112** deep clear lens and a **BEL920460** single contact bulb socket with a **BEL1156** bulb. Surface mount.

NOTE: Two back up lamps are required per vehicle to meet F.M.V.S.S. 108 conformance.



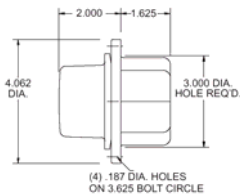
Part#	Description
BEL500011	Clear, aluminum body

Back-Up Lamp

Back-up lamp featuring both a Valox or aluminum body. Both bodies feature a **BEL920112** deep clear lens and use a **BEL920367** socket with a **BEL1156** bulb. Bodies must be drilled and tapped for wire entrance unless noted. Recess mount.

NOTE: Two back up lamps are required per vehicle to meet F.M.V.S.S. 108 conformance. Aluminum bodies to be discontinued at a future date.

For further information on any Betts product, contact DBL

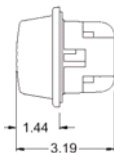
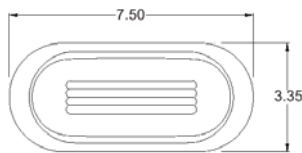


Part#	Description
BEL560001	Clear, aluminum body
BEL560027	Clear, Valox body with choke seal
BEL560037	Clear, Valox body

Back-Up Lamp

A tough nylon bodied lamp available in both an incandescent or Multi-voltage LED version. Both versions feature a **BEL920497** clear lens. The incandescent version uses a **BEL920459** s.c. socket and **BEL1156** bulb. The LED version features a **BEL920692** clear LED assembly. Bodies must be drilled and tapped for wire entry unless otherwise noted. Recess mount.

NOTE: Two back up lamps are required per vehicle to meet F.M.V.S.S. 108 conformance.

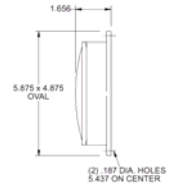


Part#	Description
BEL730004	Clear, with 920413 cable choke seal
BEL730008	Clear, plug-in replacement lamp with 3 conductor plug
BEL730014	Clear, with 920420 wire choke seal
BEL735004	Clear, Multi-voltage single diode LED, with 920413 cable choke seal
BEL735008	Clear, Multi-voltage single diode LED, plug in replacement lamp with 3 conductor plug

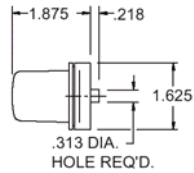


Cabinet/Meter/Dome (S.C)

Low profile dome or cabinet light with a **BEL920077** 3 amp toggle switch and a **BEL920133** clear shallow lens. Incandescent lamp uses a **BEL920014** socket and **BEL1141** bulb. LED version is only available in Valox and uses a **BEL710026** lens assembly. Internal ground must be provided. Surface mount.

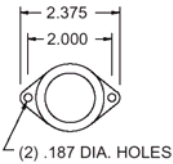


Part#	Description
BEL820011	Clear, aluminum body
BEL820317	Clear, Multi-voltage single diode LED, Valox body



Cabinet/Meter/Dome (S.C)

Features a **BEL920055** polycarbonate deep lens and flat back aluminum body. Lamp uses a s.c. **BEL67** bulb only. Surface mount.

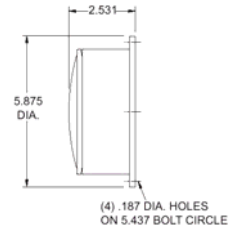


Part#	Description
BEL820011	Clear, aluminum body

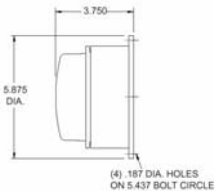


Cabinet/Meter/Dome (S.C)

A dome or cabinet light with a **BEL920038** 20 amp toggle switch and a **BEL920140** clear deep lens. Lamp uses a **BEL920460** shock mount socket and **BEL1141** bulb. LED version uses a **BEL710027** lens assembly. Internal ground must be provided. Surface mount. Lamp must be drilled and tapped for wire entry.



Part#	Description
BEL470043	Clear, Valox body
BEL470343	Clear, Multi-voltage single diode LED, Valox body



Cabinet/Meter/Dome (S.C)

A threaded entry model dome or cabinet light with a **BEL920115** clear shallow lens. Lamp uses a **BEL920125** socket and a s.c. **BEL67** bulb only. Furnished with a 1/4" N.P.T. wire entrance. Surface mount. Aluminum lamps to be discontinued upon Valox replacement availability.

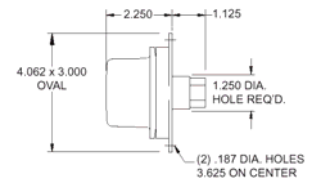


Part#	Description
BEL470043	Clear, Valox body



Cabinet/Meter/Dome (S.C)

A threaded entry model dome or cabinet light with a **BEL920111** clear deep lens. Lamp uses a **BEL920125** socket and a s.c. **BEL1141** bulb only. Furnished with a 1/4" N.P.T. wire entrance. Surface mount. Aluminum lamps to be discontinued upon Valox replacement availability.

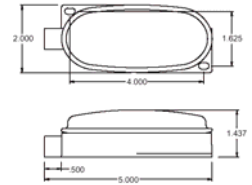


Part#	Description
BEL500017	Clear, aluminum body

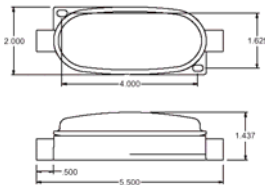


Cabinet/Meter/Dome (S.C)

A dome, meter, or cabinet light available in both aluminum or Valox bodies. Aluminum bodies feature a 1/8" N.P.T. wire entrance and the Valox body features a 1/4" N.P.T. entrance on one side. The aluminum body features a **BEL920048** clear lens and a **BEL67** bulb. The Valox body uses a **BEL920057** clear lens and a **BEL168** bulb. Surface mount.



Part#	Description
BEL200023	Clear, aluminum body
BEL200024	Clear, Valox body
BEL200224	Clear LED, Valox Body



Cabinet/Meter/Dome (S.C)

A dome, meter, or cabinet light available in both aluminum or Valox bodies. Aluminum bodies feature a 1/8" N.P.T. wire entrance and the Valox body features a 1/4" N.P.T. entrance on both sides. The aluminum body features a **BEL920048** clear lens and a **BEL67** bulb. The Valox body uses a **BEL920057** clear lens and a **BEL168** bulb. Surface mount.



Part#	Description
BEL210009	Clear, aluminum body
BEL210010	Clear, Valox body

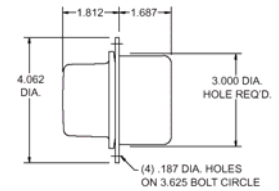
Cabinet/Meter/Dome (S.C)

A dome, meter, or cabinet light available in both aluminum or Valox bodies and in a deep or shallow lens. Lamps are also available in incandescent bulb or LED versions. Incandescent bulb versions feature a **BEL920115** clear shallow lens and a **BEL920367** socket and **BEL1141** s.c. bulb. The LED versions feature a **BEL510055** shallow LED lens assembly or a **BEL510056** deep LED lens assembly. Bodies must be drilled and tapped for wire entry unless otherwise specified. Aluminum bodies to be discontinued at a future date. Recess mount.



Cabinet/Meter/Dome Shallow Lens (S.C.)

Part#	Description
BEL560008	Clear, aluminum body
BEL560036	Clear, Valox body
BEL560381	Clear, Multi-voltage single diode LED, Valox body
BEL560383	Clear, Multi-voltage single diode LED, Valox body with choke seal installed



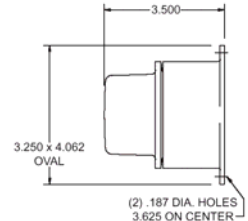
Cabinet/Meter/Dome Shallow Lens (S.C.)

Part#	Description
BEL560009	Clear, aluminum body
BEL560382	Clear, Multi-voltage single diode LED, Valox body
BEL560384	Clear, Multi-voltage single diode LED, Valox body with BEL920413 choke seal installed

Cabinet/Meter/Dome (S.C)

A dome, meter, or cabinet light available in both aluminum or Valox bodies and in a deep or shallow lens. Lamps are also available in incandescent bulb or LED versions. **BEL920078** 3 amp switches are available in the deep lens incandescent bulb version and in both deep and shallow lens LED versions. Incandescent bulb versions feature a **BEL920115** clear shallow lens and a **BEL920367** socket with a **BEL67** s.c. bulb or a **BEL920111** clear deep lens with a **BEL920367** socket and **BEL1141** s.c. bulb only. The LED versions feature a **BEL510055** shallow LED lens assembly or a **BEL510056** deep LED lens assembly. Surface mount. Bodies must be drilled and tapped for wire entry unless otherwise specified. Aluminum bodies to be discontinued at a future date.

For more information please contact DBL

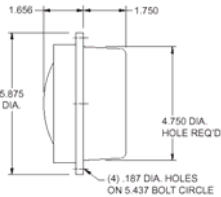


Cabinet/Meter/Dome Shallow Lens (S.C.)

Part#	Description
BEL570005	Clear, aluminum body without switch
BEL570025	Clear, Valox body without switch
BEL570325	Clear, Multi-voltage single diode LED, Valox body without switch
BEL570344	Clear, Multi-voltage single diode LED, Valox body with switch

Cabinet/Meter/Dome Deep Lens (S.C.)

Part#	Description
BEL570006	Clear, aluminum body with switch
BEL570026	Clear, Valox body with switch
BEL570326	Clear, Multi-voltage single diode LED, Valox body with switch
BEL570342	Clear, Multi-voltage single diode LED, Valox body without switch



Sealed Beam Flood, Spot, and Work Lamp

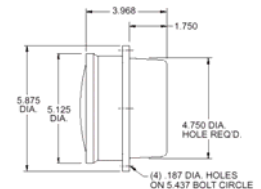
Sealed beam flood lamp features par 36 sealed beam bulb retained by EPDM retaining ring. Retaining ring uses a molded in o-ring which is received by the groove in housing for a secure waterproof assembly. Uses a clear (flood) **BEL4466** sealed beam bulb and **BEL920234** retaining ring. Body must be drilled and tapped for wire entry. Mounting gasket and screws included. Recess mount.



Part#	Description
BEL400044	Clear, Valox body
BEL400092	Clear, Valox body with chassis ground

Sealed Beam Flood, Spot, and Work Lamp

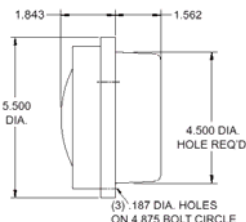
Sealed beam flood lamp features par 36 sealed beam bulb retained by EPDM retaining ring. A new style retaining ring **BEL920071** has the ability to hold the sealed beam bulb plus retaining a **BEL920143** clear shallow polycarbonate lens that protects the bulb from breakage. Uses a clear (flood) **BEL4466** sealed beam bulb and **BEL920071** retaining ring. Body must be drilled and tapped for wire entry. Mounting gasket and screws included. Recess mount.



Part#	Description
BEL400072	Clear, Valox body
BEL400094	Clear, Valox body with chassis ground

Sealed Beam Flood, Spot, and Work Lamp

Sealed beam flood lamp features par 36 sealed beam bulb retained by EPDM retaining ring. Retaining ring uses a molded in o-ring which is received by the groove in housing for a secure waterproof assembly. Uses a clear (flood) **BEL4466** sealed beam bulb and **BEL920234** retaining ring. Body must be drilled and tapped for wire entry. Mounting gasket and screws included. Recess mount.

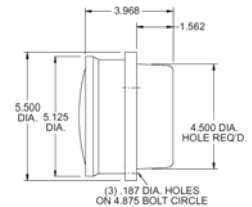


Part#	Description
BEL450010	Clear, aluminum body
BEL450033	Clear, Valox body

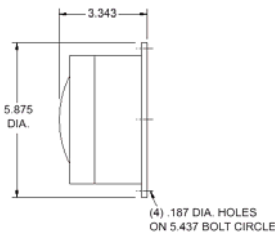


Sealed Beam Flood, Spot, and Work Lamp

Sealed beam flood lamp features par 36 sealed beam bulb retained by PDM retaining ring. A new style retaining ring BEL920071 has the ability to hold the sealed beam bulb plus retaining a BEL920143 clear shallow polycarbonate lens that protects the bulb from breakage. Uses a clear (flood) BEL4466 sealed beam bulb and BEL920071 retaining ring. Body must be drilled and tapped for wire entry. Mounting gasket and screws included. Recess mount. Aluminum bodies to be discontinued.



Part#	Description
BEL450062	Clear, aluminum body
BEL450063	Clear, Valox body



Sealed Beam Flood, Spot, and Work Lamp

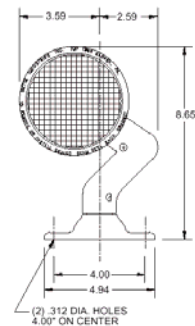
Sealed beam flood lamp features par 36 sealed beam bulb retained by EPDM retaining ring. Retaining ring uses a molded in o-ring which is received by the groove housing for a secure waterproof assembly. Uses a clear (flood) BEL4466 sealed beam bulb and BEL920234 retaining ring. Body must be drilled and tapped for wire entry. Mounting gasket and screws included. Surface mount.



Part#	Description
BEL470025	Clear, Valox body

Sealed Beam Flood, Spot, and Work Lamp

This par 36 sealed beam lamp features horizontal and vertical rotation on smooth operating neoprene o-rings. Pigtail(s) run directly to the bulb eliminating many contact point problems. Bulb is held by a BEL920234 retaining ring. Uses a clear incandescent (flood) BEL4466 or a clear halogen (spot) H7616 sealed beam bulb. Mounting gasket is included. Provided with (1) 18" BSXL abrasion resistant lead wire for chassis grounding or (2) lead wires for common grounding.



Incandescent Flood with 9(1) Lead Wire

Part#	Description
BEL315001	Clear, aluminum body (Shown)
BEL315003	Clear, aluminum body with 20 amp toggle switch

Halogen Spot with (1) Lead Wire

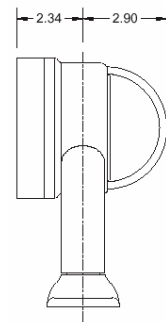
Part#	Description
BEL315005	Clear, aluminum body
BEL315007	Clear, aluminum body with 20 amp toggle switch

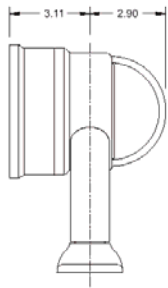
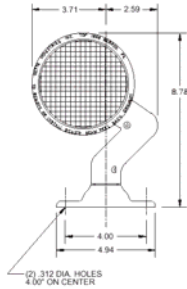
Incandescent Flood with (2) Lead Wires

Part#	Description
BEL325001	Clear, aluminum body
BEL325003	Clear, aluminum body with 20 amp toggle switch

Halogen Spot with (2) Lead Wires

Part#	Description
BEL325005	Clear, aluminum body
BEL325007	Clear, aluminum body with 20 amp toggle switch





Sealed Beam Flood, Spot, and Work Lamp

This par 36 sealed beam lamp features full horizontal and vertical rotation on smooth operating neoprene o-rings. Pigtail(s) run directly to the bulb eliminating many contact point problems. **Bulb is held by an extended retaining ring BEL920071 that has the ability to hold the sealed beam bulb plus retain a BEL920143 clear polycarbonate lens that protects the bulb from breakage.** Uses a clear incandescent BEL4466 or clear halogen (spot) H7616 sealed beam bulb. Mounting gasket is included. Provided with an 18" BSXL abrasion resistant lead wire for chassis grounding or (2) lead-wires for common grounding.



Incandescent Flood with 9(1) Lead Wire

Part#	Description
BEL315009	Clear, aluminum body (Shown)
BEL315010	Clear, aluminum body with 20 amp toggle switch

Halogen Spot with (1) Lead Wire

Part#	Description
BEL315011	Clear, aluminum body
BEL315012	Clear, aluminum body with 20 amp toggle switch

Incandescent Flood with (2) Lead Wires

Part#	Description
BEL325009	Clear, aluminum body
BEL325010	Clear, aluminum body with 20 amp toggle switch

Halogen Spot with (2) Lead Wires

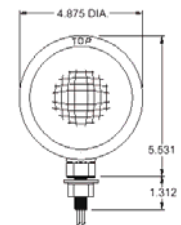
Part#	Description
BEL325011	Clear, aluminum body
BEL325012	Clear, aluminum body with 20 amp toggle switch



Pedestal Mount Sealed Beam Lamp

Pedestal mount sealed beam lamp has a 9/16" or 13/16" mounting stud. Uses a clear (flood) sealed beam bulb BEL4466 or an amber (fog) with a BEL920234 retaining ring. Mounting hardware is included. Provided with an 18" BSXL abrasion resistant pigtail.

For more information please contact DBL



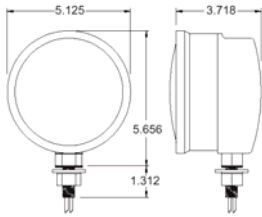
With 13/16" Mounting Stud

Part#	Description
BEL800014	Clear, aluminum body
BEL800015	Amber, aluminum body
BEL800018	Clear, aluminum body with 20 amp toggle switch

With 9/16" Mounting Stud

Part#	Description
BEL800016	Clear, aluminum body
BEL00017	Amber, aluminum body





Pedestal Mount Sealed Beam Lamp

Pedestal mount sealed beam lamp has a 9/16" or 13/16" mounting stud. Uses a clear (flood) sealed beam bulb **BEL4466** or an amber (fog) **BEL4415A** with a **BEL920071 extended retaining ring** and shallow, clear lens **BEL920143**. Mounting hardware is included. Provided with an 18" BSXL abrasion resistant pigtail.



With 13/16" Mounting Stud

Part#	Description
BEL800019	Clear, aluminum body
BEL800020	Amber, aluminum body
BEL800023	Clear, aluminum body with 20 amp toggle switch

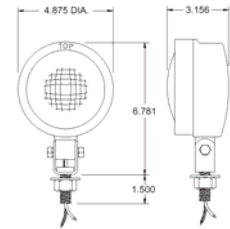
With 9/16" Mounting Stud

Part#	Description
BEL800021	Clear, aluminum body
BEL800022	Amber, aluminum body



Pedestal Mount Sealed Beam Lamp

A par 36 sealed beam lamp with adjustable pedestal mount and heavy duty 9/16" stud. Uses a **BEL920234** retaining ring and clear (flood) **BEL4466**, amber (fog) **BEL4415A** or a clear halogen (spot) **H7616** sealed beam bulb. Mounting hardware included. Provided with an 18" BSXL abrasion resistant pigtail.

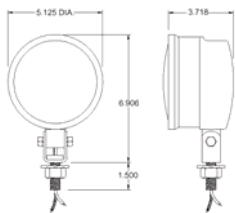


Painted

Part#	Description
BEL805001	Clear, aluminum body
BEL805002	Amber, aluminum body
BEL805003	Clear, aluminum body with 20 amp toggle switch
BEL805021	Halogen, clear, aluminum body
BEL805022	Halogen clear, aluminum body with 20 amp toggle

Chrome

Part#	Description
BEL805009	Clear, aluminum body
BEL805010	Amber, aluminum body
BEL805004	Clear, aluminum body with 20 amp toggle switch
BEL805024	Halogen, clear, aluminum body
BEL805023	Halogen, clear, aluminum body with 20 amp toggle



Pedestal Mount Sealed Beam Lamp

A par 36 sealed beam lamp with adjustable pedestal mount and heavy duty 9/16" stud. **A new style retaining ring BEL920071 has the ability to hold the sealed beam plus retain a BEL920143 clear shallow polycarbonate lens that protects the bulb from breakage.** Uses a clear (flood) **BEL4466**, amber (fog) **BEL4415A** or a clear halogen (spot) **H7616** sealed beam bulb. Mounting hardware included. Provided with an 18" BSXL abrasion resistant pigtail.



Painted

Part#	Description
BEL805011	Clear, aluminum body
BEL805012	Amber, aluminum body
BEL805013	Clear, aluminum body with 20 amp toggle switch
BEL805025	Halogen, clear, aluminum body
BEL805026	Halogen clear, aluminum body with 20 amp toggle

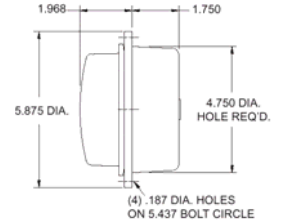
Chrome

Part#	Description
BEL805019	Clear, aluminum body
BEL805020	Amber, aluminum body
BEL805016	Clear, aluminum body with 20 amp toggle switch
BEL805027	Halogen, clear, aluminum body
BEL805028	Halogen, clear, aluminum body with 20 amp toggle



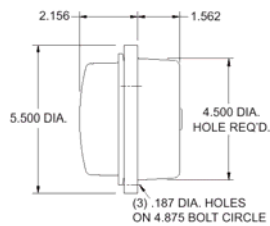
Strobe Recess Mount (Permanent)

Strobe featuring high impact Valox housing and polycarbonate lens. The Xenon flash tube with a life of 10 million flashes produces an (8) joule output per flash. Has a flash rate of 70 flashes per minute and an effective candle power of 102 with clear lens. Consumes 1 amp at 12 volts. Mounting gasket, screws and 8" pigtails included.



Part#	Description
BEL400046	With BEL920140 deep clear lens
BEL400047	With BEL920144 deep red lens

Part#	Description
BEL400048	With BEL920145 deep amber lens
BEL400049	With BEL920388 deep blue lens



Strobe Recess Mount (Permanent)

Strobe featuring high impact Valox housing and polycarbonate lens. The Xenon flash tube with a life of 10 million flashes produces an (8) joule output per flash. Has a flash rate of 70 flashes per minute and an effective candle power of 102 with clear lens. Consumes 1 amp at 12 volts. Mounting gasket, screws and 8" pigtails included.



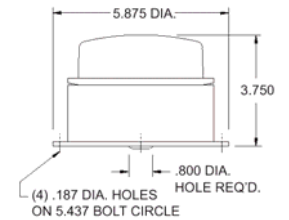
Part#	Description
BEL450035	With BEL920140 deep clear lens
BEL450036	With BEL920144 deep red lens

Part#	Description
BEL450037	With BEL920145 deep amber lens
BEL450038	With BEL920388 deep blue lens



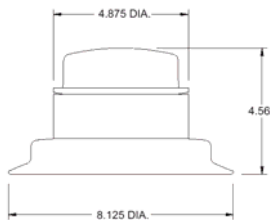
Strobe Surface Mount (Permanent)

Strobe featuring high impact Valox housing and polycarbonate lens. The Xenon flash tube with a life of 10 million flashes produces an (8) joule output per flash. Has a flash rate of 70 flashes per minute and an effective candle power of 102 with clear lens. Consumes 1 amp at 12 volts. Mounting gasket, screws and 8" pigtails included.



Part#	Description
BEL470028	With BEL920140 deep clear lens
BEL470029	With BEL920144 deep red lens

Part#	Description
BEL470030	With BEL920145 deep amber lens
BEL470031	With BEL920388 deep blue lens



Strobe Surface Mount (Temporary)

Strobe featuring high impact Valox housing and polycarbonate lens. The Xenon flash tube with a life of 10 million flashes produces an (8) joule output per flash. Has a flash rate of 70 flashes per minute and an effective candle power of 102 with clear lens. Consumes 1 amp at 12 volts. Includes suction gasket, magnet, 8 ft. of wire and cigarette lighter adapter.



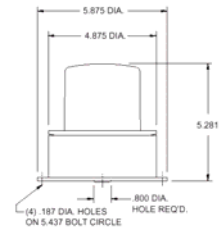
Part#	Description
BEL470047	With BEL920140 deep clear lens
BEL470048	With BEL920144 deep red lens

Part#	Description
BEL470049	With BEL920145 deep amber lens
BEL470050	With BEL920388 deep blue lens



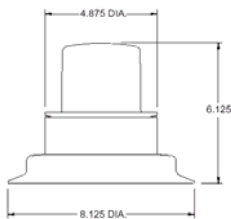
Strobe Roof Mount (Permanent)

Strobe featuring high impact Valox housing and polycarbonate lens. The Xenon flash tube with a life of 10 million flashes produces an (8) joule output per flash. Has a flash rate of 70 flashes per minute and an effective candle power of 102 with clear lens. Consumes 1 amp at 12 volts. Mounting gasket, screws and 8" pigtails included.



Part#	Description
BEL470032	With BEL920136 red high hat lens
BEL470033	With BEL920137 amber high hat lens

Part#	Description
BEL470034	With BEL920138 blue high hat lens
BEL470065	With BEL920409 clear high hat lens



Strobe Roof Mount (Temporary)

Strobe featuring high impact Valox housing and polycarbonate lens. The Xenon flash tube with a life of 10 million flashes produces an (8) joule output per flash. Has a flash rate of 70 flashes per minute and an effective candle power of 102 with clear lens. Consumes 1 amp at 12 volts. Includes suction gasket, magnet, 8 ft. of wire and cigarette lighter adapter.



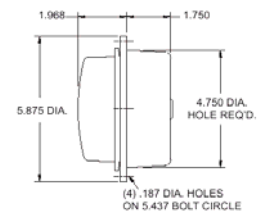
Part#	Description
BEL470051	With BEL920136 red high hat lens
BEL470052	With BEL920137 amber high hat lens

Part#	Description
BEL470053	With BEL920138 blue high hat lens
BEL470066	With BEL920409 clear high hat lens



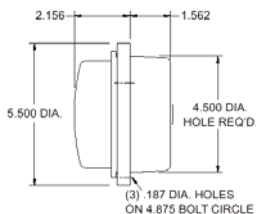
Strobe Recess Mount (Permanent)

Halogen beacons may be used in place of strobes for many applications. Halogen beacons feature a tough Valox housing and polycarbonate deep lens. Simplified circuitry along with good shock resistance insures less maintenance. The Halogen bulb is field replaceable. Mounting gasket, screws and 8" pigtails included.



Part#	Description
BEL400050	With BEL920144 deep red lens
BEL400051	With BEL920145 deep amber lens

Part#	Description
BEL400052	With BEL920388 deep blue lens
BEL400073	With BEL920140 deep clear lens



Strobe Recess Mount (Permanent)

Halogen beacons may be used in place of strobes for many applications. Halogen beacons feature a tough Valox housing and polycarbonate deep lens. Simplified circuitry along with good shock resistance insures less maintenance. The Halogen bulb is field replaceable. Mounting gasket, screws and 8" pigtails included.



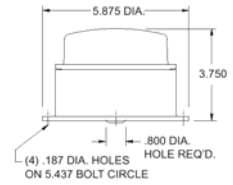
Part#	Description
BEL450039	With BEL920144 deep red lens
BEL450040	With BEL920145 deep amber lens

Part#	Description
BEL450041	With BEL920388 deep blue lens
BEL450066	With BEL920140 deep clear lens



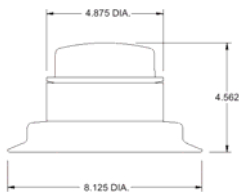
Halogen Surface Mount (Permanent)

Halogen beacons may be used in place of strobes for many applications. Halogen beacons feature tough Valox housing and polycarbonate high hat lens. Simplified circuitry along with good shock resistance insures less maintenance. The Halogen bulb is field replaceable. Mounting gasket, screws and 8" pigtails included.



Part#	Description
BEL470035	With BEL920144 deep red lens
BEL470036	With BEL920145 deep amber lens

Part#	Description
BEL470037	With BEL920388 deep blue lens
BEL470067	With BEL920140 deep clear lens



Halogen Surface Mount (Temporary)

Halogen beacons may be used in place of strobes for many applications. Halogen beacons feature a tough Valox housing and polycarbonate high hat lens. Simplified circuitry along with good shock resistance insures less maintenance. The Halogen bulb is field replaceable. Includes suction gasket, magnet, 8 ft. of wire and cigarette lighter adaptor.



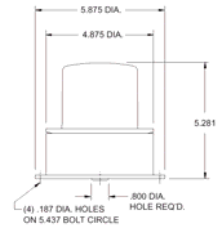
Part#	Description
BEL470054	With BEL920144 deep red lens
BEL470055	With BEL920145 deep amber lens

Part#	Description
BEL470056	With BEL920388 deep blue lens
BEL470068	With BEL920140 deep clear lens



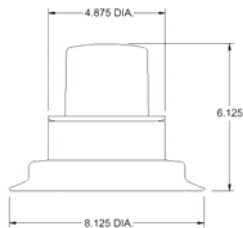
Halogen Roof Mount (Permanent)

Halogen beacons may be used in place of strobes for many applications. Halogen beacons feature a tough Valox housing and polycarbonate deep lens. Simplified circuitry along with good shock resistance insures less maintenance. The Halogen bulb is field replaceable. Mounting gasket, screws and 8" pigtails included.



Part#	Description
BEL470038	With BEL920136 red high hat lens
BEL470039	With BEL920137 amber high hat lens

Part#	Description
BEL470040	With BEL920138 blue high hat lens
BEL470069	With BEL920409 clear high hat lens



Halogen Roof Mount (Temporary)

Halogen beacons may be used in place of strobes for many applications. Halogen beacons feature a tough Valox housing and polycarbonate high hat lens. Simplified circuitry along with good shock resistance insures less maintenance. The Halogen bulb is field replaceable. Includes suction gasket, magnet, 8 ft. of wire and cigarette lighter adaptor.



Part#	Description
BEL470057	With BEL920136 red high hat lens
BEL470058	With BEL920137 amber high hat lens

Part#	Description
BEL470059	With BEL920138 blue high hat lens
BEL470070	With BEL920409 clear high hat lens



LED Lens Inserts For 200 Series Aluminum Lamps

Used in Betts low profile, aluminum body surface mount lamps that can be mounted horizontally or vertically. Features (4) light emitting diodes (LED's) in an epoxy sealed polycarbonate lens assembly.

For more information please contact DBL

Part#	Description
BEL201201	Red, LED lens insert with (1) eyelet & (1) butt connector
BEL201202	Amber, LED lens insert with (1) eyelet & (1) butt connector

Part#	Description
BEL201203	Red, LED lens insert with (2) butt connectors.
BEL201204	Amber, LED lens insert with (2) butt connectors.

LED Lens Inserts For 200 Series Valox Lamps

Used in Betts Valox body surface mount lamps that can be mounted horizontally or vertically. Features (6) light emitting diodes (LED's) in an epoxy sealed REFLEX polycarbonate lens assembly.



Part#	Description
BEL221201	Red, LED REFLEX lens insert with (2) eyelets
BEL221202	Amber, LED REFLEX lens insert with (2) eyelets

LED S.C. Lens Inserts For 50, 56, 57, & 60 Series Aluminum Lamps

Used in Betts aluminum body surface and recessed mount lamps. Single contact lens features (4) light emitting diodes (LED's) in an epoxy sealed lens assembly. Available in both shallow and deep lenses.



Part#	Description
BEL510003	Red, shallow LED lens insert with (2) butt connectors
BEL510004	Amber, shallow LED lens insert with (2) butt connectors
BEL510005	Red, shallow LED lens insert with (1) eyelet & (1) butt connector
BEL510006	Amber, shallow LED lens insert with (1) eyelet & (1) butt connector
BEL510007	Red, shallow LED lens insert with S.C. bulb base
BEL510008	Amber, shallow LED lens insert with S.C. bulb base

Part#	Description
BEL510013	Red, deep LED lens insert with (2) butt connectors
BEL510014	Amber, deep LED lens insert with (2) butt connectors
BEL510015	Red, deep LED lens insert with (1) eyelet & (1) butt connector
BEL510016	Amber, deep LED lens insert with (1) eyelet & (1) butt connector
BEL510017	Red, deep LED lens insert with S.C. bulb base
BEL510018	Amber, deep LED lens insert with S.C. bulb base



LED S.C. Lens Inserts For 56 Series Valox Lamps

Used in Betts Valox body recessed mount lamps. Single contact lens features (4) light emitting diodes (LED's) in an epoxy sealed lens assembly. Available in both shallow and deep lenses.

Part#	Description
BEL510001	Red, shallow LED lens insert with (2) eyelets
BEL510002	Amber, shallow LED lens insert with (2) eyelets

Part#	Description
BEL510011	Red, deep LED lens insert with (2) eyelets
BEL510012	Amber, deep LED lens insert with (2) eyelets

LED Special Purpose D.C. Lens Inserts For 50, 56, 57, & 60 Series Aluminum Lamps

Used in Betts aluminum body surface and recessed mount lamps. Double contact lens. It features a double contact lens with (4) light emitting diodes (LED's) on low power that increases to 12 LED's on high power in an epoxy sealed lens assembly. Available in both shallow and deep lenses.



Part#	Description
BEL510023	Red, shallow LED lens insert with (3) butt connectors.
BEL510024	Amber, shallow LED lens insert with (3) butt connectors
BEL510025	Red, shallow LED lens insert with (1) eyelet & (2) butt connectors
BEL510026	Amber, shallow LED lens insert with (1) eyelet & (2) butt connectors
BEL510027	Red, shallow LED lens insert with D.C. bulb base
BEL510028	Amber, shallow LED lens insert with D.C. bulb base

Part#	Description
BEL510033	Red, deep LED lens insert with (3) butt connectors.
BEL510034	Amber, deep LED lens insert with (3) butt connectors
BEL510035	Red, deep LED lens insert with (1) eyelet & (2) butt connectors
BEL510036	Amber, deep LED lens insert with (1) eyelet & (2) butt connectors
BEL510037	Red, deep LED lens insert with D.C. bulb base
BEL510038	Amber, deep LED lens insert with D.C. bulb base

LED Special Purpose D.C. Lens Inserts For 56 Series Valox Lamps

Used in Betts Valox body recessed mount lamps. Double contact lens. It features a double contact lens with (4) light emitting diodes (LED's) on low power that increases to 12 LED's on high power in an epoxy sealed lens assembly. Available in both shallow and deep lenses.



Part#	Description
BEL510021	Red, shallow LED lens insert with (3) eyelets
BEL510022	Amber, shallow LED lens insert with (3) eyelets

Part#	Description
BEL510031	Red, deep LED lens insert with (3) eyelets
BEL510032	Amber, deep LED lens insert with (3) eyelets

**LED Lens Inserts For 40, 45, 47 and 70 Series
Aluminum Lamps**

Used in Betts aluminum body surface and recessed mount lamps. Double contact polycarbonate lens assembly features (60) light emitting diodes (LED's) on low power to provide tail or marker function that increase to high power output for stop or turn functions. Available in both shallow and deep lenses for 12 or 24 volt applications.



Part#	Description
BEL710003	Red, shallow LED lens insert with (1) eyelet & (2) butt connectors
BEL710004	Amber, shallow LED lens insert with (1) eyelet & (2) butt connectors
BEL710007	Red, shallow LED lens insert with (1) eyelet & (2) butt connectors, 24 volt
BEL710008	Amber, shallow LED lens insert with (1) eyelet & (2) butt connectors, 24 volt
BEL710009	Red, shallow LED lens insert with D.C. bulb base
BEL710010	Amber, shallow LED lens insert with D.C. bulb base

Part#	Description
BEL710013	Red, deep LED lens insert with (1) eyelet & (2) butt connectors
BEL710014	Amber, deep LED lens insert with (1) eyelet & (2) butt connectors
BEL710017	Red, deep LED lens insert with (1) eyelet & (2) butt connectors, 24 volt
BEL710018	Amber, deep LED lens insert with (1) eyelet & (2) butt connectors. 24 volt
BEL710019	Red, deep LED lens insert with D.C. bulb base, 24 volt
BEL710020	Amber, deep LED lens insert with D.C. bulb base, 24 volt

**LED Lens Inserts For 40, 45, and 47
Series Valox Lamps**

Used in Betts Valox body surface and recessed mount lamps. Double contact polycarbonate lens assembly features (60) light emitting diodes (LED's) on low power to provide tail or marker function that increase to high power output for stop or turn functions. Available in both shallow and deep lenses for 12 or 24 volt applications.



Part#	Description
BEL710001	Red, shallow LED lens insert with (3) eyelets
BEL710002	Amber, shallow LED lens insert with (3) eyelets
BEL710005	Red, shallow LED lens insert with (3) eyelets, 24 volt
BEL710006	Amber, shallow LED lens insert with (3) eyelets, 24 volt

Part#	Description
BEL710011	Red, deep LED lens insert with (3) eyelets
BEL710012	Amber, deep LED lens insert (3) eyelets
BEL710015	Red, deep LED lens insert with (3) eyelets. 24 volt
BEL710016	Amber, deep LED lens insert with (3) eyelets, 24 volt

 <p><u>20 Series</u> Red, amber, silver license, and clear</p>	 <p><u>40, 45, 47, 70 & 80 Series</u> Clear shallow, red shallow, or amber shallow</p>	 <p><u>200 Series</u> Red, Clear, or amber</p>
 <p><u>50, 56, 57, 60 & 100 Series</u> Red shallow or amber shallow</p>	 <p><u>BEL920139</u> Clear, shallow back-up</p>	 <p><u>200V Series</u> Clear, red, or amber</p>
 <p><u>BEL920115</u> Clear, shallow</p>	 <p><u>BEL920142</u> Smoked, shallow</p> <p><u>BEL920143</u> Clear, shallow</p>	 <p><u>73 Series</u> Red, amber, and back-up</p>
 <p><u>BEL920115</u> Clear, deep back-up</p>	 <p><u>BEL920141</u> Red, deep license</p>	 <p><u>77 Series</u> Clear, red, or amber</p>
 <p><u>BEL920113</u> Red, deep license</p> <p><u>BEL920114</u> Amber, deep with window</p>	 <p><u>BEL920144</u> Red, deep</p> <p><u>BEL920145</u> Amber, deep</p> <p><u>BEL920388</u> Blue, deep</p> <p><u>BEL920140</u> Clear, deep dome</p>	 <p><u>BEL920154</u> Red emergency, Warning</p> <p><u>BEL920155</u> Amber emergency, warning</p>
 <p><u>BEL920111</u> Clear, red</p> <p><u>BEL920116</u> Red, deep</p> <p><u>BEL920117</u> Amber, deep</p> <p><u>BEL920451</u> Blue, deep</p>	 <p><u>47 Series Strobe and Beacon</u> High hat roof mounts available in red, amber, blue, or clear</p>	 <p><u>BEL920156</u> Red, arrow turn</p> <p><u>BEL920157</u> Amber, arrow turn</p>
 <p><u>65 Series</u> Clear, red or amber</p>	<p><i>For additional information please contact DBL</i></p>	

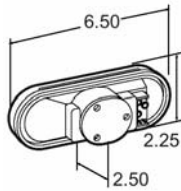
Trucklite

DBL stocks a wide variety of Trucklite gear and is adding more as our customers' needs grow and change. Listed are many of our most popular items among our customers. If you do not see what you need give us a call and we can get it for you.

Stop/Turn/Tail & Front/Park/Turn Oval Sealed

Part# **TKL60202R**—12v lamp (red)

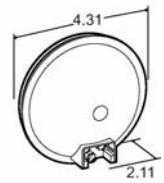
The Super 60 oval sealed lamp features sonically sealed lens and housing with a high impact polycarbonate lens.



Stop/Turn/Tail & Front/Park/Turn 4" Sealed Lamp

Part# **TKL40202R** (Red S/T/T)
Part# **TKL40202Y** (Yellow F/P/T)

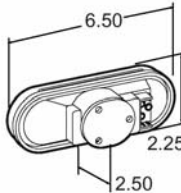
Made with a polycarbonate lens that resists heat and impact and designed with a shock mount that extends lamp life. Made for mounting in a 4-1/2" hole.



Side Turn & Marker/Clearance

Part# **TKL60215Y** (Yellow)

Features side indicator, marker/clearance and reflector functions as-well-as heavy duty shock mounted bulb. Narrow width facilitates horizontal mounting. Uses standard mounting holes.

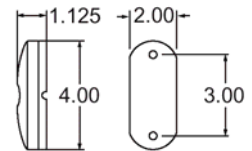


Shock/Mount Clearance Marker

Part# **TKL1211R** (Red)

Part# **TKL1211Y** (Yellow)

High impact Permastat housing protects against rust and corrosion, two bulb design allows one bulb to remain lit if other burns out and lamp meets requirements with one bulb.



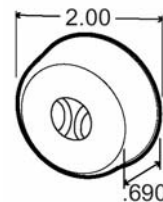
2" Sealed Marker Lamp

Part# **TKL30200R** (Red)

Part# **TKL30200Y** (Yellow)

Part# **TKL30230Y** (Yellow with ABS logo)

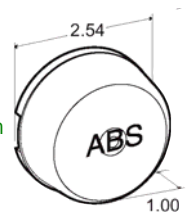
Featuring a polycarbonate lens and housing and a 12 volt bulb with a bulb life rated at 15,000 hours.



2-1/2" Sealed ABS Lamp

Part# **TKL10212Y** (Yellow)

Unique shock mount extends bulb life, polycarbonate lens and housing, 15,000 hour bulb life, and meets PC requirements on a 45° angle using all mounting devices.

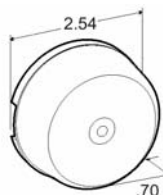


2-1/2" Sealed Reflectorized Clearance Lamp

Part# **TKL10205R** (Red)

Part# **TKL10205Y** (Yellow)

Sonically sealed lens and housing, high impact polycarbonate construction, and a 12 volt 15,000 hour rated bulb life.

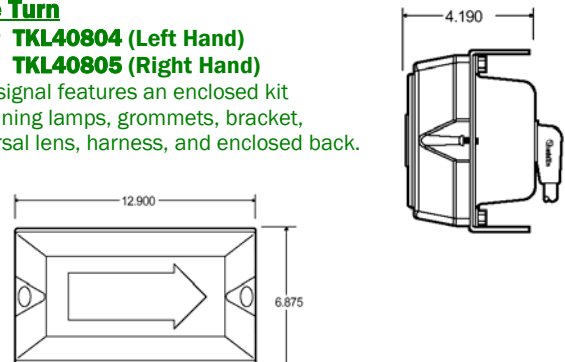


Wide Turn

Part# **TKL40804** (Left Hand)

Part# **TKL40805** (Right Hand)

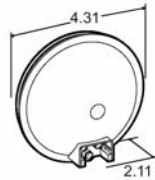
Each signal features an enclosed kit containing lamps, grommets, bracket, universal lens, harness, and enclosed back.



4" Sealed Back-Up Lamp

Part# TKL40204

Polycarbonate lens and housing, 12v lamp, legal only for back-up function, not recommended for cabinet use.



4" Sealed Dome Lamp

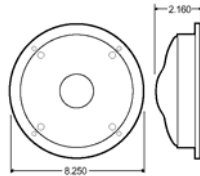
Part# TKL40203

Clear polycarbonate lens and housing are vibration welded, bulb is shock-mounted for extended life, and ABS flange.

8" Dome Lamp

Part# TKL80354 (with switch)

Push style on/off switch, chrome-plate steel housing, lens attaches to housing with four screws, uses flanged mounting to mount to a flat surface.

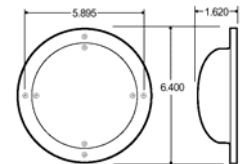


6" Dome Lamp

Part# TKL80351

Part# TKL80350 (with switch)

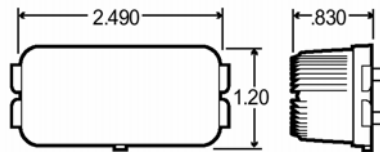
Clear polycarbonate lens, steel housing, and replaceable bulb. Screw hole diameter .234 and bolt hole diameter 5.895



Rectangular Sealed License Lamp

Part# TKL15208

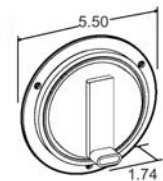
High impact polycarbonate sonically sealed lens and housing with 15,000 hour long life 12v bulb.



LED 4" Sealed Stop/Turn/Tail

Part# TKL44322R3 (Red)

Designed for less current draw, resulting in increased battery and alternator life while allowing more power for other vehicle requirements. Extremely shock and vibration resistant.

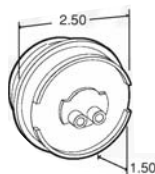


2" LED Marker/Clearance Lamp

Part# TKL30275R (Red)

Part# TKL30275Y (Yellow)

Polycarbonate lens and housing, eight LED pattern, and SAE PC rated for combination clearance/marker applications.

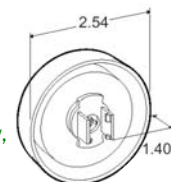


2-1/2" LED Sealed Marker/Clearance Lamp

Part# TKL10250R (Red)

Part# TKL10250Y (Yellow)

Polycarbonate lens and housing, 2 LED display, and electronics completely sealed in epoxy to resist corrosion.



2-1/2" LED Sealed Marker/Clearance Lamp Kit

Part# TKL10279R (Red)

Part# TKL10279Y (Yellow)

Polycarbonate lens and housing, eight LED pattern, and SAE PC rated for combination clearance/marker applications. Includes lamp and gray flange.

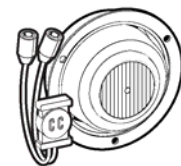


2-1/2" LED Sealed Marker/Clearance Lamp

Part# TKL10051R (Red)

Part# TKL10051Y (Yellow)

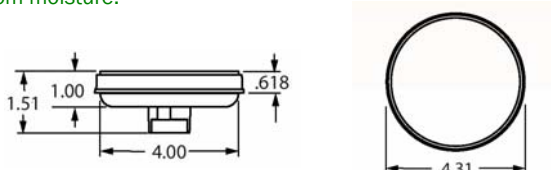
Polycarbonate lens and housing, 2 LED display, and electronics completely sealed in epoxy to resist corrosion. Includes lamp, flange, and plug.



LED 4" Stop/Turn/Tail LED Lamp

Part# TKL4050

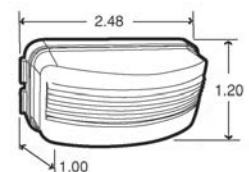
Popular on owner/operator show trucks, uses standard right angle connection, a unique 24 LED array displays a full pattern of light, and epoxy encapsulated electronics prevent damage from moisture.



LED Sealed License and Utility Lamp

Part# TKL15205

Hard-wired design with adaptor plug for quick changeover without rewiring, meets SAE J587 and European ECE Reg. 4. Lamp designed to fit brackets TKL00820, TKL15729, TKL15730, or TKL15732.



4" LED Back-Up Lamp

Part# TKL44236C

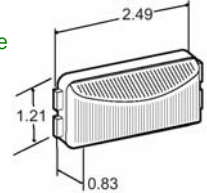
Permanently affixed gray flange mount, 27 LED display evenly distributes light for full and powerful light illumination.



LED Rectangular Sealed Marker/Clearance Lamp

Part# TKL15200R (Red, 12v)

Polycarbonate lens and housing, 16 gauge wire, fits in most narrow header rails, snap-lock tabs allow easy installation, long-life 15,000 hour bulb.

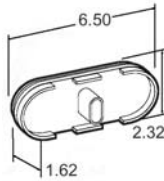


LED Oval Sealed Auxillary/Turn Lamp

Part# TKL60275Y (Yellow)

Part# TKL60080Y (Yellow/Directional)

Polycarbonate lens and housing, 26 LED display, and is a two function lamp. Electronics completely sealed in epoxy to resist corrosion.

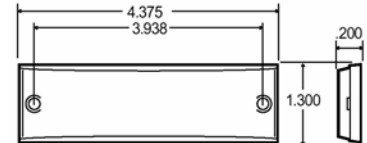


Compact Rectangular Lens

Part# 98003R (Red)

Part# 98003Y (Yellow)

Features acrylic lens and mounts with adhesive back or screws.

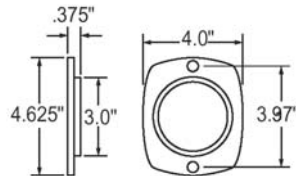


Trucklite 3" Screw Mount Reflectors

Part# 41R (Red)

Part# 41A (Yellow)

Flush type mount reflector and protective guard made of aluminum.

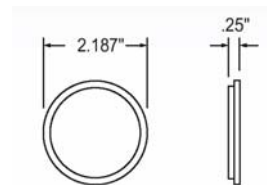


2-3/16" Round Stick-On

Part# 45R (Red)

Part# 45A (Yellow)

Acrylic lens and housing, permanent adhesive backing, mounts on any clean surface, smaller diameter for applications where space is limited.

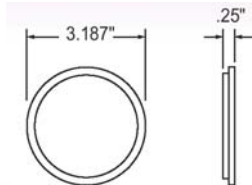


3-3/16" Round Stick-On

Part# 47R (Red)

Part# 47A (Yellow)

Acrylic lens and housing, permanent adhesive backing, mounts on any clean surface.

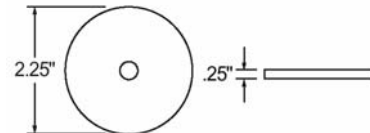


3" Center Mount Reflectors

Part# 98006R (Red)

Part# 98006Y (Yellow)

Fast, permanent installation with nail, screw or rivet. Designed to extra force in center (1/4" hole).



Turcklite Wide Turn Lens

Part# TKL99152

Features large outer lens for greater visibility. Contains two sealed back-up lamps with grommets for improved performance. Includes slotted bracket for ease of installation & adjustment.

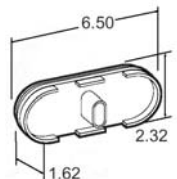


LED Oval Sealed Auxillary/Turn Lamp

Part# TKL60275Y (Yellow)

Part# TKL60080Y (Yellow/Directional)

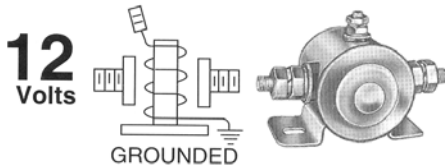
Polycarbonate lens and housing, 26 LED display, and is a two function lamp. Electronics completely sealed in epoxy to resist corrosion.



Cole-Hersee Metal Solenoid

Part# **ELE24106**

Steel housing, bracket mounting holes 5/16" x 19/32", 2-13/64" centers, 85 amps, and continuous duty.

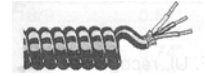


14-3 Coll Cord

These tangle resistant black cords coil up to stay out of your way. Conductors are stranded copper with color-coded rubber insulation.

Part# **ELE14-3CC**

Part# **ELE14-3SET** (with Hubble Set)



16-3 Coll Cord

Part# **ELE16-3CC**

110 Volt Double Pole Electric Switch

Part# **ELESWITCHDP**

Mounts in waterproof box on top of trailer for remote control pumping operations.



Betts Toggle Switch with Boot

Part# **BEL920039** (w/terminal screw)

Part# **BEL920078** (w/pigtails)



Chelsea Sensing Switch

Part# **ELE329202X** (One Wire)

Part# **ELE378301**

One and two wire pressure switches to operate indicator light on air shift PTO operations.



Cole-Hersee Master Switch

Part# **ELE2484**

Two 3/8" -20 copper stud, actuator is die cast, plated steel case, and fits panel up through 3/16".



Toggle Switches

Part# **ELE55021**

Single pole, double throw, momentary on/off toggle switch. Available in several different styles.



70 Amp Auto Reset Breaker

Part# **ELECDLA**

Black, polycarbonate body circuit breaker with two mounting ears, automatically resets itself once tripped.



Standard Circuit Breakers & Fuses

Part# **ELECB15**.....15 Amp Circuit Breaker

Part# **ELECB20**.....20 Amp Circuit Breaker

Part# **ELEMCB**.....12v DC Circuit Breakers

Part# **ELEMFU**.....12v DC Fuse

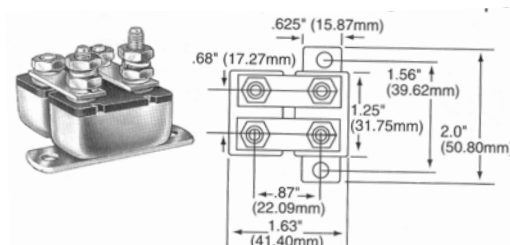
DBL stocks a complete line of fuses and circuit breakers needed for any truck or trailer electrical system.



Cole-Hersee Circuit Breaker

Part# **ELE3088-66**

Double breaker assemblies for higher amperage. Other circuit breakers available upon request.



**70 Amp and 50 AMP Manual
Reset Breaker**

Part# ELECDLM

Black, polycarbonate body circuit breaker with two mounting ears and manual reset button.



Midland Junction Box

Part# ELEBE22040

Black polycarbonate box with brass connecting posts.



Trucklite Junction Box Kit

Part# TKL50400 (surface Mount Assembly)

Part# TKL50401 (Back plate Mount Assembly)

Contains junction box, junction box cap, terminal block, four filler plugs and mounting, and assembly screws.



Trucklite Junction Box Parts

Part# TKL50800.....Junction Box

Part# TKL50808.....Seven Prong
Cover Kit

Part# TKL50816.....Junction Box Cap

Part# TKL50820.....Terminal Block

Part# TKL50830.....Filler Plugs and
Mounting Screws

Part# TKL50831.....Adaptor Plate



DBL stocks a complete line of junction boxes and accessories for remote control operations on trucks and tankers.

Electric Box

Part# ELE2X4BOX.....2"x4" Electric Box

Part# ELE2X4COVER.....2"x4" Cover

Part# ELESWITCHCOVER.....2"x4" Switch Cover



Trailer Nose Box with Breaker

Part# ELEBE26103

Standard trailer nose box with one seven prong receptacle and space for second unit complete with emergency and supply gladhands.



Conduit Boxes

Part# ELECBL-3/4.....3/4" L Conduit Box

Part# ELECBT-1/2.....1/2" T Conduit Box

DBL stocks a complete line of conduit boxes used in tank and trailer applications.



Compression Fittings & Nuts

Part# TKL50840.....3/8" Compression Fitting

Part# TKL50841.....1/2" Compression Fitting

Part# TKL50842.....3/4" Compression Fitting

Part# TKL50845.....Jam Nut



Have a question? Call DBL and one of our knowledgeable staff will help answer any question you might have regarding lights and electrical systems.

Electrical & Wiring

Part Number	ITEM
BEL920013	Betts 108LS Double Contact Socket
BEL920015	Betts 108S Single Contact Socket
BEL920459	Betts Double Contact Shock Mount Socket
BEL820460	Betts Single Contact Shock Mount Socket
BEL920120	Betts Single Contact
BEL920124	Betts Single Contact Pigtail
BEL920125	Betts Single Contact Socket
BEL920148	Betts Double Contact
BEL920147	Betts Double Contact Pigtail
BEL920126	Betts Double Contact Socket
BEL920149	Betts Double Contact Grommet
BEL920307	Betts Shank Nipple
ELEBC	Butt Connector #8 and smaller
ELEBL	Battery Lug 1/0 +
ELECABLE1-0	Battery Cable
ELECABLE14-6	Six Wire Cable
ELECABLE16-3	Three wire cable
ELECABLE4	#4 Battery Cable
ELEHBLSET	Hubbell Plug and Connector Set
ELERT	Ring Terminal #8 and Smaller
ELEWIRE12	12 Gauge Electrical Wire
ELEWIRE14	14 Gauge Electrical Wire
MISACLIP10	5/8" Aluminum Clip
MISACLIP6	3/8" Aluminum Clip
MISACLIP8	1/2" Aluminum Clip
MISSLOOM	Shrink Plastic Loom Per Inch
MISSTUBE	Shrink Tube Per Inch
OFM18-7	7 Wire 18 Gauge Cable
TKL50202	Right Hand Stop/Turn/Tail Harness 156"
TKL50203	Left Hand Stop/Turn/Tail Harness 156"
TKL50208	Right Hand S/T/T and Side Marker Harness 96"
TKL50209	Left Hand S/T/T and Side Marker Harness 96"
TKL50210	Right Hand S/T/T and Side Marker Harness 192"
TKL50242	Right Hand S/T/T and Rear Marker Harness 96"
TKL50243	Left Hand S/T/T and Rear Marker Harness 96"
TKL50250	Left Hand S/S/T and Back-Up Harness 144"
TKL50251	Right Hand S/S/T and Back-Up Harness 144"
TKL50309	Two Plug Marker/Clearance Harness (brown/white) 168"
TKL50310	Single Plug Marker/Clearance Harness (black/white) 336"
TKL50342-0096	Right Hand Turn/Marker Harness (white/green/brown) 180"
TKL50343-0096	Left Hand Turn/Marker Harness (white/yellow/brown) 180"
TKL50344-0360	Right Hand Turn/Marker Harness (white/green/brown) 456"
TKL50345-0360	Left Hand Turn/Marker Harness (white/yellow/brown) 456"
TKL50376-0120	LED Single Plug Marker/Clearance Harness (Black/White) 336"
TKL93745	LED Fit 'N Forget Adaptor
ELEABSE24	ABS 24" Sensor Extension Cable
ELEABSE78	2 M. ABS Extension Cable
ELEABSPC	ECU Power Cable
BEL920123	Betts Double Contact Shock Mount Socket
BEL920234	Betts Single Contact Shock Mount Socket

Wire Clips

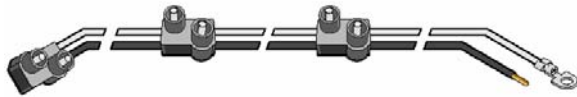
MISSCLIP4	1/4" Stainless Steel Wire Clip
MISSCLIP6	3/8" Stainless Steel Wire Clip
MISSCLIP8	1/2" Stainless Steel Wire Clip
MISSCLIP10	5/8" Stainless Steel Wire Clip
MISSCLIP12	3/4" Stainless Steel Wire Clip
MISSCLIP16	1" Stainless Steel Wire Clip
MISSCLIP24	1-1/2" Stainless Steel Wire Clip
MISSCLIP28	1-3/4" Stainless Steel Wire Clip

Identification Harness

Part# TKL93906 (6" Center)

Part# TKL93908 (9" Center)

For use with incandescent lamp ID bar, GPT wire, and tin plated brass terminals, six inch centers, overall length 26".



LED Fit 'N Forget S/T/T Adaptor Plug

Part# TKL94706 (8")

Keeps water, salt, and other corrosives from LED lamps, made of 16 gauge GPT wire, tin plated brass terminals, 8" in length.



LED Fit 'N Forget S/T/T Plug

Part# TKL94707 (8")

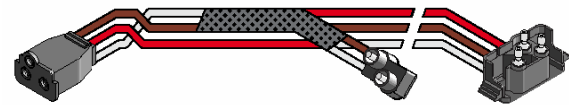
Keeps water, salt, and other corrosives from LED lamps, made of 16 gauge GPT wire, tin plated brass terminals, 8" in length.



Right Angle S/T/T Plugs with Adapter

Part# TKL94751

Converts one S/T/T plug into one S/T/T plug and one marker clearance plug. Made of 16 Gauge GPT wire, 12" in length.



LED Fit 'N Forget Pigtail Set

Part# TKL94862

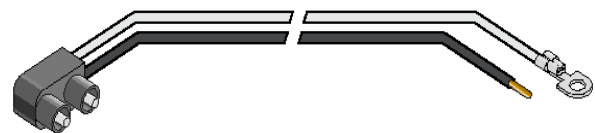
Keeps water, salt, and other corrosives from LED lamps, made of 16 gauge GPT wire, and tin plated brass bullets and receptacles, approximately 5" in length.



Marker Clearance Plugs

Part# TKL94902

For use in areas with limited space, made of 16 gauge GPT wire, tin plated brass terminals, approximately 7" in length.



Marker Clearance Plugs

Part# TKL94916

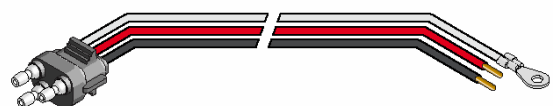
For use in areas with limited space, made of 16 gauge GPT wire, tin plated brass terminals, approximately 19" in length.



S/T/T Plugs

Part# TKL94926

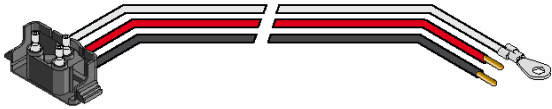
For use with double contact sealed incandescent lamps, made of 16 gauge GPT wire, tin plated brass terminals, 11" in length.



Right Angle S/T/T Plug

Part# **TKL94993**

For use with double contact sealed incandescent lamps, made of 16 gauge GPT wire, tin plated brass terminals, approximately 11" in length.



Marker/Clearance Multiple Plug Harness

Part# **TKL95451**

For use with bumpers and skirts, made of 16 gauge GPT wire, tin plated brass terminals, 7 plugs with 10" centers, overall length of 107"



Marker/Clearance Multiple Plug Harness

Part# **TKL95452**

For use with bumpers and skirts, made of 16 gauge GPT wire, tin plated brass terminals, 9 plugs with 10" centers, overall length of 127".



LED Fit 'N Forget Marker/Clearance Plug Harness

Part# **TKL95461**

For use with bumpers and skirt, made of 16 GPT wire, brass terminals, keeps out water, salt and other corrosives, 7 plugs with 10" centers, overall 107".



Phillips Seven Prong Receptacle and Plug

Part# **ELE15720**.....7 Prong Receptacle

Part# **ELE15730**.....7 Prong Plug

Part# **ELE15760**.....Receptacle Cover



Electrical Receptacles and Plugs

DBL stocks a complete line of single and multiple plug and receptacles to meet your needs

Part# **ELE15-400**.....4 Prong Receptacle

Part# **ELE15-430**.....4 Prong Plug



Phillips Six Prong Receptacle

Part# **ELE15610**

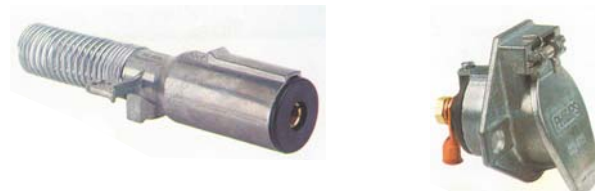
Heavy duty die cast connector exchanges with all popular types of 6-way sockets. Screw tightened guillotine supports cable and allows for quicker installation.



Single Pole Receptacle and Plug

Part# **ELE15320**.....Single Pole Receptacle

Part# **ELE15335**.....Single Pole Plug



Twist-Lock Connector & Plug

Part# **ELEHBL7314C**.....Twist-Lock Connector

Part# **ELEHBL9965C**.....Twist-Lock Plug

Two 20 volt three prong connector and plugs for farm pick-up operations.



Connector Set for 1/0+ Cable

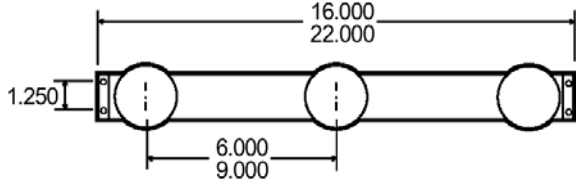
Part# **ELECONNSET**

Tweco twist lock connector set for 1/0+ or larger cable.



Trucklite Stainless Steel I.D. Bar

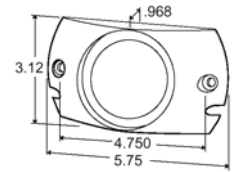
Features rugged stainless steel or black enameled ID bar. Lamps are mounted on 6" or 9" centers.



Branch Deflector Mounts

Part# TKL10725

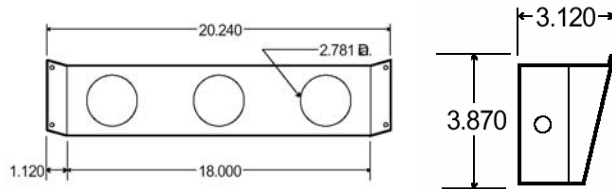
For 2-1/2" lamps, polycarbonate mount, high impact.



Trucklite Identification Bracket for 2-1/2" Lamps

Part# TKL10732

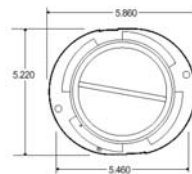
Stainless Steel bracket is angle cut to fit most tanker applications. Designed for mounting grommets requiring 2.871" hole.



Document Holder

Part# TKL97960

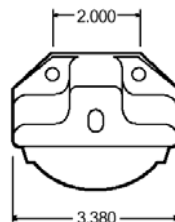
"ABS" plastic base, polycarbonate cover, designed for easy installation, convenient ease and removal of documents, moisture resistant.



Trucklite License Bracket

Part# TKL15729

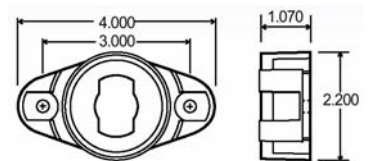
Features snap-fit mount for quick installation and easy replacement, may be surface mounted or used with bracket.



Cam-On Mounts

Part# TKL10728

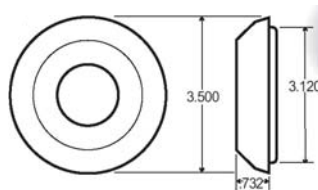
High impact plastic mount, branch deflector cams on 2" and 2-1/2" lamps, requires TKL94924 side entry plug.



Trucklite Diaphragm Grommet for 2-1/2" Lamps

Part# TKL10708

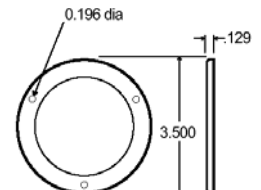
Rubber grommet, designed for edge lighting, adapts to surface thickness up to 1/4".



Trucklite 2-1/2" Mounting Cover

Part# TKL10715

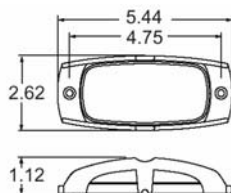
Designed to enhance appearance of lamps, flange cover offers improved theft resistance, polished stainless steel.



Trucklite Chrome Guard Safeguard

Part# TKL26720

Chrome plated die cast steel with mounting holes, used for lamp protection.



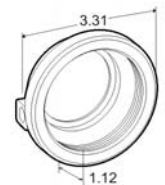
Trucklite Grommet Mounts for 2-1/2" Lamps

Part# TKL10700 (Open Back)

Part# TKL10702 (Closed Back)

Part# TKL10401 (Kit)

PVC grommet, thermal plastic rubber, wide grooved for panel thickness up to .250" Kit includes open back grommet and plug.



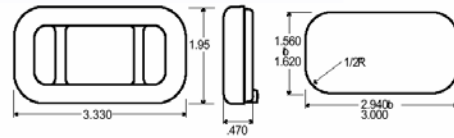
Trucklite Grommet Mounts for 2-1/2" Lamps

Parts# **TKL30700** (Open Back)
Parts# **TKL30702** (Closed Back)
For additional information please contact DBL.



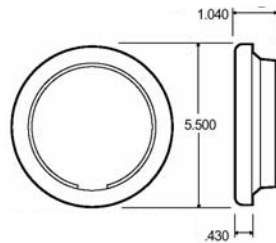
Trucklite Grommet Mount

Part# **TKL15702**
Flush mount vinyl PVC grommet, mounts in panel thickness up to 1/4", suitable for PC requirements on a 45° angle with incandescent lamps.



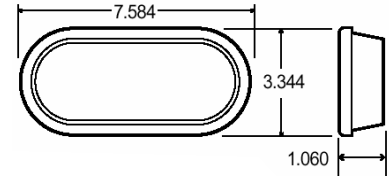
Trucklite Mounting Grommet for 4" Lamps

Part# **TKL40700**
PVC grommet, flush mount 4" diameter lamps in a 4-1/2" hole, designed for shock absorbency.



Trucklite Oval Mounting Grommet

Part# **TKL60700**
For 60 Series products, allows flush mounting, PVC grommet, designed for shock absorbency.



Grommets- made of black Nitrile

Part#	Item
MISGROMMET4.....	1/4" Grommet
MISGROMMET6.....	3/8" Grommet
MISGROMMET8.....	1/2" Grommet
MISGROMMET8W.....	1/2" Wide Grommet
MISGROMMET10.....	5/8" Grommet
MISGROMMET10W.....	5/8" Wide Grommet
MISGROMMET12.....	3/4" Wide Grommet
MISGROMMET16.....	1" Grommet
MISGROMMET24.....	1-1/2" Grommet





For Pricing

Call DBL Toll Free: 1-877-DBL-TANK

Monday thru Friday

7:00 AM - 5:00 PM

Saturdays

6:00 AM - 12:00 AM

**Or you can fax or email us at anytime and
we will get back to you ASAP**

Fax: 717-653-4106

Email: dbltank@dbltank.com

Gaskets

Clean In Place Gaskets..... 92

Sanitary Dome Gaskets..... 92

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Gaskets For Chemical Applications..... 93

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Brake Seals, Gaskets, and O-Rings..... 94

The gaskets listed in this section are among the most commonly used by our customers. However, DBL carries a large selection of gaskets that are not listed in this section, but can be found by means of the appendix. If you do not see the gasket you need please call us and chances are we will have it in stock or be able to get it for you.

For your convenience, instructions are given on the following page on how to locate gaskets and other parts using the appendix.

If you have any questions please call us,
1-877-325-8265
or email us,
dbltank@dbltank.com
parts@dbltank.com

How to find gaskets and o-rings for pumps, valves, vents, etc.

For ease in finding replacement parts (gaskets, o-rings, springs, spacers, etc.) DBL has set up an appendix with full parts breakouts. In the **appendix**, look up the name of the item you are looking to find parts for. This will refer you to the page number with the parts breakout for that item.

Example: If you are looking for replacement parts for a Betts Standard Wet-R-Dri Valve, you simply look under the **valves** category in the **appendix** for a Betts Standard Wet-R-Dri valve and turn to the appropriate page. On this page you'll find a parts breakout. Find the replacement part you need and write down the item number(s) or letter(s), the description, and the appendix page number. When calling in an order to DBL or to discuss a part, please reference the appendix page number, the replacement part item number and the description. This information helps cut down on errors in ordering and will help ensure that you will receive the necessary part or parts. It also helps when discussing parts with our customers. Knowing that we are both looking at the same diagram and talking about the same part greatly increases accuracy. If you cannot find the part you are looking for in the appendix call DBL and we will do our best to help you find what you need and answer any questions you might have.

**Betts Wet-R-Dri Valve TTMA Style
Standard and Detent**

No.	Description	Material	2" Size	3" Size	4" Size	5" Size	6" Size	8" Size
			Part No.	Part No.	Part No.	Part No.	Part No.	Part No.
1	Disc	Buna-N	WD101-2 BN	WD101-3 BN	WD101-4 BN	WD101-5 BN	WD101-6 BN	WD101-8 BN
		Viton	WD101-2 VT	WD101-3 VT	WD101-4 VT	WD101-5 VT	WD101-6 VT	WD101-8 VT
		Urethane	WD101-2 PY	WD101-3 PY	WD101-4 PY	WD101-5 PY	WD101-6 PY	WD101-8 PY
		EPDM	WD101-2 EP	WD101-3 EP	WD101-4 EP	WD101-5 EP	WD101-6 EP	WD101-8 EP
2	Handle	Mail "E" Coated	25884EY	25884EY	25884EY	25884EY	25933AL	25933AL
		Cap Screw	Steel Zinc Plt.	9Q5813	9Q5813	9Q5813	9Q5813	9Q5898	9Q5898
	Hex. Nut	Steel Zinc Plt.	9Q5808	9Q5808	9Q5808	9Q5808	9Q5808	9Q5808
4	Drive Shaft	Steel	27053MS	27050MS	27050MS	27051MS	16229MS	16229MS002
5	Drive Shaft	Steel	27053MS001	27050MS001	27050MS001	27051MS001	16229MS	16229MS002
6	O-Ring	To Match Disc Matl.	17889**	17889**	17889**	17889**	18831**	18831**
7	Bearing Shaft	Steel	16006MS	15913MS	15913MS	15913MS	16230MS	16230MS002
8	O-Ring	To Match Disc Matl.	17781**	18141**	18141**	18141**	18831**	18831**
9	Drv-Lok-Pin	Steel Zinc Plt.	9Q4893	9Q4893	9Q4893	9Q4925	9Q4926	9Q4938
10	Detent Ball	440 StInls	9Z4856	9Z4856	9Z4856	9Z4856	9Z4856	9Z4856
11	Detent Spring	304 StInls	15229SL	15229SL	15229SL	15229SL	15229SL	15229SL
12	Ret. Screw	304 StInls	9Q5838	9Q5838	9Q5838	9Q5838	9Q5838	9Q5838

K-22

Buna Seal Bevel Seat Gasket

Buna-N seal, standard 45°, 90 durometer.

Also available in EPDM, Viton, or Silicone.



Part#	Size
GAS40BS-O-150	1-1/2"
GAS40BS-O-200	2"
GAS40BS-O-250	2-1/2"
GAS40BS-O-300	3"

Sanitary Teflon Bevel Seat Gasket

Standard Teflon bevel seat gasket. Heavy duty version also available.



Part#	Size
GAS40BS-S-150	1-1/2"
GAS40BS-S-200	2"
GAS40BS-S-250	2-1/2"
GAS40BS-S-300	3"

4" Clean In Place Flanged Seal

Part# GAS40MPF-U-400

Black Buna-N flanged clamp gasket. Also available in white and many different sizes. Viton, EPDM, or Silicone available upon request.



Clean In Place Buna Flanged Seal

Standard Buna-N clamp gasket. Also available in white. Viton, EPDM, Teflon, or Silicone available upon request.



3" Clean In Place Buna J P Seal

Part# GAS40JB-U-300

This John R. Perry Buna-N seal is also available in many different sizes. Upon request, available in EPDM, Silicone, Viton, or Teflon.



Part#	Size
GAS40MP-U-150	1-1/2"
GAS40MP-U-200	2"
GAS40MP-U-250	2-1/2"
GAS40MP-U-300	3"
GAS40MP-U-400	4"

Sanitary Dome Gaskets

DBL stocks a wide variety of FDA approved sanitary dome lid seals. For further details please contact our parts department.

Part#	Description
GASDOMEBESAN	Betts Dome Seal
GASDOMEBRESAN	Brenner Dome Lid Gasket
GASDOMEHEISAN	Heil Dome Lid Gasket
GASDOMEKARSAN	Kari-Kool Dome Gasket
GASDOMESTESAN	STE/Polar Dome Gasket
GASDOMETRESAN	Tremcar Dome Gasket
GASDOMEWALSAN	Walker Dome Gasket

3" Square Flange Gasket

Part# GASSGA301NA

Non-asbestos gasket used for mounting 3" square flange check valve.



Dry Bulk Dome Gaskets

DBL carries a wide variety of dome seals. If you do not see the one you need, call us and we can get it for you.

Part#	Description
GASDOMEBUTDB	Butler Dome Seal
GASDOMEFRUBK	Fruehauf Black Dome Gasket
GASDOMEFRUWH	Fruehauf White Dome Gasket
GASDOMEKNBKMM	Knappco Black Buna Gasket
GASDOMEKNWHLM	Knappco White Lid Gasket
GASDOMEKNWHMM	Knappco White Buna Gasket
GASDOMESOLI	Solimar Inner Lid Seal
GASDOMESOLO	Solimar Outer Lid

Gaskets For Drop Bottom Tee

These white Nitrile gaskets are used for sealing door openings on drop bottom tees. Available in other sizes.

Part#	Size
DRYG6DBT	6"
DRYG8DBT	8"

Victaulic Dry Bulk White Clamp Gasket

White Nitrile gasket designed for use with snap type dry bulk clamps.

Part#	Size
DRYG3W	3"
DRYG4W	4"
DRYG5W	5"
DRYG6W	6"

TTMA Cork Gaskets

Cork gaskets designed to seal tank truck spec. flanges.

Part#	Size
GASTT2C	2"
GASTT2.5C	2-1/2"
GASTT3C	3"
GASTT4C	4"
GASTT6C	6"

Knappco Manhole 10" Fill Gasket

Part# **GASFILLKN**

Buna gasket for 10" fill Knappco petroleum dome lid.

Clay and Bailey Manhole Gaskets

Cork/Buna gaskets for Clay and Bailey dome lids.

Part#	Description
GASCB887-12	1/8" Fill Gasket
GASCB887-22	1/4" Dome Gasket
GASCBFX887-12	1/4" Fill Gasket

Teflon Screw Cap Gaskets

Solid white Teflon gaskets designed to seal screw caps. For use in chemical applications. **Also available in other materials and sizes.**

Part#	Size/Description
GASSC33T1	3" Teflon 1/16" Cap
GASSC3T2	3" Teflon 1/8" Cap
GASSC34T2	4" Teflon 1/8" Cap

Morris Dry Bulk Clamp Gaskets

For use with Morris T-bolt type dry bulk clamps, this clamp gasket is made of Nitrile.

Part#	Size
DRYC3501G	3"
DRYC4501G	4"
DRYC6-3CG	6"

Cork Sump Gaskets

Cork gaskets used for mounting valves and flanges to tank sumps. **Also available in non-asbestos and soft chemical.**

Part#	Size
GASSU3C	3"
GASSU4C	4"
GASSU6C	6"

Victaulic Gaskets

Black Buna gaskets designed for sealing grooved pipe with aluminum or cast iron clamps.

Part#	Size
GASVIC1.5	1.5"
GASVIC2	2"
GASVIC2.5	2.5"
GASVIC3	3"
GASVIC4	4"
GASVIC4.5	4.5"

Full Face Teflon Envelope Gaskets

Full face gaskets for ASME 150# flanges. **Also available in soft chemical and non-asbestos.**

Part#	Size
GASFF1.5TE	1-1/2"
GASFF2TE	2"
GASFF3TE	3"
GASFF4TE	4"
GASFF6TE	6"

Buna Quick Coupling Gasket

Black Nitrile gaskets designed for cam and groove type quick couplings. Available in other sizes upon request.

Part#	Size
GASQC1.5B	1-1/2"
GASQC2B	2"
GASQC3B	3"
GASQC4B	4"
GASQC5B	5"
GASQC6B	6"

White Neoprene Quick Coupling Gasket

White neoprene gaskets designed for cam and groove type quick coupling. Available in other sizes upon request.

Part#	Size
GASQC3W	3"
GASQC4W	4"
GASQC5W	5"
GASQC6W	6"

Dixon Bayco Neoprene Air Gasket

Part# DIXAWS6

Neoprene gasket for boss-type air couplers. Also available in natural rubber.



Brake Seals, Gaskets, and O-Rings

Stocking a complete line of trailer axle seals, hubcaps, and gaskets. For more information please contact DBL.

Part#	Description
SUS372-7097	Stemco Seal
SUS372-7098	Stemco Seal
SUS372-7099	Stemco Seal
SUS330-3009	Stemco Hub Gasket
SUS330-3067	Stemco Gasket
SUS330-3118	Large Diameter Hub gasket
SUSDGASKET	Great Dane Gasket
SUS11-0680	Dayton O-Ring

Dixon Bayco Hose Gasket

Buna gaskets for use in brass couplings on fuel oil delivery hose.



Part#	Size
DIXH5073	1-1/4"
DIXH5074	1-1/2"

Hose

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8793DH

Tigerflex Gasoline Drop Hoses

- Lightweight
- Heavy-Duty
- Easy-to-handle
- Super-flexible
- Last Longer
- Lower Operating Cost



2402DH

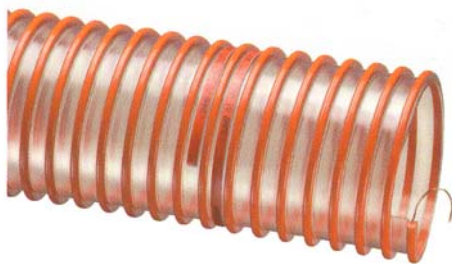
Non-permeable polyurethane construction- Tigerflex gasoline drop hoses remain crack and leak resistant under the harshest of conditions. They easily handle gasoline/fuel blends made with methanol, ethanol, toluene, naphthas, kerosene, benzene, MEK and MTBE's without degradation (aromatic content not to exceed 50%). And they remain super-flexible, even in sub-zero weather.

Polyester fabric reinforcement- provides increased flexibility and improves the ability to handle positive working pressures.

Exposed PVC helix- highly abrasion-resistant and lightweight, Tigerflex gasoline drop hoses are far easier to handle than conventional TPR/rubber hoses because they slide more easily and are lighter than any other drop hose.

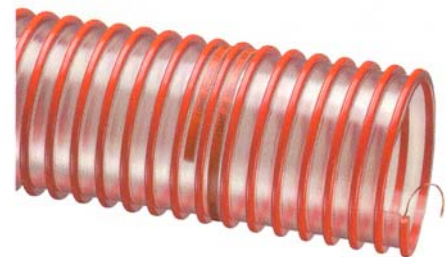
Embedded copper bonding/grounding wire- helps provide the safest way of grounding hose assembly for gasoline and vapor transfer. Simply extract the wire from the PVC helix and bond/connect it to the ground through the metal fitting or by any other means. A properly grounded gasoline drop hose assembly should measure less than 10 ohms of electrical resistance.

Series	Nominal ID (Inches)	Nominal OD* (Inches)	Working Pressure† (PSI @ 68° F)	Min. Bending Radius (In. @ 68° F)	Standard Lengths (Ft.)	Approx. Wt. (lbs/ft.)
2402DH-303	3.03	3.78	65	5	100/57/20	1.10
2402DH-404	4.04	4.82	65	7	100/57/20	1.50
8793DH-303	3.03	3.78	65	6	100/57/20	1.20
8793DH-404	4.04	4.82	65	8	100/57/20	1.60



GVRE

Tigerflex Vapor Recovery Hoses



HGVRE

Non-permeable polyurethane construction- GVRE and HGVRE vapor recovery hoses are manufactured with polyurethane tubes to provide superior resistant to hydrocarbon vapors. They remain leak resistant under the harshest of conditions and are much lighter than conventional TPR/rubber hoses. The clear tube adds another safety feature allowing visual confirmation if fuels backs up into the vapor recovery system.

Exposed PVC helix- provides high abrasion and scuff resistance, slides more easily for easier handling.

Embedded copper bonding/grounding wire- helps provide the safest way of grounding hose assembly for gasoline and vapor transfer. Simply extract the wire from the PVC helix and bond/connect it to the ground through the metal fitting or by any other means. A properly grounded gasoline drop hose assembly should measure less than 10 ohms of electrical resistance.

Series	Nominal ID (Inches)	Nominal OD* (Inches)	Min. Bending Radius (In. @ 68° F)	Standard Lengths (Ft.)	Approx. Wt. (lbs/ft.)
GVRE202	2.02	2.46	3.0	100/60	0.40
GVRE303	3.03	3.51	3.5	100/60	0.65
GVRE404	4.04	4.56	4.5	100/60	0.95
HGVRE303	3.03	3.54	4.5	100/60	0.82
HGVRE404	4.04	4.61	5.5	100/60	1.11

Banding Sleeves - flexible PVC

For use as support behind coupler. Cut into approximately 12" lengths and screw onto hose helix.



Part No.	Fits Hose	Color & Description	Service Temperature	Standard Length	Weight (lbs/ea.)
SLV-YL3X3	3.03"	Bright Yellow	4° F – 150° F	3 Ft.	3.23
SLV-YL4X3	4.04"	Flexible PVC	4° F – 150° F	3 Ft.	4.37
SLV-CL3X3	3.03"	Clear Cold-Weather	-40° F – 150° F	3 Ft.	3.23
SLV-CL4X3	4.04"	Flexible PVC	-40° F – 150° F	3 Ft.	4.37

For GVRE Gasoline Vapor Recovery Hoses

Part No.	Fits Hose	Color & Description	Service Temperature	Standard Length	Weight (lbs/ea.)
SLV-OR2X3	2.02"	Orange Flexible PVC	4° F – 150° F	3 Ft.	1.88
SLV-OR3X3	3.03"		4° F – 150° F	3 Ft.	3.17
SLV-OR4X3	4.04"		4° F – 150° F	3 Ft.	4.28

Banding Colls - rigid PVC colls

Provides smoother surface for banding clamps behind coupler.

Part No.	Fits Hose	Color	Approx. Weight (lbs/ea.)
BCCF3	3.03"	Clear	0.51
BCCF4	4.04"	Clear	0.72



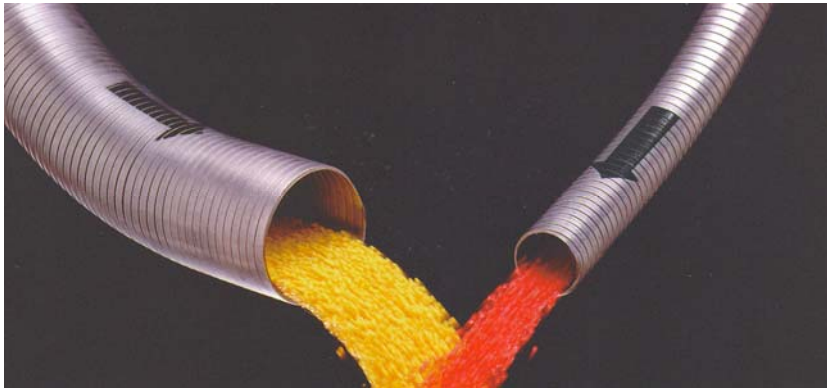
For GVRE & HGVRE Gasoline Vapor Recovery Hoses

Part No.	Fits Hose	Color	Approx. Weight (lbs/ea.)
BCOR2	2.02"	Orange	0.23
BCOR3	3.03"	Orange	0.41
BCOR4	4.04"	Orange	0.43



The Engineered Performance Leaders

HT5000 Series Lined Smooth Bored Interlocked Flexible Metal Hose



Applications

Pneumatic dry bulk unloading of grains, pellets, powders and dry chemicals.

Ideal hose for general bulk unloading applications.

Transfer of hot materials (not for hot tar or asphalt)

Bulk unloading of highly abrasive materials.

Plastic pellet transfer

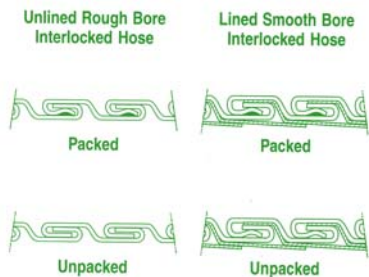
HT5000's Interlocked Metal Hose combines the Hose Tec single-strip interlocking construction with a smooth liner, providing a flexible metal hose that resists material build-up and internal abrasion. Materials flow smoothly in direction shown by arrows.

Construction

An armor strip is combined with a strip of linear metal and formed to create a lined flexible interlocked metal hose that offers superior strength and abrasion resistance. Available with galvanized steel or stainless steel armor construction, with either galvanized or stainless steel liner in a variety of weights. Series 300 and 400 stainless steels are available.

Features

Flow indication arrows are provided on each length. Galvanized or stainless steel liner provides additional strength and greater resistance to abrasion. Smooth liner reduces metal degradation and improves metal unloading time. Provides maximum flow rate transfers for pneumatic conveying applications.



Packing Material	Temperature	Pressure	Vacuum
Cotton Cord	To 300° F.	To 15 PSI	To 15" Mercury
Apyrous (Hi Temp)	To 450° F.	To 15 PSI	To 15" Mercury
Gas Tight (Elastomeric)	To 180° F.	To 20 PSI	To 20" Mercury
Silicone	To 500° F.	To 20 PSI	To 20" Mercury
S. S. Wire	To 1500° F.	To 15 PSI	To 15" Mercury

SPECIFICATIONS

(Weights & bend diameters are based on extended hose and are approximate)

Hose Size I. D. (Inches)	Series & Strip Thickness					
	HTGG5150 HTGS5150 HTSS5150 .015" Armor/.015" Liner		HTGG5180 HTGS5180 HTSS5180 .018" Armor/.015" Liner		HTSS5250 .025" Armor/.018" Liner	
	Minimum Inside Bend Dia. (Inches)	Weight per foot (lbs.)	Minimum Inside Bend Dia. (Inches)	Weight per foot (lbs.)	Minimum Inside Bend Dia. (Inches)	Weight per foot (lbs.)
1 1/2	11.25	1.10	12.0	1.50	—	—
1 3/4	13.0	1.35	14.0	1.70	—	—
2	15.0	1.60	16.0	1.90	—	—
2 1/4	17.0	1.90	19.0	2.10	—	—
2 1/2	19.0	2.10	21.0	2.30	—	—
2 3/4	21.0	2.30	25.0	2.50	—	—
3	23.0	2.50	28.0	2.80	35.0	3.75
3 1/2	27.0	2.90	30.0	3.20	37.0	4.35
4	30.0	3.40	32.0	3.60	39.0	5.10
4 1/2	34.0	3.75	37.0	4.00	44.0	5.40
5	37.0	4.10	41.0	4.70	48.0	5.60
6	44.0	4.90	49.0	5.60	60.0	6.25
7	53.0	5.80	58.0	6.60	68.0	7.80
8	61.0	6.60	63.0	7.70	74.0	8.80
10	—	—	79.0	9.70	86.0	11.00
12	—	—	94.0	11.70	104.0	13.00
14	—	—	110.0	13.50	120.0	15.50
16	—	—	126.0	15.00	138.0	18.00

NOTE: Standard coil length is 25 ft. **extended**, other lengths available on request.



Hose Tec Swivel Adapters and Couplers

Full-flow swivel female couplers and male adapters for use with flexible metal hoses. No more twisting, leaking flexible metal hoses Available for 3", 4", 5", and 6" O.D. flexible metal hoses. Specially-designed Type 36 stainless steel swivel insert is continuously-welded to hose both inside and out....provides maximum leak and protection and freedom from material build-up. Swivel female coupler features aluminum construction and other exclusive investment cast stainless steel LTW (Lifetime Warranty). 3" and 4" sizes have patented Z-Loc locking handles. Swivel male end available in aluminum or Type 316 stainless steel. Available with male adapters or female couplers on both ends or one of each. Couplers and adapters available with factory installation or sold separately for installation by an established metal hose fabricator.

Aluminum Male Adapters with Stainless Steel Inserts

Size	Part No.	Wt. Ea.
Complete Sets ①		
3"	KAS-E300	2.18 lbs
4"	KAS-E400	4.23 lbs
5"	KAS-E500	5.62 lbs
6"	KAS-E600	6.21 lbs
Aluminum Male Type "E" Adapters		
3"	KAS-E300BODY	0.63 lbs
4"	KAS-E400BODY	1.03 lbs
5"	KAS-E500BODY	2.13 lbs
6"	KAS-E600BODY	2.17 lbs

① Complete Sets include:

- Aluminum Male Adapter
- Stainless Steel Insert
- Stainless Steel Ball Bearings*
- Rubber O-Ring*
- Allen Hex Wrench*
- Allen Head Set Screw*

* These items, referred to as "BOWA Sets," are available separately as shown below:

Size	Part No.	Wt. Ea.
3"	BOWA300	0.11 lbs
4"	BOWA400	0.15 lbs
5"	BOWA500	0.18 lbs
6"	BOWA600	0.21 lbs

Aluminum Female Couplers with Stainless Steel Inserts

Size	Part No.	Wt. Ea.
Complete Sets ②		
3"	KAS-C300	3.15 lbs
4"	KAS-C400	6.28 lbs
5"	KAS-C500	6.80 lbs
6"	KAS-C600	7.87 lbs
Aluminum Female Type "C" Adapters		
3"	KAS-C300BODY	1.60 lbs
4"	KAS-C400BODY	3.08 lbs
5"	KAS-C500BODY	3.31 lbs
6"	KAS-C600BODY	3.83 lbs

② Complete Sets include:

- Aluminum Female Coupler with Investment Cast Stainless Steel LTW† Handles
- Stainless Steel Insert
- Rubber Gasket
- Stainless Steel Ball Bearings*
- Rubber O-Ring*
- Allen Hex Wrench*
- Allen Head Set Screw*

† Lifetime Warranted — Replacement part prices available on request.

Stainless Male Adapters with Stainless Steel Inserts

Size	Part No.	Wt. Ea.
Complete Sets ③		
3"	KSS-E300	3.40 lbs
4"	KSS-E400	6.22 lbs
5"	KSS-E500	9.75 lbs
6"	KSS-E600	10.42 lbs
Stainless Male Type "E" Adapters		
3"	KSS-E300BODY	1.85 lbs
4"	KSS-E400BODY	3.02 lbs
5"	KSS-E500BODY	6.26 lbs
6"	KSS-E600BODY	6.38 lbs

③ Complete Sets include:

- Stainless Steel Male Adapter
- Stainless Steel Insert
- Stainless Steel Ball Bearings*
- Rubber O-Ring*
- Allen Hex Wrench*
- Allen Head Set Screw*

Stainless Steel Insert

Size	Part No.	Wt. Ea.
3"	KAS300SSSTEM	1.44 lbs
4"	KAS400SSSTEM	3.05 lbs
5"	KAS500SSSTEM	3.31 lbs
6"	KAS600SSSTEM	3.83 lbs

Note:
We recommend that bulk fittings be installed only by established metal hose fabricators.



Series TG - EPDM suction hose for outdoor wet or dry applications

- Septic handling
- Liquid waste, slurries
- Liquid and dry chemical
- Agriculture liquid and dry fertilizers
- Grains, seeds
- Water transfer
- Mining
- Construction, rental equipment
- Sewer cleaning, plant maintenance

Features and Benefits

Black flexible EPDM rubber with bright green polyethylene helix construction providing excellent blend of chemical resistance and physical durability. Excellent cold weather flexibility with weather resistant exterior. Lightweight and easy to handle and transport. Specially designed abrasion-resistant helix allows for easy sliding and handling on rough surfaces. Smooth bore construction eliminates material build up. For wet or dry applications.

Series	ID (In.)	Approx. Nominal		Working Pressure (PSI)	Vacuum Rating (Inches Hg)		Minimum Bend Radius @ 68° F	Standard Length (Ft)	Approx. Wt. (lbs/ft.)	
		ID (mm)	OD (In.)		OD (mm)	68° F				104° F
TG100X100	1"	25.4	1.40"	35.5	65	45	FULL 28	2"	100 ft.	0.28
TG125X100	1 1/4"	31.8	1.63"	41.4	60	40	FULL 28	3"	100 ft.	0.33
TG150X100	1 1/2"	38.1	1.93"	49.0	50	35	FULL 28	3"	100 ft.	0.44
TG200X100	2"	50.8	2.51"	63.8	50	35	FULL 28	5"	100 ft.	0.67
TG250X100	2 1/2"	63.5	3.07"	78.0	45	30	FULL 28	5.5"	100 ft.	0.95
TG300X100	3"	76.2	3.60"	91.5	45	30	FULL 26	7"	100 ft.	1.14
TG400X100	4"	101.6	4.70"	119.5	40	25	FULL 26	11.5"	100 ft.	1.84
TG600X100	6"	152.4	6.85"	174.0	30	20	28 24	20"	100 ft.	3.07

Series TSD- Suction and discharge hose for outdoor wet or dry applications

- Wet or dry suction and discharge applications
- Dry and liquid fertilizers
- Agriculture chemicals
- Light abrasives
- Grains, seeds
- Water transfer and discharge
- Marine liquid waste
- Slurries
- Construction, industrial, mining applications



Features and Benefits

Black flexible EPDM rubber with black polyethylene helix construction providing excellent blend of chemical resistance and physical durability while remaining extremely flexible. Synthetic reinforcement ideal for both suction and discharge applications. Superb cold weather flexibility. Weather resistant exterior. Lightweight and easy to handle and transport. Specially designed abrasion-resistant helix allows for easy sliding and handling on rough surfaces. Smooth bore construction eliminates material build up. For wet or dry applications.

Series	ID (In.)	Approx. Nominal		Working Pressure (PSI)	Vacuum Rating (Inches Hg)		Minimum Bend Radius @ 68° F	Standard Length (Ft)	Approx. Wt. (lbs/ft.)	
		ID (mm)	OD (In.)		OD (mm)	68° F				104° F
TSD125X100	1 1/4"	31.8	1.70"	43.2	100	75	FULL 28	3"	100 ft.	0.41
TSD150X100	1 1/2"	38.1	2.00"	50.7	100	75	FULL 28	3"	100 ft.	0.51
TSD200X100	2"	50.8	2.54"	64.5	100	75	FULL 28	5"	100 ft.	0.73
TSD300X100	3"	76.2	3.62"	92.0	90	65	FULL 26	8"	100 ft.	1.18

Kuri Tec

PVC Food and Beverage Hose

CLEARBRAID® K3150 Series RF — Standard wall PVC food & beverage hose

NSF-51 & NSF-61⁴
MATERIAL

MEETS
3A³
CRITERIA

Crystal clear PVC compound, formulated with ingredients in compliance with applicable FDA requirements, meets USDA, 3A, and NSF criteria and California Proposition 65. Reinforced with spiraled polyester yarn and multiple longitudinal polyester yarn (including orange yarns for identification) to reduce elongation under pressure.

For more information on the full line of Kuri Tec Hoses
please contact DBL

POLYWIRE® Series K7130 — Heavy wall PVC
food & beverage vacuum/transfer hose

NSF-51 & NSF-61⁴
MATERIAL

MEETS
3A³
CRITERIA

Ether-based polyurethane self-store coiled tubing & hose assemblies for air tool service

Clear versions
using NSF-61
compound available
upon request

Coupled assemblies:
HSC2840 blue tint
HSC2841 yellow
HSC2844 red
HSC2846 blue
HSC2950 turquoise tint



T902AA - High Quality Hot Air Blower Hose



SERIES NO.	NOMINAL ID		NOMINAL OD		APPROX. WT. lbs./100 ft.	MIN. BEND RADIUS (in.)
	(in.)	(mm)	(in.)	(mm)		
T902AA200	2	51	2.48	63	102	6
T902AA300	3	76	3.54	90	170	9
T902AA400	4	102	4.65	116	217	12

Application - Handling hot air under pressure, between the air compressor and dry bulk tank on bulk material carriers.

Cover - Black EPDM rubber that is heat, abrasion, and ozone resistant.

Reinforcement - Spiral high tensile textile cords and four highly flexible steel helix wires.

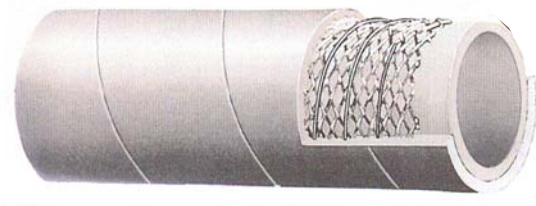
Tube - Black heat resistant EPDM rubber.

Temperature - -40°F to 350°F

Standard Length - 100 feet

Working Pressure - Constant pressure 10 Bar (150 PSI)

T405LL - White Food Transfer Hose



Application - Liquid, fatty, and oily food and alcoholic beverage suction and delivery. Hose may be sterilized with 30 PSI steam at 266 F for 30 minutes maximum, open end only.

Cover - Non-marking white, NBR/PVC blended rubber.

Reinforcement - Spiralled high tensile textile cords and four highly flexible steel helix wires.

Tube - White NBR. Meets FDA and 3A requirements.

Temperature - -22°F to 176°F

Standard Length - 100 feet

Working Pressure - Constant pressure 10 Bar (150 PSI)

SERIES NO.	NOMINAL ID		NOMINAL OD		APPROX. WT. lbs./100 ft.	MIN. BEND RADIUS (in.)
	(in.)	(mm)	(in.)	(mm)		
T405LL100	1	25	1.46	37	62	3
T405LL150	1½	38	1.97	50	85	4
T405LL200	2	51	2.48	63	110	6
T405LL300	3	76	3.46	88	174	9
T405LL400	4	102	4.57	116	240	12

T405LB - Grey Food Transfer Hose



Application - Liquid, fatty, and oily food and alcoholic beverage suction and delivery. Hose may be sterilized with 30 PSI steam at 266 F for 30 minutes maximum, open end only.

Cover - Grey NBR/PVC blended rubber.

Reinforcement - Spiralled high tensile textile cords and four highly flexible steel helix wires.

Tube - White NBR. Meets FDA and 3A requirements.

Temperature - -22°F to 176°F

Standard Length - 100 feet

Working Pressure - Constant pressure 10 Bar (150 PSI)

SERIES NO.	NOMINAL ID		NOMINAL OD		APPROX. WT. lbs./100 ft.	MIN. BEND RADIUS (in.)
	(in.)	(mm)	(in.)	(mm)		
T405LB200	2	51	2.56	65	126	8
T405LB300	3	76	3.54	90	200	12

T455LL - Food Discharge Hose



Application - Discharge of liquid, fatty, and oily foods and alcoholic beverages. Hose may be sterilized with 30 PSI steam at 266 F for 30 minutes maximum, open end only.
Cover - White NBR/PVC blend, abrasion and ozone resistant.
Reinforcement - High tensile textile cords.
Tube - White NBR. Meets FDA and 3A requirements.
Temperature - -22°F to 176°F
Standard Length - 100 feet

SERIES NO.	NOMINAL ID		NOMINAL OD		APPROX. WT. lbs./100 ft.	MAX. REC. WP (PSI)
	(in.)	(mm)	(in.)	(mm)		
T455LL150	1 1/2	38	1.89	48	65	150
T455LL200	2	51	2.48	63	105	150
T455LL300	3	76	3.46	88	152	150

T408LL - Food and Beverage Suction and Discharge Hose



Application - Food and alcoholic beverage suction and discharge. Specially designed for oil-based foods, wine, beer, and spirits up to 95 proof. Hose may be sterilized with 30 PSI steam at 266 F for 30 minutes maximum, open end only.
Cover - White EPDM, abrasion and ozone resistant.
Reinforcement - High tensile textile cords with embedded nylon helix.
Tube - White, nontoxic chlorobutyl rubber. Meets FDA and 3A requirements.
Temperature - -22°F to 176°F
Standard Length - 100 feet

SERIES NO.	NOMINAL ID		NOMINAL OD		APPROX. WT. lbs./100 ft.	MAX. REC. WP (PSI)	MIN. BEND RADIUS (in.)
	(in.)	(mm)	(in.)	(mm)			
T408LL100	1	25	1.46	37	59	240	5
T408LL150	1 1/2	38	2.05	52	100	240	7
T408LL200	2	51	2.64	67	150	240	10
T408LL300	3	76	3.70	94	226	240	15

T720LG - Material Handling Hose (FDA Grade)



Application - Suction or discharge of wet or dry abrasive materials. Suitable for handling materials for human consumption.
Cover - Green SBR/EPDM blend and abrasion and ozone resistant.
Reinforcement - Spiralled high tensile textile cords, with four highly flexible steel helix wires and static wire.
Tube - 3/16" thick white natural rubber. Meets FDA requirements.
Temperature - -22°F to 176°F
Standard Length - 100 feet: 2" through 4"
 20 feet: 5", 6", and 8"
 50 feet: 4" and 6"

SERIES NO.	NOMINAL ID		NOMINAL OD		APPROX. WT. lbs./100 ft.	MAX. REC. WP (PSI)	MIN. BEND RADIUS (in.)
	(in.)	(mm)	(in.)	(mm)			
T720LG200	2	51	2.64	67	122	150	6
T720LG300	3	76	3.62	92	191	150	9
T720LG400	4	102	4.65	118	254	150	12
T720LG500	5	127	5.71	145	373	75	20
T720LG600	6	152	6.69	170	460	75	24
T720LG800	8	203	8.78	223	692	75	32

T760LB - Dry Bulk Food Discharge (FDA Grade)



Application - Discharge or delivery of dry bulk food products.
Cover - Grey, abrasion-resistant SBR rubber
Reinforcement - Spiralled high tensile textile cords and static wire.
Tube - 3/16" thick white natural rubber. Meets FDA requirements.
Temperature - -22°F to 176°F
Standard Length - 100 feet:

SERIES NO.	NOMINAL ID		NOMINAL OD		APPROX. WT. lbs./100 ft.	MAX. REC. WP (PSI)
	(in.)	(mm)	(in.)	(mm)		
T760LB400	4	102	4.65	118	205	75

T5090E - UHMWPE Tube Chemical Hose



Application - Suction and transfer service for a variety of chemicals and acids. Will handle 98% of existing chemicals.
Cover - Blue EPDM and abrasion and ozone resistant.
Reinforcement - Synthetic textile cords with four highly flexible steel helix wires.
Tube - UHMWPE (Ultra High Molecular Weight Polyethylene)
Temperature - Normal recommended operating temperature is -4°F to 150°F
Standard Length - 100 feet

SERIES NO.	NOMINAL ID		NOMINAL OD		APPROX. WT. lbs./100 ft.	MAX. REC. WP (PSI)	MIN. BEND RADIUS (in.)
	(in.)	(mm)	(in.)	(mm)			
T5090E075	3/4	19	1.22	31	41	240	7.4
T5090E100	1	25	1.46	37	50	240	8.9
T5090E125	1 1/4	32	1.73	44	60	240	10.4
T5090E150	1 1/2	38	1.97	50	69	240	13.3
T5090E200	2	51	2.48	63	92	240	16.3
T5090E250	2 1/2	63	3.03	77	144	240	17.7
T5090E300	3	76	3.62	92	195	240	20.7
T5090E400	4	102	4.65	118	259	240	26.6

T5050G - XLPE Tube Chemical Hose



Application - Suction and transfer service for a variety of chemicals and solvents. Will handle 90% of existing chemicals.
Cover - Green EPDM and abrasion and ozone resistant.
Reinforcement - High tensile textile cords and four highly flexible steel helix wires.
Tube - UHMWPE (Ultra High Molecular Weight Polyethylene)
Temperature - Normal recommended operating temperature is -4°F to 150°F
Standard Length - 100 feet

SERIES NO.	NOMINAL ID		NOMINAL OD		APPROX. WT. lbs./100 ft.	MAX. REC. WP (PSI)	MIN. BEND RADIUS (in.)
	(in.)	(mm)	(in.)	(mm)			
T5050G075	3/4	19	1.22	31	48	240	7.4
T5050G100	1	25	1.46	37	59	240	8.9
T5050G150	1 1/2	38	2.01	51	80	240	13.3
T5050G200	2	51	2.56	65	105	240	16.3
T5050G300	3	76	3.62	92	192	240	20.7
T5050G400	4	102	4.65	118	254	240	26.6

T5090E - UHMWPE Tube Chemical Hose



Application - Oil discharge hose designed for use on trucks, docks, or barges where a soft wall hose is required.
Cover - Red Nitrile/PVC blend. Abrasion and ozone resistant.
Reinforcement - Spiralled high tensile textile cords with embedded static wire.
Tube - Black Nitrile rubber for 50% aromatics.
Temperature - Normal recommended operating temperature is -22°F to 176°F
Standard Length - 100 feet:
Working Pressure - Constant pressure 10 Bar (150 PSI)

SERIES NO.	NOMINAL ID		NOMINAL OD		APPROX. WT. lbs./100 ft.
	(in.)	(mm)	(in.)	(mm)	
T650AH150	1 1/2	38	1.89	48	61
T650AH200	2	51	2.40	61	81
T650AH300	3	76	3.46	88	141
T650AH400	4	102	4.49	114	190

T5090E - UHMWPE Tube Chemical Hose



Application - Fuel and oil suction discharge for up to 50% aromatic content. Designed for heavy duty applications.
Cover - Black NBR/PVC blend. Abrasion and ozone resistant.
Reinforcement - High tensile textile cords and four steel helix wires.
Tube - Black conductive NBR.
Temperature - Normal recommended operating temperature is -22°F to 158°F
Standard Length - 100 feet: 2" through 6"
 20 feet: 6"
Working Pressure - Constant pressure 16 Bar (240 PSI)

SERIES NO.	NOMINAL ID		NOMINAL OD		APPROX. WT. lbs./100 ft.	MIN. BEND RADIUS (in.)
	(in.)	(mm)	(in.)	(mm)		
T609AA200	2	51	2.64	67	124	10
T609AA300	3	76	3.62	92	198	15
T609AA400	4	102	4.65	118	262	20
T609AA600	6	152	6.77	172	585	30

T605AA - Black Petroleum Suction Hose



Application - For suction and discharge applications in tank and truck car transfer of gasoline, oil, and other petroleum-based products with up to 50% aromatic content.
Cover - Black Nitrile PVC. Abrasion and ozone resistant.
Reinforcement - High tensile textile cords and four highly flexible steel helix wires.
Tube - Black conductive NBR.
Temperature - Normal recommended operating temperature is -40°F to 212°F
Standard Length - 100 feet: 3/4" through 6"
 20 feet: 6"
Working Pressure - Constant pressure 150 PSI.

SERIES NO.	NOMINAL ID		NOMINAL OD		APPROX. WT. lbs./100 ft.	MIN. BEND RADIUS (in.)
	(in.)	(mm)	(in.)	(mm)		
T605AA075	3/4	19	1.14	29	41	4
T605AA100	1	25	1.38	35	52	5
T605AA125	1 1/4	32	1.65	42	62	6
T605AA150	1 1/2	38	1.89	48	71	7
T605AA200	2	51	2.44	62	94	10
T605AA250	2 1/2	63	2.95	75	143	12
T605AA300	3	76	3.46	88	171	15
T605AA400	4	102	4.57	116	230	20
T605AA600	6	152	6.69	170	480	30

T605AH - Red Petroleum Suction Hose



Application - For suction and discharge applications in tank and truck car transfer of gasoline, oil, and other petroleum-based products with up to 50% aromatic content.
Cover - Red Nitrile PVC. Abrasion and ozone resistant.
Reinforcement - High tensile textile cords and four highly flexible steel helix wires.
Tube - Black conductive NBR.
Temperature - Normal recommended operating temperature is -40°F to 212°F
Standard Length - 100 feet
Working Pressure - Constant pressure 150 PSI.

SERIES NO.	NOMINAL ID		NOMINAL OD		APPROX. WT. lbs./100 ft.	MIN. BEND RADIUS (in.)
	(in.)	(mm)	(in.)	(mm)		
T605AH150	1 1/2	38	1.89	48	71	7
T605AH200	2	51	2.40	61	94	10
T605AH300	3	76	3.46	88	171	15
T605AH400	4	102	4.57	116	230	20

LT753AA - Two Ply Sandblast Hose (150 PSI)



Application - Designed to convey abrasive sand and shot blast material.
Cover - Black conductive SBR/NR blend. Abrasion and ozone resistant.
Reinforcement - High tensile textile cords with two ply construction.
Tube - Static conducting natural rubber, offering excellent abrasion resistance.
Temperature - Normal recommended operating temperature is -22°F to 176°F
Standard Length - 50 or 100 feet:
Working Pressure - Constant pressure 10 Bar (150 PSI)

SERIES NO.	NOMINAL ID		NOMINAL OD		TUBE THICKNESS	APPROX. WT. lbs./100 ft.
	(in.)	(mm)	(in.)	(mm)		
LT753AA050	1/2	13	1.06	27	0.212	34
LT753AA125	1 1/4	32	1.89	48	0.240	79

T750AA - Four Ply Sandblast Hose (150 PSI)



Application - Designed to convey abrasive sand and shot blast material.
Cover - Black or green, conductive SBR/NR blend. Abrasion and ozone resistant.
Reinforcement - High tensile textile cords with four ply construction.
Tube - Static conducting natural rubber, offering excellent abrasion resistance.
Temperature - Normal recommended operating temperature is -22°F to 176°F
Standard Length - 50 or 100 feet:
Working Pressure - Constant pressure 10 Bar (150 PSI)

SERIES NO.	NOMINAL ID		NOMINAL OD		TUBE THICKNESS	APPROX. WT. lbs./100 ft.
	(in.)	(mm)	(in.)	(mm)		
T750AA/AG075	3/4	19	1.50	38	0.236	62
T750AA/AG100	1	25	1.89	48	0.283	96
T750AA/AG125	1 1/4	32	2.17	55	0.283	115
T750AA/AG150	1 1/2	38	2.36	60	0.260	131
T750AA200	2	51	2.87	73	0.260	166

T757AA - 600 PSI Plaster and Concrete Hose



Application - Designed for pumping plaster, grout, and wet cement to placement sites
Cover - Black, conductive SBR/NR blend.
Reinforcement - High tensile textile cords.
Tube - Black conductive NR.
Temperature - Normal recommended operating temperature is -22°F to 176°F
Standard Length - 100 feet:
Working Pressure - Constant pressure 40 Bar (600 PSI)

SERIES NO.	NOMINAL ID		NOMINAL OD		APPROX. WT. lbs./100 ft.
	(in.)	(mm)	(in.)	(mm)	
T757AA150	1½	38	2.13	54	82
T757AA200	2	51	2.64	67	111
T757AA300	3	76	4.09	104	297
T757AA400	4	102	5.12	130	383

T758AA - 800 PSI Plaster, Grout, and Concrete Hose (Available in Black or Blue Cover)



Application - Designed for pumping plaster, grout, wet cement to construction placement sites at rated pressures.
Cover - Black is SBR/Natural rubber
 Blue is SBR/EPDM
Reinforcement - Spiralled high tensile textile cords.
Tube - Black conductive NR. Abrasion resistant.
Temperature - Normal recommended operating temperature is -22°F to 176°F
Standard Length - 100 feet:
Working Pressure - Constant pressure 55 Bar (800 PSI)

SERIES NO.	NOMINAL ID		NOMINAL OD		APPROX. WT. lbs./100 ft.
	(in.)	(mm)	(in.)	(mm)	
T758AA/AE100	1	25	1.57	40	58
T758AA/AE125	1¼	32	1.93	49	84
T758AA/AE150	1½	38	2.28	58	110
T758AA/AE200	2	51	2.80	71	145

T759AK - Heavy Duty Gunite Hose



Application - Designed for pumping of dry sand and cement.
Cover - Yellow SBR. Abrasion and ozone resistant.
Reinforcement - High tensile textile cords with antistatic wire.
Tube - Black conductive NR.
Temperature - Normal recommended operating temperature is -22°F to 176°F
Standard Length - 100 feet:
Working Pressure - Constant pressure 10 Bar (150 PSI)

SERIES NO.	NOMINAL ID		NOMINAL OD		APPROX. WT. lbs./100 ft.
	(in.)	(mm)	(in.)	(mm)	
T759AK125	1¼	32	2.09	53	114
T759AK150	1½	38	2.44	62	145
T759AK200	2	51	2.95	75	183

T760AA - Light Weight Dry Powder Delivery Hose



Application - Discharge of dry powders under low pressure, such as cement, grains, and animal feed.
Cover - Black conductive SBR/NR blend. Abrasion and ozone resistant.
Reinforcement - Spiralled high tensile textile cords.
Tube - 3/16" thick black static conducting natural rubber, compounded to resist cutting by abrasive material.
Temperature - Normal recommended operating temperature is -22°F to 176°F
Standard Length - 100 feet:
Working Pressure - Constant pressure 5 Bar (75 PSI)

SERIES NO.	NOMINAL ID		NOMINAL OD		APPROX. WT. lbs./100 ft.
	(in.)	(mm)	(in.)	(mm)	
T760AA400	4	102	4.53	115	161

Spirlite Milk Hose

Clear wall and white helix, smooth service. FDA and USDA approved. Used for milk handling and food processing requiring see-through flow.



Part#	Size
HOS170-2	2"
HOS170-2X100	2" (100 FT. ROLL)
HOS170-2.5	2-1/2"
HOS170-2.5X100	2-1/2" (100 FT. ROLL)
HOS170-3	3"

Tigerflex Low Temperature Milk Hose

Smooth bore and clear PVC construction. Complies with FDA and USDA requirements and 3-A Sanitary standards. Used for milk suction and transfer of liquid dairy products.

Part#	Size
HOSLT200X100	2"
HOSLT250X100	2-1/2"

General Purpose Hose

Red, medium pressure hose with Buna tube designed for use with air, water, or petroleum products.



Part#	Size
HOSGP1/2	1/2"
HOSGP3/4	3/4"
HOSGP1	1"
HOSGP1-1/4	1-1/4"

4-1/2" Dry Bulk Transfer Hose

Part# HOSDBT4.5

Buna hose used to make flexible coupling between tees and transfer pipes on dry bulk trailers.



Kanaflex Sanitary Milk Hose

Heavy duty food grade suction hose for milk hauling (tank truck) and farm pick-up.



Part#	Size
HOS212MK	2"
HOS212MKX100	2" (100 FT. ROLL)

Tygone Hose

Clear, heavy walled sanitary hose designed for connecting pumps and valves in milk transfer compartment.



Part#	Size
HOSTY2	2" (3/8" Wall)
HOSTY3	3" (1/2" Wall)

Air Brake Tubing

Nylon tubing designed for use with DOT air brake systems. Available in various colors.



Part#	Size
AIRTUBE2	1/8"
AIRTUBE3	3/16"
AIRTUBE4	1/4"
AIRTUBE6	3/8"
AIRTUBE8	1/2"
AIRTUBE10	5/8"

Goodyear Redwing 150 X 1-3/8"

Made of Chemigum synthetic rubber, reinforced by braided (2) synthetic yarn, and a Red Chemvic synthetic rubber cover this hose is used for transfer and delivery of petroleum products.



Part#	Type
HOS145281	Male X Male
HOS145282	Male X Female

Hard Wall Petroleum Hose

Wire reinforced hose with black cover and Nitrile tube use to transfer petroleum products.



Part#	Size
HOSHW12	3/4"
HOSHW16	1"
HOSHW20	1-1/4"
HOSHW24	1-1/2"
HOSHW32	2"

Petroleum Drop Hose

Low pressure hose used for gravity transfer of petroleum products to underground tanks.



Part#	Size
HOS5000-3	3"
HOS5000-4	4"

Petroleum Drop Hose Sleeve

Sleeve used to protect petroleum drop hose when applying clamps.



Part#	Size
HOS5500-3	3"
HOS5500-4	4"

Petroleum Vapor Hose Sleeve

Part# HOS5600-3

Used to protect petroleum vapor hose when applying clamps



Petroleum Vapor Hose

Part# HOSW187-3

Used to transfer vapors between tank and pump when transferring petroleum products. (Not designed for use with liquid)

3-1/2" Vapor Recovery Hose

Part# HOSVR3.5

Used to make flexible connection between vapor vents and tank rails on petroleum equipment.



Dixon Aluminum King Nipple

Combination aluminum nipple, NPT threaded end, no knurl.



Part#	Size
DIXAST25	2"
DIXAST35	3"

Dixon Bayco Neoprene Air Gasket

Part# DIXAWS6

Neoprene gasket for boss-type air couplers. Also available in natural rubber.



Dixon Bayco Hose Gasket

Buna gaskets for use in brass couplings on fuel oil delivery hose.



Part#	Size
DIXH5073	1-1/4"
DIXH5074	1-1/2"

Dixon Bayco Sleeves

Brass 520-H ferrules permit a perfect assembly of a coupling to a corresponding size of hose within commercial tolerances regardless of wall thickness.



Part#	Size/Type
DIXR125BS	1-1/4" B
DIXR125CS	1-1/4" C
DIXR125DS	1-1/4" D
DIXR1375BS	1-3/8" B
DIXR1375CS	1-3/8" C
DIXR1375DS	1-3/8" D

Dixon Bayco Stainless Steel Pull Rings

Part# DIXR200SS

Standard 2" 304 stainless steel pull ring.



Dixon Bayco Couplings

Internally expanded permanent couplings, Scovill style. Both the male and female have octagonal facets for tightening with a wrench.



Part#	Size/Type
DIXH5221	1-1/4" Female
DIXH5222	1-1/4" Male
DIXH5271	1-1/2 Female
DIXH5272	1-1/2 Male

Dixon Bayco 3/4" Stainless Steel Air Couplings

Air king universal couplings used for air and water service only. Includes safety clip.



Part#	Type
DIXRAM0	Air Coupling Blank
DIXRAM6	Shank
DIXRAM7	Male
DIXRAM8	Female

Dixon Bayco 316 Stainless Steel King Nipples

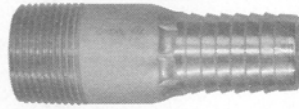
316 stainless steel inserts, hose x NPT. Other sizes available upon request. Also available in brass.



Part#	Size
DIXRN46	1/2" X 3/4"
DIXRN66	3/4"

Dixon Bayco Stainless Steel King Nipple

Combination nipple recommended for low-pressure discharge and suction service for compatible liquids. Not for compressible products.



Part#	Size
DIXRST5	3/4"
DIXRST10	1"
DIXRST15	1-1/4"
DIXRST20	1-1/2"
DIXRST25	2"

**DBL Can Custom Make Any Hydraulic Hose
To The Exact Length And End Fitting That You Need
Call Or Email DBL Today For Details
1-877-DBL-TANK
dbltank@dbltank.com**



Hose Reels

Hannay Hose Reels

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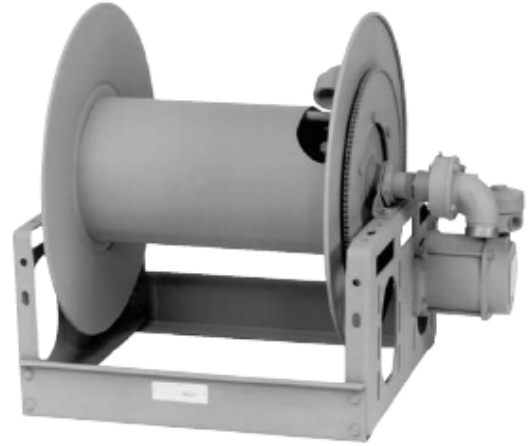
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1-1/2" SERIES MANUAL OR POWER REWIND REELS

To handle single 1" through 1-1/2" I.D. hose.

- A strong, heavy-duty reel.
- Gear-driven crank rewind or chain and sprocket drive powered by an electric, hydraulic or compressed air motor.
- Optional auxiliary crank rewind for power rewind reels.
- Choose EP or EPJ option.
- Comet brake, standard on power rewind without auxiliary crank.
- 90° ball bearing swivel joint with 1-1/2" female NPT threads and 2" victaulic groove.
- Flanged riser with 1-1/2" female NPT threads.
- Other sizes and/or threads can be furnished and must be specified.
- Inlet, outlet riser, hub assembly are steel.
- Stainless steel, aluminum, at extra cost.
- Rollers may be purchased, specify roller position.
- Mounting brackets are necessary.
- Pressures to 600 psi (41 bar)
- Temperatures from -40° F to +175° F (-40° C to +79° C).
- Consult factory for other pressures & temps.

For a full parts breakout refer to [Appendix D-1 thru D-4](#)



Series 1-1/2"



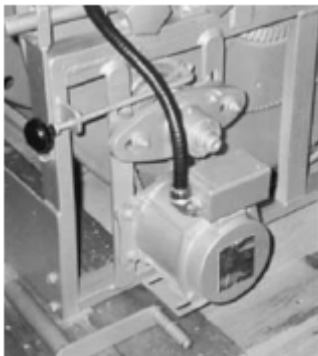
Series 2" - EPJ Option Shown

2" SERIES MANUAL OR POWER REWIND REELS

To handle single 1-1/2" or 2" I.D. hose.

- Gear-driven crank rewind or chain and sprocket drive powered by an electric, hydraulic or compressed air motor.
- Optional auxiliary crank rewind for power rewind reels.
- Choose EP or EPJ option.
- Comet brake on power rewind without auxiliary crank.
- 90° ball bearing swivel joint with 2" victaulic.
- Flanged riser with 2" female NPT threads.
- Other sizes and/or threads can be furnished and must be specified.
- Inlet, riser, hub assembly are steel.
- Stainless steel, aluminum at extra cost.
- Rollers may be purchased, specify roller position.
- Mounting brackets are necessary.
- Pressures to 600 psi (41 bar).
- Temperatures from -40° F to +175° F (-40° C to +79° C).
- Consult factory for other pressures & temps.

For a full parts breakout refer to [Appendix D-5](#)



Chain Clutch - Reduction Units

- Recommended on reels with 39" diameter or larger discs, increased torque, slower rewind speeds.
- Factory-installed.



IV SERIES POWER REWIND REELS INVERTED INSTALLATION

To handle single 1-1/4" I.D. through 2" I.D.

- Chain and sprocket drive powered by an electric, or compressed air motor.
- Comet brake, air caliper brake, standard.
- 90° ball bearing swivel joint with 1-1/2" female 2" groove.
- Optional 2" intervals also available.
- Flanged riser with 1-1/2" female NPT threads.
- Inlet, riser, hub assembly are steel.
- Stainless steel, aluminum, at extra cost.
- Pressures to 600 psi (41 bar).
- Temperatures from -40° F to +175° F (-40° C to +79° C)
- Consult DBL for other pressures & temps.

For a full parts breakout refer to **Appendix D-7**

IV 5000 SERIES SINGLE WRAP POWER REWIND REELS

To handle single 1-1/2" I.D. through 2" I.D. hose.

- Effortless and fast rewinding, wrapping, guiding of hose.
- Chain and sprocket drive powered by electric, hydraulic, compressed air motor.
- Auxiliary crank rewind.
- 12 volt rewind, comet brake standard.
- Air brake optional.
- 5100 series - 90° ball bearing swivel joint 1-1/2" female NPT threads, 2" victaulic groove, flanged riser with 1-1/2" female NPT threads.
- 5200 series - 90° ball bearing swivel joint 2" victaulic groove, flanged riser with 2" female NPT threads.
- Inlet, hub assembly is aluminum.
- Joint & riser ductile iron for petroleum fuel.
- Pressures to 600 psi (41 bar).
- Temperatures from -40° F to +175° F (-40° C to +79° C).
- Standard with a reduction unit only. Electric clutch units optional.
- Consult DBL for other pressures & temps.

For a full parts breakout refer to **Appendix D-9**

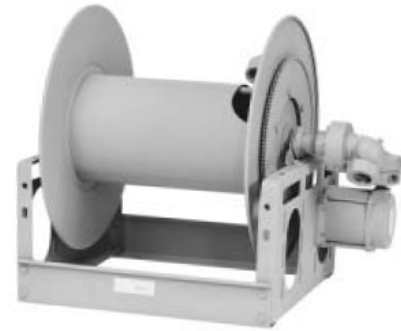


 **Hannay Reels®**
The reel leader.

PB/DPB SERIES MANUAL OR POWER REWIND REELS To handle single 1" through 1-1/2" I.D. hose.

- Series PB are explosion-proof reels.
- New DPB Series reel is direct drive eliminating the use of chain and sprockets.
- Choose gear-driven crank rewind, chain and sprocket drive powered by an electric, hydraulic or compressed air motor or direct drive hydraulic rewind motor.
- Crank rewind reels and direct drive reels supplied with pinion brake.
- Power rewind reels (chain & sprocket driven) supplied with a strap brake. Other brake and locking devices may be specified.
- Standard inlet is 90° ball bearing swivel joint with 1-1/2" female NPT threads.
- Standard outlet is a flanged riser with 1" female NPT threads. Standard inlet, outlet riser, and hub assembly are steel.
- Other sizes and/or threads can be furnished and must be specified.
- Rollers and roller mounting brackets are accessory items. Specify roller position.
- Pressures to 350 psi (24 bar).
- Temperatures from -40° F to +350° F (-40° C to +177° C).
- Consult DBL for other pressures and temperatures.

For a full parts breakout refer to **Appendix D-11 thru D-14**



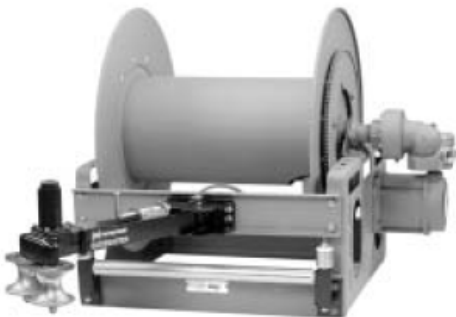
Series PB (Electric Rewind Shown)



Series DPB Direct Drive Hydraulic Rewind



Series PBGMT w/Top Mounted Guide Master,
Standard Configuration Shown/
Electric Rewind Shown



Series PBGMB w/ Bottom Guide Master
Electric Rewind Shown

PBGMT/PBGMB SERIES POWER REWIND REELS To handle single 1" or 1-1/2" I.D. hose.

Both Series

- Choose chain and sprocket drive powered by an electric, hydraulic or compressed air motor or direct drive hydraulic rewind motor.
- Auxiliary crank rewind standard on DPB Series reels. Available on PB Series power rewind reels, at extra cost.
- Direct drive hydraulic rewind reels supplied with pinion brake. Electric powered rewind reels supplied with a strap brake.
- Other brake and locking devices may be specified. (See Ordering & Accessory Guide)
- Standard inlet is 90° ball bearing swivel joint with 1-1/2" female NPT threads.
- Standard outlet is a flanged riser with 1" female NPT threads.
- Standard inlet, outlet riser, hub assembly are steel.
- Other sizes and/or threads can be furnished and must be specified.
- Pressures to 350 psi (24 bar).
- Temperatures from -40° F to +350° F (-40° C to +177° C).
- Consult DBL for other pressures and temps.

Series PBGMB

- For PBGMB reels the assembly B bottom wind roller is standard.

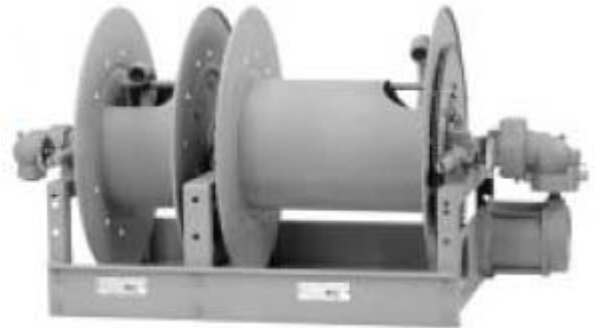
For a full parts breakout refer to **Appendix D-11 thru D-14**

PBM SERIES POWER REWIND LIQUID REEL WITH MANUAL REWIND VAPOR REEL

To handle 1" through 1-1/2" I.D. liquid hose &
1/2" through 1" vapor hose.

- Gear-driven crank on vapor reel.
- Chain and sprocket drive powered by an electric, hydraulic or compressed air motor liquid reel.
- Pinion shaft brake standard.
- Other locking devices may be specified.
- Standard inlet is 90° ball bearing swivel joint with 1-1/2" female NPT threads.
- Manual rewind reel: 1" female NPT 90° ball bearing swivel joint.
- Liquid reel: flanged riser, 1" female NPT threads.
- Vapor reel: riser, 1" female NPT threads.
- Standard inlet, outlet riser, and hub assembly are steel.
- Other sizes and/or threads can be furnished and must be specified.
- Rollers and roller mounting brackets are accessory items. Specify roller position.
- Pressures to 350 psi (24 bar).
- Temperatures from -40° F to +350° F (-40° C to +177° C).
- Consult DBL for other pressures and temps.

For a full parts breakout refer to [Appendix D-15](#)



PBN800/PB800 SERIES SPRING REWIND REELS

To handle 1/2" to 1" I.D. hose.

- Standard N series narrow frame
- Channel frame for heavy-duty applications must be specified.
- Non sparking ratchet locks reel
- Declutching arbor to prevent damage from reverse winding.
- Standard inlet is 90° ball bearing swivel joint with 1" female NPT threads.
- Standard outlet is 1" female NPT threads.
- Other sizes and/or threads can be furnished and must be specified.
- Pressures to 350 psi (24 bar).
- Temperatures from -40° F to +350° F (-40° C to +177° C).
- Consult DBL for other pressures and temps.
- Supplied 4-way roller assembly. Specify roller position.

For a full parts breakout refer to [Appendix D-17 thru D-20](#)



PBN800
Standard Configuration
Shown



PB800
Standard Configuration
Shown



SSN700 SERIES SPRING REWIND REELS

To handle 1/4" through 1/2" I.D. hose.

- Standard SSN Series has a narrow frame and compact mounting base.
- Non sparking ratchet assembly.
- Declutching arbor to prevent damage from reverse winding.
- Standard inlet 90° ball bearing swivel joint 1/2" female NPT threads.
- Standard outlet 1/2" female NPT threads.
- Standard Pressures to 3000 psi (207 bar) (available up to 10,000 (690 bar).
- Temperatures from +20° F to +400° F (-7° C to +204° C).
- Consult factory for other pressures & temps.
- 4-way roller assembly.
- Constant Tension is available – consult factory.

For a full parts breakout refer to **Appendix D-21**

Lubrication Washdown Potable Water
Chemical Transfer Corrosive Environments

SSN800 SERIES SPRING REWIND REELS

To handle 3/4" or 1" I.D. hose.

- Standard N series has a narrow frame and compact mounting base.
- Non sparking ratchet assembly.
- Declutching arbor to prevent damage from reverse winding.
- Standard inlet 90° ball bearing swivel joint 1" female NPT threads.
- Standard outlet 1" female NPT threads.
- Pressures to 1000 psi (69 bar).
- Temperatures from +20° F to +400° F (-7° C to +204° C).
- Consult factory for other pressures & temps.
- 4-way roller assembly
- Constant Tension is available – consult DBL.

For a full parts breakout refer to **Appendix D-23**

Dairy Air/Water Caustic Materials
Chemical Transfer Food Transfer



SS800 SERIES SPRING REWIND REELS

To handle 3/4" or 1" I.D. hose.

- Square tubing frame for heavy-duty applications.
- Non sparking ratchet assembly.
- Declutching arbor to prevent damage from reverse winding.
- Standard inlet 90° ball bearing swivel joint 1" female NPT threads.
- Standard outlet 1" female NPT threads.
- Pressures to 1000 psi (69 bar).
- Temperatures from +20° F to +400° F (-7° C to +204° C).
- Consult factory for other pressures & temps.
- 4-way roller assembly.
- Constant Tension is available – consult DBL.

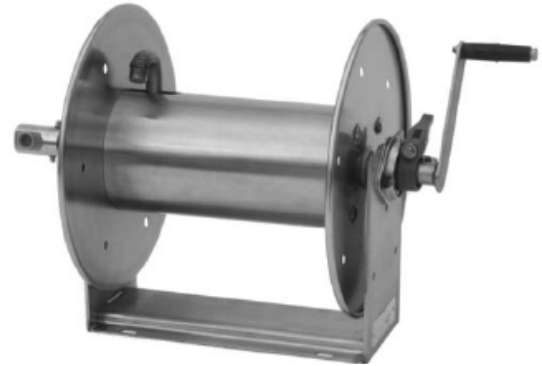
Dairy Air/Water Caustic Materials
Chemical Transfer Food Transfer

SS1000 SERIES COMPACT MANUAL REWIND REELS

To handle single 1/4" or 3/8" I.D. hose.

- Lightweight
- Compact
- Direct crank rewind permanently attached.
- Adjustable cam-lock brake standard.
- Optional pin lock available.
- Standard inlet 90° ball bearing swivel joint 1/2" female NPT threads.
- Standard outlet 3/8" female NPT threads.
- Pressures to 3000 psi (207 bar).
- Temperatures from +20° F to +400° F (-7° C to +204° C).
- Consult factory for other pressures & temps.

For a full parts breakout refer to **Appendix D-25**



Pressure Washing Spray Operations Steam Cleaning Washdown Air Mobile and Permanent Instalations



SS1500 SERIES MANUAL REWIND REELS

To handle single 1/4" through 5/8" I.D. hose.

- Lightweight compact reels designed for long lengths of hose.
- Direct crank rewind is permanently attached.
- Cam-lock drag brake, spring actuated pin lock.
- Standard inlet 90° ball bearing swivel joint 1/2" female NPT threads.
- Standard outlet 1/2" female NPT threads.
- Rollers and roller mounting brackets are accessory items. Specify roller position.
- Pressures to 3000 psi (207 bar)
- Temperatures from +20° F to +400° F (-7° C to +204° C).
- Consult DBL for other pressures & temps.
- Consult DBL for power version.

For a full parts breakout refer to **Appendix D-27**

Pest Control Pressure Washing Steam Cleaning

SS1800 SERIES MANUAL REWIND REELS

To handle single 5/8" or 3/4" I.D. hose.

- Lightweight compact reels designed for long lengths of hose.
- Direct crank rewind is permanently attached.
- Cam-lock brake, spring actuated pin lock.
- Standard inlet 90° ball bearing swivel joint 1" female NPT threads.
- Standard outlet 3/4" female NPT threads.
- Rollers and roller mounting brackets are accessory items. Specify roller position.
- Pressures to 1000 psi (69 bar).
- Temperatures from +20° F to +400° F (-7° C to +204° C).
- DBL for other pressures & temps.

For a full parts breakout refer to **Appendix D-29**



Pest Control Steam Cleaning Pressure Washing Washdown

SS3000 SERIES MANUAL REWIND REELS

To handle single 5/8" or 3/4" I.D. hose.

- Lightweight compact reels designed for long lengths of hose.
- Direct crank rewind is permanently attached.
- Cam-lock brake, spring actuated pin lock.
- Standard inlet 90° ball bearing swivel joint 1" female NPT threads.
- Standard outlet 3/4" female NPT threads.
- Rollers and roller mounting brackets are accessory items. Specify roller position.
- Pressures to 1000 psi (69 bar).
- Temperatures from +20° F to +400° F (-7° C to +204° C).
- Consult DBL for other pressures & temps.

For a full parts breakout refer to [Appendix D-31](#).



Marine/Corrosive Environments Washdown Fire Protection Chemical/Food Transfer



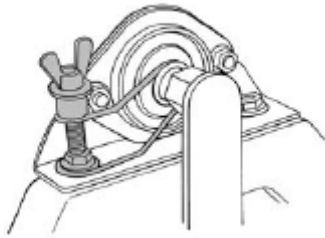
SS4000 SERIES MANUAL REWIND REELS

To handle single 3/4" or 1" I.D. hose.

- Lightweight compact reels designed for long lengths of hose.
- Direct crank rewind is removable.
- Cam-lock brake, spring actuated pin lock.
- Standard inlet 90° ball bearing swivel joint 1" female NPT threads.
- Standard outlet 1" female NPT threads.
- Rollers and roller mounting brackets are accessory items. Specify roller position.
- Pressures to 1000 psi (69 bar).
- Temperatures from +20° F to +400° F (-7° C to +204° C).
- Consult DBL for other pressures & temps.

For a full parts breakout refer to [Appendix D-33 thru D-36](#).

Food Processing Bottling Plants Fire Protection Water Supply Chemical Transfer



Drag Brake

Adjustable spring tension brake applies drag pressure to axle on some direct crank rewind reels.
To order, specify part number.



Pinion Brake

Adjustable spring tension applies braking pressure to pinion shaft on reels equipped with ring gear rewind mechanism.
To order, specify part number.



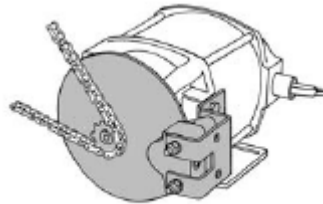
Comet Brake

Adjustable steel strap lined with brake pad material applies drag pressure to reel axle to control pay-out speed of the reel.
To order, specify part number



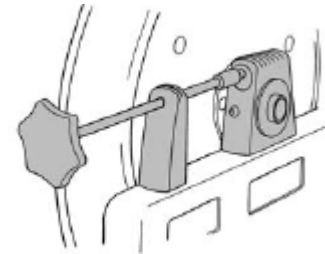
Cam Lock Drag Brake

Molded plastic drag brake with cam lock lever designed for 1/2" manual reels. Corrosion proof and does not harm the hub. Infinitely adjustable for the desired drag tension to prevent cable or hose overrun. Instantly releases with the flip of a lever for drag free rewind.
To order, specify part number



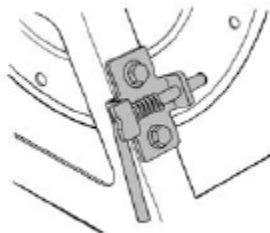
Caliper Brake

Clamps a disc on the motor shaft for positive locking of reels with power rewind. Can be operated manually, hydraulically or by compressed air.
To order, specify part number



EH-820 Bearing/Brake Assembly

This assembly provides an alternate method of braking control on certain model reels. Assembly is installed in the back bearing position. Brake applies pressure to the reel axle to slow or lock the reel. Can be factory installed, when specified with reel order, or supplied in kit form for field installation.
To order, specify part number



PL-1 Pin Lock

A positive, spring-actuated pin lock to prevent free-wheeling or recoil from pressure surges. May be factory installed when specified on your reel order.
To order, specify part number



Reel-Mounted Relay/Circuit Breaker Kits

Factory-installed, significant installation labor savings, no longer necessary to fabricate and mount a bracket.

RCB kits are designed to work with several different reel models:

- 1600 Series
- 2000 Series
- 1500 Series
- 1800 Series
- 4000 Series

If you already have a reel and would like to install an RCB kit yourself, call DBL for further details.

Variable Speed Controls



Model MD-1225S



Model MD-1225SR



Model MD-70

Features on all models:

Use pulse width modulation (PWM) control circuit to lower speed of reel by factor of five or more without sacrificing significant motor torque and without motor heat up. Variable control knob means speed can be adjusted to any desired setting. Service temperature range of -40° to +158° F (-40° to +70° C). Heavy 10 gauge wire provided (4 ft.) to make connections. Dimensions: 4.5" H x 3.5" W x 3.13" D

Features on Models MD-1225S, MD-1240S, MD-1250S, MD-2425S, and MD-1225SR:

Contains all components needed to control reel rewind, including variable speed control, push-button switch, manual reset circuit breaker (25, 40, or 50 amp), relay, and 10 gauge wire. Can be used for either 12 volt or 24 volt DC applications (depending on model chosen). MD-1225SR provides all features of an MD-1225S, but adds motor reversibility (power in, power out).

Features on Model MD-70:

Contains variable speed control only. • Works on all 12 or 24 volt DC Hannay motors (up to 70 amps)

Operating Switches for Electric Rewind Reels



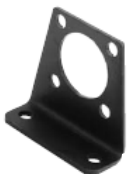
90030 sealed push-button momentary contact switch with rubber cap for 12 or 24 volt **D.C.** service.



EPS-1 explosion-proof cable momentary contact switch for remote control or for permanent mounting in the most convenient location. Supplied with 6 ft. of 3-wire cable, self-sealing fitting and terminals. Must be used with solenoid.



PB-1 switch non-explosion-proof, 115v momentary contact switch.



P15A-00130 Universal mounting bracket for EPS-1 switch.



EXPB-2A explosion-proof, push-button momentary contact switch for **D.C.** service only. Must be used with solenoid. **EXPBC-2B** For use with **A.C.** motors.



P15A-00170 Mounting bracket for use with Guidemaster.

Circuit Breakers

Must be used with all D.C. electric rewind motors.

SDLM Manual Reset. Push-button must be pressed firmly to reset. Several amperage ratings are available to suit specific application. **CB-2** Mounting bracket for SDLM Breaker. **To Order:** Specify SDLM and give Model Number of reel motor. Specify CB-2 bracket, if required.



SDLM Circuit Breaker



CB-2 Bracket



25 Amp Circuit Breaker

Rewind Motors



Base Mount E.P.
Electric Motor



Face Mount E.P.
Electric Motor



Face Mount Non-E.P.
DC Motor - Shown with
optional mounting plate.

Electric Motors are reversible type for A.C. or D.C. operation. **Circuit breaker must be used with all D.C. electric motors.**



Hydraulic Motors are reversible type. No other hydraulic components are furnished with the reel. A 4-way, three position control valve with motor spool is recommended but is **not** supplied.



Compressed Air Motors are supplied with a fingertip control valve with integral backpressure relief, and with flexible air line from control valve to rewind motor. We recommend using a lubricator and filter with air rewind motors, not supplied.

Rewind Assemblies for Gear-Driven Crank Rewind Reels

These assemblies are used to change the pinion shaft position on gear-drive crank rewind reels to meet space restrictions or for greater operator convenience. Units can be factory-installed, when specified with reel order, or supplied in kit form for field installation.

Assemblies are complete with drag-brake assembly, pinion, gear guard, brake handle and fasteners. Fits standard mounting holes on reel frame.

To Order: Specify Rewind Position for parts order or factory installation.



30 Degree Rewind Unit



Horizontal Rewind Unit



Vertical Rewind Unit

Clutch and Reduction Assemblies

Hannay reduction units are used to increase the torque (by 50 to 500 percent, depending on the ratio chosen) and decrease the rewind speed on power-driven reels. The clutch allows the motor and reduction unit to be disengaged from the reel, eliminating drag in the unwinding mode. The manual clutch is disengaged by means of a user-operated pull rod.

The electric clutch requires no user intervention. It automatically engages when the motor is running, and disengages when the motor stops.



Available ratios.

REDUCTION UNIT ONLY	CLUTCH & REDUCTION UNIT
12/18	12/40
12/25	12/48
12/36	12/60
12/48	
12/60	

You must specify model of reel the assembly is to be installed on

Hose and Cable Stops

Recommended with spring rewind reels and 4-way roller assemblies

Each stop is easily assembled with the fasteners provided, without any special tools. HS-3 and HS-45 are two-piece molded plastic spheres, custom drilled to the size you specify.

To Order: For HS-3 or HS-45, specify part number and O.D. of hose or cable. (Indicate single or dual hose)

Single Hoses: Holes are drilled 1/16" smaller than your specified O.D.

PART NO.	DIMENSIONS	MAX. HOLE SIZE SINGLE HOSE/CABLE
HS-3	3" O.D.	1-7/8" dia.
HS-45	4-1/2" O.D.	2-3/4" dia.

Dual Hoses: Holes are drilled 1/32" smaller than your specified O.D.



HS-3



HS-45



HS-3

Roller Assemblies for Spring Rewind Reels

These 4-way roller assemblies are for use on the reel, on cabinet door openings and for similar locations where sharp metal edges may cut or damage the hose/cable. 4-way design protects hose even when payout or rewind is at an angle.

The N200 and R200 roller assemblies have Delrin rollers mounted in stamped steel housings for flush panel mounting, reel mounting (R200) or right angle mounting (N200).

The R300 roller assemblies have stainless steel rollers, Delrin bearing inserts and zinc die-cast corner mounting blocks assembled on a steel mounting frame.

To Order: Specify Part Numbers N Models for N Series Reels, R Models for Channel Frame Reels

PART NO.	OVERALL DIMENSIONS		ROLLER OPENING	
	INCHES	MM	INCHES	MM
R203	8.0 x 5.5	203.2 x 139.7	2.5 x 2.0	63.5 x 50.8
R204	9.0 x 5.5	228.6 x 139.7	3.5 x 2.0	88.9 x 50.8
R205	10.0 x 5.5	254.0 x 139.7	4.5 x 2.0	114.3 x 50.8
R206	11.0 x 5.5	279.4 x 139.7	5.5 x 2.0	139.7 x 50.8
N203	5.5 x 5.5	139.7 x 139.7	2.5 x 2.0	63.5 x 50.8
N204	6.5 x 5.5	165.1 x 139.7	3.5 x 2.0	88.9 x 50.8
N205	7.5 x 5.5	190.5 x 139.7	4.5 x 2.0	114.3 x 50.8
N206	8.5 x 5.5	215.9 x 139.7	5.5 x 2.0	139.7 x 50.8
R306	11.25 x 7.0	285.8 x 177.8	5.5 x 2.38	139.7 x 60.45
R308	13.25 x 7.0	336.6 x 177.8	7.5 x 2.38	190.5 x 60.45
R310	15.25 x 7.0	387.4 x 177.8	9.5 x 2.38	241.3 x 60.45
PW-2R	9.75 x 3.75	247.7 x 95.3	5.13 x 1.13	130.3 x 28.7
EH-714	9 x 5.625	228.6 x 142.9	2.5 x 2.5	63.5 x 63.5



N200



R200



R300

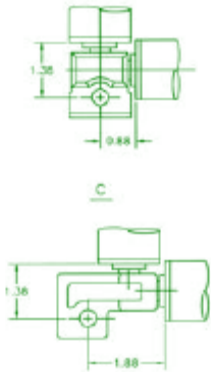


EH-714



PW-2R Roller

Utility Hose Rollers

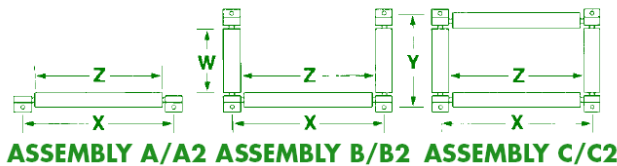


Stainless steel rollers and cast alloy brackets for use on the reel, on cabinet door openings, truck platforms and similar locations where sharp edges may cut or damage hose/cable.

Specifications: 1-1/2" diameter stainless steel roller, stainless steel rod, Delrin bearings, alloy brackets and required fasteners.

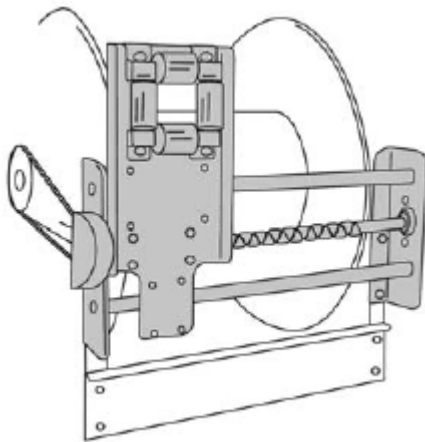
To Order: Specify Assembly A, B, or C, and give distance between **each pair** of mounting holes (Dimensions X and Y) and length of each roller (Dimensions W and Z).

W=Vertical Roller Length, Z=Horizontal Roller Length.



ASSEMBLY A/A2 ASSEMBLY B/B2 ASSEMBLY C/C2

Levelwind



A chain and sprocket-driven levelwind device to evenly wrap hose/cable on a reel. This device is driven from the main axle of the reel which automatically reverses at the extremes of travel.

Designed for custom/special reel applications when required.

Available at extra cost and must be specified—consult DBL for further information, pricing and delivery.

Note: To be used for straight line pulls only.

GM-700 Guidemaster

Multi-position hose guide with explosion-proof remote rewind control.

The GM-700 helps unwind and rewind hose faster, easier and with less damage to the hose. Five positive locking positions let the operator pull the hose out and away from sharp corners of cabinet or deck. An explosion-proof push-button switch in the Guidemaster handle lets the operator control the rewind motor as he guides the hose on the reel in neat, uniform coils.

Full parts breakdown available, please refer to **Appendix D-39**

GM-600 parts list available **Appendix D-41**



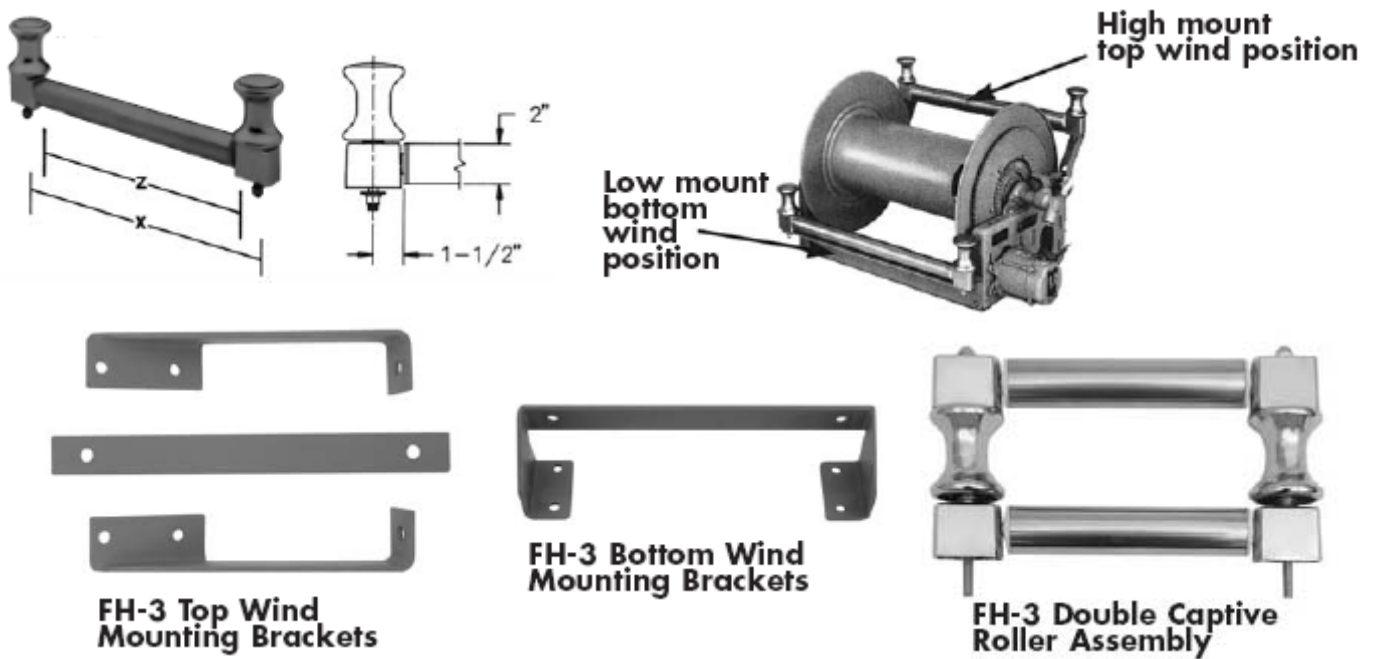
FH-3 Roller and Spool Assembly

Not recommended for hoses larger than 1-1/2" I.D.

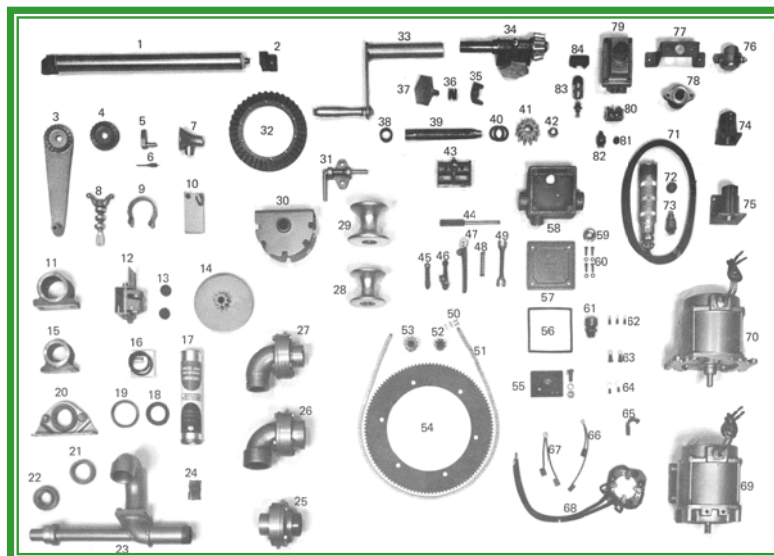
Speeds handling and reduces hose wear. Buffed stainless steel rollers resist corrosion, pitting and abrasion. Polished, chrome-plated spools and blocks add lasting beauty to your equipment. Delrin bearing surfaces assure quiet operation and minimum wear.

Assembly can be factory-installed, when specified, or ordered for field installation on reels or other equipment.

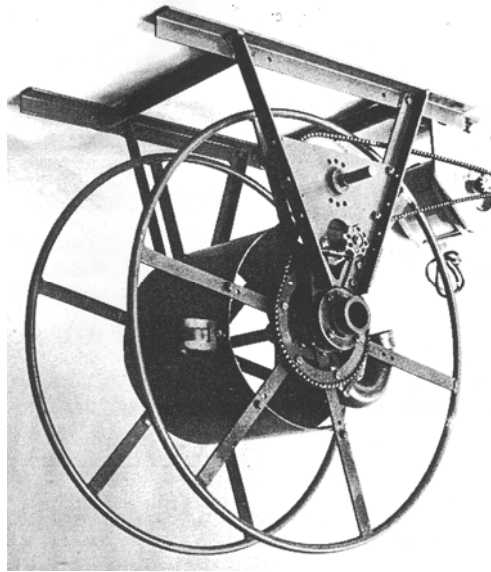
To Order: For factory installation, specify FH-3 Assembly and indicate position on reel. As an accessory, specify FH-3 Assembly and give length of roller (Dimension Z) and distance between mounting holes (Dimension X). Mounting brackets are available.



For a complete parts ID guide for Hannay fuel delivery hose reels please refer to Appendix D-43 thru D-48 Accessories are also included here



Deighan Hose Reel



A1500 1-1/2" Swing Joint Replacement Parts

Whether you need to replace the complete swing joint or a simple Buna seal, DBL has what you need. For a complete parts breakdown please refer to **Appendix D-49**

A4000-1 Face Drive with Air Brake

For a complete parts breakdown please refer to **Appendix D-50** to find the proper replacement part you need.

A4000 Face Drive with Hand Brake.

To find the part you need please refer to **Appendix D-50**

A6000 Air Brake

From a complete A6000 air brake assembly to a repair kit DBL has you covered. To see available replacements please refer to the diagram in **Appendix D-51**

A7000 Waterproof Switch Assembly

Switch repair kit available. To be used to replace 7001-1 shorter switch or to retrofit a Philly valve switch part# **4515**. Kit includes switch, spacer, gaskets, screws, and diaphragm.



Hydraulics

Blackmer 2010 & 2020 Hydrive Cooler.....	129
DRUM DH3.....	130
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Blackmer 2010 & 2020 Hydrive Cooler

Unique Design

Compact size allows for easy installation on tractors and trucks with minimal space on chassis rails. The compact design with a low noise level centrifugal fan provides maximum performance and heat dissipation up to 13.5 HP (10kW) on 2010 models and 26 HP (20kW) on 2020 models.

Built for Performance

Constructed from stainless steel materials to withstand the harsh environmental and operation conditions. The light weight cooler with a small hydraulic oil reservoir, reduces the concern and hazard of costly spills.

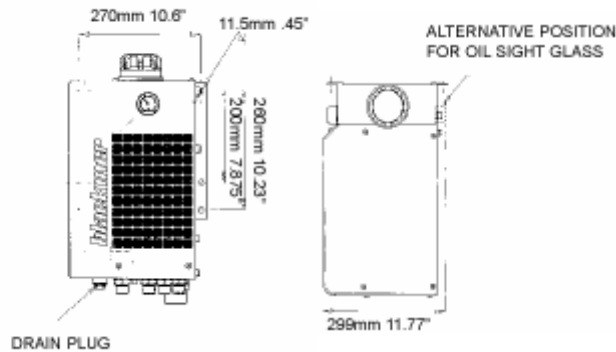
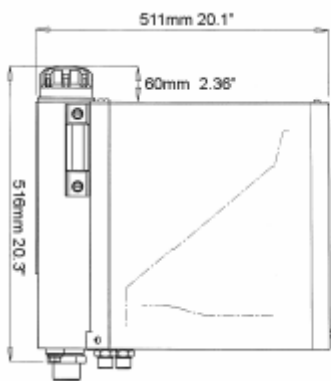
Maintenance Friendly

The easy to read restriction gauge mounted on the front of the Hydrive indicates when the spin-on oil filter should be replaced. Normal hydraulic oil maintenance is made easy with the reservoir drain on the Hydrive tank.

For a full parts break out of replacement parts please refer to:

Appendix M-11 thru M-13 for Hydrive 2010

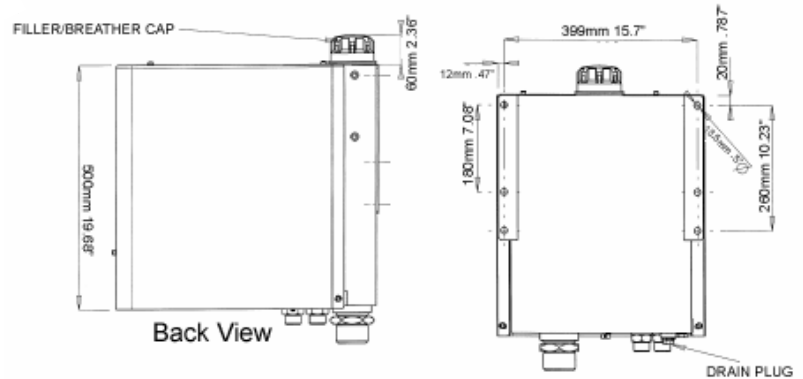
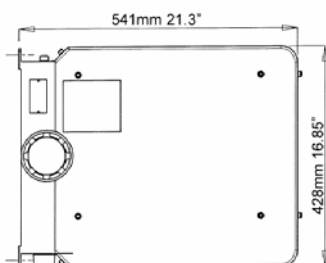
Appendix M-14 thru M-16 for Hydrive 2020



Hydrive 2010



Hydrive 2020



DRUM Hydraulic Coolers



DRUM DH3

A compact, lightweight high efficiency hydraulic control module for operation of product transfer systems. The Hydrapak DH3 controls oil temperature, hydraulic pressure, and oil friction. The DH3 allows for continuous high horsepower operation, while being easy to install and operate with virtually no maintenance.

For full parts breakout refer to **Appendix M-1**

DRUM DH5

A compact, lightweight, high efficiency hydraulic control module for the operation of high horsepower and high flow mobile hydraulic drive systems. The DH5 controls oil temperature, hydraulic pressure, and oil filtration. The DH5 allows for continuous high horsepower operation, is easy to install, operates with virtually no maintenance, and weighs hundreds of pounds less than conventional reservoir type systems.

For full parts breakout refer to **Appendix M-3**



DRUM MH1 Hydrapak



The MH1 is the smallest and lightest in the Drum Hydrapak product range. The MH1 Hydrapak along with a complete Drum Hydraulic system provides a cost-effective means of driving low horsepower product transfer pumps. The systems are ideal on bobtail delivery trucks for propane, fuel oil, bulk oil, and milk. Multiple pump vehicles and vehicles with hose reels also are ideal for the MH1 Hydrapak.

For full parts breakout refer to **Appendix M-5**

DRUM MH3 Hydrapak

The MH3 is a pre-engineered, highly efficient, hydraulic oil cooling package. It includes the oil reservoir, cooler, return line filter and system relief valve. All components are designed into a small, lightweight, quiet and efficient machine.

For full parts breakout refer to **Appendix M-9**

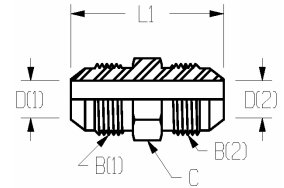


Hydraulic Fittings

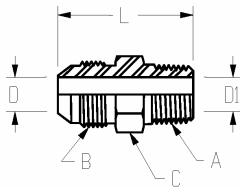
In this section our most popular hydraulic fittings are listed. If you do not see the hydraulic fitting you are looking for, call us and we can get it for you. DBL is regularly adding items to its stock to keep up with the demands of its customers.

2403 Male Tube Union

PART NO	TUBE OD	B (1)	B (2)	L1	C	D (1)	D (2)
HYD2403-8-8	1/2 , 1/2	3/4-16	3/4-16	1.62	0.81	0.39	0.39
HYD2403-12-8	3/4, 1/2	1 ¹ / ₁₆ -12	3/4-16	1.95	1.13	0.61	0.39
HYD2403-12-12	3/4, 3/4	1 ¹ / ₁₆ -12	1 ¹ / ₁₆ -12	2.16	1.13	0.61	0.61
HYD2403-16-12	1, 3/4	1 ⁵ / ₁₆ -12	1 ¹ / ₁₆ -12	2.20	1.38	0.84	0.61
HYD2403-16-16	1, 1	1 ⁵ / ₁₆ -12	1 ⁵ / ₁₆ -12	2.25	1.38	0.84	0.84



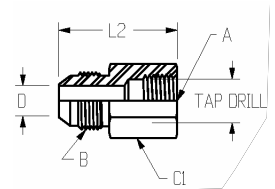
2404 Male Connector



PART NO	TUBE OD	B (1)	A	L	C	D	D (1)
HYD2404-8-6	1/2	3/4-16	3/8-18	1.53	0.81	0.39	0.41
HYD2404-8-8	1/2	3/4-16	1/2-14	1.79	0.88	0.39	0.53
HYD2404-8-8SS	1/2	3/4-16	1/2-14	1.79	0.88	0.39	0.53
HYD2404-8-12	1/2	3/4-16	3/4-14	1.85	1.13	0.39	0.72
HYD2404-12-8	3/4	1 ¹ / ₁₆ -12	1/2-14	2.06	1.13	0.61	0.53
HYD2404-12-12SS	3/4	1 ¹ / ₁₆ -12	3/4-14	2.06	1.13	0.61	0.72
HYD2404-12-12	3/4	1 ¹ / ₁₆ -12	3/4-14	2.06	1.13	0.61	0.72
HYD2404-12-16	3/4	1 ¹ / ₁₆ -12	1-11 ¹ / ₂	2.25	1.38	0.61	0.94
HYD2404-16-8	1	1 ⁵ / ₁₆ -12	1/2-14	2.11	1.38	0.84	0.53
HYD2404-16-12	1	1 ⁵ / ₁₆ -12	3/4-14	2.11	1.38	0.84	0.72
HYD2404-16-16	1	1 ⁵ / ₁₆ -12	1-11 ¹ / ₂	2.30	1.38	0.84	0.94

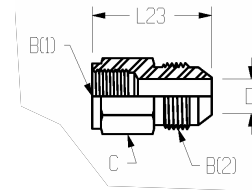
2405 Female Connector

PART NO	TUBE OD	B	A	L2	C1	D	Tap Drill
HYD2405-8-8	1/2	3/4-16	1/2-14	1.79	1.13	0.39	0.70
HYD2405-8-12	1/2	3/4-16	3/4-14	1.85	1.38	0.39	0.91
HYD2405-12-8	3/4	1 ¹ / ₁₆ -12	1/2-14	2.05	1.13	0.61	0.71
HYD2405-12-12	3/4	1 ¹ / ₁₆ -12	3/4-14	2.06	1.38	0.61	0.91
HYD2405-12-16	3/4	1 ¹ / ₁₆ -12	1-11 ¹ / ₂	2.30	1.63	0.61	1.14
HYD2405-16-12	1	1 ⁵ / ₁₆ -12	3/4-14	2.12	1.38	0.84	0.91
HYD2405-20-20	1 ¹ / ₄	1 ⁵ / ₈ -12	1 ¹ / ₄ -11 ¹ / ₂	2.49	2.00	1.08	1.48

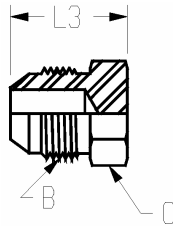


2406 Reducing Adapter (One Piece)

PART NO	TUBE OD	B (1)	B (2)	L23	C	D (1)
HYD2406-12-16	3/4, 1	1 ¹ / ₁₆ -12	1 ⁵ / ₁₆ -12	1.61	1.38	0.61
HYD2406-16-12	1, 3/4	1 ⁵ / ₁₆ -12	1 ¹ / ₁₆ -12	1.82	1.50	0.61



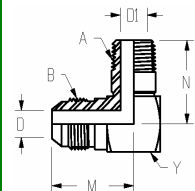
2408 Male Tube Plug



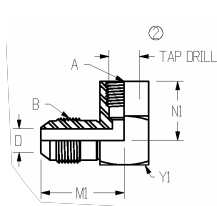
PART NO	TUBE OD	B	L3	C
HYD2408-6	3/8	9/16-18	0.84	0.63
HYD2408-8	1/2	3/4-16	0.94	0.81
HYD2408-10	5/8	7/8-14	1.10	0.94
HYD2408-12	3/4	1 ¹ / ₁₆ -12	1.28	1.13
HYD2408-16	1	1 ⁵ / ₁₆ -12	1.33	1.38
HYD2408-20	1 ¹ / ₄	1 ⁵ / ₈ -12	1.45	1.69

2501 90° Male Elbow

PART NO	TUBE OD	B	A	M	N	Y	D	D1
HYD2501-8-8	1/2	3/4-16	1/2-14	1.31	1.47	0.94	0.39	0.53
HYD2501-12-12	3/4	1 ¹ / ₁₆ -12	3/4-14	1.66	1.59	1.13	0.61	0.72
HYD2501-12-16	3/4	1 ¹ / ₁₆ -12	1-11 ¹ / ₂	1.78	1.97	1.38	0.61	0.94
HYD2501-16-12	1	1 ⁵ / ₁₆ -12	3/4-14	1.81	1.72	1.38	0.84	0.72
HYD2501-16-16	1	1 ⁵ / ₁₆ -12	1-11 ¹ / ₂	1.81	1.97	1.38	0.84	0.94



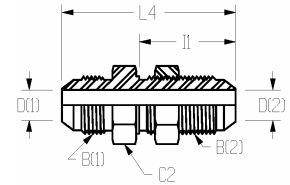
2502 90° Female Elbow



PART NO	TUBE OD	B	A	M1	N1	Y1	D	Tap Drill
HYD2502-8-8	1/2	3/4-16	1/2-14	1.03	0.66	0.63	0.13	0.33
HYD2502-12-12	3/4	1 ¹ / ₁₆ -12	3/4-14	1.89	1.36	1.38	0.61	0.91
HYD2502-16-12	1	1 ⁵ / ₁₆ -12	3/4-14	2.05	1.36	1.38	0.84	0.91

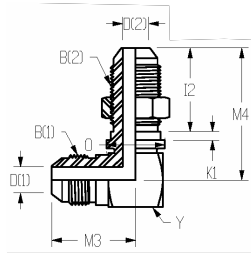
2700-LN Bulkhead Union

PART NO	TUBE OD	B (1)	B (2)	L4	I1	C2	D(1)	D(2)
HYD2700LN-8-8	1/2, 1/2	5/16-24	5-16/24	2.44	1.44	1.00	0.39	0.39
HYD2700LN-10-10	5/8, 5/8	7/8-14	7/8-14	2.74	1.58	1.13	0.48	0.48
HYD2700LN-12-12	3/4, 3/4	1 ¹ / ₁₆ -12	1 ¹ / ₁₆ -12	3.09	1.75	1.38	0.61	0.61
HYD2700LN-16-12	1, 3/4	1 ⁵ / ₁₆ -12	1 ¹ / ₁₆ -12	3.14	1.75	1.63	0.84	0.61



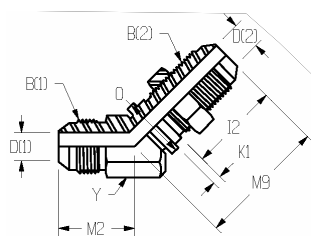
2701-LN 90° Bulkhead Elbow

PART NO	TUBE OD	B (1)	B (2)	M4	M4	I2	K1	O	Y	D(1)	D(2)
HYD2701LN-8-6	1/2, 3/8	3/4-16	9/16-18	1.36	1.91	1.09	0.09	0.69	0.81	0.39	0.30
HYD2701LN-10-10	5/8, 5/8	7/8-14	7/8-14	1.56	2.39	1.39	0.13	1.00	0.94	0.48	0.48
HYD2701LN-12-12	3/4, 3/4	1 ¹ / ₁₆ -12	1 ¹ / ₁₆ -12	1.78	2.67	1.56	0.13	1.19	1.13	0.61	0.61
HYD2700LN-16-16	1, 1	1 ⁵ / ₁₆ -12	1 ⁵ / ₁₆ -12	1.94	2.80	1.56	0.13	1.44	1.38	0.84	0.84

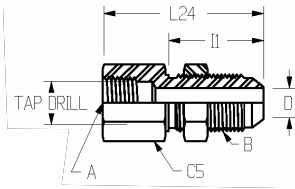


2702-LN 45° Bulkhead Elbow

PART NO	TUBE OD	B (1)	B (2)	M2	M9	I2	K1	O	Y	D(1)	D(2)
HYD2702LN-8-8	1/2, 1/2	3/4-16	3/4-16	0.98	1.94	1.25	0.13	0.88	0.81	0.39	0.39
HYD2702LN-10-10	5/8, 5/8	7/8-14	7/8-14	1.11	2.17	1.39	0.13	1.00	0.94	0.48	0.48
HYD2702LN-12-12	3/4, 3/4	1 ¹ / ₁₆ -12	1 ¹ / ₁₆ -12	1.28	2.44	1.56	0.13	1.19	1.13	0.61	0.61
HYD2702LN-16-16	1, 1	1 ⁵ / ₁₆ -12	1 ⁵ / ₁₆ -12	1.47	2.53	1.56	0.13	1.44	1.38	0.84	0.84



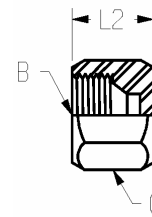
2706-LN Male Pipe/Bulkhead



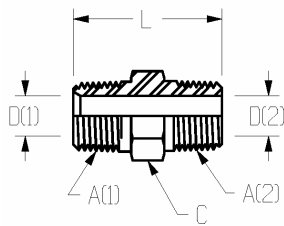
PART NO	TUBE OD	A	B	L25	I1	C2	D1	D
HYD2706LN-12-12	3/4	3/4-14	1 ¹ / ₁₆ -12	2.92	1.75	1.38	0.72	0.61
HYD2706LN-16-16	1	1-11 ¹ / ₂	1 ⁵ / ₁₆ -12	3.11	1.75	1.63	0.94	0.84

304-C Cap Nut

PART NO	TUBE OD	B	L2	C
HYD304-C-6	3/8	9/16-18	0.63	0.69
HYD304-C-8	1/2	3/4-16	0.75	0.88
HYD304-C-10	5/8	7/8-14	0.84	1.00
HYD304-C-12	3/4	1 ¹ / ₁₆ -12	0.91	1.25
HYD304-C-16	1	1 ⁵ / ₁₆ -12	1.02	1.50



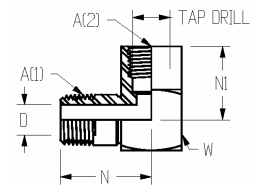
5404 Hexagon Pipe Nipple



PART NO	A(1)	A(2)	L	C	D (1)	D (2)
HYD5404-12-8	3/4-14	1/2-14	1.96	1.13	0.72	0.53
HYD5404-16-12	1-11 ¹ / ₂	3/4-14	2.15	1.38	0.94	0.72

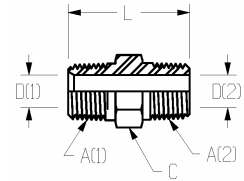
5502 90° Street Elbow

PART NO	A(1)	A(2)	N	N1	W	D	Tap Drill
HYD5502-8-8	1/2-14	1/2-14	1.47	1.23	1.13	0.53	0.70
HYD5502-12-12	3/4-14	3/4-14	1.59	1.36	1.38	0.72	0.91
HYD5502-16-16	1-11 ¹ / ₂	1-11 ¹ / ₂	1.97	1.62	1.63	0.94	1.14



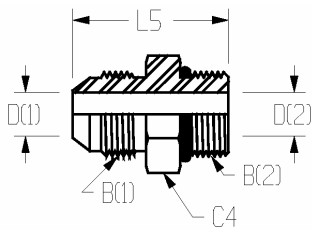
5503 45° Street Elbow

PART #	A(1)	A(2)	N4	N3	W	D	Tap Drill
HYD5503-8-8	1/2-14	1/2-14	1.34	0.91	1.13	0.53	0.70
HYD5503-12-12	3/4-14	3/4-14	1.38	0.97	1.38	0.72	0.91
HYD5503-16-16	1-11 ¹ / ₂	1-11 ¹ / ₂	1.72	1.12	1.63	0.94	1.14



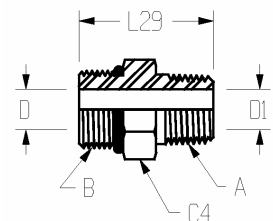
6400 Straight Thread Adapter

PART NO	TUBE OD	B (1)	B (2)	L5	C4	D (1)	D (2)
HYD6400-6-6	3/8	9/16-18	9/16-18	1.30	0.69	0.30	0.30
HYD6400-8-8	1/2	3/4-16	3/4-16	1.48	0.88	0.39	0.39
HYD6400-8-10	1/2	3/4-16	7/8-14	1.60	1.00	0.39	0.48
HYD6400-8-12	1/2	3/4-16	1 ¹ / ₁₆ -12	1.76	1.25	0.39	0.61
HYD6400-8-16	1/2	3/4-16	1 ⁵ / ₁₆ -12	1.79	1.50	0.39	0.84
HYD6400-10-8	5/8	7/8-14	3/4-16	1.64	0.94	0.48	0.39
HYD6400-10-12	5/8	7/8-14	1 ¹ / ₁₆ -12	1.86	1.25	0.48	0.61
HYD6400-12-8	3/4	1 ¹ / ₁₆ -12	3/4-16	1.94	1.13	0.61	0.39
HYD6400-12-10	3/4	1 ¹ / ₁₆ -12	7/8-14	1.88	1.13	0.61	0.48
HYD6400-12-12	3/4	1 ¹ / ₁₆ -12	1 ¹ / ₁₆ -12	1.97	1.25	0.61	0.61
HYD6400-12-16	3/4	1 ¹ / ₁₆ -12	1 ⁵ / ₁₆ -12	1.99	1.50	0.61	0.84
HYD6400-16-8	1	1 ⁵ / ₁₆ -12	3/4-16	2.01	1.38	0.84	0.39
HYD6400-16-12	1	1 ⁵ / ₁₆ -12	1 ¹ / ₁₆ -12	2.04	1.38	0.84	0.61
HYD6400-16-16	1	1 ⁵ / ₁₆ -12	1 ⁵ / ₁₆ -12	2.04	1.50	0.84	0.84
HYD6400-16-20	1	1 ⁵ / ₁₆ -12	1 ⁵ / ₈ -12	2.12	1.88	0.84	1.08
HYD6400-20-16	1 ¹ / ₄	1 ⁵ / ₈ -12	1 ⁵ / ₁₆ -12	2.33	1.69	1.08	0.84
HYD6400-20-20	1 ¹ / ₄	1 ⁵ / ₈ -12	1 ⁵ / ₈ -12	2.17	1.88	1.08	1.08
HYD6400-20-24	1 ¹ / ₄	1 ⁵ / ₈ -12	1 ⁷ / ₈ -12	2.24	2.13	1.08	1.31
HYD6400-24-16	1 ¹ / ₂	1 ⁷ / ₈ -12	1 ⁵ / ₁₆ -12	2.53	2.00	1.31	0.84
HYD6400-24-20	1 ¹ / ₂	1 ⁷ / ₈ -12	1 ⁵ / ₈ -12	2.53	2.00	1.31	1.08



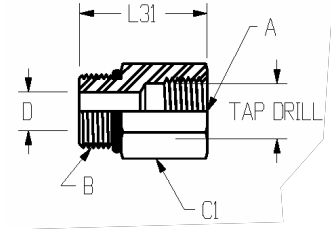
6401 Straight Thread/Male Pipe Adapter

PART NO	B	A	L29	C4	D	D(1)
HYD6401-12-12	1 ¹ / ₁₆ -12	3/4-14	1.73	1.25	0.61	0.72

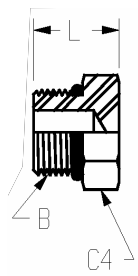


6405 Straight Thread/Female Pipe Adapter

PART NO	B	A	L31	C1	D	Tap Drill
HYD6405-8-8	3/4-16	1/2-14	1.63	1.13	0.39	0.70
HYD6405-8-12	3/4-16	3/4-14	1.63	1.38	0.39	0.91
HYD6405-12-8	1 ¹ / ₁₆ -12	1/2-14	1.50	1.25	0.61	0.70
HYD6405-12-12	1 ¹ / ₁₆ -12	3/4-14	1.59	1.38	0.61	0.91
HYD6405-12-16	1 ¹ / ₁₆ -12	1-11 ¹ / ₂	1.95	1.63	0.61	1.14
HYD6405-16-12	1 ⁵ / ₁₆ -12	3/4-14	1.62	1.50	0.84	0.91
HYD6405-16-16	1 ⁵ / ₁₆ -12	1-11 ¹ / ₂	1.90	1.63	0.84	1.14



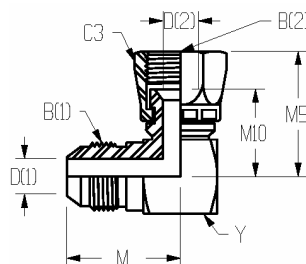
6408 Hexagon Head O-Ring Boss Plug



PART NO	B	L	C4
HYD6408-6	9/16-18	0.73	0.69
HYD6408-8	3/4-16	0.80	0.88
HYD6408-10	7/8-14	0.93	1.00
HYD6408-12	1 ¹ / ₁₆ -12	1.09	1.25
HYD6408-16	1 ⁵ / ₁₆ -12	1.12	1.50
HYD6408-20	1 ⁵ / ₈ -12	1.20	1.88
HYD6408-24	1 ⁷ / ₈ -12	1.27	2.13

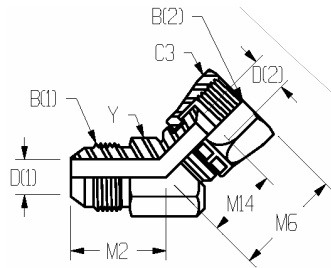
6500 90° Swivel Elbow

PART NO	TUBE OD	B (1)	B (2)	M	M5	M10	C3	Y	D(1)	D(2)
HYD6500-6-6	3/8, 3/8	9/16-18	9/16-18	1.06	1.25	0.88	0.69	0.63	0.30	0.30
HYD6500-8-8	1/2, 1/2	3/4-16	3/4-16	1.25	1.38	0.96	0.88	0.81	0.39	0.39
HYD6500-10-10	5/8, 5/8	7/8-14	7/8-14	1.45	1.62	1.12	1.00	0.94	0.48	0.48
HYD6500-12-12	3/4, 3/4	1 ¹ / ₁₆ -12	1 ¹ / ₁₆ -12	1.66	1.75	1.19	1.25	1.13	0.61	0.61
HYD6500-16-12	1, 3/4	1 ⁵ / ₁₆ -12	1 ¹ / ₁₆ -12	1.81	1.88	1.31	1.25	1.38	0.84	0.61
HYD6500-20-20	1 ¹ / ₄ , 1 ¹ / ₄	1 ⁵ / ₈ -12	1 ⁵ / ₈ -12	2.06	2.31	1.68	2.00	1.75	1.08	1.08



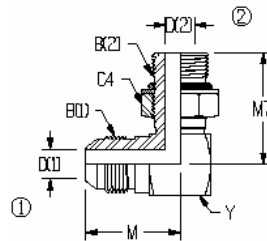
6502 45° Swivel Elbow

PART NO	TUBE OD	B (1)	B (2)	M2	M6	M14	C3	Y	D(1)	D(2)
HYD6502-8-8	1/2, 1/2	3/4-16	3/4-16	0.98	1.28	0.86	0.88	0.81	0.39	0.39
HYD6502-10-10	5/8, 5/8	7/8-14	7/8-14	1.11	1.44	0.94	1.00	0.94	0.48	0.48
HYD6502-12-12	3/4, 3/4	1 ¹ / ₁₆ -12	1 ¹ / ₁₆ -12	1.28	1.50	0.94	1.25	1.13	0.61	0.61
HYD6502-16-16	1, 1	1 ⁵ / ₁₆ -12	1 ⁵ / ₁₆ -12	1.47	1.75	1.16	1.50	1.38	0.84	0.84
HYD6502-20-20	1 ¹ / ₄ , 1 ¹ / ₄	1 ⁵ / ₁₆ -12	1 ⁵ / ₁₆ -12	1.59	1.96	1.34	2.00	1.75	1.08	1.08
HYD6502-24-24	1 ¹ / ₂ , 1 ¹ / ₂	1 ⁷ / ₈ -14	1 ⁷ / ₈ -14	1.78	2.25	1.52	2.25	2.00	1.31	1.31



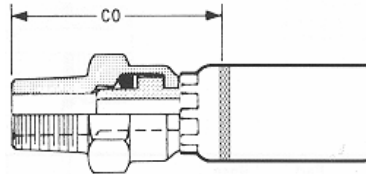
6801 90° Straight Thread

PART NO	TUBE OD	B (1)	B (2)	M	M7	C4	Y	D(1)	D(2)
HYD6801-8-8	1/2	3/4-16	3/4-16	1.25	1.45	0.88	0.81	0.39	0.39
HYD6801-8-12	1/2	3/4-16	1 ¹ / ₁₆ -12	1.40	1.94	1.25	1.13	0.39	0.61
HYD6801-12-8	3/4	1 ¹ / ₁₆ -12	3/4-16	1.66	1.61	0.88	1.13	0.61	0.39
HYD6801-12-10	3/4	1 ¹ / ₁₆ -12	7/8-14	1.66	1.80	1.00	1.13	0.61	0.48
HYD6801-12-12	3/4	1 ¹ / ₁₆ -12	1 ¹ / ₁₆ -12	1.66	1.94	1.25	1.13	0.61	0.61
HYD6801-12-16	3/4	1 ¹ / ₁₆ -12	1 ⁵ / ₁₆ -12	1.78	2.05	1.50	1.38	0.61	0.84
HYD6801-16-12	1	1 ⁵ / ₁₆ -12	1 ¹ / ₁₆ -12	1.81	2.06	1.25	1.38	0.84	0.61
HYD6801-16-16	1	1 ⁵ / ₁₆ -12	1 ⁵ / ₁₆ -12	1.81	2.05	1.50	1.38	0.84	0.84

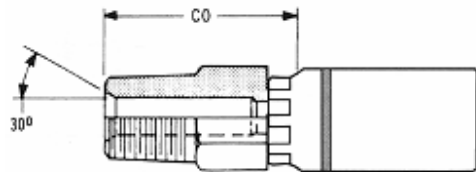


NPTF Swivel Male Stem

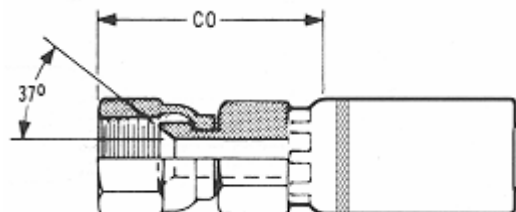
PART NO	Hose ID	Thread	Hex	Stem ID	Fitting Length	CO Cutoff
HYDC8MPS	1/2	1/2 -14	1	.406	2.955	1.800
HYDC12MPS	3/4	3/4 -14	1 ⁵ / ₁₆	.625	3.135	1.885
HYDC16MPS	1	1 ¹ / ₄ -11 ¹ / ₂	1 ⁵ / ₈	.937	4.395	2.480

**NPTF Solid Male Stem**

PART NO	Hose ID	Thread	Hex	Stem ID	Fitting Length	CO Cutoff
HYDC8MP	1/2	1/2 -18	7/8	.406	2.472	1.312
HYDC12MP	3/4	3/4 -14	1 ¹ / ₁₆	.625	2.676	1.526

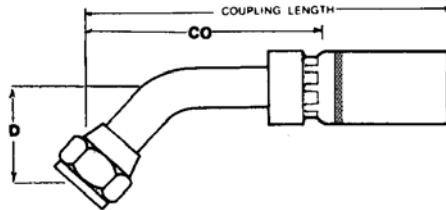
**JIC 37° Swivel Female Stem**

PART NO	Hose ID	Thread	Stem Hex	Nut Hex	Stem ID	Fitting Length	CO Cutoff
HYDC6FJ	3/8	9/16 -18	11/16	3/4	.296	2.030	1.105
HYDC86FJ	1/2	9/16 -18	13/16	3/4	.296	2.340	1.165
HYDC8FJ	1/2	3/4 -16	13/16	7/8	.406	2.470	1.310
HYDC10FJ	5/8	7/8 -14	1	1 ¹ / ₁₆	.500	2.565	1.405
HYDC1210FJ	3/4	7/8 -14	1 ¹ / ₁₆	1 ¹ / ₁₆	.500	2.745	1.490
HYDC12FJ	3/4	1 ¹ / ₁₆ -12	1 ¹ / ₁₆	1 ¹ / ₄	.625	2.810	1.570
HYDC1612FJ	1	1 ¹ / ₁₆ -12	1 ³ / ₈	1 ¹ / ₄	.718	3.040	1.580
HYDC16FJ	1	1 ⁵ / ₁₆ -12	1 ³ / ₈	1 ¹ / ₂	.844	3.175	1.720



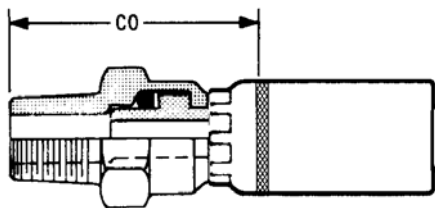
JIC 37° Female Stem-45° Bent Tube-Medium Drop

PART NO	Hose ID	Thread	Hex	D Drop	Fitting Length	CO Cutoff
HYDC8FJ45	1/2	3/4-16	7/8	.690	3.240	2.200
HYDC12FJ45	3/4	1 ¹ / ₁₆ -12	1 ¹ / ₄	1.060	4.020	2.900
HYDC16FJ45	1	1 ⁵ / ₁₆ -12	1 ¹ / ₂	1.160	4.780	3.310



NPTF Swivel Male Stem

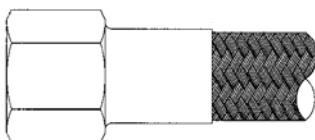
PART NO	Hose ID	Thread	Hex	Stem ID	Fitting Length	CO Cutoff
HYDC8FJ90	1/2	3/8-18	1	.406	2.755	1.605
HYDC12FJ90	3/4	1/2-14	1 ⁵ / ₁₆	.625	3.125	1.890
HYDC16FJ90	1	1-11 ¹ / ₂	1 ⁵ / ₈	.844	3.760	2.300



Brass FJIC X Teflon Hose Coupler

Medium pressure, 3 piece fitting, crimped, and with a smooth bore. Made of brass.

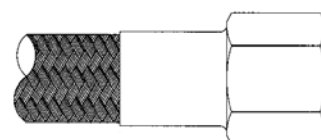
Part#	Size
HYDCT8FJ	1/2"
HYDCT12FJ	3/4"



Stainless Steel FJIC X Teflon Hose Coupler

Medium pressure, 3 piece fitting, crimped, and with a smooth bore. Made of stainless steel.

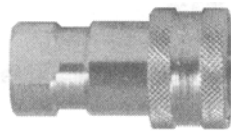
Part#	Description
HYDCT8FJSS	1/2"
HYDCT12FJSS	3/4"



Hydraulic ORB Ball Valve Coupler

Part# HYD18-415

1/2" Steel ISO C hydraulic coupler with ORB port.



Hydraulic ORB Ball Valve Plug

Part# HYD19-415

1/2" Steel ISO C hydraulic plug with ORB port



Agricultural Hydraulic Quick Connect Fitting

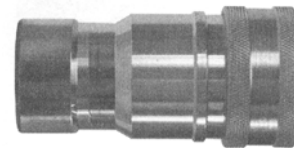
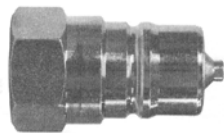
Steel ISO C hydraulic fittings with NPT ports. Quick connect features ball style shut-off valves in both the coupler and plug. **Interchangeable with Pioneer 4000 series and Safeway Agricultural series.**



Part#	Description
HYD18-600	Steel 1/2" FPT Coupler
HYD18-660	Steel 3/4" FPT Coupler
HYD19-600	Steel 1/2" FPT Plug
HYD19-660	Steel 3/4" FPT Plug

Dixon 5600 Series Hydraulic Quick-Connect Fittings

The 5600 Series is interchangeable with the Aeroquip 5600, Parker 6600, and ISO A interchange. The two-way check valves in the plug and socket automatically balance in flow position and provide instant shut off when disconnected. Easy and fast connect and disconnect of fluid or gas lines equals minimal loss of product from either end.



Part#	Body and NPT Thread Size
HYD56-400	1/2" x 1/2"-14
HYD56-600	1/2" x 3/4"-14
HYD56-660	3/4" x 3/4"-14
HYD56-800	1" x 1"-11 1/2

Part#	Body and NPT Thread Size
HYD57-400	1/2" x 1/2"-14
HYD57-600	1/2" x 3/4"-14
HYD57-660	3/4" x 3/4"-14
HYD56-800	1" x 1"-11 1/2

ISO FF 3/4" Hydraulic Coupler and Plug

Steel, flush face ISO16028 hydraulic coupler and plug with an operating pressure of 5000 PSI.

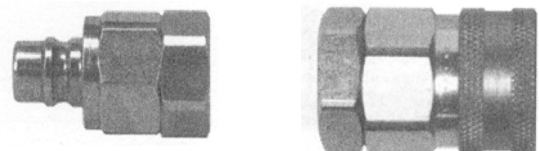
Interchangeable with Aeroquip FD89, Parker FE, Snap-tite 74, Faster FF, and Holmbury Series.



Part#	Description
HYD6HTF6	3/4" Coupler
HYDHT6F6	3/4" Plug

VH Series 3/4" Hydraulic Coupler and Plug

General purpose hydraulic quick-connect provides superior flow characteristics with built in reliability. Standard seal is Buan-N. Made of zinc plated steel. **Interchangeable with Snap-tite H Series.**



Part#	Description
HYDVHC600	3/4" Coupler
HYDVHN600	3/4" Plug

Parker Hydraulic Coupler and Nipple

Parker spacer Bruning 3/4" steel hydraulic coupler and plug.



Part#	Description
HYDNS751-12FP	3/4" Coupler
HYDNS752-12FP	3/4" Nipple

Safeway Coupler and Adapter

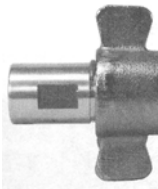
Safeway steel 100 Series hydraulic couplers and adapters.



Part#	Description
HYDS105-4	1/2" Coupler
HYDS105-6	3/4" Coupler
HYDS101-4	1/2" Adapter
HYDS101-6	3/4" Adapter

Dixon Hydraulic Coupler with Wing Nut

7800 Series steel hydraulic couplers for agricultural applications. Made of brass. Interchangeable with Aeroquip 5100 series, Parker 6100 series, and Snap-tite 78 series. Widely used on dump trailer wet-line hydraulic systems and oil field equipment.



Part#	Size
HYD78-600	3/4"
HYD78-800	1"
HYD78-1000	1-1/4"
HYD78-1200	1-1/2"

Dixon Hydraulic Dust Cap

7800 Series steel hydraulic dust caps for agricultural applications. Made of brass.



Part#	Size
HYD79-006	3/4"
HYD79-008	1"
HYD79-010	1-1/4"
HYD79-012	1-1/2"

Parker 3/4" Coupler and Adapter

Steel Parker SM Series 3/4" coupler and adapter.



Part#	Size
HYDSM501-12FP	3/4" Coupler
HYDSM502-12FP	3/4" Adapter

Tomko Couplers and Adapters

Steel T Series coupler and adapters for use in hydraulic applications. For more information on any hydraulic coupler contact DBL.



Part#	Description
HYDTH6	3/4" Coupler
HYDTH8	1" Coupler
HYDTK6	3/4" Adapter
HYDTK8	1" Adapter

Dixon Hydraulic Dust Plug

7800 Series dust plugs for agricultural applications.



Part#	Size
HYD78-006	3/4"
HYD78-008	1"
HYD78-010	1-1/4"
HYD78-012	1-1/2"

Dixon Hydraulic Plug

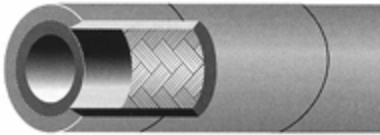
7800 Series steel hydraulic plugs for agricultural applications. Made of brass. Interchangeable with Aeroquip 5100 series, Parker 6100 series, and Snap-tite 78 series. Widely used on dump trailer wet-line hydraulic systems and oil field equipment.



Part#	Size
HYD79-600	3/4"
HYD79-800	1"
HYD79-1000	1-1/4"
HYD79-1200	1-1/2"

Hydra-Lite I Wire Braid Hydraulic Hose

One wire high tensile steel braid in sizes 1/4" thru 1/2" and two wire high tensile steel. Black, oil and abrasion resistant Neoprene (CR). MSHA approved braid.

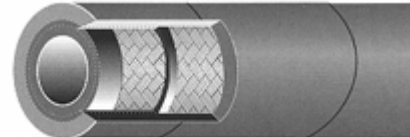


Part#	Description
HYDH6	3/8"
HYDH8	1/2"
HYDH10	5/8"
HYDH12	3/4"

Hydra-Lite II 1" Wire Braid Hydraulic Hose

Part# HYDH16

Two wire braid made of high tensile steel. Black, oil abrasion Neoprene (CR). MSHA approved.



Stainless Steel Teflon Hose

Stainless steel Teleflex medium pressure, smooth bore Teflon lined hose.



Part#	Description
HYDHT8	1/2"
HYDHT12	3/4"

Flow Control Valve

Part# HYDVFC

Cast iron body, 25 GPM valve, with 1" ORB and pressure relief on inlet.



Kurlyama Temp-Tech 300 F Hoses

Single or double braid wire. Meets or exceeds SAE 100 R1AT (single braid) and SAE 100 R2AT (double braid). Single braid available in sizes 3/8" through 1-1/4" ID. Double braid available in sizes 1/4" through 2" ID.



Alfatech Constant Working Pressure Hoses

The Alfatech series of hoses, designed with the application engineer in mind, simplifies system routing by offering the same working pressure ratings for all sizes of the respective hose.



DBL can install
or modify any existing
hydraulic system or other
to meet the needs of its customers.
Call to see what we can offer
your company.

Competitor's Work



DBL's Work



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Betts Sanitary Manway Assembly

The Betts Sanitary Manway is designed and manufactured to meet the vigorous requirements of the sanitary industry. All product contact surfaces are mechanically polished to a #4 finish and the entire manway is electro-polished to a lustrous finish. The electro-polished finish provides improved corrosion resistance and easier cleaning.

The manway features a 7 gauge collar, 10 gauge stud platform, 10 gauge inner head, and a 12 gauge dustcover. The double gusseted $\frac{3}{4}$ " stub ACME studs are accompanied by heavy-duty hold-down dogs and easy grip wing-nuts with brass inserts. The gasket has a sealing lip to reduce leakage due to surge.

The stud platform has a mounting lip for ease of fit-up with a rectangular deck plate. An optional 14 gauge circular fit-up sleeve (**part# 6796SL**) is sold separately for a direct connection to tank outer shell.

Please refer to **Appendix C-4** for parts breakout and replacement parts

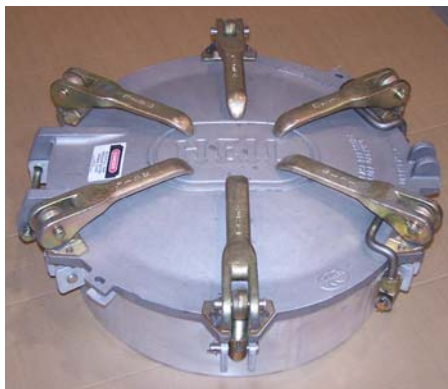
Built in Accordance with 3-A Sanitary Standard
Tamper Resistant
304L Stainless Steel Construction
Five $\frac{3}{4}$ " Stub ACME Hold-Downs
Surge Resistant Design
#4 Ground Finish on all Product
Contact Surface
All Surfaces Electropolished
Double Capacity Breather Grommet
Capable of Air Flow of 5,500 SCFH @ tank
pressure 1 psig & 12,500 SCFH @ 2 psig
Breather Grommet completely protected
under the hinge



Heil/Knappco Manhole

20" Knappco aluminum 6 lug manhole used on Heil and other dry bulk trailers.

For a full parts breakout please refer to **Appendix C-54**



Butler Aluminum Manhole

Butler style 6-cam manhole for dry bulk applications. DBL offers all assemblies and spare parts for this series of manholes. Please refer to appendix for a full breakdown of replacement parts.

For a full parts breakout please refer to **Appendix C-1**



Betts Sanitary Dome Breather

Part# **BET4217WE**

White Nitrile rectangular breather for Betts sanitary dome lid.



Vent Dust Cover

Part# **GASS285**

White Nitrile round breather Walker Sanitary dome lid.



Sanitary Dome Gaskets and Seals

Part#	Description
GASDOMEBESAN	Betts Dome Seal
GASDOMBRESAN	Brenner Dome Lid Seal
GASDOMEHEISAN	Heil Gasket
GASDOMEKARSAN	Karikool Dome Gasket
GASDOMESTESAN	Polar Dome Gasket
GASDOMETRESAN	Tremcar Dome Gasket
GASDOMEWALSAN	Walker Dome Gasket

Knappco 10" Fill Gasket

Part# **GASFILLKN**

Buna-N gasket used in conjunction with Knappco petroleum manway.

Brenner Hold Down Lug and Wing Nut

Parts for old and new style Brenner manways.



Clay and Bailey Gaskets

Cork gaskets used on Clay and Bailey cast-type oval manholes.



Part#	Description
GASCB887-12	1/8" Fill Gasket
GASCB887-22	1/4" Dome Gasket
GASCBFX887-12	1/4" Fill Gasket

Part#	Description
MISBRE-CPA49	5/8" Hold Down Lug
MISBRE-HAA24	5/8" Wing Nut
MISBRE-CPA929	3/4" Hold Down Lug
MISBRE-HAA359	3/4" Hold Down Lug

Tremcar Manhole Nut and Cover Latch

Dome cover hold down equipment for sanitary manhole.



Part#	Description
MISTRSTBT020A	Nut
MISTRSTBT021A	Cover Latch

Walker Sanitary Manhole

Stainless steel sanitary manhole and duster cover for Walker food grade trailer.



Part#	Description
WALMWY0094	Latch Dog
WALMWY3335	Hinge Pin
WALMWYA3064	Cover
WALMWYA3070	Dust Cover
WALMWYA3083	Wing Nut

Bellseng Pressure Lock Lid Seal

Black Nitrile gaskets for air operated dome lids on dry bulk product trailers.



Part#	Description
GASDOMESOLI	Inner Lid Seal
GASDOMESOLO	Outer Lid Seal

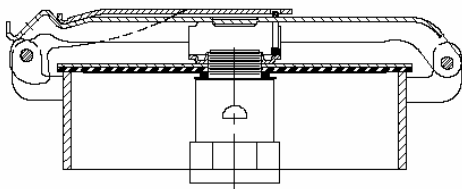
Betts 2" Plug Assembly

Part# **BET17158ALT**

Aluminum plug with Buna gasket and lock ring to seal sensor hole in Betts dome lids.



Betts 10" Fill Model 8010



Model 8010

Light weight, simple construction, less maintenance, and a low silhouette. The 10" is fabricated for lighter weight and greater strength. Heavy gauge collar is standard along with the secondary safety latch and a long lasting Bethane gasket. Other gaskets also available.

For ordering information please refer to **Appendix S-1**

For replacement parts please refer to **Appendix C-5**

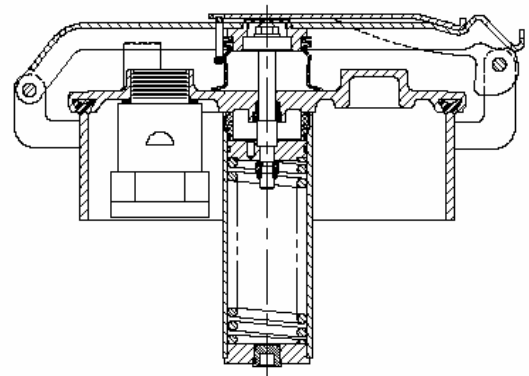
Betts 10" PAF 406-98 Pressure Relief Valve

The 10" relief valve provides emergency pressure relief and meets the 1 liter surge leakage limit imposed by DOT 406 Specifications in 49CFR178.345-10(b)(3)(ii). Also legal for replacement on MC306 specification cargo tanks. The relief valve also serves as a 10" latch style fill which can be easily opened to provide access for filling the tank or for inspection. Relief valves contain an adjustment feature to allow for fine-tuning of set pressure in the field. Other standard features include **Model 6496ALB** pressure-vacuum vent mounted in the 10" relief valve cover.

Pressure relief valve setting 3.63 psig., rated pressure actuated emergency venting: 494,084 cu. ft. free air per hour @ 6.25 psig. Rated liquid flow capacity 1335 GPM @ 5.0 psig.

For ordering information please refer to **Appendix S-1**

Please refer to **Appendix C-6** for replacement parts



Betts 4" Surge Suppression Valve

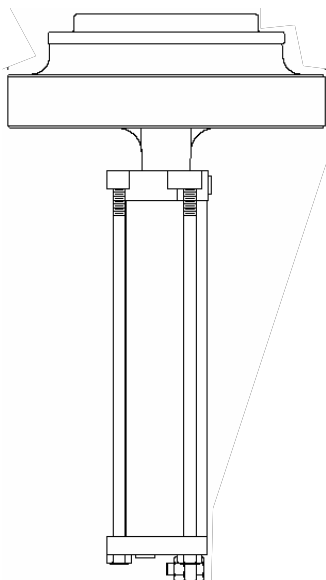
Dual rated MC306/DOT406, no liquid loss at impact, aluminum Construction.

Betts 4" Surge Suppression Pressure Relief Valve are designed to provide or augment the emergency venting capacity required for either MC306 or DOT406 specification cargo tanks. Because they release no liquid during the DOT specified pressure surge, the pressure relief valves exceed the requirements of 49 CFR 178.345-10(b)(3)(ii) which requires that pressure relief devices withstand a specified pressure surge with no more than one liter leakage.

Model 8292ALTS mounts in a special 20" offset PAF manhole and **Model 8290ALTS** mounts on either Betts **Model 6516** weld pad or a standard TTMA 4" weld flange. Both models are constructed of aluminum, stainless steel, zinc plated steel and Tef-Sil seals.

For ordering information please refer to **Appendix S-1**

Please refer to **Appendix K-33** for replacement parts

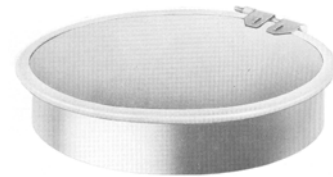


12" X 16" Elliptical Inspection Manhole (Model 8006)

Light weight, less maintenance, and low cost. For use where elliptical shape can be of advantage for special design. Easy opening and positive closing features. **Betts Model 8006 is available in several choices of materials.**

For ordering information please refer to [Appendix S-1](#)

For Replacement parts refer to [Appendix C-7](#)

**12" X 16" Elliptical Manhole with 10" Fill (Model 8012)**

Betts' fabricated construction assures quick and easily welded installation. Oval shape offers flexibility in designing equipment and most efficient operation. A secondary Latch is standard on all assemblies.

For ordering information please refer to [Appendix S-1](#)

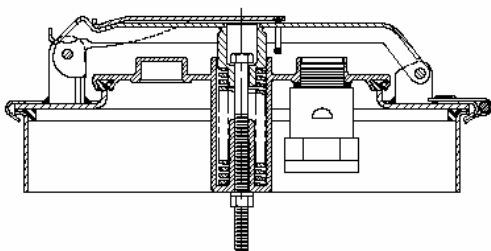
For a full list of replacement parts see [Appendix C-8](#)

Betts 12" X 16" Elliptical PAF1000 Manhole with Pressure Relief Valve (Model 8412)

This model has become obsolete, but replacement parts are still available, but may be discontinued at anytime. Please refer to the parts list for a full breakdown.

For ordering information please refer to [Appendix S-1](#)

For a full list of replacement parts refer to [Appendix C-9](#)



NORMAL VENT
WROUGHT STEEL COVER
SECONDARY SAFETY LATCH
HEAVY DUTY CLAMP RING

Betts 12" X 16" Elliptical PAF450 Manhole with Pressure Relief Valve Model 9712

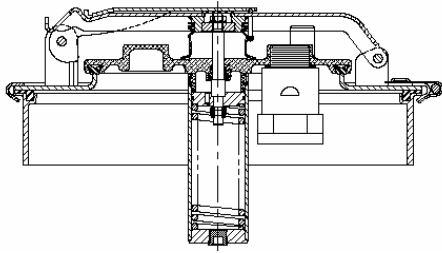
PAF Manholes with Model PAF450 10" Pressure Relief Valve are certified for use on MC306 cargo tanks. Manholes are certified and marked in accordance with 49CFR178.345-5 with a test pressure of 36 psig.

Per 49CFR180.405(h)(3), PAF450 assemblies may not be installed on MC306 cargo tanks after August 31, 1998. However, relief valves installed on MC306 cargo tanks on or before August 31, 1998, may be repaired if required. PAF450 relief valves may be installed in non-specification tanks or in tanks built in countries other than the United States where regulations permit.

Relief valve also serves as a 10" latch style fill which can be easily opened for filling the tank or for inspection. Standard features include heavy duty clamp ring, secondary safety latch and **Model 6238AL** Normal Vent.

For ordering information please refer to [Appendix S-2](#)

For a full list of replacement parts please refer to [Appendix C-10](#)



INTEGRAL RELIEF VALVE/10" FILL
LESS THAN 1 LITER LEAKAGE
SET PRESSURE ADJUSTMENT
INCREASED FLOW RATE
SECONDARY SAFETY LATCH

Betts 12" X 16" Elliptical PAF 406-98 Manhole with Integral Relief Valve Model L712-Standard

PAF manholes with integral latch style surge suppression relief valves are designed for use on DOT406 and replacement on MC306 specification cargo tanks. Elliptical manholes can only be used with compartments less than 400 gallons. Manholes are certified and marked in accordance with 49CFR178.345-5 with a test pressure of 36 psig. Manhole covers are 7 gauge steel or stainless and are secured to the tank weld collar with a clamp ring and bolt which can be easily removed to provide access into the tank.

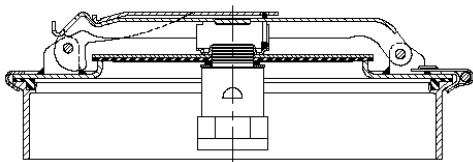
The integral 10" relief valve provides emergency pressure relief and meets the 1 liter surge leakage limit imposed by 49CFR178.345-10(b) (3)(ii). The relief valve also serves as a 10" latch style fill which can be easily opened to provide access for filling the tank or for inspection. Relief valves contain an adjustment feature to allow for fine-tuning of set pressure in the field. Other standard features include a heavy duty clamp ring, secondary safety latch and **Model 6496ALB** pressure-vacuum vent mounted in the 10" relief valve cover.

For ordering information please refer to **Appendix S-2**
For replacement parts please refer to **Appendix C-11**

16" and 20" Round Inspection Manhole

Easily installed, less maintenance, and low cost. Made of heavy gauge metal and welded construction minimizes maintenance.

For ordering information please refer to **Appendix S-2 and S-5**
For a list of gaskets and other replaceable parts please refer to **Appendix C-12 and C-25**



LIGHT WEIGHT
LESS MAINTENANCE
LOW SILHOUETTE

Betts 16" and 20" Round Manhole with 10" Fill Model 8016

The 16" Manhole is fabricated for lighter weight and greater strength. The advanced design has low silhouette and clean lines. Fill gasket will not pull out; is easily replaced. To compensate for wear, tension on fill cover is easily adjusted by adding shim washers. Hinge pins welded in place to prevent removal. Adequate means provided for use of seal wire. One outside clamping ring provides means for attaching cover to collar. Cover may be oriented throughout 360°. Secondary Latch is standard on all assemblies. A heavy-duty 20" model is also available.

For ordering information please refer to **Appendix S-2 and S-5**
For a list of gaskets and other replaceable parts please refer to **Appendix C-13 and C-26**

**Betts 16" & 20" PAF450 Manhole with Pressure Relief Valve
Models: Standard and Self-Latching**

PAF Manholes with Model PAF450 10" Pressure Relief Valve are certified for use on MC306 cargo tanks. Manholes are certified and marked in accordance with 49CFR178.345-5 with test pressure of 36 psig.

Per 49CFR180.405(h)(3), PAF450 assemblies may not be installed on MC306 cargo tanks after August 31, 1998. However, relief valves installed on MC306 cargo tanks on or before August 31, 1998, may be repaired if required. PAF450 relief may be installed on non-specification tanks or in tanks built in countries other than the United States where regulations permit.

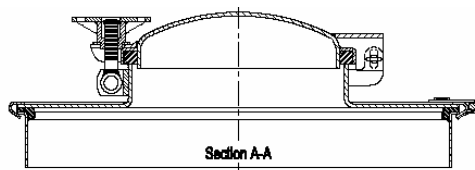
Relief valve also serves as a 10" latch style fill which can be easily opened for filling the tank or for inspection. Standard features include heavy duty clamp ring, secondary safety latch and **Model 6238AL** Normal Vent. Manholes are also available with a self-latching feature which allows the Pressure Relief Valve cover to open only 91° and drop closed and securely latch upon movement of the tank if the cover is inadvertently left open. *No provision has been made for venting of product due to overfilling.

For a complete breakdown of replacement parts on all available models please refer to **Appendix C-14, C-15, C-27, and C-28**

For ordering information on all available models please refer to **Appendix S-2, S-3, and S-5**



NORMAL VENT
WROUGHT STEEL COVER
SECONDARY SAFETY
LATCH
HEAVY DUTY CLAMP RING



25 PSIG YIELD PRESSURE
MOUNT TO 20" PAF WELD COLLARS
HEAVY DUTY CLAMP RING



Betts 16" & 20" Hot Product Manhole with 10" Fill

Hot Product Manholes are designed for use on tanks hauling elevated temperature materials and are rated with a 25 PSIG yield pressure to meet the requirements of 49CFR 173.247(g)(2), which states:

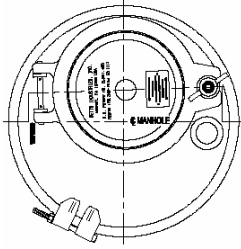
"...Closures must be designed and constructed to withstand, without exceeding the yield strength of the packaging, twice the static loading produced by the lading in any packaging orientation and at all operating temperatures."

Hot Product Manholes are designed to retrofit existing PAF Manholes on elevated temperature tanks in order to bring them into compliance with the current closure requirements, as well as for new construction tanks.

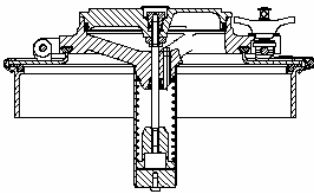
he design features a 10" fill to provide tank access for filling or inspection and a heavy duty clamp ring which can be removed to provide access into the tank. Steel assemblies are black epoxy coated for corrosion resistance.

For a complete breakdown of replacement parts please refer to **Appendix C-16 and C-29**

For ordering information on all available models please refer to **Appendix S-3 and S-5**



DUAL RATED DOT406/MC306
8" RELIEF VALVE WITH INTEGRAL
10" FILL
MEETS 49 CFR 178.345-10(b)(3)(ii)
NORMAL VENT WITH WEATHER
HOOD



16" & 20" Manhole - Standard/Fill Style with 8" Surge Suppression Relief Valve

PAF manholes and 8" Surge Suppression Relief Valves are designed and certified for use on DOT406 and MC306 specification cargo tanks. Manholes are certified and marked as meeting 49CFR178.345-5 with a test pressure of 36 psig. Manhole covers are 7 gauge steel or stainless and are secured to the tank weld collar with a heavy duty clamp ring and bolt which can be easily removed to provide access into the tank.

The model 8276ALTS Surge Suppression Relief Valve provides emergency pressure relief and its dual ratings permit its use on both DOT406 and MC306 tanks. Surge Suppression Relief Valves meet the 1 liter surge leakage limit imposed by 49CFR178.345-10(b)(3)(ii). The relief valve also features a 10" fill which can be easily opened to provide access for filling the tank or for inspection. A secondary safety feature is built into the fill to prevent it from opening fully if it is released when the tank is pressurized. Surge Suppression Relief Valves are constructed of stainless steel and epoxy coated aluminum to minimize corrosion and feature Teflon encapsulated O-rings for compatibility with a wide range of products.

Available as an offset model

DBL offers a wide array of replacement parts, please refer to **Appendix C-17, C-18, C-30 and C-31** to see a breakdown of various models

For ordering information on these various 16" and 20" manholes please refer to **Appendix S-3 and S-6**

16" & 20 Manhole - Standard/Bolted Style with 8" Surge Suppression Relief Valve

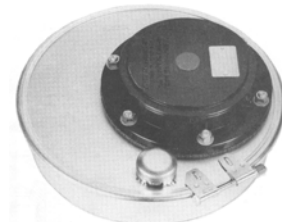
PAF manholes and 8" Surge Suppression Relief Valves are designed and certified for use on DOT406 and MC306 specification cargo tanks. Manholes are certified and marked as meeting 49CFR178.345-5 with a test pressure of 36 psig. Manhole covers are 7 gauge steel or stainless and are secured to the tank weld collar with a heavy duty clamp ring and bolt which can be easily removed to provide access into the tank.

The **Model 8276ALTS** Surge Suppression Relief Valve provides emergency pressure relief and its dual ratings permit its use on both DOT406 and MC306 tanks. Surge Suppression Relief Valves meet the 1 liter surge leakage limit imposed by 49CFR178.345-10(b)(3)(ii). The relief valve is bolted to the manhole and can be removed from the manhole without entering the tank to provide an 8" opening in the manhole for inspection or adjustment of other accessories which may be mounted in the manhole. Surge Suppression Relief Valves are constructed of stainless steel and epoxy coated aluminum to minimize corrosion and feature Teflon encapsulated O-rings for compatibility with a wide range of products.

Available as an offset model

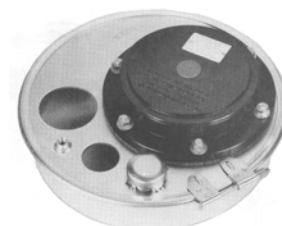
DBL offers a wide array of replacement parts, please refer to **Appendix C-19, C-20, C-32, and C-33** for various manhole configurations

For ordering information on these various 16" and 20" manholes please refer to **Appendix S-3, S-4, and S-6**



Standard/Fill Style

DUAL RATED DOT406/MC306
8" RELIEF VALVE WITH INTEGRAL
10" FILL
MEETS 49 CFR 178.345-10(b)(3)(ii)
NORMAL VENT WITH WEATHER
HOOD



Offset/Fill Style

Betts 16" & 20" PAF 406-98 Manhole with Integral Relief Valve/10" Fill

PAF manholes with integral latch style surge suppression relief valves are designed for use on DOT406 and replacement MC306 specification cargo tanks. Manholes are certified and marked in accordance with 49CFR178.345-5 with a test pressure of 36 psig. Manhole covers are 7 gauge steel or stainless and are secured to the tank weld collar with a clamp ring and bolt which can be easily removed to provide access into the tank.

The integral 10" Relief Valve provides emergency pressure relief and meets the 1 liter surge leakage limit imposed by 49CFR178.345-10(b) (3)(ii). The relief valve also serves as a 10" latch style fill which can be easily opened to provide access for filling the tank or for inspection. Relief valves contain an adjustment feature to allow for fine tuning of set pressure in field. Other standard features include a heavy duty clamp ring, secondary safety latch and **Model 6496ALB** pressure-vacuum vent mounted in the 10" relief valve cover.

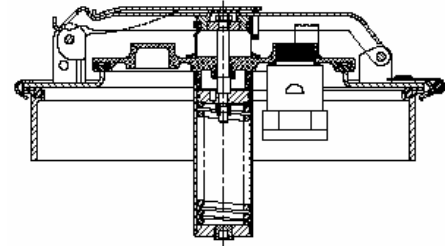
Manholes are available with a self-latching feature that allows the 10" relief valve/fill cover to drop and securely latch upon movement of the tank if the cover is inadvertently left open. For self-latching model substitute L742 for L716 in assembly number.

PAF 406-98 Available as Standard or Self Latching. Available as an Offset Manhole upon request.

For replacement parts on all available models please refer to **Appendix C-21, C-22, C-34 and C-35**

For ordering information please refer to **Appendix S-4, S-6, and S-7**

INTEGRAL RELIEF VALVE/10" FILL
LESS THAN 1 LITER LEAKAGE
SET PRESSURE ADJUSTMENT
INCREASED FLOW RATE
SECONDARY SAFETY LATCH



Pressure Relief Valve setting 3.63 psig
Rated Pressure Actuated Emergency Venting:
494,084 cu. ft. free air per hour @ 6.25 psig
Rated Liquid Flow Capacity
1335 GPM @ 5.0 psig

REPLACEMENT FOR PAF 9000 MODELS
INTEGRAL 10" FILL/PRESSURE RELIEF
VALVE WITH MC306 SET PRESSURE
LESS THAN 1 LITER LEAKAGE
SECONDARY SAFETY LATCH

Betts 16" & 20" PAF 306-98 Manhole with Integral Relief Valve/10" Fill

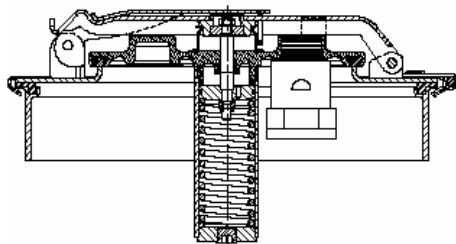
PAF manholes with integral latch style surge suppression relief valves are designed for use on DOT406 and replacement MC306 specification cargo tanks. Manholes are certified and marked in accordance with 49CFR178.345-5 with a test pressure of 36 psig. Manhole covers are 7 gauge steel or stainless and are secured to the tank weld collar with a clamp ring and bolt which can be easily removed to provide access into the tank.

The integral 10" Relief Valve provides emergency pressure relief and meets the 1 liter surge leakage limit imposed by 49CFR178.345-10(b) (3)(ii). The relief valve also serves as a 10" latch style fill which can be easily opened to provide access for filling the tank or for inspection. Relief valves contain an adjustment feature to allow for fine tuning of set pressure in field. Other standard features include a heavy duty clamp ring, secondary safety latch and **Model 6238ALB** pressure-vacuum vent mounted in the 10" relief valve cover.

Manholes are available with a self-latching feature that allows the 10" relief valve/fill cover to drop and securely latch upon movement of the tank if the cover is inadvertently left open. For self-latching model substitute L742 for L716 in assembly number.

PAF 406-98 Available as Standard or Self Latching. Also available as an Offset Manhole.

For replacement parts on all available models please refer to **Appendix C-23, C-24, C-36 and C-37** to see a breakdown of parts for these items
For ordering information please refer to **Appendix S-4 and S-7**



Pressure Relief Valve setting 3.0 psig
Rated Pressure Actuated Emergency Venting:
250,000 cu. ft. free air per hour @ 5.0 psig
Rated Liquid Flow Capacity 1012 GPM @ 5.0 psig

Refer to appendix number for a **full parts breakout** and **ordering information** on all chemical manholes

Betts 10" Pressure FIII

Model 8370

Threaded hold-downs and 6" or 10" collar.

Appendix C-38

Appendix S-7



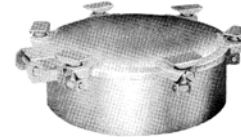
Betts 20" Full Opening Manhole

Model 8310

Threaded hold-downs, heavy duty hinges, and 4", 6", or 10" collar. Full 20" opening allows for safe entrance for cleaning and inspecting tank.

Appendix C-39

Appendix S-8



Betts 20" Full Opening Manhole

Model 8327

Threaded hold-downs, low profile, 4", 6", or 10" high collar available. Full 20" opening allows for safe entrance for cleaning and inspecting tank.

Appendix C-40

Appendix S-8



Betts 10" Pressure FIII (ASME Type)

Model 8368

ASME symbol and data provided, threaded hold-downs, and 6" or 10" collar available. Conforms to ASME Section VIII, Division 1.

Appendix C-43

Appendix S-9



10" Pressure FIII (ASME Type)

Model 8369

ASME symbol and data provided, threaded hold-downs, and 6" or 10" high collar. Conforms to ASME Section VIII, Division 1.

Appendix C-43

Appendix S-9



20" Full Opening Manhole with 10" FIII (ASME Type)

Model 8387

ASME symbol and data provided, threaded hold-downs, and 6" or 10" high collar. Conforms to ASME Section VIII, Division 1.

Appendix C-44

Appendix S-9



20" Full Opening Manhole (ASME Type)

Model 8350

ASME symbol and data provided, threaded hold-downs, and 6" or 10" high collar. Conforms to ASME Section VIII, Division 1.

Appendix C-45

Appendix S-9



20" Full Opening Manhole

Model 8355

Threaded hold-downs, 6" or 10" high collar available. Full 20" opening allows for safe entrance for cleaning and inspecting tank.

Appendix C-46

Appendix S-10



10" Pressure FIII (ASME Type)

Model 8261

ASME symbol and data provided, threaded hold-downs, and 6" or 10" high collar. Conforms to ASME Section VIII, Division 1.

Appendix C-47

Appendix S-10



20" Full Opening Manhole (ASME Type)

Model 8205

ASME symbol and data provided, threaded hold-downs, and 6" or 10" high collar. Conforms to ASME Section VIII, Division 1.

Appendix C-48

Appendix S-10



20" Full Opening Manhole with 10" FIII (ASME Type)

Model 8260

ASME symbol and data provided, threaded hold-downs, 6" or 10" high collar available, and designed for rubber lining. Conforms to ASME Section VIII, Division 1.

Appendix C-49

Appendix S-10



20" Full Opening Manhole (ASME Type)

Model 8380

ASME symbol and data provided, threaded hold-downs, and 6" or 10" high collar available. Conforms to ASME Section VIII, Division 1.

Appendix C-50

Appendix S-10



24" Full Opening Manhole (ASME Type)

Model 8324

ASME symbol and data provided, threaded hold-downs, and 6" or 10" high collar available. Conforms to ASME Section VIII, Division 1.

Appendix C-51

Appendix S-11



16" Full Opening Manhole (ASME Type)

Model 8303

ASME symbol and data provided, threaded hold-downs, and 6" or 10" high collar available. Conforms to ASME Section VIII, Division 1.

Appendix C-52

Appendix S-11



18" Full Opening Manhole (ASME Type)

Model 8418

ASME symbol and data provided, threaded hold-downs, and 6" or 10" high collar available. Conforms to ASME Section VIII, Division 1.

Appendix C-53

Appendix S-11



Parts breakouts for all manholes can be found in **Appendix C-1 thru C-53**.
Ordering information for all chemical manholes can be found in **Appendix S-7 thru S-11**.

PPV VENT
FLOW RATED & MARKED
THREADED HOLD-DOWNS
6" (152.4mm) HIGH
COLLAR PROVIDED

Betts 20" Full Opening Manhole with 10" Relief Valve (PAF 450 Style) Model 9730

Betts 20" full opening manholes are fabricated for greater strength and less weight. Full 20" opening assures safe entrance for inspection or cleaning of tank.

The "Pressure Relief Valve" is set to open at not less than 3 psig and at 5 psig provides a capacity of 375,000 cubic feet of free air per hour of the emergency venting for fire exposure as required by DOT MC306 and NFPA385 and 407*.

For a list of replacement parts and full breakout please refer to **Appendix C-41**
For ordering information please refer to **Appendix S-8**



Betts 20" Full Opening Manhole with 8" Relief Valve Model 8311

Betts 20" full opening manhole is fabricated for greater strength with less weight. Full 20" opening assures safe entrance for inspection or cleaning of tank. Head is interchangeable with Betts Model 8310 manhole heads to allow for easy tank conversion from DOT406 to DOT 407 or DOT 412.

Model 8277ALTS 8" Bolted Surge Suppression Pressure Relief Valve provides emergency pressure relief in accordance with DOT 406 requirements and meets the 1-liter surge leakage limit imposed by 49CFR178.345-10(b)(3)(ii). Relief valve is constructed of stainless steel and epoxy coated aluminum to minimize corrosion and features Teflon encapsulated seals for compatibility with a wide range of products.

Pressure Relief Valve Setting 3.63 psig.
Rated Pressure Actuated Emergency Venting: 426,409 cu. ft. free air per hour @ 6.25 psig.
Rated Liquid Flow Capacity: 1205 GPM @ 5.0 psig.

For a list of replacement parts and full breakout please refer to **Appendix C-42**
For ordering information please refer to **Appendix S-8**



Parts breakouts for all manholes and many other items can be found in the Appendix. Please refer here for replacement parts.

Meters/Registers

Liquid Controls M-7 Meters..... 157

LCMag Meters..... 157

Mid:Com BV-188..... 157

Mid-Com 6500/6501B Boards..... 158

Neptune Red Seal Meters (400 Series) replacement parts..... 158

Smith Meters Replacement Parts..... 158

Veeder-Root..... 159

Special Orders..... 159

Liquid Controls M-7 Meters

Liquid Controls M and MA Series rotary motion positive displacement (PD) meters offer the ultimate in measurement accuracy for custody transfer of petroleum products, aviation fuels, LPG, and a broad range of industrial liquids.

Superior Performance Features

Low pressure drop - will operate on gravity flow or pump pressure. **Sustained accuracy** and no metal-to-metal contact inside the measuring chamber means minimal wear and deterioration in accuracy over time, fewer recalibrations, and longer service life. Meters conform to NIST and International Weights and Measures accuracy requirements.

Wide viscosity range - LC meters can accurately meter products from less than 30 SSU (less than 1 centipoise) to 1,500,000 SSU (325,000 centipoise).

Maximum adaptability - choice of stock or custom elbows/fittings provides unequaled mounting flexibility to meet widely varying installation requirements.

For a full breakdown of LC M-7 Meters and accessories please refer to [Appendix E-1 thru E-10](#)



LCMag Meters



The LCMag family of electromagnetic flow meters offers the best solution for measuring the flow of electrically conductive liquids (5 μ S/cm minimum). A production sensor consists of a stainless steel pipe section internally lined with insulating material. PTFE, Polypropylene and Ebonite (hard rubber) liners are available. The two electrodes are positioned opposite each other on the internal surface of the pipe. The coils which generate the magnetic field are placed outside the pipe. The complete sensor has an external NEMA 6-6P (IP67/68) protection rating which guarantees the integrity of the magnetic circuit and protects the instrument against the external environment. The choice of materials in contact with the fluid (lining, electrodes, etc.) depends on the temperature, the chemical aggressiveness of the liquid and the degree of abrasion of the liquid.

The LCMag family consists of five types of electromagnetic flow meters for specific applications. The five models include microflow, wafer, sanitary, flanged, and insertion meters. The units are offered in a wide variety of sizes and flow ranges for many industrial as well as OEM applications.

For more information call DBL today to see which LCMag Meter is right for you.

Mid:Com BV-188

Electric, two stage solenoid valve.

For a complete list of replacement parts see [Appendix K-45](#)

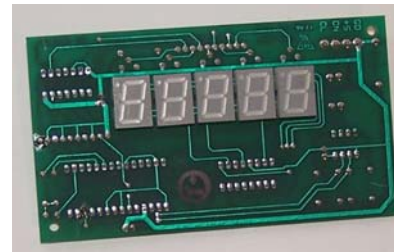
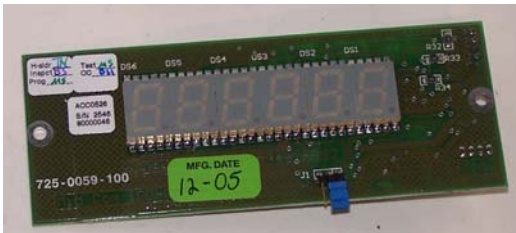
Part#	Description
MID125-0024	Small Gasket
MID125-0025	Large Gasket
MID125-0027	Small U-Cup
MID125-0029	Large U-Cup



Mid:Com 6500/6501B Boards

Stocking boards and parts for all Mid:Com computing registers.

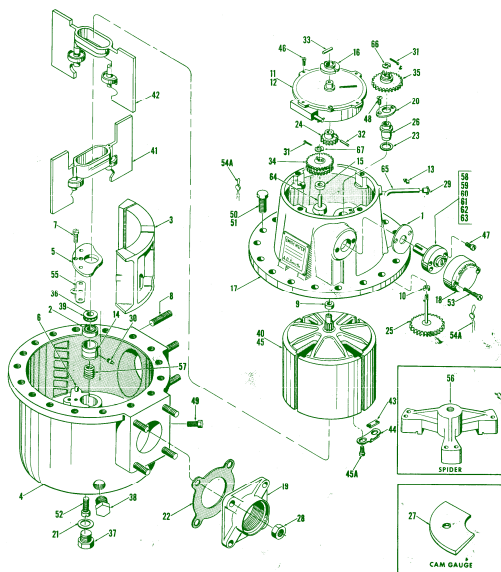
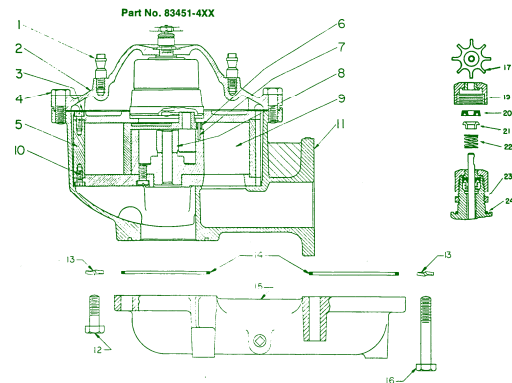
Part#	Description
MID800-0007	Display Board
MID800-0018	Head Board
MID800-0026	Preset Board



Neptune Red Seal Meters (400 Series) Replacement Parts

DBL carries replacement parts for the 2" type 4 compact meter (with air release and strainer) and the 2" type 40 meters (without air release and strainer)

Please refer to **Appendix E-11** for a detailed parts breakout.



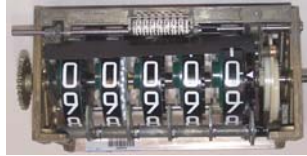
Smith Meters Replacement Parts

DBL offers replacement parts for Smith Meters models T-6, T-7, T-10, T-10NF, and T-11NF. To determine what replacement parts you may need please refer to our **Appendix E-13** for a full parts breakout.

Rebuilt Veeder-Root Register Only On Exchange

Part# PMP31007

Factory rebuilt mechanical register for use on fuel delivery trucks.



Rebuilt Veeder-Root Register/Printer on Exchange

Part# PMP31012

Factory rebuilt register and printer combination printer as used on retail fuel delivery trucks.

Parts Breakout Appendix E-19



Rebuilt Veeder-Root Printer On Exchange

Part# PMP31004

Factory rebuilt mechanical printer for use on retail fuel delivery trucks.



Veeder-Root Rebuilt Five Wheel Preset Exchange

Part# PMP7889RX

Factory rebuilt five wheel mechanical preset as used on retail delivery trucks.



Veeder-Root New Style Register Bezel

Part# PMPV/RBEZEL

Clear replacement bezel for new style mechanical register.



Veeder-Root New Style Totalizer

Part# PMPV/RTOT

Replacement totalizer for new style mechanical register.



Petroleum Handling Equipment

Betts Emergency Valves.....	161-163
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Philly Nozzle, Parts, Valves, Etc.....	168-172
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3" & 4" Emergency Valve Aluminum Tapered Seat Style

Betts tapered seat emergency valves are designed and manufactured to use Teflon encapsulated seals for compatibility with a wide range of products. Body is constructed of aluminum with stainless steel trim. Shear section tested per TTMA RP84 and meets 49CFR178.345-8.

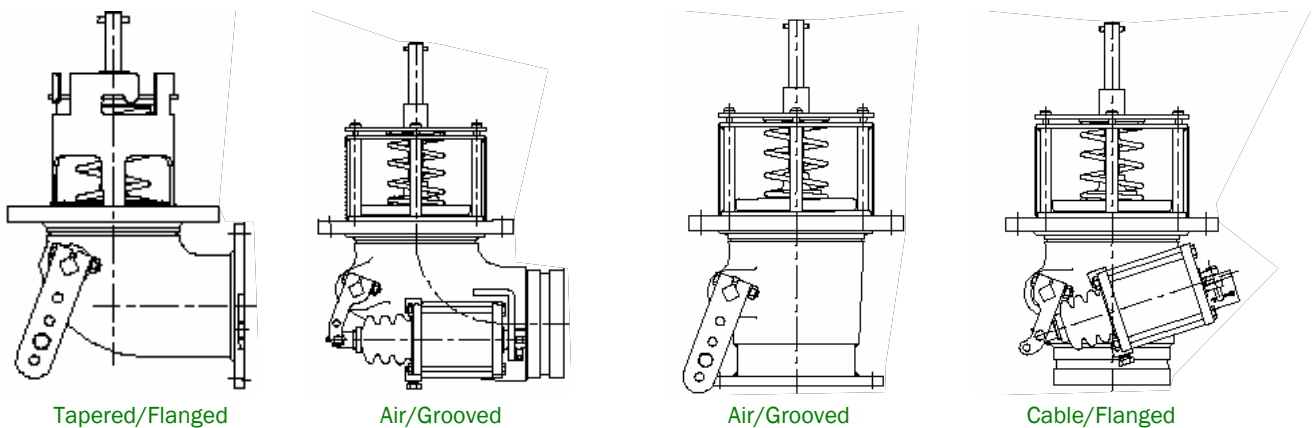
Air operated valves are provided with an external air cylinder to help prevent gasoline or other products from contaminating the air supply. The air cylinder is hard-coated aluminum with a polished stainless steel shaft. Cylinders have 1/8" NPT port for air connection and are supplied with a fusible plug installed.

Cable operated valves are supplied with a universal lever arm which provides up to 8 cable travel options to work with most operators. Lever arm is "E" Coated to provide exceptional corrosion resistance. Left-hand valves are available with air cylinder or cable lever arm on opposite side of valve.

Air/grooved or cable/flanged by 90° elbow or straight.

For ordering information please refer to **Appendix S-20**

For a full parts breakout on replacement parts please refer to **Appendix K-29 and K-30**



3" & 4" Emergency Valve Aluminum 6" X 4" High Flow

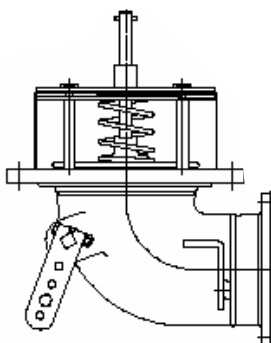
Betts High Flow Emergency valves provide increased flow rates compared to 4" emergency valves. Valves feature Teflon encapsulated seals for compatibility with a wide range of products and a special lift mechanism for smooth operation. Body is constructed of aluminum with stainless steel trim. Shear section tested per TTMA RP84 and meets 49CFR178.345-8.

Air operated valves are provided with an external air cylinder to help prevent gasoline or other products from contaminating the air supply. The air cylinder is hard-coated aluminum with a polished stainless steel shaft. Cylinders have 1/8" NPT port for air connection and are supplied with a fusible plug installed.

Available in Long-Radius and Short-Radius elbows. Use the Long-Radius for maximum flow or use the Short-Radius where clearance for piping is restricted. Left-hand valves are available with air cylinder or cable lever arm on opposite side of valve.

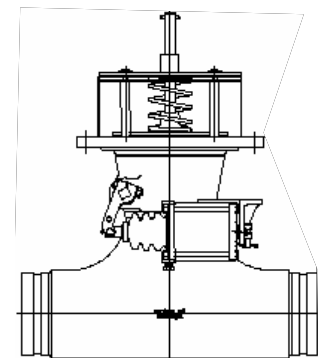
For ordering information please refer to **Appendix S-20 and S-23**

For a full parts breakout on replacement parts please refer to **Appendix K-30**



Short Radius Cable/Flanged

Air or Cable Operated
Stainless Trim
Teflon Encapsulated
Seals



Tee Air/Grooved

Emergency Valve 3", 4" & 6" Aluminum Internal Air, Tapered Seat Style

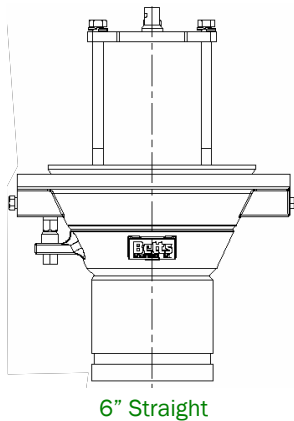
Betts internal air emergency valves are designed and manufactured to use Teflon[®] encapsulated seals for compatibility with a wide range of products. Body is constructed of aluminum and meets 49CFR178.345-8-shear section test per TTMA RP 84. Air inlet fitting shears with shear section to dump air pressure and insure the valve closes in case of an under-ride accident. Fusible plug installed in valve to dump air pressure in case of a fire. Internal air cylinder saves space on exterior of valve providing maximum clearance for piping. Air cylinder diameter is 4" for 6" valve and 3" for the 3" and 4" valve. Air cylinder is hard coated with hard-anodized shaft and guide. Valves have 1/8" NPT ports for air connection. Valves are equipped with a Stainless Steel jackscrew that allows for manual operation of the valve in case of an air system failure.

For ordering information please refer to **Appendix S-21 and S-22** for available models

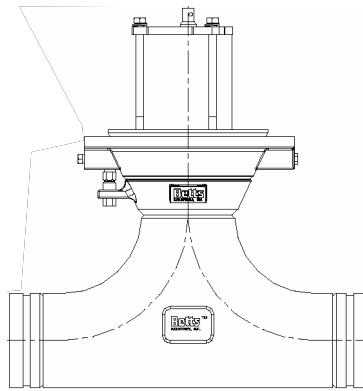
Full parts breakdowns for replacement parts available in **Appendix K-31 and K-32**. Please feel free to call one of our knowledgeable staff if you have any questions regarding any Betts Valve

4" Valves Not Pictured

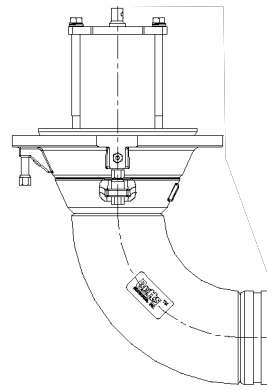
Internal Air Cylinder Frangible Air Inlet Teflon Encapsulated Seals Hard Anodized Wear Parts



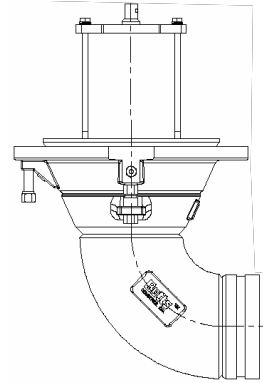
6" Straight



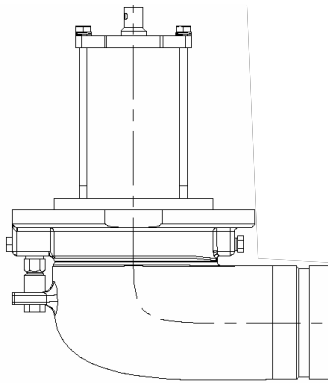
6" Tee



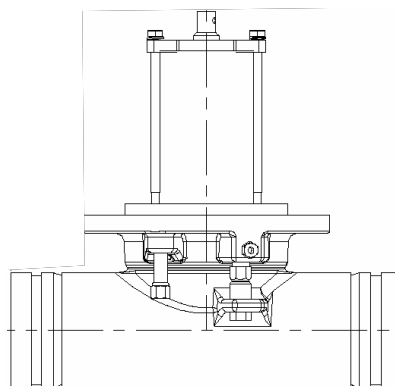
6" Elbow Long Radius



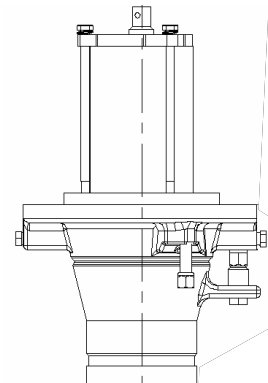
6" Elbow



3" Elbow



3" Tee



3" Straight

3" & 4" Betts Stainless Steel Emergency Valve

Betts Stainless Steel Emergency Valves are equipped with Teflon encapsulated O-ring seals which are compatible with a wide range of products. The tapered seat is self-cleaning to lessen the possibility of seat damage due to foreign objects. The stuffing box features two O-ring seals to provide positive sealing.

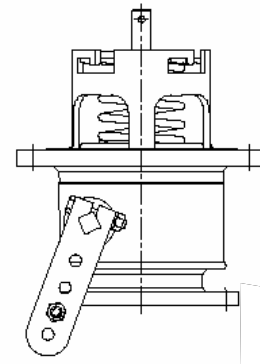
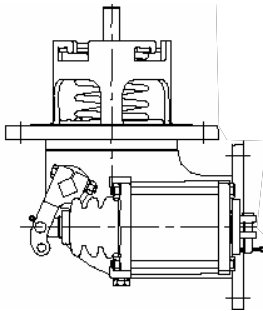
Air operated valves are provided with an external air cylinder to help prevent gasoline or other products from contaminating the air supply. The air cylinder is hard-coated aluminum with a polished stainless steel shaft. Cylinders have 1/8" NPT port for air connection and are supplied with a fusible plug installed.

Available in a 3" or 4" Straight or 90° Elbow. Straight Valves are cable operated only.

For ordering information please refer to **Appendix S-19**

For a complete parts breakdown for available replacement parts please refer to **Appendix K-27**

Air or Cable Operated
Tapered Seat
Teflon Encapsulated
Seals



3" & 4" Betts Emergency Valve Aluminum Flat Seat Style

Betts flat seat style emergency valves combine Betts quality with an economical design. Valves feature aluminum construction with a specially designed seat disc to provide positive sealing. Shear section tested per TTMA RP84 and meets 49CFR178.345-8.

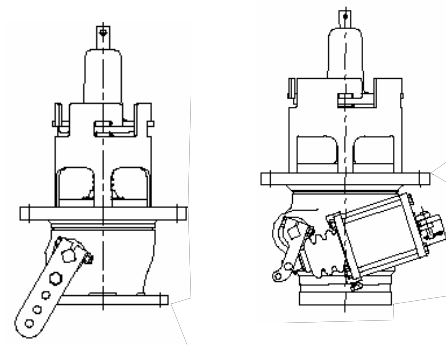
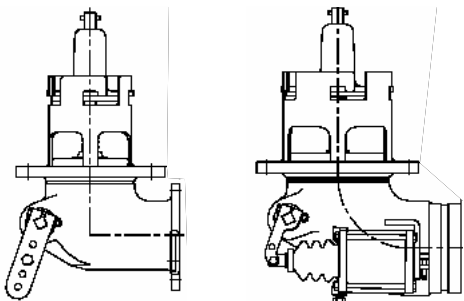
Air operated valves are provided with an external air cylinder to help prevent gasoline or other products from contaminating the air supply. The air cylinder is hard-coated aluminum with a polished stainless steel shaft. Cylinders have 1/8" NPT port for air connection and are supplied with a fusible plug installed. Cable operated valves are supplied with a universal lever arm which provides up to 8 cable travel options to work with most operators. Lever arm is "E" Coated to provide exceptional corrosion resistance. Left-hand valves are available with air cylinder or cable lever arm on opposite side of valve.

Available cable/flanged or air/grooved by 90° elbow or straight.

For ordering information please refer to **Appendix S-19**

For replacement parts please refer to **Appendix K-28**

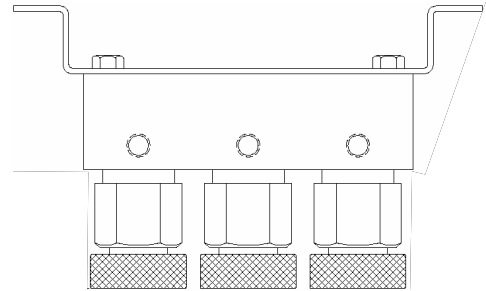
Air or Cable Operated
Groove or Flange Outlet
Buna Urethane or Viton
Seals



Betts Air Distributor
Part# AD25011

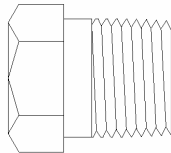
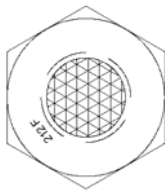
Betts Air Distributors have quick-acting 1/4 turn valves. Each valve operates independently and has long lasting composition discs. Mounting bracket furnished on all distributors. Available with up to 8 compartments.

See **Appendix K-46** for parts breakout



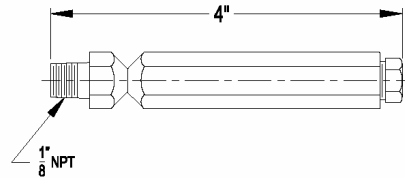
Fusible Plug
Part# FP15003BR

Thawing of plug dumps air and closes all emergency valves and air operated valves.



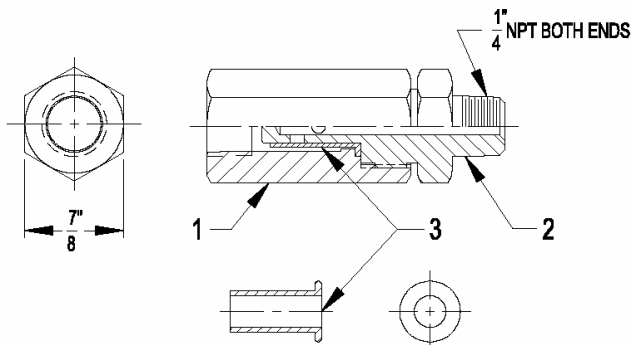
Fusible & Frangible Plug
Part# FP15017BR

Breaking of frangible device or thawing of plug dumps air and closes all emergency valves and air operated valves.



Check Valve
Part# CK25107BR

Used in conjunction with hand pump to check return air.



No.	Description	Req.	Part No.
1	Body	1	16896BR
2	Stem	1	16897BR
3	Sleeve	1	16007BN

Air Cylinder
Part# AC35005ALB

Used as an external air cylinder for air operated valves. This helps prevent gasoline or other products from contaminating the air supply. The air cylinder is hard-coated aluminum with a polished stainless steel shaft. Cylinders have 1/8" NPT port for air connection and are supplied with a fusible plug installed.

See **Appendix R-1**

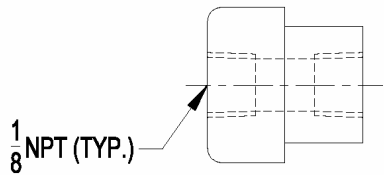
Pressure Gauge
Part# PG16349MS

Gauge has 1/8" N.P.T. fitting.



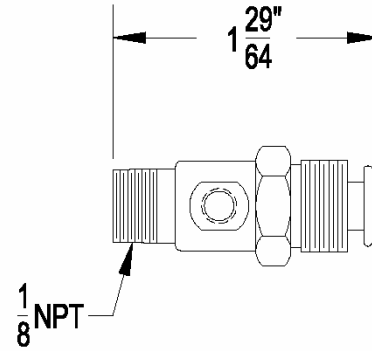
Attach Fitting
Part# 15021MS

Used as a mounting device for the fusible and frangible plug.



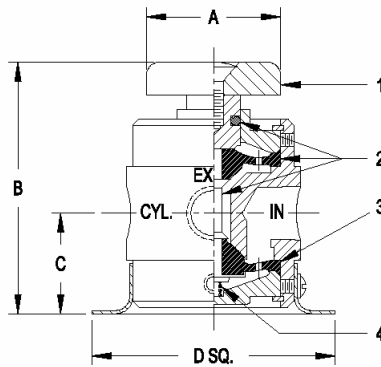
Interference Control Valve
Part# IC17128BR

Closes all emergency valves when plunger is actuated by cabinet door or other means.



Master Control Valve

The Master Control Valve is a push button type on-off valve, spring loaded to the closed position. It is designed for use when the emergency valve air system is operated with air from the brake system.



Description	A	B	C	D	Material	Wt.	Assembly No.
Master Control Valve	1 1/4	2 3/8	15/16	2 1/4	Steel/Buna-N	.8	MC 16350 CP-B

Parts List

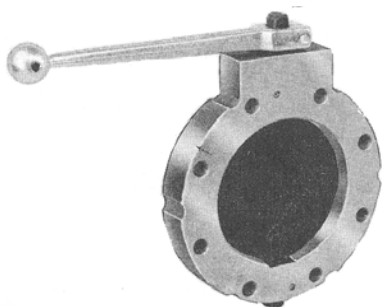
No.	Description	Req'd.	Material	Part No.
1	Knob	1	Alum.	16917AL
2	Stem & Diaphragm	1	Brass	17379BR
3	Perforated Diaphragm	1	Buna-N	17379BN
4	Spring	1	Steel	17379MS

Betts Wet-R-Dri Valve (TTMA Style) **Standard and Detent**

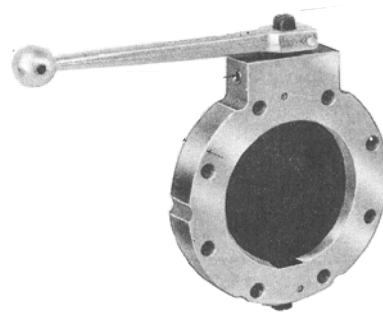
The Betts Wet-R-Dri valve is designed for handling liquid, gaseous or dry products, and is available in a variety of sizes and models. This space saving valve is lightweight, easily maintained, and has a positive stop in the open and closed position. The detent model has a detent spring and ball which assist in holding the disc in the open and closed position.

For ordering information please refer to **Appendix S-24**

For replacement parts please refer to **Appendix K-22**



Standard



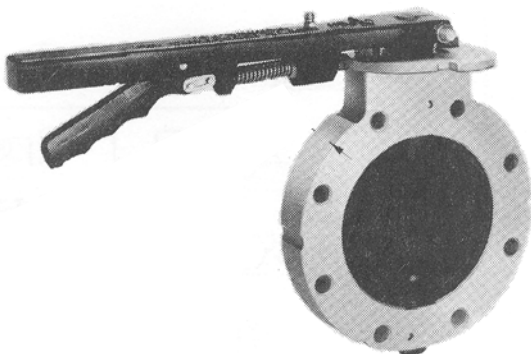
Detent

Betts Wet-R-Dri Valve (TTMA Style) **Locking and Metering**

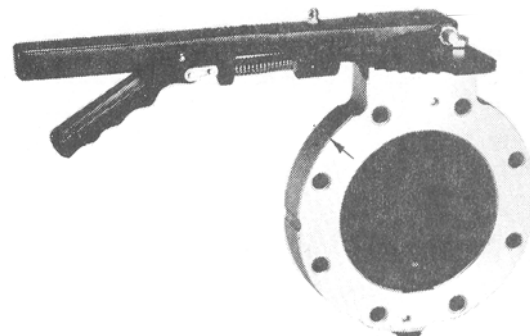
The Betts Wet-R-Dri Valve is designed for handling liquid, gaseous or dry products, and is available in a variety of sizes and models. This space saving valve is lightweight, easily maintained, and has a positive stop in the open and closed position. The Locking model has a 2 notch indexing plate which locks disc in the open or closed positions. The Metering model has a 10 notch indexing plate which allows disc to be positioned in 10 various positions.

For ordering information please refer to **Appendix S-25**

For replacement parts please refer to **Appendix K-23**



Locking



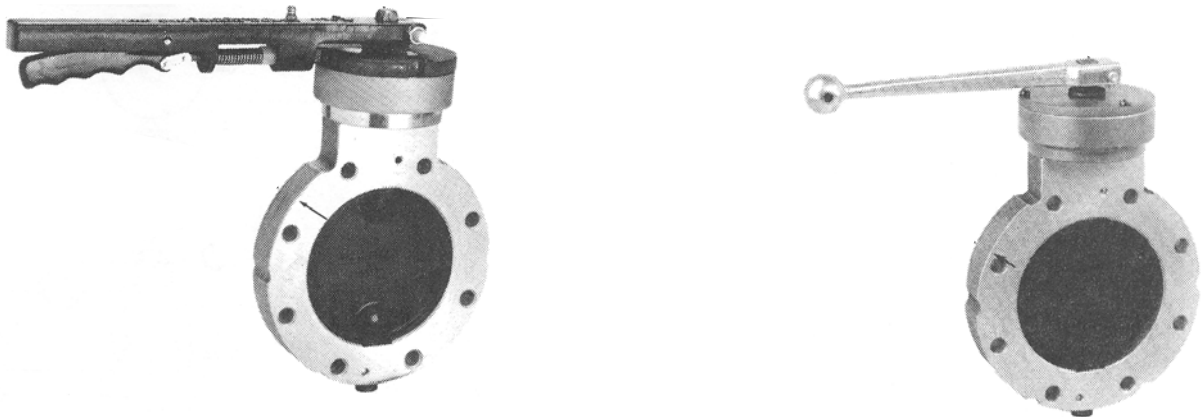
Metering

Betts Wet-R-Dri Valve (TTMA Style)
Locking Type Spring Loaded and Spring Loaded

The Betts Wet-R-Dri Valve is designed for handling liquid, gaseous or dry products, and is available in a variety of sizes and models. This space saving valve is lightweight, easily maintained, and has a positive stop in the open and closed position. Both spring loaded valves provide an immediate and positive shut off. The locking type permits valve to be mechanically held open while the spring loaded type can be used for remote operation or as a dead man valve.

For ordering information please refer to **Appendix S-26**

For replacement parts please refer to **Appendix K-24**

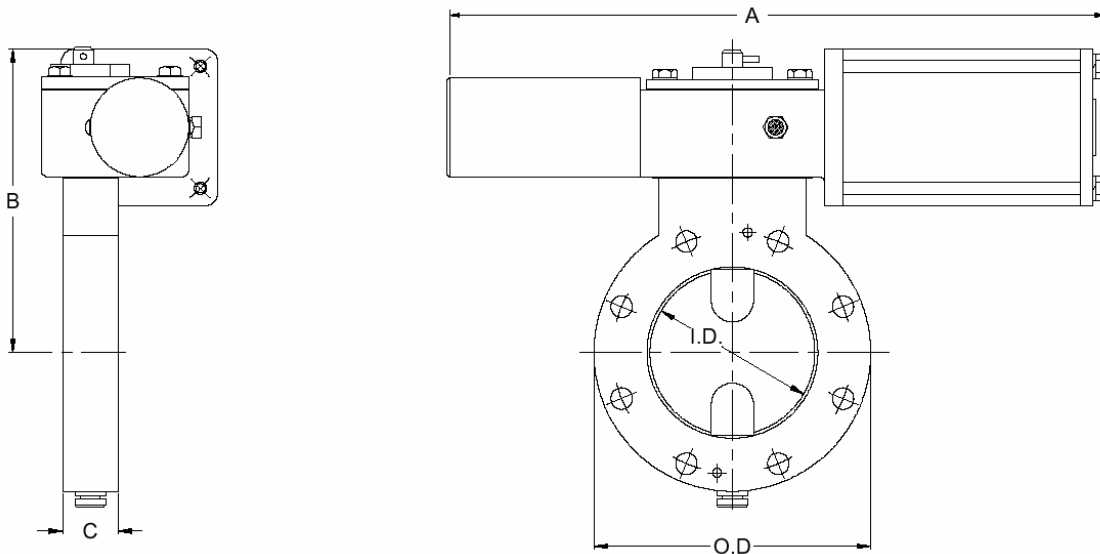


Betts Wet-R-Dri Valve (TTMA Style)
Air Operated

The Betts Wet-R-Dri Valve is designed for handling liquid, gaseous or dry products, and is available in a variety of sizes and models. This space saving valve is lightweight, easily maintained, and has a positive stop in the open and closed position. The air operated valve is opened and closed by air. The air-spring operated valve can be sold as either an air to open, spring return valve or as an air to close spring to open valve. Please specify.

For ordering information please refer to **Appendix S-27**

For replacement parts please refer to **Appendix K-25 & K-26**



Flow Control Valve Assembly

Part# **PHIA1996**

2" female inlet X 2" grooved outlet, Viton O-ring and poppet seal, automatic flow control, control pumping rate from nozzle, combination valve to meet Weights and Measures requirements, air operated.



Philly Air Inner Body

Part# **PHIA1997**

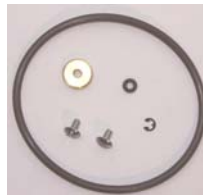
A 1997 air conversion kit.



Philly Seal Kit For Check Valve

Part# **PHIA1999**

Repair kit for flow control valve including o-rings and bushings.



Philly Air Valve For Check Valve

Part# **PHIA2000**

Replacement air switch for flow control valve. Inlet is 1-1/2" female swivel and outlet is NC1 brass connector.



Philly Nozzle Swivels

Extruded aluminum body, Stainless Steel ball bearings, three nylon bearing strips, felt dust seal, single seal O-ring, field repairable (kit# 10319), and weighs just 14 ounces.



Philly Nozzle Parts



Part#	Description
PHI10243-501	Philly 1-1-2" X Philly Thread (Old)
PHI10243-504	Philly 1-1/4" Male X Female Swivel
PHI12043-507	Philly 1-1/2" X Scully Swivel
PHI12043-509	Philly 1-1/2" Male Thread X Nozzle Thread
PHI12043-512	Philly 1-1/4" Outlet Swivel

Part#	Description
PHI3142	Control Rod O-Ring
PHI3145	Rod Bushing O-Ring
PHI3217	Control Rod
PHI3220	Shaft Bushing
PHI3224	Ball Seat
PHI3225	Nozzle Ball
PHI3226	Ball Retainer
PHI3227	Retaining Spring Washer
PHI3228	Retainer Washer
PHI3265	Check Valve O-Ring

Philly Complete Nozzle Repair Kit

Part# **PHI3416**

Includes all seals and hardware including latch and check valve to repair Philly nozzle.



Philly Nozzle Check Valve

Part# **PHI3502**

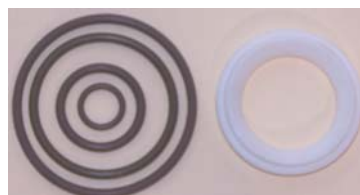
Check valve and o-ring for outlet of Philly nozzle.



Philly Seal Kit

Part# **PHI3415**

O-ring kit to repair Philly nozzle.



Philly Swivel Repair Kit

Part# **PHI10319**

Includes all parts to repair any Philly swivel.



Philly 1-1/2" X 1-1/4" Swivel Nozzle

Part# PHI2000-14

Philly ball valve type nozzle
1-1/2" swivel inlet x 1-1/4" swivel outlet.



Philly 1-1/2" X NC-1 Nozzle

Part# PHI2000

Philly ball valve type nozzle.
1-1/2" swivel inlet by NC-1 fast-fill connector.



Philly Nozzle Latch Assembly

Part# PHI3603

Replacement latch for all ball valve type nozzles.



Philly 1-1/2" X 1-1/4" Nozzle

Part# PHI2000-4

Philly ball valve type nozzle
1-1/2" swivel inlet x 1-1/4" fixed outlet.



Philly Latch Replacement Kit

Part# PHI3604

Includes all parts to install new style latch assembly on all types of ball valve nozzles.



Time Saving Fill 6" Nozzle Tube

Part# TSF100

6" x 1-1/4" steel speed-fill tube for connecting to bar type fills.



Time Saving Fill Cap Magnet

Part# TSF1000M

Plastic coated magnet used for unlocking lockable type house fill caps.

6" Bar Fill Tube with "X" Adapter

Part# TSF100X

6" steel bar fill tube with Scully-type adapter installed.



Time Saving Fill 7-1/4" Nozzle Tube Assembly

Part# TSF101

Steel tube for speed fill adapters.



Time Saving Fill 1-1/4" Aluminum Fill Tube

Part# TSF98

Aluminum tapered fill tube with 1-1/4" male threads.



Bar Type O-Ring

Part# TSF700

Sealing Buna O-ring for bar type fill adapters.



Philfair Tube O-Rings

Part# TSF700P

Buna O-ring for sealing Philfair adapters.



Scully Buna O-Ring

Part# TSF700X

Buna O-ring for sealing on Scully type fast fill adapters.



Time Saving Fill Large Rubber Plug

Part# TSF713

Rubber plug to fit on 1-3/8" fill tube.



Time Saving Fill Small Rubber Plug

Part# TSF712

Rubber plug to fit on 1-1/8" fill tube.



Miscellaneous Time Saving Fill Parts

Part#	Description
TSF2125FLCC	1-1/4" Bar type adaptor
TSF2125FX	1-1/4" Female straight X fill fitting
TSF2150MX	1-1/2" Male straight X fill fitting
TSF2150FX45	1-1/2" Female 45° X fill fitting
TSF2150FX	1-1/2" Female straight X fill fitting
TSF2150FX45	1-1/2" Female 45° X fill fitting
TSF2150M	X adaptor
TSF2150MX45	1-1/2" Male 45° X fill fitting
TSF2150MX	1-1/2" ale straight X fill fitting
TSF2200F	Female fill bar adaptor
TSF2200FX45	2" Female 45° X fill fitting
TSF2200FX	2" Female straight X fill fitting
TSF2200MX45	2" Male 45° X fill fitting
TSF2200M	Male fill bar adaptor
TSF2200M45	Bar adaptor
TSF2200MX	2" Male straight X fill fitting
TSF2200MX45	2" Male 45° X fill fitting
TSF3200MLC	2" Male insert only
TSF706	Fill bar cap
TSF706L	Locking bar fill cap
TSF706X	Standard X fill cap



Time Saving Fill Aluminum Fill Tube with Fast Fill Adapter

Part# **TSF98X**

Tapered aluminum fill tube with fast fill adapter installed.



Time Saving Fill 1-1/4" Brass Connector

Part# **TSF99X125**

1-1/4" brass connector for fast fill adapters.



Time Saving Fill with Metric Brass Connector

Part# **TSF99X150M**

1-1/2" fine thread brass connector for installation in ball valve type nozzles.



Time Saving Fill "X" Connector X Bar Fill

Part# **TSF99XTSF**

Speed fill x fast fill adapting connector.



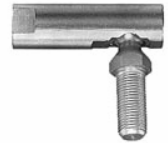
Buyers Tie Down Bar, Clevis Pin and Yoke

DBL stocks all pieces necessary for tie downs on retail petroleum trucks. Below are some of our most popular selections.



Buyers Ball Joints

Stocking ball joints for valve rod and various other applications.



Part#	Description
BUYB2126H	Tie Down Bar
BUYTR6211512	12" 5/8-11" Tie Down Bar
BUYB27087ANC	5/8"-11 Clevis Yoke
BUYB2708-1/210C	Clevis Pin

Part#	Description
BUYBJ52	1/4"-28 Ball Joint
BUYBJ62	5/16"-24 Ball Joint
BUYBJ72	3/8"-24 Ball Joint

Time Saving Fill Underground Parts

Stocking all parts necessary for repairing any brand of underground fill tube.



Dixon Air Panel Parts

Stocking air panel parts for retail petroleum and other applications.



Part#	Description
DIXFO0-02AMB	1/4" Mini-Filter
DIXGRP-95-754	Filter and Oil Bracket
DIXL00-02AMB	1/4" Mini-Oiler
DIXR00-02R	1/4" Mini-Regulator

Part#	Description
TSF802	2" Aluminum Venting Head
TSF804	48" Whistle Tube Assembly Complete
TSF805	Vacuum Breaker For Underground 500B's
TSF807	Thumb Screw For Venting Head
TSF808	Shoe For Vent Head
TSF809	Rubber Gasket For Vent Head

Philly Rod Stop
Part# **PHI1953**

Brass cable rod stop for engine actuator.



Six Way Fill Box Wrench
Part# **MIS4349**

Cast iron fill box wrench to remove caps from most underground fill boxes.



Air Switch Plates

Engraved plastic plate indicating operation of air valve.



Philly 1" Air Actuator
Part# **PHIA2001**

Air actuator with one inch stroke used to speed up engine on retail petroleum trucks.



Dixon Bayco Vapor Gasket
Part# **BAY400-G-BU**



Time Saving Fill Underground Fill Tube With Insert

Aluminum underground fill tube with sliding whistle tube with fast fill or speed fill insert.



Part#	Size
TSF500A20	20"
TSF500A48	48"
TSF500A69	69"

Dixon Bayco Old Style API Handle
Part# **BAY5201-16**

Aluminum handle for old style openable API adapter.



Dixon Bayco API Cap
Part# **BAY5000-24**

Aluminum dust cap for API adapters.

Dixon Bayco Drop Adapter

Quality cast aluminum body with inside lip to hang on API while clamping, inexpensive replacement of Buna O-ring, and bronze cam arms with stainless steel pins & finger rings.



Part#	Size
BAY4530	3"
BAY4540	4"

Dixon Bayco 4" TTMA Sight Glass
Part# **DIX400-SFI-ALS**

4" TTMA sight glass with aluminum frame and clear polymer tube.

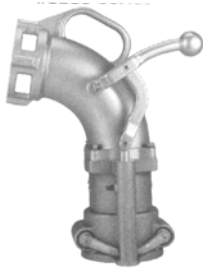


Dixon Bayco 4" Elbow Mounting Adapter
Part# **BAYAL4051BORE**

4" Aluminum blind adapter for mounting elbows in cabinets.



**Dixon Bayco 4" Drop Elbows
6000 and 6200 Series**



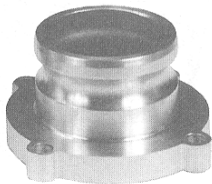
Comes with acrylic sight glass and Buna seals for sight glass, bolt on inlets for easy replacement, solid bronze locking arms housed in polymer bushings provide for the best bite of any elbows in the market, lubrication fitting for locking stem (stem made of stainless steel), modular quality cast aluminum construction and field repair and upgrade are made simple due to modular design. **Available in many different configurations. Kits available include an extension kit, safety latch kit, and an anti spill tube kit.**

For ordering information please refer to [Appendix S-37](#)

Replacement parts for 4" Drop Elbows found in [Appendix I1](#)

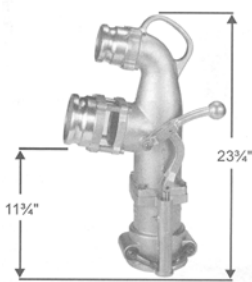


**Dixon Bayco 3" & 4" Elbow Inlets
For 6000, 6000AS, and 6200 elbows.**



Bolt on, easy to install and replace, aluminum bodies with bronze cam arms, and comes with four stainless steel cap screws.

For ordering information please refer to [Appendix S-37](#)



**Dixon Bayco Coaxial Elbows
6400 Series**

For single point vapor recovery only, 3" male vapor outlet (top), comes assembled with choice of 3" or 4" male or female inlets (inlets made special for coaxial only), quality cast aluminum construction with solid bronze arms, bolt on inlets/outlets for easy and fast replacement, and acrylic sight glass with Buna seals.

For ordering information please refer to [Appendix S-37](#)

**Dixon Bayco Side Seal Drop Elbows
6000 Series**

For use with special 4" side seal style fill collars only, modular, easy repair and bolt on construction, comes with acrylic sight glass, Buna seals, and bronze arms. Choice of 3" or 4" inlets and available with anti-spill sleeve and locking ring is required.



**Dixon Bayco Side Seal Adapter
6000 Series**

Allows conventional top seal elbows to be used with side seal style fill collars.

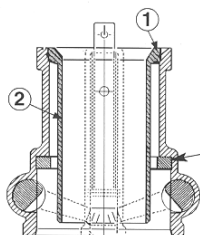
Bottom connects to side seal collar/ top section accepts standard 4" top seal elbow.



**Dixon Bayco Anti-Spill Sleeves
Designed for 6000 and 6200**

1. O-ring
2. Aluminum sleeve

Allows fuel to bypass and exit below the underground tank collar/ seal interface, preventing leakage or spill should problems with sealing or lock-up occur.

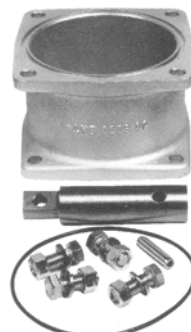


**Dixon Bayco Elbow Extension Kits
For 6000, 6200, & 6400**

Kit comes with cast aluminum spacer, linking extension hardware, and installation instructions.

Dixon Bayco Anti-Spill Safety Latch Kit

For 6000 & 6200 Series
Not pictured



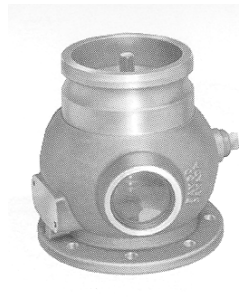
Dixon Bayco Vapor Valve
Part# VR4000

Designed for maximum vapor flow, two acrylic sight glasses, quality cast aluminum construction, 4" TTMA flange, and drain plugs that allow viewing of drainage of fluid through sight glasses.



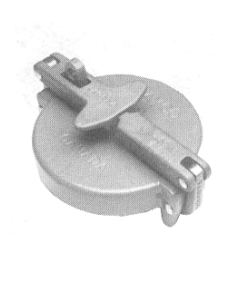
Dixon Bayco Vapor Valve
Part# VR4100

Features easy seal replacement while on tanker, heavy duty cast aluminum body, 4" female NPT, and with an air interlock mount. Available as a special order without poppet (VR4100NP).



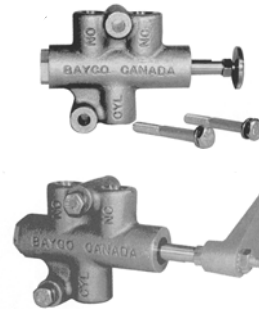
Dixon Bayco Vapor Cap
Part# VR4050AL

Lockable push/pull cap for vapor valves (VR4000 & VR4100) or vapor adapter (VR4086). Aluminum cap and arms with bronze locking cam and Buna gasket. Painted orange.



Dixon Bayco Air Interlock
Part# 5000AI (top)
Part# 5000AIV (bottom)

Mount to API's, vapor valves, and safety bars. Rugged solid bronze body for dependable service and corrosion resistance. Adjustable stroke and choice of standard piston or paddle end.



Dixon Bayco 3" Fusible Pipe Caps
NPSM Thread

Available in stainless, aluminum, or malleable iron. Teflon gaskets standard in stainless steel.



Dixon Bayco Pipe Caps
NPSM Thread

Available in 2", 3", or 4" size and in stainless, aluminum, or malleable iron. Teflon gaskets standard in stainless steel.



Dixon Bayco Reducers
Female NPSM X Male NPT

Available in 3" X 2" or 4" X 3" and in Stainless, aluminum, or malleable iron. Teflon standard in stainless steel.



Dixon Bayco Reducing Caps
3" FNPSM X 1" FNPT

Available in 3" X 1" stainless steel.



Dixon Bayco Tank Transport Equipment - Intermodal

3" Stainless Steel Pipe Cap
BSPP Thread



3" X 2" Stainless Reducers
Female BSPP x Male NPT



Stainless Thread Adapter
3" x 2" or 3" x 3"
Female BSPP x Male NPT



Stainless Adapter
3" or 3" x 2-1/2"
Cam & Groove Adapter x BSPP Thread



Dixon Bayco 4" Twin Lever Fill Cap

Part# 400TFLC2BR

For use with underground tank fill adaptor, bronze body with lockable bronze levers, and includes Buna gasket.



Dixon Bayco 4" Single Action Fill Cap

Part# SA4050(AL) or (BZ)

For use with underground tank fill adaptor, lockable, push/pull action, bronze cam arms, includes Buna gasket. **Available in aluminum or bronze.**



Dixon Bayco 4" Vapor Cap

Part# VR4050AL

Special locking cap for underground tank vapor outlet VR4086 and tanker vapor valves VR4100 and VR4000.



Emco Wheaton API Adaptor**Part# F5000**

All running surfaces are bushed for smooth operation, hard anodized replaceable nose ring (can be rotated without draining line), conforms to API RP1004, lightweight die cast aluminum, Viton seals are standard for compatibility with high octane fuels and additives, hydrodynamic design, all internal parts are stainless steel, top mounting for hose interlock, and mounting flange meets 4" TTMA specification.



For replacement parts please see parts breakout in [Appendix J-1](#).

**Emco Wheaton API Adaptor, Openable with Liquid Indicator****Part# F5002**

All running surfaces are bushed for smooth operation, hard anodized replaceable nose ring, flat bottom, product sight glass, two stage fixed aluminum lever conforms to API RP1004, lightweight die cast aluminum, Viton seals are standard for compatibility with high octane fuels and additives, hydrodynamic design, all internal parts are stainless steel, top mounting for hose interlock, dry line ready, and mounting flange meets 4" TTMA specification.

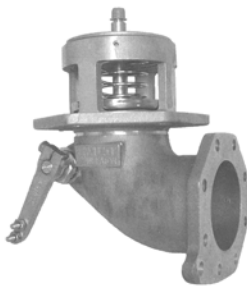
For replacement parts please see parts breakout in [Appendix J-2](#).

Emco Wheaton 4" Vapor Drop Elbow**Part# F77**

The industry's lightest 4" x 4" vapor drop elbow, low pressure drop ensures high product flow rates, available with or without internal poppet assembly, simple and reliable cam design, easy and quick to rebuild, two piece construction allows change of hose connection size and style, and **most parts are interchangeable with F298 and F523**.



For replacement parts please see parts breakout in [Appendix P-1](#).

**Emco Wheaton 3" Emergency Valve****Part# F241 & F242**

Manufactured to DOT 406 regulations, openable from above and below valve, conical spring for maximum flow, concentric plunger prevents leakage, stainless steel trim available for chemical applications, TTMA flanges, cable guide cast in outlet flange, standard seal is Buna (others available), optional air cylinder kit (**part# 24000202**), and other options available (screen, fuse plate, and support).

For replacement parts please see parts breakout in [Appendix K-37 thru K-39](#).

Emco Wheaton Product Drop Elbow Co-Axial for Product and Vapor**Part# F298**

Lightweight aluminum, excellent flow rate, sight glass (protected by aluminum which prevents damage during storage), can be subjected to pump off pressure (versus gravity unloading) to 25 psi, product connection (3" or 4" cam & groove) is located between vapor connection (3" cam & groove) reduces stress on adaptor, piping, and connection to tank, no vapor emission or product leak, quick and easy to rebuild, interlock available, and **most parts interchangeable with F523 and F77**.



For replacement parts please see parts breakout in [Appendix I-2](#).



Emco Wheaton API Adaptor Opener
Part# F456

API hose coupler specifically designed for use with API adapters when discharging product. **Suitable for all API valves manufactured to API RP1004.** One piece aluminum, 4" NPT female thread to accept NPT hose or can be reduced to 3", brass cams reduce wear on API hose and eliminate corrosion, Buna seal fitted as standard, and **suitable for API RP1004 adapters.**

For replacement parts please see parts breakout in **Appendix J-3.**

Emco Wheaton API Gravity Drop Adapter
Part# F459

API hose coupler specifically designed for use with API adapters when discharging product. **Suitable for all API valves manufactured to API RP1004.** High quality lightweight die cast body, brass cams reduce wear on API hose and eliminate corrosion, internal shoulder to grip adapter nose and support weight of product hose, 19" stainless steel chain supplied as standard for attachment to API adapter, Buna seal standard, and 3" & 4" cam and groove variants available.

For replacement parts please see parts breakout in **Appendix J-4 and J-5.**



Emco Wheaton 4" API Dust Cap
Part# F499

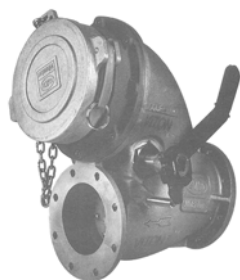
Durable, easy to use aluminum dust cap **suitable for all API valves manufactured to API RP1004.** **Suitable for F5000, F5001, F5002, & F552 series API valves,** protects poppet face of API, high quality die cast body and component materials to international standards are used for durability and performance, radial cam and lug design, glass filled nylon cams reduce wear and eliminate corrosion, Buna seal standard, and heavy duty 19" stainless steel chain.

For replacement parts please see parts breakout in **Appendix J-6.**

Emco Wheaton 4" Product Drop Elbow
Part# F523

Industry's lightest 4" x4" product drop elbow, excellent flow rate, simple and reliable cam design has a minimum number of moving parts, easy and quick to rebuild, two piece construction allows change of connector size and style, sight glass is protected by aluminum body to prevent damage when stored, and **most parts interchangeable with F298 and F77.**

For replacement parts please see parts breakout in **Appendix I-3.**



Emco Wheaton API Adapter "Y" Valve
Part# F552

Specifically designed for high speed unloading with the **highest flow rate in the industry.** Designed and built in accordance with API RP1004, product loading accomplished via API head and product unloading accomplished via bottom faucet configuration, two piece aluminum body, faucet body moves out of product flow providing unrestricted unloading, 4" TTMA piping connection and faucet outlet, handle is ductile iron with baked on coating to eliminate corrosion, and standard dust cap (F499).

For replacement parts please see parts breakout in **Appendix J-8 and J-9.**

Emco Wheaton Cam Kit For Cap

Part# EMC619696

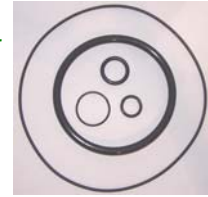
Replacement cam kit for Emco Wheaton API cap and drop adapter.



Civacon Repair Kit for 861 API

Part# GASCIV861ORK

Repair containing all seal o-rings for number 861 Openable API adapter.



Civacon 861 Aluminum Handle Kit

Part# MISCIV861HRK-AL

Aluminum handle kit to retro fit 861 Openable API adapter.



Civacon 3" Valve Mounting Clamp

Part# MISCIV865K-3

Steel clamp mounts on vapor pipe and drilled and tapped to accept air interlock valve. Available for 3" or 4" pipe.



TTMA Acrylic Sight Glass

Solid acrylic sight glass machined to 3" or 4" TTMA pattern.



Civacon Plastic Handle for 861

Part# MISCIVC10009M

Plastic replacement handle for 861 Openable API adapter.



Rebuilt Veeder Root Register Only On Exchange

Part# PMP31007

Factory rebuilt mechanical register for use on fuel delivery trucks.



Rebuilt Veeder Root Register/Printer on Exchange

Part# PMP31012

Factory rebuilt register and printer combination printer as used on retail fuel delivery trucks.

Parts Breakout Appendix E-19



Rebuilt Veeder Root Printer On Exchange

Part# PMP31004

Factory rebuilt mechanical printer for use on retail fuel delivery trucks.



Veeder Root Rebuilt Five Wheel Preset Exchange

Part# PMP7889RX

Factory rebuilt five wheel mechanical preset as used on retail delivery trucks.



Veeder Root New Style Register Bezel

Part# PMPV/RBEZEL

Clear replacement bezel for new style mechanical register.



Veeder Root New Style Totalizer

Part# PMPV/RTOT

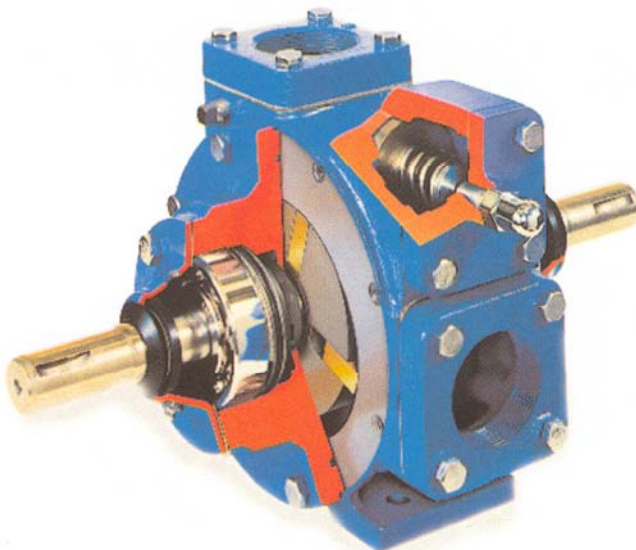
Replacement totalizer for new style mechanical register.



Blackmer TXD Series Pumps

Part#	Description
BLA031425	Pump Head
BLA041431	Bearing Cover Head
BLA091619	Vanes
BLA121607	Push Rod
BLA221665	Dual Rotor
BLA317815	Grease Fitting
BLA331601	Seal Assembly
BLA331918	Grease Seal
BLA341601	Shaft Cover
BLA381403	Flanged Gasket
BLA383940	Bearing Cover Gasket
BLA531603	Bypass Gasket
BLA651603	2-1/2" X 2" Flange
BLA651611	2-1/2" Flange
BLA701480	Dirt Shield
BLA701947	Head Seal Ring
BLA701992	Grease Relief Fitting
BLA740057	Strainer
BLA740058	T-Strainer
BLA871180	Air Diaphragm Kit
BLA891696	Air Bypass
BLA898951	Pump Kit
BLA903156	Bearing
BLATXD2-1/2AV	Blackmer Pump With Air Bypass

Example of replacement parts. For a full breakdown on parts and different size pumps, please refer to **Appendix F-19 thru F-24**



Reliability

Durable pumps for fast and quiet operation. Sliding-vane design provides sustained performance and trouble free operation.

Unique Features

Adjustable relief valve protects pump from excessive pressure. Optional air operated diaphragm relief valve offers easy hose and nozzle handling. T-Type strainers are available to protect pumping systems from damage caused by welding slag and foreign matter in the piping and tanks.

Sizing Options

Available in 1.5, 2, 2.5, 3, and 4 inch port sizes with flow rates from 10 to 500 U.S. gallons (2 to 113 m³/H) and pressures up to 125 PSI (8.6 bar).

Applications

Fuel oil delivery truck, fleet refueling, lube oil, aviation refuelers, transports of petrochemical, gasoline, solvents, and many more.

FloTech Retain/Overfill Systems

Retain/Overfill Systems (top only)

FloTech brand overfill system kits provide everything needed to install a new API compatible overfill system on your tank. One through six compartment kits are available. FloTech brand kits provide everything needed to make a professional installation.

Systems include: one monitor, one sensor per compartment, 100' cable, and strain reliefs. Sockets sold separately. Special length probes are available upon request.



Retain/Overfill Systems (retain and overfill)

FloTech brand overfill system kits provide everything needed to install a new API compatible retain/overfill system on your tank. One through six compartment kits are available. FloTech brand kits provide everything needed to make a professional installation.

Systems include: one monitor, one sensor for each compartment, one retain sensor per compartment, 100' cable, and strain reliefs. Sockets sold separately. Special length probes are available upon request.



FT201 Replacement Probes

The FT201 is a replacement probe for the FloTech brand FT202 sensor. **Is compatible with Civacon's 3150 two wire optic probe.** The FloTech FT200 series probe uses unique dual elastomer seal prism design to prevent fouling. Other sensor designs use epoxy which crack allowing fuel to leak into the optic path ultimately causing signal malfunction. Standard probe lengths are 7", 12" and 18" with custom lengths available upon request.



FT202 Sensors

The FT202 is a top overfill sensor and part of the FloTech brand retain/overfill monitoring system. The holder is cast aluminum with a 2" NPY mounting thread, heavy duty stainless steel hardware, and Viton seals. **The FT202 is mechanically and electrically compatible with the Civacon model 1050 two wire top sensor.** The sensor is installed by threading it into a 2" NPT tapped hole or mounting it in a 2-3/8" hole secured by a gasket and metal locking nut. Standard probe lengths are 7", 12" and 18".



FT206 Retain Sensor

The FT206 retain sensor is a bottom retain detection sensor and part of the FloTech brand retain/overfill monitoring system. The sensor has a 1/2" NPT mounting with built in shear groove protection. Sensor comes with a 1/2" weld on aluminum half coupling for mounting. **The FT206 is mechanically and electronically compatible with the Civacon model 1000 two wire retain sensor.**



FT204 Retain/Overfill Monitors

The FT204 retain/overfill monitor is designed to diagnose and monitor up to six compartments. The FT204 monitor will provide API compatible optic, thermistor, and float socket, outputs for a true load at any rack compatibility .

FloTech's FT203 is a replacement chassis and is compatible with Civacon models 3250 and 3252 on-board monitors.



FloTech API Optic System

FloTech series FT100 and FT101 sensors are compatible with Scully brand 5 wire optic sensors. FloTech API compatible overfill systems feature long service life and resistance to harsh environments typical on petroleum cargo tanks. Long service life and compatibility make FloTech the ideal choice for demanding cargo applications

Optic Overfill Kits

FloTech brand overfill system kits provide everything needed to install a new API compatible overfill system on your tank. One through six compartment kits are available. FloTech brand kits provide everything needed to make a professional installation.

Systems include: one monitor, one sensor per compartment, 100' cable, and strain reliefs. Sockets sold separately. Special length probes are available upon request.



FT100 Replacement Probes



The FT100 replacement probe is electronically and mechanically compatible with the API optic or 5 wire signal format. The FloTech brand fail-safe sensor technology ensures the reliable and safe operation necessary in the petroleum industry. All FloTech brand sensors feature a dual prism seal design which is more reliable than other designs which glue in the prism using epoxies. Standard probe lengths include 7", 12", and 18" with custom lengths available upon request. The FT100 is compatible with Scully #09208 and Civacon #1300.

FT101 Sensors

The FT101 sensor is compatible with the API optic or 5 wire sensor format. Our probe holder is cast aluminum with a 2" NPT mounting thread, heavy duty stainless steel hardware, and Viton seals. Install in a 2" NPT tapped hole or 2-3/8" hole using the provided gasket and locking nut.



FT103 Monitors



The FT103 API compatible monitor works with the FloTech API compatible sensor models FT101/100. This six channel monitor will provide API compatible optic, thermistor, and float socket outputs for a true load at any rack compatibility. FloTech brand outputs are entity approved by CSA and FM to ensure safety. The FT102 replacement chassis is compatible with Civacon model 3150 or Scully 086560 on board monitors.

Thermo-Optic Kits

FloTech offers a complete upgrade kit of probes and dummies for 4 and 5 compartment old style "Green or Silver Tip" thermistor systems. Get an "Instant Permissive" in the coldest weather and reduce your waiting time. FloTech digital/optic technology will provide long reliability over standard thermistor sensors.



For a reference comparison chart and replacement parts please refer to [Appendix G-1 & G-2](#)

Scully™ Compatible 2 Wire Thermo Optic Sensors

FloTech series FT150, FT151, and FT152 sensors are compatible with Scully brand two wire optic overfill and retain sensors. These sensors are drop in replacements and compatible with the signal format required by Scully brand on-board monitors.

The FT150 and FT151 sensors are also compatible with early green tip thermistor sensors. FloTech FT150 sensors provide "instant permissive" with no warm-up time when used to upgrade a tank with a straight thermistor overfill system. All sensors and the thermistor dummy must be upgraded to a new FloTech electronic style



FT150 Replacement Two Wire Black and White Optic Probes

The FT150 thermo-optic 2 wire probe is electronically and mechanically compatible for drop in replacement of commonly used 2 wire probes with black and white wires. The FT150 provides the fast response and reliability of optic technology in a thermistor application. All FloTech brand probes come with a unique dual elastomer seal for prisms and a smooth tapered design for easy installation without gasket damage. Standard lengths are 7", 12", and 18" with custom lengths available upon request. **Compatible with Scully Intellicheck system.**

FT151 Thermo-Optic Sensors

The FT151 thermo-optic sensor contains the FT150 probe and a 2" NPT housing. Our probe holder is cast aluminum with a 2" NPT mounting thread, heavy duty stainless steel hardware, and Viton probe seal. Install in a 2" NPT tapped hole or 2-3/8" hole using the gasket and locking nut provided. All screws and rings are heavy duty stainless steel for easy assembly and long life. **Compatible with Scully Intellicheck monitors.**



FT152 Retain Sensor

The FT152 retain sensor is a bottom retain detection sensor. The sensor has a 1/2" NPT mounting with built-in shear groove protection and is shipped with a 1/2" NPT weld-on aluminum half coupling for mounting. **The FT152 is also mechanically and electronically compatible with Scully model 08819 and the Scully Intellicheck system.**



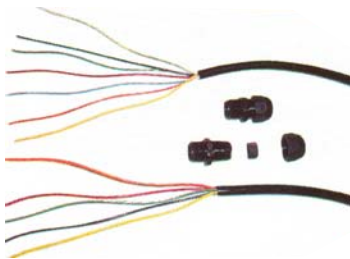
FT155 Dummy

Dummies send a permissive signal for any missing compartments. For example, in the United States all overfill protection systems are formatted using a six compartment thermistor trailer. Therefore, the terminal controller must receive six permissive sensor signals to allow loading. One dummy can send up to five signals. Consequently a one to five compartment trailer will contain one FT155 dummy (wired to socket). In Canada, where eight channel systems are mandated, two FT155 dummies are needed with one to three compartment trailers and one FT155 for four to seven compartments. The FloTech FT155 thermistor dummy provides instant permissive in the coldest weather **and is mechanically and electrically compatible with Scully and Civacon models.**



FloTech Sockets

FloTech brand sockets are mechanically and electronically compatible with the API RP1004 Rel. 2003 Bottom Loading Specification. Optic and thermistor socket face plates are hard coated aluminum alloy to prevent J-slot wear. All hardware and contact buttons are stainless steel to prevent corrosion. FloTech brand sockets are standard color coded to permit easy identification (optic sockets are blue, thermistors are green, and float are red). Colored caps are included for optic and thermistor models. **There are over 15 different models available. For answers to any question please contact DBL.**



FloTech Cables & Glands

FloTech brand cables are color matched to commonly used overfill systems and have a tough, thick outer jacket which resists oil, U/V and abrasion. Both five conductor (FT400) and seven conductor (FT401) cables are available in 100' lengths. For watertight cable/sensor connections apply FloTech brand strain/relief sealing glands. Two packages are available: FT402 contains 20 pieces for typical top only sensor connection systems or, FT403 contains 30 pieces for typical top and bottom sensor connection systems.

Scully Groundhog Ball

Part# **OFM08274**
Steel grounding ball designed to wire into sensor box for top loading applications.



Scully Groundhog Bolt

Part# **OFM08560**
Steel grounding bolt designed to be installed in truck frame for bottom loading applications.



Scully Viton O-ring

Part# **TSF700XV**
O-ring for Scully overfill protection housing.



Dixon Bayco Brass Grounding Stud

Part# **BAYGS1**
Brass grounding ball designed to ground truck or trailer and protect against static electricity.



Clay and Bailey Fill Caps

Fillcap 94 Series

Lockable, water tight fillcap consisting of a cast iron lid, gasket and brass base. The lid has a threaded cap for a tight seal, and is suitable for fillports on storage tanks. Brass Lid Available. Sizes: 2", 3", and 4"



Fillcap 232 Series

Lockable, heavy duty fillcap. Loose fitting lid and base are made of cast iron. Sizes: 2", 2-1/2", 3", and 4"



Fillcap 232-1/2 Series

Light weight, lockable fillcap. Loose fitting lid and base are made of cast iron. Available in 2" size only.



Fillcap 233 Series

A lightweight, durable male thread fillcap. Cast iron material with a lockable lid. Available embossed with customer name in lots of 500 or more. Sizes: 2" and 3"



Fillcap 234 Series

A lightweight, durable male thread fillcap. Cast iron material with a lockable lid. Top has a screened opening in cover for venting. Available in 2" only.



Fillcap 235 Series

A lightweight, durable male thread fillcap. Cast iron material with a lockable lid. Available embossed with customer name in lots of 500 or more. Sizes: 2" and 2-1/2"



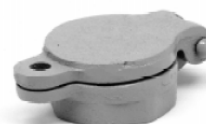
Fillcap 254 Series

Lockable, watertight fillcap made of all cast iron. Lid is lockable in any position, suitable for fill ports on storage tanks. Brass lid available. Sizes: 2", 3", and 4"



Fillcap 500 Series

Lightweight female threaded fillcap. Loose fitting hinged lid is lockable and fits on a 2" pipe. Cast iron lid and collar construction. Available embossed with customer name in lots of 500. Sizes: 2" and 2-1/2"



88 P/V Fillcap

A new concept in venting small AST's. This 2" Pressure/Vacuum Relief Fillcap incorporates several outstanding design features including a lockable cap as standard, scallop style lid for "sure grip" tightening and a large warning label minimizes the chances of accidental opening under pressure. The special pressure and vacuum relief system provides safety from product leakage, provides relief when filling or dispensing of product and minimizes fuel evaporation. The fillcap is set to relief pressure at 3 psi and vacuum at 0.5 oz. pressure.



Emergency Vent 370 Series

Eliminates the need for pipe nipple on installation. Hole patterns conforms to ANSI B16.5 specifications. Machined base and top with Buna N "O" Ring provides vapor tight seal. Air flow at 2.5 psi is 448,054 SCFH for the 8" and 672,108 SCFH for the 10", both with screens. Sizes: 8" and 10"



Emergency Vent 365 Series

Heavy duty cast iron top and base for durability, (aluminum base available). Machined top and base with a Buna-N "O" Ring provide a vapor tight seal. Air flow at 2.5psi is 43,770 SCFH with screen. The screen minimizes the chances of vandalism and theft. 3" NPT male threads are standard. Available in 3" only.



Emergency Vent 354 Series

A spring loaded pressure relief vent made of brass and contains a brass screen and gasket to insure a tight seal. Air flow at 2.5 psi with screen is 17,707 SCFH, and 19,218 SCFH without screen. Available in 2" only.



Emergency Vent 369 Series

Male thread, "mushroom" style top design emergency vent made of heavy duty cast iron, (aluminum base available). Top acts as weather deflector and minimizes the chance of theft or vandalism. Machined top & base with Buna N "O" Ring provides a vapor tight seal. Sizes: 4", 6", and 8"



Clay and Bailey introduces the solutions to the problem of AST Emergency Vents passing regulatory agencies pressure decay tests on above ground storage tanks. This emergency vent offers excellent owner benefits and avoids repeated tests due to vapor leakage. Weather resistant paint used to enhance installation appearance. Offers large gasket and O-ring surface for sealing and specially machined base for a tight seal. Sizes: 4" Male and Female Thread, 6" Male and Female Thread, and 8" Male and Female Thread and Flanged.



Clay and Bailey



DBL is an authorized Clay and Bailey distributor and offers their full line of products. Besides fillcaps and vents, Clay and Bailey offers Overfill Protection products, manholes, trailer vents and manholes, PEI Equipment, and much, much more.

For more details on any of the products that Clay and Bailey offer, please call DBL today.



Clay & Bailey Mfg. Co.

Calibrations

DLB has fulltime staff that are dedicated to the repairing, modifying, and calibrating of fuel delivery truck tanks and trailers.

Whether it be parts or service, DBL is your one stop location to keep your equipment up and running.



Calibration Tank

Pneumatic/Air

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Sealco Standard Service Valve
Part# AIR110700

Service valve for non-ABS braking systems. Designed for use with a single reservoir on a typical single or tandem axle trailer application.



Sealco ABS Service Valve
Part# AIR110800

Service valve for ABS braking systems.



Air Tank Drain Valve With Cable
Part# AIR12105

Remotely operated steel valve to drain air tanks.



1/4" Humphrey Toggle Valve
Part# AIR125V

Steel cylinder type air valve for retail truck flow control system



3/8" Humphrey Dump Valve
Part# AIR250V

3/8" cylinder type valve, used as dump valve for air ride suspension systems.



B/W Inversion Valve
Part# AIR277340

Steel multi-port valve for use in truck brake-lock applications.



Air Pressure Protection Valve
Part# AIR31000

One way steel check valve designed to protect air brake system.



Set of Two 3/8" Air Hose Fittings
Part# AIR31402

Quik-Fix air brake fittings for field installation on 3/8" air brake hose.



Set of Two 1/2" Air Hose Fittings
Part# AIR31403

Quik-Fix air brake fittings for field installation on 1/2" air brake hose.



Schrader Bellows Air Valve
Part# AIR34190099

Brass lever operated air valve used to operate trailer brakes and air vapor vents.



Air Protection Valve
Part# AIR378414

One way steel check valve designed to protect air brake system.



Schrader Air Valve
Part# AIRW2P

Brass bodied push/pull valve used as manual dump for air suspensions.



Humphrey Air Valve

Part# **AIR41PPX**

Brass body 1/4" manually operated valve used to open and close air operated Solimar dome lids.



B/W Air Valve

Part# **AIRDC-4**

All ports 3/8" NPT and maybe mounted in any position. Replaces Velvac 2-way shuttle valve.



3/4" Full Function Valve

Part# **AIRFF-2-3/4**

Single valve system for single and tandem axle trailers. Prevents automatic braking in the event of in-service, service system failure. Protects supply line to 70 PSI.



B/W Inversion Valve

Part# **AIRTR-3**

3/8" Air valve used for various brake interlock application.



Humphrey 3/8" Shuttle Valve

Part# **AIRQE3**

Humphrey Super Quick Exhaust valves feature a special molded shuttle designed especially for quick exhaust valve service. **Other sizes and models available.**



3/8" Air Quick Release Valve

Part# **AIRQR-1**

3/8" NPT exhaust port, (2) 11/32" mounting holes at 1-1/2" on center, and cracking pressure of 1 PSI. 3/8" and 1/2 supply port sizes available.



Clippard Valves

Brass body 1/8" air valves used for fuel oil delivery and various other applications.



AIRTV4-DMP



AIRMJTV-3



AIRMJVO-3



AIRMPA3P

Part#	Description
AIRFV3P	Inversion Valve
AIRMJSV1	Shuttle Valve
AIRMJTV-3	Air Switch
AIRMJVO-3	Valve
AIRMPA3P	Valve Actuator
AIRTV4-DMP	Dump Valve

Air Relay Valves

The AIRRG-2 is a multi-function valve and AIRRT-4 is for service only.



Part#	Size
AIRRG-2	1/2"
AIRRT-4	1/2"

Air Brake Valve

3/4" MPT reservoir mounting port, 1/4" NPT service/spring brake reservoir, trailer supply and trailer service ports, (4) 3/8" delivery ports and anti-compounding.



Part#	Size
AIRSR-5	1/2"
AIRSR-5-3/4	3/4"

Air Toggle Valve

Part# **AIRWM219-C4**

Steel 1/8" manually operated open/close air valve.



Dixon 1/4" Mini-Oiler

Part# **DIXF00-02AMB**

DBL stocks a complete line of 1/4" air components for air panels on fuel delivery trucks and for various other uses.



Air Brake Regulator

Part# **AIRR-12**

This air brake regulator is used to supply air to the service side of the brake system.



1/2" Full Function Regulator

Part# **AIRFF-2**

Single valve system for single and tandem axle trailers. Prevents automatic braking in the event of in-service, service system failure. Protects supply line to 70 PSI.



Double Hose Hanger

Part# **AIRHH**

Two piece plastic clamp with steel eye bolt designed to hold two 1/2" air hoses.



Hose Spring

Part# **AIRHS**

Steel coil spring with loop ends designed to suspend air hoses from hose pole on tractor.



3/8" Air Hose

Part# **AIRHOSE6**

3/8" ID DOT spec. air hose with black weather proof cover.



Nylon Coiled Supply and Emergency Hose

Nylon coiled air supply hoses with 1/2" NPT ends. Available in blue for service or red for emergency.



Hose Separators

Plastic clips designed to separate two air brake hoses.



Part#	Description
AIRSCB	Blue
AIRSCR	Red

Part#	Size
AIRHSS	5/8"
AIRHSM	3/4"
AIRHSL	7/8"

Air Tube

Nylon DOT spec. air tube for use in trailer brake and various other applications. Various sizes and colors available.



Part#	Size
AIRTUBE2	1/8"
AIRTUBE3	3/16"
AIRTUBE4	1/4"
AIRTUBE6	3/8"
AIRTUBE8	1/2"
AIRTUBE10	5/8"

Air Tanks

Steel, pressure tanks designed to supply air for trailer brake applications.



Part#	Size
AIRTANK8	8"
AIRTANK10	10"
AIRTANK12	12"

1/4" Drain Cock

Part# MISDC

Brass body 1/4 turn valve used for various applications in air, water, or Petroleum service.

Various sizes and configurations available.

Please call DBL for further information.



1/8 Petcock

Part# MISPC2

DBL stocks a diverse line of brass body 1/4 turn valves.

Various sizes and configurations available.

Please call DBL for further information.





For Pricing

Call DBL Toll Free: 1-877-DBL-TANK

Monday thru Friday

7:00 AM - 5:00 PM

Saturdays

6:00 AM - 12:00 AM

**Or you can fax or email us at anytime and
we will get back to you ASAP**

Fax: 717-653-4106

Email: dbltank@dbltank.com

Pumps

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Jabsco 2" Pump

Jabsco's 2" pump is designed specifically for farm pick-ups that haul milk and are equipped with a remote drive. The pump body and shaft are made of 316 Stainless Steel, the impeller is Neoprene based, the shaft seal is sanitary carbon face, the ports consist of two inch ACME threads and 2" clamp, and the weight is approximately 34 pounds. Below is a sample list of available replacement parts. **To view a full parts breakout refer to the appendix.**

Part#	Description
JAB07866-0000	Collar
JAB08984-0005	Impeller
JAB09023-0000	Seal Assembly
JAB10345-0001	End Plate
JAB10346-0020	Wear Plate
JAB12927-0000	Clamp Frame
JAB18023-0000	Pump Shaft
JAB18024-0000	Clamp Screw
JAB18726-0000	Small Retaining Ring
JAB18753-0007	Bearing/Pier
JAB91701-2830	Large Retaining Ring
JAB92000-0030	O-Ring
JAB92702-0780	Bearing Seal



For a full parts breakout refer to **Appendix F-4**

Jabsco 2-1/2" 130 GPM Pump

This product is specifically designed for farm pick-up milk tanker trucks. Jabsco pumps are also available as pedestal mounted or close-coupled units with capacities to 100 GPM for other sanitary applications.

Body: Type 316 Stainless Steel
Impeller: Jabsco Sanitary Neoprene Compound
Seal: Sanitary Mechanical
Bearings: Ball/Roller Bearings
Shaft: Type 316 Stainless Steel
Ports: 2-1/2" Acme Threads
Weight: 50 lb (23 kg) Approximately



Part#	Description
JAB08500-0005	Impeller
JAB0R137	O-Ring for C. Seal
JAB21908-0001	Clamp Screw
JAB21909-0001	Clamp Frame
JAB22044-2001	Shaft Retaining Ring
JAB22644-6000	Seal Assembly
JAB91700-2870	Small Retaining Ring
JAB91701-4391	Large Retaining
JAB92000-1213	O-Ring
JAB92601-0450	Rear Ball Bearing
JAB92601-0460	Front Bearing
JAB92701-0880	Bearing Seal

For a full parts breakout refer to **Appendix F-5**

Viking/Johnson Pump

Replacement parts for stainless steel, food grade, dual lobe pump for transfer of sanitary goods.

For a full parts breakout refer to **Appendix F-1 & F-2**

Part#	Description
VIKB34-2819-06	Relief Valve Diaphragm
VIKZ094-6031-0A	Rotor Shaft O-Ring
VIKZ94-6227-0A	O-Ring
VIKZ94-6236-02	Relief Valve O-Ring
VIKZ94-6270-0A	Pump Cover O-Ring
VIKZ94-6332-0A	O-Ring
VIKZ94-6044-02	O-Ring

Part#	Description
WAU000030009	Pump Grease Seal
WAU000030011	Pump Oil Seal
WAU000030012	Pump Oil Seal
WAU060036000	Pump Front Bearing
WAU060052001	Pump Rotor Jam Nut
WAU105852	Pump Wing Nut
WAU107186	Pump Rear Bearing
WAU107188	Bearing Kit
WAU41013	Plastic Pump Plug
WAUBD0092000	Pump Grease Fitting
WAUN50338	Pump O-Ring
WAUN70131	Pump O-Ring
WAUN70272	Pump Cover O-Ring
WAUN70331	Pump O-Ring
WAUSTD136009	Pump Lock Washer

Waukesha 130 Pump

316 stainless steel pump body and cover, with heavy duty 316 shafts. Exclusive, non-galling Waukesha "88" alloy rotors with tighter clearances handle a wider range of viscosities effectively. Pressure capability~200 PSI/13.8 Bar. For more info contact DBL.

For a full parts breakout refer to **Appendix F-3**

**Flowtech Uni-Bloc 551**

3A Sanitary stainless steel food grade pump. Top wing style impellers constructed to handle a wide variety of products.



Part#	Description
FLO4130-N	Rear Oil Seal
FLO4135-N	Front Oil Seal
FLO4232-E	Rotor Bolt O-Ring
FLO4233-E	Rotor Shaft O-Ring
FLO4235-E	Cover O-ring
FLO4238-NQ	Lip Seal Quad Rings
FLO4239-N	Gear Cover O-Ring
FLO5272	Double O-Ring Lip Seal

For a full parts breakout refer to **Appendix F-6 thru F-8**

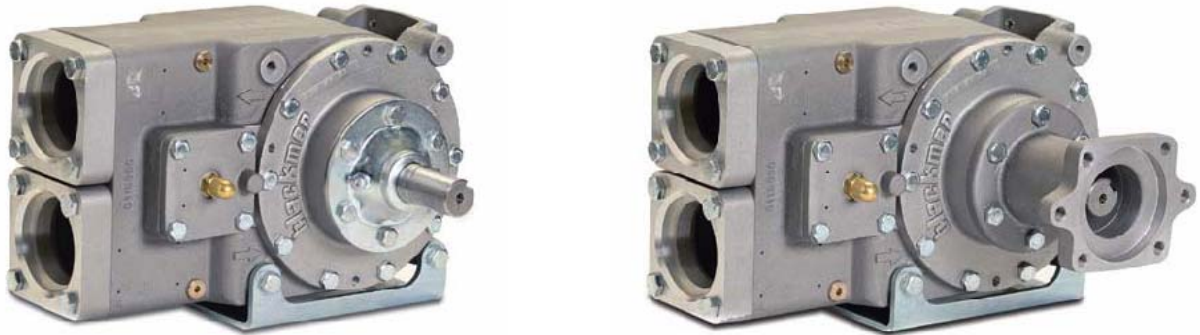
Part#	Description
ROPD11-332	Gasket
ROPD11-333	Flanged Gasket
ROPD11-338	Oval Case Gasket
ROPD11-90	Flange Gasket
ROPN43-1	Pump Shaft Packing
ROPN43-1GF	Graphite Packing Set

For a full parts breakout refer to **Appendix F-39**

Ranger 11, 17, 22 Series Pumps, Roper 3622

Carbon steel construction, gear style pump for use with a wide variety of products. From asphalt to petroleum, this pump can handle your needs.

Blackmer ATX Aluminum Series Pump
Rotary Vane Pumps For Tank Trucks and Transports



Design Features

Weighing 100 lbs. (45 kgs.) the aluminum ATX pump is ideal for light, clean, non-corrosive fluids compatible with aluminum. The light-weight transport pump works on most petroleum applications. Pump construction consists of grease lubricated ball bearings, Blackmer cartridge mechanical seals, Duravanes, hardened steel drive shaft with ductile iron rotor and cast iron liner and end discs.

Performance Capabilities

Speeds up to 1,000 rpm
Delivers up to 300 GPM (1,135 lpm)
Maximum viscosity of 300 SSU (63 cSt)
Operating Temperatures of 240°F (115°C)
Parallel ports for easy piping
Drain/Gauge Plugs

Options

Pipe Flanges: 3" (80 mm) socket
weld - aluminum or steel
Three Mounting Bracket Positions
Pneumatic actuated relief valve assembly
Hydraulic Drive Option

Reduced Life Cycle Costs

The ATX series combines Blackmer's proven sliding vane technology with a replaceable cast iron liner and end discs for maximum pump performance and reduced life cycle costs.

Parts breakout
Appendix F-25 thru F-28

Blackmer TXV Series Pump

High Temperature, Rotary Vane Pumps for Asphalts and Viscous Fluids



Design

Blackmer TXV pumps provide high volume, low speed transfer of clean fluids compatible with a cast iron construction. For fluids that do not work well with mechanical seals, a TXV pump is the answer. They are well suited for thick, viscous fluids that can solidify when exposed to the air. The TXV pump models are available in 2" and 3" port sizes. Standard construction includes a special open rotor design that offers easy flushing, bronze vanes, FKM elastomers, PTFE lip seals, high temperature grease lubricated ball bearings isolated from the pumpage and high temperature gasket materials. The TXV pump delivers more fluid per revolution than comparably ported gear pumps. And slower operating speeds mean longer service life and reduced maintenance requirements. The TXV's internal relief valve protects the pump from build-up.

High Viscosity

TXV pumps are ideal for handling viscous or shear sensitive fluids. The key to the TXV series' versatility is Blackmer's unique sliding vane rotor design that provides sustained, high level performance over a wide viscosity range. Slow operating speeds and non-pulsating flow minimizes shear and agitation of the fluid. Optional Heating Jackets are available if required.

Self-Priming and Dry Run Capability

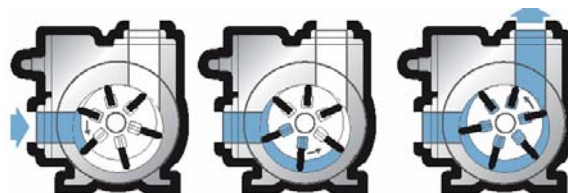
TXV pumps are self-priming, and the self-adjusting vanes help maintain this capability. TXV pumps can run dry for short periods of time for priming.

Application

Typical applications for the TXV pumps include: asphalts, greases, lube oils, resins, molasses, bunkered fuels, inks, and adhesives.

Parts breakout
Appendix F-31 thru F-34

How Blackmer's sliding vane action works



Blackmer STX3 Stainless Steel Transport Pump



Stainless Steel Construction

Blackmer's STX3 is designed to meet a wide range of corrosive and non-corrosive fluids for common carriers. Standard construction: 316 stainless steel with external ball bearings, non-metallic Duravanes, PTFE elastomers, Blackmer chemical mechanical seals. See Typical Applications List.

Fast Off-Loading

The STX3 offers flow rates up to 250 GPM (946 LPM) with differential pressures up to 125 PSI (8.6 bar or 862 kPa) and maximum speed of 800 RPM. A typical 6,000 gallon (22,700 liter) tanker can be off-loaded as quick as 24 minutes.

Dry Run Capability

Blackmer's non-metallic vanes self-compensate for wear and allow the STX3 to run dry for short periods of time for self-priming and blowing lines clean, with-out pump damage.

Easy Maintenance

Internal wear is limited almost completely to the sliding-vanes, which can be replaced with ordinary metric hand tools.

Typical Applications

Solvents
Chemicals
Chlorides
Sulfates
Vegetable oils
Urea
Many acids

Unique Features

316 Stainless Steel
Self-Priming
Line Clearing
Ball Bearing Construction
Chemical Mechanical Seals
Adjustable Relief Valve
Versatile Mounting Bracket

Blackmer Transmax Transport Pump Model TX206A



PTO Drive



Hydraulic Drive

Design

The unique open rotor design makes the Transmax highly versatile. The sliding vane design provides sustained high-performance capabilities including self-priming and line clearing.

Application

The TX206A is capable of pumping thin to thick liquids from 30 to 50,000 ssu (7 to 10,500 cp) with sustained performance at rated P.T.O. speeds, maximum 800 rpm.

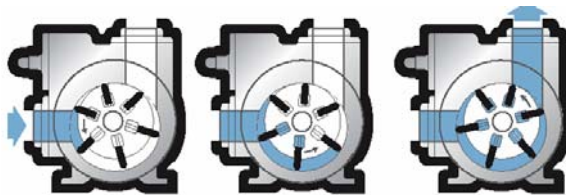
Benefit

The Transmax is self-priming and capable of line clearing; these benefits are not found with existing gear pumps. Also, the Transmax is specifically designed for easy cleaning. Multiple drain ports allow for proper flushing in a variety of mounting positions.

Hydraulic Drive Options

Blackmer offers fully-integrated hydraulic drive systems including pumps, motors, close coupled hydraulic motor adapters, control valves, P.T.O.'s and coolers.

How Blackmer's sliding vane action works



Also available:
Replacement Parts For Blackmer Transmax Transport Pump Model TX400
Call DBL for more information

Replacement parts for TX206 and TX400
Appendix F-35 thru F-38

Blackmer TXD Series Pumps

Part#	Description
BLA031425	Pump Head
BLA041431	Bearing Cover Head
BLA091619	Vanes
BLA121607	Push Rod
BLA221665	Dual Rotor
BLA317815	Grease Fitting
BLA331601	Seal Assembly
BLA331918	Grease Seal
BLA341601	Shaft Cover
BLA381403	Flanged Gasket
BLA383940	Bearing Cover Gasket
BLA531603	Bypass Gasket
BLA651603	2-1/2" X 2" Flange
BLA651611	2-1/2" Flange
BLA701480	Dirt Shield
BLA701947	Head Seal Ring
BLA701992	Grease Relief Fitting
BLA740057	Strainer
BLA740058	T-Strainer
BLA871180	Air Diaphragm Kit
BLA891696	Air Bypass
BLA898951	Pump Kit
BLA903156	Bearing
BLATXD2-1/2AV	Blackmer Pump With Air Bypass

Example of replacement parts. For a full breakdown on different size pumps, please refer to **Appendix F-19 thru F-24**



Reliability

Durable pumps for fast and quiet operation. Sliding-vane design provides sustained performance and trouble free operation.

Unique Features

Adjustable relief valve protects pump from excessive pressure. Optional air operated diaphragm relief valve offers easy hose and nozzle handling. T-Type strainers are available to protect pumping systems from damage caused by welding slag and foreign matter in the piping and tanks.

Sizing Options

Available in 1.5, 2, 2.5, 3, and 4 inch port sizes with flow rates from 10 to 500 U.S. gallons (2 to 113 m³/H) and pressures up to 125 PSI (8.6 bar).

Applications

Fuel oil delivery truck, fleet refueling, lube oil, aviation refuelers, transports of petro chemical, gasoline, solvents, and many more.

DRUM SSC150 Liquid Pump

The SSC150 Chemical Pump is engineered for product transfer of chemical and pharmaceutical products from tank trailers. This pump is specifically designed for applications where corrosion resistance and product cleanliness is important. The quick strip, easy clean design promotes ease of maintenance, and assures contamination free product delivery. The SSC150 is ideal for pumping thin, non-lubricating, abrasive, and thick liquids.

Please refer to **Appendix F-41 thru F-45**



Part#	Description
DRU512161201	Lip Seal Assembly Repair Kit
DRU522030200	Front Cover O-Ring
DRU522020200	Rotor O-Ring
DRU516070249	Shim Set (Arch)
DRU170412250	Stud
DRU518090200	O-Ring (Shim Retainer)
DRU513002202	Sealed Machined Assembly
DRU307058203	Sight Glass

DRUM 2000 Liquid Pump

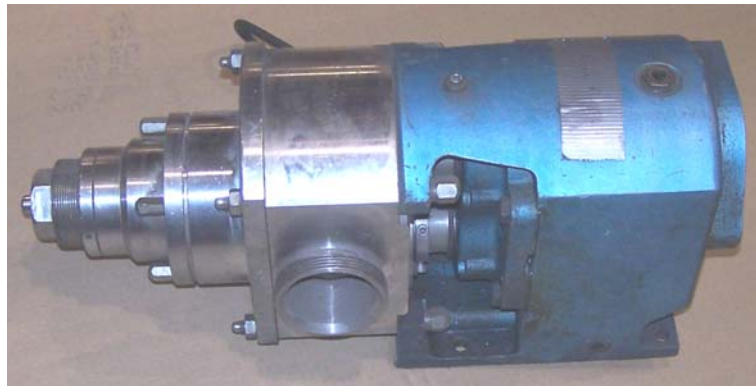
The FP2000 food grade pump is specifically designed for the transfer of liquid food products from tank trailers. The quick strip design and frontloading o-ring seals provide easy cleaning and maintenance. The non-contacting rotors are highly reliable and assure contamination free product delivery with flows up to 232 gallons per minute. The new compact design provides a lighter pump with greater pressure capabilities and long seal life. Improved rotor profile ensures quiet, pulse-less flow and resists cavitations.

Please refer to **Appendix F-9** for parts breakout and replacement parts

Part#	Description
DRU190012200	Front Cover Hex Nut
DRU510001200	Front Bearing
DRU516072229	Shim Kit
DRU522001226	Nitrile O-Ring
DRU522001227	Nitrile O-Ring
DRU522001228	Nitrile O-Ring
DRU526151201	Gear Case Gasket
DRU530051200	Rotor Nut
DRU512010218	Nitrile Oil Seal (Lip)
DRU518080202	Seal
DRU522001205	O-Ring Seal NBR



DRUM 2130 Liquid Pump



Part#	Description
DRU512050201	Rear Oil Seal (Nitrile)
DRU512050200	Front Oil Seal (Viton)
DRU513000200	Mechanical Seal Assembly-Silicon & Carbide
DRU513002200	Mechanical Seal Assembly-Stainless & Carbide
DRU307058203	Oil Sight Glass with Washer
DRU522000205	Front Cover O-Ring
DRU522000211	Rotor/Shaft O-Ring NBR
DRU522001202	O-Ring
DRU522001203	O-Ring
DRU522001204	O-Ring
DRU522001205	O-Ring
DRU522001209	O-Ring
DRU518061200	Right Hand Rotor Nut with Screw
DRU518061201	Left Hand Rotor Nut with Screw
DRU513043200	Glands/Food (4 Teflon) Non-Lube
DRU513043201	Glands/Food (4 Teflon) Lube
DRU513030203	Seal U Ring 2000 Thrower Ring
DRU518001200	Bearing Strip Retainer
DRU522000210	Rotor Nut O-Ring
DRU510001200	Front Bearing
DRU190012200	Front Cover Hex Nut
DRU170412250	12MM Stud with Clip
DRU510003201	Roller Bearing (Complete)
DRU512010201	Oil Seal/Front Lip Seal (Nitrile)
DRU512010202	Rear Lip Seal
DRU516041203	Sleeve, Double O-Ring (set screws included)
DRU516070222	Shims, Bearing Retainer
DRU516070223	Shim Set (Arch)
DRU513132200	Relief Valve Diaphragm
DRU513090201	O-Ring Seal (Double) Complete

The Drum 2130 has been discontinued but replacement parts are still available. Listed is an example of potential replacement parts. Please call for availability, for some of these parts may be discontinued at anytime.

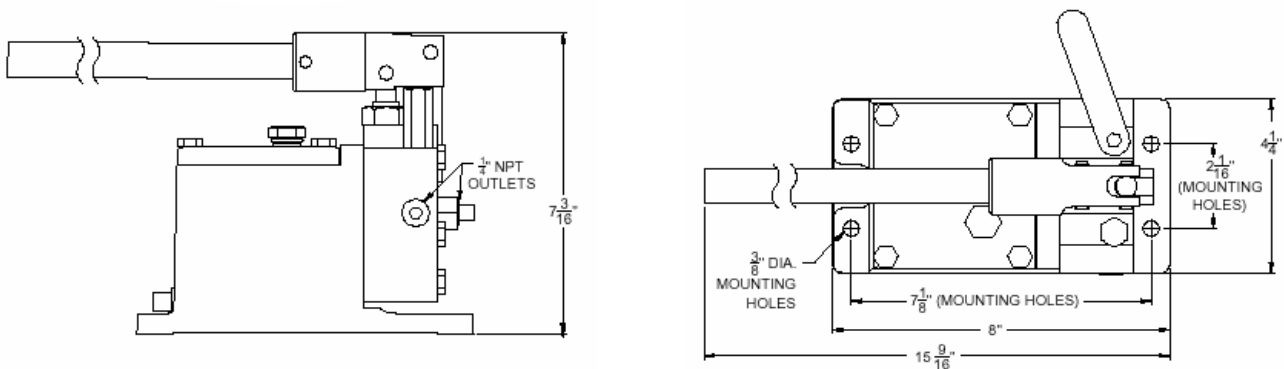
Please reference **Appendix F-13** for a full parts breakout.

Betts Hydraulic Pump
Stainless Steel Valve Block and Internal Components
Horizontal or Vertical Mounting
Replaceable Pump Head
Tamper Resistant Pressure Relief
Front and Side Outlet Ports

The new **Betts Hydraulic Pump HP46982SL** is designed as a corrosion resistant, reliable hydraulic pump for use with any Betts hydraulically operated valve or vent. The pump head and internal parts are made of corrosion resistant stainless steel. The reservoir is made of cast iron with a durable powder coating. The pump head can be replaced without unbolting the reservoir from its mounting.

¼ NPT Hydraulic connections are conveniently located at both the front of the pump and on the right side. A drain plug allows the reservoir to be drained without unbolting the pump. Pump can be mounted horizontally or vertically with outlet end down.

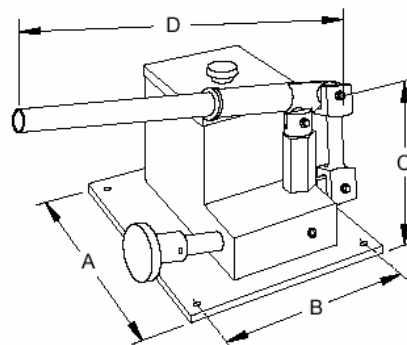
Parts breakout **Appendix F-53**



Betts Sliding Valve Hydraulic Pump

This hydraulic pump is an integral part of the hydraulic gate valve system. The pump is designed to prevent damage to the valve or hydraulic line from over-pressurization. If the pump is used to operate more than one valve, use **Distributor No. 16283** for individual valve control.

Parts breakout **Appendix F-54**



A	B	C	D
8" Sq.	6 5/8	7	14 1/2

Having Pump Problems?



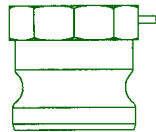
Whether you need pump parts or the pump needs fixed on your trailer, DBL is your one stop location for all your pump needs to keep your equipment and company up and running.

**For more information call DBL today
1-877-DBL-TANK
or email us
dbltank@dbltank.com**

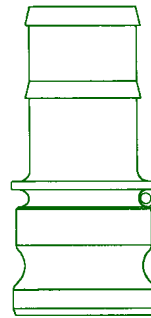
Quick Couplings

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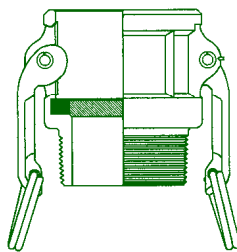
Dixon Bayco Cam and Groove Line Drawings
Representative of the Dixon Line of Cam and Groove



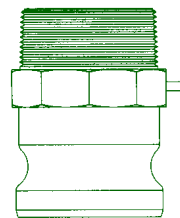
Type A
(male adapter x female NPT)



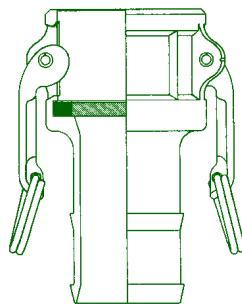
Type E
(male adapter x hose shank)



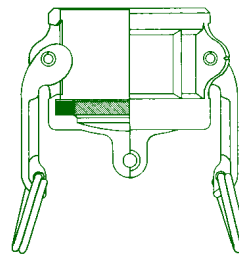
Type B
(female coupler x male NPT)



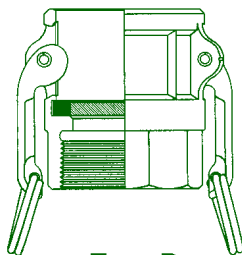
Type F
(male adapter x male NPT)



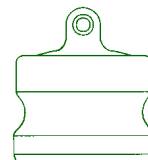
Type C
(female coupler x hose shank)



Type DC *
(dust cap)



Type D
(female coupler x female NPT)



Type DP *
(dust plug)

If you can't find the Dixon Bayco item you are looking for call DBL and request a complete Dixon Bayco catalog. DBL is a licensed Dixon Bayco distributor and is able to get you any item that they have available. Call today for further details.

Type A Cam And Groove Male Adaptor x Female NPT

Aluminum

Part#	Size
DIX100-A-AL	1"
DIX125-A-AL	1-1/4"
DIX150-A-AL	1-1/2"
DIX200-A-AL	2"
DIX250-A-AL	2-1/2"
DIX300-A-AL	3"
DIX400-A-AL	4"
DIX4030-A-AL	4" X 3"
DIX500-A-AL	5"
DIX600-A-AL	6"



Stainless Steel

Part#	Size
DIX100-A-SS	1
DIX125-A-SS	1-1/4"
DIX150-A-SS	1-1/2"
DIX200-A-SS	2"
DIX250-A-SS	2-1/2"
DIX300-A-SS	3"
DIX400-A-SS	4"

Type B Cam and Groove Female Coupler X Male NPT



Part#	Size	Type
DIX300-B-SS	3"	Stainless
DIX400-B-AL	4"	Aluminum
DIX400-B-SS	4"	Stainless
DIX4030-B-AL	4" X 3"	Aluminum

Precision machined to rigid tolerances. Durable stainless steel cam arm pins will not rust or bind, for greater strength and safety.

Recess holds gasket firmly in place and ensures proper placement.

Long shank design allows proper banding thus eliminating the major cause of hose damage.

Part#	Size	Type
DIX200-C-AL	2"	Aluminum
DIX200-C-SS	2"	Stainless
DIX300-C-AL	3"	Aluminum
DIX300-C-SS	3"	Stainless
DIX400-C-AL	4"	Aluminum
DIX4030-C-AL	4" X 3"	Aluminum
DIX500-C-AL	5"	Aluminum
DIX600-C-AL	6"	Aluminum

Type C Cam and Groove Female Coupler X Hose Shank



Cam and Groove couplers and adapters are produced to interchange with all product produced to Mil-C-7487F .

No standard exists for the 1/2" and 8" fittings, and generally these sizes do not interchange with other manufacturers.
Dust Caps and Dust Plugs are NOT to be used in Pressure Applications for safety and environmental reasons.

Designed for use with Liquids, consult Dixon for specific recommendations. Recommendations based on the use of mating Dixon fittings at ambient temperature (70 ° F) with standard Buna-N Seal installed. For use at elevated temperature or other unusual operating conditions, consult the factory.

Type D Cam and Groove Female Coupler X Female NPT

Part#	Size
DIX100-D-AL	1"
DIX125-D-AL	1-1/4"
DIX150-D-AL	1-1/2"
DIX200-D-AL	2"
DIX300-D-AL	3"
DIX400-D-AL	4"
DIX4030-D-AL	4" X 3"
DIX500-D-AL	5"



Part#	Size
DIX100-D-SS	1"
DIX125-D-SS	1-1/4"
DIX150-D-SS	1-1/2"
DIX200-D-SS	2"
DIX300-D-SS	3"
DIX400-D-SS	4"

Type E Cam and Groove Male Adaptor X Hose Shank



Part#	Size	Type
DIX200-E-AL	2"	Aluminum
DIX200-E-SS	2"	Stainless
DIX300-E-AL	3"	Aluminum
DIX300-E-SS	3"	Stainless
DIX400-E-AL	4"	Aluminum

Type F Cam and Groove Male Adapter X Male NPT

Part#	Size	Type
DIX150-F-AL	1-1/2"	Aluminum
DIX150-F-SS	1-1/2"	Stainless
DIX200-F-AL	2"	Aluminum
DIX200-F-SS	2"	Stainless
DIX250-F-AL	2-1/2"	Aluminum
DIX300-F-AL	3"	Aluminum
DIX300-F-SS	3"	Stainless
DIX3040-F-AL	3" X 4"	Aluminum
DIX400-F-AL	4"	Aluminum
DIX400-F-SS	4"	Stainless



Dixon Bayco's full line of Cam and Groove is available, call DBL today for a complete Dixon Bayco Catalog

Type DC Cam and Groove Dust Cap

DIX300-DC-LAL and DIX400-DC-LAL are locking dust caps.

Part#	Size
DIX100-DC-AL	1"
DIX125-DC-AL	1-1/4"
DIX150-DC-AL	1-1/2"
DIX200-DC-AL	2"
DIX250-DC-AL	2-1/2"
DIX300-DC-AL	3"
DIX300-DC-LAL	3"
DIX400-DC-AL	4"
DIX400-DC-LAL	4"
DIX500-DC-AL	5"
DIX600-DC-AL	6"



Part#	Size
DIX75-DC-SS	3/4"
DIX100-DC-SS	1"
DIX100-DC-SS	1-1/4"
DIX150-DC-SS	1-1/2"
DIX200-DC-SS	2"
DIX300-DC-SS	3"
DIX400-DC-SS	4"

Type DP Cam and Groove Dust Plug



Part#	Size	Type
DIX200-DP-AL	2"	Aluminum
DIX200-DP-SS	2"	Stainless
DIX300-DP-AL	3"	Aluminum
DIX300-DP-SS	3"	Stainless
DIX400-DP-AL	4"	Aluminum

Type AA Cam and Groove Spool Adapter



Part#	Size	Type
DIX300-AA-AL	3"	Aluminum
DIX3040-AA-AL	3" X 4"	Aluminum
DIX400-AA-AL	4"	Aluminum

Type DA Cam and Groove Reducing Couplers X Adapters

Two cam arm Dixon design. Parts are produced as a welded fabrication.

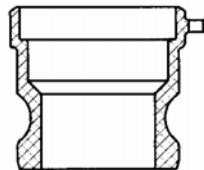


Part#	Size	Type
DIX3040-DA-AL	3" X 4"	Aluminum
DIX4030-DA-AL	4" X 3"	Aluminum
DIX6040-DA-AL	6" X 4"	Aluminum

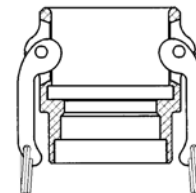
Adapters and Couplers for Welding

AW Series are adapters for socket weld to Schedule 40 Pipe.

DW Series are couplers for socket weld to Schedule 40 Pipe.



AW Series

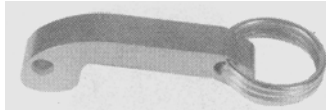


DW Series

Part#	Size	Type
DIX300-AW-SPAL	3"	Aluminum
DIX300-AW-SPSS	3"	Stainless
DIX300-DW-SPSS	3"	Stainless

Dixon Bayco Stainless Steel Handle Assembly

Stainless steel pins are standard with all assemblies. Pull rings are standard on 1-1/4" thru 6".



Part#	Size	Type
DIX200-HRP-SP	2"	Stainless
DIX300-HRP-SP	3"	Stainless
DIX600-HRP-SP	6"	Stainless

Dixon Bayco Adapter X Round Tank Truck Flange

For flange drilling standards see appendix 22. Also available in stainless steel.



Part#	Size	Type
DIX300-ALT-AL	3"	Aluminum
DIX400-ALT-AL	4"	Aluminum

Quick Coupling Gaskets

Fits all style of cam and groove couplers. Below are DBL's most popular gaskets, many others available upon request.



Part#	Description
GASQC1.5B	1-1/2" Buna
GASQC2B	2" Buna
GASQC3B	3" Buna
GASQC4B	4" Buna
GASQC5B	5" Buna
GASQC6B	6" Buna

Part#	Description
GASQC3W	3" White Neoprene
GASQC4W	4" White Neoprene
GASQC5W	5" White Neoprene
GASQC6W	6" White Neoprene

Stainless Steel Chain

Sash chain for attaching dust caps and various other variations.



Part#	Description
MISSCHAIN	#35 Sash Chain
MISSSJC10	#10 Jack Chain
MISSSJC14	#14 Jack Chain
MISSSSH10	#10 S-Hook

Safety Strap For Cam and Groove Couplers

Safety orange nylon strap with Velcro fasteners on end, used to lock handles on cam and groove couplers.

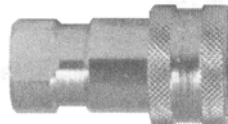


Part#	Description
MISSTRAP19	For 3" Coupler
MISSTRAP30	For 4" Coupler

Hydraulic ORB Ball Valve Coupler

Part# HYD18-415

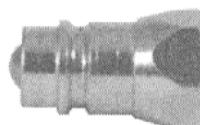
1/2" Steel ISO C hydraulic coupler with ORB port.



Hydraulic ORB Ball Valve Plug

Part# HYD19-415

1/2" Steel ISO C hydraulic plug with ORB port.



Agricultural Hydraulic Quick Connect Fitting

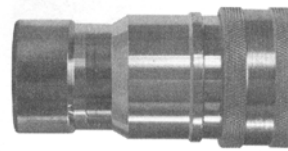
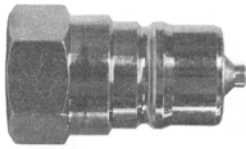
Steel ISO C hydraulic fittings with NPT ports. Quick connect features ball style shut-off valves in both the coupler and plug. Interchangeable with Pioneer 4000 series and Safeway Agricultural series.



Part#	Description
HYD18-600	Steel 1/2" FPT Coupler
HYD18-660	Steel 3/4" FPT Coupler
HYD19-600	Steel 1/2" FPT Plug
HYD19-660	Steel 3/4" FPT Plug

Dixon Bayco 5600 Series Hydraulic Quick-Connect Fittings

The 5600 Series is interchangeable with the Aeroquip 5600, Parker 6600, and ISO A interchange. The two-way check valves in the plug and socket automatically balance in flow position and provide instant shut off when disconnected. Easy and fast connect and disconnect of fluid or gas lines equals minimal loss of product from either end.



Part#	Body and NPT Thread Size
HYD56-400	1/2" x 1/2"-14
HYD56-600	1/2" x 3/4"-14
HYD56-660	3/4" x 3/4"-14
HYD56-800	1" x 1"-11 1/2

Part#	Body and NPT Thread Size
HYD57-400	1/2" x 1/2"-14
HYD57-600	1/2" x 3/4"-14
HYD57-660	3/4" x 3/4"-14
HYD56-800	1" x 1"-11 1/2

ISO FF 3/4" Hydraulic Coupler and Plug

Steel, flush face ISO16028 hydraulic coupler and plug with an operating pressure of 5000 PSI. Interchangeable with Aeroquip FD89, Parker FE, Snap-tite 74, Faster FF, and Holmbury Series.



Part#	Description
HYD6HTF6	3/4" Coupler
HYDHT6F6	3/4" Plug

Parker Hydraulic Coupler and Nipple

Parker spacer Bruning 3/4" steel hydraulic coupler and plug.



Part#	Description
HYDNS751-12FP	3/4" Coupler
HYDNS752-12FP	3/4" Nipple

Parker 3/4" Coupler and Adapter

Steel Parker SM Series 3/4" coupler and adapter.



Part#	Size
HYDSM501-12FP	3/4" Coupler
HYDSM502-12FP	3/4" Adapter

VH Series 3/4" Hydraulic Coupler and Plug

General purpose hydraulic quick-connect provides superior flow characteristics with built in reliability. Standard seal is Buan-N. Made of zinc plated steel. Interchangeable with Snap-tite H Series.



Part#	Description
HYDVHC600	3/4" Coupler
HYDVHN600	3/4" Plug

Tomko Couplers and Adapters

Steel T Series coupler and adapters for use in hydraulic applications.



Part#	Description
HYDTH6	3/4" Coupler
HYDTH8	1" Coupler
HYDTK6	3/4" Adapter
HYDTK8	1" Adapter

Safeway Coupler and Adapter

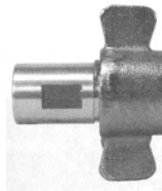
Safeway steel 100 Series hydraulic couplers and adapters



Part#	Description
HYDS105-4	1/2" Coupler
HYDS105-6	3/4" Coupler
HYDS101-4	1/2" Adapter
HYDS101-6	3/4" Adapter

Dixon Bayco Hydraulic Coupler with Wing Nut

7800 Series steel hydraulic couplers for agricultural applications. Made of brass. Interchangeable with Aeroquip 5100 series, Parker 6100 series, and Snap-tite 78 series. Widely used on dump trailer wet-line hydraulic systems and oil field equipment.



Part#	Size
HYD78-600	3/4"
HYD78-800	1"
HYD78-1000	1-1/4"
HYD78-1200	1-1/2"

Dixon Bayco Hydraulic Plug

7800 Series steel hydraulic plugs for agricultural applications. Made of brass. Interchangeable with Aeroquip 5100 series, Parker 6100 series, and Snap-tite 78 series. Widely used on dump trailer wet-line hydraulic systems and oil field equipment.



Part#	Size
HYD79-600	3/4"
HYD79-800	1"
HYD79-1000	1-1/4"
HYD79-1200	1-1/2"

Dixon Bayco Hydraulic Dust Plug

7800 Series dust plugs for agricultural applications.



Part#	Size
HYD78-006	3/4"
HYD78-008	1"
HYD78-010	1-1/4"
HYD78-012	1-1/2"

Dixon Bayco Hydraulic Dust Cap

7800 Series steel hydraulic dust caps for agricultural applications. Made of brass.



Part#	Size
HYD79-006	3/4"
HYD79-008	1"
HYD79-010	1-1/4"
HYD79-012	1-1/2"



The Right Connection™

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DBL offers the full line of
Dixon Bayco products.
Call today and ask for a
complete Dixon Bayco
Catalog.



Sanitary Handling Equipment

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Blackmer STX3 Stainless Steel Transport Pump



Stainless Steel Construction

Blackmer's STX3 is designed to meet a wide range of corrosive and non-corrosive fluids for common carriers. Standard construction: 316 stainless steel with external ball bearings, non-metallic Duravanes, PTFE elastomers, Blackmer chemical mechanical seals. See Typical Applications List.

Fast Off-Loading

The STX3 offers flow rates up to 250 GPM (946 LPM) with differential pressures up to 125 PSI (8.6 bar or 862 kPa) and maximum speed of 800 RPM. A typical 6,000 gallon (22,700 liter) tanker can be off-loaded as quick as 24 minutes.

Dry Run Capability

Blackmer's non-metallic vanes self-compensate for wear and allow the STX3 to run dry for short periods of time for self-priming and blowing lines clean, with-out pump damage.

Easy Maintenance

Internal wear is limited almost completely to the sliding-vanes, which can be replaced with ordinary metric hand tools.

Typical applications

Solvents
Chemicals
Chlorides
Sulfates
Vegetable oils
Urea
Many acids

Unique Features

316 Stainless Steel
Self-Priming
Line Clearing
Ball Bearing Construction
Chemical Mechanical Seals
Adjustable Relief Valve
Versatile Mounting Bracket

Jabsco 2” Pump

Jabsco’s 2” pump is designed specifically for farm pick-ups that haul milk and are equipped with a remote drive.

The pump body and shaft are made of 316 Stainless Steel, the impeller is Neoprene based, the shaft seal is sanitary carbon face, the ports consist of 2” ACME threads and 2” clamp, and the weight is approximately 34 pounds. To view a full parts breakout refer to the appendix.



Full parts breakout **Appendix F-4**

Jabsco 2-1/2” 130 GPM Pump

This product is specifically designed for farm pick-up milk tanker trucks. Jabsco pumps are also available as pedestal mounted or close-coupled units with capacities to 100 GPM for other sanitary applications.



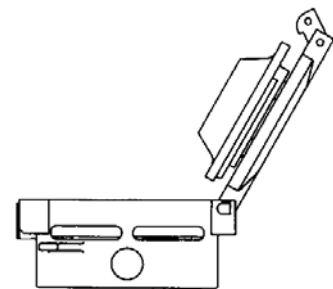
Body: Type 316 Stainless Steel
Impeller: Jabsco Sanitary Neoprene Compound
Seal: Sanitary Mechanical
Bearings: Ball/Roller Bearings
Shaft: Type 316 Stainless Steel
Ports: 2-1/2" Acme Threads
Weight: 50 lb (23 kg) Approximately

Full parts breakout **Appendix F-5**

Girard Sani-Vent

This venting device consists of dual-acting pallet to protect from over-pressurization and vacuum conditions in sanitary tank trailers. Electrochemically polished surfaces make the unit more easily cleanable to inhibit the growth of bacteria and other foreign contaminants. Ideal uses for this product are; liquid food grade products, high purity chemicals, pharmaceutical products, etc. The housing flap can be opened by hand for loading or the sampling of the product. The entire unit can be hermetically sealed and fastened to the container to guard against unauthorized tampering of the payload.

For replacement parts please refer to **Appendix L-7**



Waukesha 60TTF Valve

DBL carries a variety of replacement parts for the Waukesha 60TTF valve.

Please refer to **Appendix K-1 thru K-3** for replacement parts



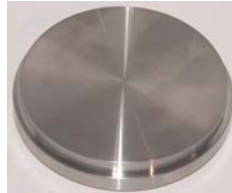
Thomsen 60TTF 3” Tanker Valve

For replacement parts refer to **Appendix K-4 & K-5**



Bevel End Cap

3A Sanitary Stainless Steel bevel seat end cap.



Part#	Size
SANBC2	2"
SANBC2.5	2-1/2"
SANBC3	3"

Elbow With Nut

3A Sanitary Stainless Steel 90° elbow with bevel seat and nut.



Part#	Description
SANBL2	Bevel Elbow with Nut
SANBL2.5	Weld Elbow with Seat and Nut
SANBL3	Bevel Elbow with Nut

Sanitary Bevel Reducers

3A Sanitary Stainless Steel bevel seat x thread reducers.



Part#	Description
SANBR2.5X2	2-1/2" x 2" Bevel Seat Reducer
SANBR2X1.5	Stainless Threaded X 1-1/2" Bevel

Bevel Seat X Hose Shank

3A Sanitary Stainless Steel bevel seat x hose shank to install in the end of a milk hose.



Part#	Size
SANBT2	2"
SANBT2.5	2-1/2"

Stainless Steel Flanged End Cap

3A Sanitary stainless steel clamp in place end cap.



Part#	Size
SANFC2	2"
SANFC2.5	2-1/2"
SANFC3	3"
SANFC4	4"

Stainless Steel Clamp For Sanitary Pipe

3A Sanitary stainless steel single pin clamp for clamp in place fittings.



Part#	Size
SANC1.5	1-1/2"
SANC2	2"
SANC2.5	2-1/2"
SANC3	3"
SANC4	4"

Hex Nut

3A Sanitary Stainless Steel hex nut for bevel seat type fittings.



Part#	Size
SANN1.5	1-1/2"
SANN2	2"
SANN2.5	2-1/2"
SANN3	3"

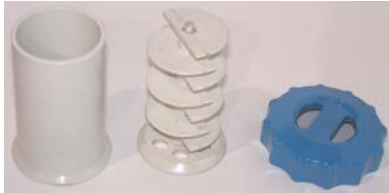
Sanitary Hose Hook

3A Sanitary stainless steel bevel seat end cap with hose hook.



Runovent

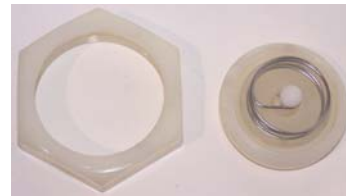
Sanitary three piece plastic vent designed for use in milk hauling operations. Internal baffle system prevents milk from spilling out.



Part#	Description
SANROVA	Runovent Complete
SANROVB	Runovent Inner Baffle
SANROVC	Runovent Cap
SANROVS	Runovent Outer Sleeve

Olson Vent Assembly and Plastic Nut

Spring loaded vent with plastic nut designed to be installed in top of milk tankers. Dual poppet design allows for normal vacuum and venting operations while preventing spilling.



Part#	Description
SANOLSONN	Plastic Nut
SANOLSONNV	Vent Assembly

3" Plastic Cap For Pump

Part# **SAN5281016**

Standard with ACME threads and chain.



Nalco Sample Box

Part# **WALB01314**

Insulated sample box made with a tough high grade polymer cover and it has sliding tracks on bottom to ease removal. Includes dividers.

Red Bottle Brush

3A Sanitary red bottle brushes for raw product.



Part#	Size
SAN6186892	Quart Size
SAN6186896	Pint Size

Petro-Gel Sanitary Grease

Part# **MISSGEL**

Sanitary lubricating grease used for various applications. Sold by case or by the tube.



Rubber Stopper For Dip Tube

Part# **WAL14-130Q**

Solid black rubber stopper for use on bottom of drip tube or installation on dipper.



Sanitary Spray

Hanes Sanitary Spray, available in two different consistencies (red used for normal operations, blue used when a thicker spray is desired). Available by can or case.



Part#	Description
MISSSPRAYB	Blue Can
MISSSPRAYR	Red Can

Walker Lower Dip Tube Holder

Part# **WALCAB3254**

Stainless Steel "L" shape bracket with cleats to hold dip tube base.



Walker Upper Dip Tube Holder

Part# **WALCAB3752**

Stainless steel spring loaded clip with single mounting hole to clamp onto dip tube.



60 ML Dipper With Stopper

Part# SAND60

3A sanitary stainless steel 60 ml. Dipper with rubber dipper stopper installed.



Stainless Steel Dipper Tube Holder

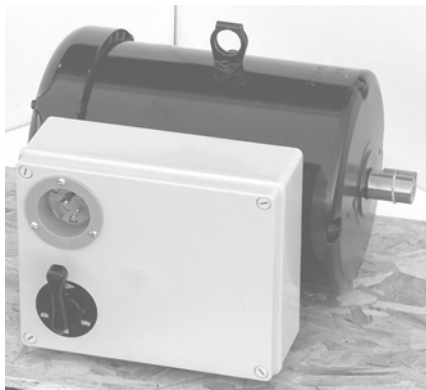
Sanitary stainless steel dipper tube used mainly by the milk hauling industry on trailers hauling milk. Made with standard 2" sanitary stainless steel tubing and lightweight stainless steel base for easy installation and cleaning.



Leeson 3 Horsepower 1800 RPM 230V /1PH Motor

Part# ELEMOT230-3

AC motor for use in farm pick-up applications.



Leeson 1-1/4 Horsepower, 12V DC Electric Motor

Part# ELEMOT12-1.25

12V DC, 1750 RPM motor has 5/8" output shaft and 30 minute duty cycle for use in farm pick-up applications.



Spirlite Milk Hose

Clear wall and white helix, smooth service. FDA and USDA approved. Used for milk handling and food processing requiring see-through flow.



Part#	Size
HOS170-2	2"
HOS170-2X100	2" (100 FT. ROLL)
HOS170-2.5	2-1/2"
HOS170-2.5X100	2-1/2" (100 FT. ROLL)
HOS170-3	3"

Kanaflex Sanitary Milk Hose

Heavy duty food grade suction hose for milk hauling (tank truck) and farm pick-up.



Part#	Size
HOS212MK	2"
HOS212MKX100	2" (100 FT. ROLL)

Tigerflex Low Temperature Milk Hose

Smooth bore and clear PVC construction. Complies with FDA and USDA requirements and 3-A Sanitary standards. Used for milk suction and transfer of liquid dairy products.

Part#	Size
HOSLT200X100	2"
HOSLT250X100	2-1/2"

Tygone Hose

Clear, heavy walled sanitary hose designed for connecting pumps and valves in milk transfer compartment.



Part#	Size
HOSTY2	2" (3/8" Wall)
HOSTY3	3" (1/2" Wall)

Signage & Decals

Conspicuity Tape.....	221
Placard Holders.....	221
Placards.....	221
Miscellaneous Fuel Decals.....	221
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Miscellaneous Decals.....	222

Conspicuity Tape

2" wide tape, meets DOT specifications. Stocked in varying combinations to match existing tape.



Part#	Type
DCLCRESENT	White Crescent
DCLCTRG	Red/Gray
DCLCTRS	Red/Silver
DCLCTRW	Red/White
DCLCTW	White

Rigid Placard Holder

Part# DCL113

Made of aluminum, sealed on three side with one opening designed to hold standard DOT placards.



Empro Duo-Flip Placards

Part# DCL110

Heavy duty aluminum frame and fade resistant silk screening . Changes both placards and ID numbers.



Empro Multi-Flip Placard

Part# DCL111M

Heavy gauge aluminum flip system for petroleum tankers. DOT approved legend.



D.O.T. Decals for Fuel Hauling

Heavy gauge vinyl placard with adhesive backing.



Rigid Placards for Fuel Hauling

Rigid vinyl placard with D.O.T. specifications legends designed to fit in #113 holder.

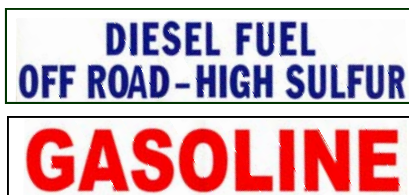


Part#	Type
DCL1203	Gasoline
DCL1223	Kerosene
DCL1993	Fuel Oil

Part#	Type
DCL1203-R	Gasoline
DCL1993-R	Fuel Oil

Miscellaneous Fuel Decals

3" x 12" vinyl decals with adhesive backing used for various identification purposes.



Part#	Description
DCLDIESEL-OFF	"Off Road Diesel"
DCLDIESEL-ON	"On Road Diesel"
DCLGAS	3" x 4" "Gasoline"
DCLKERO	3" x 4" "Kerosene"

Walker Decals

Standard replacement decals for Walker truck tanks and trailers.



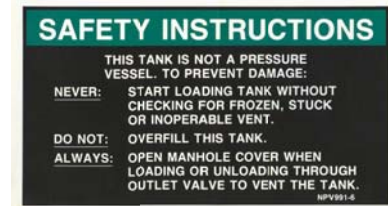
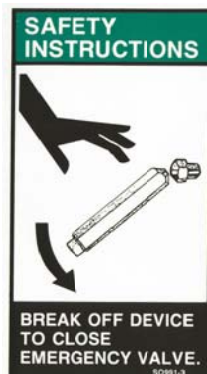
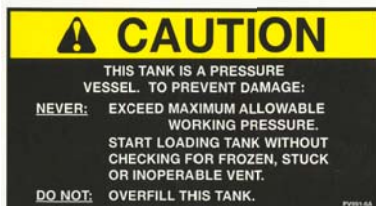
Part#	Description
WALDEC0029	Crown
WALDEC0055	Bumper

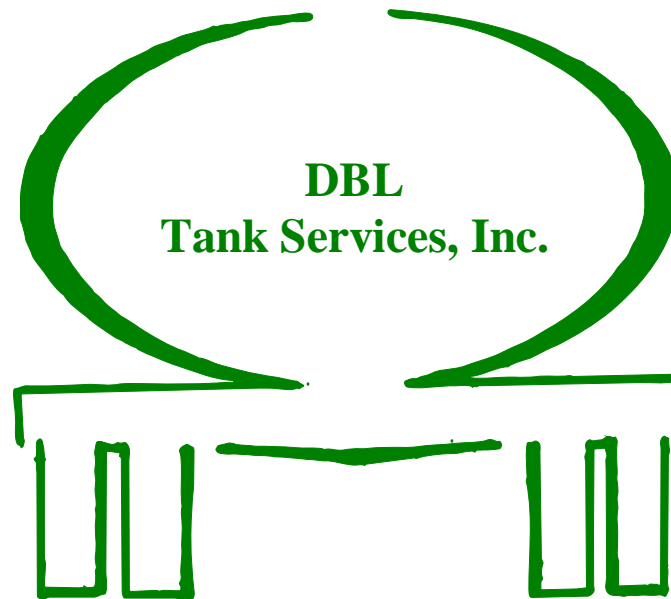
Miscellaneous Decals

DBL stocks a full line of vinyl adhesive back decals for the trucking and transport industry. Please call DBL and let us know your specific decal needs.

Below are some examples of what DBL stocks.

Part#	Description
DCL5WHEEL	Fifth Wheel
DCLLADDER	Ladder Safety
DCLMANHOLE	Manhole Opening
DCLNOSMOKE	No Smoking
DCLOPT	Tank Operation
DCLPRESS	Pressure Warning
DCLRR	Railroad Crossing
DCLSHOCK	Shock Warning





For Pricing

Call DBL Toll Free: 1-877-DBL-TANK

Monday thru Friday

7:00 AM - 5:00 PM

Saturdays

6:00 AM - 12:00 AM

**Or you can fax or email us at anytime and
we will get back to you ASAP**

Fax: 717-653-4106

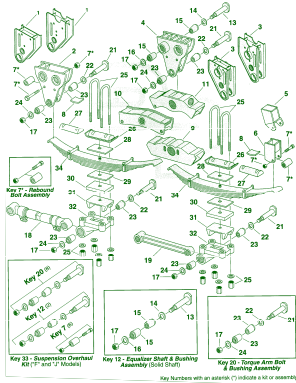
Email: dbltank@dbltank.com

Suspensions and Landing Gear

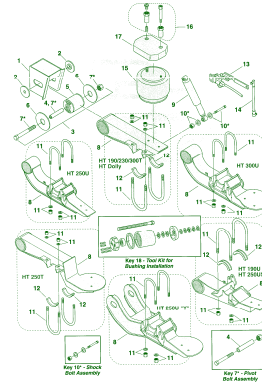
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DBL carries a variety of suspensions, suspension parts, and suspension kits. Below are a few of our most popular suspensions. For a full breakout of these suspensions and others, please refer to the appendix number given for each. If you do not see the suspension you are looking for please call DBL for assistance. For miscellaneous parts, please refer to pages 226 thru 230.

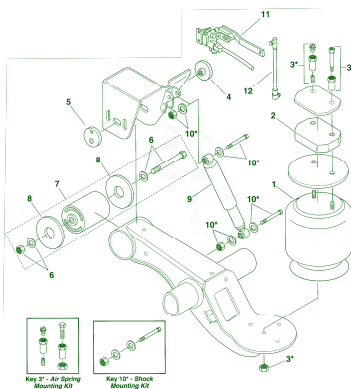
Fruehauf "F" Series Trailer Four Spring Suspension
Appendix H-1



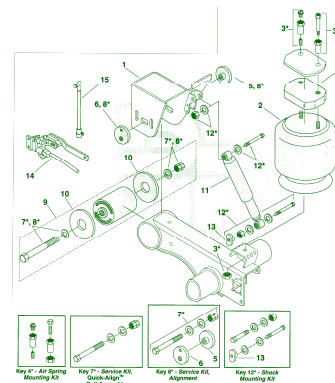
Hendrickson Trailer HK/HS 190/230
HT 190/230/250/300
Appendix H-3



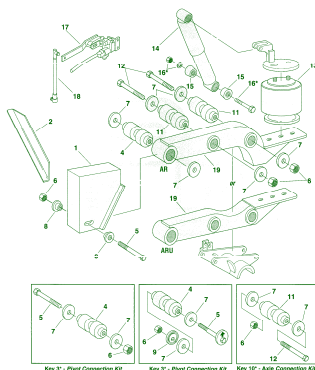
Hendrickson Trailer Intraxx AA230L/250L
Trailer Air Suspension
Appendix H-7



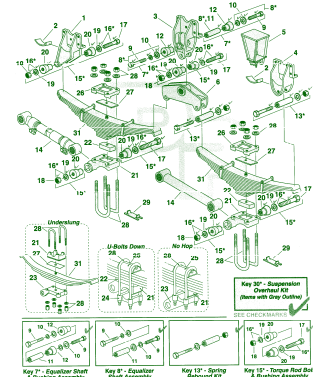
Hendrickson Trailer Intraxx/Vantraxx AA230/250T,
HKA180/200/250 Trailer Air Suspension
Appendix H-9



Neway AR90/90-1/92/93/250, ARU92/93
Air Trailer Suspension
Appendix H-11



Reyco Model 21B/21B-FAB
Tandem Four Spring Trailer Suspension
Appendix H-13



Hendrickson Quik-Align Washers

Washers used in conjunction with Hendrickson Intraxx Suspensions.



Part#	Description
SUSS20925	Eccentric Washer
SUSS20924	Concentric Washer

Hendrickson Quik-Align Kits

Washers used in conjunction with Hendrickson Intraxx Suspensions.



Part#	Description
SUSS24679	Pivot Bolt Kit
SUSS24691	Bushing Kit

Hendrickson Old Style Weld On Kits

Alignment kits used in conjunction with HT Series suspensions.



Part#	Description
SUSS2770	Weld On Alignment Washer
SUSS3646	Pivot Bolt Kit
SUSS6914	Bushing Kit

Hendrickson Air Bag Kits

Air bag kits used in conjunction with Hendrickson Air Ride Systems. Kits also available for other model suspensions.



Part#	Description
SUSS22630	Use with 1-1/8" spacer
SUSS22631	Use with 1-7/8" spacer
SUSS22632	Use with 3-1/8" Plastic Spacer

Hendrickson Air Bags



Part#	For Hendrickson Model
SUSS20010	HT230
SUSS21784	AA250, HKA250
SUSS21800	AA230

Hendrickson Shock Absorber

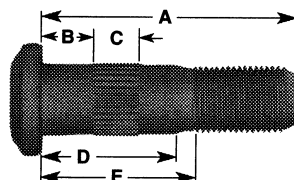
See Hendrickson breakouts in Appendix H-3 thru H-10 for more shock absorber information.

DBL also carries other shock absorbers, please call for further details.



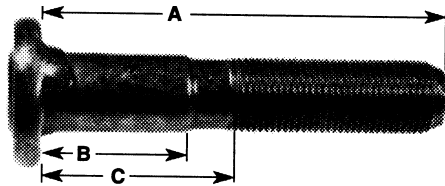
3/4" -16 Headed Studs

PART NO	A	B	C	D	E
13-1104R/L	2-7/8"	9/16"	1/2"	1-1/2"	1-13/16"
13-1110R/L	3-7/8"	9/16"	1/2"	2-1/2"	2-13/16"



3/4" -16 Studs With Lugs

PART NO	A	B	C
13-2323R/L	3-3/8"	1-13/32"	1-11/16"



3/4" - 16 Inner Nuts

Part# ACS13-3005R (Right)
Part# ACS13-3005L (Left)

For stud piloted wheels.



3/4" -16 Inner Nut

Part# ACS13-3026R (Right)
Part# ACS13-3026L (Left)

For stud piloted wheels.



1-1/8" -16 Outer Nut

For stud piloted wheels.



Flanged Nut For 8 Hole Wheel
Part# ACSR005991

Flanged nut for 8 hole hub piloted wheel.



Flanged Nut For 10 Hole Wheel
Part# ACSR006000

Flanged nut for 10 hole hub piloted wheel.

Hendrickson Bolt Kit



Part#	Description
SUSS24021	Shock Repair Kits
SUSUBK3R14	3" Full Radius U-Bolt Set, 14" Long
SUSUBK3R16	3" Full Radius U-Bolt Set, 16" Long

Hendrickson AK-147 Air Ride Leveling Kit



Part#	Description
SUSS23460	3 Way Pilot Valve
SUSS24680	Protection Valve
SUSAK-147	Dump Valve

Reyco Transpro Spring Suspension Parts

Torque arm and bushings for service of Transpro suspension.



Part#	Description
SUS0075-20	19-7/8" Torque Arm Assembly
SUS1035-20	Adjustable Torque Arm Assembly
SUS0022-01K	Bushing Kit

Fruehauf Bushing Kits

All necessary hardware to re-bush the Fruehauf F-2 Suspension.



Part#	Description
SUS334-565	Radius Rod Bushing Kit
SUSUXA000011-900	Torque Arm Bushing Kit

Fruehauf Adjustable Torque Arm

Torque arm and bushings for service of Fruehauf suspension.

Part#	Description
SUSUCF002640001	Adjustable Torque Arm
SUSUCF002640004	Adjustable Torque Arm

Generic Axle Roller Bearings

Part# **SUSBEARING**

Stocking a complete line of TN and TP style axle bearings.



Reyco 21B Spring Suspension Parts

Torque arm and bushings for service of 21B suspension.



Part#	Description
SUS15172-1	16-1/4" Adjustable Torque Assembly
SUS15173-1	18-7/8" Adjustable Torque Arm
SUS15178-1	16-1/4" Torque Arm
SUS15179-1	18-7/8" Torque Arm

Reyco 21B Torque Arm Bushing Kit

Part# **SUSUCF002640001**

All necessary hardware to re-bush the Reyco 21B Suspension.



Stemco Products

Stocking a complete line of high quality Stemco axle and hub products.



Part#	Description
SUS300-4009	Stemco Cap
SUS11-0670	Pro-Par Clear Hub Cap
SUS11-0680	Dayton O-Ring
SUS330-3009	Stemco Hub Gasket
SUS330-3067	Stemco Gasket
SUS330-3118	Large Diameter Hub Gasket
SUS340-4195	Stemco Cap
SUS359-5995	Stemco Window Kit

Stemco Seals

Stocking a complete line of Stemco Wheel Seals.



Part#	Description
SUS372-7097	
SUS372-7098	
SUS372-7099	

Fruehauf Equalizer Bushing Kit

Part# SUSUXA000004-900

All necessary hardware to re-bush the Fruehauf F-2 Equalizer.



Reyco 21B Equalizer Bushing Kit

Part# SUSTK18998

All necessary hardware to re-bush the Reyco 21B equalizer kit.



Landing Gear Cranks

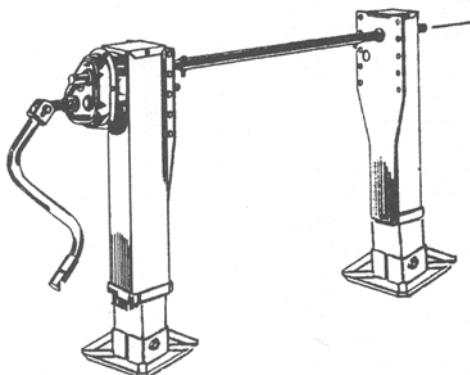
Mild steel landing gear crank handles for both vertical and horizontal applications.



Part#	Description
MISLGC15H	15" Horizontal
MISLGC15V	15" Vertical
MISLGC21H	21" Horizontal
MISLGC21V	21" Vertical

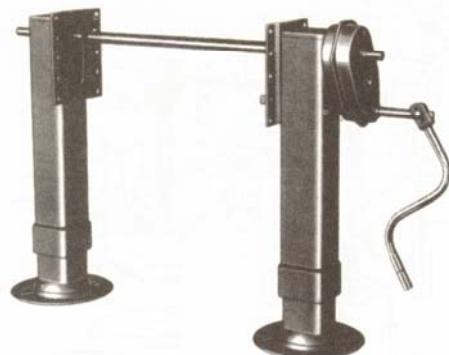
GD70 Landing Gear

Lifting capacity of 70,000 lbs. at 100ft.-lbs. Input torque, ultimate load capacity of 170,000 lbs., and side load capacity of 29,000lbs. Four models available, varying in retracted and extended lengths. Please refer to Appendix H-23 for replacement parts breakout.



Holland Mark V Landing Gear

Lifting capacity of 62,500 lbs. at 100ft.-lbs. Input torque, ultimate load capacity of 200,000 lbs., and side load capacity of 32,000lbs. The Mark V exceeds all AAR M-931 and all TTMA RP-4 performance specifications. For replacement parts refer to Appendix H-24





ConMet Hubs

PreSet Aluminum and Ductile Iron Hubs

Aluminum Hubs

PreSet hub assemblies utilize pre-adjusted bearings to simplify installation, improve seal and bearing life and reduce maintenance requirements. This results in improved overall vehicle performance and lower life cycle cost.

ConMet aluminum hubs enable trucks and trailers to reduce weight, maximize payload, and increase profits. Their lightweight aluminum hubs are available for virtually all axle and wheel configurations for medium and heavy-duty vehicle applications.

When ordering make sure to specify 8 or 10 stud, hub piloted or stud piloted, and inner and outer bearing numbers.

ConMet Drums

TruTurn Brake Drum

CastLite Brake Drum

Cast Brake Drum

ConMet Brake Drums offer robust and reliable braking solutions for a wide range of heavy-duty vehicle applications. Every ConMet brake drum design is certified to meet Federal Motor Vehicle Safety Standard testing requirements. ConMet's superior design capabilities are utilized to develop the most durable brake drums available on the road today for heavy-duty truck and trailer applications.

When ordering drums make sure to specify 8 or 10 stud, hub piloted or stud piloted, and width of shoe (standard is usually 7" and a mountain shoe 8-1/2")



Whether it be stainless steel, aluminum, carbon steel, air or spring ride suspensions; DBL Tank Services can fabricate and install any suspension with unparalleled flexibility

Call DBL today for further information
1-877-DBL-TANK

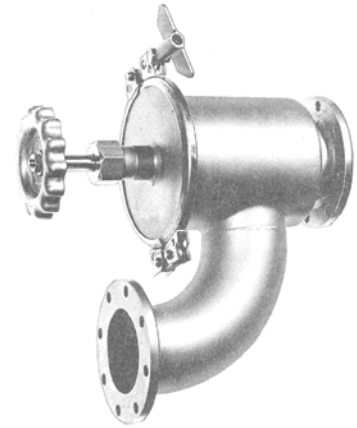


Valves

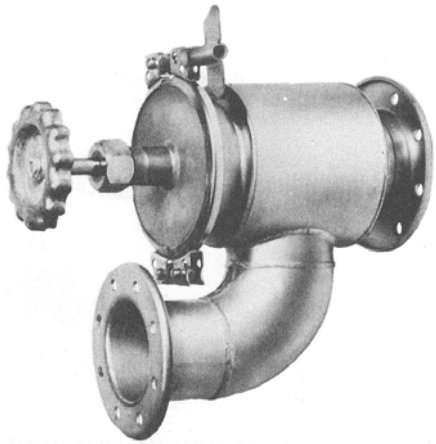
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Betts Q.R.B Quick Clean Hydrolet Valve

The Betts Q.R.B. Quick Clean Hydrolet Valve with the Quick-Removable Bonnet and seamless construction is a valve designed for quick dismantling and easy cleaning. Valve is available in the two styles. Valve comes standard with Teflon disc, packing and gasket. Pressure & Temperature Rating: 35 PSI and 250°F, maximum working pressure and temperature.



For ordering information please refer to [Appendix S-12](#)
Replacements parts available, see [Appendix K-8 & K-9](#) for full parts breakdown



Betts Q.R.B Hydrolet Valve

The Betts Q.R.B. Hydrolet Valve with the Quick-Removable Bonnet, is designed for use on transport tanks hauling a variety of products, where easy dismantling for cleaning and inspection are essential. **Valve is available in the three styles; 3" and 4" sizes with flanged or threaded outlets.**

Pressure And Temperature Rating: Valves are rated at 35 PSI maximum working pressure. Temperature varies as to which packing, gasket & disc material is used. Valves with Teflon, Viton or Non-Asbestos are rated at 250°F maximum working temperature. Valves with Buna-N are rated at 150° F maximum working temperature.

Also available with outside screw and yoke

For ordering information please refer to [Appendix S-12 and S-13](#)
Replacements parts available, see [Appendix K-8](#)

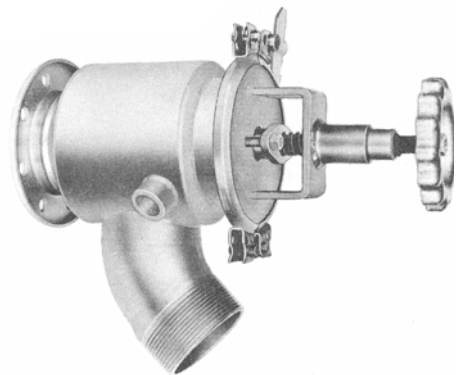
Betts Steam Jacketed Q.R.B. Hydrolet Valve

The Betts Steam Jacketed Q.R.B. Hydrolet Valve is designed to handle heavy, viscous liquids or other special products. The Quick-Removable Bonnet permits faster removal of internal parts for cleaning and inspection. This valve is available in the three styles shown below in 3" or 4" sizes with flanged or threaded outlets.

Pressure And Temperature Rating: Valves are rated at 35 PSI maximum working pressure. Temperature varies as to which packing, gasket & disc material is used. Valves with Teflon, Viton or Non-Asbestos are rated at 250°F maximum working temperature. Valves with Buna-N are rated at 150° F maximum working temperature. Steam jacket rated at 150 PSI maximum working pressure.

Also available with outside screw and yoke.

For ordering information please refer to [Appendix S-13 & S-14](#)
Replacements parts available, see [Appendix K-8](#)



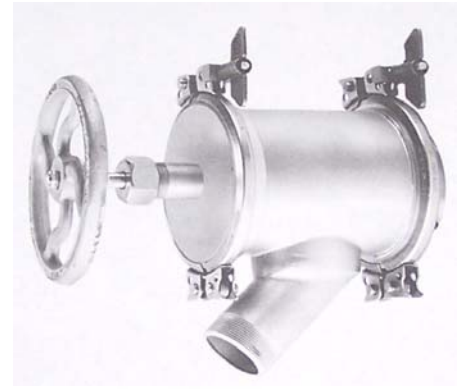
Outside Screw and Yoke

Betts Emergency Unloading Fixture

Assembly No. EM46443SS

This fixture is designed to make possible the emergency unloading of an overturned tank through a copper 3" NPT clean-out without spillage of product. After clamping on the unloading fixture as described in the operational instruction sheet, clean-out cap can be removed within the fixture and with proper discharge lines hooked up unload product down to the level of the clean-out.

Replacements parts available, see **Appendix K-10** for full parts breakdown.

**Betts Flush Valve**

With a metal to metal seat, the Betts Flush Valve is designed to handle heavy, viscous material. Fabricated design provides greater strength with less weight, full direct flow, complete drainage and replaceable parts. The outside screw and yoke keeps threads free of product, maintaining smooth operation. Temperature Rating: Steel or Stainless 500°F. max. **Available in two different styles and three different sizes. (3", 4", 6")**

NOTE: This valve must be mounted in a vertical position. Horizontal mounting will not allow the disc to seat properly.

For ordering information please refer to **Appendix S-14**

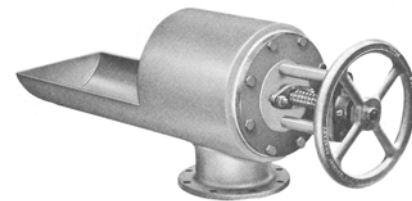
Replacements parts available, see **Appendix K-11** for a full parts breakdown

Betts Rear Head Valve

The Betts Rear Head Valve is designed to be welded into the bottom of the tank at the rear head, for use in hot, viscous material service. The valve is light in weight yet rugged due to the fabricated construction. The disc opens away from the product past the center line of the outlet, providing full flow. Temperature Rating: Aluminum valve 375°F max., Steel 500°F max. **Available in three different styles.**

For ordering information please refer to **Appendix S-15**

Replacements parts available, see **Appendix K-19** for full parts breakdowns

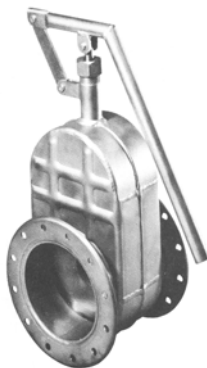
**Betts 3", 4", & 6" Sliding Valve**

The Betts Sliding Valve is an economical means of providing a quick opening – quick closing valve where high working pressure will not be encountered. All valves are standard with stainless steel gates which provide a bubble tight seal. **Available flanged x flanged or flanged x threaded.**

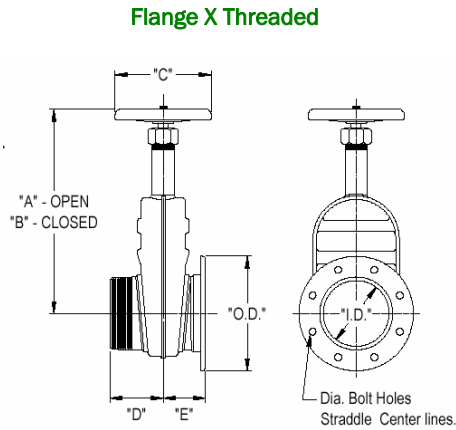
Sliding Valve with Replaceable O-Ring also available.

For ordering information please refer to **Appendix S-15 & S-16**

Replacements parts available, see **Appendix K-20** for full parts breakdowns



Betts Gate Valves Fabricated - Double Acting



Flexible action of Stainless Steel Belleville Discs insures a tighter valve over longer periods of time. No elastomers to deteriorate. Fabricated for greater strength, lighter weight and lower cost, in steel, stainless and aluminum. Double acting stem threads double the speed of operation. Valve closes in half the time. MAWP 50 PSI.

Betts Gate Valves come in an array of sizes:

1. Flanged X Threaded
2. Flanged X Flanged
3. Grooved X Grooved

For ordering information please refer to **Appendix S-16 & S-17**

Please refer to **Appendix K-21** for full parts breakouts and replacement parts on all models

Dimensions											
Pipe Size	Body					Pipe Thread	Flange				
	A	B	C	D	E		I.D.	O.D.	B.C.	No.	Dia.
3	14 1/4	12 5/8	4 1/2	3 3/16	2 1/4	3" NPT	3 1/16	Stl & SS 6 1/8	4 7/8	8	7/16
								Aluminum 5 5/8			
4	15 1/4	13 1/8	6	3 5/16	2 5/8	4" NPT	4 1/32	Stl & SS 7 1/8	5 7/8	8	7/16
								Aluminum 6 5/8			

Betts Gate Valves Replaceable O-Ring Seat

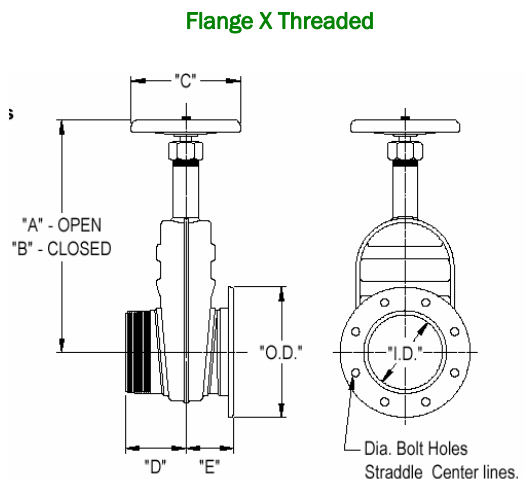
Replaceable O-Ring Seat provides positive sealing with easy repair. Flexible action of Stainless Steel Belleville Discs insures a tighter valve over longer periods of time. Fabricated for greater strength, lighter weight and lower cost, in steel, stainless and aluminum. Double acting stem threads double the speed of operation. Valve closes in half the time. MAWP 50 PSI

Betts Gate Valves come in an array of sizes:

1. Flanged X Threaded
2. Flanged X Flanged
3. Grooved X Grooved

For ordering information please refer to **Appendix S-18**

Please refer to **Appendix K-21** for replacement parts



Dimensions											
Pipe Size	Body					Pipe Thread	Flange				
	A	B	C	D	E		I.D.	O.D.	B.C.	No.	Dia.
4	15 1/4	13 1/8	6	3 5/16	2 5/8	4" NPT	4 1/32	Stl & SS 7 1/8	5 7/8	8	7/16
								Aluminum 6 5/8			

3" & 4" Aluminum Emergency Valve Tapered Seat Style

Betts tapered seat emergency valves are designed and manufactured to use Teflon encapsulated seals for compatibility with a wide range of products. Body is constructed of aluminum with stainless steel trim. Shear section tested per TTMA RP84 and meets 49CFR178.345-8.

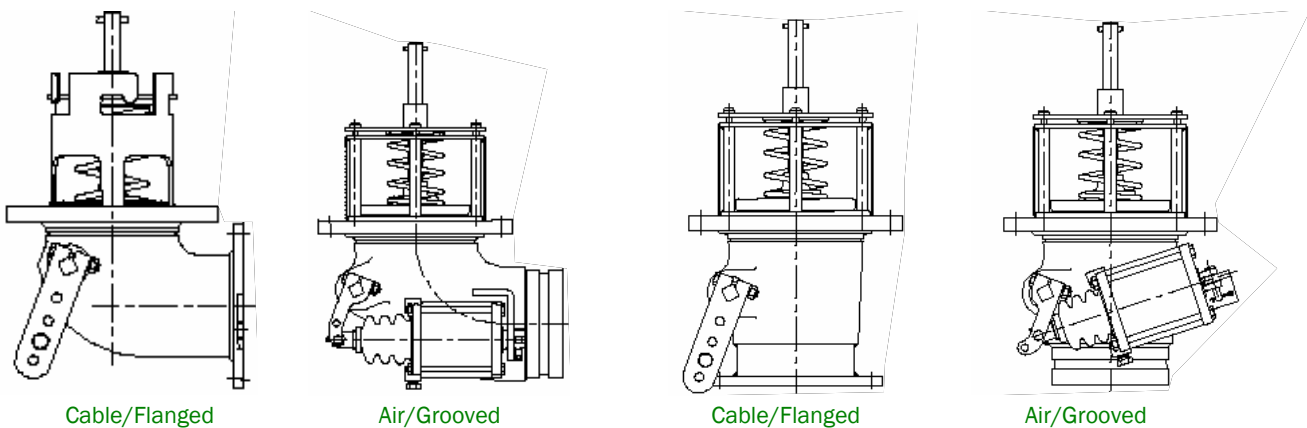
Air operated valves are provided with an external air cylinder to help prevent gasoline or other products from contaminating the air supply. The air cylinder is hard-coated aluminum with a polished stainless steel shaft. Cylinders have 1/8" NPT port for air connection and are supplied with a fusible plug installed.

Cable operated valves are supplied with a universal lever arm which provides up to 8 cable travel options to work with most operators. Lever arm is "E" Coated to provide exceptional corrosion resistance. Left-hand valves are available with air cylinder or cable lever arm on opposite side of valve.

Air/grooved or cable/flanged by 90° elbow or straight.

For ordering information please refer to [Appendix S-20](#)

For more information see [Appendix K-29 & K-30](#)



6" X 4" High Flow Aluminum Emergency Valve

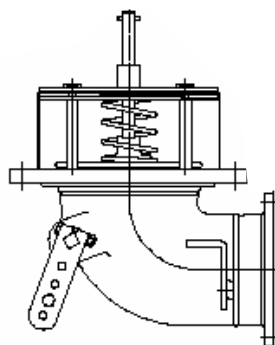
Betts High Flow Emergency valves provide increased flow rates compared to 4" emergency valves. Valves feature Teflon encapsulated seals for compatibility with a wide range of products and a special lift mechanism for smooth operation. Body is constructed of aluminum with stainless steel trim. Shear section tested per TTMA RP84 and meets 49CFR178.345-8.

Air operated valves are provided with an external air cylinder to help prevent gasoline or other products from contaminating the air supply. The air cylinder is hard-coated aluminum with a polished stainless steel shaft. Cylinders have 1/8" NPT port for air connection and are supplied with a fusible plug installed.

Available in Long-Radius and Short-Radius elbows. Use the Long-Radius for maximum flow or use the Short-Radius where clearance for piping is restricted. Left-hand valves are available with air cylinder or cable lever arm on opposite side of valve.

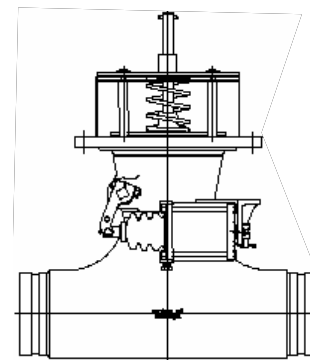
For ordering information please refer to [Appendix S-20 & S-23](#)

See [Appendix K-30](#) for a complete parts breakout



Short Radius Cable/Flanged

Air or Cable Operated
Stainless Trim
Teflon Encapsulated
Seals



Tee Air/Grooved

Emergency Valve 3", 4" & 6" Aluminum Internal Air, Tapered Seat Style

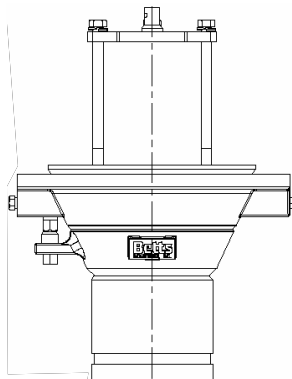
Betts internal air emergency valves are designed and manufactured to use Teflon[®] encapsulated seals for compatibility with a wide range of products. Body is constructed of aluminum and meets 49CFR178.345-8-shear section test per TTMA RP 84. Air inlet fitting shears with shear section to dump air pressure and insure the valve closes in case of an under-ride accident. Fusible plug installed in valve to dump air pressure in case of a fire. Internal air cylinder saves space on exterior of valve providing maximum clearance for piping. Air cylinder diameter is 4" for 6" valve and 3" for the 3" and 4" valve. Air cylinder is hard coated with hard-anodized shaft and guide. Valves have 1/8" NPT ports for air connection. Valves are equipped with a Stainless Steel jackscrew that allows for manual operation of the valve in case of an air system failure.

For ordering information please refer to [Appendix S-21 & S-22](#)

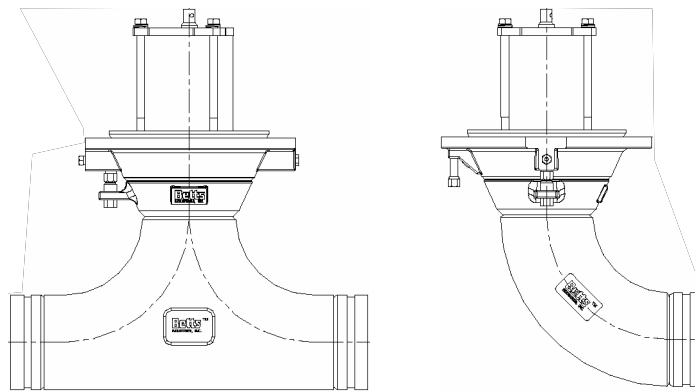
Full parts breakdowns for replacement parts available in [Appendix K-31 thru K-32](#). Please feel free to call one of our knowledgeable staff if you have any questions regarding any Betts Valve

4" Valves Not Pictured

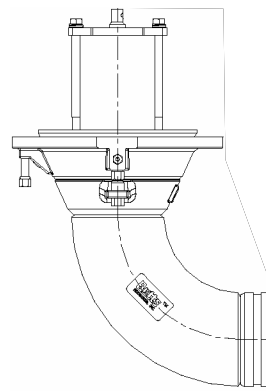
Internal Air Cylinder Frangible Air Inlet Teflon Encapsulated Seals Hard Anodized Wear Parts



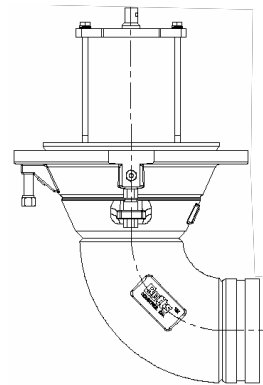
6" Straight



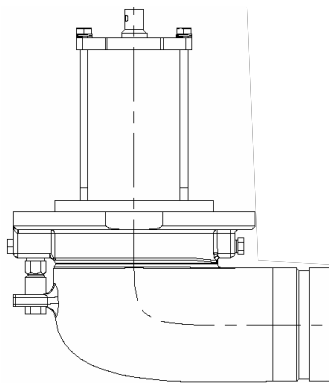
6" Tee



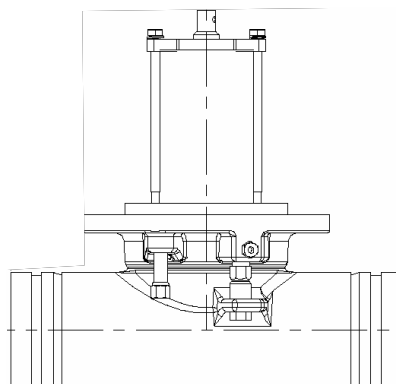
6" Elbow Long Radius



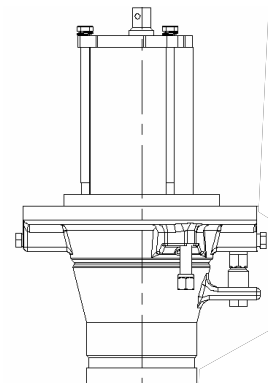
6" Elbow



3" Elbow



3" Tee



3" Straight

3" & 4" Betts Stainless Steel Emergency Valve

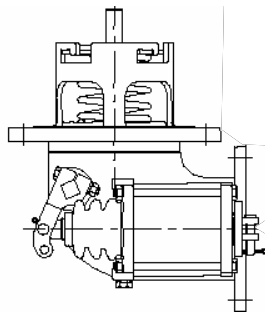
Betts Stainless Steel Emergency Valves are equipped with Teflon encapsulated O-ring seals which are compatible with a wide range of products. The tapered seat is self-cleaning to lessen the possibility of seat damage due to foreign objects. The stuffing box features two O-ring seals to provide positive sealing.

Air operated valves are provided with an external air cylinder to help prevent gasoline or other products from contaminating the air supply. The air cylinder is hard-coated aluminum with a polished stainless steel shaft. Cylinders have 1/8" NPT port for air connection and are supplied with a fusible plug installed.

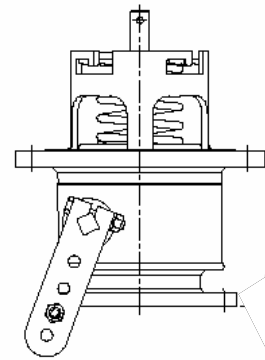
Available in a 3" or 4" Straight or 90° Elbow. Straight Valves are cable operated only.

For ordering information please refer to **Appendix S-19**

For more information see **Appendix K-27** for dimensions for a full parts breakout



Air or Cable Operated
 Tapered Seat
 Teflon Encapsulated
 Seals



3" & 4" Betts Emergency Valve Aluminum Flat Seat Style

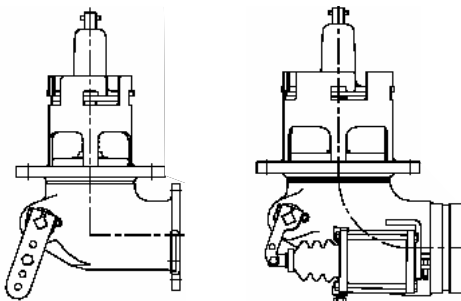
Betts flat seat style emergency valves combine Betts quality with an economical design. Valves feature aluminum construction with a specially designed seat disc to provide positive sealing. Shear section tested per TTMA RP84 and meets 49CFR178.345-8.

Air operated valves are provided with an external air cylinder to help prevent gasoline or other products from contaminating the air supply. The air cylinder is hard-coated aluminum with a polished stainless steel shaft. Cylinders have 1/8" NPT port for air connection and are supplied with a fusible plug installed. Cable operated valves are supplied with a universal lever arm which provides up to 8 cable travel options to work with most operators. Lever arm is "E" Coated to provide exceptional corrosion resistance. Left-hand valves are available with air cylinder or cable lever arm on opposite side of valve.

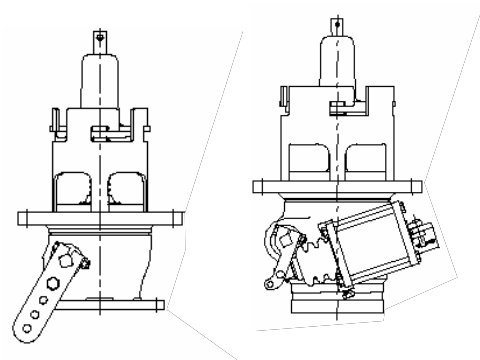
Available cable/flanged or air/grooved by 90° elbow or straight.

For ordering information please refer to **Appendix S-19**

For more information see **Appendix K-28** for dimensions on all models and full parts breakouts



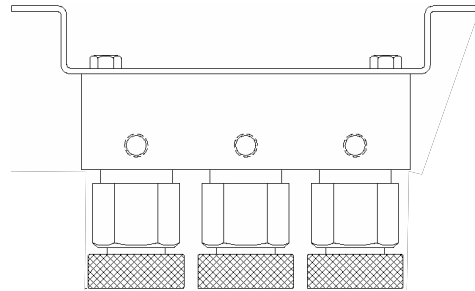
Air or Cable Operated
 Groove or Flange Outlet
 Buna Urethane or Viton
 Seals



Betts Air Distributor
Part# AD25011

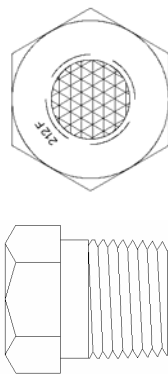
Betts Air Distributors have quick-acting 1/4 turn valves. Each valve operates independently and has long lasting composition discs. Mounting bracket furnished on all distributors. Available with up to 8 compartments.

For parts breakdown see **Appendix K-47**



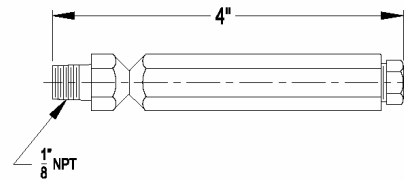
Fusible Plug
Part# FP15003BR

Thawing of plug dumps air and closes all emergency valves and air operated valves.



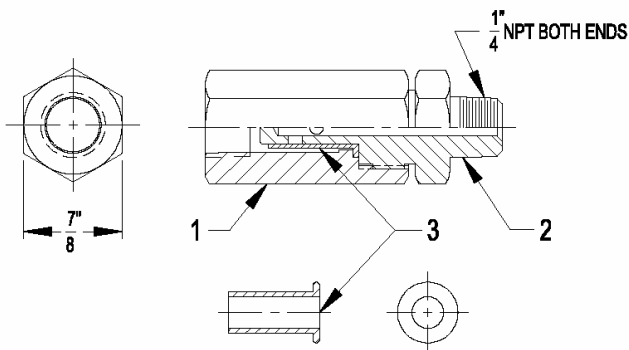
Fusible & Frangible Plug
Part# FP15017BR

Breaking of frangible device or thawing of plug dumps air and closes all emergency valves and air operated valves.



Check Valve
Part# CK25107BR

Used in conjunction with hand pump to check return air.



No.	Description	Req.	Part No.
1	Body	1	16896BR
2	Stem	1	16897BR
3	Sleeve	1	16007BN

Air Cylinder
Part# AC35005ALB

Used as an external air cylinder for air operated valves. This helps prevent gasoline or other products from contaminating the air supply. The air cylinder is hard-coated aluminum with a polished stainless steel shaft. Cylinders have 1/8" NPT port for air connection and are supplied with a fusible plug installed.

See **Appendix R-1** for complete specs and parts breakout

Pressure Gauge
Part# PG16349MS

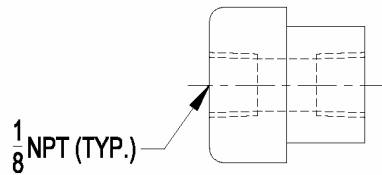
Gauge has 1/8" N.P.T. fitting.



Attach Fitting

Part# 15021MS

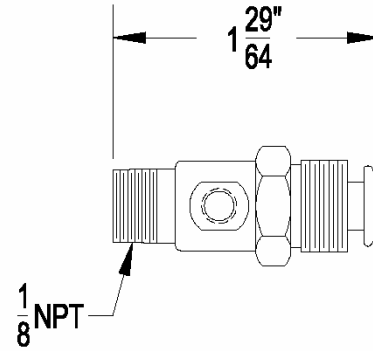
Used as a mounting device for the fusible and frangible plug.



Interference Control Valve

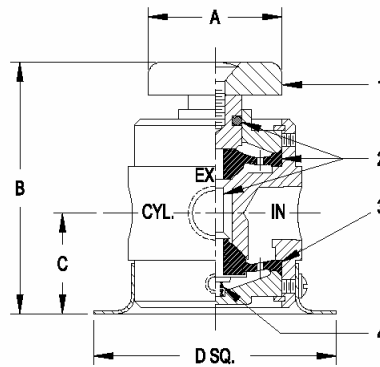
Part# IC17128BR

Closes all emergency valves when plunger is actuated by cabinet door or other means.



Master Control Valve

The Master Control Valve is a push button type on-off valve, spring loaded to the closed position. It is designed for use when the emergency valve air system is operated with air from the brake system.



Description	A	B	C	D	Material	Wt.	Assembly No.
Master Control Valve	1 1/4	2 3/8	15/16	2 1/4	Steel/Buna-N	.8	MC 16350 CP-B

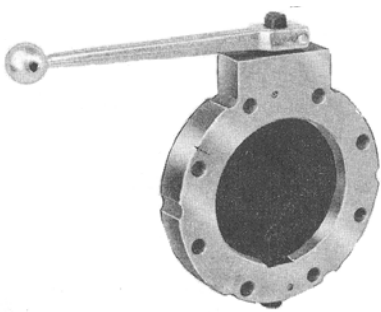
Parts List

No.	Description	Req'd.	Material	Part No.
1	Knob	1	Alum.	16917AL
2	Stem & Diaphragm	1	Brass	17379BR
3	Perforated Diaphragm	1	Buna-N	17379BN
4	Spring	1	Steel	17379MS

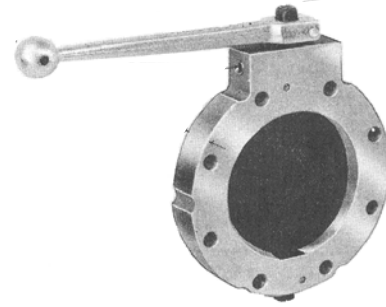
Betts Wet-R-Dri Valve (TTMA Style)
Standard and Detent

The Betts Wet-R-Dri valve is designed for handling liquid, gaseous or dry products, and is available in a variety of sizes and models. This space saving valve is lightweight, easily maintained, and has a positive stop in the open and closed position. The detent model has a detent spring and ball which assist in holding the disc in the open and closed position.

For ordering information please refer to [Appendix S-24](#)
For a full parts breakout refer to [Appendix K-22](#)



Standard

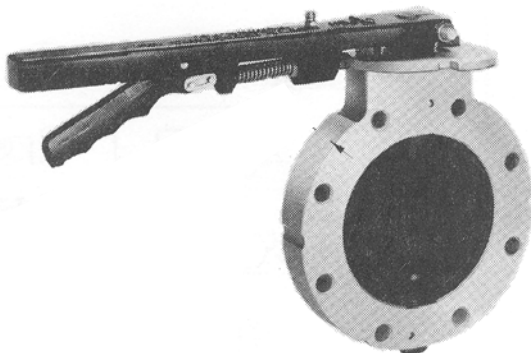


Detent

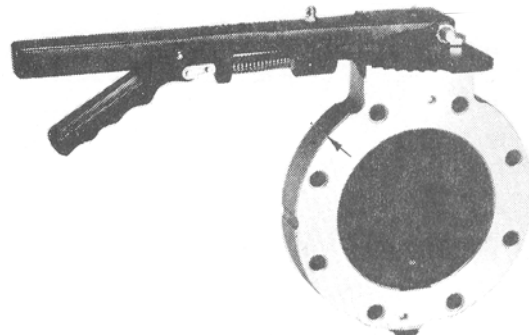
Betts Wet-R-Dri Valve (TTMA Style)
Locking and Metering

The Betts Wet-R-Dri Valve is designed for handling liquid, gaseous or dry products, and is available in a variety of sizes and models. This space saving valve is lightweight, easily maintained, and has a positive stop in the open and closed position. The Locking model has a 2 notch indexing plate which locks disc in the open or closed positions. The Metering model has a 10 notch indexing plate which allows disc to be positioned in 10 various positions.

For ordering information please refer to [Appendix S-25](#)
For a full parts breakout refer to [Appendix K-23](#)



Locking



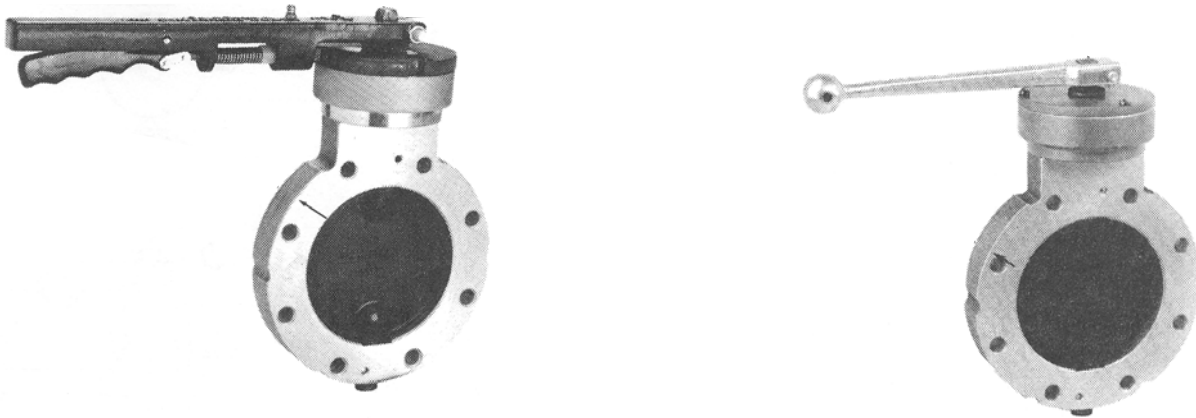
Metering

Betts Wet-R-Dri Valve (TTMA Style) **Locking Type Spring Loaded and Spring Loaded**

The Betts Wet-R-Dri Valve is designed for handling liquid, gaseous or dry products, and is available in a variety of sizes and models. This space saving valve is lightweight, easily maintained, and has a positive stop in the open and closed position. Both spring loaded valves provide an immediate and positive shut off. The locking type permits valve to be mechanically held open while the spring loaded type can be used for remote operation or as a dead man valve.

For ordering information please refer to **Appendix S-26**

For a full parts breakout refer to **Appendix K-24**

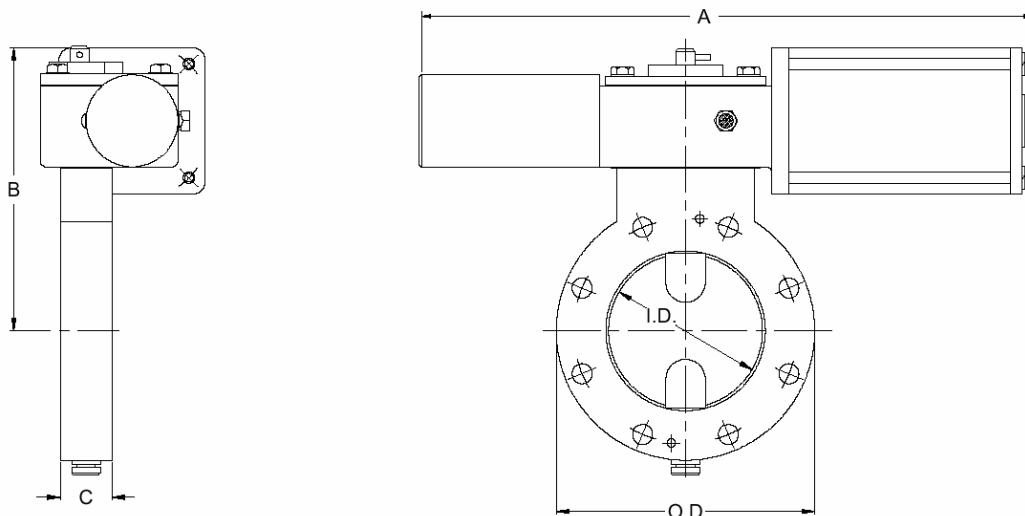


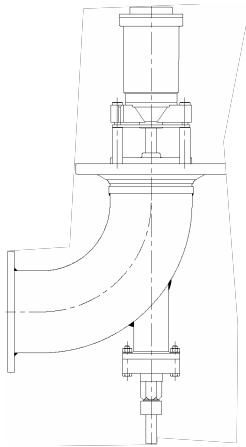
Betts Wet-R-Dri Valve (TTMA Style) **Air Operated**

The Betts Wet-R-Dri Valve is designed for handling liquid, gaseous or dry products, and is available in a variety of sizes and models. This space saving valve is lightweight, easily maintained, and has a positive stop in the open and closed position. The air operated valve is opened and closed by air. The air-spring operated valve can be sold as either an air to open, spring return valve or as an air to close spring to open valve. Please specify.

For ordering information please refer to **Appendix S-27**

For a full parts breakout refer to **Appendix K-25 & K-26**





Quick Clean Chemical Hydraulic Valve

The Quick Clean Chemical Hydraulic Valves are designed to meet the exacting requirements of today's chemical transportation industry. The valves feature quick removable spring housing and hydraulic actuator units for easy inspection and maintenance. Resilient Teflon encapsulated silicone core o-ring seals and the tapered seat provide positive sealing and product retention. An indicator rod shows whether the valve is open.

Maximum Allowable Working Pressure: 50 psig
Maximum Temperature: 265°
Maximum Hydraulic Pressure: 3000 psig
Betts Pump HP19165MS with 3000 psig bypass recommended.

For ordering information please refer to **Appendix S-28**
Full parts breakout **appendix K-12**

Steam Jacketed Chemical Hydraulic Valve

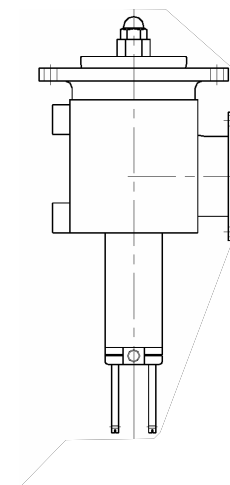
The Steam Jacketed Chemical Hydraulic Valve is designed for use with a wide variety of chemicals. A replaceable Teflon seat and removable disc are provided for ease in repairing should damage occur from dirt or other foreign material. A heavy mounting flange is provided to insure a flat gasketing surface. The steam jacket is fitted with two ¾" NPT fittings.

¼ NPT Hydraulic connection conveniently located at the base of the piston cylinder. Indicator pins, which move in relation to the piston, show the position of the disc at all times.

This valve does NOT contain a shear section. The cargo tank must protect the valve by providing suitable protection as specified in 49 CFR 178.345-8(2).

1,500 psi minimum hydraulic line pressure required to operate valve, but do not exceed 3,000 psi hydraulic line pressure.

For ordering information please refer to **Appendix S-28**



Hot Products Valve

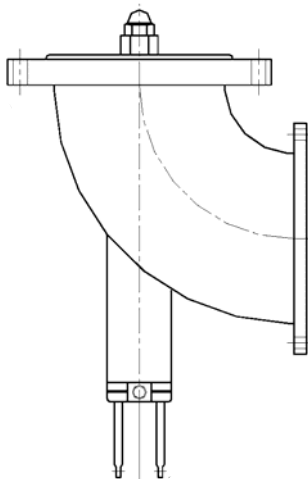
The 6" Hot Products Hydraulic Valve is designed to provide high discharge rates for products such as heavy fuel oils. This enables a tank to be unloaded much faster than with conventional valves. A replaceable Buna disc is provided for ease in repairing should damage occur from dirt or other foreign material. A heavy mounting flange is provided to insure a flat gasketing surface.

¼ NPT Hydraulic connection conveniently located at the base of the piston cylinder. Indicator pins, which move in relation to the piston, show the position of the disc at all times.

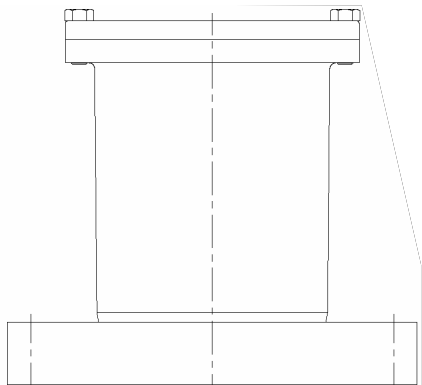
This valve does NOT contain a shear section. The cargo tank must protect the valve by providing suitable protection as specified in 49 CFR 178.345-8(2).

1,500 psi minimum hydraulic line pressure required to operate valve, but do not exceed 3,000 psi hydraulic line pressure.

For ordering information please refer to **Appendix S-28**
Parts breakout **Appendix K-16**



Internal Chemical Hydraulic Valve



The Chemical Internal Hydraulic Valve is designed for use for applications where a standard Chemical Hydraulic Valve would prove impracticable. Elbow supplied with shear section. A heavy mounting flange is provided to insure a flat surface for improved gasketing and positive seating of valve. Hydraulic connection (1/8" NPT) and air bleed are conveniently located on outside of mounting flange.

Note: Mounting pad No. MP16914SS is recommended to install valve and elbow, see Section 40. For Hydraulic pump and distributor, see page 3B.

Note: Teflon Envelope Gasket G27229TF-MIL is recommended for use between valve and outlet elbow.

Working Pressure 50 PSI Max. Temperature 365°F Max.

For ordering information please refer to **Appendix S-29**

Parts breakout **appendix K-13**

External Chemical Hydraulic Valve

The Chemical Hydraulic Valve is designed for use with a wide variety of chemicals. A replaceable Teflon seat and removable disc are provided for ease in repairing should damage occur from dirt or other foreign material. A heavy mounting flange is provided to insure a flat gasketing surface.

1/4 NPT Hydraulic connection conveniently located at the base of the piston cylinder. Indicator pins, which move in relation to the piston, show the position of the disc at all times. This valve does NOT contain a shear section. The cargo tank must protect the valve by providing suitable protection as specified in 49 CFR 178.345-8(2).

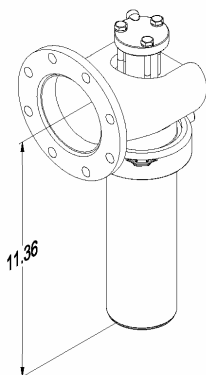
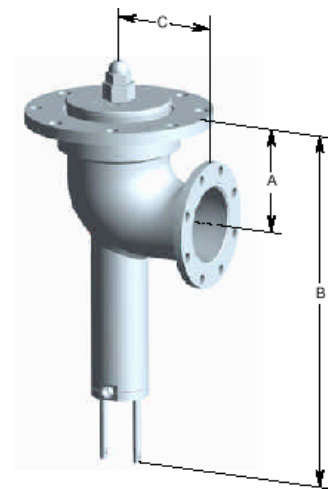
1,500 psi minimum hydraulic line pressure required to operate valve, but do not exceed 3,000 psi hydraulic line pressure.

Standard Chemical Hydraulic Valve also available

For ordering information please refer to **Appendix S-29**

Parts breakout **Appendix K-14 & K-15**

Size	Dimensions		
	A	B	C
4x3 90° Elbow	4 ³ / ₄	16	4 ¹ / ₂
4x4 90° Elbow	7 ⁵ / ₈	16	7 ⁷ / ₈



Hydraulic Vapor Valve

The Betts Stainless Steel 3" Vapor Recovery Valve is designed for use on chemical tankers requiring vapor recovery. Valve mounts to standard 3" clean out nozzle or 3" TTMA flange and provides 4 sq. in. through area for high venting capacity. Valve seat extends inward beyond the nozzle to minimize chance that product will freeze and prevent the valve from functioning properly.

External hydraulic cylinder isolates hydraulic oil from lading in case of hydraulic leak. Body constructed of 316 stainless steel with Tef-Sil o-rings used for all seals exposed to lading.

For ordering information please refer to **Appendix S-30**

Parts breakout **Appendix K-17**

Bayco 4" Check Valve Repair Kit

Part# DRY4040RK1

Replacement cover and white Nitrile flapper for 4" Bayco check valve. Mounting hardware including.

3" Square Aluminum Flange

Part# DRYFS3

Aluminum 4 bolt weld flange designed to mount 3 inch check valve.



Horizontal Swing Check Valves

Female NPT x Female NPT

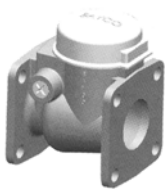
A positive seating disc allows flow only in one direction and a screw in cap provides easy access for cleaning. For horizontal or vertical use. Rated to 200PSI WOG. Brass Body and disc. Temperature range -20° Fahrenheit to 150° Fahrenheit.



Dixon Bayco 4" TTMA Flanged Check Valve

Part# DRY4040RD

Four inch swing check valve with white Nitrile disc for use in air or product lines on dry bulk transfer applications.



Squared Flange

2" Swing Checks

Aluminum cast, square flanged and threaded models. Self-aligning, molded "white food grade EPDM" rubber flapper assembly (350° Fahrenheit) with externally mounted springs to prevent ingestion of parts. Easy Open (no tools required) inspection cap and full flow performance.



Female NPT



Dixon Bayco 3" Swing Check Valves

High flow body design, drop in flapper assembly, high temperature white food grade seal, easy maintenance inspection lid, captive springs and shaft to prevent contamination, and stainless steel hardware.

Available in many different styles.

For ordering information please refer to [Appendix S-37](#)



3" Squared Flange

Dixon Bayco 3" and 4" Swing Check Valves

Cast aluminum and bronze inspection caps. Safety flapper assembly - all flapper assemblies are drilled and pinned and will not come apart. Choice of seals: metal to metal, Buna or Silicon rubber seals. Choice of models with or without spring loaded flapper. Full flow design - flappers swing out of flow path for maximum flow and low resistance. Designs with large caps allow flapper repair/rebuild on unit.

Available in many different styles, call for further details.

For ordering information please refer to [Appendix S-37](#)



3" Round Flange



4" Round Flanged or Threaded Ends



3" Threaded Ends

Dixon Bayco Butterfly Valves with Nodular Iron Disc

Aluminum body with nodular iron disc. Stem bushing are made of thermal plastic polymer top and bottom. Stem packing is a Buna-N. Nitrile, FDA approved resilient black seat. Handle is high strength 713 alloy aluminum with retrogressive rearing process - stronger than industry standard cast iron handles. Five position, high strength aluminum alloy throttling plate.

Available in 2", 3", 4", 4" TTMA, 5" and 6"

For ordering information please refer to **Appendix S-36**

For replacement parts, accessories, and further specs see **Appendix K-6 & K-7**



Dixon Bayco Butterfly Valves with Stainless Steel Disc



Aluminum body with stainless steel disc. Stem bushing are made of thermal plastic polymer top and bottom. Stem packing is a Buna-N. Nitrile, FDA approved white seat. Handle is high strength 713 alloy aluminum with retrogressive rearing process - stronger than industry standard cast iron handles. Five position, high strength aluminum alloy throttling plate.

Available in 3", 4", 5" and 6"

For ordering information please refer to **Appendix S-36**

For replacement parts, accessories, and further specs see **Appendix K-6 & K-7**

Dixon Bayco Butterfly Valves with 316 Stainless Steel Disc

Aluminum body with stainless steel disc. Stem bushing are made of thermal plastic polymer top and bottom. Stem packing is a Buna-N. Nitrile, FDA approved white seat. Handle is high strength 713 alloy aluminum with retrogressive rearing process - stronger than industry standard cast iron handles. Five position, high strength aluminum alloy throttling plate.

Available in 3", 4", 5" and 6"

For ordering information please refer to **Appendix S-36**

For replacement parts, accessories, and further specs see **Appendix K-6 & K-7**



Handle Assembly for Ultra Flow

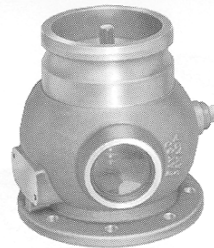
Aluminum handle with notched plate and mounting hardware for use on any ultra-flo dry transfer valve.



Part#	Description
DRYH23	2" - 3"
DRYH46	4" - 6"

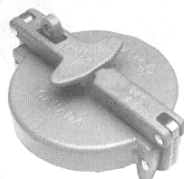
Dixon Bayco Vapor Valve Part# VR4100

Features easy seal replacement while on tanker, heavy duty cast aluminum body, 4" female NPT, and with an air interlock mount. **Available as a special order without poppet (VR4100NP).**



Dixon Bayco Vapor Cap Part# VR4050AL

Lockable push/pull cap for vapor valves (VR4000 & 4100) or vapor adapter (VR4086). Aluminum cap and arms with bronze locking cam and Buna gasket. Painted orange.



Dixon Bayco Vapor Valve Part# VR4000

Designed for maximum vapor flow, two acrylic sight glasses, quality cast aluminum construction, 4" TTMA flange, and drain plugs that allow viewing of drainage of fluid through sight glasses.



Dixon Bayco Stainless Steel Lockable Ball Valve

316 Stainless Steel full port ball valve rated to 1000 PSI WOG with lockable handle.



Part#	Size
DIXSSLBV50	1/2"
DIXSSLBV75	3/4"
DIXSSLBV100	1"
DIXLBV150	1-1/2"
DIXLBV200	2"

Dixon Bayco Relief Valve

Cast iron body valve available in various settings for dry bulk applications.



Part#	Description
DRY2180-15	15#
DRY2180-18	18#
DRY2180-20	20#
DRY2180-22	22#
DRY2180-25	25#

Dixon Bayco Brass Ball Valve

Full port brass ball valves rated to 600 PSI WOG, for use in air, water, or petroleum applications.



Part#	Description
DIXFBV25	1/4"
DIXFBV38	3/8"
DIXFBV50	1/2"
DIXFBV75	3/4"
DIXFBV100	1"
DIXFBV125	1-1/4"
DIXFBV150	1-1/2"
DIXFBV200	2"

Dixon Bayco 3/4" Brass Gate Valve

Part# **DIXBGV75**

Brass body gate valves rated to 200 PSI. Available 1/4" thru 4"



Emco Wheaton 3" Emergency Valve

Part# **F241 & F242**

Manufactured to DOT 406 regulations, openable from above and below valve, conical spring for maximum flow, concentric plunger prevents leakage, stainless steel trim available for chemical applications, TTMA flanges, cable guide cast in outlet flange, standard seal is Buna (others available), optional air cylinder kit (part# 724000202), and other options available (screen, fuse plate, and support)



For replacement parts please see parts breakout in **Appendix K-37 thru K-39**



Emco Wheaton API Adapter "Y" Valve

Part# **F552**

Specifically designed for high speed unloading with the **highest flow rate in the industry**. Designed and built in accordance with API RP1004, product loading accomplished via API head and product unloading accomplished via bottom faucet configuration, two piece aluminum body, faucet body moves out of product flow providing unrestricted unloading, 4" TTMA piping connection and faucet outlet, handle is ductile iron with baked on coating to eliminate corrosion, and standard dust cap (F499).

For replacement parts please see parts breakout in **Appendix J-8 & J-9**

Milwaukee Valve With Handle
Part# DRYV4MV

With a cast iron body this valve is used for many dry bulk line applications. Available in other sizes upon request. Available in sizes 2" thru 12".



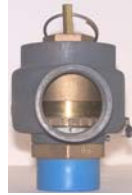
Sure Seal Valve With Handle
Part# DRY890-3

Butterfly type valve designed for use in air or product lines. Standard with steel handle. Available in sizes 2" to 12".



Kunkle 2" Relief Valve
Part# DRY33722

Brass body, relief valve designed to release at 22 PSI. Other pressure settings upon request.



Flow Control Valve Assembly
Part# PHIA1996

90° angle check valve with built in air switch used to control pumping speed on retail petroleum trucks.



150# Relief Valve
Part# MISPRV1/2

1/2" steel body pressure relief valve set at 150 PSI. Other sizes and pressure settings available.



Philly Air Inner Body
Part# PHIA1997

Check valve and air switch inner body for flow control valve.



Fisher Valve Parts

DBL carries stocks parts for Fisher Type 402, 421, and 427 valves. Please refer to Appendix K-44 thru K-46 for a full parts breakout on these fisher valves.



Part#	Description
PRORC40016T012	2" Internal Valve Kit
PRORC40424T012	Flanged Internal Valve Kit
PRORCG	3-1/2" Acme Cap Gasket

Thomsen 60TTF 3" Tanker Valve
For replacement parts refer to Appendix K-4 & K-5



Part#	Description
TH01054-00	5/8" Wing Nut
TH013635-00	Spring Clip
TH014000-97	Aluminum Valve Cover
TH014023-00	Stainless Steel Washer
TH014027-00	3/4" Nut
TH014030-00	Valve Bonnet
TH014032-00	3" Lower Bonnet
TH014034-00	3" Upper Bonnet
TH014050-00	Valve Handle
TH014095-00	Stem and Seat
TH014116-00	Valve Seat
TH014163-00	Safety Clip and Cable
TH014182-00	3" Valve Stem and Seal
TH014225-00	3"x3"x2" Valve Housing
TH014226-00	3"x3"x2" Valve Housing
TH014233-00	3" Short Housing
TH02248-00	3-1/2" Hex Nut
TH03117-00	Bonnet O-Ring
TH03129-00	Stem O-Ring
THOSCLIP	Stainless Steel Safety Clip

Rego Valve Parts

DBL stocks a full line of repair parts for propane and compressed gas valves and tankers.

For a parts breakout on Rego A77513 valve assembly refer to **Appendix K-43**.



Part#	Description
PRO7513-8T	2" Teflon Gasket
PROA7513-4T	2" Teflon Disc
PROA7513-50	2" Valve Kit
PROA7515-4T	3" Teflon Disc
PROA7515-50	3" Valve Kit
PROA7515-8T	3" Teflon gasket
PROTA7513-50	2" Teflon Valve Kit

Mid:Com BV-188

Electric, two stage solenoid valve.

For a complete list of replacement parts see **Appendix K-41 & K-42**



Part#	Description
MID125-0024	Small Gasket
MID125-0025	Large Gasket
MID125-0027	Small U-Cup
MID125-0029	Large U-Cup

Waukesha 60TTF Valve

DBL carries a variety of replacement parts for the Waukesha 60TTF valve.

Please refer to **Appendix K-1 thru K-3** for replacement parts



Part#	Description
WAU162-31	Stem Without Seal
WAU20-11	Nylon Bushing
WAU20-45	White Valve Seal
WAU52-188	Lower Bonnet
WAU52-8	Valve Bonnet
WAU54-8	Valve Handle
WAUN50335	Bonnet O-Ring
WAUN70210	Stem O-Ring

Hell Six Hole Aluminum Valve Flange

Aluminum 6 hole flange designed to attach to tank hopper for mounting discharge valves. **Four sizes** kept in stock with other available upon request.

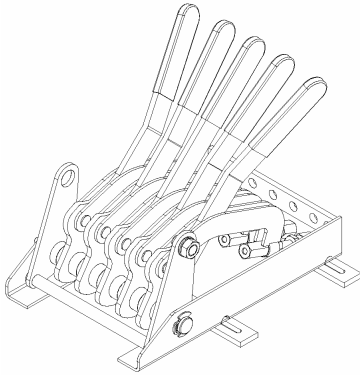
Part#	Size
DRYFR3	3"
DRYFR4	4"
DRYFR5	5"
DRYFR6	6"

3/16" Stainless Steel Cable

Part# **MISSCABLE3**

Air craft grade stainless steel wire rope designed for use with manual safety valves.



Fusible Joint on Each Compartment***Non-slip Cable Connectors******1-1/2" or 2-1/8" Cable travel******Choice of Two Lever Styles*****Universal Mechanical Operator**
Lubricated or Non-Lubricated

Betts Universal mechanical operators function cable operated emergency valve from a central location on a cargo tank. Operators are available in any number of compartments from 1 up to 7. Each compartment is supplied with a fusible joint designed to melt at not more than 250° Fahrenheit. Non-slip cable connectors for each compartment allow cable to be cut to length after installation. (Lubricated version has grease fittings installed in each lever bushing to allow for greasing.)

Emergency valves are held open by the over-center action of the lever assembly, thereby eliminating the need for springs and latches. Trip levers close all open valves when the remote control is tripped. Two trip levers allow for flexibility in locating remote control or for attaching two remote controls, if required.

Fabricated steel construction provides strength while keeping weight to a minimum. Tubular brass shaft provides an excellent bearing surface for levers. Levers are available in two styles. Operators are also available with an optional black "E" coating which provides an attractive finish with excellent corrosion resistance.

For ordering information please refer to **Appendix S-30 & S-31**
For a full parts breakout refer to **Appendix Q-1 & Q-2**

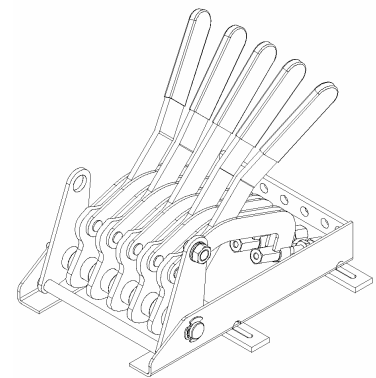
Universal Mechanical Operator
Delta 1 & Delta 2

Betts Universal mechanical operators function cable operated emergency valve from a central location on a cargo tank. Provision is made for mounting 3-way air valve (part# 20761) on side of operator. Air valve is actuated when any compartment is open, thereby assuring that all air vents are energized when an emergency valve is open. Operators are available in any number of compartments from 1 up to 6. Each compartment is supplied with a fusible joint designed to melt at not more than 250° Fahrenheit. Non-slip cable connectors for each compartment allow cable to be cut to length after installation.

Emergency valves are held open by the over-center action of the lever assembly, thereby eliminating the need for springs and latches. Trip levers close all open valves when the remote control is tripped. Two trip levers allow for flexibility in locating remote control or for attaching two remote controls, if required.

Fabricated steel construction provides strength while keeping weight to a minimum. Tubular brass shaft provides an excellent bearing surface for levers. Levers are available in two styles. Operators are also available with an optional black "E" coating which provides an attractive finish with excellent corrosion resistance.

For ordering information please refer to **Appendix S-31**
For a full parts breakout refer to **Appendix Q-3 & Q-4**



Automatically Functions Air Vents

Fusible Joint on Each Compartment

Non-slip Cable Connectors

1-1/2" or 2-1/8" Cable travel

Choice of Two Lever Styles

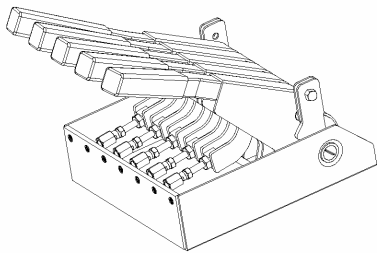
Heavy Duty Tubular Steel Levers

Twice the Leverage of Universal Operators

2-1/2" Stroke

Non-slip Cable Connectors

Fusible Joint on Each Compartment



**Mechanical Operator
Deluxe**

Betts Deluxe Mechanical operators function cable operated emergency valves from a central location on a cargo tank. Operators are available in any number of compartments from 1 up to 5. Each compartment is supplied with a fusible joint designed to melt at not more than 250° F. Non-slip cable connectors for each compartment allow cables to be cut to length after installation.

Deluxe Operators Provide a mechanical advantage of 6.5:1 or about twice that of universal operators. They also provide a longer stroke of 2-1/2". Emergency valves are held open by the over-center action of the lever assembly, thereby eliminating the need for springs and latches. Trip levers close all open valves when the remote control is tripped. Two trip levers allow for flexibility in locating remote control or for attaching two remote controls, if required.

Fabricated steel construction provides strength while keeping weight to a minimum. Heavy duty tubular steel levers provide for durability. Grease fittings in lever bushings and trip levers provided for lubrication.

For ordering information please refer to [Appendix S-32](#)
For a full parts breakout refer to [Appendix Q-5](#)

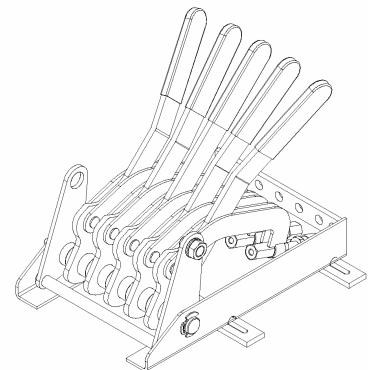
**Mechanical Operator
Compact - Lubricated and Non-Lubricated**

Betts Compact Mechanical Operators function cable operated emergency valves from a central location on a cargo tank. Available from 1 up to 5 compartments in stainless or powder coated steel; each compartment is supplied with a fusible link designed to melt at not more than 250°F as well as non-slip cable connectors that allow cable to be cut to length after installation.

New design is more compact than comparable Universal or Deluxe models. Slotted mounting straps are available as an option to allow for replacement of Deluxe operators without drilling new mounting holes. Specify straps by adding suffix "001" to assembly number. Other mounting options available by contacting our Parts department at 1-877-DBL-TANK.

Lever arms provide 2-3/8" stroke and 5.6:1 mechanical advantage. Two trip levers provided for flexibility in locating cable remote control or for attaching two remotes, if required. See remote control on [page 252](#).

For ordering information please refer to [Appendix S-32](#)
For a full parts breakout refer to [Appendix Q-6 & Q-7](#)



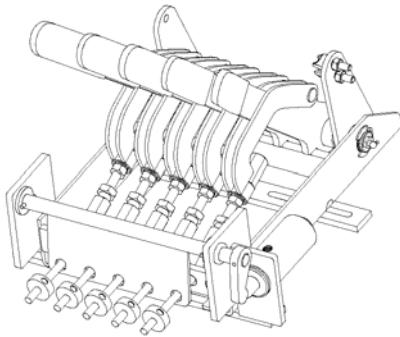
Heavy Duty Tubular Steel Levers

Twice the Leverage of Universal Operators

2-1/2" Stroke

Non-slip Cable Connectors

Fusible Joint on Each Compartment



Mechanical Operator
Compact Delta 1 Lubricated and Non-Lubricated

Betts Compact Mechanical Operators function cable operated emergency valves from a central location on a cargo tank. Provision is made for mounting 3-way air valve (part no. 20761) on side of operator. Air valve is actuated when any compartment is opened, thereby assuring that air vents are energized when any emergency valve is opened. Air valve is not included. Add suffix "003" to include air valve. Available from 1 up to 5 compartments in stainless or powder coated steel; each compartment is supplied with a fusible link designed to melt at not more than 250°F as well as non-slip cable connectors that allow cable to be cut to length after installation.

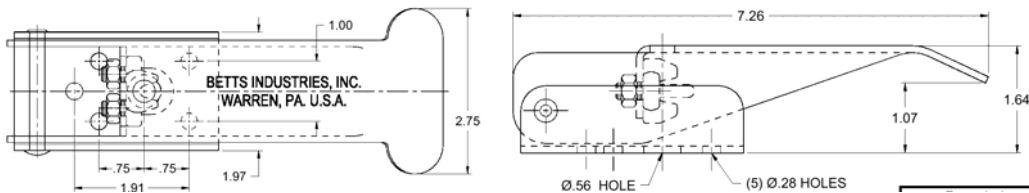
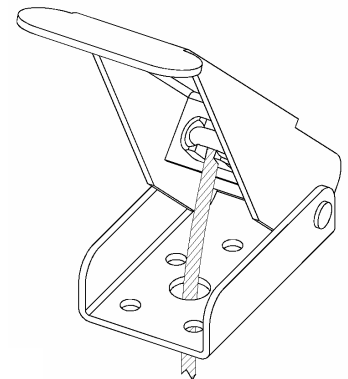
New design is more compact than comparable Universal or Deluxe models. Slotted mounting straps are available as an option to allow for replacement of Deluxe operators without drilling new mounting holes. Specify straps by adding suffix "001" to assembly number. Other mounting options available by contacting sales. Lubricated shaft and handle is standard as-well-as grease fittings on both ends of shaft on the lubricated version.

Lever arms provide 2-3/8" stroke and 5.6:1 mechanical advantage. Two trip levers provided for flexibility in locating cable remote control or for attaching two remotes, if required.

For ordering information please refer to **Appendix S-33**
For a full parts breakout refer to **Appendix Q-8**

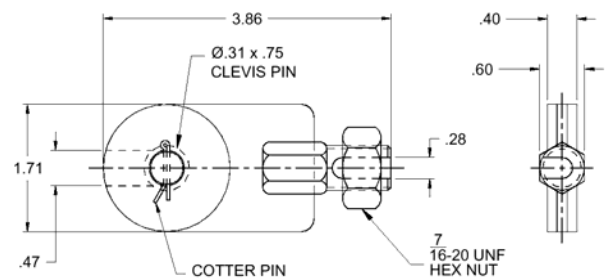
Cable Remote Control

New design provides greater stroke (2-1/8") and leverage. Stainless steel to resist corrosion. Remote attaches to trip lever on operator using cable. Pulling remote lever rotates operator trip lever and bar assembly, causing all open emergency valves to close. Per 49CFR178.345-11, remote must be located at least 10 feet away from loading/unloading outlet (where vehicle length allows) or on the end of the cargo tank farthest from the loading/unloading outlet. Test cable remote controls and operators at least once a day to insure proper functioning.



Fusible Link
Part# 21050A

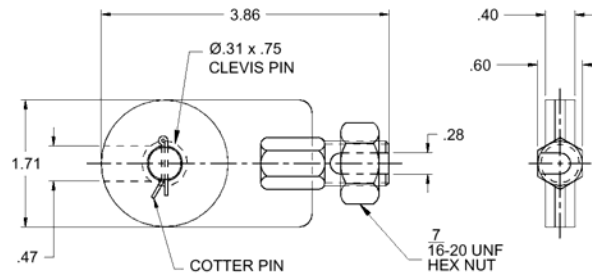
Heavy duty fusible cable links are designed to attach the cable to the emergency valve cable lever arm and to provide thermal activation at the emergency valve. Fusible element melts at not more than 250°F, releasing the cable tension and allowing the emergency valve to close. Uses same non-slip, adjustable cable attachment as on Betts operators.



Fusible Link

Part# 21050A

Heavy duty fusible cable links are designed to attach the cable to the emergency valve cable lever arm and to provide thermal activation at the emergency valve. Fusible element melts at not more than 250°F, releasing the cable tension and allowing the emergency valve to close. Uses same non-slip, adjustable cable attachment as on Betts operators.



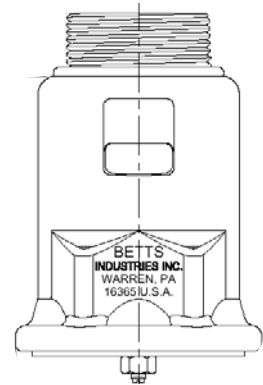
Vents

Betts Pressure/Vacuum Normal Vent.....	255
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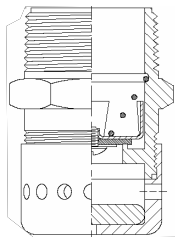
Betts Pressure/Vacuum Normal Vent

A normal vent designed for use on MC306 & DOT406 cargo tanks. Model 6496 has a pressure setting per 178.346-3(b)(2) of "not less than 1 PSIG" and a vacuum setting per 178.346-3(c)(2) "no more than 6 ounces" which allows for efficient recovery of vapors during closed system loading and offloading. Unique roll over protection retains product at any attitude of rollover. Vent is flow tested and marked.

NOTE: While normal vents provide limited vapor venting during loading/unloading, it is recommended that positive vapor valves (typically air operated) be provided when loading/unloading with the manhole closed. If positive vapor valves are not used, insure normal vent is functioning properly or open manhole cover before beginning loading/unloading. Failure to do so may result in head reversals or other tank failure.



**Dual Purpose Vent
Roll Over Protection
Compact Design
Interior Mount**

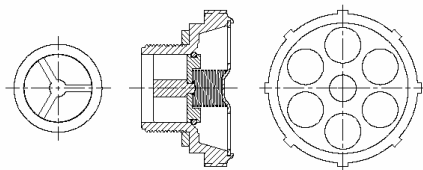
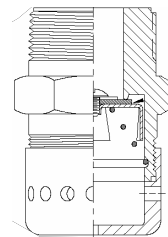


**Betts Outbreathing Vent with Overturn Disc
S.P. Outbreathing 1-1/4" I.P.S.**

The all new Single- Purpose Vents offer many advantages for use where ease of cleaning is important or where additional venting is required. May be installed singly or in multiples. This vent has been flow tested and marked in accordance with Nat. Fire Protection Assn. No. 385 (1964) Par. 2263 and No. 407 (1964) Par. 616.

Betts Inbreathing Vent 1-1/4 I.P.S.

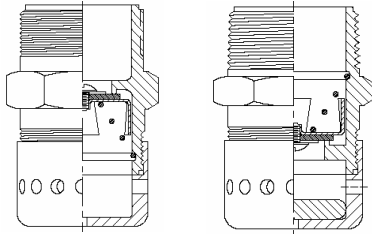
Intake Vent is designed to be used with Exhaust Vent or for additional venting requirements. High capacity, ease of cleaning, few parts are outstanding features. Vents are installed inside manhole cover and protected by means of a weatherhood. This vent has been flow tested and marked in accordance with Nat. Fire Protection Assn. No. 385 (1964) Par. 2263 and No. 407 (1964) Par. 616.



Betts Inbreathing Vent 1 5/8 -12 Threaded

Designed to supplement the 6238AL vent to provide additional inbreathing capacity when required. This vent may be used singly or in multiples according to requirements.

NOTE: While this vent does provide additional inbreathing capacity, it is recommended that positive vents, which will open with the emergency valve, be provided when discharging product with the manhole closed.

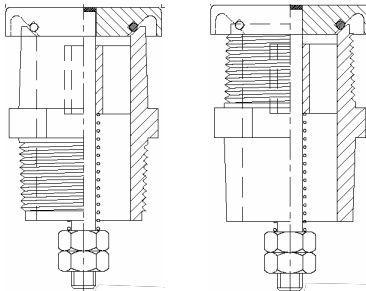
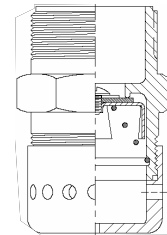


Combination Vent Package

Combination Vent Packages, consisting of Betts all new single-purpose vents, are available for all combination manholes with fill. Each vent provides 0.44 sq. in. of venting area. They are easily cleaned, have high capacity, and are available in a variety of materials. These vents have been flow tested and marked in accordance with Nat. Fire Protection Assn. No. 385 (1964) Par. 2263 and No. 407 (1964) Par. 616.

Inbreathing Vent - 1⁵/₈-12 Threaded

This vent is to be used with Exhaust Vent No. 3008, as shown on Page 87-1. Vent is installed under fill cover; protected from weather and damage. Vent is easily cleaned and available in a variety of material. This vent has been flow tested and marked in accordance with Nat. Fire Protection Assn. No. 385 (1964) Par. 2263 and No. 407 (1964) Par. 616.



Exterior

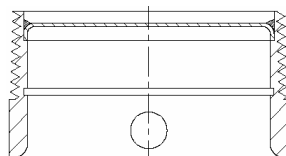
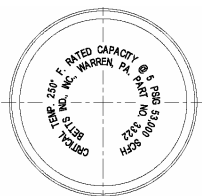
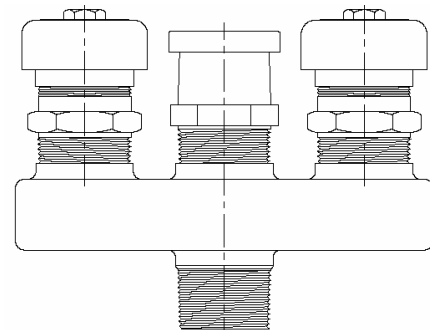
Interior

Inbreathing Vent - 1⁵/₈-12 Threaded

This Pressure-Actuated Vent is rated at 10,000 cubic feet of air per hour at 5 PSIG. It is designed to provide the pressure-actuated emergency venting as required by DOT MC-306, NFPA No. 385, and No. 407. This model may be installed from the tank exterior in such devices as manhole covers or pipe caps. The PAV 125 has been flow tested and marked in accordance with DOT MC-306 Par. 178.341-4(e), NFPA 385 Par. 2263, and NFPA 407 Par. 616.

Trident Combination Vent

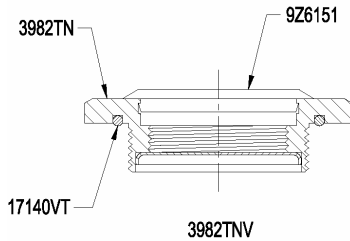
The Trident provides three-way venting plus overturn protection. It is designed to provide the pressure-actuated emergency venting plus inbreathing (vacuum) and Outbreathing (pressure). The Trident can be disassembled for cleaning. The pressure-actuated emergency venting has been flow tested and marked in accordance with D.O.T. MC306 Para. 178.341-4 N.F.P.A. 385 Para. 2263, and N.F.P.A. 407 Para. 616.



Fusible Plug (1-1/4" and 2" I.P.S.)

Fusible Plugs provide a means of emergency venting which depends only on temperature. Plugs are designed to melt and blow out at a maximum temperature of 250° F. These Fusible Plugs have been flow tested and marked in accordance with Nat. Fire Protection Assn. No. 385 (1964) Par. 2263 and No. 407 (1964) Par. 616 and DOT MC306 Par. 78.341-4.

Emergency Drain Plug



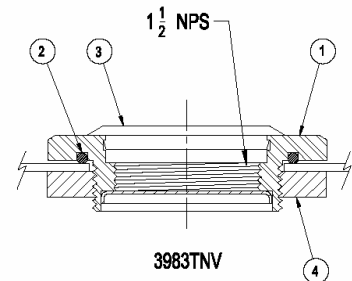
Emergency Drain Plugs provide a place to install a 1 1/2 N.P.T. pipe for the emergency unloading of an overturned tank. When a 1 1/2 N.P.T. pipe is screwed into this plug a disc is forced out of the way allowing product to travel through the 1 1/2 pipe. Shut off valves or hose connections to control product flow are at the option of the user.

Note: Manhole assemblies produced after Sept 1, 1992 that were ordered with the Emergency Drain Plug have the threaded ring welded to the underside of cover.

Description	Material	External Thd.	Internal Thd.	Wt.	Part No.
Emergency Drain Plug	Steel Tin Plated	2" NPS	1 1/2" NPS	10 oz.	3982TN
O-Ring	Viton				17140VT
Cap Plug	Polyethylene				9Z6151

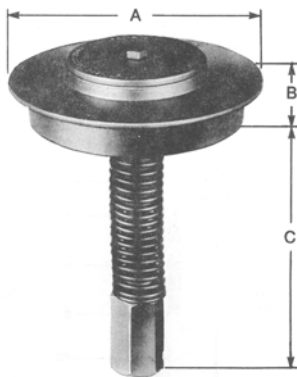
Retrofit Kit is also available for use on manhole which had the Emergency Drain Plug and were produced prior to Sept. 1992. These assemblies did not have a threaded ring welded to the underside of the cover.

Instructions for using Emergency Drain Plugs Remove cap plug 9Z6151. Install 1-1/2" N.P.T. pipe nipple with control valve on end. This operation will force a soldered in disc out of the way allowing product to flow through 1-1/2" nipple.



Retrofit Kit 3983TNV includes the following:

	Description	Material	Part No.
1	Emergency Drain Plug	Steel Tin Plated	3982TN
2	O-Ring	Viton	17140VT
3	Cap Plug	Polyethylene	9Z6151
4	Retainer Nut	Steel Tin Plated	3980TN



3-1/2" Push Vent

The Betts 3-1/2" Push Vent can be mounted to a 3" TTMA weld flange. It comes standard with a Teflon Encapsulated Silicone O-Ring seat, and a built flange for mounting our Vapor Recovery Hood.

An adaptor to fit Wheaton's emergency valve is available. See Appendix L-1 for a full parts breakout

A	B	C	Disc Travel	Mounting		
				B.C.	N.H.	S.H.
6 9/16	1 3/4	7 3/4	1 1/2"	4 7/8	8	3/8-16



5" Push Vent

The Betts 5" push vent provides positive venting for bottom loading with the fill covers closed. Materials used are aluminum with stainless steel trim for greater versatility.

Emission collection hoods are easily installed. No hot work is required to install the vapor recovery hood at a later date.

Adaptor to fit Wheaton emergency valve stem available upon request
See **Appendix L-2** for a full parts breakout

Vapor System Inbreathing and Outbreathing Vent

A supplemental vent designed for installation in tank vehicle vapor recovery system to provide venting protection in the event the vapor recovery system should be closed or blocked while discharging product from the tank. This vent mounts to a 4" TTMA flange.

See **Appendix L-3 & L-4** for a full parts breakout



EASILY INSTALLED
ADDS TANK PROTECTION
THRU AREA - SIX SQUARE
INCHES



3-1/2" Aluminum Vapor Valve Air Operated Sequential Interlock

Betts 3-1/2" Sequential Vapor Valves are designed for use as positive vapor recovery valves on cargo tanks during loading and unloading. Sequential interlock design allows the vapor valve to be plumbed in series with the emergency valve to insure the vapor valve is open before the emergency valve. Vapor valves can also be plumbed to operate independently of the emergency valves, if desired. Internal interlock device guarantees that all vapor valves and emergency valves will close fully when air pressure is released, regardless of their location in the plumbing system.

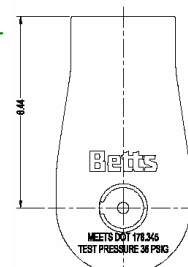
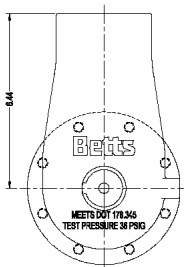
Available in two configurations - bolted design mounts in 20" offset PAF manhole cover using eight 3/8-16UNC bolts (included), while threaded design mounts in 16" offset PAF manhole. Both versions meet all requirements for

loading/unloading venting devices on MC306 and DOT406 cargo tanks and are tested and marked with a test pressure of 36 psig in accordance with 49CFR178.345-5(f).

Inward opening action prevents loss of lading due to surge pressure during a roll-over accident. All moving parts are internal to minimize chance of freeze-ups during cold weather. Aluminum bodies with stainless trim minimize corrosion and PTFE seals in contact with vapors insure compatibility with a wide variety of products.

4" Aluminum Vapor Valve Air Operated Sequential Interlock available upon request.

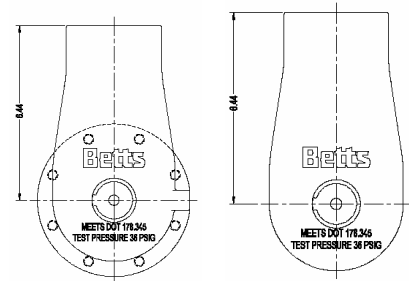
For ordering information please refer to **Appendix S-34 & S-35**
See **Appendix K-36** for a full parts breakout



3-1/2" Aluminum Vapor Valve Air Operated

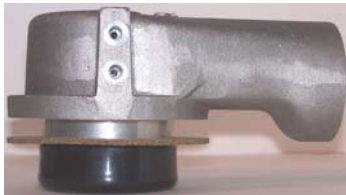
Betts 3-1/2" Vapor Valves are designed for use as positive vapor recovery valves on cargo tanks during loading and unloading.

Available in two configurations - bolted design mounts in 20" offset PAF manhole cover using eight 3/8-16UNC bolts (included), while threaded design mounts in 16" offset PAF manhole. Both versions meet all requirements for loading/unloading venting devices on MC306 and DOT406 cargo tanks and are tested and marked with a test pressure of 36 psig in accordance with 49CFR178.345-5 (f).



Inward opening action prevents loss of lading due to surge pressure during a roll-over accident. All moving parts are internal to minimize chance of freeze-ups during cold weather. Aluminum bodies with stainless trim minimize corrosion and PTFE seals in contact with vapors insure compatibility with a wide variety of products.

For ordering information please refer to [Appendix S-34](#)
See [Appendix K-35](#) for a full parts breakout



Air Operated Vapor Valve and Hood

A combination vapor valve and emission collection hood designed to mount on manhole cover (Model AV46202AL) or in tank shell (Model AV46254AL) using a mounting pad. The outside cylinder insure the tank lading will not enter the air system through the actuating cylinder. Vapor valves are aluminum with stainless trim. **Viton or PTFE/Silicon O-Ring seals are available.**
See [Appendix K-34](#) for a full parts breakout

Betts 5" Vent Clamp

Part# **BET26235SL**

Stainless Steel clamp used in conjunction with Betts 5" push vent. **Also available in 3".**



Civacon 1985 and 1986 Vent Repair Kits and Parts

DBL carries kits and replacement parts for numerous Civacon vents. For a full parts breakout on the vents we carry parts for [please refer to Appendix L-5 & L-6](#)

Runovent

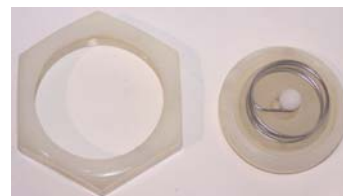
Sanitary three piece plastic vent designed for use in milk hauling operations. Internal baffle system prevents milk from spilling out.



Part#	Description
SANROVA	Runovent Complete
SANROVB	Runovent Inner Baffle
SANROVC	Runovent Cap
SANROVS	Runovent Outer Sleeve

Olson Vent Assembly and Plastic Nut

Spring loaded vent with plastic nut designed to be installed in top of milk tankers. Dual poppet design allows for normal vacuum and venting operations while preventing spilling.



Part#	Description
SANOLSONN	Plastic Nut
SANOLSONNV	Vent Assembly

Girard MC 307 Pressure Relief Vent



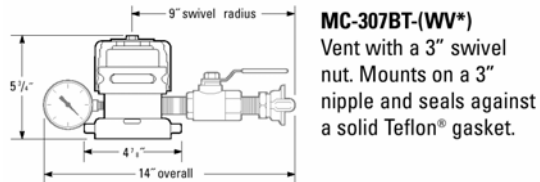
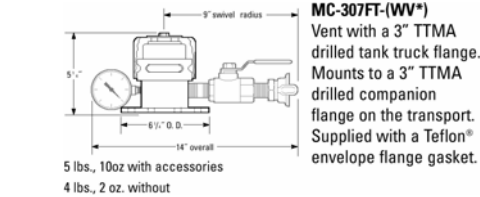
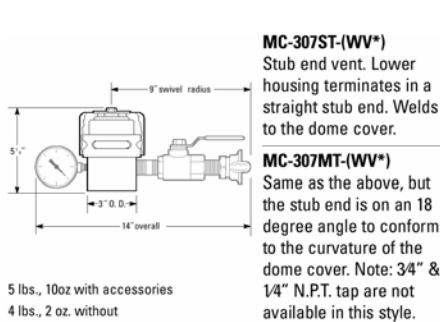
The MC 307 Pressure Relief Vent is a stainless steel, pressure actuated unit that is engineered to limit excessive internal pressure to 130 percent of tank design. The standard model vent set at 25 PSIG will exhaust 26,700 SCFH at 32.5 PSIG and conforms to the emergency venting requirement code for MC 307 tanks having a total exposed surface area up to 700 square feet.

The stainless steel valve seat is equipped with a replaceable Tef-O-Sil "O-Ring." The unit doubles as an unloading device, since the valve body is tapped 3/4" N.P.T. to accommodate the addition of inlet fittings for air unloading of transports. Provision is also made for a pressure gauge to be attached to the vent body.

An optional incorporation of a small vacuum section in the valve seat is also available upon request. It should be noted that this section, due to its limited size, may not be adequate enough to prohibit tank implosion. For additional vacuum protection, refer to "Girard Magnetic Vacuum Breakers" for tank transports.

The entire vent is designed to be easily removed from the tank vehicle for inspection and/or cleaning.

For replacement parts and details on valve seal kits please refer to **Appendix L-8**



Girard MC 307 Magnetic Vacuum Breaker

The Girard Equipment 3" Magnetic Vacuum Breaker is a valve designed to prevent negative pressure (vacuum) from developing and imploding a typical tank transport. Girard Equipment uses a permanent magnetic force along with conventional springs to control the movement of the valve seat. Permanent magnetization within the valve, holds the seat tightly closed during transit and allows movement only on demand of 2" Hg, or greater. The unit is equipped with either a "Tef-O-Sil" "O" Ring, Viton "O" Ring, or a Kalrez gasket to meet the requirements for bubble-tightness given in docket HM-183.

For replacement parts and details on valve seal kits please refer to **Appendix L-9**



3MVB-SX Complete vacuum breaker with stub end outlet. Designed to be welded in the dome of the transport.

3MVB-SX Complete vacuum breaker with stub end outlet. Designed to be welded in the dome of the transport.

3MVB-FX Complete vacuum breaker with 3" TTMA drilled flange outlet. Designed for installation on the flanged nozzle in the transports.

3MVB-TX Complete vacuum breaker with a 3" N.P.T. swivel nut outlet. Designed for attachment to a tank truck "cleanout" nipple.

SEAT TYPE	(substitute letter code for "X")
Teflon® Seat with a Tef-O-Sil "O" Ring.	T
Teflon® Seat with a Kalrez® Gasket.	K
Teflon® Seat with Viton® Gasket	V

Girard MC 407 Magnetic Vacuum Breaker



The new 3" DOT407 Magnetic Vacuum Breaker is a valve designed to limit negative pressure (vacuum) in a typical tank trailer.

The new 3" DOT407 Magnetic Vacuum Breaker can be used to upgrade any tank trailer currently using older style 3" magnetic breakers, as well as, be specified on newer DOT407 tank trailers.

A permanent magnetic force controls the movement of the valve poppet to open on demand of 4" Hg or greater.

All working parts are kept away from the airflow paths, which promotes easy cleaning and hassle-free repairs.

The valve body is cast with a 1" female port inlet to accept a variety of air inlet fittings. The 1" air inlet also allows for higher flow rate when air unloading, significantly reducing unloading time. A 1/4" female port is standard to accept a gauge. Maintenance is achieved without the need for special tools. The o-ring seal can be removed, inspected and replaced within minutes. The unit is equipped with either: a "Tef-O-Sil", or a Kalrez O-Ring seal.

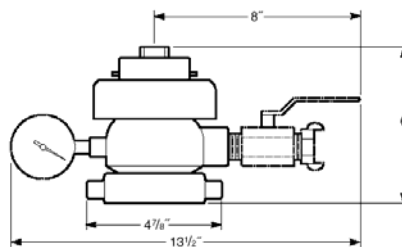
See **Appendix L-10** for a full parts breakout

3X407MVBTX

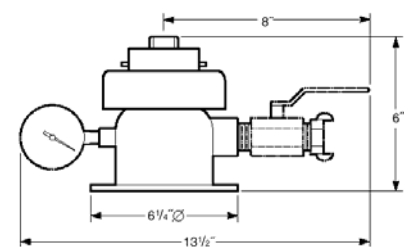
Complete vacuum breaker with a 3" swivel connection. Designed to be attached to a 3" NPT tank trailer nipple.

3X407MVBFX

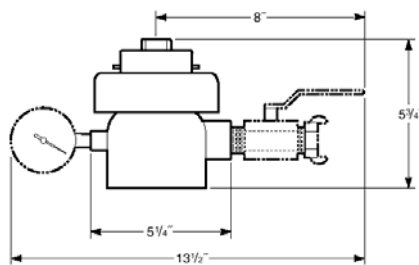
Complete vacuum breaker with a 3" TTMA flanged connection. Designed for installation on a tank trailer flanged nozzle.



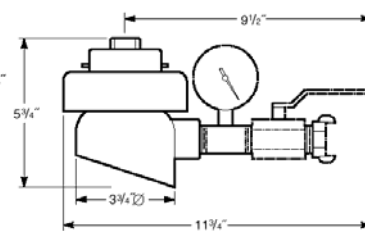
3X407MVBTX



3X407MVBFX



407MVBLSX



407MVBLSX

407MVBLSX

Complete vacuum breaker with a straight stub connection. Designed to be welded to either a domecover or the tank shell.

407MVBLSX

Complete vacuum breaker with a mitred connection. Designed to be welded to a domecover and conform to it's curvature.

SEAT TYPE	(substitute letter code for "X")
T	Teflon® "Tef-O-Sil" O-Ring.
K	Kalrez™ O Ring.

Girard MC 407 Magnetic Vacuum Breaker (Retro Model)

Part# 3X407MVB-RT

The 3X407MVB-RT Magnetic Vacuum Breaker is specially intended for "retrofitting" older tanks using the older 3MVB design that are permanently welded to the tank trailers dome cover.

Fitting the tank trailer with this design requires little effort. The inlet connection is specially machined to fit to the lower housing of the 3MVB (part # 201007-1). Simply thread the Vacuum Breaker onto the existing lower housing (see photo on right) and you will have completed the installation.

The new design is low enough to fit under the overturn protection of most trailers. Comes standard with a "Teflon O-Ring seal.



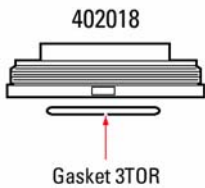
For a full list of replacement parts and parts breakout diagrams please refer to **Appendix L-11** for details.

Girard 3" DOT 407 Pressure Relief Vent

Girard Equipment, Inc.'s Three Inch DOT 407 Vents allows you to upgrade virtually any MC 307 or MC 312 tank to DOT 407 or DOT 412 venting. All the benefits of the 400 Series Vents without expensive hot-work. Flow rates are slightly less than our standard DOT 407 Vents, but are more than sufficient for most tanks.

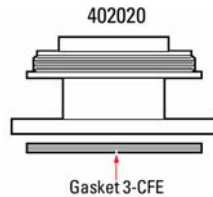
The stainless steel valve seat seals on a Teflon encapsulated silicone "O" Ring. This "O" Ring provides complete chemical resistance and a bubble-tight seal to meet the latest DOT requirements. The unit also meets the surge requirements of 178.345-10 (b) (3).

Replacement parts available, please see **Appendix L-12** for a full parts breakdown and for additional specs.



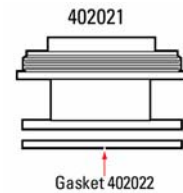
DOT3X407T

Vent with a 3" N.P.S. female pipe thread. Attaches to a 3" pipe nipple and seals against a solid Teflon "O" Ring Gasket.



DOT3X407F

Vent to mount on a 3" TTMA flange. Supplied with a Teflon envelope flange gasket.



DOT3X407AF

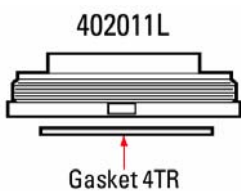
Vent to mount on a 3" ANSI flange. Supplied with a Teflon envelope flange gasket and a 1/4" NPT "Tell-Tale" indicator tap.

Girard 4" Low Profile DOT 407 Vent

Girard Equipment, Inc.'s Low Profile DOT 407 Vents combine a low profile, light weight design with increased flow rates to meet the most demanding needs of virtually any DOT 407, DOT 412, MC 307 and MC 312 tank. See the table below for specific flow rates.

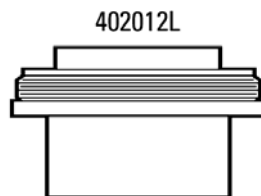
The stainless steel valve seat seals on a Teflon encapsulated silicone "O" Ring. This "O" Ring provides complete chemical resistance and a bubble-tight seal to meet the latest DOT requirements. The unit also meets the surge requirements of 178.345-10 (b) (3).

Replacement parts available, please see **Appendix L-13** for a full parts breakdown and for additional specs.



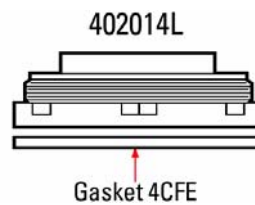
DOT407LT

Vent with a 4" N.P.S. female pipe thread. Attaches to a 4" pipe nipple and seals against a solid Teflon Ring gasket.



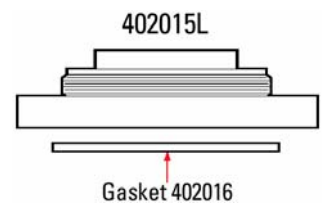
DOT 407LS

Stub end vent. Lower housing terminates in a straight stub end. Designed to be welded to the tank shell.



DOT407LF

Vent to mount on a 4" TTMA flange. Supplied with a 3/8"-16 removable thread inserts and a Teflon envelope flange gasket.



DOT407LAF

Vent to mount on a 4" ANSI flange. Supplied with a Teflon envelope flange gasket and a 1/4" NPT "Tell-Tale" indicator tap.

“Geiliner” Vents
GE-DOT3X407-ATFL



Girard Equipment, Inc.'s Teflon lined Pressure Relief Valve is designed to protect against aggressive ladings that normally would chemically attack stainless steel.

All wetted surfaces are lined with a 1/8" thick Teflon liner. The valve seat seals on a Teflon encapsulated silicone "O" Ring. This "O" Ring provides complete chemical resistance and a bubble-tight seal. The vent is designed to be easily removed from the tank for inspection and/or cleaning.



Vent to mount on a 3" ANSI Flange. Supplied with a Teflon liner and a valve seat.



GE-DOT407-LAFTL

Vent to mount on a 4" ANSI Flange. Supplied with a Teflon® liner and a valve seat.

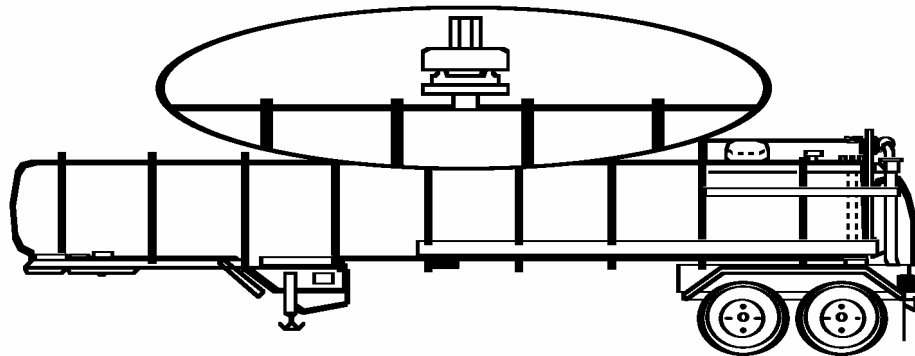
When ordering, please specify pressure setting.



GE-PV-300-2AFTL

Vent to mount on a 2" ANSI Flange. Supplied with a Teflon liner and a valve seat.

When ordering, please specify pressure setting.



For a complete parts breakdown for ordering replacement parts and for seeing further product specifications please refer to **Appendix L-14**

Girard IBC Vent/Fill Cap

The Girard IBC Vent/Fill Cap will forever change the way IBC's (Intermediate Bulk Containers) are filled, cleaned and repaired. The venting device consists of a dual-acting pallet for both pressure and vacuum relief and is housed deep inside the vent body to prevent damage of valve seat while in transit and during handling. The fusible element is made from an advanced engineered polymer that is heat sensitive and will provide total venting capacity in the event of a fire. The entire unit can be easily repaired in the field or sent back to Girard Equipment for reconditioning. The device can be hermetically sealed to help ensure precious cargoes from being tampered with or compromised.



Features	Girard IBC Vent/Fill Cap	The Competitions 5 in 1
Fill Cap	X	X
Pressure Relief	X	X
Vacuum Relief	X	X
Fusible Vent	X	X
Rollover Protection	X	X
Tamper evident provision	X	
Clean in Place	X	
Repair in Place	X	
Fill in Place	X	
Suited for High Purity Chemicals and also food grade products	X	

For further details on ordering replacement parts please refer to **Appendix L-15**

Girard Intermodal Tank Container Vent

3 Different Styles

IM Our standard vent with a 2-1/2" BSP male threaded inlet. Available with, or without vacuum section. *Please specify when ordering.*

IMF* Vent with flanged inlet. Supplied with tapping for pressure gauge mount. Available with, or without vacuum section.

IMF-TL* Teflon-Lined Vent designed to be used with, or without a rupture disc. Flanged inlet is standard. Optional Teflon-coated spring is available upon request.

Girard Equipment Inc.'s Intermodal Tank Container Pressure/Vacuum Relief Vents are made from 316 Stainless Steel and are electrochemically polished to reduce the probability of contamination. Maximum venting capacity is achieved through a standard 2-1/2" BSP male thread inlet. Seals are arranged so that there is metal contact between the pressure pallet and the valve body following initial seal contact. This promotes longer seal life, as well as, minimize leakage even following total seal failure, as would occur in a fire.

Our new Teflon Lined (IMF-TL) Relief Valve is designed to be used without a rupture disc between the vent and the cargo space. All internal wetted parts are lined with a 1/8" Teflon liner protecting it from being chemically attacked.

The vents are designed to accept a variety of seals from different manufacturer's around the world, so you will never be far away from replacement parts.

All Pressure/Vacuum Relief Vents are fully manufactured, tested and certified by Girard Equipment, Inc. who has been producing tank pressure control devices for over 30 years.

For a full parts breakout and dimensions please refer to **Appendix L-16**

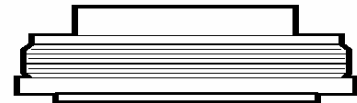


Special “Weld In” DOT 407 Pressure Relief Valve

Girard’s Special Low Profile “Weld-In” (LW) Series DOT 407 Vent combines an ultra-low profile, light weight design with high flow rates to meet the most demanding needs of virtually any tank. See the table below for specific flow rates. The LW Vent welds directly to your manlid, thus avoiding expensive hot-work to the shell of your tank, and is low enough to be “retro-fitted” to most any tank, without having to alter the overturn protection.

For replacement parts please see **Appendix K-18** for a full parts breakdown and for additional specs.

402017



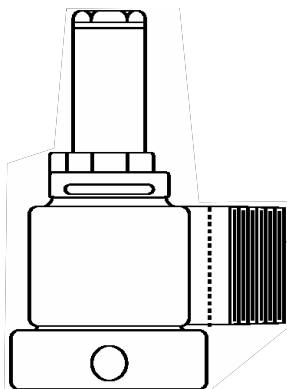
Girard’s Hydraulic Vapor Recovery Adaptors are easy to clean and maintain in place.

Girard 3” DOT 307 Hydraulic Vapor Recovery Adaptor

Girard Equipment’s hydraulically operated vapor recovery adaptor is manufactured from T316 stainless steel investment castings and is electro-polished for easy cleaning.

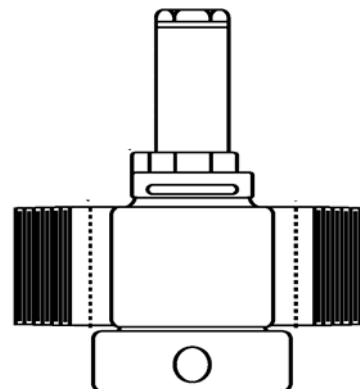
The standard unit can be supplied with a 3” straight threaded female swivel outlet for mounting on a 3” clean-out nipple and one or two 2” N.P.T. outlets to allow for both top and bottom vapor recovery.

The adaptor is closed in transit and opens consecutively with the tanks’ hydraulic internal valve using the existing hydraulic hand pump. The external hydraulic cylinder is completely isolated from the tanks’ lading. The main sealing surface is a Teflon Encapsulated O-ring (Tef-O-Sil), which is compatible with most chemicals. The adaptor is designed to be “Cleaned-In-Place”, without removing the assembly from the tank trailers pipe work. This feature also allows for the operator to remove the cylinder to either replace or repair as needed. A fluorescent orange indicator provides positive visual confirmation that the valve is open and can be seen from ground level. An additional provision has been added to enable the use of a variety of valve position sensors. This assembly has an effective flow-through area of 2”, which should be more than adequate to handle most industrial vapor recovery applications. The unit can also double as an air-unloading device.



GVRA-B2

Mounts on a 3” Tank Nozzle.
2” NPT Male Outlet.
Hydraulic Cylinder completely isolated from tank lading.
Shear Section on Outlet



GVRA-BXT

Mounts on a 3” Tank Nozzle.
2” NPT Male Outlet.
2 Outlets (TEE), for both top and bottom vapor recovery.
Shear Section on Outlets.

See **Appendix L-17** for a full parts breakout



Girard 3" x 2" Vapor Recovery Adapter

Part# 3X2VRA

The new 3" x 2" Vapor Recovery Adapter is designed for use on an existing 3" tank nozzle. The swivel connection allows easy positioning in confined spaces. The fixed 3" male NPT section could accommodate a 3" cap (solid or fusible). Adapter comes standard with a 2" full-port ball valve, dust cap and chain.

Girard 3" Vapor Recovery Adapter

Part# 3VRA

This 90° Vapor Recovery Adapter with a 3" NPT Swivel inlet is used to safely recover vapors in a "Closed Loop" loading and unloading situation.



Girard Vapor Recovery Adapter Options



**Air Operated
Vapor Recovery Adapter**



**Vapor Recovery Adapter
With Liquid Level Sensor**

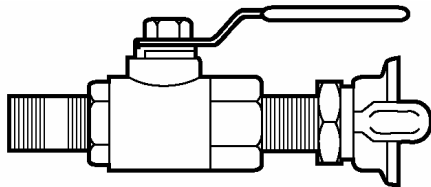
Girard MC307 and PV300 Pressure Relief Vent Accessories



Stainless Steel Liquid Filled Gauge
Part# **202019** 0-60 PSI
Part# **202019A** 0-100 PSI/0-7 Bar
1/4" Inlet, stainless steel (liquid glycerin filled) pressure gauge.



Blanking Caps
For capping off pressure vent and vacuum breaker lower housings.



3/4" X 2" Stainless Steel Nipple
Part# **202016**

3/4" Universal Male
Part# **20218S** (Stainless)
Part# **202108** (Mal. Iron)

3/4" Stainless Steel Ball Valve
Part# **202017**

3/4" Universal Blank End
Part# **AMO** (Not Shown)

3" Air Unloading Assembly
Part# **3ADS**

Can be fitted to an Acid/Chemical Tank Trailer for air, or nitrogen purging. 360° swivel for ease of handling.



3" Vapor Recovery Adaptor (shown on 3" pipe nipple)
Part# **3VRA**

Used to safely recover vapors during "closed loop" loop unloading.



3" Solid Cap
Part# **3-SC**
Straight thread, seals on gasket, large sealing tabs, seals on an extra thick Teflon gasket, Swivel hook for attaching cable or chain.



3" Stainless Polymer Fusible
Part# **3-SPF**
Chemically inert thermoplastic polymer used to join two piece cap together, fully repairable, large seal tabs, seals on an extra thick Teflon gasket.



4" Solid Cap
Part# **4-SC**
Straight thread, seals on gasket, large sealing tabs, seals on an extra thick Teflon gasket, Swivel hook for attaching cable or chain.



4" Stainless Fusible
Part# **4-SF**
4" fusible cap, extra thick Teflon gasket (standard), large seal tabs.



Reducer
Part# 3X2S
 To reduce from 3" NPT Female to a 2" NPT Male thread.



3 X 3 Adaptor
Part# 3X3S
 This heavy duty adapter can be used to restore 3" NPT (tapered) nipples like those found on tank trailers clean-out nipples, nose lines, and valve outlets that have been damaged due to "cross threading". Also, threads that are galled, out of round, or partially stripped can be renewed without the need for costly work on the trailer.

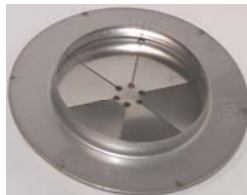


Universal Spanner Wrench
Part# NSW
 A light weight, universal spanner type wrench for pin lug fittings and pipe caps. Fits sizes: 3" and 4". Cast in malleable iron.

3" Stainless Steel Cone Strainer
Part# 3C6

Installs into a 3" opening (i.e. quick connect female, 3" x 3" adapter) and prevents large objects from entering the cargo pumps intake line. The cone-shaped design allows the strainer to be filled with 75% of material before restricting flow. Standard stainless steel screens are available in number 6 mesh (shown).

(Number 50 and number 100 mesh are also available, upon request).



2-1/2" 50# Rupture Disc
Part# MISRD2.5-50
 Stainless Steel 2-1/2" rupture disc designed to release at 50# with Teflon gasket.



Girard Sani-Vent

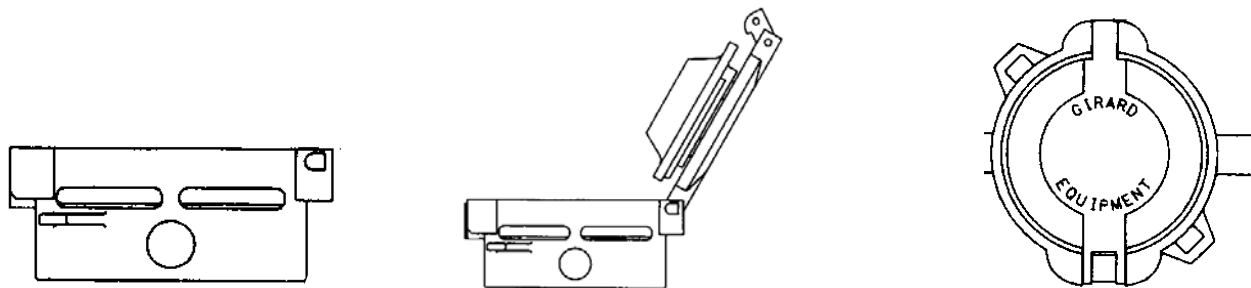
This venting device consists of dual-acting pallet to protect from over-pressurization and vacuum conditions in sanitary tank trailers.

Electrochemically polished surfaces make the unit more easily cleanable to inhibit the growth of bacteria and other foreign contaminants.

Ideal uses for this product are; liquid food grade products, high purity chemicals, pharmaceutical products, etc.

The housing flap can be opened by hand for loading or the sampling of the product. The entire unit can be hermetically sealed and fastened to the container to guard against unauthorized tampering of the payload.

For replacement parts please refer to **Appendix L-7**



Accessories

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Betts Gauge Holder

Part# **BEL400077**

Recessed metal body with clear lens to protect gauge while allowing for clear visibility of gauge.



Span Spec 30# Dry Bulk Gauge

Part# **GAU1554551**

Poly carbonate gauge to measure air pressure on dry bulk transfer operations.



0-250 Degree Thermometer with Stem

Back mounted thermometer with 1/2" male NPT threads to measure temperature of liquid inside trailer.



0-300 Degree Bulb Thermometer with 5' Capillary Tube

Stainless steel thermometer used in tanks with no wells. Copper alloy tube.



Part#	Description
GAU30060064	6" Stem
GAU30090064	9" Stem

0-30# Flanged Pressure Gauge

Part# **GAU610C**

Stainless steel rear mount pressure gauge used in dry bulk transfer applications.



Span 0-30# Pressure Gauge

Part# **GAUGA0001541712**

Gauge most commonly used to identify line and tank pressure in pneumatic units.



Dixon Bayco 2" 200# Dry Gauge

ABS plastic case, polycarbonate crystal, black aluminum pointer, C-shaped bronze safety bourbon tube and helical wound bronze safety bourbon tube. Ambient temperature range -40° F to 150° F.



Part#	Description
GAUGC235	Back Mount Gauge
GAUGL135	Bottom Mount Gauge

4" 100# Gauge

Part# **GAUGLBR100-4**

Copper alloy bourbon tube, brass movement with highly polished bearing surfaces, glycerin filled, 1% accuracy.



Dixon Bayco Stainless Steel Gauges

1/4" lower mount stainless steel connector, 316 stainless steel bourbon tube and socket, polyester segment, and glycerin filled.



Part#	Description
GAUGLSS15	15# Gauge
GAUGLSS60	0-60# Gauge
GAUGLSS100	100# Gauge
GAUGLSS160	160# Gauge
GAUGLSS200	200# Gauge

**Other Gauges Available Upon Request
Call DBL For Details
1-877-DBL-TANK**

Gauge Pole

One piece solid wood gauge pole with plastic tip on end to protect tank. Marked in 1/8" increments.

Part#	Description
GAUGP12	120" 12 Gauge Pole
GAUGP14	144" 14 Gauge Pole

Folding Gauge Poles

Wooden, three and five pieces with 1/8" increments.



Part#	Description
GAUGFS3	72" three fold
GAUGFS5	144" five fold

SKA-PP Spill Kit

Part# MISSKIT

Includes Sorbent pads and socks to clean and contain spills.



Spill Clean Up Pads

Part# MISMR01

Quilted pads designed to pick up various types of liquid spills.



Sanitary Wrenches

DBL stocks a full range of aluminum wrenches for use on sanitary bevel seat nuts.

Part#	Description
SANW1.5	1-1/2"
SANW2	2"
SANW2.5S	Short 2-1/2"
SANW2.5X2	2-1/2" X 2"
SANW2X1.5	2" X 1-1/2"
SANW3	NJ 3"
SANW3.5	NJ 3-1/2"
SANW3.5X3	NJ 3-1/2" X 3"
SANW3S	3" Short
SANW3X2	Thomsen 3" X 2"
SANW3X2.5	3" X 2-1/2"



Six Way Fill Box Wrench

Part# MIS4349

Universal cast iron wrench used to open various fill boxes.



Mud Flaps

DBL has a wide array of mud flaps in stock. Please call for details.



Part#	Description
ACSMF30	24" x 30" Black
ACSMF36	24" x 36" Black
ACSMF36W	24" x 36" Plastic
ACSMFDBL	DBL Logo 24" x 36" White
ACSMFWAL	Walker 36" White

Tarp Straps With S-Hooks

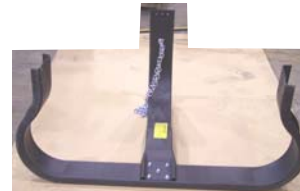
DBL stocks a complete line of heavy duty tarp straps with galvanized hooks to tie down hoses in troughs or various other applications.

Part#	Size
MISTS9	9"
MISTS15	15"
MISTS20	20"
MISTS31	31"

38" Nash Tire Carrier

Part# ACSTC38

Steel channel construction with chain to secure spare tire. Painted black.



Allegheny Coupling



DBL carries Allegheny's line of lightweight, fabricated fittings primarily for the tank transportation industry. These fittings are made from metal stampings in aluminum, steel, and stainless steel. Sizes range from 1-1/2" to 6", sized to TTMA Standards.

Fittings include

- Belled Bends**
- Belled Tees**
- Belled Laterals**
- Belled Y**
- Belled Saddle**
- Belled Crosses**
- Strainers**
- Couplings and Nipples**
- Flanges**
- Gaskets**
- Reducers**

**For more information or to place an order contact DBL
1-877-DBL-TANK
dbltank@dbltank.com**

Piping

DBL carries a large selection of steel, stainless steel, aluminum and CPVC piping. Listed are our most popular items, but if you do not see what you are looking for call DBL and we can get it for you.

Black Steel Bushings



Part#	Size
PIPBBU4X2	1/4" X 1/8"
PIPBBU6X4	3/8" X 1/4"
PIPBBU8X4	1/2" X 1/4"
PIPBBU8X6	1/2" X 3/8"
PIPBBU12X4	3/4" X 1/4"
PIPBBU12X6	3/4" X 3/8"
PIPBBU12X8	3/4" X 1/2"
PIPBBU16X12	1" X 3/4"
PIPBBU20X16	1-1/4" X 1"
PIPBBU24X20	1-1/2" X 1-1/4"
PIPBBU32X24	2" X 1-1/2"

Black Steel Cap



Part#	Size
PIPBCA2	1/8"
PIPBCA4	1/4"
PIPBCA6	3/8"
PIPBCA8	1/2"
PIPBCA12	3/4"
PIPBCA16	1"
PIPBCA20	1-1/4"
PIPBCA24	1-1/2"
PIPBCA32	2"

Black Steel Close Nipples



Part#	Size
PIPBCN2	1/8"
PIPBCN4	1/4"
PIPBCN6	3/8"
PIPBCN8	1/2"
PIPBCN12	3/4"
PIPBCN16	1"
PIPBCN20	1-1/4"
PIPBCN24	1-1/2"
PIPBCN32	2"
PIPBCN40	2-1/2"
PIPBCN48	3"
PIPBCN64	4"

Black Steel Couplings



Part#	Size
PIPBCO2	1/8"
PIPBCO4	1/4"
PIPBCO6	3/8"
PIPBCO8	1/2"
PIPBCO12	3/4"
PIPBCO16	1"
PIPBCO20	1-1/4"
PIPBCO24	1-1/2"
PIPBCO32	2"
PIPBCO48	3"
PIPBCO64	4"

Black Steel 90 Degree Elbow



Part#	Size
PIPBEL2	1/8"
PIPBEL4	1/4"
PIPBEL6	3/8"
PIPBEL8	1/2"
PIPBEL12	3/4"
PIPBEL16	1"
PIPBEL20	1-1/4"
PIPBEL24	1-1/2"
PIPBEL32	2"

Black Steel Plug



Part#	Size
PIPBPL2	1/8"
PIPBPL4	1/4"
PIPBPL6	3/8"
PIPBPL8	1/2"
PIPBPL12	3/4"
PIPBPL16	1"
PIPBPL20	1-1/4"
PIPBPL24	1-1/2"
PIPBPL32	2"

Black Steel Weld Elbow



Part#	Size
PIPBWL32	2"
PIPBWL40	2-1/2"
PIPBWL48	3"
PIPBWL64	4"

Black Steel Nipple, Grooved One End



Part#	Size
PIPBGN32	2"
PIPBGN40	2-1/2"
PIPBGN48	3"
PIPBGN64	4"

Black Steel Tee



Part#	Size
PIPBTE2	1/8"
PIPBTE4	1/4"
PIPBTE6	3/8"
PIPBTE8	1/2"
PIPBTE12	3/4"
PIPBTE16	1"
PIPBTE20	1-1/4"
PIPBTE24	1-1/2"
PIPBTE32	2"

Black Steel Nipple, Threaded One End



Part#	Size
PIPBTN16	1"
PIPBTN20	1-1/4"
PIPBTN24	1-1/2"
PIPBTN32	2"
PIPBTN40	2-1/2"
PIPBTN48	3"
PIPBTN64	4"

Dixon Black Steel Groove X Threaded Adaptor



Part#	Size
DIXA712S	2
DIXA7125S	2-1/2"
DIXA713S	3"

Aluminum Close Nipple



Part#	Size
PIPACN32	2"
PIPACN48	3"
PIPACN64	4"

Aluminum Coupling



Part#	Size
PIPAC02	1/8"
PIPAC04	1/4"
PIPAC06	3/8"
PIPAC08	1/2"
PIPAC012	3/4"
PIPAC016	1"
PIPAC020	1-1/4"
PIPAC024	1-1/2"
PIPAC032	2"
PIPAC048	3"
PIPAC064	4"

Aluminum Nipple, Grooved One End



Part#	Size
PIPAGN32	2"
PIPAGN48	3"
PIPAGN64	4"
PIPAGN80	5"
PIPAGN96	6"

Aluminum Schedule 40 Weld Elbow



Part#	Size
PIPAWL32	2"
PIPAWL48	3"
PIPAWL64	4"
PIPAWL80	5"
PIPAWL96	6"

Aluminum Nipple, Threaded One End



Part#	Size
PIPATN8	1/2"
PIPATN12	3/4"
PIPATN16	1"
PIPATN20	1-1/4"
PIPATN24	1-1/2"
PIPATN32	2"
PIPATN40	2-1/2"
PIPATN48	3"
PIPATN64	4"
PIPATN80	5"
PIPATN96	6"

Stainless Steel Bushing



Part#	Size
PIPSBU4X2	1/4" X 1/8"
PIPSBU6X4	3/8" X 1/4"
PIPSBU8X4	1/2" X 1/4"
PIPSBU8X6	1/2" X 3/8"
PIPSBU12X4	3/4" X 1/4"
PIPSBU12X6	3/4" X 3/8"
PIPSBU12X8	3/4" X 1/2"
PIPSBU16X12	1" X 3/4"
PIPSBU20X16	1-1/4" X 1"
PIPSBU24X20	1-1/2" X 1-1/4"
PIPSBU32X24	2" X 1-1/2"

Stainless Steel Close Nipple



Part#	Size
PIPSCN2	1/8"
PIPSCN4	1/4"
PIPSCN6	3/8"
PIPSCN8	1/2"
PIPSCN12	3/4"
PIPSCN16	1"
PIPSCN20	1-1/4"
PIPSCN24	1-1/2"
PIPSCN32	2"
PIPSCN48	3"
PIPSCN64	4"

Stainless Steel Pipe Cap



Part#	Size
DIX300-SFC-SS	3" Fusible Cap
DIX300-PC-SS	3" Pipe Screw Cap
DIX400-PC-SS	4" Pipe Screw Cap

Stainless Steel Cap



Part#	Size
PIPSCAIPSCA2	1/8"
PIPSCA4	1/4"
PIPSCA6	3/8"
PIPSCA8	1/2"
PIPSCA12	3/4"
PIPSCA16	1"
PIPSCA20	1-1/4"
PIPSCA24	1-1/2"
PIPSCA32	2"

Stainless Steel Coupling



Part#	Size
PIPSC02	1/8"
PIPSC04	1/4"
PIPSC06	3/8"
PIPSC08	1/2"
PIPSC012	3/4"
PIPSC016	1"
PIPSC020	1-1/4"
PIPSC024	1-1/2"
PIPSC032	2"
PIPSC048	3"
PIPSC064	4"

Stainless Steel Elbow



Part#	Size
PIPSEL2	1/8"
PIPSEL4	1/4"
PIPSEL6	3/8"
PIPSEL8	1/2"
PIPSEL12	3/4"
PIPSEL16	1"
PIPSEL20	1-1/4"
PIPSEL24	1-1/2"
PIPSEL	1-3/4"

Stainless Steel Reducing Coupler



Part#	Size
PIPSRC6X4	3/8" X 1/4"
PIPSRC8X6	1/2" X 3/8"
PIPSRC12X8	3/4" X 1/2"
PIPSRC16X12	1" X 3/4"

Stainless Steel Tee



Part#	Size
PIPSTE2	1/8"
PIPSTE4	1/4"
PIPSTE6	3/8"
PIPSTE8	1/2"
PIPSTE12	3/4"
PIPSTE16	1"
PIPSTE20	1-1/4"
PIPSTE24	1-1/2"
PIPSTE32	2"

Stainless Steel Nipple Grooved One End



Part#	Size
PIPSGN48	3"
PIPSGN64	4"

Stainless Steel Plug



Part#	Size
PIPSPL2	1/8"
PIPSPL4	1/4"
PIPSPL6	3/8"
PIPSPL8	1/2"
PIPSPL12	3/4"
PIPSPL16	1"
PIPSPL20	1-1/4"
PIPSPL24	1-1/2"
PIPSPL32	2"

Stainless Steel Nipple Threaded One End



Part#	Size
PIPSTN4	1/4"
PIPSTN6	3/8"
PIPSTN8	1/2"
PIPSTN12	3/4"
PIPSTN16	1"
PIPSTN20	1-1/4"
PIPSTN24	1-1/2"
PIPSTN32	2"
PIPSTN48	3"
PIPSTN64	4"

Stainless Steel Union



Part#	Size
PIPSUN12	3/4"
PIPSUN16	1"

316 Stainless Steel Close Nipple



Part#	Size
PIPZCN24	1-1/2"
PIPZCN32	2"

316 Stainless Steel Elbow



Part#	Size
PIPZEL24	1-1/2"
PIPZEL32	2"

#80 CPVC Female Adaptor



Part#	Size
PIPPFA16	1"
PIPPFA24	1-1/2"
PIPPFA32	2"
PIPPFA48	3"
PIPPFA64	4"

Stainless Steel Weld Elbow



Part#	Size
PIPSWL12	3/4"
PIPSWL32	2"
PIPSWL48	3"
PIPSWL64	4"

316 Stainless Steel Coupling



Part#	Size
PIPZC04	1/4"
PIPZC024	1-1/2"
PIPZC032	2"

316 Stainless Steel Nipple, Threaded One End



Part#	Size
PIPZTN24	1-1/2"
PIPZTN32	2"

#80 CPVC Male Adaptor



Part#	Size
PIPPMA16	1"
PIPPMA24	1-1/2"
PIPPMA32	2"
PIPPMA48	3"
PIPPMA64	4"

CPVC Female Glue X Shank Adaptor



Part#	Size
PIPPFGS24	1-1/2"
PIPPFGS32	2"

CPVC Male Glue X Shank Adaptor



Part#	Size
PIPPMGS24	1-1/2"
PIPPMGS32	2"

CPVC Female Glue X FNPT Bulkhead Fitting



Part#	Size
PIPPBF24	1-1/2"
PIPPBF32	2"

#80 CPVC Glue-On Coupling



Part#	Size
PIPPC016	1"
PIPPC024	1-1/2"
PIPPC032	2"
PIPPC048	3"
PIPPC064	4"
PIPPC0128	8"
PIPCA128	8" Cap

#80 CPVC 90 Degree Elbow



Part#	Size
PIPPEL16	1"
PIPPEL24	1-1/2"
PIPPEL32	2"
PIPPEL48	3"
PIPPEL64	4"

CPVC S-80 Van Stone Flange



Part#	Size
PIPPFF24	1-1/2"
PIPPFF32	2"
PIPPFF48	3"
PIPPFF64	4"

#80 CPVC 45 Degree Elbow



Part#	Size
PIPPEL24-45	1-1/2"
PIPPEL32-45	2"
PIPPEL48	3"
PIPPEL64	4"

Buyers Set Screw

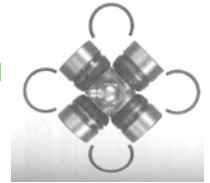
Part# **BUY58**

Screw used in conjunction with end yokes.

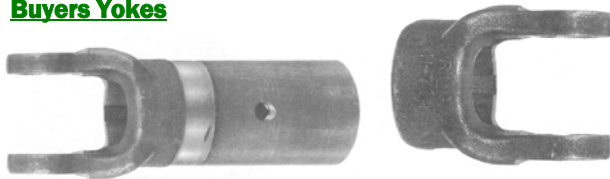
Buyers Cross Bearing

Part# **BUYNB7A**

Used in conjunction with slip and end yokes.



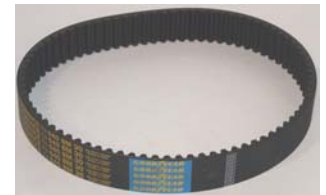
Buyers Yokes



Part#	Description
BUY7332	1-1/8" Hex Slip Yoke
BUY74103	1-1/8" X 1/4" End Yoke
BUY74123	1-1/4" X 5/16" End Yoke
BUY7432	1-1/8" Hex End Yoke
BUY7493	1" Round X 1/4" Key Yoke

Notched Flat Belts

Used with Jabsco pumps.



Part#	Size
DRV640-8M-30	640 MM
DRV800-8M-30	800 MM
DRV880-8M-30	880 MM
DRV1120-8M-30	1120 MM

V-Belt

Used with Jabsco pumps.



Part#	Size
DRVAX31	31" X 1/2"
DRVAX32	32" X 1/2"
DRVAX33	33" X 1/2"
DRVAX34	34" X 1/2"

V-Belt Bushing

Other models and sizes available.



Part#	Size
DRVD-28M	D X 28 MM
DRVD-5/8	D X 5/8"
DRVD-1-1/8	D X 1-1/8"
DRVSH118	SH X 1"
DRVSH118	SH X 1-1/8"

V-Belt Notched Pulley

Other models and sizes available.



Part#	Size
DRV348M30	34 MM
DRV388M30	38 MM

Braided Packing

Part#	Size
GASP3/16	3/16"
GASP1/4	1/4"
GASP5/16	5/16"
GASP3/8	3/8"
GASP1/2	1/2"
GASP5/8	5/8"
GASP3/4	3/4"
GASP7/8	7/8"

Appendix

Aerators.....	A-1 thru A-6
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Appendix

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Emco Wheaton F523 4" Product Drop Elbow.....	I-3
Civacon 60TT Drop Elbow.....	I-4
Fittings	
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How to find replacement parts for pumps, valves, manholes, vents, etc.

For ease in finding replacement parts (gaskets, o-rings, springs, spacers, etc.) DBL has set up an appendix with full parts breakouts. In the **appendix**, look up the name of the item you want to find parts for. When you find the item you will be referred to a page containing the parts breakout for that particular item.

Example: If you are looking for replacement parts for a Betts Standard Wet-R-Dri Valve, you simply look under the **valves** category in the **appendix** for a Betts Standard Wet-R-Dri valve and turn to the appropriate page. On this page you'll find a parts breakout. Find the replacement part you need and write down the item number(s) or letter(s), the description, and the appendix page number. When calling in an order to DBL or to discuss a part, please reference the appendix page number, the replacement part item number and the description. This information helps cut down on errors in ordering and will help ensure that you will receive the necessary part or parts. It also helps when discussing parts with our customers. Knowing that we are both looking at the same diagram and talking about the same part greatly increases accuracy. If you cannot find the part you are looking for in the appendix call DBL and we will do our best to help you find what you need.

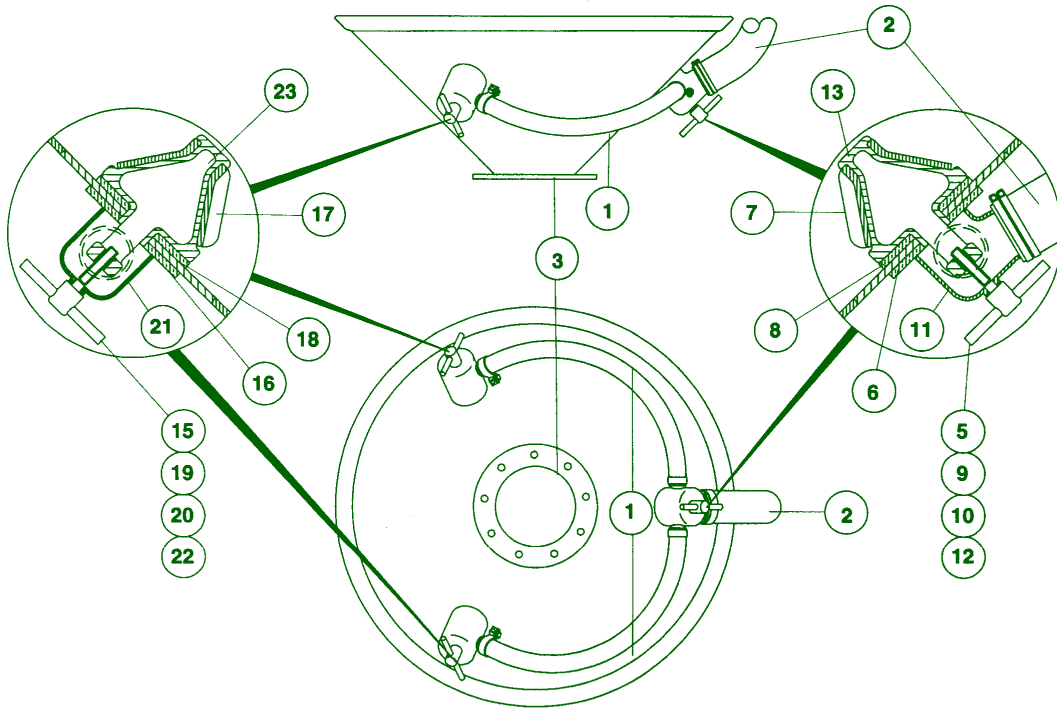
A parts order form can be found at the end of the catalog. This form may be used when faxing in a parts order.

**Betts Wet-R-Dri Valve TTMA Style
Standard and Detent**

No.	Description	Material	2" Size	3" Size	4" Size	5" Size	6" Size	8" Size
			Part No.	Part No.	Part No.	Part No.	Part No.	Part No.
1	Disc	Buna-N	WD101-2 BN	WD101-3 BN	WD101-4 BN	WD101-5 BN	WD101-6 BN	WD101-8 BN
		Vitron	WD101-2 VT	WD101-3 VT	WD101-4 VT	WD101-5 VT	WD101-6 VT	WD101-8 VT
		Urethane	WD101-2 PY	WD101-3 PY	WD101-4 PY	WD101-5 PY	WD101-6 PY	WD101-8 PY
		EPDM	WD101-2 EP	WD101-3 EP	WD101-4 EP	WD101-5 EP	WD101-6 EP	WD101-8 EP
2	Handle	Mat. E' Coated	25884EY	25884EY	25884EY	25884EY	25933AL	25933AL
4	Cap Screw	Steel Zinc Ptl.	9Q5813	9Q5813	9Q5813	9Q5813	9Q5898	9Q5898
		Steel Zinc Ptl.	9Q5808	9Q5808	9Q5808	9Q5808	9Q5808	9Q5808
5	Drive Shaft	Steel	27053MS	27050MS	27050MS	27051MS	16229MS	16229MS002
7	Bearing Shaft	Steel	16006MS	15913MS	15913MS	15913MS	16230MS	16230MS002
8	O-Ring	To Match Disc Matl.	17781**	18141**	18141**	18141**	18831**	18831**
9	Driv-Lok-Pin	Steel Zinc Ptl.	9Q4893	9Q4893	9Q4893	9Q4925	9Q4926	9Q4938
10	Detent Ball	440 Stnls	9Z4856	9Z4856	9Z4856	9Z4856	9Z4856	9Z4856
11	Detent Spring	304 Stnls	15229SL	15229SL	15229SL	15229SL	15229SL	15229SL
12	Ret. Screw	304 Stnls	9Q5838	9Q5838	9Q5838	9Q5838	9Q5838	9Q5838

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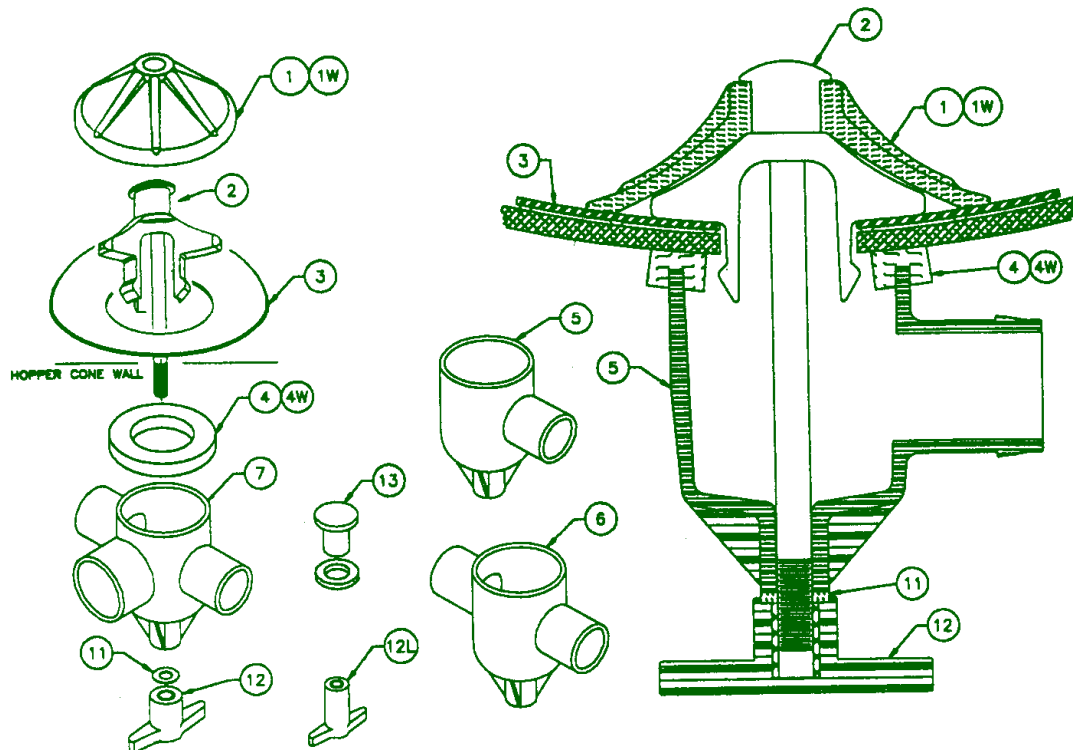
Heil Flo Cone Aeration System








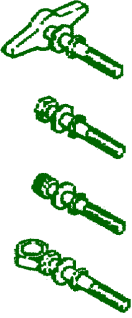
Ref	Part No.	Description	Req
1	057-1637-025	1" goodall (black hose).....	2
2	057-P091-879	2" goodall (black hose).....	1
3	074-4057-501	Flange.....	4
4	077-P901-616	3 port flo cone assembly.....	1
5	022-P315-726	Gasket 3/8".....	1
6	022-P315-731	Gasket (tan).....	1
7	022-P903-261	Gasket cone aerator.....	1
8	022-P910-213	Gasket flat blue.....	1
9	036-P310-277	Retaining ring.....	1
10	055-P310-275	Belleville washer ar/system.....	1
11	077-P315-730	Manifold (3 port).....	1
12	077-P315-737	Tee-handle.....	1
13	077-P910-210	Aeration casting body.....	1
14	077-P901-617	1 port flo cone assembly.....	1
15	022-P315-726	Gasket 3/8".....	1
16	022-P315-731	Gasket (tan).....	1
17	022-P903-261	Gasket cone aerator.....	1
18	022-P910-213	Gasket flat blue.....	1
19	036-P310-277	Retaining ring.....	1
20	055-P310-275	Belleville washer ar/system.....	1
21	077-P315-724	Manifold (1 port).....	1
22	077-P315-737	Tee-handle.....	1
23	077-P910-210	Aeration casting body.....	1

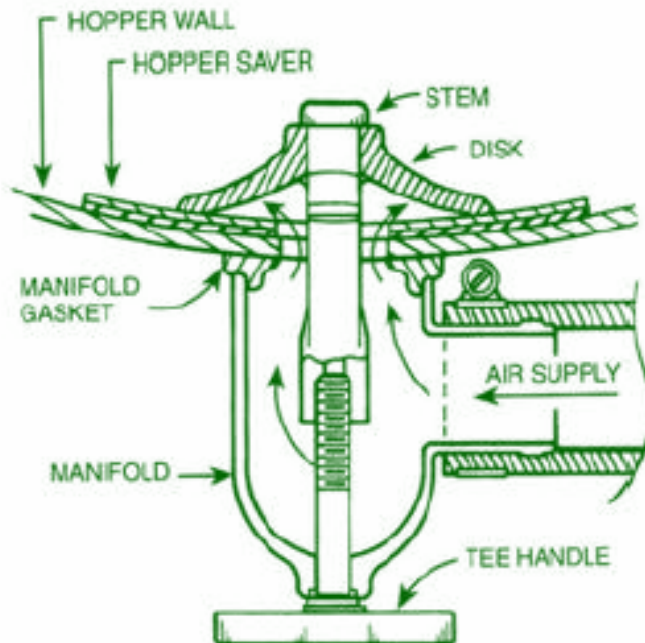
Sure Seal Sure Flo Aeration System

ITEM	PART #	DESCRIPTION
1	A104	Rubber Aerator, blue silicone-food grade.....
1W	AW104	Rubber Aerator, white silicone-food grade.....
2	A105	Aerator Housing, grey with stainless stem.....
3	A107	Aerator Stainless Steel Wear Plate, clear silicone.....
4	A108	Aerator Port Housing Gasket, blue silicone-food grade.....
4W	AW108	Aerator Port Housing Gasket, white silicone-food grade.....
5	A111	Aerator Port Housing, 1-port grey.....
6	A112	Aerator Port Housing, 2-port grey.....
7	A113	Aerator Port Housing, 3-port grey.....
8	A111C	Aerator Port Housing, 1-port Sure View, clear.....
9	A112C	Aerator Port Housing, 2-port Sure View, clear.....
10	A113C	Aerator Port Housing, 3-port Sure View, clear.....
11	A115	Aerator Tee Handle Gasket.....
12	A110	Aerator External Tee Handle, for use with Sure Flo, Solimar and Fruehauf Port Housings...
12L	A110L	Aerator External Tee Handle, for use with Heit and Polar Port Housings.....
13	A116	Hopper Plug w/gasket.....
	A99	Inside Aerator Assembly 1,2.....
	A100	Inside Aerator Assembly with wearplate 1, 2, 3.....
	A121	1-Port Complete Assembly Grey 1, 2, 4, 5, 11, 12.....
	A122	2-Port Complete Assembly Grey 1, 2, 4, 6, 11, 12.....
	A123	3-Port Complete Assembly Grey 1, 2, 4, 7, 11, 12.....
	A101	1-Port Complete Assembly Grey with wearplate 1, 2, 3, 4, 5, 11, 12.....
	A102	2-Port Complete Assembly Grey with wearplate 1, 2, 3, 4, 6, 11, 12.....
	A103	3-Port Complete Assembly Grey with wearplate 1, 2, 3, 4, 7, 11, 12.....
	A121C	1-Port Complete Assembly Sure View, clear 1, 2, 4, 8, 11, 12.....
	A122C	2-Port Complete Assembly Sure View, clear 1, 2, 4, 9, 11, 12.....
	A123C	3-Port Complete Assembly Sure View, clear 1, 2, 4, 10, 11, 12.....
	A101C	1-Port Complete Assembly Sure View, clear with wearplate 1, 2, 3, 4, 8, 11, 12.....
	A102C	2-Port Complete Assembly Sure View, clear with wearplate 1, 2, 3, 4, 9, 11, 12.....
	A103C	3-Port Complete Assembly Sure View, clear with wearplate 1, 2, 3, 4, 10, 11, 12.....


















Solimar Trailer Fluidizer

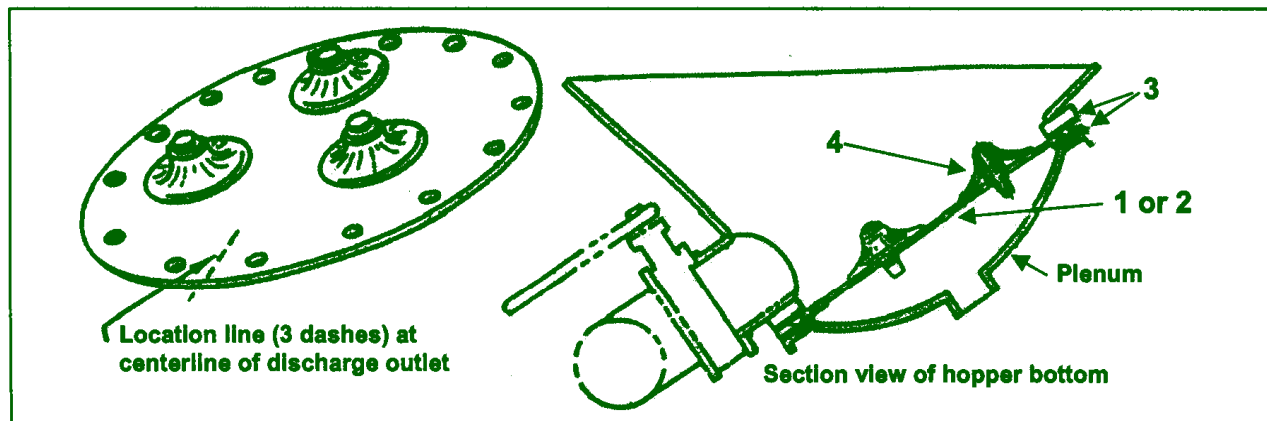
					
DISKS	STEMS	HOPPER SAVERS	MANIFOLD GASKETS	MANIFOLDS	FASTENERS
1 Blue silicone	1 Grey, Brass Insert	1 White Silicone	1 Blue silicone	1 1-Port grey	1 Tee-Handle Assembly
2 Natural silicone	2 Natural, Stainless Insert	2 Discontinued	2 Natural silicone	2 2-Port grey	2 Hex Bolt Assembly
3 White EPDM	3 Aluminum Stem	3 None	3 Black EPDM	3 3-Port grey	3 Socket head Assembly (internal hex)
4 Black EPDM	4 Steel Stem			4 1-Port clear	4 T.I.R. Assembly
	5 *Grey, External Fastener			5 2-Port clear	
				6 3-Port clear	



Solimar Trailer Fluidizer

Part #	Description
	4124 Blue Silicone Disk, food grade
	4134 White Silicone Disk, food grade
	4154 Black EPDM Disk, food grade
	4164 White EPDM Disk, food grade
	4125 Grey Stem, brass insert
	4135 Natural Stem, stainless insert
	4145 *Grey Stem, External fastener
	4155 Aluminum Stem
	4157 Carbon Steel Stem
	4126B Hopper Saver, 1-1/2" opening
	4127 Blue Silicone Manifold Gasket, food grade
	4137 White Silicone Manifold Gasket, food grade
	4147 Black EPDM Manifold Gasket, food grade
	4121 Manifold, 1-port grey
	4122 Manifold, 2-port grey
	4123 Manifold, 3-port grey
	4621 Manifold, 1-port clear
	4622 Manifold, 2-port clear
	4623 Manifold, 3-port clear
	4129 Tee-handle Assembly, stainless
	4130 *Raised Tee-handle Assembly
	4139 Hex Bolt Assembly, stainless
	4149 Internal Hex Bolt Assembly, stainless
	4159 Bolt Assembly, T.I.R., stainless
	4111 Hopper Plug w/gasket, 1-3/8" hole
	4167 Hopper Plug w/gasket, 1-1/2" hole

Solimar Fluidizer Plates

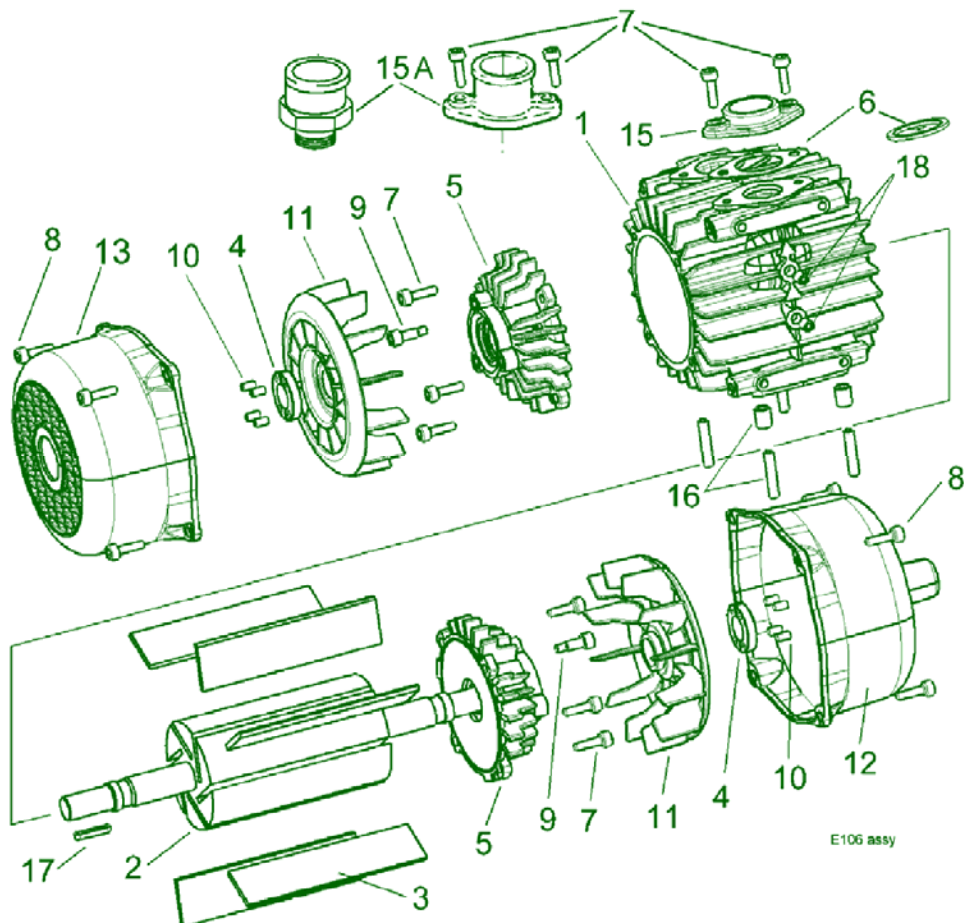


Item	Description	Part #
1	20" Stainless Steel Fluidizer Plate. w/ 3 Solimar Fluidizer Disks	5050
2	20" Carbon Steel Fluidizer Plate w/ 3 Solimar Fluidizer Disks	5052
3	Neoprene Gasket 20' O.D.	5012
	13" Stainless Steel Gravity Outlet Plate w/ 1 Solimar Fluidizer Disk	5051
	13" Carbon Steel Gravity Outlet Plate w/ 1 Solimar Fluidizer Disk	5043
	Neoprene Gasket Upper 13" O.D.	5018
	30" Carbon Steel Fluidizer Plate. w/ 7 Solimar Fluidizer Disks	5055
	Neoprene Gasket Upper 30" O.D.– Envelope Style	5019
4	Replacement Solimar Fluidizer Disk	4124
	Replacement Spool, Aluminum	5005
	Replacement Spool, Stainless Steel	5025
	Replacement Spool, Weld-on Aluminum	5035
	Replacement Bolt & Lock-Nut, Stainless Steel, used with Spool	7028 7107

Solimar Fluidizer Plates

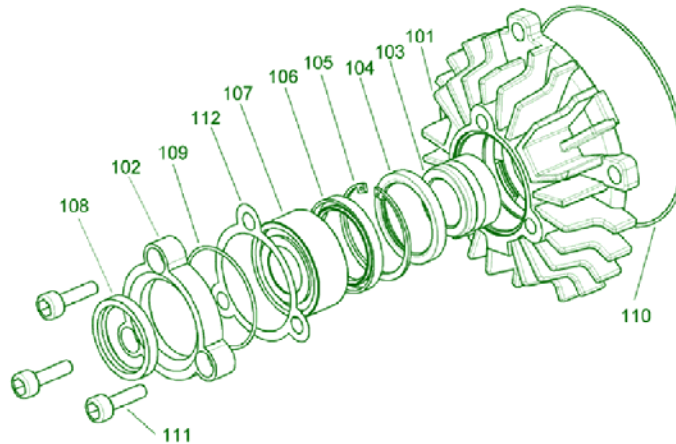
<u>Part #</u>	<u>Description</u>
<u>Assemblies</u>	
5037	20" Fluidizer Plate Assembly, No Outer Holes, S.S.
5038	20" Fluidizer Plate Assembly, No Outer Holes, Steel
5050	20" Fluidizer Plate Assembly, S.S.
5051	13" Fluidizer Plate Assembly, S.S.
5052	20" Fluidizer Plate Assembly, Steel
5053	13" Fluidizer Plate Assembly, Steel
5054	30" Fluidizer Plate Assembly, Aluminum
5055	30" Fluidizer Plate Assembly, Steel
5056	28" Fluidizer Plate Assembly, Steel
<u>Gaskets</u>	
5012	Neoprene Gasket, 20"
5018	Neoprene Gasket, 13"
5019	Neoprene Envelope Gasket, 30"
5020	Neoprene Gasket, 20" No Outer Holes
<u>Replacement Parts</u>	
4124	Fluidizer Disk, Blue Silicone
4180	Plenum Fluidizer Assembly, Blue Disk-includes bolt/nut
5005	Spool, Aluminum
5025	Spool, S.S.
5035	Spool, Aluminum, Weld-Type
7028	3/8"-16 X 2" Bolt, S.S.
7107	3/8"-16 Locknut w/Nylon Insert, S.S.

Blackmer E56, E106, E156 Compressor



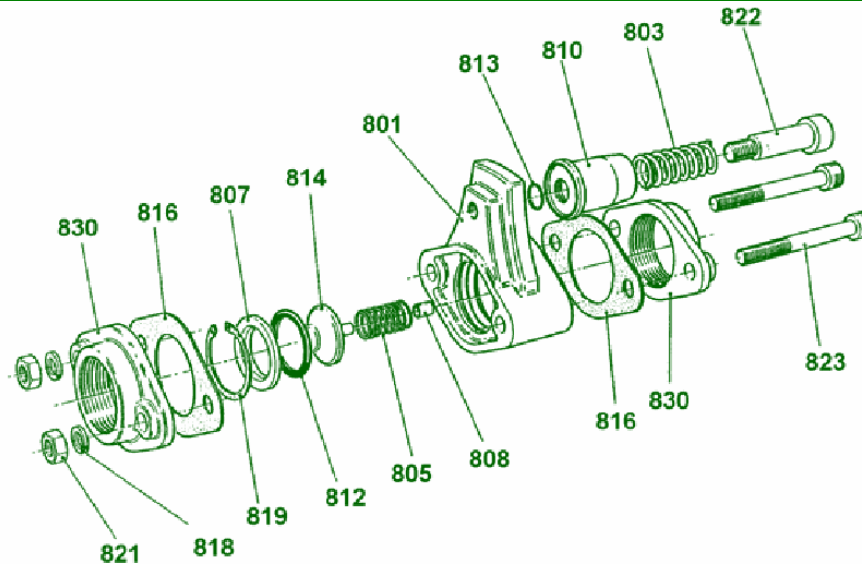
REF. NO.	DESCRIPTION	QTY.	PART NO.	Wear Part	REF. NO.	DESCRIPTION	QTY.	PART NO.	Wear Part	
1	Body – Plated	E56	1	Y220468		10	Set Screw (M8)	8	Y220608	
		E106	1	Y220472		11	Fan	2	Y220613	
		E156	1	Y220467		12	Cowl (Non-Drive End)	1	Y220617	
2	Rotor	E56	1	Y220479		13	Cowl (Drive End)	1	Y220618	
		E106	1	Y220480		15A	Inlet Filter Flange E106, E156	1	Y220652	
		E156	1	Y220482			Inlet Hose Connector E56	1	Y220651	
13	Blade	E56	6	Y220487	●	15	Outlet Flange BSP E106, E156	1	Y220695	
		E106	6	Y220489	●		Flange - 1 1/2" NPT E106, E156	1	Y220720	
		E156	6	Y220488	●		Adaptor - 1 1/2" NPT E156	1	Y223259	
4	Split Sleeve	2	Y220509		16	Stud Kit E56	1	Y313085.00		
5	Sideplate Assembly	2	Y313083.00			E106, E156	1	Y313084.00		
16	Gasket – Flange E106,E156	2	Y207557	●	17	Shaft Key	1	Y220534		
	1" BSP Dowty Seal E56	2	Y219623	●	18	Set Screw (1/4" BSP)	3	Y219521		
7	Capscrew (M10 x 25)	E56	6	Y220568		Not shown	E56 Foot Mounting Bracket. Also requires four 220568 capscrews	2	Y220657	
		E106	10			Not shown	Repair Kit (with Blades, Bearings, Seals, Gaskets & Circlips)	E56	Y313096.01	●
		E156	10		E106			Y313095.01		
8	Capscrew (M10 x 20)	8	Y200414					E156	Y313094.01	
9	Shoulder Screw (M8)	2	Y220593							

Blackmer E56, E106, E156 Compressor



REF. NO.	DESCRIPTION	QTY.	PART NO.	Wear Part	REF. NO.	DESCRIPTION	QTY.	PART NO.	Wear Part
101	Sideplate	1	Y220474		¹ 108	Grease Seal – Bearing Cap	1	Y220524	●
102	Bearing Cap	1	Y220478		¹ 109	O-Ring – Bearing Cap	1	Y220530	●
103	Distance Sleeve	1	Y220508		¹ 110	O-Ring – Sideplate	1	Y220526	●
¹ 104	Lip Seal	1	Y220531	●	111	Capscrew (M10 x 25)	3	Y220568	
¹ 105	Circlip	1	Y220566			Shim (0.023mm - Yellow)	A/R	Y220563	
¹ 106	Grease Seal – Sideplate	1	Y219688	●	¹ 112	Shim (0.036mm - Transparent)	A/R	Y220564	
¹ 107	Bearing	1	Y220515	●		Shim (0.050mm - Blue)	A/R	Y220565	

A/R = As Required
 1 : included in the repair kit



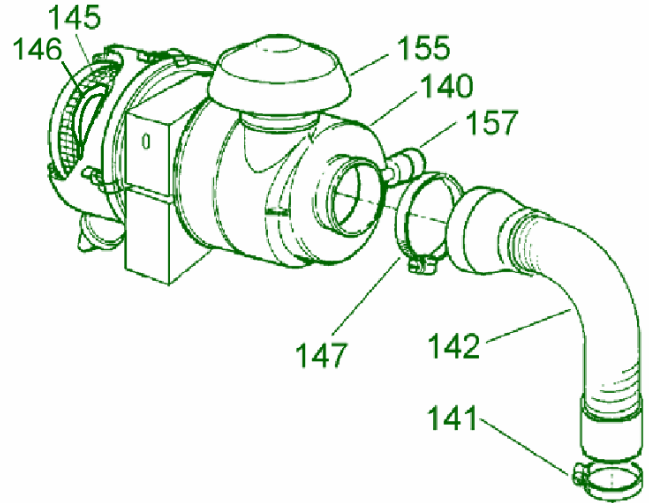
REF. NO.	DESCRIPTION	QTY.	PART NO.	Wear Part	REF. NO.	DESCRIPTION	QTY.	PART NO.	Wear Part
801	Body – Relief Valve	1	Y220466		814	Check Valve	1	Y220497	
803	Spring (29 psig, 2.0 bar, White, Std.)	1	Y220705		816	Gasket – Flange	2	Y207557	●
	Spring (36 psig, 2.5 bar, Black)		Y220704		² 818	Spring Washer	2	Y217223	
805	Spring	1	Y220707		819	Circlip	1	Y200020	
807	Retaining Ring	1	Y220513		² 821	Nut (M10)	2	Y213727	
808	Bushing	1	Y220502		822	Shoulder Screw	1	Y220569	
810	Relief Valve	1	Y220492		823	Capscrew (M10 x 90)	2	Y220572	
812	O-Ring	1	Y220527	●	830	Flange – 1 1/2" BSP	2	Y220695	
813	O-Ring	1	Y220522	●		Flange – 1 1/2" NPT	2	Y220720	

2 : included in the stud kit

Blackmer E56, E106, E156 Compressor

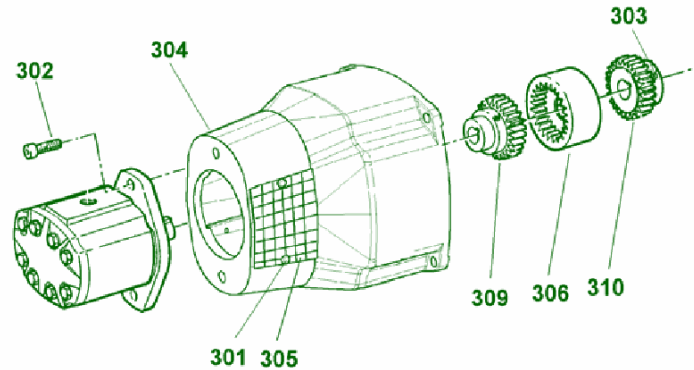
INLET FILTER

REF. NO.	DESCRIPTION	QTY.	PART NO.	Wear Part
140	Filter Unit E56, E106 E156	1	Y310634 Y312659	
141	Hose Clip	1	Y200915	
142	Flexible Hose E56, E106 E156	1	Y220638 Y220637	
145	Filter Element E56, E106 E156	1	Y220669 Y220666	● ●
146	Safety Element E56, E106 E156	1	Y215638 Y220006	● ●
147	Hose Clip E56, E106 E156	1	Y200915 Y217050	
155	Rain Cap E56, E106 E156	1	Y215636 Y220008	
157	Filter Restriction Indicator	1	Y215658	



HYDRAULIC DRIVE ADAPTOR

REF. NO.	DESCRIPTION	QTY.	PART NO.	Wear Part
301	Self Tapping Screw	4	Y220571	
302	Capscrew (M12 x40)	2	Y200370	
303	Set Screw (M6 x 10)	2	Y220575	
304	Trunk (SAE B)	1	Y220627	
305	Access Plate	2	Y220632	
306	Coupling Sleeve	1	Y220647	
309	Coupling Hub (7/8" Std.) (24 mm)	1	Y220809 220640 *	
310	Coupling Hub (25 mm)	1	Y220644	



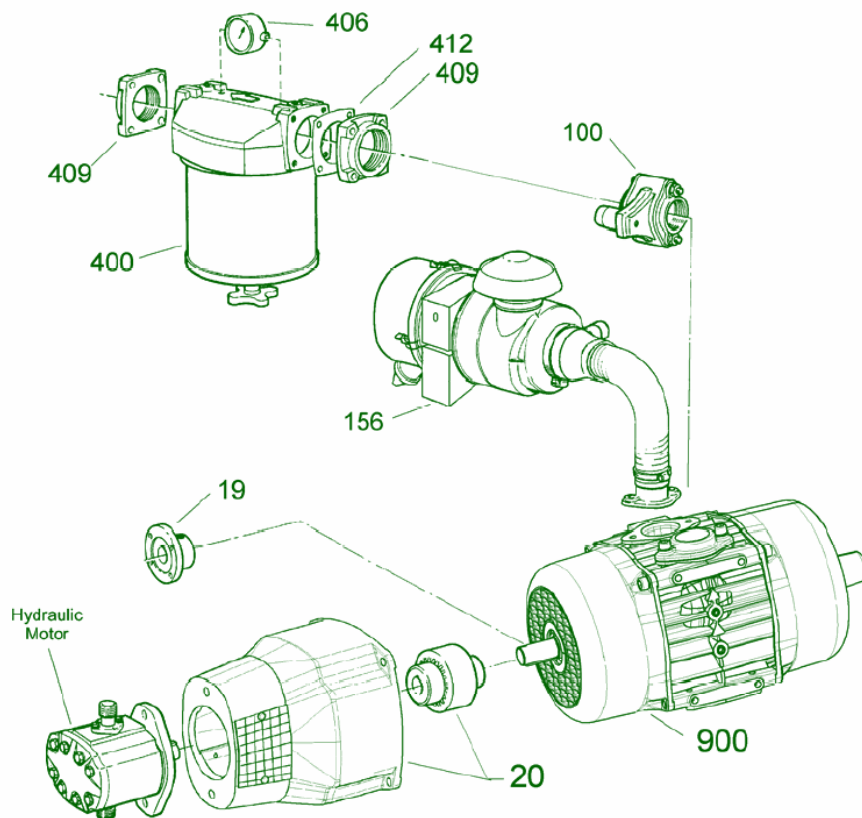
* Not available for sale.

**INTERCHANGEABILITY CHART –
Model E106 and Discontinued Model E100**

DESCRIPTION	STATUS	DESCRIPTION	STATUS
Body - Compressor	Fully Interchangeable	Sideplate Assembly	Fully Interchangeable
Rotor	Fully Interchangeable	Flanges	Fully Interchangeable
Blades	Fully Interchangeable	Gaskets	Fully Interchangeable
Fan	Both Fans & Cowls must be changed as sets.	Shims	Fully Interchangeable
Cowl	Both Fans & Cowls must be changed as sets.	Hydraulic Trunk	New Type Fan must also be installed.

Blackmer E56, E106, E156 Compressor

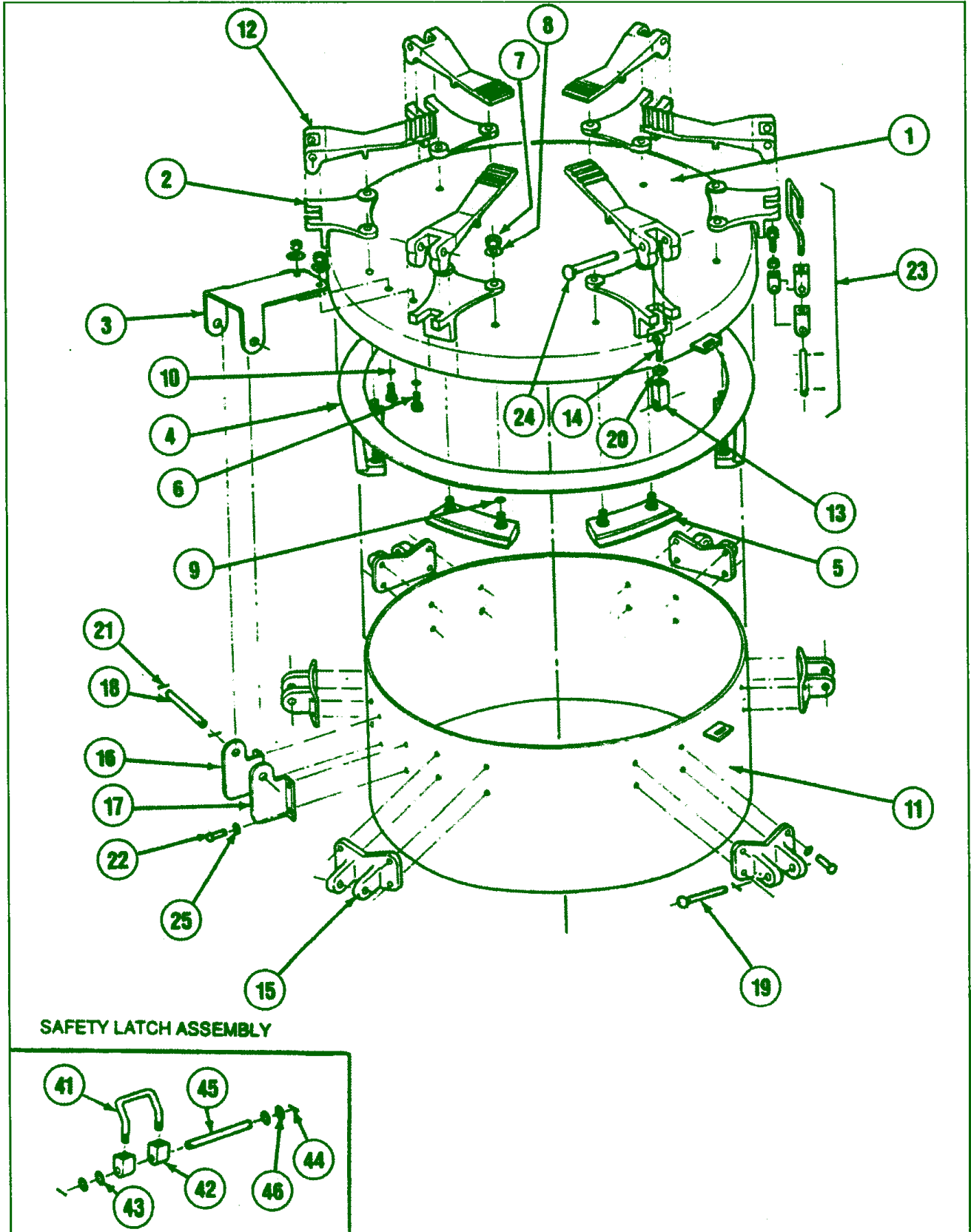
ACCESSORIES



REF. NO.	DESCRIPTION	QTY.	PART NO.	Wear Part	REF. NO.	DESCRIPTION	QTY.	PART NO.	Wear Part
900	E56 Compressor (with Ref. 19)	1	Y514576.01		20	Hydraulic Motor Drive Adaptor Kit (Hub 24 mm)	1	Y313302.00	
	E106 Compressor (with Ref. 19)	1	Y514687.02			Hydraulic Motor Drive Adaptor (hub 7/8")	1	Y313170.00	
	E156 Compressor (with Ref. 19)	1	Y514423.01		19	Drive Flange - 1100	1	Y313126.00	
	E56 Compressor (with Ref. 20 hub 24 mm)	1	Y514686.01		400	Pressure Line Filter (No. 1 - 5 micron)	1	Y514337.00	
	E106 Compressor (with Ref. 20 hub 24 mm)	1	Y514336.02		406	Differential Pressure Gauge Kit	1	NC *	
	E156 Compressor (with Ref. 20 hub 24 mm)	1	Y514585.01		409	Flange (1 1/2" NPT)	1	Y220720	
	E56 Compressor (with Ref. 20 hub 7/8")	1	Y514976.01			Flange (1 1/2" BSP)		Y220695	
	E106 Compressor (with Ref. 20 hub 7/8")	1	Y514977.02		412	Flange Gasket	2	Y220562	●
	E156 Compressor (with Ref. 20 hub 7/8")	1	Y514978.01						
	100	Check Relief Valve (2 bar, 1.5" NPT)	1	Y514352.00					
156	Inlet Filter Kit	E56	1	Y313097.00					
		E106	1	Y313097.00					
		E156	1	Y313099.00					

* Not available for sale.

Butler Manhole Cover



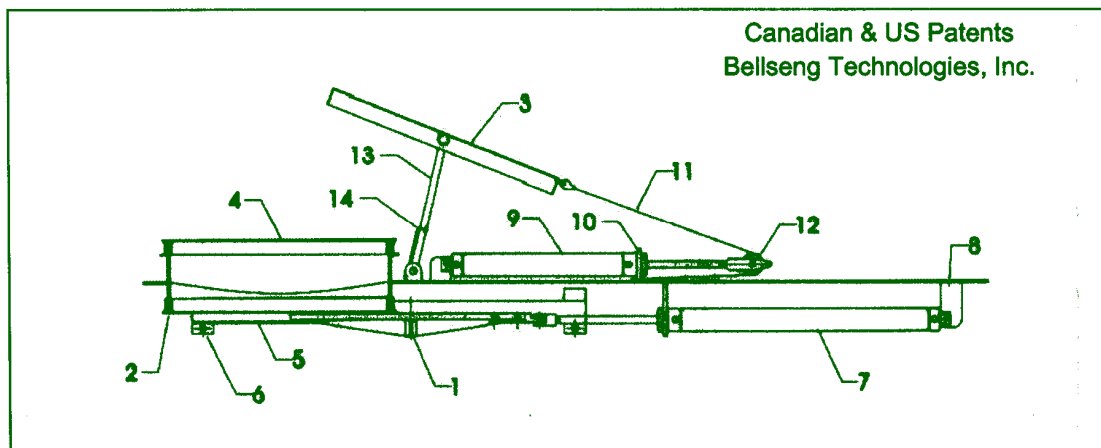
Butler Manhole Cover

1	C-901559	Cover, Blank
2	C070094	Hold Down Lug
3	B-902370	Upper Hinge
4	A-901603	Gasket, Black
	070099	Gasket, White
5	B-901546	Gasket Retainer Lug (includes O-Ring)
6	7025	Hex Head Bolt, 3/8" – 16 x 1-1/4" S.S.
7	7108	Two Way Locknut, 3/8" – 16 S.S.
8	7077	Flat Washer, 3/8" S.S.
9	319665	O-Ring, FDA White
10	7080	Washer, EPDM Backed, 3/8" S.S.
11	C-904191	Collar, 6" tall
12	B-070096	Cam
13	B-070097	Pivot Block
14	A-070098	Eye-Bolt
15	A-070465	Pivot Block Bracket
16	A-381571	L.H. Hinge Bracket
17	A-381572	R.H. Hinge Bracket
18	A-384282	Hinge Pin, 1/2" Diameter x 5"
19	A-070468	Pivot Block Pin, 1/2" Diameter x 2-7/8"
20	096241	Jam Nut, 1/2" - 13
21	096208	Cotter Pin
22	7024 / 7107	Hex Head Bolt, 3/8" – 16 x 1" w/ Locknut S.S.
23	C-384280	Safety Latch Assembly (see below)
24	A-070469	Cam Pin, 1/2" Diameter x 2-1/4"
25	7080	Washer, EPDM Backed, 3/8" S.S.
26	3508	Decal, Danger Do Not Open
	315294	Manhole Service Kit (Items 13, 14, 19, 20, 21, 24)
	901558	Cover Assembly (Items 1-10, 26)
	900698	Collar Assembly, 6" Tall (Items 11-25)
	901557	Complete Manhole Assembly (Items 1-26)

SAFETY LATCH ASSEMBLY

41	B-384281	Safety Latch
42	B-070097	Pivot Block
43	095410	Flat Washer, 1/2" S.S.
44	096208	Cotter Pin
45	A-384282	Hinge Pin, 1/2" Diameter x 5"
46	900010	Spring Washer, 1/2"

Solimar Pressure Lock Manhole Cover

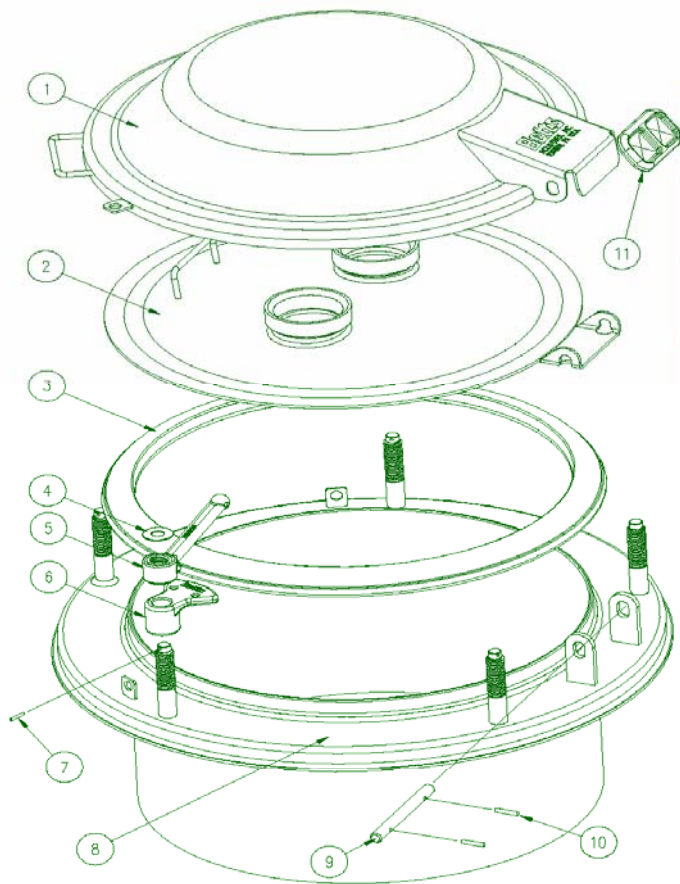


- | | |
|-------------------------------|--|
| 1. PRESSURE LOCK PORT CLOSURE | 9. WEATHER CAP AIR CYLINDER |
| 2. PORT CLOSURE SEAL | 10. CYLINDER MOUNTING TABS |
| 3. WEATHER CAP | 11. CABLE – 3/16" COATED |
| 4. WEATHER CAP SEAL | 12. CLEVIS SHEAVE ASSEMBLY |
| 5. RAIL ASSEMBLY | 13. WEATHER CAP DAVIT ASSEMBLY |
| 6. RAIL MOUNTING TABS | 14. WEATHER CAP SPRING |
| 7. PORT CLOSURE AIR CYLINDER | 15. CONTROL PANEL (NOT SHOWN)
C/W ALL FITTINGS REQUIRED |
| 8. CYLINDER MOUNTING TABS | |

- ✓ Complete kit includes all parts and fittings required for installation (air lines not included)
- ✓ Pneumatically actuated from ground level control panel – one valve operation
- ✓ Weather cap* prevents contamination of the lid operating area and load
- ✓ Weather cap requires only 15 inches (38 cm) of overhead clearance to operate
- ✓ Weighs less than 90 lbs (41 kg)
- ✓ Can be retrofitted into most pneumatic trailers
- ✓ Tested to 45 psi (three times standard operating pressures in North America)
- ✓ High-grade gasket material is suitable for various products
- ✓ Internal lid enhances port sealing and prevents accidental opening of a pressurized tank

* Weather cap assemble can be purchased separately for non-pressurized applications

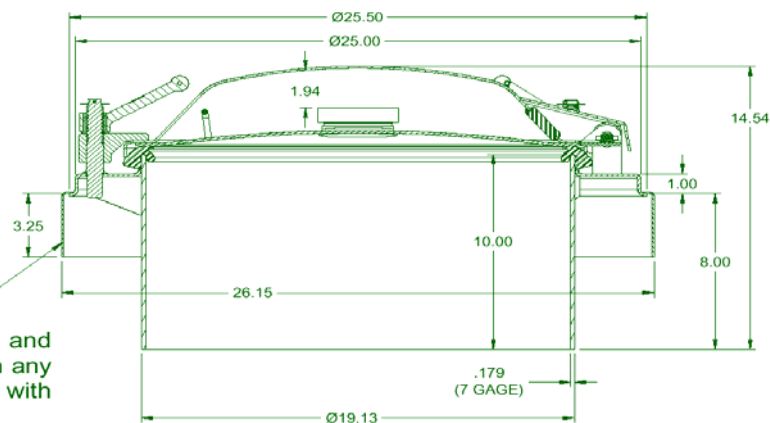
Betts Sanitary Manway Assembly



No.	Quant. Req'd	Description	Mat'l	Part #
1	1	Dust Cover	304L Stnls. (12 Gage)	7524SL
2	1	Inner Head Assembly w/ one offset 3" Sanitary Fitting	304L Stnls. (10 Gage)	7527SL
		Inner Head Assembly w/ two 3" Sanitary Fittings	304L Stnls. (10 Gage)	7522SL (shown)
3	1	Collar Gasket	White EPDM	4216WE
			Black EPDM	4216EP
4	5	Washer	304 Stnls.	9Q8224
5	5	Wingnut Assembly w/ brass ACME insert.	304L Stnls. W/ brass	4215SLBR
6	5	Hold-Down Dog	304L Stnls.	4211SL
7	5	Coiled Pin (1/8" x 3/4")	420 Stnls.	9Q4921
8	1	Stud Platform Assembly	304L Stnls. (10 Gage)	7520SL
9	1	Hinge Pin	304 Stnls.	3602SL
10	2	Coiled Pin (3/16" x 1")	420 Stnls.	9Q5901
11	1	Double Capacity Breather Grommet	White EPDM	4217WE

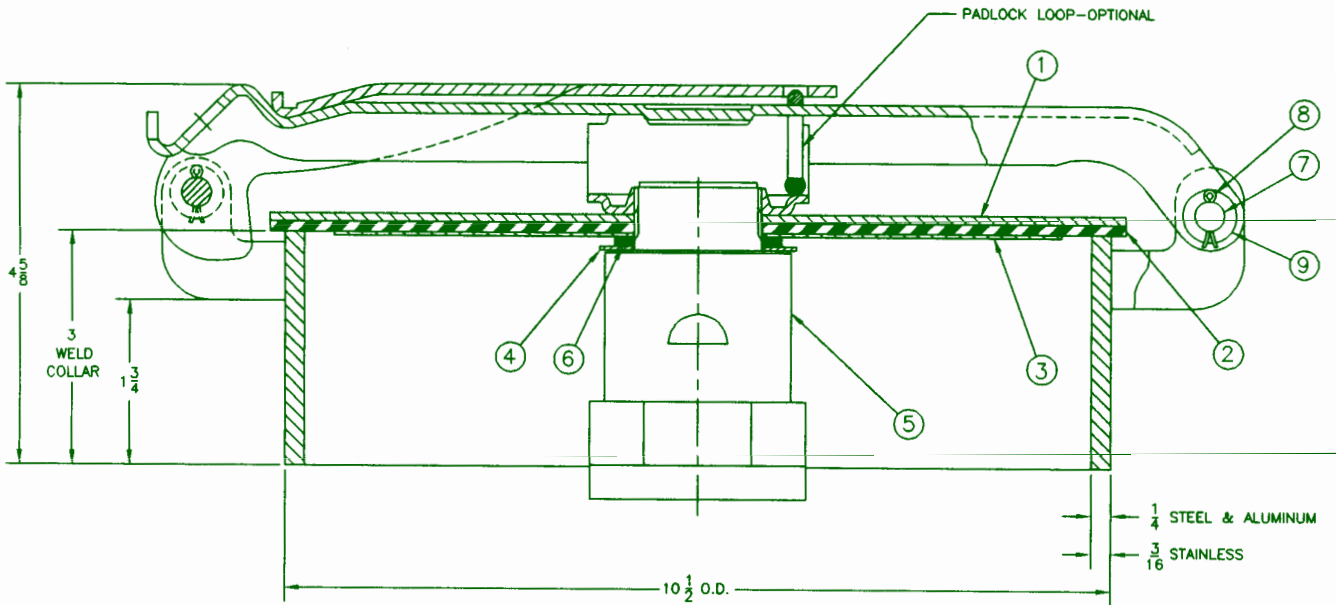
OPTIONAL 14 GAGE FIT-UP SLEEVE
6796SL SOLD SEPARATELY

GASKETS: Check the condition of all gaskets and replace if their effectiveness as a seal is impaired in any way. Replacement gaskets must be compatible with products carried.



WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 10" Fill Model 8010



No.	Description	Material	Part No.
1	Cover Plate	Steel	3021MS
		Steel Zinc Pt.	3021ZC
		Stnls 304	3021SL
		Stnls 316	3021SS
2	Fill Gasket	M Bethane	3024BU
		V Viton	3024VT
		W Wh. Hypalon	3024WH
		A Non-Asbestos	3024NA
		T Teflon	3024TF
3	Retainer-Fill Gasket	Steel	3213MS
		Aluminum	3213AL
		Stnls 304	3213SL
		Stnls 316	3213SS

No.	Description	Material	Part No.
4	Shim Washer	Steel	3023MS
		Aluminum	3023AL
		Stnls 316	3023SS
		Stnls 304	3023SL
5	Vent	Alum/Stnls	6238AL
6	Gasket	Buna-N	3716BN
7	Hinge Pin	Stnls 304	3953SL
8	Cotter Pin	Stnls 304	9Q5866
9	Washer	Stnls 304	3031SL

Gasket Maximum Temperature

Bethane	_____	250°F
Viton	_____	400°F
White Hypalon	_____	250°F
Non-Asbestos	_____	350°F
Teflon	_____	250°F

Adjustment due to gasket wear may be necessary to insure proper sealing on the 10" fill. A shim washer item No. 4 is provided for this purpose. To increase the sealing force of the 10" fill, remove shim from location shown above and reposition it above fill cover No. 1.

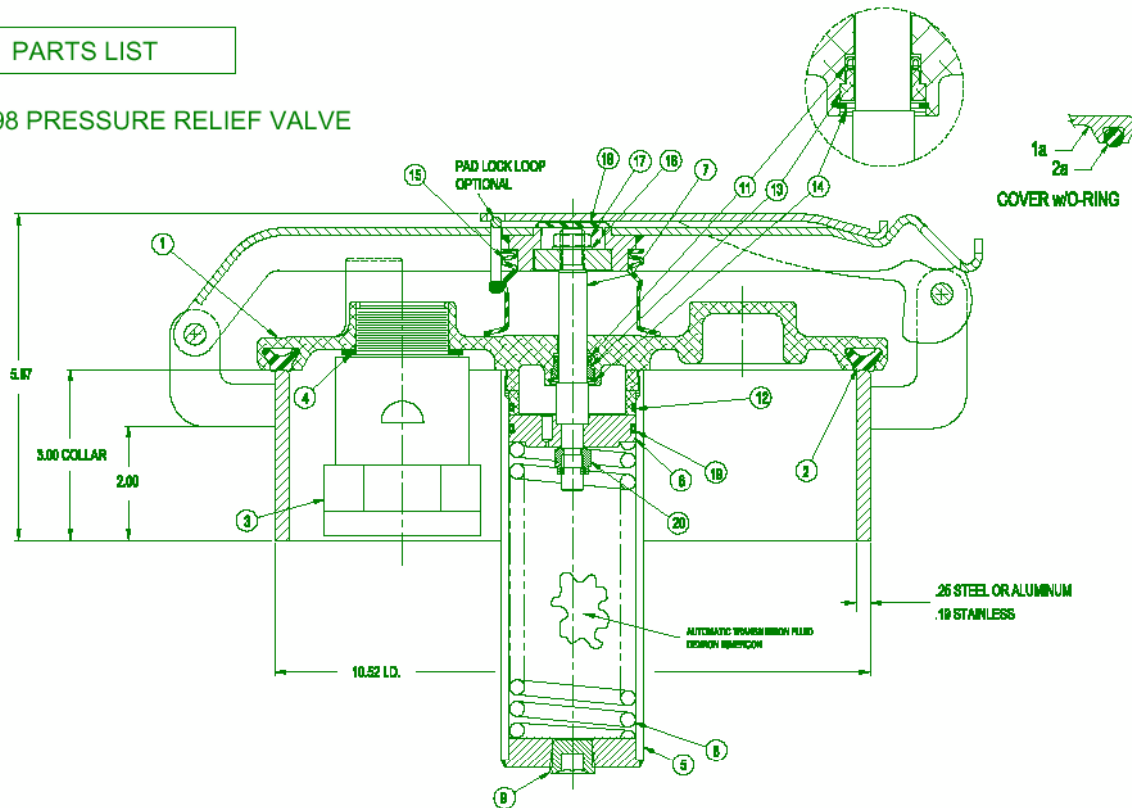
MAINTENANCE: Fill assemblies should be inspected with sufficient frequency and due regard to the products carried to insure a liquid tight closure. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 10" PAF 406-98 with Pressure Relief Valve

PARTS LIST

10" PAF 406-98 PRESSURE RELIEF VALVE



No.	Description	Material	Part No.
1	Fill Cover	Alum/E-Coated	8297ALEY
1a	Fill Cover (O-Ring Grvd.)	Alum/E-Coated	8297ALEY389
2	Gasket - Integral Relief Valve	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	3902TS
3	Vent Assembly	Aluminum	6496ALB
4	Gasket	Buna-N	3716BN
5	Cylinder Assembly	Aluminum	6657AL
6	Piston	Aluminum	6654AL
7	Stem	Stnls 304	6688SL
8	Spring	Steel	4122MS

No.	Description	Material	Part No.
9	1/2" NPT Plug Zinc Plt.	Steel Zinc Plt.	9V4907
11	Stem O-Ring -112	Buna-N	4118BN
12	Cylinder O-Ring -137	Buna-N	4015BN
13	O-Ring Retainer	Alum/E-Coated	4117ALEY
14	Retainer Ring	Stnls 304	9Q4961
15	Bellows	EPDM	4020EPDM
16	Lockwasher Ext. Tooth 1/16"	Stnls 304	9Q5961
17	Nut Hex 1/16"-20UNF	Stnls 304	9Q5960
18	Plastic Plug	Polyethylene	9Z6163
19	Cylinder O-Ring -137	Tef-Sil	4015TS
20	3/8"-16UNC Hex Nut w/ Insert	Steel Zinc Plt.	9Q5896

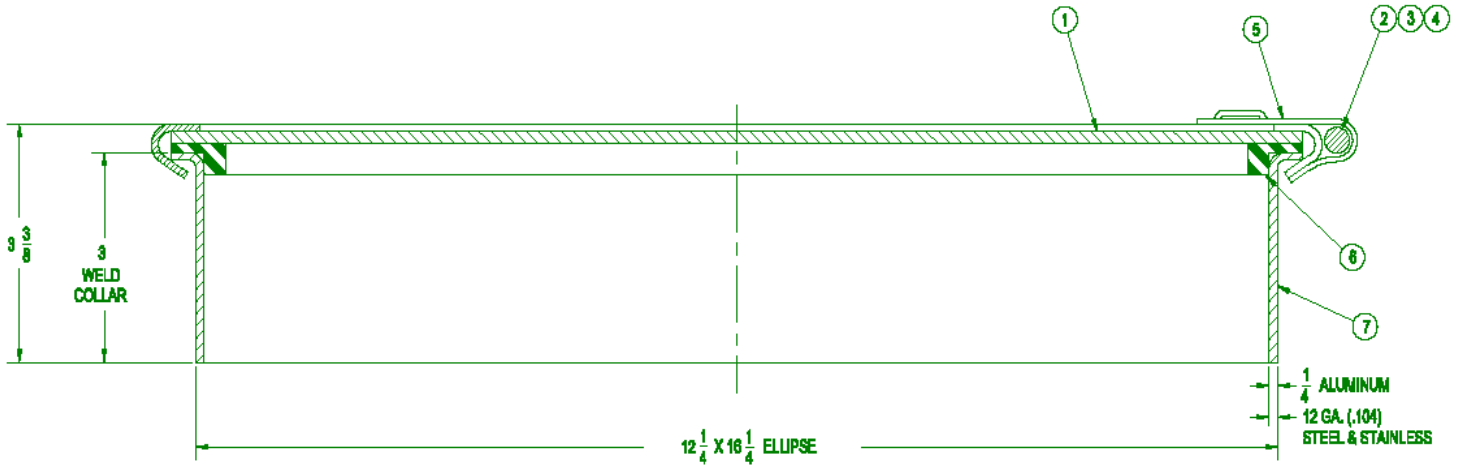
Gasket Maximum Temperature

Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F

Replace oil in cylinder using Automatic Transmission Fluid Dexron III/Mercon, SAE 5W-20 with viscosity of 177 SUS at 100°F and a pour point of no greater than -45°F.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 12" X 16" Inspection Manhole



No.	Description	Material	Part No.
1	Cover Plate	S Steel	3041MS
		B Steel Zinc Plt.	3041ZC
		C Stnls 304	3041SL
		D Stnls 316	3041SS
2	Bolt-Clamp	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
3	Nut-Clamp 3/8 -16 Thd.	Brass	3030BR
		Stnls 304	9Q5809
		Steel Zinc Plt.	3031ZC
4	Washer-Clamp	Stnls 304	3031SL
		Steel	3040MS
5	Clamping Ring	Steel Zinc Plt.	3040ZC
		Stnls 304	3040SL

No.	Description	Material	Part No.
6	Manhole Gasket Channel Type	B Buna-N	3494BN
		V Viton	3494VT
		W Wh. Hypalon	3494WH
		T Teflon Env. w/ Wh. Hypalon	3038TF
		Steel	4055MS
7	Manhole Collar	1/4 Aluminum	4055AE
		Stnls 304	4055SL
		Stnls 316	4055SS

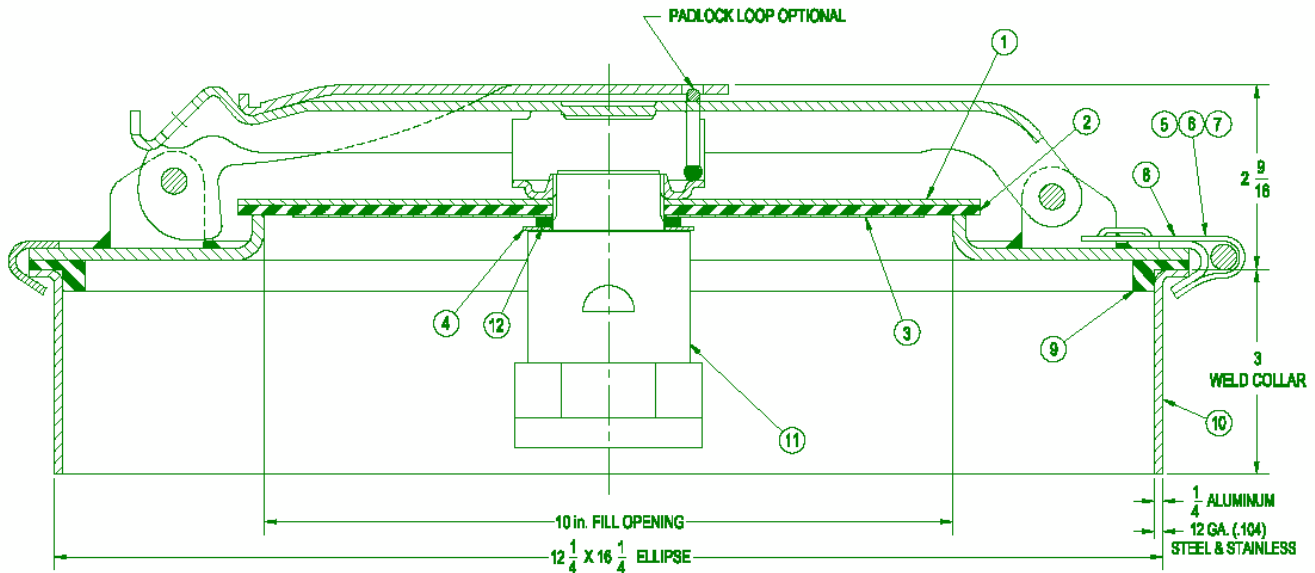
Gasket Maximum Temperature

Buna-N	250°F
Viton	400°F
White Hypalon	250°F
Teflon Envelope w/ White Hypalon Insert	250°F

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency and due regard to the products carried to insure a liquid tight closure. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 12" X 16" Elliptical Manhole with 10" Fill



No.	Description	Material	Part No.
1	Fill Cover	Steel	3021MS
		Steel Zinc Plt.	3021ZC
		Stnls 304	3021SL
		Stnls 316	3021SS
2	Fill Gasket	Bethane	3024BU
		Viton	3024VT
		Wh. Hypalon	3024WH
		Non-Asbestos	3024NA
		Teflon	3024TF
3	Retainer	Steel	3213MS
		Aluminum	3213AL
		Stnls 304	3213SL
		Stnls 316	3213SS
4	Shim Washer	Steel	3023MS
		Aluminum	3023AL
		Stnls 316	3023SS
5	Bolt-Clamp	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
6	Nut-Clamp 3/8 -16 Thd.	Brass	3030BR
		Stnls 304	9Q5809
7	Washer-Clamp	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL

No.	Description	Material	Part No.	
8	Clamping Ring	Steel	3040MS	
		Steel Zinc Plt.	3040ZC	
		Stnls 304	3040SL	
9	Manhole Gasket Channel Type	B	Buna-N	3494BN
		V	Viton	3494VT
		W	Wh. Hypalon	3494WH
		T	Teflon Env. w/ Wh. Hypalon	3038TF
10	Manhole Collar	Steel	4055MS	
		1/4 Aluminum	4055AE	
		Stnls 304	4055SL	
		Stnls 316	4055SS	
11	Vent Assembly	Alum./Stnls	6238AL	
12	Gasket	Buna-N	3716BN	

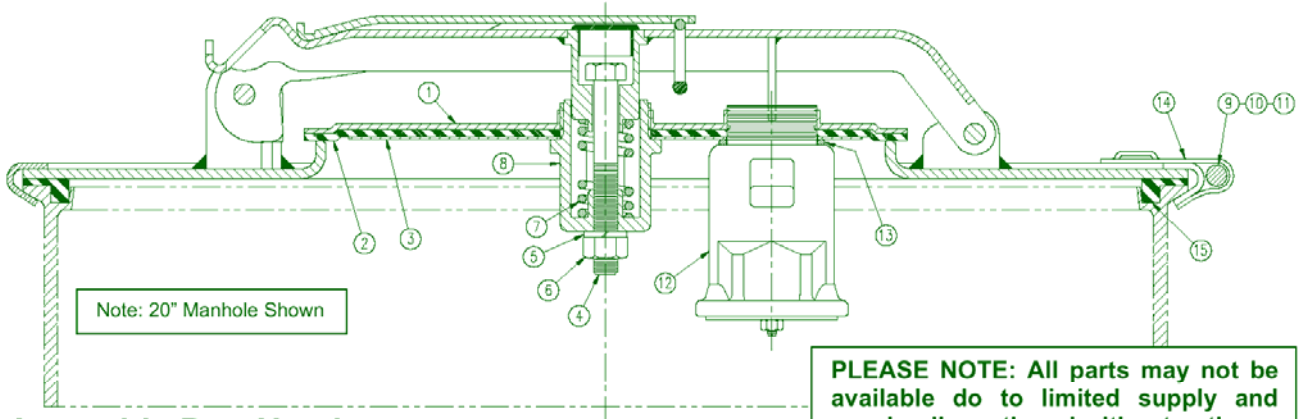
Gasket Maximum Temperature

Bethane	_____	250°F
Viton	_____	400°F
White Hypalon	_____	250°F
Teflon	_____	400°F
Teflon Envelope w/ White Hypalon Insert	_____	250°F
Non-Asbestos	_____	350°F

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency and due regard to the products carried to insure a liquid tight closure. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 12" X 16" Elliptical PAF1000 Manhole with Pressure Relief Valve



Assembly Part Numbers

FVA8110 ___ - 10" Fill Style
FVA8416_X - 16" Manhole
FVA8442_X - 16" Manhole Self Latch Style

FVA8412_X - 12"x16" Manhole
FVA8420_X - 20" Manhole
FVA8463_X - 20" Manhole Self Latch Style

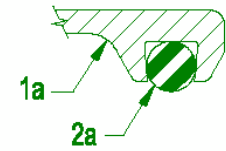
No.	Description	Material	Part No.
1	Cover-Relief Valve	Steel	6091MS
		Steel Zinc Pt.	6091ZC
		Stnls 304	6091SL
		Stnls 316	6091SS
2	Gasket-Relief Valve	Buna-N	3249BU
		Viton	3249VT
		Wh. Hypalon	3249WH
		Teflon	3249TF
3	Retainer Plate	Steel	3213MS
		Aluminum	3213AL
		Stnls 304	3213SL
		Stnls 316	3213SS
4	Bolt	Steel Zinc Pt.	3248ZC
		Stnls 316	3248SS
5	Lock Washer 7/16"	Steel Zinc Pt.	9Q8617
		Stnls 316	9Q8616
6	7/16"-14 Hex Nut	Steel Zinc Pt.	9Q8578
		Stnls 316	9Q8026
7	Spring	Stnls 17-7	3884SL
8	Spring Well	Aluminum	3247AL
		Stnls 316	3247SS

No.	Description	Material	Part No.			
9	Bolt-Clamp	Steel Zinc Pt.	3029ZC			
		Stnls 304	3029SL			
10	3/8"-16 Nut-Clamp	Brass	3030BR			
		Stnls 304	9Q5809			
11	Washer-Clamp	Steel Zinc Pt.	3031ZC			
		Stnls 304	3031SL			
12	Vent Assembly	Alum/Stnls	6238AL_			
13	O-Ring	Buna-N	17211BN			
		Viton	17211VT			
		EPDM	17211EP			
		PTFE	17211TF			
			16"	12"x16"	20"	
14	Clamping Ring	Steel	3028MS	3040MS	3036MS	
		Steel Zinc Pt.	3028ZC	3040ZC	3036ZC	
		Stnls 304	3028SL	3040SL	3036SL	
15	Manhole Gasket Channel Type	B	Buna-N	3559BN	3494BN	3560BN
		V	Viton	3559VT	3494VT	3560VT
		W	Wh. Hypalon	3559WH	3494WH	3560WH
		T	Teflon Env.w/ Wh. Hypalon	3025TF	3038TF	3033TF

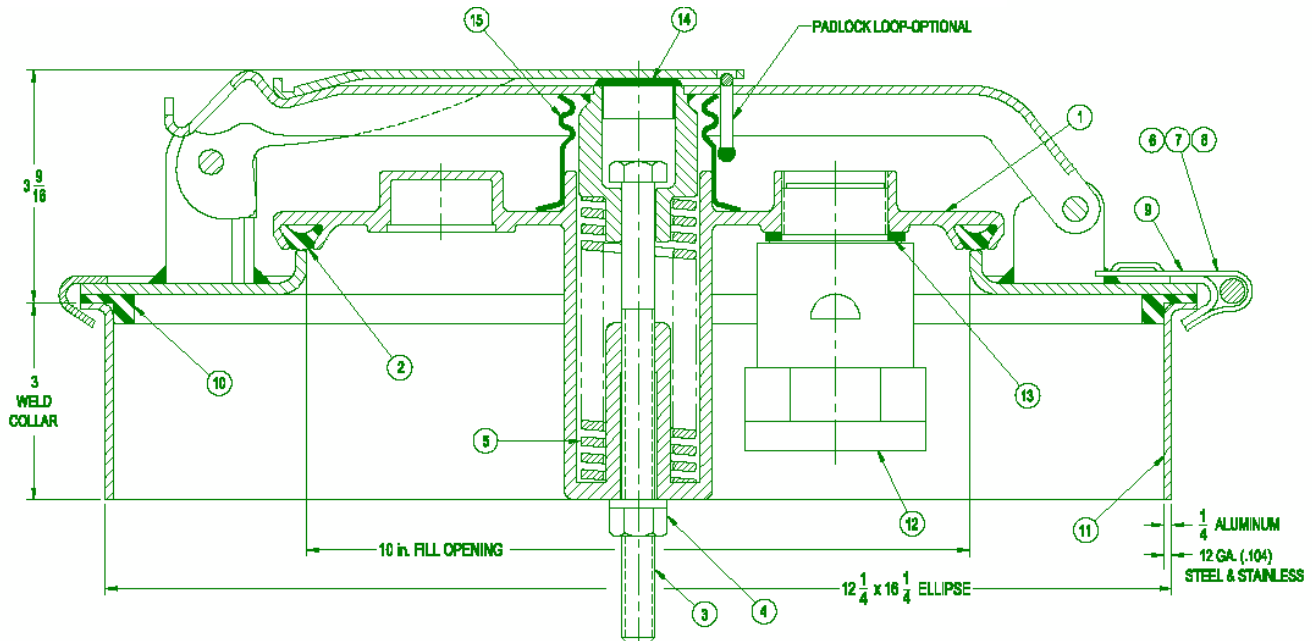
MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency and due regard to the products carried to insure a liquid tight closure. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of the Pressure Relief Valve and Manhole Assembly.

Betts 12" X 16" Elliptical PAF450 Manhole with Relief Valve



Cover w/ O-Ring



No.	Description	Material	Part No.
1	Cover-Relief Valve	Aluminum	8241AL
1a	Cover (O-Ring Grvd)	Aluminum	8246AL
2	Gasket-Relief Valve	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	3902TS
3	Bolt	Stnls 304	3876SL
4	Hex Nut 1/2 -13 Thd.	Steel Zinc Plt.	9Q5812
		Stnls 304	9Q5853
5	Spring	Van Steel	3859EY
6	Bolt-Clamp	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
7	Nut-Clamp 3/8 -16 Thd.	Brass	3030BR
		Stnls 304	9Q5809
8	Washer-Clamp	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL
9	Clamping Ring	Steel	3040MS
		Steel Zinc Plt.	3040ZC
		Stnls 304	3040SL

No.	Description	Material	Part No.	
10	Manhole Gasket Channel Type	B	Buna-N	3494BN
		V	Viton	3494VT
		W	Wh. Hypalon	3494WH
		T	Teflon Env. w/ Wh. Hypalon	3038TF
11	Manhole Collar Channel Type	Steel	4055MS	
		Aluminum	4055AE	
		Stnls 304	4055SL	
		Stnls 316	4055SS	
12	Vent Assembly	Alum./Stnls	6238AL	
13	Gasket	Viton	3716VT	
14	Plastic Cap	Polyethylene	9Z6150	
15	Bellows	Buna-Urethane	4020BU	

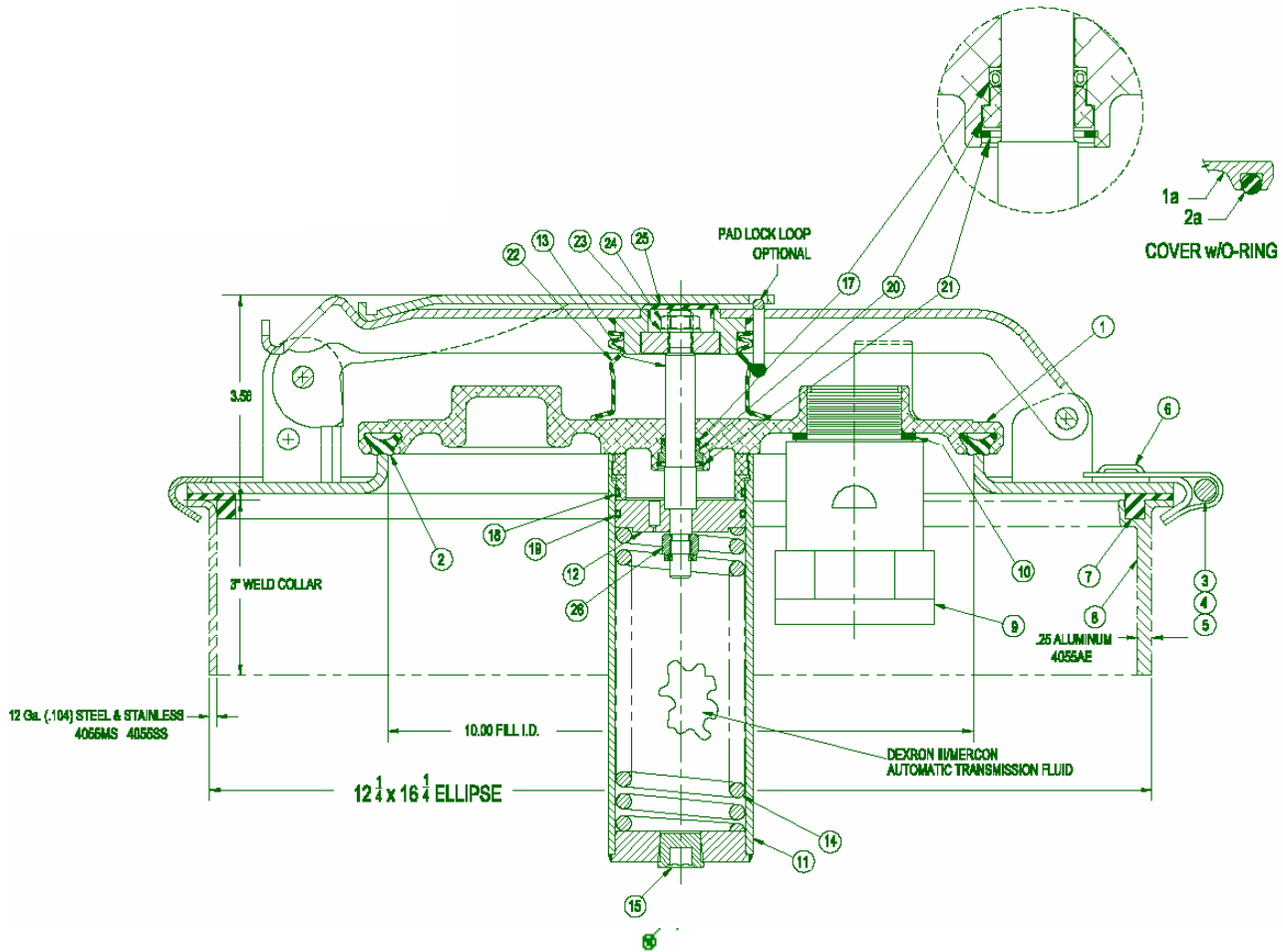
Gasket Maximum Temperature

Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency and due regard to the products carried to insure a liquid tight closure. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 12" X 16" Elliptical PAF406-98 Manhole with Integral Relief Valve/10" Fill



No.	Description	Material	Part No.
1	Fill Cover	AlumE-Coated	8297ALEY
1a	Fill Cover (O-Ring Grvd.)	AlumE-Coated	8297ALEY389
2	Gasket- Integral Relief Valve	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	3902TS
3	Bolt-Clamp Ring	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
4	Nut-Clamp Ring	Brass	3030BR
		Stnls 304	9Q5809
5	Washer-Clamp Ring	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL
6	Clamping Ring	Steel	3040MS
		Steel Zinc Plt.	3040ZC
		Stnls 304	3040SL
7	Manhole Gasket Channel type	Buna-N	3494BN
		Viton	3494VT
		Wh. Hypalon	3494WH
8	Manhole Collar Channel type	Teflon Env. w/ Wh. Hypalon	3038TF
		Steel	4055MS
		Aluminum	4055AE
		Stnls 304	4055SL
		Stnls 316	4055SS

No.	Description	Material	Part No.
9	Vent Assembly	Aluminum	6496ALB
10	Gasket	Buna-N	3716BN
11	Cylinder Assembly	Aluminum	6657AL
12	Piston	Aluminum	6654AL
13	Stem	Stnls 304	6688SL
14	Spring	Steel	4122MS
15	1/2" NPT Plug Zinc Plt.	Steel Zinc Plt.	9V4907
17	Stem O-Ring -112	Buna-N	4118BN
18	Stem O-Ring -137	Buna-N	4015BN
19	Piston O-Ring -137	Tef-Sil	4015TS
20	O-Ring Retainer	AlumE-Coated	4117ALEY
21	Retainer Ring	Stnls 304	9Q4961
22	Bellows	EPDM	4020EPDM
23	Lockwasher Ext. Tooth 1/16"	Stnls 304	9Q5961
24	Nut Hex 1/16"x20	Stnls 304	9Q5960
25	Plastic Plug	Polyethylene	9Z6163
26	1/8-16 Hex Nut w/ Insert	Steel Zinc Plt.	9Q5896

Gasket Maximum Temperature

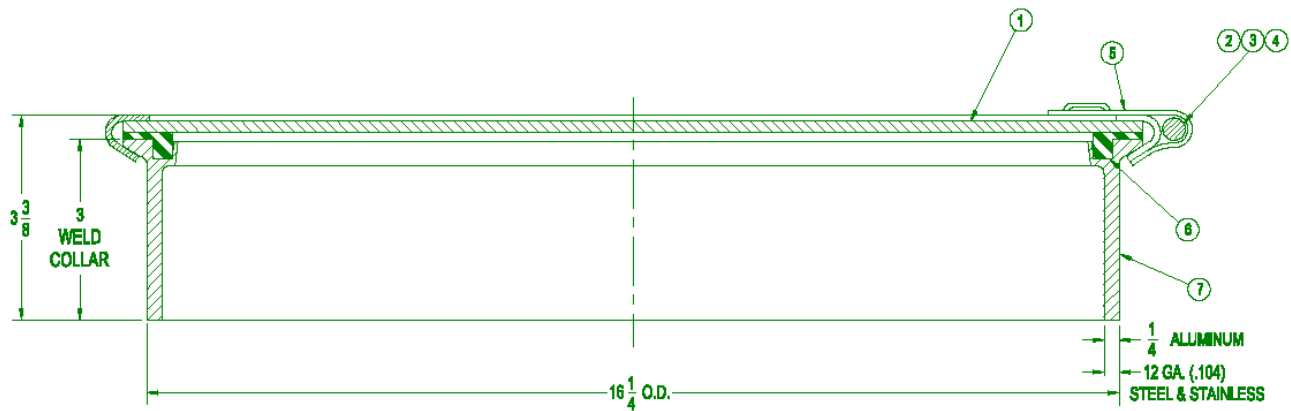
Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

Replace oil in cylinder using Automatic Transmission Fluid Dexron III/Mercon, SAE 5W-20 with viscosity of 177 SUS at 100°F and a pour point of no greater than -45°F.

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency to insure 10" Integral Relief Valve functions properly. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness to insure a liquid tight seal is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Consult PAF 406-98 maintenance manual prior to disassembly of this relief valve.
Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 16" Round Inspection Manhole



No.	Description	Material	Part No.
1	Cover Plate	S Steel	3026MS
		B Steel Zinc Plt.	3026ZC
		C Stnls 304	3026SL
		D Stnls 316	3026SS
2	Bolt-Clamp	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
3	Nut-Clamp 3/8 -16 Thd.	Brass	3030BR
		Stnls 304	9Q5809
4	Washer-Clamp	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL
5	Clamping Ring	Steel	3028MS
		Steel Zinc Plt.	3028ZC
		Stnls 304	3028SL

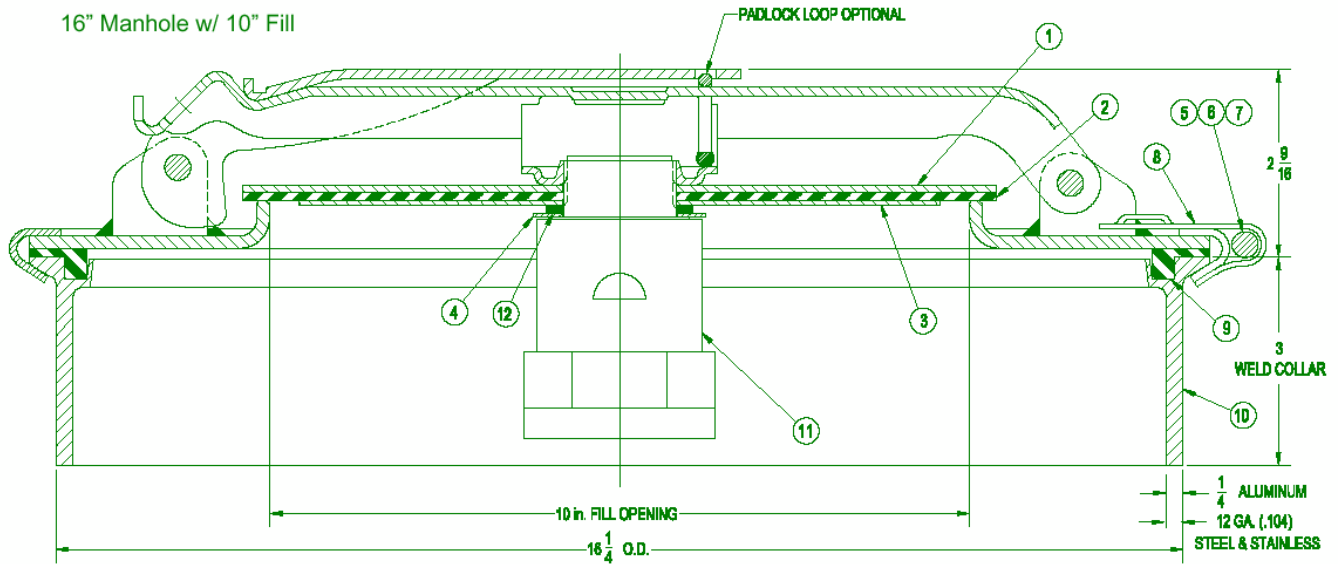
No.	Description	Material	Part No.
6	Manhole Gasket Channel Type	B Buna-N	3559BN
		V Viton	3559VT
		W Wh. Hypalon	3559WH
		T Teflon Env. w/ Wh. Hypalon	3025TF
7	Manhole Collar Channel Type	Steel	3057MS
		1/4 Aluminum	3057AE
		Stnls 304	3057SL
		Stnls 316	3057SS

Gasket Maximum Temperature	
Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon Envelope w/ White Hypalon Insert	250°F

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency and due regard to the products carried to insure a liquid tight closure. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 16" Round Manhole with 10" Fill



No.	Description	Material	Part No.
1	Fill Cover	Steel	3021MS
		Steel Zinc Plt.	3021ZC
		Stnls 304	3021SL
		Stnls 316	3021SS
2	Fill Gasket	Bethane	3024BU
		Viton	3024VT
		Wh. Hypalon	3024WH
		Non-Asbestos	3024NA
		Teflon	3024TF
3	Retainer	Steel	3213MS
		Aluminum	3213AL
		Stnls 304	3213SL
		Stnls 316	3213SS
4	Shim Washer	Steel	3023MS
		Aluminum	3023AL
		Stnls 316	3023SS
5	Bolt-Clamp	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
6	Nut-Clamp 3/8 -16 Thd.	Brass	3030BR
		Stnls 304	9Q5809
7	Washer-Clamp	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL

No.	Description	Material	Part No.	
8	Clamping Ring	Steel	3028MS	
		Steel Zinc Plt.	3028ZC	
		Stnls 304	3028SL	
9	Manhole Gasket Channel Type	B	Buna-N	3559BN
		V	Viton	3559VT
		W	Wh. Hypalon	3559WH
		T	Teflon Env. w/ Wh. Hypalon	3025TF
10	Manhole Collar Channel Type	Steel	3057MS	
		1/4 Aluminum	3057AE	
		Stnls 304	3057SL	
		Stnls 316	3057SS	
11	Vent Assembly	Alum./Stnls	6238AL	
12	Gasket	Buna-N	3716BN	

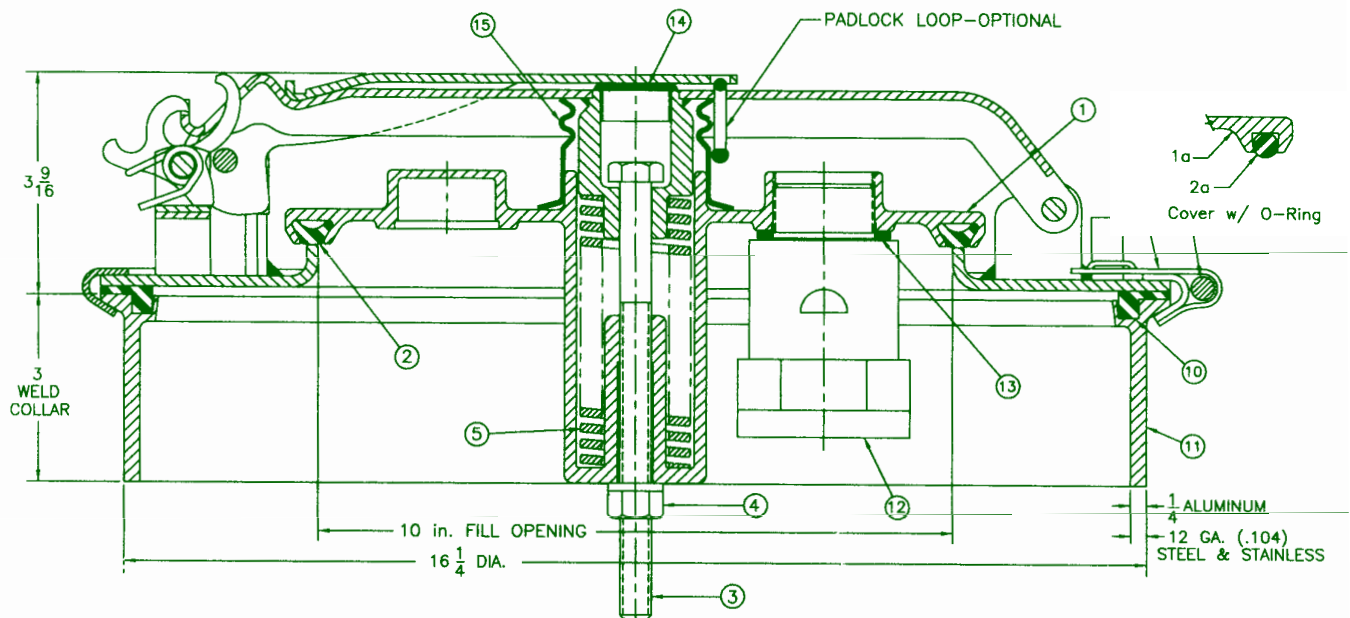
Gasket Maximum Temperature

Bethane	250°F
Viton	400°F
White Hypalon	250°F
Teflon	400°F
Teflon Envelope w/ White Hypalon Insert	250°F
Non-Asbestos	350°F

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency and due regard to the products carried to insure a liquid tight closure. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness is impaired in any way. Replacement gaskets must be compatible with products carried. Adjustment due to gasket wear may be necessary to insure proper sealing of the 10" fill. A shim washer, item No. 4, is provided for this purpose. To increase the sealing force of the 10" fill, remove shim from location shown above and re-position it above fill cover No. 1.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 16" PAF450 Manhole Models 9716 & 9742



No.	Description	Material	Part No.
1	Cover-Relief Valve	Aluminum	8241AL
1a	Cover (O-Ring Grvd)	Aluminum	8246AL
2	Gasket- Relief Valve	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	3902TS
3	Bolt	Stnls 304	3876SL
4	Hex Nut $\frac{1}{2}$ -13 Thd	Steel Zinc Pt.	9Q5812
		Stnls 304	9Q5853
5	Spring	Van Steel	3859EY
6	Bolt-Clamp	Steel Zinc Pt.	3029ZC
		Stnls 304	3029SL
7	Nut-Clamp $\frac{3}{8}$ -16 Thd	Brass	3030BR
		Stnls 304	9Q5809
8	Washer-Clamp	Steel Zinc Pt.	3031ZC
		Stnls 304	3031SL
9	Clamping Ring	Steel	3028MS
		Steel Zinc Pt.	3028ZC
		Stnls 304	3028SL

No.	Description	Material	Part No.
10	Manhole Gasket Channel Type	B Buna-N	3559BN
		V Viton	3559VT
		W Wh. Hypalon	3559WH
		T Teflon Env. w/ Wh. Hypalon	3025TF
11	Manhole Collar Channel Type	Steel	3057MS
		Aluminum	3057AE
		Stnls 304	3057SL
		Stnls 316	3057SS
12	Vent Assembly	Alum / Stnls	6238AL
13	Gasket	Viton	3716VI
14	Plastic Cap	Polyethylene	9Z6150
15	Bellows	Buna-Urethane	4020BU

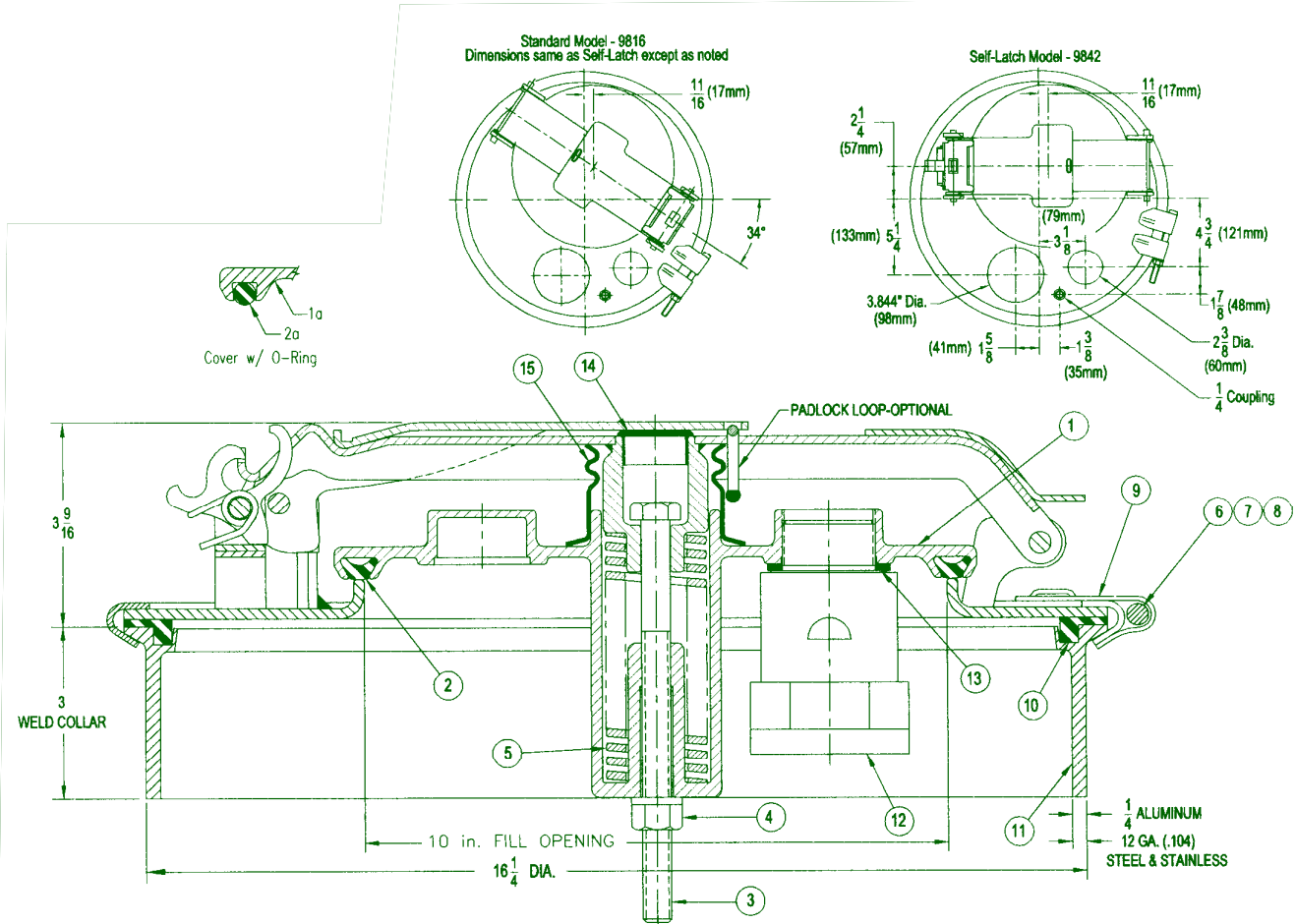
Gasket Maximum Temperature

Buna N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency and due regard to the products carried to insure a liquid tight closure. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper functioning of the Pressure Relief Valve and Manhole Assembly.

Betts 16" PAF450 Manhole Models 9816 & 9842



No.	Description	Material	Part No.
1	Cover-Relief Valve	Aluminum	8241AL
1a	Cover (O-Ring Grvd)	Aluminum	8246AL
2	Gasket-Relief Valve	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	3902TS
3	Bolt	Stnls 304	3876SL
4	Hex Nut 1/2-13 Thd	Steel Zinc Pt.	9Q5812
		Stnls 304	9Q5853
5	Spring	Van Steel	3859EY
6	Bolt-Clamp	Steel Zinc Pt.	3029ZC
		Stnls 304	3029SL
7	Nut-Clamp 3/8-16 Thd	Brass	3030BR
		Stnls 304	9Q5809
8	Washer-Clamp	Steel Zinc Pt.	3031ZC
		Stnls 304	3031SL
9	Clamping Ring	Steel	3028MS
		Steel Zinc Pt.	3028ZC
		Stnls 304	3028SL

No.	Description	Material	Part No.	
10	Manhole Gasket Channel Type	B	Buna-N	3559BN
		V	Viton	3559VT
		W	Wh. Hypalon	3559WH
		T	Teflon Env. w/ Wh. Hypalon	3025TF
11	Manhole Collar Channel Type	Steel	3057MS	
		Aluminum	3057AE	
		Stnls 304	3057SL	
		Stnls 316	3057SS	
12	Vent Assembly	Alum / Stnls	6238AL	
13	Gasket	Viton	3716VT	
14	Plastic Cap	Polyethylene	9Z6150	
15	Bellows	Buna-Urethane	4020BU	

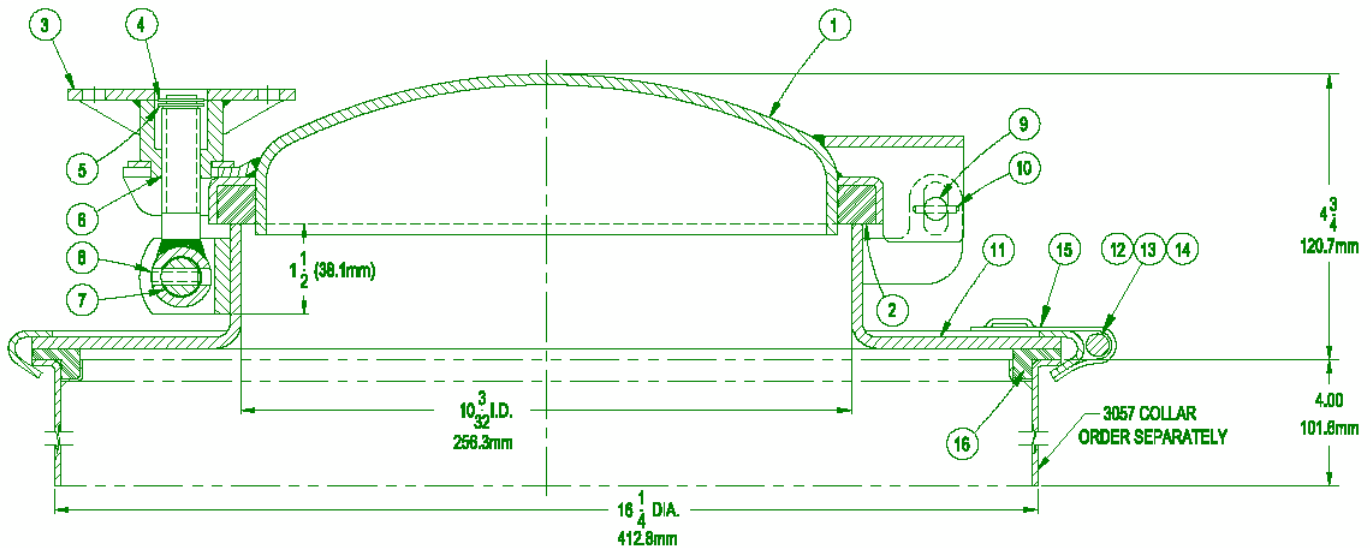
Gasket Maximum Temperature

Buna N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency and due regard to the products carried to insure a liquid tight closure. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper functioning of the Pressure Relief Valve and Manhole Assembly.

Betts 16" Hot Product Manhole with 10" Fill



No.	Description	Material	Part No.
1	Cover	Steel	6554EY
		Stainless 304	6554SL
		Stainless 316L	6554LC
		Stainless 316	6554SS
2	Gasket *	B Buna-N	3567BN
		V Viton	3567VT
		W White Hypalon	3567WH
		E White Non-Asbestos with Teflon Suspensoid (Woven)	3567NT
3	Wing Nut	Stainless 304	3576SL
4	Snap Ring	Stainless 304	9Q4933
5	Snap Ring Washer	Stainless 304	3575SL
6	Swing Bolt	Stainless 304	3765SL
7	Swing Bolt Pin	Stainless 304	3086SL
8	Roll Pin-Swg Bolt	Stainless 304	9Q8593
9	Hinge Pin	Stainless 304	3618SL

No.	Description	Material	Part No.
10	Roll Pin-Hinge Pin	Stainless 304	9Q8601
11	Cover Assembly	Steel	6553EY
		Stainless 304	6553SL
12	Bolt-Clamp	Steel Zinc Plt.	3029ZC
		Stainless 304	3029SL
13	Washer-Clamp	Steel Zinc Plt.	3031ZC
		Stainless 304	3031SL
14	Nut-Clamp	Brass	3030BR
		Stainless 304	9Q5809
15	Clamping Ring	Steel	3028MS
		Steel Zinc Plt.	3028ZC
		Stainless 304	3028SL
16	Manhole Gasket Channel Type	B Buna-N	3559BN
		V Viton	3559VT
		W White Hypalon	3559WH
		T Teflon Envelope w/ White Hypalon	3025TF

***Gasket Maximum Temperature**

- Buna-N (Nitrile) _____ 250°F
- Viton _____ 400°F
- White Hypalon _____ 250°F
- Pure Teflon _____ 500°F
- White Non-Asbestos _____ 500°F
- with Teflon Suspensoid

GASKETS:

Check the condition of all gaskets and replace if their effectiveness as a seal is impaired in any way. Replacement gaskets must be compatible with products carried.

MAINTENANCE:

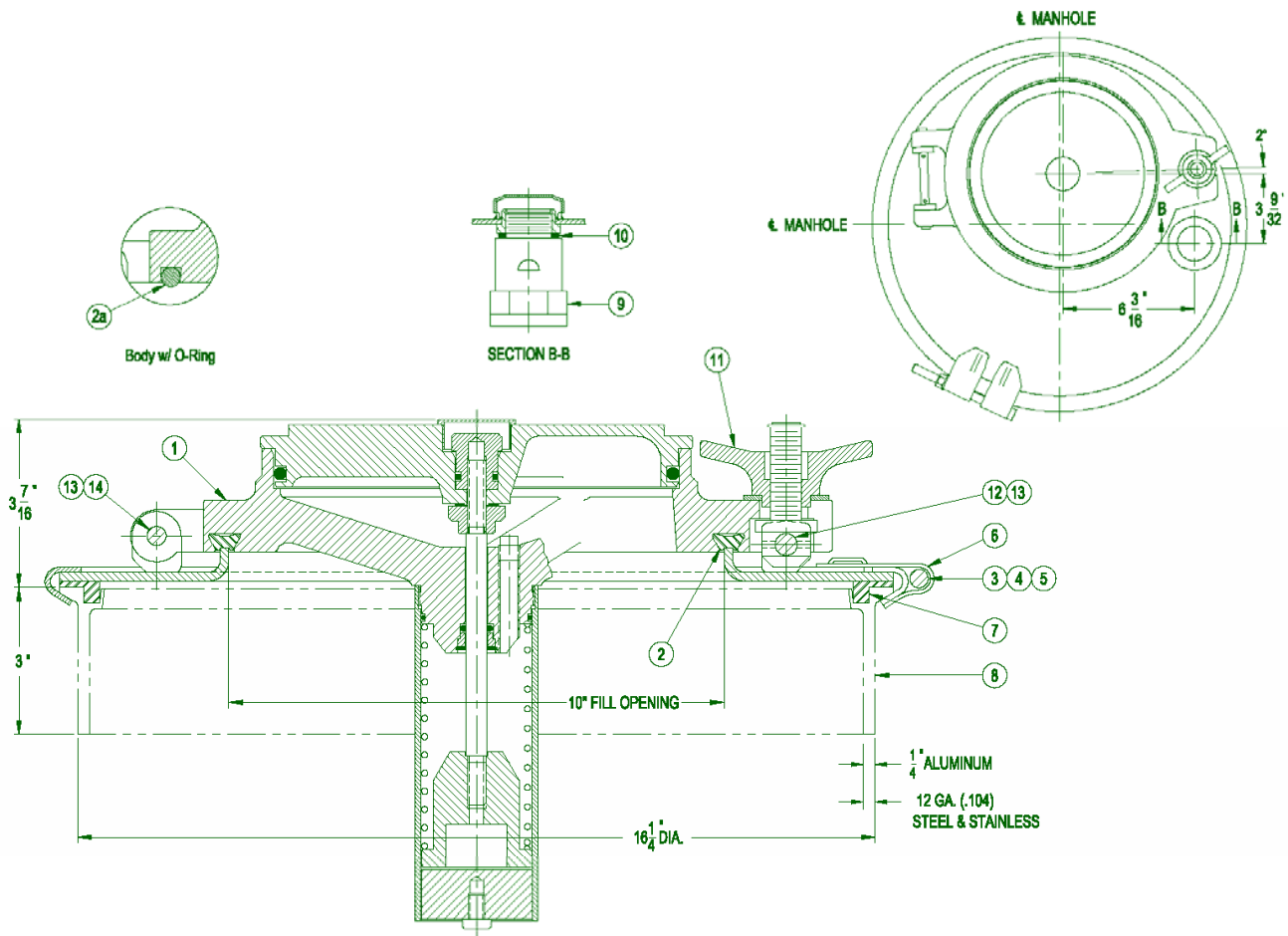
Manhole assembly should be inspected with sufficient frequency and with due regard to the products carried to insure a liquid tight closure. Any worn, damaged, or missing parts must be replaced.

WING NUTS AND SWING BOLTS:

All swing bolt and wing nut assemblies must be secured to the cover and tightened to insure the pressure and product retention performance of the manhole assembly.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of the Pressure Relief Valve and Manhole Assembly.

Betts 16" Manhole - Standard/Fill Style with 8" Surge Suppression



No.	Description	Material	Part No.
1	Surge Suppression R.V.	Aluminum	*8276ALTS
2	Gasket - Fill	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	4100TS
3	Bolt-Clamp	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
4	Nut-Clamp ³ / ₈ -16 Thd.	Brass	3030BR
		Stnls 304	9Q5809
5	Washer-Clamp	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL
6	Clamping Ring	Steel	3028MS
		Steel Zinc Plt.	3028ZC
		Stnls 304	3028SL
7	Manhole Gasket Channel Type	B	Buna-N 3559BN
		V	Viton 3559VT
		W	Wh. Hypalon 3559WH
		T	Teflon Env. w/ Wh. Hypalon 3025TF

No.	Description	Material	Part No.
8	Manhole Collar Channel Type	Steel	3057MS
		Aluminum	3057AE
		Stnls 304	3057SL
		Stnls 316	3057SS
9	Vent Assembly	Alum/Stnls	**
10	Gasket	Buna-N	3716BN
11	Wing Nut Assembly	Brass	4092BR
12	Swing Bolt Pin	Stnls 316	4076SS
13	Roll Pins	Stnls 304	9Q8601
14	Hinge Pin	Stnls 304	4082SL

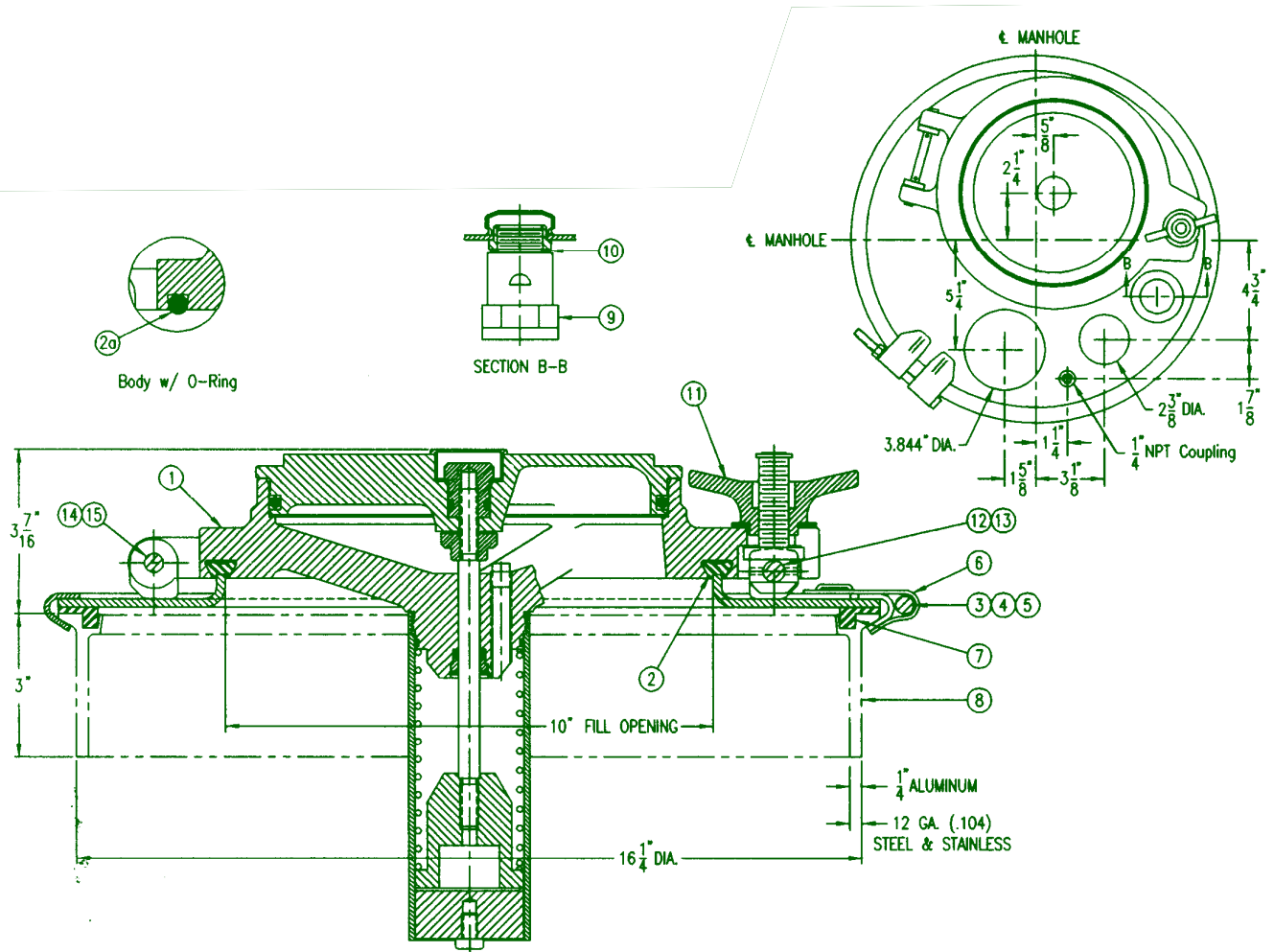
** See Normal Vent Spec. Section 84 Page 12A

Gasket Maximum Temperature	
Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

* See Section 81 Page 3 for Relief Valve Parts List and Maintenance Instructions.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 16" Manhole - Offset/Fill Style with 8" Surge Suppression



No.	Description	Material	Part No.
1	Surge Suppression R.V.	Aluminum	*8276ALTS
2	Gasket-Fill	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	4100TS
3	Bolt-Clamp	Steel Zinc Pt.	3029ZC
		Stnls 304	3029SL
4	Nut-Clamp $\frac{3}{8}$ -16 Thd	Brass	3030BR
		Stnls 304	9Q5809
5	Washer-Clamp	Steel Zinc Pt.	3031ZC
		Stnls 304	3031SL
6	Clamping Ring	Steel	3028MS
		Steel Zinc Pt.	3028ZC
		Stnls 304	3028SL
7	Manhole Gasket Channel Type	B Buna-N	3559BN
		V Viton	3559VT
		W Wh. Hypalon	3559WH
		T Teflon Env. w/ Wh. Hypalon	3025TF

No.	Description	Material	Part No.
8	Manhole Collar Channel Type	Steel	3057MS
		Aluminum	3057AE
		Stnls 304	3057SL
		Stnls 316	3057SS
9	Vent Assembly	Alum / Stnls	**
10	Gasket	Buna N	3716BN
11	Wing Nut Assembly	Brass	4092BR
12	Swing Bolt Pin	Stnls 316	4076SS
13	Roll Pins	Stnls 304	9Q8601
14	Hinge Pin	Stnls 304	4082SL

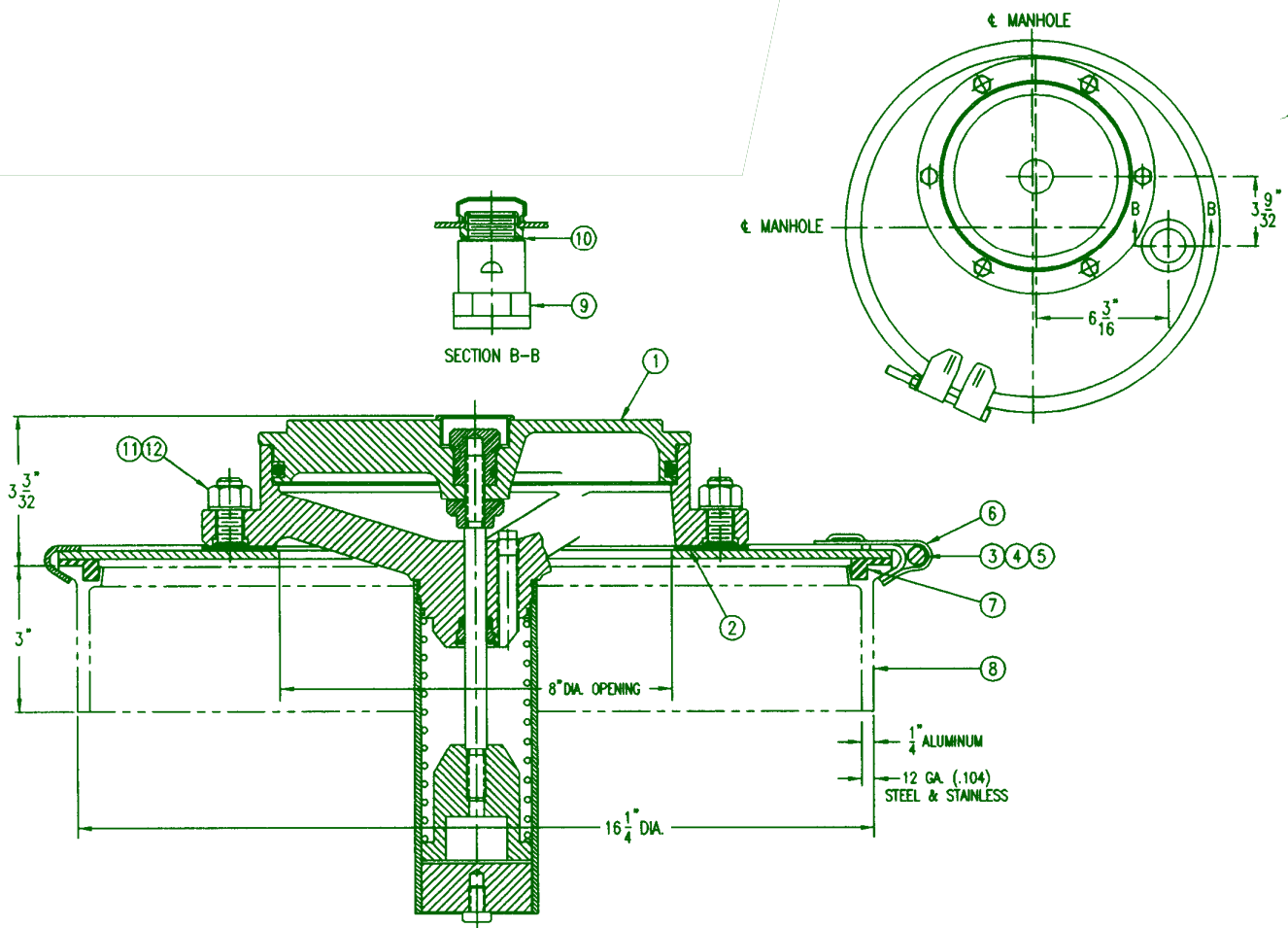
** See Normal Vent Spec. Section 84 Page 13A

Gasket Maximum Temperature	
Buna N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

* See Section 81 Page 3 for Relief Valve Parts List and Maintenance Instructions.

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 16" Manhole - Standard/Bolted Style



No.	Description	Material	Part No.	
1	Surge Suppression R.V.	Aluminum	* 8277ALTS	
2	Gasket- Relief Valve	Buna-N	4093BN	
		Viton	4093VT	
		Wh. Hypalon	4093WH	
		Teflon Env.	4093TF	
3	Bolt-Clamp	Steel Zinc Pt.	3029ZC	
		Stnls 304	3029SL	
4	Nut-Clamp $\frac{3}{8}$ -16 Thd	Brass	3030BR	
		Stnls 304	9Q5809	
5	Washer-Clamp	Steel Zinc Pt.	3031ZC	
		Stnls 304	3031SL	
6	Clamping Ring	Steel	3028MS	
		Steel Zinc Pt.	3028ZC	
		Stnls 304	3028SL	
7	Manhole Gasket Channel Type	B	Buna-N	3559BN
		V	Viton	3559VT
		W	Wh. Hypalon	3559WH
		T	Teflon Env. w/ Wh. Hypalon	3025TF

No.	Description	Material	Part No.
8	Manhole Collar Channel Type	Steel	3057MS
		Aluminum	3057AE
		Stnls 304	3057SL
		Stnls 316	3057SS
9	Vent Assembly	Alum / Stnls	**
10	Gasket	Buna N	3716BN
11	Nut	Steel Zinc Pt.	9Q5872
		Stnls 304	9Q5873
12	Washer	Steel	9Q9345
		Stnls 304	9Q8224

** See Normal Vent Spec. Section 84 Page 14A

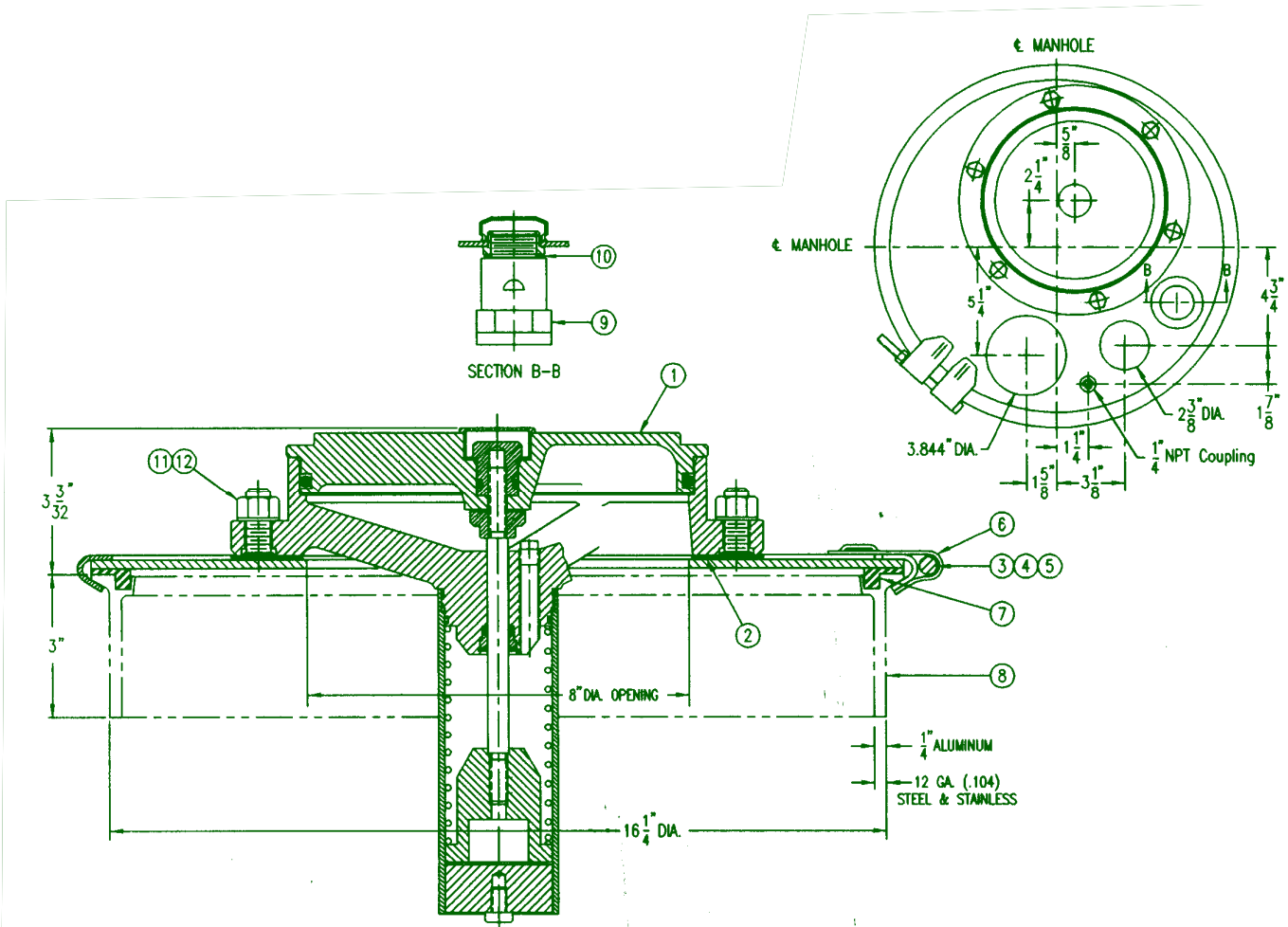
Gasket Maximum Temperature

Buna N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

* See Section 81 Page 4 for Relief Valve Parts List and Maintenance Instructions.

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 16" Manhole - Offset/Bolted Style



No.	Description	Material	Part No.	
1	Surge Suppression R.V.	Aluminum	* 8277ALTS	
2	Gasket- Relief Valve	Buna-N	4093BN	
		Viton	4093VT	
		Wh. Hypalon	4093WH	
		Teflon Env.	4093TF	
3	Bolt-Clamp	Steel Zinc Pt.	3029ZC	
		Stnls 304	3029SL	
4	Nut-Clamp $\frac{3}{8}$ -16 Thd	Brass	3030BR	
		Stnls 304	9Q5809	
5	Washer-Clamp	Steel Zinc Pt.	3031ZC	
		Stnls 304	3031SL	
6	Clamping Ring	Steel	3028MS	
		Steel Zinc Pt.	3028ZC	
		Stnls 304	3028SL	
7	Manhole Gasket Channel Type	B	Buna-N	3559BN
		V	Viton	3559VT
		W	Wh. Hypalon	3559WH
		T	Teflon Env. w/ Wh. Hypalon	3025TF

No.	Description	Material	Part No.
8	Manhole Collar Channel Type	Steel	3057MS
		Aluminum	3057AE
		Stnls 304	3057SL
		Stnls 316	3057SS
9	Vent Assembly	Alum / Stnls	**
10	Gasket	Buna N	3716BN
11	Nut	Steel Zinc Pt.	9Q5872
		Stnls 304	9Q5873
12	Washer	Steel	9Q9345
		Stnls 304	9Q8224

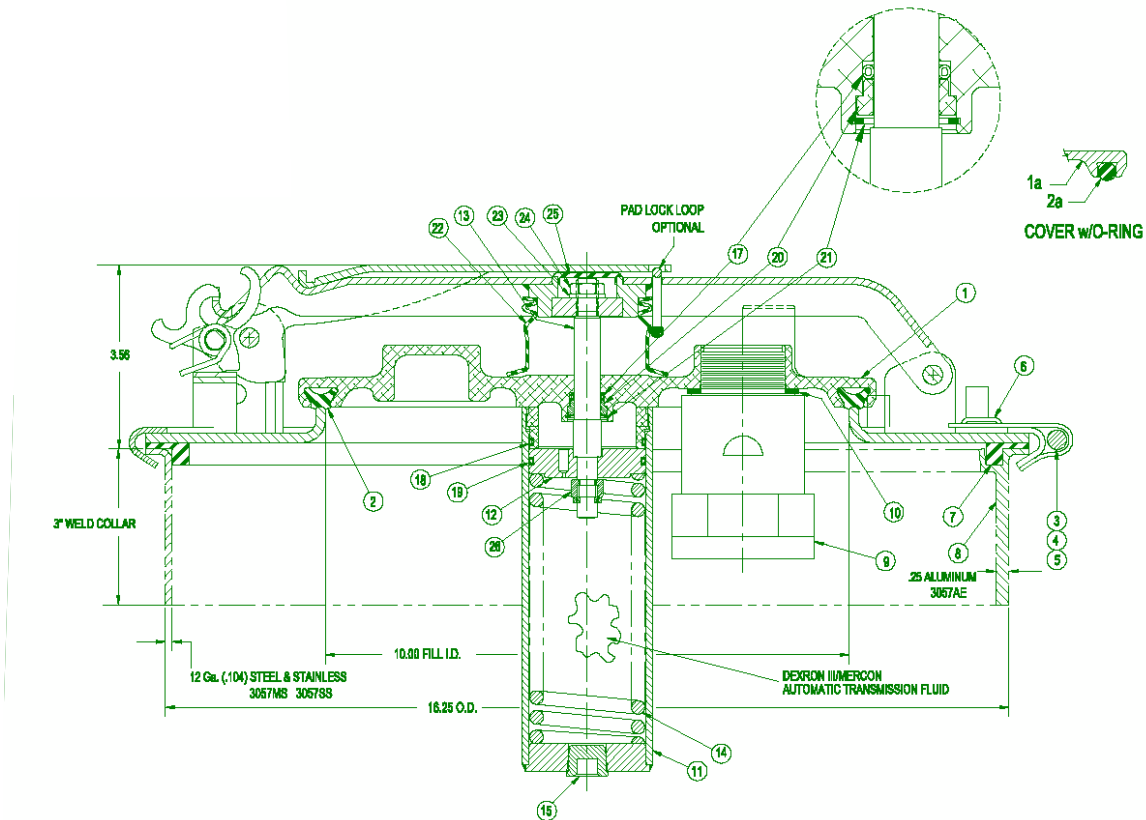
** See Normal Vent Spec. Section 84 Page 15A

Gasket Maximum Temperature	
Buna N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

* See Section 81 Page 4 for Relief Valve Parts List and Maintenance Instructions.

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 16" PAF 406-98 Manhole



No.	Description	Material	Part No.
1	Fill Cover	Alum/E-Coated	8297ALEY
1a	Fill Cover (O-Ring Grvd.)	Alum/E-Coated	8297ALEY389
2	Gasket - Integral Relief Valve	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	3902TS
3	Bolt-Clamp Ring	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
4	Nut-Clamp Ring	Brass	3030BR
		Stnls 304	9Q5809
5	Washer-Clamp Ring	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL
6	Clamping Ring	Steel	3028MS
		Steel Zinc Plt.	3028ZC
		Stnls 304	3028SL
7	Manhole Gasket Channel Type	Buna-N	3559BN
		Viton	3559VT
		Wh. Hypalon	3559WH
		Teflon Env. w/ Wh. Hypalon	3025TF
8	Manhole Collar Channel Type	Steel	3057MS
		Aluminum	3057AE
		Stnls 304	3057SL
		Stnls 316	3057SS

No.	Description	Material	Part No.
9	Vent Assembly	Aluminum	6496ALB
10	Gasket	Buna-N	3716BN
11	Cylinder Assembly	Aluminum	6657AL
12	Piston	Aluminum	6654AL
13	Stem	Stnls 304	6688SL
14	Spring	Steel	4122MS
15	1/2" NPT Plug Zinc Plt.	Steel Zinc Plt.	9V4907
17	Stem O-Ring -112	Buna-N	4118BN
18	Cylinder O-Ring -137	Buna-N	4015BN
19	Piston O-Ring -137	Tef-Sil	4015TS
20	O-Ring Retainer	Alum/E-Coated	4117ALEY
21	Retainer Ring	Stnls 304	9Q4961
22	Bellows	EPDM	4020EPDM
23	Lockwasher Ext. Tooth 1/16"	Stnls 304	9Q5961
24	Nut Hex 1/16x20	Stnls 304	9Q5960
25	Plastic Plug	Polyethylene	9Z6163
26	3/8-16 Hex Nut w/ Insert	Steel Zinc Plt.	9Q5896

Gasket Maximum Temperature	
Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

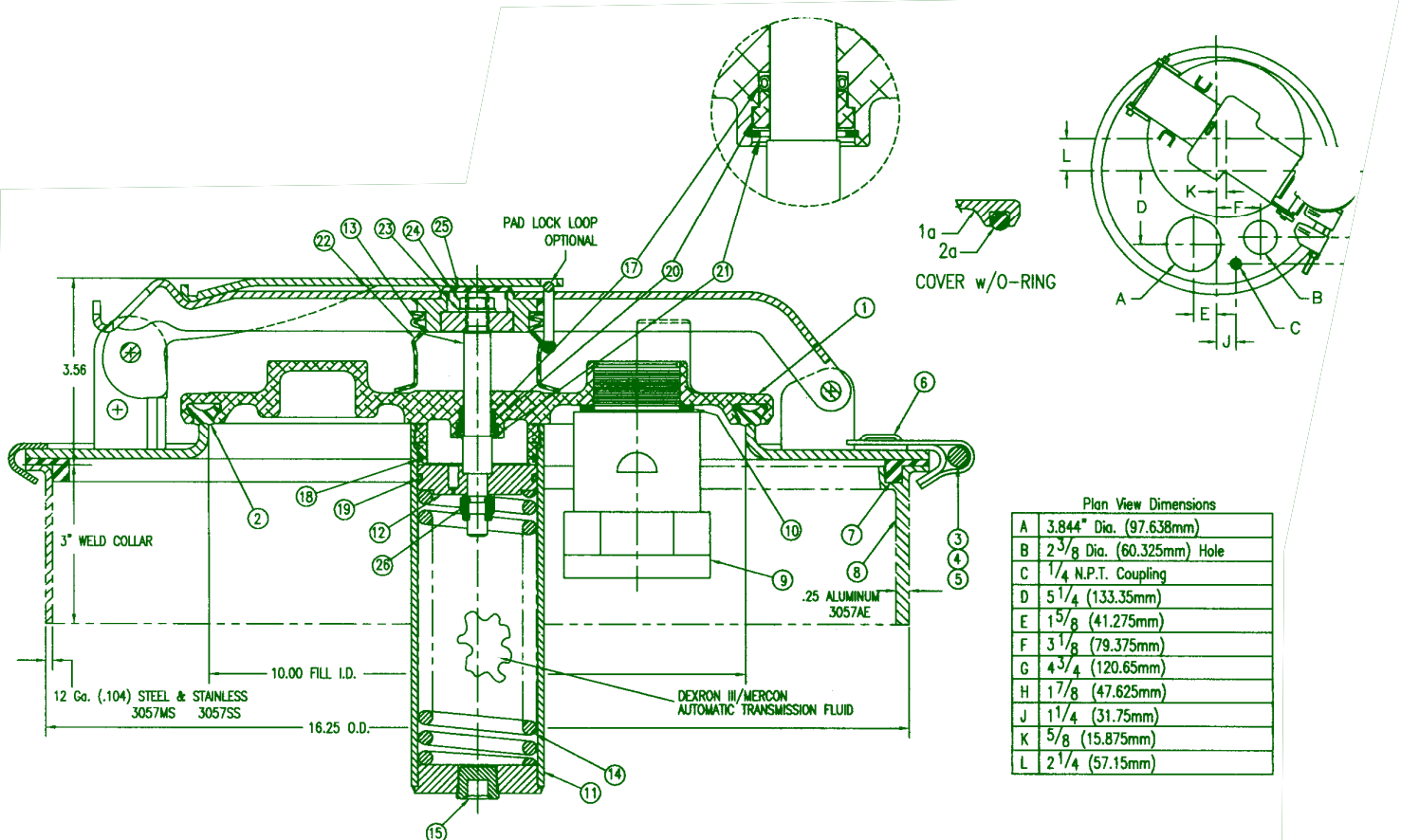
Replace oil cylinder using Automatic Transmission Fluid Dexron III/Mercon, SAE 5W-20 with viscosity of 177 SUS at 100°F and a pour point of no greater than -45°F.

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency to insure 10" Integral Relief Valve functions properly. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness to insure a liquid tight seal is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Consult PAF406-98 maintenance manual prior to disassembly of this relief valve.

Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 16" PAF 406-98 Offset Manhole



No.	Description	Material	Part No.
1	Fill Cover	Alum/E-Coated	8297ALEY
1a	Fill Cover (O-Ring Grvd.)	Alum/E-Coated	8297ALEY389
2	Gasket - Integral Relief Valve	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	3902TS
3	Bolt-Clamp Ring	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
4	Nut-Clamp Ring	Brass	3030BR
		Stnls 304	9Q5809
5	Washer-Clamp Ring	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL
		Steel Zinc Plt.	3028MS
6	Clamping Ring	Steel Zinc Plt.	3028ZC
		Stnls 304	3028SL
		Buna-N	3559BN
		Viton	3559VT
7	Manhole Gasket Channel type	Wh. Hypalon	3559WH
		Teflon Env. w/Wh. Hypalon	3025TF
		Steel	3057MS
8	Manhole Collar Channel type	Aluminum	3057AE
		Stnls 304	3057SL
		Stnls 316	3057SS

No.	Description	Material	Part No.
9	Vent Assembly	Aluminum	6496ALB
10	Gasket	Buna-N	3716BN
11	Cylinder Assembly	Aluminum	6657AL
12	Piston	Aluminum	6654AL
13	Stem	Stnls 304	6688SL
14	Spring	Steel	4122MS
15	1/2" NPT Plug Zinc Plt.	Steel Zinc Plt.	9V4907
17	Stem O-Ring -112	Buna-N	4118BN
18	Cylinder O-Ring-137	Buna-N	4015BN
19	Piston O-Ring-137	Tef-Sil	4015TS
20	O-Ring Retainer	Alum/E-Coated	4117ALEY
21	Retainer Ring	Stnls 304	9Q4961
22	Bellows	EPDM	4020EPDM
23	Lockwasher Ext. Tooth 7/16"	Stnls 304	9Q5961
24	Nut Hex 7/16x20	Stnls 304	9Q5960
25	Plastic Plug	Polyethylene	9Z6163
26	3/8-16 Hex Nut W/ Insert	Steel Zinc Plt.	9Q5896

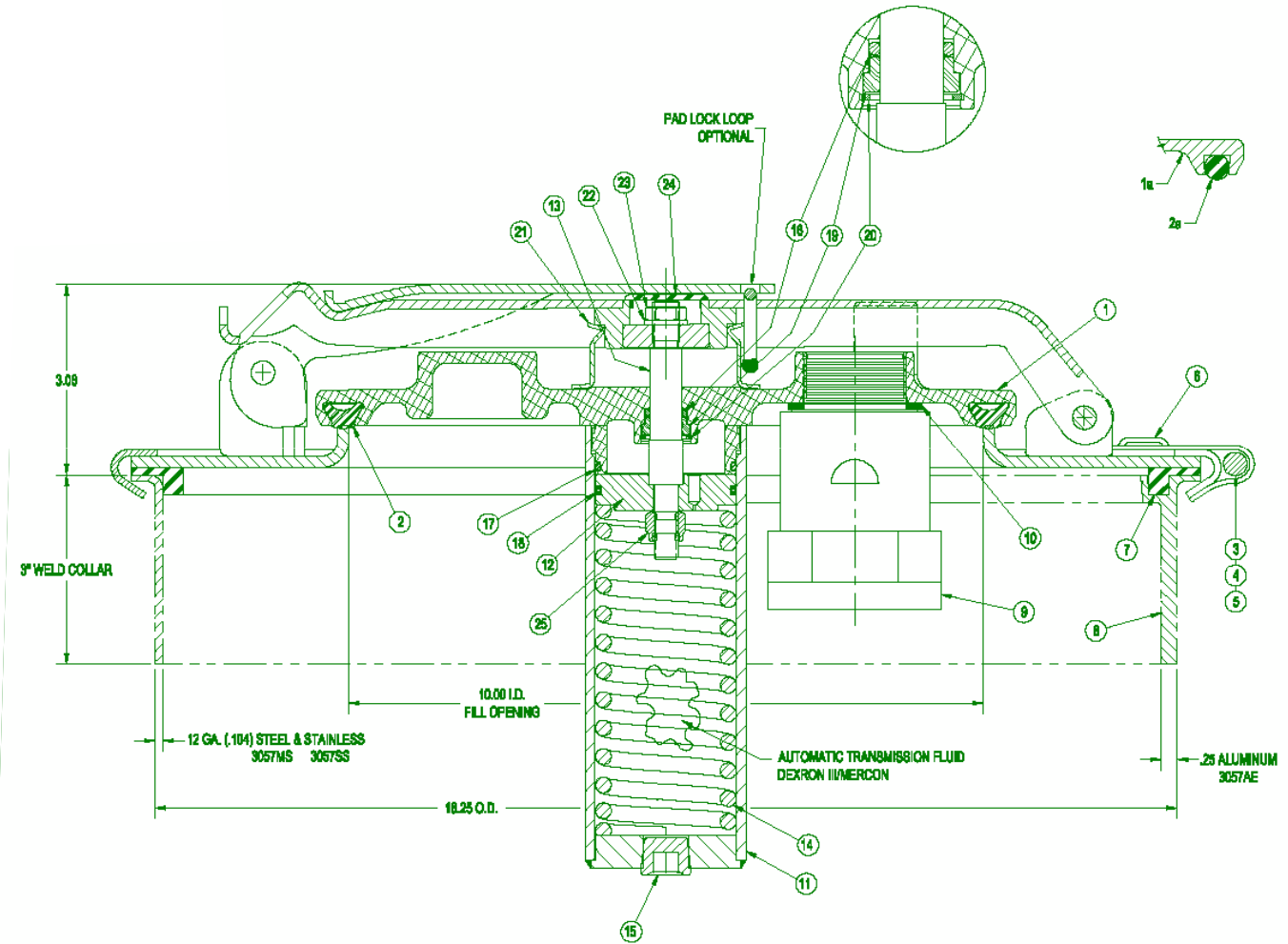
Gasket Maximum Temperature	
Buna N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

Replace oil in cylinder using Automatic Transmission Fluid Dexron III/Mercon, SAE 5W-20 with viscosity of 177 SUS at 100°F and a pour point of no greater than -45°F.

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency to insure 10" Integral Relief Valve functions properly. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness to insure a liquid tight seal is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Consult PAF406-98 maintenance manual prior to disassembly of this relief valve.
Use only genuine BETTS INDUSTRIES, INC. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 16" PAF 306-98 Manhole



No.	Description	Material	Part No.
1	Fill Cover	Alum/E-Coated	8317ALEY
1a	Fill Cover (O-Ring Grvd.)	Alum/E-Coated	8317ALEY389
2	Gasket - Integral Relief Valve	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	3902TS
3	Bolt-Clamp Ring	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
4	Nut-Clamp Ring	Brass	3030BR
		Stnls 304	9Q5809
5	Washer-Clamp Ring	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL
		Steel	3028MS
6	Clamping Ring	Steel Zinc Plt.	3028ZC
		Stnls 304	3028SL
7	Manhole Gasket Channel Type	Buna-N	3559BN
		Viton	3559VT
		Wh. Hypalon	3559WH
8	Manhole Collar Channel Type	Teflon Env. w/ Wh. Hypalon	3025TF
		Steel	3057MS
		Aluminum	3057AE
		Stnls 304	3057SL
		Stnls 316	3057SS

No.	Description	Material	Part No.
9	Vent Assembly	Aluminum	6238ALB
10	Gasket	Buna-N	3716BN
11	Cylinder Assembly	Aluminum	6657AL
12	Piston	Aluminum	6654AL
13	Stem	Stnls 303	6720SL
14	Spring	Steel	4173MS
15	1/2" NPT Plug Zinc Plt.	Steel Zinc Plt.	9V4907
16	Stem O-Ring -112	Buna-N	4118BN
17	Cylinder O-Ring -137	Buna-N	4015BN
18	Piston O-Ring -137	Tef-Sil	4015TS
19	O-Ring Retainer	Alum/E-Coated	4117ALEY
20	Retainer Ring	Stnls 304	9Q4961
21	Bellows	BUNA	3998BU
22	Lockwasher Ext. Tooth 1/16"	Stnls 304	9Q5961
23	Nut Hex 1/16x20	Stnls 304	9Q5960
24	Plastic Plug	Polyethylene	9Z6163
25	3/8-16 Hex Nut w/ Insert	Steel Zinc Plt.	9Q5896

Gasket Maximum Temperature	
Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

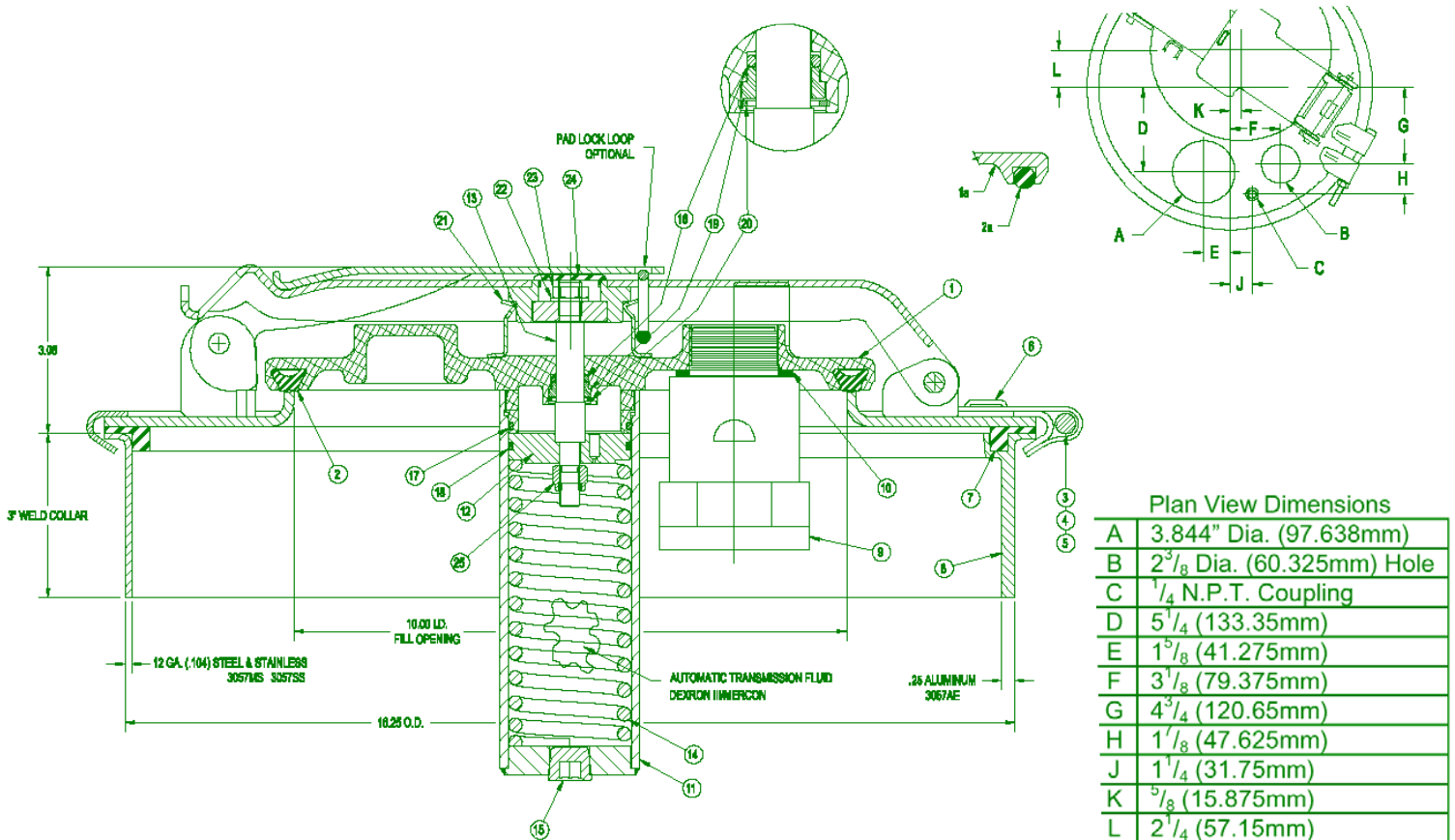
Replace oil cylinder using Automatic Transmission Fluid Dexron III/Mercon, SAE 5W-20 with viscosity of 177 SUS at 100°F and a pour point of no greater than -45°F.

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency to insure 10" Integral Relief Valve functions properly. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness to insure a tight seal is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Consult PAF306-98 maintenance manual prior to disassembly of this relief valve.

Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 16" PAF 306-98 Offset Manhole



No.	Description	Material	Part No.
1	Fill Cover	Alum/E-Coated	8317ALEY
1a	Fill Cover (O-Ring Grvd.)	Alum/E-Coated	8317ALEY389
2	Gasket - Integral Relief Valve	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	3902TS
3	Bolt-Clamp Ring	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
4	Nut-Clamp Ring	Brass	3030BR
		Stnls 304	9Q5809
5	Washer-Clamp Ring	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL
6	Clamping Ring	Steel	3028MS
		Steel Zinc Plt.	3028ZC
		Stnls 304	3028SL
7	Manhole Gasket Channel Type	Buna-N	3559BN
		Viton	3559VT
		Wh. Hypalon	3559WH
		Teflon Env. w/ Wh. Hypalon	3025TF
8	Manhole Collar Channel Type	Steel	3057MS
		Aluminum	3057AE
		Stnls 304	3057SL
		Stnls 316	3057SS

No.	Description	Material	Part No.
9	Vent Assembly	Aluminum	6238ALB
10	Gasket	Buna-N	3716BN
11	Cylinder Assembly	Aluminum	6657AL
12	Piston	Aluminum	6654AL
13	Stem	Stnls 303	6720SL
14	Spring	Steel	4173MS
15	1/2" NPT Plug Zinc Plt.	Steel Zinc Plt.	9V4907
16	Stem O-Ring -112	Buna-N	4118BN
17	Cylinder O-Ring -137	Buna-N	4015BN
18	Piston O-Ring -137	Tef-Sil	4015TS
19	O-Ring Retainer	Alum/E-Coated	4117ALEY
20	Retainer Ring	Stnls 304	9Q4961
21	Bellows	BUNA	3998BU
22	Lockwasher Ext. Tooth 1/16"	Stnls 304	9Q5961
23	Nut Hex 1/16x20	Stnls 304	9Q5960
24	Plastic Plug	Polyethylene	9Z6163
25	3/8-16 Hex Nut w/ Insert	Steel Zinc Plt.	9Q5896

Gasket Maximum Temperature

Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

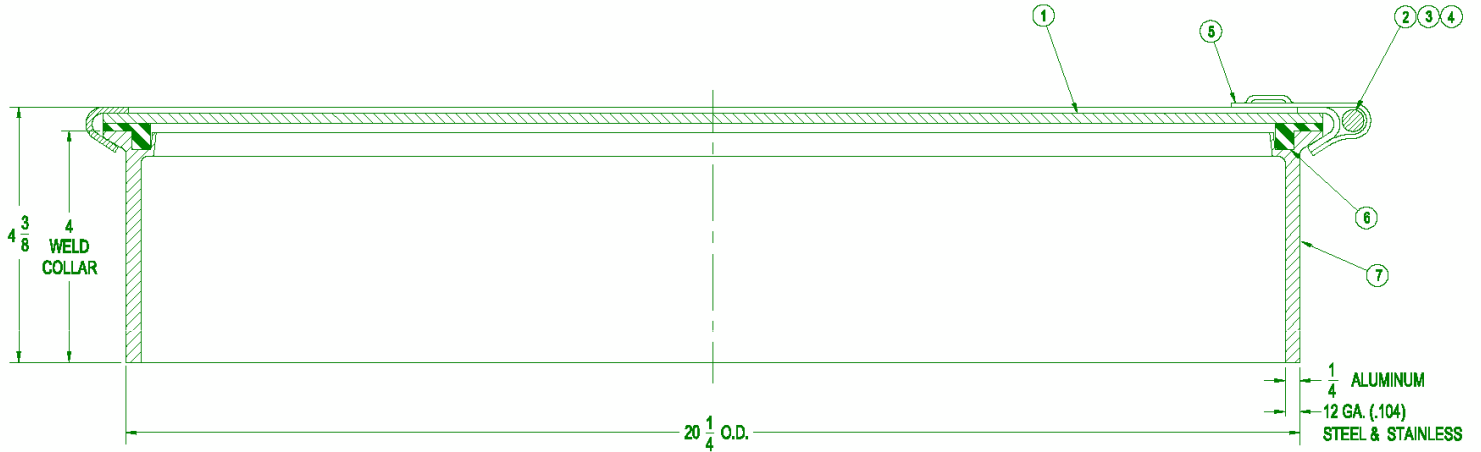
Replace oil cylinder using Automatic Transmission Fluid Dexron III/Mercon, SAE 5W-20 with viscosity of 177 SUS at 100°F and a pour point of no greater than -45°F.

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency to insure 10" Integral Relief Valve functions properly. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness to insure a liquid tight seal is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Consult PAF306-98 maintenance manual prior to disassembly of this relief valve.

Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" Round Inspection Manhole



No.	Description	Material	Part No.
1	Cover Plate	S Steel	3034MS
		B Steel Zinc Plt.	3034ZC
		C Stnls 304	3034SL
		V Stnls 316	3034SS
2	Bolt-Clamp	Steel Zinc Plt. Stnls 304	3029ZC 3029SL
3	Nut-Clamp 3/8 -16 Thd.	Brass	3030BR
		Stnls 304	9Q5809
		Steel Zinc Plt. Stnls 304	3031ZC 3031SL
4	Washer-Clamp	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL
		Steel Steel Zinc Plt. Stnls 304	3036MS 3036ZC 3036SL

No.	Description	Material	Part No.
6	Manhole Gasket Channel Type	B Buna-N	3560BN
		V Viton	3560VT
		W Wh. Hypalon	3560WH
		T Teflon Env. w/ Wh. Hypalon	3033TF
		Steel	3176MS
7	Manhole Collar Channel Type	1/4 Aluminum	3176AE
		Stnls 304	3176SL
		Stnls 316	3176SS

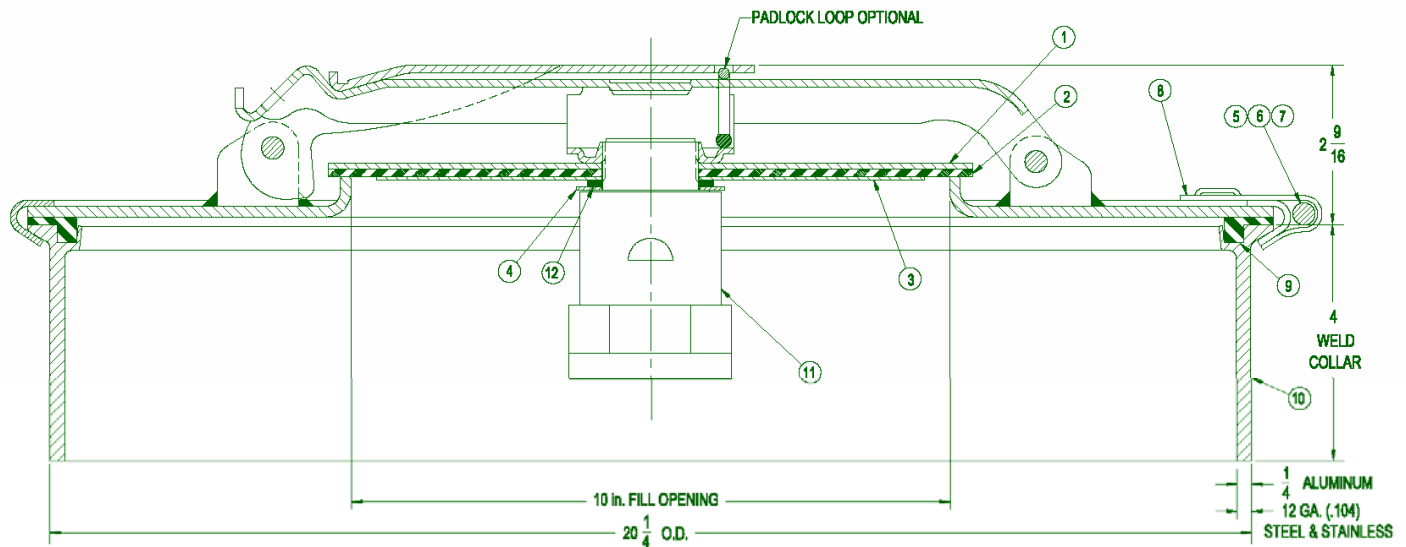
Gasket Maximum Temperature

Buna-N	250°F
Viton	400°F
White Hypalon	250°F
Teflon Envelope w/ White Hypalon Insert	250°F

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency and due regard to the products carried to insure a liquid tight closure. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of the Manhole Assembly.

Betts 20" Round Manhole with 10" Fill



No.	Description	Material	Part No.
1	Fill Cover	Steel	3021MS
		Steel Zinc Plt.	3021ZC
		Stnls 304	3021SL
		Stnls 316	3021SS
2	Fill Gasket	Bethane	3024BU
		Viton	3024VT
		Wh. Hypalon	3024WH
		Non-Asbestos	3024NA
		Teflon	3024TF
3	Retainer	Steel	3213MS
		Aluminum	3213AL
		Stnls 304	3213SL
		Stnls 316	3213SS
4	Shim Washer	Steel	3023MS
		Aluminum	3023AL
		Stnls 316	3023SS
5	Bolt-Clamp	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
6	Nut-Clamp 3/8-16 Thd.	Brass	3030BR
		Stnls 304	9Q5809
7	Washer-Clamp	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL

No.	Description	Material	Part No.	
8	Clamping Ring	Steel	3036MS	
		Steel Zinc Plt.	3036ZC	
		Stnls 304	3036SL	
9	Manhole Gasket Channel Type	B	Buna-N	3560BN
		V	Viton	3560VT
		W	Wh. Hypalon	3560WH
		T	Teflon Env. w/ Wh. Hypalon	3033TF
10	Manhole Collar Channel Type	Steel	3176MS	
		1/4 Aluminum	3176AE	
		Stnls 304	3176SL	
		Stnls 316	3176SS	
11	Vent Assembly	Alum./Stnls	6238AL	
12	Gasket	Buna-N	3716BN	

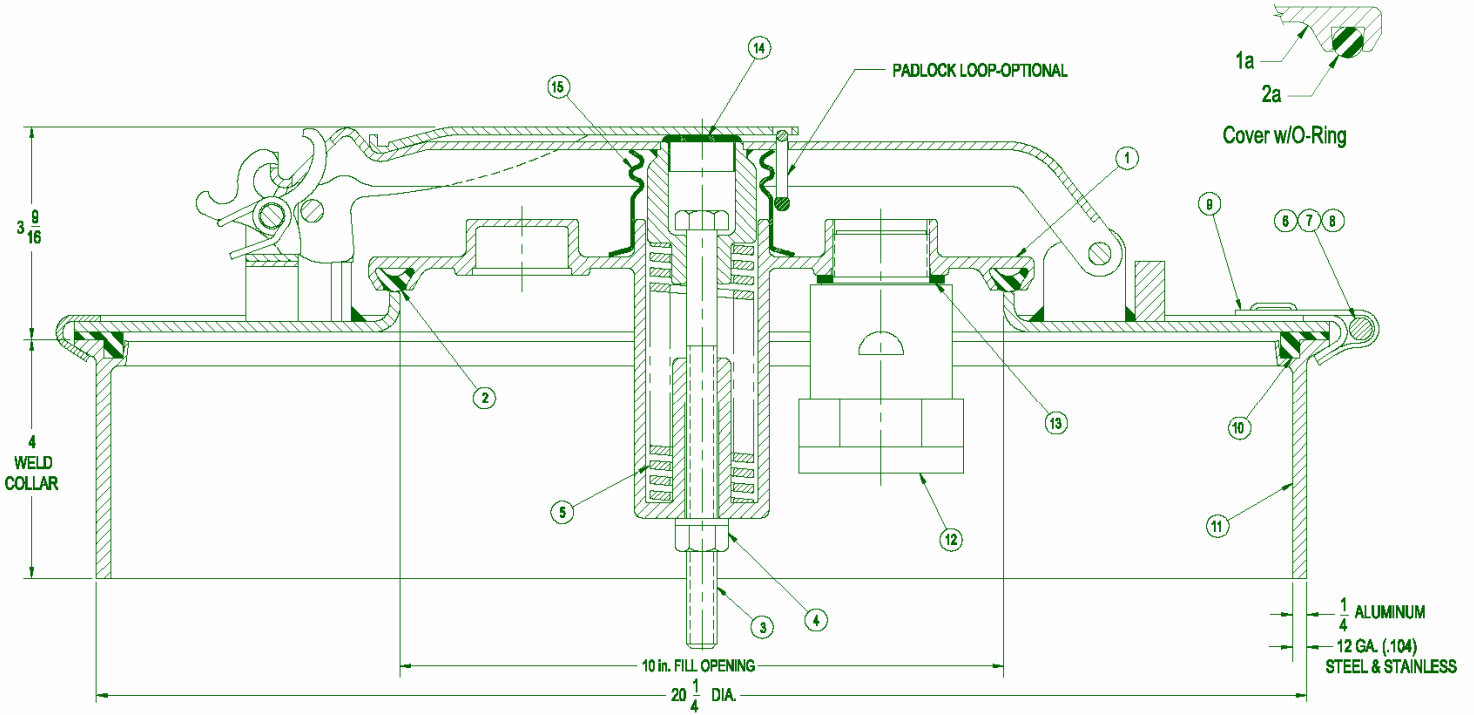
Gasket Maximum Temperature

Bethane	250°F
Viton	400°F
White Hypalon	250°F
Teflon	400°F
Teflon Envelope w/ White Hypalon Insert	250°F
Non-Asbestos	350°F

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency and due regard to the products carried to insure a liquid tight closure. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness is impaired in any way. Replacement gaskets must be compatible with products carried. Adjustment due to gasket wear may be necessary to insure proper sealing of the 10" fill. A shim washer, item No. 4, is provided for this purpose. To increase the sealing force of the 10" fill, remove shim from location shown above and re-position it above fill cover No. 1.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" PAF450 Manhole Models 9720 & 9763



No.	Description	Material	Part No.
1	Cover-Relief Valve	Aluminum	8241AL
1a	Cover (O-Ring Grvd.)	Aluminum	8246AL
2	Gasket-Relief Valve	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	3902TS
3	Bolt	Stnls 304	3876SL
4	Hex Nut 1/2-13 Thd.	Steel Zinc Plt.	9Q5812
		Stnls 304	9Q5853
5	Spring	Van Steel	3859EY
6	Bolt-Clamp	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
7	Nut-Clamp 3/8-16 Thd.	Brass	3030BR
		Stnls 304	9Q5809
8	Washer-Clamp	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL
9	Clamping Ring	Steel	3036MS
		Steel Zinc Plt.	3036ZC
		Stnls 304	3036SL

No.	Description	Material	Part No.	
10	Manhole Gasket Channel Type	B	Buna-N	3560BN
		V	Viton	3560VT
		W	Wh. Hypalon	3560WH
		T	Teflon Env. w/ Wh. Hypalon	3033TF
11	Manhole Collar Channel Type	Steel	3176MS	
		Aluminum	3176AE	
		Stnls 304	3176SL	
		Stnls 316	3176SS	
12	Vent Assembly	Alum/Stnls	6238AL	
13	Gasket	Viton	3716VT	
14	Plastic Cap	Polyethylene	9Z6150	
15	Bellows	Buna-Urethane	4020BU	

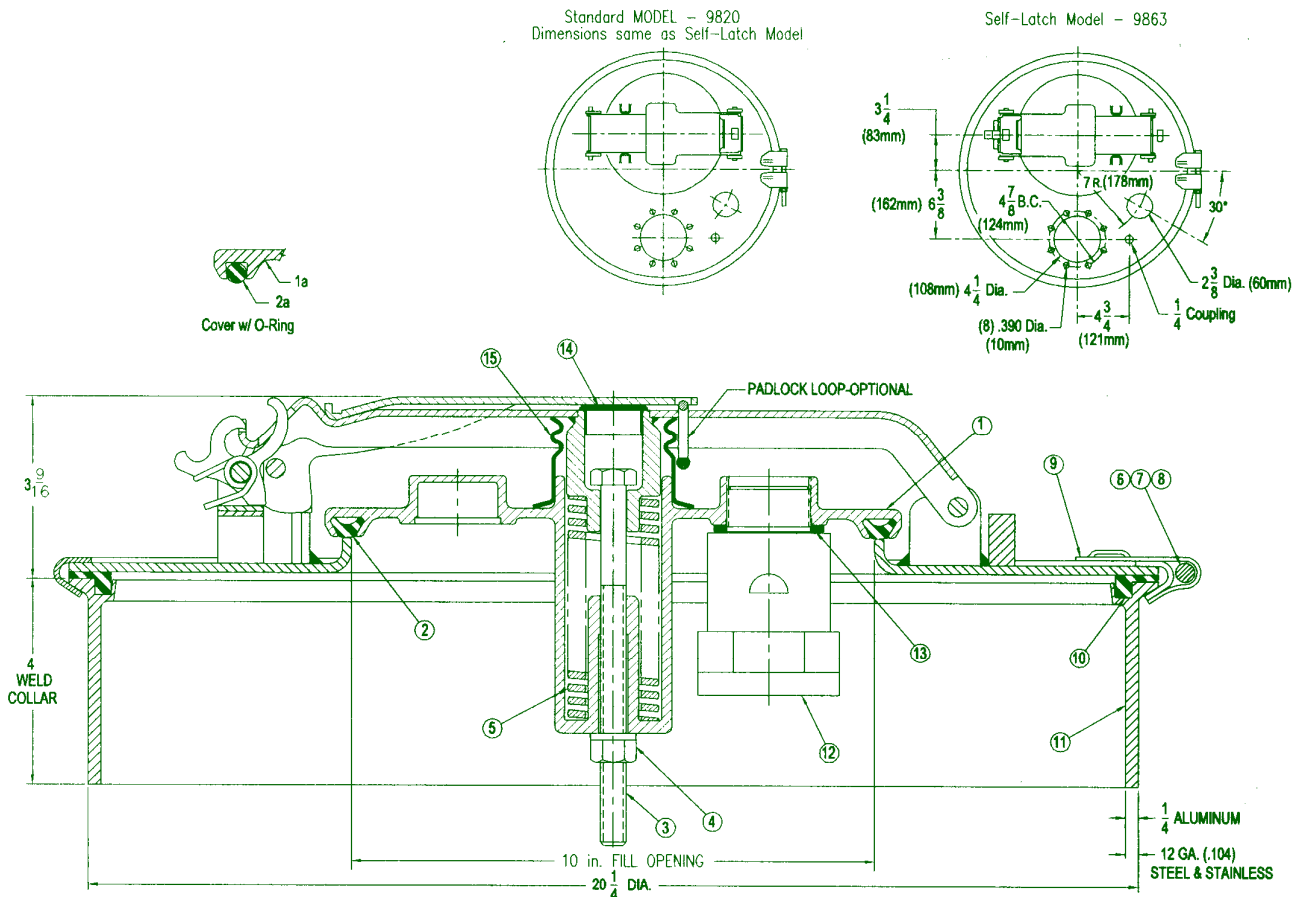
Gasket Maximum Temperature

Buna-N (Nitrile)	_____	250°F
Viton	_____	400°F
White Hypalon	_____	250°F
Teflon-Silicone	_____	400°F
Teflon Envelope w/ White Hypalon Insert	_____	250°F

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency and due regard to the products carried to insure a liquid tight closure. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of the Pressure Relief Valve and Manhole Assembly.

Betts 20" PAF450 Manhole Models 9820 & 9863



No.	Description	Material	Part No.
1	Cover-Relief Valve	Aluminum	8241AL
1a	Cover (O-Ring Grvd)	Aluminum	8246AL
2	Gasket-Relief Valve	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	3902TS
3	Bolt	Stnls 304	3876SL
4	Hex Nut 1/2-13 Thd	Steel Zinc Pt.	9Q5812
		Stnls 304	9Q5853
5	Spring	Van Steel	3859EY
6	Bolt-Clamp	Steel Zinc Pt.	3029ZC
		Stnls 304	3029SL
7	Nut-Clamp 3/8-16 Thd	Brass	3030BR
		Stnls 304	9Q5809
8	Washer-Clamp	Steel Zinc Pt.	3031ZC
		Stnls 304	3031SL
9	Clamping Ring	Steel	3036MS
		Steel Zinc Pt.	3036ZC
		Stnls 304	3036SL

No.	Description	Material	Part No.
10	Manhole Gasket Channel Type	B Buna-N	3560BN
		V Viton	3560VT
		W Wh. Hypalon	3560WH
		T Teflon Env. w/ Wh. Hypalon	3033TF
11	Manhole Collar Channel Type	Steel	3176MS
		Aluminum	3176AE
		Stnls 304	3176SL
		Stnls 316	3176SS
12	Vent Assembly	Alum / Stnls	6238AL
13	Gasket	Viton	3716VT
14	Plastic Cap	Polyethylene	9Z6150
15	Bellows	Buna-Urethane	4020BU

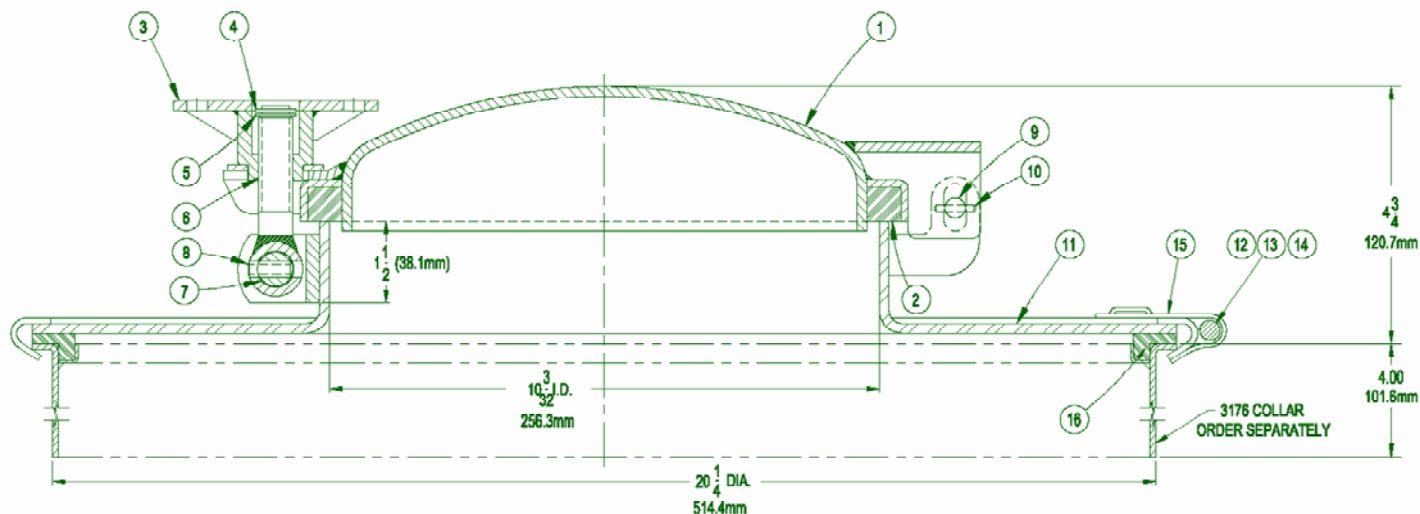
Gasket Maximum Temperature

Buna N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency and due regard to the products carried to insure a liquid tight closure. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper functioning of the Pressure Relief Valve and Manhole Assembly.

Betts 20" Hot Product Manhole



No.	Description	Material	Part No.
1	Cover	Steel	6554EY
2	Gasket*	B Buna-N	3567BN
		V Viton	3567VT
		W White Hypalon	3567WH
		E White Non-Asbestos with Teflon Suspensoid (Woven)	3567NT
3	Wing Nut	Stnls 304	3576SL
4	Snap Ring	Stnls 304	9Q4933
5	Snap Ring Washer	Stnls 304	3575SL
6	Swing Bolt	Stnls 304	3765SL
7	Swing Bolt Pin	Stnls 304	3086SL
8	Roll Pin-Swg Bolt	Stnls 304	9Q8593
9	Hinge Pin	Stnls 304	3618SL
10	Roll Pin-Hinge Pin	Stnls 304	9Q8601
11	Cover Assembly	Steel	6552EY

No.	Description	Material	Part No.
12	Bolt-Clamp	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
13	Washer-Clamp	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL
14	Nut-Clamp	Brass	3030BR
		Stnls 304	9Q5809
15	Clamping Ring	Steel	3036MS
		Steel Zinc Plt.	3036ZC
		Stnls 304	3036SL
16	Manhole Gasket Channel Type	B Buna-N	3560BN
		V Viton	3560VT
		W White Hypalon	3560WH
		T Teflon Envelope w/ White Hypalon	3033TF

***Gasket Maximum Temperature**

Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Pure Teflon	500°F
White Non-Asbestos with Teflon Suspensoid	500°F

GASKETS:

Check the condition of all gaskets and replace if their effectiveness as a seal is impaired in any way. Replacement gaskets must be compatible with products carried.

MAINTENANCE:

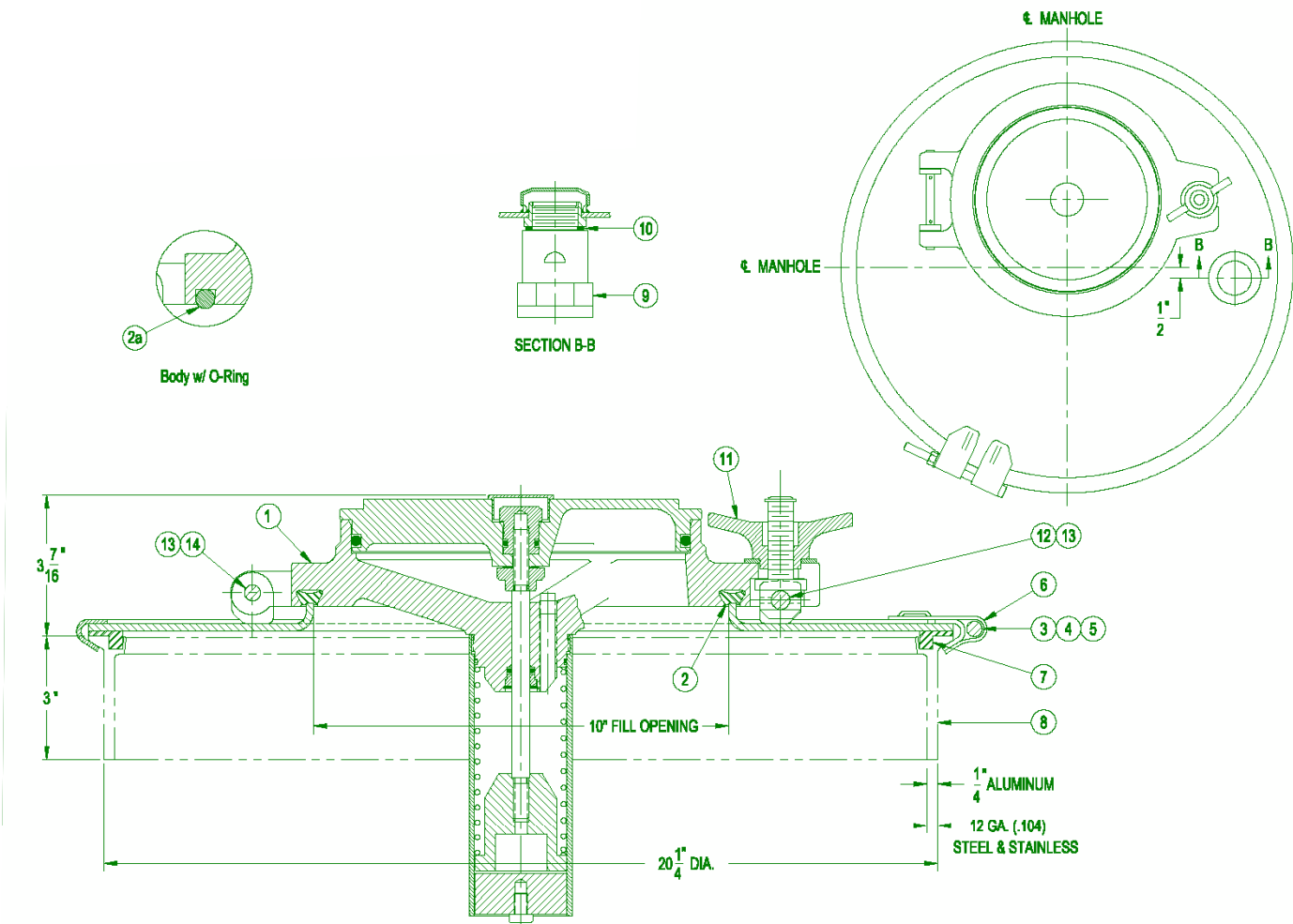
Manhole assembly should be inspected with sufficient frequency and with due regard to the products carried to insure a liquid tight closure. Any worn, damaged, or missing parts must be replaced.

WING NUTS AND SWING BOLTS:

All swing bolt and wing nut assemblies must be secured to the cover and tightened to insure the pressure and product retention performance of the manhole assembly.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" Manhole - Standard/Fill Style



No.	Description	Material	Part No.
1	Surge Suppression R.V.	Aluminum	*8276ALTS
2	Gasket - Fill	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	4100TS
3	Bolt-Clamp	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
4	Nut-Clamp $\frac{3}{8}$ -16 Thd.	Brass	3030BR
		Stnls 304	9Q5809
5	Washer-Clamp	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL
6	Clamping Ring	Steel	3036MS
		Steel Zinc Plt.	3036ZC
		Stnls 304	3036SL
7	Manhole Gasket Channel Type	B	Buna-N 3560BN
		V	Viton 3560VT
		W	Wh. Hypalon 3560WH
		T	Teflon Env. w/ Wh. Hypalon 3033TF

No.	Description	Material	Part No.
8	Manhole Collar Channel Type	Steel	3176MS
		Aluminum	3176AE
		Stnls 304	3176SL
		Stnls 316	3176SS
9	Vent Assembly	Alum/Stnls	**
10	Gasket	Buna-N	3716BN
11	Wing Nut Assembly	Brass	4092BR
12	Swing Bolt Pin	Stnls 316	4076SS
13	Roll Pins	Stnls 304	9Q8601
14	Hinge Pin	Stnls 304	4082SL

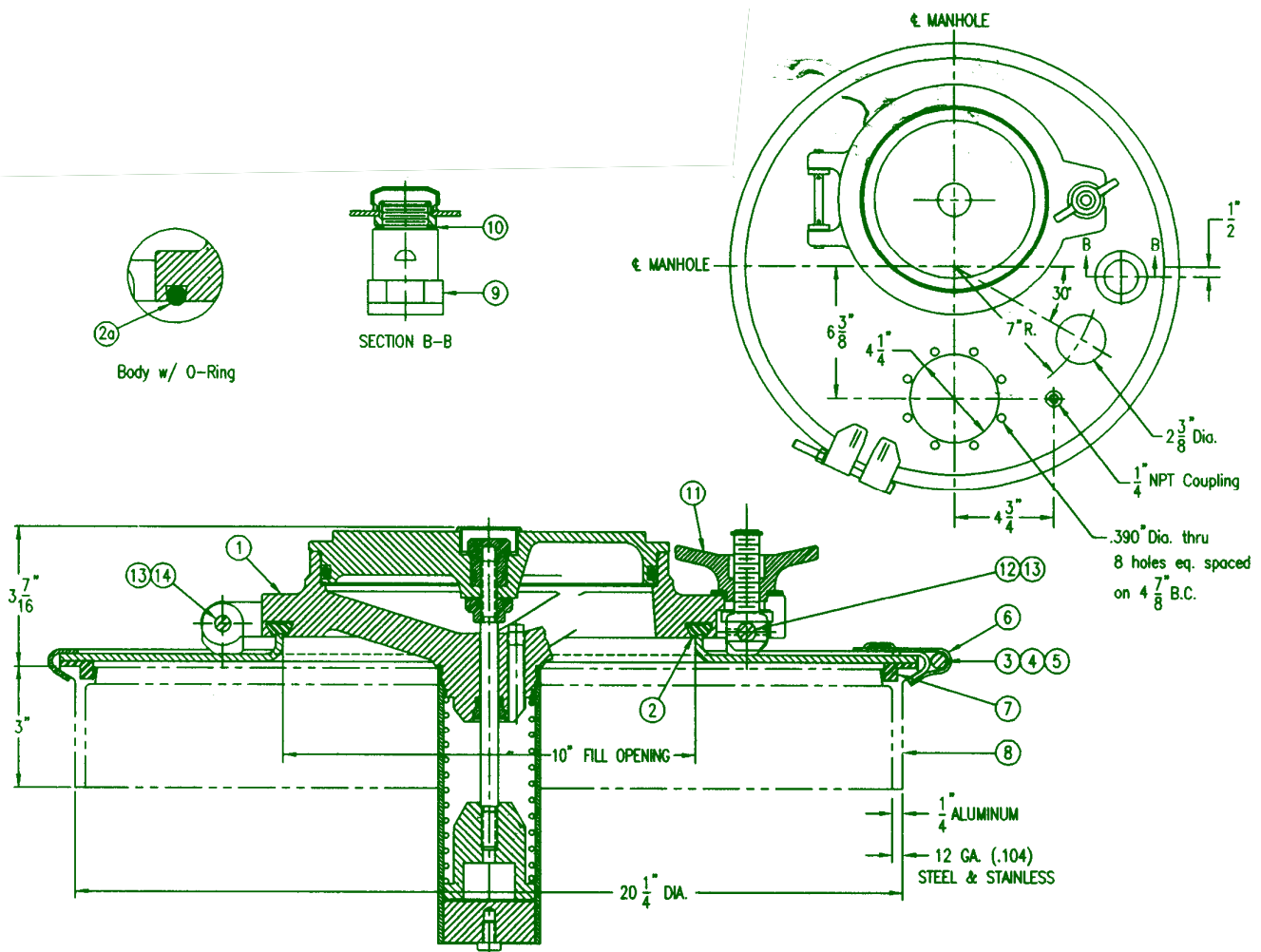
** See Normal Vent Spec. Section 86 Page 12A

Gasket Maximum Temperature	
Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

* See Section 81 Page 3 for Relief Valve Parts List and Maintenance Instructions.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" Manhole - Offset/Fill Style



No.	Description	Material	Part No.
1	Surge Suppression R.V.	Aluminum	*8276ALTS
2	Gasket-Fill	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
		Teflon Env.	3119TF
2a	O-Ring	Tef-Sil	4100TS
3	Bolt-Clamp	Steel Zinc Pt.	3029ZC
		Stnls 304	3029SL
4	Nut-Clamp $\frac{3}{8}$ -16 Thd	Brass	3030BR
		Stnls 304	905809
5	Washer-Clamp	Steel Zinc Pt.	3031ZC
		Stnls 304	3031SL
		Stnls 304	3031SL
6	Clamping Ring	Steel	3036MS
		Steel Zinc Pt.	3036ZC
		Stnls 304	3036SL
7	Manhole Gasket Channel Type	B Buna-N	3560BN
		V Viton	3560VT
		W Wh. Hypalon	3560WH
		T Teflon Env. w/ Wh. Hypalon	3033TF

No.	Description	Material	Part No.
8	Manhole Collar Channel Type	Steel	3176MS
		Aluminum	3176AE
		Stnls 304	3176SL
		Stnls 316	3176SS
9	Vent Assembly	Alum / Stnls	**
10	Gasket	Buna N	3716BN
11	Wing Nut Assembly	Brass	4092BR
12	Swing Bolt Pin	Stnls 316	4076SS
13	Roll Pins	Stnls 304	9Q8601
14	Hinge Pin	Stnls 304	4082SL

** See Normal Vent Spec. Section 86 Page 13A

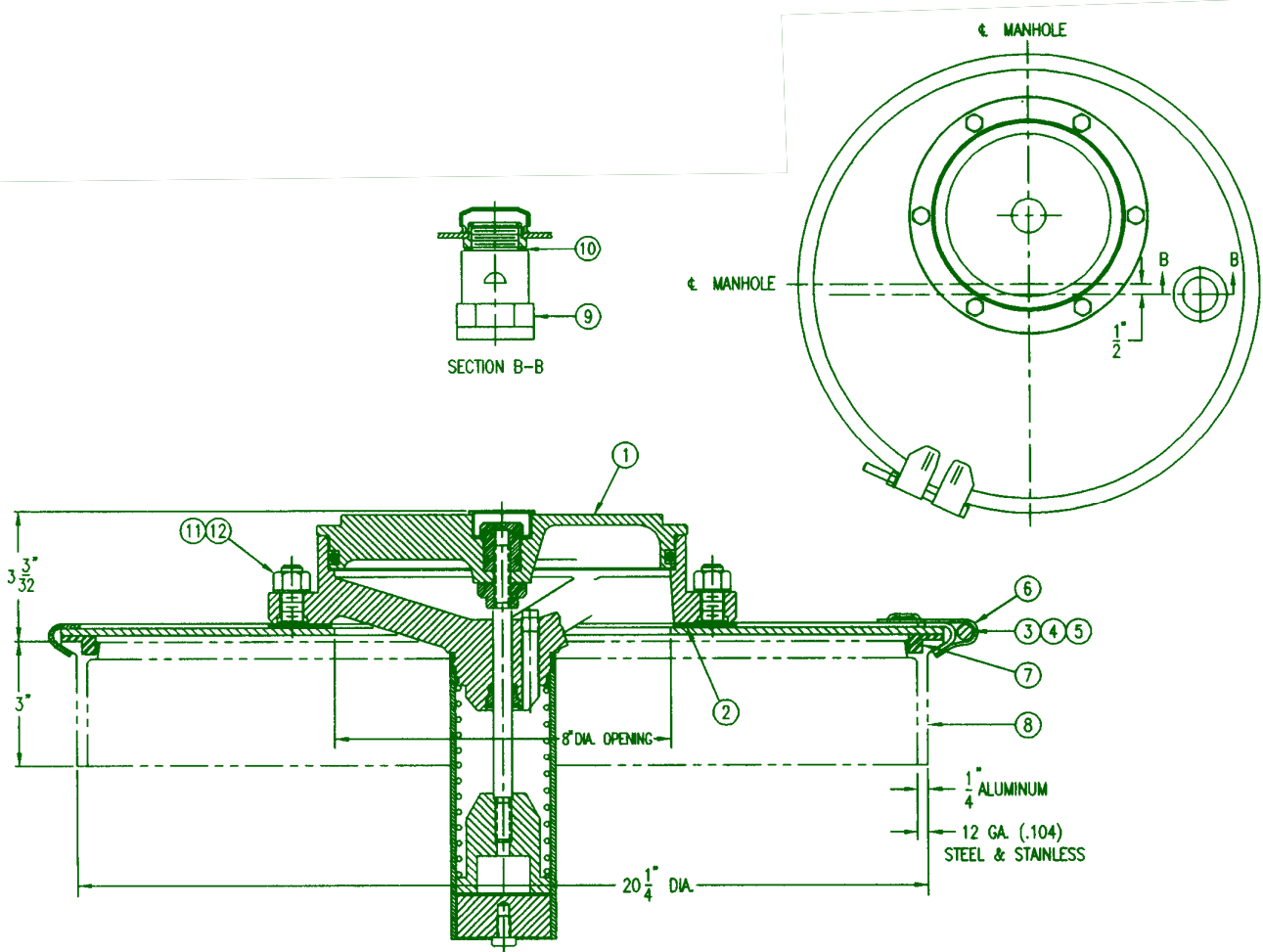
Gasket Maximum Temperature

Buna N (Nitrile)	_____	250°F
Viton	_____	400°F
White Hypalon	_____	250°F
Teflon-Silicone	_____	400°F
Teflon Envelope w/ White Hypalon Insert	_____	250°F

* See Section 81 Page 3 for Relief Valve Parts List and Maintenance Instructions.

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" Manhole - Standard Bolted Style



No.	Description	Material	Part No.	
1	Surge Suppression R.V.	Aluminum	*8277ALTS	
2	Gasket- Relief Valve	Buna-N	4093BN	
		Viton	4093VT	
		Wh. Hypalon	4093WH	
		Teflon Env.	4093TF	
3	Bolt-Clamp	Steel Zinc Pt.	3029ZC	
		Stnls 304	3029SL	
4	Nut-Clamp $\frac{3}{8}$ -16 Thd	Brass	3030BR	
		Stnls 304	9Q5809	
5	Washer-Clamp	Steel Zinc Pt.	3031ZC	
		Stnls 304	3031SL	
6	Clamping Ring	Steel	3036MS	
		Steel Zinc Pt.	3036ZC	
		Stnls 304	3036SL	
7	Manhole Gasket Channel Type	B	Buna-N	3560BN
		V	Viton	3560VT
		W	Wh. Hypalon	3560WH
		T	Teflon Env. w/ Wh. Hypalon	3033TF

No.	Description	Material	Part No.
8	Manhole Collar Channel Type	Steel	3176MS
		Aluminum	3176AE
		Stnls 304	3176SL
		Stnls 316	3176SS
9	Vent Assembly	Alum / Stnls	**
10	Gasket	Buna N	3716BN
11	Nut	Steel Zinc Pt.	9Q5872
		Stnls 304	9Q5873
12	Washer	Steel	9Q9345
		Stnls 304	9Q8224

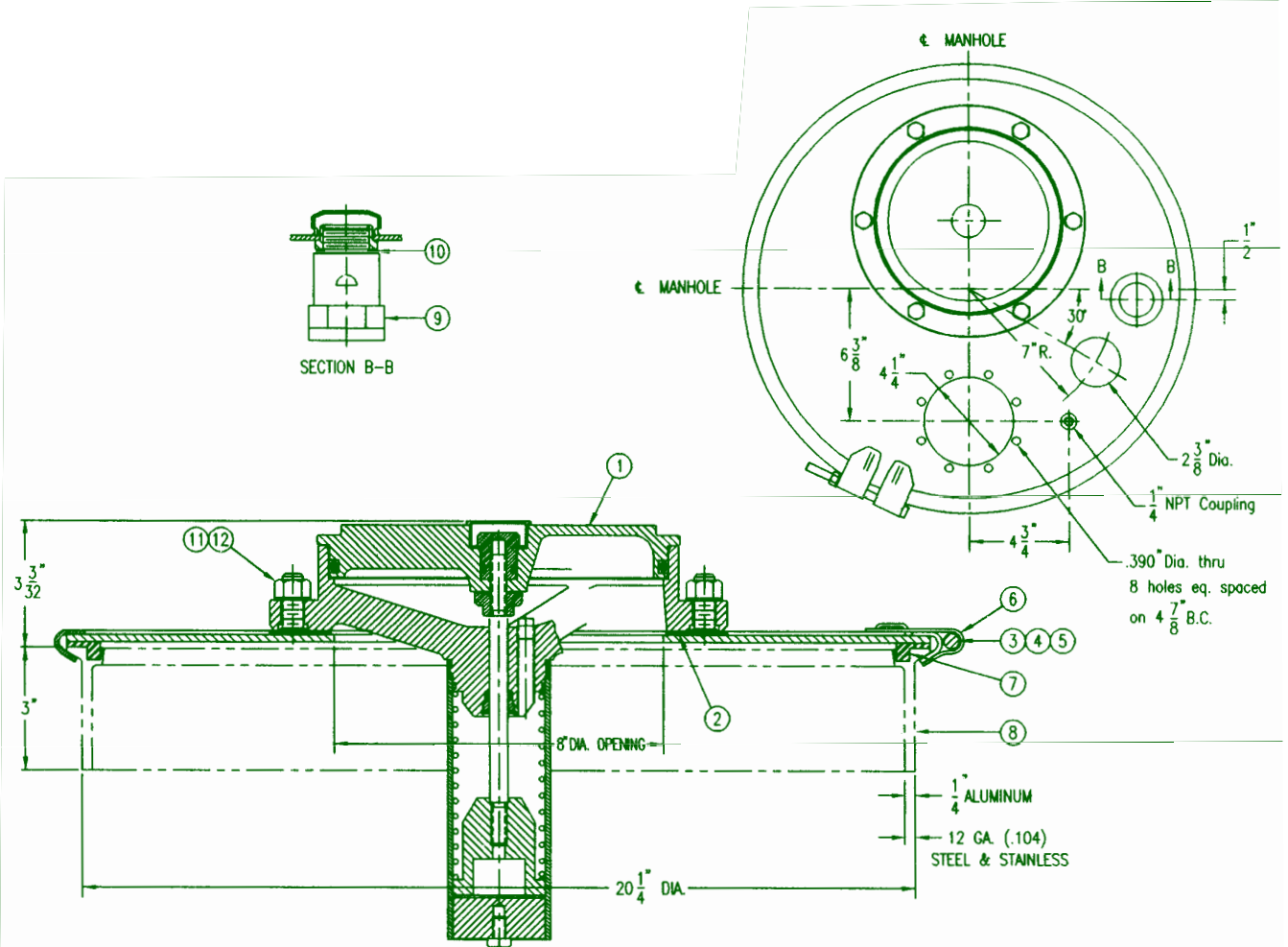
** See Normal Vent Spec. Section 86 Page 14A

Gasket Maximum Temperature	
Buna N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

* See Section 81 Page 4 for Relief Valve Parts List and Maintenance Instructions.

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" Manhole - Offset/Bolted Stylew/8" Surge Suppression Relief Valve



No.	Description	Material	Part No.	
1	Surge Suppression R.V.	Aluminum	*8277ALTS	
2	Gasket- Relief Valve	Buna-N	4093BN	
		Viton	4093VT	
		Wh. Hypalon	4093WH	
		Teflon Env.	4093TF	
3	Bolt-Clamp	Steel Zinc Pt.	3029ZC	
		Stnls 304	3029SL	
4	Nut-Clamp $\frac{3}{8}$ -16 Thd	Brass	3030BR	
		Stnls 304	9Q5809	
5	Washer-Clamp	Steel Zinc Pt.	3031ZC	
		Stnls 304	3031SL	
6	Clamping Ring	Steel	3036MS	
		Steel Zinc Pt.	3036ZC	
		Stnls 304	3036SL	
7	Manhole Gasket Channel Type	B	Buna-N	3560BN
		V	Viton	3560VT
		W	Wh. Hypalon	3560WH
		T	Teflon Env. w/ Wh. Hypalon	3033TF

No.	Description	Material	Part No.
8	Manhole Collar Channel Type	Steel	3176MS
		Aluminum	3176AE
		Stnls 304	3176SL
		Stnls 316	3176SS
9	Vent Assembly	Alum / Stnls	**
10	Gasket	Buna N	3716BN
11	Nut	Steel Zinc Pt.	9Q5872
		Stnls 304	9Q5873
12	Washer	Steel	9Q9345
		Stnls 304	9Q8224

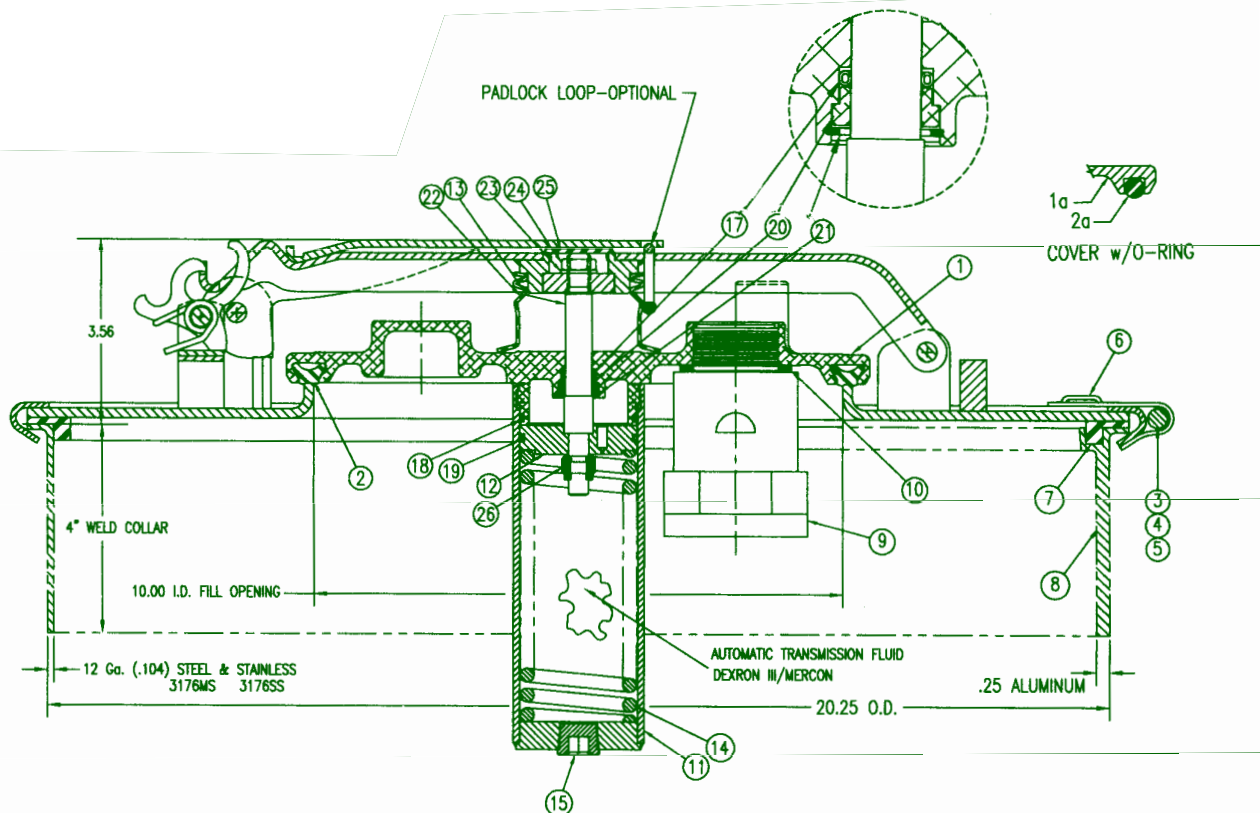
** See Normal Vent Spec. Section 86 Page 15A

Gasket Maximum Temperature	
Buna N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

* See Section 81 Page 4 for Relief Valve Parts List and Maintenance Instructions.

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" PAF406-98 Manhole



No.	Description	Material	Part No.
1	Fill Cover	Alum/E-Coated	8297ALEY
1a	Fill Cover (O-Ring Grvd.)	Alum/E-Coated	8297ALEY389
2	Gasket - Integral Relief Valve	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	3902TS
3	Bolt-Clamp Ring	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
4	Nut-Clamp Ring	Brass	3030BR
		Stnls 304	9Q5809
5	Washer-Clamp Ring	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL
6	Clamping Ring	Steel	3036MS
		Steel Zinc Plt.	3036ZC
		Stnls 304	3036SL
7	Manhole Gasket Channel type	Buna-N	3560BN
		Viton	3560VT
		Wh. Hypalon	3560WH
		Teflon Env. w/Wh. Hypalon	3033TF
8	Manhole Collar Channel type	Steel	3176MS
		Aluminum	3176AE
		Stnls 304	3176SL
		Stnls 316	3176SS

No.	Description	Material	Part No.
9	Vent Assembly	Aluminum	6496ALB
10	Gasket	Buna-N	3716BN
11	Cylinder Assembly	Aluminum	6657AL
12	Piston	Aluminum	6654AL
13	Stern	Stnls 304	6688SL
14	Spring	Steel	4122MS
15	1/2" NPT Plug Zinc Plt.	Steel Zinc Plt.	9V4907
17	Stern O-Ring -112	Buna-N	4118BN
18	Cylinder O-Ring-137	Buna-N	4015BN
19	Piston O-Ring-137	Tef-Sil	4015TS
20	O-Ring Retainer	Alum/E-Coated	4117ALEY
21	Retainer Ring	Stnls 304	9Q4961
22	Bellows	EPDM	4020EPDM
23	Lockwasher Ext. Tooth 7/16"	Stnls 304	9Q5961
24	Nut Hex 7/16x20	Stnls 304	9Q5960
25	Plastic Plug	Polyethylene	9Z6163
26	3/8-16 Hex Nut W/ Insert	Steel Zinc Plt.	9Q5896

Gasket Maximum Temperature

Buna N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

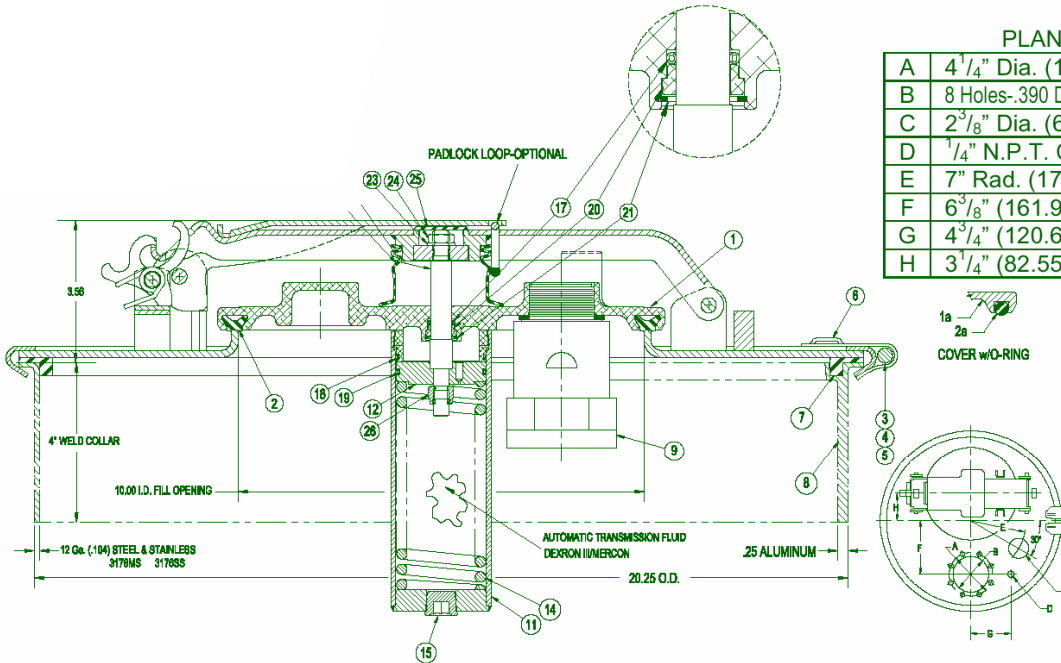
Replace oil in cylinder using Automatic Transmission Fluid Dexron III/Mercon, SAE 5W-20 with viscosity of 177 SUS at 100°F and a pour point of no greater than -45°F.

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency to insure 10" Integral Relief Valve functions properly. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness to insure a liquid tight seal is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Consult PAF406-98 maintenance manual prior to disassembly of this relief valve.

Use only genuine BETTS INDUSTRIES, INC. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" PAF406-98 Offset Manhole



PLAN VIEW DIMENSIONS

A	4 1/4" Dia. (107.95mm)
B	8 Holes-.390 Dia. (9.90mm) on 4 1/8" (123.83mm) B.C.
C	2 3/8" Dia. (60.325mm) Hole
D	1/4" N.P.T. Coupling
E	7" Rad. (177.8mm)
F	6 3/8" (161.93mm)
G	4 1/4" (120.65mm)
H	3 1/4" (82.55mm)

No.	Description	Material	Part No.
1	Fill Cover	Alum/E-Coated	8297ALEY
1a	Fill Cover (O-Ring Grvd.)	Alum/E-Coated	8297ALEY389
2	Gasket - Integral Relief Valve	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	3902TS
3	Bolt-Clamp Ring	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
4	Nut-Clamp Ring	Brass	3030BR
		Stnls 304	9Q5809
5	Washer-Clamp Ring	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL
6	Clamping Ring	Steel	3036MS
		Steel Zinc Plt.	3036ZC
		Stnls 304	3036SL
7	Manhole Gasket Channel Type	Buna-N	3560BN
		Viton	3560VT
		Wh. Hypalon	3560WH
		Teflon Env. w/ Wh. Hypalon	3033TF
8	Manhole Collar Channel Type	Steel	3176MS
		Aluminum	3176AE
		Stnls 304	3176SL
		Stnls 316	3176SS

No.	Description	Material	Part No.
9	Vent Assembly	Aluminum	6496ALB
10	Gasket	Buna-N	3716BN
11	Cylinder Assembly	Aluminum	6657AL
12	Piston	Aluminum	6654AL
13	Stem	Stnls 304	6688SL
14	Spring	Steel	4122MS
15	1/2" NPT Plug Zinc Plt.	Steel Zinc Plt.	9V4907
17	Stem O-Ring -112	Buna-N	4118BN
18	Cylinder O-Ring -137	Buna-N	4015BN
19	Piston O-Ring -137	Tef-Sil	4015TS
20	O-Ring Retainer	Alum/E-Coated	4117ALEY
21	Retainer Ring	Stnls 304	9Q4961
22	Bellows	EPDM	4020EPDM
23	Lockwasher Ext. Tooth 1/16"	Stnls 304	9Q5961
24	Nut Hex 1/16X20	Stnls 304	9Q5960
25	Plastic Plug	Polyethylene	9Z6163
26	3/8-16 Hex Nut w/ Insert	Steel Zinc Plt.	9Q5896

Gasket Maximum Temperature

Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

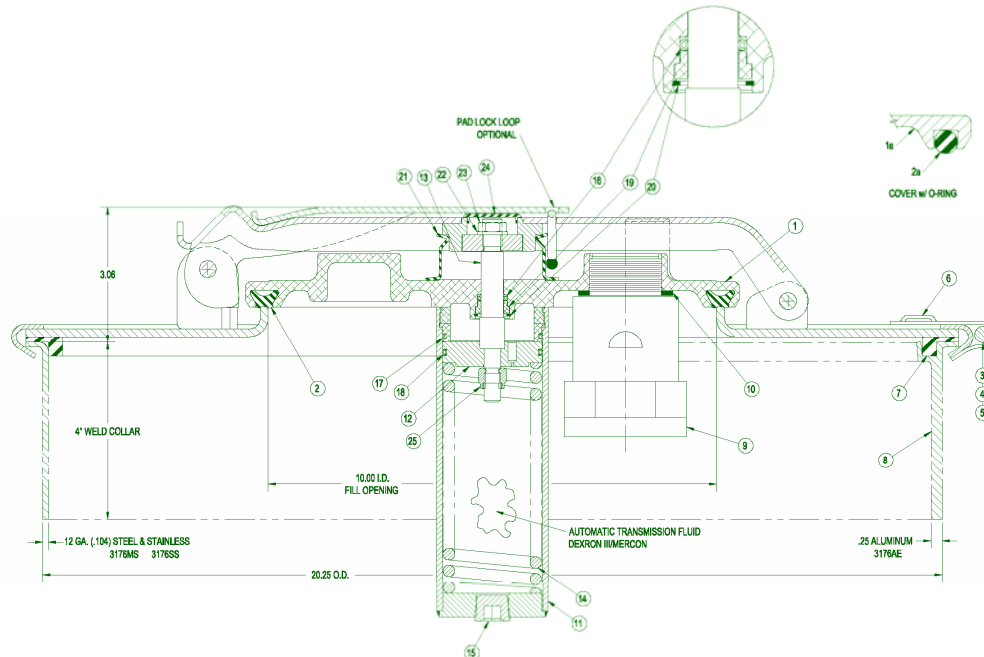
Replace oil cylinder using Automatic Transmission Fluid Dexron III/Mercon, SAE 5W-20 with viscosity of 177 SUS at 100°F and a pour point of no greater than -45°F.

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency to insure 10" Integral Relief Valve functions properly. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness to insure a liquid tight seal is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Consult PAF406-98 maintenance manual prior to disassembly of this relief valve.

Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" PAF306-98 Manhole with Integral Relief Valve



No.	Description	Material	Part No.
1	Fill Cover	Alum/E-Coated	8317ALEY
1a	Fill Cover (O-Ring Grvd.)	Alum/E-Coated	8317ALEY389
2	Gasket - Integral Relief Valve	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	3902TS
3	Bolt-Clamp Ring	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
4	Nut-Clamp Ring	Brass	3030BR
		Stnls 304	9Q5809
5	Washer-Clamp Ring	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL
6	Clamping Ring	Steel	3036MS
		Steel Zinc Plt.	3036ZC
		Stnls 304	3036SL
7	Manhole Gasket Channel Type	Buna-N	3560BN
		Viton	3560VT
		Wh. Hypalon	3560WH
		Teflon Env. w/ Wh. Hypalon	3033TF
8	Manhole Collar Channel Type	Steel	3176MS
		Aluminum	3176AE
		Stnls 304	3176SL
		Stnls 316	3176SS

No.	Description	Material	Part No.
9	Vent Assembly	Aluminum	6238ALB
10	Gasket	Buna-N	3716BN
11	Cylinder Assembly	Aluminum	6657AL
12	Piston	Aluminum	6654AL
13	Stem	Stnls 303	6720SL
14	Spring	Steel	4173MS
15	1/2" NPT Plug Zinc Plt.	Steel Zinc Plt.	9V4907
16	Stem O-Ring -112	Buna-N	4118BN
17	Cylinder O-Ring -137	Buna-N	4015BN
18	Piston O-Ring -137	Tef-Sil	4015TS
19	O-Ring Retainer	Alum/E-Coated	4117ALEY
20	Retainer Ring	Stnls 304	9Q4961
21	Bellows	BUNA	3998BU
22	Lockwasher Ext. Tooth 1/16"	Stnls 304	9Q5961
23	Nut Hex 1/16x20	Stnls 304	9Q5960
24	Plastic Plug	Polyethylene	9Z6163
25	3/8-16 Hex Nut w/ Insert	Steel Zinc Plt.	9Q5896

Gasket Maximum Temperature

Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

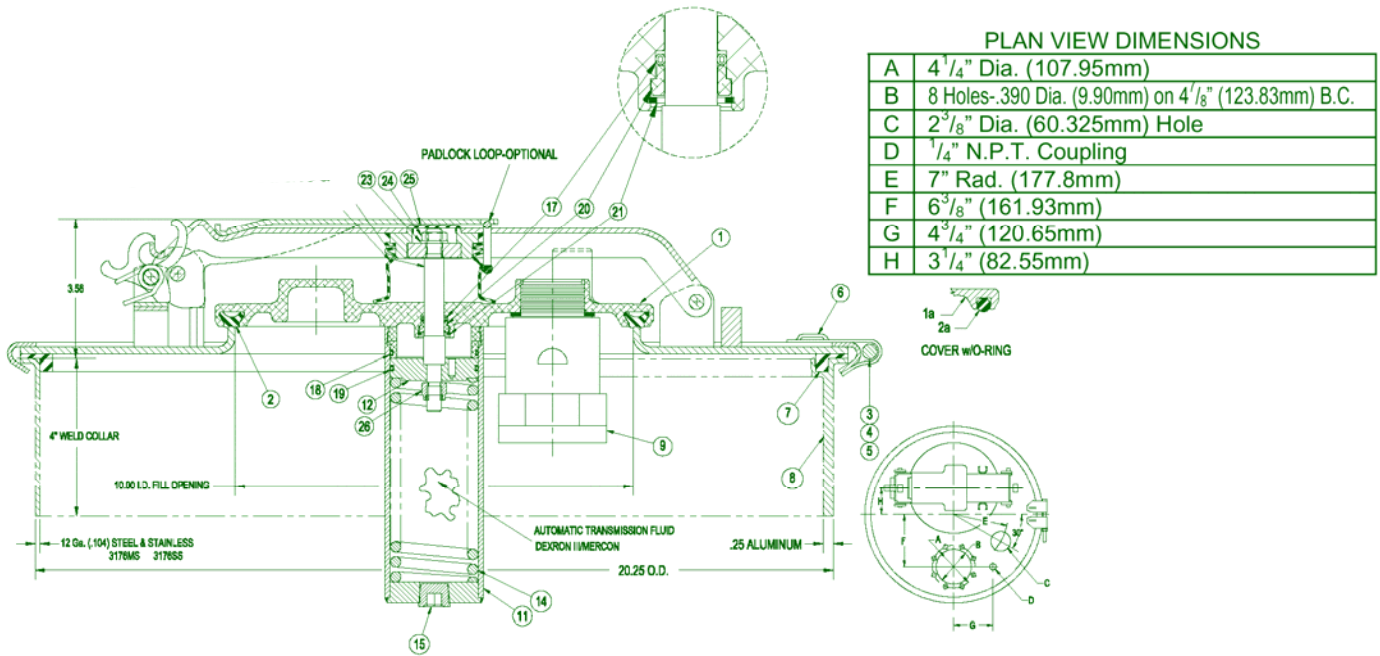
Replace oil cylinder using Automatic Transmission Fluid Dexron III/Mercon, SAE 5W-20 with viscosity of 177 SUS at 100°F and a pour point of no greater than -45°F.

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency to insure 10" Integral Relief Valve functions properly. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness to insure a liquid tight seal is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Consult PAF406-98 maintenance manual prior to disassembly of this relief valve.

Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" PAF306-98 Offset Manhole with Integral Relief Valve Self-Latching Model Shown



No.	Description	Material	Part No.
1	Fill Cover	Alum/E-Coated	8297ALEY
1a	Fill Cover (O-Ring Grvd.)	Alum/E-Coated	8297ALEY389
2	Gasket - Integral Relief Valve	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	3902TS
3	Bolt-Clamp Ring	Steel Zinc Plt.	3029ZC
		Stnls 304	3029SL
4	Nut-Clamp Ring	Brass	3030BR
		Stnls 304	9Q5809
5	Washer-Clamp Ring	Steel Zinc Plt.	3031ZC
		Stnls 304	3031SL
6	Clamping Ring	Steel	3036MS
		Steel Zinc Plt.	3036ZC
		Stnls 304	3036SL
7	Manhole Gasket Channel Type	Buna-N	3560BN
		Viton	3560VT
		Wh. Hypalon	3560WH
		Teflon Env. w/ Wh. Hypalon	3033TF
8	Manhole Collar Channel Type	Steel	3176MS
		Aluminum	3176AE
		Stnls 304	3176SL
		Stnls 316	3176SS

No.	Description	Material	Part No.
9	Vent Assembly	Aluminum	6496ALB
10	Gasket	Buna-N	3716BN
11	Cylinder Assembly	Aluminum	6657AL
12	Piston	Aluminum	6654AL
13	Stem	Stnls 304	6688SL
14	Spring	Steel	4122MS
15	1/2" NPT Plug Zinc Plt.	Steel Zinc Plt.	9V4907
17	Stem O-Ring -112	Buna-N	4118BN
18	Cylinder O-Ring -137	Buna-N	4015BN
19	Piston O-Ring -137	Tef-Sil	4015TS
20	O-Ring Retainer	Alum/E-Coated	4117ALEY
21	Retainer Ring	Stnls 304	9Q4961
22	Bellows	EPDM	4020EPDM
23	Lockwasher Ext. Tooth 1/16"	Stnls 304	9Q5961
24	Nut Hex 1/16x20	Stnls 304	9Q5960
25	Plastic Plug	Polyethylene	9Z6163
26	3/8-16 Hex Nut w/ Insert	Steel Zinc Plt.	9Q5896

Gasket Maximum Temperature

Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Teflon-Silicone	400°F
Teflon Envelope w/ White Hypalon Insert	250°F

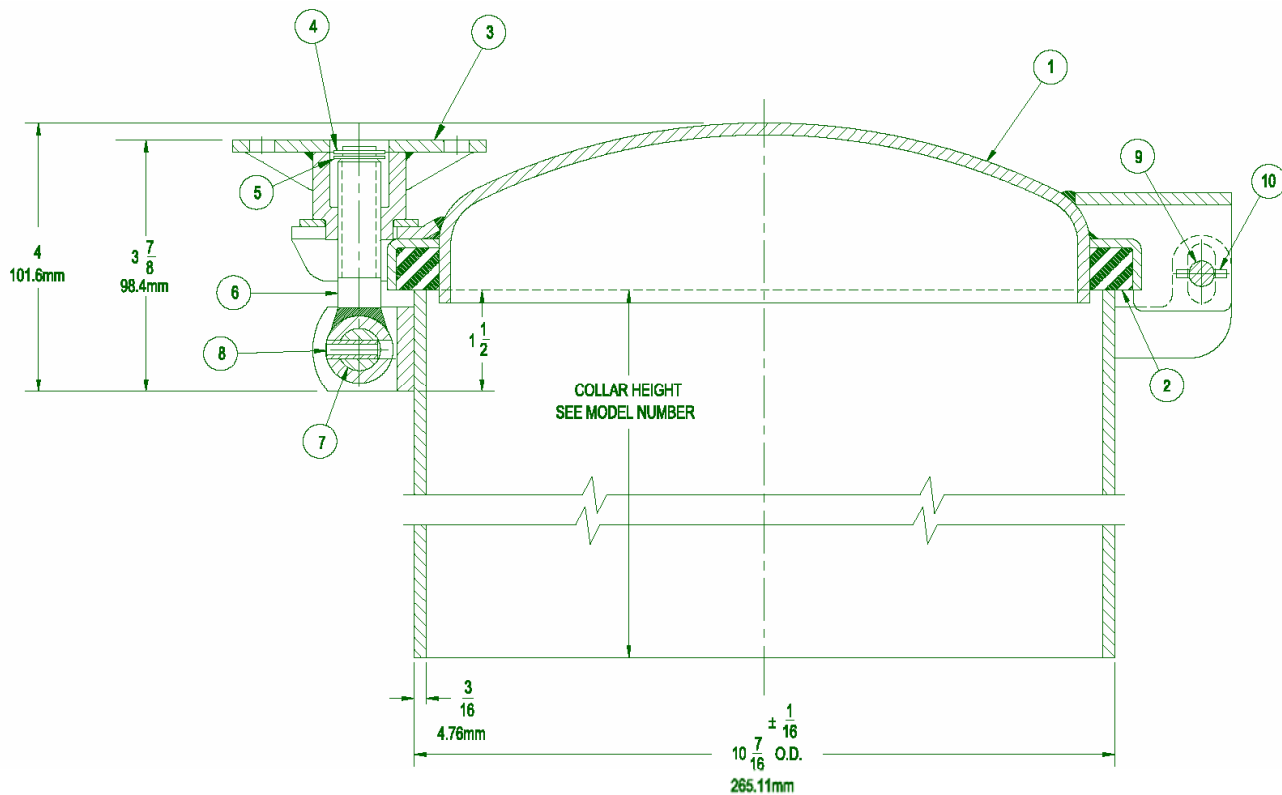
Replace oil cylinder using Automatic Transmission Fluid Dexron III/Mercon, SAE 5W-20 with viscosity of 177 SUS at 100°F and a pour point of no greater than -45°F.

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency to insure 10" Integral Relief Valve functions properly. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness to insure a liquid tight seal is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Consult PAF406-98 maintenance manual prior to disassembly of this relief valve.

Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 10" Pressure Fill Model 8370



No.	Description	Material	Part No.
1	Cover	Steel	6411FB
		Stnls 316L	6411LC
2	Gasket*	B Buna-N	3567BN
		V Viton	3567VT
		W White Hypalon	3567WH
		White Non-Asbestos with Teflon	3567NT
		Suspensoid (Woven)	

No.	Description	Material	Part No.
3	Wing Nut	Stnls 304	3576SL
4	Snap Ring	Stnls 304	9Q4933
5	Snap Ring Washer	Stnls 304	3575SL
6	Swing Bolt	Stnls 304	3765SL
7	Swing Bolt Pin	Stnls 304	3086SL
8	Roll Pin-Swg Bolt	Stnls 304	9Q8593
9	Hinge Pin	Stnls 304	3618SL
10	Roll Pin-Hinge Pin	Stnls 304	9Q8601

***Gasket Maximum Temperature**

Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
Pure Teflon	500°F
White Non-Asbestos with Teflon Suspensoid	500°F

GASKETS:

Check the condition of all gaskets and replace if their effectiveness as a seal is impaired in any way. Replacement gaskets must be compatible with products carried.

MAINTENANCE:

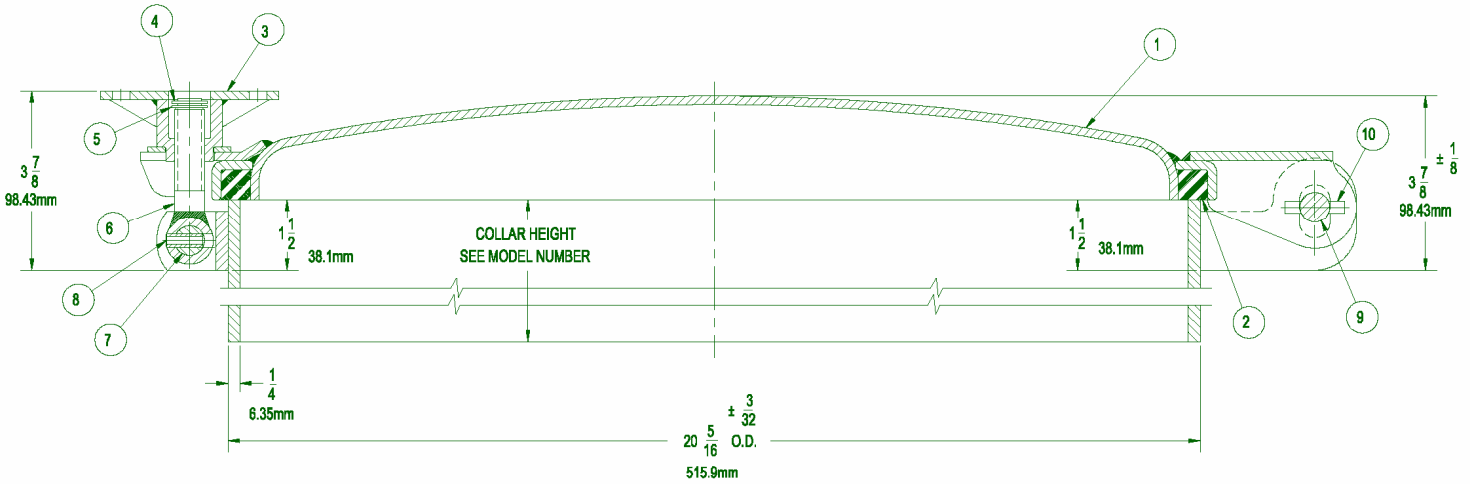
Manhole assembly should be inspected with sufficient frequency and with due regard to the products carried to insure a liquid tight closure. Any worn, damaged, or missing parts must be replaced.

WING NUTS AND SWING BOLTS:

All swing bolt and wing nut assemblies must be secured to the cover and tightened to insure the pressure and product retention performance of the manhole assembly.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" Full Opening Manhole Model 8310



No.	Description	Material	Part No.
1	Cover	Steel	6381MS
		Stnls 316L	6381LC
2	Gasket*	B Buna-N	3513BN
		V Viton	3513VT
		W White Hypalon	3513WH
		E White Non-Asbestos with Teflon Suspensoid (Woven)	3513NT

No.	Description	Material	Part No.
3	Wing Nut	Stnls 304	3576SL
4	Snap Ring	Stnls 304	9Q4933
5	Snap Ring Washer	Stnls 304	3575SL
6	Swing Bolt	Stnls 304	3765SL
7	Swing Bolt Pin	Stnls 304	3086SL
8	Roll Pin-Swg Bolt	Stnls 304	9Q8593
9	Hinge Pin	Stnls 304	3618SL
10	Roll Pin-Hinge Pin	Stnls 304	9Q8594

*Gasket Maximum Temperature
 Buna-N (Nitrile) _____ 250°F
 Viton _____ 400°F
 White Hypalon _____ 250°F
 White Non-Asbestos _____ 500°F
 with Teflon Suspensoid

GASKETS:
 Check the condition of all gaskets and replace if their effectiveness as a seal is impaired in any way. Replacement gaskets must be compatible with products carried.

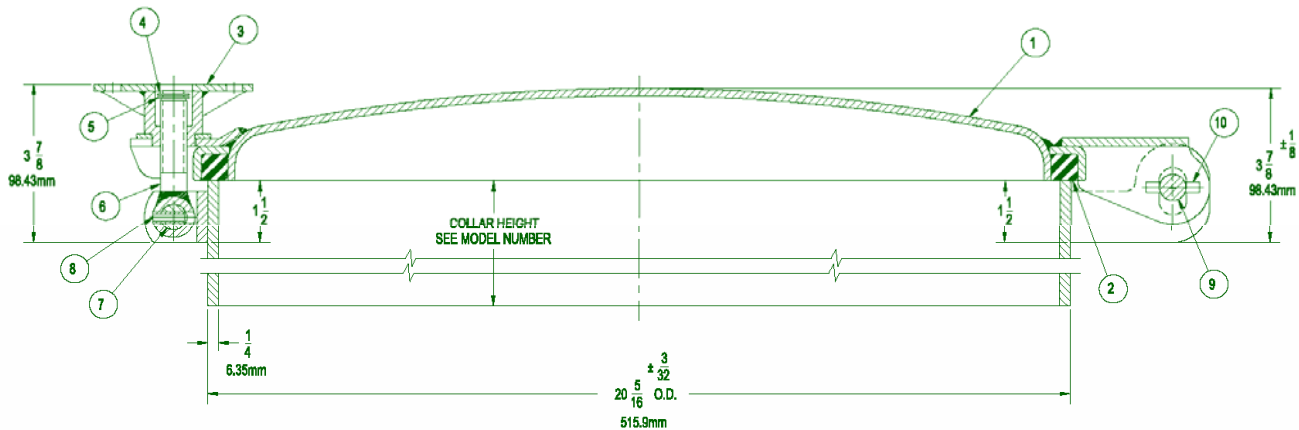
MAINTENANCE:
 Manhole assembly should be inspected with sufficient frequency and with due regard to the products carried to insure a liquid tight closure. Any worn, damaged, or missing parts must be replaced.

WING NUTS AND SWING BOLTS:
 All swing bolt and wing nut assemblies must be secured to the cover and tightened to insure the pressure and product retention performance of the manhole assembly.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" Full Opening Manhole Model 8327

20" (508mm) FULL OPENING MANHOLE



No.	Description	Material	Part No.
1	Cover	Steel	6403MS
		Stnls 316L	6403LC
2	Gasket*	B Buna-N	3513BN
		V Viton	3513VT
		W White Hypalon	3513WH
		E White Non-Asbestos with Teflon Suspensoid (Woven)	3513NT

No.	Description	Material	Part No.
3	Wing Nut	Stnls 304	3576SL
4	Snap Ring	Stnls 304	9Q4933
5	Snap Ring Washer	Stnls 304	3575SL
6	Swing Bolt	Stnls 304	3765SL
7	Swing Bolt Pin	Stnls 304	3086SL
8	Roll Pin-Swg Bolt	Stnls 304	9Q8593
9	Hinge Pin	Stnls 304	3618SL
10	Roll Pin-Hinge Pin	Stnls 304	9Q8594

*Gasket Maximum Temperature

Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
White Non-Asbestos with Teflon Suspensoid	500°F

GASKETS:

Check the condition of all gaskets and replace if their effectiveness as a seal is impaired in any way. Replacement gaskets must be compatible with products carried.

MAINTENANCE:

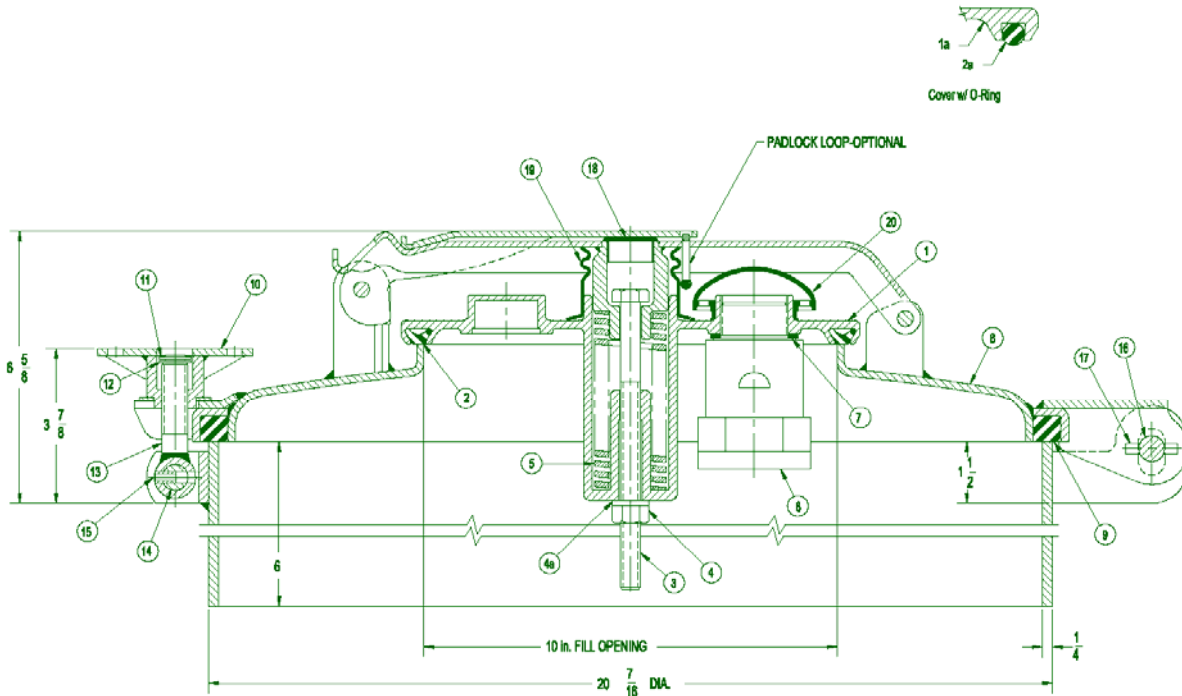
Manhole assembly should be inspected with sufficient frequency and with due regard to the products carried to insure a liquid tight closure. Any worn, damaged, or missing parts must be replaced.

WING NUTS AND SWING BOLTS:

All swing bolt and wing nut assemblies must be secured to the cover and tightened to insure the pressure and product retention performance of the manhole assembly.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" Full Opening Manhole with 10" Relief Model 9730



No.	Description	Material	Part No.
1	Cover-Relief Valve	Aluminum	8241AL
1a	Cover (O-Ring Grvd)	Aluminum	8246AL
2	Gasket-Relief Valve	Buna-N	3119BN
		Viton	3119VT
		Wh. Hypalon	3119WH
2a	O-Ring	Tef-Sil	3902TS
3	Bolt	Stnls 304	3876SL
4	Hex Nut 1/2-13 Thd.	Steel Zinc Plt.	9Q5812
		Stnls 304	9Q5853
4a	Washer	Stnls 304	3575SL
5	Spring	Van Steel	3859EY
6	Vent Assembly	Alum/Stnls	6238AL
7	Gasket	Viton	3716VT

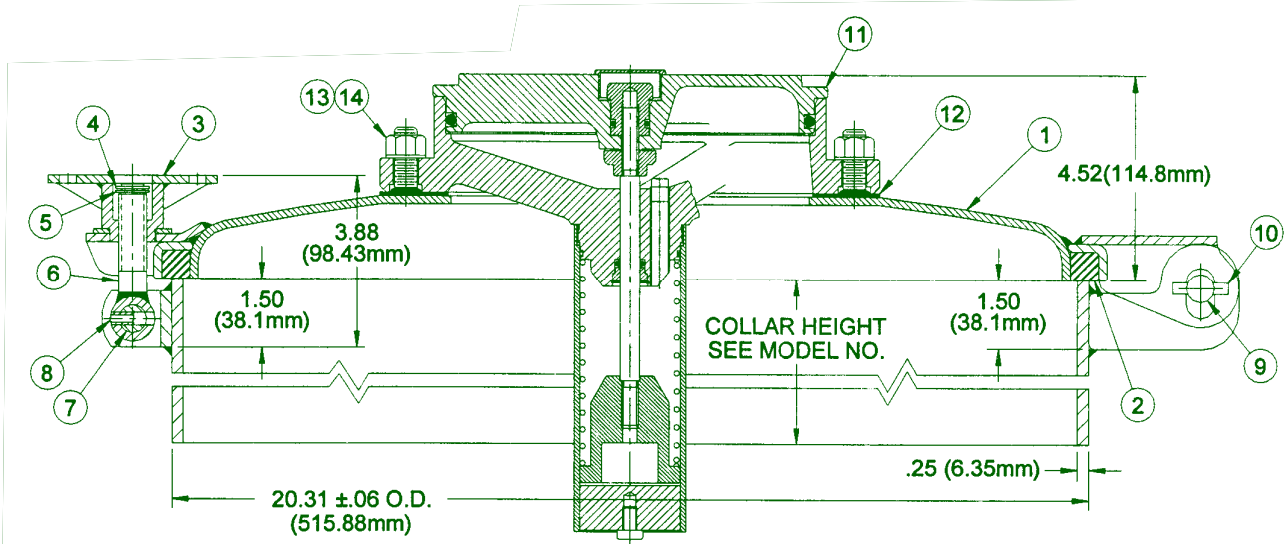
Gasket Maximum Temperature	
Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
White Non-Asbestos	500°F
with Teflon Suspensoid	
Teflon-Silicone	400°F

No.	Description	Material	Part No.
8	Cover Assembly	Steel	6438MS
		Stnls 316	6438SS
9	Gasket	B	Buna-N
		V	Viton
		W	Wh. Hypalon
		E	White Non-Asbestos with Teflon Suspensoid (Woven)
			3513NT
10	Wing Nut	Stnls 304	3576SL
11	Snap Ring	Stnls 304	9Q4933
12	Snap Ring Washer	Stnls 304	3575SL
13	Swing Bolt	Stnls 304	3765SL
14	Swing Bolt Pin	Stnls 304	3086SL
15	Roll Pin-Hinge Pin	Stnls 304	9Q8593
16	Hinge Pin	Stnls 304	3818SL
17	Roll Pin-Hinge Pin	Stnls 304	9Q8594
18	Plastic Cap	Polyethylene	9Z6150
19	Bellows	Buna-Urethane	4020BU
20	Weather Cap	Buna-Urethane	19148BU

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency and due regard to the products carried to insure a liquid tight closure. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness is impaired in any way. Replacement gaskets must be compatible with products carried.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" Full Opening Manhole with 8" Relief Valve Model 8311



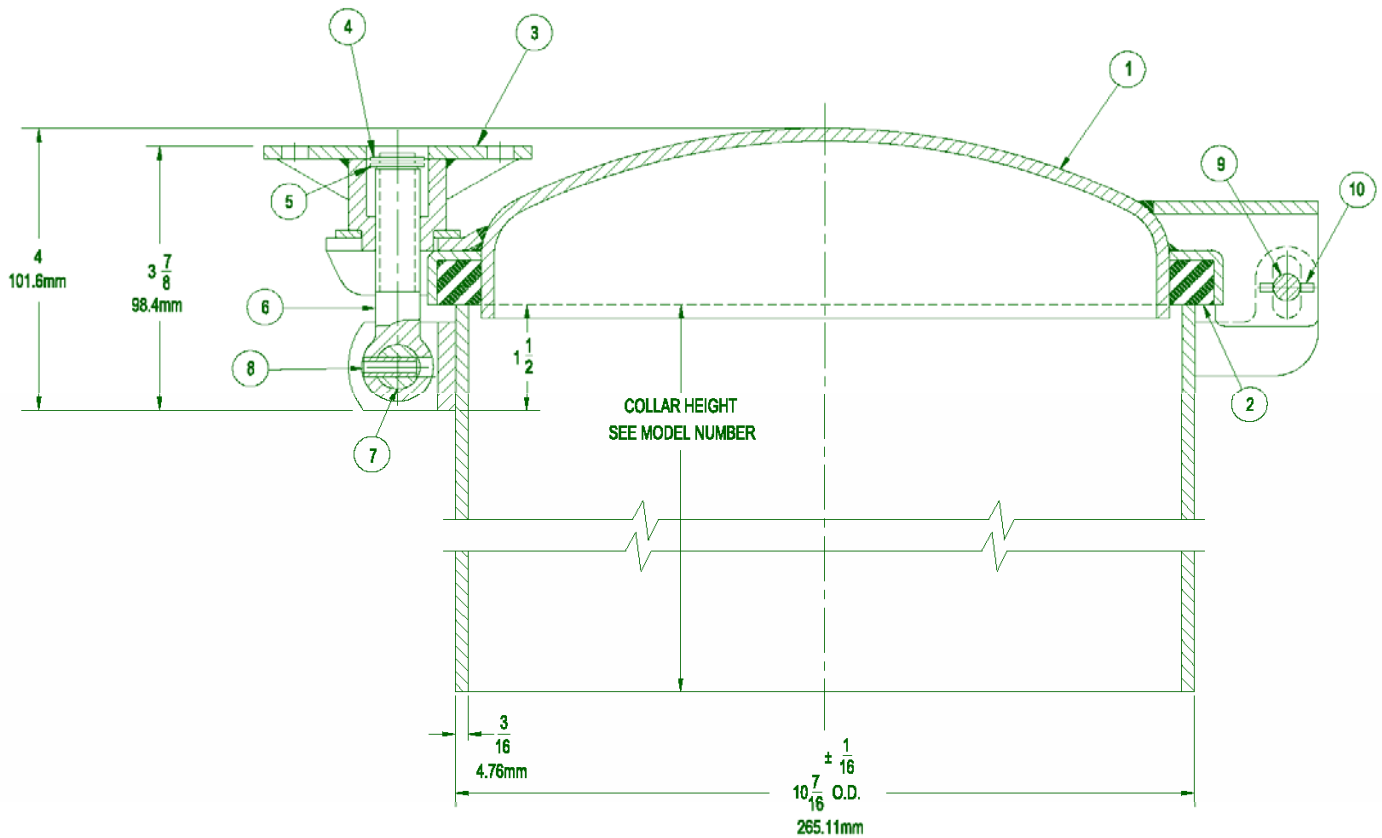
No.	Description	Material	Part No.
1	COVER ASSEMBLY	STEEL	6668MS
		316L STAINLESS	6668LC
2	GASKET – MANHOLE	B BUNA-N	3513BN
		V VITON	3513VT
		W WHITE HYPALON	3513WH
		E WHITE NON-ASBESTOS WITH TEFLON SUSPENSOID (WOVEN)	3513NT
3	WINGNUT	304 STNLS	3576SL
4	SNAP RING	304 STNLS	9Q4933
5	SNAP RING WASHER	304 STNLS	3575SL
6	SWING BOLT	304 STNLS	3765SL
7	SWING BOLT PIN	304 STNLS	3086SL
8	ROLL PIN - SWING BOLT	304 STNLS	9Q8593
9	HINGE PIN	304 STNLS	3818SL
10	ROLL PIN - HINGE PIN	304 STNLS	9Q8594
11	8" SURGE SUPPRESSION RELIEF VALVE	ALUMINUM, EPOXY COATED	8277ALTS
12	* GASKET – SURGE VALVE	BUNA-N	4093CB
		TEFLON ENVELOP / NON-ASBESTOS	4093TF
13	1/2 -13 NUT	STEEL ZINC PLATED	9Q5872
		304 STNLS	9Q5873
14	1/2 FLAT WASHER	STEEL ZINC PLATED	9Q9345
		304 STNLS	9Q8224

Gasket Maximum Temperature
 Buna-N (Nitrile).....250°F
 Viton.....400°F
 White Hypalon.....250°F
 White Non-Asbestos.....500°F
 with Teflon Suspensoid
 Teflon-Silicone.....400°F

* 4093CB SURGE VALVE GASKET STANDARD WITH BUNA-N COLLAR GASKET. 4093TF STANDARD WITH OTHER MATERIALS.

MAINTENANCE: Manhole assemblies should be inspected with sufficient frequency and due regard to the products carried to insure a liquid tight closure. Any worn, damaged or missing parts must be replaced. Gaskets should be replaced if their effectiveness is impaired in any way. Replacement gasket must be compatible with products carried.

Betts 10" Pressure Fill Model 8368 & Model 8369



No.	Description	Material	Part No.
1	Cover	Steel	6411FB
		Stnls 316L	6411LC
2	Gasket*	B Buna-N	3567BN
		V Viton	3567VT
		W White Hypalon	3567WH
		E White Non-Asbestos with Teflon Suspensoid (Woven)	3567NT

No.	Description	Material	Part No.
3	Wing Nut	Stnls 304	3576SL
4	Snap Ring	Stnls 304	9Q4933
5	Snap Ring Washer	Stnls 304	3575SL
6	Swing Bolt	Stnls 17/4 PH	4102SF
7	Swing Bolt Pin	Stnls 304	3086SL
8	Roll Pin-Swg Bolt	Stnls 304	9Q8593
9	Hinge Pin	Stnls 304	3618SL
10	Roll Pin-Hinge Pin	Stnls 304	9Q8601

***Gasket Maximum Temperature**

- Buna-N (Nitrile) _____ 250°F
- Viton _____ 400°F
- White Hypalon _____ 250°F
- Pure Teflon _____ 500°F
- White Non-Asbestos _____ 500°F
- with Teflon Suspensoid

GASKETS:

Check the condition of all gaskets and replace if their effectiveness as a seal is impaired in any way. Replacement gaskets must be compatible with products carried.

MAINTENANCE:

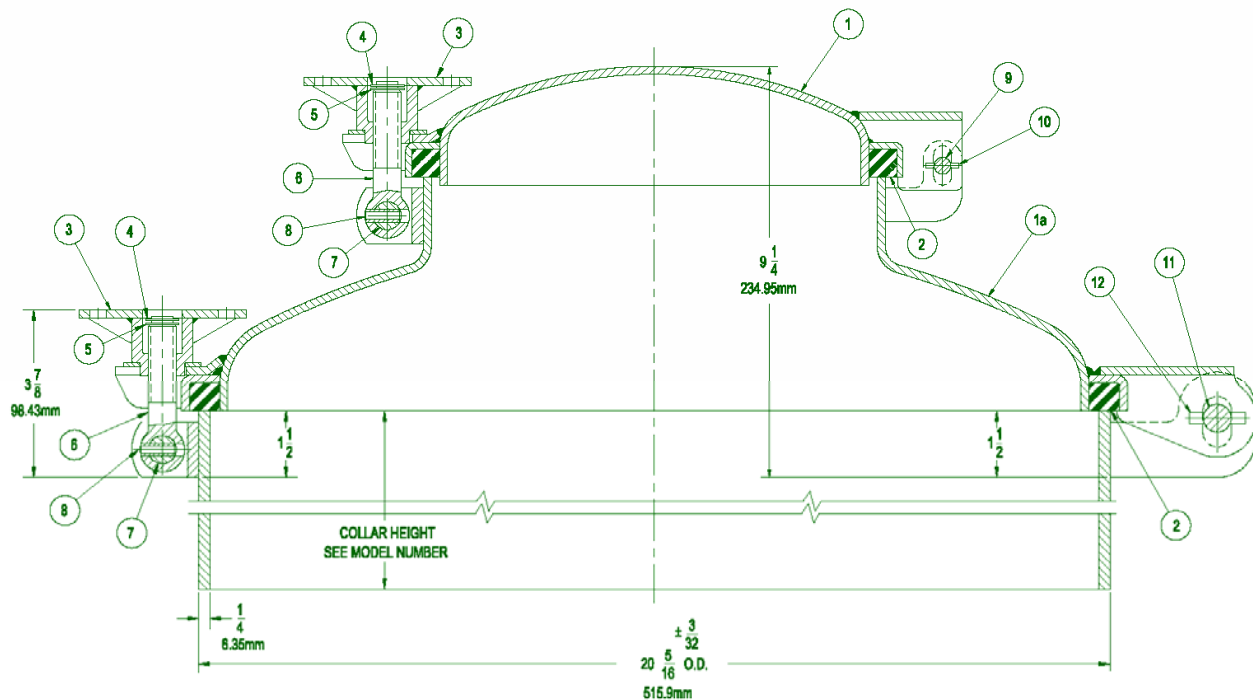
Manhole assembly should be inspected with sufficient frequency and with due regard to the products carried to insure a liquid tight closure. Any worn, damaged, or missing parts must be replaced.

WING NUTS AND SWING BOLTS:

All swing bolt and wing nut assemblies must be secured to the cover and tightened to insure the pressure and product retention performance of the manhole assembly.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" Full Opening Manhole with 10" Fill Model 8387



No.	Description	Material	Part No. Fill	Part No. Manhole
1	Cover (3 Hold Downs)	Steel	6411FB	
		Stnls 316L	6411LC	
1a	Cover (6 Hold Downs)	Steel		6414FB
		Stnls 316L		6414LC
2	Gasket*	B Buna-N	3567BN	3513BN
		V Viton	3567VT	3513VT
		W White Hypalon	3567WH	3513WH
		E White Non-Asbestos With Teflon Suspensoid (Woven)	3567NT	3513NT

No.	Description	Material	Part No.
3	Wing Nut	Stnls 304	3576SL
4	Snap Ring	Stnls 304	9Q4933
5	Snap Ring Washer	Stnls 304	3575SL
6	Swing Bolt	Stnls 17/4 PH	4102SF
7	Swing Bolt Pin	Stnls 304	3086SL
8	Roll Pin-Swg Bolt	Stnls 304	9Q8593
9	Hinge Pin	Stnls 304	3618SL
10	Roll Pin-Hinge Pin	Stnls 304	9Q8601
11	Hinge Pin	Stnls 304	3818SL
12	Roll Pin-Hinge Pin	Stnls 304	9Q8594

***Gasket Maximum Temperature**

Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
White Non-Asbestos with Teflon Suspensoid	500°F

GASKETS:

Check the condition of all gaskets and replace if their effectiveness as a seal is impaired in any way. Replacement gaskets must be compatible with products carried.

MAINTENANCE:

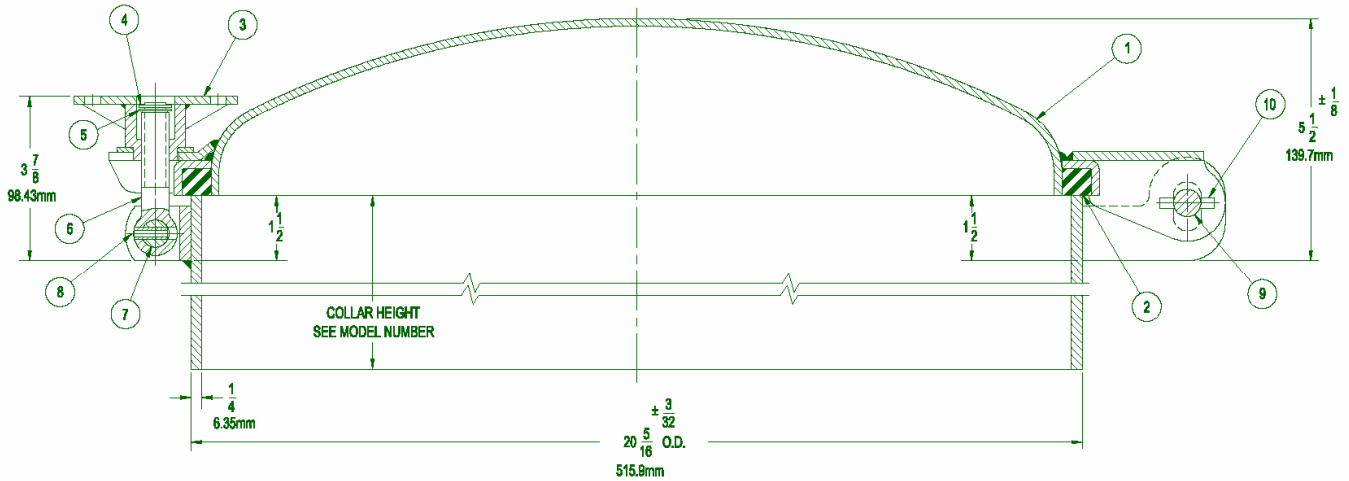
Manhole assembly should be inspected with sufficient frequency and with due regard to the products carried to insure a liquid tight closure. Any worn, damaged, or missing parts must be replaced.

WING NUTS AND SWING BOLTS:

All swing bolt and wing nut assemblies must be secured to the cover and tightened to insure the pressure and product retention performance of the manhole assembly.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" Full Opening Manhole Model 8350



No.	Description	Material	Part No.
1	Cover	Steel	6348FB
		Stnls 316L	6348LC
2	Gasket*	B Buna-N	3513BN
		V Viton	3513VT
		W White Hypalon	3513WH
		E White Non-Asbestos with Teflon Suspensoid (Woven)	3513NT

No.	Description	Material	Part No.
3	Wing Nut	Stnls 304	3576SL
4	Snap Ring	Stnls 304	9Q4933
5	Snap Ring Washer	Stnls 304	3575SL
6	Swing Bolt	Stnls 17/4 PH	4102SF
7	Swing Bolt Pin	Stnls 304	3086SL
8	Roll Pin-Swg Bolt	Stnls 304	9Q8593
9	Hinge Pin	Stnls 304	3818SL
10	Roll Pin-Hinge Pin	Stnls 304	9Q8594

*Gasket Maximum Temperature
 Buna-N (Nitrile) _____ 250°F
 Viton _____ 400°F
 White Hypalon _____ 250°F
 White Non-Asbestos _____ 500°F
 with Teflon Suspensoid

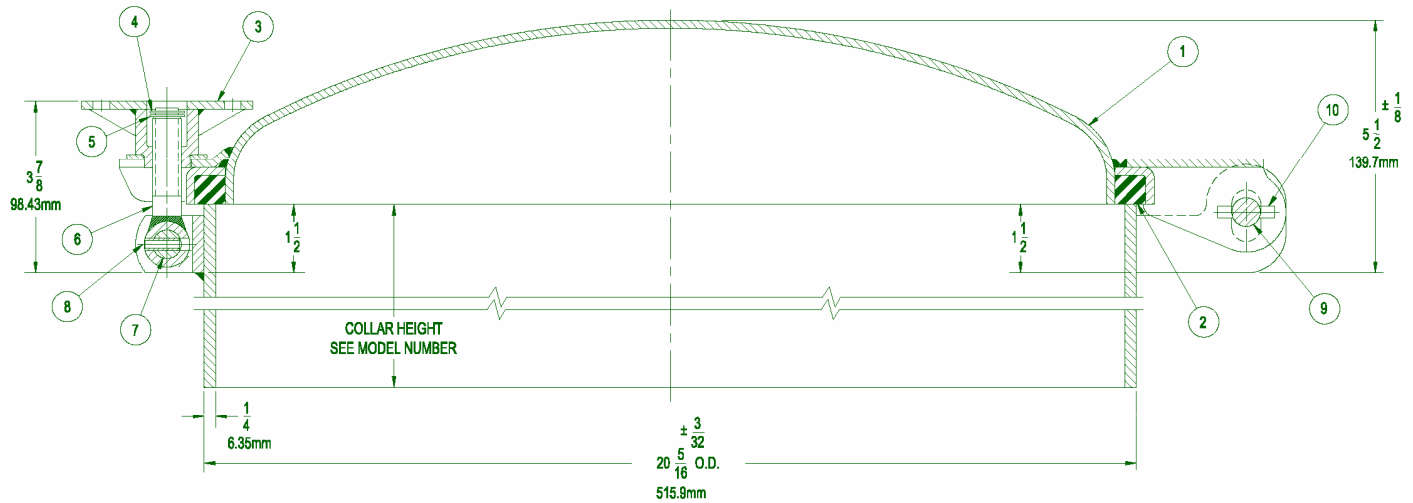
GASKETS:
 Check the condition of all gaskets and replace if their effectiveness as a seal is impaired in any way. Replacement gaskets must be compatible with products carried.

MAINTENANCE:
 Manhole assembly should be inspected with sufficient frequency and with due regard to the products carried to insure a liquid tight closure. Any worn, damaged, or missing parts must be replaced.

WING NUTS AND SWING BOLTS:
 All swing bolt and wing nut assemblies must be secured to the cover and tightened to insure the pressure and product retention performance of the manhole assembly.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" Full Opening Manhole Model 8355



No.	Description	Material	Part No.
1	Cover	Steel	6348FB
		Stnls 316L	6348LC
2	Gasket*	B Buna-N	3513BN
		V Viton	3513VT
		W White Hypalon	3513WH
		E White Non-Asbestos with Teflon Suspensoid (Woven)	3513NT

No.	Description	Material	Part No.
3	Wing Nut	Stnls 304	3576SL
4	Snap Ring	Stnls 304	9Q4933
5	Snap Ring Washer	Stnls 304	3575SL
6	Swing Bolt	Stnls 304	3765SL
7	Swing Bolt Pin	Stnls 304	3086SL
8	Roll Pin-Swg Bolt	Stnls 304	9Q8593
9	Hinge Pin	Stnls 304	3818SL
10	Roll Pin-Hinge Pin	Stnls 304	9Q8594

***Gasket Maximum Temperature**

Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
White Non-Asbestos with Teflon Suspensoid	500°F

GASKETS:

Check the condition of all gaskets and replace if their effectiveness as a seal is impaired in any way. Replacement gaskets must be compatible with products carried.

MAINTENANCE:

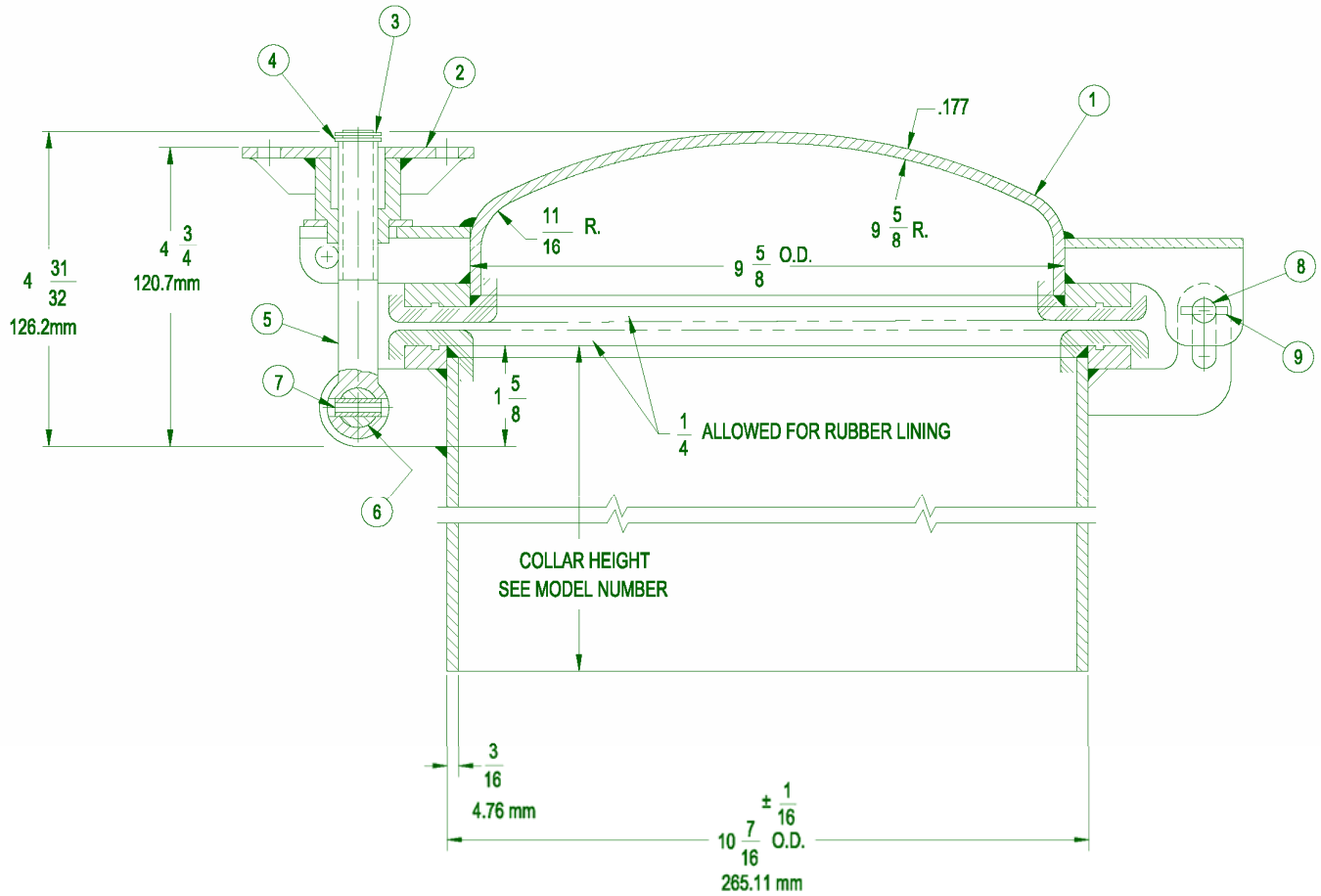
Manhole assembly should be inspected with sufficient frequency and with due regard to the products carried to insure a liquid tight closure. Any worn, damaged, or missing parts must be replaced.

WING NUTS AND SWING BOLTS:

All swing bolt and wing nut assemblies must be secured to the cover and tightened to insure the pressure and product retention performance of the manhole assembly.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 10" Pressure Fill Model 8261



No.	Description	Material	Part No.
1	Cover (4 Hold Downs)	Steel	6501FB
		Stnls 316L	6501LC
2	Wingnut	Stnls 304	3576SL
3	Snap Ring	Stnls 304	9Q4933
4	Snap Ring Washer	Stnls 304	3575SL

No.	Description	Material	Part No.
5	Swing Bolt	Stnls 17/4 PH	4119SF
6	Swing Bolt Pin	Stnls 304	3086SL
7	Roll Pin Swg. Bolt	Stnls 304	9Q8593
8	Hinge Pin	Stnls 304	3618SL
9	Roll Pin Hinge Pin	Stnls 304	9Q8601

MAINTENANCE:

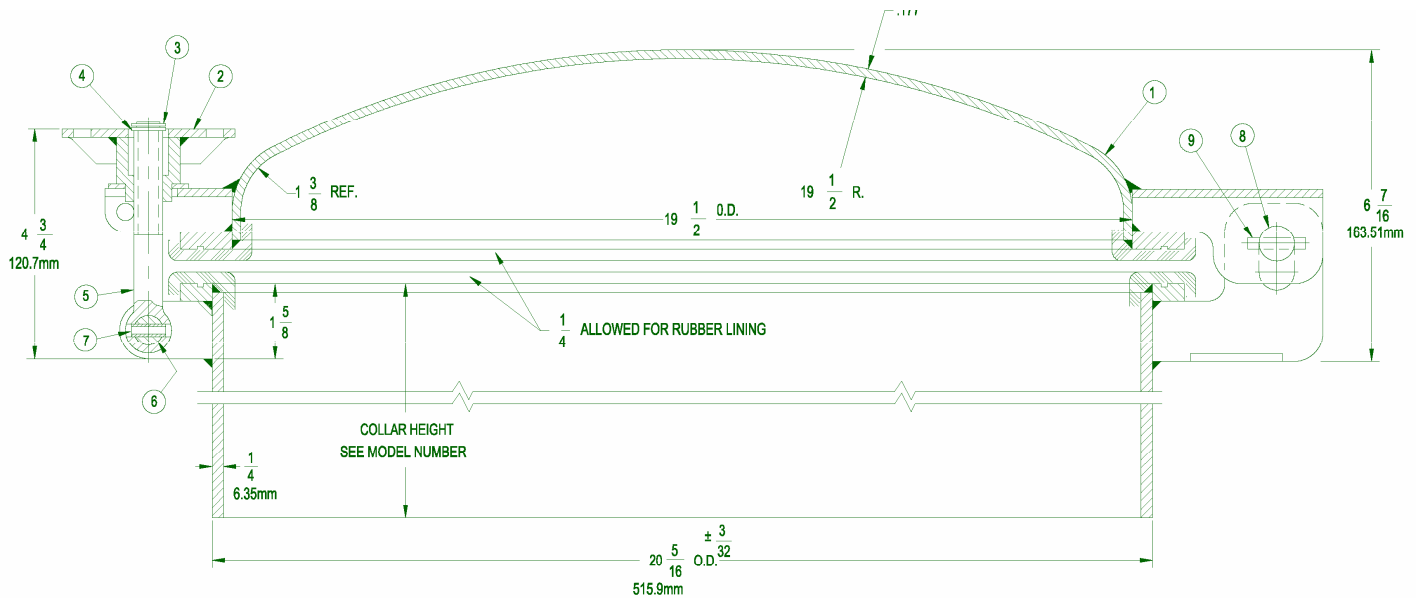
Manhole assembly should be inspected with sufficient frequency and with due regard to the products carried to insure a liquid tight closure. Any worn, damaged, or missing parts must be replaced.

WING NUTS AND SWING BOLTS:

All swing bolt and wing nut assemblies must be secured to the cover and tightened to insure the pressure and product retention performance of the manhole assembly.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" Full Opening Manhole Model 8205



No.	Description	Material	Part No.
1	Cover	Steel	6284FB
		Stnls 316L	6284LC
2	Wingnut	Stnls 304	3576SL
3	Snap Ring	Stnls 304	9Q4933
4	Snap Ring Washer	Stnls 304	3575SL

No.	Description	Material	Part No.
5	Swing Bolt	Stnls 17/4 PH	4119SF
6	Swing Bolt Pin	Stnls 304	3086SL
7	Roll Pin Swg. Bolt	Stnls 304	9Q8593
8	Hinge Pin	Stnls 304	3121SL
9	Roll Pin Hinge Pin	Stnls 304	9Q8594

MAINTENANCE:

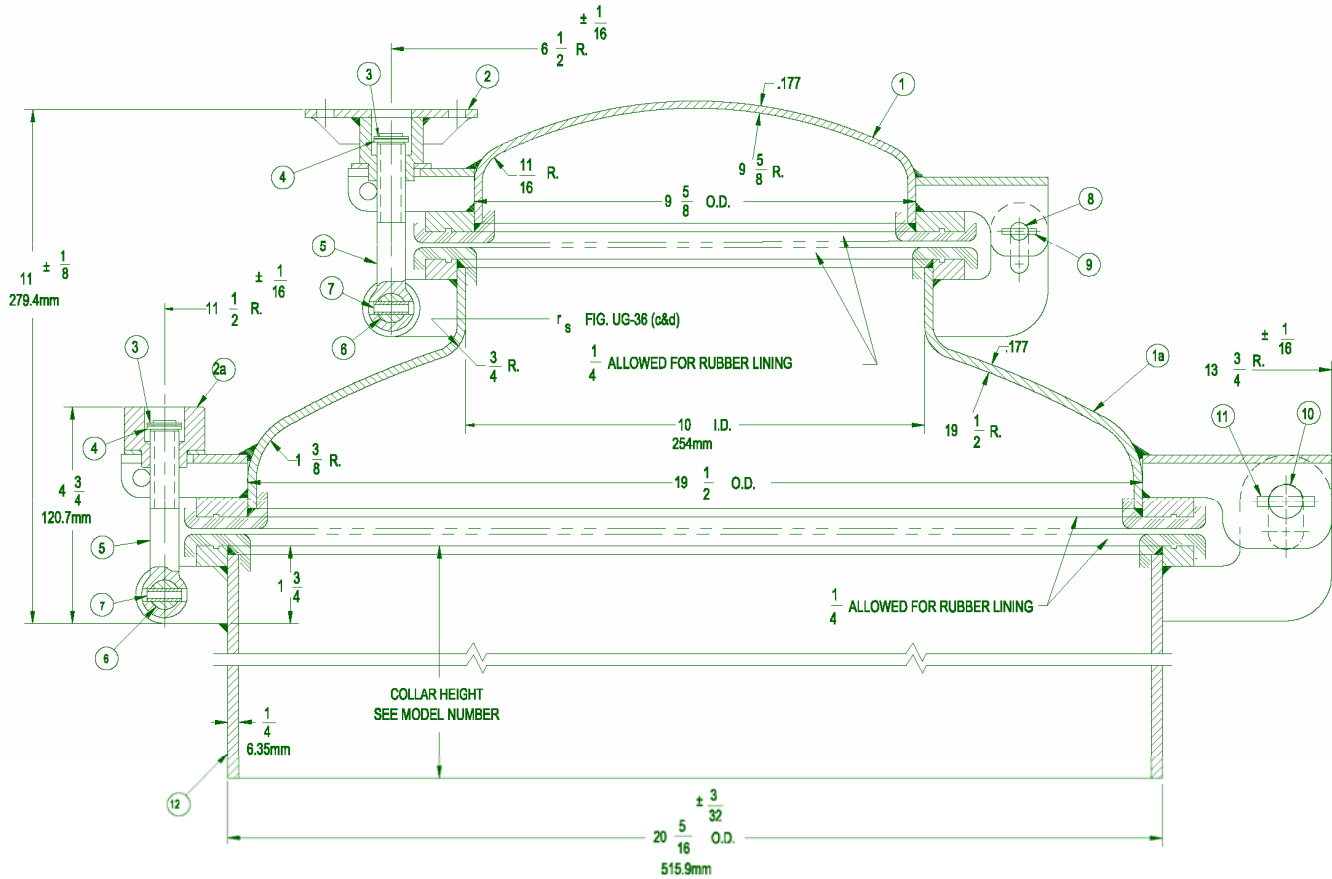
Manhole assembly should be inspected with sufficient frequency and with due regard to the products carried to insure a liquid tight closure. Any worn, damaged, or missing parts must be replaced.

WING NUTS AND SWING BOLTS:

All swing bolt and wing nut assemblies must be secured to the cover and tightened to insure the pressure and product retention performance of the manhole assembly.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" Full Opening Manhole with 10" Fill Model 8260



No.	Description	Material	Part No.
1	Cover (4 Hold Downs)	Steel	6501FB
		Stnls 316L	6501LC
1a	Cover (8 Hold Downs)	Steel	6502FB
		Stnls 316L	6502LC
2	Wingnut	Stnls 304	3576SL
2a	Hex Hold Down Nut	Stnls 304	3608SL
3	Snap Ring	Stnls 304	9Q4933
4	Snap Ring Washer	Stnls 304	3575SL

No.	Description	Material	Part No.
5	Swing Bolt	Stnls 17/4 PH	4119SF
6	Swing Bolt Pin	Stnls 304	3086SL
7	Roll Pin Swg. Bolt	Stnls 304	9Q8593
8	Hinge Pin	Stnls 304	3618SL
9	Roll Pin Hinge Pin	Stnls 304	9Q8601
10	Hinge Pin	Stnls 304	3121SL
11	Roll Pin Hinge Pin	Stnls 304	9Q8594

MAINTENANCE:

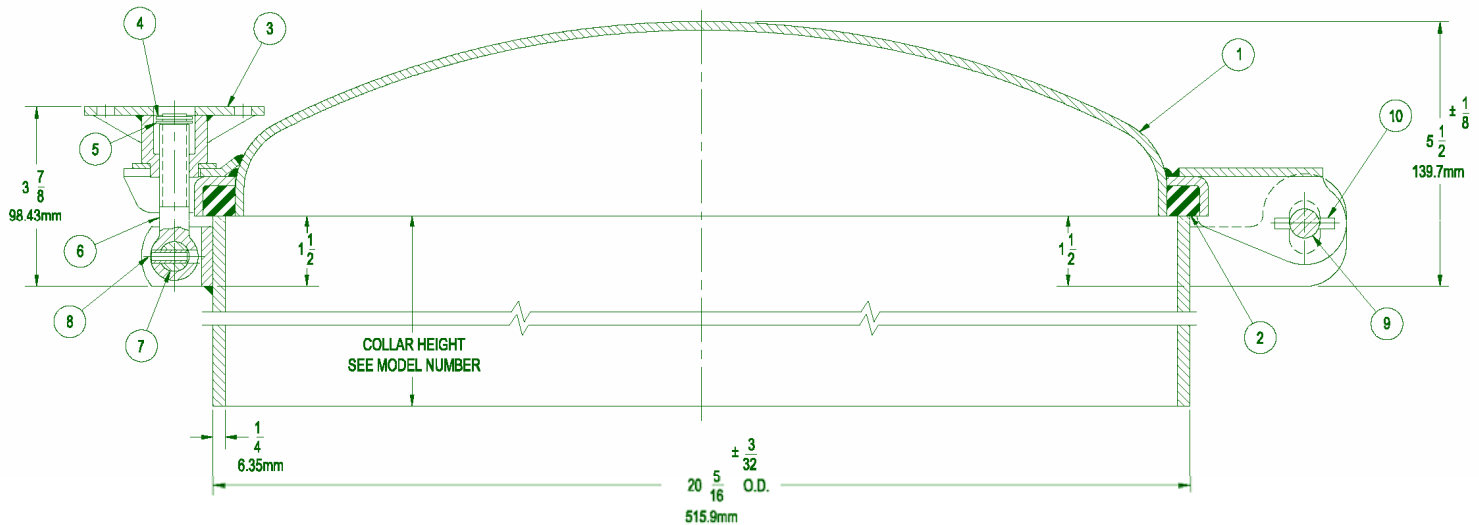
Manhole assembly should be inspected with sufficient frequency and with due regard to the products carried to insure a liquid tight closure. Any worn, damaged, or missing parts must be replaced.

WING NUTS AND SWING BOLTS:

All swing bolt and wing nut assemblies must be secured to the cover and tightened to insure the pressure and product retention performance of the manhole assembly.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 20" Full Opening Manhole Model 8380



No.	Description	Material	Part No.
1	Cover	Steel	6457FB
		Stnls 316L	6457LC
2	Gasket*	B Buna-N	3513BN
		V Viton	3513VT
		W White Hypalon	3513WH
		E White Non-Asbestos with Teflon Suspensoid (Woven)	3513NT

No.	Description	Material	Part No.
3	Wing Nut	Stnls 304	3576SL
4	Snap Ring	Stnls 304	9Q4933
5	Snap Ring Washer	Stnls 304	3575SL
6	Swing Bolt	Stnls 17/4 PH	4102SF
7	Swing Bolt Pin	Stnls 304	3086SL
8	Roll Pin-Swg Bolt	Stnls 304	9Q8593
9	Hinge Pin	Stnls 304	3818SL
10	Roll Pin-Hinge Pin	Stnls 304	9Q8594

***Gasket Maximum Temperature**

Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
White Non-Asbestos with Teflon Suspensoid	500°F

GASKETS:

Check the condition of all gaskets and replace if their effectiveness as a seal is impaired in any way. Replacement gaskets must be compatible with products carried.

MAINTENANCE:

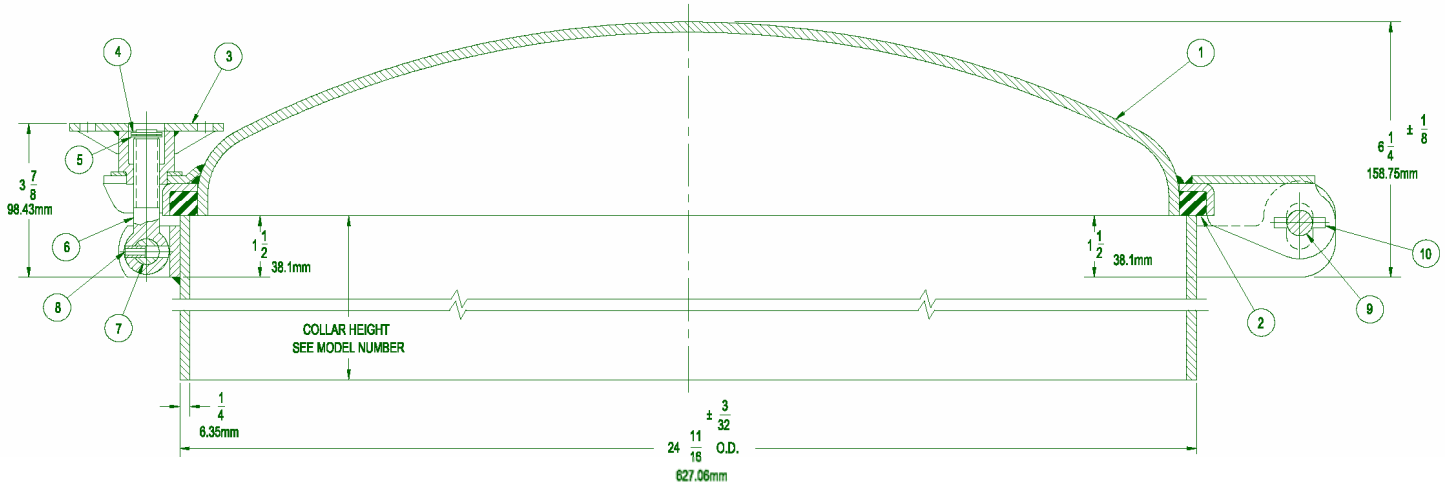
Manhole assembly should be inspected with sufficient frequency and with due regard to the products carried to insure a liquid tight closure. Any worn, damaged, or missing parts must be replaced.

WING NUTS AND SWING BOLTS:

All swing bolt and wing nut assemblies must be secured to the cover and tightened to insure the pressure and product retention performance of the manhole assembly.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 24" Full Opening Manhole Model 8324



No.	Description	Material	Part No.
1	Cover	Steel	6455FB
		Stnls 316L	6455LC
2	Gasket*	B Buna-N	3907BN
		V Viton	3907VT
		W White Hypalon	3907WH
		E White Non-Asbestos with Teflon Suspensoid (Woven)	3907NT

No.	Description	Material	Part No.
3	Wing Nut	Stnls 304	3576SL
4	Snap Ring	Stnls 304	9Q4933
5	Snap Ring Washer	Stnls 304	3575SL
6	Swing Bolt	Stnls 17/4 PH	4102SF
7	Swing Bolt Pin	Stnls 304	3086SL
8	Roll Pin-Swg Bolt	Stnls 304	9Q8593
9	Hinge Pin	Stnls 304	3818SL
10	Roll Pin-Hinge Pin	Stnls 304	9Q8594

***Gasket Maximum Temperature**

Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
White Non-Asbestos with Teflon Suspensoid	500°F

GASKETS:

Check the condition of all gaskets and replace if their effectiveness as a seal is impaired in any way. Replacement gaskets must be compatible with products carried.

MAINTENANCE:

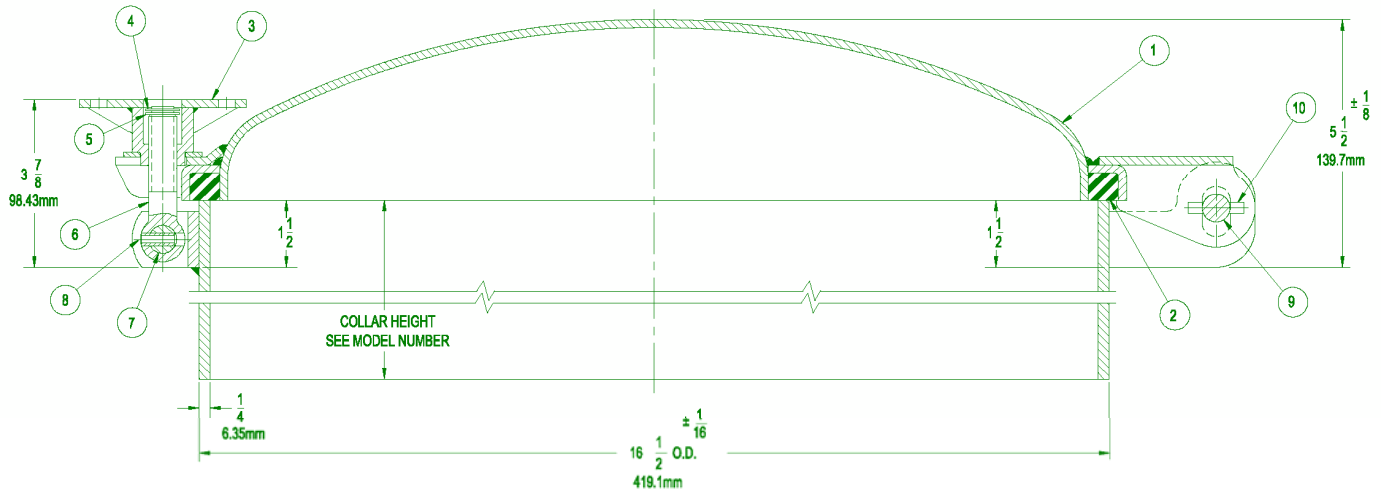
Manhole assembly should be inspected with sufficient frequency and with due regard to the products carried to insure a liquid tight closure. Any worn, damaged, or missing parts must be replaced.

WING NUTS AND SWING BOLTS:

All swing bolt and wing nut assemblies must be secured to the cover and tightened to insure the pressure and product retention performance of the manhole assembly.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 16" Full Opening Manhole Model 8303



No.	Description	Material	Part No.
1	Cover	Steel	6446FB
		Stnls 316L	6446LC
2	Gasket*	B Buna-N	3657BN
		V Viton	3657VT
		W White Hypalon	3657WH
		E White Non-Asbestos with Teflon Suspensoid (Woven)	3657NT

No.	Description	Material	Part No.
3	Wing Nut	Stnls 304	3576SL
4	Snap Ring	Stnls 304	9Q4933
5	Snap Ring Washer	Stnls 304	3575SL
6	Swing Bolt	Stnls 17/4 PH	4102SF
7	Swing Bolt Pin	Stnls 304	3086SL
8	Roll Pin-Swg Bolt	Stnls 304	9Q8593
9	Hinge Pin	Stnls 304	3121SL
10	Roll Pin-Hinge Pin	Stnls 304	9Q8594

***Gasket Maximum Temperature**

Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
White Non-Asbestos with Teflon Suspensoid	500°F

GASKETS:

Check the condition of all gaskets and replace if their effectiveness as a seal is impaired in any way. Replacement gaskets must be compatible with products carried.

MAINTENANCE:

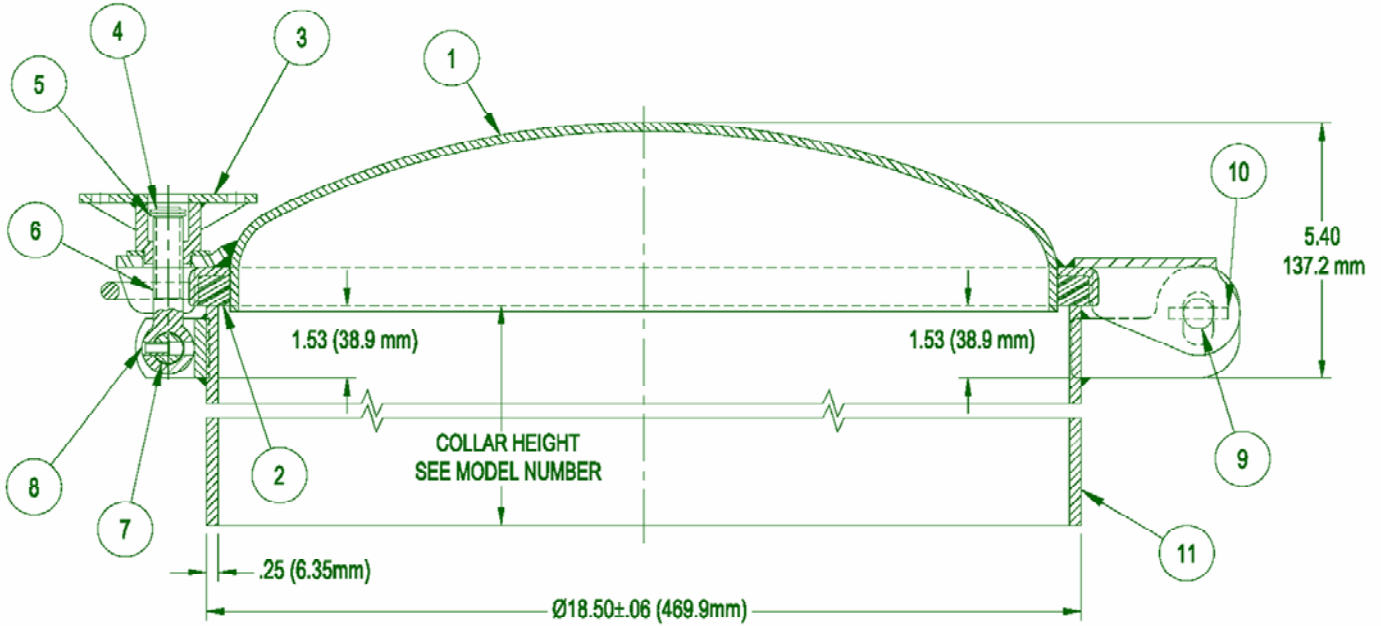
Manhole assembly should be inspected with sufficient frequency and with due regard to the products carried to insure a liquid tight closure. Any worn, damaged, or missing parts must be replaced.

WING NUTS AND SWING BOLTS:

All swing bolt and wing nut assemblies must be secured to the cover and tightened to insure the pressure and product retention performance of the manhole assembly.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 18" Full Opening Manhole Model 8418



No.	Description	Material	Part No.
1	Cover Assembly	Steel	6709FB
		316L Stainless	6709LC
2	Gasket – Manhole	B Buna-N	4171BN
		V Viton	4171VT
		W White Hypalon	4171WH
		E White Non-Asbestos with Teflon Suspensoid (Woven)	4171NT
3	Wing Nut	304 Stainless	3576SL
4	Snap Ring	304 Stainless	9Q4933
5	Snap Ring Washer	304 Stainless	3575SL
6	Swing Bolt	304 Stainless	4102SF
7	Swing Bolt Pin	304 Stainless	3086SL
8	Roll Pin – Swing Bolt	304 Stainless	9Q8593
9	Hinge Pin	304 Stainless	3818SL
10	Roll Pin – Hinge Pin	304 Stainless	9Q8594

Gasket Maximum Temperature

Buna-N (Nitrile)	250°F
Viton	400°F
White Hypalon	250°F
White Non-Asbestos with Teflon Suspensoid	500°F
Teflon-Silicone	400°F

GASKETS:

Check the condition of all gaskets and replace if their effectiveness as a seal is impaired in any way. Replacement gaskets must be compatible with products carried.

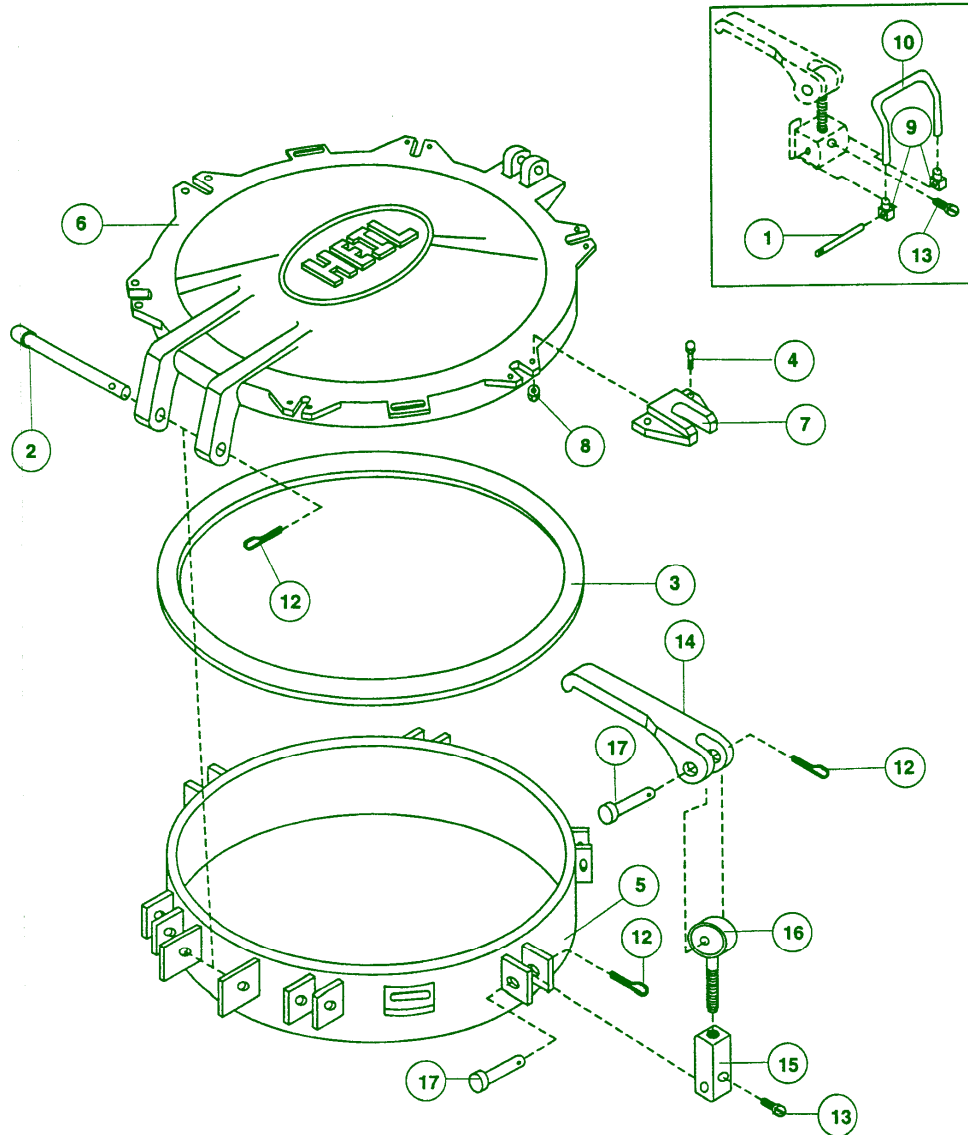
MAINTENANCE:

Manhole assembly should be inspected with sufficient frequency and with due regard to the products carried to insure a liquid tight closure. Any worn, damaged, or missing parts must be replaced.

WING NUTS AND SWING BOLTS:

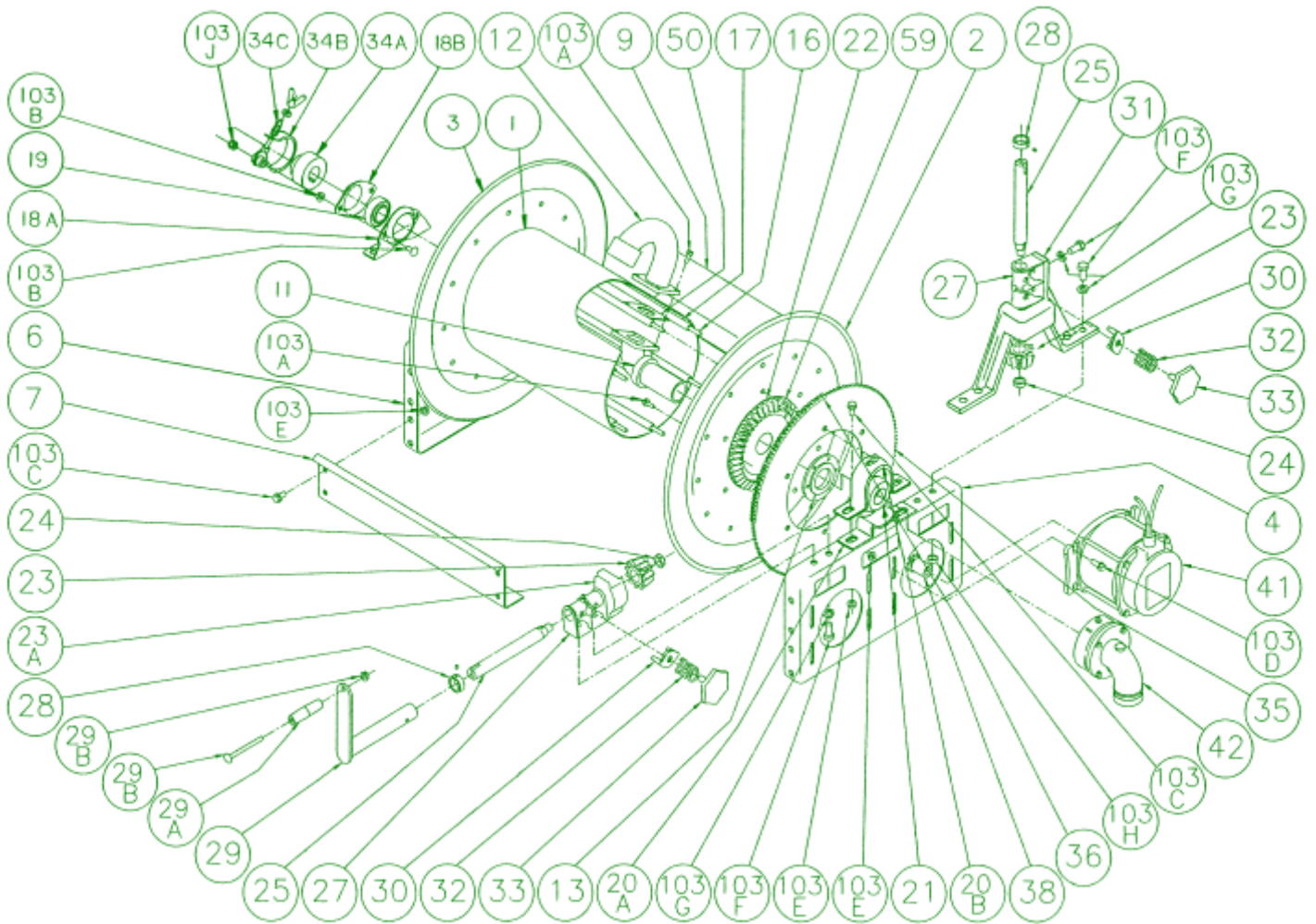
All swing bolt and wing nut assemblies must be secured to the cover and tightened to insure the pressure and product retention performance of the manhole assembly.

20" Heil/Knappco Manhole



Ref	Part No.	Description	Req
1	KN-1042	Pin (safety latch).....	2
2	KN-4091	Pin (hinge).....	1
3	KN-4422	Gasket (white neoprene).....	1
4	KN-4454	Fastener (wear plate).....	12
5	KN-4468	Ring assembly.....	1
6	KN-4478	Cover.....	1
7	KN-4481	Cam wear plate.....	6
8	KN-4486	Nut (wear plate).....	12
9	KN-4494	Pivot block.....	4
10	KN-4497	Safety latch.....	2
11	KN-4672	Cam assembly.....	1
12	KN-1083	Cotter pin.....	7
13	KN-3857	Screw (1/4-28 x 3/8, s.s).....	6
14	KN-4487	Cam handle.....	6
15	KN-4490	Nut (cam adjusting).....	6
16	KN-4888	Bolt (cam adjusting).....	6
17	KN-5677	Cam pin.....	10

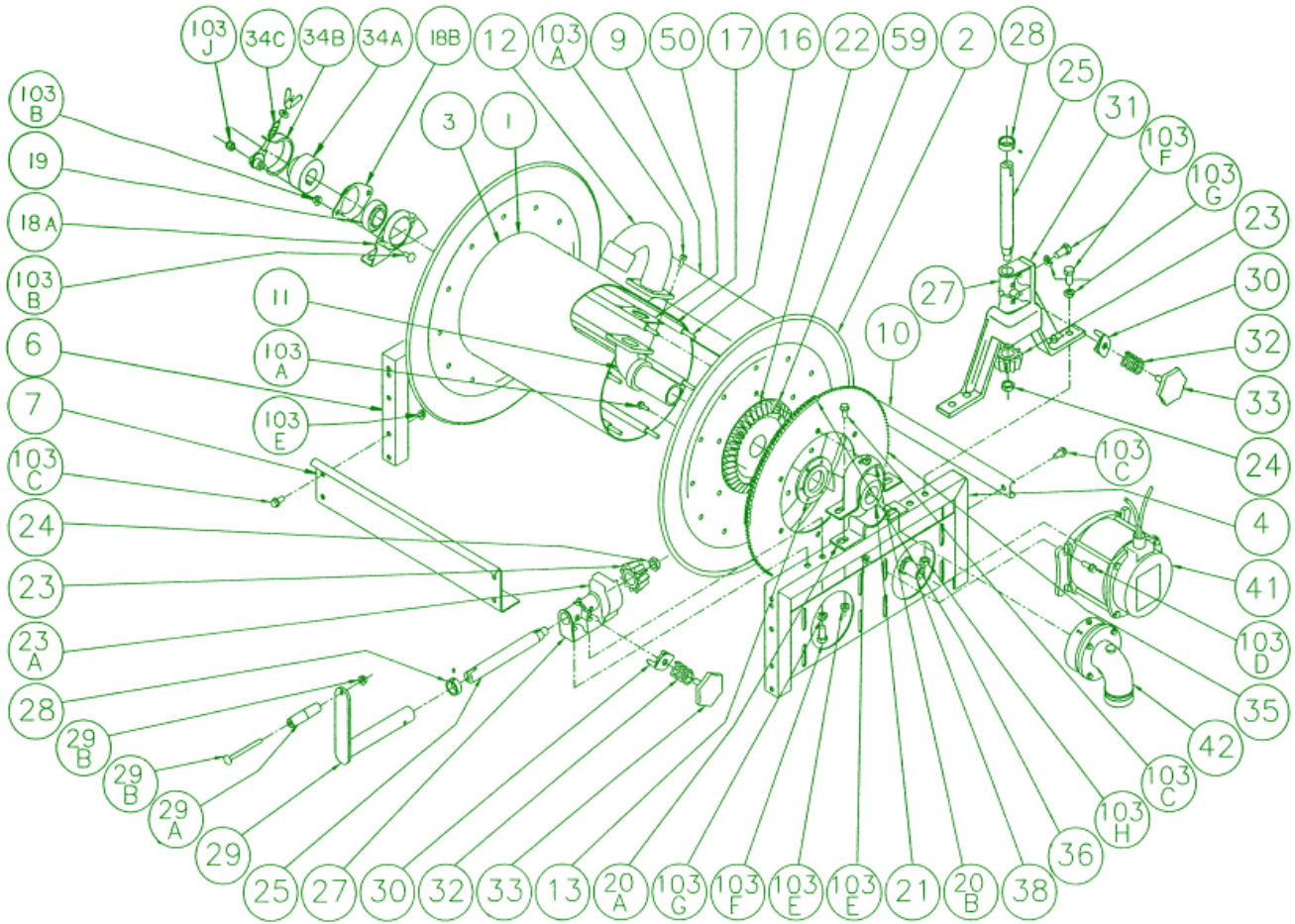
Hannay 1-1/2" HOSE REELS With Tube Turn Internals & Ball Bearing Swivel Joints



Hannay 1-1/2" HOSE REELS With Tube Turn Internals & Ball Bearing Swivel Joints

<u>Item No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
1	Drum, 10-1/2" Diameter (Specify Model).....	9905.3131	1
2	Front Disc, 19-20 Series.....	9903.0821	1
2	Front Disc, 23-24 Series.....	9903.1121	1
2	Front Disc, 25-26 Series.....	9903.1321	1
2	Front Disc, 26-27 Series.....	9903.1421	1
2	Front Disc, 28-29 Series.....	9903.1521	1
2	Front Disc, 30-31 Series.....	9903.1621	1
3	Back Disc, 19-20 Series.....	9903.0821	1
3	Back Disc, 23-24 Series.....	9903.1121	1
3	Back Disc, 25-26 Series.....	9903.1321	1
3	Back Disc, 26-27 Series.....	9903.1421	1
3	Back Disc, 28-29 Series.....	9903.1521	1
3	Back Disc, 30-31 Series.....	9903.1621	1
4	Front Frame (Up to 23-24).....	9906.0031	1
4	Front Frame (Up to 30-31).....	9906.5031	1
6	Back Frame (Up to 23-24).....	9906.0031	1
6	Back Frame (Up to 30-31).....	9906.5031	1
7	Front Foot (Specify Model).....	9907.3000	1
9	Back Foot (Specify Model).....	9907.3000	1
11	1-1/2" Flange Hub Only (Specify Model).....	9901.3640	1
12	1-1/2" FNPT Iron Pipe Riser Only.....	9901.3760	1
13	EH-936 Washer.....	9965.0015	2
16	3/8"-16 Carriage Bolt w/Nut.....	Specify Model	6
17	3/8" Spacer Pipes (Specify Model).....	9904.3200	6
18	Back Bearing Complete.....	9902.1400	1
18A	Self-Aligning Pillow Block, Back.....	9902.2900	1
18B	Self-Aligning Bearing Holder, Back.....	9902.2800	1
19	Back Bearing Insert Only.....	9902.1500	1
20	Front Bearing Complete.....	9902.1610	1
20A	Bearing Holder (Bottom Strap), Front.....	9902.2950	1
20B	Bearing Holder (Top Strap), Front.....	9902.2955	1
21	Front Bearing Insert Only (With Grease Fitting).....	9902.1700	1
22	Ring Gear, H-26 (Up to 25-26).....	9914.0372	1
22	Ring Gear, H-28.....	9914.0382	1
23	Pinion Gear, H-27 (Up to 25-26).....	9914.0393	1
23	Pinion Gear, H-29.....	9914.0403	1
23A	Gear Guard.....	9914.0618	1
24	5/8"-18 SAE Hex Nut (ESNA).....	9904.5600	1
25	Pinion Shaft (Specify Model).....	9914.0250	1
27	Side Pinion Bearing.....	9914.0243	1
28	Collar & Set Screw.....	9914.0351	1
29	Crank Handle, H-18 Complete.....	9914.0011	1
29A	Hand Crank Handle.....	9914.0506	1
29B	Hand Crank Handle Bolt w/Nut.....	9914.0511	1
30	Brake Pad, H-3.....	9914.0433	1
31	Vertical Rewind Bracket.....	9914.0233	1
32	Brake Spring, H-31.....	9914.0451	1
33	Brake Wheel.....	9914.0413	1
34A	Comet Brake Hub.....	9947.0038	1
34B	Comet Brake Strap only.....	9947.0091	1
34C	Comet Brake Tention Adjuster (Bolt, Spring, Washer, Wing Nut).....	9947.0092	1
35	112T35 Disc Sprocket.....	9910.1321	1
35	138T35 Disc Sprocket.....	9910.1423	1
35	180T35 Disc Sprocket.....	9910.1526	1
36	Chain, #35.....	Specify Model	1
38	Motor Sprocket, 11T35 x 1-5/16.....	9910.1118	1
41	Motor, 12 Volt Explosion-Proof.....	9915.0003	1
42	1-1/2" 90 Deg. FxF Swivel Joint (STANDARD; Not for LPG).....	9930.4210	1
42	1-1/2" 90 Deg. FxF Swivel Joint (for LP GAS Applications).....	9930.0531	1
50	Gasket.....	9965.0021	1
59	Sprocket Spacer.....	9954.0017	6
103A	5/16"-18 x 1/2" Hex Head Bolt.....	9904.1101	9
103B	3/8"-16 x 3/4" Carriage Bolt w/Nut (w/o Comet Brake).....	9904.0201	2
103B	3/8"-16 x 2" Carriage Bolt w/Nut (w/Comet Brake).....	9947.0093	1
103C	3/8"-16 x 3/4" Spinlock Bolt.....	9904.2201	12
103D	3/8"-16 x 1" Spinlock Bolt.....	9904.2202	4
103E	3/8"-16 Spinlock Nut.....	9904.6200	16
103F	1/2"-13 x 1" Hex Head Bolt.....	9904.1402	6
103G	1/2" Lock Washer.....	9954.0030	6
103H	1/2"-13 Hex Nut.....	9904.5400	4
103J	3/8"-16 ESNA Nut.....	9904.5201	1

Hannay 1-1/2" HOSE REELS With Fabricated Frame & Ball Bearing Swivel Joint



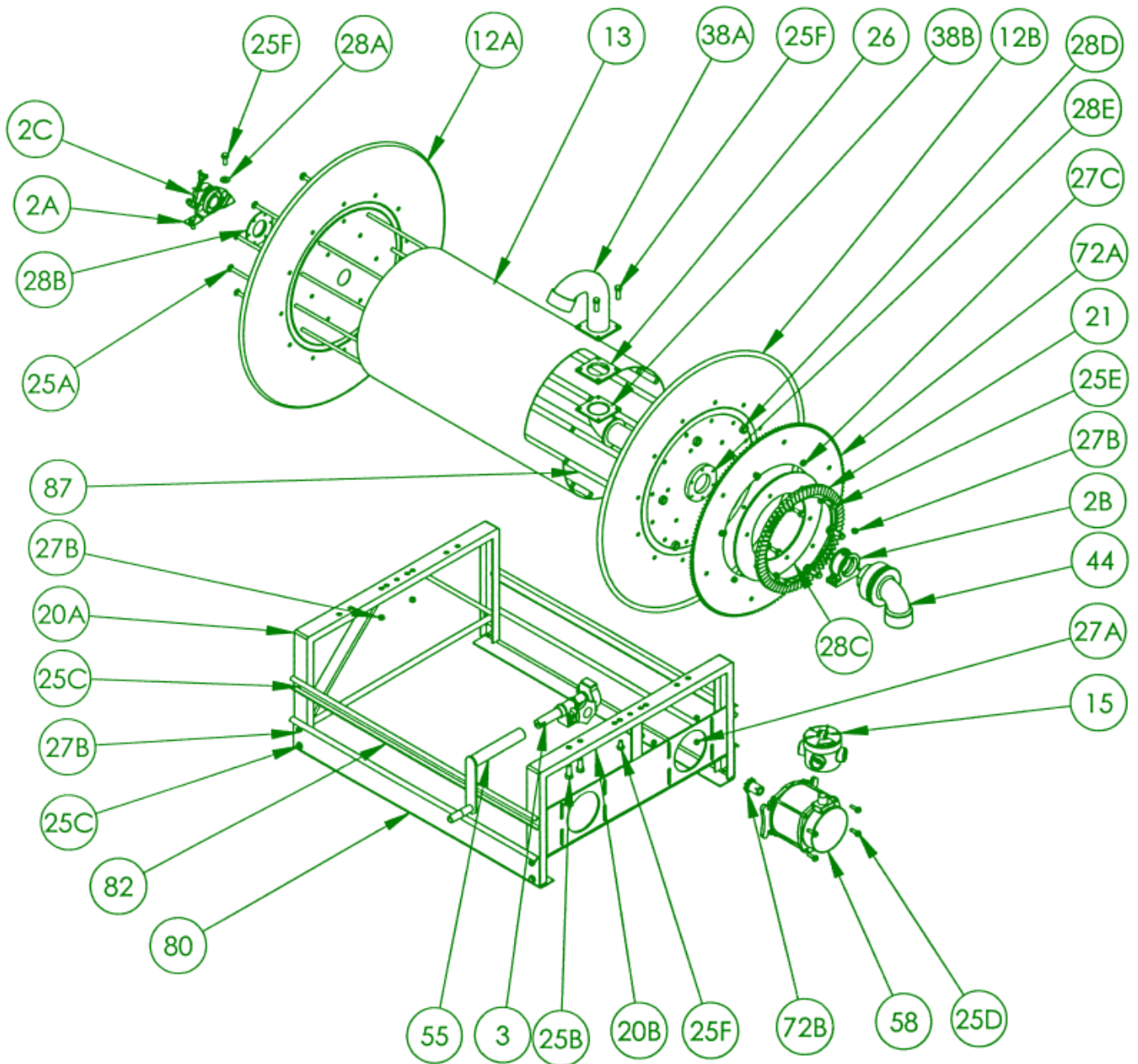
When ordering parts BE SURE TO SPECIFY COMPLETE MODEL NUMBER and SERIAL NUMBER OF REEL. USE PART NUMBER!

<u>Item No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
1	Drum, 10-1/2" Diameter (Specify Model)	9905.3131	1
2	Front Disc, 19-20 Series	9903.0821	1
2	Front Disc, 23-24 Series	9903.1121	1
2	Front Disc, 25-26 Series	9903.1321	1
2	Front Disc, 28-29 Series	9903.1521	1
2	Front Disc, 30-31 Series	9903.1621	1
2	Front Disc, 33-34 Series	9903.1831	1
3	Back Disc, 19-20 Series	9903.0821	1
3	Back Disc, 23-24 Series	9903.1121	1
3	Back Disc, 25-26 Series	9903.1321	1
3	Back Disc, 28-29 Series	9903.1521	1
3	Back Disc, 30-31 Series	9903.1621	1
3	Back Disc, 33-34 Series	9903.1831	1

Hannay 1-1/2" HOSE REELS With Fabricated Frame & Ball Bearing Swivel Joint

<u>Item No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
4	Front Frame, 19-20 Series	9906.1081	1
4	Front Frame, 23-24 Series	9906.1111	1
4	Front Frame, 25-26 Series	9906.1121	1
4	Front Frame, 28-29 Series	9906.1141	1
4	Front Frame, 30-31 Series	9906.1151	1
4	Front Frame, 33-34 Series	9906.1161	1
6	Back Frame, 19-20 Series	9906.0081	1
6	Back Frame, 23-24 Series	9906.0111	1
6	Back Frame, 25-26 Series	9906.0121	1
6	Back Frame, 28-29 Series	9906.0141	1
6	Back Frame, 30-31 Series	9906.0151	1
6	Back Frame, 33-34 Series	9906.0161	1
7	Front Foot (Specify Model).....	9907.3000	1
9	Back Foot (Specify Model).....	9907.3000	1
10	"C" Channel Brace (Specify Model).....	9907.7000	2
11	1-1/2" Flange Hub Only (Specify Model)	9901.3640	1
12	1-1/2" FNPT Iron Pipe Riser Only	9901.3760	1
13	EH-936 Washer	9965.0015	2
16	3/8"-16 Carriage Bolt w/Nut	Specify Model	6
17	3/8" Spacer Pipes (Specify Model)	9904.3200	6
18	Back Bearing Complete	9902.1400	1
18A	Self-Aligning Pillow Block, Back	9902.2900	1
18B	Self-Aligning Bearing Holder, Back	9902.2800	1
19	Back Bearing Insert Only	9902.1500	1
20	Front Bearing Complete	9902.1610	1
20A	Bearing Holder (Bottom Strap), Front	9902.2950	1
20B	Bearing Holder (Top Strap), Front	9902.2955	1
21	Front Bearing Insert Only (With Grease Fitting)	9902.1700	1
22	Ring Gear, H-26 (Up to 25-26).....	9914.0372	1
22	Ring Gear, H-28	9914.0382	1
23	Pinion Gear, H-27 (Up to 25-26)	9914.0393	1
23	Pinion Gear, H-29.....	9914.0403	1
23A	Gear Guard	9914.0618	1
24	5/8"-18 SAE Hex Nut (ESNA)	9904.5600	1
25	Pinion Shaft (Specify Model)	9914.0250	1
27	Side Pinion Bearing	9914.0243	1
28	Collar & Set Screw	9914.0351	1
29	Crank Handle, H-18 Complete	9914.0011	1
29A	Hand Crank Handle	9914.0506	1
29B	Hand Crank Handle Bolt w/Nut	9914.0511	1
30	Brake Pad, H-3	9914.0433	1
31	Vertical Rewind Bracket	9914.0233	1
32	Brake Spring, H-31.....	9914.0451	1
33	Brake Wheel.....	9914.0413	1
34A	Comet Brake Hub.....	9947.0038	1
34B	Comet Brake Strap only	9947.0091	1
34C	Comet Brake Tention Adjuster (Bolt, Spring, Washer, Wing Nut)	9947.0092	1
35	112T35 Disc Sprocket	9910.1321	1
35	138T35 Disc Sprocket	9910.1423	1
35	180T35 Disc Sprocket	9910.1526	1
36	Chain, #35	Specify Model	1
38	Motor Sprocket, 11T35 x 1-5/16.....	9910.1118	1
41	Motor, 12 Volt Explosion-Proof.....	9915.0003	1
42	1-1/2" 90 Deg. FxF Swivel Joint.....	9930.4210	1
50	Gasket	9965.0021	1
59	Sprocket Spacer.....	9954.0017	6
103A	5/16"-18 x 1/2" Hex Head Bolt.....	9904.1101	9
103B	3/8"-16 x 3/4" Carriage Bolt w/Nut (w/o Comet Brake)	9904.0201	2
103B	3/8"-16 x 2" Carriage Bolt w/Nut (w/Comet Brake)	9947.0093	1
103C	3/8"-16 x 3/4" Spinlock Bolt	9904.2201	18
103D	3/8"-16 x 1" Spinlock Bolt.....	9904.2202	4
103E	3/8"-16 Spinlock Nut.....	9904.6200	20
103F	1/2"-13 x 1" Hex Head Bolt	9904.1402	6
103G	1/2" Lock Washer	9954.0030	6
103H	1/2"-13 Hex Nut	9904.5400	4
103J	3/8"-16 ESNA Nut	9904.5201	1

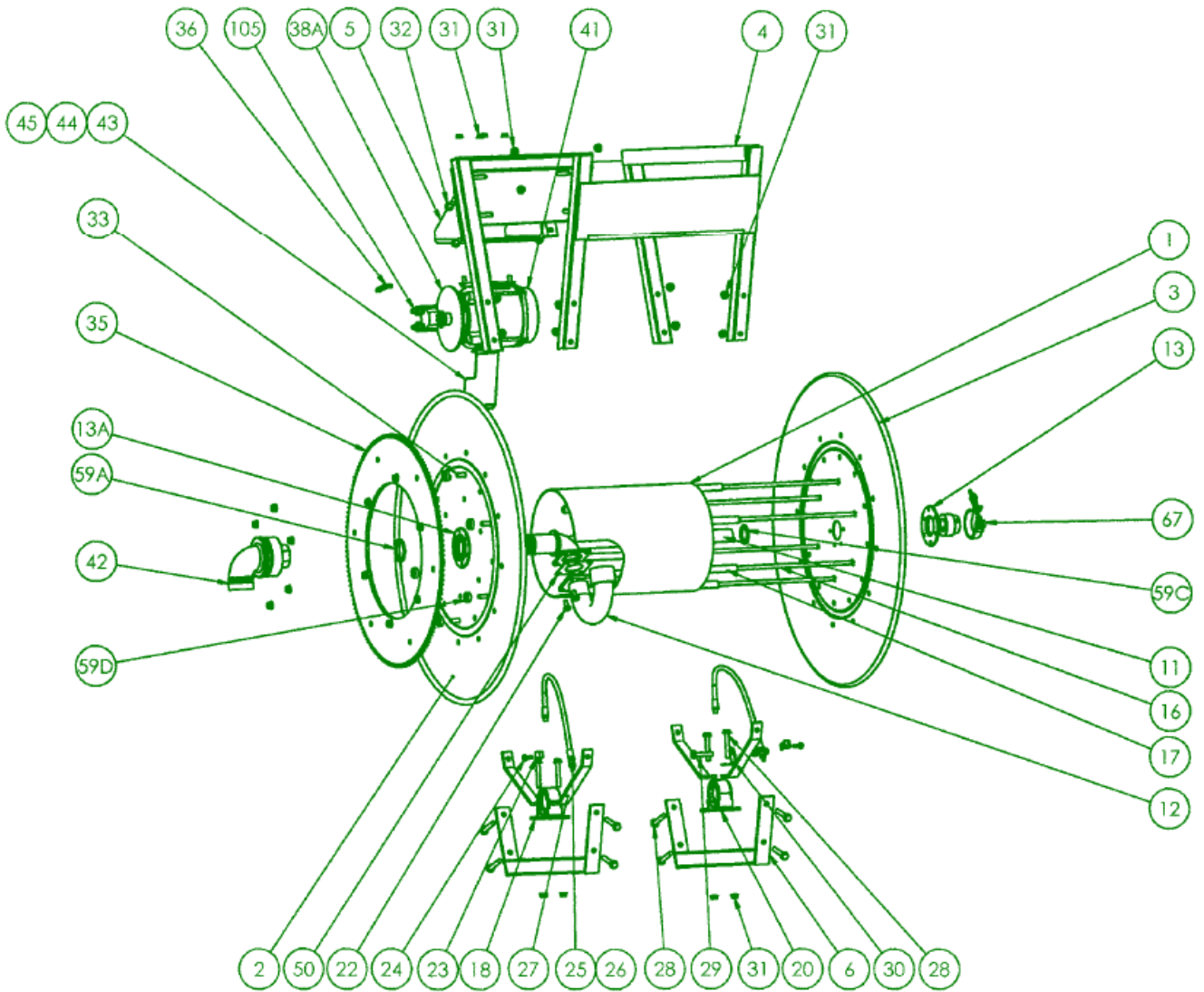
Hannay 2" HOSE REELS With Ball Bearing Swivel Joint



Hannay 2" HOSE REELS With Ball Bearing Swivel Joint

<u>Drawing No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
2A	1" Self-Aligning Bearing Complete	9902.1400	1
2B	H-42B Front Bearing	9902.2300	1
2C	Comet Brake Assembly	9947.0090	1
3	Complete Manual Rewind Assy. w/H-29 Pinion Gear	9914.0210	1
6	Chain, #35 (NOT SHOWN)	Specify Model	1
12A	Back Disc.....	Specify Model	1
12B	Front Disc	Specify Model	1
13	Drum, 15-1/2" Diameter (Specify Model)	9905.3171	1
15	Junction Box Complete	9917.0060	1
20A	Back Frame	Specify Model	1
20B	Front Frame w/Motor Mounting Plate	Specify Model	1
21	H-28 Ring Gear	9914.0382	1
25A	3/8" Carriage Bolts (with nuts).....	Specify Model	11
25B	1/2" x 1-1/4" Hex Head Bolt (for rewind assy.)	9904.1403	2
25C	3/8" x 3/4" Spinlock Bolt	9904.2201	8
25D	5/16" x 1" Spinlock Motor Mounting Bolt.....	9904.2102	4
25E	3/8" x 1" Spinlock Bolt	9904.2202	6
25F	3/8" x 1-1/2" Spinlock Bolt.....	9904.2204	8
26	2" Gasket, H-200G	9965.0022	1
27A	5/16" Spinlock Nut	9904.6100	4
27B	3/8" Spinlock Nut	9904.6200	Varies
27C	3/8" Jam Nut	9965.0012	6
28A	3/8" Flat Washer	9954.0007	2
28B	Back Washer, EH-936	9965.0015	1
28C	Ring Gear Backing Plate.....	9914.0582	1
28D	1" OD x 9/16" ID x 5/16" thick Sprocket Spacer	9954.0016	6
28E	H-142A Front Washer	9965.0043	1
29	Woodruff Key for Motor (not shown)	9916.0080	1
38A	2" Iron Pipe Riser w/2" FNPT Threads	9901.5760	1
38B	2" Flanged Iron Pipe Hub Only (Specify Model)	9901.5640	1
44	2" 90° FxF Swivel Joint WHJ2290	9931.4521	1
55	H-18 Crank & Handle (standard 10" length)	9914.0011	1
58	12 Volt DC Exp. Proof Motor (1/2 HP, 650 RPM)	9915.0003	1
58A	#6 Gast Air Motor (not shown)	9918.1123	1
58B	Motor Mtg. Plate for #6 Air Motor (not shown)	9923.0017	1
72A	Disc Sprocket, 180T35	9910.1526	1
72B	11T35 Motor Sprocket (lengths from 3/4" up to 1-3/4").....	Specify Length	1
80	Frame Foot, Specify Model	9907.3000	2
82	Frame Brace, Specify Model.....	9907.7000	2
87	3/8" Spacer Pipe, Specify Model.....	9904.3200	11

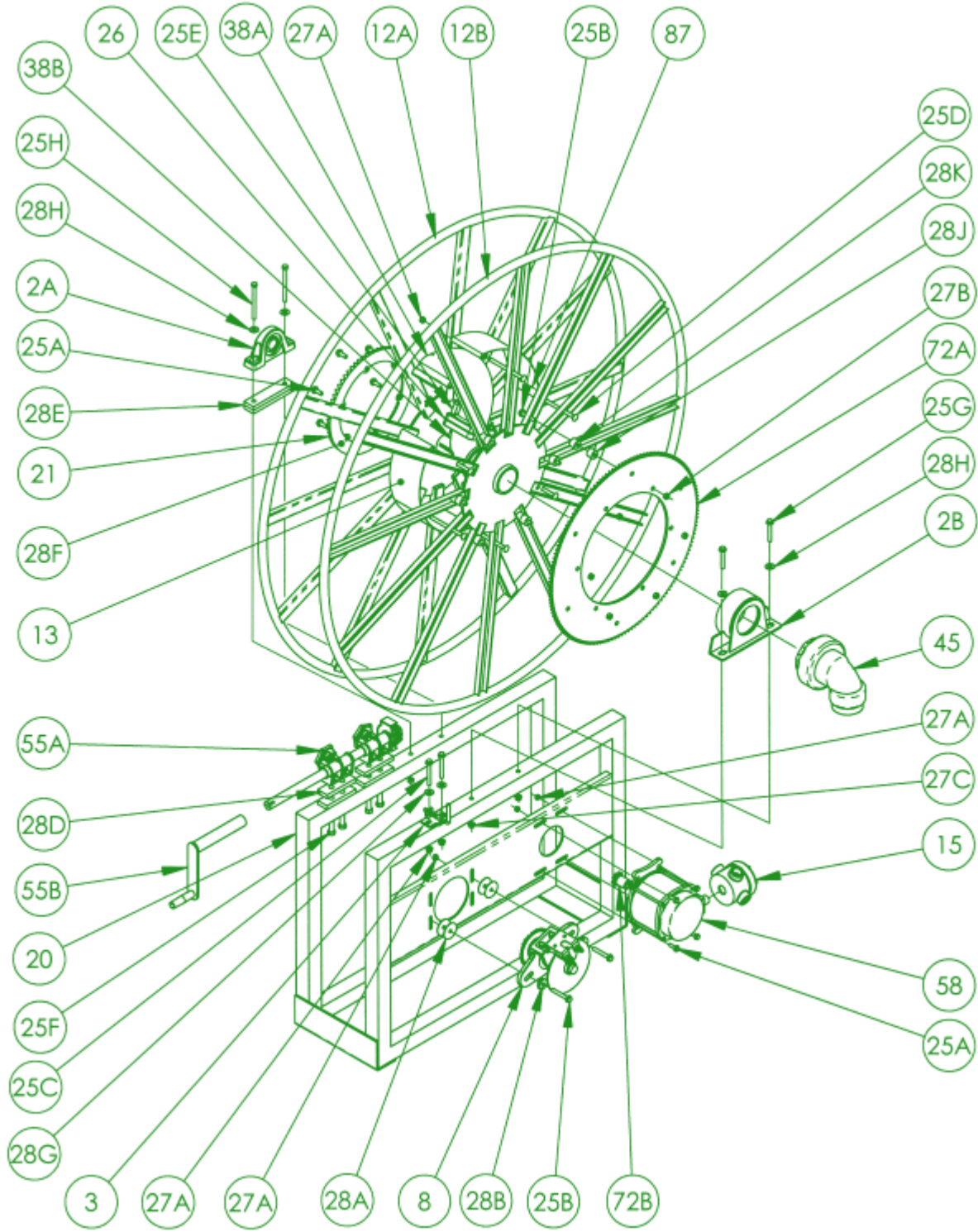
Hannay EPIV SERIES



Hannay EPIV SERIES

<u>Item No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
1	Drum, 10-1/2" Diameter .....(Specify Model)	9905.3131	1
1A	Drum, 15-1/2" Diameter .....(Specify Model)	9905.3171	1
2	Front Disc 33-34.....	9903.1831	1
2A	Front Disc 35-36.....	9903.2031	1
2B	Front Disc 39-40.....	9903.2531	1
2C	Front Disc 45-46.....	9903.2931	1
3	Back Disc 33-34.....	9903.1831	1
3A	Back Disc 35-36.....	9903.2031	1
3B	Back Disc 39-40.....	9903.2531	1
3C	Back Disc 45-46.....	9903.2931	1
4	Base Frame Assembly.....	Specify Model	1
5	Motor Plate.....	9923.0030	1
6	Top Frame.....	Specify Model	2
11	1-1/2" Hub.....	9901.3640	1
11A	2" Hub.....	9901.5640	1
12	1-1/2" FNPT Flanged Riser.....	9901.3760	1
12A	2" FNPT Riser.....	9901.5760	1
13	EH-936 Washer.....	9965.0015	2
13A	2" Disc Washer.....	9965.0043	1
16	3/8" Carrige Bolt.....	Specify Model	6 or 11
17	3/8" Spacer Pipe.....(Specify Model)	9904.3200	6 or 11
18	1-1/2" Front Bearing.....	9902.1610	1
18A	2" Front Bearing, H-42B.....	9902.2300	1
20	1" Back Bearing Complete.....	9902.1630	1
21	1" Back Bearing Insert Only.....	9902.1730	1
22	5/16 -18 x .75 Spinlock Bolt.....	9904.1101	4
23	Cable Clamp.....	9955.0015	2
24	5/16 -18 x .75 Self Tapping Bolt.....	9958.0055	2
25	Grease Hose.....	9965.0100	2
26	Grease Fitting.....	9965.0101	2
27	Frame Brace (P20A-01300).....	Specify Model	2
28	3/8 -16 x 2-1/4 Spinlock Bolt.....	9904.2260	12
29	3/8 -16 x 2.0 Spinlock Bolt.....	9904.1206	1
30	Comet Brake Bracket (P03A-00210).....	9947.0097	1
31	3/8 -16 Hex Spinlock Nut.....	9904.6200	20
32	3/8 -16 x 1.0 Long Spinlock Bolt.....	9904.2202	1
33	3/8 -16 x 1.0 Long Button Socket HD.....	9904.9202	6
35	Disc Sprocket 146T40.....	9910.3128	1
36	Chain #40.....	Specify Model	1
38A	Brake Disc & Sprocket, 9T40.....	9910.2100	1
41	Motor 12 Volt Base Mount, EP.....(Specify Model)	9915.0014	1
42A	1-1/2" 90° FxF Swivel Joint.....	9930.4210	1
42B	2" 90° FxF Swivel Joint.....	9931.4210	1
43	IV Series Brake Disc Guard (Left).....	9947.0016	1
43	IV Series Brake Disc Guard (Right).....	9947.0017	1
44	1/4 -20 x 3/4 Hex Hd Cap Screw.....	9904.1001	2
45	1/4 -20 Spinlock Nut.....	9904.6000	2
50A	1-1/2" Riser Gasket.....	9965.0021	1
50B	2" Riser Gasket.....	9965.0022	1
59A	1-1/2" Hub Spacer.....	9954.0022	5
59B	2" Hub Spacer.....	9954.0023	4
59C	1" Hub Spacer.....	9954.0021	3
59D	Sprocket Spacer.....	9954.0016	24
67	Comet Brake Sub Assy.....(A03A-00060)	9947.0090	1
105	Caliper Disc Brake.....	9947.0020	1

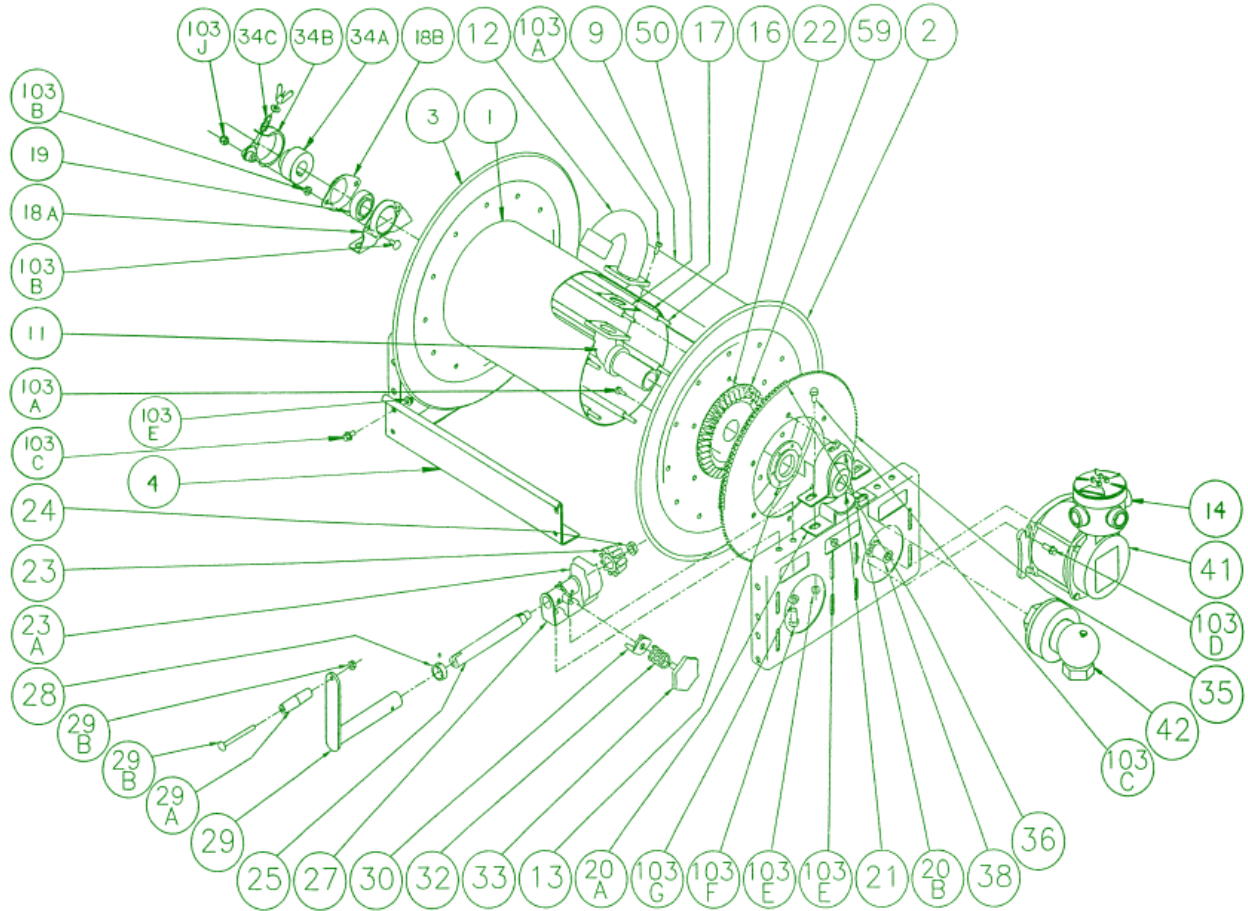
Hannay
SERIES 5000 1-1/2" thru 3" SINGLE WRAP HOSE REELS



SERIES 5000 1-1/2" thru 3" SINGLE WRAP HOSE REELS 1-877-DBL-TANK

<u>Item No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
2A	1-1/4" Pillow Block Bearing Complete.....	9902.0300	1
2B	3-1/2" Fabricated Bearing (for 3" reels only).....	9902.2403	1
2B	2-3/8" Pillow Block Bearing (for 2" reels only).....	9902.0500	1
2B	1-7/8" Pillow Block Bearing (for 1-1/2" reels only).....	9902.0400	1
3	PL-1 Pinlock.....	9965.0030	1
6	Chain, #35.....(Not Shown)	Specify Model	1
6	Chain, #40.....(Not Shown)	Specify Model	1
8	12/36 Reduction Unit (#40/#35 Chain and NO air caliper brake).....	9948.0120	1
8	12/36 Reduction Unit (#40/#35 Chain WITH air caliper brake).....	Specify Model	1
12A	Back Disc (Spoked).....	Specify Model	1
12B	Front Disc (Spoked).....	Specify Model	1
13	Drum (Wrap-Around Style).....	Specify Model	1
15	Junction Box Complete.....	9917.0060	1
20	Complete 5000 Series Frame Assembly.....	Specify Model	1
21	H-28 Ring Gear.....	9914.0382	1
25A	3/8"-16 x 1" Spinlock Bolt.....	9904.2202	10
25B	3/8"-16 x 2" Hex Head Bolt.....	9904.1206	8
25C	3/8"-16 x 3" Hex Head Bolt.....	9904.1208	2
25D	3/8"-16 Carriage Bolt with Nut.....	Specify Model	6
25E	7/16"-14 x 1-1/2" Hex Head Bolt (for 3" reels only).....	9904.1303	4
25E	3/8"-16 x 1-1/4" Hex Head Bolt (for 2" reels only).....	9904.1203	4
25E	5/16"-18 x 1" Hex Head Bolt (for 1-1/2" reels only).....	9904.1102	4
25F	1/2"-13 x 2-3/4" Hex Head Bolt.....	9904.1468	4
25G	1/2"-13 x 3" Hex Head Bolt.....	9904.1408	2
25H	1/2"-13 x 3-1/2" Hex Head Bolt.....	9904.1409	2
26	3" Gasket, H-300G.....	9965.0023	1
26	2" Gasket, H-200G.....	9965.0022	1
26	1-1/2" Gasket, H-150G.....	9965.0021	1
27A	3/8" Hex Spinlock Nut.....	9904.6200	14
27B	3/8" Hex Jam Nut.....	9965.0012	6
27C	1/2"-13 Hex Nut.....	9904.5400	4
28A	Clutch Spacer (2" OD x 1/32" thk).....	9954.0048	4
28B	Spacer for Clutch Mtg. Bolts (1.25" OD x 13/32" ID x 1/4" thk).....	9954.0047	2
28D	Aluminum Spacer Block for Aux. Crank Rewind Bearing.....	9954.0002	4
28E	Spacer Block for Back Bearing.....	9954.0001	2
28F	Ring Gear Backing Plate.....	9914.0582	1
28G	3/8" Flat Washer.....	9954.0007	2
28H	1/2" Flat Washer.....	9954.0008	8
28J	Sprocket Spacer (1" OD x .381" ID x 1/2" thk).....	9954.0014	6
28K	Sprocket Spacer (1" OD x .381" ID x 3/4" thk).....	9954.0018	6
29	Woodruff Key for Motor.....(Not Shown)	9916.0080	1
38A	3" Aluminum Riser w/3" FNPT Threads.....	9901.7462	1
38A	3" Aluminum Riser w/2-1/2" FNPT Threads.....	9901.7642	1
38A	2" Aluminum Riser w/2" FNPT Threads.....	9901.5762	1
38A	1-1/2" SST Riser w/1-1/2" FNPT Threads.....(Specify Model)	9901.3764	1
38A	1-1/2" Iron Pipe Riser w/1-1/2" FNPT Threads.....	9901.3760	1
38B	3" Flanged Aluminum Hub Only.....(Specify Model)	9901.7842	1
38B	2" Flanged Aluminum Hub Only.....(Specify Model)	9901.5642	1
38B	1-1/2" Flanged Aluminum Hub Only.....(Specify Model)	9901.3642	1
38B	1-1/2" Flanged Iron Pipe Hub Only.....(Specify Model)	9901.3640	1
45	3" 90° FxF Ductile Iron Joint.....	9933.6500	1
45	3" 90° FxVic Aluminum Joint.....	9933.6302	1
45	2" 90° F x 1.5" F X 2" Vic Ductile Iron Joint (WHJ-290).....	9931.4210	1
45	2" 90° FxVic Aluminum Joint.....	9931.6302	1
45	1-1/2" 90° FxFxVic Joint (WHJ-1590).....	9930.4210	1
45	1-1/2" 90° FxFxVic Aluminum Joint (WHJ-1590-AL).....	9930.4312	1
55A	Complete Double Bearing Rewind Assembly.....	9914.0211	1
55B	H-18 Crank & Handle.....	9914.0011	1
56	Heavy-Duty Tie Wrap (for strapping hose).....(Not Shown)	9965.0088	1
58	12 Volt DC Explosion Proof Motor (2/3 HP, 500 RPM).....	9915.0009	1
72A	Disc Sprocket, 146T40.....	9910.3128	1
72B	11T35 x 3/4" Lg Motor Sprocket.....	9910.1116	1
87	3/8" Spacer Pipe.....(Specify Model)	9904.3200	11

Hannay Series PB Aluminum Construction Pressed Frame



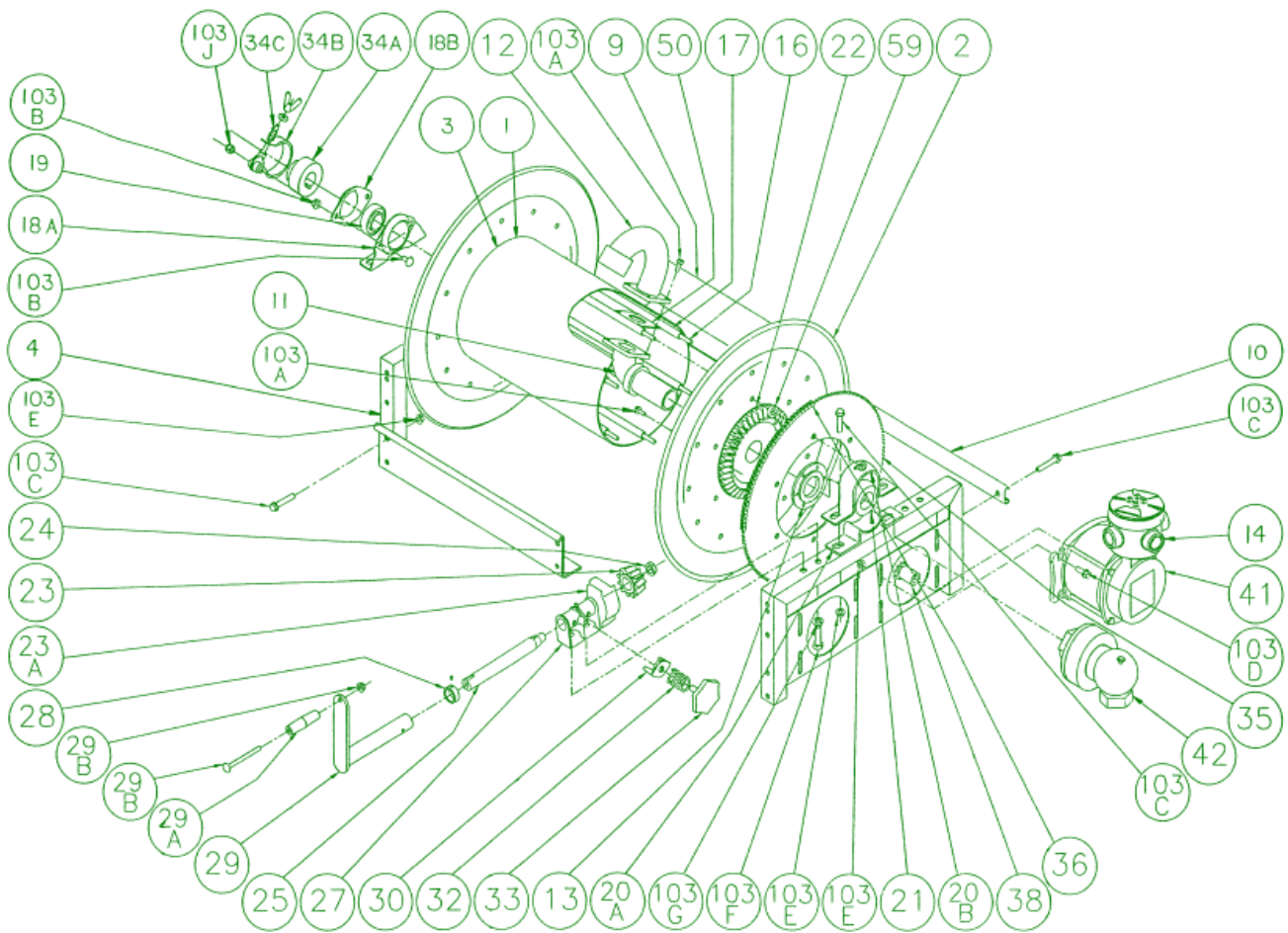
Hannay Series PB Aluminum Construction Pressed Frame

1-877-DBL-TANK

PART NUMBER

<u>Item No.</u>	<u>Description</u>	<u>Unpolished</u>	<u>Polished</u>	<u>Quantit</u>
1	Aluminum Drum, 10-1/2" Diameter (Specify Model)	9905.5132	9905.5132	1
2	Aluminum Front Disc, 19-20 Series	9903.0852	9903.0850	1
2	Aluminum Front Disc, 23-24 Series	9903.1152	9903.1150	1
2	Aluminum Front Disc, 25-26 Series	9903.1352	9903.1350	1
2	Aluminum Front Disc, 26-27 Series	9903.1452	9903.1450	1
2	Aluminum Front Disc, 28-29 Series	9903.1552	9903.1550	1
2	Aluminum Front Disc, 30-31 Series	9903.1652	9903.1650	1
3	Aluminum Back Disc, 19-20 Series	9903.0852	9903.0850	1
3	Aluminum Back Disc, 23-24 Series	9903.1152	9903.1150	1
3	Aluminum Back Disc, 25-26 Series	9903.1352	9903.1350	1
3	Aluminum Back Disc, 26-27 Series	9903.1452	9903.1450	1
3	Aluminum Back Disc, 28-29 Series	9903.1552	9903.1550	1
3	Aluminum Back Disc, 30-31 Series	9903.1652	9903.1650	1
4	Aluminum Frame Assembly (Up to 23-24)	9908.2300	9908.2400	1
6	Aluminum Frame Assembly (Up to 30-31)	9908.3300	9908.3400	1
11	1-1/2" Flanged Iated Hub Only (Specify Model)	9901.2846	9901.2846	1
12	1-1/2" FNPT Plated Riser Only	9901.3767	9901.3767	1
13	EH-936S Washer	9965.0018	9965.0018	2
14	Junction Box Complete	9917.0060	9917.0060	1
16	3/8"-16 Carriage Bolt w/Nut	Specify Model	Specify Model	6
17	3/8" Aluminum Spacer Pipes (Specify Model)	9904.3200	9904.3200	6
18	Back Bearing Complete	9902.1420	9902.1420	1
18A	SST Self-Aligning Pillow Block, Back	9902.2902	9902.2902	1
18B	SST Self-Aligning Bearing Holder, Back	9902.2903	9902.2903	1
19	Back Bearing Insert Only	9902.1520	9902.1520	1
20	Front Bearing Complete	9902.1620	9902.1620	1
20A	SST Bearing Holder (Bottom Strap), Front	9902.2960	9902.2960	1
20B	SST Bearing Holder (Top Strap), Front	9902.2965	9902.2965	1
21	Front Bearing Insert Only (With Grease Fitting)	9902.1700	9902.1700	1
22	Ring Gear, H-26 (Up to 25-26)	9914.0372	9914.0372	1
22	Ring Gear, H-28	9914.0382	9914.0382	1
23	Pinion Gear, H-27 (Up to 25-26)	9914.0393	9914.0393	1
23	Pinion Gear, H-29	9914.0403	9914.0403	1
23A	Gear Guard	9914.0614	9914.0614	1
24	5/8"-18 SAE Hex Nut (ESNA)	9904.5600	9904.5600	1
25	Plated Pinion Shaft (Specify Model)	9914.0252	9914.0252	1
27	Side Pinion Bearing	9914.0243	9914.0243	1
28	Collar & Set Screw	9914.0351	9914.0351	1
29	Crank Handle, H-18 Complete	9914.0014	9914.0014	1
29A	Hand Crank Handle	9914.0506	9914.0506	1
29B	Hand Crank Handle Bolt w/Nut	9914.0511	9914.0511	1
30	Brake Pad, H-3	9914.0433	9914.0433	1
32	Brake Spring, H-31	9914.0451	9914.0451	1
33	Brake Wheel	9914.0413	9914.0413	1
34A	Comet Brake Hub	9947.0038	9947.0038	1
34B	Comet Brake Strap only	9947.0091	9947.0091	1
34C	Comet Brake Tention Adjuster (Bolt, Spring, Washer, Wing Nut)	9947.0092	9947.0092	1
35	112T35 SST Disc Sprocket	9910.1322	9910.1322	1
35	138T35 Chrome Plated Disc Sprocket	9910.1424	9910.1424	1
35	180T35 Chrome Plated Disc Sprocket	9910.1527	9910.1527	1
36	Chain, #35	Specify Model	Specify Model	1
38	Motor Sprocket, 11T35 x 1-5/16	9910.1118	9910.1118	1
41	Motor, 12 Volt Explosion-Proof	9915.0003	9915.0003	1
42	1-1/2" 90 Deg. FxF Swivel Joint	9930.0531	9930.0531	1
50	Gasket	9965.0021	9965.0021	1
59	Sprocket Spacer	9954.0017	9954.0017	6
103A	5/16"-18 x 3/4" SST Hex Head Bolt	9960.0002	9960.0002	9
103B	3/8"-16 x 3/4" SST Carriage Bolt w/Nut (w/o Comet Brake)	9960.0096	9960.0096	2
103B	3/8"-16 x 2" SST Carriage Bolt w/Nut (w/Comet Brake)	9960.0097	9960.0097	1
103C	3/8"-16 x 3/4" SST Spinlock Bolt	9960.0009	9960.0009	4
103D	3/8"-16 x 1" SST Spinlock Bolt	9960.0072	9960.0072	4
103E	3/8"-16 SST Spinlock Nut	9960.0091	9960.0091	8
103F	1/2"-13 x 1" SST Hex Head Bolt	9960.0016	9960.0016	2
103G	1/2" SST Lock Washer	9960.0017	9960.0017	2
103H	1/2"-13 SST Hex Nut	9960.0018	9960.0018	2
103J	3/8"-16 SST ESNA Nut	9960.0098	9960.0098	1

Hannay Series PB Aluminum w/ Square Tubing Frame



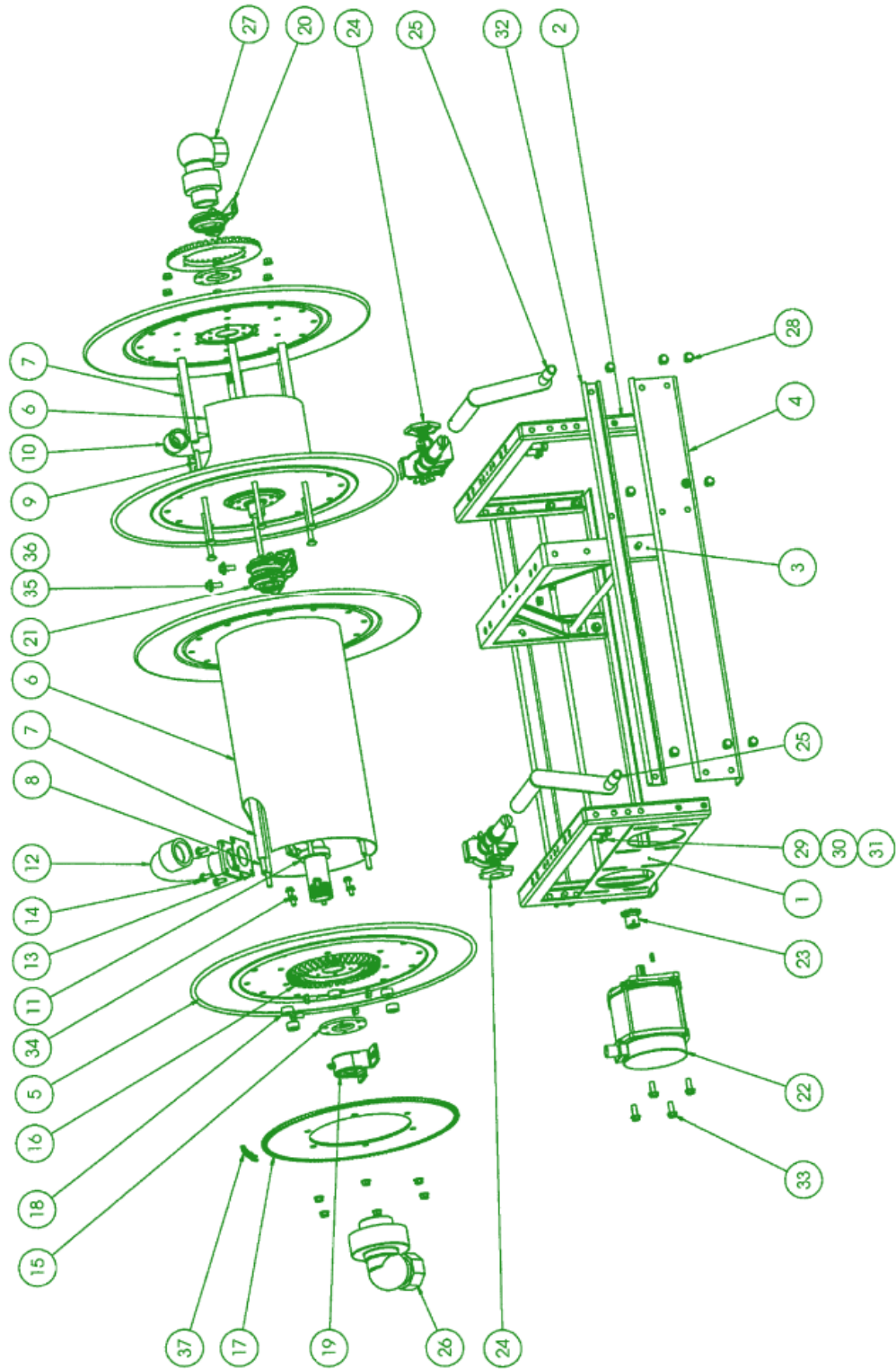
Hannay Series PB Aluminum w/ Square Tubing Frame

1-877-DBL-TANK

PART NUMBER

<u>Item No.</u>	<u>Description</u>	<u>Unpolished</u>	<u>Polished</u>	<u>Quantity</u>
1	Aluminum Drum, 10-1/2" Diameter (Specify Model)	9905.5132	9905.5132	1
2	Aluminum Front Disc, 19-20 Series	9903.0852	9903.0850	1
2	Aluminum Front Disc, 23-24 Series	9903.1152	9903.1150	1
2	Aluminum Front Disc, 25-26 Series	9903.1352	9903.1350	1
2	Aluminum Front Disc, 26-27 Series	9903.1452	9903.1450	1
2	Aluminum Front Disc, 28-29 Series	9903.1552	9903.1550	1
2	Aluminum Front Disc, 30-31 Series	9903.1652	9903.1650	1
2	Aluminum Front Disc, 33-34 Series	9903.1852	9903.1850	1
3	Aluminum Back Disc, 19-20 Series	9903.0852	9903.0850	1
3	Aluminum Back Disc, 23-24 Series	9903.1152	9903.1150	1
3	Aluminum Back Disc, 25-26 Series	9903.1352	9903.1350	1
3	Aluminum Back Disc, 26-27 Series	9903.1452	9903.1450	1
3	Aluminum Back Disc, 28-29 Series	9903.1552	9903.1550	1
3	Aluminum Back Disc, 30-31 Series	9903.1652	9903.1650	1
3	Aluminum Back Disc, 33-34 Series	9903.1852	9903.1850	1
4	Aluminum 1-1/2 Sq. Tubing Frame Assembly	Specify Model	Specify Model	1
11	1-1/2" Flanged Plated Hub Only (Specify Model)	9901.2846	9901.2846	1
12	1-1/2" FNPT Plated Riser Only	9901.3767	9901.3767	1
13	EH-936S Washer	9965.0018	9965.0018	2
14	Junction Box Complete	9917.0060	9917.0060	1
16	3/8"-16 Carriage Bolt w/Nut	Specify Model	Specify Model	6
17	3/8" Aluminum Spacer Pipes (Specify Model)	9904.3200	9904.3200	6
18	Back Bearing Complete	9902.1420	9902.1420	1
18A	SST Self-Aligning Pillow Block, Back	9902.2902	9902.2902	1
18B	SST Self-Aligning Bearing Holder, Back	9902.2903	9902.2903	1
19	Back Bearing Insert Only	9902.1520	9902.1520	1
20	Front Bearing Complete	9902.1620	9902.1620	1
20A	SST Bearing Holder (Bottom Strap), Front	9902.2960	9902.2960	1
20B	SST Bearing Holder (Top Strap), Front	9902.2965	9902.2965	1
21	Front Bearing Insert Only (With Grease Fitting)	9902.1700	9902.1700	1
22	Ring Gear, H-26 (Up to 25-26)	9914.0372	9914.0372	1
22	Ring Gear, H-28	9914.0382	9914.0382	1
23	Pinion Gear, H-27 (Up to 25-26)	9914.0393	9914.0393	1
23	Pinion Gear, H-29	9914.0403	9914.0403	1
23A	Gear Guard	9914.0614	9914.0614	1
24	5/8"-18 SAE Hex Nut (ESNA)	9904.5600	9904.5600	1
25	Plated Pinion Shaft (Specify Model)	9914.0252	9914.0252	1
27	Side Pinion Bearing	9914.0243	9914.0243	1
28	Collar & Set Screw	9914.0351	9914.0351	1
29	Crank Handle, H-18 Complete	9914.0014	9914.0014	1
29A	Hand Crank Handle	9914.0506	9914.0506	1
29B	Hand Crank Handle Bolt w/Nut	9914.0511	9914.0511	1
30	Brake Pad, H-3	9914.0433	9914.0433	1
32	Brake Spring, H-31	9914.0451	9914.0451	1
33	Brake Wheel	9914.0413	9914.0413	1
34A	Comet Brake Hub	9947.0038	9947.0038	1
34B	Comet Brake Strap only	9947.0091	9947.0091	1
34C	Comet Brake Tention Adjuster (Bolt, Spring, Washer, Wing Nut)	9947.0092	9947.0092	1
35	112T35 SST Disc Sprocket	9910.1322	9910.1322	1
35	138T35 Chrome Plated Disc Sprocket	9910.1424	9910.1424	1
35	180T35 Chrome Plated Disc Sprocket	9910.1527	9910.1527	1
36	Chain, #35	Specify Model	Specify Model	1
38	Motor Sprocket, 11T35 x 1-5/16	9910.1118	9910.1118	1
41	Motor, 12 Volt Explosion-Proof	9915.0003	9915.0003	1
42	1-1/2" 90 Deg. FxF Swivel Joint	9930.0531	9930.0531	1
50	Gasket	9965.0021	9965.0021	1
59	Sprocket Spacer	9954.0017	9954.0017	6
103A	5/16"-18 x 3/4" SST Hex Head Bolt	9960.0002	9960.0002	9
103B	3/8"-16 x 3/4" SST Carriage Bolt w/Nut (w/o Comet Brake)	9960.0096	9960.0096	2
103B	3/8"-16 x 2" SST Carriage Bolt w/Nut (w/Comet Brake)	9960.0097	9960.0097	1
103C	3/8"-16 x 2-1/2" SST Spinlock Bolt	9960.0075	9960.0075	4
103D	3/8"-16 x 1" SST Spinlock Bolt	9960.0072	9960.0072	4
103E	3/8"-16 SST Spinlock Nut	9960.0091	9960.0091	8
103F	1/2"-13 x 2-1/4" SST Hex Head Bolt	9960.0019	9960.0019	2
103G	1/2" SST Lock Washer	9960.0017	9960.0017	2
103H	1/2"-13 SST Hex Nut	9960.0018	9960.0018	2
103J	3/8"-16 SST ESNA Nut	9960.0098	9960.0098	1

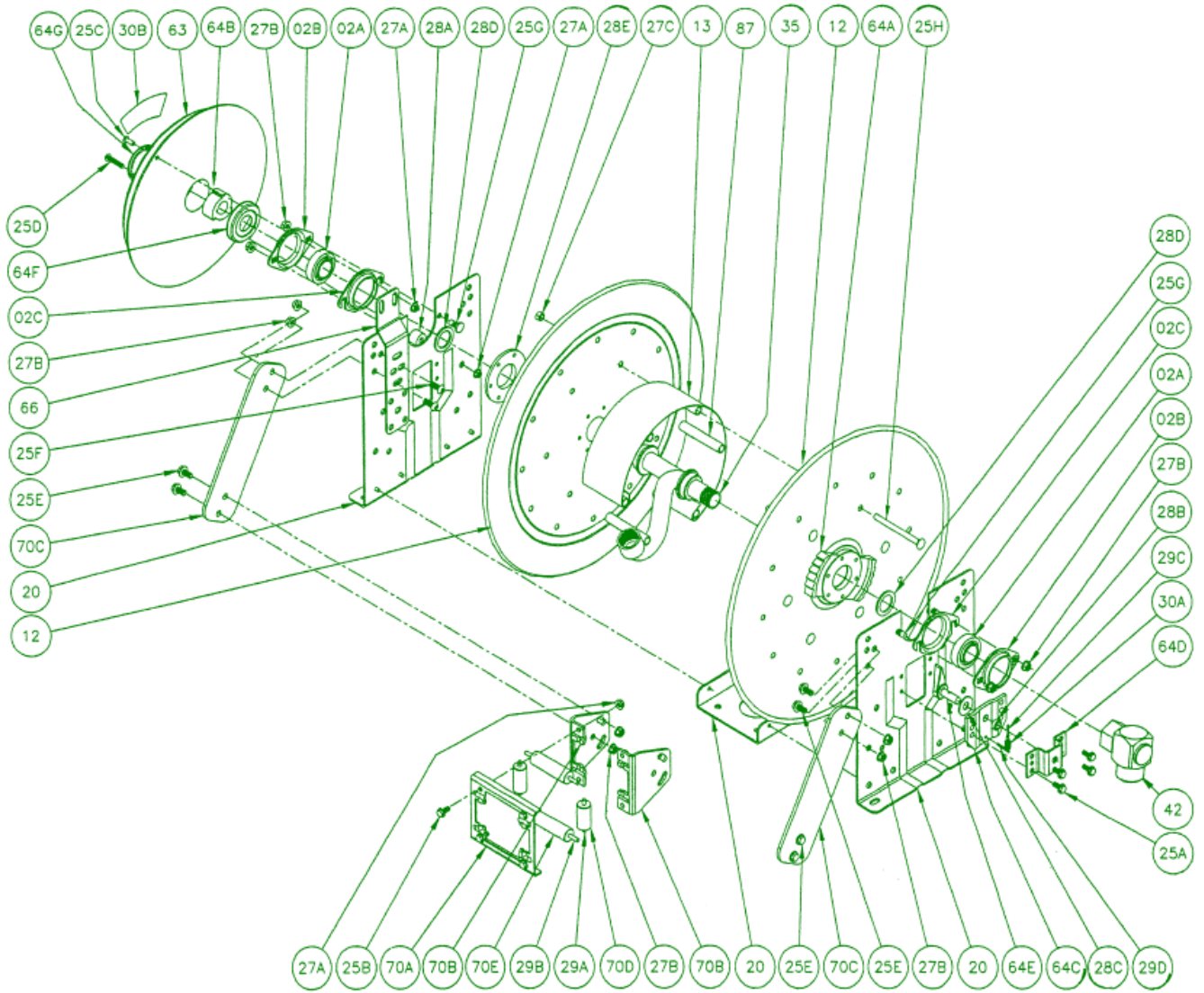
Hannay SERIES EPBM



Hannay SERIES EPBM

<u>Item No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantit</u>
1	Frame w/ Motor Plate, 23-24	9906.1111	1
1	Frame w/ Motor Plate, 25-26	9906.1121	1
2	Frame w/o Motor Plate, 23-24	9906.0111	1
2	Frame w/o Motor Plate, 25-26	9906.0121	1
3	Frame, Center 2", 23-24.....	9906.0240	1
3	Frame, Center 2", 25-26.....	9906.0241	1
4	Foot, 2x4 .....(Specify Length)	9907.3000	2
5	Disc, 23-24	9903.1121	4
6	Drum, 10-1/2" Dia.....(Specify Model)	9905.3131	2
7	3/8" Spacer Pipe .....(Specify Model)	9904.3200	12
8	3/8" Carriage Bolt w/ Nut.....	Specify Model	6
9	3/8" Carriage Bolt w/ Nut.....	Specify Model	6
10	Hub, 1" Vapor Side .....(Specify Model & Riser Fitting)	9901.1600	1
11	Hub, 1-1/2" Flange Iron Pipe Hub Only .....(Specify Model)	9901.3640	1
12	Riser, 1-1/2" Pipe Riser Only .....(Specify Riser Fitting Size/Type)	9901.3760	1
13	Gasket, Riser 1-1/2"	9965.0021	1
14	5/16"-18 x .75 Spinlock Bolt	9904.1101	4
15	EH-936 Disc Washer.....	9965.0015	4
16	Ring Gear, H-26	9914.0372	2
17	Disc Sprocket, 138T35.....	9910.1423	1
18	Sprocket Spacer, P28A-00330.....	9954.0015	6
19	1-1/2" S.A. Ball Bearing Complete	9902.1610	1
20	1" S.A. Bearing Complete	9902.1400	1
21	Double 1" Bronze Greasable Bearing	9902.3500	1
22	001 12V DC Exp/FL 1/2 HP 650 Imperial Motor	9915.0003	1
23	11T35 Sprocket, 1-1/16" Long.....	9910.1117	1
24	Manual Rewind Assembly	9914.0200	2
25	H-18 Steel Hand Crank Assembly	9914.0011	2
26	1-1/2" 90 Deg. FxF Steel 350 psi Full Circle Joint.....	9930.0531	1
27	1" 90 Deg FxF Steel 350 psi Full Circle Joint	9929.0501	1
28	3/8-16 x 3/4" Spinlock Bolt	9904.2201	22
29	1/2-13 x 1" Hex Head Bolt.....	9904.1402	4
30	1/2" Lock Washer	9954.0030	4
31	1/2" Flat Washer.....	9954.0008	4
32	Brace, Frame, Channel.....(Specify Length)	9907.7000	2
33	3/8-16 x 1-1/4" Spinlock Bolt.....	9904.2203	4
34	5/16-18 x 1/2" Hex Head Bolt.....	9904.1101	5
35	3/8-16 Spinlock Nut.....	9904.6200	26
36	3/8" Flat Washer.....	9954.0007	2
37	#35 Chain	Specify Model	A.R.

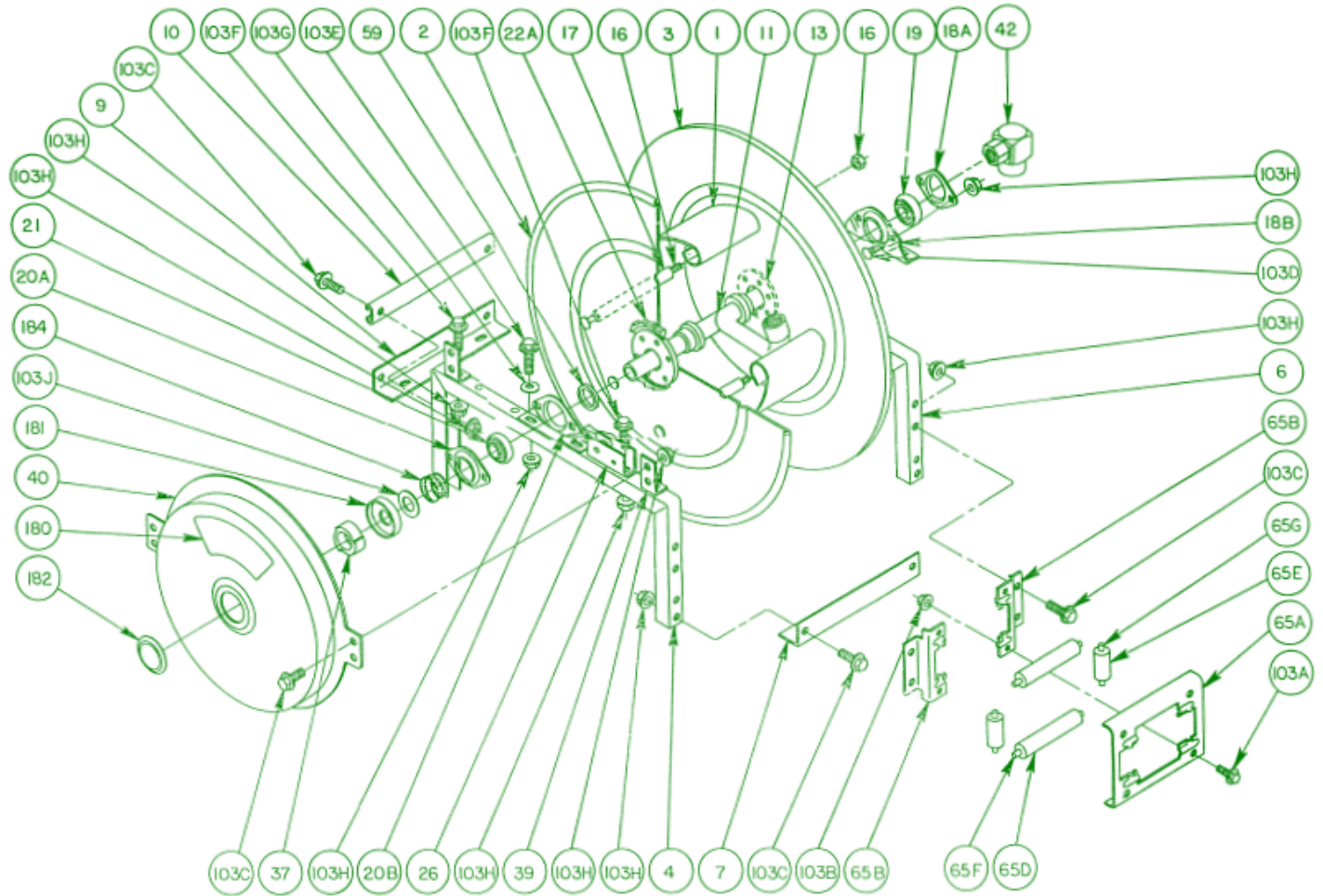
Hannay N-800 SERIES Spring Retractable Reels For Single Hose



Hannay N-800 SERIES Spring Retractable Reels For Single Hose

<u>Item No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
02A	Self-Aligning Bearing Insert	9902.1500	2
02B	Self-Aligning Bearing Holder.....	9902.2800	2
02C	Self-Aligning Bearing Holder (Slotted for N Series).....	9902.2801	2
12	19-20, 18-3/4" Dia. Disc (Specify Model & Front, Back)	9903.0821	2
12	23-24, 22-3/4" Dia. Disc (Specify Model & Front, Back)	9903.1121	2
12	25-26, 24-3/4" Dia. Disc (Specify Model & Front, Back)	9903.1321	2
13	Drum, 10-1/2" Dia. - Wrap Around (Specify Model).....	9905.0138	1
13	Drum, 15-1/2" Dia. - Wrap Around (Specify Model).....	9905.0178	1
20	Frame Assembly	Specify Model	1
25A	5/16"-18 x 3/4" Thread Cutting Hex Head Bolt.....	9958.0055	4
25B	5/16" x 3/4" Spinlock Bolt.....	9904.2101	4
25C	5/16"-18 x 3/4" Hex Socket Button Head Cap Screw	9904.9101	1
25D	5/16"-18 x 1-1/2" Hex Socket Button Head Cap Screw.....	9904.9104	1
25E	3/8"-16 x 3/4" Spinlock Bolt	9904.2201	6
25F	3/8"-16 Button Socket Head Cap Screw, 1" Long	9904.9202	2
25G	3/8"-16 x 7/8" Panhead Knurled Bolt	9904.4276	4
25H	Carriage Bolt w/ Nut.....	Specify Model	as needed
27A	5/16" - 18 Spinlock Nut.....	9904.6100	4
27B	3/8"-16 Spinlock Nut	9904.6200	12
27C	3/8"-16 Hex Head Nut.....	9904.5200	6
28A	Spring Mounting Spacer (J)	9922.0033	1
28A	Spring Mounting Spacer (A, B, D, & G).....	9922.0032	2
28B	Spacer, Ratchet Pawl.....	9922.0022	1
28C	1/2" Flat Washer	9954.0008	1
28D	1" Hub Spacer.....	9954.0021	as needed
28E	Disc Washer.....	9965.0015	1
29A	1/4" Dia. Stainless Steel Rod, 2-3/4" Long	9940.0190	2
29B	1/4" Dia. Stainless Steel Rod.....	Specify Model	2
29C	1/8" x 1" Stainless Steel Cotter Pin for Pawl & Pin	9922.0024	1
29D	3/16" x 1" Stainless Steel Cotter Pin for N Series Ratchet.....	9922.0028	1
30A	Ratchet Locking Spring.....	9922.0008	1
30B	Spring Under Tension Caution-Decal	9922.0010	1
35	1" Hub Assembly, Welded Iron Pipe w/ 1" FNPT Riser.....	Specify Model	1
42	1" 90 Degree FxF Balance Pressure Swivel Joint.....	9929.8538	1
63	Spring Motor, A (Specify Model)	9921.0010	1
63	Spring Motor, B (Specify Model).....	9921.0015	1
63	Spring Motor, D (Specify Model).....	9921.0020	1
63	Spring Motor, G (Specify Model).....	9921.0021	1
63	Spring Motor, J (Specify Model).....	9921.0030	1
64A	Ratchet Wheel	9922.0015	1
64B	Spring Arbor for A & D Spring.....	9922.0001	1
64B	Spring Arbor for B, G, & J Spring	9922.0002	1
64C	Ratchet Pawl Housing, Inner (N Series).....	9922.0027	1
64D	Ratchet Pawl Housing, Outer (N Series)	9922.0026	1
64E	Pawl & Pin.....	9922.0020	1
64F	Cap-Plug for Spring (Inner Side)	9922.0036	1
64G	Cap-Plug for Spring (Outer Side).....	9922.0041	1
66	Spring Mounting Bracket (N Series)	9922.0050	1
70A	Roller Bracket Frame.....	Specify Model	1
70B	N Series Roller Mounting Bracket.....	9940.0171	2
70C	N Series Roller Arm Only (Specify Model).....	9941.0030	2
70D	1" Dia. x 2" Long Roller for Stamped Housing	9940.0180	2
70E	1" Dia. Roller for Stamped Housing.....	Specify Model	2
87	3/8" Spacer Pipe (Specify Length).....	9904.3200	as needed

Hannay SERIES 800



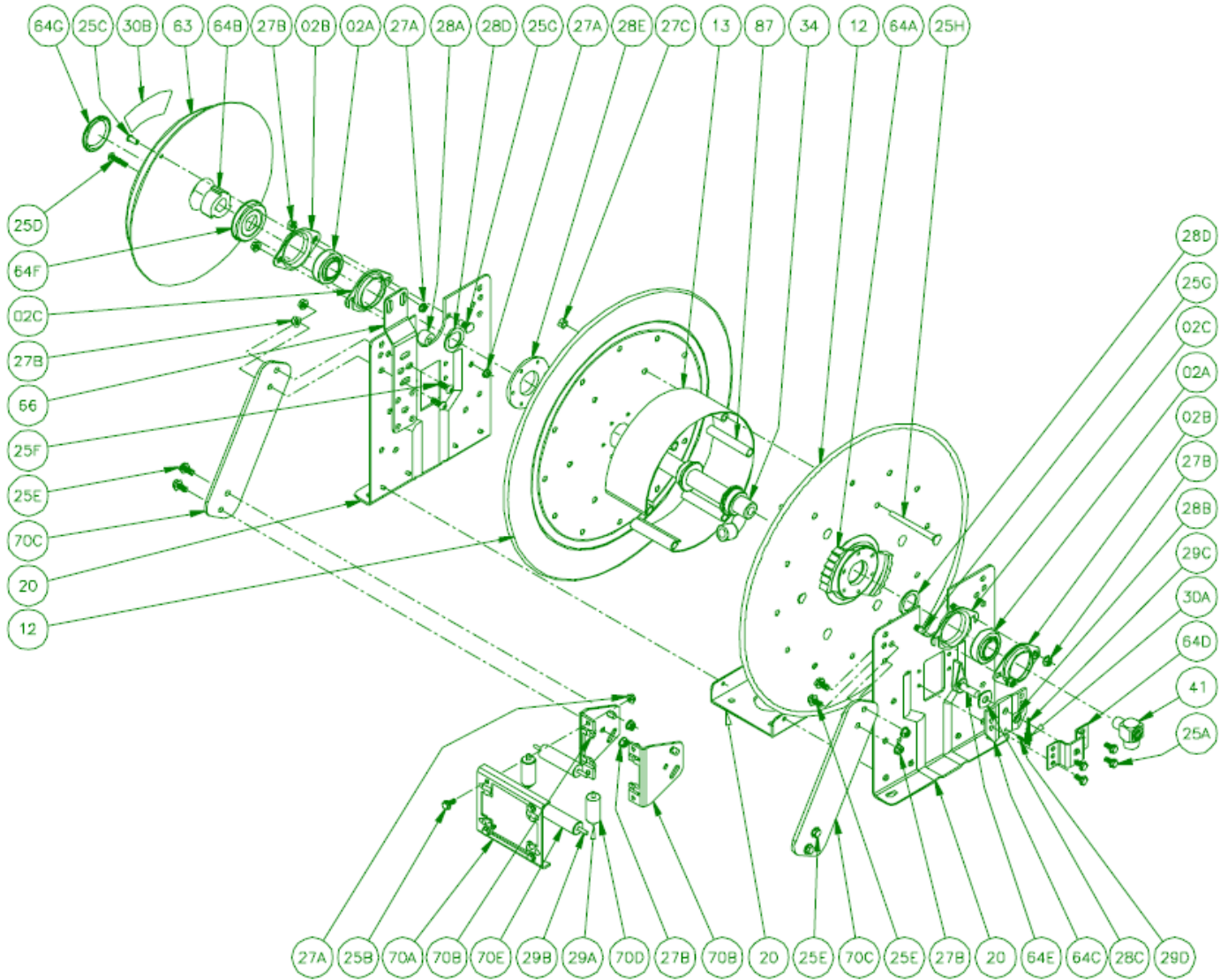
<u>Item No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
1	Drum, 10-1/2" Dia. - Wrap Around (Specify Model).....	9905.0138	1
1	Drum, 15-1/2" Dia. - Wrap Around (Specify Model).....	9905.0178	1
2	Front Disc, 19-20, 18-3/4" Dia. (Specify Model)	9903.0821	1
2	Front Disc, 23-24, 21-3/4" Dia. (Specify Model)	9903.1121	1
2	Front Disc, 25-26, 24-3/4" Dia. (Specify Model)	9903.1321	1
2	Front Disc, 28-29, 26-3/4" Dia. (Specify Model)	9903.1521	1
2	Front Disc, 30-31, 28-3/4" Dia. (Specify Model)	9903.1621	1
3	Back Disc, 19-20, 18-3/4" Dia. (Specify Model).....	9903.0821	1
3	Back Disc, 23-24, 21-3/4" Dia. (Specify Model).....	9903.1121	1

Hannay SERIES 800

1-877-DBL-TANK

Item No.	Description	PART NUMBER	Quantity
3	Back Disc, 25-26, 24-3/4" Dia. (Specify Model).....	9903.1321	1
3	Back Disc, 28-29, 26-3/4" Dia. (Specify Model).....	9903.1521	1
3	Back Disc, 30-31, 28-3/4" Dia. (Specify Model).....	9903.1621	1
4	Front Frame, 19-20, 1-1/2" Rollform Channel.....	9906.0081	1
4	Front Frame, 23-24, 1-1/2" Rollform Channel.....	9906.0111	1
4	Front Frame, 25-26, 1-1/2" Rollform Channel.....	9906.0121	1
4	Front Frame, 28-29, 1-1/2" Rollform Channel.....	9906.0141	1
4	Front Frame, 30-31, 1-1/2" Rollform Channel.....	9906.0151	1
6	Back Frame, 19-20, 1-1/2" Rollform Channel.....	9906.0081	1
6	Back Frame, 23-24, 1-1/2" Rollform Channel.....	9906.0111	1
6	Back Frame, 25-26, 1-1/2" Rollform Channel.....	9906.0121	1
6	Back Frame, 28-29, 1-1/2" Rollform Channel.....	9906.0141	1
6	Back Frame, 30-31, 1-1/2" Rollform Channel.....	9906.0151	1
7	Front Foot.....	Specify Model	1
9	Back Foot.....	Specify Model	1
10	Back Brace - C Channel.....	Specify Model	1
11	1" Hub Assembly, Welded Iron Pipe w/1" FNPT Riser (Specify Model).....	9901.1600	1
13	Disc Washer w/Rivets, EH-936.....	9965.0015	1
16	3/8" - 16 Carriage Bolt w/Nut (10-1/2" Drum).....	Specify Model	6
16	3/8" - 16 Carriage Bolt w/Nut (15-1/2" Drum).....	Specify Model	10
17	Spacer Pipe (10-1/2" Drum).....	Specify Model	6
17	Spacer Pipe (15-1/2" Drum).....	Specify Model	10
18A	Self Aligning Bearing Holder (Back).....	9902.2800	1
18B	Self-Aligning Bearing Pillow Block (Back).....	9902.2900	1
19	Self-Aligning Bearing Insert (Back).....	9902.1500	1
20A	Self-Aligning Bearing Holder (Front).....	9902.2800	1
20B	Self-Aligning Bearing Pillow Block (Front).....	9902.2900	1
21	Self-Aligning Bearing Insert (Front).....	9902.1500	1
22A	Ratchet Wheel.....	9922.0015	1
26	Ratchet Locking Assembly, GH-784.....	9922.0005	1
37	Spring Arbor For A & D Spring.....	9922.0001	1
37	Spring Arbor For B, G, & J Spring.....	9922.0002	1
39	Spring Mounting Bracket.....	9922.0009	2
40	Spring Motor, A.....	9921.0010	1
40	Spring Motor, B.....	9921.0015	1
40	Spring Motor, D.....	9921.0020	1
40	Spring Motor, G.....	9921.0021	1
40	Spring Motor, J.....	9921.0030	1
42	1" 90 Deg. FxF B.P. Swivel Joint.....	9929.8538	1
59	Hub Spacer.....	9954.0021	2
65A	Roller Bracket Frame, GH-895.....	Specify Model	1
65B	Roller Mounting Bracket, GH-896.....	9940.0170	1
65D	1" Dia Roller for Stamped Housing, GH-1012.....	Specify Model	2
65E	1" Dia. Roller for Stamped Housing, 2" Long, GH-1012A.....	9940.0180	2
65F	1/4" Dia. Stainless Steel Rod.....	Specify Model	2
65G	1/4" Dia. Stainless Steel Rod, 2-3/4" Long.....	9940.0190	2
66	EH-678D Roller Assembly (Not Shown).....	9939.0009	1
103A	5/16" - 18 x 3/4" Spinlock Bolt.....	9904.2101	4
103B	5/16" - 18 Spinlock Nut.....	9904.6100	4
103C	3/8" - 16 x 3/4" Spinlock Bolt.....	9904.2201	14
103D	3/8" - 16 x 3/4" Carriage Bolt.....	9904.0201	4
103E	3/8" - 16 x 1-1/4" Spinlock Bolt.....	9904.2203	4
103F	3/8" - 16 x 1-1/2" Spinlock Bolt.....	9904.2204	4
103G	3/8" Flat Washer.....	9954.0007	4
103H	3/8" - 16 Spinlock Nut.....	9904.6200	22
103J	1-7/8" O.D. x 1-5/16" I.D. x .049 Washer.....	9954.0019	1
180	Caution Decal, "Spring Under Tension".....	9922.0010	1
181	Cap-Plug for Spring (Inner Side).....	9922.0036	1
182	Cap-Plug for Spring (Outer Side).....	9922.0037	1
184	Dust Cap Spring.....	9922.0038	1

Hannay N-700 SERIES Spring Retractable Reels For Single Hose

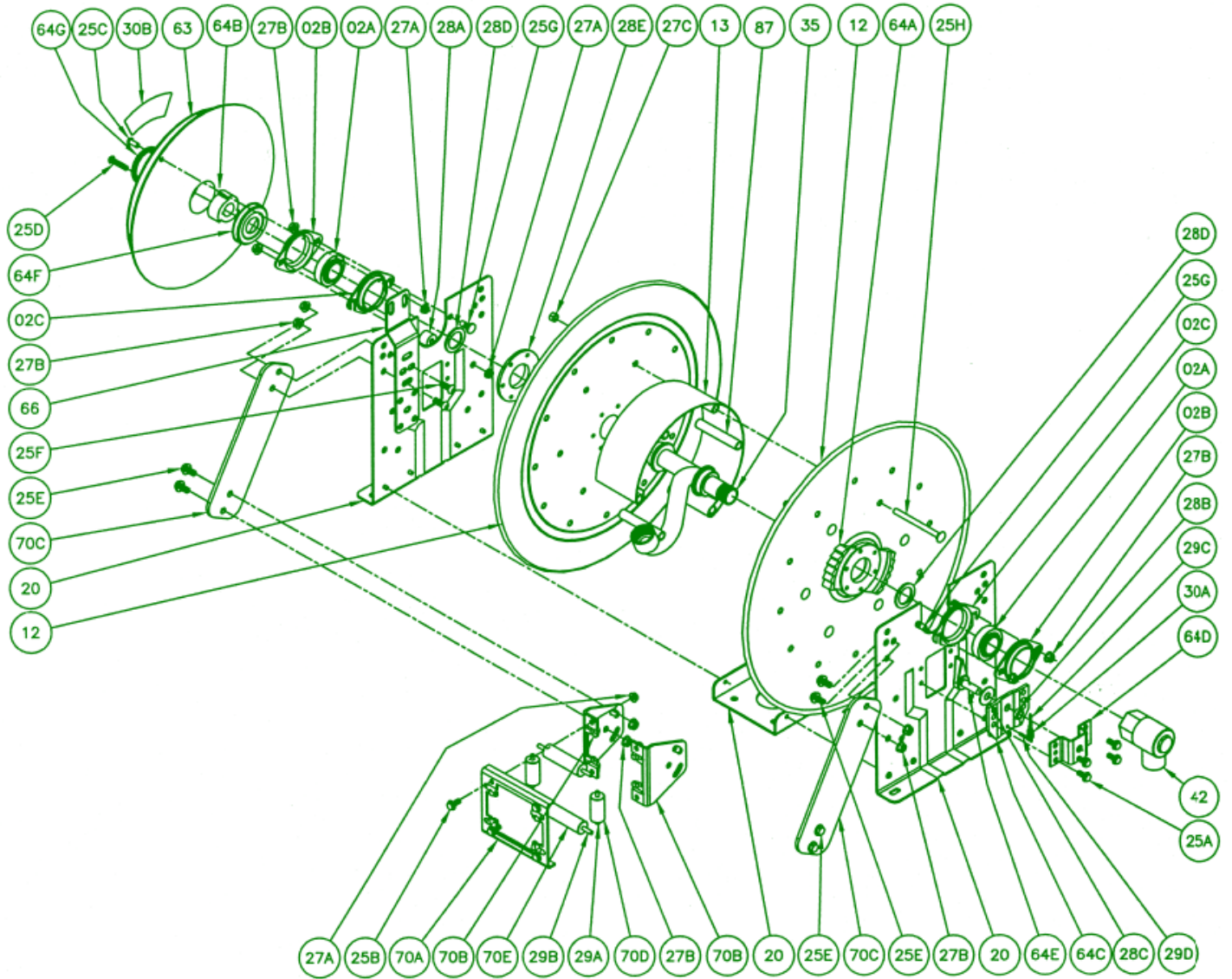


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N-700 SERIES Spring Retractable Reels For Single Hose

<u>Item No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
02A	Self-Aligning Bearing Insert.....	9902.1500	2
02B	Self-Aligning Bearing Holder.....	9902.2800	2
02C	Self-Aligning Bearing Holder (Slotted for N Series).....	9902.2801	2
12	16-17, 15 3/4" Dia. Disc.....(Specify Model & Front, Back)	9903.0421	2
12	19-20, 18 3/4" Dia. Disc.....(Specify Model & Front, Back)	9903.0821	2
12	23-24, 22 3/4" Dia. Disc.....(Specify Model & Front, Back)	9903.1121	2
12	25-26, 24 3/4" Dia. Disc.....(Specify Model & Front, Back)	9903.1621	2
13	Drum, 10 1/2" Dia. - Wrap Around.....(Specify Model)	9905.0138	1
13	Drum, 15 1/2" Dia. - Wrap Around.....(Specify Model)	9905.0178	1
20	Frame Assembly.....	(Specify Model)	1
25A	5/16"-18 x 3/4" Thread Cutting Hex Head Bolt.....	9958.0055	4
25B	5/16" x 3/4" Spinlock Bolt.....	9904.2101	4
25C	5/16" -18 x 1" Hex Socket Button Head Cap Screw.....	9904.9101	1
25D	5/16" -18 x 1 1/2" Hex Socket Button Head Cap Screw.....	9904.9104	1
25E	3/8"-16 x 3/4" Spinlock Bolt.....	9904.2201	6
25F	3/8"-16 Button Socket Head Cap Screw, 1" Long.....	9904.9202	2
25G	3/8"-16 x 7/8" Panhead Knurled Bolt.....	9904.4276	4
25H	Carriage Bolt w/Nut.....	(Specify Model)	as needed
27A	5/16" - 18 Spinlock Nut.....	9904.6100	4
27B	3/8" - 16 Spinlock Nut.....	9904.6200	12
27C	3/8" - 16 Hex Head Nut.....	9904.5200	6
28A	Spring Mounting Spacer (C&J).....	9922.0033	1
28A	Spring Mounting Spacer (B, D, & G).....	9922.0032	2
28B	Spacer, Ratchet Pawl.....	9922.0022	1
28C	1/2" Flat Washer.....	9954.0008	1
28D	1" Hub Spacer.....	9954.0021	as needed
28E	Disc Washer.....	9965.0015	1
29A	1/4" Dia. Stainless Steel Rod, 2-3/4" Long.....	9940.0190	2
29B	1/4" Dia. Stainless Steel Rod.....	(Specify Model)	2
29C	1/8" x 1" Stainless Steel Cotter Pin for Pawl & Pin.....	9922.0024	1
29D	3/16" x 1" Stainless Steel Cotter Pin for N Series Ratchet.....	9922.0028	1
30A	Ratchet Locking Spring.....	9922.0008	1
30B	Spring Under Tension Caution-Decal.....	9922.0010	1
34	1/2" FNPT Welded Barstock Steel Hub Assy.....(Specify Model)	9901.0631	1
41	1/2" 90° Mx F Swivel Joint.....	9927.8138	1
63	Spring Motor, B.....(Specify Model)	9921.0015	1
63	Spring Motor, C.....(Specify Model)	9921.0018	1
63	Spring Motor, D.....(Specify Model)	9921.0020	1
63	Spring Motor, G.....(Specify Model)	9921.0021	1
63	Spring Motor, J.....(Specify Model)	9921.0030	1
64A	Ratchet Wheel.....	9922.0015	1
64B	Spring Arbor for D Spring.....	9922.0001	1
64B	Spring Arbor for B, C, G, & J Spring.....	9922.0002	1
64C	Ratchet Pawl Housing, Inner (N Series).....	9922.0027	1
64D	Ratchet Pawl Housing, Outer (N Series).....	9922.0026	1
64E	Pawl & Pin.....	9922.0020	1
64F	Cap-Plug for Spring (Inner Side).....	9922.0036	1
64G	Cap-Plug for Spring (Outer Side).....	9922.0037	1
66	Spring Mounting Bracket (N Series).....	9922.0050	1
70A	Roller Bracket Frame.....	(Specify Model)	1
70B	N Series Roller Mounting Bracket.....	9940.0171	2
70C	N Series Roller Arm Only (Specify Model).....	9941.0030	2
70D	1" Dia. x 2" Long Roller for Stamped Housing.....	9940.0180	2
70E	1" Dia. Roller for Stamped Housing.....	(Specify Model)	2
87	3/8" Spacer Pipe (Specify Length).....	9904.3200	as needed

Hannay N-800 SERIES Spring Retractable Reels For Single Hose

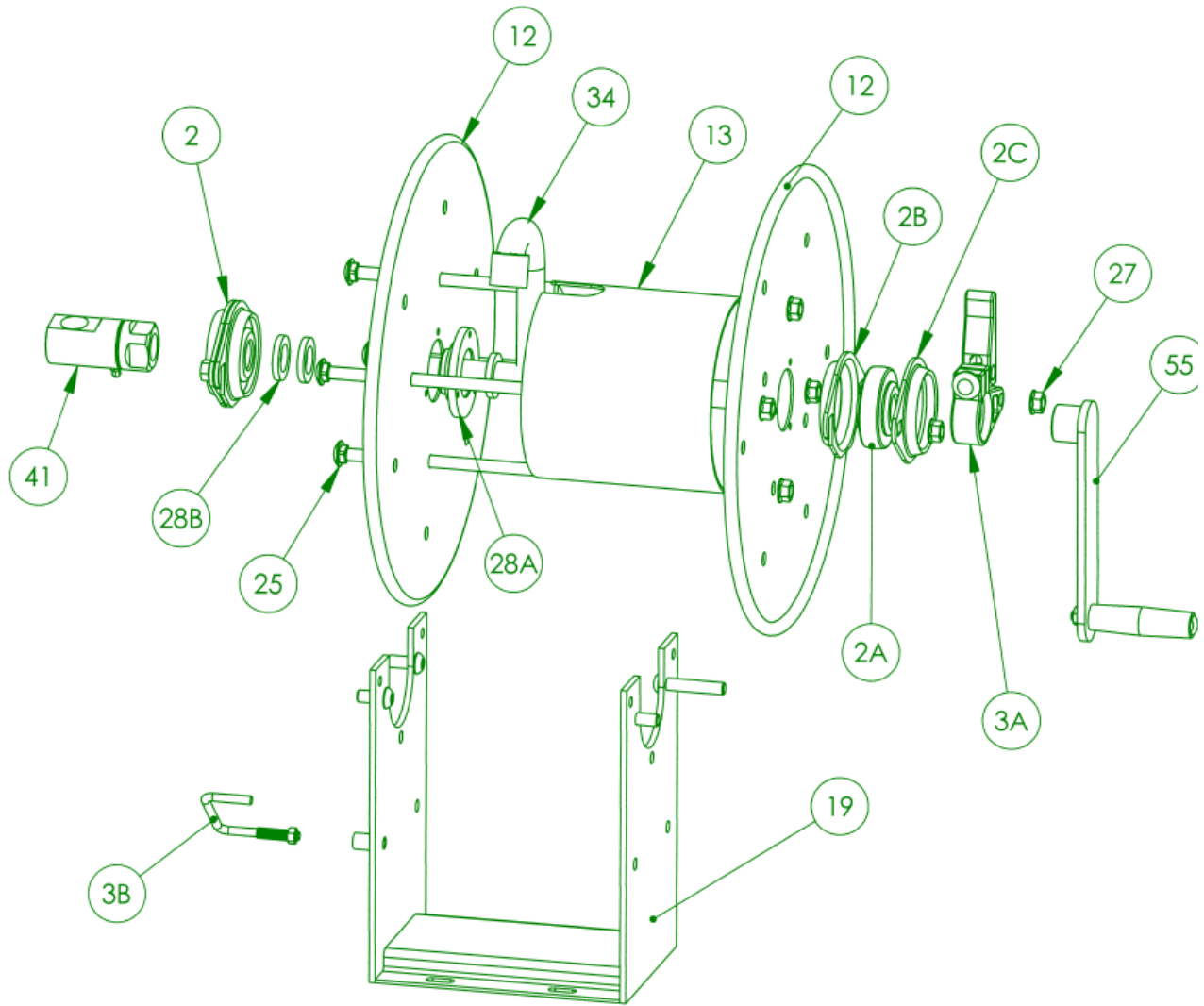


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N-800 SERIES Spring Retractable Reels For Single Hose

<u>Item No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
02A	Self-Aligning Bearing Insert.....	9902.1500	2
02B	Self-Aligning Bearing Holder.....	9902.2800	2
02C	Self-Aligning Bearing Holder (Slotted for N Series).....	9902.2801	2
12	19-20, 18-3/4" Dia. Disc (Specify Model & Front, Back).....	9903.0821	2
12	23-24, 22-3/4" Dia. Disc (Specify Model & Front, Back).....	9903.1121	2
12	25-26, 24-3/4" Dia. Disc (Specify Model & Front, Back).....	9903.1321	2
13	Drum, 10-1/2" Dia. - Wrap Around.....(Specify Model)	9905.0138	1
13	Drum, 15-1/2" Dia. - Wrap Around.....(Specify Model)	9905.0178	1
20	Frame Assembly.....	Specify Model	1
25A	5/16"-18 x 3/4" Thread Cutting Hex Head Bolt.....	9958.0055	4
25B	5/16" x 3/4" Spinlock Bolt.....	9904.2101	4
25C	5/16"-18 x 1" Hex Socket Button Head Cap Screw.....	9904.9101	1
25D	5/16"-18 x 1-1/2" Hex Socket Button Head Cap Screw.....	9904.9104	1
25E	3/8"-16 x 3/4" Spinlock Bolt.....	9904.2201	6
25F	3/8"-16 Button Socket Head Cap Screw, 1" Long.....	9904.9202	2
25G	3/8"-16 x 7/8" Panhead Knurled Bolt.....	9904.4276	4
25H	Carriage Bolt w/Nut.....	Specify Model	as needed
27A	5/16"-18 Spinlock Nut.....	9904.6100	4
27B	3/8"-16 Spinlock Nut.....	9904.6200	12
27C	3/8"-16 Hex Head Nut.....	9904.5200	6
28A	Spring Mounting Spacer (J).....	9922.0033	1
28A	Spring Mounting Spacer (A, B, D, & G).....	9922.0032	2
28B	Spacer, Ratchet Pawl.....	9922.0022	1
28C	1/2" Flat Washer.....	9954.0008	1
28D	1" Hub Spacer.....	9954.0021	as needed
28E	Disc Washer.....	9965.0015	1
29A	1/4" Dia. Stainless Steel Rod, 2-3/4" Long.....	9940.0190	2
29B	1/4" Dia. Stainless Steel Rod.....	Specify Model	2
29C	1/8" x 1" Stainless Steel Cotter Pin for Pawl & Pin.....	9922.0024	1
29D	3/16" x 1" Stainless Steel Cotter Pin for N Series Ratchet.....	9922.0028	1
30A	Ratchet Locking Spring.....	9922.0008	1
30B	Spring Under Tension Caution-Decal.....	9922.0010	1
35	1" Hub Assembly, Welded Iron Pipe w/ 1" FNPT Riser.....	Specify Model	1
42	1" 90 Degree FxF Balance Pressure Swivel Joint.....	9929.8538	1
63	Spring Motor, A..... (Specify Model)	9921.0010	1
63	Spring Motor, B..... (Specify Model)	9921.0015	1
63	Spring Motor, D..... (Specify Model)	9921.0020	1
63	Spring Motor, G..... (Specify Model)	9921.0021	1
63	Spring Motor, J..... (Specify Model)	9921.0030	1
64A	Ratchet Wheel.....	9922.0015	1
64B	Spring Arbor for A & D Spring.....	9922.0001	1
64B	Spring Arbor for B, G, & J Spring.....	9922.0002	1
64C	Ratchet Pawl Housing, Inner (N Series).....	9922.0027	1
64D	Ratchet Pawl Housing, Outer (N Series).....	9922.0026	1
64E	Pawl & Pin.....	9922.0020	1
64F	Cap-Plug for Spring (Inner Side).....	9922.0036	1
64G	Cap-Plug for Spring (Outer Side).....	9922.0041	1
66	Spring Mounting Bracket (N Series).....	9922.0050	1
70A	Roller Bracket Frame.....	Specify Model	1
70B	N Series Roller Mounting Bracket.....	9940.0171	2
70C	N Series Roller Arm Only.....(Specify Model)	9941.0030	2
70D	1" Dia. x 2" Long Roller for Stamped Housing.....	9940.0180	2
70E	1" Dia. Roller for Stamped Housing.....	Specify Model	2
87	3/8" Spacer Pipe.....(Specify Length)	9904.3200	as needed

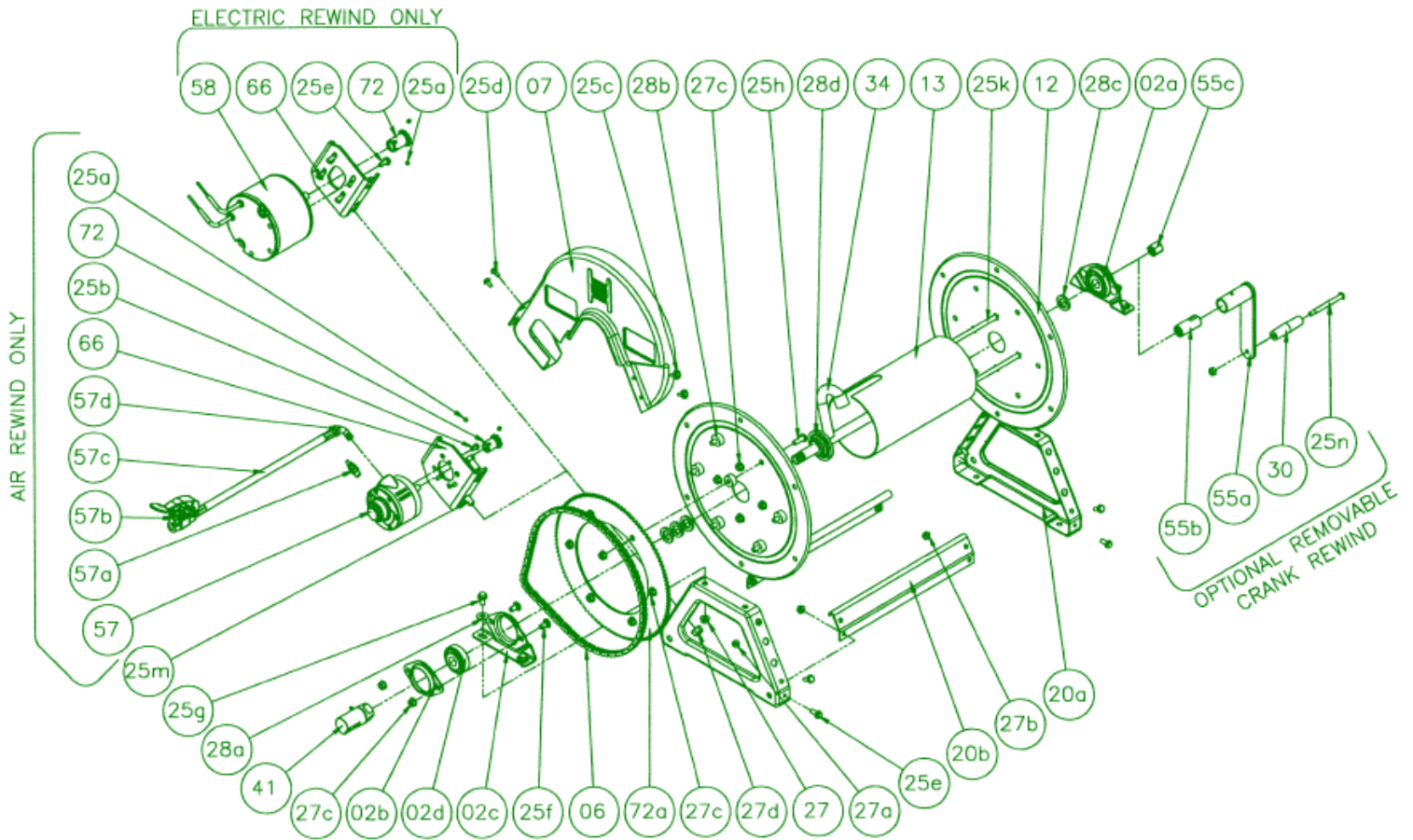
Hannay SERIES 1000 Pressure/Steam Cleaning Reel



Hannay SERIES 1000 Pressure/Steam Cleaning Reel

<u>Item No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
2	1/2" S.A. Bearing Assy. Complete for 1000 Series Reel	9902.2610	2
2A	1/2" Ball Bearing Insert	9902.1300	2
2B	Slotted Bearing Holder	9902.2801	2
2C	Bearing Holder	9902.2800	2
3A	Cam Lever Drag Brake Kit (including hardware).....	9947.0130	1
3B	PL-3 Pinlock Assembly (OPTIONAL).....	9965.0131	1
12	(14-16) 14.25" Diameter Disc.....	9903.0311	2
13	Drum, 6" Diameter Aluminum (SPEC MODEL)	9905.7112	1
19	Steel Frame Assy. For 1000 Series Reel (SPEC MODEL).....	9908.5000	1
25	3/8" Carriage Bolt w/nut	Spec. Model	4
27	3/8"-16 Spinlock Nut.....	9904.6200	8
28A	Disc Washer, P28A-00050	9965.0040	2
28B	1/2" Hub Spacer Washer, Isolplast.....	9954.0020	3
34	1/2" Welded Iron Pipe Hub with 3/8" FIPT Riser (SPEC MODEL)	9901.0610	1
41	1/2" 90 Deg. FxF Super Swivel Joint.....	9927.8551	1
55	Hand Crank Complete (includes hardware).....	9914.0021	1

Hannay SERIES 1500 Power Rewind



Hannay SERIES 1500 Power Rewind

1-877-DBL-TANK

<u>Item No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
02a	Self Aligning Bearing Complete - (1/2" Bore).....	9902.1200	2
02b	Self Aligning Bearing Holder	9902.2800	2
02c	Self Aligning Bearing Pillowblock	9902.2900	2
02d	Self Aligning Bearing Insert - (1/2" Bore)	9902.1300	2
06	#35 Chain	9912.0028	1
07	Chain Guard, Molded	9957.0030	1
12	17-18 Disc	9903.0516	2
13	Drum - Aluminum - 6" Dia. ....(Specify Model)	9905.7112	1
20	Frame Assembly 1500 Series (Complete)	9908.1000	1
20a	Frame, 1500 Series.....	9906.0011	2
20b	Foot, 1500 Series.....	9907.6000	2
25a	1/4" - 20 X 1/4" Allen Set Screw	9958.0002	2
25c	1/4" - 20 x 3/4" Hex Washer Head Black Zinc Screw	9904.1071	2
25d	1/4" - 20 x 1/2" Hex Washer Head Tap Tight Screw	9904.1070	2
25e	5/16" - 18 x 3/4" Spinlock Bolt.....	9904.2101	12
25f	3/8" - 16 x 3/4" Bearing Bolt.....	9904.0201	4
25g	3/8" - 16 x 3/4" Spinlock Bolt	9904.2201	4
25h	3/8"-16 x 1" Button Head Cap Screw.....	9904.9202	6
25k	3/8" - 16 Carriage Bolt.....	Specify Model	4
25m	1/2"-13 x 1" Hex Head Bolt	9904.1402	2
27a	1/4" - 20 Spinlock Nut	9904.6000	2
27b	5/16" - 18 Spinlock Nut	9904.5602	8
27c	3/8" - 16 Spinlock Nut	9904.6200	18
27d	1/2" - 13 Hex Head Nut.....	9904.5400	2
28a	3/8" Flat Washer.....	9954.0007	4
28b	Disc Sprocket Spacer.....	9954.0015	6
28c	Hub Spacer	9954.0020	As Req'd
28d	Disc Washer	9965.0040	2
34	1/2" Hub Assembly w/ 1/2" FIPT Riser Outlets	9901.0610	1
41	1/2" 90 Deg Steel 5000 Psi Super Swivel Joint.....	9927.8551	2
55c	1/2" Pipe Cap	9965.0013	1
72a	112T35 x 13-3/8" Dia Disc Sprocket	9910.1321	1
Optional Removable Crank Rewind			
25n	Crank Handle Bolt w/ Nut.....	9914.0511	1
30	Hand Crank Handle.....	9914.0505	
55a	Hand Crank	9914.0051	1
55b	1/2" Adapter for Removable Crank	9914.0053	1
Air Motor Only			
25b	1/4" - 20 X 1/4" Spinlock Bolt.....	9904.1058	3
57	#4 AM Gast Air Motor (Face Mount)	9918.1122	1
57a	Speed Control Muffler	9919.0006	1
57b	Schrader Valve # 3420.....	9919.0004	1
57c	18" x 1/4" x 1/4" Air Hose.....	9919.0007	1
57d	1/4" 90 Deg Pipe Elbow	9950.0013	1
66	Motor Mounting Plate - Air Motor	9923.0013	1
72	9T35 X 1-3/4" Motor Sprocket - Air Motor.....	9910.1015	1
Electric Motor Only			
58	227 12V DC Non Explosion Proof Motor (Face Mount).....	9915.0042	1
66	Motor Mounting Plate - Electric Motor.....	9923.0006	1
72	11T35 x 1-3/4" Motor Sprocket - Electric Motor.....	9910.1119	1

Hannay 1800 SERIES

<u>Drawing No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
1	Drum, 6" Alum. Tubing .....(Specify Model)	9905.7112	1
2	16-1/2" Dia. E-Coated Disc (Front).....	9903.0516	1
3	16-1/2" Dia. E-Coated Disc (Back).....	9903.0516	1
4	Frame Assy.....	Specify Model	1
11	1" Welded Pipe Hub Assy.....	9901.2000	1
16	3/8" Carriage Bolt w/Nut.....	Specify Model	4
18	1" S.A. Brg. Complete (Back).....	9902.1400	1
19	922 1" Brg. Insert (Back).....	9902.1500	1
20	1" S.A. Brg. Complete (Front).....	9902.1400	1
21	922 1" Brg. Insert (Front).....	9902.1500	1
29A	Hand Crank.....	9914.0041	1
29B	Hand Crank Handle.....	9914.0505	1
29C	Hand Crank Handle Bolt w/Nut.....	9914.0511	1
42	1" 90 Degree FxF Super Swivel.....	9929.8551	1
59A	1" Hub Spacer Washer.....	9954.0021	4
59B	Tension Brake Spacer 5/8 LG.....	9965.0007	1
68	Tension Spring.....	9965.0002	1
103A	3/8-16x3/4 Hex Serrated Washer HD.....	9904.2201	3
103B	3/8-16x3 Round HD Cap Screw.....	9965.0011	1
103C	3/8 Flat Washer.....	9954.0007	6
103D	3/8-16 Serrated Locknut.....	9904.6200	4
103E	3/8-16 Wingnut.....	9965.0009	1
OPTIONAL REMOVABLE REWIND CRANK			
29A	Hand Crank Removable.....	9914.0051	1
29B	Hand Crank Handle.....	9914.0505	1
29C	Hand Crank Handle Bolt w/Nut.....	9914.0511	1
29D	1" Pipe Cap (Removable Crank).....	9914.0701	1
ELECTRIC			
5	Motor Mounting Plate Electric Motor.....	9923.0006	1
29D	1" Pipe Cap.....	9965.0014	1
35	112T35 Disc Sprocket 13-3/8" Dia.....	9910.1321	1
36	#35 Chain.....	9912.0001	1
38	11T35 Spkt. 1-3/4" LG.....	9910.1119	1
41	Electric Motor.....	Specify Model	1
59C	GH-239 Sprocket Spacer.....	9954.0015	6
103D	3/8-16 Serrated Locknut.....	9904.6200	6
103F	3/8-16 x 1 Button HD Cap Screw.....	9904.9202	6
103G	1/2-13 x 1 Hex HD Cap Screw.....	9904.1402	2
103H	1/2 Flat Washer.....	9954.0008	2
103J	1/2 Split Lock Washer.....	9954.0030	2
103K	1/2-13 Hex Nut.....	9954.0036	2
103L	1/4-20 Allen Set SCR w/Nylock Insert.....	9958.0002	2
103M	1/4-20 x 1/2" Spinlock Bolt.....	9904.2058	2
103N	1/4" Flat Washer.....	9954.0005	2
103P	1/4-20 Spinlock Nut.....	9904.6000	2
103R	1/4-20 x 1/2" Self Tapping.....	9904.1070	2
103S	5/16" - 18 x 5/8" Spinlock Bolt.....	9904.2159	4
138	Full Chain Guard.....	Specify Model	1

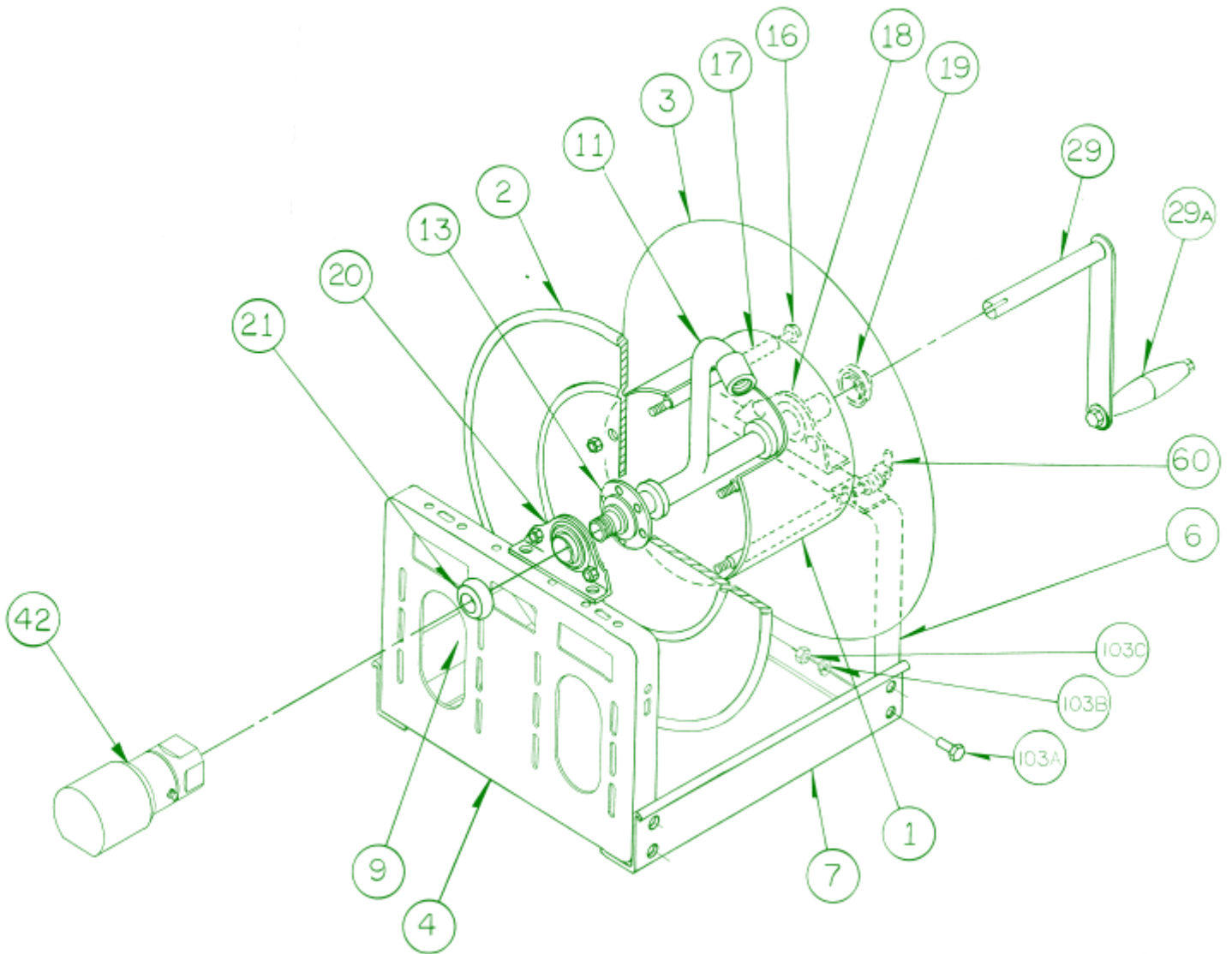
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Hannay 1800 SERIES

AIR

5	Motor Mounting Plate #4 Air Motor	9923.0009	1
29D	1" Pipe Cap	9965.0014	1
35	112T35 Disc Sprocket 13-3/8 Dia.	9910.1321	1
36	#35 Chain	9912.0001	1
38	9T35 Spkt. 3/4" LG	9910.1010	1
41	4AM Gast Air Motor.....	9918.1122	1
59C	GH-239 Sprocket Spacer	9954.0015	6
103D	3/8-16 Serrated Locknut.....	9904.6200	6
103F	3/8-16 x 1 Button HD Cap Screw	9904.9202	6
103G	1/2-13 x 1 Hex HD Cap Screw.....	9904.1402	2
103H	1/2 Flat Washer	9954.0008	2
103J	1/2 Split Lock Washer.....	9954.0030	2
103K	1/2-13 Hex Nut.....	9954.0036	2
103L	1/4-20 Allen Set SCR w/Nylock Insert	9958.0002	2
103M	1/4-20 x 1/2" Spinlock Bolt	9904.2058	2
103N	1/4 Flat Washer	9954.0005	2
103P	1/4-20 Spinlock Nut.....	9904.6000	2
103R	1/4" - 20 x 1/2" Self Tapping	9904.1070	2
103S	1/4" - 20 x 1/2" Spinlock Bolt.....	9904.2058	3
107A	#3420 Schrader Valve For #4 Air Mtr.	9919.0004	1
107B	18" 1/4 x 1/4 Air Hose	9919.0007	1
134	Speed Control Muffler	9919.0006	1
137A	1/4" x 1-1/2" Pipe Nipple	9950.0012	1
137B	1/4 90 Degree Pipe Elbow	9950.0013	1
138	Full Chain Guard	Specify Model	1

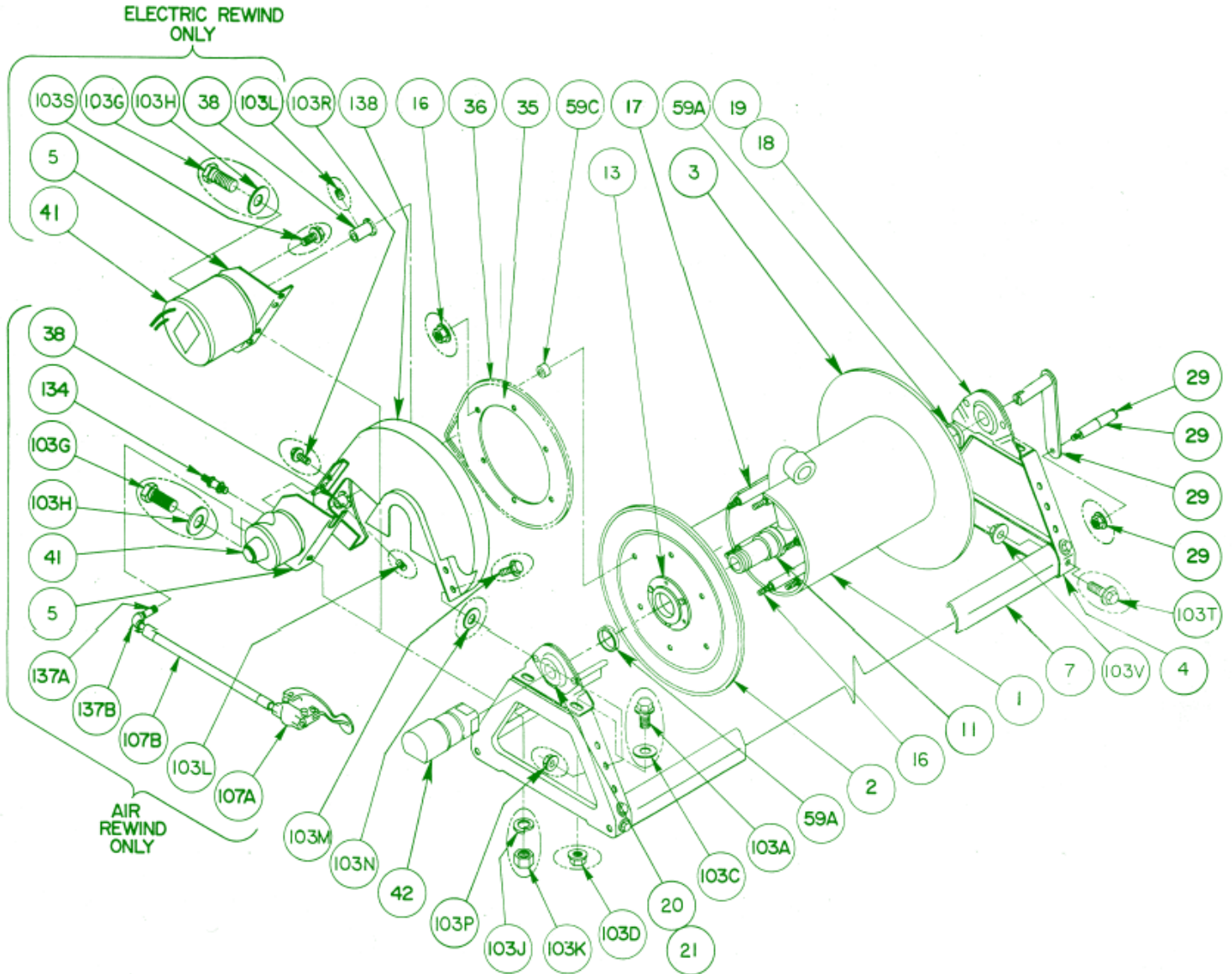
Hannay SERIES SS 3000 REELS



Hannay SERIES SS 3000 REELS

<u>Drawing No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
1	Drum, 10-1/2" Dia. Stainless Steel	9905.3134	1
2	Front Disc, 24" Dia. Stainless Steel	9903.1224	1
3	Back Disc, 24" Dia. Stainless Steel	9903.1224	1
4	Front Frame	9906.5034	1
6	Back Frame	9906.5034	1
7	Front Foot	Specify Model	1
9	Back Foot	Specify Model	1
11	1" Hub Assembly w/1" FNPT Riser .....(Specify Model)	9901.1604	1
13	EH-936S Washer	9965.0018	2
16	3/8" Carriage Bolts	Specify Model	6
17	3/8" Spacer Pipes	Specify Model	6
18	1" Stainless Steel S.A. Back Bearing, Complete	9902.1403	1
19	1" S.A. Back Bearing Insert Only	9902.1503	1
20	1" Stainless Steel S.A. Front Bearing Complete	9902.1403	1
21	1" S.A. Front Bearing Insert Ony	9902.1503	1
29	Hand Crank	9914.0034	1
29A	Plastic Crank Handle	9914.0505	1
42	Stainless Steel Swivel Joint, 1" F x F	9929.8525	1
60	Pin Lock	9965.0034	1
103A	3/8"-16 x 3/4" Lg SST Hex Head Bolt	9960.0009	14
103B	3/8" Stainless Steel Lock Washer	9960.0008	14
103C	3/8"-16 SST Hex Nut	9960.0007	14

Hannay 4000 SERIES POWER REWIND

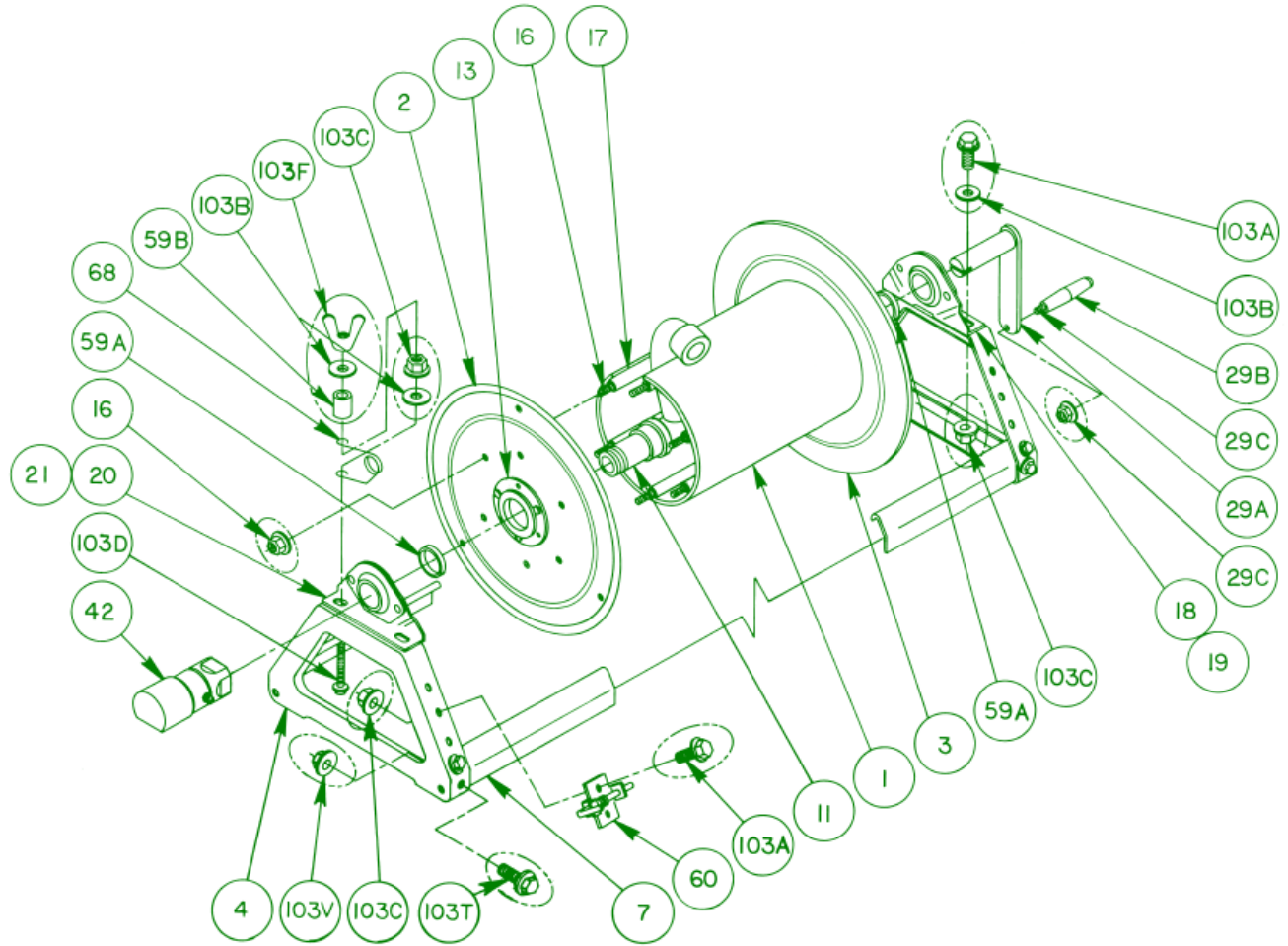


Hannay
4000 SERIES POWER REWIND

1-877-DBL-TANK

<u>Item No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
1	Drum, 8" Dia.....(Specify Model)	9905.3121	1
2	Disc, 16-1/2" Dia. (Front)	9903.0721	1
3	Disc, 16-1/2" Dia. (Back)	9903.0721	1
4	Pressed Frame	9906.0011	2
7	Footstock P80A-00030	9907.6000	2
11	1" Hub Assy., 1" FNPT Outlet Riser	9901.1600	1
13	Disc Washer, EH-936	9965.0013	2
16	3/8" - 16 Carriage Bolt w/Nut	Specify Model	6
17	3/8" Spacer Pipe .....(Specify Model)	9904.3200	6
18	1" Self Aligning Bearing Complete (Back).....	9902.1400	1
19	1" Bearing Insert (Back)	9902.1500	1
20	1" Self Aligning Bearing Complete (Front)	9902.1400	1
21	1" Bearing Insert (Front)	9902.1500	1
35	112T35 Disc Sprocket	9910.1321	1
36	Chain, #35	9912.0028	1
42	1" 90 Deg. FxF Swivel Joint	9929.8551	1
59A	1" Hub Spacer Washer	9954.0021	2
59C	GH-239 Sprocket Spacer	9954.0015	6
103A	3/8" - 16 x 3/4" Spin Lock Bolt	9904.2201	4
103C	3/8" Flat Washer	9954.0007	4
103D	3/8" - 16 Spin Lock Nut	9904.6200	4
103G	1/2" - 13 x 1" Hex HD Cap Screw	9904.1402	2
103H	1/2" Flat Washer	9954.0008	2
103J	1/2" Split Lock Washer	9954.0030	2
103K	1/2" - 13 Hex Nut.....	9954.0036	2
103L	1/4" - 20 Allen Set Screw w/Nylock Insert.....	9958.0002	2
103M	1/4" - 20 x 1/2" Spinlock Bolt.....	9904.2058	2
103N	1/4" Flat Washer	9954.0005	2
103P	1/4" - 20 Spinlock Nut.....	9904.6000	2
103R	1/4" - 20 x 1/2" Self Taping Screw	9904.1070	2
103T	5/16" - 18 x 5/8" LG Hex Flanged Bolt.....	9904.1159	8
103V	5/16" - 18 Top Lock Flanged Nut.....	9904.5602	8
138	Chain Guard.....	Specify Model	1
OPTIONAL REMOVABLE REWIND CRANK			
29	Hand Crank (includes handle, bolt & nut)	9914.0031	1
ELECTRIC			
5	Motor Mounting Plate-Electric Motor.....	9923.0006	1
38	11T35 Spkt. 1-3/4" LG.....	9910.1119	1
41	Electric Motor .....(Specify Model)	9915.0042	1
103S	5/16" - 18 x 5/8" Spinlock Bolt.....	9904.2159	4
AIR			
5	Motor Mounting Plate #4 Air Motor	9923.0013	1
38	9T35 Spkt. 1-3/4" LG.....	9910.1015	1
41	4AM Gast Air Motor.....	9918.1122	1
103S	1/4" - 20 x 1/2" Spinlock Bolt.....	9904.2058	3
107A	#3420 Schrader Valve For #4 Air Mtr.	9919.0004	1
107B	18" 1/4 x 1/4" Air Hose	9919.0007	1
134	Speed Control Muffler	9919.0006	1
137A	1/4" x 1-1/2" Pipe Nipple	9950.0012	1
137B	1/4" 90 Degree Pipe Elbow	9950.0013	1
HYDRAULIC			
5	Motor Mounting Plate - MTE Motor	9923.0013	1
38	11T35 Spkt. 1-3/4" Long.....	9910.1119	1
41	MTE Hydraulic Motor (Not Shown)	9918.2825	1
103S	5/16 - 18 x 1-1/4" Spinlock Bolt.....	9904.2103	4
103S	5/16 - 18 Spinlock Nut (Not Shown).....	9904.6100	4

Hannay SERIES 4000 MANUAL REWIND

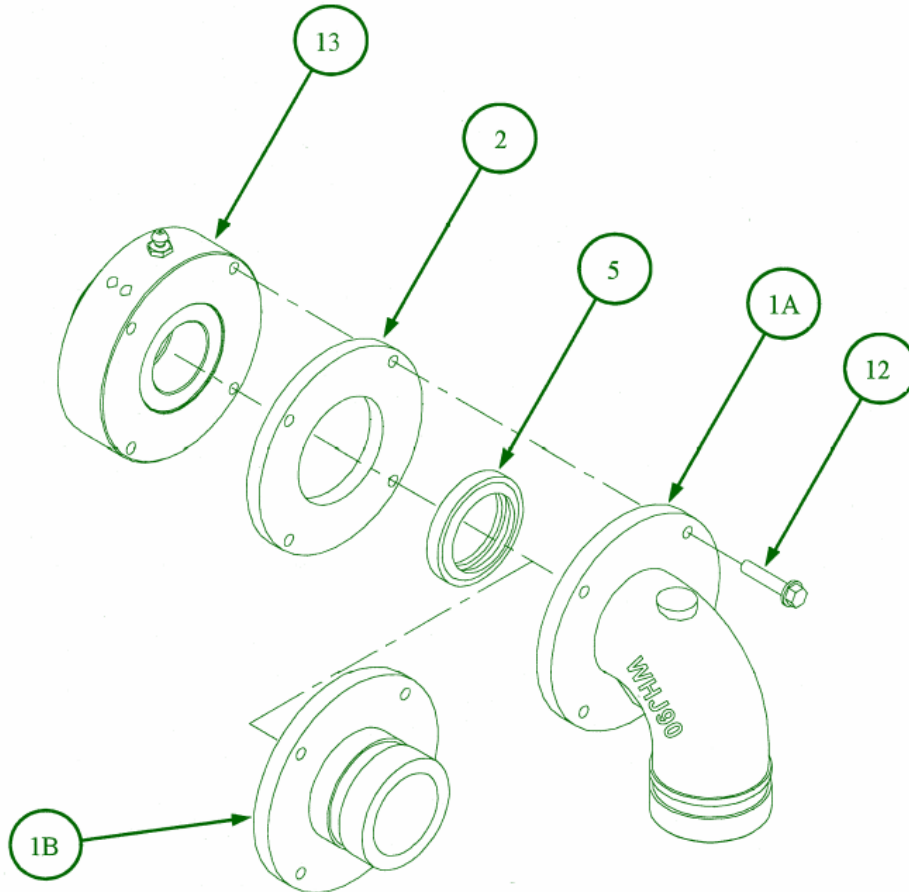


NOTE:
ITEMS CIRCLED ARE ENLARGED FOR CLARITY

Hannay SERIES 4000 MANUAL REWIND

<u>Item No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
1	Drum, 8" Dia.....(Specify Model)	9905.3121	1
2	Disc, 16-1/2" Dia. (Front).....	9903.0721	1
3	Disc, 16-1/2" Dia. (Back).....	9903.0721	1
4	Pressed Frame.....	9906.0011	2
7	Footstock.....(Specify Model)	9907.6000	2
11	1" Hub Assy., 1" FNPT Outlet Riser.....	9901.1600	1
13	Disc Washer, EH-936.....	9965.0013	2
16	3/8" - 16 Carriage Bolt w/Nut.....	Specify Model	6
17	3/8" Spacer Pipe.....(Specify Model)	9904.3200	6
18	1" Self Aligning Bearing Complete (Back).....	9902.1400	1
19	1" Bearing Insert (Back).....	9902.1500	1
20	1" Self Aligning Bearing Complete (Front).....	9902.1400	1
21	1" Bearing Insert (Front).....	9902.1500	1
29A	Hand Crank.....	9914.0031	1
29B	Hand Crank Handle.....	9914.0505	1
29C	Hand Crank Handle Bolt w/Nut.....	9914.0511	1
42	1" 90 Deg. FxF Swivel Joint.....	9929.8551	1
59A	1" Hub Spacer Washer.....	9954.0021	2
59B	Tension Brake Spacer.....	9965.0007	1
60	Pinlock.....	9965.0030	1
68	Tension Brake Spring.....	9965.0002	1
103A	3/8" - 16 x 3/4" Spinlock Bolt.....	9904.2201	5
103B	3/8" Flat Washer.....	9954.0007	5
103C	3/8" - 16 Spinlock Nut.....	9904.6200	6
103D	3/8" - 16 x 3" Round Head Cap Screw.....	9965.0011	1
103F	3/8" - 16 Wing Nut.....	9965.0009	1
103T	5/16"-18 x 5/8" Lg Hex Flanged Bolt.....	9904.1159	8
103V	5/16"-18 Top Lock Flanged Nut.....	9904.5602	8

Hannay WHJ Series Swivel Joint

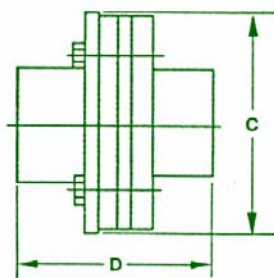
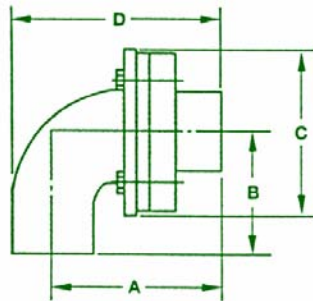


PARTS LIST ISO-194

WHJ Ball Bearing Swivel Joints For 1-1/2" & 2" I.D. Reels

When ordering parts
BE SURE TO SPECIFY COMPLETE MODEL NUMBER and SERIAL NUMBER OF REEL.
USE PART NUMBER!

Hannay WHJ Series Swivel Joint



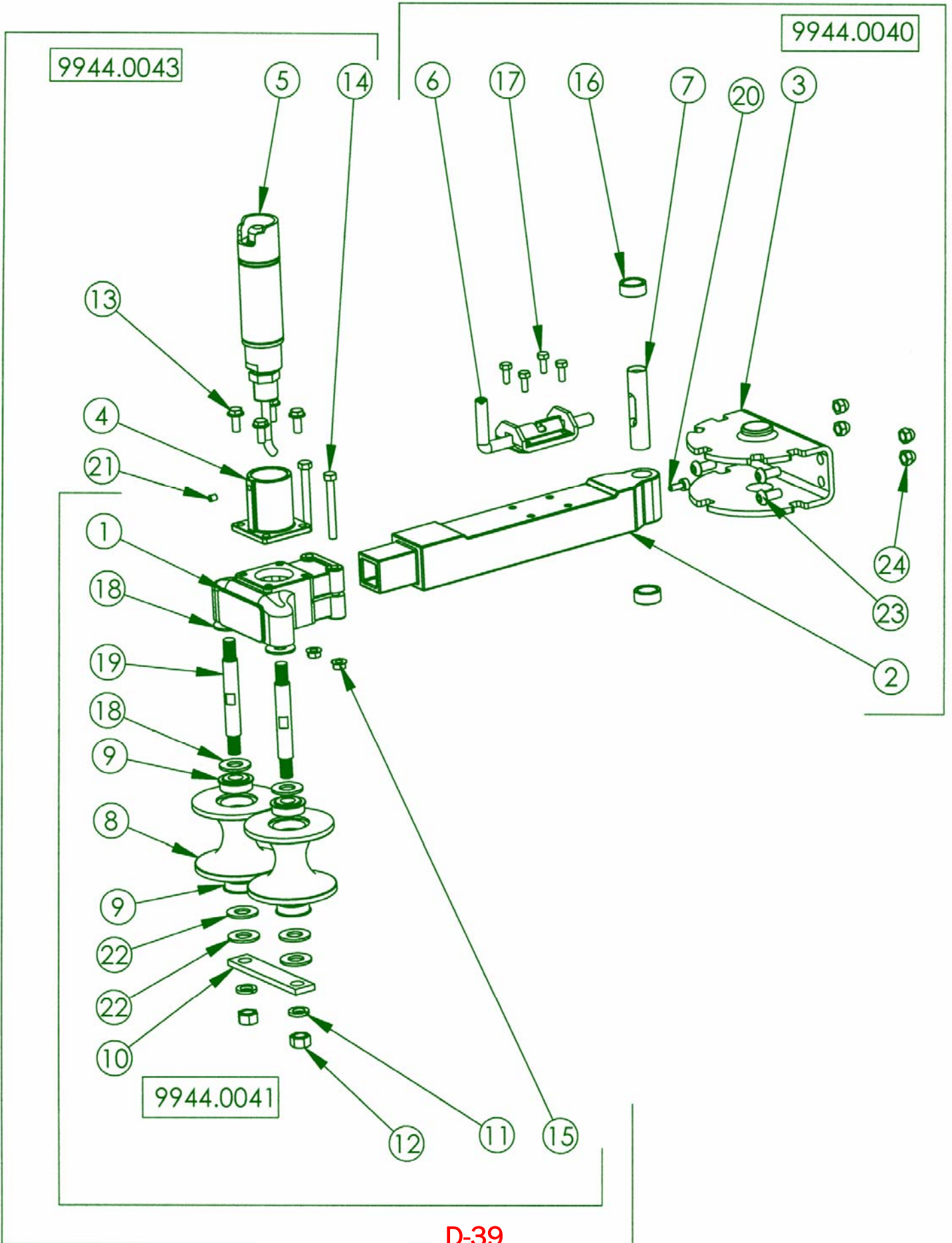
90° – STYLE 30							
Model No.	Material	Thread at Reel End	Inlet	Dimensions (Inches)			
				A	B	C	D
WHJ1590	Ductile Iron	1 1/2" FPT	1 1/2" FPT & 2" Groove	4 13/16"	3 3/8"	4 5/8"	6"
WHJ1590A	Aluminum	1 1/2" FPT	1 1/2" FPT & 2" Groove	4 13/16"	3 3/8"	4 5/8"	6"
WHJ290	Ductile Iron	2" FPT	1 1/2" FPT & 2" Groove	5 1/4"	3 3/8"	4 5/8"	6 7/16"
WHJ2290	Ductile Iron	2" FPT	2" FPT & No Groove	5 1/4"	3 1/4"	4 5/8"	6 11/16"

STRAIGHT – STYLE 20							
Model No.	Material	Thread at Reel End	Inlet	Dimensions (Inches)			
				A	B	C	D
WHJ15180	Ductile Iron	1 1/2" FPT	1 1/2" FPT & 2" Groove			4 5/8"	4 3/16"
WHJ15180A	Aluminum	1 1/2" FPT	1 1/2" FPT & 2" Groove			4 5/8"	4 3/16"
WHJ2180	Ductile Iron	2" FPT	1 1/2" FPT & 2" Groove			4 5/8"	4 3/16"
WHJ22180	Ductile Iron	2" FPT	2" FPT & No Groove			4 5/8"	4 3/16"

When ordering parts
BE SURE TO SPECIFY COMPLETE MODEL NUMBER and SERIAL NUMBER OF REEL.
USE PART NUMBER!

<u>Drawing No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
ISO-194-1A	Inlet Fitting 90° 1-1/2" FIPT x 2" VICT.....	9938.0001	1
ISO-194-1A	Alum Inlet Fitting 90° 1 1/2" FIPT x 2" VICT	9938.0007	1
ISO-194-1A	Inlet Fitting 90° 2" FIPT	9938.0005	1
ISO-194-1B	Inlet Fitting 180° 1-1/2" FIPT x 2" VICT.....	9938.0004	1
ISO-194-1B	Alum Inlet Fitting 180° 1 1/2" FIPT x 2" VICT	9938.0002	1
ISO-194-1B	Inlet Fitting 180° 2" FIPT	9938.0006	1
ISO-194-2	P53A-00010 Packing Ring.....	call factory	1
ISO-194-5A	1-1/2" PK-1 Buna-N Pkg (CDI).....	9936.0642	1
ISO-194-5B	1-1/2" PK-1V Viton Pkg	9936.0641	1
ISO-194-12	5/16"-18 x 1-1/4" Hex Head Capscrew.....	9904.1103	4
ISO-194-13A	WHJ Bearing Assembly (1-1/2").....	9938.0030	1
ISO-194-13B	WHJ Bearing Assembly (1 1/2") Alum.....	9938.0031	1
ISO-194-13C	WHJ Bearing Assembly (2").....	9938.0032	1

Hannay GM-700 Guidemaster

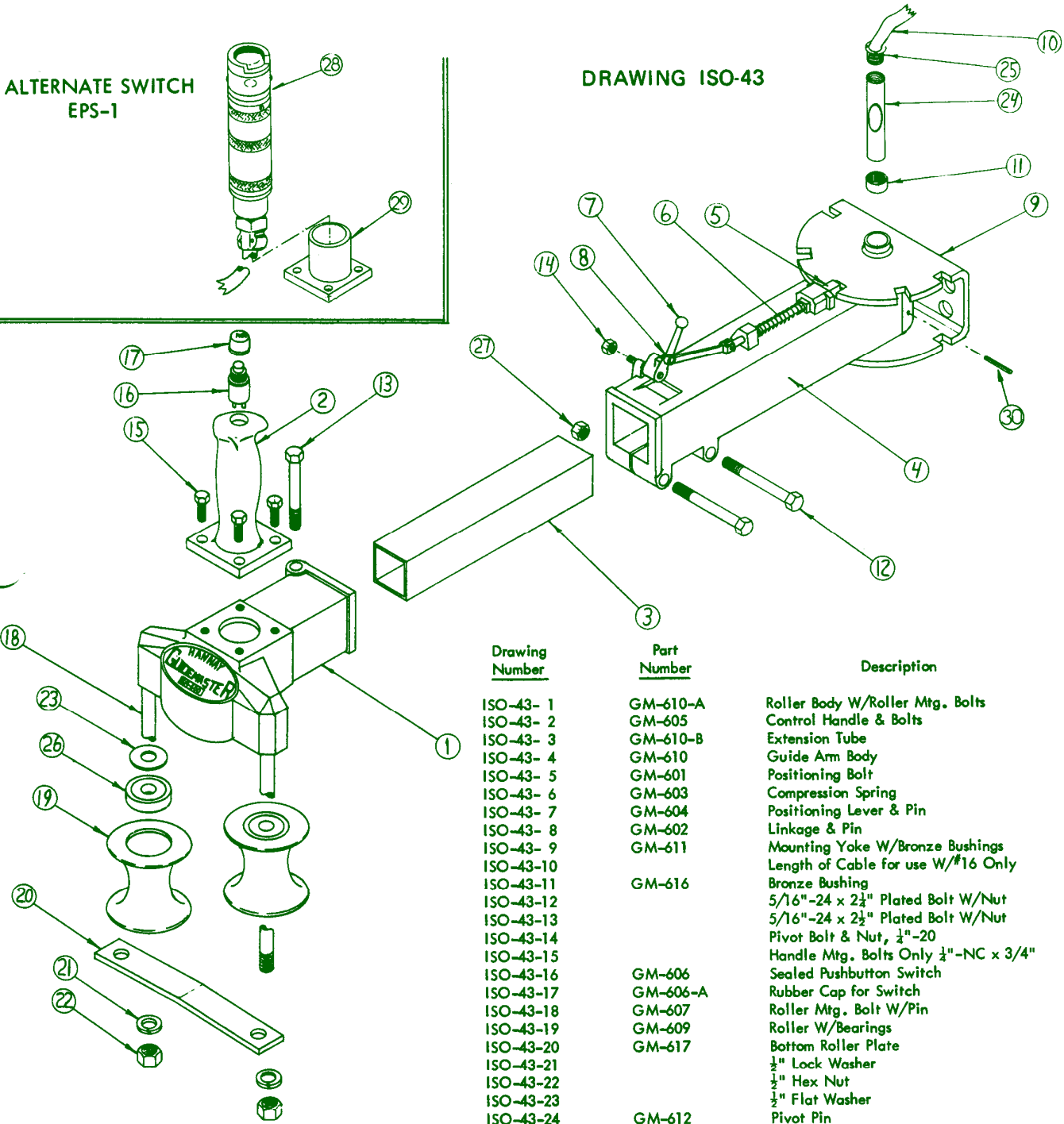


Hannay GM-700 Guidemaster

When ordering parts
BE SURE TO SPECIFY COMPLETE MODEL NUMBER and SERIAL NUMBER OF REEL.
USE PART NUMBER!

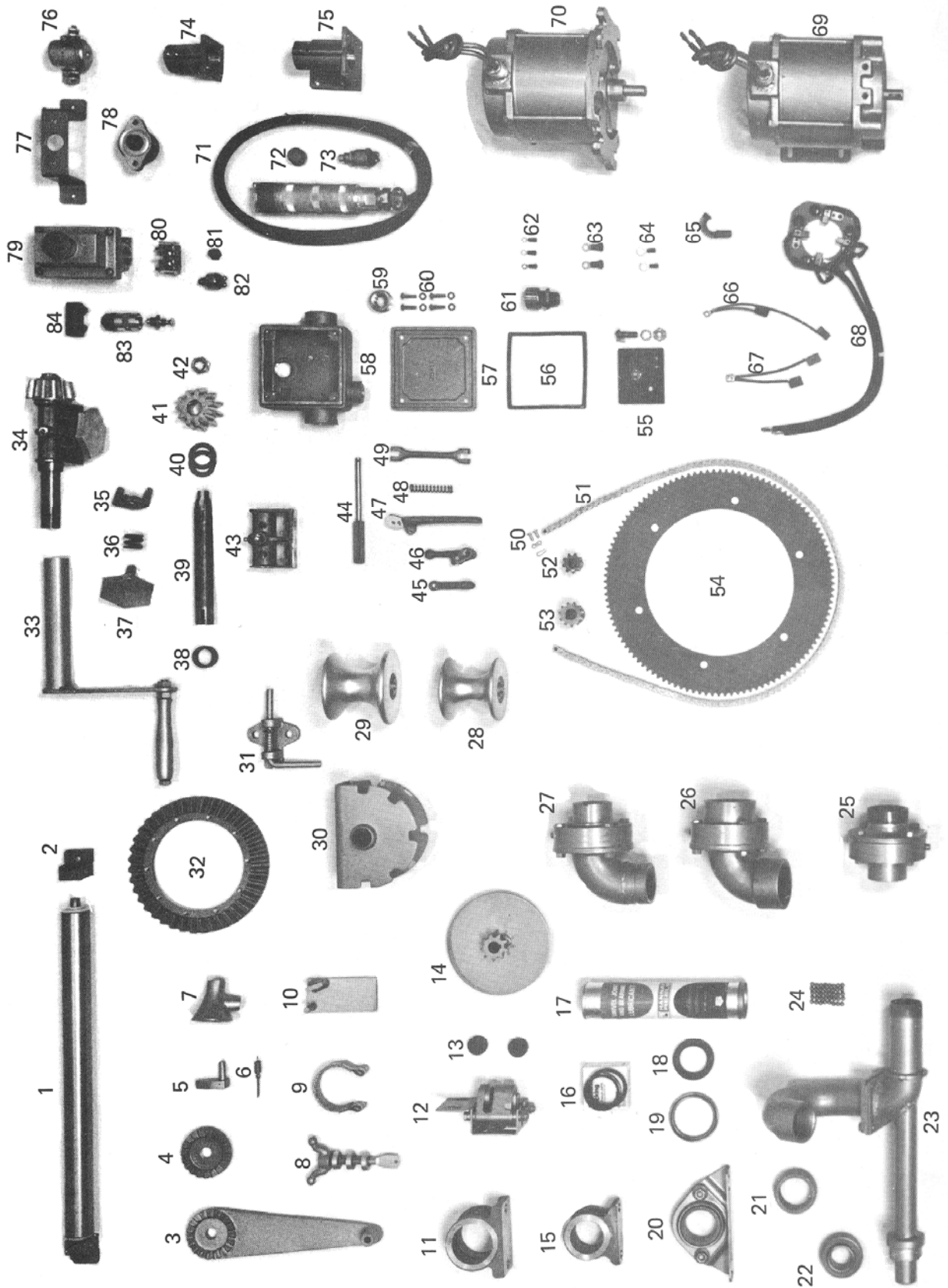
<u>Item No.</u>	<u>Description</u>	<u>PART NUMBER</u>	<u>Quantity</u>
ISO-195-1	Roller Body Casting w/Mounting Bolts (for GM-700) .....	.9945.1001	1
ISO-195-2	Guide Arm Casting (for GM-700) .....	.9945.1002	1
ISO-195-3	Mounting Yoke with Bronze Bushings .....	.9945.0009	1
ISO-195-4	Switch Mounting Bracket (for GM-700) .....	.9917.0207	1
ISO-195-5	EPS-1 Explosion-Proof Switch .....	.9917.0200	1
ISO-195-6	Guidemaster Pinlock Assembly, S/S (for GM-700) .....	.9945.1003	1
ISO-195-7	SST Pivot Pin (with 1/4" cap screw & lock washer) .....	.9945.0024	1
ISO-195-8	GM-609 Roller (with 2 Pressed-in Ball Bearings) .....	.9945.0019	2
ISO-195-9	GM-608 Ball Bearing .....	.9945.0026	4
ISO-195-10	Guidemaster Bottom Roller Plate (for GM-700) .....	.9945.1004	1
ISO-195-11	1/2" Lock Washer .....	.9954.0030	2
ISO-195-12	1/2"-13 Hex Nut .....	.9954.0036	2
ISO-195-13	1/4"-20 x 3/4" Socket Head Cap Screw .....	.9945.0015	4
ISO-195-14	5/16"-24 x 2-1/2" Plated Bolt with Nut .....	.9945.0013	2
ISO-195-15	5/16"-24 Hex Nut .....	.9945.0027	2
ISO-195-16	Oil-impregnated Bronze Bushing for Yoke .....	.9945.0011	2
ISO-195-17	1/4"-20 x 3/4" SST Socket Head Cap Screw .....	.9945.0015	4
ISO-195-18	1/2" Flat Washer .....	.9954.0008	2
ISO-195-19	Roller Mounting Bolt (threaded) for GM-700 .....	.9945.1005	2
ISO-195-20	1/4"-20 x 5/8" SST Socket Head Cap Screw and Lock Washer ..	.9945.0055	2
ISO-195-21	1/4"-20 X 5/16" Set Screw .....	.9958.0010	1
ISO-195-22	5/8" Flat Washer .....	.9954.0004	6
ISO-195-23	3/8"-16 x 3/4" Button Socket Head .....	.9904-9201	4
ISO-195-24	3/8"-16 Hex Acorn Nut .....	.9904.5290	4

Hannay GM-600 Guidemaster



Drawing Number	Part Number	Description	Quantity
ISO-43- 1	GM-610-A	Roller Body W/Roller Mtg. Bolts	1
ISO-43- 2	GM-605	Control Handle & Bolts	1
ISO-43- 3	GM-610-B	Extension Tube	1
ISO-43- 4	GM-610	Guide Arm Body	1
ISO-43- 5	GM-601	Positioning Bolt	1
ISO-43- 6	GM-603	Compression Spring	1
ISO-43- 7	GM-604	Positioning Lever & Pin	1
ISO-43- 8	GM-602	Linkage & Pin	1
ISO-43- 9	GM-611	Mounting Yoke W/Bronze Bushings	1
ISO-43-10		Length of Cable for use W/#16 Only	1
ISO-43-11	GM-616	Bronze Bushing	2
ISO-43-12		5/16"-24 x 2 1/2" Plated Bolt W/Nut	2
ISO-43-13		5/16"-24 x 2 1/2" Plated Bolt W/Nut	1
ISO-43-14		Pivot Bolt & Nut, 1/2"-20	1
ISO-43-15		Handle Mtg. Bolts Only 1/2"-NC x 3/4"	4
ISO-43-16	GM-606	Sealed Pushbutton Switch	1
ISO-43-17	GM-606-A	Rubber Cap for Switch	1
ISO-43-18	GM-607	Roller Mtg. Bolt W/Pin	2
ISO-43-19	GM-609	Roller W/Bearings	2
ISO-43-20	GM-617	Bottom Roller Plate	1
ISO-43-21		1/2" Lock Washer	2
ISO-43-22		1/2" Hex Nut	2
ISO-43-23		1/2" Flat Washer	2
ISO-43-24	GM-612	Pivot Pin	1
ISO-43-25	GM-613	Bakelite Bushing	1
ISO-43-26	GM-608	Ball Bearing	2
ISO-43-27		5/16"-24 Hex Nut	3
ISO-43-28	GM-614	EPS-1 Switch	1
ISO-43-29	GM-615	ESH-2B Bracket W/Bolts	1
ISO-43-30		3/16" x 1-7/8" Roll Pin	1

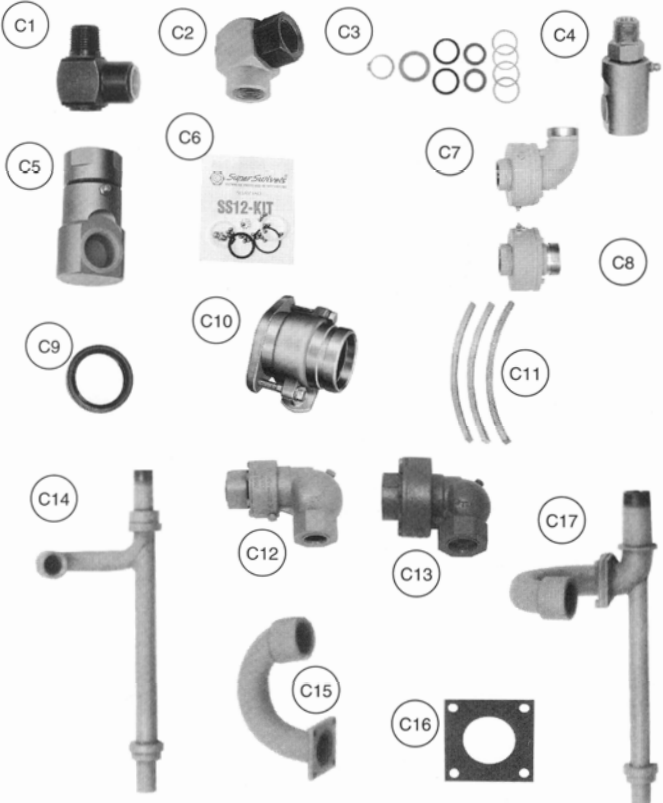
Parts Identification Guide for Fuel Delivery Hose Reels



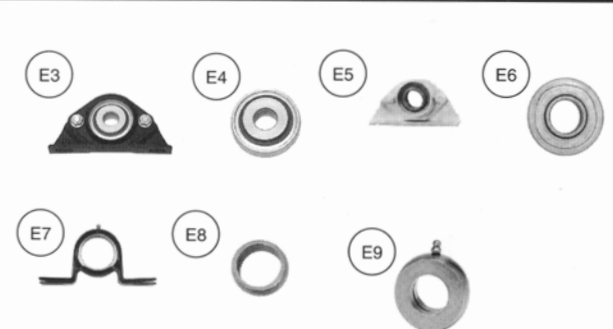
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- | | | | |
|--------|---|--------|--|
| FD- 1. | Assy. "A" Roller (specify length)
Up to 46" | FD-29. | GM-109 Roller w/Bearing (old styl) |
| FD- 2. | EH-650 Mounting Block | FD-30. | GM-611 Mounting Yoke w/Bronze
Bushings |
| FD- 3. | GR-4 Guide Arm | FD-31. | PL-1 Pinlock |
| FD- 4. | GR-4A Guide Arm Positioner | FD-32. | H-26 Ring Gear |
| FD- 5. | GR-658 Pawl & Pin | FD-33. | H-18 Hand Crank |
| FD- 6. | Spring & Cotter Key for Pawl & Pin | FD-34. | Complete Pinion Shaft Bearing &
Brake Assy. |
| FD- 7. | GR-5 Cable Guide | FD-35. | H-3 Brake Pad |
| FD- 8. | Comet Brake Bolt & Wing Nut | FD-36. | H-31 Brake Spring |
| FD- 9. | Comet Brake Band | FD-37. | H-30A Brake Wheel |
| FD-10. | Comet Brake Mounting Bracket | FD-38. | Pinion Shaft Collar & Set Screw |
| FD-11. | H-4B 1½ Bronze Bearing | FD-39. | Pinion Shaft |
| FD-12. | Caliper Brake (specify air or manual) | FD-40. | Special Spacer Washers |
| FD-13. | Pair Brake Pads for Caliper Brake | FD-41. | H-27 Pinion Gear |
| FD-14. | Disc & Sprocket for Caliper Brake | FD-42. | 5/8" Hex Nut |
| FD-15. | H-41B 1" Bronze Bearing | FD-43. | H-2A Side Pinion Bearing |
| FD-16. | H-1531K Packing Unit 1½" (Chiksan) | FD-44. | GM-101 Positioning Bolt |
| FD-17. | Tube of Hannay Grease | FD-45. | GM-602 Linkage & Pin |
| FD-18. | PK-1 Packing for Hannay Ball
Bearing Swivel | FD-46. | GM-604 Positioning Lever & Pin |
| FD-19. | HJB-1 Sealed Ball Bearing Assy. for
Hannay Swivel | FD-47. | GM-104 Positioning Lever & Pin |
| FD-20. | 1½" Self-aligning Bearing Complete | FD-48. | GM-603 Compression Spring |
| FD-21. | 1½" Bronze Bearing Insert | FD-49. | GM-102 Linkage & Pin 4½" |
| FD-22. | 1" Ball Bearing Insert | FD-50. | #35 Chain Connecting Link |
| FD-23. | 1½" Hub Assy. Complete w/Riser | FD-51. | Length #35 Chain |
| FD-24. | Set (54) Stainless Steel Balls for 1½
Chiksan | FD-52. | 9 Tooth #35 Chain Sprocket |
| FD-25. | 1½" Straight Hannay Ball Bearing
Swivel FxVictaulic (HJ15180S) | FD-53. | 11 Tooth #35 Chain Sprocket |
| FD-26. | 2" 90° Hannay Ball Bearing Swivel
Fx F (HJ2290S) | FD-54. | 138 Tooth #35 Chain Sprocket |
| FD-27. | 1½" 90° Hannay Ball Bearing Swivel
FxVict. (HJ1590M) | FD-55. | Junction Block w/Mounting Bolt |
| FD-28. | GM-609 Roller w/Bearing (new style) | FD-56. | Junction Box Gasket |
| FD-60. | #12-24 X ¾ Brass Screw w/JB-4
Lead Washer #12-24
JB-4 | FD-57. | Junction Box Cover |
| FD-61. | Liquid Tight Connector | FD-58. | Junction Box |
| FD-62. | #14-16/10 Terminal | FD-59. | RE-31 Reducing Bushing |
| FD-63. | #8-3/8 Terminal | FD-73. | 90030 Internal Switch for EPS-1
Switch |
| FD-64. | #14-16 3/8 Terminal | FD-74. | ESH-2B Guidemaster Mounting
Bracket for EPS-1 |
| FD-65. | SA678-9 Brush for Field Wound Motor | FD-75. | ESH-2A Universal Mounting Bracket
for EPS-1 |
| FD-66. | 572000 Brushes (Pair) for P.M. Motor
(Imperial) | FD-76. | 12 Volt Solenoid |
| FD-67. | D-50197A Brushes (Pair) for P.M.
Motor (Ohio) | FD-77. | CB-1 Mounting Bracket |
| FD-68. | Brush Board Assy. for P.M. Motor
(Imperial) | FD-78. | CDLM-50 Circuit Breaker |
| FD-69. | 12 Volt Base Mount Motor | FD-79. | EXPB-2A Explosion-proof 12V
Switch |
| FD-70. | 12 Volt Flange Mount Motor | FD-80. | 800T-XD1 Internal Switch for
EXPB-2A |
| FD-71. | EPS-1 Switch w/6' Cord | FD-81. | 17616N Rubber Boot for ESH-3 |
| FD-72. | 80230 Rubber Cover for 90030 Switch | FD-82. | 17617N Internal Switch for ESH-3 |
| | | FD-83. | 8PA12EX Actuator Plunger Kit |
| | | FD-84. | YZ-2R15-P1 Internal Switch for
EXN-152 |

Parts Identification Guide for Fuel Delivery Hose Reels

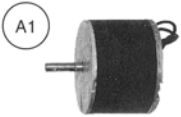
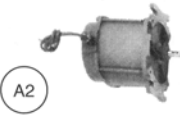
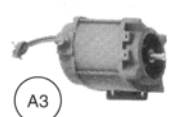
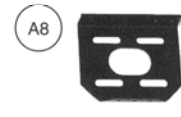



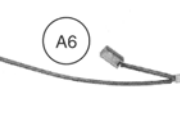





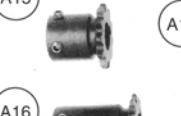


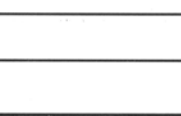
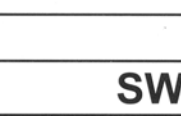

SWIVEL JOINTS, RISERS, HUB ASSEMBLIES




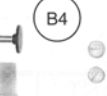











				ITEM NO.	PART NO.	DESCRIPTION
C1	C2	C3	C4	C1	9927.8138	1/2" 90° MxF BP Super Swivel
C5	C6	C7	C8	C2	9929.2588	1" 90° FxF BP Super Swivel
C9	C10	C11		C3	Specify	Barco Repair Kit (Specify Size)
C14	C12	C13		C4	9927.8151	1/2" 90° MxF Super Swivel (FxF also Avail.) 9927.8551
C15	C16			C5	9929.8551	1" 90° FxF Super Swivel
				C6	Specify	Super Swivel Repair Kit (Specify Size)
				C7	9930.4210	1-1/2" 90° FxFxV Swivel (WHJ1590)
				C8	9930.4610	1-1/2" Straight FxFxV Swivel (WHJ15180)
				C9	9936.0642	1-1/2" PK-1 BUNA-N Packing (Merkel)
				C10	9930.5703	1-1/2" Straight Victaulic H-5 Joint
				C11	9936.0659	H-5C Rope Packing Seal for H-5 Joint
				C12	9929.0501	1" 90° Full Circle Swivel
				C13	9930.0531	1-1/2" 90° FxF Full-Circle Swivel
				C14	9901.1600	1" FIPT Iron Welded Hub Assembly (Specify Model)
				C15	9901.3760	1-1/2" FIPT Iron Flanged Riser
				C16	9965.0021	H-150G Gasket for 1-1/2" Riser
				C17	9901.2840	1-1/2" Hub Assy Complete (Specify Model)

BEARINGS

				ITEM NO.	PART NO.	DESCRIPTION
E3	E4	E5	E6	E3	9902.1200	1/2" S.A. Ball Bearing Complete
E7	E8	E9		E4	9902.1300	1/2" S.A. Ball Bearing Insert
				E5	9902.1400	1" S.A. Ball Bearing Complete
				E6	9902.1500	1" S.A. Ball Bearing Insert
				E7	9902.1610	1-1/2" S.A. Bronze Bearing Complete (E-coated)
				Not Shown	9902.1620	1-1/2" S.A. Bronze Bearing Complete (304 S.S.)
				E8	9902.1700	1-1/2" S.A. Bronze Bearing Insert
				E9	9902.1730	1" S.A. Bronze Bearing insert

Parts Identification Guide for Fuel Delivery Hose Reels

MOTORS, SPROCKETS, CHAIN		
ITEM NO.	PART NO.	DESCRIPTION
	A1	9915.0042 12 Volt Flange Mount Non-Exp-Proof Motor
	A2	9915.0003 12 Volt Flange Mount Explosion-Proof Motor
	A3	9915.0014 12 Volt Base Mount Explosion-Proof Motor
	A4	9916.0013 Brush Board Assembly (w/springs and brushes) for 12 Volt 1/2 HP Motor
	A5	9916.0071 Pair of Brushes for 12 Volt Non-Exp-Proof Motor (#572008)
	A6	9916.0070 Two Pairs of Brushes for 12 Volt Explosion Proof Motor (#572000)
	A7	9923.0008 Flange Mount Motor Plate for Non-Exp-Proof Motor
	A8	9923.0006 P66A-00090 Motor Mounting Plate Right Angle for Non-Exp-Proof Motor
	A9	9912.0001 10' Length #35 Chain w/Connecting Link
	A10	9912.0010 Connecting Link for #35 Chain
	A11	9910.1423 138T35 Disc Sprocket, 16-5/8" Diameter (E-Coated)
	A12	9910.3128 146T40 Disc Sprocket, 23-1/2" Diameter (E - coated)
	A13	9910.1116 11T35 Motor Sprocket, 3/4" Long
	A14	9910.1117 11T35 Motor Sprocket, 1-1/16" Long
	A15	9910.1118 11T35 Motor Sprocket, 1-5/16" Long
	A16	9910.1119 11T35 Motor Sprocket, 1-3/4" Long
	A17	9910.2219 Disc & Sprocket for Caliper Brake (#35 Chain)
	Not Shown	9910.2100 Disc & Sprocket for Caliper Brake (#40 Chain)
	A18	Specify Molded Chain Guard

SWITCHES AND ELECTRICAL		
ITEM NO.	PART NO.	DESCRIPTION
	B1	9917.0001 Red Dot EXPB-2A Switch (12 Volt)
	B2	9917.0014 Red Dot Internal Switch
	B3	9917.0015 Red Dot Repair Kit
	B4	9917.0061 Red Dot 5-Port Round Junction Box/Cover
	B5	9917.0062 #6 Wire Nut (For Red Dot Junction Box)
	B6	9917.0063 Insulated "Bug" Connector
	B7	9917.0025 12 Volt Solenoid (Diode-Suppressed)
	B8	Specify SDLM Circuit Breaker (Specify Amperage)
	B9	9917.0024 CB-2 Mounting Bracket (for Circuit Breaker)
	B10	9917.0006 Push-Button 12 Volt Switch (Less Cap)
	B11	9917.0008 Rubber Cap (For Push Button Switch)
	B12	9917.0200 EPS-1 Switch (Used with Guidemaster)
	B13	9917.0207 EPS-2 Mounting Bracket (Used with EPS-1)
	B14	9917.0208 Extension Bracket for EPS-2
	B15	9916.0085 Rectifier for 115 Volt Exp-Proof Motor


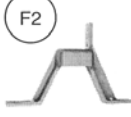
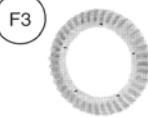










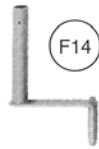

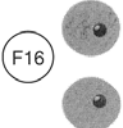


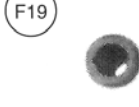

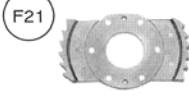
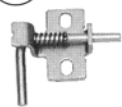
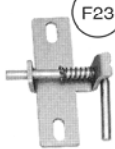
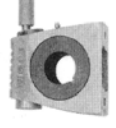
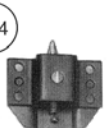

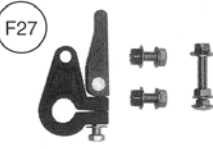

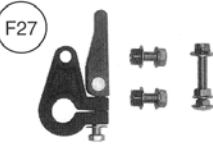
Parts Identification Guide for Fuel Delivery Hose Reels

ROLLER ASSEMBLIES, CABLE GUIDES, HOSE STOPS		
ITEM NO.	PART NO.	DESCRIPTION
	D1	Specify Top Wind FH-3 Mtg. Brkt. (Specify Model)
	D2	9939.0042 FH-3 Roller & Spool Assy. (Specify Model)
	D3	9940.0012 FH-307 Delrin-Over-Steel Step Bolt
	D4	9940.0004 FH-309 Chrome Snap Cap
	D5	9940.0005 FH-301 Spool
	D6	9940.0006 FH-302 Block
	D7	9940.0007 FH-303-15 (1.5") Trunnion Bearing
	D8	9940.0008 FH-303-2 (2") Trunnion Bearing
	D9	9939.0062 Utility Hose Roller Assy. "C" (Spec. Model)
	D10	9940.0076 EH-650 Mounting Block (Plated)
	D11	9939.0003 EH-714 Roller Assembly
	D12	9922.0011 HS-3 Hose Stop (Specify OD of Hose)
	D13	9922.0012 HS-45 Hose Stop (Specify OD of Hose)
	D14	9951.0009 GR-4A Guide Arm Positioner
	D15	9951.0010 GR-4 Guide Arm
	D16	9951.0012 GR-5 Scoop Cable Guide
	D17	Specify "R200" Series Roller Assembly
	D18	Specify "N200" Series Roller Assembly
	D19	Specify "R300" Series Roller Assembly
	D20	Specify Roller Mounting Arm (2) per reel (For "N" Series Spring Reels)
	D21	9940.0016 FH-303 1 1/2" Trunnion Bearing (New Style) (No Through Hole)

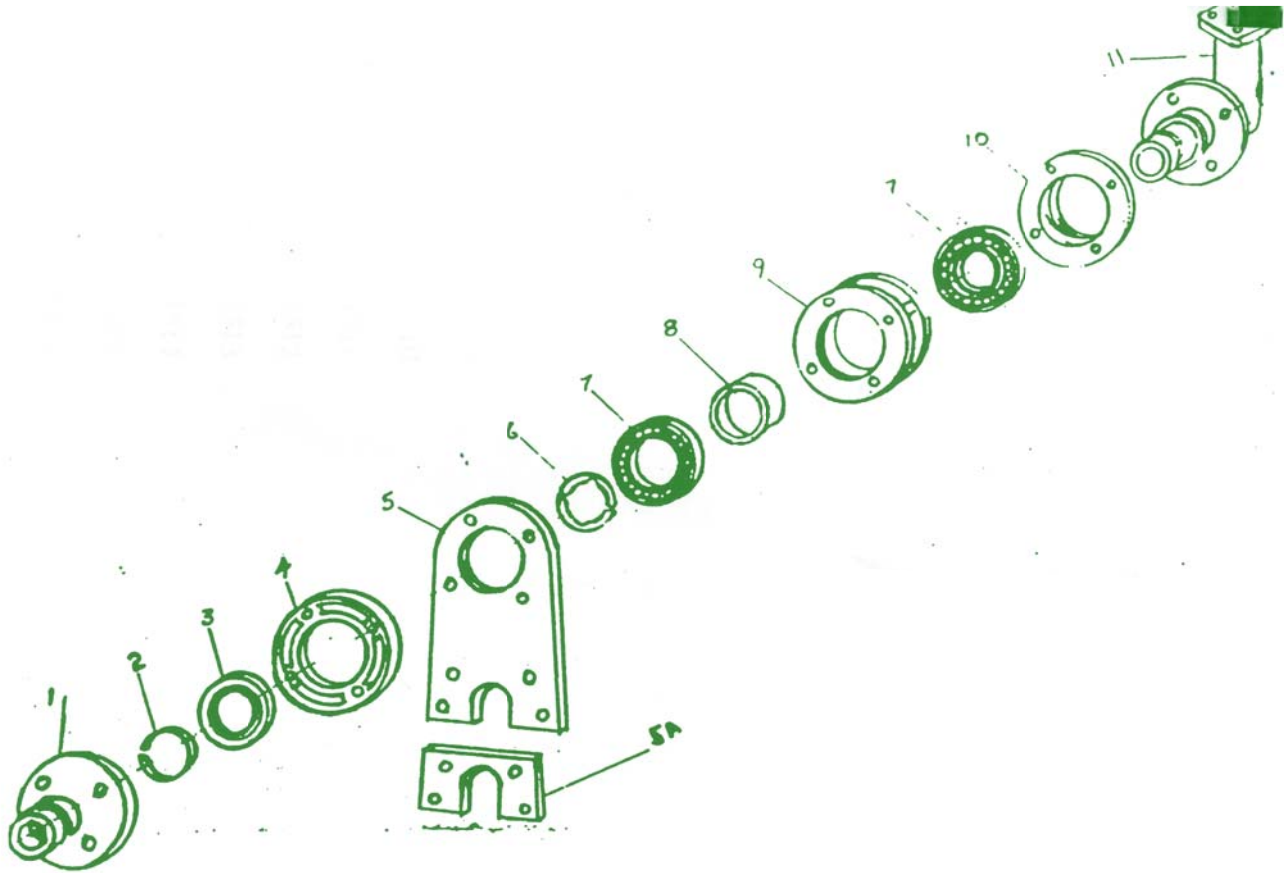
GUIDEMASTER PARTS AND BRACKETS		
ITEM NO.	PART NO.	DESCRIPTION
	G1	9945.0026 GM Ball Bearing (For GM Roller)
	G2	9945.0044 GM-108 Ball Bearing (For GM-109 Roller)
	G3	9945.0019 GM Roller w/GM Bearing
	G5	9944.0040 GM-700 Guide Arm Body Assy w/Mtg. Yoke
	G6	9945.0009 GM Mounting Yoke w/Bronze Bushing
	G7	9945.0011 GM Oil-Impregnated Bronze Bushing
	G8	9945.1001 GM Roller Body w/Mtg. Bolts
	G10	9945.1005 GM Roller Mtg. Bolts
	G11	9945.1003 Pinlock assy for GM 700
	G12	9945.1004 GM Roller Bolt Mounting Plate
	G15	9945.0035 GM Cross Member Assembly (3 Pieces) (Specify Model)
	G16	9945.0036 GM Bottom-Wind Brackets (Pair)
	G17	9945.0037 GM Top-Wind Brackets (Pair)
	G18	9939.0069 Assy. "B" Roller for Bottom-Wind Guidemaster Reels (specify model)

Parts Identification Guide for Fuel Delivery Hose Reels

REWIND ASSEMBLIES, BRAKES, RATCHETS

ITEM NO.	PART NO.	DESCRIPTION
	Specify	30° Rewind Bracket (specify right or left)
	9914.0233	Vertical Rewind Bracket Only
	9914.0372	H-26 Ring Gear
	9914.0382	H-28 Ring Gear
	9914.0393	H-27 Pinion Gear
	9914.0403	H-29 Pinion Gear
	Spec. Model	Pinion Shaft
	9914.0351	Pinion Shaft Collar
	9914.0618	Pinion Gear Guard (E-Coated)
	9914.0243	H-2A Pinion Shaft Bearing
	9914.0413	H-30A Brake Wheel
	9914.0451	H-31 Brake Spring
	9914.0433	H-3 Brake Pad
	9914.0011	H-18 Hand Crank
	9947.0020	Air Caliper Brake
	9947.0001	Manual Caliper Brake
	9947.0024	Pair of Brake Pads (For Air Caliper Brake)
	9947.0035	Comet Brake Assembly (IV Style)
	9947.0036	Comet Brake Strap Only (IV Style)
	9947.0038	Comet Brake Iron Hub (IV Style)
	9947.0045	EH-820 Bearing & Brake Assembly
	9922.0015	Ratchet Wheel (new 2 position)
	9965.0030	PL-1 Pinlock
	9965.0036	PL-4 Pinlock with Extended Mounting Ears
	9922.0029	Ratchet Locking Assembly (for N-Series Spring Reels)
	9922.0029	Ratchet Locking Assembly (for Regular Frame Spring Reels)
	9947.0090	Comet Brake Assembly (Bearing Mounted Style)
	9947.0043	Comet Brake Assembly (Bearing Mounted Style with Stub Shaft)
	9947.0130	Cam Lever Drag Brake Kit (including mounting hardware)

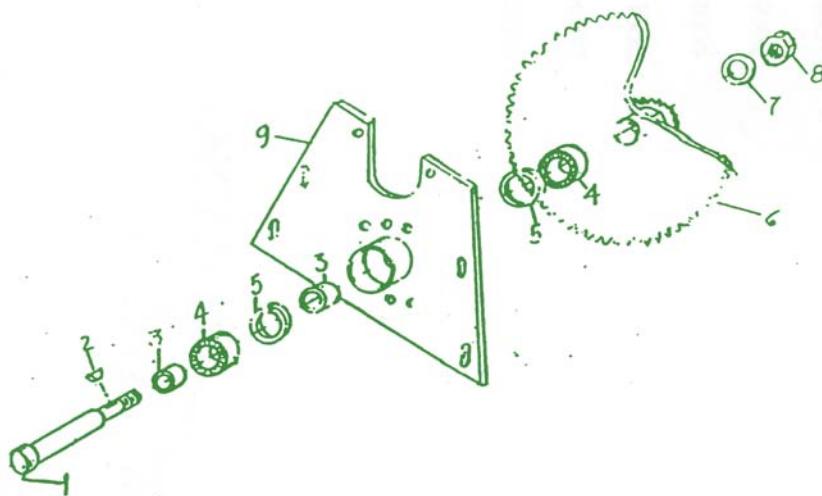
**Deighan Hose Reel
A1500 1-1/2" Swing Joint**



Index#	Part#	Description
	A1500	1-1/2" Swing Joint Assembly
1	1501	Grooved Inlet
2	1502	Support Ring
3	1503	Seal *
3	1503-1	Viton Seal *
4	1504	Seal Plate
5	1505	Bearing Bracket
6	1506	Snap Ring
7	1507	Ball Bearing
8	1508	Spacer Sleeve
9	1509	Bearing Spacer
10	1510	Bearing Plate
11	1511	Spindle Body
	1512	Alemite
	1513	Bolt
	1514	Square Gasket
	1515	Bolt
	1516	Lock Nut

(* indicates that either seal may be used for this index number

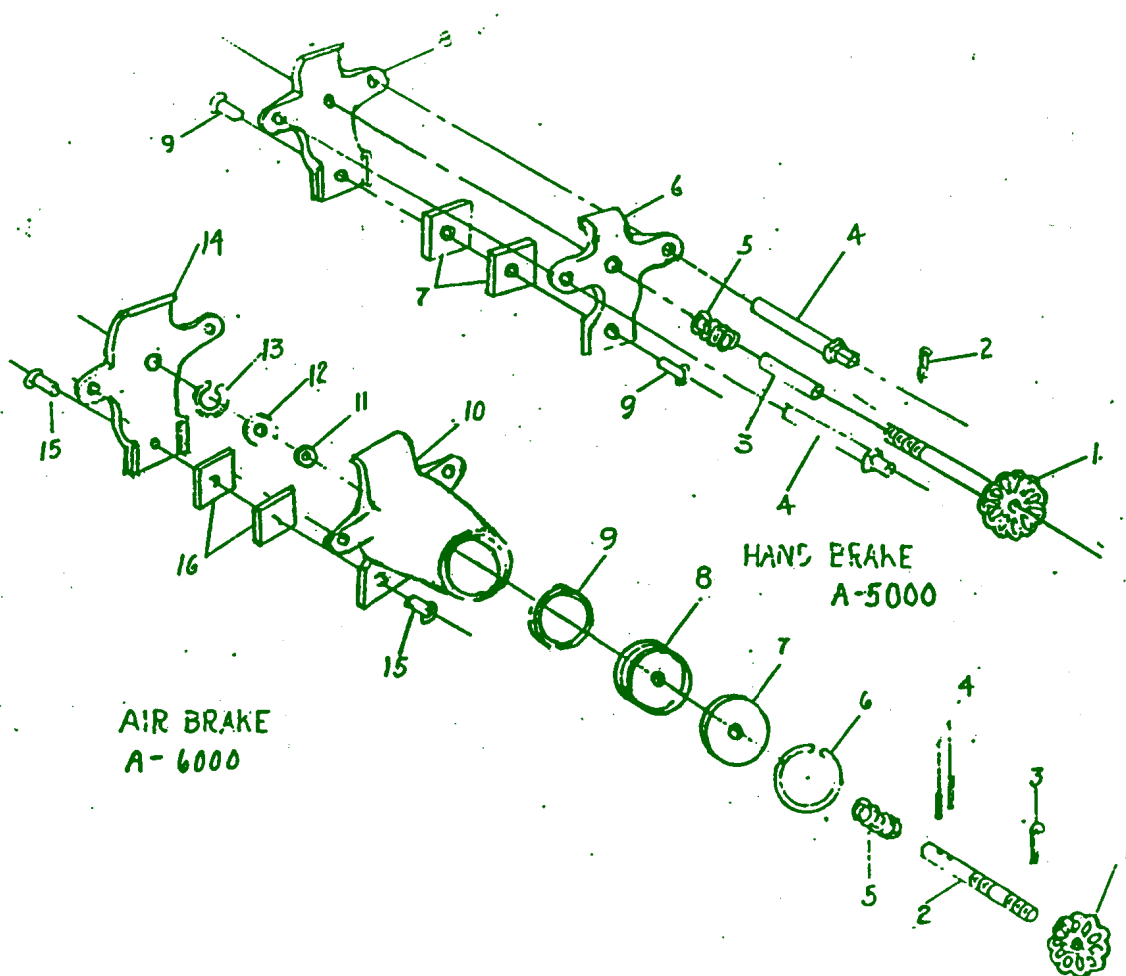
Deighan Hose Reel
A4000 Face Drive with Hand Brake
A4000-1 Face Drive with Air Brake



Index#	Part#	Description
	A4000	Face Drive with Hand Brake
	A4000-1	Face Drive with Air Brake
1	4001	Sprocket Shaft
2	4002	Woodruff Key
3	4003	Spacer NO LONGER NEEDED
4	4004	Ball Bearing
5	4005	Snap Ring
6	4006	60/12 Sprocket
	4006-1	60/21 Sprocket
7	4007	Lock Washer - Shake Proof
8	4008	Hex Nut
9	4009	Support Plate

Face Drive will no be sold without brake assembly

**Deighan Hose Reel
A6000 Air Brake**

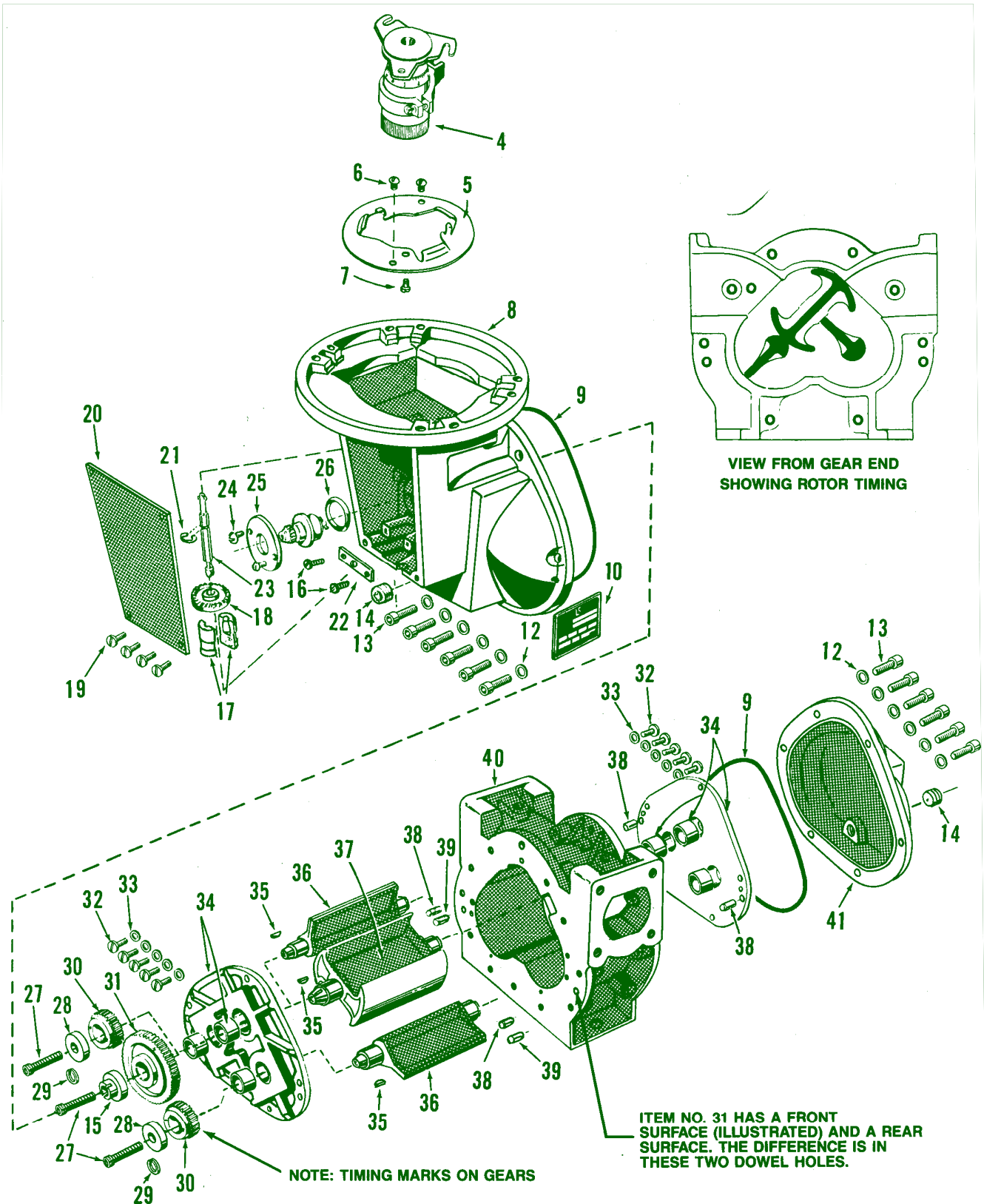


AIR BRAKE
A-6000

HAND BRAKE
A-5000

INDEX NO.	PART NO.	DESCRIPTION
	A6000	Air Brake Assy.
1	6001	Handwheel
2	6002	Shaft
3	6003	Cotter Pin
4	6004	Roll Pin
5	6005	Spring
6	6006	Snap Ring
7	6007	Cover
8	6008	Piston
9	6009	U-Cup
10	6010	Cylinder
11	6011	Polyflex Seal
12	6012	Washer
13	6013	Snap Ring
14	5004-2	Brake Shoe - Drilled & Sotted
15	5006	Rivet
16	5005	Brake Lining

Liquid Controls M-7 Meter Assembly



***NOTE on Packing Gland Assemblies:**

When the ratio between the Adjuster Drive Gear (18) and Packing Gland Pinion Gear is 2:1 . . . the Packing Gland Assembly (1) is supplied as a complete unit that includes a 12 tooth Pinion Gear and the Roll Pin. When the ratio between the adjuster Drive Gear (18) and the Packing Gland Pinion Gear is 1:1 . . . the Packing Gland Assembly (1) is supplied as a complete unit that includes a 24-tooth Pinion Gear, Roll Pin and Packing Gland Seal Plate (25).

Liquid Controls M-7 Meter Assembly

Index No.	Description	Req.	Part Number For Assembly Number									
			M-2100 Class 1	M-2120 Class 2	M-2130 Class 3	M-2140 Class 14	M-2150 Class 5	M-2240 Class 4	M-2260 Class 6	M-2300 Class 15	M-2320 Class 16	
†1	Packing Gland Assembly	1										
	STANDARD											
	2:1 Ratio Buna-N		40395	40395	—	40395	—	40395	40395	40395	—	
	1:1 Ratio Buna-N		—	—	40405	—	—	—	—	—	—	
	1:1 Ratio Viton		—	—	—	—	42140	—	—	—	—	
	2:1 Ratio Stainless Steel		—	—	—	—	—	—	—	—	47865	
	OPTIONAL											
	1:1 Ratio Buna-N		40405	40405	—	40405	—	40405	40405	40405	—	
2:1 Ratio Buna-N	—	—	40395	—	—	—	—	—	—			
1:1 Ratio Viton	—	—	—	—	—	42145	—	—	—			
1:1 Ratio Stainless Steel	—	—	—	—	—	—	—	—	—	47866		
4	Adjuster	1	42600	42600	42600	42600	40101	42600	42600	42600	42600	
5	Adjuster Mounting Plate	1	42660	42660	42660	42660	43044	42660	42660	42660	42660	
6	Adjuster Mounting Plate Screws	2	362	362	362	362	362	362	362	362	362	
7	Adjuster Mounting Screw	1	7063	7063	7063	7063	6806***	7063	7063	7063	7063	
8	Counter End (front) Cover	1	47167	47167	47167	47167	47167	47172	47172	47172	47167	
†9	Cover O-Rings	2	6935	6935	6935	6935	6940	6935	6935	6935	7241	
			Buna	Buna	Buna	Buna	Viton	Buna	Buna	Buna	Teflon	
10	Meter Specification Plate	1	40598	40598	40598	40598	40598	40598	40598	40598	40598	
12	Cover Washers	12	4656	4656	4656	4656	4656	4656	4656	4656	4657	
13	Cover Screws	12	1127	1127	1127	1127	1127	1127	1127	1127	1127	
14	Cover Pipe Plugs	2	3372	3372	4759	4759	4759	4759	4759	4759	3372	
15	Drive Coupling	1	47640	47640	45806	47640	47640	45806	45806	45806	47640	
16	Adjuster Drive Shaft Screws	2	6845	6845	6845	6845	6845	6845	6845	6845	6845	
†17	Adjuster Drive Shaft Bushings	2	41786	41786	41786	41786	none	41786	41786	41786	41786	
18	Adjuster Drive Shaft Gear ††	1	40818	40818	40122	40818	42906	40818	40818	40818	40818	
19	Adjuster Cover Plate Screws	4	4494	4494	4494	4494	4494	4494	4494	4494	4494	
20	Adjuster Cover Plate	1	47180	47180	47180	47180	47174	47180	47180	47180	47180	
21	Adjuster Drive Shaft Retainer E-Ring	1	2188	2188	2188	2188	2188	2188	2188	2188	2188	
22	Adjuster Drive Shaft Retainer	1	47019	47019	47019	47019	47019	47019	47019	47019	47019	
23	Adjuster Drive Shaft	1	41787	41787	41787	41787	43491	41787	41787	41787	41787	
24	Packing Gland Screws	2	6840	6840	6840	6840*	6840	6840	6840	6840	6840	
25	Packing Gland Seal Plate	1	40398	40398	**	40398	40398	40398	40398	40398	**	
26	Packing Gland O-Ring	1	4294	4294	4294	4294	6191	4294	4294	4294	6024	
			Buna	Buna	Buna	Buna	Viton	Buna	Buna	Buna	Teflon	
†27	Rotor Screws	3	6755	6755	7483	6755	6755	7483	7483	7483	6755	
28	Rotor Washers	2	47395	47395	45813	47395	47395	45813	45813	45813	47395	
29	Rotor Timing Washers	2	6081	6081	6174	6081	6081	6174	6174	6174	6081	
30	Displacement Rotor Gears	2	47647	47634	47634	47647	47647	47638	47638	47638	47647	
31	Blocking Rotor Gear	1	47646	47633	47633	47646	47646	45456	47637	47637	47646	
32	Bearing Plate Screws	10	6938	6938	6938	6938	6938	6938	6938	6938	6938	
33	Bearing Plate Washers	10	6939	6939	6939	6939	6939	6939	6939	6939	6939	
†34	Bearing Plate Assembly	2	41804	41804	41804	41804	41804	44173	44173	44173	47668	

†Denotes recommended spare parts

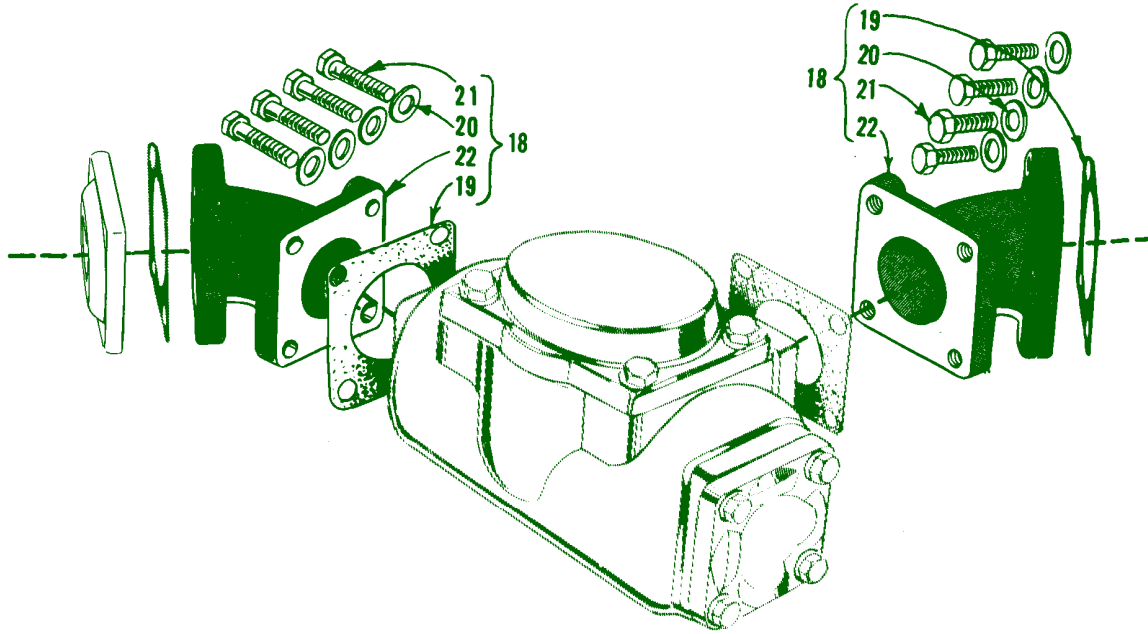
*Quantity becomes four.

**Included with packing Gland Assembly part no. 1.

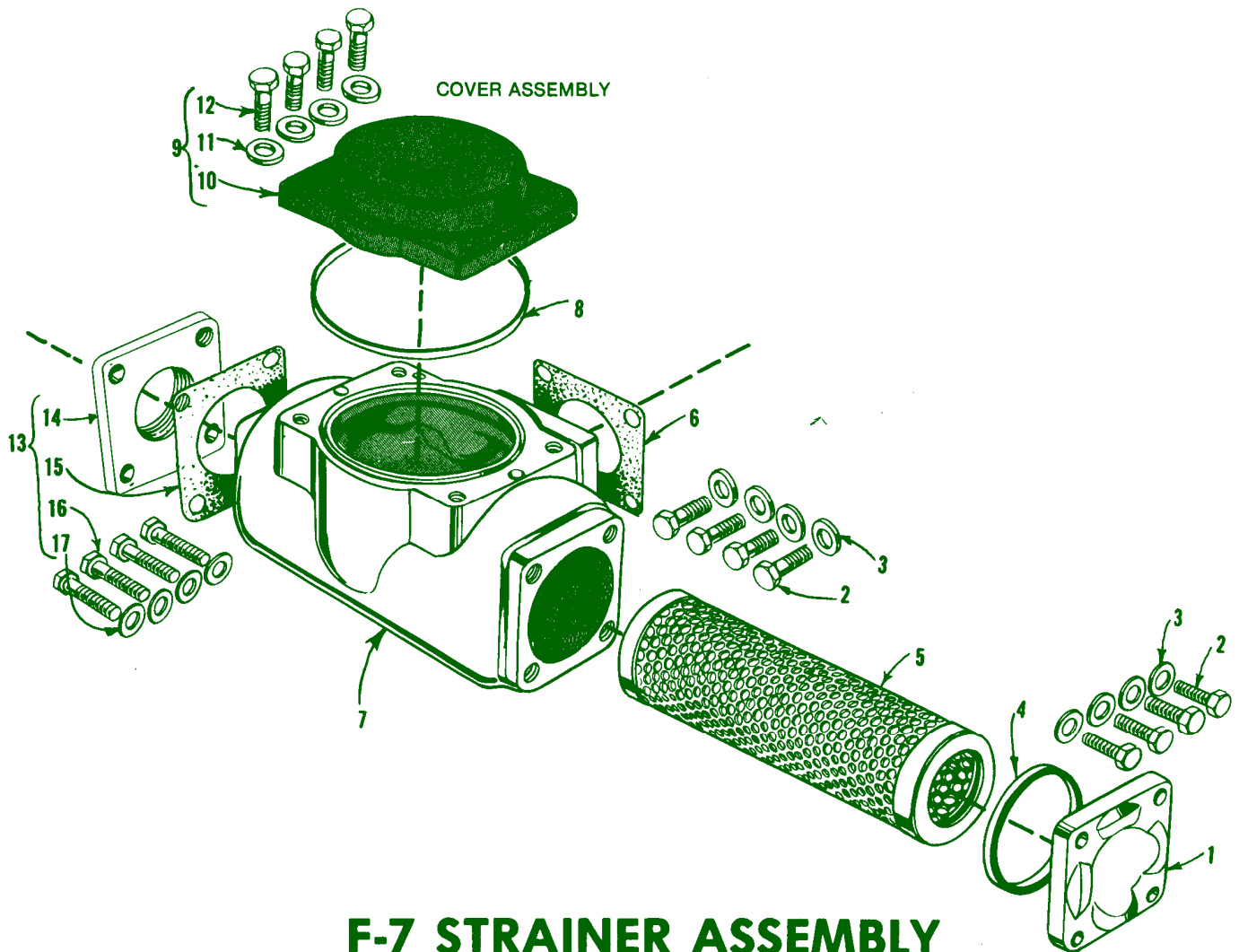
***Quantity becomes 3.

††When the ratio between the adjuster drive gear and the packing gland pinion is 1:1 use adjuster drive gear 40122. When the ratio between the adjuster drive gear and the packing gland pinion is 2:1 use adjuster drive gear 40818.

Liquid Controls M-7 Meter



F-7 IN LINE STRAINER ASSEMBLY



F-7 STRAINER ASSEMBLY

Liquid Controls M-7 Meter Assembly F-7 Strainer

F-7 Strainer Parts List

Index No.	Description	Req.	Part Number For Assembly Number							
			A-2310 Buna-N	A-2311 Teflon	A-2312 UL Seals	A-2313 Viton	A-2315 Buna-N	A-2320 Buna-N	A-2321 Teflon	A-2323 Viton
	Standard Classes		Class 1 and 2	Class 16	Class 2	Class 5	Class 3	Class 4, 6, 15 & 17	Class 4, 6, 15 & 17	Class 30
	Optional Classes		—	Class 1 and 2	—	Class 1 and 2	—	—	—	Class 3, 4, 6, 15 & 17
1	Basket Cover	1	42152	42157	42152	42152	42152	42163	42157	42163
2	Basket Cover/Housing Screw	8	4444	*	4444	4444	4444	4444	*	4444
3	Basket Cover/Housing Washer	8	4498	4498	4498	4498	4498	4498	4498	4498
†4	Basket Cover O-Ring	1	6654	6664	6844	6898	6654	6654	6664	6898
†5	Basket - Specify mesh size and part number on order 40 mesh 80 mesh 100 mesh 20 mesh	1	A-2410** A-2411** A-2412** A-2413**	A-2410** A-2411** A-2412** A-2413**	A-2430*** A-2431*** A-2432*** A-2433***	A-2410** A-2411** A-2412** A-2433***	A-2430*** A-2431*** A-2432*** A-2433***	A-2430*** A-2431*** A-2432*** A-2433***	A-2410** A-2411** A-2412** A-2413**	A-2430*** A-2431*** A-2432*** A-2433***
†6	Flange Gasket	1	40430	45818	45109	40430	45109	45109	45818	40430
7	Housing	1	42151	42151	42151	42151	42151	42162	42162	42162
†8	O-Ring Seal - for cover plate or air eliminator	1	7281	6665	6847	6900	6847	6847	6665	6900

*Housing Screw - 1674 (4), Basket Cover Screw (4) - 4444.

**Perforated cadmium plated steel basket with monel metal mesh screen insert, weld joint.

***Perforated stainless steel basket with stainless steel mesh insert, weld joint.

†Denotes recommended spare parts.

Strainer Cover Plate — Install when Air Eliminator is not used

Index No.	Description	Req.	Part Number For Assembly Number							
			A-2510	A-2510	A-2520	A-2520	A-2510	A-2520	A-2520	A-2520
9	Cover Plate Assembly	1	A-2510	A-2510	A-2520	A-2520	A-2510	A-2520	A-2520	A-2520
10	Cover Plate	1	42166*	42166*	42786**	42786**	42166*	42786**	42786**	42786**
11	Washer	4	4498	4498	4498	4498	4498	4498	4498	4498
12	Hex Head Screw	4	4444	4444	4444	4444	4444	4444	4444	4444

*Material - aluminum

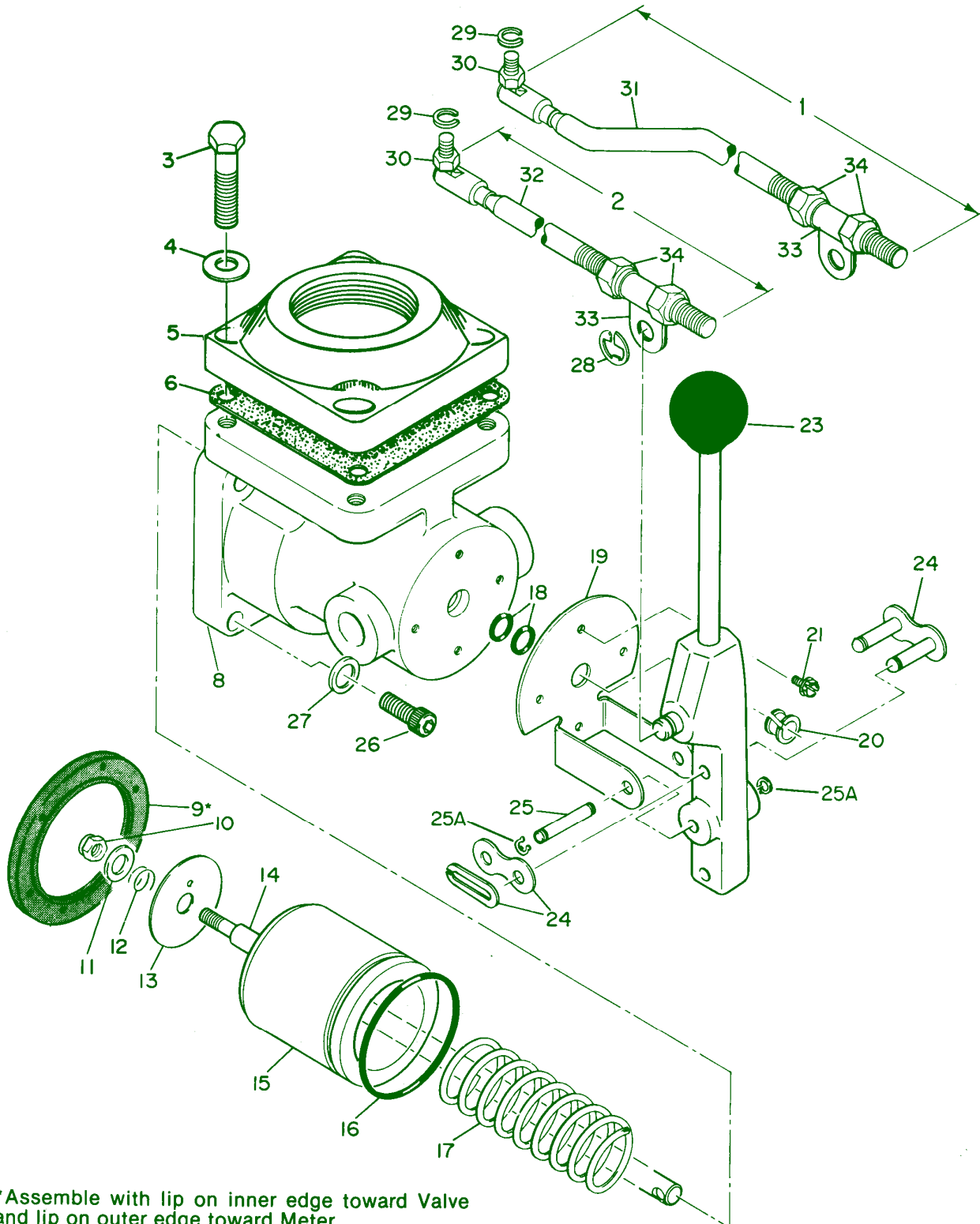
**Material - anodized aluminum

Companion Flanges (Index Nos. 13-17) - see page 8 for complete listing description.

F-7 In-line Strainer Assembly

Index No.	Description	Req.	Part Number For Assembly Number							
			A-2010	SAME	SAME	SAME	SAME	SAME	SAME	SAME
18	45° Elbow Assembly	2	A-2010	SAME	SAME	SAME	SAME	SAME	SAME	SAME
19	Flange Gasket	2	40430	45818 TEFLON	45109 CORK	40430 BUNA	45109 CORK	45109 CORK	45818 TEFLON	40430 BUNA
20	Washer	8	4498	SAME	SAME	SAME	SAME	SAME	SAME	SAME
21	Hex Head Cap Screw	8	4444	SAME	SAME	SAME	SAME	SAME	SAME	SAME
22	45° Elbow	2	42161	SAME	SAME	SAME	SAME	SAME	SAME	SAME

Liquid Controls M-7 Meter Assembly V-7 Valve - Models



*Assemble with lip on inner edge toward Valve and lip on outer edge toward Meter.

Liquid Controls M-7 Meter Assembly V-7 Valve - Models

Parts List V-7 Viton-fitted Valves Model Nos. A-2621, A-2631, A-2651, A-2652, and A-2655

Index No.	Description	Req.	Part Number For Assembly Number					
			A-2621 Class 1, 2 & 5	A-2631 Class 3 High Viscosity Liquid	A-2651 Class 3 to 6 15 & 17	A-2652 Class 3, 4, 5, 6, 15 & 17	A-2655 Class 30	A-2610 Class 2
1	Offset Valve Linkage Assembly*	1	A-2714	A-2714	A-2714	A-2714	A-2714	A-2714
2	Straight Valve Linkage Assembly*	1	A-2712	A-2712	A-2712	A-2712	A-2712	A-2712
3	Flange Bolt	4	4425**	4425**	4425**	4425**	4425**	4425**
4	Flange Washer	4	4498**	4498**	4498**	4498**	4498**	4498**
5	Flange 2" NPT size 1 1/2" NPT size	1 1	supplied with meter per meter specification					
†6	Flange Gasket	1	**	**	**	**	**	**
8	Housing	1	43605	43605	43605	43605	43605	43605
†9	Seal Ring***	1	43626	43626	43626	43608	43626	43626
10	Piston Guide Shaft Nut	1	6050	6050	6050	6050	6050	6050
11	Piston Guide Shaft Washer	1	6635	none	6635	6635	6635	6635
12	Dashpot Spring	1	43620	none	43620	43620	43620	43620
13	Dashpot Washer****	1	43629	none	44699	44699	44699	44699
14	Piston Guide Shaft	1	43612	43612	43612	43612	43612	43612
15	Piston	1	43602	43602	43602	43607	43607	44658
†16	Piston O-Ring Seal	1	7253 Viton	7253 Viton	7253 Viton	6848 Buna	7832 Teflon	7822 Viton
16A	Spiral Retainer	1	none	none	none	none	6044	none
17	Piston Spring	1	43624	43678	43678	43678	43678	43624
†18	Shaft Seal O-Ring	2	6184	6184	6184	7443	6184	6184
19	Lift Bracket	1	43652	43652	43652	43652	43652	43652
20	Shaft Bearing	1	7102	7102	7102	7102	7102	7102
21	Bracket Screw	4	7295	7295	7295	7295	7295	7295
23	Handle Assembly, straight handle (1)	1	44685	44685	44685	44685	44685	43617 L-R Curve
24	Link	1	7103	7103	7103	7103	7103	7103
25	Lever Shaft	1	43616	45345	45345	45345	45345	45345
25A	Lever Shaft E-Ring	2	7304	7304	7304	7304	7304	7304
26	Housing Screw	4	6991	6991	6991	6991	6991	6991
27	Housing Washer	4	4607	4607	4607	4607	4607	4607
28	Pivot Retainer E-Ring	1	4393	4393	4393	4393	4393	4393
29	Lock Washer	1	6081	6081	6081	6081	6081	6081
30	Ball Joint	1	4638	4638	4638	4638	4638	4638
31	Offset Linkage Arm	1	43622	43622	43622	43622	43622	43622
32	Straight Linkage Arm	1	43623	43623	43623	43623	43623	43623
33	Bracket	1	43634	43634	43634	43634	43634	43634
34	Locknut	2	6075	6075	6075	6075	6075	6075
35	Identification Label	1	45361	45361	45361	45361	45361	45361

*Valve Linkage Assembly (either Offset or Straight) includes parts listed under Index Nos. 29, 30, 33 and 34 . . . and either 31 or 32.

**Supplied with Meter.

***Seal material is Viton bonded to internal meter pale.

****Dashpot Washers.

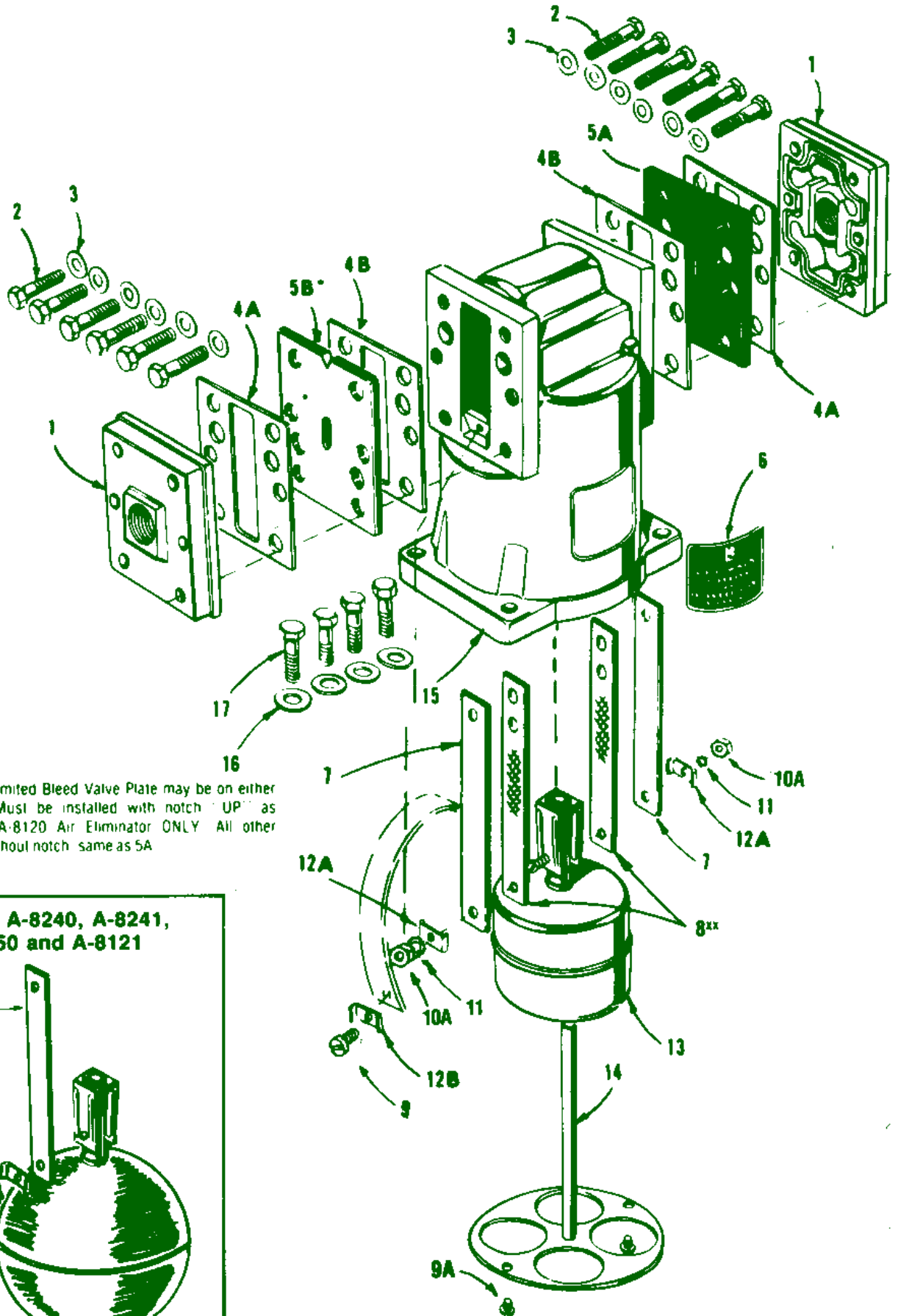
Number of Holes	Hole Size	Viscosity Range	Part Number	
			Aluminum	Stainless Steel
1	1/8"	0-100 SSU	44699	44698
2	1/8"	100 - 6 000 SSU	43621	44692
4	1/8"	6 000 - 20 000 SSU	47723	47722

Dashpot washers are not used when measuring 20 000 SSU or heavier liquids.

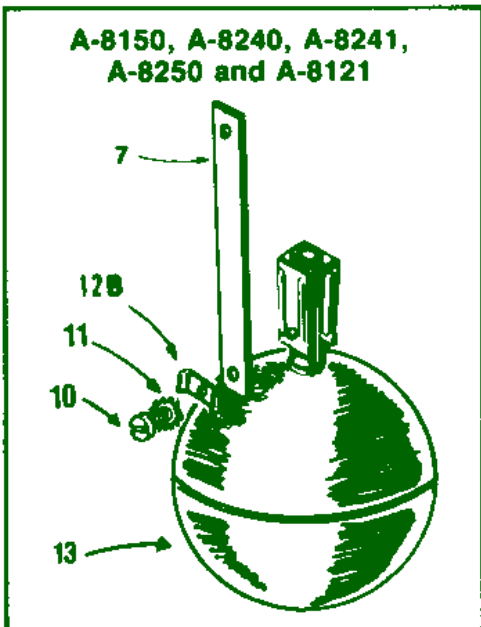
(1) Also supplied with horizontally positioned, inward-curving handle as alternate for the A-2621 Valve only. When meter flow is left to right, order alternate Valve A-2617 . . . when flow is right to left order alternate Valve A-2614. Alternate valves can be mounted in Top, Rear and Bottom Outlet connection positions, but not to the Front. A-2617 Valve has same parts as A-2621 Valve, except for inward-curving Handle Assembly No. 43617. A-2614 has same parts as A-2621 Valve, except for inward curving Handle Assembly No. 43614.

†Denotes recommended spare parts.

Liquid Controls M-7 Meter Air Eliminator



*5B No. 43934 Limited Bleed Valve Plate may be on either side of housing. Must be installed with notch "UP" as shown. Used on A-8120 Air Eliminator ONLY. All other models use plate without notch same as 5A.

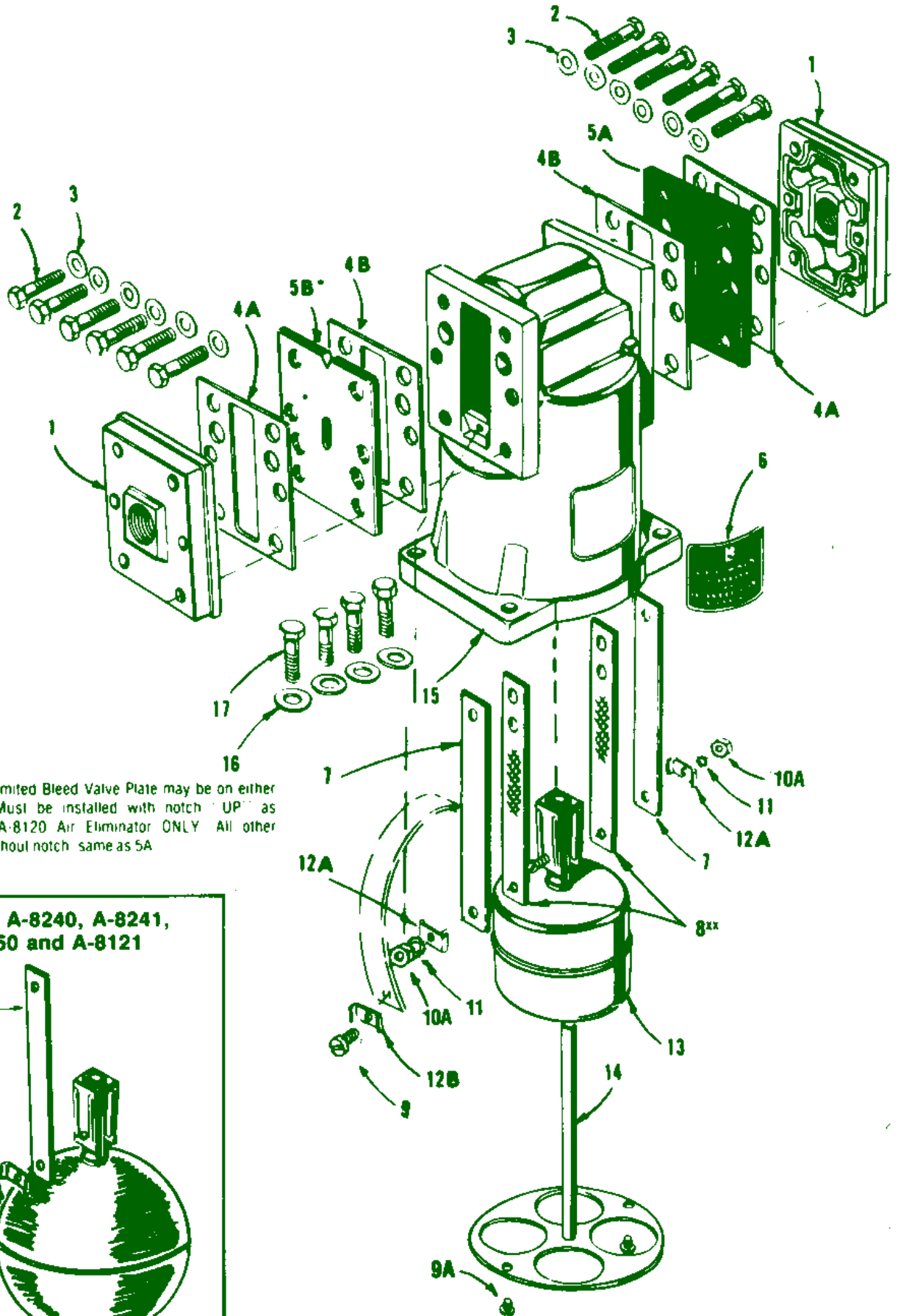


xx included on teflon model A8250 only.

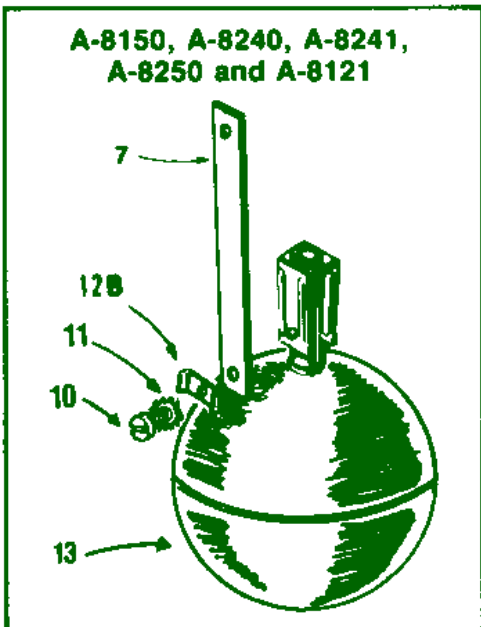
Liquid Controls M-7 Meter
Air Eliminator

Index No.	Description	Part Number	Material
1	Outlet Cover	42104 and 42788	Aluminum
15	Housing	42101 and 42787	Aluminum
5	Valve Plate	43778 43934 43773	Cadmium plated steel with viton bonded face. Cadmium plated steel with viton bonded face (limited bleed) Anodized Aluminum
7	Valve Reed	40007	Stainless Steel
8	Reed Strip	42091	Teflon
9, 9A and 10	Screws	6477 6797	Stainless Steel Stainless
11	Lockwashers	7660 6476 6724	Stainless Steel Stainless Steel Stainless Steel
13	Float and Stop Assembly	41501 45903 46201 45551	Cadmium Plated Steel Stainless Steel with ball with hole Stainless Steel with solid ball Cadmium Plated Steel used with Baffle Kit 45553
14	Guide Shaft and Baffle Plate	42107 42119 45552	Stainless Steel Shaft, with Cadmium Plated Steel Baffle Plate. Stainless Steel Cadmium Plated Steel used with Baffle Kit

Liquid Controls M-7 Meter Air Eliminator



*5B No. 43934 Limited Bleed Valve Plate may be on either side of housing. Must be installed with notch "UP" as shown. Used on A-8120 Air Eliminator ONLY. All other models use plate without notch same as 5A.



xx included on teflon model A8250 only.

Liquid Controls M-7 Meter Air Eliminator

Index	Description	Req.	Part Number For Assembly Number									
			A-8110 Classes 1, 2 & 5 Viton	A-8112 Class 2 Extend Baffle/ Float	A-8120* Classes 1, 2 & 5 Limited Bleed	A-8121 Class 1 Limited Bleed Increased Vent Capacity	A-8123 Class 2 Auto. w/screen Limited Bleed	A-8150 Class 3 Viton	A-8240 Classes 4, 6, 15, 16 & 17 Viton	A-8241 Class 30 Viton	A-8250 Classes 2, 4, 5, 6, 15, 16 & 17 Teflon	
1	Outlet Cover	2	42104	42104	42104	42104	42104	42104	42104	42788	42788	45922
2	Cover Hex Head Screw	12	6659	6659	6659	6659	6659	6659	6659	6659	6659	6659
3	Cover Washer	12	1574	1574	1574	1574	1574	1574	1574	1574	1574	1574
4A	Cover Gasket	2	42118 BUNA	42118 BUNA	42118 BUNA	42118 BUNA	42118 BUNA	42118 BUNA	46071 BUNA	42118 BUNA	42118 BUNA	44862 TEFLON
4B	Inner Cover Gasket	2	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	44862 MISC.
5A	Valve Plate-A	1	43778	43778	43778	47469	43778	43778	43778	43778††	43778	43773
5B	Valve Plate-B	1	43778	43778	43934**	43934**	43934**	43778	43778	43778††	43778	43773
6	Name Plate	1	42236	42236	42242	42242	42242	42242	42242	42242	42242	42242
7	Valve Reed	2	40007	40007	40007	40007	40007	40007	40007	40007	40007	40007
8	Reed Strip	2	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	42091
9	Reed End Screw	2	6797	6797	6797	6797	NONE	6797	6797	6797	6797	6797
9A	Baffle Plate Screw	2	6797	6797	6797	6797	6797***	6797***	6797	6797	6797	6797
10	Reed Base Screw	2	NONE	NONE	NONE	3861	NONE	6477	6477	6477	6477	6477
10A	Reed Base Nut	2	7661	7661	7661	NONE	7661	NONE	NONE	NONE	NONE	NONE
11	Reed Nut Washer	2	7660	7660	7660	6724	7660	6476	6476	6476	6476	6476
12A	Reed Base Retaining Clip	2	41792	41792	41792	41792	41792	41792	41792	41792	41792	41792
12B	Reed End Retaining Clip	2	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	41792
13	Float and Stop Assembly	1	41501	45551	41501	40014	41501	45903	45903	46201	45903	45903
14	Guide Shaft Baffle Plate	1	42107	45552	42107	42119‡	42107	42119‡	42119‡	42119‡	42115‡	42119‡
15	Housing	1	42101	42101	42101	42101	42101	42101	42787	42787	42787	42772
16	Housing Washer	4	4498	4498	4498	4498	4498	4498	4498	4498	4498	4498
17	Housing Hex Head Screw	4	4444	4444	4444	4444	4444	4444	4444	4444	4444	4444
18	Baffle Screen (Not Shown)	1	NONE	NONE	NONE	NONE	45103	NONE	NONE	NONE	NONE	NONE

*Install when A-2817 Air Check Valve is used.

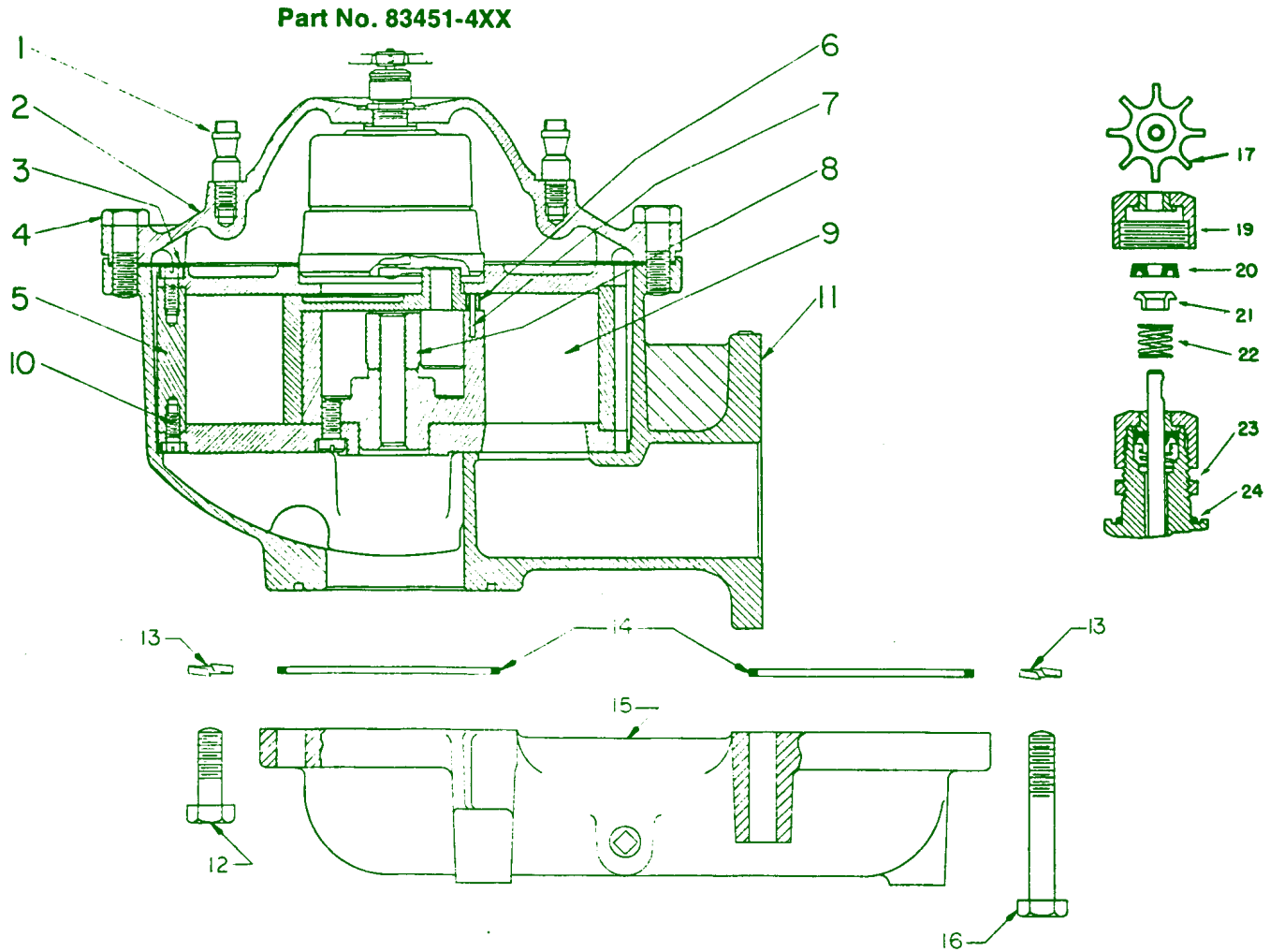
**Limited Bleed Valve Plate . . . may be in either side of housing.

***Quantity becomes 4.

††Use 43779 for limited bleed applications.

‡Baffle Plate is rectangular strap instead of circular plate.

Neptune Red Seal Meters (400 Series)
2" Type 4 Compact Meter (with air release & strainer)
2" Type 40 Meters (without air release & strainer)

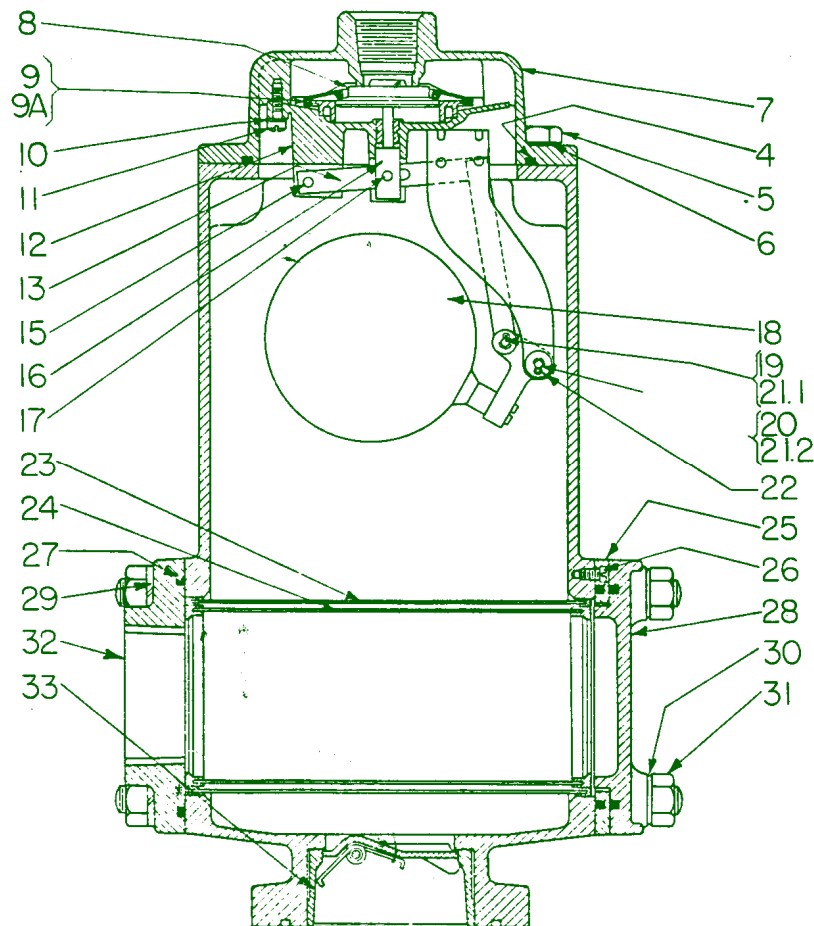


Index	Part	Part No.
1	Stud, Register Clamp	84435-000
2	Cover, Main Case	45815-003
3	Gasket, Main Case	45814-000
4	Bolt, 7/16-14x1-3/8 hex hd	795-003
5	Measuring Chamber Complete	45806-003
6	Pin, Seal	42546-000
7	Dowel Stud, Seal Pin	2857-003
8	Roller, Control	42316-001
9	Diaphragm	42312-001
10	Screw, Measuring Chamber	4142-003
11	Main Casing (round flange)	83452-003
12	Bolt, 5/8-11x1-1/2 hex hd	100085-025
13	Lockwasher, 5/8	41395-000
14	Gasket, Connector (O-ring)	100139-013

Index	Part	Part No.
15	Connector, Meter-to-Air Release	86173-000
16	Bolt, 5/8-11x3 hex hd	8329-506
17	Star Connection Complete	82976-001
18	Gear Train Complete*	
	3.75 Reduction	80862-050
	4.58 Reduction	80862-051
	9.93 Reduction	80862-055
19	Stuffing Box Nut and Bushing	83536-000
20	Seal, U-cup Shaft	100025-002
21	Expander, Seal	83539-000
22	Spring, Stuffing Box	83540-000
23	Nut Clamp	34-000
24	Gasket, Gear Train (O-ring)	100138-003

* For Gear Trains not listed give reduction as stamped on lower plate.

Neptune Red Seal Meters (400 Series) Air Release & Strainer

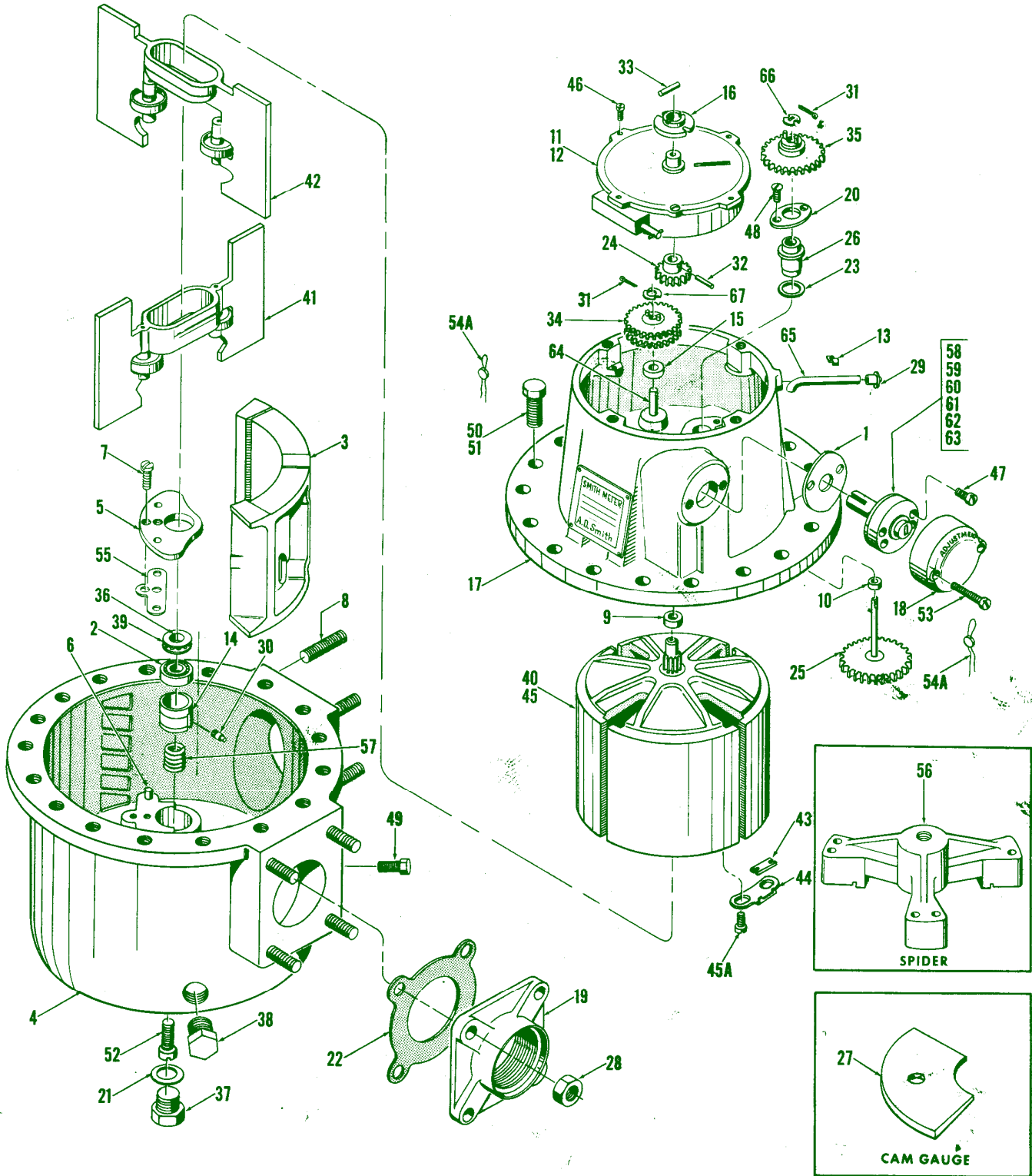


Index	Part	Part No.
4	Gasket, Mounting Cover (O-ring)	100139-022
5	Bolt, 3/8-16x7/8 hex hd steel	100067-026
6	Lockwasher, 3/8 steel	45828-000
-	Mounting Cover Complete with Float Valve Unit	83455-001
7	Cover, Mounting	82451-004
8	Main Valve Complete	89274-005
9	Sleeve, Valve	82446-005
9A	Seal, Piston	83179-000
10	Lockwasher, No. 10 steel	41211-000
--	Lower Valve Housing Complete	86772-001
11	Screw, 10-32x5/8 fil hd	41221-002
12	Valve Housing w/Extensions	83457-000
13	Link Assy	80002-002
15	Pin, Valve Lever	40819-002
16	Stem, Valve	83127-001
17	Pin, Valve Stem	42941-000
18	Float Complete	82476-000
19	Pin, Float Lever (short)	82633-000

Index	Part	Part No.
20	Pin, Float Lever (long)	40820-003
21.1	Washer, Float Lever Pin (short)	41989-000
21.2	Washer Float Lever Pin (long)	40491-000
22	Cotter Pin, 1/16dia x 1/2 brass	41402-000
23	Strainer, Outer	43054-003
24	Strainer, Inner, 16 mesh	83465-003
	40 mesh	83465-002
	60 mesh	83465-001
	80 mesh	83465-000
25	Plate, Strainer Retainer	82824-001
26	Screw, 8-32 x 3/8 fil hd	41048-000
27	Gasket, (O-ring)	100139-018
28	Cover, Strainer	82695-001
29	Lockwasher, 7/16	41012-001
30	Washer, Plain 7/16	40640-000
31	Nut, 7/16-14 hex brass	380-000
32	Flange, Inlet	83464-000
33	Back Pressure Valve Complete	83459-000
34	Body with Studs	83468-000

See: FORM 672A -- JENKINS AUTO-STOP VALVES AND ADAPTERS
FORM 672B -- NEPTUNE TYPE 1A AUTO-STOP VALVES
FORM 760 -- RED SEAL and INDUSTRIAL PARTS PRICE LIST

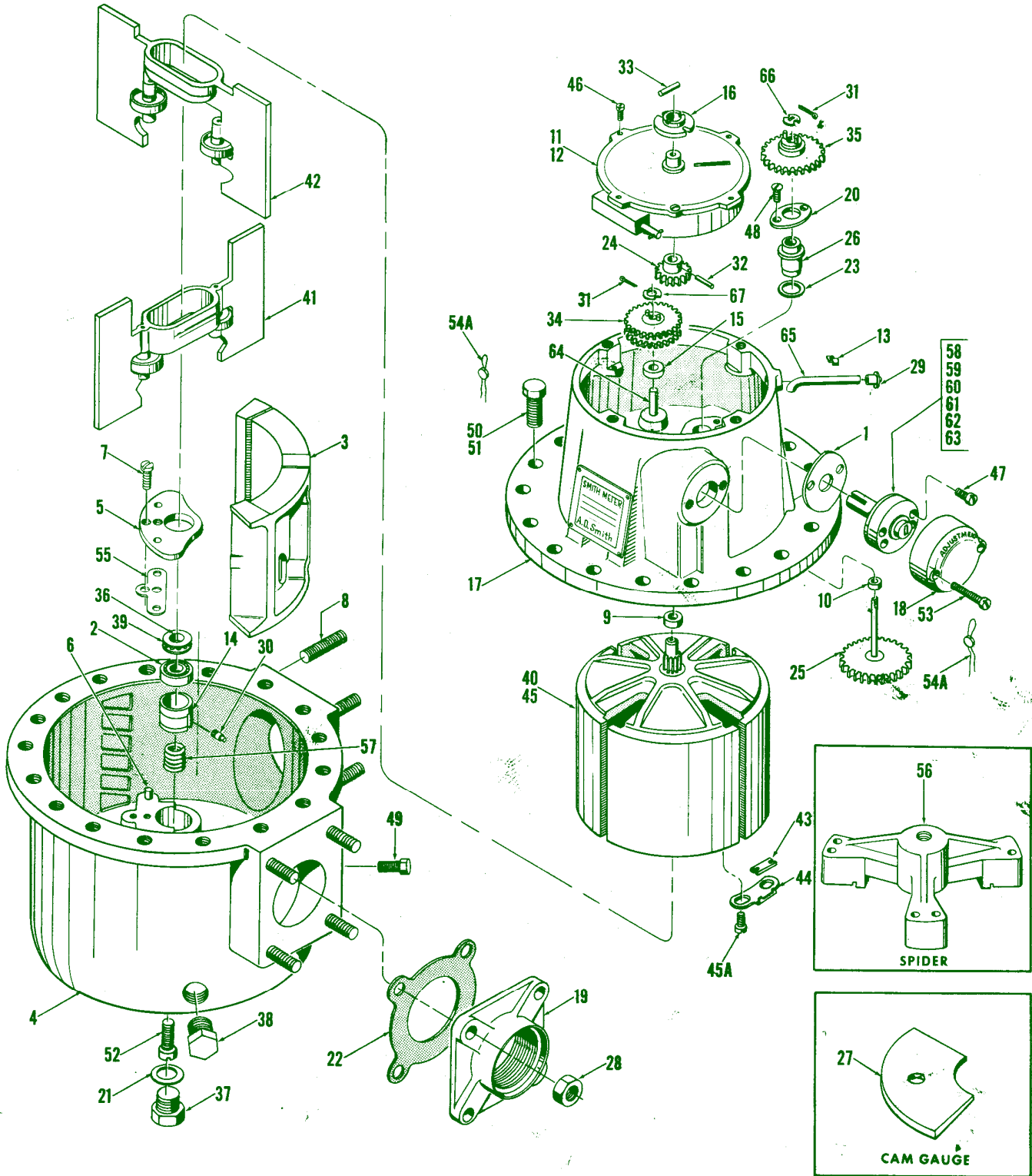
Smith Meters T-6, T-7, T-10, T-10NF, and T-11NF



Smith Meters T-6, T-7, T-10, T-10NF, and T-11NF

Item	Description	Qty.	T-10			Item	Description	Qty.	T-10		
			T-6	T-11	T-10NF				T-6	T-11	T-10NF
			T-7	T-11NF				T-7	T-11NF		
1	Adaptor, Calib. Adjusting Stem T-7, T-11.....	1	512372-1	512372-1	19	Flange, Inlet-Outlet.....	2	12909-1	4066-1		
2	+ Bearing, Rotor.....	1	6019-1	6019-1	20	Flange, Packing Gland.....	1	10171-1	10171-1		
3	Block: Standard.....	1	2667-1	2667-1	21	+ Gasket, Drain Plug: Standard & All Iron.....	1	11139-1	11139-1		
	Non-Ferrous T-10NF, T-11NF	1	500809-1	500809-1		Non-Ferrous T-10NF, T-11NF.	1	.....	4269-1	
4	Body Assembly: Standard T-6, T-10.....	1	71283-1	71285-1	22	+ Gasket, Inlet - Outlet.....	2	12899-1	3958-1		
	All Iron T-6, T-10.....	1	71406-1	71420-1	23	+ Gasket, Packing Gland.....	1	10173-1	10173-1		
	Standard & All Iron T-7, T-11	1	13262-1	13264-1	24	Gear, Calibrator Drive: U.S. Gallons, Liters 20T.....	1	8969-1	8969-1		
	Non-Ferrous T-10NF, T-11NF.	1	.....	500815-1		Imperial Gallons 23T.....	1	70210-1	70210-1	
5	+ Cam: Standard & All Iron.....	1	519630-1	519630-1		Dekaliters 34T.....	1	70269-1	70269-1		
	Non-Ferr. T-10NF, T-11NF	1	.....	500813-1	25	Gear, Jackshaft: Standard T-6, T-10.....	1	8430-1	8430-1	
6	Dowel, Cam: .186" Diameter.....	2	1097-1	1097-1		All Iron T-6, T-10.....	1	71409-1	71409-1		
	.154" Diameter T-7, T-11..	2	3628-1	3628-1		Standard & All Iron T-7, T-11	1	71409-1	71409-1		
7	Screw 10-32 x 1/2" Fil. Hd..	2	7-83384	7-83384	26	+ Gland, Packing: Iron Thiokol.....	1	518630-1	518630-1		
8	Stud.....	8	13263-1	13263-1		Iron Teflon.....	1	9535-2	9535-2		
9	+ Bushing, Cover: .181" Diameter I.D. Standard.	1	1119-1	1119-1	27	Gauge, Cam T-6, T-10 only....	1	512470-1	512470-1		
	.181" Diameter I.D. All Iron, Non-Ferrous.....	1	11137-1	11137-1	28	Nut, Flange.....	8	6172-1	6618-2		
	.251" Diameter I.D. Standard	1	14017-1	14017-1	29	Oiler.....	1	6708-1	6708-1		
	.251" Diameter I.D. All Iron, Non-Ferrous.....	1	14018-1	14018-1	30	Pin, Adjusting Collar Key, T-7, T-11 only.....	1	1096-1	1096-1		
10	+ Bushing, Jackshaft: Standard T-6, T-10.....	1	12555-1	12555-1	31	Pin, Cotter 1/16" x 3/8".....	2	7-98254	7-98254		
	All Iron T-6, T-10.....	1	13257-1	13257-1	32	Pin, Groove 5/64" x 1/2".....	1	6053-2	6053-2		
	Standard, All Iron, Non-Ferrous T-7, T-11, T-11NF.....	1	11680-1	11680-1	33	Pin, Groove 1/16" x 5/8".....	1	6028-2	6028-2		
11	Calibrator T-6, T-10: Manual: Standard.....	1	5855-1	5855-1	34	Pinion, Idler: U.S. Gallons 40/40T.....	1	505077-1	505077-1		
	Heavy Duty.....	1	501755-1	501755-1		Imperial Gallons: T-6, T-10 38/40T.....	1	71342-1	71342-1		
	Temperature Corrected 20-120°F., API 44°:					T-7, T-11 38/40T.....	1	505078-1	505078-1		
	Standard.....	1	9629-1	9629-1		Dekaliters: T-6, T-10 26/40T.....	1	71343-1	71343-1		
	Heavy Duty.....	1	502775-1	502775-1		T-7, T-11 26/40T.....	1	505079-1	505079-1		
11	Temperature Corrected, Special Temp. & API: Standard.....	1	9825	9825		Liters, T-7, T-11 only 40/28T.	1	72025-1	72025-1		
	Heavy Duty.....	1	502776	502776	35	Pinion, Jackshaft: U.S. Gallons, Imp. Gallons & Dekaliter 40T.....	1	505076-1	505076-1		
12	Calibrator T-7, T-11: Manual.....	1	512059-1	512059-1		Liters 53T.....	1	72024-1	72024-1		
	Temperature Corrected 20-120°F., API 44°.....	1	519734-1	519734-1	36	+ Plate, Thrust Bearing.....	2	1111-1	1111-1		
	Temperature Corrected Special Temp. & API.....	1	533926	533926	37	Plug, Drain: Standard & All Iron.....	1	11140-1	11140-1		
13	Clamp, Oil Tube.....	1	3905-1	3905-1		Non-Ferrous.....	1	.....	4268-1	
14	Collar, Adjusting: T-6, T-10.....	1	11136-1	11136-1	38	Plug, Pipe T-7, T-11 only.....	1	6505-2	6505-2		
	T-7, T-11.....	1	519629-1	519629-1	39	+ Retainer & Balls: Standard.....	1	6020-1	6020-1		
15	Collar, Idler Shaft: T-6, T-10.....	1	2635-1	2635-1		All Iron.....	1	70360-1	70360-1		
	T-7, T-11.....	1	11327-1	11327-1	40	Rotor Assembly: Standard.....	1	5004-1	5004-1		
16	+ Coupling, Drive.....	1	72103-1	72103-1		All Iron.....	1	9679-1	9679-1		
17	Cover: Standard T-6, T-10.....	1	72039-1	72039-1		Non-Ferrous T-10NF, T-11NF.	1	.....	510752-1	
	All Iron T-6, T-10.....	1	72040-1	72040-1	41	+ Blade, Lower: Standard & Non-Ferrous ..	1	8592-1	8592-1		
	Standard & All Iron T-7, T-11	1	519395-1	51395-1		All Iron.....	1	9542-1	9542-1		
	Non-Ferrous T-10NF.....	1	.....	500820-1	42	+ Blade, Upper: Standard & Non-Ferrous ..	1	8593-1	8593-1	
	Non-Ferrous T-11NF.....	1	.....	533795-1		All Iron.....	1	9543-1	9543-1	
18	Cover, Knob.....	1	3553-1	3553-1	43	+ Block, Blade.....	4	10289-1	10289-1		
					44	+ Clamp.....	4	10212-1	10212-1		
					45	+ Rotor, Sub Assembly: Standard & All Iron.....	1	72038-1	72038-1		
						Non-Ferr. T-10NF, T-11NF	1	.....	500818-1	
					45A	Screw, 10 - 32 x 5/8".....	8	6001-2	6001-2		

Smith Meters T-6, T-7, T-10, T-10NF, and T-11NF



Smith Meters

T-6, T-7, T-10, T-10NF, and T-11NF

Item	Description	Qty.	T-10	
			T-6	T-11
			T-10NF	T-11NF
46	Screw, 6 - 32 x 5/16" Fil. Hd.	2	6048-2	6048-2
47	Screw, 10 - 32 x 7/8" Fil. Hd. T-7, T-11 only.	3	640835-1	640835-1
48	Screw, 10 - 32 x 1/2" Flat Head	2	6764-2	6764-2
49	Screw, Cap 5/16-18 x 3/4" Hex Head.	2	7-20464	7-20464
50	Screw, Cap 3/8-16 x 1" Hex Head (Drilled).	2	60248-3	60248-3
51	Screw, Cap 3/8-16 x 1" Hex Head	14	60248-2	60248-2
52	Screw, Cap 5/16-24 x 1-1/4" Hex Head Socket	1	643273-2	643273-2
53	Screw, Machine 10-24 x 3/4" Fil. Head Drilled	2	6481-3	6481-3
54	* Seal, Plastic Lead	1	648574-1	648574-1
54A	Seal Wire & Lead	2	64031-1	64031-1
55	Spacer, Cam: Standard T-6, T-10 only.	1	512672-1	512672-1
	Non-Ferr. T-10NF, T-11NF only	1	.....	512672-2
56	Spider	1	13652-2	13652-2
57	+ Spring, Rotor	1	1094-1	1094-1
58	Stem Assembly, Adjusting	1	9338-1	9338-1
59	* Ball, Steel 1/8"	2	6427-1	6427-1
60	* Plate, Base	1	3552-1	3552-1
61	* Plate, Retainer.	1	3556-1	3556-1
62	* Spring, Knob.	2	3557-1	3557-1
63	* Stem, Adjusting	1	3551-1	3551-1
64	Stud, Idler T-7, T-11 only.	1	4036-1	4036-1
65	Tube, Oil.	1	514658-1	514658-1
66	+ Washer, Drive: 1/16" Thick.	1	1125-2	1125-2
	3/16" Thick.	1	1125-1	1125-1
67	+ Washer, Idler, Pinion	1	3599-1	3599-1

MODELS AND GENERAL ASSEMBLY NUMBERS

Description	T-6		T-10	
	T-6	T-7	T-10NF	T-11NF
U.S. Gallons	71117-1	519846-1	71070-1	519397-1
U.S. Gallons				
All Iron.	71407-1	519846-2	71417-1	519397-2
Imperial Gals. 71344-1	71344-1	519846-11	71419-1	519397-11
Imperial Gals.				
All Iron. . . . .	.....	519846-12	.....	519397-12
Dekaliters	71365-1	519846-21	71418-1	519397-21
Dekaliters				
All Iron. . . . .	.....	519846-22	.....	519397-22
Liters . . . . .	.....	519846-53	.....	519397-23
Non-Ferrous				
T-10NF, T-11NF . . . . .	.....	.....	500821-1	533794-1

¶ See Parts List 3-B/G for Component Parts.

¶¶ When ordering temperature corrected calibrators be sure to include temperature range and API gravity.

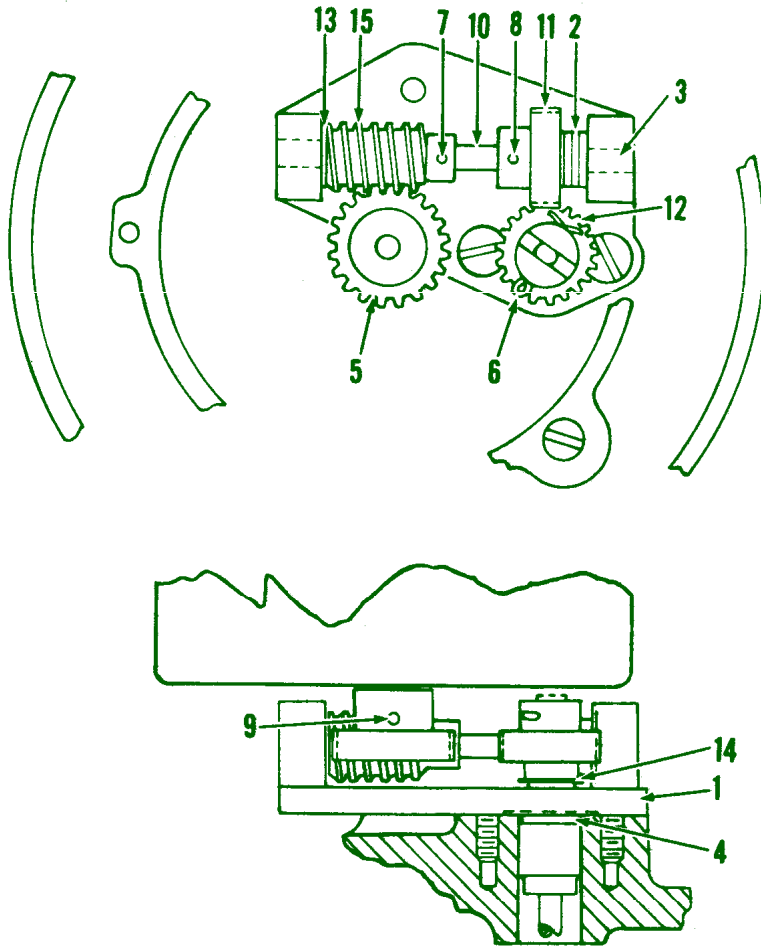
* Not illustrated.

+ Recommended stock.

§ Refer to Bulletin M-14b for cam replacement.

NOTE: Parts List 4L/k supersedes 4-L/j.

Smith Barrel Gearing Adapter T-6, T-7, T-10, T-10NF, and T-11NF



GENERAL ASSEMBLY 506550-1

Item No.	Description	Qty.	Part No.
1	Base	1	506544-1
2	Bearing	1	640806-1
3	+Bushing	2	640378-1
4	+Gasket - Packing Gland	1	10173-1
5	+Gear - Worm	1	506546-1
6	+Pin - Cotter	1	6303-1
7	Pin - Groove - Jackshaft Spiral Gear Hub, 5/64" x 3/16"	1	6317-2
8	Pin - Groove - Spiral Driven Gear Hub, 5/64" x 1/2"	1	6821-1
9	Pin - Groove - Worm Gear, 5/64" x 5/8"	1	60387-1
10	+Shaft - Main Drive	1	506545-1
11	Spiral Driven Gear Assembly	1	506561-1
12	Spiral Gear Assembly - Jackshaft	1	506560-1
13	Washer, 3/16" x 1/2" x .010"	2	640642-1
14	Washer - Spacing	1	506549-1
15	Worm - 24P. Single Lead	1	65126-1

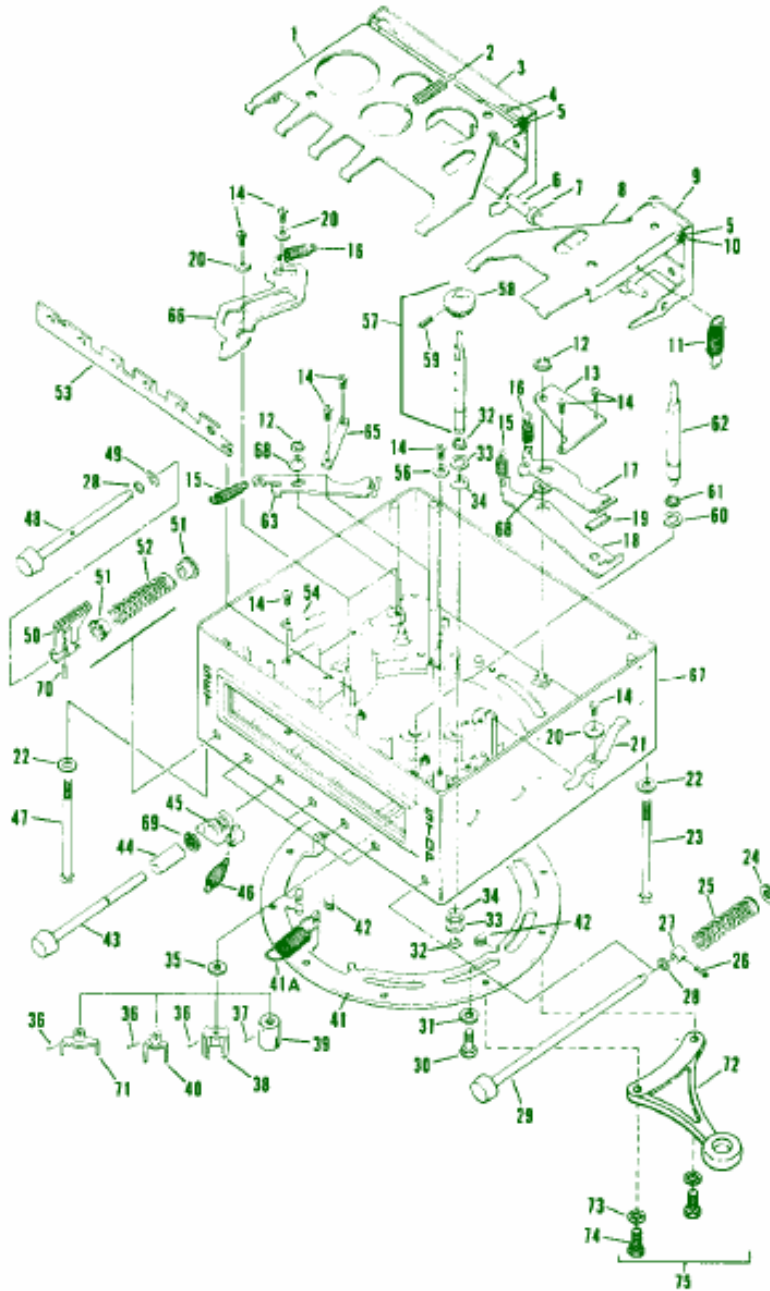
*To adapt Large Numeral Counter on these meters, the following items are required:

Adapter - Large Numeral Counter	1	4649-1
Cap Screw - Hex Hd. Drilled, 1/4 - 28 x 5/8"	1	65158-2
Cap Screw - Hex Hd., 1/4 - 28 x 5/8"	3	65369-2
+Gasket	1	2536-1
Screw - Fil. Hd. Machine, 3/8 - 16 x 3/4"	2	60294-2

*Not Illustrated.

+Recommended Stock.

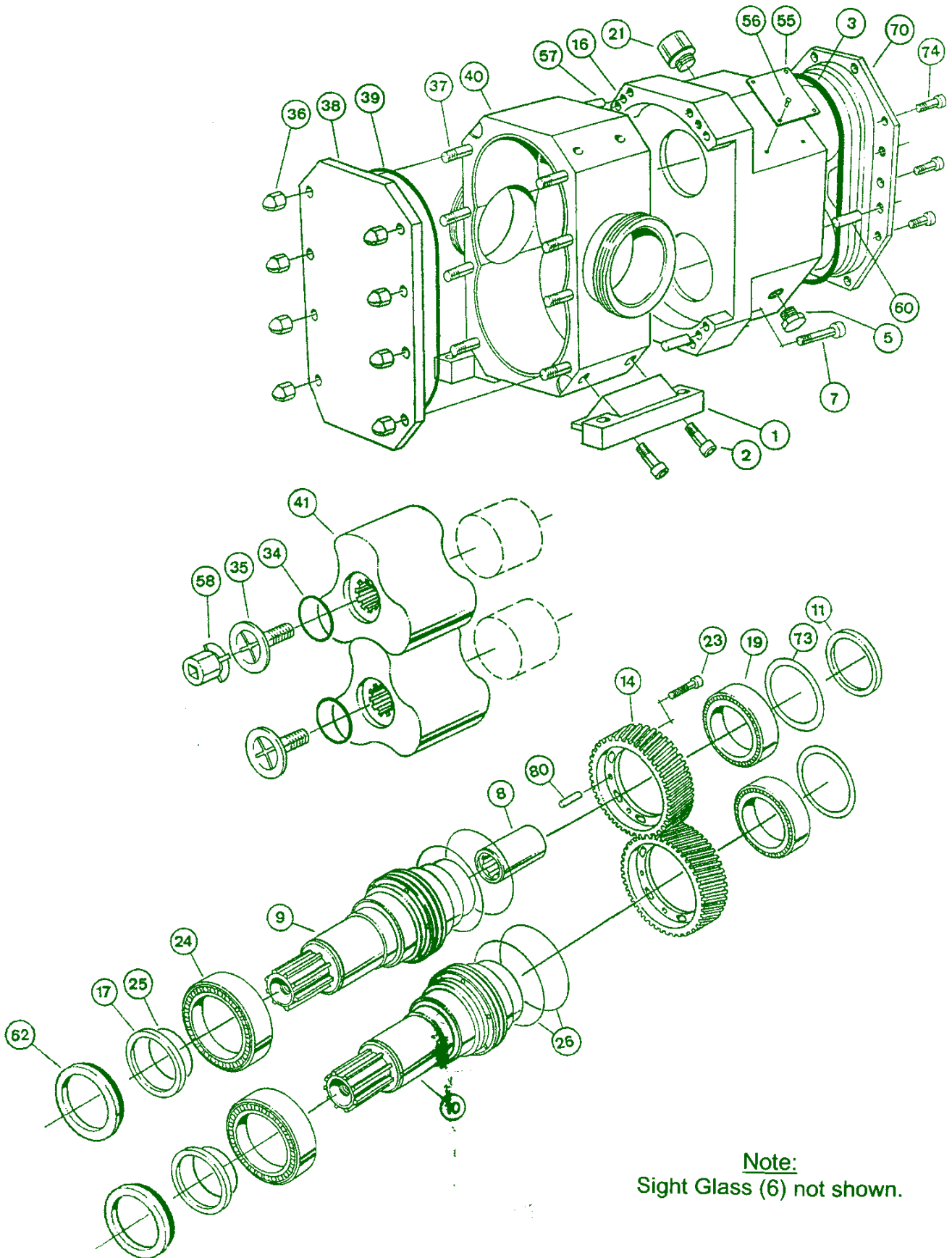
Veeder Root

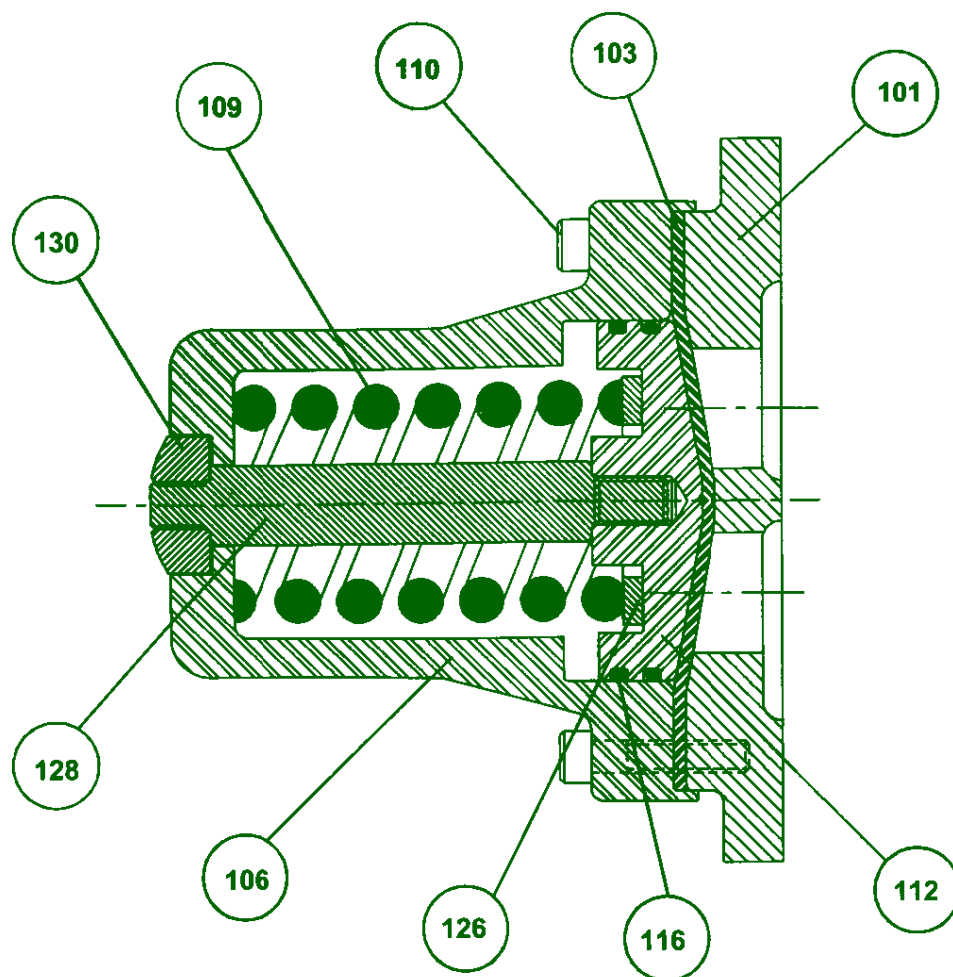


Veeder Root

1	324778-001	Rake, 1st Stage	48	324821-002	Rod Group, Beige Authorization
2	310300-341	Spring, Extension (2.2" at rest)	49	11071-EY-293	Washer, 0.014-0.016 Inch
3	324777-001	Lever, 1st Stage	50	324606-001	Rack
4	324780-001	Shaft, 1st Stage Lever	51	884008-649	Bushing, Spiral
5	511811-001	Ring, Retaining	52	310325-310	Spring, Compression
6	324789-001	Shaft, Lever	53	324716-001	Bar, Shift
7	884008-433	Spacer	54	324892-001	Plate, Wear
8	324779-001	Rake, 2nd Stage	55	Deleted	
9	324776-001	Lever, 2nd Stage & Emergency	56	11071-EV-287	Washer
10	324781-001	Shaft, 2nd Stage Lever	57	324822-001	Shaft Group, Vertical Drive
11	310300-334	Spring, Extension	58	324181-001	Gear
12	511810-001	Ring, Retaining	59	512208-001	Pin
13	324874-001	Plate, Retainer	60	11071-NL-785	Washer, 0.004-0.006 Inch
14	510500-365	Screw, #6-32 x 0.313 Inch-Pan Hd.	61	511816-001	Ring, Retaining
15	310300-330	Spring, Extension	62	324784-001	Shaft, Vertical Drive
16	310300-336	Spring, Extension		324784-002	Shaft, Vertical Drive (Square End)
17	324763-001	Pawl, Final Knockoff	63	324763-002	Pawl, Knockoff (1st Stage)
18	324764-001	Lever, Emergency Interlock	64	Deleted	
19	325310-001	Shim, 0.020 Inch	65	324768-001	Strap
20	885005-844	Washer	66	324761-001	Pawl, Interlock
21	324711-001	Lever, Clutch	67	324794-001	Case Group
22	510003-006	Lockwasher	68	11071-FN-325	Washer, 0.009-0.011 Inch
23	503300-112	Bolt, Rear		11071-EY-293	Washer, 0.014-0.016 Inch
24	11071-EY-293	Washer, 0.014-0.016 Inch		11071-CU-183	Washer, 0.016-0.022 Inch
25	310325-311	Spring, Compression	69	511805-328	Ring, Retaining
26	510111-001	Pin, Groove	70	510111-001	Pin, Spiral
27	14571-AN-082	Collar	71	G323372-001	Coupling, Forked
28	512700-172	Seal, "O" Ring	72	325214-001	Handle, Preset Ring
29	324819-002	Rod Group, Emergency (Red)	73	510013-001	Lockwasher
30	503661-005	Screw, Hex Head	74	503610-001	Screw, HK Cap
31	11071-BQ-112	Washer, 0.060-0.064 Inch	75	312020-513	Kit, Handle (Includes 72, 73, 74)
32	511819-001	ring, Retaining			
33	11071-OH-835	Washer, 0.009-0.011 Inch			
34	11071-QS-943	Washer, 0.004-0.006 Inch			
	11071-BW-126	Washer, 0.006-0.008 Inch			
	11071-OH-835	Washer, 0.009-0.011 Inch			
	11071-OJ-839	Washer, 0.029-0.033 Inch			
35	11071-QN-933	Washer, 0.009-0.011 Inch			
36	510107-002	Pin, 1/16 x 7/16 Inch			
37	510105-177	Pin, 1/16 x 3/4 Inch			
38	33775-A-005	Coupling - Brass Half			
39	65004-005	Coupling, Slotted			
	65004-010	Coupling, Special Slotted			
40	68845-1-005	Coupling, Forked			
41	324762-001	Plate, Knockoff			
41A	310300-374	Spring, Extension			
42	325159-001	Insert, Plate			
43	324820-002	Rod Group, Preset (Black)			
44	874201-127	Collar			
45	324623-001	Pawl, Preset			
46	310300-335	Spring, Extension			
47	503300-110	Bolt, Front (w/Hole Thru Head)			

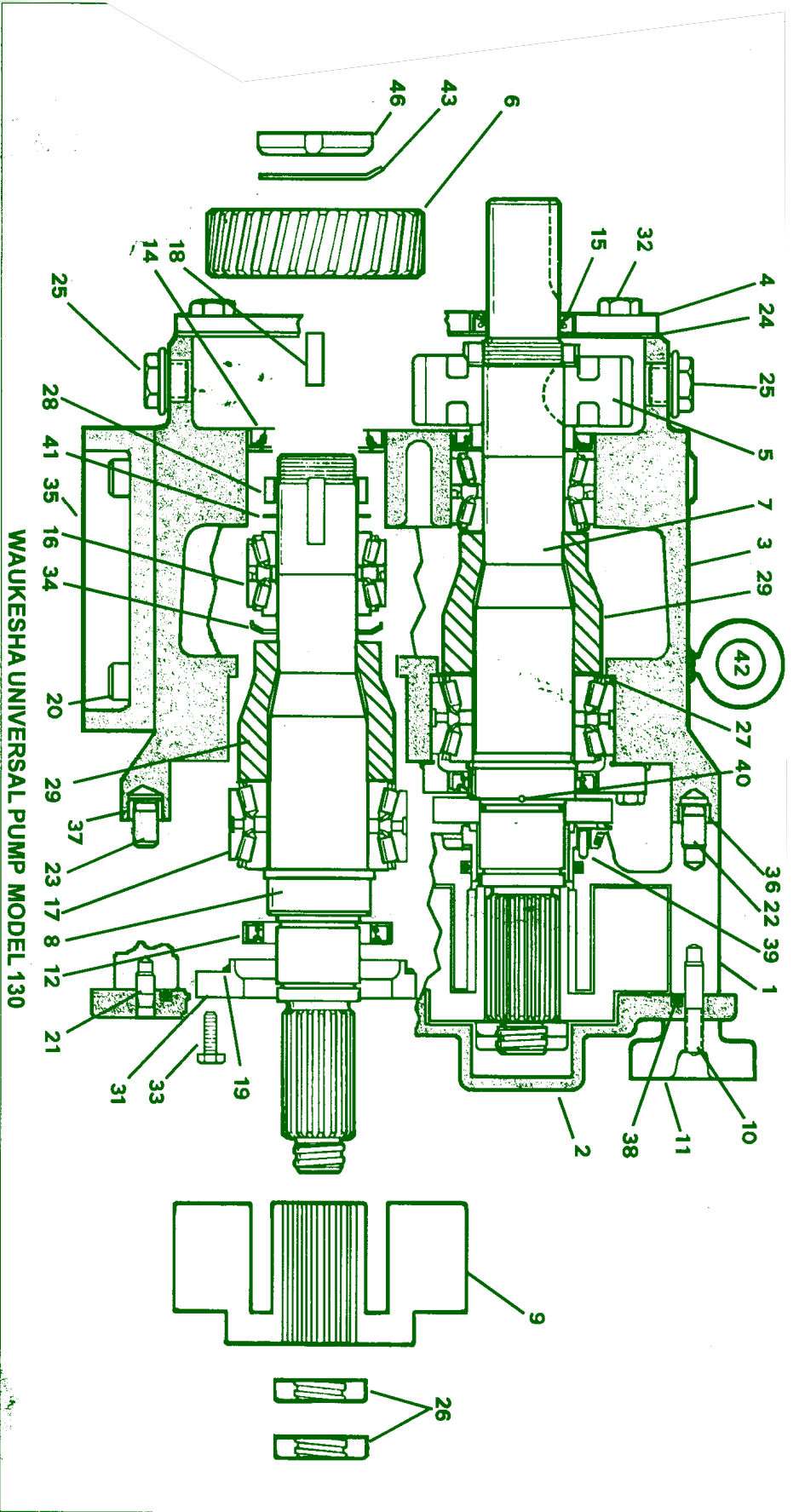
Johnson/Viking Rotary Lobe Pumps



Johnson/Viking Rotary Lobe Pumps

ITEM NUMBER	DESCRIPTION
101	RV FRONT COVER
103	DIAPHRAGM (PTFE FACE TO THE PRODUCT)
106	SPRING HOUSING
109	SPRING
110	SCREW
112	VALVE HEAD
116	O-RING
126	SPACER (IF REQUIRED)
128	VALVE STEM
130	STEM HEAD

Waukesha Universal Pump Model 130



WAUKESHA UNIVERSAL PUMP MODEL 130

Item	Description	Qty.	Part No.
*1	Pump Body - Flushing	1	130 001 010
*2	Pump Cover	1	CD0 002 S00
†	Pump Cover, Vented	1	055 002 V00
†	Pump Cover, Jacketed	1	CD0 002 J10
*3	Gear Case	1	070 105 000
*4	Gear Case Cover	1	070 106 000
5	Gear, Drive Shaft	1	060 007 001
6	Gear, Short Shaft	1	060 007 002
7	Drive Shaft	1	130 008 001
8	Short Shaft	1	130 009 001
*9	Rotor, Twin Blade	2	130 010 000
10	Stud	†*8	130 011 000
11	Wing Nut	8	CD0 016 002
12	Grease Seal, Front Bro. Retainer	2	000 030 009
14	Oil Seal, Gear Case, Rear	2	000 030 011
15	Oil Seal, Gear Case Cover	1	000 030 012
16	Bearing, Rear	2	060 035 000
17	Bearing, Front	2	060 036 000
18	Key Gear	2	060 037 000
19	Silicone Sealant	1	000 142 301
20	Socket Head Capscrew	4	000 039 008

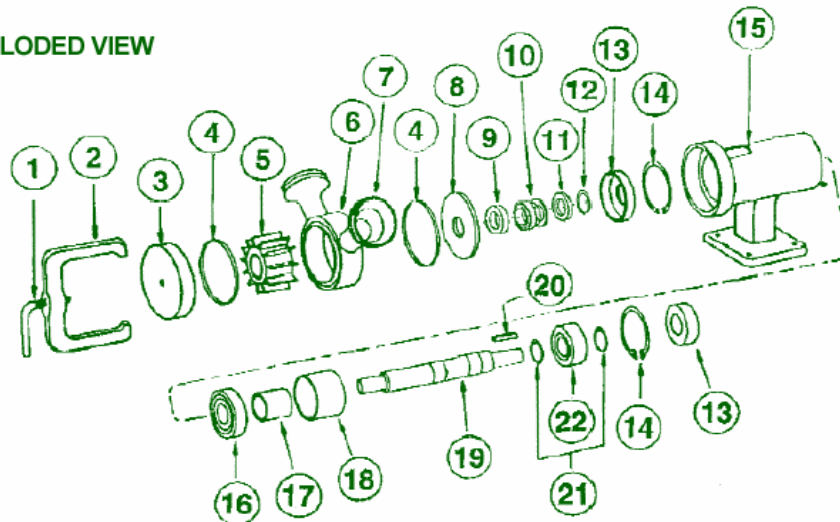
Item	Description	Qty.	Part No.
21	Dowel Pin - Cover, Lower	1	CD0 040 100
†	Dowel Pin - Cover, Upper	1	CD0 040 000
22	Dowel Pin - Gear Case, Upper	1	CD0 040 R00
23	Dowel Pin - Gear Case, Lower	1	CD0 040 R10
24	Silicone Sealant	1	000 142 301
25	Hex Capscrew, Fill, Drain, Level	6	000 046 003
26	Jam Nut	4	060 052 001
27	Shim, Front Bearing	AR	40458, 59, 60
28	Spacer, Gear	2	060 055 000
29	Bearing Spacer	2	060 055 003
†	Fiber Washer Drain and Level	2	AD0 064 000
31	Bearing Retainer	2	060 080 000
32	Hex Capscrew Gear Case Cover	6	30-341
33	Hex Capscrew, Bearing Retainer	8	30-351
34	Grease Retainer, Rear Bearing	2	STD 091 002
†	Grease Fitting	4	BD0 092 900
35	Gear Case Base	1	070 110 000
36	Dowel Bushing, Upper	1	CD0 116 000
37	Dowel Bushing, Lower	1	CD0 116 100
38	O-Ring Cover, Buna N	1	N70272
39	Stop Pin, Seal	2	223 126 000

Item	Description	Qty.	Part No.
40	Drive Pin	2	CD0 126 000
41	Spacer Seal	2	060 127 000
42	Eye Bolt	2	STD 128 901
43	Lockwasher, Gear	2	STD 136 909
44	Silicone Sealant	2	000 142 301
45	Locknut, Gear Rear	2	STD 236 009
46	Stud Retainer Assembly OIL, MICROPLATE #140 1 Gallon Can	1	140 064 000
†	GREASE, MICROPLATE #555 1 Pound Tube	1	000 142 000
†	O-Ring Removal Tool	1	AD0 090 901
†	Rotor Nut Wrench	1	060 019 000

NOTE: See Pages , 60-65 for Seal Option Identification
 † Not Shown
 * See Vented Cover Section Page 44 for Options and Parts
 †† Pump S/N Required
 ††† For pumps prior to 1988 use 6 of Item #10
 ††† Not required for pumps after 1980

Jabsco 2" Pump

EXPLODED VIEW



Model 15510-9775			
Key	Description	Part #	Quantity
1	Clamp Screw	10408-0010	1
2	Clamp	12695-0000	1
3	End Cover	15511-0000	1
4	O-Ring	92000-0290	2
5	Impeller (High Pressure Neoprene)	8980-0005	1
6	Body	1513-0000	1
7	O-Ring (Clamp Port)	92000-0710	2
8	Waerplate	15512-0000	1
9	Seal, Seat	96080-0558	1
10	Seal, Mechanical	96080-0557	1
11	Washer, Flat	91613-1434	1
12	Retaining Ring	91701-4444	2
13	Seal, Lip	92701-0110	2
14	Retaining Ring	91700-3024	1
15	Bearing Housing	15514-0000	1
16	Bearing (Roller)	92601-0350	1
17	Bearing Spacer, Inner	10693-0010	1
18	Bearing Spacer, Outer	10449-0010	1
19	Shaft	15515-0000	1
20	Key	9215-0000	1
21	Retaining Ring	91700-2470	2
22	Bearing (Ball)	82601-0330	1

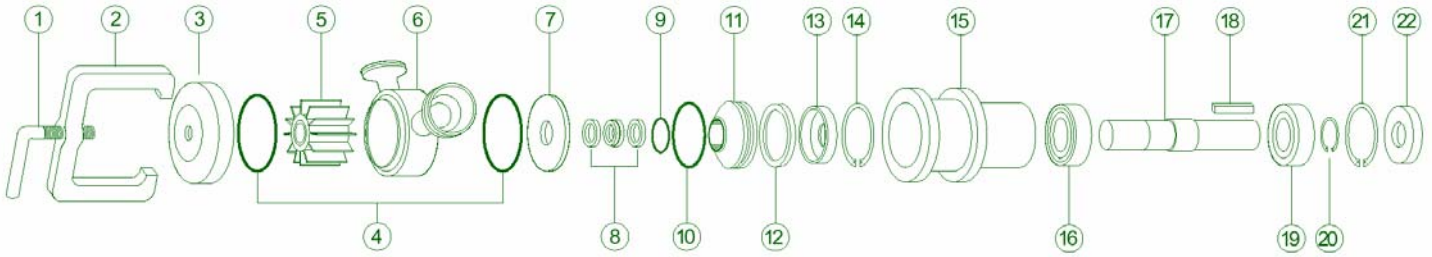
Model 15530-9775			
Key	Description	Part #	Quantity
1	Clamp Screw	9551-0010	1
2	Clamp	12698-0000	1
3	End Cover	15531-0000	1
4	O-Ring	92000-0310	2
5	Impeller (Standard Neoprene)	8981-0005	1
6	Body	15533-0000	1
7	O-Ring (Clamp Port)	92000-0710	2
8	Waerplate	1532-0000	1
9	Seal, Seat	96080-0558	1
10	Seal, Mechanical	96080-0557	1
11	Washer, Flat	91613-1434	1
12	Retaining Ring	91701-0260	2
13	Seal, Lip	92701-0170	2
14	Retaining Ring	91700-3024	1
15	Bearing Housing	15534-0000	1
16	Bearing (Roller)	92601-0340	1
17	Bearing Spacer, Inner	10428-0010	1
18	Bearing Spacer, Outer	10525-0010	1
19	Shaft	15535-0000	1
20	Key	9215-0000	1
21	Retaining Ring	91700-0980	2
22	Bearing (Ball)	92601-0300	1

Model 15550-9775			
Key	Description	Part #	Quantity
1	Clamp Screw	10697-0010	1
2	Clamp	12990-0000	1
3	End Cover	15551-0000	1
4	O-Ring	92000-0040	2
5	Impeller (High Pressure Neoprene)	8983-0005	1
6	Body	15553-0000	1
7	O-Ring (Clamp Port)	92000-0730	2
8	Waerplate	15552-0000	1
9	Seal, Seat	96080-0580	1
10	Seal, Mechanical	96080-0559	1
11	Washer, Flat	15557-0000	1
12	Retaining Ring	91701-2830	2
13	Seal, Lip	92702-0780	2
14	Retaining Ring	91700-3023	1
15	Bearing Housing	15554-0000	1
16	N/A		
17	Bearing Spacer, Inner	10539-0010	1
18	Bearing Spacer, Outer	10291-0010	1
19	Shaft	15555-0000	1
20	Key	9214-0000	1
21	Retaining Ring	91700-1180	1
22	Bearing (Ball)	18753-0007	2

Model 15570-9765			
Key	Description	Part #	Quantity
1	Clamp Screw	18024-0000	1
2	Clamp	12927-0000	1
3	End Cover	15571-0000	1
4	O-Ring	92000-0300	2
5	Impeller (Standard Neoprene)	8984-0005	1
6	Body	15573-0000	1
7	O-Ring (Clamp Port)	92000-0410	2
8	Waerplate	15572-0000	1
9	Seal, Seat	96080-0560	1
10	Seal, Mechanical	96080-0561	1
11	Washer, Flat	15577-0000	1
12	Retaining Ring	91701-4370	2
13	Seal, Lip	92700-0870	2
14	Retaining Ring	91700-3022	1
15	Bearing Housing	15574-0000	1
16	Bearing (Roller)	92601-0240	1
17	Bearing Spacer, Inner	10378-0010	1
18	Bearing Spacer, Outer	10321-0010	1
19	Shaft	15575-0000	1
20	Key	8448-0000	1
21	Retaining Ring	91700-1370	1
22	Bearing (Ball)	92601-0230	2

Jabsco 2-1/2" Pump

EXPLODED VIEW

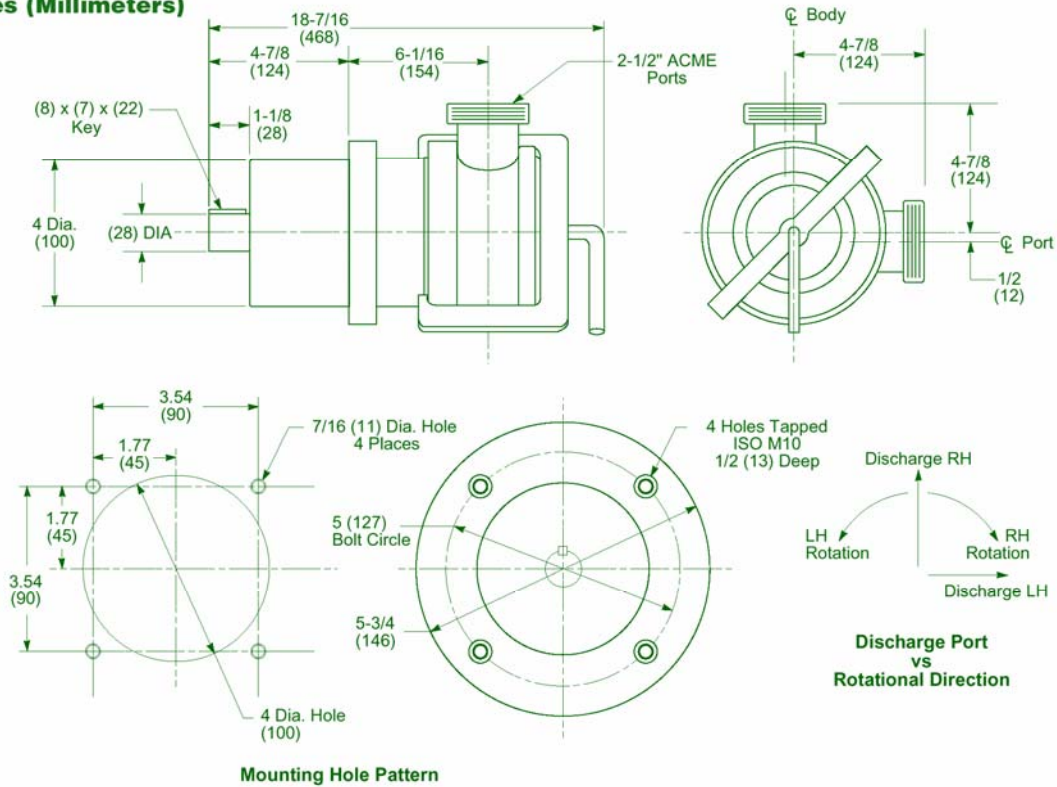


SPARE PARTS LIST

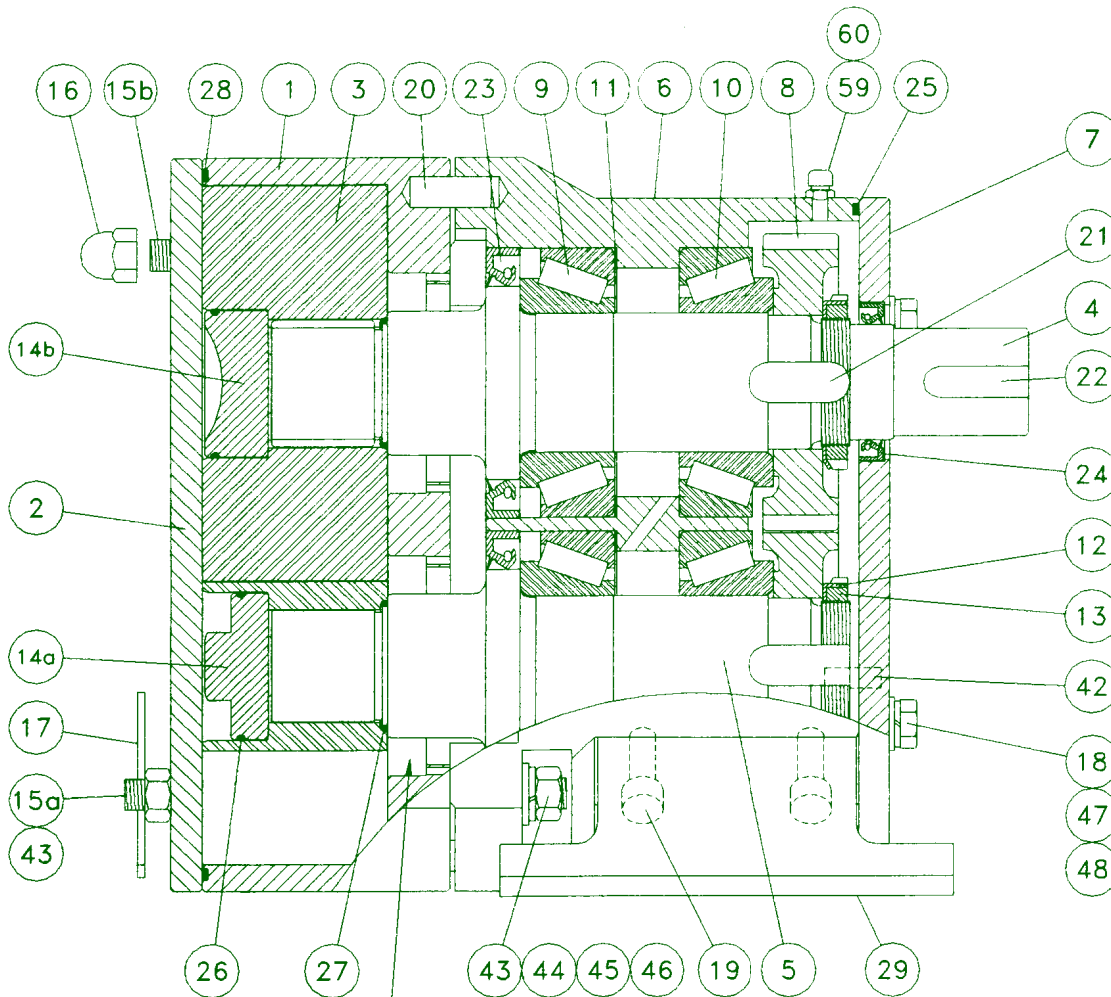
Key	Description	Qty.	Part Number	Key	Description	Qty.	Part Number
1	Clamp Screw	1	21908-0000	12	Lip Seal	1	X5280-011
2	Clamp Frame	1	21909-0000	13	Lip Seal Kit	1	92701-0880
3	End Cover	1	22007-0000	14	Retaining Ring (Hsg)	2	91701-4391
4	O-ring	2	92000-1213	15	Bearing Hsg	1	22064-0100
5	Impeller	1	8500-0005	16	Roller Bearing (front)	1	92601-0460
6	Body (Acme)	1	22004-5001	17	Shaft	1	28707-0000
7	Wearplate	1	21937-0000	18	Key	1	91402-0270
8	Seal Kit	1	22644-6000	19	Ball Bearing (rear)	1	92601-0450
9	V-Ring	1	X5280-015	20	Retaining ring (shaft)	1	91700-2870
10	O-ring	1	X4020-379A	*	By-Pass Endcover Kit	1	2870-0000
11	Seal Housing	1	23933-0000				

* Not Shown

DIMENSIONAL DRAWING Inches (Millimeters)



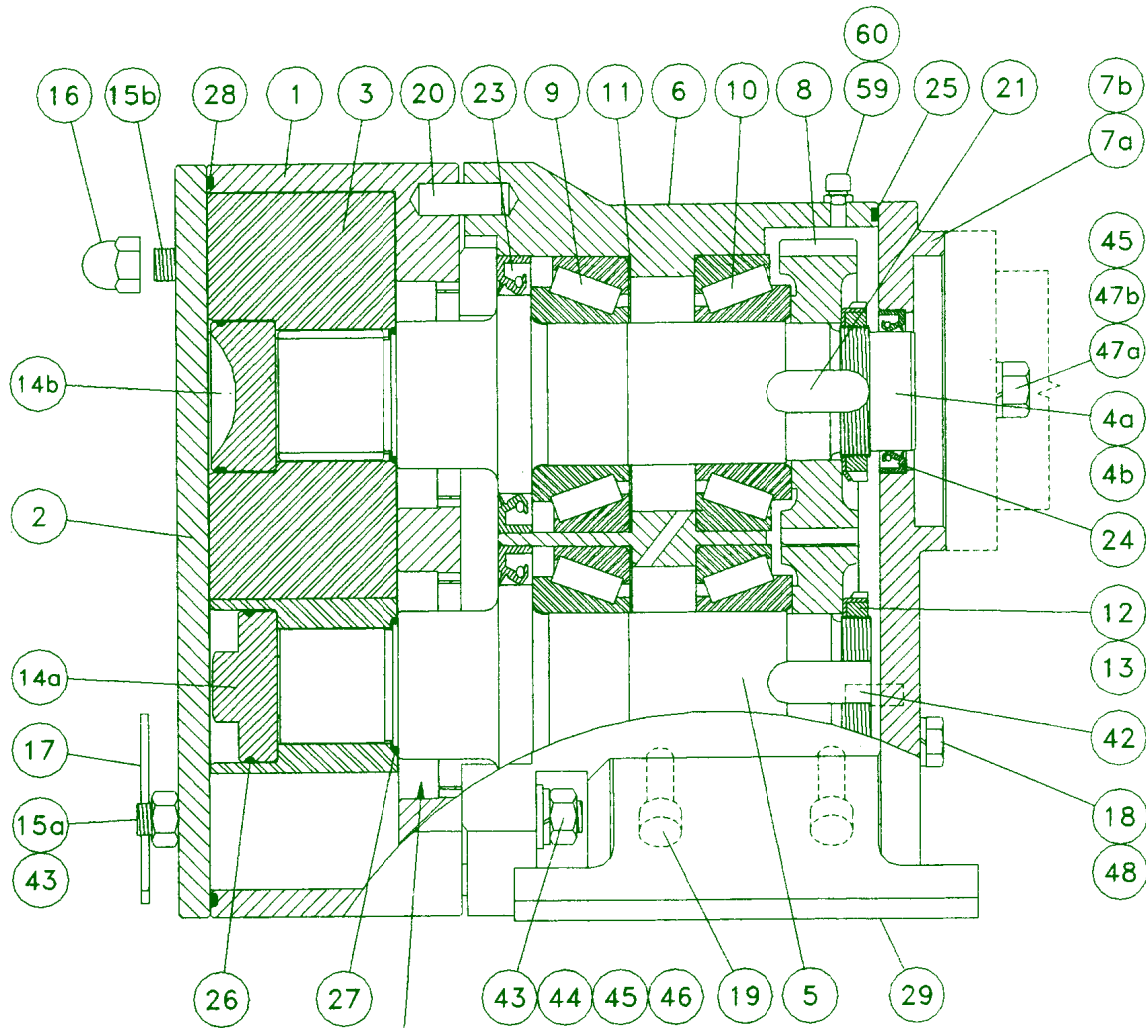
Unibloc - 551 Truck Pump



SEE DWG. G812 FOR
SHAFT SEAL PARTS

	1/8" NPTM (allen)	60	2	OIL PLUG	BN915M3	d1=3	17	4	SPRING COTTER PIN
	1/8" NPTM	59	1	VENT	4430-2	M12	16	4	DOME NUT
4534-2	M10	48	4	SPLIT WASHER	BN666M12X20	M12x20	15b	4	FRONT COVER STUD
BN670M10	M10	47	4	WASHER	BN666M12X30	M12x30	15a	4	FRONT COVER STUD
BN666M12X45	M12x45	46	4	GEARBOX STUD	3381-1L		14b	2	ROTOR BOLT (SLOTTED)
4535-2	M12	45	6	SPLIT WASHER	3380-1L		14a	2	ROTOR BOLT (HEX)
BN670M12	M12	44	4	WASHER	4432		13	2	SLOTTED NUT
4431-2	M12	43	4(8)	HEX NUT	4515		12	2	TAB WASHER
4605	M8x22	42	2	DOWEL PIN	3671		11	2	SHIM RING
3817		29	2	FOOT	3765		10	2	REAR BEARING
4235	226x3 mm	28	1	COVER O-RING	3765		9	2	FRONT BEARING
4233	1.799"x0.103" #133	27	2	ROTOR-SHAFT O-RING	3617		8	2	GEAR
4232	2.112"x0.103" #138	26	2	ROTOR BOLT O-RING	3585		7	1	BEARING HOUSING COVER
4239-N	7.984"x0.139" #266	25	1	GEARBOX COVER O-RING	3532		6	1	BEARING HOUSING
4130	45x62x10 mm	24	1	REAR OIL SEAL	3698		5	1	LAY SHAFT
4135	75x105x13 mm	23	2	FRONT OIL SEAL	3695		4	1	DRIVE SHAFT
4716	12x8x40 mm	22	1	DRIVE SHAFT KEY	3335-1	205°C ROTOR	3	2	SS ROTOR
4717	16x10x18mm (sq. key)	21	2	KEY	3236	PLAIN COVER	2	1	ROTOR HOUSING COVER
4615	M12x34	20	2	DOWEL PIN	3168	3" CLAMP	1	1	ROTOR HOUSING
BN610M10X30	M10x30 (socket)	19	4	FOOT BOLT					
BN622M10X30	M10x30 (hex)	18	4	COVER BOLT					
					PART NO.	DETAILED DESCRIPTION	NO.	PCS.	DESCRIPTION

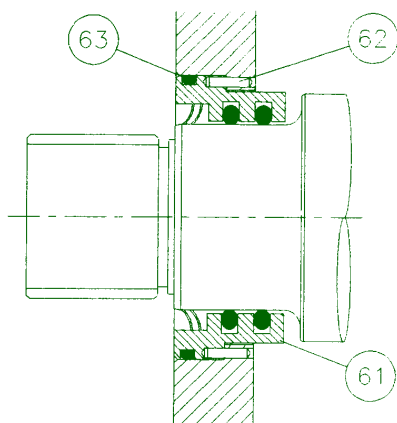
Unibloc - 551 Truck Pump



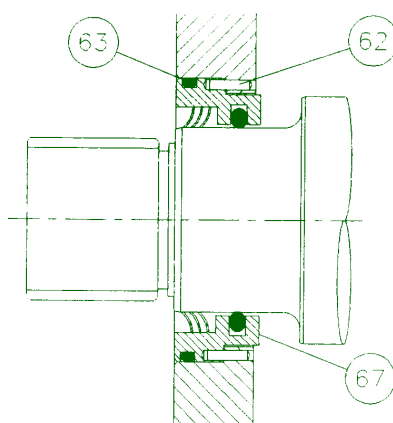
SEE DWG. G812 FOR
SHAFT SEAL PARTS

4430-2	M12	16	4	DOME NUT
BN666M12X20	M12x20	15b	4	FRONT COVER STUD
BN666M12X30	M12x30	15a	4	FRONT COVER STUD
3381-1L		14b	2	ROTOR BOLT (SLOTTED)
3380-1L		14a	2	ROTOR BOLT (HEX)
4432		13	2	SLOTTED NUT
4515		12	2	TAB WASHER
3671		11	2	SHIM RING
3765		10	2	REAR BEARING
3765		9	2	FRONT BEARING
3616		8	2	GEAR
3584		7b	1	COVER (FOR DANFOSS MTR.)
3583		7a	1	COVER (FOR CHARLYNN MTR.)
3532		6	1	BEARING HOUSING
3698		5	1	LAY SHAFT
3697		4b	1	DRIVE SHAFT (DANFOSS MTR.)
3696		4a	1	DRIVE SHAFT (CHARLYNN MTR.)
3335-1	205°C ROTOR	3	2	SS ROTOR
3236	PLAIN COVER	2	1	ROTOR HOUSING COVER
3168	3" CLAMP	1	1	ROTOR HOUSING

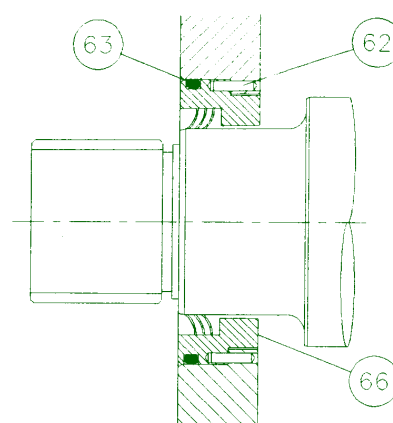
Unibloc - 551 Truck Pump



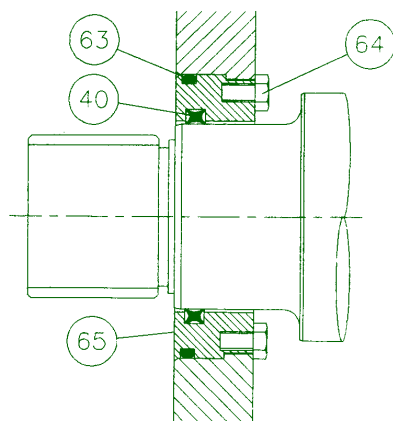
DOUBLE O-LIP SEAL
(P.N. 5272)



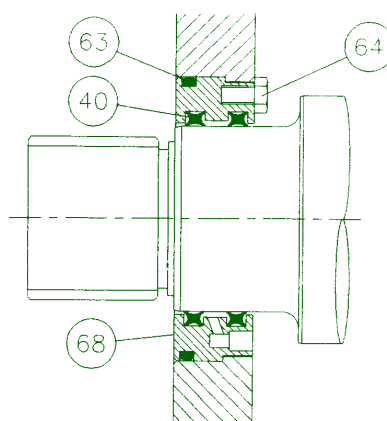
TRIPLE O-LIP SEAL
(P.N. 5275)



TRIPLE LIP SEAL
(P.N. 5274)



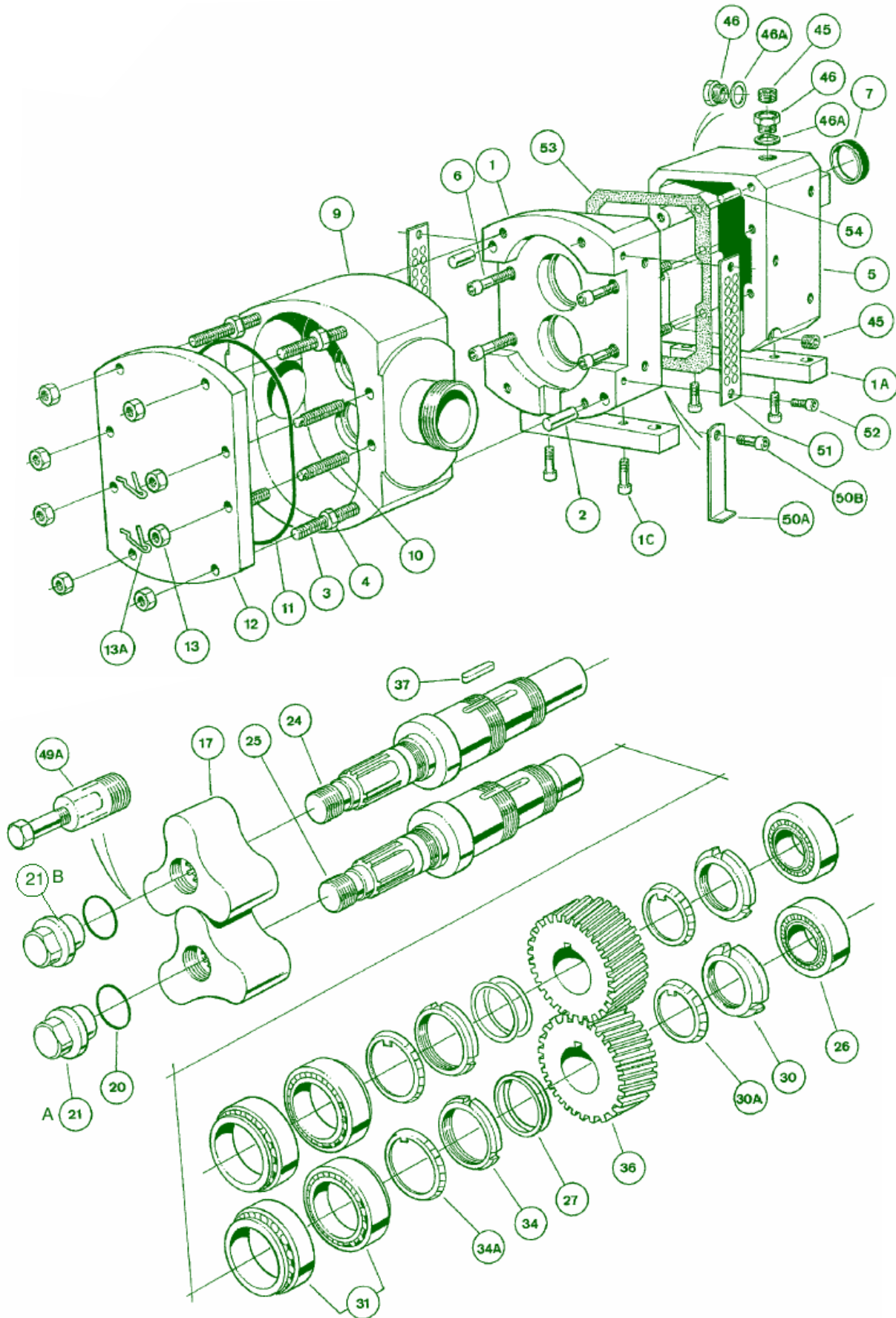
SINGLE O-RING (QUAD RING) SEAL



DOUBLE O-RING (QUAD RING) SEAL

68	2	SEAL RETAINER (P.N. 4937)
67	2	SEAL CARTRIDGE (P.N. 5275)
66	2	SEAL CARTRIDGE (P.N. 5274)
65	2	SEAL RETAINER (P.N. 4936)
64	4	BOLT (M6x10)
63	2	O-RING (78x3.5)
62	4	DOWEL PIN (M3x10)
61	2	SEAL CARTRIDGE (P.N. 5272)
40	2	QUAD RING (P.N. 4238Q-N, 2.225"x0.210")

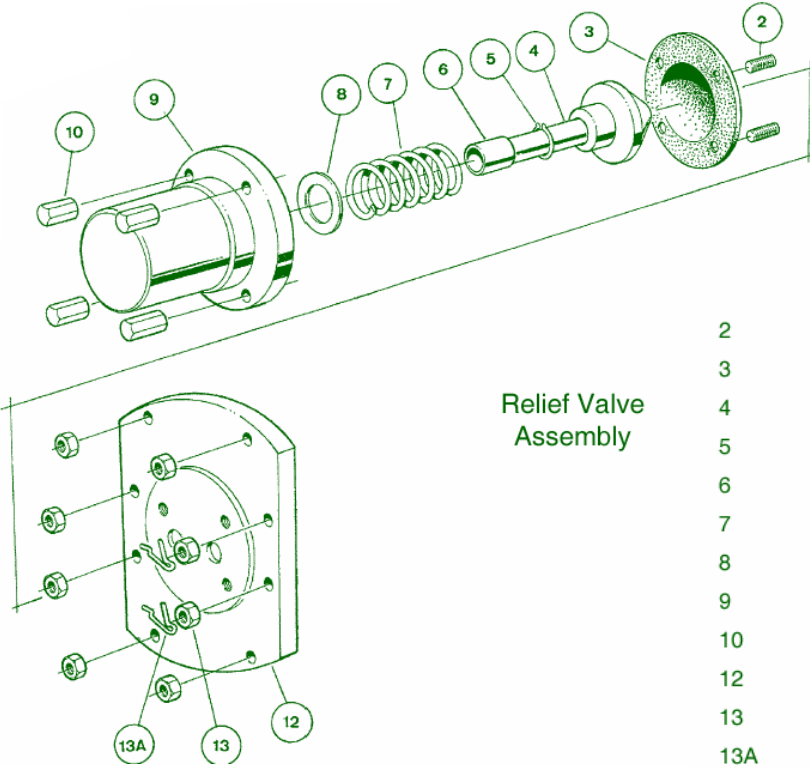
Drum FP2000



Drum FP2000

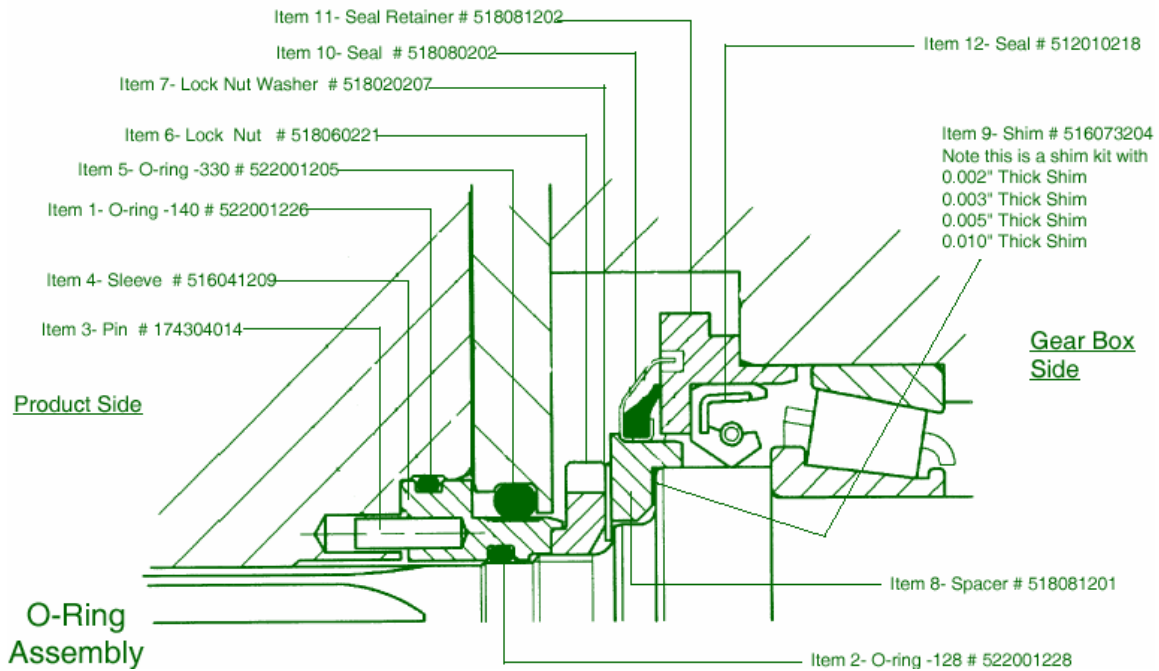
ITEM	DESCRIPTION	PART NO.	QTY.
1	Housing, bearing - aluminum	502030201	1
1A	Gearcase foot - aluminum	507030200	2
1C	Screw, M10 x 25mm	124106025	4
2	Dowel, rotorcase - gearcase	199101200	4
3	Stud, M12 x 155mm	199121200	4
4	Nut, rotorcase	518061211	4
5	Housing, gear - aluminum	528030204	1
6	Screw, M10 x 70mm	128010070	4
7	Seal, lip (rear) - nitrile	512010202	1
9	Rotor case, 3" Acme connections - stainless	500030206	1
10	Stud, M12 x 54mm (with clip hole)	170412254	4
11	O-ring, -266 - nitrile	522000205	1
12	Cover, "NO" R.V.	521042211	1
12	Cover, "FOR" R.V.	521042212	1
13	Nut, M12 - stainless	190012200	4
13A	Clip, "R" type	518101200	4
17	Rotor, trilobe - stainless	503187204	2
20	O-ring, -134 - nitrile	522001227	2
21A	Nut, rotor - RH	518061209	1
21B	Nut, rotor - LH	518061210	1
24	Shaft, drive - hydraulic	504033213	1
25	Shaft, driven	504033212	1
26	Bearing - complete	510003201	2
27	Shim Kit, consisting of:	516072229	2
	Shim, gear - 0.002"	516072225	2
	Shim, gear - 0.010"	516072226	2
	Shim, gear - 0.005"	516072227	2
	Shim, gear - 0.003"	516072228	2
30	Nut, bearing - small	518060220	2
30A	Washer, gear - tab	518020206	2
31	Bearing, taper roller	510001202	4
34	Nut, bearing - large	518060219	2
34A	Washer, bearing - tab	518020208	2
36	Gear, timing - R H and L H set	529000208	1
37	Key, gear - 3/8" square x 1 1/4"	299014218	2
45	Plug - brass	248108508	2
46	Sight glass - brass	307058203	1
46A	Washer, sight glass	194100000	1
49A	Tool, rotor removal	530110200	1
50A	Tool, seal sleeve removal	530112201	1
50B	Screw, M10 x 20mm	128010220	1
51	Guard, gland	521143202	2
52	Screw, M8 x 16mm	126008216	4
53	Gasket, gear case	526151201	1
54	Dowel, gear case	199101200	4
55	Re-working Taps and Dies (see page 7 for part numbers)		

Drum FP2000



Relief Valve
Assembly

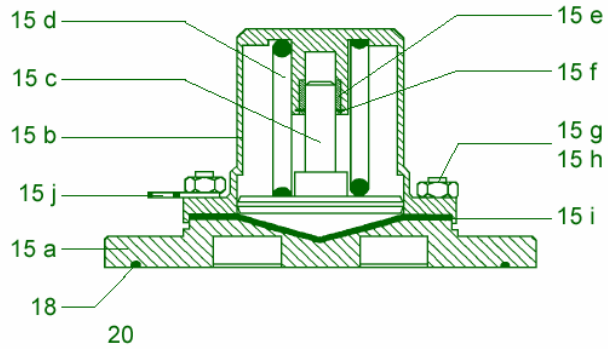
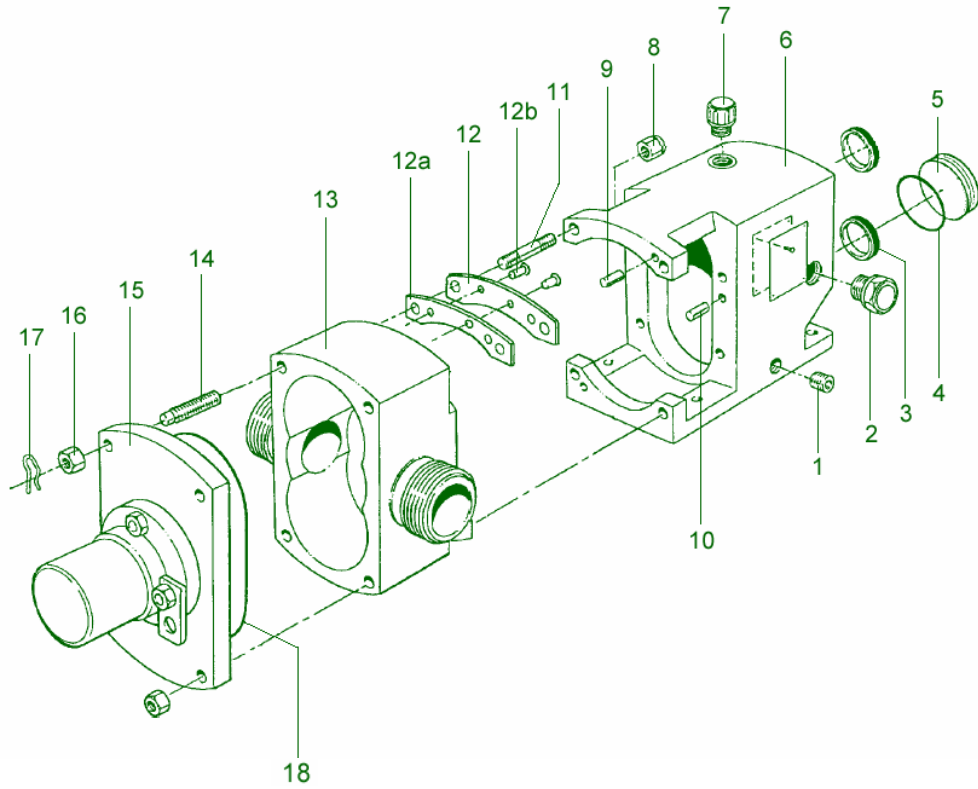
2	Stud, 3/8" x 1 1/2" - stainless	168210238	4
3	Diaphragm, PTFE/Nitrile	513132200	1
4	Valve poppet & stem ass'y	532051201	1
5	Circlip	244014201	1
6	Bushing	510102206	1
7	Spring	517022201	1
8	Spacer, spring	516041200	1
9	Valve housing	500074202	1
10	Nut, 3/8"	236407416	4
12	Cover, "FOR" R.V.	521042212	1
13	Nut, M12 - stainless	190012200	4
13A	Clip, "R" type	518101200	4



O-Ring
Assembly

1	O-ring, -140 - nitrile	522001226	2	8	Spacer, seal	518081201	2
2	O-ring, -128 - nitrile	522001228	2	9	Shim Kit, consisting of:	516073204	2
3	Pin, 4mm x 14mm	174304014	2		Shim, seal - 0.002"	516073200	2
4	Sleeve, seal	516041209	2		Shim, seal - 0.003"	516073201	2
5	O-ring, -330 - nitrile	522001205	2		Shim, seal - 0.005"	516073202	2
5	O-ring, -330 - viton	522011204	2		Shim, seal - 0.010"	516073203	2
6	Nut, shim retainer	518060221	2	10	Retainer, seal	518080202	2
7	Washer, tab	518020207	2	11	Seal, retainer	518081202	2
				12	Seal, lip - nitrile	512010218	2

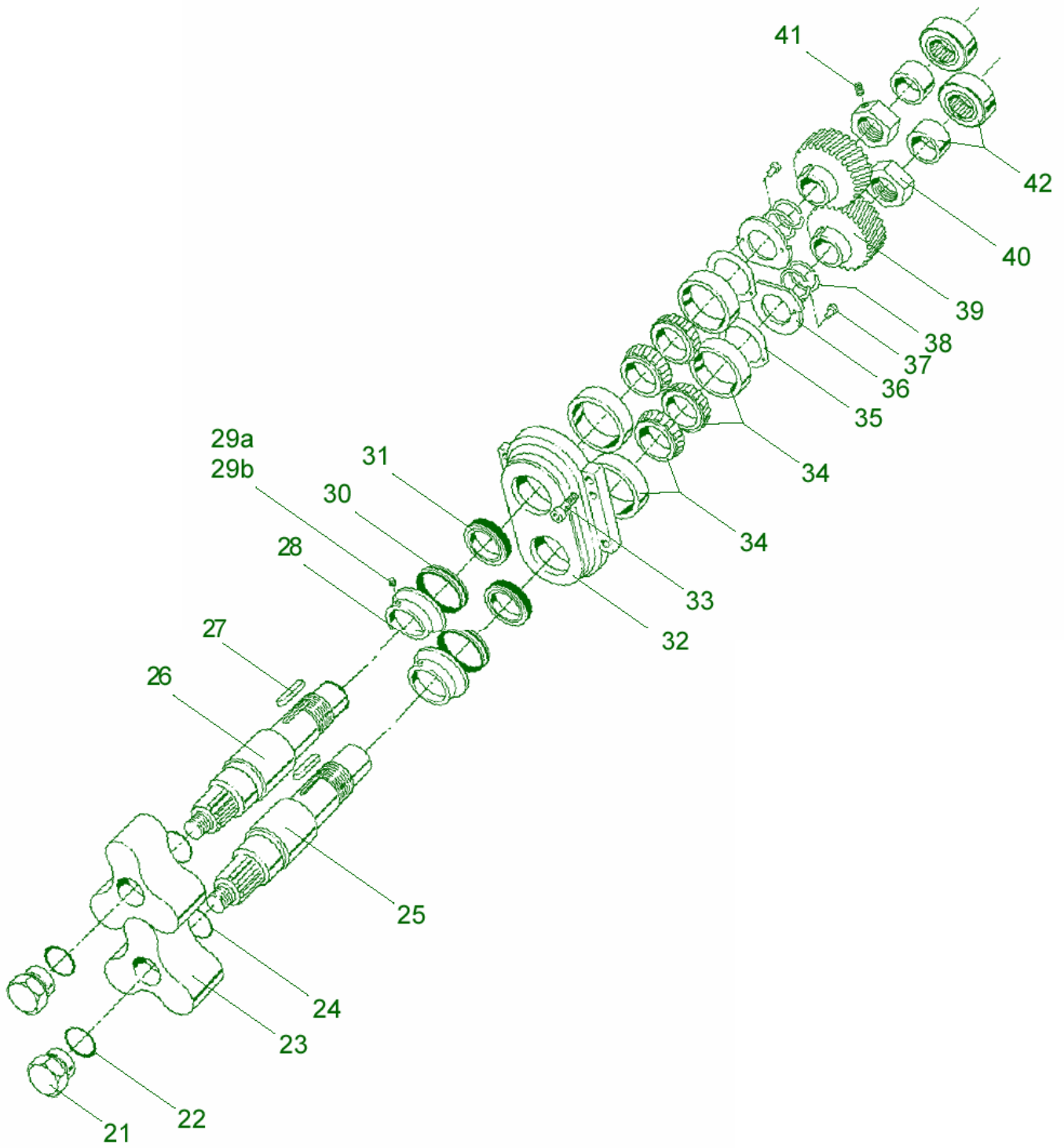
Drum 2130



Drum 2130

ITEM	DESCRIPTION	PART NO.	QTY.
1	PLUG - 1/2" BSP	248108008	2
2	OIL SIGHT GLASS with WASHER	307058203	1
2	DOWTY WASHER, OIL SIGHT GLASS	194100000	1
3	OIL SEAL, REAR - NITRILE	512010202	2
3	OIL SEAL, REAR - VITON	512050201	2
O	OIL SEAL SET, front & rear - NITRILE	512010203	1
O	OIL SEAL SET, front & rear - VITON	512050202	1
4	O'RING - NITRILE, BLANKING PLUG	522000213	1
5	COVER SHROUD (lay shaft)	521142202	1
6	GEAR HOUSING (alum.) - round shaft	528030200	1
6	GEAR HOUSING (c.iron) - round shaft	528031200	1
6a	GEAR HOUSING (alum.) - hyd. splined shaft	528030201	1
6a	GEAR HOUSING (c.iron) - hyd. splined shaft	528031202	1
O	GASKET, SAE "B" hyd. motor flange	526151200	1
7	FILLER CAP with GASKET (vented)	309055200	1
8	NUT, HEX DOME - 12mm	190412200	4
9	PIN, DOWEL, - 1/4"dia. X 7/8" (stainless)	266204214	2
10	PIN, DOWEL, - 3/8"dia. X 1-1/4"	266206020	2
11	STUD - 12mm X 50mm	170212250	4
12	SHIM SET - ARCH	516070223	1
12a	SHIM RETAINER	518093201	2
12b	SHIM SCREW	124106210	4
13	BODY (rotor case) - 3" ACME	500040203	1
14	STUD - 12mm X 50mm	170412250	4
15	RELIEF VALVE ASS'Y (complete)	605010204	1
15a	COVER - "FOR" R.V.	521042206	1
15a	COVER - "NO" R.V.	521042205	1
15b	VALVE HOUSING (bare) S.S.	500074202	1
15c	VALVE POPPET S.S.	532051201	1
15d	SPRING	517022201	1
15e	BUSHING	510102206	1
15f	CIRCLIP	244014201	1
15g	STUD	168210238	4
15h	DOME NUT	236407416	4
15i	DIAPHRAGM - NITRILE / PTFE	513132200	1
15j	CHAIN LUG	518094202	1
16	NUT, HEX - 12mm (rotor case)	190012200	4
17	RETAINING CLIP (rotor case nut)	518101200	4
18	O'RING, FRONT COVER - NITRILE	522000205	1
18	O'RING, FRONT COVER - VITON	522011201	1
18	O'RING, FRONT COVER - EPDM	522021200	1
18	O'RING, FRONT COVER - PTFE	522031200	1
O	GUARD (seal area) - STAINLESS STEEL	521146202	1
O	SCREW, GUARD (seal area)	124106210	1

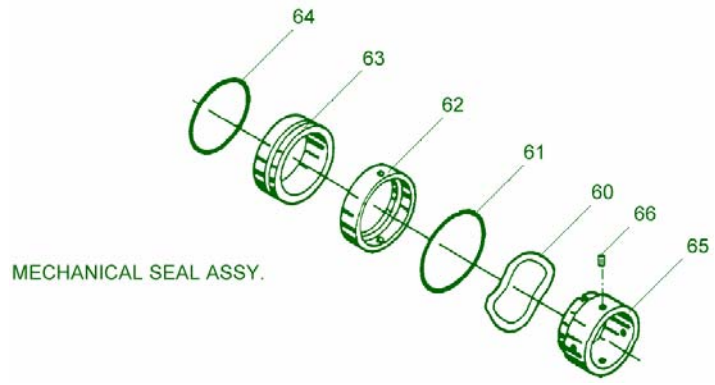
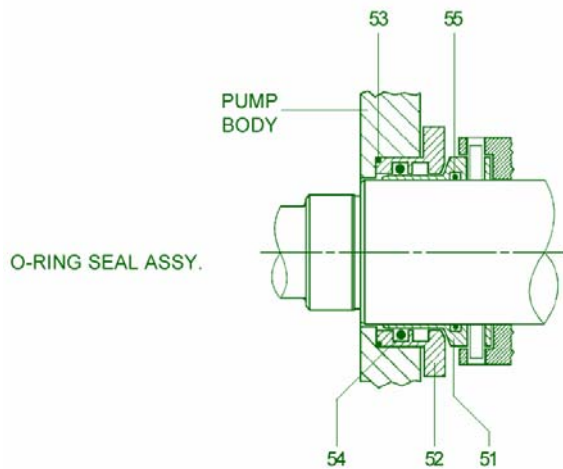
Drum 2130



Drum 2130

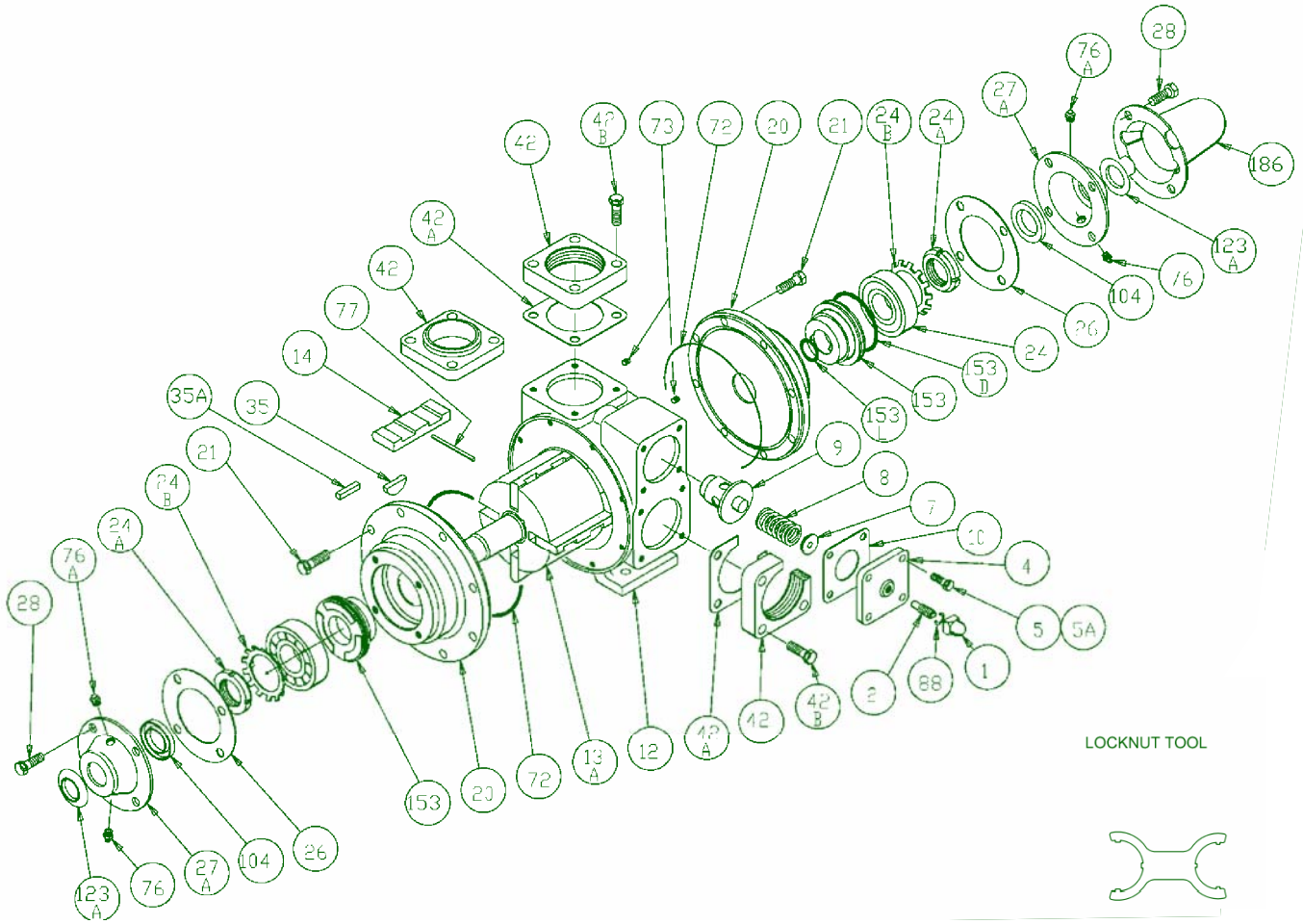
ITEM	DESCRIPTION	PART NO.	QTY.
21	ROTOR NUT - RH	518061207	1
21	ROTOR NUT - LH	518061208	1
O	TOOL - ROTOR NUT (SOCKET)	530051200	1
22	O'RING, ROTOR NUT - NITRILE	522000210	2
23	ROTOR TRILOBE (A) UP TO 160°F	503187200	2
23	ROTOR TRILOBE (B) 160°F - 212°F	503187201	2
23	ROTOR TRILOBE (C) 212°F - 265°F	503187202	2
23	ROTOR TRILOBE (D) 265°F - 300°F	503187203	2
24	O'RING, ROTOR SHAFT - NITRILE	522000211	2
25	LAY SHAFT, RH - OR	504043218	1
26	DRIVE SHAFT, LH - OR - HYD	504043217	1
26	DRIVE SHAFT, LH - OR - STR	504033211	1
27	KEY, TIMING GEAR	299014208	2
28	GUARD, LIP SEAL	521214201	2
29a	SETSCREW - 6mm X 12mm	144006212	6
29b	SETSCREW - 6mm X 12mm DOG POINT	144306212	2
30	SLINGER RING - NITRILE	513030203	2
31	OIL SEAL, FRONT - NITRILE	512010201	2
31	OIL SEAL, FRONT - VITON	512050200	2
O	OIL SEAL SET, front & rear - NITRILE	512010203	1
O	OIL SEAL SET, front & rear - VITON	512050202	1
32	BEARING HOUSING	502030200	1
33	CAPSCREW - 12mm X 40mm	130012040	4
34	TAPER BEARINGS - COMPLETE	510001200	4
35	SHIMS, BEARING RETAINER	516070222	1
36	BEARING RETAINER PLATE	518002200	2
37	CAPSCREW - 6mm X 20mm	199060200	4
38	SHIMS, STEEL	516072214	1
39	GEAR SET, TIMING	529000200	1
40	SHAFT NUT, TIMING GEARS	518060218	2
41	SET SCREW - 8mm X 8mm	146008008	2
42	ROLLER BEARINGS - COMPLETE	510003201	2
O	BEARING KIT (all taper & roller)	710033200	1

Drum 2130



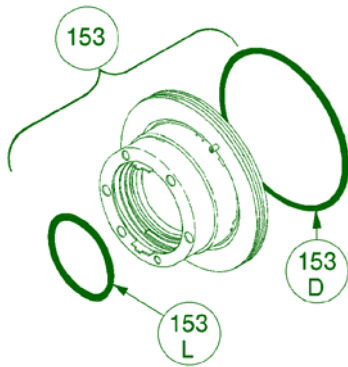
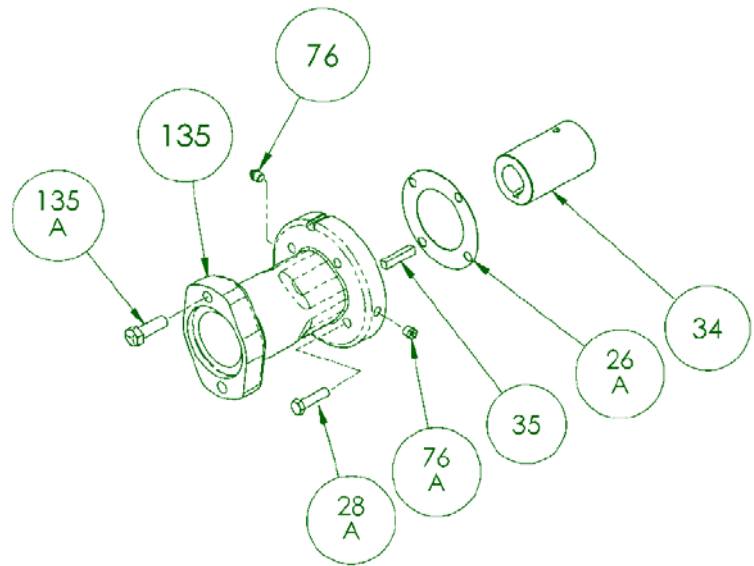
ITEM	DESCRIPTION	PART NO.	QTY.
●	O'RING SEAL "DOUBLE" - COMPLETE	513090201	2
51	SLEEVE - "DOUBLE O'RING (setscrews included)	516041203	2
52	RETAINER HOUSING - S.S.	518094205	2
53	O'RING -143 buna (std.)	522001209	2
54	O'RING -330 buna (std.)	522001205	2
55	O'RING -136 buna (std.)	522001202	2
	OPTIONAL ELASTOMERS:		
53	O'RING -143 viton	522011200	2
54	O'RING -330 viton	522011204	2
55	O'RING -136 viton	522011202	2
54	QUAD RING -330 nitrile	512001200	2
54	QUAD RING -330 viton	512041200	2
●	MECH. SEAL ASS'Y - silicon carbide	513000200	2
60	WAVE SPRING	517032200	2
61	O'RING -226 buna (std.)	522001203	2
62	MECH. SEAL - ROTARY FACE (s.carbide)	513011200	2
63	MECH. SEAL - STATIC FACE (s.carbide)	513021200	2
64	O'RING -229 buna (std.)	522001204	2
65	SPRING RETAINER (not supplied in mech. seal ass'y)	518011200	2
66	SCREW (not supplied in mech. seal ass'y)	124106216	8
●	MECH. SEAL ASS'Y - stainless & carbon	513002200	2
60	WAVE SPRING	517032200	2
61	O'RING -226 buna (std.)	522001203	2
62	MECH. SEAL - ROTARY FACE (carbon)	513010204	2
63	MECH. SEAL - STATIC FACE (stainless)	513022200	2
64	O'RING -229 buna (std.)	522001204	2
65	SPRING RETAINER (not supplied in mech. seal ass'y)	518011200	2
66	SCREW (not supplied in mech. seal ass'y)	124106216	8
	OPTIONAL ELASTOMERS:		
61	O'RING -226 viton	522011205	2
	O'RING -226 epdm	522021201	2
	O'RING -226 chemraz	522061200	2
	O'RING -226 ptfe w/ viton core	522081200	2
64	O'RING -229 viton	522011206	2
	O'RING -229 epdm	522021202	2
	O'RING -229 chemraz	522061201	2
	O'RING -229 ptfe w/ viton core	522081201	2

Blackmer TX2DA & TXS2DA



Ref. No.	Description	Parts Per Pump	Part No.	Ref. No.	Description	Parts Per Pump	Part No.
1	Cap - Relief Valve (R/V)	1	411453	24A	Locknut - Bearing	2	² 903521
2	Adjusting Screw - R/V	1	431401	24B	Lock washer - Bearing	2	² 903522
4	Cover - R/V	1	411401	26	Gasket - Bearing Cover	1 - 2	¹ 381406
5	Capscrew - R/V Cover	3	920316	27A	Bearing Cover	1 - 2	041431
5A	Capscrew w / Hole - R/V Cover	1	920310	28	Capscrews - Bearing Cover	8	920285
7	Spring Guide - R/V	1	423955	35	Key - Shaft	1	¹ 909130
8	Spring - R/V (36-50 psi)	1	471415	42	Flange - 2" NPT	1 - 2	651411
	Spring - R/V (51-75 psi)		471420		Flange - 2" Weld		654405
	Spring - R/V (76-110 psi) (Std.)		471425	42A	Gasket - Flange	2	¹ 381421
	Spring - R/V (111-125 psi)		471428	42B	Capscrew - Flange	8	920351
	SS Spring - R/V (51-75 psi)*		471418	72	O-Ring - Head (Buna-N) (Std. TXD)	1	¹ 701947
	SS Spring - R/V (76-110 psi)*		471427		O-Ring - Head (FKM) (Std. TXSD)	2	701914
SS Spring - R/V (111-125 psi)*	471429	O-Ring - Head (PTFE)			702242		
9	Valve - R/V (Std. TXD)	1	451417	73	Gage Plug	2	908198
	Valve - R/V (Ni Plated) (Std. TXSD)		451415	76	Grease Fitting	2	317815
10	Gasket - R/V Cover	1	¹ 531421	76A	Grease Relief Fitting	2	701992
12	Cylinder	1	021403	77	Push Rod	2	¹ 123905
13A	Rotor & Shaft - Double Ended (Std.)	1	² 261411	88	Gasket - R/V Cap	1	¹ 701981
	Vane - Duravane (Std.)	4	¹ 091419	104	Grease Seal	2	¹ 331918
	Vane - Bronze		093924	123A	Dirt Shield	2	¹ 701480
Vane - Laminate	091429		186	Shaft Protector	1	341601	
20	Head (Std.)	2	031425		Air Valve Kit		891454
	Head with Drain		031426		Hydraulic Motor Adapter Kit		See Backside
21	Capscrews - Head	16	920331		Tool - Locknut		903091
24	Ball Bearing	2	¹ 903156		Kit - Maintenance		898950

Blackmer TX2DA & TXS2DA

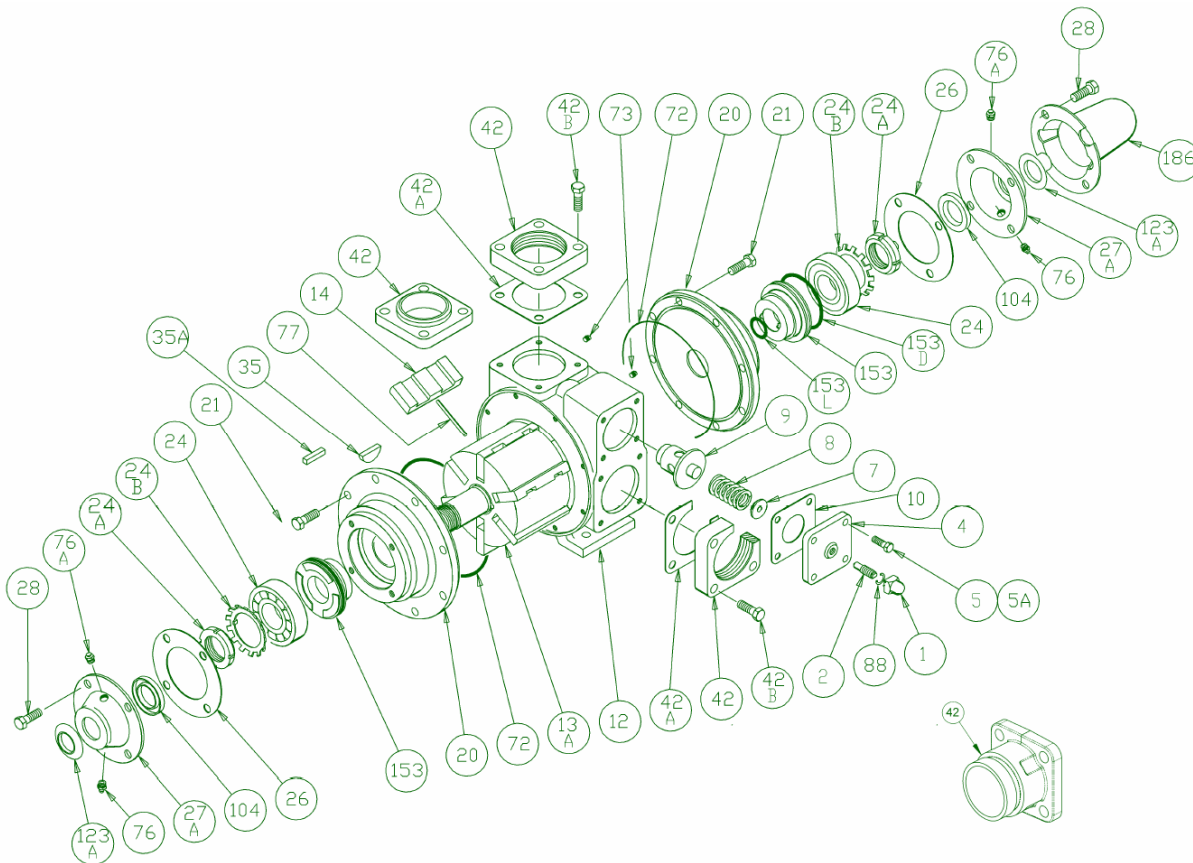


REF. NO.	PART NAME	PARTS PER PUMP	PART NO. 1-1/4" Hyd Motor Shaft	PART NO. 1" Hyd Motor Shaft
See Below	Hydraulic Motor Adapter Kit *	See Below	891458	891205
26A	Gasket – Hydraulic Motor Adapter	1	383940	383940
28A	Capscrew – Hydraulic Motor Adapter / Head	4	920369	920369
34	Coupling w/ Setscrew – for straight key hyd. motor shaft	1	906967	906966
35	Key – Coupling	1	909184	N/A
76	Grease Fitting	1	317815	317815
76A	Grease Relief Fitting	1	701992	701992
135	Hydraulic Motor Adapter – SAE A Flange	1	041828	041827
135A	Capscrew – Adapter / Motor	2	920510	920510

REF. NO.	PART NAME	PARTS PER PUMP	PART NO.
153	Mechanical Seal Complete - Std. TXD Cast Iron Stationary Seat, Carbon Seal Face, Buna-N O-Rings. (INCN)	2	1 331601
	Mechanical Seal Complete - Std. TXSD Cast Iron Stationary Seat, FKM O-Ring, Carbon Seal Face w/ PTFE Seal Ring. (IVCT)		331628
	Mechanical Seal Complete - Cast Iron Stationary Seat, Buna-N O-Ring, Carbon Seal Face w/ PTFE Seal Ring. (INCT)		331602
	Mechanical Seal Complete - Cast Iron Stationary Seat, PTFE O-Ring, Carbon Seal Face w/ PTFE Seal Ring. (IACT)		331673
	Mechanical Seal Complete – Stainless Steel Stationary Seat, PTFE O-Ring, Carbon Seal Face w/ PTFE Seal Ring. (WACT)		331648
153D	O-Ring – Stationary (Buna-N)	2	701934
	O-Ring – Stationary (FKM)		701921
	O-Ring – Stationary (PTFE)		702056
153L	O-Ring – Rotating (Buna-N)	2	701922
	O-Ring – Rotating (FKM)		701980
	Seal Ring – Rotating (PTFE)		**

Blackmer Models TXD2.5A, TXSD2.5A (Double Ended Shafts)

TX2.5A, TXS2.5A (Single Ended Shaft)

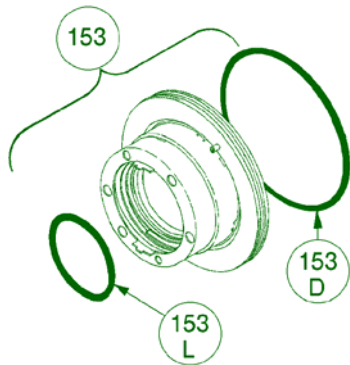
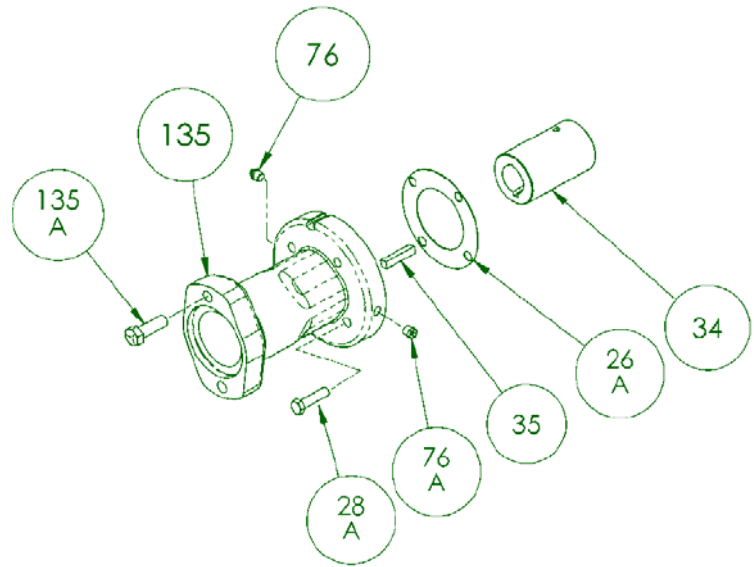


LOCKNUT TOOL

Ref. No.	Description	Parts Per Pump	Part No.	Ref. No.	Description	Parts Per Pump	Part No.
1	Cap – Relief Valve (R/V)	1	411453	28	Capscrews – Bearing Cover	8	920285
2	Adjusting Screw – R/V	1	431401		Flange – 2" NPT		651603
4	Cover – Relief Valve	1	411607		Flange – 2 ½" NPT		651611
5	Capscrew – R/V Cover	3	920316		Flange – 2 ½" Weld		651608
5A	Capscrew w / Hole – R/V Cover	1	920310	42	Flange – 2" Victaulic	1 – 2	655113
7	Spring Guide – R/V	1	423955		Flange – 2 ½" Victaulic		655114
8	Spring – R/V (51-75 psi) & (76-110 psi) (Std.)	1	471631		Flange – 3" Victaulic		655115
	Spring – R/V (111-125 psi)		471614	42A	Gasket – Flange	0 – 2	381650
	SS Spring – Valve (51-110 psi)		471632		Capscrews – 2" NPT Flange		920471
	SS Spring – Valve (111-125 psi)		471615	42B	Capscrews – 2 ½" NPT Flange	4 – 8	920532
9	Valve – R/V (Std. TXD) ³	1	451623		Capscrews – 2 ½" Weld or Victaulic Flange		920491
	Valve – R/V (Nickel Plated) (Std. TXSD)		451624		O-Ring – Victaulic Flange (Buna-N)		701925
10	Gasket – R/V Cover	1	531603	42C	O-Ring – Victaulic Flange (FKM)	0 – 2	701924
12	Cylinder – Pump	1	021605		O-Ring – Victaulic Flange (PTFE)		702079
13A	Rotor & Shaft Asy. - Double Ended	1	261665	72	O-Ring – Head (Buna-N) (Std. TXD)	2	701947
	Rotor & Shaft Asy. - Single Ended		261667		O-Ring – Head (FKM) (Std. TXSD)		701914
	(Both include Ref. Nos. 24A & 24B)				O-Ring – Head (PTFE)		702242
14	Vane – Duravane (Std.)	6	091619	73	Gage Plug	2	908198
	Vane – Bronze		091624	76	Grease Fitting	2	317815
	Vane – Laminate		091627	76A	Grease Relief Fitting	2	701992
20	Head (Std.)	2	031425	77	Push Rod	3	121607
	Head with Drain		031426	88	Gasket – R/V Cap	1	701981
21	Capscrews – Head	16	920331	104	Grease Seal	2	331918
24	Ball Bearing	2	903156	123A	Dirt Shield	2	701480
24A	Locknut – Bearing	2	903521	186	Shaft Protector	1	341601
24B	Lockwasher – Bearing	2	903522		Air Valve Kit – Piston Type		891705
26	Gasket – Bearing Cover	2	381406		Air Valve Kit – Diaphragm Type		891696
27A	Bearing Cover	1 - 2	041431		Tool - Locknut		903091
	Bearing Cover – Outboard, sgl. end shaft only	0 - 1	041433		Kit - Maintenance		898951

Blackmer Models TXD2.5A, TXSD2.5A (Double Ended Shafts)

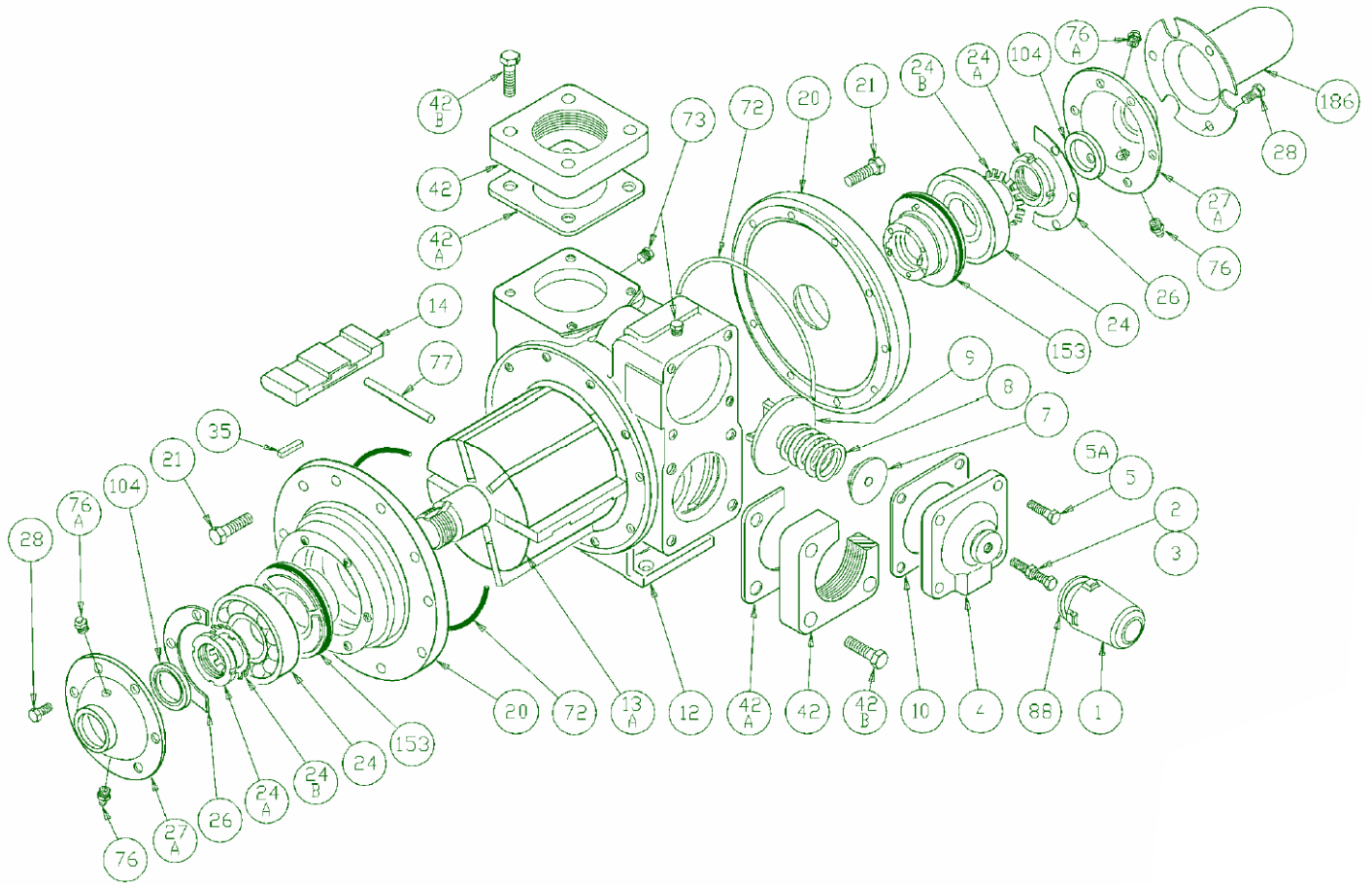
TX2.5A, TXS2.5A (Single Ended Shaft)



REF. NO.	PART NAME	PARTS PER PUMP	PART NO. 1-1/4" Hyd Motor Shaft	PART NO. 1" Hyd Motor Shaft
See Below	Hydraulic Motor Adapter Kit *	See Below	891458	891205
26A	Gasket – Hydraulic Motor Adapter	1	383940	383940
28A	Capscrew – Hydraulic Motor Adapter / Head	4	920369	920369
34	Coupling w/ Setscrew – for straight key hyd. motor shaft	1	906967	906966
35	Key – Coupling	1	909184	N/A
76	Grease Fitting	1	317815	317815
76A	Grease Relief Fitting	1	701992	701992
135	Hydraulic Motor Adapter – SAE A Flange	1	041828	041827
135A	Capscrew – Adapter / Motor	2	920510	920510

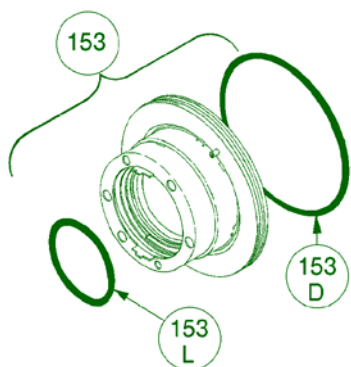
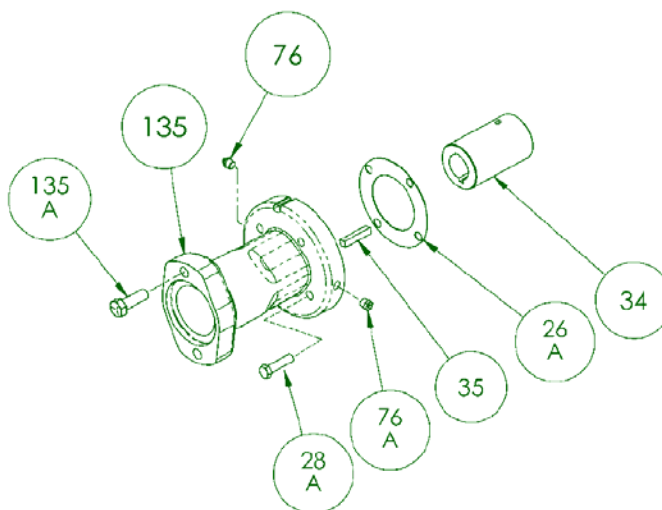
REF. NO.	PART NAME	PARTS PER PUMP	PART NO.
153	Mechanical Seal Complete - Std. TXD Cast Iron Stationary Seat, Carbon Seal Face, Buna-N O-Rings. (INCN)	2	¹ 331601
	Mechanical Seal Complete - Std. TXSD Cast Iron Stationary Seat, FKM O-Ring, Carbon Seal Face w/ PTFE Seal Ring. (IVCT)		331628
	Mechanical Seal Complete - Cast Iron Stationary Seat, Carbon Seal Face w/ FKM O-Rings. (IVCV)		331655
	Mechanical Seal Complete – Cast Iron Stationary Seat, Buna-N O-Ring, Carbon Seal Face w/ PTFE Seal Ring. (INCT)		331602
	Mechanical Seal Complete – Cast Iron Stationary Seat, PTFE O-Ring, Carbon Seal Face w/ PTFE Seal Ring. (IACT)		331673
	Mechanical Seal Complete – Stainless Steel Stationary Seat, PTFE O-Ring, Carbon Seal Face w/ PTFE Seal Ring. (WACT)		331648
	O-Ring – Stationary (Buna-N)		701934
153D	O-Ring – Stationary (FKM)	2	701921
	O-Ring – Stationary (PTFE)		702056
	O-Ring – Rotating (Buna-N)		701922
153L	O-Ring – Rotating (FKM)	2	701980
	Seal Ring – Rotating (PTFE)		**

Blackmer PUMP MODEL: TXD3E, TXSD3E



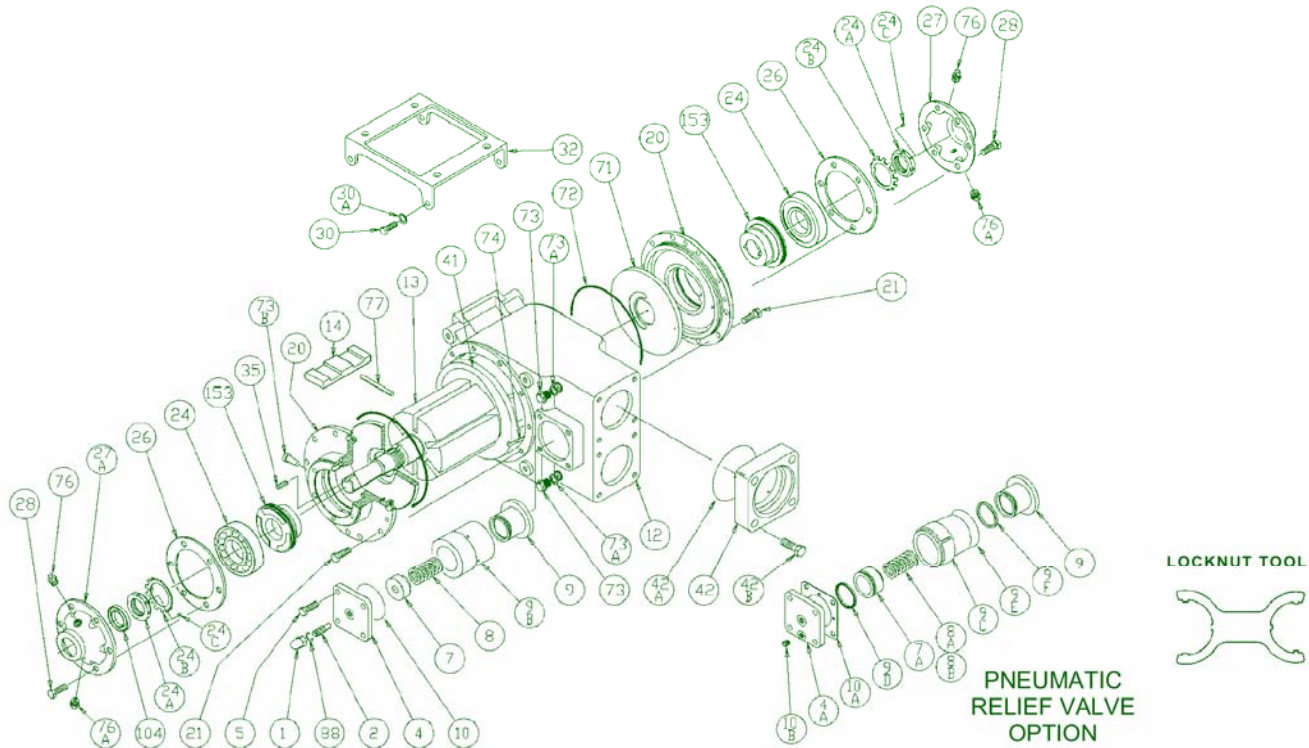
Ref. No.	Description	Parts Per Pump	Part No.	Ref. No.	Description	Parts Per Pump	Part No.
1	Cap – Relief Valve (R/V)	1	413957	26	Gasket – Bearing Cover	2	381817
2	Adjusting Screw – R/V	1	431808	27A	Bearing Cover – Inboard	2	041815
3	Locknut – Adjusting Screw	1	922923	28	Capscrews – Bearing Cover	12	920285
4	Cover – R/V	1	411807	35	Key – Shaft	1	909178
5	Capscrew – R/V Cover	3	920331	42	Flange – 3" NPT	1 - 2	651803
5A	Capscrew w / Hole – R/V Cover	1	920330	42	Flange – 3" Weld		655102
7	Spring Guide – R/V	1	421805	42A	Gasket – Flange	2	381816
8	Spring – R/V (51-110 psi)(Std.)	1	471806	42B	Capscrew – NPT Flange	4 - 8	920532
	Spring – R/V (111-125 psi)		471809	Capscrew – Weld Flange	920510		
	SS Spring – R/V (51-110 psi)*		471807	O-Ring - Head (Buna-N) (Std. TXD)	701944		
	SS Spring – R/V (111-125 psi)*		471808	O-Ring - Head (FKM) (Std. TXSD)	711938		
9	Valve - R/V (Std. TXD)	1	451807	72	O-Ring – Head (PTFE)		702233
	Valve - R/V (Nickel Plated) (Std. TXSD)		451808	73	Gage Plug	2	908198
10	Gasket – R/V Cover	1	531803	76	Grease Fitting	2	317815
12	Cylinder	1	021805	76A	Grease Relief Fitting	2	701992
13A	Rotor & Shaft Asy. - Double Ended (Std.) (Includes Ref. Nos. 24A & 24B)	1	261837	77	Push Rod	3	121807
14	Vane – Duravane (Std.)	6	091819	88	Gasket - R/V Cap	1	533908
	Vane – Bronze		091804	104	Grease Seal	2	331908
	Vane – Laminate		091829	186	Shaft Protector	1	341801
20	Head	2	031815		Air Valve Kit		891798
21	Capscrews – Head	20	920369		Hydraulic Motor Adapter Kit		See Backside
24	Ball Bearing	2	903172		Tool - Locknut		903091
24A	Locknut – Bearing	2	903523		Kit - Maintenance		898952
24B	Lockwasher - Bearing	2	903524				

Blackmer PUMP MODEL: TXD3E, TXSD3E



REF. NO.	PART NAME	PARTS PER PUMP	PART NO.
153	Mechanical Seal Complete - Std. TXD Cast Iron Stationary Seat, Carbon Seal Face, Buna-N O-Rings. (INCN)	2	1 331880
	Mechanical Seal Complete - Std. TXSD Cast Iron Stationary Seat, FKM O-Ring, Carbon Seal Face w/ PTFE Seal Ring. (IVCT)		331872
	Mechanical Seal Complete - Cast Iron Stationary Seat, Buna-N O-Ring, Carbon Seal Face w/ PTFE Seal Ring. (INCT)		331882
	Mechanical Seal Complete - Cast Iron Stationary Seat, PTFE O-Ring, Carbon Seal Face w/ PTFE Seal Ring. (IACT)		331873
	Mechanical Seal Complete - Stainless Steel Stationary Seat, PTFE O-Ring, Carbon Seal Face w/ PTFE Seal Ring. (WACT)		331899
153D	O-Ring - Stationary (Buna-N)	2	701936
	O-Ring - Stationary (FKM)		711931
	O-Ring - Stationary (PTFE)		702080
153L	O-Ring - Rotating (Buna-N)	2	711912
	O-Ring - Rotating (FKM)		701962
	Seal Ring - Rotating (PTFE)		**

Blackmer ATX300A



Ref. No.	Description	Parts Per Pump	Part No.	Ref. No.	Description	Parts Per Pump	Part No.
1	Cap – R/V (Std)	1	411452	26	Gasket – Bearing Cover	2	³ 385125
2	Adjusting Screw – R/V (Std)	1	431800	27	Bearing Cover – Outboard	0 – 1	042227
4	Cover – R/V (Std)	1	411800	27A	Bearing Cover – Inboard	1	042225
4A	Cover – R/V (AIR)	1	411801	28	Capscrews – Bearing Cover	6 - 12	920127
5	Capscrews – R/V Cover (Std, AIR)	4	920199	30	Capscrews – Mounting Bracket	4	924064
7	Spring Guide – R/V (Std)	1	423955	30A	Lockwasher – Bracket Capscrews	4	909586
7A	Spring Guide – R/V (AIR)	1	425102	32	Mounting Bracket	1	831800
8	Spring - R/V (3.9-8.6 bar) (Std)	1	471633	35	Key – Shaft	1	³ 909146
8A	Spring - R/V (3.9-5.2 bar) (AIR) ¹	1	471621	41	Liner	1	⁴ 181803
8B	Spring - R/V (5.2-8.6 bar) (AIR) ²	1	471614	42	Flange – 80mm Weld (Aluminum)	0 - 2	651820
9	Valve – R/V (Std, AIR)	1	455104		Flange – 80mm Weld (Cast Steel)		651819
9B	Valve Guide – R/V (Std)	1	425103	42A	O-Ring – Flange (Buna-N)	0 - 2	³ 702002
9C	Valve Guide – R/V (AIR)	1	425104		O-Ring – Flange (PTFE)		702080
9D	Seal – Spring Guide (AIR)	0 - 1	495025	42B	Capscrews – Flange	0 - 8	924086
9E	O-Ring – Valve Guide (AIR) (Buna-N)	0 - 1	701939	71	Disc	2	⁴ 061803
9F	Seal – Valve (AIR)	0 - 1	495023	72	O-Ring – Head (Buna-N) (Std)	2	³ 702122
10	O-Ring – R/V Cover (Std) (Buna-N)	1	³ 702014		O-Ring – Head (PTFE)		702235
	O-Ring – R/V Cover (Std) (PTFE)		702224	73	Gage Plug	2	908191
10A	Gasket – R/V Cover (AIR)	0 - 1	537300	73A	Gasket – Gage Plug	2	³ 381818
10B	Breather Vent – R/V Cover (AIR)	0 - 1	495024	73B	Plug – Weep Hole	4	340000
12	Casing	1	011800	74	Key – Liner	1	⁴ 185191
13	Rotor & Shaft (Straight Key)	1	⁴ 261873	76	Grease Fitting	2	317815
14	Vane – Duravane	6	³ 094500	76A	Grease Relief Fitting	2	701992
20	Head	2	031882	77	Push Rod	3	³ 121810
21	Capscrews – Head	20	920199	88	Gasket – R/V Cap	1	701981
24	Ball Bearing	2	³ 903172	104	Grease Seal	1	³ 331908
24A	Locknut – Ball Bearing	2	903582		Tool - Locknut		903091
24B	Lockwasher – Ball Bearing	2	³ 903524		Kit – Maintenance		898900
24C	Setscrew – Locknut	2	³ 924060		Kit – Rebuild		899000

¹ For Pneumatic Relief Valve (AIR), spring is 5.2 bar (75 psi) and non-adjustable.

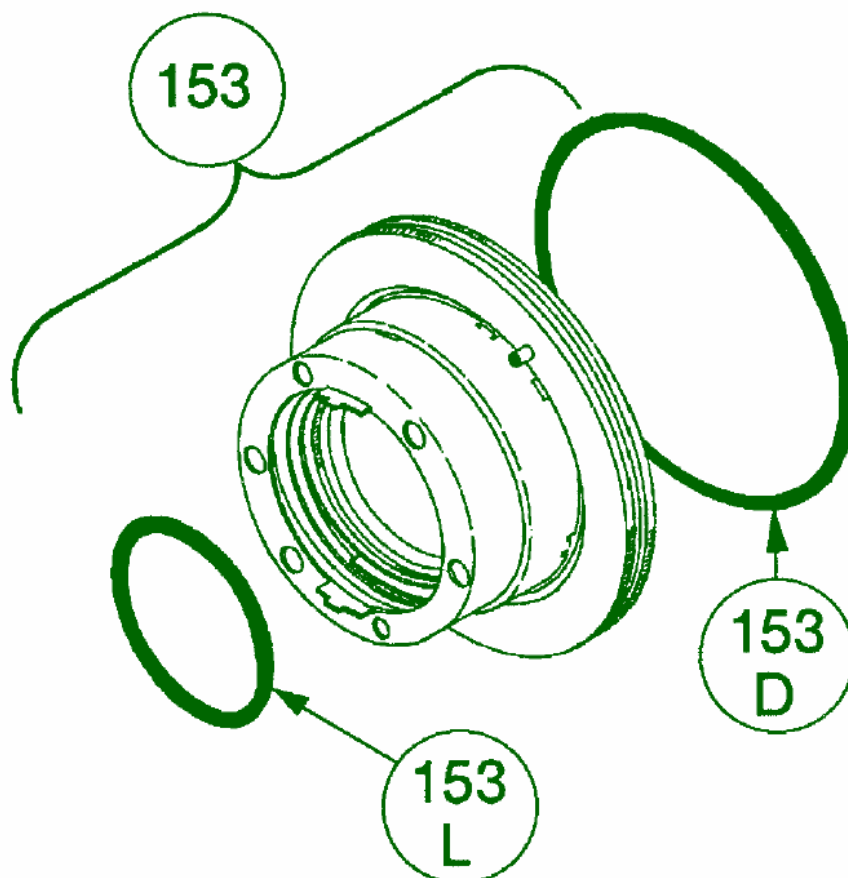
² For Pneumatic Relief Valve (AIR), spring is 7.9 bar (115 psi) and non-adjustable.

³ Included in Maintenance Kit and Rebuild Kit

⁴ Included in Rebuild Kit

Std = Standard Direct Acting Relief Valve.

AIR = Optional Pneumatic Actuated Relief Valve.

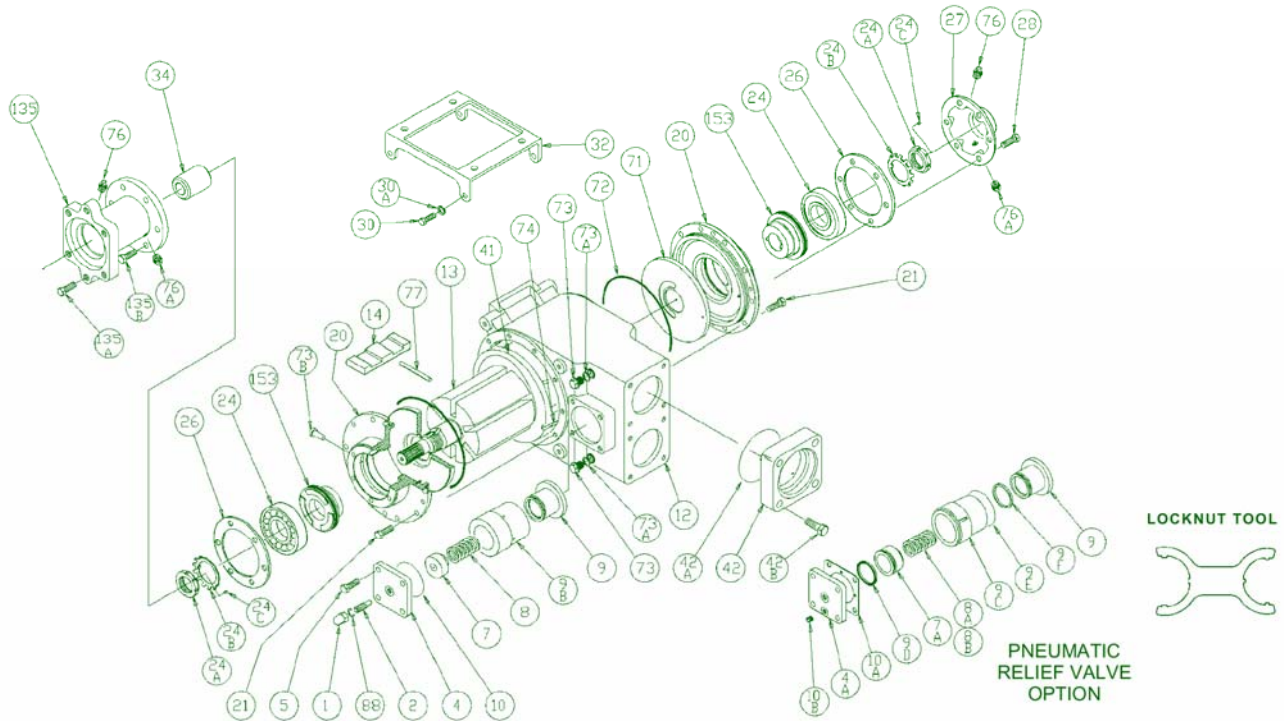
Blackmer ATX300A**MECHANICAL SEAL**

Ref. No.	Description	Parts Per Pump	Part No.
153	Mechanical Seal Complete - Cast Iron Stationary Seat, Carbon Seal Face, Buna-N O-Rings. (std.)	2	³ 331880
	Mechanical Seal Complete - Cast Iron Stationary Seat, PTFE O-Ring, Carbon Seal Face w/ PTFE Seal Ring.		331873
153D	O-Ring – Stationary (Buna-N)	2	701936
	O-Ring – Stationary (PTFE)		702080
153L	O-Ring – Rotating (Buna-N)	2	711912
	Seal Ring – Rotating (PTFE)		**

** PTFE Rotating Seal Ring is not available as a separate part.

³ Included in Maintenance Kit and Rebuild Kit

Blackmer ATX300A-HYD



Ref No.	Description	Parts per Pump	Part no.	Ref No.	Description	Parts per Pump	Part No.
1	Cap - R/V (Std)	1	411452	27	Bearing Cover - Outboard	0 - 1	042227
2	Adjusting Screw - R/V (Std)	1	431800	28	Capscrews - Bearing Cover	6 - 12	920127
4	Cover - R/V (Std)	1	411800	30	Capscrews - Mounting Bracket	4	924064
4A	Cover - R/V (AIR)	1	411801	30A	Lockwasher - Bracket Capscrews	4	909586
5	Capscrews - R/V Cover (Std, AIR)	4	920199	32	Mounting Bracket	1	831800
7	Spring Guide - R/V (Std)	1	423955	34	Coupling (for 1", 15 tooth splined shaft)	1	906073
7A	Spring Guide - R/V (AIR)	1	425102	41	Liner	1	⁴ 181803
8	Spring - R/V (3.9 - 8.6 bar) (Std)	1	471633	42	Flange - 80 mm Weld (Aluminum)	0 - 2	651820
8A	Spring - R/V (3.9-5.2 bar) (AIR) ¹	1	471621		Flange - 80 mm Weld (Cast Steel)	0 - 2	651819
8B	Spring - R/V (5.2-8.6 bar) (AIR) ²	1	471614	42A	O-Ring - Flange (Buna-N)	0 - 2	³ 702002
9	Valve - R/V (Std, AIR)	1	455104		O-Ring - Flange (PTFE)	0 - 2	702080
9B	Valve Guide - R/V (Std)	1	425103	42B	Capscrews - Flange	0 - 8	924086
9C	Valve Guide - R/V (AIR)	1	425104	71	Disc	2	⁴ 061803
9D	Seal - Spring Guide (AIR)	0 - 1	495025	72	O-Ring - Head (Buna-N)	2	³ 702122
9E	O-Ring - Valve Guide (AIR) (Buna-N)	0 - 1	701939		O-Ring - Head (PTFE)	2	702235
9F	Seal - Valve (AIR)	0 - 1	495023	73	Gage Plug	2	908191
10	O-Ring - R/V Cover (Std) (Buna-N)	1	³ 702014	73A	Gasket - Gage Plug	2	³ 381818
	O-Ring - R/V Cover (Std) (PTFE)	1	702224	73B	Plug - Weep Hole	4	340000
10A	Gasket - R/V Cover (AIR)	0 - 1	537300	74	Key - Liner	1	⁴ 185191
10B	Breather Vent - R/V Cover (AIR)	0 - 1	495024	76	Grease Fitting	2	317815
12	Casing	1	011800	76A	Grease Relief Fitting	2	701992
13	Rotor & Shaft (Splined)	1	⁴ 261872	77	Push Rod	3	³ 121810
14	Vane - Duravane	6	³ 094500	88	Gasket - R/V Cap	1	701981
20	Head	2	031882	135	Hydraulic Motor Adapter (SAE A Flange)	1	041802
21	Capscrews - Head	20	920199	135A	Capscrews - Motor/Adapter	2	920471
24	Ball Bearing	2	³ 903172	135B	Capscrews - Adapter	6	920199
24A	Locknut - Ball Bearing	2	903582	—	Hydraulic Motor	0-1	889611
24B	Lockwasher - Ball Bearing	2	³ 903524	—	Tool - Locknut	—	903091
24C	Setscrew - Locknut	2	924060	—	Kit - Maintenance	—	898900
26	Gasket - Bearing Cover	2	³ 385125	—	Kit - Rebuild	—	899001

¹ For Pneumatic Relief Valve (AIR), spring is 5.2 bar (75 psi) and non-adjustable.

² For Pneumatic Relief Valve (AIR), spring is 7.9 bar (115 psi) and non-adjustable.

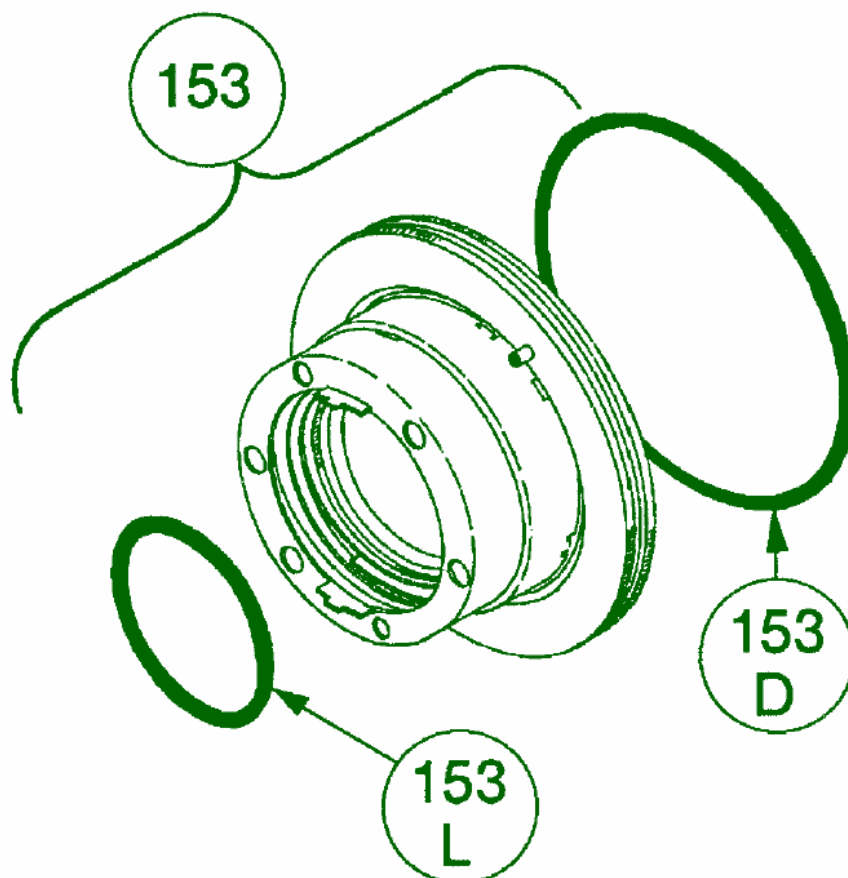
³ Included in Maintenance Kit and Rebuild Kit

Keep this parts list should be kept with Installation, Operation and Maintenance Instructions.

Std. = Standard Direct Acting Relief Valve.

AIR = Optional Pneumatic Actuated Relief Valve.

⁴ Included in Rebuild Kit

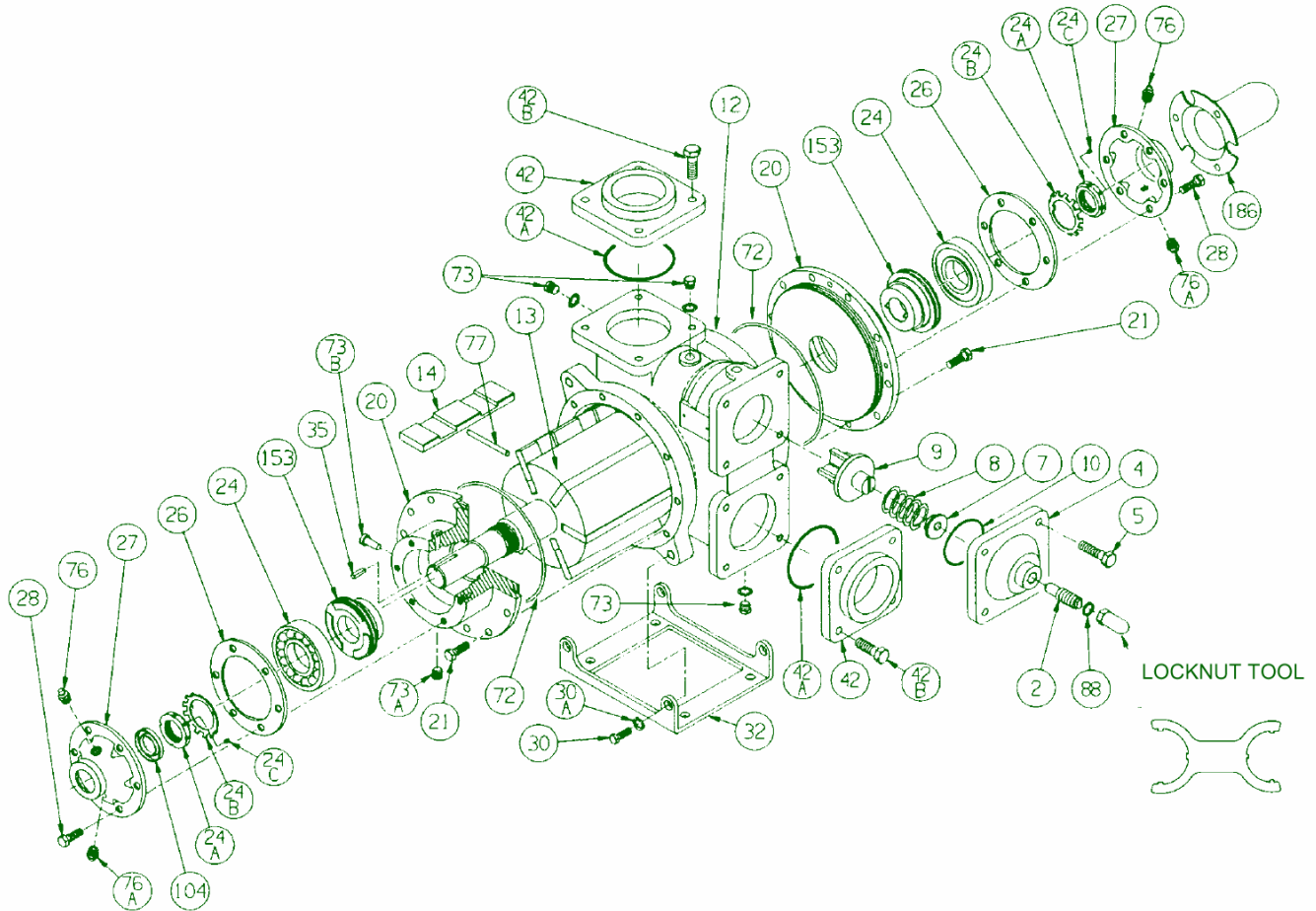
Blackmer ATX300A-HYD**MECHANICAL SEAL**

Ref. No.	Description	Parts Per Pump	Part No.
153	Mechanical Seal Complete - Cast Iron Stationary Seat, Carbon Seal Face, Buna-N O-Rings. (std.)	2	³ 331880
	Mechanical Seal Complete - Cast Iron Stationary Seat, PTFE O-Ring, Carbon Seal Face w/ PTFE Seal Ring.		331873
153D	O-Ring – Stationary (Buna-N)	2	701936
	O-Ring – Stationary (PTFE)		702080
153L	O-Ring – Rotating (Buna-N)	2	711912
	Seal Ring – Rotating (PTFE)		**

** PTFE Rotating Seal Ring is not available as a separate part.

³ Included in Maintenance Kit and Rebuild Kit

Blackmer STX3



REF. NO.	DESCRIPTION	PARTS PER PUMP	PART NO.	REF. NO.	DESCRIPTION	PARTS PER PUMP	PART NO.	
1	Cap – Relief Valve (R/V)	1	413151	28	Capscrew – Bearing Cover	12	924031	
2	Adjusting Screw – R/V	1	433101	30	Capscrew – Foot Bracket	4	924071	
4	Cover – R/V	1	415301	30A	Lockwasher – Bracket (12 mm STS)	4	909586	
5	Capscrew – R/V Cover	4	924036	32	Mounting Bracket	1	832225	
7	Spring Guide – R/V	1	423101	35	Key – Shaft (10mm Metric)	1	909146	
8	Spring – R/V (51- 75 psi)	1	471632	42	Key – Shaft (5/16" Domestic)	1	909206	
	Spring – R/V (76 –110 psi)		471632		42	Flange – 3" Weld	2	652201
	Spring – R/V (111-125 psi)		471615		42A	O-Ring – Flange	2	702101
9	Valve – R/V	1	455301	42B	Capscrew – Flange	8	924071	
10	O-Ring – R/V Cover	1	702079	72	O-Ring – Head	2	702210	
12	Cylinder	1	022225	73	Plug – ¼" BSP	3	908199	
13	Rotor & Shaft	1	262225	73A	Pipe Plug – ¼" NPT Socket Head	2	908192	
14	Vane – Duravane	6	094500	73B	Plug – Weep Hole	4	340000	
20	Head	2	032227	76	Grease Fitting	2	317815	
21	Capscrew – Head	20	924036	76A	Grease Relief Fitting	2	701992	
24	Bearing	2	903172	77	Push Rod	3	122225	
24A	Locknut w/setscrew	2	903582	88	Seal Ring – R/V Cap	1	533101	
24B	Lockwasher	2	903524	104	Oil Seal	2	331908	
24C	Setscrew – Locknut	2	924060	153	Mechanical Seal	2	332260	
26	Gasket – Bearing Cover	2	381817	186	Shaft Protector	1	341801	
27	Bearing Cover	0 – 1	042225		Tool – Locknut		903091	

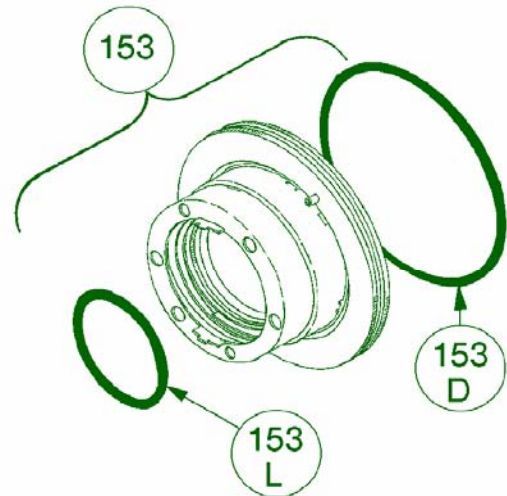
Keep this parts list with Installation, Operation, and Maintenance Instructions.

Blackmer STX3

MECHANICAL SEAL

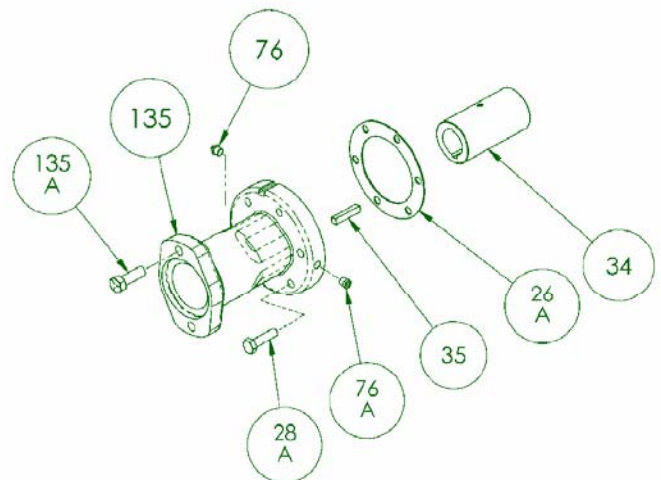
REF. NO.	DESCRIPTION	PARTS PER PUMP	PART NO.
153	Mechanical Seal Complete – Silicon Carbide Stationary Seat, PTFE O-Ring, Custom Carbon Rotating Seal Face with PTFE Seal Ring (LACT)	2	332260
153D	O-Ring – Stationary (PTFE)	2	702080
153L	Seal Ring – PTFE	2	**

** 153L PTFE Seal Ring is not available as a separate part.



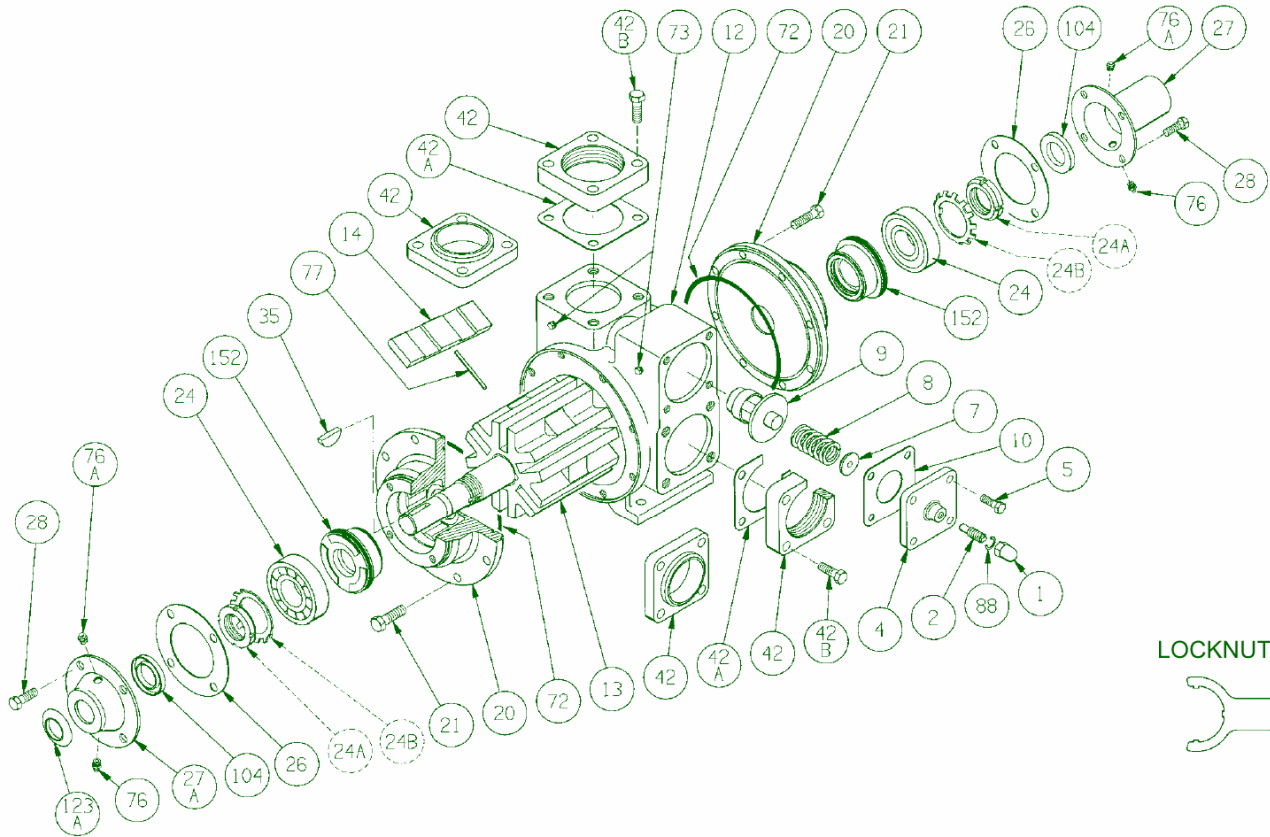
OPTIONAL HYDRAULIC MOTOR ADAPTER PARTS

REF. NO.	PART NAME	PARTS PER PUMP	PART NO.
See Below	Hydraulic Motor Adapter Kit *	See Below	892228
26A	Gasket – Hydraulic Motor Adapter	1	381817
28A	Capscrew – Hydraulic Motor Adapter / head	6	924037
34	Coupling w/ Setscrew – 1.25" straight key hyd. motor shaft	1	906969
35	Key – Coupling	1	909184
76	Grease Fitting	1	317815
76A	Grease Relief Fitting	1	701992
135	Hydraulic Motor Adapter – SAE A Flange	1	041829
135A	Capscrew – Adapter / Motor	2	920510



* Hydraulic Motor Adapter Kits shipped prior to Spring 2002 were of a two piece design – refer to page 206-A09.

Blackmer TXV2.5B



REF NO.	DESCRIPTION	PARTS PER PUMP	PART NO.	REF NO.	DESCRIPTION	PARTS PER PUMP	PART NO.
1	Cap - Relief Valve (R/V)	1	411452	24B	Lockwasher – Bearing ³	2	¹ 903522
2	Adjusting Screw – R/V	1	431401	26	Gasket – Bearing Cover	2	¹ 381406
4	Cover – R/V	1	411607	27	Bearing Cover – Outboard	1	341600
5	Capscrew – R/V Cover	4	920316	27A	Bearing Cover – Inboard	1	041431
7	Spring Guide – R/V	1	423955	28	Capscrews – Bearing Cover	8	920285
8	Spring – R/V (51-110 psi)(Std.)	1	471631	35	Key – Shaft	1	¹ 909130
	Spring – R/V (111-125 psi)		471614	42	Flange – 2 ½" NPT	2	651611
	SS Spring – R/V (51-110 psi) ²		471632		Flange – 2 ½" Weld		651608
	SS Spring – R/V (111-125 psi) ²		471615	42A	Gasket – Flange	2	¹ 381650
9	Valve – R/V (Std.)	1	451623	42B	Capscrew – 2 ½" NPT Flange	8	920532
	Valve – R/V (Nickel Plated)		451624		Capscrew – 2 ½" Weld Flange		920491
10	Gasket – R/V Cover	1	¹ 531603	72	O-Ring – Head (FKM) (Std.)	2	¹ 701914
12	Cylinder	1	021605		O-Ring – Head (PTFE)		702242
13	Rotor & Shaft - Double Ended	1	261614	73	Gage Plug	2	908198
14	Vane – Bronze (Std.)	6	¹ 091624	76	Grease Fitting	2	317815
	Vane – Cast Iron		091621	76A	Grease Relief Fitting	2	701992
	Vane – Duravane		091619	77	Push Rod	3	¹ 121607
	Vane – Laminate		091627	88	Gasket – R/V Cap	1	¹ 701981
20	Head (Std.)	2	031425	104	Grease Seal	2	¹ 331918
	Head with Drain (Opt.)		031426	123A	Dirt Shield	1	¹ 701480
21	Capscrews – Head	16	920331	152	Lip Seal Assembly	2	See Backside
24	Ball Bearing	2	¹ 903156		Tool - Locknut		903091
24A	Locknut - Bearing ³	2	903521		Kit – Maintenance		898954
					Hydraulic Motor Adapter Kit		See Backside

¹ Included in Maintenance Kit

² Stainless Steel Spring.

³ Ref. 24A & 24B became standard Jan. 2002

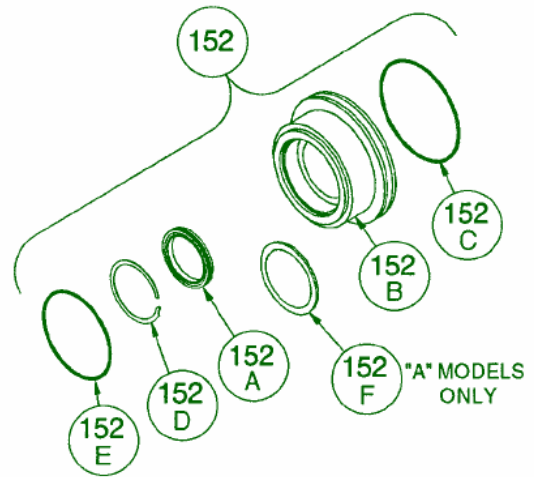
Blackmer TXV2.5B

LIP SEAL - STANDARD

REF. NO.	PART NAME	PARTS PER PUMP	TXV2.5B PART NO.	TXV2.5A PART NO.
152	Lip Seal Complete – Lip Seal, Housing w/ FKM O-Ring. (Std.)	2	1 331683	331671
	Lip Seal Complete – Lip Seal, Housing w/ PTFE O-Ring.		331684	331669
152A	Lip Seal w/ FKM O-Ring	2	331685	331662
	Lip Seal w/ PTFE O-Ring		331686	331668
152B	Housing – Lip Seal	2	331472	331472
152C	Outer O-Ring – Housing (FKM)	2	701921	701921
	Outer O-Ring – Housing (PTFE)		702056	702056
152D	Retaining Ring – Lip Seal	2	903562	903562
152E	Inner O-Ring – Housing (FKM)	2	702038	702038
	Inner O-Ring – Housing (PTFE)		702234	702234
152F	Spacer Washers*	0 - 10	NONE	331670

¹ Included in Maintenance Kit

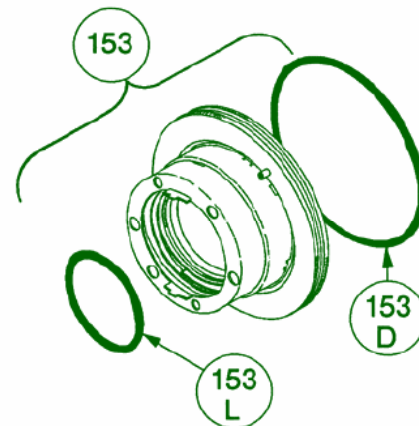
* Spacer washers (152F) are used for Discontinued TXV2.5A models only.



MECHANICAL SEAL - OPTIONAL

REF. NO.	PART NAME	PARTS PER PUMP	PART NO.
153	Mechanical Seal Complete - Cast Iron Stationary Seat, Carbon Seal Face, FKM O-Rings. IVCV	2	331655
	Mechanical Seal Complete - Cast Iron Stationary Seat, PTFE O-Ring, Carbon Seal Face w/ PTFE Seal Ring. IACT		331673
	Mechanical Seal Complete - Cast Iron Stationary Seat, Bronze Seal Face, FKM O-Rings. IVBV		331623
153D	O-Ring – Stationary (FKM)	2	701921
	O-Ring – Stationary (PTFE)		702056
153L	O-Ring – Rotating (FKM)	2	701980
	Seal Ring – Rotating (PTFE)		**

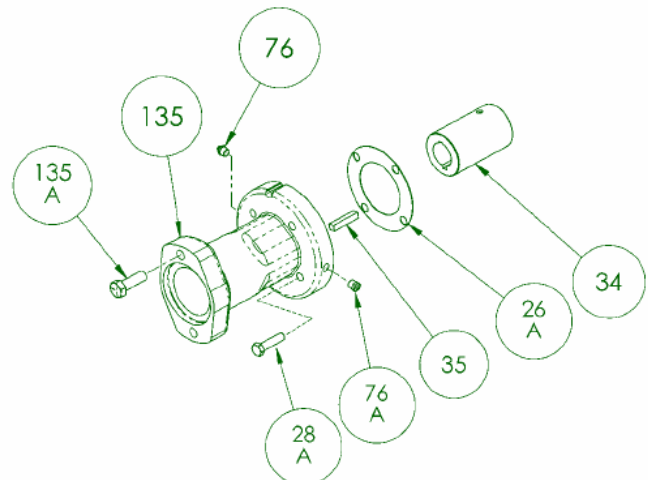
** PTFE Rotating Seal Ring is not available as a separate part.



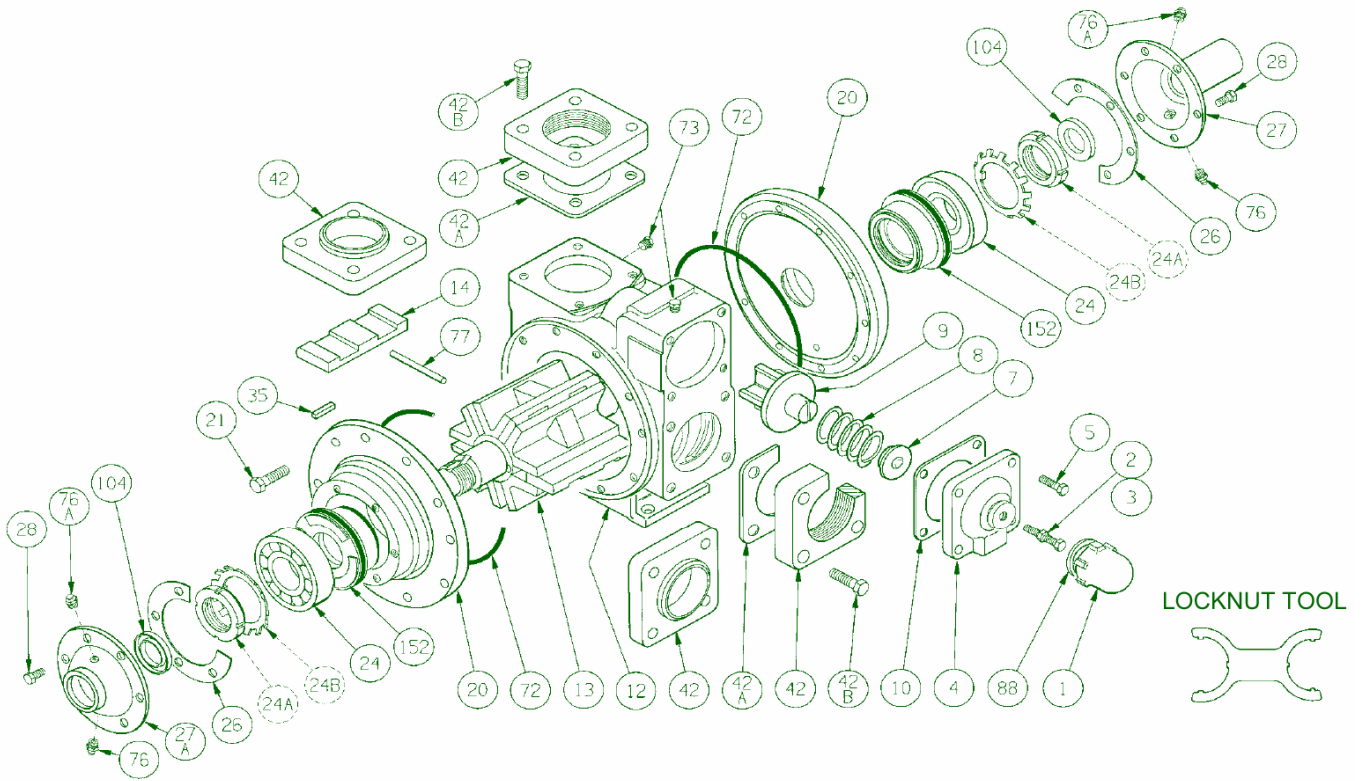
OPTIONAL HYDRAULIC MOTOR ADAPTER PARTS

REF. NO.	PART NAME	PARTS PER PUMP	PART NO.
See Below	Hydraulic Motor Adapter Kit *	See Below	891458
26A	Gasket – Hydraulic Motor Adapter	1	383940
28A	Capscrew – Hydraulic Motor Adapter / Head	4	920369
34	Coupling w/ Setscrew – 1.25" straight key hyd. motor shaft	1	906967
35	Key – Coupling	1	909184
76	Grease Fitting	1	317815
76A	Grease Relief Fitting	1	701992
135	Hydraulic Motor Adapter – SAE A Flange	1	041828
135A	Capscrew – Adapter / Motor	2	920510

* Hydraulic Motor Adapter Kits shipped prior to Spring 2002 were of a two piece design – refer to page 206-B00.



Blackmer TXV3B



Ref. No.	Description	Parts Per Pump	Part No.	Ref. No.	Description	Parts Per Pump	Part No.
1	Cap – Relief Valve (R/V)	1	413952	24B	Lockwasher – Bearing ³	2	1 903524
2	Adjusting Screw – R/V	1	431808	26	Gasket – Bearing Cover	2	1 381817
3	Locknut – Adjusting Screw	1	922923	27	Bearing Cover – Outboard	1	341800
4	Cover – R/V	1	411807	27A	Bearing Cover – Inboard	1	041815
5	Capscrew – R/V Cover	4	920331	28	Capscrews – Bearing Cover	12	920285
7	Spring Guide – R/V	1	421805	35	Key – Shaft	1	1 909178
8	Spring – R/V (51-110 psi) (Std.)	1	471806	42	Flange – 3" NPT (Std.)	2	651803
	Spring – R/V (111-125 psi)		471809		Flange – 3" Weld		655106
	SS Spring – R/V (51-110 psi) ²		471807	42A	Gasket – Flange	2	1 381816
	SS Spring – R/V (111-125 psi) ²		471808	42B	Capscrew – NPT Flange	8	920532
9	Valve – R/V (Std.)	1	451807	Capscrew – Weld Flange	920510		
Valve – R/V (Nickel Plated)	451808		72	O-Ring – Head (FKM) (Std.)	2	1 711938	
10	Gasket – R/V Cover	1	1 531803	O-Ring – Head (PTFE)		702233	
12	Cylinder	1	021805	73		Gage Plug	2	908198
13	Rotor & Shaft – Double Ended	1	261850	76	Grease Fitting	2	317815
14	Vane – Bronze (Std.)	6	1 091804	76A	Grease Relief Fitting	2	701992
	Vane – Cast Iron		091821	77	Push Rod	3	1 121807
	Vane – Duravane		091819	88	Gasket – R/V Cap	1	1 533908
	Vane – Laminate		091829	104	Grease Seal	2	1 331908
20	Head with Drain (Std.)	2	031815	152	Lip Seal Assembly	2	See Backside
21	Capscrews – Head	20	920369		Tool – Locknut		903091
24	Ball Bearing	2	1 903172		Kit – Maintenance		898955
24A	Locknut – Bearing ³	2	903523		Hydraulic Motor Adapter Kit		See Backside

¹ Included in Maintenance Kit ² Stainless Steel Spring. ³ Ref. 24A & 24B became standard Jan. 2002

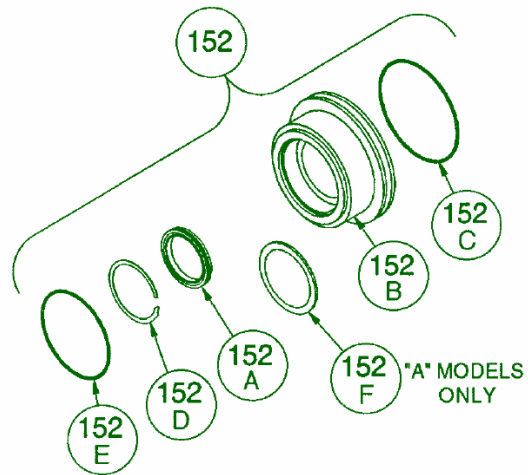
Blackmer TXV3B

LIP SEAL - STANDARD

REF. NO.	PART NAME	PARTS PER PUMP	TXV3B PART NO.	TXV3A PART NO.
152	Lip Seal Complete – Lip Seal, Housing w/ FKM O-Ring. (Std.)	2	1 331761	331755
	Lip Seal Complete – Lip Seal, Housing w/ PTFE O-Ring.		331762	331753
152A	Lip Seal w/ FKM O-Ring	2	331763	331856
	Lip Seal w/ PTFE O-Ring		331764	331752
152B	Housing – Lip Seal	2	331877	331877
152C	Outer O-Ring – Housing (FKM)	2	711931	711931
	Outer O-Ring – Housing (PTFE)		702080	702080
152D	Retaining Ring – Lip Seal	2	903561	903561
152E	Inner O-Ring – Housing (FKM)	2	702086	702086
	Inner O-Ring – Housing (PTFE)		702078	702078
152F	Spacer Washers*	0 - 8	NONE	331754

¹ Included in Maintenance Kit

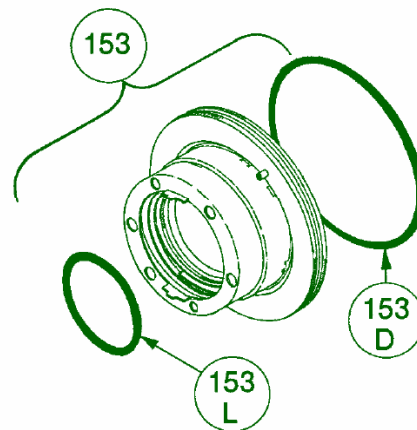
* Spacer washers (152F) are used for Discontinued TXV3A models only.



MECHANICAL SEAL - OPTIONAL

REF. NO.	PART NAME	PARTS PER PUMP	PART NO.
153	Mechanical Seal Complete - Cast Iron Stationary Seat, Carbon Seal Face, FKM O-Rings.	2	331883
	Mechanical Seal Complete - Cast Iron Stationary Seat, PTFE O-Ring, Carbon Seal Face w/ PTFE Seal Ring.		331873
	Mechanical Seal Complete - Cast Iron Stationary Seat, Bronze Seal Face, FKM O-Rings. IVBV		331881
153D	O-Ring – Stationary (FKM)	2	711931
	O-Ring – Stationary (PTFE)		702080
153L	O-Ring – Rotating (FKM)	2	701962
	Seal Ring – Rotating (PTFE)		**

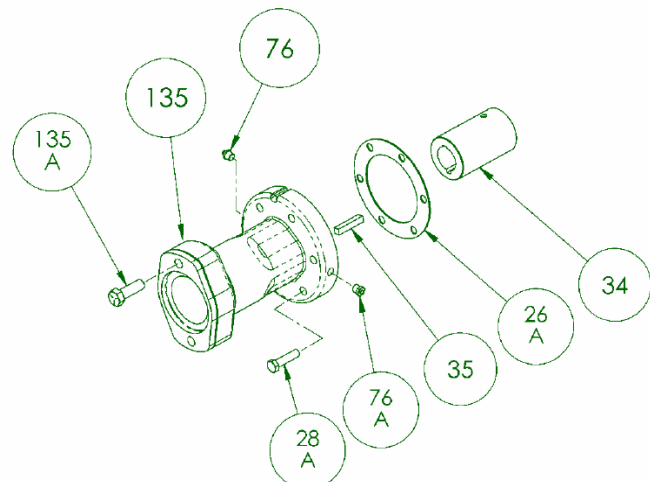
** PTFE Rotating Seal Ring is not available as a separate part.



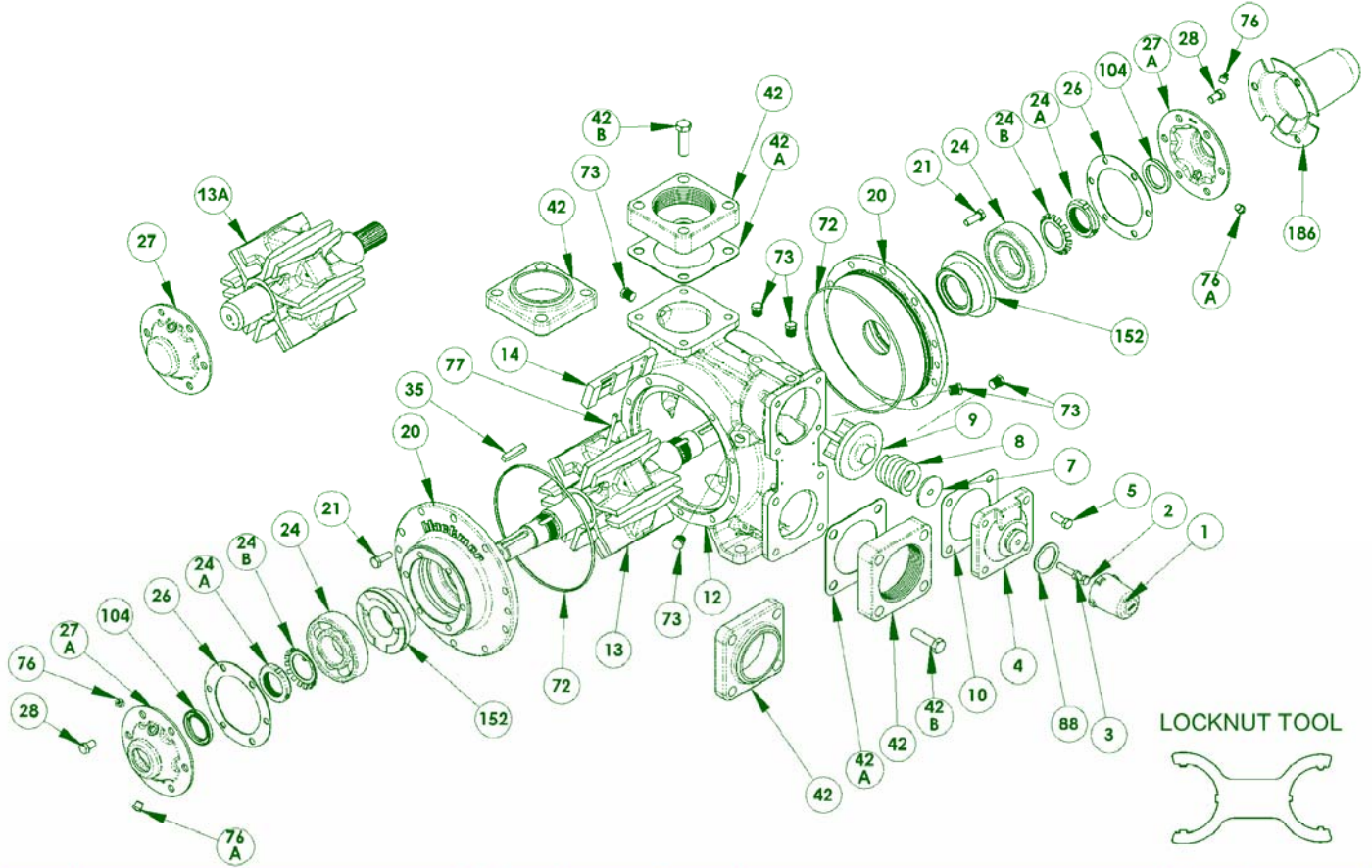
OPTIONAL HYDRAULIC MOTOR ADAPTER

REF. NO.	PART NAME	PARTS PER PUMP	PART NO.
See Below	Hydraulic Motor Adapter Kit *	See Below	895140
26A	Gasket – Hydraulic Motor Adapter	1	381817
28A	Capscrew – Hydraulic Motor Adapter / Head	6	920369
34	Coupling w/ Setscrew – 1.25" straight key hyd. motor shaft	1	906967
35	Key - Coupling	1	909184
76	Grease Fitting	1	317815
76A	Grease Relief Fitting	1	701992
135	Hydraulic Motor Adapter – SAE A Flange	1	041831
135A	Capscrew – Adapter / Motor	2	920510

* Hydraulic Motor Adapter Kits shipped prior to Spring 2002 were of a two piece design



Blackmer Transmax TX206A



Ref. No.	Description	Parts per Pump	Part No.	Ref. No.	Description	Parts per Pump	Part No.
1	Cap – Relief Valve (R/V)	1	413952	26	Gasket – Bearing Cover	2	381817
2	Adjusting Screw – R/V	1	431808	27	Bearing Cover – Outboard, Splined Shaft	0-1	041817
3	Locknut – Adjusting Screw	1	922923	27A	Bearing Cover	1-2	041815
4	Cover – R/V	1	411807	28	Capscrew – Bearing Cover	12	920285
5	Capscrew – R/V	4	920331	35	Key – Shaft	1	909184
7	Spring Guide – R/V	1	421805	42	Flange – 3” NPT - Std.	2	651803
8	SS Spring - R/V (51-75 psi)	1	471807	42	Flange – 3” Weld		655102
	SS Spring - R/V (76 -110 psi)-Std			42A	Gasket – Flange	2	381816
	SS Spring - R/V (111-125 psi)			42B	Capscrews – NPT Flange	8	920532
9	Valve – R/V (Plated)	1	451808		Capscrews – Weld Flange		920510
10	Gasket – R/V Cover	1	531803	72	O-Ring – Head (FKM) - Std.	2	702121
12	Cylinder	1	021821		O-Ring – Head (PTFE)		702235
13	Rotor & Shaft (DE Keyed) ¹	1	261830	73	Plug – ¼” NPT	6	908198
13A	Splined SE Rotor & Shaft - LH Only	1	261831	76	Grease Fitting	2	317815
14	Vane – Duravane -Std.	6	091819	76A	Grease Relief Fitting	2	701992
	Vane – Bronze		091804	77	Push Rod	3	121813
20	Head	2	031872	88	Seal Ring – R/V Cap	1	533908
21	Capscrew – Head	20	920331	104	Oil Seal	2	331908
24	Bearing	2	903172	152	Lip Seal Assembly -Std.	2	335221
24A	Locknut	2	903523	186	Shaft Protector	0-1	341801
24B	Lockwasher	2	903524		Tool – Locknut		903091
					Hydraulic Motor Adapter Kit (SAE A)		See Backside

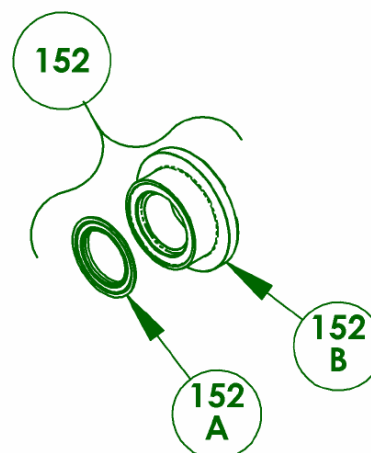
¹ Includes 24A and 24B.

Keep this parts list with Installation, Operation and Maintenance Instructions.

Blackmer Transmax TX206A

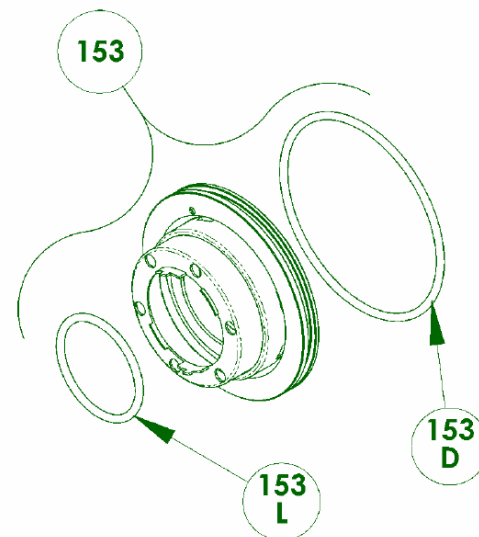
LIP SEAL - STANDARD

Ref. No.	Part Name	Parts Per Pump	Part No.
152	Lip Seal Complete	2	335221
152A	Lip Seal- Stationary (Turcon)	2	331759
152B	Housing - Lip Seal	2	335222



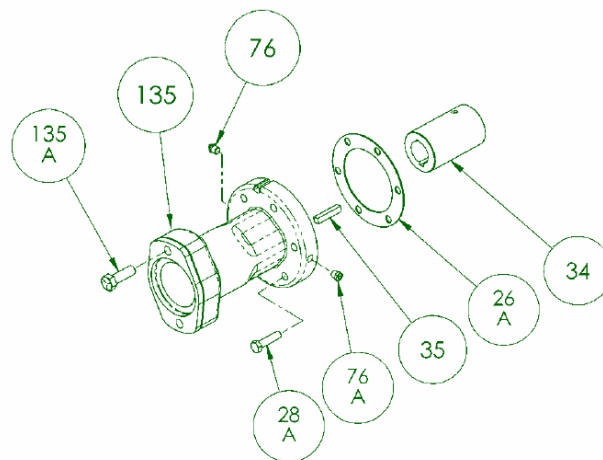
MECHANICAL SEAL - OPTIONAL

Ref. No.	Part Name	Parts Per Pump	Part No.
153	Mechanical Seal Complete – Cast Iron Stationary Seat, Bronze Seal Face, FKM O-Rings. – IVBV	2	331881
153D	O-Ring – Stationary (FKM)	2	711931
153L	O-Ring – Rotating (FKM)	2	701962

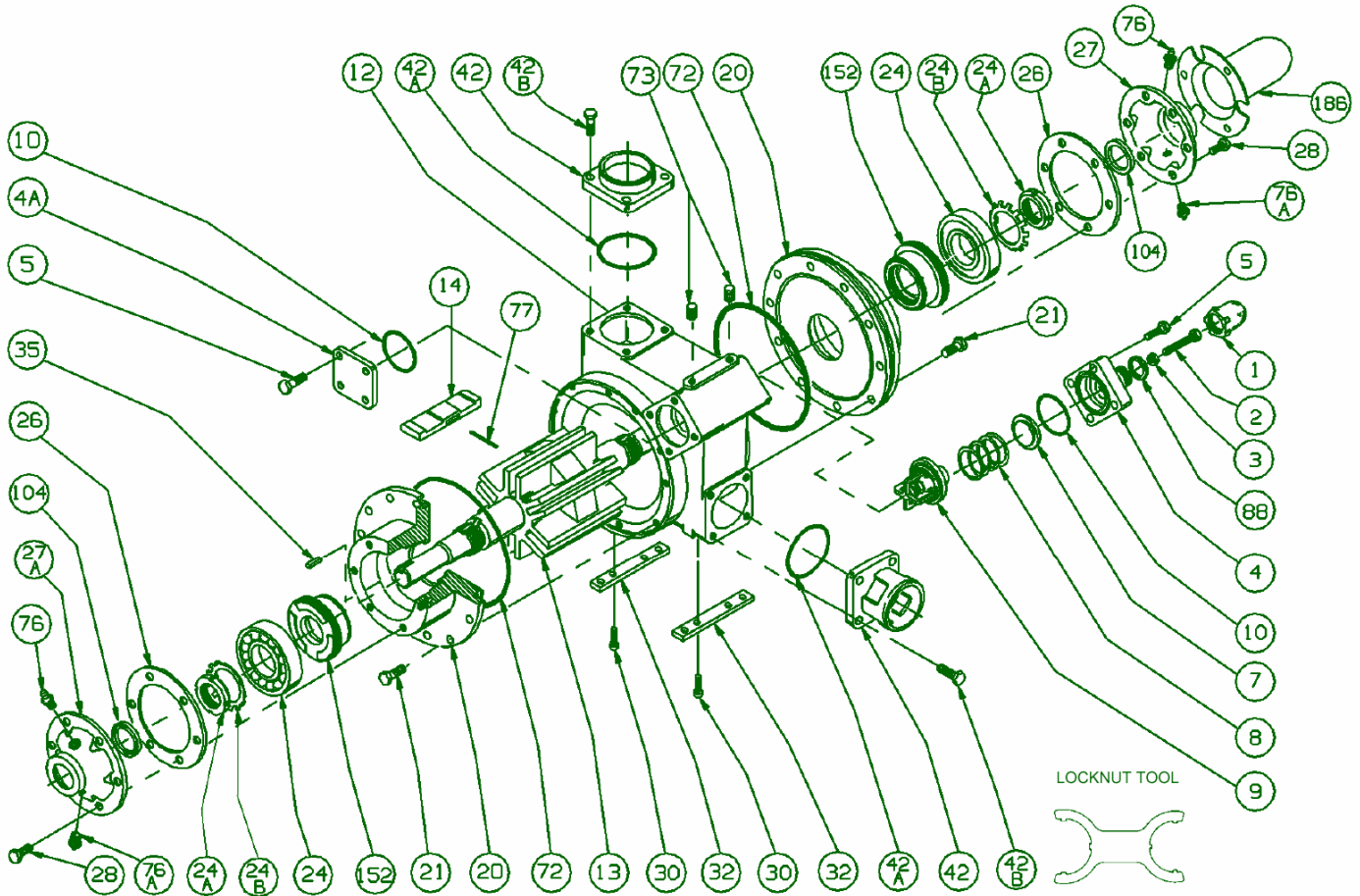


OPTIONAL HYDRAULIC MOTOR ADAPTER PARTS

REF. NO.	PART NAME	PARTS PER PUMP	PART NO. STD SHAFT	PART NO. SPLINED SHAFT
See Below	Hydraulic Motor Adapter Kit *	See Below	895141	895142
26A	Gasket – Hydraulic Motor Adapter	1	381817	381817
28A	Capscrew – Hydraulic Motor Adapter / Head	6	920331	920331
34	Coupling w/ Setscrew – 1.25" straight key	1	906970	N/A
	Coupling – 1.25", 14 Point Splined Shaft		N/A	906009
35	Key – Coupling	1	909184	N/A
76	Grease Fitting	1	317815	317815
76A	Grease Relief Fitting	1	701992	701992
135	Hydraulic Motor Adapter – SAE A Flange	1	041806	041803
135A	Capscrew – Adapter / Motor	2	920510	920510



Blackmer Transmax TX400B
TX400A discontinued



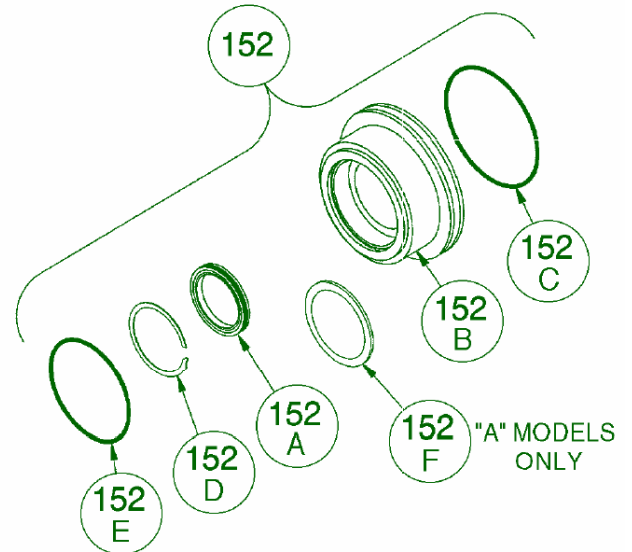
Ref. No.	Description	Parts per Pump	Part No.	Ref. No.	Description	Parts per Pump	Part No.
1	Cap - Relief Valve (R/V)	1	413952	26	Gasket - Bearing Cover	2	381817
2	Adjusting Screw - R/V	1	435109	27	Bearing Cover - Outboard	0 - 1	041817
3	Locknut - Adjusting Screw	1	922923	27A	Bearing Cover - Inboard	1 - 2	041815
4	Cover - R/V	1	411868	28	Capscrews - Bearing Cover	12	920285
4A	Blanking Plate - R/V	1	411905	30	Capscrews - Foot Bracket	4	920466
5	Capscrew - R/V Cover /Blanking Plate	8	920381	32	Foot Bracket	2	832200
7	Spring Guide - R/V	1	426907	35	Key - Shaft	1	909178
8	Spring - R/V (35-75 psi)	1	471900	42	Flange - 3" Weld	1	652007
	Spring - R/V (76-110 psi)		471832		Flange - 4" Weld		652005
	Spring - R/V (111-125 psi)		476908	42A	O-Ring - Flange (Buna-N)	701937	
	SS Spring - R/V (35-75 psi)		471901		O-Ring - Flange (FKM)	701968	
	SS Spring - R/V (76-110 psi)		471834		O-Ring - Flange (PTFE)	702101	
	SS Spring - R/V (111-125 psi)		476910		42B	Capscrews - Flange	920640
9	Valve Assembly - R/V	1	451900	72	O-Ring - Head (Buna-N)	701944	
10	O-Ring - R/V Cover/ Blanking Plate Buna-N)	2	701936		O-Ring - Head (FKM)	711938	
	O-Ring - R/V Cover/ Blanking Plate FKM)		711931		O-Ring - Head (PTFE)	702233	
	O-Ring - R/V Cover/ Blanking Plate (PTFE)		702080	73	Gage Plug	908198	
12	Cylinder	1	021900	76	Grease Fitting	2	317815
13	Rotor & Shaft (Dbl Ended) (Includes 24A & 24B)	1	261910	76A	Grease Relief Fitting	2	701992
				77	Push Rod	3	121900
14	Vane - Duravane	6	091915	88	Gasket - R/V Cap	1	533908
	Vane - Laminate		091918	104	Grease Seal	2	331908
20	Head	2	031815	186	Shaft Protector	1	341801
21	Capscrews - Head	20	920369	152	Lip Seal Asy.	2	See Back
24	Ball Bearing	2	903172		Tool - Locknut		903091
24A	Locknut - Bearing	2	903523				
24B	Lockwasher - Bearing	2	903524				

Blackmer Transmax TX400B TX400A discontinued

LIP SEAL - STANDARD

Ref. No.	Part Name	Parts Per Pump	TX400B Part No.	TX400A Part No.
152	Lip Seal Complete - Lip Seal, Housing w/ Buna-N O-Rings.	2	331760	331751
	Lip Seal Complete - Lip Seal, Housing w/ FKM O-Rings.		331761	331755
	Lip Seal Complete - Lip Seal, Housing w/ PTFE O-Rings.		331762	331753
152A	Lip Seal w/FKM O-Ring	2	331763	331856
	Lip Seal w/PTFE O-Ring		331764	331752
152B	Housing - Lip Seal	2	331877	331877
152C	Outer O-Ring - Housing (Buna-N)	2	701936	701936
	Outer O-Ring - Housing (FKM)		711931	711931
	Outer O-Ring - Housing (PTFE)		702080	702080
152D	Retaining Ring - Lip Seal	2	903561	903561
152E	Inner O-Ring - Housing (Buna-N)	2	702004	702004
	Inner O-Ring - Housing (FKM)		702086	702086
	Inner O-Ring - Housing (PTFE)		702078	702078
152F	Spacer Washers*	0 - 8	NONE	331754

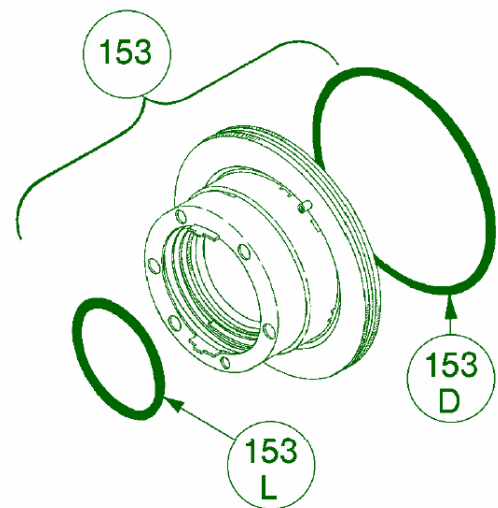
* Spacer washers (152F) are used for Discontinued TX400A models only



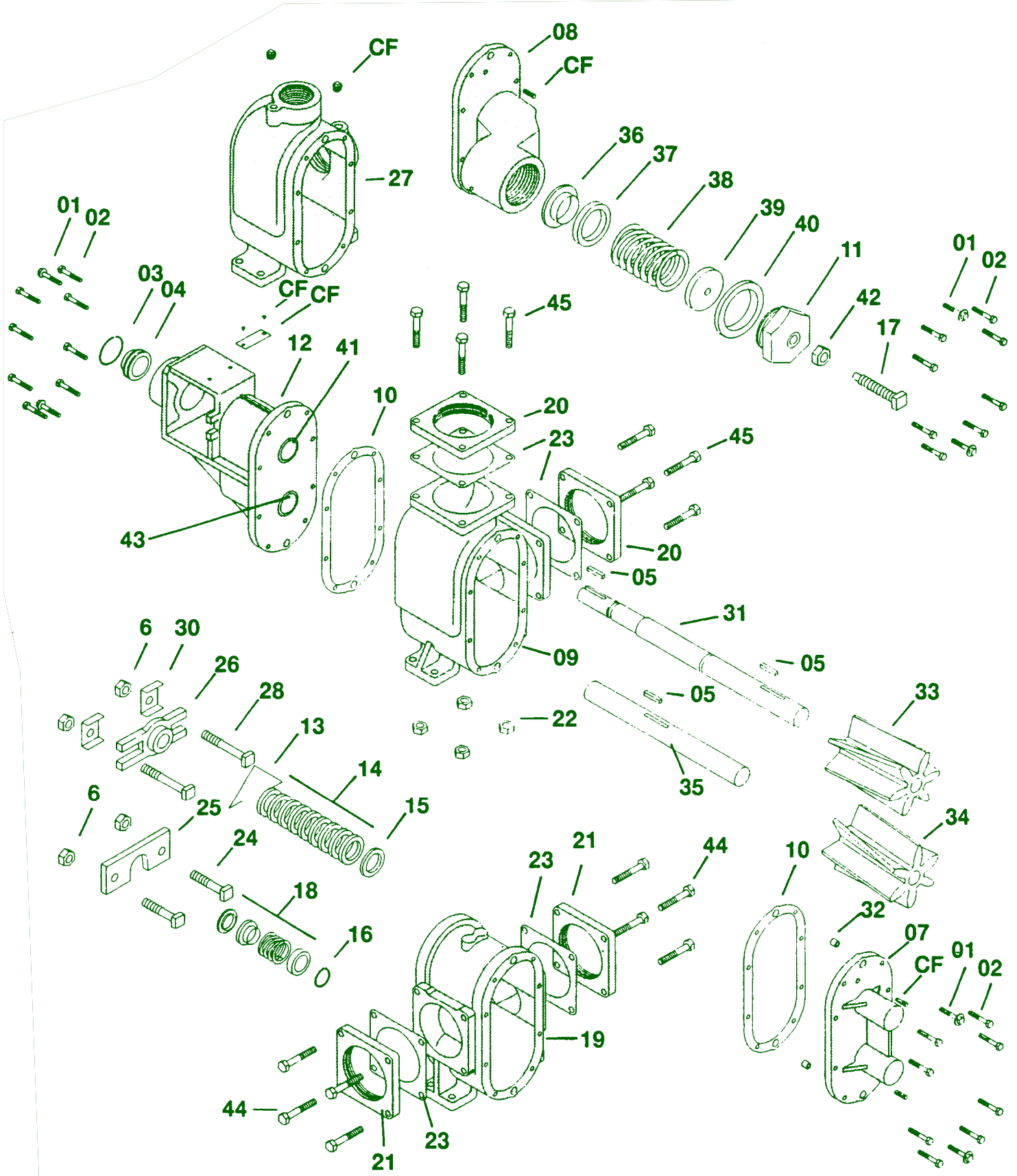
MECHANICAL SEAL - OPTIONAL

Ref. No.	Part Name	Parts Per Pump	Part No.
153	Mechanical Seal Complete - SS Stationary Seat, PTFE O-Ring, Carbon Seal Face w/ PTFE Seal Ring. (WACT)	2	331899
	Mechanical Seal Complete - Cast Iron Stationary Seat, Carbon Seal Face, Buna-N O-Rings. (INCN)		331880
	Mechanical Seal Complete - Cast Iron Stationary Seat, Carbon Seal Face, FKM O-Rings. (IVCV)		331883
	Mechanical Seal Complete - Cast Iron Stationary Seat, Bronze Seal Face, FKM O-Rings. (IVBV)		331881
	Mechanical Seal Complete - Cast Iron Stationary Seat, PTFE O-Ring, Carbon Seal Face w/ PTFE Seal Ring. (IACT)		331873
153D	O-Ring - Stationary (FKM)	2	711931
	O-Ring - Stationary (PTFE)		702080
153L	O-Ring - Rotating (FKM)	2	701962
	Seal Ring - Rotating (PTFE)		**

** PTFE Rotating Seal Ring is not available as a separate part.



Ranger 11, 17, 22 Series Pump (Roper 3622)



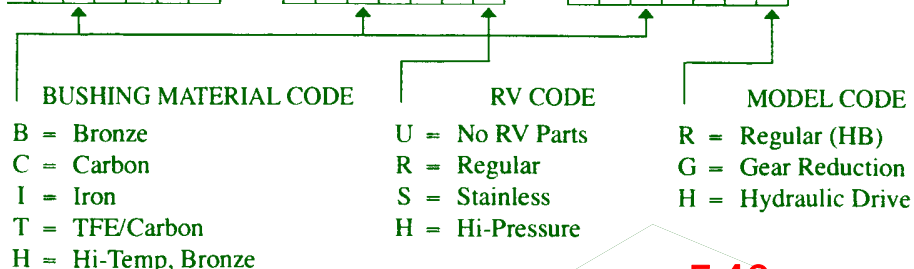
Ranger 11, 17, 22 Series Pump

PIC NO.	PART DESCRIPTION	2" (11)		2 1/2" (17)		3" (22)	
		RANGER PART #	ROPER [®] PART #	RANGER PART#	ROPER [®] PART#	RANGER PART#	ROPER [®] PART#
01	Wash Hd. Cap Screw	B63-375150	G49-24	B63-375150	G49-24	B63-375150	G49-24
02	Hex Hd. Cap Screw	B60-375100	G49-037100	B60-375100	G49-037100	B60-375100	G49-037100
03	Retaining Ring Internal	03C-205I	G41-10	03C-205I	G41-10	03C-205I	G41-10
04	Ball Bearing	04C-100205	G40-41	04C-100205	G40-41	04C-100205	G40-41
05	Key Std.	05C-252515	D30-9	05C-252515	D30-9	05-252515	D30-9
06	Locknut	N61-437	D441-755	N61-437	D441-755	N61-437	D441-755
07*	Plain Rearplate Assy.	PLEASE REFER	TO CHART	AT THE	BOTTOM OF	THIS PAGE	
08*	RV Rearplate Assy.	PLEASE REFER	TO CHART	AT THE	BOTTOM OF	THIS PAGE	
09	Case	N/A	N/A	N/A	N/A	09I-22U	P1-175
10	Gasket Case	10F-01U	D11-338	10F-01U	D11-338	10F-01U	D11-338
10	Gasket Case Aluminum	10A-01U	D11-339	10A-01U	D11-339	10A-01U	D11-339
11	Plug Cap RV	11I-01U	P17-110	11I-01U	P17-110	11I-01U	P17-110
12*	Driveplate Assy.	PLEASE REFER	TO CHART	AT THE	BOTTOM OF	THIS PAGE	
13	Spring Clip	13C-01U	D42-2	13C-01U	D42-2	13C-01U	D42-2
14	Packing Set TFE (Std.)	14X-01U	N43-1	14X-01U	N43-1	14X-01U	N43-1
14	Packing Set Graphite/TFE	14G-01U	N43-151	14G-01U	N43-151	14G-01U	N43-151
14	Packing Set Pure TFE	14T-01U	N43-101	14T-01U	N43-101	14T-01U	N43-101
14	Packing Set 8093 DSA	14D-01U	N43-170	14D-01U	N43-170	14D-01U	N43-170
14	Packing Set Carbon/Graphite	14C-01U	N/A	14C-01U	N/A	14C-01U	N/A
15	Washer Packing	15C-01U	G8-246	15C-01U	G8-246	15C-01U	G8-246
16	Retaining Ring	03C-106E	G41-76	03C-106E	G41-76	03C-106E	G41-76
17	RV Screw Adjust	B60-375200	G62-44	B60-375200	G62-44	B60-375200	G62-44
18	Mech Seal Comp Buna-N	18B-106175	G4-101	18B-106175	G4-101	18B-106175	G4-101
18	Mech Seal Comp Viton	18V-106175	G4-140	18V-106175	G4-140	18V-106175	G4-140
19	Case, Straight	N/A	N/A	N/A	N/A	19I-22U	P1-171
20	Flange, Straight	N/A	N/A	N/A	N/A	20I-22NPT3	P23-10
21	Flange, Straight	N/A	N/A	N/A	N/A	21I-22NPT4	P23-19
22	Nut	N/A	N/A	N/A	N/A	N60-625	G44-062
23	Gasket, Flange	23V-11U	D11-333	23V-17U	D11-332	23V-22U	D11-90
24	Sq. Hd. Bolt	B40-437125	G67-043125	B40-437125	G67-043125	B40-437125	G67-043125
25	Retainer, Seal	25C-01U	D23-252	25C-01U	D23-252	25C-01U	D23-252
26	Packing Gland	26I-01U	P10-178	26I-01U	P10-178	26I-01U	P10-178
27	Case, Screwed	27I-11U	P1-178	27I-17U	P1-177	N/A	N/A
28	Sq. Hd. Bolt	B40-437275	G67-043275	B40-437275	G67-043275	B40-437275	G67-043275
29	Flange Kit 90° (229P)	N/A	N/A	N/A	N/A	29I-90LK	N14-31
29	Flange Kit 90° (228P)	N/A	N/A	N/A	N/A	29I-805LK	N14-23
30	Clip, Pkg. Gland	30C-01U	D42-1	30C-01U	D42-1	30C-01U	D42-1
31	Shaft, Drive	31C-11R	D1-2072	31C-17R	D1-2073	31C-22R	D1-1998
31	Shaft, Drive SST	31S-11R	D1-2076	31S-17R	D1-2077	31S-22R	D1-2027
32	Dowel Pin Hollow	32C-01U	D48-34	32C-01U	D48-34	32C-01U	D48-34
33	Gear, LH	33I-11U	P6-276	33I-17U	P6-274	33I-22U	P6-278
34	Gear, RH	34I-11U	P6-275	34I-17U	P6-273	34I-22U	P6-277
35	Shaft, Idler	35C-11U	D1-1098	35C-17U	D1-1100	35C-22U	D1-1077
35	Shaft, Idler SST	35S-11U	D1-1099	35S-17U	D1-860	35S-22U	D1-1078
36	RV Poppet SST	36S-01U	D16-16	36S-01U	D16-16	36S-01U	D16-16
37	Adapter Poppet	37C-01U	G8-281	37C-01U	G8-281	37C-01U	G8-281
37	Adapter Poppet SST	37S-01U	G8-282	37S-01U	G8-282	37S-01U	G8-282
38	Spring, Std	38C-01U	G10-355	38C-01U	G10-355	38C-01U	G10-355
38	Spring, SST	38S-01U	G10-363	38S-01U	G10-363	38S-01U	G10-363
38	Spring, High Pressure	38H-01U	G10-375	38H-01U	G10-375	38H-01U	G10-375
39	Guide, Spring	39C-01U	D8-348	39C-01U	D8-348	39C-01U	D8-348
39	Guide, Spring SST	39S-01U	D8-355	39S-01U	D8-355	39S-01U	D8-355
40	Gasket, Cap RV	40V-01U	D828-41	40V-01U	D828-41	40V-01U	D828-41
41**	Bushing, Short	PLEASE REFER	TO CHART	AT THE	BOTTOM OF	THIS PAGE	
42	Locknut Seal	N65-375S	G43-18	N65-375S	G43-18	N65-375S	G43-18
43**	Bushing, Long	PLEASE REFER	TO CHART	AT THE	BOTTOM OF	THIS PAGE	
44	Hex Hd Cap Screw	N/A	N/A	N/A	N/A	B62-062175	G49-062175
45	Hex Hd Cap Screw	N/A	N/A	N/A	N/A	B62-625225	G49-062225

ENTER MATERIAL CODES TO COMPLETE REQUIRED PART NUMBERS

PLAIN REARPLATE RV REARPLATE DRIVEPLATE ASSY

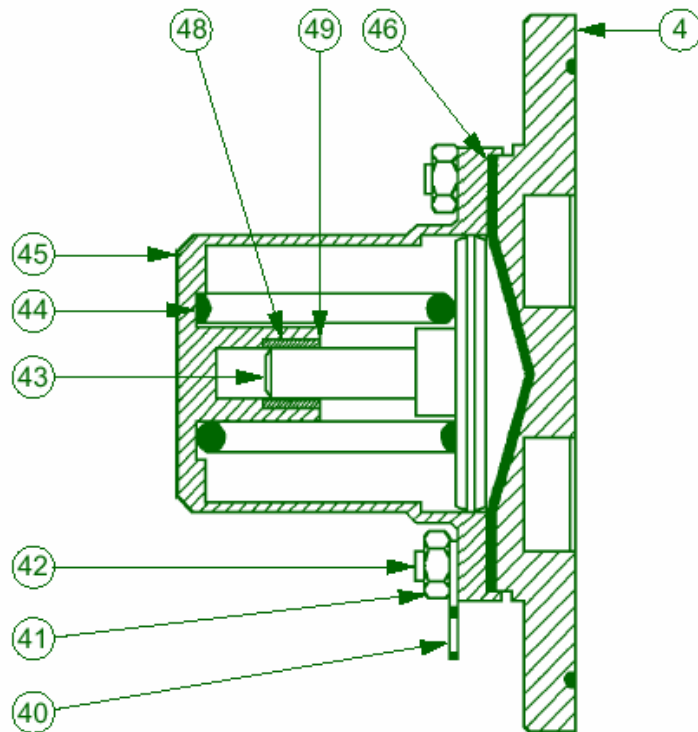
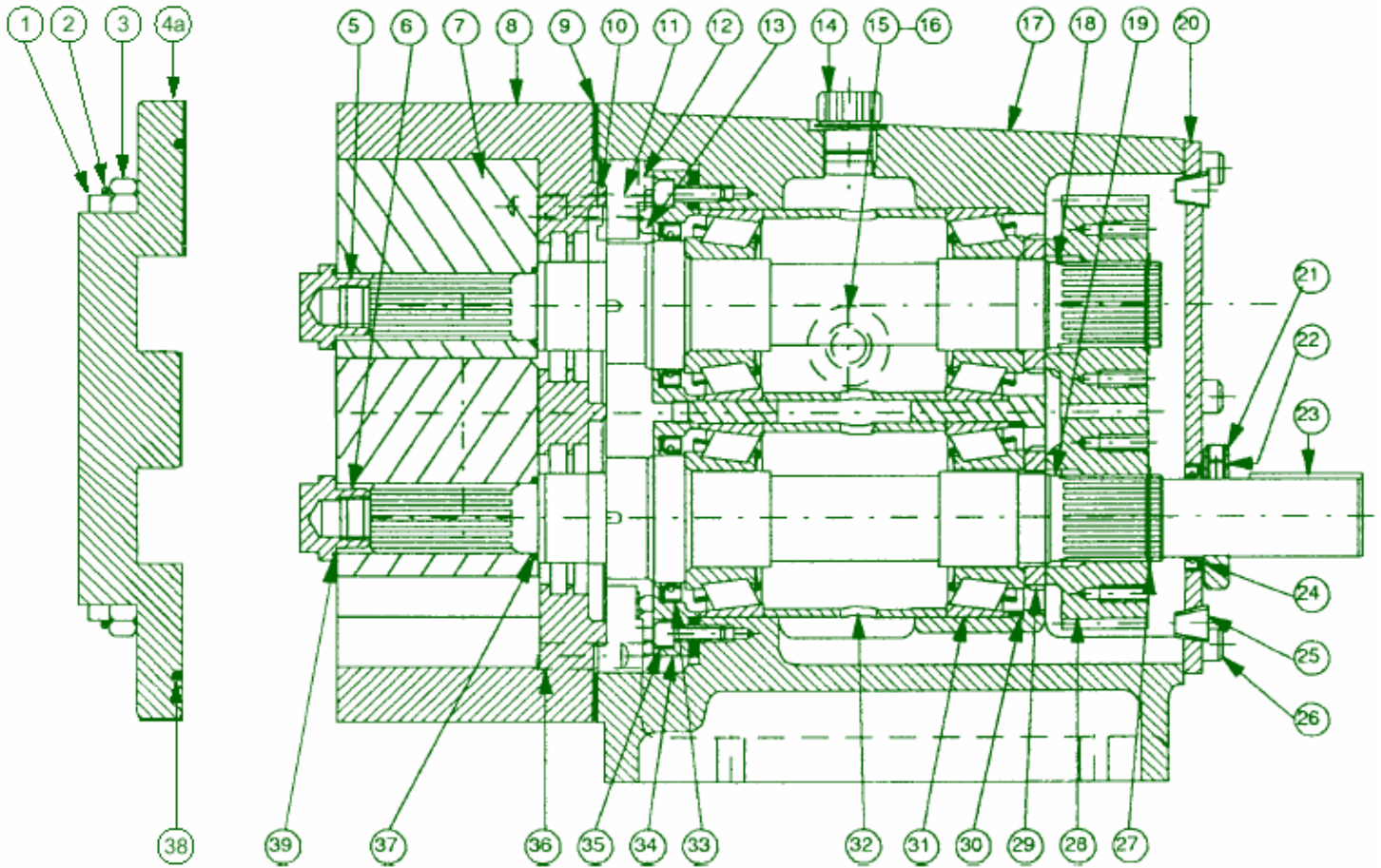
07 - 01U 08 - 01 12 - 01



****Bushing Part Number**

- 43B-01U Bronze, Long
- 41B-01U Bronze, Short
- 43H-01U Bronze, Long, Hi Temp
- 41H-01U Bronze, Short, Hi Temp
- 43C-01U Carbon, Long
- 41C-01U Carbon, Short
- 43T-01U TFE & Carbon, Long
- 41T-01U TFE & Carbon, Short
- 43I-01U Iron, Long
- 41I-01U Iron, Short

Drum SSC150 Bottom Shaft (Round Model)

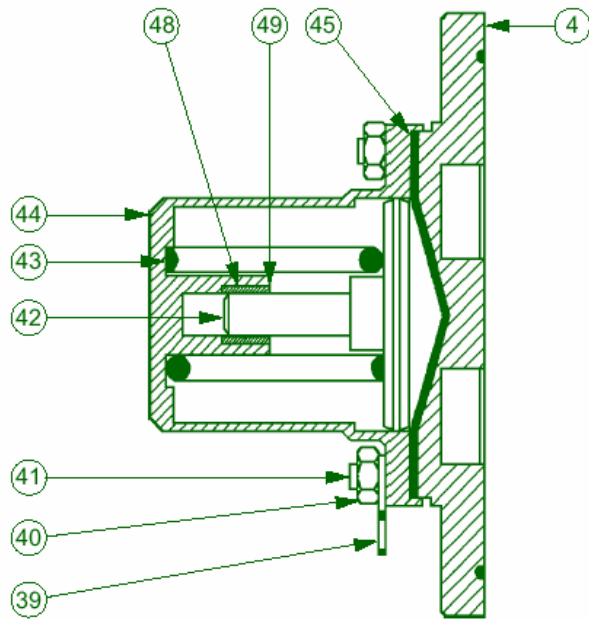
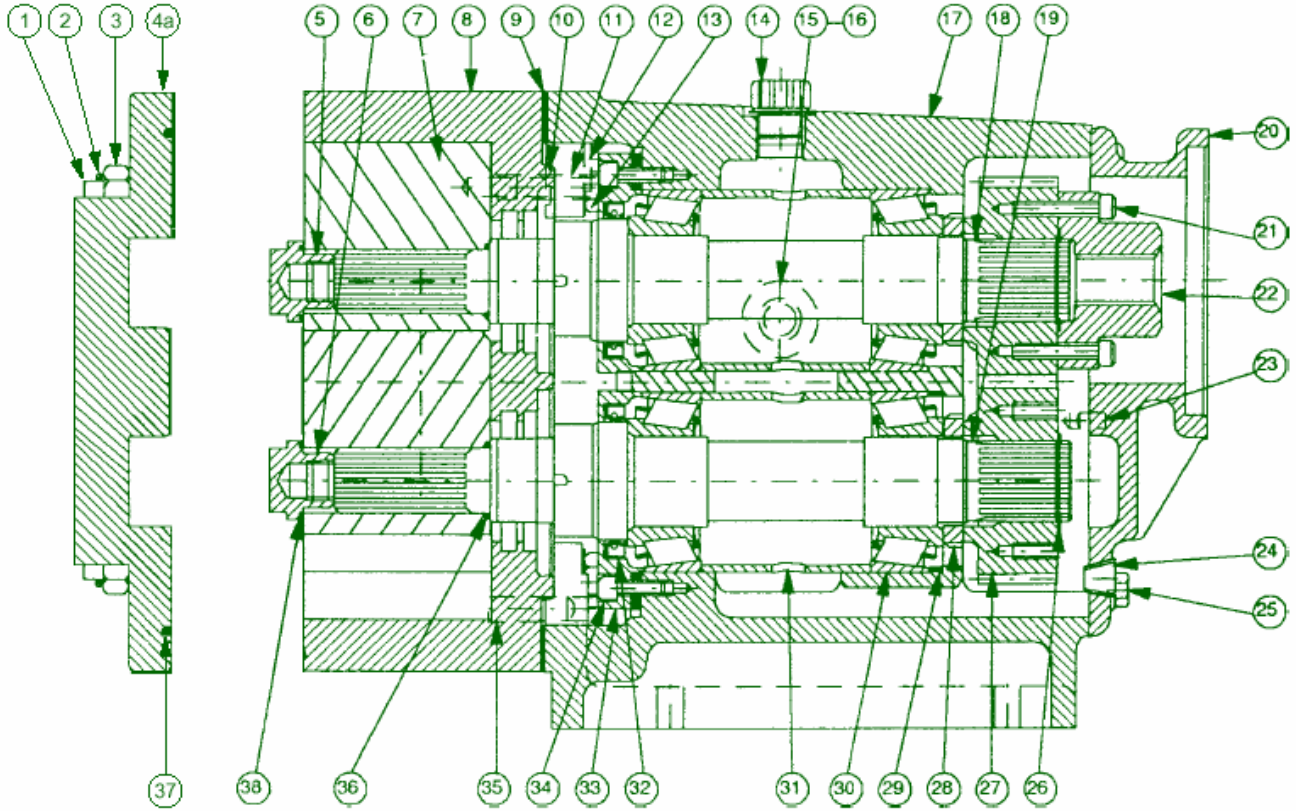


Drum SSC150

Bottom Shaft (Round Model)

ITEM	DESCRIPTION	PART NO.	QTY.
1	STUD (front cover)	170412250	4
2	"R" CLIP	518101200	4
3	NUT (front cover)	190012200	4
4	COVER, "FOR" RELIEF VALVE	521042202	1
4a	COVER, "NO" RELIEF VALVE	521042203	1
5	NUT, ROTOR R.H.	518061202	1
6	NUT, ROTOR R.H.	518061202	1
7	ROTOR	503237201	2
8	ROTOR CASE	500040202	1
9	SHIM SET, ARCH - <i>CONSISTING OF:</i>	516070249	1
	SHIM - 0.250mm (white) (516070244)		
	SHIM - 0.125mm (brown) (516070245)		
	SHIM - 0.100mm (amber) (516070246)		
	SHIM - 0.075mm (green) (516070247)		
	SHIM - 0.063mm (black) (516070248)		
10	O'RING (shim retainer)	518090200	4
11	STUD (rotor / gear case) - 10mm X 28mm s/s	168110228	4
12	WASHER - 10mm s/s	194410200	4
13	NUT (rotor / gear case) - 10mm s/s	188010200	4
14	FILLER CAP with GASKET	309075200	1
15	SIGHT GLASS	307058203	1
16	DOWTY WASHER, SIGHT GLASS	194100000	1
17	GEAR HOUSING (cast iron)	528031201	1
18	SHAFT - R.H. (driven)	504033205	1
19	SHAFT - R.H. (straight, round)	504033206	1
20	COVER, GEAR CASE (straight round shaft)	521193200	1
21	WATER COLLAR	513134200	1
22	SCREW, WATER COLLAR	144105206	1
23	KEY (drive shaft)	199050206	1
24	LIP SEAL (drive end)	512000201	1
25	PLUG, DRAIN	302127200	2
26	SCREW (gear case cover)	124106225	6
27	CIRCLIP	175130402	2
28	GEAR TIMING (set)	529000202	2
29	NUT, REAR BEARING	518061204	2
30	SPACER, BEARING - OUTER	516010203	1
31	BEARING - COMPLETE	510001201	4
32	SPACER, BEARING - INNER	516010204	2
33	LIP SEAL	512010212	2
34	RETAINER	518005200	2
35	SCREW	124106015	6
36	DOWEL	174212230	2
37	O'RING (rotor)	522020200	2
38	O'RING (front cover)	522030200	1
39	O'RING (rotor nut)	522020200	2
40	CHAIN LUG	518094202	1
41	NUT, R.V. (stainless)	188010200	4
42	STUD, R.V. (stainless)	168110228	4
43	VALVE POPPET - closed	532051201	1
44	SPRING - 60psi	517022201	1
45	VALVE HOUSING - closed	500074201	1
46	DIAPHRAGM - NITRILE / PTFE	513132200	1
48	BUSHING	510102206	1
49	CIRCLIP	244014201	1
O	WELD FLANGE (not shown)	508073200	2
O	FLANGE GASKET (not shown)	526153200	2
O	FLANGE BOLTS - 10mm X 30mm (not shown)	110010230	8
O	GUARD, SHAFT / SEALS - plastic	521143201	1

Drum SSC150 Hydraulic Drive (Splined) Model



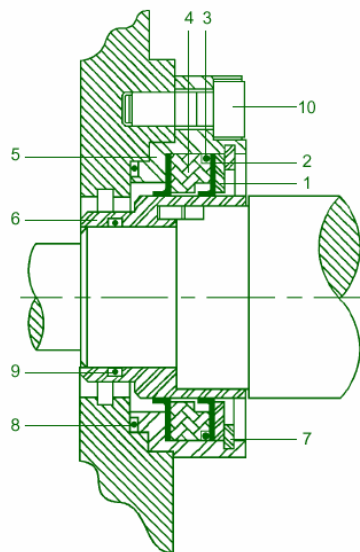
Drum SSC150 Hydraulic Drive (Splined) Model

ITEM	DESCRIPTION	PART NO.	QTY.
1	STUD (front cover)	170412250	4
2	"R" CLIP	518101200	4
3	NUT (front cover)	190012200	4
4	COVER, "FOR" RELIEF VALVE	521042202	1
4a	COVER, "NO" RELIEF VALVE	521042203	1
5	NUT, ROTOR L.H.	518061203	1
6	NUT, ROTOR R.H.	518061202	1
7	ROTOR	503237201	2
8	ROTOR CASE	500040202	1
9	SHIM SET, ARCH - <i>CONSISTING OF:</i>	516070249	1
	SHIM - 0.250mm (white) (516070244)		
	SHIM - 0.125mm (brown) (516070245)		
	SHIM - 0.100mm (amber) (516070246)		
	SHIM - 0.075mm (green) (516070247)		
	SHIM - 0.063mm (black) (516070248)		
10	O'RING (shim retainer)	518090200	4
11	STUD (rotor / gear case) - 12mm X 28mm s/s	168110228	4
12	WASHER - 10mm s/s	194410200	4
13	NUT (rotor / gear case) - 10mm s/s	188010200	4
14	FILLER CAP with GASKET	309075200	1
15	SIGHT GLASS	307058203	1
16	DOWTY WASHER, SIGHT GLASS	194100000	1
17	GEAR HOUSING (cast iron)	528031201	1
18	SHAFT - L.H. (for hydraulic adaptor, splined)	504033207	1
19	SHAFT - R.H. (driven)	504033205	1
20	COVER, GEAR CASE (hydraulic)	521032201	1
21	SCREW - 6mm X 25mm	124106225	4
22	SPLINED ADAPTOR (hydraulic drive)	519401200	1
23	DOWEL	174212230	2
24	PLUG, DRAIN	302127200	2
25	SCREW (gear case cover)	124106225	6
26	CIRCLIP	175130402	2
27	GEAR TIMING (set)	529000202	2
28	NUT, REAR BEARING	518061204	2

Drum SSC150

ITEM	DESCRIPTION
0	LIP SEAL ASS'Y - complete, containing:
1	Retaining Ring
2	Lip Seal Element
3	'O' ring
4	Spacer
5	Housing Plate
6	Shaft Sleeve
7	Snap Ring
8	'O' ring
9	'O' ring
0	LIP SEAL ASS'Y - repair kit, containing
2	Lip Seal Element
3	'O' ring
4	Spacer
7	Snap Ring
8	'O' ring
9	'O' ring
10	SCREW - M8 X 16mm (1.25 pitch)

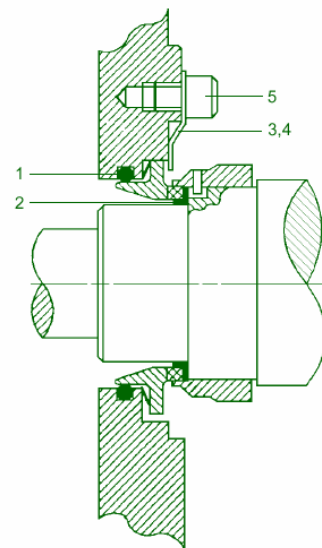
Double Lip Seal Assembly



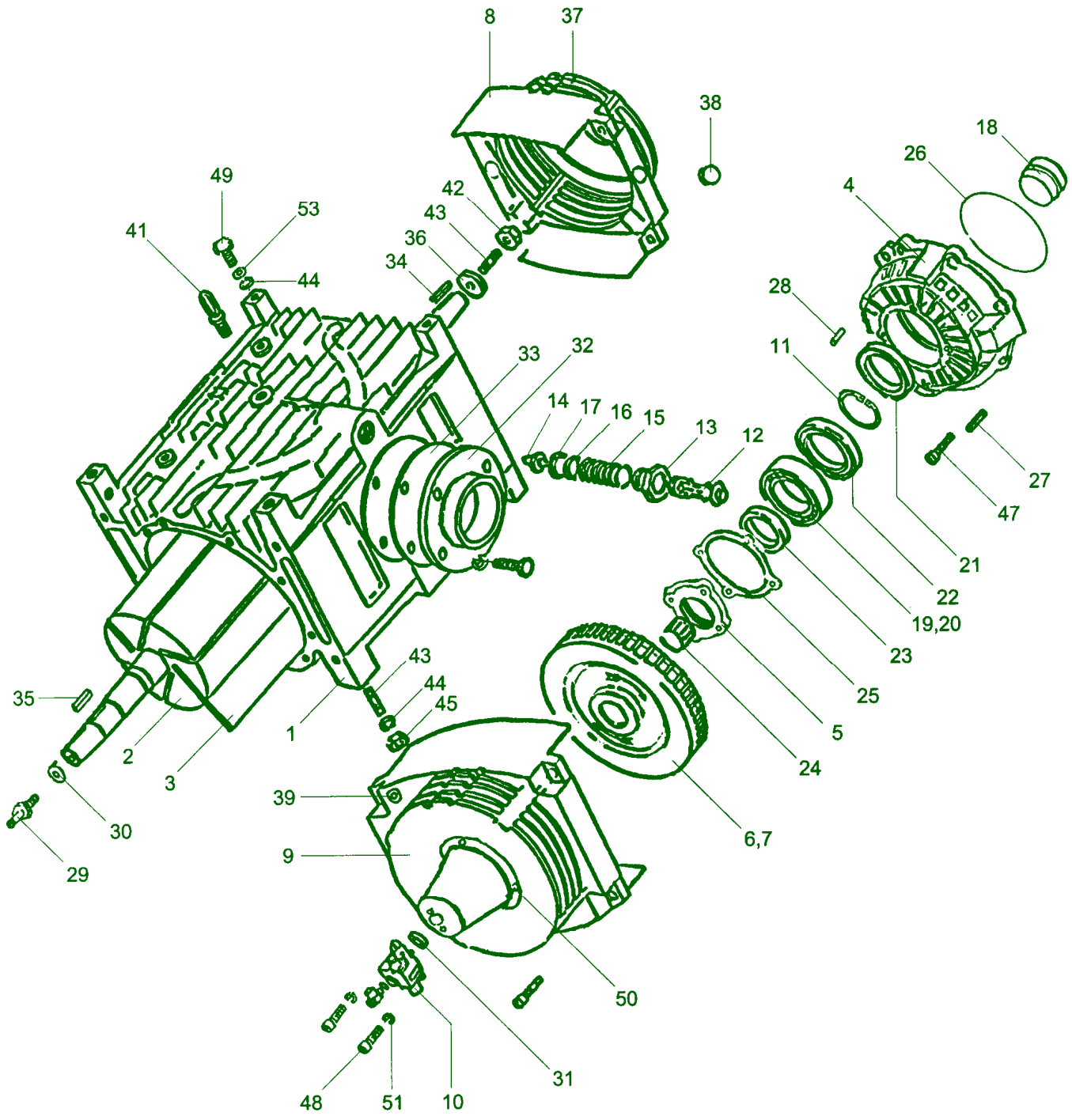
Part#	Description
512161200	Lip seal assembly, complete
512161201	Lip Seal Assembly, repair kit
126108216	Screw

Mechanical Seal Assembly

0	MECH. SEAL ASS'Y - stainless & carbon (<i>complete</i>)	513002202	2
1	O'RING -133 chemraz (std.)	522061202	1
2	TEFLON SEAL	513150200	1
3	RETAINER CLIP (not supplied in mech. seal ass'y)	518081200	1
4	FLATWASHER (not supplied in mech. seal ass'y)	194408200	1
5	SCREW (not supplied in mech. seal ass'y)	108108210	1
0	MECH. SEAL ASS'Y - silicon carbide (<i>complete</i>)	513000206	2
1	O'RING -133 chemraz (std.)	522061202	1
2	TEFLON SEAL	513150200	1
3	RETAINER CLIP (not supplied in mech. seal ass'y)	518081200	1
4	FLATWASHER (not supplied in mech. seal ass'y)	194408200	1
5	SCREW (not supplied in mech. seal ass'y)	108108210	1
0	SHAFT PROTECTOR (tool for seal installation)	530041201	1



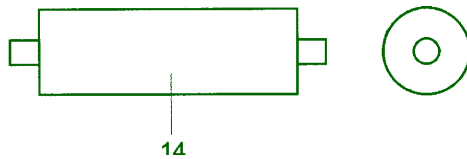
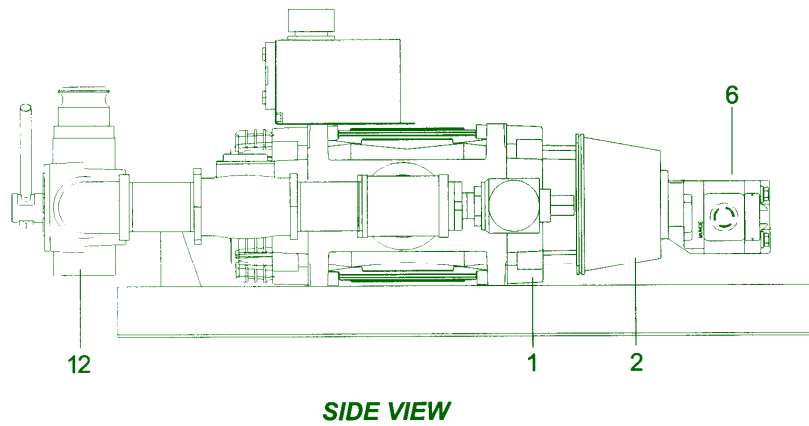
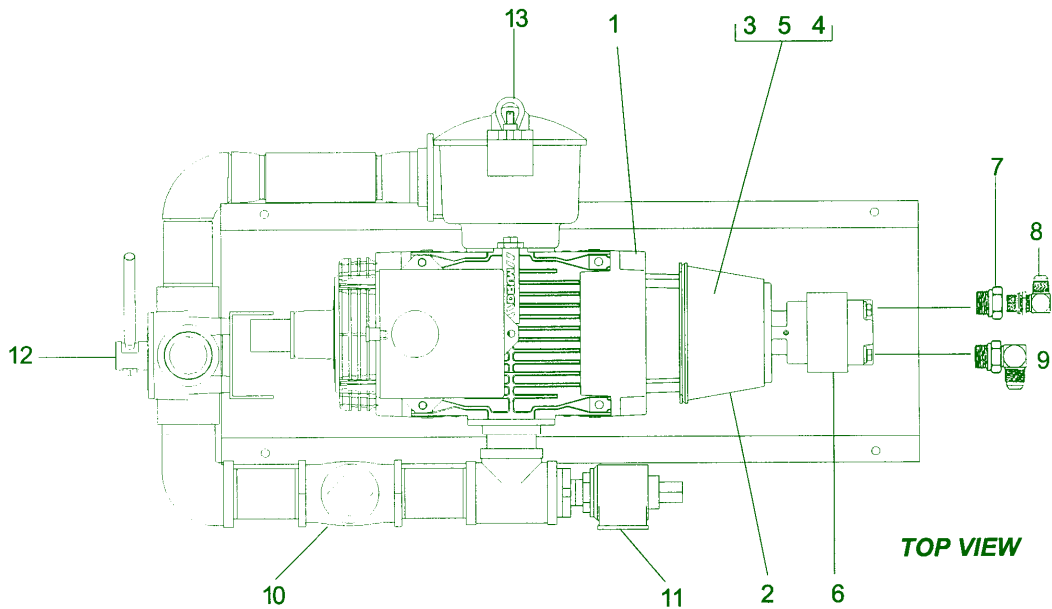
Drum S440 Vacuum Pump



Drum S440 Vacuum Pump

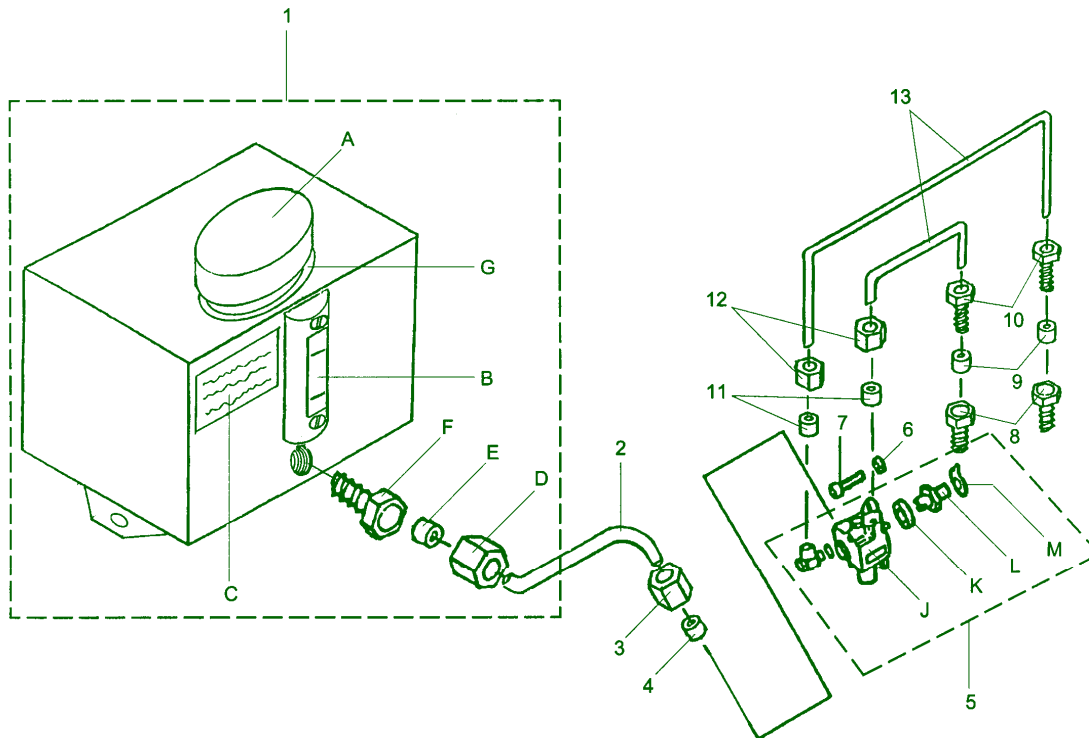
Item	Description	Part No.	QTY
1	BODY, SIDE PORT - S440	500021211	1
2	ROTOR & SHAFT ASSY	602000202	1
3+#	BLADE	511010200	6
4	SIDEPLATE, 4 HOLE CAP	501020203	2
5	BEARING CAP	521000207	2
	FAN KIT, C.W. (fan, fan hub, & fasteners)	703040209	1
	FAN KIT, C.C.W. (fan, fan hub, & fasteners)	703040210	1
6	FAN C.W. - STAINLESS STEEL	506004200	1
7	FAN C.C.W. - STAINLESS STEEL	506014200	1
	FAN HUB - STAINLESS STEEL	516051202	2
	CAPSCREW, SKT, SS - 6mm X 10mm (fan hub)	124106210	3
	LOCKWASHER, SS - 6mm (fan hub)	194006200	3
	KEY - ROUND END - 5mm x 5mm x 25mm	199050207	2
8	COWL DE S420/S440 w/GUARDS	505091203	1
9	COWL NDE S420/S440 w/GUARDS	505101204	1
10	LUBE PUMP ASSY S200/440/600	515020202	1
11	CIRCLIP INT 90mm DIA	175009800	2
	Includes: VACUUM SNIFTER VALVE ASSY w/o THERMOSTAT	705002201	1
12	VALVE SPINDLE SNIFTER S420/S440 BRONZE	532020200	1
13	VALVE SEAT VACUUM PUMP BRONZE	532030200	1
14	THERMOSTAT WAX S420/S440 KIT W/SPACER	509010202	1
15	SPRING COMP S440/420/600 SNIFTER VALVE	517000202	1
16	SPACER RING S440/600 SNIFTER	516020201	1
17	CIRCLIP	175102825	1
18	DISTANCE SLEEVE	516000206	2
19#	BRNG ROLLER INNER	510013200	2
20#	BRNG ROLLER OUTER	510023200	2
21#	SEAL LABYRINTH	513100200	2
22#	SEAL, SIDEPLATE (silicon)	512030200	2
23#	SEAL, BEARING CAP (buna)	512010208	2
24+#	STAR TOLERANCE RING S/S M40 X 16	196040216	2
25#	SHIM KIT 4 HOLE 4 SETS OF 2	516070243	1
26+#	O-RING SIDEPLATE VITON	522010203	2
27	PIN DOWEL GR5 HARDENED 10X24 PLATED	174210424	2
28	PIN SPIRAL GR5 M6 X 30PL	174006430	2
29	COUPLER DRIVE STUD LUB PUMP S420/440	519380201	1
30	RETAINER S42/440 DRIVE DOG TAB WASHER	518020205	1
31	BUSHING LUB PUMP S420/S440	510002201	1
32	FLANGE TW1 4 HOLE x 3" NPTF CI	508000205	2
33+#	GASKET TW1 3"	526071200	2
34	KEY ROTOR M10 X 8 X 50	199050203	1
35	KEY FAN - ROUND END - 5mm x 5mm x 25mm	199050207	2
36	WASHER DRIVE FLANGE	518020204	1
37	GUARD COWL INSERT	521220200	8
38	CAP, PUSH IN COWL	521210200	2
39	GROMMET 3/8" ID 5/8" GD 1/8" GW NBR	521070204	1
41	EYEBOLT GR5 M12 PL	199041200	1
42	NUT HEX BINX SPLITEND M12 ISO12.9PLTD	190112400	1
43+#	STUD M12-1.75 X 30PL	170112430	5
44+#	WASHER LOCK GR5 M12 PLAIN	194012000	7
45+#	NUT HEX FULL GR5 M12 ZINC PLATED	190012400	4
46	CAPSCREW SKTHD ISO 8.8M10X25mm PLTD	124110425	8
47	CAPSCREW SKT HD ISO 8.8 M10X20mm PLTD	128110020	32
48	CAPSCREW SKT HD ISO 8.8 M6 X 20mm	124106020	2
49	CAPSCREW HEX HD 150 8.8 M12 X 25mm	130012025	3
50	CAPSCREW SKT HD BTN 5/16"-UNC X 1/2" S/S	214305208	3
51	WASHER LOCK M6	194006200	3
52	WASHER LOCK GR5 M10 ZINC PLATED	194010400	8
53	WASHER FLAT GR5 M12 ZINC PLATED	194412400	3
#	GREASE HIGH TEMP AEROSHELL#5 14.1ozTB-US	520010203	1
#	REPAIR KIT SERVICE VAC PUMP S440/S420	710021202	1
+	REPAIR KIT BLADE S420	710020202	1

Drum S440 Hydraulic package unit with "End" mount 4 way valve



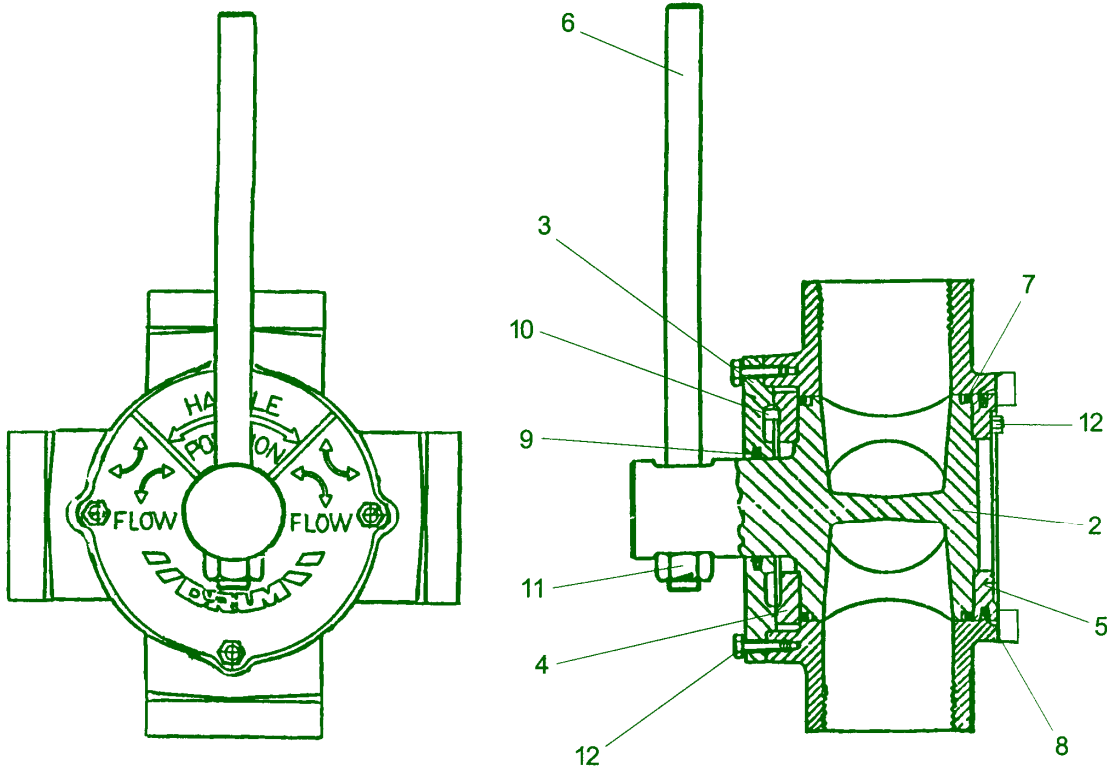
Item	Description	Part No.	QTY
1	VACUUM PUMP S440 TANK/FL/GS/FSTG	702010200	1
2	HYD TRUNK S440 w/GUARDS	505081200	1
3	COUPLER FLANGE 9S 40mm w/10mm Taper	519061200	1
4	COUPLER FLANGE 9S 1" w/1/4" KEY	519061201	1
5	COUPLER SLEEVE SIZE 9 NEOPRENE	519295200	1
6	HYD MTR GEAR ROUND 3.80ci PL ORB	300001219	1
7	HYD BUSH -20 ORBM x -12 ORBF	302132200	1
8	HYD ELB -12 ORBM x -12 JICM	302095200	1
9	HYD ELB -20 ORBM x -16 JICM	302095210	1
10	VALVE SWING CHECK 3"NPTF PORTS	705012200	1
11	RELIEF VALVE AIR HPD450 2"NPTM 25psi	705000208	1
12	VALVE REVERSE FLOW 3"NPTF PORTS	705011204	1
13	FILTER ASSY INLET SUCTION w/KIT S440	713042201	1
14	SILENCER DELY 2"NPTMx2"NPTM	539001203	1

Drum S440 Oil Tank Assembly



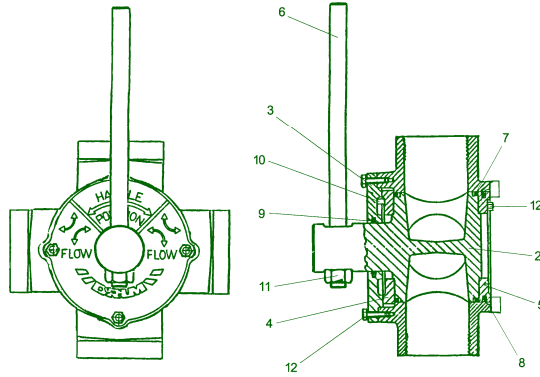
Item	Description	Part No.	QTY
1	TANK ASSY OIL S440 1.5 GAL	515012205	1
	HYD FLLR/BRTHR CAP BYNT STL w/CHAIN	309002200	1
	HYD OIL LEVEL GAUGE PLASTIC W/LOGO	307050200	1
	LABEL S440 OIL TANK ALUM SA	537000202	1
	NUT METRIC BRASS - 6MM TUBING	825080201	1
	SLEEVE METRIC BRASS - 6MM TUBING	825070201	1
	CONNECTOR 1/4" BSP X 6MM BRASS	825017200	1
	CAPSCREW SKT HD BTN 10-32 X 1/2" - S/S	212303205	6
2	PNEUMATIC TUBING WHITE NYLON 6MM	828021200	9
3	NUT METRIC STEEL - 6mm TUBING	825080206	1
4	SLEEVE METRIC STEEL - 6MM TUBING	825070204	1
5	KIT S440 LUBE PUMP w/DRIVE STUD	703050200	1
	LUBE PUMP ASSY S200/440/600	515020202	1
	BUSHING LUB PUMP S420/S440	510002201	1
	COUPLER DRIVE STUD LUB PUMP S420/440	519380201	1
	RETAINER S42/440 DRIVE DOG TAB WASHER	518020205	1
6	WASHER LOCK 6MM S/S	194006200	2
7	CAPSCREW SKT HD ISO 8.8 M6 X 20mm	124106020	2
8	ADAPTOR 1/8"BSPM x 4mm	825017202	2
9	SLEEVE METRIC BRASS 4MM TUBING	825070200	2
10	NUT METRIC BRASS 4MM TUBING	825080200	2
11	SLEEVE METRIC BRASS 4MM TUBING	825070200	2
12	NUT METRIC STEEL - 4mm TUBING	825080203	2
13	TUBING - COPPER - 4mm	828040200	3.5ft

Drum S440 Reverse Flow Valve



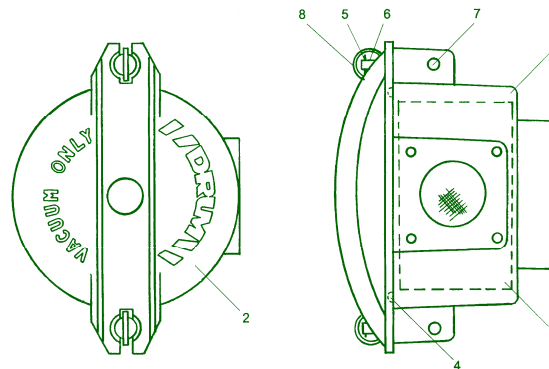
Item	Description	Part No.	QTY
1	3" REVERSE FLOW VALVE	705011204	1
2	VALVE VANE TUBULAR 3" RFV	532070200	1
3	CAP 3" REVERSE FLOW VALVE	521182200	1
4	VALVE PLATE TOP 3" RFV	532042201	1
5	VALVE PLATE BOTTOM 3" RFV	532042202	1
6	HANDLE 65mm RFV	527040200	1
7	O-RING 3" RFV VITON	522010204	2
8	SEAL RING BOT PACKING 3" RFV	513054201	1
9	SEAL RING TOP PACKING 3" RFV	513054200	1
10	PIN DOWEL GR5 8 X 20	174208020	1
11	NUT HEX JAM NYLOCK GR 5 5/8-11 PLTD	236110400	1
12	CAPSCREW HEX HD ISO 8.8 M6 X 20mm	124006420	6
13	CAPSCREW FLT HD SKT M6 X 20MM PLAIN	124206020	2

Drum S440 Reverse Flow Valve



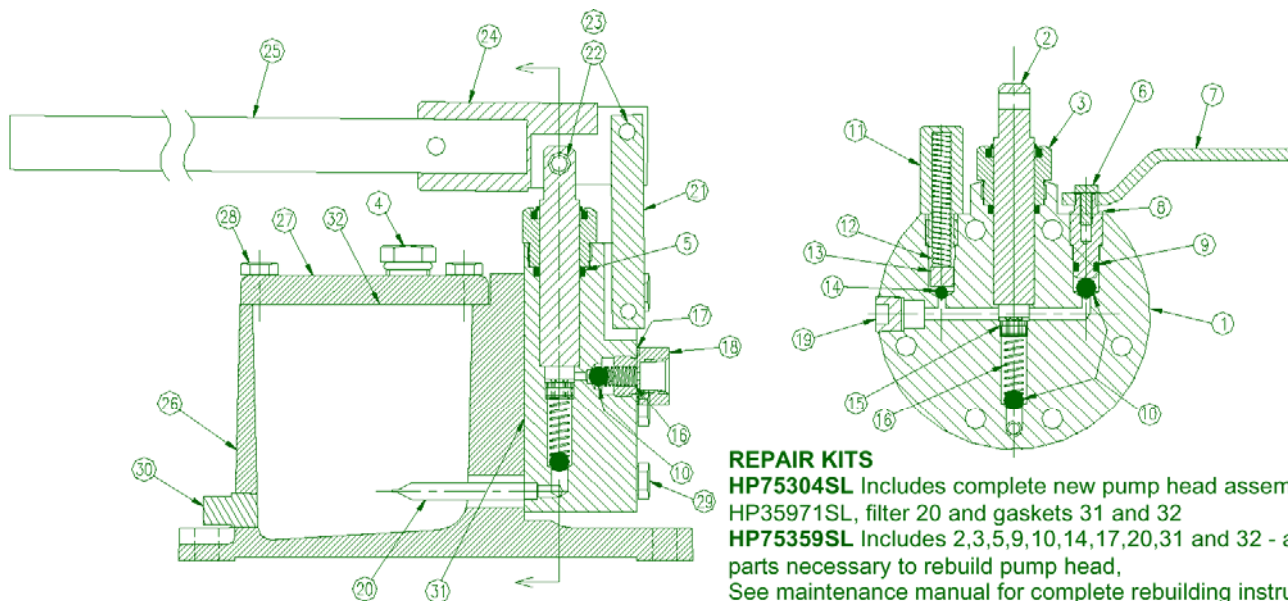
Item	Description	Part No.	QTY
1	3" REVERSE FLOW VALVE	705011204	1
2	VALVE VANE TUBULAR 3" RFV	532070200	1
3	CAP 3" REVERSE FLOW VALVE	521182200	1
4	VALVE PLATE TOP 3" RFV	532042201	1
5	VALVE PLATE BOTTOM 3" RFV	532042202	1
6	HANDLE 65mm RFV	527040200	1
7	O-RING 3" RFV VITON	522010204	2
8	SEAL RING BOT PACKING 3" RFV	513054201	1
9	SEAL RING TOP PACKING 3" RFV	513054200	1
10	PIN DOWEL GR5 8 X 20	174208020	1
11	NUT HEX JAM NYLOCK GR 5 5/8-11 PLTD	236110400	1
12	CAPSCREW HEX HD ISO 8.8 M6 X 20mm	124006420	6
13	CAPSCREW FLT HD SKT M6 X 20MM PLAIN	124206020	2

Drum S440 Suction Filter Assembly



Item	Description	Part No.	QTY
0	SUCTION FILTER ASS'Y with MOUNTING KIT	713042201	1
1	FILTER BODY SUCTION S420/600	525052200	1
2	COVER S440 SUCTION FILTER	521050200	1
3	FILTER ELEMENT ASSY SUCTION M315-0	525062200	1
4	O-RING SUCTION FILTER COVER -376 NBR	522001201	1
5	EYE NUT 1/2-13(7/8 WIDE X 2-1/2 TL)(US)	236708000	2
6	EYE BOLT SWING GR 5 1/2-13x3-3/4 w/HOLE	299090201	2
7	PIN ROLL GR 5 3/8 X 1-1/2	266106024	2
8	PIN ROLL GR5 1/8 X 1/2	266102008	2
	CAPSCREW HEX HD ISO 8.8 M10 X 25mm PLTD	128010425	4
	WASHER LOCK GR5 M10 ZINC PLATED	194010400	4
	GASKET TW1 3" E400/G130	526071200	2
	FILTER ELEMENT GAUZE SS M315-0	525062201	1

Betts Hydraulic Pump HP46982SL



REPAIR KITS

HP75304SL Includes complete new pump head assembly HP35971SL, filter 20 and gaskets 31 and 32

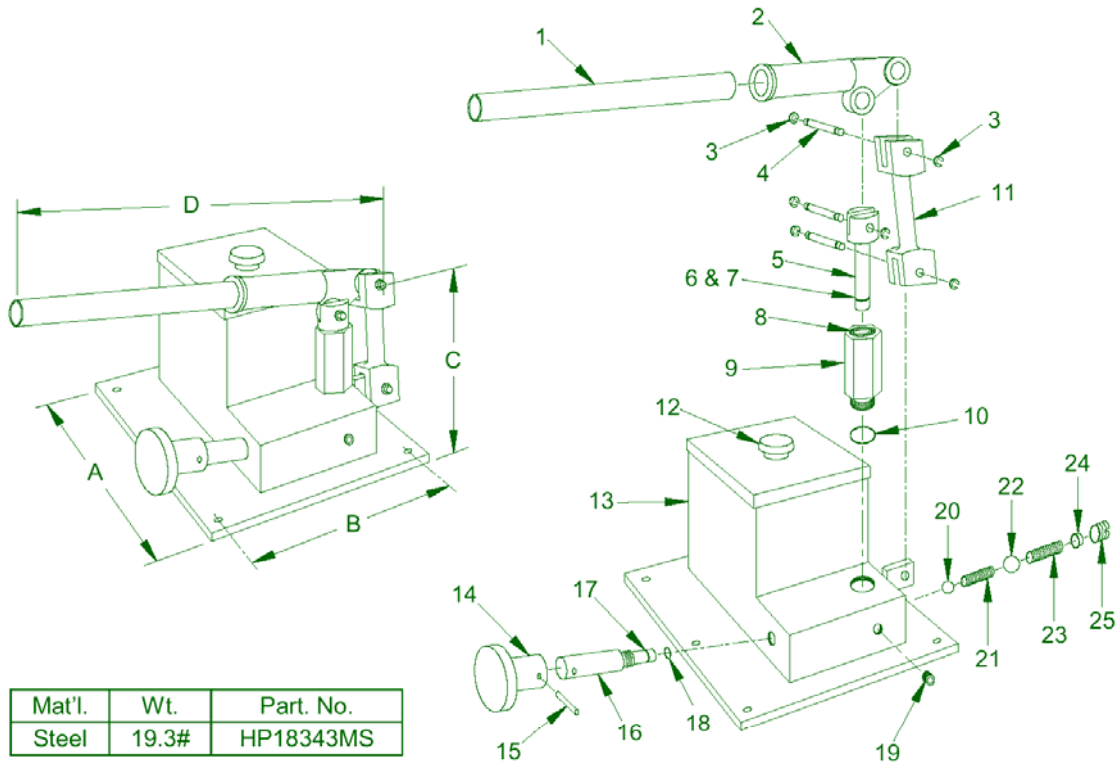
HP75359SL Includes 2,3,5,9,10,14,17,20,31 and 32 - all parts necessary to rebuild pump head,

See maintenance manual for complete rebuilding instructions

No.	Description	Req.	Material	Part No.	No.	Description	Req.	Material	Part No.
1	VALVE BLOCK	1	303 STNLS	35965SL	17	OUTLET WASHER	1	HARD FIBER	9Z6185
2	STEM	1	303 STNLS	75233SL	18	OUTLET	1	BRASS	75232BR
3	BUSHING/WIPER	1	BRASS/POLYURETHANE	75239BR	19	1/4" NPT PIPE PLUG	1	BRASS	9V4925
4	VENT PLUG	1	BRASS/VITON	75242BR	20	FILTER SCREEN	1	304 SS	75148SL
5	STEM SEAL	1	BUNA-N	17946BN	21	LINK ASSEMBLY W/PIN	1	303 SS	75234SL
6	RELEASE HANDLE SCREW	1	304 STNLS	9Q4170	22	CLEVIS PIN	2	ZINC PL STEEL	9Q4733
7	RELEASE HANDLE	1	304 STNLS	75145SL	23	E-CLIP	2	COATED STEEL	9Q4733A
8	RELEASE STEM	1	303 STNLS	75236SL	24	BEAM	1	E-COAT STEEL	75240EY
9	RELEASE STEM SEAL	1	BUNA-N	75254BN	25	HANDLE	1	GALV. STEEL	HP19165-01
10	Ø.313" BALL	3	440SS	9Z8505	26	RESERVOIR	1	POWDER COATED IRON	48973GIEY
11	BYPASS CAP	1	BRASS	75238BR	27	COVER PLATE	1	POWDER COATED IRON	75246GIEY
12	PRESSURE RELIEF SPRING	1	17-7PH STNLS	75256SL	28	5/16 CAP SCREW	4	304 SS	9Q5861
13	BYPASS PLUG	1	304 STNLS	75237SL	29	5/16 CAP SCREW	6	304 SS	9Q5975
14	Ø.188" BYPASS BALL	1	440 STNLS	9Z8507	30	3/8 NPT PLUG	1	BRASS	9V4914
15	SPRING RETAINER	1	BRASS	75298BR	31	HEAD GASKET	1	CELLULOSE FIBER	75244CF
16	BALL SPRING	2	302 STNLS	75255SL	32	COVER GASKET	1	CELLULOSE FIBER	75245CF

COMPLETE REPLACEMENT PUMP HEAD HP35971SL is fully assembled and tested and includes parts 1,2,3,5,6,7,8,9,10,11,12,13,14,15,16,17,18 and 19.

Betts Sliding Valve Hydraulic Pump



Mat'l.	Wt.	Part. No.
Steel	19.3#	HP18343MS

A	B	C	D
8" Sq.	6 ⁵ / ₈	7	14 ¹ / ₂

Piston Dia. - 3/4"
 Displacement - .66 cu. In. per stroke
 Oil Capacity - 75 cu. In.
 By Pass - Yes (5000 psi)

Item	Description	Req'd.	Part No.
1	Lever	1	HP18963
2	Socket	1	HP18915
3	Retaining Ring	6	9Q4933
4	Link Pin	3	HP18916
5	Pump Piston	1	HP18914
6	Back up Ring	1	See Kit
7	O-Ring - Piston	1	See Kit
8	Dirt Seal	1	See Kit
9	Pump Barrel	1	HP18913
10	O-Ring - Barrel	1	See Kit
11	Link	1	HP18922
12	Breather	1	HP18414
13	Reservoir		Not Saleable
14	Release Knob	1	HP18920

Item	Hydraulic Pump Parts	Req'd	Part No.
15	Roll Pin	1	9Q5826
16	Release Valve Screw	1	HP18921
17	O-Ring	1	See Kit
18	O-Ring	1	HP18964
19	Pipe Plug	1	9V8596
20	Ball 1/4 Dia.	1	9Z4854
21	Spring	1	HP18919
22	Ball 3/8 Dia.	1	HP18024
23	Spring	1	HP18918
24	Seal	1	See Kit
25	Plug	1	HP18917
	Seal Kit (Includes 6,7,8,10,17,18,24,25)		HP18415
	Pressure Relief Valve Assembly (Includes 16,17,18)		HP18923

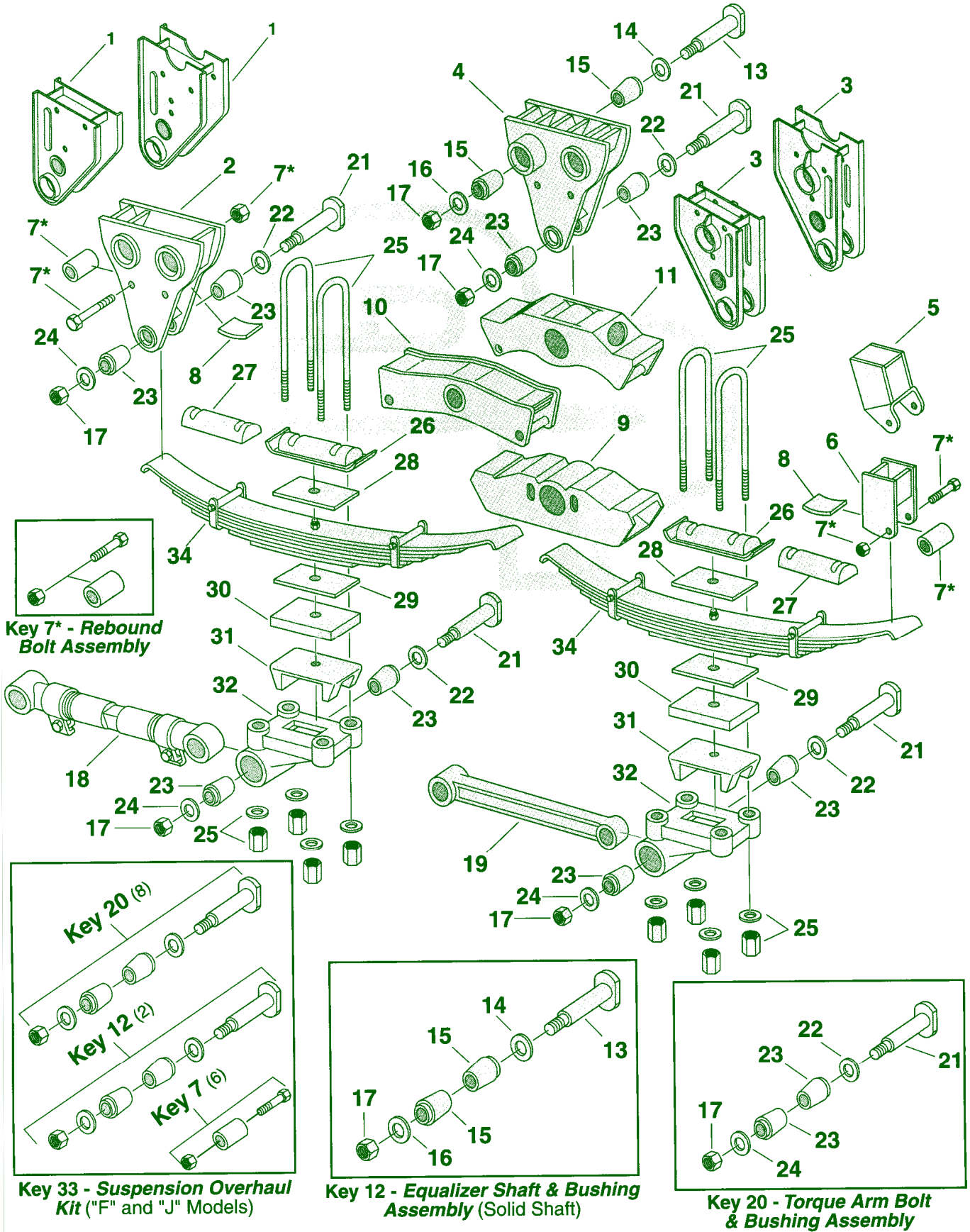
FloTech Comparison Reference Chart

FLOTECH Part #	CIVACON Part #	SCULLY Part #	DESCRIPTION
FT100	1300	09209	Replacement probe, optic, 5 wire, 7" long
FT100-12	1300S	09214	Replacement probe, optic, 5 wire, 12" long
FT101	1110	09208	Sensor, optic, 5 wire, 2" NPT housing, 7" probe
FT101-12	1110S	09213	Sensor, optic, 5 wire, 2" NPT housing with 12" probe
FT150	1650	09409	Replacement probe, thermo-optic, 7" long, 2 wire (black & white)
FT150-12	1650S	09414	Replacement probe, thermo-optic, 12" long, 2 wire (black & white)
FT151	1550	09408	Sensor, thermo-optic, 2" NPT housing, 7" probe, 2 wire (black & white)
FT151-12	1550S	09413	Sensor, thermo-optic, 2" NPT housing, 12" probe, 2 wire (black & white)
FT152	---	08819	Retain sensor
FT155	1900	08542	Thermistor dummy, 5 compartment
FT201	1350	---	Replacement R/OM type, 7" top probe, 2 wire (red & black)
FT201-12	1350S	---	Replacement R/OM type, 12" top probe, 2 wire (red & black)
FT202	1050	---	Top sensor R/OM type, 2" NPT housing, 7" probe, 2 wire (red & black)
FT202-12	---	---	Top sensor R/OM type, 2" NPT housing, 12" probe, 2 wire (red & black)
FT205	1910	---	Terminator
FT206	1000	---	Retain sensor R/OM type, ½" NPT sensor (red & black)
FLOTECH Part #	CIVACON Part #	SCULLY Part #	DESCRIPTION
FT102	3150	08563	Replacement chassis, API compatible
FT103	3100	08687	API compatible on-board monitor, with housing
FT203	3252	---	Replacement chassis, R/OM type on-board monitor
FT204	3202	---	R/OM type on-board monitor, with housing
FLOTECH Part #	CIVACON Part #	SCULLY Part #	DESCRIPTION
FT300	4100	07974	API compatible optic socket with cap (6 pin, 3 J slots)
FT301	4400	07720	API compatible thermistor socket with cap (8 pin, 2/4 J slots)
FT302	4600	08116	API compatible float socket
FT303	4200	07976	Optic pattern with thermistor J slots, and cap (6 pin, 2/4 J slots)
FT304	4401	07716	Canadian / European thermistor socket with cap (10 pin, 4 J slots)
FT305	4500	07681	Thermistor socket, J560 type
FT306	4300	08199	Optic socket, J560 type
FT310	4110	21790	API optic face plate assembly with cap
FT311	4410	20770	API thermistor face plate assembly with cap
FT314	---	20768	Canadian / European thermistor replacement face plate with cap
FT320	4150	08575	Blue optic dust cap
FT321	4450	08574	Green thermistor dust cap
FLOTECH Part #	CIVACON Part #	SCULLY Part #	DESCRIPTION
FT1004	2004	08305	API compatible 4 compartment system
FT1005	2005	08306	API compatible 5 compartment system
FT2004	3024	---	R/OM type, 4 compartment system
FT2005	3025	---	R/OM type, 5 compartment system
FT2104	3034	---	R/OM type, 4 compartment system (top only)
FT2105	3035	---	R/OM type, 5 compartment system (top only)
FLOTECH Part #	CIVACON Part #	SCULLY Part #	DESCRIPTION
FT400	2100	22056	5 conductor cable 100'
FT401	2310	27382	7 conductor cable 100'
FT402	2510	---	20 strain relief fittings, ½" NPT
FT403	---	---	30 strain relief fittings, ½" NPT
FT510	---	---	Thermistor system tester
FT520	---	---	Optic system tester

FloTech Replacement Parts

<i>Part #</i>	Description	<i>Part #</i>	Description
FT9000	Replacement sensor housing 2" NPT with cap	FT9015	Replacement contact assembly optic
FT9001	Replacement sensor gasket kit	FT9016	Replacement contact assembly thermistor
FT9002	Replacement sensor housing hardware and O-ring kit	FT9017	Plug body assembly thermistor
FT9003	Replacement on-board monitor housing	FT9018	Plug body assembly optic
FT9004	Replacement on-board monitor hardware kit	FT9019	Scully Load Anywhere face plate
FT9005	Replacement on-board benzel five wire (FT204)	FT9020	Socket pin, screw and crimp lug
FT9006	Replacement on-board benzel two wire (FT103)	FT9021	Crimp connector 100 pieces per bag
FT9007	Replacement socket rear housing	FT9022	GE RTV 103 silicone rubber sealant 2.8 oz. tube
FT9008	Replacement contact block optic	FT9023	Stripping tool for cable jacket
FT9009	Replacement contact block API thermistor	FT9024	Crimp tool for splice connections
FT9010	Replacement contact block ten pin thermistor	FT9025	Terminal pin, 14-16 AWG 100 pieces
FT9011	Replacement sensor housing cap with screws and lock washers	FT9026	Sensor housing gasket
FT9013	Replacement 4-J slot thermistor face plate optic pattern	FT9027	Sensor Viton O-ring
FT9014	Thermistor contact assembly, 8 pin	FT9028	Gasket Scully Go-Anywhere
		FT9029	J560 contact block, 7 way
		FT9030	Fuse holder with ¼ Amp fuse
		FT9031	Fuse holder with ½ Amp fuse
		FT9032	Socket gasket

Fruehauf "F" Series Trailer Four Spring Suspension



Key Numbers with an asterisk (*) indicate a kit or assembly.

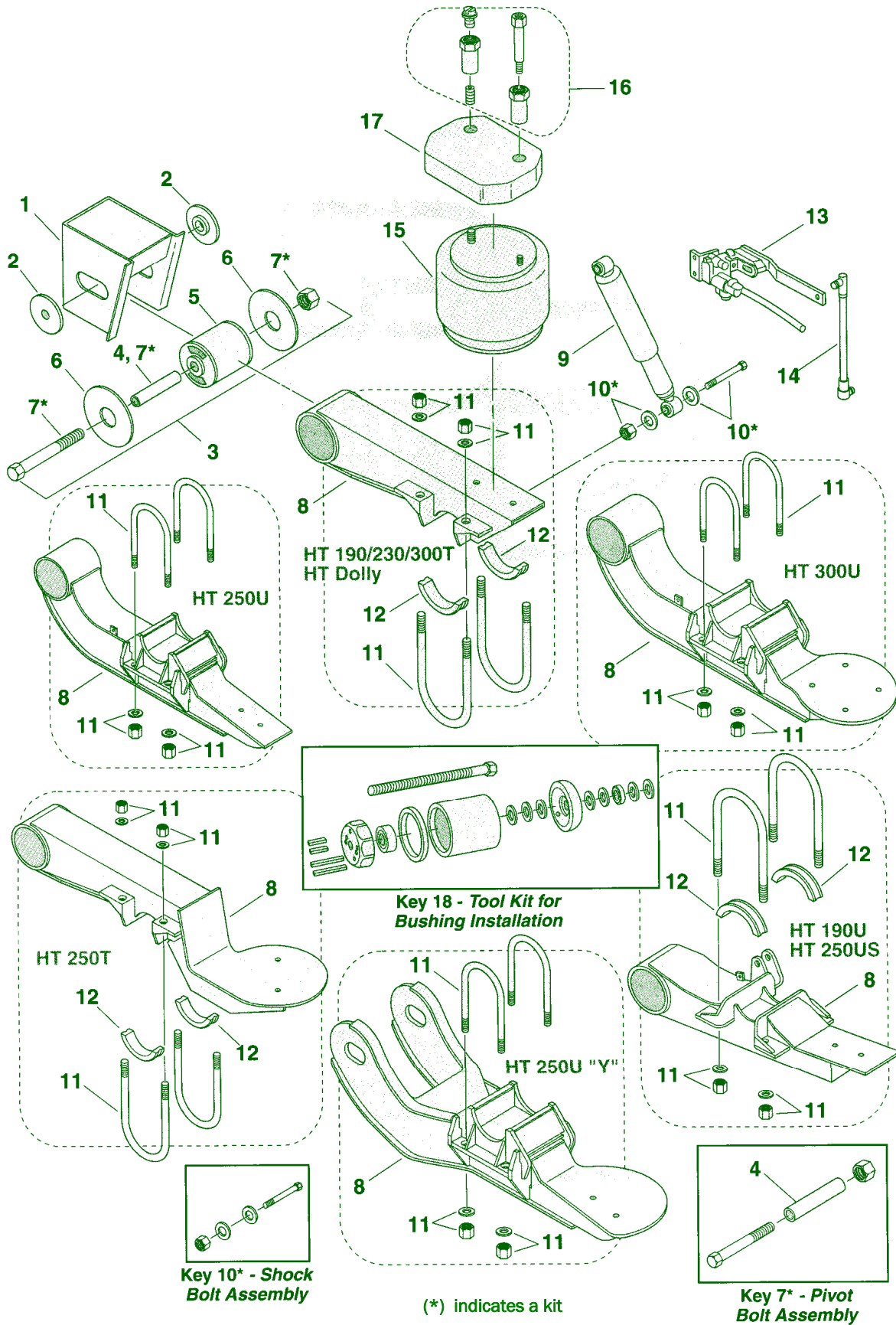
Fruehauf "F" Series Trailer Four Spring Suspension

Key No.	Part Number	Description	No. Req.	OEM Reference	Remarks
1	338-1097	Hanger, Straddlemount	2	UCF002473-001	
	338-1100	Hanger, Undermount	2	UCF002467-001	
2	338-1103	Hanger, Undermount	2	UCF001466-001	Wide-Base Type
3	338-1098	Hanger, Straddlemount	2	UXA000021	
	338-1101	Hanger, Undermount	2	UXA000034	
4	338-1104	Hanger, Undermount	2	UCE007746-001	Wide-Base Type
5	338-1099	Hanger, Straddlemount	2	UCF002471-001	
	338-1102	Hanger, Undermount	2	UCF002470-001	
	338-1370	Hanger, Undermount	2	UCF005858-001	Heavy Duty Fabricated
6	338-1105	Hanger, Undermount	2	UCE007745-001	Wide-Base Type
7	334-672	Bolt Assembly, Rebound; 5/8"-18 x 5 1/4"Lg.	AR		Incl. Bolt, 3 3/8"Lg. Tube and Hdwe.
8	334-998	Wear Pad	AR	UCE007740-001	Wide Base Hangers
9	338-715	Equalizer; Cast Steel	2	UXA000017	Use w/Multi Leaf Springs
10	338-1106	Equalizer, Fabricated	2	UCF001463-001	Service Only
	338-1638	Equalizer, Fabricated; 30"Lg.	2	UYC005509-001	Replaces Fabricated Equalizer Assembly w/UXA0051 Cast Ends
11	338-1096	Equalizer Assembly; Ductile Iron	2	UCF006963-001	Use w/1, 3 or 4 Leaf Springs Only
12	334-452A	Shaft & Bushing Assembly	2	UXA000004-900	Incl. 334-453A Shaft, Bushings and Hdwe.
13	334-453A	Shaft, 2"OD x 10 3/16"Lg., 1"-14 Thread	2	UXA000015-001	
14	334-454	Washer, Flat; 2"ID x 4"OD x 1/16"Thk.	2	UXA000356-002	
15	321-190	Bushing; 2"ID x 3 1/2"OD x 4 3/8"Lg.	4	UXA000004	
	321-190U	Bushing, Urethane	4		
16	334-455	Washer, Compression; 1 1/6"ID x 4"OD x 1/4"Thk.	2	UXA000003	
17	SLN-107	Lock Nut; 1"-14	AR	FSP006-02PK9	
18	345-201	Torque Rod, Adjustable; 14 3/4"-16 3/8"	2	UCF002460-001	Use 321-177 Bushings, Not Included
	345-239	Torque Rod, Adjustable; 11 7/8"-13 3/8"	2	UCF002640-004	Use 321-177 Bushings, Not Included
19	345-202	Torque Rod, Rigid; 15 1/2"	2	UXA000026-001	Use 321-177 Bushings, Not Included
20	334-565	Service Kit, Torque Rod Bolt & Bushing	8	UXA000011-900	Incl. 321-177 Bushings, 334-566 Bolt, Washers & Hdwe.
21	334-566	Bolt, Torque Rod; 1 1/4" x 6", 1"-14 Thread	8	UXA000016	
22	334-567	Washer, Flat; 1 5/16"ID x 2 1/2"OD x 1/16"Thk.	8	UXA000356-001	Can Use SFW-125
23	321-177	Bushing; 1 1/4"ID x 2 3/16"OD x 1 3/4"Hgt.	16	UXA000011	W/Nylon Sleeve
	321-177U	Bushing, Urethane	16		
24	334-568	Washer, Compression; 1 1/16"ID x 2 1/2"OD x 1/4"Thk.	8	UXA000002	
25	361-248	U-Bolt Kit; Round Bend, Grade 5	8	UXA000046-916	7/8" x 3" x 12 1/2" R
	361-218	U-Bolt Kit; Round Bend, Grade 5	8		7/8" x 3" x 14 1/2" R
	361-250	U-Bolt Kit; Round Bend, Grade 5	8	UXA000046-918	7/8" x 3" x 18-1/2" R
26	338-1107	Saddle, U-Bolt; Fabricated	4	UCE008801-001	
27	338-1108	Saddle, U-bolt; Cast	4	UCC005998-001	
	338-1635	Saddle, U-Bolt; Cast	4	UCD007607-001	Multi-Leaf Spring
28	GL-295	Liner; 2 7/8" x 8"Lg w/7/8" Hole	4		Install on Tension (Top) Side of Springs
29	334-999	Plate; 3" x 6 1/2" x 1/8"	4	UCC004365-001	Mono Leaf Spring
30	338-397	Spacer; 3"W x 7"Lg. x 3/4"Thk., 13/16" Hole	AR	UCD004502-001	
	338-1109	Spacer; 1 1/2"Thk.	AR	UXA000048	
31	338-1110	Seat; 5" Round Axle	4	ACF008391-001	
	338-1111	Seat; 5" Square Axle	4	AXA000512-001	
32	338-1112	Bracket, Torque Rod/Axle; 5" Round Axle	4	UXA000028	
	338-1113	Bracket, Torque Rod/Axle; 5" Square Axles	4	AXA000495-001	Standard
	338-1636	Bracket, Torque Rod/Axle; 5" Square Axles	4	UCC004921-001	Low Mount
	338-1238	Bracket, Torque Rod/Axle; 5" Square Axle	4	UCC004920-001	No Hop
33	339-153	Maintenance Kit; "F" & "J" Models	1	UCC002170-901	Incl. (8) 334-565, (2) 334-452A, (6) 334-672
34	—	Spring Assembly			See Catalog 215 for Details

Hendrickson Trailer Suspension

HK/HS 190/230

HT 190/230/250/300



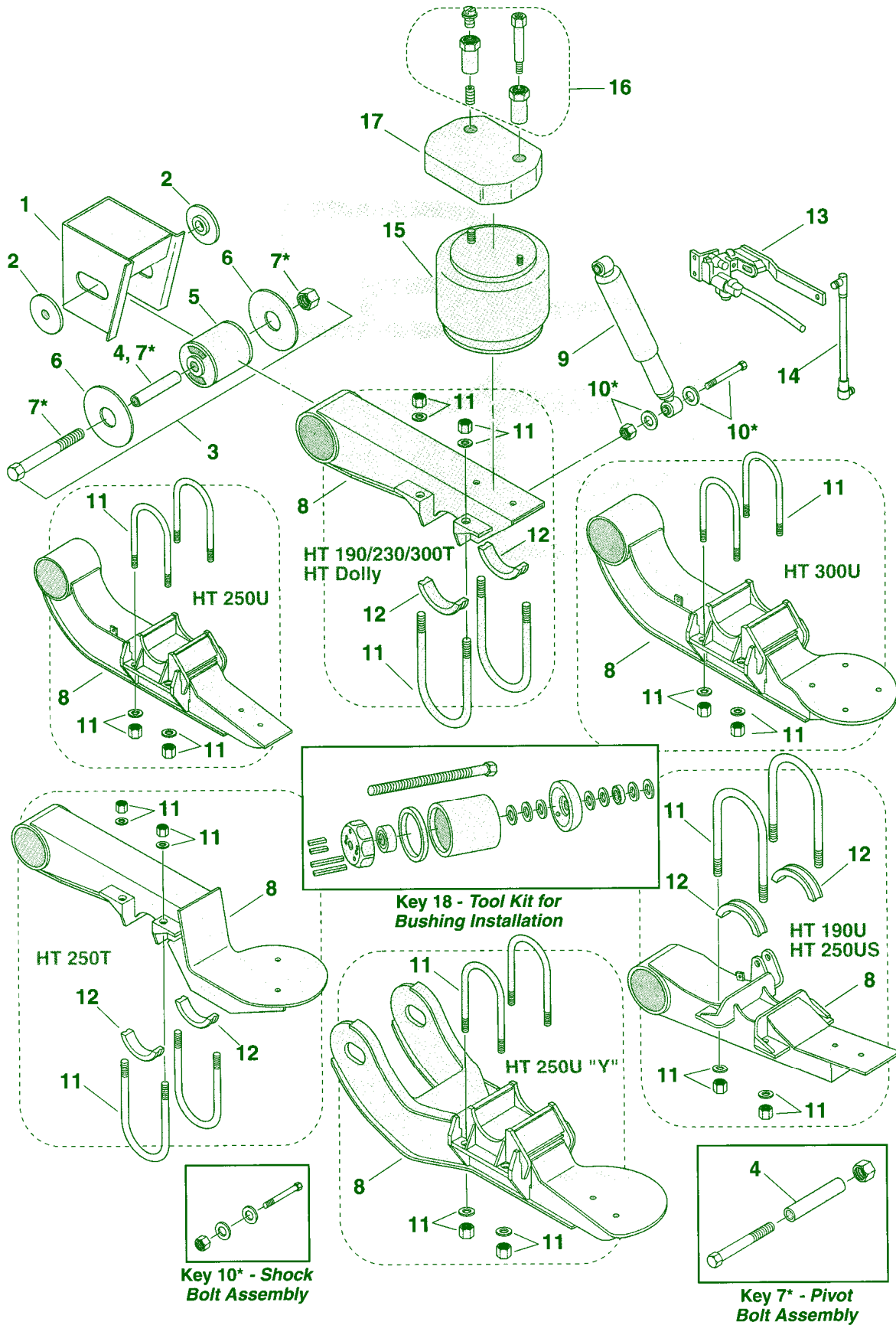
Hendrickson Trailer Suspension
HK/HS 190/230
HT 190/230/250/300

Key No.	Part Number	Description	No. Req.	OEM Reference	Remarks
1	SP	Frame Bracket	2		Specify model, mounting ht, curb/road side, welded or QUIK-ALIGN®
2	334-836	Collar, Alignment	4	S-20700	HT-190
	334-822	Collar, Alignment	4	S-2770, B-2770	HK/HS/HT190T, 190U, 230T, 250T/U, 300T/U
	334-1141	Collar, Alignment	4	S-7349	HT250U-Y
	334-1574	Collar, Concentric Alignment	2	S-20924, S-20924	QUIK-ALIGN-; Nipple is centered
	334-1573	Collar, Eccentric Alignment	2	S-20925, S-20925	QUIK-ALIGN-; Nipple is offset
3	334-658	Service Kit, Tri-Functional II® Bushing; Welded Alignment	2	S-6914	All Ex. HT250U-Y & HT-Dolly
	SP	Tri-Functional® Bushing Kit, Welded Alignment	2	S-13136	HT250U-Y; Incl. Bushing, Pivot Bolt Kit & Wear Washers
	SP	Tri-Functional® Bushing Kit, Welded Alignment	2	S-24622	HT Dolly; Incl. Bushing, Pivot Bolt Kit & Wear Washers
	334-1576	Service Kit, Tri-Functional II® Bushing w/QUIK-ALIGN®	2	S-21166, S-24691	Incl. Bushing, Pivot Bolt Kit & Wear Washers
	SP	Tri-Functional® Bushing Kit, Welded Alignment	2	S-24594	HT250U-Y; Incl. Bushing, Pivot Bolt Kit & Wear Washers
	334-1812	Tri-Functional® Bushing Kit, Welded Alignment	2	S-24681, S-24112	HT Dolly; Incl. Bushing, Pivot Bolt Kit & Wear Washers
4	334-1134	Tube Sleeve	2	A-2068-1	Sleeve, Delrin; 1 1/8"ID x 1 1/4"OD x 6 3/4"Lg.
5	334-1140	Bushing, "Y" Beam	2	S-7343	HT250U-Y
	SP	Y-Beam Bushing, QUIK-ALIGN®	2	S-23349	HT250U-Y
6	334-898	Washer; 2 3/8"ID x 7 1/4"OD x 3/16"Thk.	2	S-11613	
	334-1810	Washer, High Control	4	S-21099, B-21099	HTDOLLY
7	334-837	Bolt Assembly, Pivot; 1 1/8"-7 x 9 3/4"Lg.	2	S-3646	Incl. Bolt, Sleeve and Hdwe.; Welded Alignment; All Ex. HT250U-Y
	334-1142	Bolt Assembly, Welded Alignment	2	S-7345	Incl. Bolt, Delrin Tube and Hdwe.; Welded Alignment; HT250U-Y
	334-1579	Service Kit, Quik-Align® Bolt Assembly; 10 1/2"Lg. Bolt	2	S-22597	Incl. Bolt, Torq-Rite« Nut and Washers
	SP	Pivot Bolt Assembly, QUIK-ALIGN™	2	S-24593	HT250U-Y
8	SP	Beam, Assembly, LH/RH	2		Specify Model, Mounting Height, Location, Welded or QUIK-ALIGN-
9	M65416	Shock Absorber	2	S-20002, S-20126	See shock catalog for additional applications
	M65419	Shock Absorber	2	S-20001	See shock catalog for additional applications
	M66886	Shock Absorber	2	S-2160	See shock catalog for additional applications
	M65451	Shock Absorber	2	S-2212	See shock catalog for additional applications
	M66607	Shock Absorber	2	S-21292, S-23650	See shock catalog for additional applications
	SP	Shock Absorber	2	S-23649	
	M66627	Shock Absorber	2	S-23651	See shock catalog for additional applications
	SP	Shock Absorber	2	S-24579	
	SP	Shock Absorber	2	S-23743	
10	334-1103	Bolt Assembly; 3/4"-10 x 3"Lg.	2	S-20031, A-20031	Incl. Bolt and Hdwe.; HT190/230/250T/300T/HTDolly
	334-1105	Bolt Assembly, 3/4"-10 x 3 1/2"Lg.	2	S-2157/2	Incl. Bolt and Hdwe.; 190U, 230, 250U, 250U-Y, 300
	SP	Shock Bolt Assembly	2	S-20218/2	HT190
	334-1632	Bolt Assembly, Shock	2	S-24024, S-23845	1 per shock

Hendrickson Trailer Suspension

HK/HS 190/230

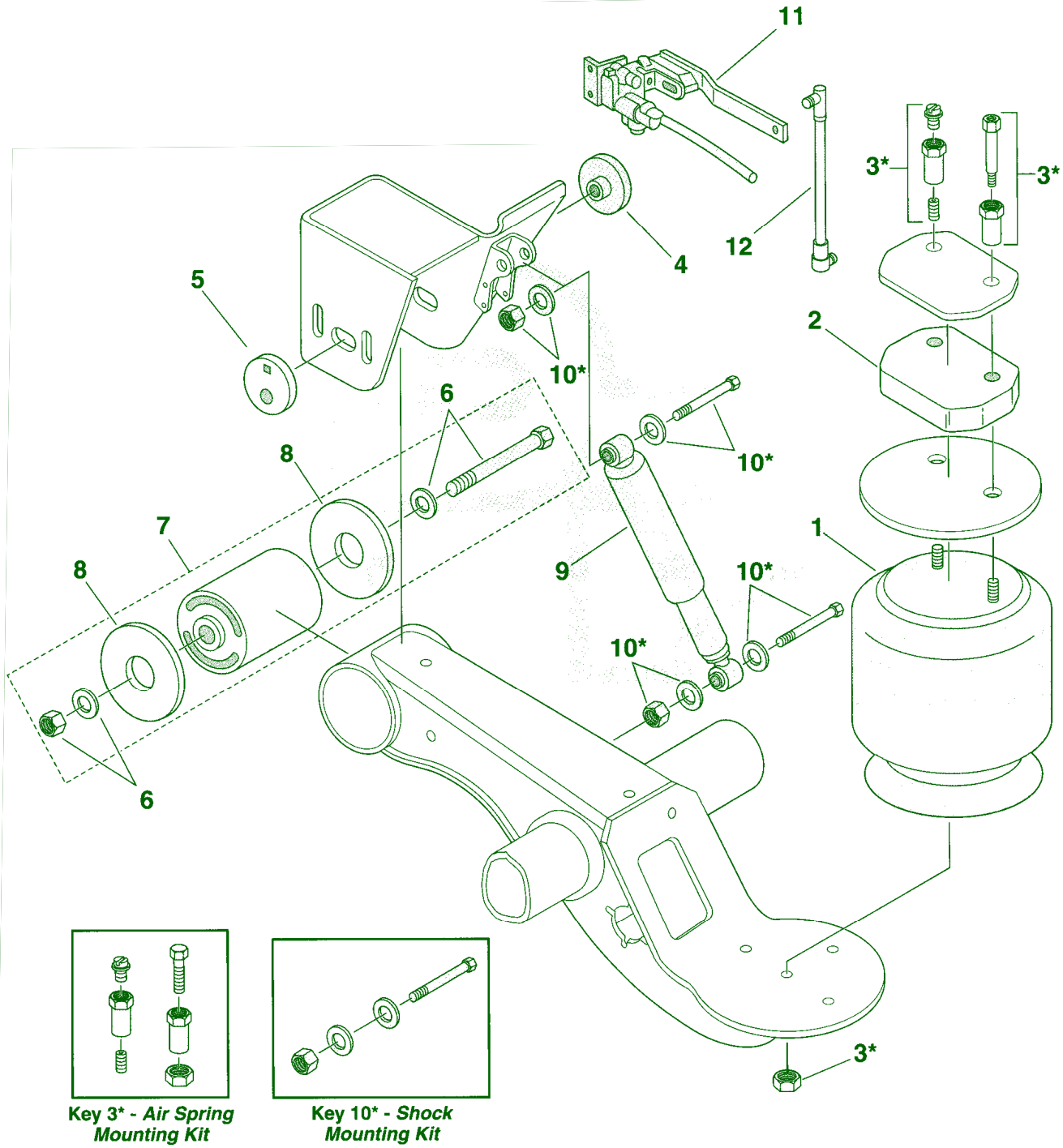
HT 190/230/250/300



Hendrickson Trailer Suspension
HK/HS 190/230
HT 190/230/250/300

Key No.	Part Number	Description	No. Req.	OEM Reference	Remarks
11	361-470	U-Bolt Kit; Round Bend, Grade 8	4	S-20032	190/190U/230/250US/300T/HTDolly/HK Sliders; 7/8" x 6" x 8 5/8" R
	361-471	U-Bolt Kit; Round Bend, Grade 8	4	S-3650	250U/250U-Y/300U; 7/8" x 5 1/8" x 9 7/8" R
	SP	U-Bolt Assembly, Round Bend, Grade 8, Forged	4	S-20306	190U
	SP	U-Bolt Assembly, Round Bend, Grade 8, Forged	4	S-22894	250US
	SP	U-Bolt Assembly, Round Bend, Grade 8	4	S-21207	250T
12	334-1137	Spacer	4	S-20701, A-20701	
13	334-750	Valve, Height Control; Universal	1	H00450CA	Hadley - Model 450HCV
	334-1647	Valve, Height Control; Universal	1	H00450CA	
14	334-751	Linkage Assembly, Universal Adjustable	1	HPB450-3	3 5/8"-19 5/8" Range; Use with all Height Control Valves
15	S-22045	Air Spring	2	S-22045	HK190T; 1R13-124
	S-22046	Air Spring	2	S-22046	HK230; 1R13-124
	S-20223	Air Spring	2	S-20223	HS190T, HT190; 1R12-367
	S-20010	Air Spring	2	S-20010	HS230, HT190/230; 1R13-119
	S-20217	Air Spring	2	S-20217	HT190U; 1R12-366
	S-20124	Air Spring	2	S-20124	HT250T, U, U-Y, US; 1R12-375
	S-20127	Air Spring	2	S-20127	HT250U, U-Y, US; 1R13-118
	S-20716	Air Spring	2	S-20716	HT250U/US
	S-20414	Air Spring	2	S-20414	HT250U, U-Y, US; 1R13-118-rotate piston
	S-20413	Air Spring	2	S-20413	HT250T, U, U-Y, US; 1R12-375-rotate piston
16	334-1813	Service Kit, Air Spring Mounting	2	S-22907/2	HK190T/230, 16" ride height, no spacer
	334-1814	Service Kit, Air Spring Mounting	2	S-22908/2	HK190T/230, 16 1/2"-17" ride hgt., 3/4" spacer
	334-1815	Service Kit, Air Spring Mounting	2	S-22909/2	HK190T/230, 18" ride height, 1 7/8" spacer
	334-1816	Service Kit, Air Spring Mounting	2	S-22910/2	HK190T/230, 19" ride height, 3 1/8" spacer
17	334-1805	Spacer, Plastic Air Spring; 3/4"	2	B-22510-4	HK
	334-1803	Spacer, Plastic Air Spring; 1 7/8"	2	B-22510-2	HK
	334-1804	Spacer, Plastic Air Spring; 3 1/8"	2	B-22510-3	HK
18	334-936	Tool, Bushing Installation	1	S-21307	Required To Properly Service Tri-Functional® Bushings

Hendrickson Trailer Suspension
Intraxx AA230L/250L
Trailer Air Suspension

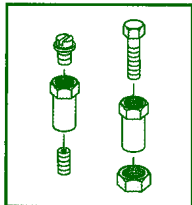
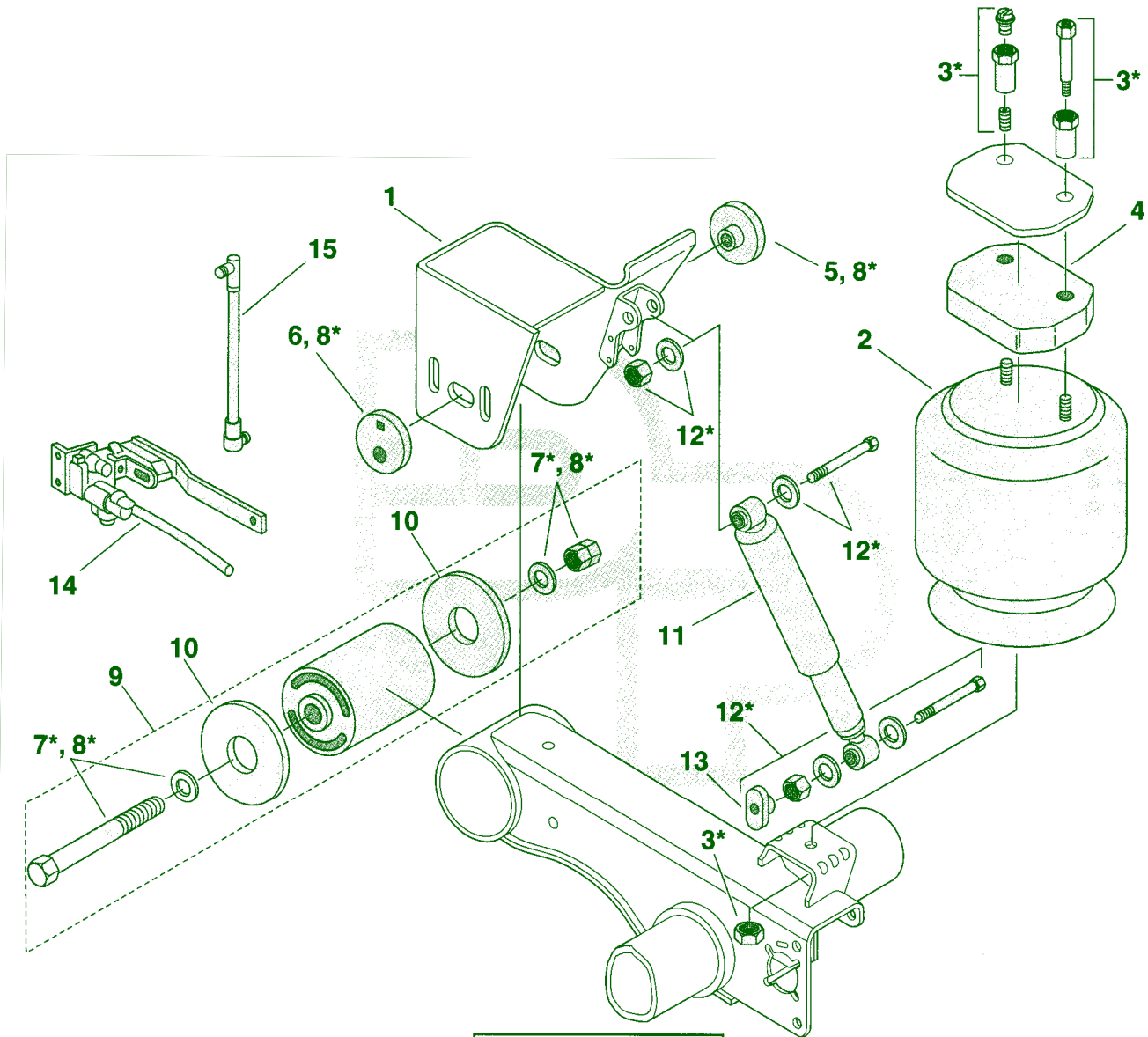


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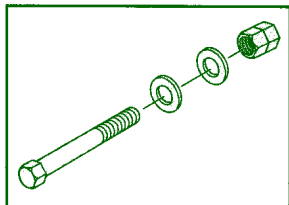
Hendrickson Trailer Suspension
Intraxx AA230L/250L
Trailer Air Suspension

Key No.	Part Number	Description	No. Req.	OEM Reference	Remarks
1	S-21800	Air Spring	2	S-21800, S-20900	AA230, 1R13-159
	S-21966	Air Spring	2	S-21966	AA230, 1R13-177
	S-23613	Air Spring	2	S-23613	AA230L
	S-23614	Air Spring	2	S-23614	AA230L
	S-23720	Air Spring	2	S-23720	AA230L
	S-20901	Air Spring	2	S-20901, S-21784	AA250, 1R14-171
	S-23611	Air Spring	2	S-23611	AA250L
	S-23612	Air Spring	2	S-23612	AA250L
	S-23721	Air Spring	2	S-23721	AA250L
2	334-1805	Spacer, Plastic Air Spring; ¾"	2	B-22510-4,	
	334-1802	Spacer, Plastic Air Spring; 1 ⅛"	2	B-22510-1,	
	334-1803	Spacer, Plastic Air Spring; 1 ⅞"	2	B-22510-2,	
	334-1804	Spacer, Plastic Air Spring; 3 ⅛"	2	B-22510-3,	
	SP	Spacer, Steel Air Spring	2	Various	Specify weld on/bolt on & thickness
3	SP	Mounting Kit, Air Spring	2	22619/2	w/o spacer and all steel spacers
	334-1631	Mounting Kit, Air spring	2	S-22635/2	Units w ¾" Plastic Spacer
	334-1629	Mounting Kit, Air spring	2	S-22630/2	Units w/ 1 ⅛" Plastic Spacers
	334-1630	Mounting Kit, Air spring	2	S-22631/2	Units w/ 1 ⅞" Plastic Spacer
	334-1702	Mounting Kit, Air Spring	2	S-22632/2	Units w/ 3 ⅛" Plastic Spacer
4	334-1574	Collar, Concentric Alignment	2	C-20924	Nipple is in Center of Collar
5	334-1573	Collar, Eccentric Alignment	2	C-20925	Nipple is Offset From Center of Collar
6	334-1579	Service Kit, Quik-AlignT Bolt Assembly; 10 ½"Lg. Bolt	2	S-22597	Incl. Bolt, Torq-Rite® Nut and Washers
7	334-1576	Service Kit, Tri-Functional II« Bushing w/QUIK-ALIGN«	2	S-21166	Incl. Bushing, Pivot Bolt Kit & Wear Washers
8	334-898	Washer; 2 ¾"ID x 7 ¼"OD x ¾"Thk.	4	S-11613	
9	SP	Shock Absorber	2	Various	Specify Standard or Extended Service and Ride Height
10	SP	Shock Mounting Kit	2	S-24757/2	
11	334-750	Valve, Height Control; Universal	1		
	334-1647	Valve, Height Control - Universal	1	VS-227	
12	334-751	Linkage Assembly, Universal Adjustable	1		
13	334-936	Tool, Bushing Installation	1	S-21307	Required To Properly Service Tri-Functional® Bushings

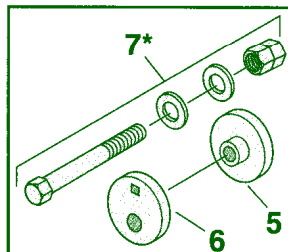
Hendrickson Trailer Suspension
Intrax/Vantraxx AA230/250T, HKA180/200/250
Trailer Air Suspension



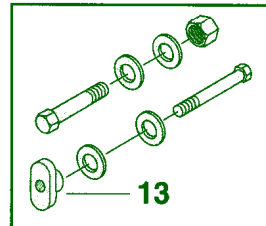
Key 4* - Air Spring Mounting Kit



Key 7* - Service Kit, Quick-Align™ Bolt Assembly



Key 8* - Service Kit, Alignment



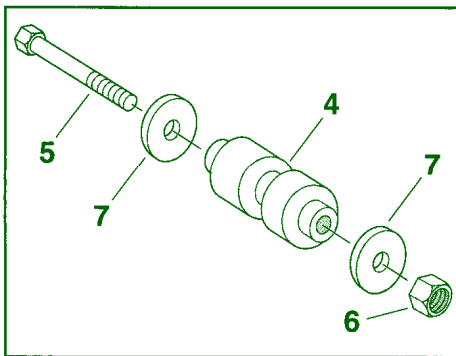
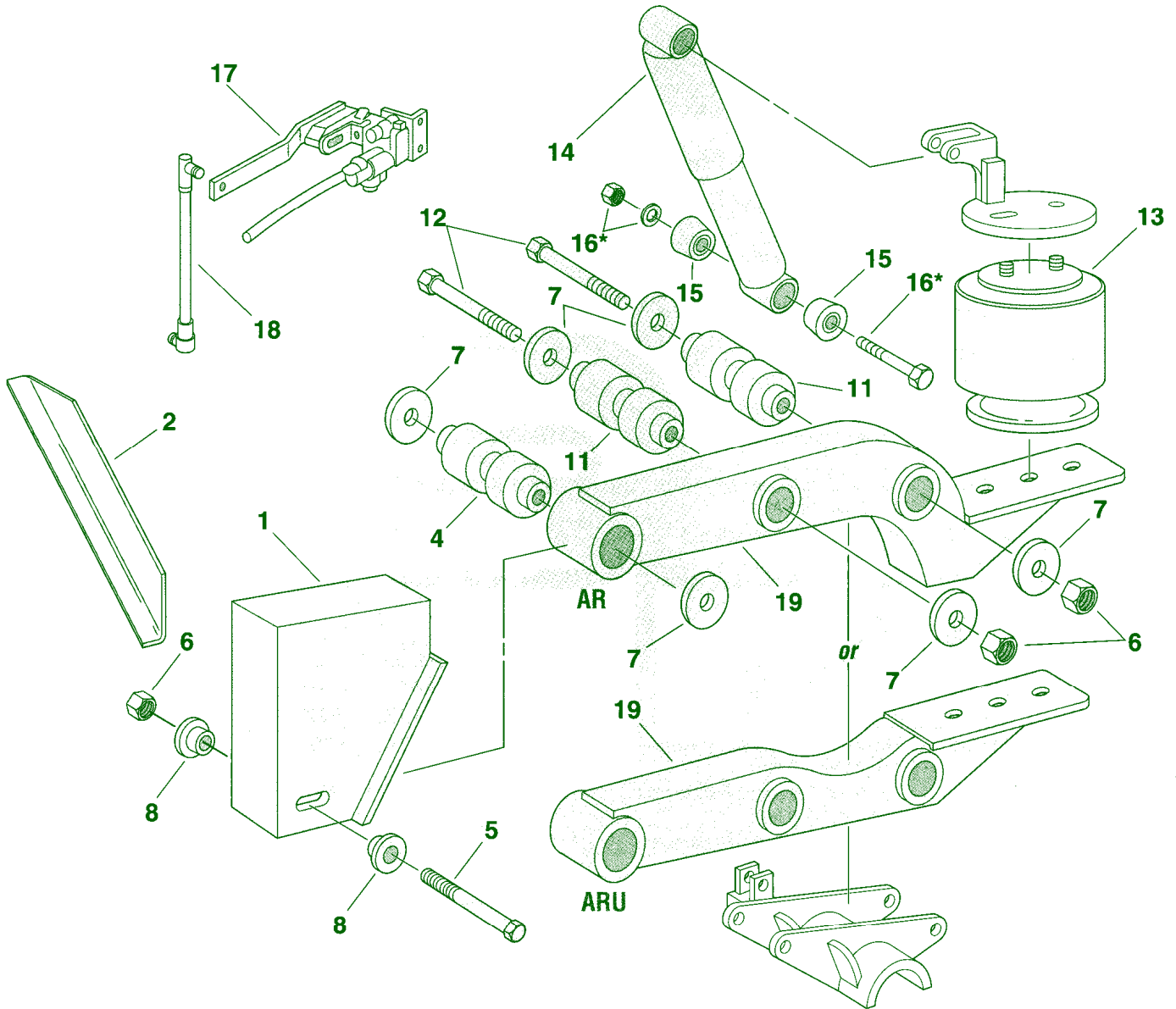
Key 12* - Shock Mounting Kit

(*) indicates a kit

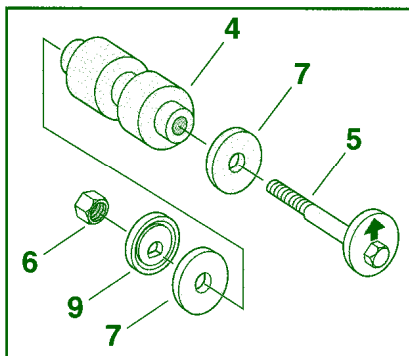
Hendrickson Trailer Suspension
Intrax/Vantraxx AA230/250T, HKA180/200/250
Trailer Air Suspension

Key No.	Part Number	Description	No. Req.	OEM Reference	Remarks
1	SP	Frame Bracket, LH/RH	2	Various	Specify Model, Mounting Height & Location
2	S-20901	Air Spring	2	S-20901, S-21784	AA250, HKA250
	S-21800	Air Spring	2	S-21800, S-20900	AA200/230, HIK, HIS, HKA180; AA230; 1R13-159
	S-21966	Air Spring	2	S-21966	HKA200; 1R13-177
	S-22948	Air Spring	2	S-22948	HKA180 Vantraax, 16" to 19" ride height
3	334-1629	Mounting Kit, Air spring	2	S-22630/2	Use w/ 1 1/8" Spacers
	334-1630	Mounting Kit, Air spring	2	S-22631/2	Use w/ 1 7/8" Spacers
	334-1631	Mounting Kit, Air spring	2	S-22635/2	HKA180 -14" & 18" Ride Heights
	334-1702	Mounting Kit, Air Spring	2	S-22632/2	Units w/ 3 1/8" Plastic Spacer
	SP		2	S-22619/2	No spacer or steel spacers
4	334-1805	Spacer, Plastic Air Spring; 3/4"	2	B-22510-4	AA230T/250T, HKA180/200/250
	334-1802	Spacer, Plastic Air Spring; 1 1/8"	2	B-22510-1	HKA180
	334-1803	Spacer, Plastic Air Spring; 1 7/8"	2	B-22510-2	AA230T/250T, HKA180/200/250
	334-1804	Spacer, Plastic Air Spring; 3 1/8"	2	B-22510-3	AA230T/250T, HKA180/200/250
	◆	Spacer, Steel Air Spring	2	Various	Specify weld on bolt on & thickness
5	334-1574	Collar, Concentric Alignment	2	C-20924	Inboard; Nipple is in Center of Collar
6	334-1573	Collar, Eccentric Alignment	2	C-20925	Outboard; Nipple is Offset From Center of Collar
7	334-1579	Service Kit, Quik-AlignT Bolt Assembly; 10 1/2"Lg. Bolt	2	S-24679, S-22597	Incl. Bolt and Hardware
	334-1637	Service Kit, QUIK-ALIGN Pivot Bolt; 7"Lg. Bolt	2	S-24705, S-23319	HKA180 Vantraax
8	334-1627	Service Kit, Alignment	2	S-24680	Incl. 334-1579 & Alignment Collars
9	334-1576	Service Kit, Tri-Functional II® Bushing w/QUIK-ALIGN®	2	S-24691, S-21166	AA230/250, HKA200/250; Incl. Bushing, Pivot Bolt Kit & Wear Washers
	334-1812	Tri-Functional II® Bushing Kit, High Control	2	S-24681, S-24112	AA230/250; Incl. Bushing, Pivot Bolt Kit, Wear Pads & Lube
	334-1628	Retrofit Kit, Tri-Functional III® Bushing; 7"	1	S-26321	HKA180, Incl. 2 Bushings, Pivot Bolt Kits, Wear Pads & Lube
10	334-898	Washer; 2 3/8"ID x 7 1/4"OD x 3/16"Thk.	4	S-11613	AA230/250; HKA180/200/250
	334-1810	Wear Washer, High Control	4	B-21099	AA230/250
11	M65416	Shock Absorber	2	S-24125, S-20002	
	SP	Shock Absorber	2	Various	Specify model, ride ht, high dampening, extended service etc.
12	334-1666	Bolt Assembly, Shock Absorber	2	S-24021	Incl. Spacer, AA230/250T after 8/11/95. HKA200/250
	SP	Shock Mounting Kit	2	S-24049/2	HKA180
	SP	Shock Bolt Kit	2	Various	Specify suspension model
13	334-1667	Spacer, Shock Absorber	2	S-27196, S-25990	
14	334-750	Valve, Height Control; Universal	1	H00450CA	
	334-1647	Valve, Height Control; Universal	1	VS-227	
15	334-751	Linkage Assembly, Universal Adjustable		HPB450-3	3 5/8"-19 5/8" Range; Use with all Height Control Valves
16	334-936	Tool, Bushing Installation	1	S-21307	All Exc. HKA180; Required To Properly Service Tri-Functional® Bushings
	SP	Bushing Installation Tool	1	S-24736	HKA180; Required to Properly Service Tri-Functional® Bushings

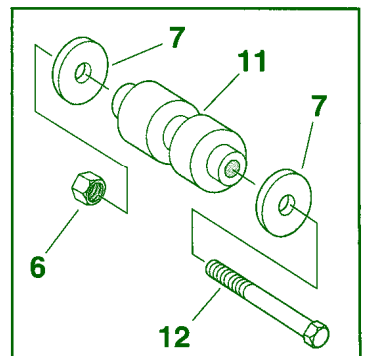
Neway
AR90/90-1/92/93/250, ARU92/93
Trailer Air Suspension



Key 3* - Pivot Connection Kit



Key 3* - Pivot Connection Kit,
EZ-ALIGN®



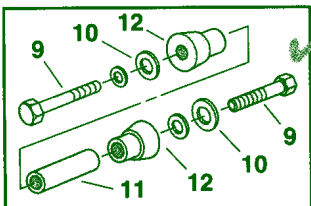
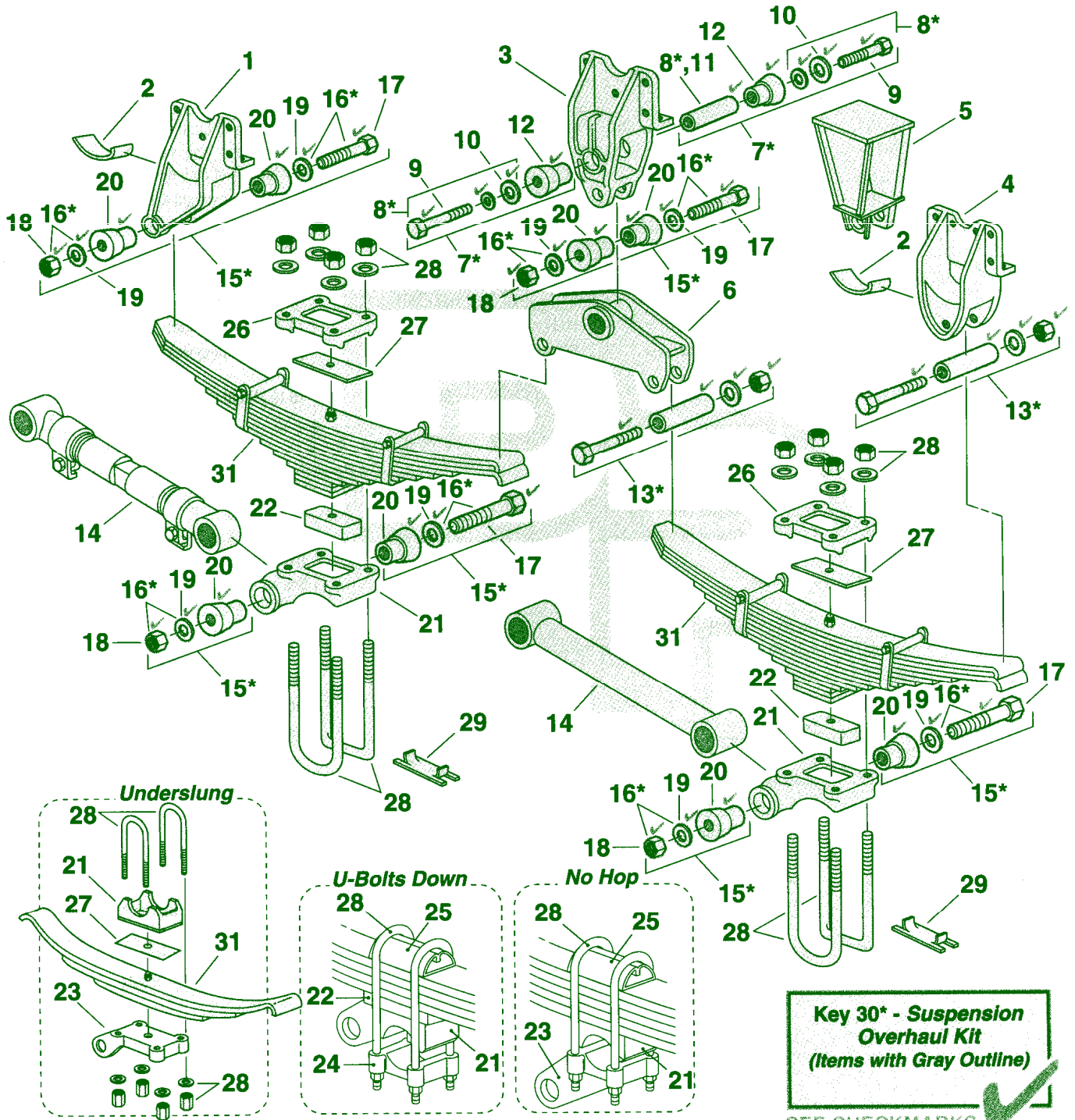
Key 10* - Axle Connection Kit

(*) indicates a kit

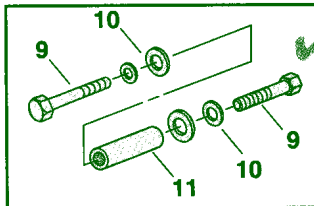
Neway
AR90/90-1/92/93/250, ARU92/93
Trailer Air Suspension

Key No.	Part Number	Description	No. Req.	OEM Reference	Remarks
1	338-1874	Bracket, Adjustable	2	905 19 710	AR90-14/15, AR90-1-14/15, AR92/93-15, ARU92-9, ARU93-8/9, AR250-14/15
2	338-1875	Brace	AR	900 23 002	AR90-14/15, AR90-1-12/14/15, AR92/93-14/15, ARU92-8/9, ARU93-7/8/9, AR250-12/14/15
3	334-612	Service Kit, Pivot Connection	1	481 00 202, SRK-145	Incl. 321-229 Bushings & Hdwe. for (2) Beam Ends
	339-261	Service Kit, Pivot Connection Alignment - EZ-ALIGN	1	481 00 294, SRK-232	AR250
4	321-229	Bushing; 1 1/8"ID x 3 1/2"OD x 5 1/4"Lg.	2	900 08 139	
	321-229U	Bushing, Urethane	2		
5	334-605	Bolt; 1 1/8"-7 x 9 1/4"Lg.	2	932 01 055, 932 01 046	
	334-1786	Bolt Assembly; EZ-ALIGN	1	905 08 009	AR250
6	334-375	Nut, Lock; 1 1/8"-7	6	934 00 506	
7	334-596	Spacer; 1 1/8"ID x 4"OD x 1/4"Thk.	12	900 36 140	
8	334-600	Collar, Alignment; 1 1/8"ID x 3 1/4"OD x 7/8"Thk.	4	900 08 147	
	334-1788	Collar, Alignment; EZ-ALIGN	2	900 08 185	AR250
9	334-1787	Washer, Alignment; EZ-ALIGN	1	900 08 186	AR250
10	334-613	Service Kit, Axle Connection; 5" Round Axle-20" Wheel	1	481 00 206, SRK-149	Incl. 321-231 Bushings & Hdwe. for (2) Axle Connections
11	321-231	Bushing; 1 1/8"ID x 2 3/4"OD x 5"Lg.	4	900 08 149	Axle Connection
	321-231U	Bushing, Urethane	4		
12	334-607	Bolt; 1 1/8"-7 x 8 1/2"Lg.	4	932 01 051, 932 01 045	
13	1R12-480	Air Spring	2	905 57 112	AR90-14-15-16-17; See air spring catalog for additional applications
	1R12-441	Air Spring	2	905 57 113	AR90-1-14-17; ARU92-9-10; See air spring catalog for additional applications
	352-9304	Air Spring	2	905 57 124	See air spring catalog for additional applications
	1R12-502	Air Spring	2	905 57 117	See air spring catalog for additional applications
	1R12-481	Air Spring	2	905 57 118	AR92-15-16; AR93-15-16; ARU93-8; See air spring catalog for additional applications
	1R12-370	Air Spring	6	905 57 130, 905 57 131	AR90-1-12; See air spring catalog for additional applications
	1R12-498	Air Spring	2	905 57 119	See air spring catalog for additional applications
	1R12-439	Air Spring	2	905 57 126	ARU92-12; See air spring catalog for additional applications
	1R13-153	Air Spring	2	905 57 168	AR250-12-16-17; See air spring catalog for additional applications
	SP	Air Spring	2	905 57 167	AR250-14-15
14	M66886	Shock Absorber	2		See shock catalog for additional applications
	M66610	Shock Absorber	2		See shock catalog for additional applications
	M65418	Shock Absorber	2		See shock catalog for additional applications
	M66886	Shock Absorber	2		See shock catalog for additional applications
	M66634	Shock Absorber	2		See shock catalog for additional applications
	M66633	Shock Absorber	2		See shock catalog for additional applications
	M66636	Shock Absorber	2		See shock catalog for additional applications
15	140149N	Shock Bushing, 3/4"ID	8	905 08 004	Rubber w/Bonded Washer and Sleeve
16	334-1105	Bolt Assembly, 3/4"-10 x 3 1/2"Lg.	AR		
	334-798	Bolt Assembly; 3/4"-16 x 4"Lg.	AR		
17	334-1143	Valve, Height Control	1	900 54 007	
	334-750	Valve, Height Control; Universal	1		Hadley - Model 450HCV
18	334-751	Linkage Assembly, Universal Adjustable	1	481 00 225, SRK-168	3 5/8"-19 5/8" Range
19	338-1855	Beam Assembly, LH	1	905 16 112	AR90-14, -15, -16, -17
	338-1854	Beam Assembly, RH	1	905 16 113	AR90-14, -15, -16, -17
	338-1880	Beam Assembly, RH		905 16 500, AR90-1; All	
	338-1879	Beam Assembly, LH		905 16 501, AR90-1; All	
	SP	Beam Assembly	AR	Various	Specify model, LH/RH

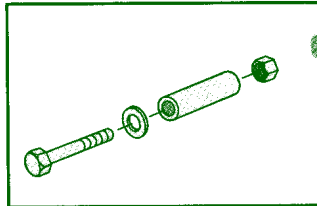
**Reyco
Model 21B/21B-FAB
Tandem Four Spring Trailer Suspension**



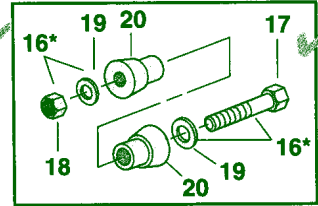
Key 7* - Equalizer Shaft & Bushing Assembly



Key 8* - Equalizer Shaft Assembly



Key 13* - Spring Rebound Kit



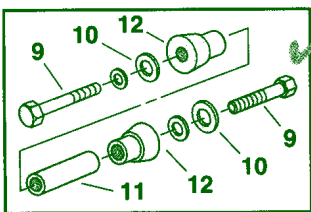
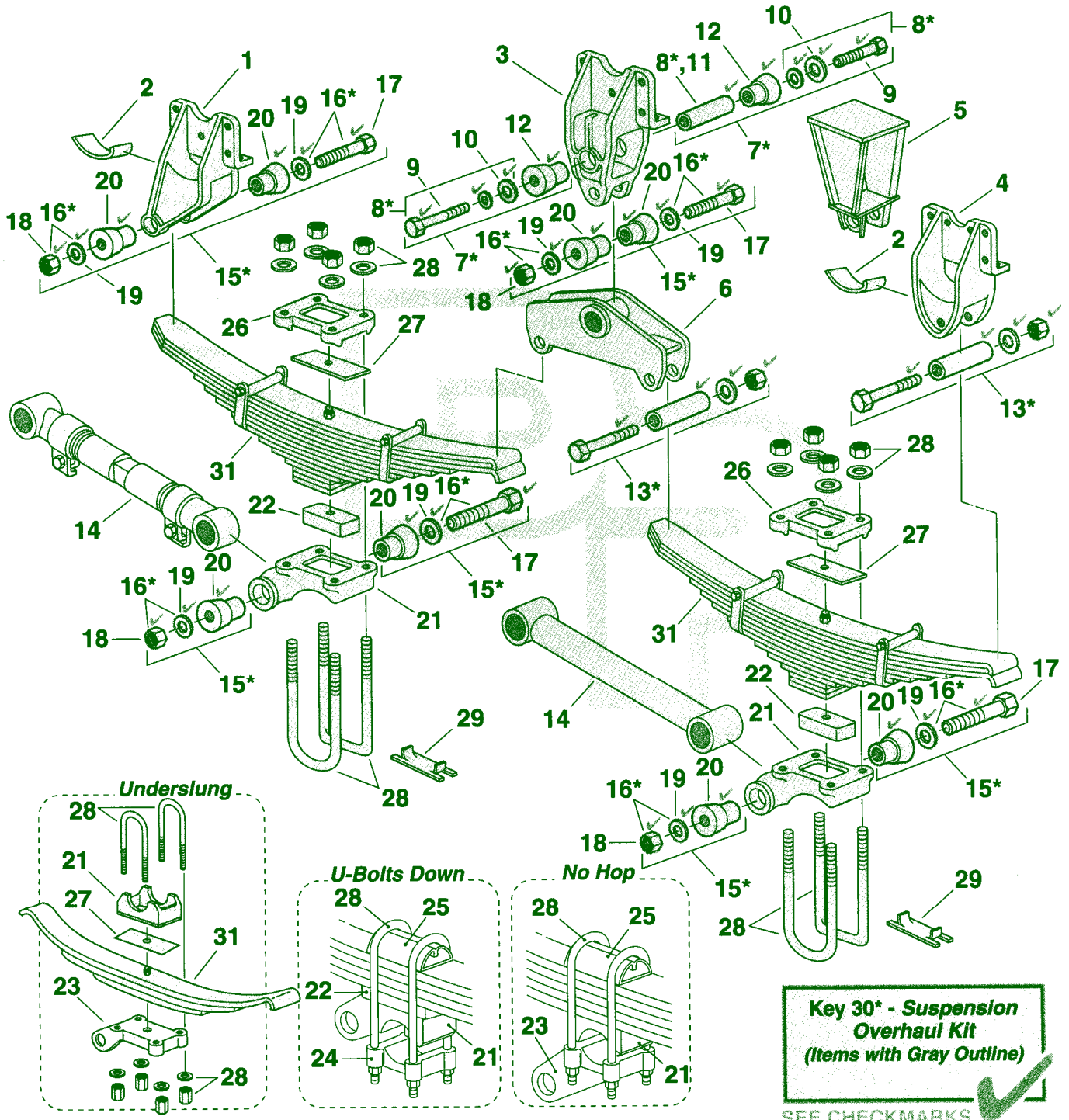
Key 15* - Torque Rod Bolt & Bushing Assembly

(*) indicates a kit

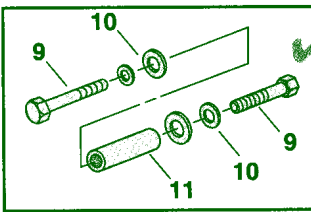
Reyco
Model 21B/21B-FAB
Tandem Four Spring Trailer Suspension

Key No.	Part Number	Description	No. Req.	OEM Reference	Remarks
1	338-188	Hanger, LH Flange Mount	1	T5425	Standard Drill Pattern
	338-189	Hanger, RH Flange Mount	1	T5424	Standard Drill Pattern
	338-190	Hanger, LH Under Mount	1	T5563	Weld-On
	338-191	Hanger, RH Under Mount	1	T5562	Weld-On
	338-1677	Hanger, Fabricated	2	09832-01	
2	334-903	Wear Pad	1	15630-01	
3	338-192	Hanger, Flange Mount	2	T5426	Standard Drill Pattern
	338-193	Hanger, Under Mount	2	T5564	Weld-On
	338-1679	Hanger, Fabricated	2	14684-01	
	338-1428	Hanger	2	T2212-3	Cast, flange mount; 54"-65 1/2" axle spacing
	338-1429	Hanger	2	T2212-5	Cast, under mount; 54"-65 1/2" axle spacing
	338-1449	Hanger	2	11150-01	Cast; 72"-109" axle spacing
	338-1450	Hanger	2	14688-01	Fabricated; 72"-109" axle spacing
4	338-194	Hanger, LH Flange Mount	1	T5429	Standard Drill Pattern
	338-195	Hanger, RH Flange Mount	1	T5428	Standard Drill Pattern
	338-196	Hanger, LH Under Mount	1	T5565	
	338-197	Hanger, RH Under Mount	1	T5566	
	338-1678	Hanger, Fabricated	2	08595-01	
5	338-1639	Bracket, Torque Rod	2	11610-01	Widespread Only; 72", 97", 109"
6	338-199	Equalizer	2	T5427	49" axle spacing w/cast hangers
	338-1447	Equalizer	2	14689-01	49" axle spacing w/fabricated hanger
	338-1369	Equalizer, Heavy Duty	AR	12045-01	Off-Road and Multi Axle Applications
	338-1672	Equalizer	2	10180-01	54" axle spacing w/cast hanger
	338-1674	Equalizer	2	14693-01	54" axle spacing w/fabricated hanger
	338-1442	Equalizer	2	09713-01	60" axle spacing w/cast hanger
	338-1448	Equalizer	2	14696-01	60" axle spacing w/fabricated hanger
	338-1673	Equalizer	2	10978-01	63 1/2" - 65 1/2" axle spacing w/cast hanger
	338-1675	Equalizer	2	14700-01	63 1/2" - 65 1/2" axle spacing w/fabricated hanger
	338-1443	Equalizer	2	11143-01	72" axle spacing w/cast hanger
	338-1676	Equalizer	2	14763-01	72" axle spacing w/fabricated hanger
	SP	Equalizer	2	14764-01	97" axle spacing w/fabricated hanger
SP	Equalizer	2	14765-01	109" axle spacing w/fabricated hanger	
SP	Equalizer	2	21693-01	44" axle spacing w/fabricated hanger	
7	334-211	Shaft & Bushing Assembly	2	TK18998	Standard, Cast Hangers; Incl. Shaft, Bushing, Bolts, Washers and Hdwe.
	334-1264	Shaft & Bushing Assembly	2	TK16657	21B-FAB; Incl. 321-305 bushing
8	334-212	Shaft Assembly	2		Standard, Cast Hangers; Incl. Shaft, Bushing, Bolts, Washers and Hdwe.
9	334-209	Bolt; 1"-8 x 2 1/2"Lg.	4	14248-01	
10	334-208	Washer, Compression; 1 1/16"ID x 3 3/4"OD x 3/8"Thk.	4	14249-01	Standard, Cast Hangers
	334-1007	Washer; 2 1/2"ID x 4 3/4"OD, 1/4"Thk.	2	T2103	Cast Hangers; Wide Spread; 54", 60", 63 1/2", 65 1/2" Axle Spacing
	334-1009	Washer; 1 1/32"ID x 3"OD, 1/2"Thk.	2	T2403	Cast Hangers; Wide Spread; 72"-108" Axle Spacing

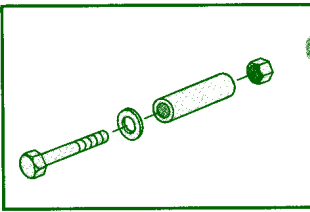
Reyco
Model 21B/21B-FAB
Tandem Four Spring Trailer Suspension



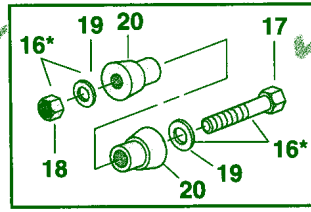
Key 7* - Equalizer Shaft & Bushing Assembly



Key 8* - Equalizer Shaft Assembly



Key 13* - Spring Rebound Kit



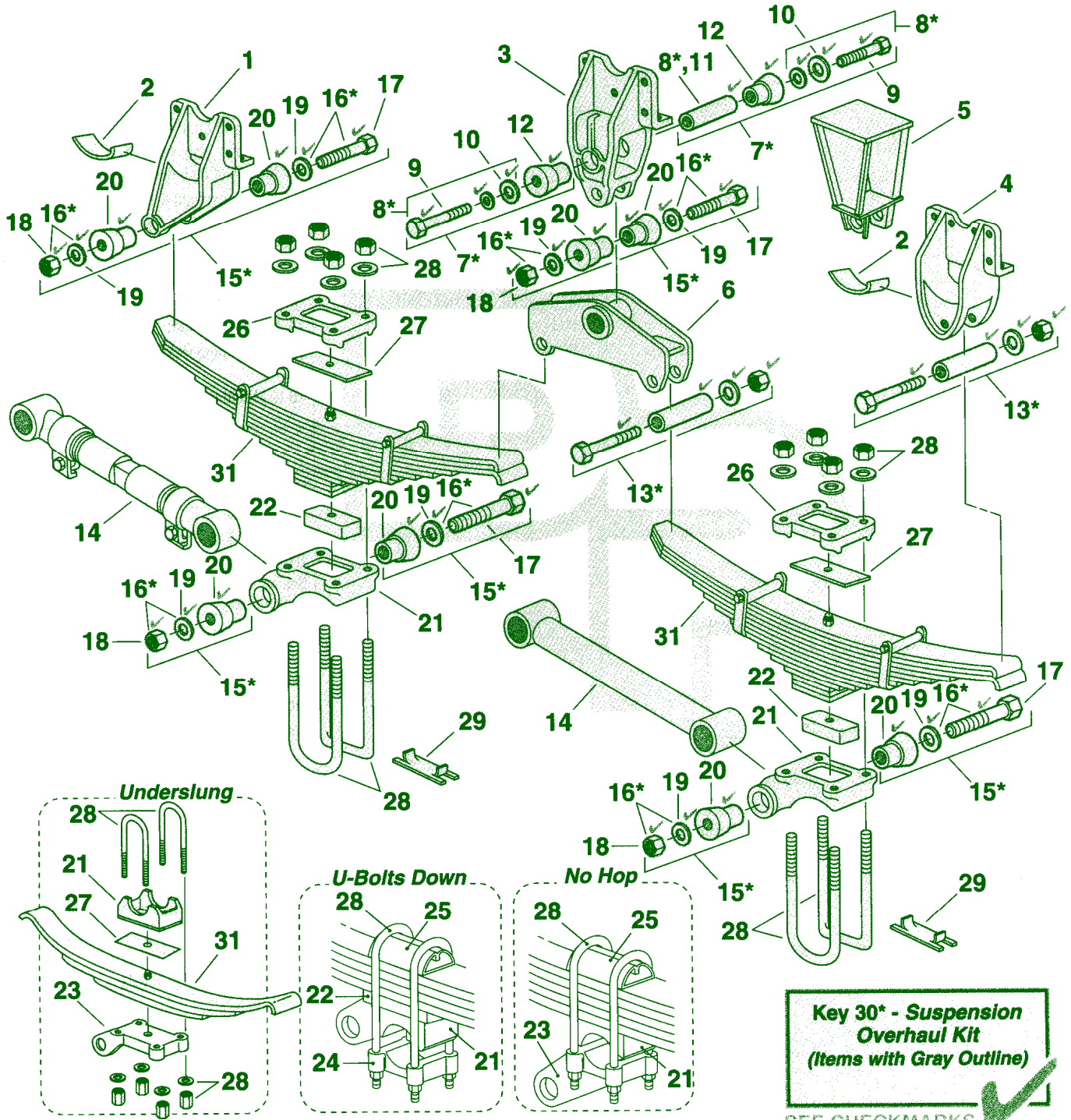
Key 15* - Torque Rod Bolt & Bushing Assembly

(*) indicates a kit

Reyco
Model 21B/21B-FAB
Tandem Four Spring Trailer Suspension

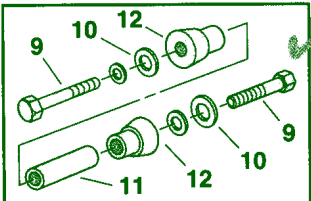
Key No.	Part Number	Description	No. Req.	OEM Reference	Remarks
11	334-207	Shaft, Equalizer 1 5/8"OD x 8 3/4"Lg.	2	14247-01	Standard, Cast Hangers
	334-1027	Shaft; 1 1/4"-12 x 7 3/4"Lg.	2	14683-01	Fabricated Hangers; All Spacing
	334-223	Shaft; 2 1/2"OD x 12 1/2"Lg.	2	T2158	Cast Hangers; Wide Spread; 54",60",63 1/2", 65 1/2" Axle Spacing
	334-1262	Shaft; 2"OD x 9 1/4"Lg., 1 1/2"-6 Thread	2	11147-01	Cast Hangers; Wide Spread; 72"-108" Axle Spacing
12	321-146	Bushing; 1 5/8"ID x 3 1/2"OD x 4 7/16"Lg.	4	T5524	Standard, Cast Hangers
	321-146U	Bushing, Urethane	4		
	321-149	Bushing	4	T2102	Cast Hangers; Wide Spread; 54",60",63 1/2", 65 1/2" Axle Spacing
	321-149U	Bushing, Urethane	4		
	321-154	Bushing; 2"ID x 3 1/8"OD x 4 1/4"Lg.	2	T3214	Cast Hangers; Wide Spread; 72"-109" Axle Spacing
	321-154U	Bushing, Urethane	2		
	321-305	Bushing	2	14682-01	Fabricated Hangers; All Spacings
13	334-201	Rebound Kit, 1/2"-20 x 4 3/4"Lg.	6	TK19011	Incl. Tube, Bolt, Washer and Nut
14	345-199	Torque Rod, Adjustable; 15"-17 1/4"	1	15172-01	Use 321-145 bushings
	345-105	Torque Rod, Adjustable; 18 3/4"-19 1/2"	1	15173-01	Use 321-145 bushings
	345-198	Torque Rod, Adjustable; 19 1/2"-21 3/4"	1	15174-01	Use 321-145 bushings
	345-697	Torque Rod, Adjustable; 24"-26 1/4"	1	15176-01	Use 321-145 bushings
	345-698	Torque Rod, Adjustable; 26 1/4"-28 1/2"	1	15177-01	Use 321-145 bushings
	345-110	Torque Rod, Rigid; 16 1/4", Cast	1	15178-01, T7635	Use 321-145 bushings, can use 345-199
	345-112	Torque Rod, Rigid; 18 7/8", Cast	1	15179-01, T2293	Use 321-145 bushings, can use 345-198
	345-689	Torque Rod, Rigid; 19 3/8"	1	15286-01	Use 321-145 bushings, can use 345-105
	345-859	Torque Rod, Rigid; 21 9/16"	1	10183-01	Use 321-145 bushings, can use 345-198
	SP	Torque Rod, Rigid 25"	1	09686-01	Use 345-697
	345-761	Torque Rod, Rigid; 26 1/4"	1	10973-01	Use 321-145 bushings, can use 345-698
	SP	Torque Rod, Rigid 27 1/4"	1	08650-01	Use 345-698
15	334-252	Bolt & Bushing Assembly	8	TK18997	Incl. 334-203 Bolt, (2) 321-145 Bushings and Hdwe.
16	334-206	Bolt Assembly; 1"-14 x 7"Lg.	8		Incl. Bolt and Hdwe.
17	334-203	Bolt; 1"-14 x 7 1/4"Lg.	8	T5492	
18	334-153	Nut, Lock; 1"-14	8		Can Use SLN-107
19	334-205	Washer, Compression; 1 1/16"ID x 2 3/4"OD x 1/4"Thk.	16	T2224	
20	321-145	Bushing; 1"ID x 1 1/16"OD x 3"Lg.	16	T5493	
	321-145U	Bushing, Urethane	16		
21	338-205	Bracket, Torque Rod Seat; 3/4", 5" Round Axle	4	09730-01	
	338-206	Bracket, Torque Rod Seat; 1 3/4", 5" Round Axle	4	11336-01	
	SP	Spring Seat, 3 1/4", 5" Round Axles	4	08757-01	
	338-207	Bracket, Torque Rod Seat; 3/4", 4"x 6" Axle	4	T7650	
	338-209	Bracket, Torque Rod Seat; 3/4", 5" Square Axle	4	07980-01	
	SP	Spring Seat, 3 1/4", 5" Square Axles	4	08060-01	
	338-739	Seat; 3/4", No Hop	2	10114-01, T3329	No Hop or Underslung
	338-212	Bracket, Torque Rod Seat, 5" Square Axles - No Hop	4	09103-01	No Hop & Underslung
	SP	Spring Seat, 3/4", 4"x 6" Rectangular Axles	4	10292-01	No Hop & Underslung

**Reyco
Model 21B/21B-FAB
Tandem Four Spring Trailer Suspension**

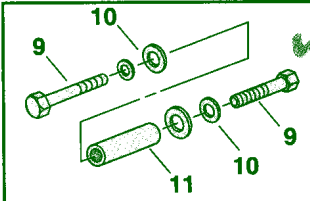


Key 30* - Suspension Overhaul Kit
(Items with Gray Outline)

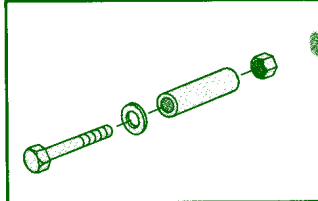
SEE CHECKMARKS



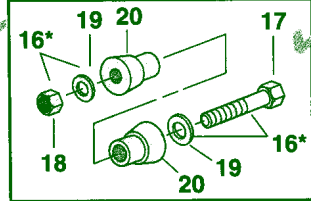
Key 7* - Equalizer Shaft & Bushing Assembly



Key 8* - Equalizer Shaft Assembly



Key 13* - Spring Rebound Kit



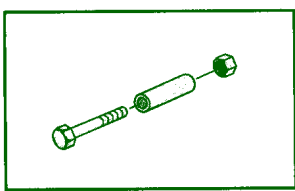
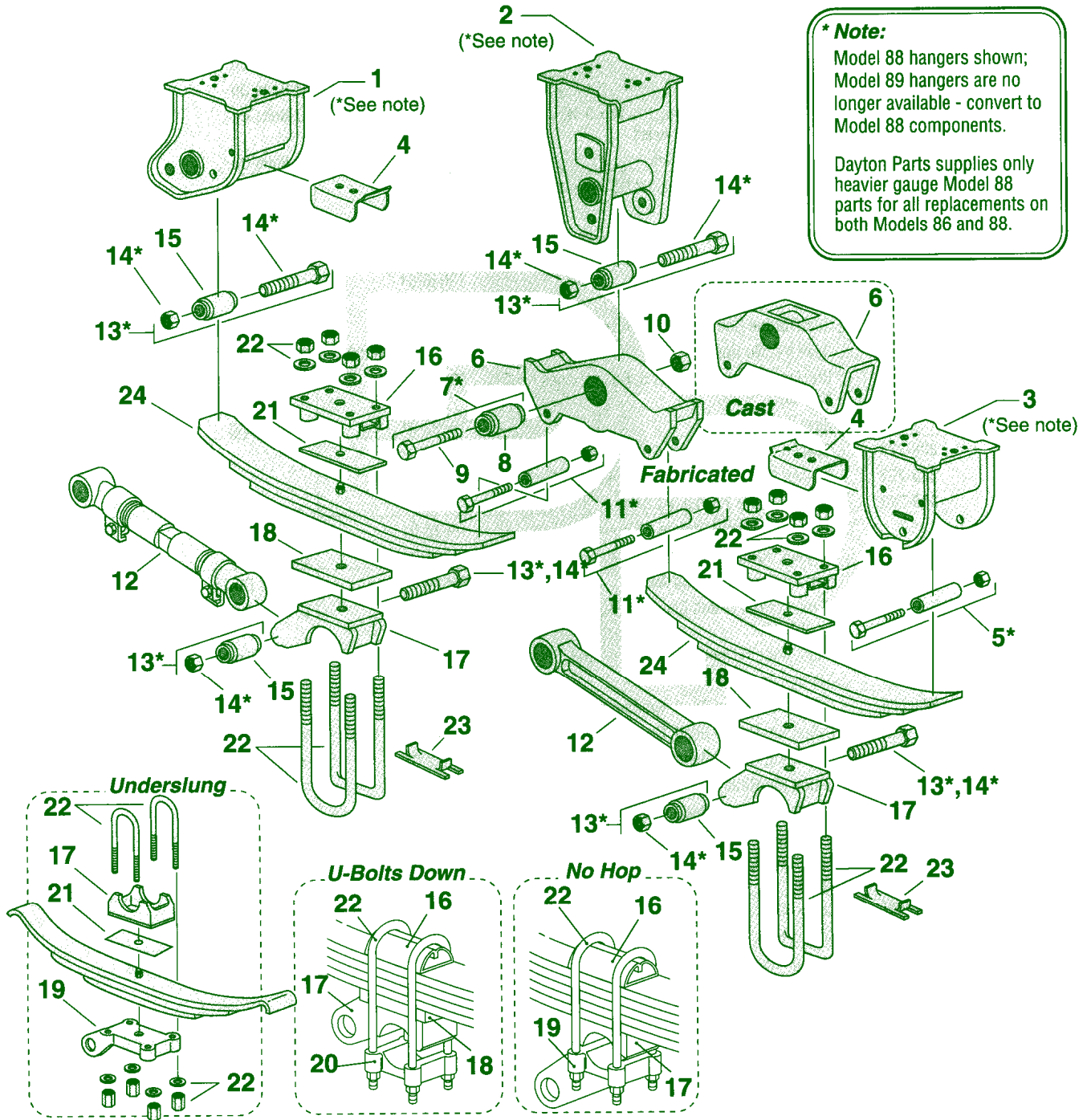
Key 15* - Torque Rod Bolt & Bushing Assembly

(*) indicates a kit

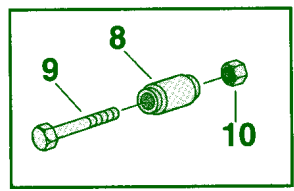
Reyco
Model 21B/21B-FAB
Tandem Four Spring Trailer Suspension

Key No.	Part Number	Description	No. Req.	OEM Reference	Remarks
22	338-221	Spacer; 3"W x 7 1/2"Lg. x 1"Thk.	AR	24081-01, T7716	
	338-222	Spacer; 3"W x 7 1/2"Lg. x 1 1/2"Thk.	AR	24082-01, T7654	
	338-223	Spacer; 3"W x 7 1/2"Lg. x 2"Thk.	AR	24083-01, T7655	
23	338-217	Bracket, Stabilizer; 5" Round Axle	2	08480-01, T5481	No Hop
	338-218	Bracket, Stabilizer; 5" Square Axle	3	08061-01	No Hop
	338-246	Bracket, Torque Rod Bottom Plate	4	T5727	Underslung
24	338-214	Plate, U-Bolt Bottom Clamp; 3 3/8"W x 5 7/8"Lg. C-C - 5" Round Axle	4	09139-01	U-Bolts Down
	338-216	Plate, U-Bolt Bottom Clamp; 3 1/16"W x 6 1/4"Lg. C-C - 5" Square Axle	4	09229-01	U-Bolts Down
	338-415	Plate, Bottom U-Bolt Clamp; Fabricated	4	18877-01, 0538-00	U-Bolts Down
	338-215	Plate, U-Bolt Bottom Clamp; 4"x 6" Axle	4	09230-01	U-Bolts Down
25	338-200	Saddle, U-Bolt; 3"W x 7 3/4"Lg. x 1 3/4"H	4	08677-01	
	338-381	Saddle, U-Bolt; 3"W x 7 1/2"Lg. - Fabricated	4	1606-00, 0077-00	U-Bolts Down
26	338-203	Plate, U-Bolt Top Clamp; 3 3/8"W x 5 7/8" C-C - 5" Rd. & Eaton 5" Sq. Axles	4	T7175, T5488	U- Bolts Up
	338-1530	Top Plate, 5" Square Axles	4	T1734	U- Bolts Up
	338-202	Plate, U-Bolt Top Clamp; 4"W x 5 3/8"Lg. C-C - 4" x 6" Axle	4	T4069	U- Bolts Up
27	GL-294	Liner; 2 7/8" x 7 1/2"Lg w/1/2" Hole	4		
	GL-295	Liner; 2 7/8" x 8"Lg w/7/8" Hole	4		
28	361-218	U-Bolt Kit; Round Bend, Grade 5	8		7/8" x 3" x 14 1/2" R
	361-168	U-Bolt Kit; Round Bend, Grade 8	8		7/8" x 3" x 16 1/2" R
	361-250	U-Bolt Kit; Round Bend, Grade 5	8		7/8" x 3" x 18-1/2" R
	361-258	U-Bolt Kit; Round Bend, Grade 8	8		7/8" x 5 1/8" x 11 7/8" R
	361-254	U-Bolt Kit; Round Bend, Grade 8	8		7/8" x 5 1/8" x 13 7/8" R
	361-558	U-Bolt Kit; Round Bend, Grade 5	8		7/8" x 5 1/8" x 15 7/8" R
	See Charts	See U-Bolt Charts for Sizes Not Listed Above	8		
29	338-219	Clip, U-Bolt; 4"x 6" Axle	8	T7560	
	338-220	Clip, U-Bolt; 5" Square Axle	8	T5587	
30	339-108	Maintenance Kit; Reyco 21B	1		Standard, Cast Hangers; Incl. (2) 334-211, (8) 334-252, (6) 334-201
31	—	Spring Assembly			See Catalog 215 for Details

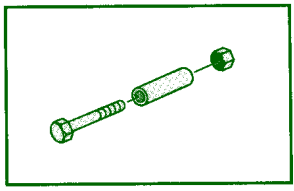
**Reyco/Transpro
Model 86/88/89
Tandem Four Spring Suspension**



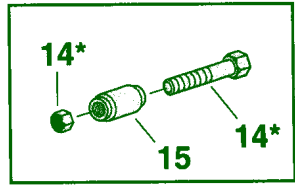
Key 5* - Rebound Bolt Assembly



Key 7* - Equalizer Bolt & Bushing Assembly



Key 11* - Rebound Bolt Assembly



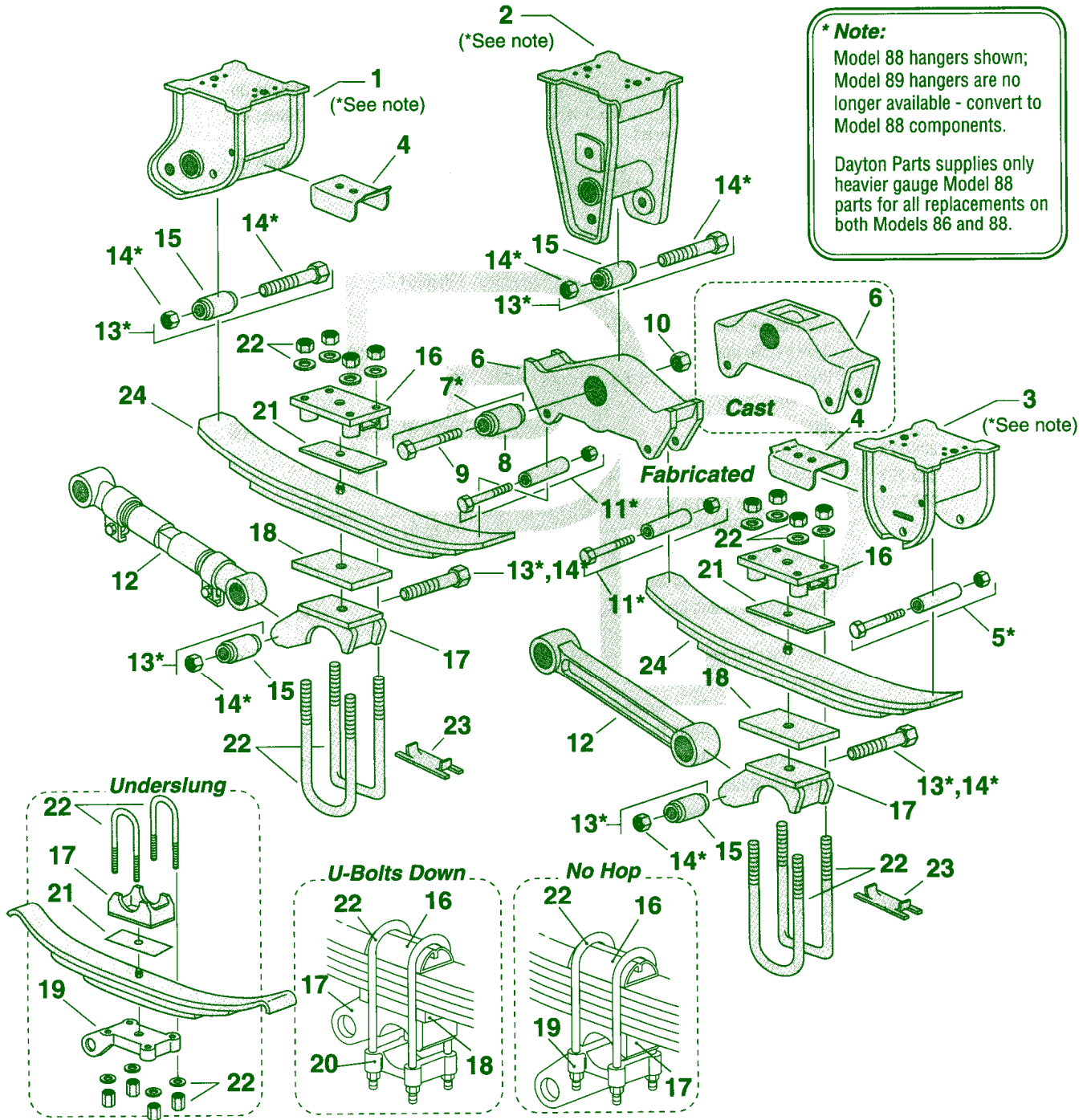
Key 13* - Torque Rod Bolt & Bushing Assembly

(*) indicates a kit

Reyco/Transpro
Model 86/88/89
Tandem Four Spring Suspension

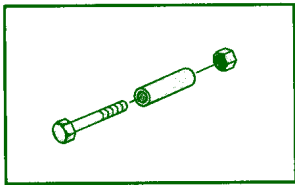
Key No.	Part Number	Description	No. Req.	OEM Reference	Remarks
1	338-373	Hanger, Undermount	2	0084-00, 0049-00	Undermount; Model 88 HD, 0.229 Thk.; Replaces Model 86 & 88 Hangers
	338-1409	Hanger, LH	1	0400-01, 0311-01	Flangemount
	338-1410	Hanger, RH	1	0400-02, 0311-02	Flangemount
	338-1456	Hanger, Straddlemount	2	0046-20, 0046-00	Straddlemount
2	338-374	Hanger	2	0088-00, 0065-00	Undermount; Model 88 HD, 0.229 Thk.; Replaces Model 86 & 88 Hangers
	338-1411	Hanger	2	0400-00, 0312-00	Flangemount
	338-1457	Hanger, Straddlemount	2	0062-00, 0062-20	Straddlemount
3	338-375	Hanger, Undermount	2	0086-00, 0053-00	Undermount; Model 88, 0.229 Thk.; Replaces Model 86 & 88 Hangers
	338-1412	Hanger, LH	1	0402-01, 0313-01	Flangemount
	338-1413	Hanger, RH	2	0402-02, 0313-02	Flangemount
	338-1453	Hanger, Straddlemount	2	0051-20, 0051-00	Straddlemount
4	338-376	Wear Pad	4	0045-00	Weld-In Type (Steel)
5	334-630	Bolt Assembly, Rebound; 5/8"-18 x 5 1/8"Lg.	2	0741-05	Incl. Bolt, 3 1/8"Lg. Tube & Lock Nut; Models 86,88; After 7/1/85
	334-312	Bolt Assembly, Rebound; 1/2"-20 x 5 1/2"Lg.	2		Incl. Bolt, 3 1/4" Tube & Lock Nut
6	338-378	Equalizer Assembly; Fabricated	2	0650-00	49" Axle Spacing; Incl. 321-194 Bushing
	338-871	Equalizer, Assembly; Cast	2	0850-00	Incl. 321-194 Bushing
7	334-628	Bolt & Bushing Assembly	2	0649-04	Incl. 321-194 Bushing, 334-317 Bolt & 334-317 Nut
8	321-194	Bushing; 1"ID x 3 29/64"OD x 4"Lg.	2	0649-02	
	321-194U	Bushing, Urethane	2		
9	334-317	Bolt; 1"-14 x 6 1/2"Lg.	2	0001-14	
10	334-319	Nut, Flange Lock; 1"-14	2	0274-01	
11	334-343	Bolt Assembly, Rebound; 5/8"-18 x 4 1/2"	4	0741-00	Incl. Bolt, Tube and Lock Nut
12	345-157	Torque Rod, Adjustable; 18 1/4"-21 1/2"	2	1035-20	Model 86, 88; Incl. (2) 321-153 Bushings; 49" Axle Spacing; Front & Rear
	345-158	Torque Rod, Rigid; 19 7/8"	2	0075-20	Model 86, 88; Incl. (2) 321-153 Bushings; 49" Axle Spacing; Front & Rear; 54"-121" Front
13	334-316	Bolt & Bushing Assembly	8	0022-01	Model 86, 88; Incl. 321-153 Bushing and 334-315 Bolt Assy.
	334-565	Service Kit, Torque Rod Bolt & Bushing	8		Model 89 only - 2 pc. Tapered bushings
14	334-315	Bolt Assembly; 7/8"-14 x 5 1/4"Lg.	8	0001-08	Incl. Bolt and Flanged Lock Nut
15	321-153	Bushing; 7/8"ID x 1 29/32"OD x 3"Lg.	8	09729-01	
	321-153U	Bushing, Urethane	8		
16	338-379	Plate, U-Bolt Top Clamp	4	0464-00	U-Bolts Up
	338-381	Saddle, U-Bolt; 3"W x 7 1/2"Lg. - Fabricated	4	1606-00, 0077-00	All Axles, U-Bolts Down
	338-200	Saddle, U-Bolt; 3"W x 7 3/4"Lg. x 1 3/4"H	4	08677-01	All Axles, U-Bolts Down

**Reyco/Transpro
Model 86/88/89
Tandem Four Spring Suspension**

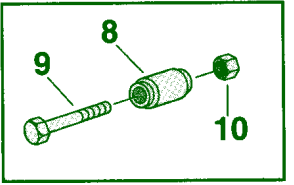


*** Note:**
Model 88 hangers shown;
Model 89 hangers are no
longer available - convert to
Model 88 components.

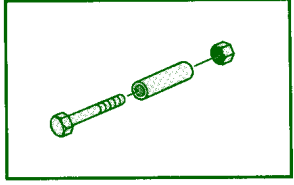
Dayton Parts supplies only
heavier gauge Model 88
parts for all replacements on
both Models 86 and 88.



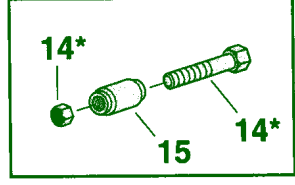
Key 5* - Rebound Bolt Assembly



Key 7* - Equalizer Bolt & Bushing Assembly



Key 11* - Rebound Bolt Assembly



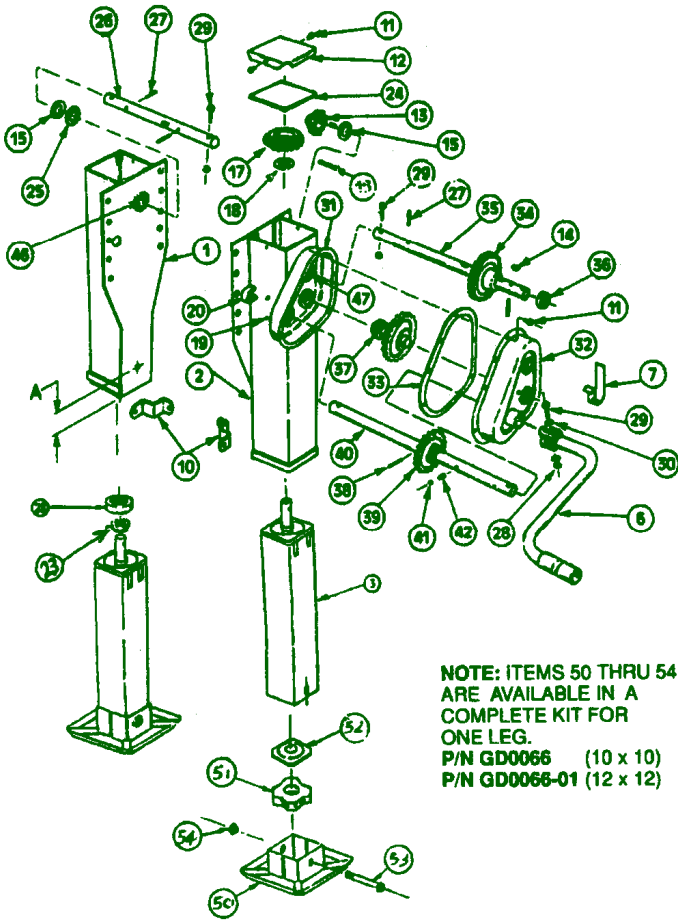
Key 13* - Torque Rod Bolt & Bushing Assembly

(*) indicates a kit

Reyco/Transpro
Model 86/88/89
Tandem Four Spring Suspension

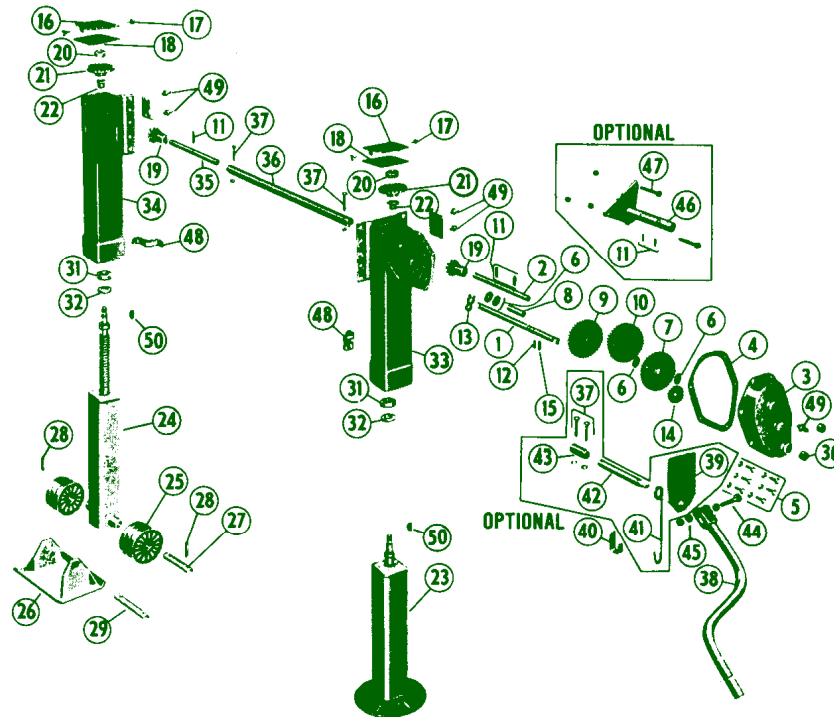
Key No.	Part Number	Description	No. Req.	OEM Reference	Remarks	
17	338-1459	Bracket, Torque Rod/Seat	4	0636-02	U-Bolts Up or Down	
	338-1378	Bracket, Torque Rod/Seat; 3", 5" Round	4	0636-03		
	338-1817	Bracket, Torque Rod/Seat; 2", 5" Square Axles	4	0632-02		
	338-384	Bracket, Torque Rod Seat; 1", 5" Square Axle, Fabricated	4	0632-01		
	338-386	Bracket, Torque Rod Seat; 1", 4"x 6" Axle, Fabricated	4	0638-01		
	338-1458	Bracket, Torque Rod/Seat	4	0638-02		
	338-382	Bracket, Torque Rod Seat; 1", 5" Round Axle, Fabricated	4	0636-01		
	338-383	Seat; 1", 5" Round Axles, Fabricated	4/2	0637-01		Underslung and No Hop
	338-1377	Seat; 3"; 5" Round, Fabricated, No Hop	4/2	0637-03		Underslung and No Hop
	338-385	Seat; 1", 5" Square Axles, Fabricated	4/2	0635-01		Underslung and No Hop
18	338-396	Spacer; 3"W x 7"Lg. x 1/2"Thk., 1/8" Hole	AR	T7555	14" to 15" Ride Heights	
	338-397	Spacer; 3"W x 7"Lg. x 3/4"Thk., 1/8" Hole	AR	T7850		
	338-221	Spacer; 3"W x 7 1/2"Lg. x 1"Thk.	AR	T7716		
19	338-393	Bracket, Stabilizer; 5" Round Axles, No Hop	2	0415-00	No Hop	
	SP	Bracket, Torque Rod/Axle, 5" Square Axles	2	0416-00	No Hop	
	338-391	Bracket, Torque Rod Bottom Clamp Plate, Underslung	4	0858-00	Underslung; 3 and 8 Leaf Springs	
20	338-388	Plate, U-Bolt Bottom Clamp; 5" Round Axle, Fabricated	4	0538-00	Use 338-415	
	338-389	Plate, U-Bolt Bottom Clamp; 5" Square Axle, Fabricated	4	0149-00	Use 338-471	
	338-390	Plate, U-Bolt Bottom Clamp; 4"x 6" Axle, Fabricated	4	0150-00		
21	GL-295	Liner; 2 7/8" x 8"Lg w/7/8" Hole	4			
22	361-218	U-Bolt Kit; Round Bend, Grade 5	8	0078-14	7/8" x 3" x 14 1/2" R	
	361-168	U-Bolt Kit; Round Bend, Grade 8	8	0078-16	7/8" x 3" x 16 1/2" R	
	361-250	U-Bolt Kit; Round Bend, Grade 5	8	0078-18	7/8" x 3" x 18-1/2" R	
	361-258	U-Bolt Kit; Round Bend, Grade 8	8	0102-12	7/8" x 5 1/8" x 11 7/8" R	
	361-254	U-Bolt Kit; Round Bend, Grade 8	8	0102-14	7/8" x 5 1/8" x 13 7/8" R	
	361-558	U-Bolt Kit; Round Bend, Grade 5	8	0102-16	7/8" x 5 1/8" x 15 7/8" R	
	See Charts	See U-Bolt Charts for Sizes Not Listed Above	8			
23	338-219	Clip, U-Bolt; 4"x 6" Axle	8	T5760	Obsolete	
	338-220	Clip, U-Bolt; 5" Square Axle	8		Obsolete	
24	—	Spring Assembly			See Catalog 215 for Details	

GD 70 Landing Gear



ITEM NO.	DESCRIPTION	QTY.	PART NO.
1	UPPER HSG. L.H.	1	SEE BELOW
2	UPPER HSG. R.H. (WITH GEARBOX HALF)	1	SEE BELOW
3	RETRACTING TUBE ASS'Y.	2	SEE BELOW
4	RETRACTING TUBE ASS'Y. 10" DIA. SHOCK FOOT	2	SEE BELOW
5	RETRACTING TUBE ASS'Y. 12" DIA. SHOCK FOOT	2	SEE BELOW
6	UNIVERSAL CRANK	1	LG0083
7	CRANK HANGER	1	LG0085
8	CROSS DRIVE SHAFT (NOT SHOWN)	1	LG0094
9	STRUT BRACE (NOT SHOWN)	4	LG0091
10	STRUT BRACKET	2	LG0266
11	SCREW-COVER & GEARBOX	11	PP0008-11
12	COVER	2	LG0264
13	PINION GEAR	2	LG0631-02
14	WOODRUFF KEY	3	PP0018-02
15	THRUST WASHER	2	PP0016-19
16	GROOVE PIN	2	PP0052-21
17	BEVEL GEAR	2	LG0570-01
18	WASHER	2	PP0016-62
19	GREASE FITTING	5	PP0022-08
20	SHIFT SHAFT SUPPORT	1	LG1364
21	RUBBER SEAL-BEHIND GEARBOX (NOT SHOWN)	1	LG0668
22	THRUST BEARING	2	PP0013-77
23	COLLAR	2	LG0544
24	COVER GASKET	2	LG0413
25	THRUST WASHER L.H.	1	PP0016-14
26	JACK SHAFT L.H. UNIV. MT.	1	LG0259
26	JACK SHAFT L.H. I-BEAM MT.	1	LG0369-01
27	ROLL PIN	4	PP0014-27
28	SELF-LOCKING NUT	5	PP0050-42
29	BOLT-CRANK & CROSS DRIVE	3	PP0012-04
30	FLAT WASHER	2	PP0016-03
31	GEAR BOX HALF-INSIDE	1	LG0662
32	GEAR BOX HALF-OUTSIDE	1	LG0663
33	GASKET	1	LG0428
34	OUTPUT GEAR	1	LG0543-01
35	JACK SHAFT R.H. UNIV. MT.	1	LG0260
35	JACK SHAFT R.H. I-BEAM MT.	1	LG0370-01
36	SPACER BUSHING	1	LG0219-01
37	IDLER GEAR	1	LG0542-01
38	GROOVE PIN	1	PP0014-07
39	INPUT GEAR	1	LG0541-01
40	SHIFT SHAFT UNIV. MT.	1	LG0261-01
40	SHIFT SHAFT I-BEAM MT.	1	LG0371-01
41	SHIFT LOCK BALL	1	PP0023-01
42	SHIFT LOCK SPRING	1	PP0020-02
43	SHIFT LOCK BOSS (PRESS FIT)	1	LG0658
44	DOUBLE STEP BOSS (NOT SHOWN)	1	LG0659
45	RETAINER (NOT SHOWN)	1	LG1570
46	BUSHING	2	LG0219
47	STEP BOSS G.B. TO HSG. PRESS FIT	1	LG0660
48	BOSS PRESS FIT-G.B. (NOT SHOWN)	4	LG0659
49	GEAR BOX ASS'Y.—COMPLETE UNIV.	1	LG0553
50	SHOE 10 X 10	2	GD1825
50	SHOE 12 X 12	2	GD1825-01
51	CUSHION, RUBBER	2	GD1828
52	PLATE, CUSHION	2	GD1829
53	BOLT, HEX 5/8-11 X 6	2	GD0050-76
54	NUT, SELF LOCK 5/8	2	GD0012-10
-	KIT, CUSHION FOOT 10 X 10	2	GD0066
-	KIT, CUSHION FOOT 12 X 12	2	GD0066-01

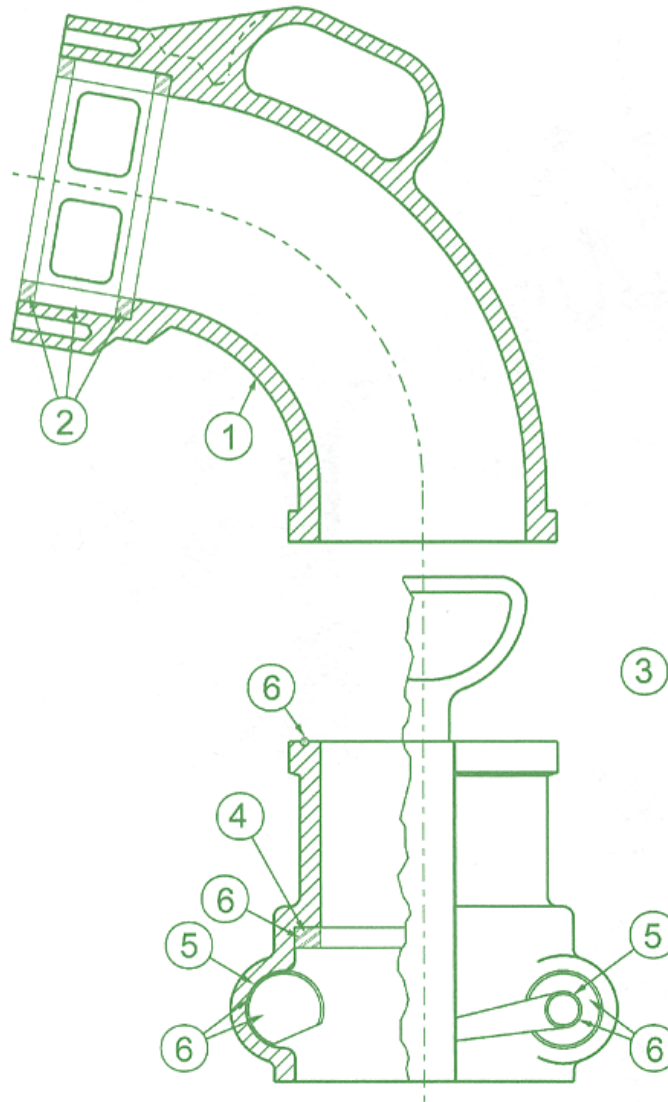
Holland Mark V Landing Gear



ITEM	PART NO.	SINGLE-SPEED		DESCRIPTION
		2-SPEED SIDE	SIDE	
1	XA-V-05159-A	1	-	Drive & gear shaft
2	XA-V-05123-A	1	-	Drive gear shaft
3	XA-V-1920	1	-	Gearbox cover
4	XB-V-1926	1	-	Gasket
5	XB-3103	6	-	Locknut 1/4"-28
	XB-CX-14-28-F-58	6	-	Hex hd. cap screw 1/4"-28 x 5/8"
6	XB-02065	1	1	Groove pin
7	XA-V-1927	1	-	Idler gear
8	XA-V-1957	1	-	Idler gear shaft
9	XA-V-1928-1	1	-	Step gear (undrilled)
10	XA-V-1928	1	-	Step gear (drilled)
11	XB-21-S-375-1500	1	-	Spiral pin 3/8" x 1-1/2"
12	XB-21-S-187-1250	1	-	Spiral pin 3/16" x 1-1/4"
13	XB-V-1949	1	-	Shifter spring
14	XA-V-1929	1	-	Shifter gear
15	XA-CRP-V-1917	1	-	Pin 3/8" x 1-7/16"
16	XB-04112	2	2	Self tapping screw
17	XA-V-03824	1	1	Upper leg cover
18	XB-V-1966	1	1	Gasket
19	XA-V-04204-1	1	1	Bevel pinion
20	XB-FW-25	1	1	Jam nut 1"-14
21	XA-V-04205-1	1	1	Bevel gear
22	XB-V-643-A2	1	1	Bushing
23	XA-V-05120-0 thru -5	1	1	Inner leg & screw assy. (-001 series)
24	XA-V-05356-0 thru -5	1	1	Inner leg & screw assy. (-103 & -105)
25	XB-V-747	2	2	Wheel (3-1/2" x 9")
26	XA-V-796-B-1	1	1	Skid foot 12" x 11-1/2" (-105 models)
27	XA-V-1901-2	1	1	Axle (wheel models)
28	XB-21-S-375-3000	2	2	Rollpin 3/8" x 3" (-103 & -105)
29	XA-V-1901-1	1	1	Axle (skid foot models)
30	XB-V-851	4	-	Bushing
31	XB-V-647	1	1	Thrust bearing
32	XA-V-1913	1	1	Thrust washer
33	XA-V-03876-0 thru -5	1	-	Outer leg assy. (2-speed)
34	XA-V-03875-0 thru -5	-	1	Outer leg assy. (single speed)

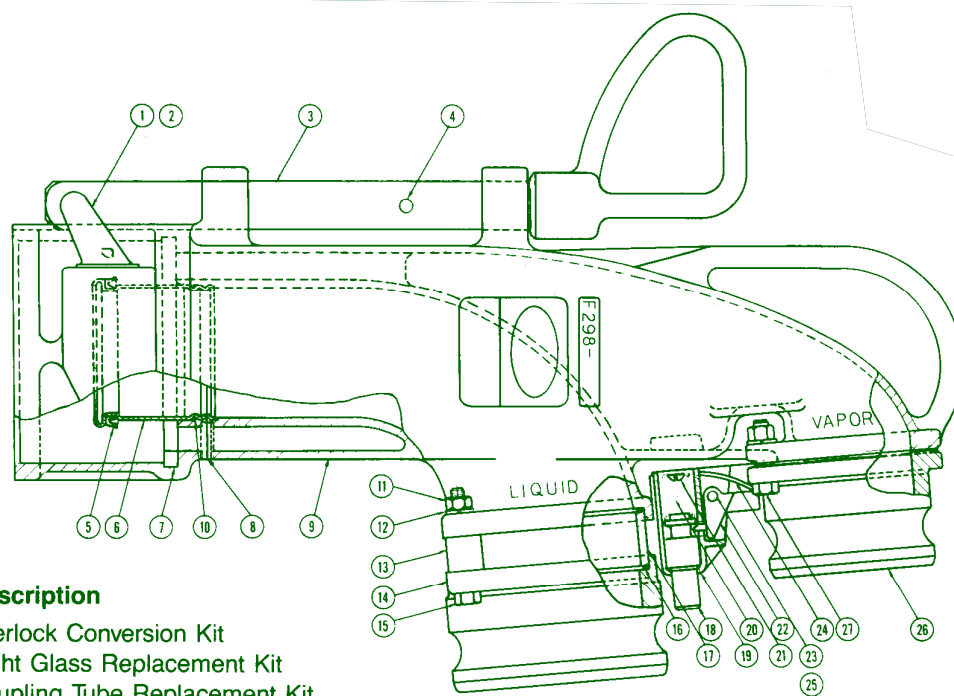
ITEM	PART NO.	SINGLE-SPEED		DESCRIPTION
		2-SPEED SIDE	SIDE	
35	XA-V-05122-A	-	1	Drive gear shaft (single speed)
36	XA-V-1910	-	1	Cross shaft (specify frame width, mounting style, l.g. model number)
37	XB-V-444-1	1	1	Hex head cap screw 3/8"-16 x 1-3/4"
	XB-338	1	1	Locknut 3/8"-16
37A	XB-V-444-1	2	-	Hex hd. cap screw 3/8"-16 x 1-3/4" (optional)
	XB-338	2	-	Locknut 3/8"-16 (optional)
38	XA-V-90-0	1	-	Crank assembly
	XA-V-90-2	1	-	Extra long crank assembly (optional)
39	XA-V-971	1	-	Crankshaft bracket (optional)
40	XA-V-1914	1	-	Crank hanger
41	XB-V-1915	1	-	Crank hanger (optional)
42	XA-V-1916	1	-	Extension shaft - long (optional)
	XA-V-1916-1	1	-	Extension shaft - short (optional)
43	XA-V-630-2	1	-	Crankshaft coupling (optional)
44	XB-C-38-C-214	1	-	Hex head cap screw 3/8"-16 x 2-1/4"
	XB-338	1	-	Locknut 3/8"-16
45	XB-1108	2	-	SAE 3/8" washer
46	XA-V-1912-1	1	-	Extension bracket - long (optional)
	XA-V-1912-2	1	-	Extension bracket - short (optional)
47	XB-0140	3	-	Hex hd. cap screw 1/4"-28 x 2-1/2" (optional)
	XB-3103	3	-	Locknut 1/4"-28 (optional)
48	XA-V-1938	1	1	Brace
49	XB-767	3	2	Lube fitting
50	XB-H-32-2	1	1	Woodruff key
51	XB-03816	3	3	Shim (as required)
52	XB-0307	1	2	Bearing
53	XA-V-05446-0 thru -5	1	1	Inner leg (cushion foot)
54	XB-04676	1	1	Cushion pad
55	XA-04681	1	1	Cushion skid foot
56	XB-01789	1	1	Lube plug
57	XB-GP-38-138-5	2	-	Groove pin 3/8" x 1-3/8" (optional)

Dixon Bayco 4" Drop Elbow Parts



Item	Description	Part #
1	elbow (<i>only</i>)	6200-1
2	sight glass repair kit	6200SGK
3	bottom end assembly	6030
4	Buna-N gasket	6000-9
5	bushing repair kit	6200BK
6	arm and seal repair kit	6200ARK

Emco Wheaton F298 Drop Elbow Co-Axial for Product and Vapor

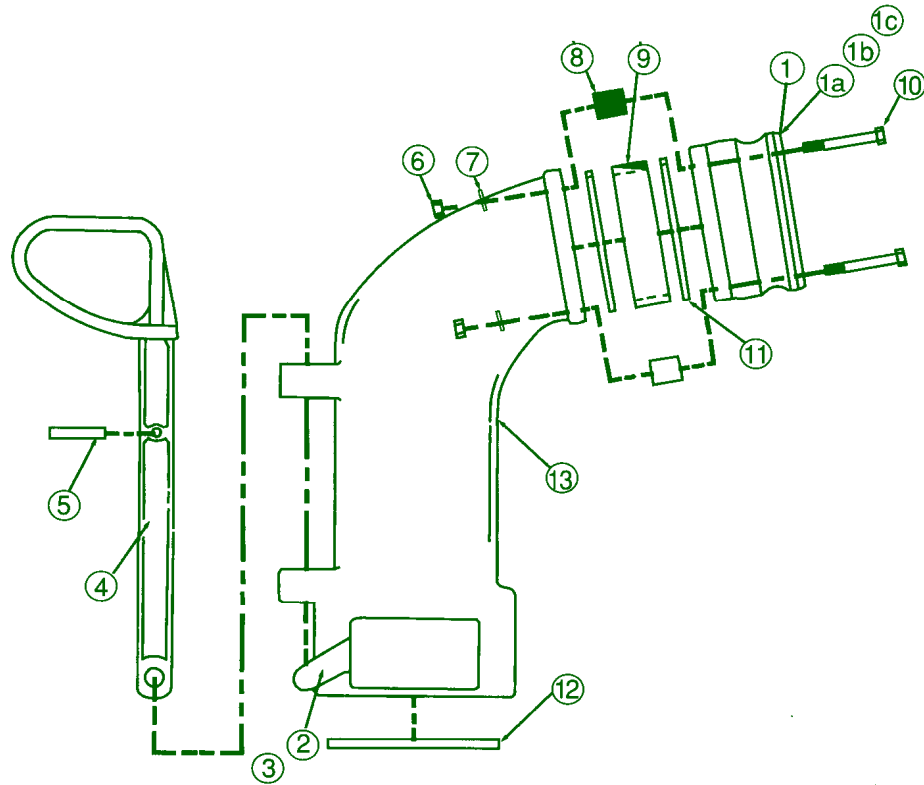


Kit No. Description

492537	Interlock Conversion Kit
562249	Sight Glass Replacement Kit
562250	Coupling Tube Replacement Kit

ITEM NO.	DESCRIPTION	W/INTERLOCK	L/INTERLOCK	Quantity	MATERIAL
		PART NUMBER			
	4" x 3" COAXIAL VAPOR RECOVERY FITTING	F298-004	F298-006		
1	Cam, Left Hand	408615	408615	1	Brs. Pl.
2	Cam, Right Hand	408617	408617	1	Brs. Pl.
3	Latch Rod Assy.	562369	562369	1	Alum.
4	Pin	408270	408270	1	Steel
5	Seal	561566	561566	1	Buna
6	Coupler Tube	561641	561641	1	Alum.
7	Gasket	408604	408604	1	Buna
8	Cup Pt. Set, 1/4-20 x .75	562236	562236	1	Steel
9	Body	561640	561640	1	Alum.
10	O-Ring	561868	561868	2	Buna
11	Hex Nut, 5/16-18	403150	403150	8	Stl./CAD
12	Lockwasher, 5/16	470034	470034	8	Stl./CAD
13	Spacer	561567	561567	4	Alum.
14	4" Liquid Adapter	561558	561558	1	Alum.
15	Hex Cap Scr., 5/16-18 x 2 1/4	447380	447380	4	Steel
16	Tetraseal	561814	561814	2	Buna
17	Sight Glass	561568	561568	1	Acrylic
18	Interlock Piston	561556	—	1	Nylon
19	Interlock Body	561555	—	1	Nylon
20	Spring	409325	—	1	Steel
21	Cap Scr., 1/4 x 20 x .5	447459	—	3	SST
22	Latch	561570	—	1	Alum.
23	Pin	404840	—	1	Steel
24	Spring	409340	—	1	Steel
25	Rd. Cap Scr., 1/4-20 x .5	444517	—	4	Stl./CAD
26	3" Vapor Adapter	409312	409312	1	Alum.
27	Vapor Gasket	562239	562239	1	—

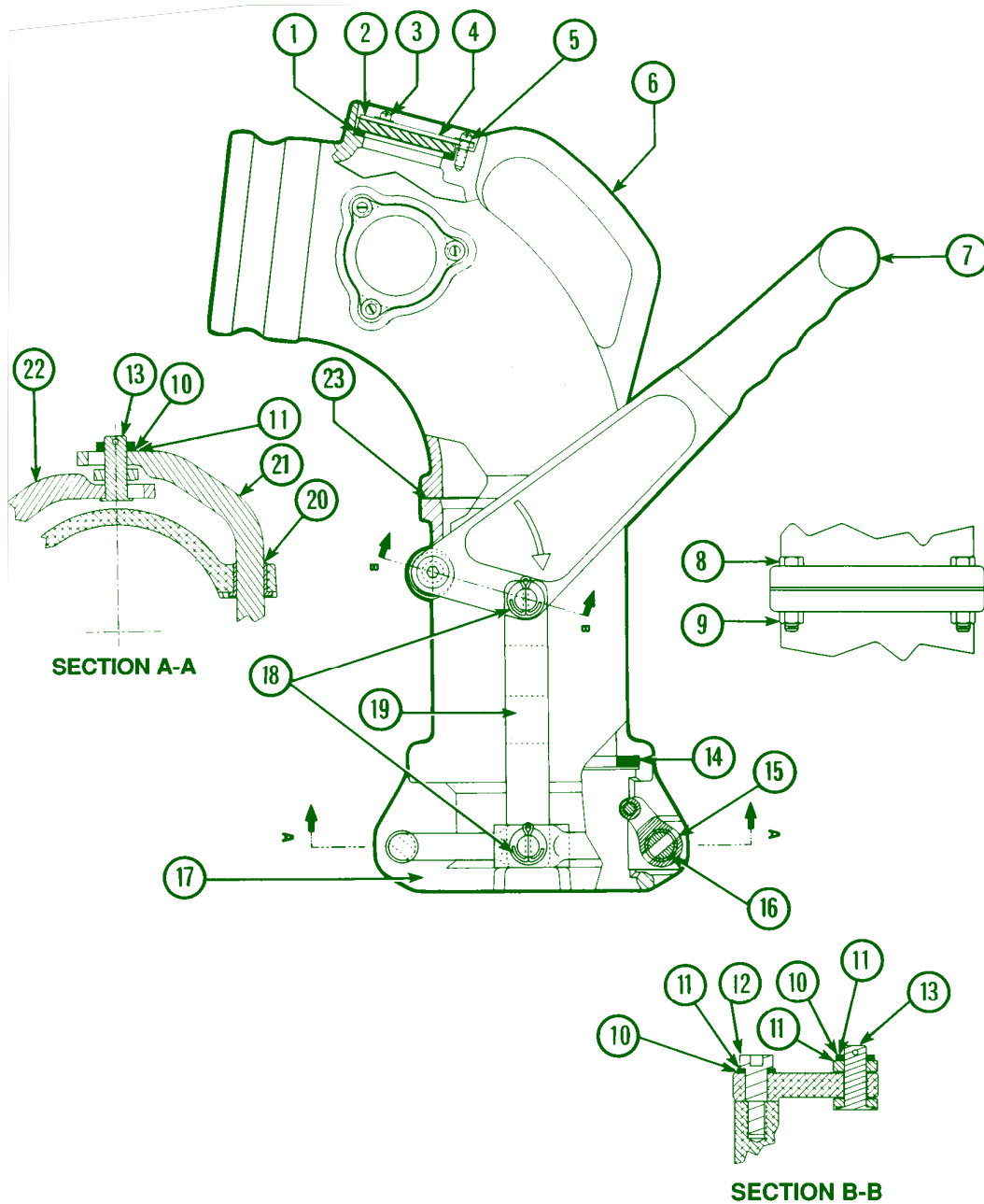
Emco Wheaton F523 4" Product Drop Elbow



SPECIFICATIONS

ITEM NO.	DESCRIPTION	QTY.		MATERIAL
1	4" Cam & Groove Adapter	1	561558	Aluminum
1a	4" FNPT Adapter		564218	Aluminum
1b	3" Cam & Groove Adapter		565233	Aluminum
1c	3" FNPT Adapter		565235	Aluminum
2	Cam, right hand	1	408615	Aluminum & Bronze
3	Cam, left hand	1	408617	Aluminum & Bronze
4	Handle	1	562246	Aluminum
5	Pin	1	470078	Stainless Steel
6	Hex Nuts, 5/16-18	4	403150	Steel
7	Lockwashers, 5/16	4	470034	Steel
8	Spacers	4	561567	Aluminum
9*	Sight Glass	1	561568	Acrylic
	Sight Glass Kit	1	562249	Acrylic
10	Hex Cap Screws	4	447380	Steel Plated
11*	Tetraseals	2	561814	-
12	Gasket	1	408604	Buna
13	Body	1	565231	Aluminum

Civacon 60TT Drop Elbow



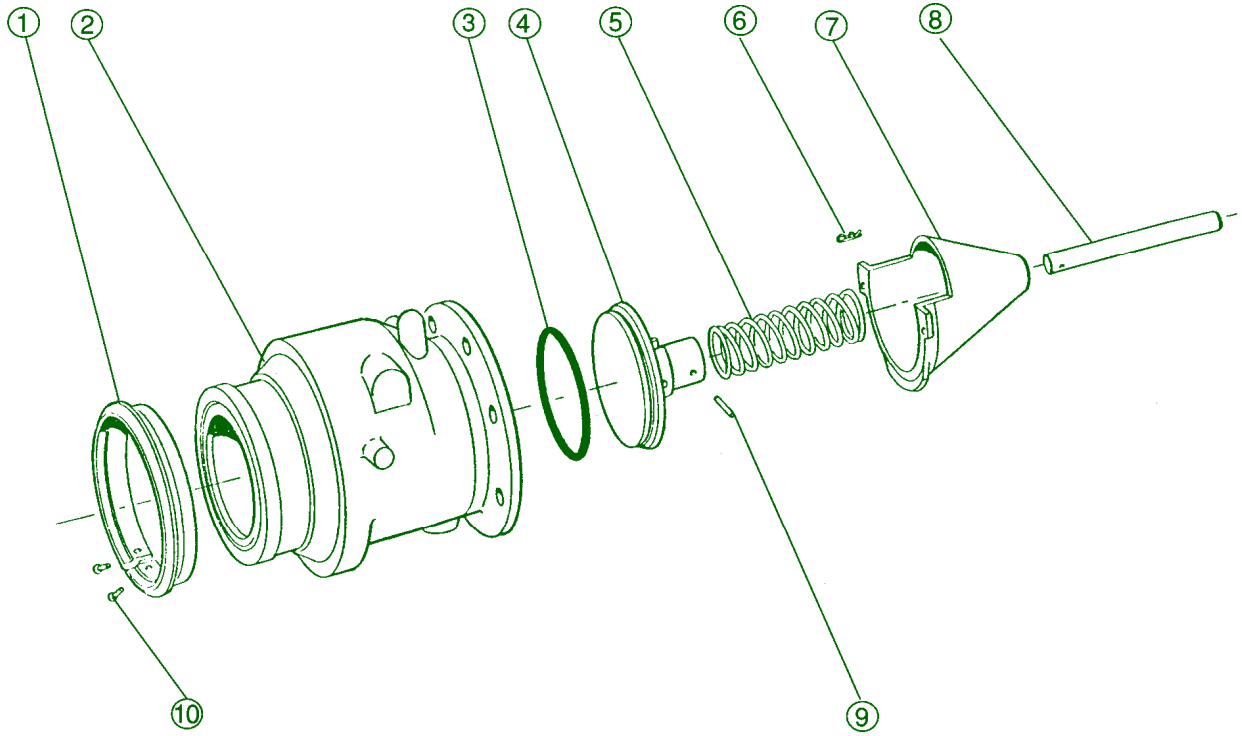
Key	Part No.	Description
1	H-20519-M	① Gasket (3)
2	H-4135-M	Retaining Plate (3)
3	H-20012-M	① Screw (9)
4	H-1912-M	① Sight Glass (3)
5	H-4225-M	① Lock Washer (9)
6	E-254-A	Upper Body - Adaptor (shown)
	E-264-A	Upper Body - Female NPT
7	C-10125-M	Handle
8	H-3114-M	Hex Cap Bolt (4)
9	H-6151-M	Hex Nut (4)
10	H-10088-M	Spring Washer (4)
11	H-3866-M	Spacer (6)

Key	Part No.	Description
12	H-20509-M	Shoulder Screw
13	H-20373-RE	Pin (2)
14	H-4137-M	Gasket
15	H-20476-M	② Spirol Pin (2)
16	H-20495-M	② Yoke Sub Assy. (2)
17	E-259-A	Lower Body
18	H-7821-M	Cotter Pin (2)
19	C-10146-M	Link
20	H-10090-M	Flange Bearing (4)
21	C-10144-M	Drive Stem (Outer)
22	C-10143-M	Drive Stem (Inner)
23	H-10039-M	Gasket

① Supplied as window replacement kit 60-WRK-0001 one kit/elbow

② Supplied as yoke subassembly repair kit 60-TTK-0100 one kit/elbow

Emco Wheaton F5000 API Adaptor

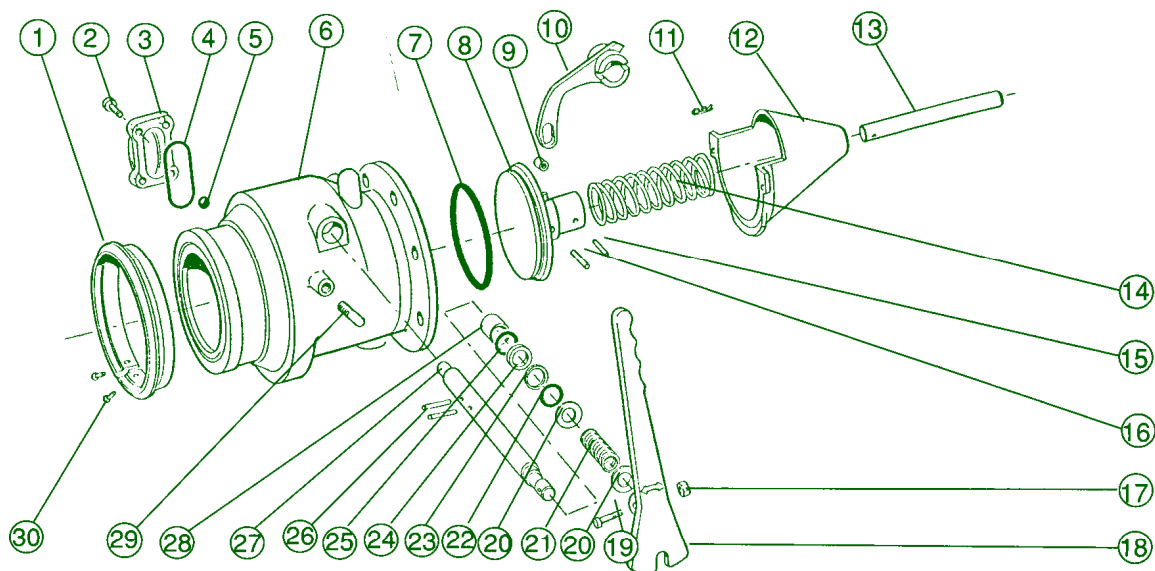


SPECIFICATIONS

REF	DESCRIPTION	PART NO. F5000-001 VITON	PART NO. F5000-002 PTFE	QTY
1	Nose Ring	619323	619323	1
2	Body	619351	619351	1
3	O-Ring	850027	619410	1
4	Poppet	619348	619348	1
5	Spring	619454	619454	1
6	Hair Pin Clip	560489	560489	2
7	Cone	619308	619308	1
8	Stem	619309	619309	1
9	Roll Pin	619311	619311	1
10	Screw M5 C'sk	619370	619370	2

Emco Wheaton F5002

API Adaptor, Openable with Liquid Indicator



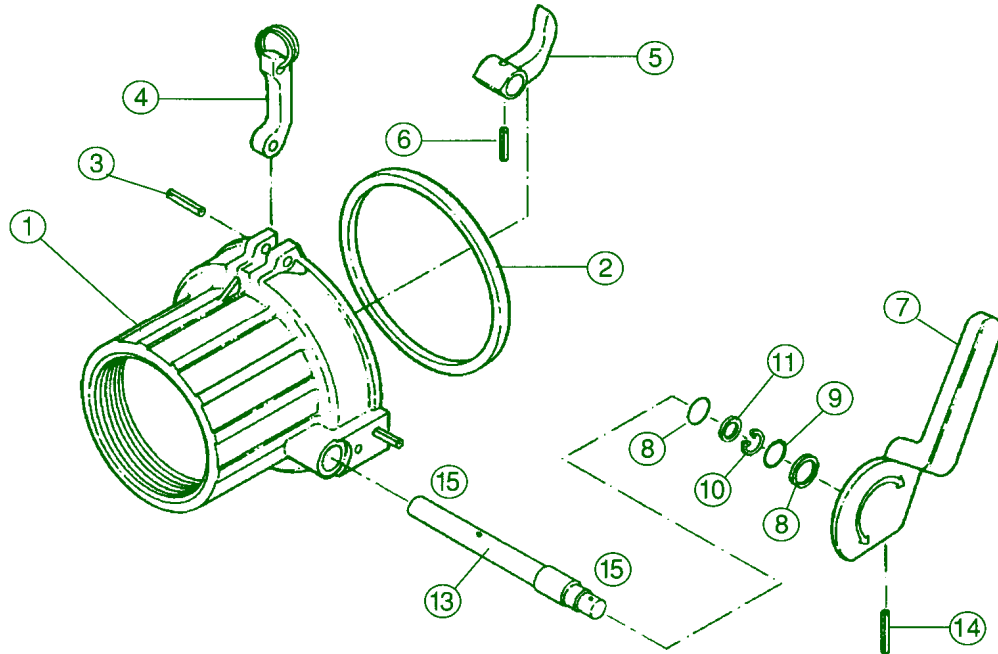
SPECIFICATIONS

REF	DESCRIPTION	PART NO. F5002-001 VITON	PART NO. F5002-002 PTFE	QTY	REF	DESCRIPTION	PART NO. F5002-001 VITON	PART NO. F5002-002 PTFE	QTY
1	Nose Ring	619323	619323	1	21	Spring	564273	564273	1
2	Screw	602747	602747	4	22	O-Ring	561320	561320	1
3	Sight Glass	618148	618148	1	23	Retaining Ring	408169	408169	1
4	O-Ring	577105	577253	1	24	Spacer	408167	408167	1
5	Hollow Ball	603602	603602	1	25	O-Ring	407433	577191	1
6	Body	619349	619349	1	26	Roll Pin	561852	561852	2
7	O-Ring	850027	619410	1	27	Shaft	619316	619316	1
8	Poppet	619327	619327	1	28	Bearing	409443	409443	1
9	Bearing Roller	409436	409436	1	29	Stud	619313	619313	1
10	Cam	619328	619328	1	30	Screw M5 C'sk	619370	619370	2
11	Hair Pin Clip	560489	560489	2	N/S	Washer M6	616399	616399	4
12	Deflector Cone	619308	619308	1					
13	Stem	619309	619309	1					
14	Spring	619454	619454	1					
15	Roll Pin	619311	619311	1					
16	Bearing Pin	563161	563161	1					
17	Nut	564277	564277	1					
18	Lever	619314	619314	1					
19	Screw	564278	564278	1					
20	Washer Nylon	564275	564275	2					

SERVICE KITS

PART NO.	DESCRIPTION
619499	Sight Glass Kit
619504	Service Kit
619506	Nose Ring Kit
619636	Lever Kit
619927	Poppet Seal Kit

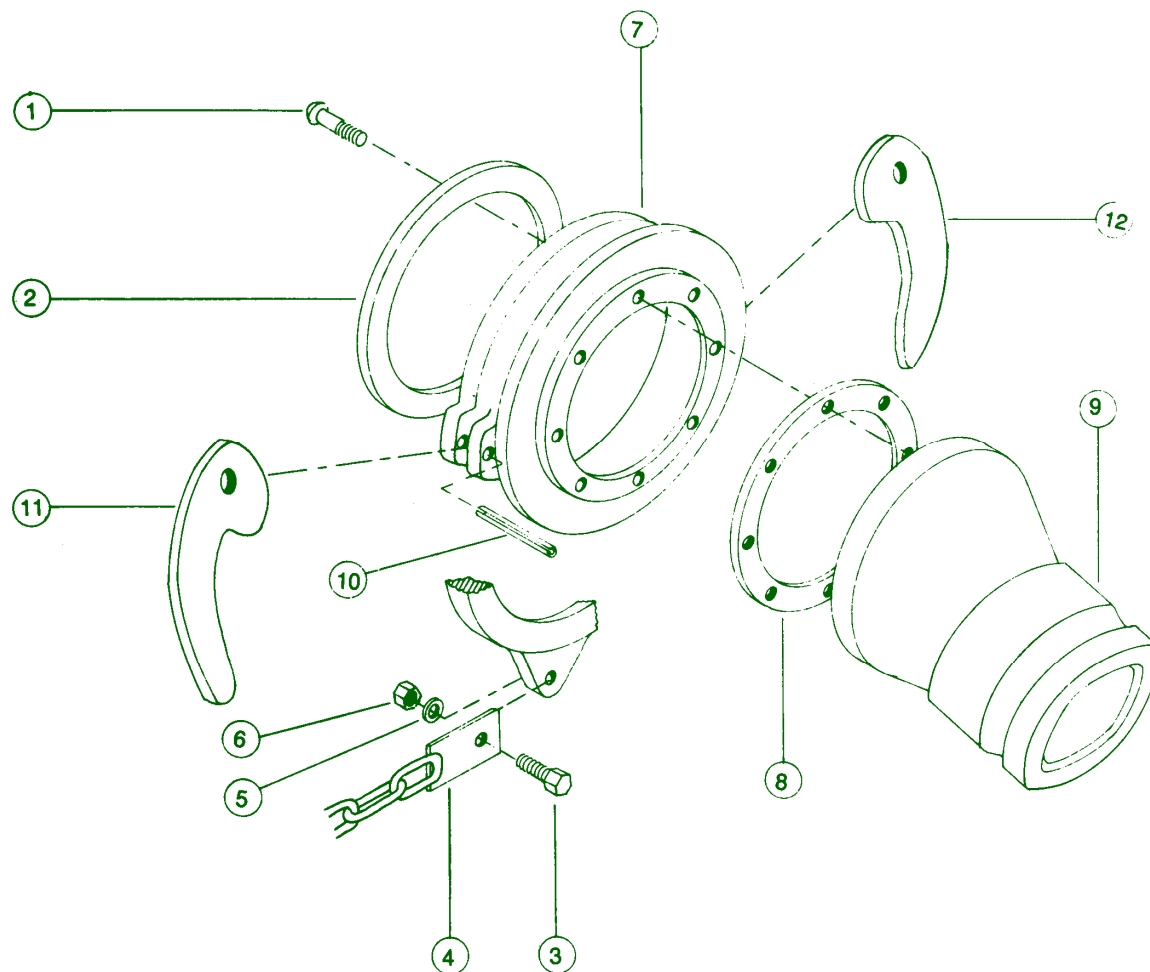
Emco Wheaton F456 API Adaptor Opener



SPECIFICATIONS

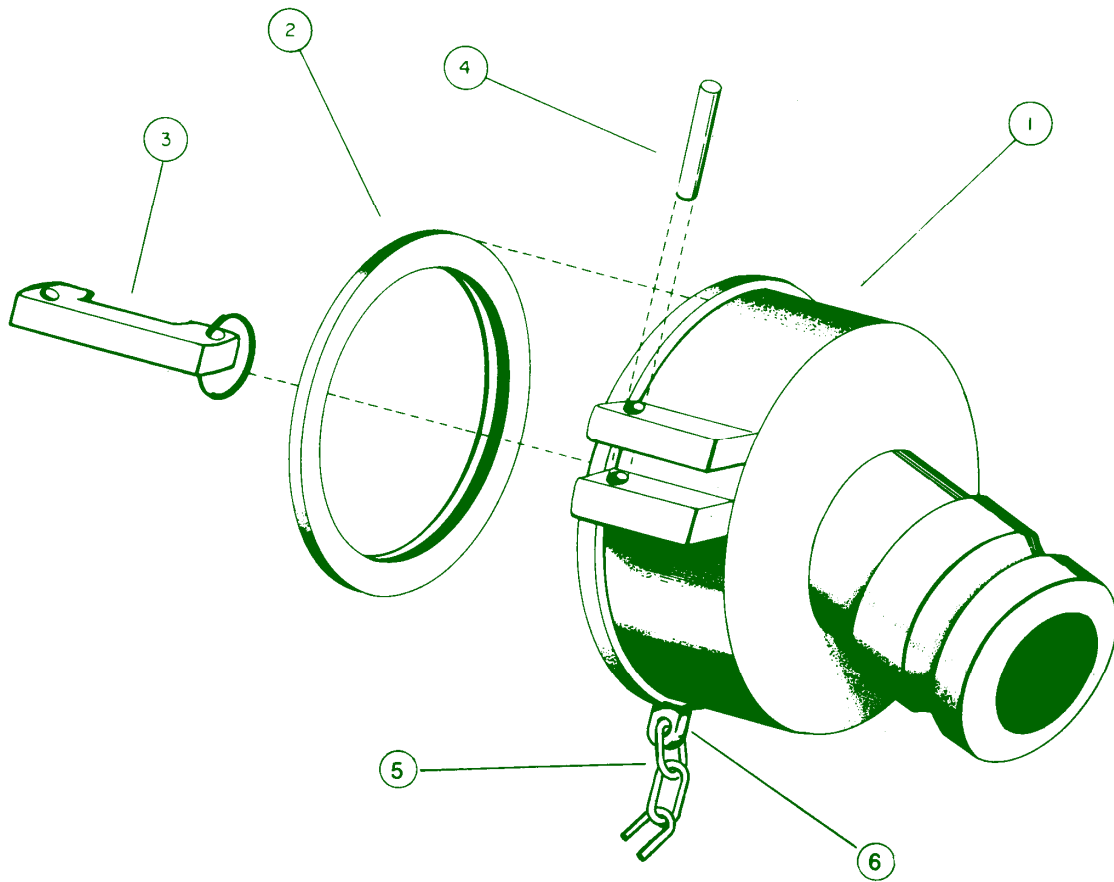
ITEM NO.	DESCRIPTION	QTY.	PART NO. F456-001	MATERIAL
1	Body	1	408195	Aluminum
2	Seal	1	409786	Buna
3	Grooved Pins	2	409660	Stainless Steel
4	Cam & Ring Assembly	2	491248	Brass/Stainless Steel
5	Cam	1	408193	Brass
6	Roll Pin, Cam	2	404868	Stainless Steel
7	Lever	1	408324	Aluminum
8	Washers	2	405782	Aluminum
9	O-ring	1	561320	Buna
10	Retaining Ring	1	408169	Steel
11	Spacer	1	408167	Stainless Steel
12	O-ring	1	480040	Buna
13	Shaft	1	408200	Aluminum
14	Roll Pin	1	408424	Steel
15	Bushings	2	408170	Nyliner
	Bearing (not shown)	1	408199	Steel/Nylon

Emco Wheaton F459 API Gravity Adaptor



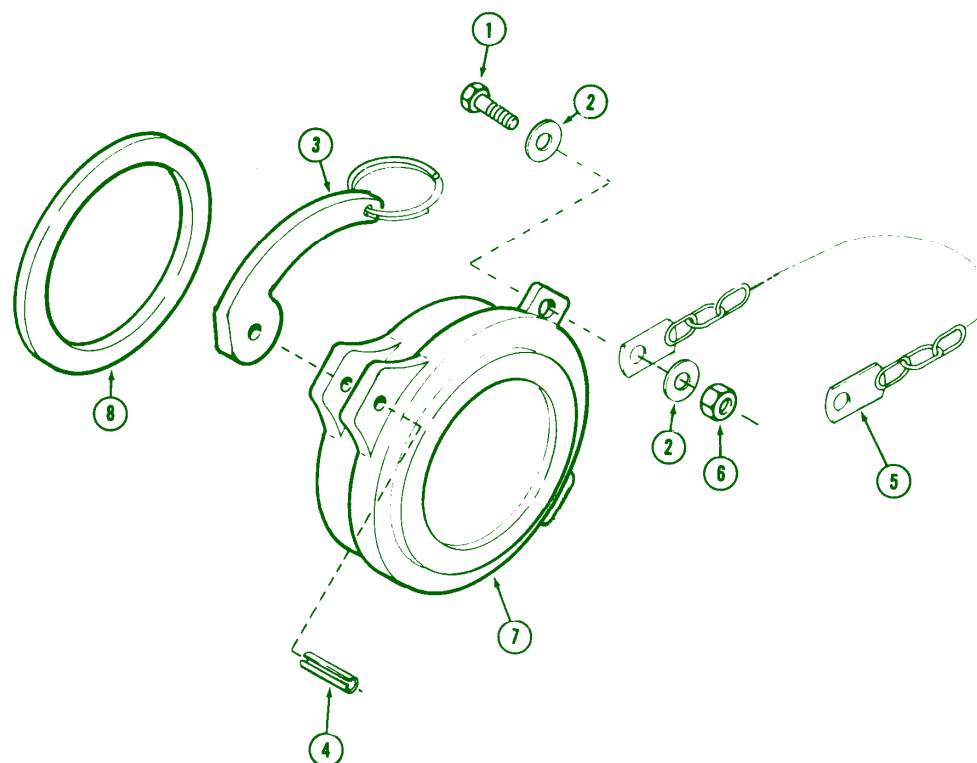
REF.	DESCRIPTION	PART NUMBER		REQ'D	MAT'L
		F459-001	F459-002		
	HOSE END FITTING-3"				
1	Screw	409788	—	S.S.	
2	Seal	409786	—	1	Buna-N
3	Screw	403138	403138	2	Copper
4	Chain Link Assy.	491544	491544	36"	S.S.
5	Lock Washer	560040	560040	2	S.S.
6	Nut	406236	406236	1	Steel
7	Hose End Body	409203	—	1	Alum.
8	Gasket	409787	—	1	Cork
9	Hose End	409167	409203	1	Alum.
10	Pin	409793	—	2	Steel
11	Cam- Left Hand	491721	491721	1	S.S.
12	Cam- Right Hand	491720	491720	1	S.S.

Emco Wheaton F459 API Gravity Adaptor



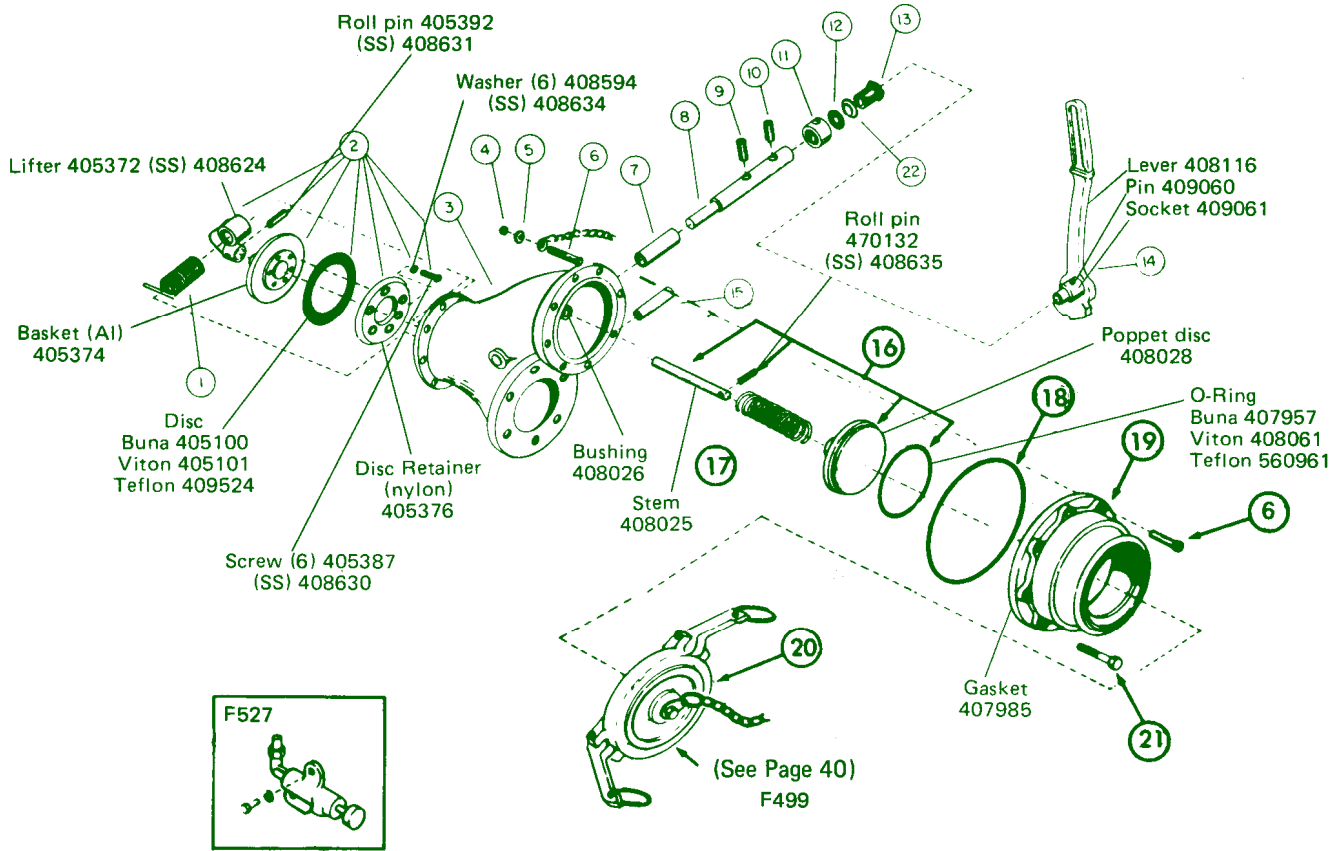
REF.	DESCRIPTION	PART NUMBER			REQ'D.
		BUNA		VITON	
		F459-006 3"	F459-007 4"	F459-008 4"	
1	Hose End Fitting	561302	561300	561300	1
2	Seal	560611	560611	561305	1
3	Cam & Ring Ass'y.	491248	491248	491248	2
4	Pin	409660	409660	409660	2
5	Open End Link	563504	563504	563504	1
6	Chain Link Ass'y.	491544	491544	491544	1

Emco Wheaton F499 4" API Dust Cap



REF.	DESCRIPTION DUST CAP ASSEMBLY	PART NUMBER F499-001	REQ'D.	MAT'L.
1	Screw	403138	1	Steel
2	Washer	560040	2	Steel
3	Cam Lug	561474	1	Nylon
	Right Hand Cam - (Shown)	492345	1	Nylon
4	Pin	409793	2	Steel
5	Chain	491544	1	Steel
6	Nut	406236	1	Steel
7	Dust Cap Body	409784	1	Alum.
8	Seal	409786	1	Buna

Emco Wheaton F552 API Adapter "Y" Valve

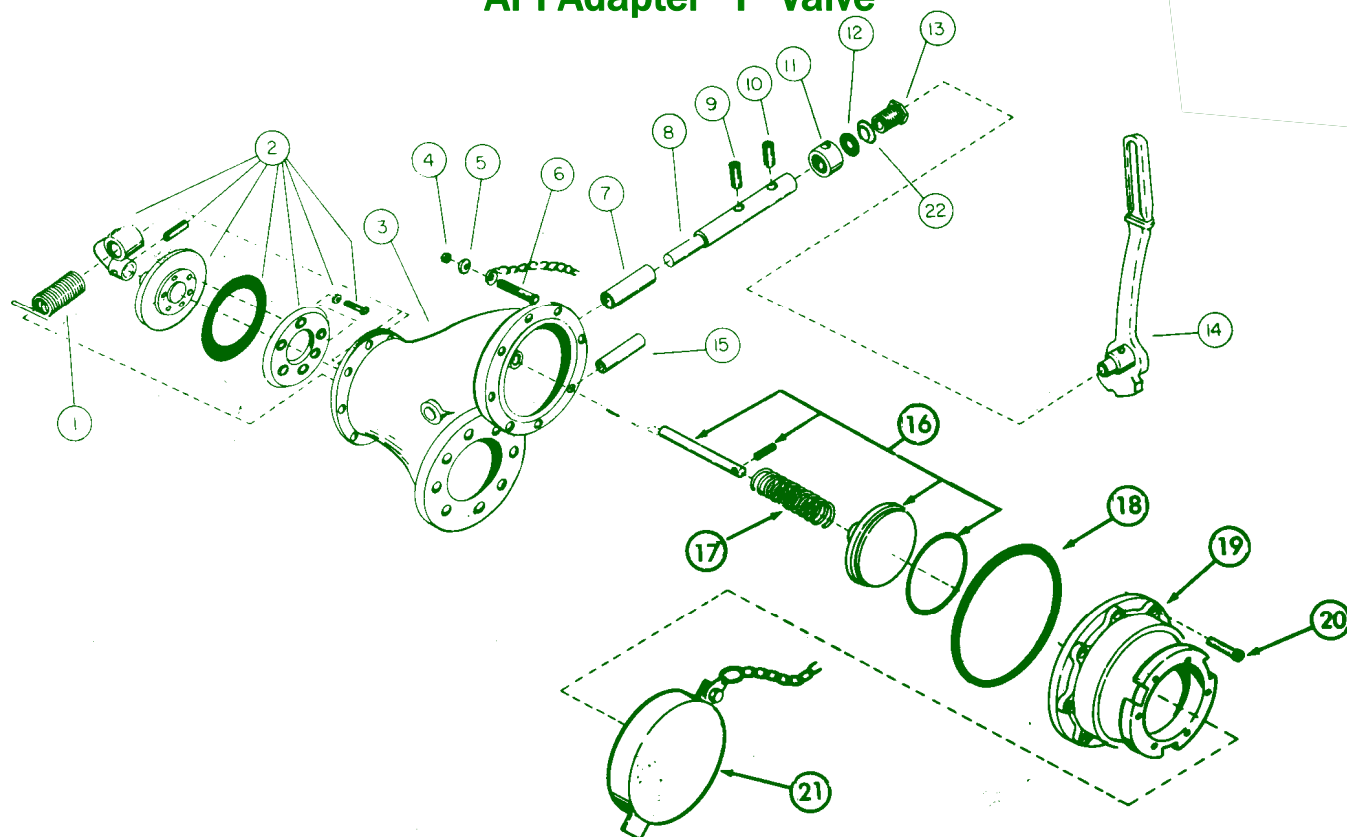


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F499

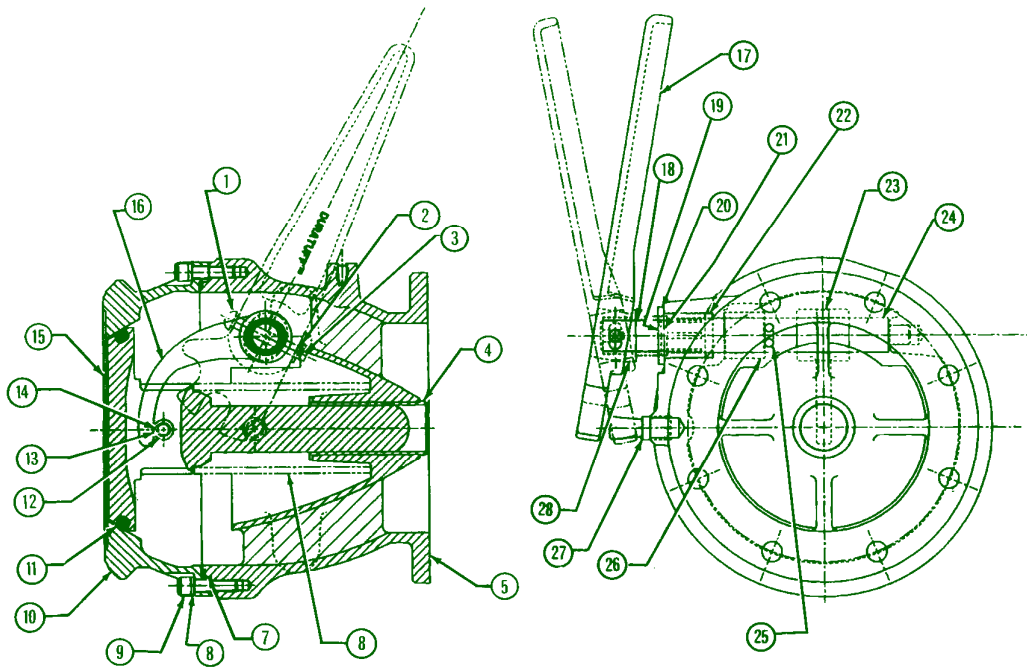
REF.	DESCRIPTION	VITON	BUNA	TEFLON	REQ'D
		PART NUMBER			
		F552-023	F552-024	F0552-029	
1	Spring	405378	405378	405378	1
2	Lifter Assy.	491438	491440	491561	1
3	Body Assy.	491899	491899	491900	1
4	Nut	406234	406234	406234	1
5	Lockwasher	405767	405767	405767	1
6	Screw	408032	408032	408032	1
7	Sleeve	405398	405398	405398	1
8	Lifter Stem	405377	405377	408625	1
9	Roll Pin	405386	405386	408629	1
10	Roll Pin	404868	404868	404868	1
11	Drive Bushing	405379	405379	408626	1
12	O-Ring	408054	401905	409732	
				Packing	
				409731	
				Nut	
13	Stuffing Box	408627	408627	409730	1
14	Lever Assy.	F0616-005	F0616-005	F0616-005	1
15	Stud	405383	405383	405383	1
16	Poppet Assy.	491441	491442	491560	1
17	Spring	560614	560614	408636	1
18	O-Ring	409638	409708	409639	1
19	Adapter	407984	407984	560634	1
20	API Dust Cap	491649	491649	491649	1
21	Screw	408029	408029	408029	7
22	Washer	409553	409553	409553	1

Emco Wheaton F552 API Adapter "Y" Valve



REF.	DESCRIPTION	BUNA SEALS	
		PART NUMBER	REQ'D.
	COMBINATION TANK VALVE WITH BUCKEYE ADAPTER	BUNA F552-026	
1	Spring	405378	1
2	Lifter Assembly	491440	1
3	Body	491899	1
4	Nut	470073	1
5	Lockwasher	405872	1
6	Screw	407544	1
7	Sleeve	405398	1
8	Lifter Stem	405377	1
9	Roll Pin	405386	1
10	Roll Pin	404868	1
11	Drive Bushing	405379	1
12	O-Ring	409708	1
13	Stuffing Box	408627	1
14	Lever Assembly	F616-005	1
15	Stud	405383	1
16	Poppet Assembly	491443	1
17	Spring	560614	1
18	O-Ring	401905	1
19	Adapter Assembly	491437	1
20	Screw	444739	8
21	Dust Cap	J1419-002	1
22	Washer	409553	1

Civacon 861, 861ST API Bottom Loading Adaptors



861

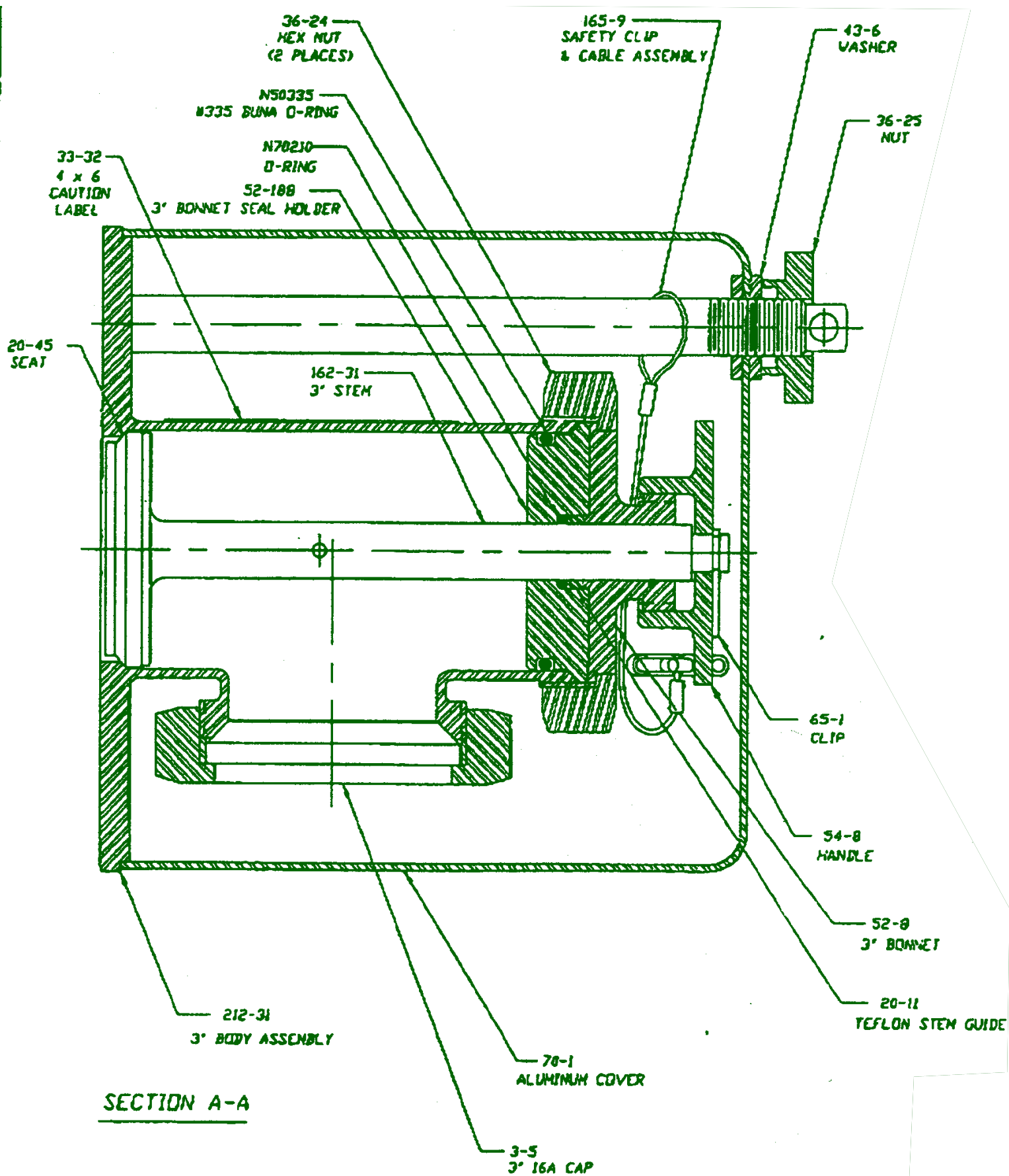
Key	Part No.	Description
1	H-8901-M	Fulcrum Pin
2	H-20312-M	Washer
3	H-4981-M	Cotter Pin
4	H-20071-M	Bearing
5	E-10066-A	Pipe End
6	H-20178-M	Spring
7	→ H-20315-M	O-Ring (Adaptor Halves)
8	H-20057-M	Lock Washer (8)
9	H-20151-M	Screw (8)
10	E-10003-AH	Adaptor End
11	→ H-20058-M	O-Ring (Poppet)
12	H-20052-RE	Roller
13	H-20078-M	Roller Bearing
14	H-20361-M	Groove Pin

Key	Part No.	Description
15	E-10004-A	Poppet
16	C-10008-EW	Cam
17	C-10009-M	Handle
18	H-20182-M	Spring
19	H-20199-M	Washer
20	H-20048-M	Bearing
21	H-20198-M	Dust Seal
22	→ H-20311-M	O-Ring
23	H-20092-M	Spirol Pin (Cam)
24	H-20050-RE	Shaft
25	H-20060-M	Spirol Pin (Shaft)
26	H-20203-RA	Spacer
27	H-20051-RA	Stop Pin
28	H-20511-M	Hub

861ST *Same as 861 except as noted*

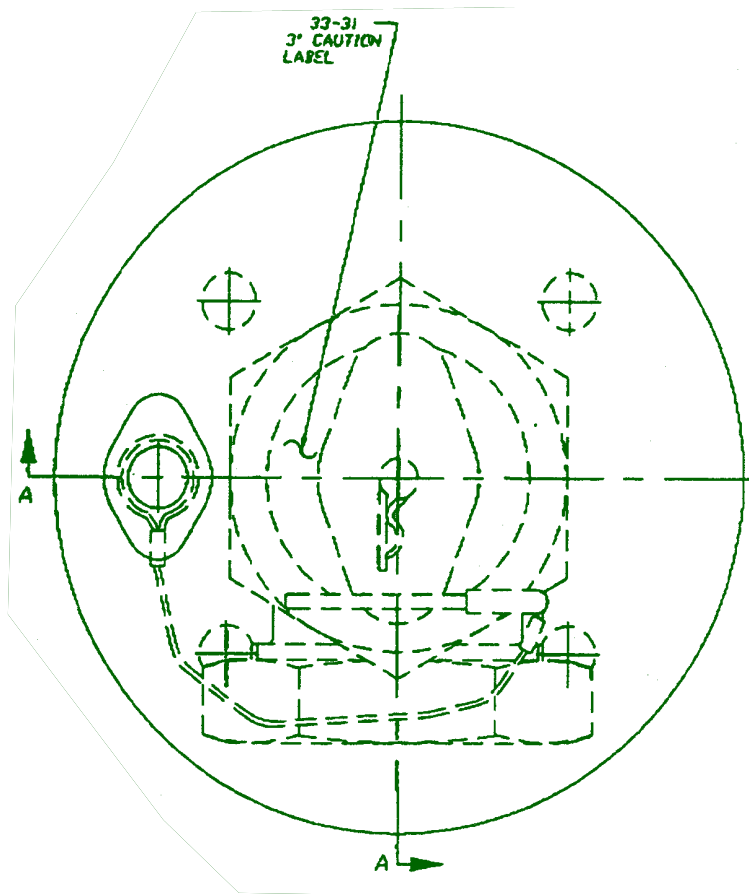
Key	Part No.	Description
6	H-20073-M	Spring
7	H-20099-M	O-Ring (Adaptor Halves)
8	H-20057-M	Lock Washer (8)
11	H-20100-M	O-Ring Teflon (Poppet)
22	H-20102-M	O-Ring

Waukesha Sanitary 60TTF Tanker Valve

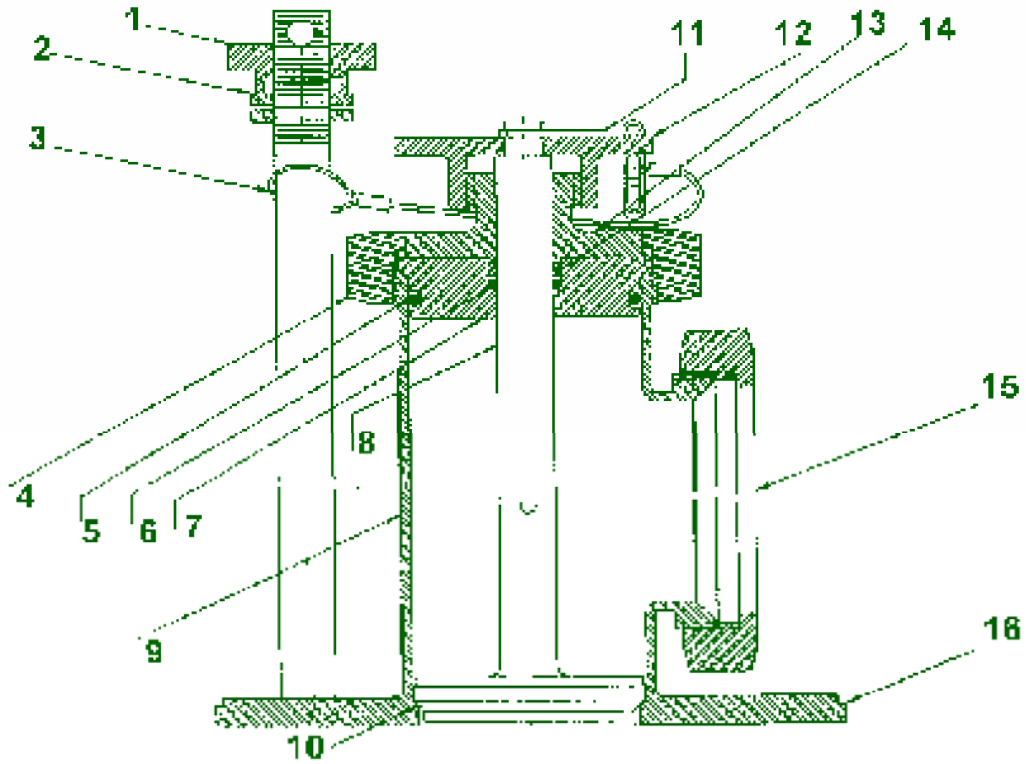


Waukesha Sanitary 60TTF Tanker Valve

PART NO.	DESCRIPTION	LIST PRICE
212-31	Flanged Body	\$ 776.00
162-31	Valve Stem w/ remov. seat	\$ 122.00
20-31*	Stem Seat (Black)	\$ 6.90
20-45*	Stem Seat (White)	\$ 12.70
20-11	Stem Guide – Teflon Gasket	\$ 5.40
N70210	Stem O-Ring	\$ 0.70
65-1	Stem Clip	\$ 1.40
52-8	Bonnet	\$ 77.50
52-188	Seal Retainer	\$ 51.60
54-8	Handle	\$ 74.20
36-24	Bonnet Nut	\$ 71.80
3-5	Outlet Cap	\$ 31.20
36-24	Outlet Nut	\$ 71.80
70-1	Alum. Dust Cover	\$ 95.40
70-2	SS Dust Cover	\$ 296.00
30-10	Hood Post	\$ 57.90
36-25	Cover Nut	\$ 53.10
43-6	Cover Washer	\$ 17.80
N50335	Bonnet O-Ring	\$ 0.90
165-9	Safety Clip	\$ 28.70
133-32	Safety Kit	\$ 33.40



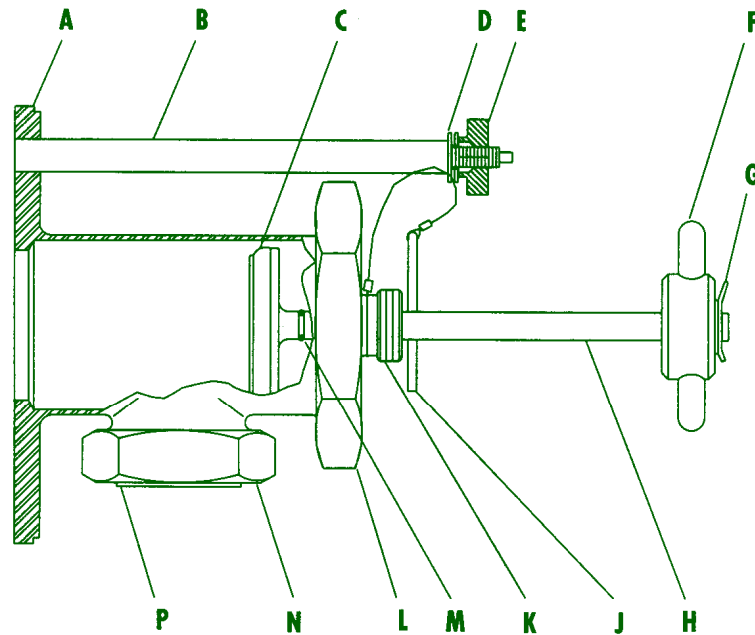
Waukesha Style 60TTF



ITEM #	DESCRIPTION	PART #
1	HOOD POST NUT (3/4" THREAD)	WAU-36-25
2	HOOD POST WASHER	WAU-43-6
3	SAFETY CLIP & CABLE ASSEMBLY	WAU-165-9
4	3" BONNET NUT	WAU-36-24
5	LOWER BONNET BUNA O-RING	WAU-N50335
6	STEM GUIDE O-RING	WAU-N70210
7	LOWER BONNET HALF	WAU-52-188
8	3" STEM (WITHOUT STEM SEAT)	WAU-162-31
9	CAUTION LABEL	WAU-33-32
10	STEM SEAT BLACK	WAU-20-45B
	STEM SEAT WHITE	WAU-20-45
11	STEM CLIP	WAU-65-1
12	STEM HANDLE	WAU-54-8
13	UPPER BONNET HALF	WAU-52-8
14	TEFLON STEM GUIDE	WAU-20-11
15	3" S/S CAP	WAU-3-5
16	3" BODY ASSEMBLY	WAU-212-31

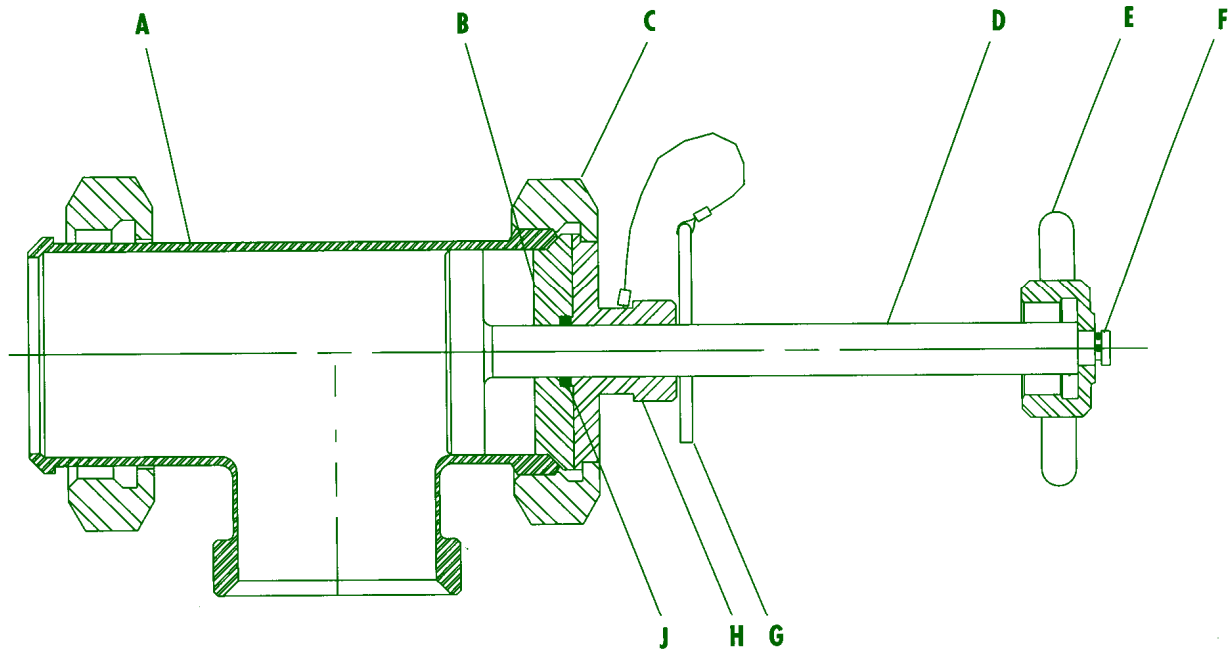
NOTE: Hoods (covers) for valves are available in Stainless Steel or Aluminum.

Thomsen Sanitary 60TTF Tanker Valve



	PART NO.	DESCRIPTION
A	14076-00	Body
B	14010-00	Post (5/8-11)
	14014-00	Post (3/4-16)
C	14116-WO	Gasket (black or white)
D	14023-00	Washer
	14024-00	3/4 Washer
E	1054-00	Wing nut (5/8-11)
	14027-00	Wing nut (3/4-16)
F	14050-00	Handle
G	13635-00	Clip
H	14099-00	Stem (bonded)
	14095-00	Stem (gasket)
J	14163-00	Cable/clip assembly
K	14030-00	Bonnet
L	2248-00	Hex nut 3 1/2"
M	3129-00	"O" ring
N	2234-00	Hex nut
P	2314-00	Cap
	14155-00	Stem lock kit with stem
	14156-00	Stem lock kit without stem
	14157-00	Warning label kit
	14000-47	304SS dust cover
	14000-97	Aluminum dust cover
	14117-TO	3" 60TTF flange gasket (teflon)
	14117-PE	3" 60TTF flange gasket (polyethylene)

Thomsen 3" Sanitary Farm Pick Up Valve



14341-00 3" TANKER VALVE (4189)			\$520.00
DETAIL NO.	PART NO.	DESCRIPTION	PRICE
A	14230-00	Body	410.00
B	14032-00	Lower bonnet half	90.00
C	2234-00	Hex nut	40.00
D	14182-00	Stem	95.00
E	14050-00	Handle	49.00
F	13635-00	Clip	1.00
G	14163-00	Cable/clip assembly	25.00
H	14034-00	Upper bonnet half	95.00
J	3117-00	"O" ring	0.65
	14271-00	Stem lock kit with stem	142.00
	14272-00	Stem lock kit without stem	28.00
	14273-00	Warning label kit	6.00

Dixon Bayco Butterfly Valve Replacement Parts

Complete Valve with Nodular Iron Disc

Size	Part Number
2"	2-400-1500
3"	3-400-1500
4"	4-400-1500
4" TTMA	4A-400-1500
5"	5-400-1500
6"	6-400-1500

Nodular Iron Replacement Discs

Size	Part Number
2"	2-400-422237F
3"	3-400-422237F
4"	4-400-422237U
5"	5-400-422237U
6"	6-400-422237U

Black Replacement Nitrile Seats

Size	Part Number
2"	2-400-422500
3"	3-400-422500
4"	4-400-422500
4"	4A-400-422500
5"	5-400-422500
6"	6-400-422500

Complete Valve with 316 Stainless Steel Disc

Size	Part Number
3"	3-400-3501
4"	4-400-3501
5"	5-400-3501
6"	6-400-3501

316 Stainless Steel Replacement Discs

Size	Part Number
2"	2-400-422209F
3"	3-400-422209F
4"	4-400-422209U
5"	5-400-422209U
6"	6-400-422209U

White Replacement Nitrile Seats

Size	Part Number
2"	2-400-422501
3"	3-400-422501
4"	4-400-422501
4"	4A-400-422501
5"	5-400-422501
6"	6-400-422501

Complete Valve with 316 SS Disc

Size	Part Number
3"	3-390-828501
4"	4-390-828U501
5"	5-390-828U501
6"	* 6-390-828U501

316 Stainless Steel Replacement Discs

Size	Part Number
3"	3-390-209F
4"	4-390-209U
5"	5-390-209U
6"	6-390-209U

White Replacement Nitrile Seats

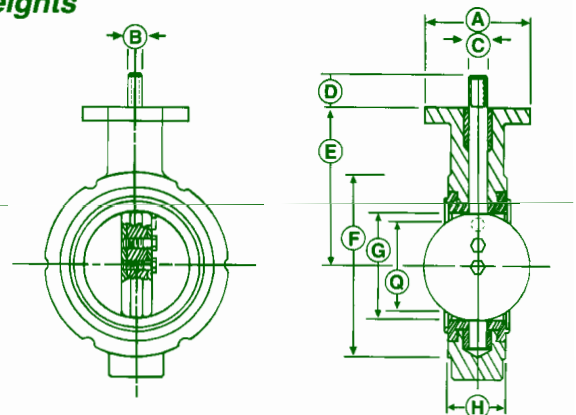
Size	Part Number
3"	3-400-422501
4"	4-400-422501
5"	5-400-422501
6"	6-390-363501

Dimensions & Weights

Size	Dimensions									Weight in Lbs.
	A	B	C	D	E	F	G	H	Q	
2"	4.000	.375	.563	1.250	3.938	4.125	2.125	1.625	1.688	3
3"	4.000	.375	.563	1.250	4.875	5.375	3.125	1.750	2.875	5
4"	4.000	.438	.625	1.250	6.000	6.875	4.125	2.000	3.875	8
5"	4.000	.438	.625	1.250	6.000	7.625	5.188	2.125	5.000	9
6"	4.000	.438	.625	1.250	6.500	8.750	6.125	2.125	6.000	9

NOTES:

- Q dimension is the minimum allowable inside diameter of the pipe or mating flange.



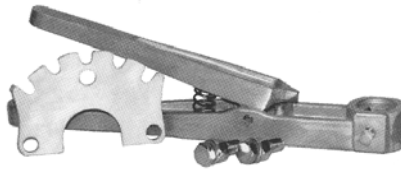
Dixon Bayco Butterfly Valve Accessories

Aluminum Handle Kit

Size	Part Number
2" and 3"	206-23-5
4" thru 6"	206-46-5
6" - 390	* 400-206-65

- Includes handle plate kit and handle/lever assembly.

* Use on 6" 390 series valves



17-4 Stainless Stems

Size	Part Number
2"	2-400-422240
3"	3-400-422240
4"	4-400-422240
5"	5-400-422240
6"	6-400-422240

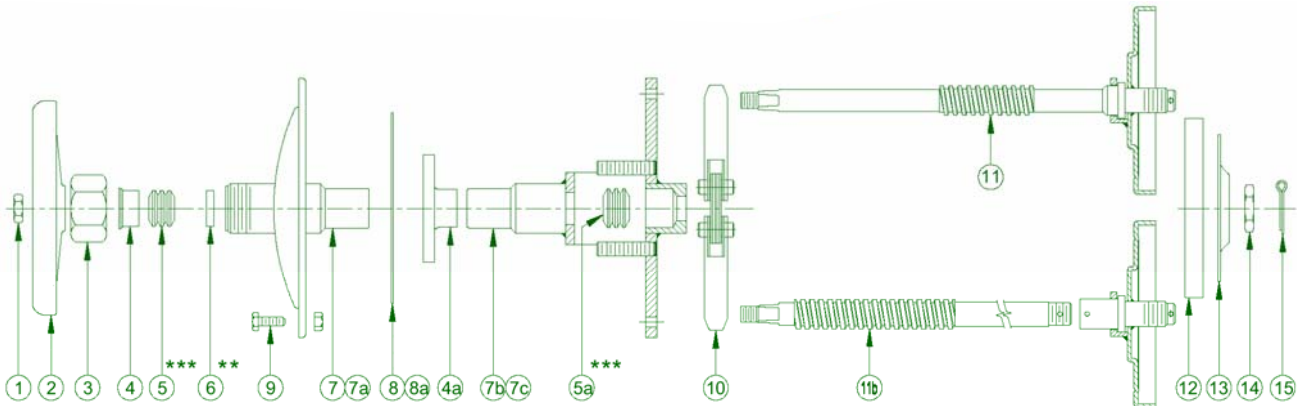
Bushing & Packing Kits

Size	Part Number
2" and 3"	2-3-400-99-BPKIT
4" thru 6"	4-6-400-99-BPKIT
6"	* 6-99-400BPKIT

316 Stainless Screw Sets

Size	Part Number
2" and 3"	2-3-213
4" thru 6"	4-5-6-213

Betts Hydrolet Valve Parts



No.	Description	Req'd.	Size	Material	Part No.	
1	Hex Nut 7/16"-14 Thd.	1	3"-4"	Steel Zinc Plt.	9Q8579	
				304 Stnls	9Q8580	
2	Handwheel	1	3"	Aluminum	25186AL	
				4"	Aluminum	25245AL
3	Stuffing Box Nut	1	3"-4"	Aluminum	15026AL	
4	Top Gland	1	3"-4"	304 Stnls	15026SL	
				316 Stnls	15220SS	
4a	Top Gland OS&Y Style	1	3"-4"	304 Stnls	16758SL	
5***	Teflon Packing	1	3"-4"	Teflon	19649TF	
5a***	Teflon Packing	1	3"-4"	Teflon	19648TF	
6**	Bottom Gland	1	3"-4"	316 Stnls	15076SS	
7	Tophead & Bonnet Bolted Style	1	3"	Steel	15382MS	
				Aluminum	15382AL	
				4"	Steel	25365MS
7a	Tophead & Bonnet QRB Style	1	3"	316 Stnls	15573SS	
				Aluminum	15573AL	
7b	Tophead & Bonnet QRB OS&Y	1	3"	316 Stnls	16126SS	
				Aluminum	16126AL	
				4"	316 Stnls	26133SS
7c	Tophead & Bonnet Bolted OS&Y	1	3"	Aluminum	26133AL	
				316 Stnls	26138SS	
				4"	Aluminum	26138AL
8	Tophead Gasket Bolted Style	1	3"	Cork-Buna-N	15022CB	
				Non-Asbestos	15022NA	
				Teflon-Env.	15022TF	
				4"	Cork-Buna-N	15265CB
				Non-Asbestos	15265NA	
	Teflon-Env.	15265TF				

No.	Description	Req'd.	Size	Material	Part No.	
8a	Tophead Gasket QRB Style	1	3"	Cork-Buna-N	15905CB	
				Teflon-Env.	15905TF	
				4"	Cork-Buna-N	15977CB
9	Bolts & Nuts (Sets)	Set	3"	Steel Zinc Plt.	15023ZC	
				18-8 Stnls	15023SL	
10	QRB Clamp	1	3"	304 Stnls	25641SL	
				4"	304 Stnls	25683SL
				11	Disc Holder & Stem Assy. Bolted & QRB Style	1	3"	All Aluminum	17683AL
All Steel	17683MS					
All Stnls	17683SS					
4"	All Aluminum	17684AL				
	All Steel	17684MS				
	All Stnls	17684SS				
11a	Disc Holder & Stem Assy. OS&Y Style	1	3"	Steel	28003MS	
				316 Stnls	28003SS	
				4"	Steel	28004MS
12	Disc	1	3"	316 Stnls	28004SS	
				Buna-N	15202BU	
				Non-Asbestos	15202NA	
			4"	Teflon	15202TF	
				Viton	15202VT	
				Buna-N	15024BU	
13	Disc Retaining Plate	1	3"	Non-Asbestos	15024NA	
				Teflon	15024TF	
				Viton	15024VT	
14	Disc Plate Nut	1	3"-4"	316 Stnls	17028SS	
				Steel	15051MS	
				Aluminum	15051AL	
15	Cotter Pin 1/8x1	1*	3"-4"	316 Stnls	15051SS	
15	Cotter Pin 1/8x1	1	3"-4"	316 Stnls	9Q5867	

** This part note req'd. on OS&Y Models

* 2 Req'd. on OS&Y Models

*** Note:

No. 5 used with Std. Bonnet Models only.
No. 5a used with OS&Y Models only.

HYDROLET SUB-ASSEMBLIES

Size	Hydrolet Material	Bolted Style	Bolted OS&Y Style	QRB Style	QRB-OS&Y Style
3"	Steel	WV17593MSB	WV17607MSB		
	Aluminum	WV17593ALB	WV17607ALB	WV17609ALB	WV17611ALB
	316 Stnls.			WV17609SST	WV17611SST
4"	Steel	WV17594MSB	WV17608MSB		
	Aluminum	WV17594ALB	WV17608ALB	WV17610ALB	WV17612ALB
	316 Stnls.			WV17610SST	WV17612SST

NOTES: Cotter pins only provided on sub-assemblies ordered with either Teflon or Non-Asbestos disc.

Bolted sub-assemblies do not include QRB clamp (Item #10)

QRB sub-assemblies do not include Bolts & Nuts (Item #9)

Steel and Aluminum sub-assemblies are standard with Buna-N disc, Cork-Buna-N Gasket and Non-Asbestos packing (Suffix "B").

Stainless sub-assemblies are standard with Teflon disc, packing and gasket (Suffix "T").

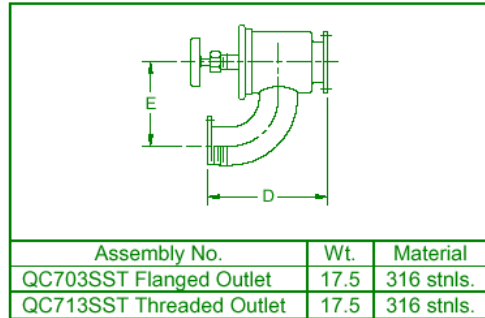
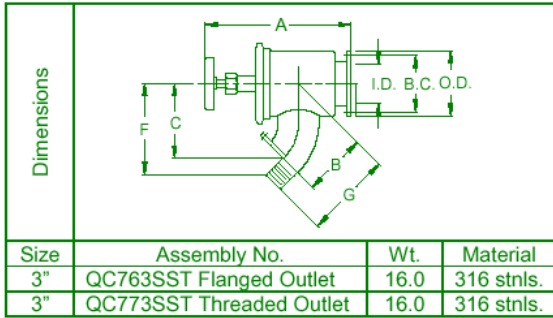
VARIATIONS: (Suffix "A"-Bolted Style) when used would include non-asbestos disc, packing and gasket.

(Suffix "A"-QRB Style) when used would include non-asbestos disc, packing and teflon gasket.

(Suffix "V"-Bolted or QRB Style) when used would include viton disc, teflon packing and gasket.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

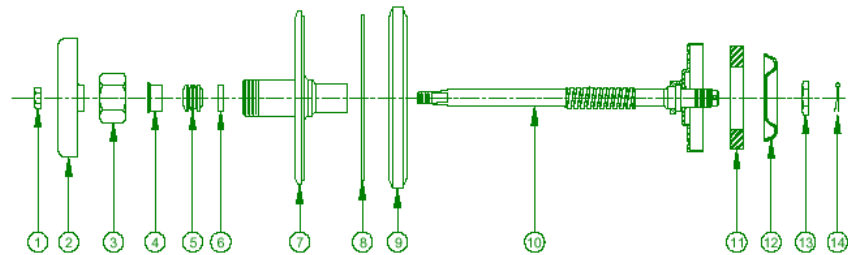
Betts Hydrolet Valve Quick Clean Style



Size	Assembly No.	Wt.	Material
3"	QC763SST Flanged Outlet	16.0	316 stnls.
3"	QC773SST Threaded Outlet	16.0	316 stnls.

Assembly No.	Wt.	Material
QC703SST Flanged Outlet	17.5	316 stnls.
QC713SST Threaded Outlet	17.5	316 stnls.

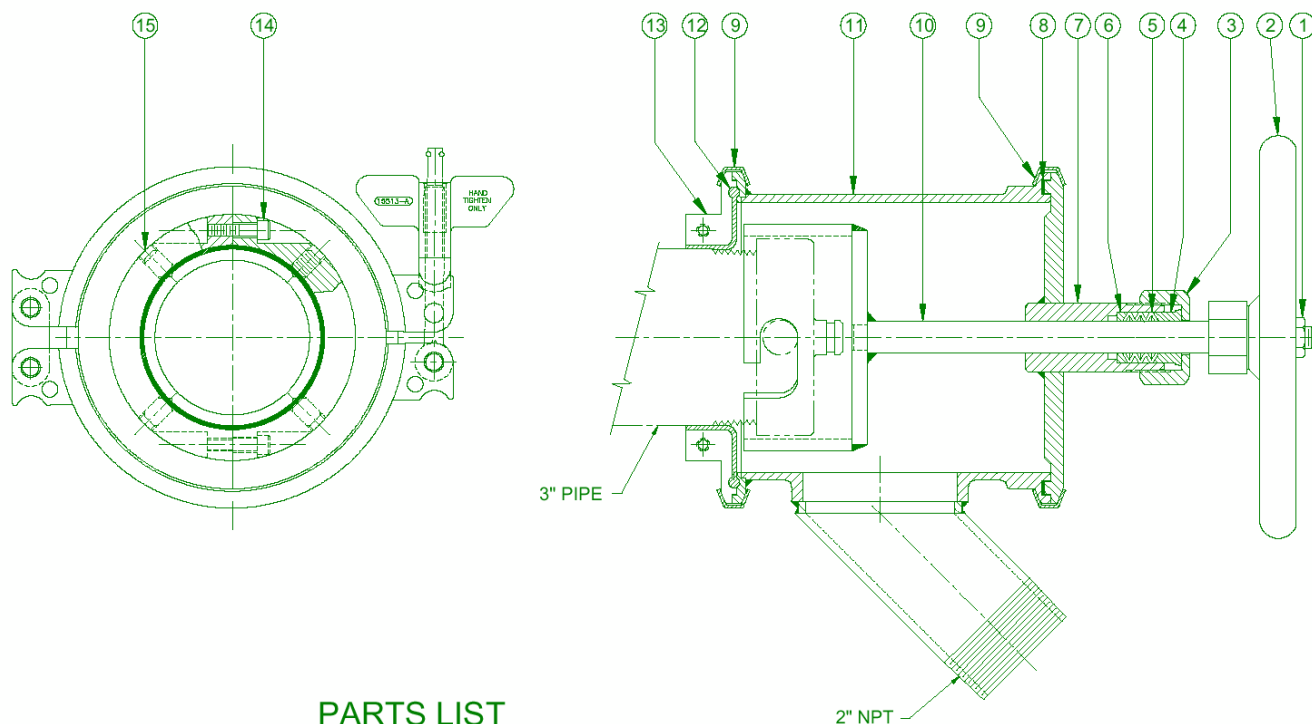
Size	A	B	C	D	E	F	G	Flanged Inlet & Outlet				Thd. Outlet Pipe Size
								I.D.	O.D.	B.C.	Holes	
3"	12½	5½	6 ⁷ / ₁₆	11	7½	7 ¹³ / ₁₆	7½	3 ⁹ / ₈	5 ⁹ / ₈	4 ⁷ / ₈	8- ⁷ / ₁₆	3"



Parts List

No.	Description	Req'd	Material	Part No.	No.	Description	Req'd	Material	Part No.
1	1/16-14UNC-2A Hex Nut	1	Steel	9Q8580	8	Tophead Gasket	1	Teflon	15977TF
2	Handwheel	1	Alum.	25186AL	9	Clamp Ring Assembly	1	Stnls.	25683SL
3	Stuffing Box Nut	1	Stnls.	15026SL	10	Disc Holder & Stem Assembly	1	Stnls.	17683SS
4	Top Gland	1	Stnls.	15220SS	11	Disc	1	Teflon	15202TF
5	Teflon Packing	1	Teflon	19649TF	12	Disc Retainer Plate	1	Stnls.	17028SS
6	Bottom Gland	1	Stnls.	15076SS	13	Disc Plate Nut	1	Stnls.	15204SS
7	Tophead & Bonnet	1	Stnls.	16126SS	14	1/8X 1 Cotter Pin	1	Stnls.	9Q5867

Betts Emergency Unloading Fixture



PARTS LIST

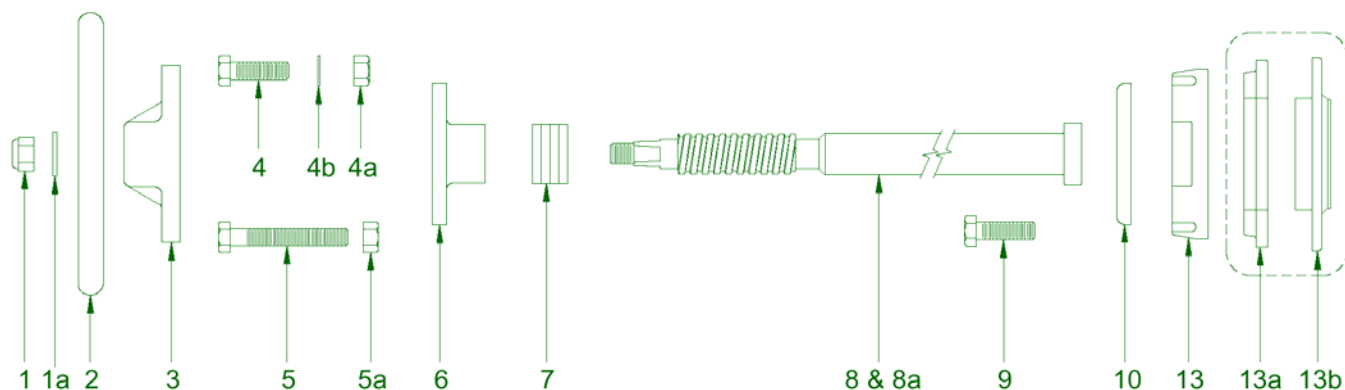
No.	Description	Req.	Material	Part No.
* 1	Nut-Handwheel	1	Steel Zinc Plt.	9Q5811
* 2	Handwheel	1	Aluminum	27423AL
* 3	Stuffing Box	1	Stainless	15026SL
* 4	Top Gland	1	Stainless	15220SS
* 5	Teflon Packing	1	Teflon	19649TF
* 6	Bottom Gland	1	Stainless	15076SS
* 7	Tophead & Bonnet	1	Stainless	19164SS
8	Tophead Gasket	1	Teflon	15977TF
9	Q.R.B. Clamp Assembly	1	Stainless	25683SL
* 10	Stem & Adapter Assembly	1	Stainless	27941SS
11	Body Assembly	1	Stainless	35342SS
12	Gasket	1	Viton	19111VT
13	Clamp	1		27376SS
** 14	1/4-20 x 1" Lg. S.H.C.S.	2	Steel	9Q5935
15	3/8-16 x 5/8 Lg. Socket Set Screw	4	Steel	9Q5936
** 16	Hex T-Handle Wrench	1	Steel	9Z3057

* Included w/ Part No. 35368SS

** Included w/ Item 13 Clamp

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of the Fixture.

Betts Flush Valve



No.	Description	Req'd.	Size	Material	Part No.
1	Hex Nut	1	3" & 4"	Steel Zinc Plt.	9Q8579
			304 Stnls.	9Q8580	
			6"	Steel Zinc Plt.	9Q5872
			304 Stnls.	9Q5873	
1a	Washer	1	3" & 4"	Steel Zinc Plt.	9Q5913
			18-8 Stnls.	9Q5915	
			6"	Steel Zinc Plt.	9Q5899
			6"	304 Stnls.	9Q5908
2	Handwheel	1	3" & 4"	Aluminum	26604AL
			6"	Aluminum	26605AL
3	Nut	1	3" & 4"	Cast Iron	25468CI
			6"	Bronze	25669BR
4	Cap Screw 3/8-16 x 1 1/4 1/2-13 x 1 3/4	2	3" & 4"	Steel Zinc Plt.	9Q5810
				304 Stnls.	9Q5815
		4	6"	Steel Zinc Plt.	9Q5926
				304 Stnls.	9Q5929
4a	Hex Nut 3/8-16 Thd. 1/2-13 Thd.	2	3" & 4"	Steel Zinc Plt.	9Q5890
				304 Stnls.	9Q5809
		4	6"	Steel Zinc Plt.	9Q5812
			6"	304 Stnls.	9Q5853
4b	Lockwasher External Tooth	2	3" & 4"	Steel Zinc Plt.	9Q5886
			4	6"	Steel Zinc Plt.	9Q5918
5	Adjusting Screw 3/8-16 x 2 1/2	2	3" & 4"	Steel Zinc Plt.	9Q5889
				304 Stnls.	9Q5802
			6"	Steel	16756MS
5a	Hex Nut 3/8-16 Thd.	2	3", 4" & 6"	Steel Zinc Plt.	9Q5890
				304 Stnls.	9Q5809
6	Packing Gland	1	3" & 4"	304 Stnls.	15503SL
			6"	Steel	19582MS
			6"	316 Stnls.	19582SL
7	Packing	Set	3" & 4"	Non-Asbestos	15655NA
				Non-Asb/Tef	15655NT
				6"	Non-Asb/Tef	16769NT
8	Stem Standard and ASA style	1	3"	Steel	25469MS
				316 Stnls.	25469SS
			4"	Steel	25470MS
				316 Stnls.	25470SS
			6"	Steel	26121MS
316 Stnls.	26121SS				

No.	Description	Req'd.	Size	Material	Part No.
8a	Stem Steam Jacketed Style	1	3"	Steel	25470MS
				316 Stnls.	25470SS
			4"	Steel	25732MS
				316 Stnls.	25732SS
9	Cap Screw 3/8-24 x 3/4	6	3", 4" & 6"	Steel Zinc Plt.	9Q5832
				316 Stnls.	9Q5831
10	Retainer Plate	1	3"	Steel	15605MS
				316 Stnls.	15605SS
				4"	Steel	15626MS
			4"	316 Stnls.	15626SS
				6"	Steel	16755MS
			6"	316 Stnls.	16755SS
13	Metal Disc	1	3"	Steel	16612MS
				316 Stnls.	16612SS
			4"	Steel	16613MS
				316 Stnls.	16613SS
			6"	Steel	16670MS
				316 Stnls.	16670SS
13a	Disc (Items 13a & 13b fit together for optional replacement for item 13)	1	3"	Buna-N	16657BN
				Non-Asbestos	16657NA
				Viton	16657VT
				Teflon	16657TF
			4"	Buna-N	16583BN
				Non-Asbestos	16583NA
			6"	Viton	16583VT
				Teflon	16583TF
13b	Disc Holder (Items 13a & 13b fit together for optional replacement for item 13)	1	3"	Steel	15604MS
				316 Stnls.	15604SS
			4"	Steel	15625MS
				316 Stnls.	15625SS
			6"	Steel	26120MS
				316 Stnls.	26120SS

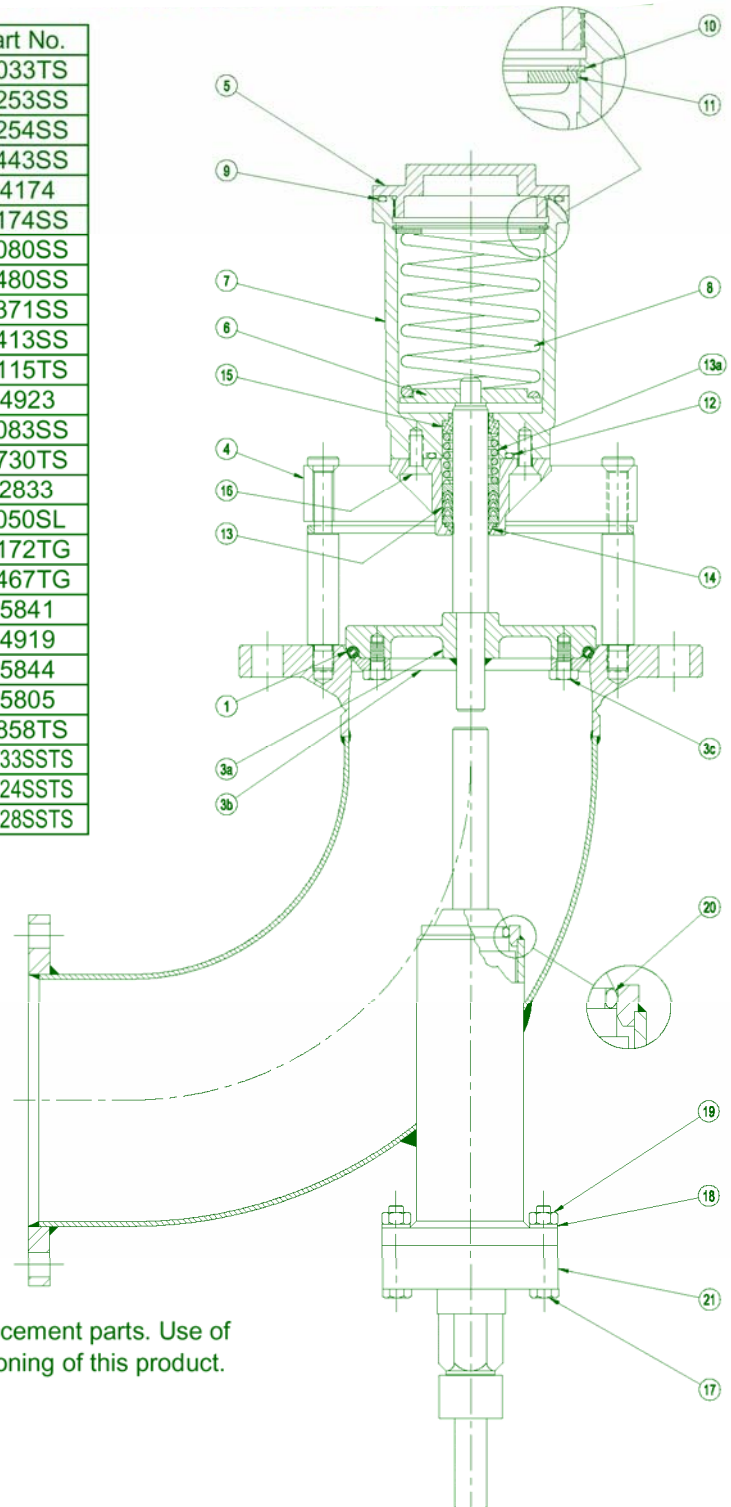
WARNING Use only genuine Betts Industries, Inc. replacement part. Use of substitute parts can impair the proper functioning of this product.

Betts Quick Clean Chemical Hydraulic Valve

No.	Description	Req.	Material	Part No.
1	Seat O-Ring	1	Tef/Sil	19033TS
3	Stem & O-Ring Holder Assembly	1	Stnls 316	19253SS
3a	Stem & O-Ring Holder	1	Stnls 316	19254SS
3b	Retainer Plate	1	Stnls 316	27443SS
3c	Cap Screws	4	Stnls 316	9Q4174
4	Spider	1	Stnls 316	27174SS
5	Spring Housing Cap	1	Stnls 316	19080SS
6	Spring Washer	1	Stnls 316	18480SS
7	Spring Housing	1	Stnls 316	27371SS
8	Spring	1	Stnls 316	19413SS
9	Housing Cap O-Ring	1	Tef/Sil	19115TS
10	Retainer Ring	1	Stnls 302	9Q4923
11	Washer	1	Stnls 316	19083SS
12	Base O-Ring	1	Tef/Sil	17730TS
13	Packing Set	1	Teflon	8N2833
13a	Packing Spring	1	Stnls 302	19050SL
14	Wiper	1	Teflon	18172TG
15	Bushing	1	Teflon	18467TG
16	Spider Retaining Screw	4	Stnls 316	9Q5841
17	Retainer Bolt	4	Stnls	9Q4919
18	Lockwasher	4	Stnls	9Q5844
19	Retainer Nut	4	Stnls	9Q5805
20	Barrel Cap O-Ring	1	Tef/Sil	18858TS
21	Hyd. Actuator-4x3 Model	1	Stnls	35233SSTS
	Hyd. Actuator-4x4 Model	1	Stnls	35224SSTS
	Hyd. Actuator-Spec. 4x3	1	Stnls	35228SSTS

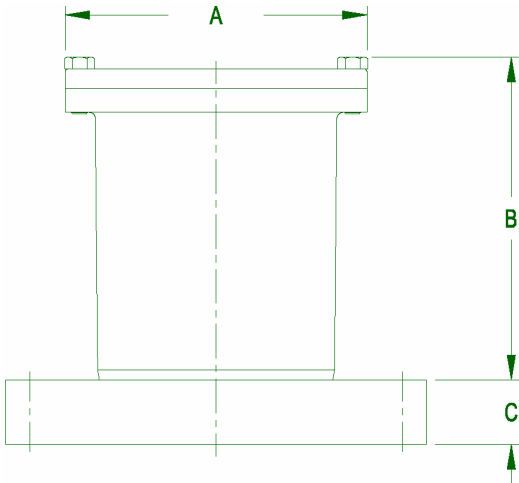
Spring Housing & Spider Assembly 35232SSTS
Includes items 4-16

Spring Housing Seal Replacement Kit CH19157TF
Includes items 9,12,13,14,15

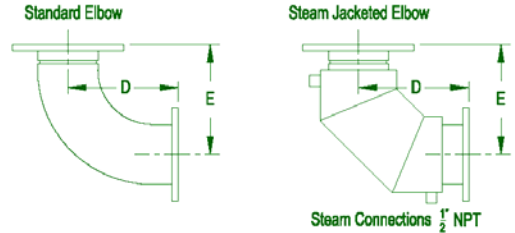


WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts Chemical Internal Hydraulic Valve



Size	A	B	C	D	E	Inlet Flange			Outlet Flange		
						O.D.	B.C.	N.H.	O.D.	B.C.	N.H.
4x4	5 ⁷ / ₈	6 ¹ / ₄	1 ¹ / ₄	8 ¹¹ / ₃₂	8 ¹¹ / ₃₂	8 ¹ / ₄	7 ¹ / ₄	8 ⁹ / ₁₆	6 ⁵ / ₈	5 ¹ / ₈	8 ⁷ / ₁₆
4x3				4 ¹ / ₂	4 ³ / ₄				5 ⁵ / ₈	4 ¹ / ₈	8 ⁷ / ₁₆



Description	Material	Wt.	Assembly No.
Internal Hydraulic Valve	Stnls 316	31#	CH45843SST

Valves are available with various replaceable type seats by adding suffix to standard assembly numbers.

Suffix "014" indicates Teflon Seat w/ Kalrez O-Ring.

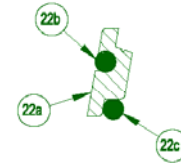
Suffix "016" indicates Kalrez Seat.

Suffix "017" indicates Teflon Seat w/ Double Tef-Sil O-Ring.

Size	Style Description	Material	Wt.	Assembly No.
4x4	90° Standard	Stnls 316	11.8#	CH16859SS
4x3	Elbow Assembly	Stnls 316	9.4#	CH26165SS

4x4	90° Steam Jacketed	Stnls 316	20#	CH16826SS
4x3	Elbow Assembly	Stnls 316	13.7#	CH26166SS

Steam jacket rated at 150 psi maximum working pressure.



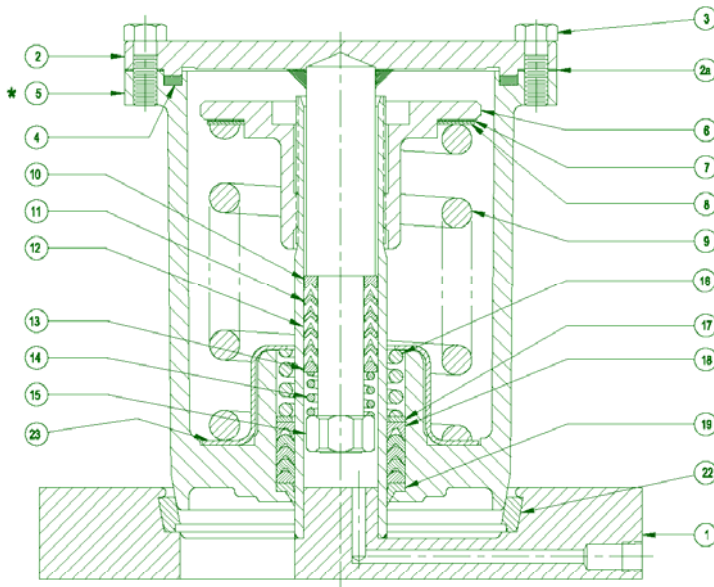
Seat w/ O-rings

* 27996LC Includes items 5, 16 & 23

Replacement Kit of Teflon Parts

CH17827TF-Includes items 2a,4,7,12,18,19 & 22

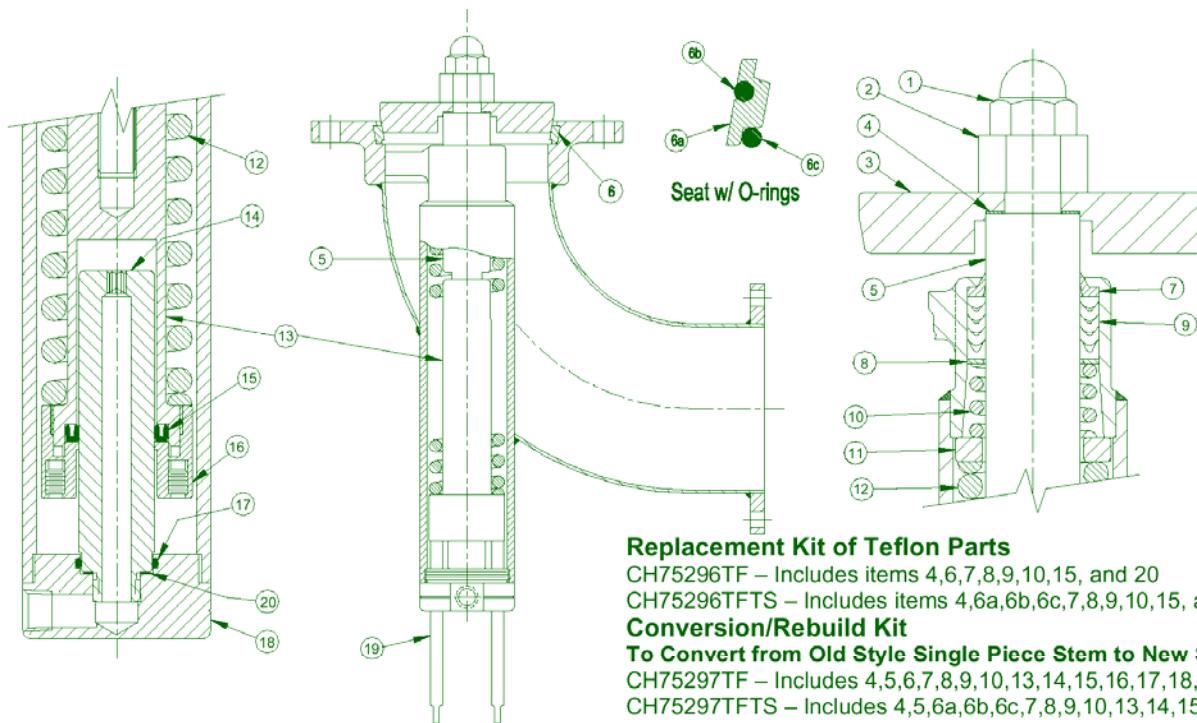
CH19030TF-Includes items 2a,4,7,12,18,19 & 22a



No.	Description	Req.	Material	Part No.
1	Seat Flange Assembly	1	316 Stnls	45653SS
2	Cover Assembly	1	316 Stnls	17294SS
2a	Gasket	1	Teflon	19720TF
3	Cap Screw	12	316 Stnls	9Q3305
4	Gasket	1	Teflon	17295TF
5	Disc Assembly	1	316 Stnls	27996LC
6	Spring Retainer	1	316 Stnls	25887SS
7	Shim-Spring	1	Teflon	16867TF
8	Shim-Spring	1	Stnls	16866SL
9	Main Spring	1	316 Stnls	16890SS
10	Female Adapter-Piston	1	304 Stnls	16732SL
11	Separator Rings-Piston	4	304 Stnls	15628SL
12	Packing Rings-Piston	Set	Teflon	15634TF
13	Male Adapter-Piston	1	304 Stnls	15629SL
14	Spring-Piston	1	316 Stnls	15652SS

No.	Description	Req.	Material	Part No.
15	Retainer Nut-Piston	1	304 Stnls	15630SL
16	Spring-Stuffing Box	1	316 Stnls	19616SS
17	Follower Washer-Stuffing Box	1	316 Stnls	19594SS
18	Packing Rings-Stuffing Box	Set	Teflon	15759TF
19	Wiper	1	Teflon	15862TF
22	Replaceable Seat	1	Teflon	16644TF
			Kalrez	16644KA
			Tef-Sil	18897TFTS
22a	Replaceable Seat w/ O-Rings	1	Kalrez	18897TFKA
			Tef-Sil	18246TS
22b	Seat O-Ring only	1	Kalrez	18246KA
			Tef-Sil	18834TS
22c	O-Ring	1	Tef-Sil	18834TS
23	Retainer-Packing	1	316 Stnls	19446SS

Betts External Hydraulic Valve



Replacement Kit of Teflon Parts

CH75296TF – Includes items 4,6,7,8,9,10,15, and 20

CH75296TFTS – Includes items 4,6a,6b,6c,7,8,9,10,15, and 20

Conversion/Rebuild Kit

To Convert from Old Style Single Piece Stem to New Style 2 Piece Stem

CH75297TF – Includes 4,5,6,7,8,9,10,13,14,15,16,17,18, and 20

CH75297TFTS – Includes 4,5,6a,6b,6c,7,8,9,10,13,14,15,16,17,18, and 20

No.	Description	Req.	Material	Part No.	No.	Description	Req.	Material	Part No.
1	Cap Nut	1	316 Stnls	16672SS	7	Wiper	1	Teflon	15862TF
2	Cap Collar	1	316 Stnls	16671SS	8	Follower Washer-Stuffing Box	1	316 Stnls	19594SS
3	Disc	1	316 Stnls	16743SS	9	Packing Rings-Stuffing Box	Set	Teflon	15759TF
		1	Hast. C-22 Trim	16743LH	10	Spring-Stuffing Box	1	316 Stnls	19616SS
4	Teflon Washer	1	Teflon	16690TF	11	Washer-Main Spring	1	304 Stnls	15684SL
5	Upper Stem Half	1	316 Stnls	28202SS	12	Main Spring	1	Chr. Van.	18850EY
		1	Hastelloy C276	28202HC	13	Lower Stem Half	1	303 Stnls	28201SL
6	Replaceable Seat	1	Teflon	16644TF	14	Piston	1	303 Stnls	75136SL
			Kalrez	16644KA	15	Hydraulic Seal	1	302SS/PTFE	75207SSTF
			Teflon	18897TFTS	16	Seal Retainer Ring	1	303 Stnls	75190SL
6a	Replaceable Seat w/ O-rings	1	Kalrez	18897KA	17	Piston Seal	1	Tef-Sil	75206TS
6b	Seat O-ring only		Tef-Sil	18246TS	18	Piston Holder	1	316 Stnls	75137SS
		Kalrez	18246KA	19	Indicator Pins	2	304 Stnls	16133SL	
6c	O-ring	1	Tef-Sil	18834TS	20	Seal Washer	1	Fiber	9Z6185

TO REPLACE DISC AND/OR SEAT: Hold cap collar (2) and remove cap nut (1). The disc (3) can then be removed. Care should be taken not to damage or lose Teflon washer (4). Seat 6 can now be removed and a new seal snapped into the groove.

TO REPLACE STUFFING BOX PACKING OR PISTON HYDRAULIC SEAL: Disconnect hydraulic line. Unscrew indicator pins (19) and piston/holder assembly (14) & (18). To ensure disc (6) does not get damaged, hold cap collar (2) stationary while using a spanner wrench to unscrew seal retainer ring (16). See specific instructions below.

TO REPLACE STUFFING BOX PACKING:

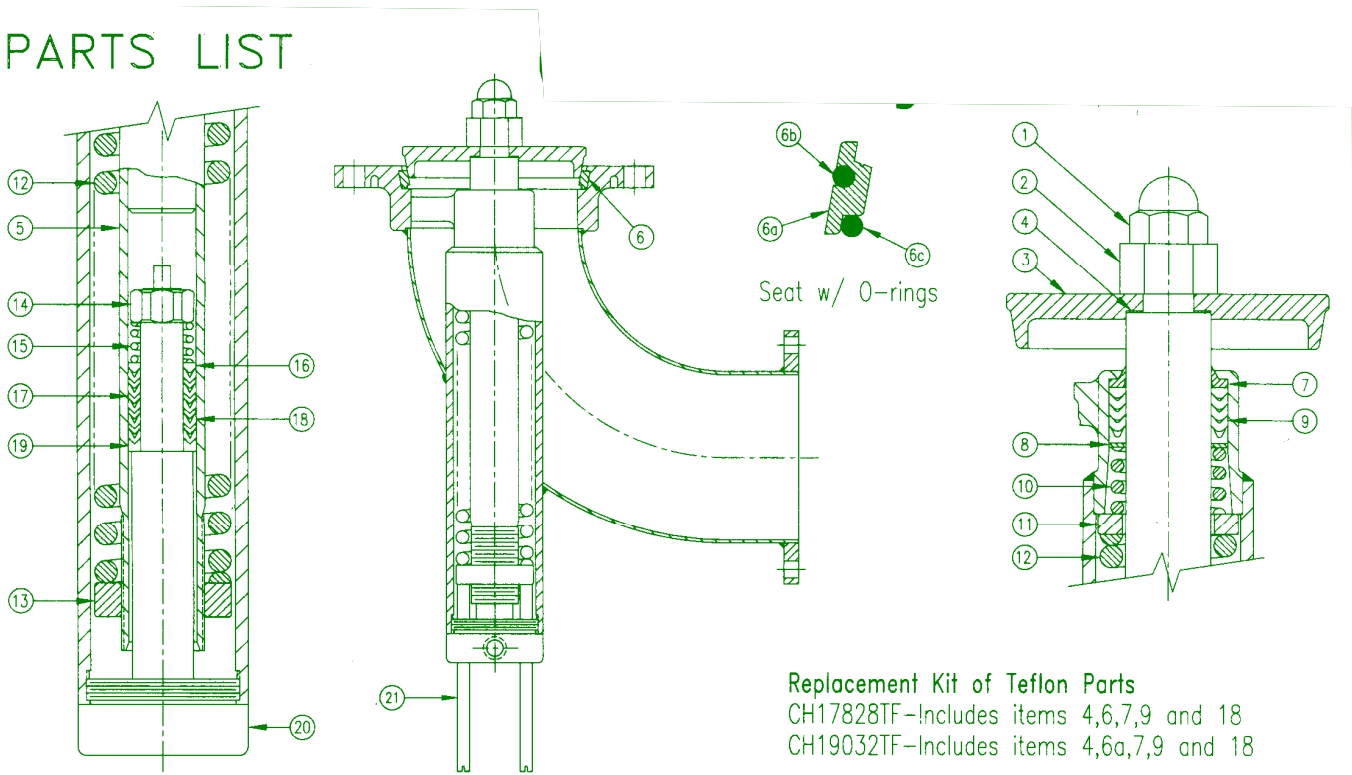
If lower stem half (13) remains in valve body after seal retainer ring (16) has been unscrewed, continue to hold cap collar (2) and insert a ¼" thick x 2" wide piece of plate into the slots on the bottom of lower stem half to unscrew it from the upper stem half. Remove main spring (12), washers (8) & (11) and stuffing box spring (10). Remove old packing (9) and wiper (7) and replace with a full set of new packing and a new wiper.

TO REPLACE PISTON HYDRAULIC SEAL:

If lower stem half (13) unscrews from the upper stem half (5) it will be necessary to clamp lower stem half (13) in a vice to unscrew seal retainer ring (16). After removing seal retainer ring (16) remove old seal and install new hydraulic seal with seal lips facing inwards.

Betts Standard Chemical Hydraulic Valve

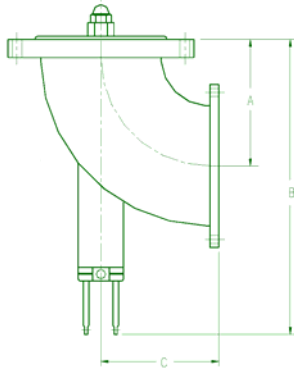
PARTS LIST



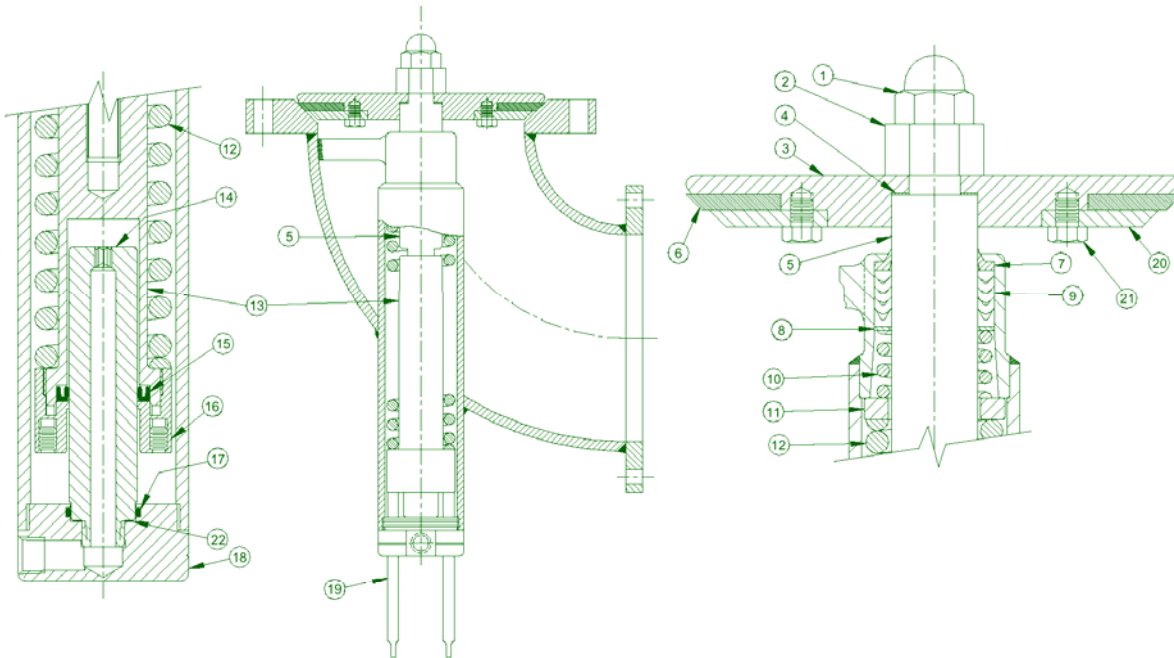
No.	Description	Req.	Material	Part No.
1	Cap Nut	1	316 Stnls	16672SS
2	Cap Collar	1	316 Stnls	16671SS
3	Disc	1	316 Stnls	16743SS
4	Teflon Washer	1	Teflon	16690TF
5	Stem	1	316 Stnls	26068SS
6	Replaceable Seat	1	Teflon	16644TF
6a	Replaceable Seat w/ O-rings		Kalrez	16644KA
			Tef-Sil	18897TFTS
6b	Seat O-ring only	1	Tef-Sil	18246TS
			Kalrez	18246KA
6c	O-ring	1	Tef-Sil	18834TS
7	Wiper	1	Teflon	15862TF
8	Follower Washer—Stuffing Box	1	316 Stnls	19594SS

No.	Description	Req.	Material	Part No.
9	Packing Rings—Stuffing Box	Set	Teflon	15759TF
10	Spring—Stuffing Box	1	316 Stnls	19616SS
11	Washer—Main Spring	1	304 Stnls	15684SL
12	Main Spring	1	Chr. Van.	18850EY
13	Retainer Nut—Main Spring	1	Steel	15612EY
14	Retainer Nut—Piston	1	304 Stnls	15630SL
15	Spring—Piston	1	316 Stnls	15652SS
16	Male Adapter—Piston	1	304 Stnls	15629SL
17	Separator Rings—Piston	4	304 Stnls	15628SL
18	Packing Rings—Piston	Set	Teflon	15634TF
19	Female Adapter—Piston	1	304 Stnls	16732SL
20	Piston	1	304 Stnls	25757SL
21	Indicator Pins	2	304 Stnls	16133SL

Betts Hot Products External Valve



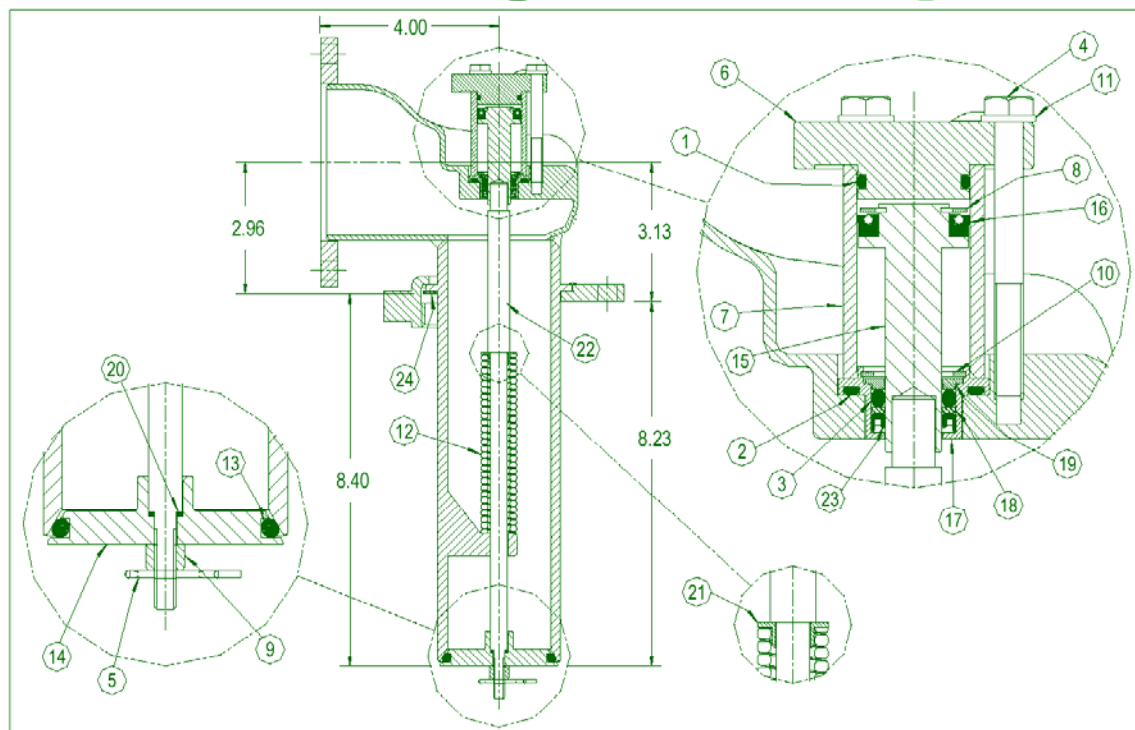
Size	Assembly No.	Material	Inlet Flange		Outlet		Dimensions			Wt. (lbs.)	Temp. Range	MAWP
			B.C.	Holes	B.C.	Holes	A	B	C			
6" 90° Elbow	CH46971MSB	STEEL/ BUNA	9 ¹ / ₄	12- ⁹ / ₁₆	8 ¹ / ₈	12- ⁹ / ₁₆	7	16 ³ / ₈	6 ¹ / ₂	55	-40°F to +275°F	50
6" 90° Elbow	CH46971MST	STEEL/ TEFLON®	9 ¹ / ₄	12- ⁹ / ₁₆	8 ¹ / ₈	12- ⁹ / ₁₆	7	16 ³ / ₈	6 ¹ / ₂	55	-40°F to +400°F	50



No.	Description	Req.	Material	Part No.
1	Cap Nut	1	316 Stnls	16672SS
2	Cap Collar	1	316 Stnls	16671SS
3	Disc Holder	1	Steel	26183MS
4	Teflon Washer	1	Teflon	16690TF
5	Upper Stem Half	1	316 Stnls	28202SS
6	Disc	1	Buna	16886BN
			Teflon	16886TF
7	Wiper	1	Teflon	15862TF
8	Follower Washer-Stuffing Box	1	316 Stnls	19594SS
9	Packing Rings-Stuffing Box	Set	Teflon	15759TF
10	Spring-Stuffing Box	1	316 Stnls	19616SS
11	Washer-Main Spring	1	304 Stnls	15684SL

No.	Description	Req.	Material	Part No.
12	Main Spring	1	Chr. Van.	18850EY
13	Lower Stem Half	1	303 Stnls	28201SL
14	Piston	1	303 Stnls	75136SL
15	Hydraulic Seal	1	302SS/PTFE	75207SSTF
16	Seal Retainer Ring	1	303 Stnls	75190SL
17	Piston Seal	1	Tef-Sil	75206TS
18	Piston Holder	1	316 Stnls	75137SS
19	Indicator Pins	2	304 Stnls	16133SL
20	Disc Retainer	1	Steel	16885MS
21	Cap Screws	8	Steel	9Q5803
22	Seal Washer	1	Fiber	9Z6185

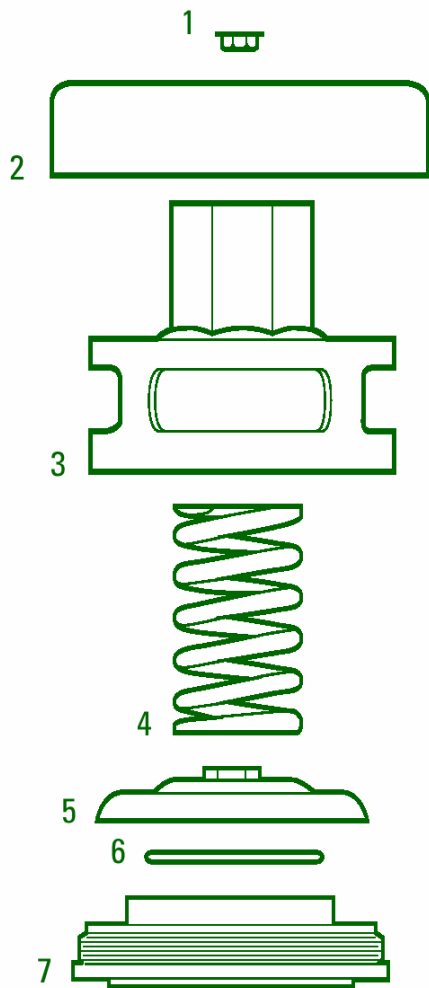
Betts 3" Hydraulic Vapor Valve



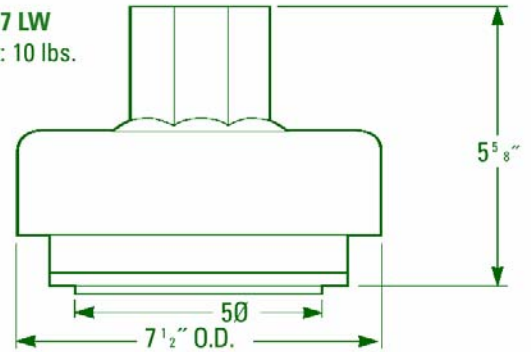
NO.	REQ'D	PART NO.	MATERIAL	DESCRIPTION
1	1	16844BN	BUNA-N	O-RING
2	1	19506TS	TEF/SIL	O-RING
3	1	19509TS	TEF/SIL	O-RING
4	3	9Q5963	316SS	1/4 HEX BOLT 2.50 LG. 1/4-28 THRD.
5	1	9Q5866	304SS	COTTER PIN 3/32 x 3/4 - 304SS
6	1	19385SS	316SS	CYL. TOP
7	1	19390SS	316SS	CYL. TUBE
8	1	9Q4935	15-7 Mo SS	E-CLIP - HYD. CYL. (5/8)
9	1	9Q5962	316SS/NYLON	HEX LOCK NUT 1/4-20UNC
10	1	9Q4943	15-7 Mo SS	INT. RET. RING (7/8)
11	3	9Q5844	304SS	LOCK WASHER 1/4 IN. SS
12	1	19511SS	17-7 SS	MAIN SPRING
13	1	19396TS	TEF/SIL	O-RING
14	1	19388SS	316SS	O-RING HOLDER
15	1	19391SS	316SS	PISTON
16	1	18693PM	URETHANE	PISTON SEAL
17	1	19508SS	316SS	SEAL GLAND
18	1	19393TF	TEFLON	SEAL RETAINER
19	1	19395SS	316SS	SEAL RETAINER
20	1	19576GY	GYLON (3545)	SEAL WASHER
21	1	19514SS	316SS	SPRING RETAINER
22	1	19389SS	316SS	STEM
23	1	19510SSTF	316SS/TEF	U-CUP SEAL
24	1	19397TF	TEFLON	MOUNTING SEAL - 3" NPT STYLE ONLY

Girard "Weld In" DOT 407 Pressure Relief Valve

ITEMS	PART NUMBER	DESCRIPTION
1	402019	Upper Housing Hole Plug
2	402003L	Low Profile Rain Cover
3	402004L	Low Profile Upper Housing with Hole-Specify MAWP
4	402005 402005HP	Spring (for MAWP < 45 only) Spring (for MAWP > 45 only)
5	402006LN	Low Profile Poppet with Nut
6	402007	Teflon® Silicone "O" Ring
7	402017	LW Model Lower Housing



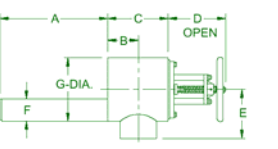
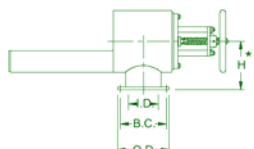
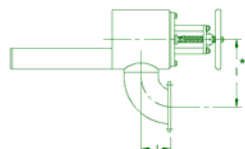
DOT 407 LW
Weight: 10 lbs.

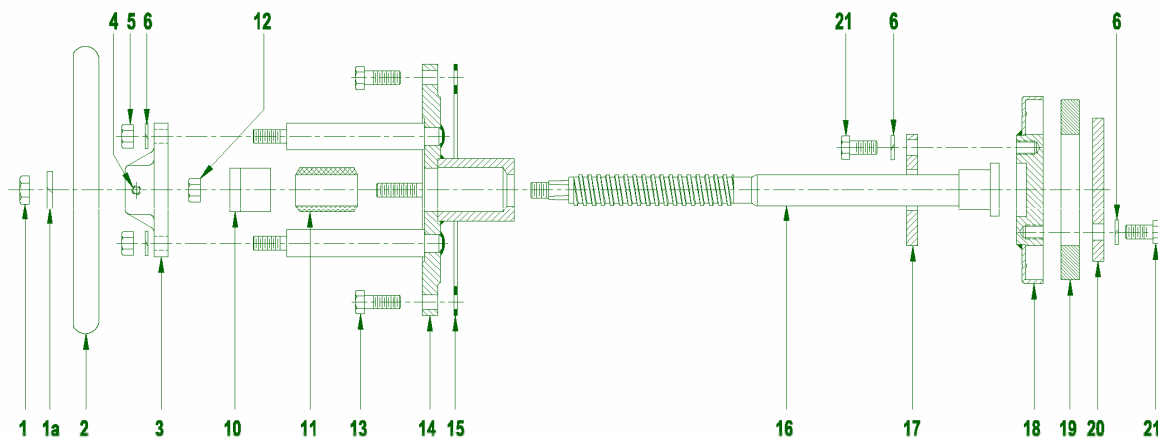


PERFORMANCE SPECIFICATIONS

MAWP	Test Pressure	Flow (SCFH)	Exposed Surface
25	40	374,512	737
25	45	431,308	946
30	45	431,308	946
35	52.5	484,718	1156

Betts Rear Head Valve

Dimensions										
Material			Assembly No.		Wt.		Assembly No.		Wt.	
Size	Body	Trim								
4"	Alum.	Steel	RH45919ALA		29.0		RH45926ALA		30.0	
	Steel	Steel	RH45919MSA		40.0		RH45926MSA		42.0	
6"	Alum.	Steel					RH46279ALA		RH46280ALA	
	Steel	Steel					RH46279MSA		RH46280MSA	



No.	Description	4" Size				6" Size			
		Alum w/ Steel Trim		Steel		Alum w/ Steel Trim		Steel	
		Req'd.	Part No.	Req'd.	Part No.	Req'd.	Part No.	Req'd.	Part No.
1	Hex Half Nut	1	9Q5811	1	9Q5811	1	9Q5811	1	9Q5811
1a	Lock Washer	1	9Q8617	1	9Q8617	1	9Q8617	1	9Q8617
2	Handwheel	1	26604AL	1	26604AL	1	26604AL	1	26604AL
3	Stem Nut	1	26576CI	1	26576CI	1	26576CI	1	26576CI
4	Grease Fitting	1	9Z3058	1	9Z3058	1	9Z3058	1	9Z3058
5	Hex Nut 3/8"-24UNF Thd.	2	9Q5905	2	9Q5905	2	9Q5905	2	9Q5905
6	Lock Washers 3/8"	11	9Q5907	11	9Q5907	14	9Q5907	14	9Q5907
10	Packing Gland	1	15503SL	1	15503SL	1	15503SL	1	15503SL
11	Packing (Black Color)	1	15655NA	1	15655NA	1	15655NA	1	15655NA
12	Hex Nut 3/8"-16UNC Thd.	2	9Q5890	2	9Q5890	2	9Q5890	2	9Q5890
13	Cap Screw 3/8"-24UNFx1" Lg.	8	9Q5833	8	9Q5833	8	9Q5833	8	9Q5833
14	Tophead & Bonnet	1	27865MS	1	27865MS	1	35758MS	1	35758MS
15	Tophead Gasket	1	17493NA	1	17493NA	1	18637NA	1	18637NA
16	Stem *	1	26574MS	1	26574MS	1	26574MS	1	26574MS
17	Stem Retainer	1	17489MS	1	17489MS	1	17489MS	1	17489MS
18	Disc Holder	1	17488MS	1	17488MS	1	18926MS	1	18926MS
19	Disc	1	15024NA	1	15024NA	1	18639NA	1	18639NA
20	Disc Retainer	1	17490MS	1	17490MS	1	18636MS	1	18636MS
21	Cap Screw 3/8"-24UNFx3/4" Lg.	9	9Q5832	9	9Q5832	12	9Q5832	12	9Q5832

Material suffix designations:

AL – Aluminum	CI – Cast Iron
NA – Non-Asbestos	MS – Mild Steel
NT – Non-Asbestos w/ Teflon	SL – 304 Stainless

* Stem 27808MS is used for valves that require an extended stem.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts Sliding Valve

TTMA DRILLING

Size	Assembly No. Flanged x Flanged	Material	Wt.	Size	Assembly No. Flanged x Threaded	Material	Wt.
3"	SV903 MSM	Steel	11.4	3"	SV913 MSM	Steel	10.9
	SV903 SSM	316 Stainless			SV913 SSM	316 Stainless	
4"	SV904 MSM	Steel	14.9	4"	SV914 MSM	Steel	14.1
	SV904 SSM	316 Stainless			SV914 SSM	316 Stainless	
6"	SV906 MSM	Steel	32.5	6"	SV916 MSM	Steel	30.0
	SV906 SSM	316 Stainless			SV916 SSM	316 Stainless	

ANSI DRILLING *

Size	Assembly No. Flanged x Flanged	Material	Wt.	Size	Assembly No. Flanged x Threaded	Material	Wt.
3"	SV953 MSM	Steel	19.0	3"	SV963 MSM	Steel	15.0
	SV953 SSM	316 Stainless			SV963 SSM	316 Stainless	
4"	SV954 MSM	Steel	24.5	4"	SV964 MSM	Steel	20.0
	SV954 SSM	316 Stainless			SV964 SSM	316 Stainless	
6"	SV956 MSM	Steel	46.0	6"	SV966 MSM	Steel	40.0
	SV956 SSM	316 Stainless			SV966 SSM	316 Stainless	

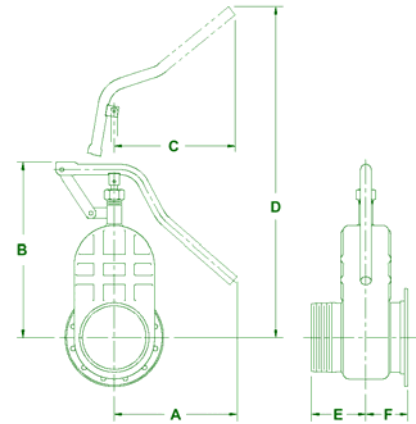
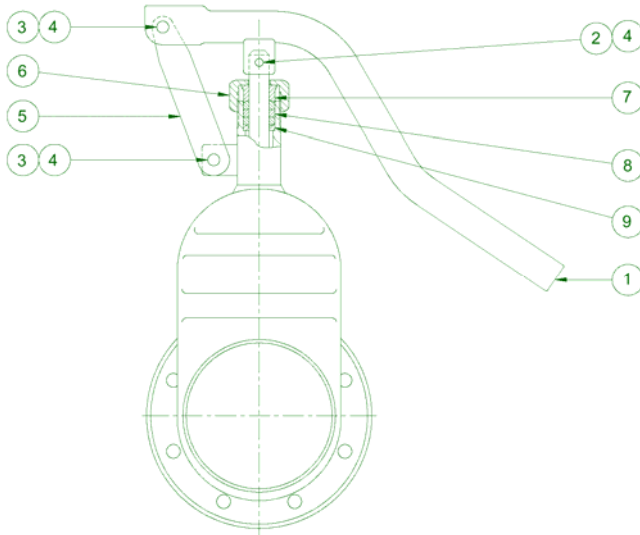
Dimensions

Size	A	B	C	D	E	F	TTMA Flange				ANSI Flange *				Max. Working Pressure
							O.D.	B.C.	Holes	Thick.	O.D.	B.C.	Holes	Thick.	
3"	9 1/2	11 7/8	9	19	3 7/16	2 1/4 †	6 7/8	4 7/8	8 -7/16	.1345	7 1/2	6	4 -3/4	1 1/2	75 PSI
4"	10	13	9	24	3 7/16	2 5/8 *	7 1/8	5 7/8	8 -7/16	.1345	9	7 1/2	8 -3/4	1 1/2	75 PSI
6"	8	17	14	26	5 1/16	4	9 7/8	8 1/8	12 -1/16	.1345	11	9 1/2	8 -1/8	1 1/2	50 PSI

*ANSI Dimension 3 1/2"

†Drilling Dimensions Only

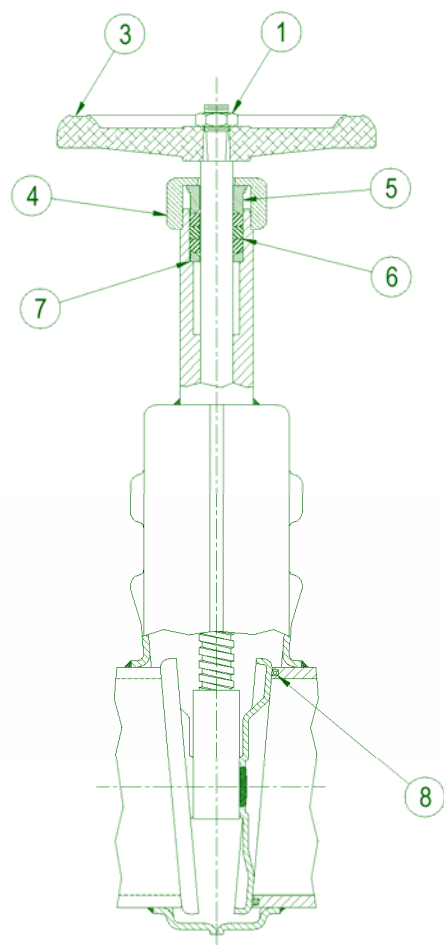
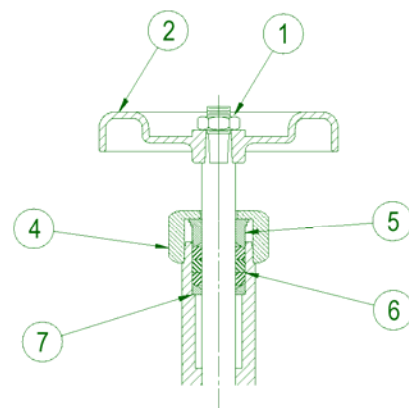
† 3" ANSI Dimension 2 3/8"



6 in. VALVE SHOWN

Item No.	Description	Req'd.	Material	3" & 4" Valve Part No.	6" Valve Part No.
1	Handle	1	Steel "E" Coated	35131EY	26764EY
2	Clevis Pin 1/4 x 1 1/4	1	Steel Zinc Plt.	9Q4728	9Q4728
3	Clevis Pin-Link	2	Steel "E" Coated	15757EY	15757EY
4	Cotter Pin 3/32 x 3/4	3	Brass	9Q5865	9Q5865
5	Link	1	Steel "E" Coated	17446EY	17903EY
6	Stuffing Box Nut	1	Aluminum	15026AL	15026AL
			304 Stainless	16026SL	15026SL
7	Top Gland	1	316 Stainless	15220SS	15220SS
8	Packing	Set	Non-Asbestos/Teflon	15227NT	15227NT
9	Bottom Gland	1	316 Stainless	15076SS	15076SS

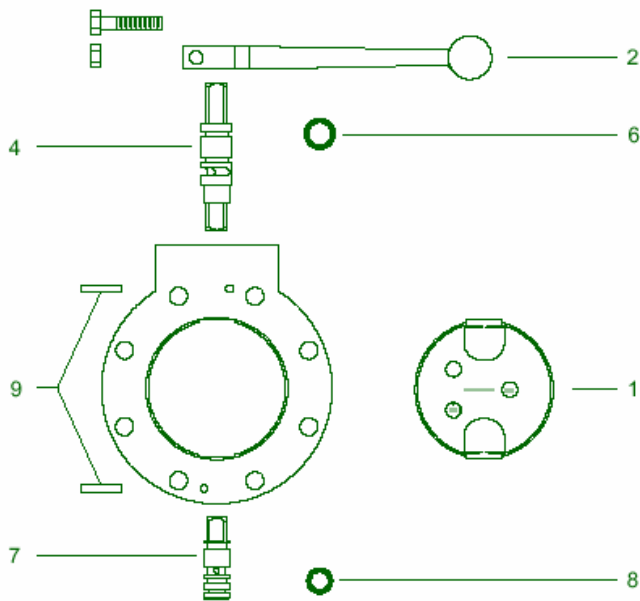
WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute part can impair the proper functioning of this product.

Betts 3" & 4" Gate Valve**4" Gate Valve****3" Gate Valve**

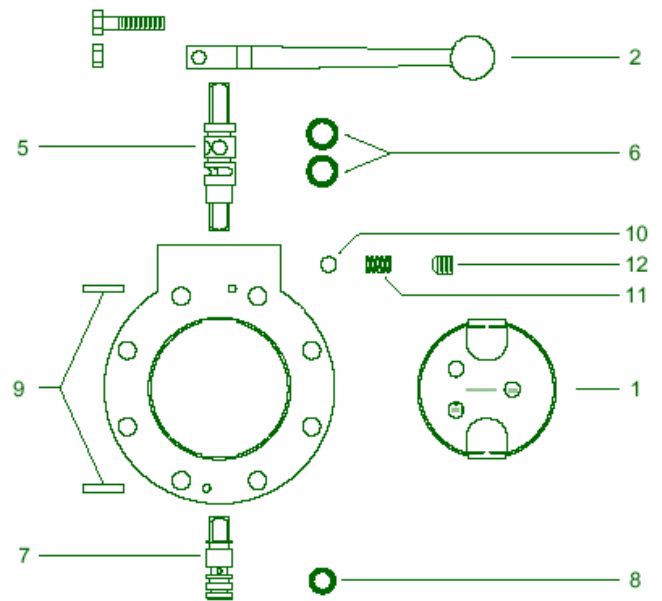
NO.	REQ.	DESCRIPTION	MATERIAL	PART NO.
1	1	7/16-14 hex Nut	Steel	9Q5811
2	1	3" Hand Wheel	Aluminum	25186AL
3	1	4" Hand Wheel	Aluminum	25245AL
4	1	Stuffing Box Nut	Anodized Aluminum	15026AL
			Stainless Steel	15026SS
5	1	Gland Follower	Stainless Steel	15220SS
6	1	Packing Set (3 Rings per Set)	Teflon Suspensoid	15227NT
7	1	Gland Washer	Stainless Steel	15076SS
8	2	* Seat O-Ring (4" valve only)	Tef-Sil	19430TS

* Replaceable Seat Valves only.

Betts Wet-R-Dri Valve Standard and Detent



STANDARD MODEL

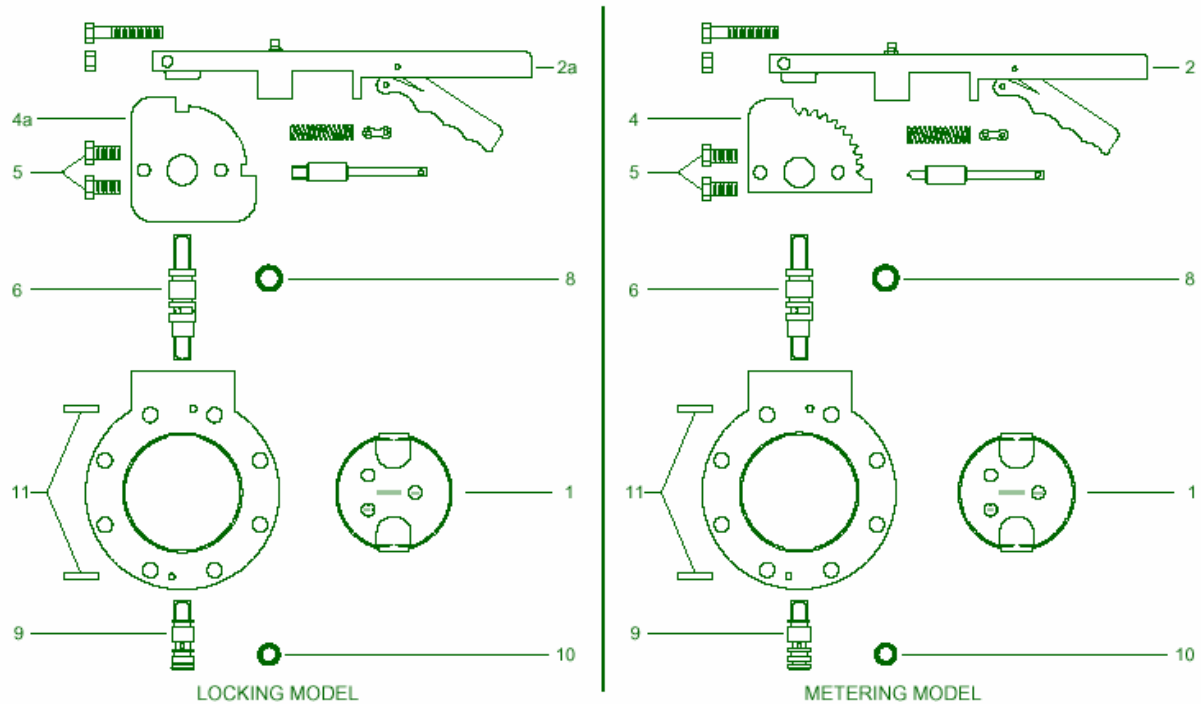


DETENT MODEL

No.	Description	Material	2" Size	3" Size	4" Size	5" Size	6" Size	8" Size
			Part No.	Part No.	Part No.	Part No.	Part No.	Part No.
1	Disc	Buna-N	WD101-2 BN	WD101-3 BN	WD101-4 BN	WD101-5 BN	WD101-6 BN	WD101-8 BN
		Viton	WD101-2 VT	WD101-3 VT	WD101-4 VT	WD101-5 VT	WD101-6 VT	WD101-8 VT
		Urethane	WD101-2 PY	WD101-3 PY	WD101-4 PY	WD101-5 PY	WD101-6 PY	WD101-8 PY
		EPDM	WD101-2 EP	WD101-3 EP	WD101-4 EP	WD101-5 EP	WD101-6 EP	WD101-8 EP
2	Handle	Mall. "E" Coated	25884EY	25884EY	25884EY	25884EY	25933AL	25933AL
	Cap Screw	Steel Zinc Plt.	9Q5813	9Q5813	9Q5813	9Q5813	9Q5898	9Q5898
	Hex. Nut	Steel Zinc Plt.	9Q5808	9Q5808	9Q5808	9Q5808	9Q5808	9Q5808
4	Drive Shaft	Steel	27053MS	27050MS	27050MS	27051MS	16229MS	16229MS002
5	Drive Shaft	Steel	27053MS001	27050MS001	27050MS001	27051MS001	16229MS	16229MS002
6	O-Ring	To Match Disc Mat'l.	17889**	17889**	17889**	17889**	18831**	18831**
7	Bearing Shaft	Steel	16006MS	15913MS	15913MS	15913MS	16230MS	16230MS002
8	O-Ring	To Match Disc Mat'l.	17781**	18141**	18141**	18141**	18831**	18831**
9	Driv-Lok-Pin	Steel Zinc Plt.	9Q4893	9Q4893	9Q4893	9Q4925	9Q4926	9Q4938
10	Detent Ball	440 Stnls	9Z4856	9Z4856	9Z4856	9Z4856	9Z4856	9Z4856
11	Detent Spring	304 Stnls	15229SL	15229SL	15229SL	15229SL	15229SL	15229SL
12	Ret. Screw	304 Stnls	9Q5838	9Q5838	9Q5838	9Q5838	9Q5838	9Q5838

** O-Ring material suffix to match Disc suffix (i.e.-17889VT)

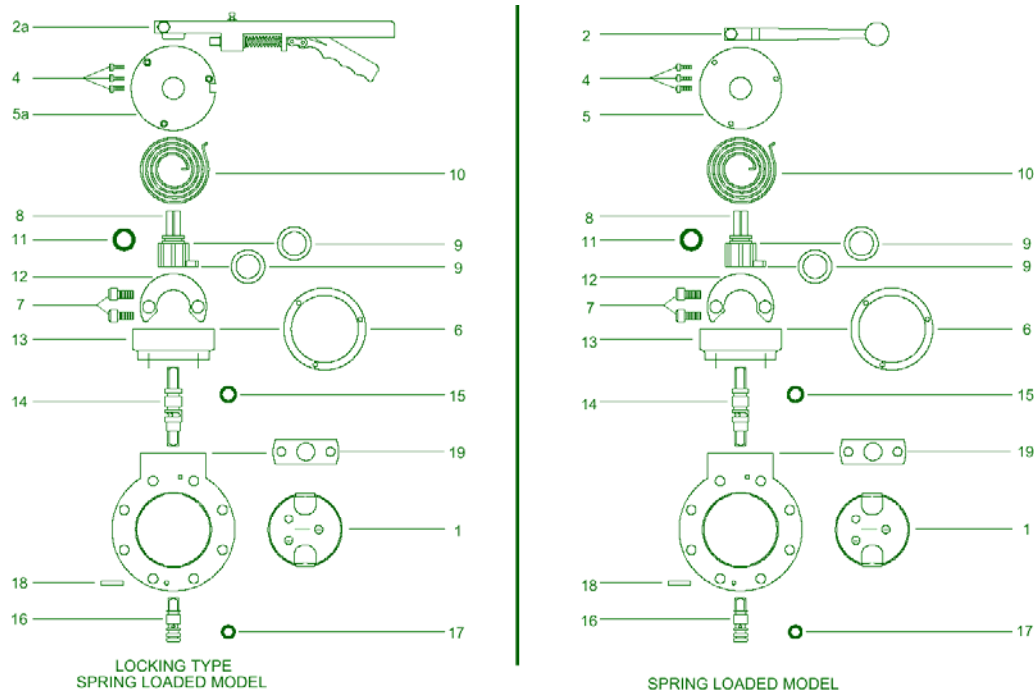
Betts Wet-R-Dri Valve Locking and Metering



No.	Description	Material	2" Size	3" Size	4" Size	5" Size	6" Size	8" Size
			Part No.	Part No.	Part No.	Part No.	Part No.	Part No.
1	Disc	Buna-N	WD101-2 BN	WD101-3 BN	WD101-4 BN	WD101-5 BN	WD101-6 BN	WD101-8 BN
		Viton	WD101-2 VT	WD101-3 VT	WD101-4 VT	WD101-5 VT	WD101-6 VT	WD101-8 VT
		Urethane	WD101-2 PY	WD101-3 PY	WD101-4 PY	WD101-5 PY	WD101-6 PY	WD101-8 PY
		EPDM	WD101-2 EP	WD101-3 EP	WD101-4 EP	WD101-5 EP	WD101-6 EP	WD101-8 EP
2	Handle Assy.	Alum. "E" Coated	26284AL	26284AL	26284AL	26284AL	26287AL	26287AL
2a	Handle Assy.	Alum. "E" Coated	26075AL	26075AL	26075AL	26075AL	26077AL	26077AL
	Handle/Grip	Alum. "E" Coated	25815ALEY	25815ALEY	25815ALEY	25815ALEY	25802ALEY	25802ALEY
	Spring	302 Stnls	16365SL	16365SL	16365SL	16365SL	16365SL	16365SL
	Plunger-Metering	Steel	16969MS	16969MS	16969MS	16969MS	17020MS	17020MS
	Plunger-Locking	Steel	16385MS	16385MS	16385MS	16385MS	16400MS	16400MS
	Chain Link	Steel	9Z4915	9Z4915	9Z4915	9Z4915	9Z4915	9Z4915
	Cap Screw	Alum. Or Steel	9Q5897	9Q5897	9Q5897	9Q5897	9Q5898	9Q5898
	Hex. Nut	Steel Zinc Plt.	9Q5808	9Q5808	9Q5808	9Q5808	9Q5808	9Q5808
4	Indexing Plate	Steel "E" Coated	17012EY	17012EY	17012EY	17012EY	17016EY	17016EY
4a	Indexing Plate	Steel "E" Coated	16358EY	16358EY	16358EY	16358EY	16668EY	16668EY
5	Cap Screw	Stainless	9Q5884	9Q5884	9Q5884	9Q5884	9Q5884	9Q5884
6	Drive Shaft	Steel	27053MS	27050MS	27050MS	27051MS	16229MS	16229MS002
8	O-Ring	To Match Disc Mat'l.	17889**	17889**	17889**	17889**	18831**	18831**
9	Bearing Shaft	Steel	16006MS	15913MS	15913MS	15913MS	16230MS	16230MS
10	O-Ring	To Match Disc Mat'l.	17781**	18141**	18141**	18141**	18831**	18831**
11	Driv-Lok-Pin	Steel Zinc Plt.	9Q4893	9Q4893	9Q4893	9Q4925	9Q4926	9Q4938

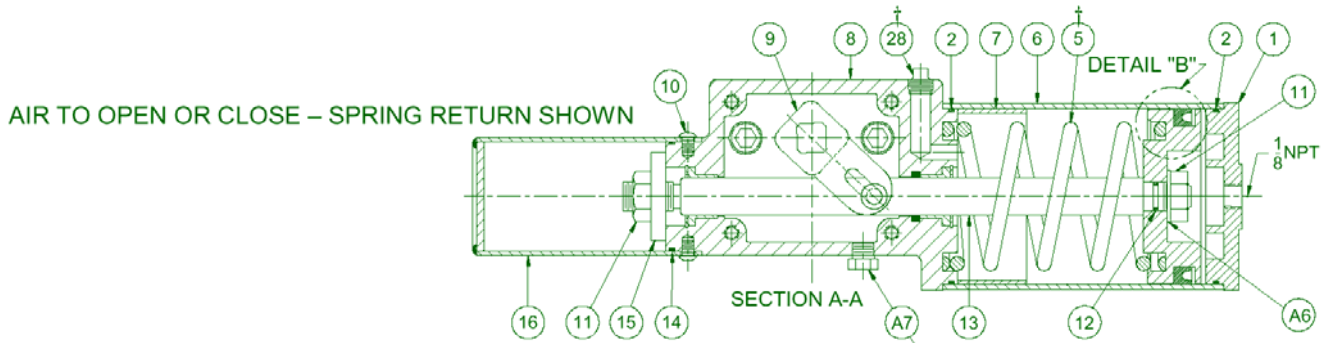
Betts Wet-R-Dri Valve

Locking Type Spring Loaded and Spring Loaded

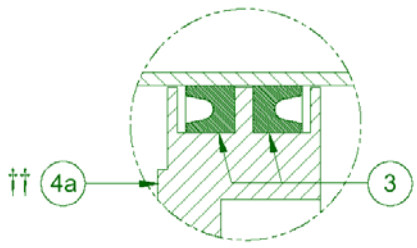
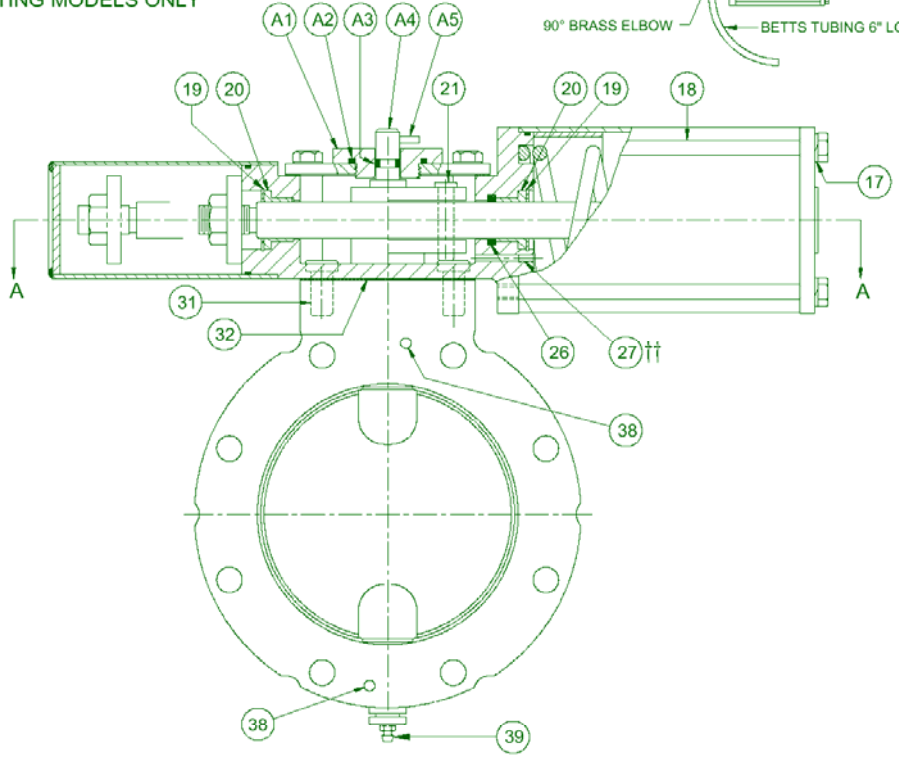
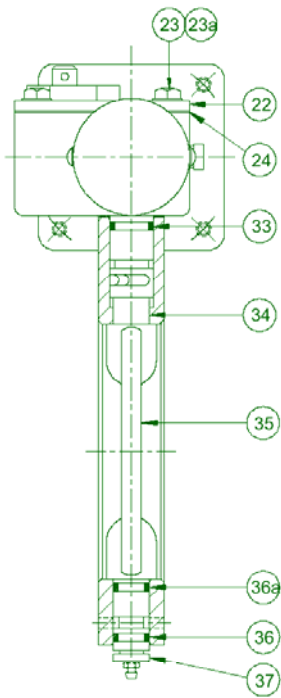
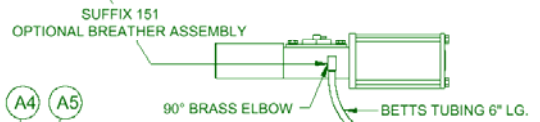


No.	Description	Material	2" Size	3" Size	4" Size	5" Size
			Part No.	Part No.	Part No.	Part No.
1	Disc	Buna-N	WD101-2 BN	WD101-3 BN	WD101-4 BN	WD101-5 BN
		Viton	WD101-2 VT	WD101-3 VT	WD101-4 VT	WD101-5 VT
		Urethane	WD101-2 PY	WD101-3 PY	WD101-4 PY	WD101-5 PY
		EPDM	WD101-2 EP	WD101-3 EP	WD101-4 EP	WD101-5 EP
2	Handle	Mall. "E" Coated	25884EY	25884EY	25884EY	25884EY
2a	Handle Assy.	Alum. "E" Coated	26075AL	26075AL	26075AL	26075AL
4	Screws	Stainless	9Q5837	9Q5837	9Q5837	9Q5837
5	Cover Plate	Aluminum	16929AL	16929AL	16929AL	16929AL
5a	Cover Plate	Steel	16961MS	16961MS	16961MS	16961MS
6	Gasket	Cork-Neoprene	17427CN	17427CN	17427CN	17427CN
7	Cap Screw	Steel	9Q5848	9Q5848	9Q5848	9Q5848
8	Spring Adapter	304 Stainless	16934SL	16934SL	16934SL	16934SL
9	Washer	Teflon	17418TF	17418TF	17418TF	17418TF
10	Spring	Steel "E" Coated	16945EY	16945EY	16945EY	16945EY
11	O-Ring	Buna-N	18831BN	18831BN	18831BN	18831BN
12	Stop Plate	304 Stainless	16928SL	16928SL	16928SL	16928SL
13	Housing	Aluminum	26190AL	26190AL	26190AL	26190AL
14	Drive Shaft	Steel	27053MS	27050MS	27050MS	27051MS
15	O-Ring	To Match Disc Mat'l.	17889**	17889**	17889**	17889**
16	Bearing Shaft	Steel	16006MS	15913MS	15913MS	15913MS
17	O-Ring	To Match Disc Mat'l.	17781**	18141**	18141**	18141**
18	Driv-Lok-Pin	Steel Zinc Plt.	9Q4893	9Q4893	9Q4893	9Q4925
19	Gasket	Cork-Neoprene	18308CN	18308CN	18308CN	18308CN

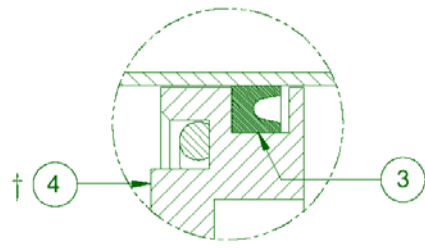
Betts Wet-R-Dri Valve Air Operated



† PART REQ'D ON SPRING RETURN MODELS ONLY
 †† PART REQ'D ON DOUBLE ACTING MODELS ONLY



DETAIL "B" PISTON & SEAL
DOUBLE ACTING MODEL ONLY



SPRING RETURN MODEL ONLY
DETAIL "B" PISTON & SEAL

Betts Wet-R-Dri Valve Air Operated

ACTUATOR ONLY PART NOS.

2" Thru 5" Spring Return Act. Part No. 46495AL
 2" Thru 5" Double Acting Act. Part No. 46504AL
 6" & 8" Spring Return Act. Part No. 46496AL
 6" & 8" Double Acting Act. Part No. 46519AL

INDICATOR PIN ASSEMBLY PART NO.

2" Thru 5" Part No. 19531AL
 6" & 8" Part No. 19532AL

No.	Description	Req'd.	Size	Material	Part No.
1	Mtg. End Plate	1	2"Thru 8"	Aluminum	19243ALEY
2	O-Ring	2	2"Thru 8"	Buna-N	17666BN
3	Piston Seal	As Req'd.	2"Thru 8"	Buna-N	17669BN
†4	Piston	1	2"Thru 8"	Aluminum	19437AL
††4a	Piston	1	2"Thru 8"	Aluminum	19285AL
†5	Spring	1	2"Thru 8"	316 Stnls.	19413SS
6	Cylinder	1	2"Thru 8"	Aluminum	19240AL
7	Stop Tube	1	2"Thru 8"	Aluminum	19241AL
8	Housing	1	2"Thru 5"	Aluminum	35390ALEY
		1	6" & 8"	Aluminum	35400ALEY
9	Clevis	1	2"Thru 5"	17-4 Stnls.	19237SL
		1	6" & 8"	17-4 Stnls.	19238SL
10	Button Head S.C.S.	2	2"Thru 8"	Steel	9Q5940
11	Hex Jam Nut	2	2"Thru 8"	Steel Zinc Plt.	9Q5910
12	O-Ring	1	2"Thru 8"	Buna-N	17781BN
13	Shaft	1	2"Thru 8"	304 Stnls.	19239SL
14	O-Ring	1	2"Thru 8"	Buna-N	19350BN
15	Washer	1	2"Thru 8"	Aluminum	19268AL
16	End Cap	1	2"Thru 8"	Aluminum	19244ALEY
17	1/4 Lockwasher	4	2"Thru 8"	Steel	9Q5845
18	Hex. Hd. Bolt	4	2"Thru 8"	Steel Zinc Plt.	9Q5938
19	Retaining Ring	2	2"Thru 8"	Steel Plated	9Q4932
20	Bearing	2	2"Thru 8"	Bronze	9Z4870
21	Clevis Pin	1	2"Thru 8"	Steel Plated	9Q4729
22	Cover Plate	1	2"Thru 8"	Aluminum	19490ALEY
23	Hex. Hd. Bolt	4	2"Thru 8"	Steel Zinc Plt.	9Q5849
23a	1/4 Star Washer	4	2"Thru 8"	Steel Zinc Plt.	9Q5923
24	Gasket	1	2"Thru 8"	Cork-Neoprene	19269CN
26	O-Ring	1	2"Thru 8"	Buna-N	18066BN
††27	Socket Hd. Screw	1	2"Thru 8"	Steel	9Q5798
†28	1/8 Pipe Plug	1	2"Thru 8"	Steel	9V4915
A1	Plug	1	2"Thru 8"	Aluminum	19489AL
A2	O-Ring	1	2"Thru 8"	Buna-N	19357BN
A3	O-Ring	1	2"Thru 8"	Buna-N	19505BN

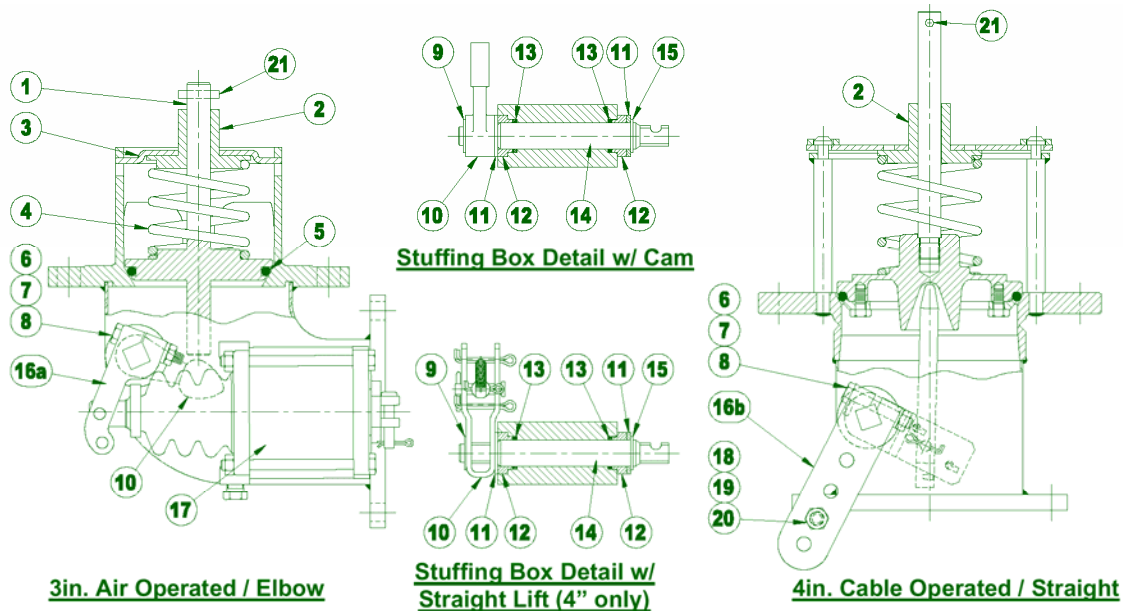
No.	Description	Req'd.	Size	Material	Part No.
A4	Indicator Pin	1	2"Thru 5"	316 Stnls.	19528SS
			6" & 8"	316 Stnls.	19529SS
A5	Spirol Pin	1	2"Thru 8"	304 Stnls.	9Q8601
A6	1/2 Star Washer	1	2"Thru 8"	410 Stnls.	9Q5916
A7	Breather	1	2"Thru 8"	Brass	9Z4895
31	Cap Screw	2	2"Thru 8"	Steel	9Q5856
32	Gasket	1	2",3" & 4"	Cork-Neoprene	18308CN
			5",6" & 8"	Cork-Neoprene	19351CN
33	O-Ring	1	2"Thru 5"	Buna-N	17889**
			6"	Buna-N	18831**
			8"	Buna-N	18831**
34	Drive Shaft	1	2"	Steel	27053MS
			3" & 4"	Steel	27050MS
			5"	Steel	27051MS001
			6"	Steel	16229MS
			8"	Steel	16229MS002
35	Disc	1	2"		WD101-2*
			3"		WD101-3*
			4"		WD101-4*
			5"		WD101-5*
			6"		WD101-6*
36	O-Ring	1	8"		WD101-8*
			2"	Buna-N	17781**
			3"Thru 5"	Buna-N	18141**
36a	O-Ring	1	6" & 8"	Buna-N	18831**
			8"	Buna-N	18831**
37	Bearing Shaft	1	2"	Steel	16006MS
			3"Thru 5"	Steel	15913MS
			6"	Steel	16230MS
			8"	Steel	16230MS002
38	Driv-Lok Pin	2	2"Thru 5"	Steel Zinc Plt.	9Q4893
			6"	Steel Zinc Plt.	9Q4926
			8"	Steel Zinc Plt.	9Q4938
39	Grease Fitting	1	8"	Steel	9Z3058

** O-Ring material suffix to match Disc suffix (i.e.-17889VT)

† PART REQ'D ON SPRING RETURN MODELS ONLY

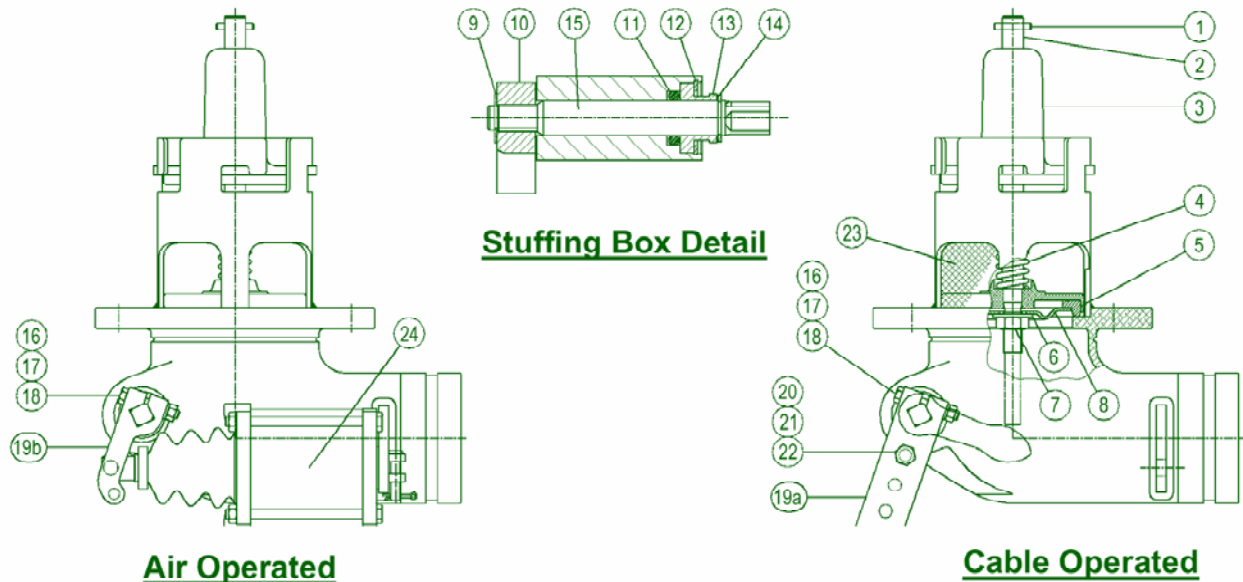
†† PART REQ'D ON DOUBLE ACTING MODELS ONLY

Betts Emergency Valve Stainless Steel



NO.	REQ.	DESCRIPTION	MATERIAL	PART NO.	
				3" VALVE	4" VALVE
1	1	Stem & O-Ring Holder	Stnls 316	18119SS	28141SS001
1a	1	O-Ring Retainer	Stnls 316	N.A.	27443SS
1b	4	Cap Screw ¼ -28 x ½	Stnls 316	N.A.	9Q4174
2	1	Shaft guide	Stnls 316	75310SS	75310SS
3	1	Bonnet	Stnls 316	17888SS	27017SS
4	1	Spring	Stnls 316	17884SS	18222SS
5	1	Seat O-Ring	Tef-Sil	17890TS	19033TS
6	1	Cap Screw ¼-20UNC x 1-½"	Steel – Zinc Plt.	9Q5947	9Q5947
7	1	Lockwasher ¼"	Steel – Zinc Plt.	9Q5845	9Q5844
8	1	Hex Nut ¼-20UNC	Steel – Zinc Plt.	9Q5806	9Q5806
9	1	Cam Retaining Ring	Stnls 316	9Q4933	9Q4933
10	1	Cam	Stnls 316	15086SS	N.A.
10a	1	Straight Lift Assembly	Stnls 316	N.A.	28137SS
11	2	Washer	Teflon	15432TF	15432TF
12	2	Retaining Sleeve	Stnls 316	18467SS	18467SS
13	2	Cam Shaft O-Ring	Tef-Sil	17946TS	17946TS
14	1	Cam Shaft	Stnls 316	18469SS	18469SS
15	1	Spacer Sleeve Retaining Ring	Stnls 316	9Q4970	9Q4970
16a	1	Lever Arm – Air Cylinder	Steel – Plt.	18366EY	18705MS
16b	1	Lever Arm – Cable	Steel – "E" Coated	10587EY	10587EY
17	1	Air Cylinder	Aluminum/Buna	AC35005ALB	AC35005ALB
18	1	Bolt 5/16-18UNC x 1" lg.	Steel – Zinc Plt.	9Q5829	9Q5829
19	1	Lockwasher 5/16"	Steel – Zinc Plt.	9Q5847	9Q5847
20	1	Hex Nut 5/16-18UNC Thd.	Steel – Zinc Plt.	9Q5808	9Q5808
21	1	Bail Pin 3/16 x 1" lg.	Stnls 316	9Q5901	9Q5901
22	1	Stuffing Box Boot	Neoprene	19937NE	19937NE
23	1	Cable Tie	Nylon	9W3384	9W3384

Betts Emergency Valve 3" & 4" Flat Seat Aluminum



Air Operated

Cable Operated

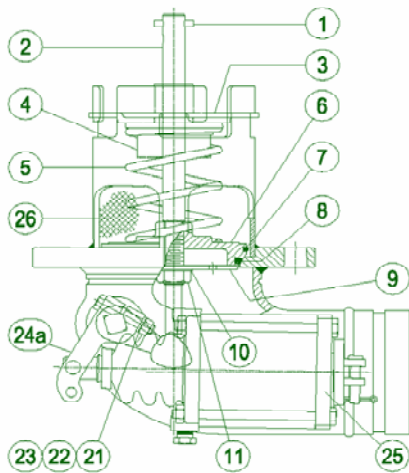
NO.	REQ.	DESCRIPTION	MATERIAL	PART NO.	
				3" VALVE	4" VALVE
1	1	Bail Pin 3/16 Dia. X 1"	Stnls 18-8	9Q5901	9Q5901
2	1	Stem & Disc Holder Assembly	Alum./Steel Zinc Plt.	**27773ZA ***27517ZA	17991CA / *17991SA
3	1	Bonnet	Aluminum	25074AL	25248AL
4	1	Spring	Steel "E" Coated	15196EY	15196EY/ *15196SS
5	1	Disc	Buna Urethane	19018BU	19017BU
			Viton	19018VT	19017VT
6	1	Lockwasher 1/2" external tooth	Stnls 410	9Q5916	9Q5918/ *9Q5916
7	1	Hex Nut 1/2-20UNF Thd.	Stnls 18-8	9Q5909	9Q5909
8	1	Disc Retainer Plate	Aluminum	15006AL	15051AL
9	1	Cam Retaining Ring	Stnls 316	9Q4933	9Q4933
10	1	Cam	Steel	19022MS	19022MS/ *19022SS
11	1	O-Ring (Cam Shaft)	Buna-N	19082BN	19082BN
			Viton	19082VT	19082VT
12	1	Retaining Ring-Gland	Stnls 316	9Q4968	9Q4968
13	1	Retaining Gland	Aluminum	19081AL	19081AL
14	1	Retaining Ring - Cam shaft	Stnls 316	9Q4970	9Q4970
15	1	Cam Shaft	Steel	27332ZC	27332ZC/ *27332SS
16	1	Bolt 1/4-20UNC x 1.75" lg.	Steel Zinc Plt.	9Q5825	9Q5825
17	1	Lockwasher 1/4"	Steel Zinc Plt.	9Q5845	9Q5845
18	1	Hex Nut 1/4-20UNC Thd	Steel Zinc Plt.	9Q5806	9Q5806
19a	1	Lever Arm - Cable	Steel "E" Coated	10587EY	10587EY
19b	1	Lever Arm - Air	Steel "E" Coated	18366EY	18366EY
20	1	Bolt 5/16-18UNC x 1" lg.	Steel Zinc Plt.	9Q5829	9Q5829
21	1	Lockwasher 5/16"	Steel Zinc Plt.	9Q5847	9Q5847
22	1	Hex Nut 5/16-18UNC Thd	Steel Zinc Plt.	9Q5808	9Q5808
23	1	Screen - Optional	Stnls 304	17644SL	17645SL
24	1	Air Cylinder Assembly	Aluminum	AC35005ALB	AC35005ALB

* Indicates Part No. for Valves with Stainless Trim

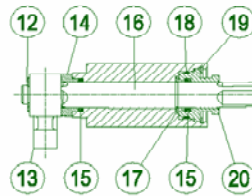
** Indicates Part No. for 90 Deg. Elbow

*** Indicates Part No. for Straight & Tee

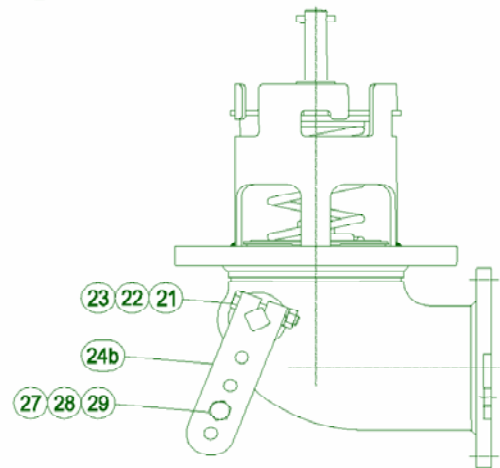
Betts Emergency Valve 3" Tapered Seat Aluminum



Air Operated



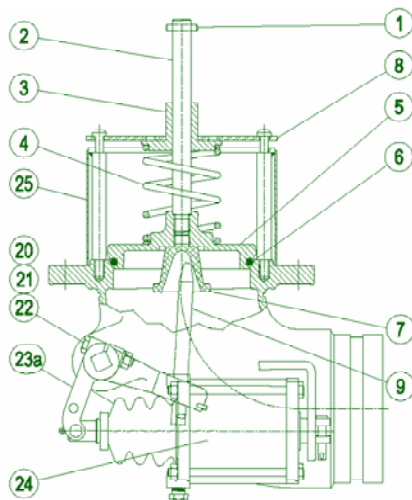
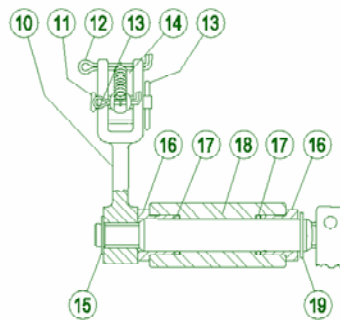
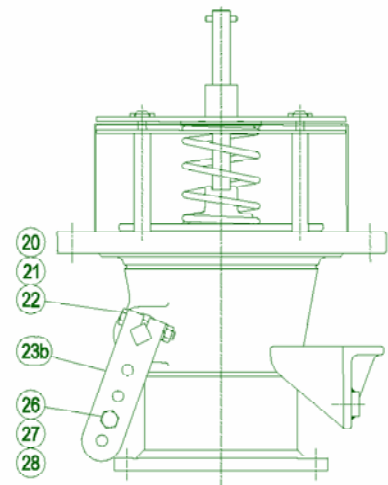
Stuffing Box Detail



Cable Operated

NO.	REQ.	DESCRIPTION	MATERIAL	PART NO.
1	1	Bail Pin 3/16 dia. X 1"	Stnls 18-8	9Q5901
2	1	Stem	Stnls 316	26886SS
3	1	Bonnet	Stnls 316	18770SS
4	1	Spring Washer & Shaft Guide	Teflon W/Glass	18881TG
5	1	Spring	Stnls 316	18222SS
6	1	O-Ring Holder	Aluminum	18768AL
7	1	Guide Ring	Teflon	18283TF
8	1	O-Ring Seat	Viton	18098VT
			Tef - Sil	18098TS
9	1	Retainer Plate	Aluminum	18769AL
10	1	Lockwasher 1/2" external Tooth	Stnls 410	9Q5916
11	1	Hex Half Nut 1/2-20UNF	Stnls 304	9Q5909
12	1	Retaining Ring - Cam	Stnls 410	9Q4933
13	1	Cam	Stnls 316	19021SS
14	1	Retainer Sleeve	Teflon W/Glass	18467TG
15	2	O-Ring Cam Shaft	Viton	17946VT
			Tef-Sil	17946TS
16	1	Cam Shaft	Stnls 316	27340SS
17	1	Retaining Ring - Cam Shaft	Stnls 316	9Q4970
18	1	O-Ring Gland	Viton	17945VT
			Tef-Sil	17945TS
19	1	Retaining Ring - Gland	Stnls 316	9Q4968
20	1	Gland	Aluminum	17821AL
21	1	Bolt 1/4-20UNC x 1.50 lg.	Steel - Zinc Plt.	9Q5947
22	1	Lockwasher 1/4"	Steel - Zinc Plt.	9Q5845
23	1	Hex Nut 1/4-20UNC	Steel - Zinc Plt.	9Q5806
24a	1	Lever Arm - Air	Steel "E" Coated	18366EY
24b	1	Lever Arm - Cable	Steel "E" Coated	10587EY
25	1	Air Cylinder Assembly	Aluminum	AC35005ALB
26	1	Screen - Optional	Stnls 304	17644SL
27	1	Bolt 5/16-18UNC - 1" lg.	Steel - Zinc Plt.	9Q5829
28	1	Lockwasher 5/16"	Steel - Zinc Plt.	9Q5845
29	1	Hex Nut 5/16-18UNC Thd.	Steel - Zinc Plt.	9Q5808

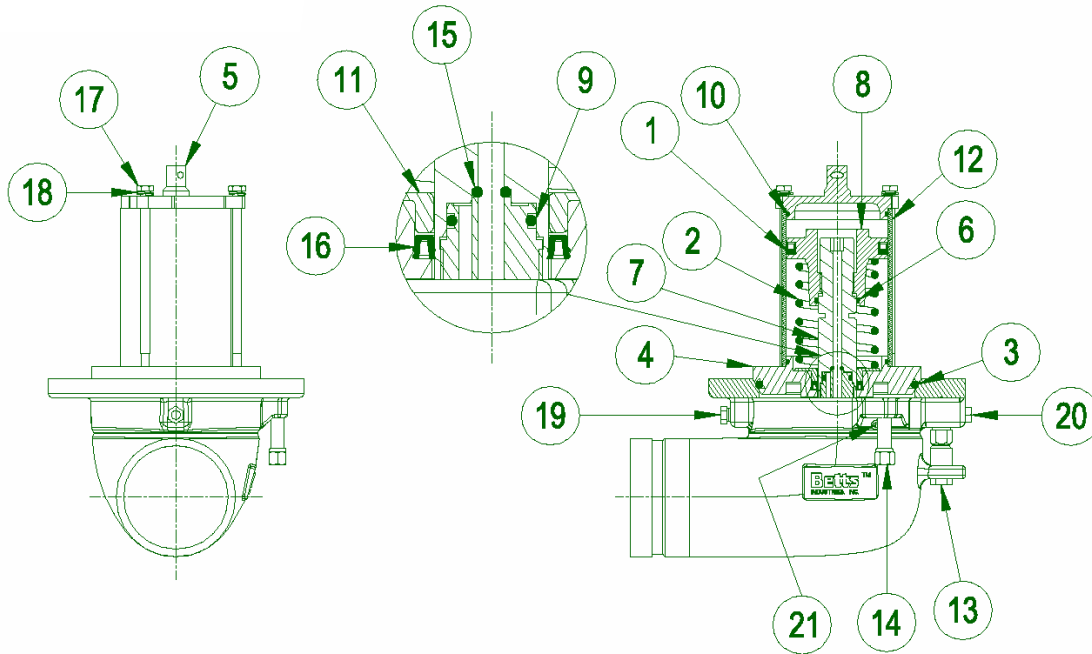
Betts Emergency Valve 4" & 6" X 4" Tapered Seat Aluminum

**Air Operated****Stuffing Box Detail****Cable Operated**

NO.	REQ.	DESCRIPTION	MATERIAL	PART NO.	
				4" VALVE	6"x 4" VALVE
1	1	Bail Pin 3/16 dia. X 1"	Stnls 18-8	9Q5901	9Q5901
2	1	Stem	Stnls 316	27415SS	27415SS
3	1	Spring Washer & Shaft Guide	Teflon W/Glass	19180TG	19180TG
4	1	Spring	Stnls 316	18222SS	18222SS
5	1	O-Ring Holder	Aluminum	27413AL	27412AL
6	1	O-Ring Seat	Tef - Sil	19028TS	18872TS
7	1	Lift Cup	Stnls 316	19178SS	19178SS
8	1	Bonnet Plate	Stnls 316	27017SS	27184SL
9	1	Lift Stem	Stnls 316	19179SS	19179SS
10	1	Lift Arm	Stnls 316	27414SS	27414SS
11	1	Clevis Pin 1/4 x 1-1/8	Stnls 303	9Q4727	9Q4727
12	1	Cotter Pin 1/8 x 1-1/4	Stnls 316	9Q4939	9Q4939
13	2	Cotter Pin 3/32 x 1-3/4	Stnls 304	9Q5866	9Q5866
14	1	Lift Spring	Stnls 302	19183SL	19183SL
15	1	Retaining Ring - Cam Shaft	Stnls	9Q4933	9Q4933
16	2	Spacer Sleeve	Teflon W/Glass	19034TG	19034TG
17	2	O-Ring Cam Shaft	Tef-Sil	17946TS	17946TS
18	1	Cam Shaft	Stnls 316	27332SS	27332SS
19	1	Retaining Ring - Cam Shaft	Stnls	9Q4970	9Q4970
20	1	Bolt 1/4-20UNC x 1.50 lg.	Steel - Zinc Plt.	9Q5947	9Q5947
21	1	Lockwasher 1/4"	Steel - Zinc Plt.	9Q5845	9Q5845
22	1	Hex Nut 1/4-20UNC	Steel - Zinc Plt.	9Q5806	9Q5806
23a	1	Lever Arm - Air	Steel "E" Coated	18366EY	18366EY
23b	1	Lever Arm - Cable	Steel "E" Coated	10587EY	10587EY
24	1	Air Cylinder Assembly	Aluminum/Buna	AC35005ALB	AC35005ALB
25	1	Screen - Optional	Stnls 304	18969SL	18935SL
26	1	Bolt 5/16-18UNC x 1 lg.	Steel - Zinc Plt.	9Q5829	9Q5829
27	1	Lockwasher 5/16"	Steel - Zinc Plt.	9Q5847	9Q5847
28	1	Hex Nut 5/16-18UNC Thd.	Steel - Zinc Plt.	9Q5808	9Q5808

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper functioning of this product.

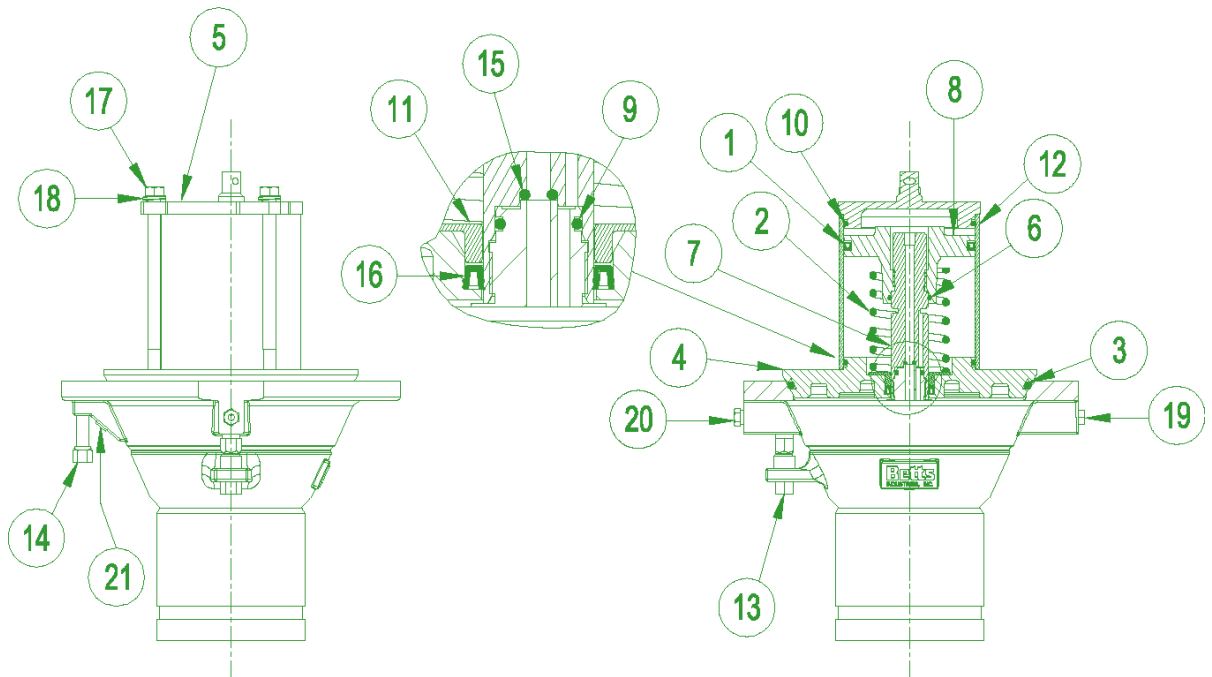
Betts Emergency Valve 3" and 4" Aluminum Internal Air Tapered Seat Style



NO.	REQ.	DESCRIPTION	MATERIAL	PART NO.
1	1	3" U-cup Seal	Buna-N*	17669BN*
2	1	Emergency Valve Spring	Steel Zinc Coated	18222ZC
3	1	Main Seal O-ring	Tef-Sil	19935TS
4	1	O-ring Holder	319-F Aluminum	28157AL
5	1	Air Cylinder Top Plate	319-F Aluminum	28160AL
6	1	Piston O-ring	Buna-N*	3357BN*
7	1	Air Supply Shaft	Hard Anodized Aluminum	75090AL
8	1	Air Cylinder Piston	319-F Aluminum	75092AL
9	1	Air Exhaust Shaft O-ring	Buna-N*	75096BN*
10	2	Air Cylinder O-ring	Tef-Sil	75097TS
11	1	Seal Retainer	Hard Anodized Aluminum	75100AL
12	1	Air Cylinder Tube	Hard Anodized Aluminum Tube	75277AL
13	1	Frangible Air Inlet	Aluminum	75108AL
14	1	Jack Screw	303 Stainless Steel/Buna-N	75141SLBN
15	1	Air Inlet Shaft O-ring	Buna-N*	75159BN*
16	1	Main Shaft Seal	Teflon® / 301 SS	75210SSTF
17	3	Air Cylinder Tie Bolts	Steel Zinc Coated	9Q5938
18	3	Tie Bolt Split Lock Washer	304 Stainless Steel	9Q5844
19	1	Sintered Breather Plug	Nickel Plated Steel/Sintered Brass	9Q5056
20	1	Fusible Plug	Brass/Solder	FP15003BR
21	1	1/8-27 NPT Pipe Plug	Steel Zinc Coated	9V4915

*For 030 Suffix Valves (i.e.EV46934ALTS030) replace suffix BN with VT in the part no. This will change the material from Buna-N to Viton® (i.e. 17669BN becomes 17669VT).

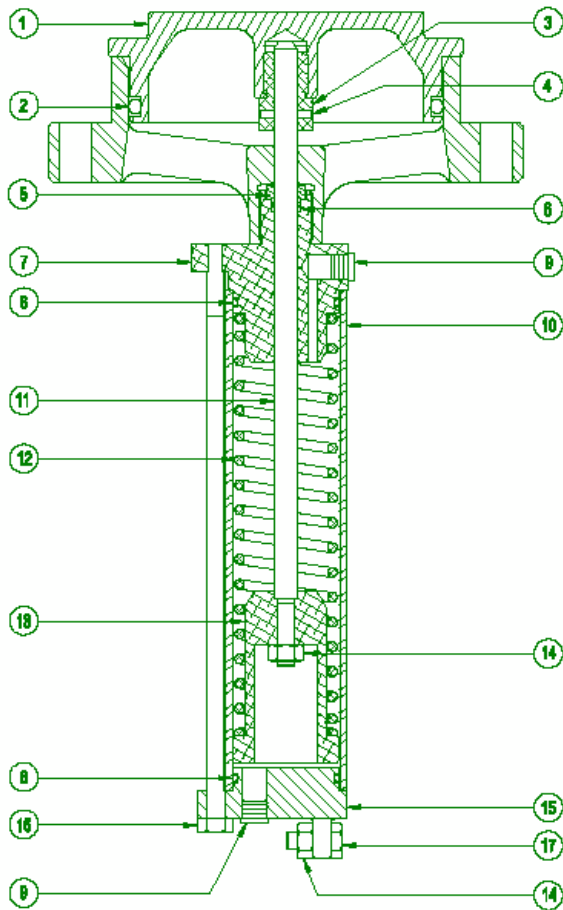
Betts Emergency Valve 6" Aluminum Internal Air Tapered Seat Style



NO.	REQ.	DESCRIPTION	MATERIAL	PART NO.
1	1	4" U-cup Seal	Buna-N*	75117BN*
2	1	Emergency Valve Spring	Steel Zinc Coated	18222ZC
3	1	Main Seal O-ring	Tef-Sil	75098TS
4	1	O-ring Holder	356-T6 Aluminum	35927AL
5	1	Air Cylinder Top Plate	319-F Aluminum	28176AL
6	1	Piston O-ring	Buna-N*	3357BN*
7	1	Air Supply Shaft	Hard Anodized Aluminum	75090AL
8	1	Air Cylinder Piston	319-F Aluminum	28174AL
9	1	Air Exhaust Shaft Seal	Buna-N*	75096BN*
10	2	Air Cylinder Seals	Tef-Sil	18134TS
11	1	Seal Retainer	Hard Anodized Aluminum	75100AL
12	1	Air Cylinder Tube	Hard Anodized Aluminum Tube	75115AL
13	1	Frangible Air Inlet	Aluminum	75108AL
14	1	Jack Screw	303 Stainless Steel/Buna-N	75141SLBN
15	1	Air Inlet Shaft Seal	Buna-N*	75159BN*
16	1	Main Shaft Seal	Teflon® / 301 SS	75210SSTF
17	3	Air Cylinder Tie Bolts	Steel Zinc Coated	9Q5057
18	3	Tie Bolt Split Lock Washer	304 Stainless Steel	9Q5906
19	1	Sintered Breather Plug	Nickel Plated Steel/Sintered Brass	9Q5056
20	1	Fusible Plug	Brass/Solder	FP15003BR
21	1	1/8-27 NPT Pipe Plug	Steel Zinc Coated	9V4915

*For 030 Suffix Valves (i.e.EV46924ALTS030) replace suffix BN with VT in the part no. This will change the material from Buna-N to Viton® (i.e. 17669BN becomes 17669VT).

Betts 4" Surge Suppression Relief Valve



No.	Description	Req.	Material	Part No.
1	O-Ring Holder	1	Aluminum	6510ALEY
2	O-Ring (Seat)	1	Tef/Sil	19028TS
3	Stem Adapter	1	Aluminum	3985AL
4	Spring Pin	1	Stainless	9Q4921
5	O-Ring Retainer	1	Aluminum	3986ALEY
6	O-Ring (Stem)	1	Tef/Sil	18591TS
7	Top Cylinder Endplate	1	Aluminum	6512ALEY
8	O-Ring (Endplate)	2	Tef/Sil	18592TS
9	Pipe Plug $\frac{1}{8}$ NPT	2	Steel	9V4915
10	Cylinder Tube	1	Aluminum	3989AL
11	Stem	1	Stainless	3988SL
12	Spring	1	Steel	4068MS
13	Spring Holder (Piston)	1	Aluminum	3987AL
14	Locknut $\frac{1}{4}$ -28UNF	1	Steel	9Q5807
15	Bottom Cylinder Endplate	1	Aluminum	6513AL
16	Cylinder Bolt $\frac{1}{4}$ -28UNFx8"	3	Steel	9Q5053
17	Bolt $\frac{1}{4}$ -28UNFx $\frac{3}{4}$ "	1	Steel	9Q5823

* When ordering a replacement O-ring holder please add as a suffix to the 6510ALEY number, the model number of the unit on which the replacement O-ring holder is to be used.
EAMPLE: 6510ALEY-8292

INSTALLATION

4" Surge Suppression Pressure Relief Valve may be installed on manhole covers or flanged outlets having a 4 $\frac{1}{4}$ " minimum I.D. and the 4" TTMA outlet flange drilling (8- $\frac{7}{16}$ " holes on 5 $\frac{7}{8}$ " B.C.). Adequate space should be provided to allow the O-ring holder to travel approx. 1 $\frac{1}{2}$ ". A static ground wire should be connected to the lug provided on the bottom of the cylinder.

NOTE: do not attach air or hydraulic lines to the $\frac{1}{8}$ " NPT ports in the spring cylinder end plates. These ports are only intended for loading or draining the hydraulic oil contained in the spring cylinder.

MAINTENANCE

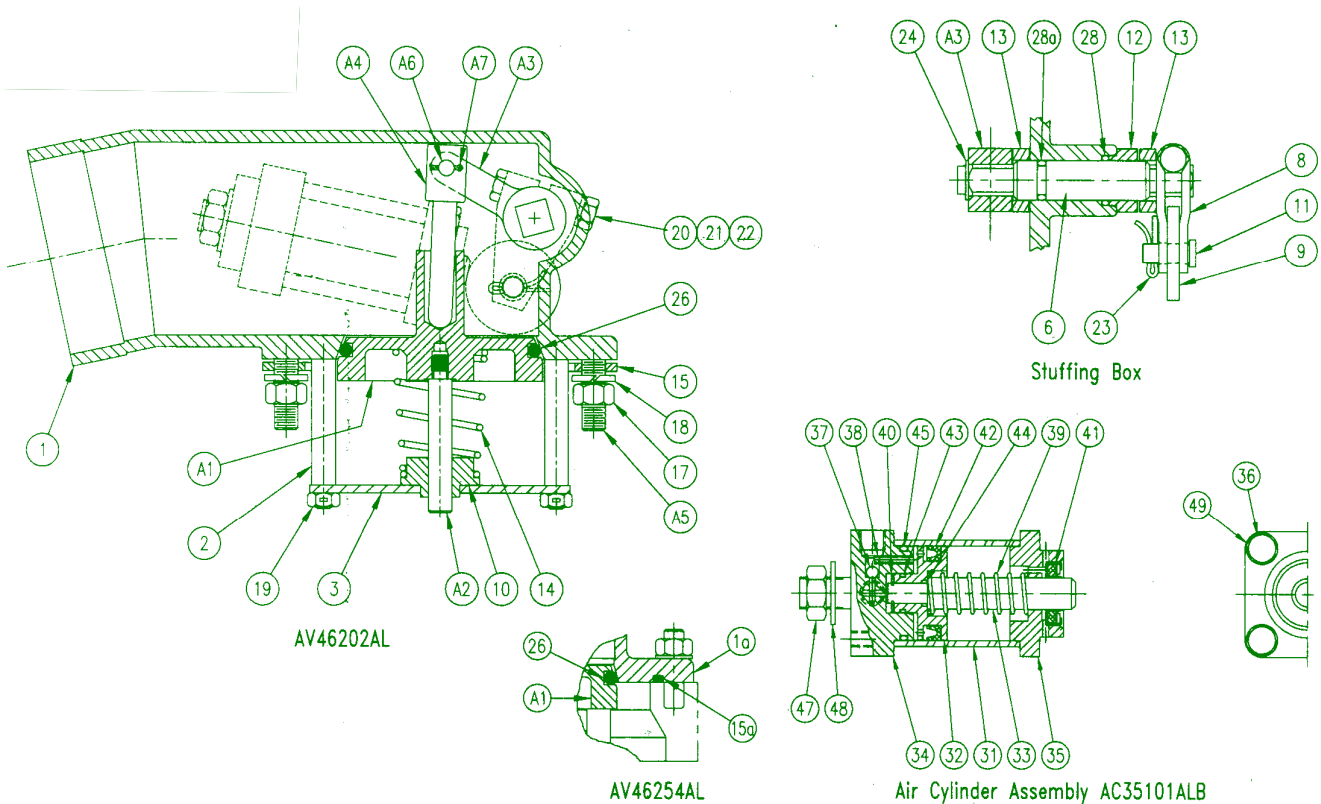
When bench testing valve, increase test pressure slowly in order to get an accurate reading of the set pressure. If pressure is applied to quickly, it will appear that the set pressure is too high. Note that valve cap must lift $\frac{1}{2}$ " before valve opens.

If it is necessary to replace the seat O-ring #2 first remove pipe plugs #9 and drain oil from the cylinder #10. Remove cylinder #10 by removing cylinder bolts #16. Compress spring to where O-ring holder #1 is free to be unscrewed from stem adapter #3. Replace O-ring #2 and reassemble.

Replace oil in cylinder using Kendall Hyken Glacial Blu Hydraulic Fluid, or if unavailable, a high quality SAE 5W-10W oil with viscosity of 90 SUS at 100°F and a pour point of no greater than -50°F. Set valve in an upright position and force oil into lower port until it starts to flow out the upper port. Reinstall pipe plugs.

WARNING Use only genuine Betts Industries Inc. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts Vapor and Valve Hood



No.	Description	Size	Req.	Material	Part No.
1	Body		1	Aluminum	46238AL
1a	Body		1	Aluminum	46255AL
2	Post		4	316 Stnls.	18476SS
3	Stem Guide Plate		1	Aluminum	18477AL
6	Cam Shaft		1	Aluminum	18520AL
8	Lever		1	Steel Zinc Plt.	18357EY
9	Roller Disc		1	Aluminum	18356AL
10	Stem Bushing		1	Teflon	18492TF
11	Roller Pin		1	Steel Zinc Plt.	18354ZC
12	Spacer Sleeve		1	Aluminum	18467AL
13	Collar		2	Teflon	18546TF
14	Spring		1	Steel "E" Coat	18742EY
15	Flange Gasket		1	Cork/Buna-N	18360CB
15a	O-Ring		1	Teflon/Silicon	18468TS
17	Hex. Nut 3/8 -16UNC Thd.		8	316 Stnls.	9Q5809
18	Lockwasher 3/8		8	Stnls.	9Q5906

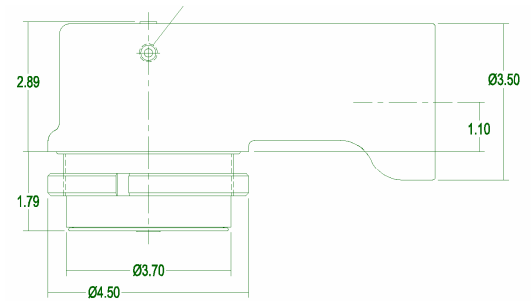
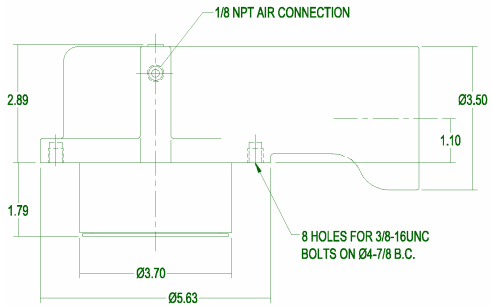
No.	Description	Req.	Material	Part No.
19	Hex. Nut 1/4 -28UNF Thd.	4	Steel Zinc Plt.	9Q5807
20	Cap Screw 1/4 -20UNC x 1.75	1	Steel Zinc Plt.	9Q5825
21	Hex. Nut 1/4 -20UNC Thd.	1	Steel Zinc Plt.	9Q5806
22	Lockwasher 1/4	1	Steel Zinc Plt.	9Q5845
23	Cotter Pin 3/32 X 7/8	1	Stnls. Steel	9Q5866
24	Cam Retainer	1	Stnls. Steel	9Q4933
26	Seat O-Ring	1	Teflon/Silicon	18580TS
28	Cam Shaft O-Ring	1	Teflon/Silicon	17946TS
28a	Cam Shaft O-Ring	1	Viton	18141VT
A1	O-Ring Disc Holder	1	Aluminum	19409AL
A2	Stem	1	316 Stnls.	19410SS
A3	Cam	1	316 Stnls.	19411SS
A4	Push Rod	1	316 Stnls.	19412SS
A5	Flange Stud	8	316 Stnls.	18559SS
A6	Clevis Pin	1	Stnls. Steel	9Q4725
A7	Cotter Pin	1	316 Stnls.	9Q5870

PARTS LIST FOR AC35101ALB

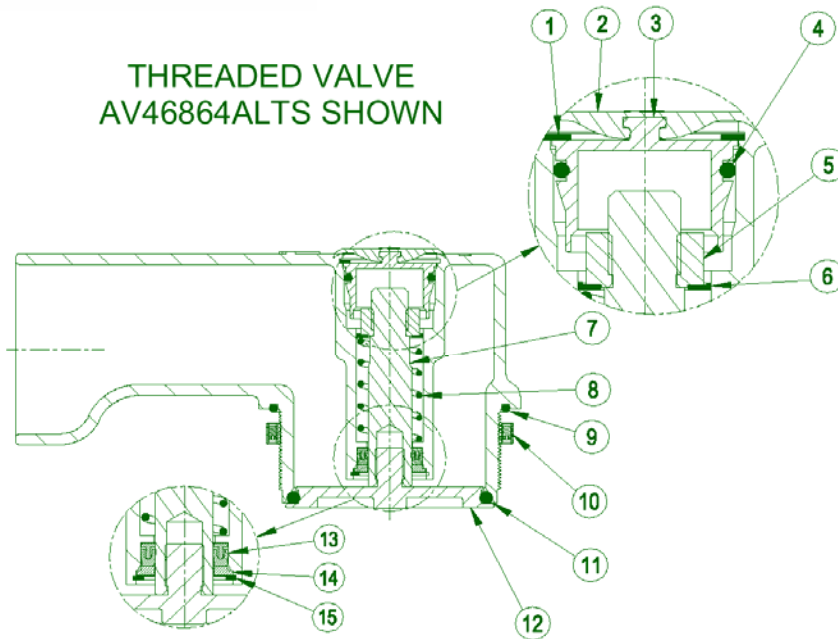
31	Cylinder	1	Aluminum	18518AL	40	Piston Retaining Ring	1	Steel Zinc Plt.	9Q4959
32	Piston	1	Aluminum	18516AL	41	Wiper Scraper Seal	1	Steel-Brass	19048MS
33	Shaft	1	304 Stnls.	18517SL	42	"U" Cup Piston Seal	1	Buna-N	18589BN
34	Air Inlet End Plate	1	Aluminum	18514AL	43	O-Ring-Interlock Seat	1	Buna-N	18590BN
35	Shaft End Plate	1	Aluminum	18515AL	44	O-Ring-Piston Shaft Seal	1	Buna-N	18591BN
36	Cap Screw 1/4 -28UNF x 3	4	Steel Zinc Plt.	9Q5052	45	O-Ring-End Plate Seal	1	Buna-N	18592BN
37	Ball 3/16 Dia.	1	316 Stnls.	9Z4853	47	Hex. Nut 1/2 -20UNF Thd.	1	Steel Zinc Plt.	9Q5910
38	Roll Pin 1/8 x 5/8	1	Steel	9Q4924	48	Lockwasher Ext. Tooth 1/2	1	Steel Zinc Plt.	9Q5918
39	Spring	1	Steel Zinc Plt.	18586ZC	49	Lockwasher 1/4	1	Steel Zinc Plt.	9Q5845

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper functioning of this product.

Betts 3-1/2" Aluminum Vapor Valve Air Operated



THREADED VALVE AV46864ALTS SHOWN



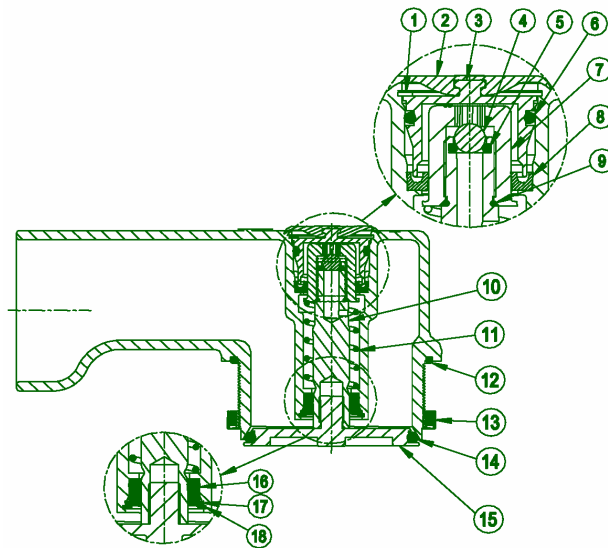
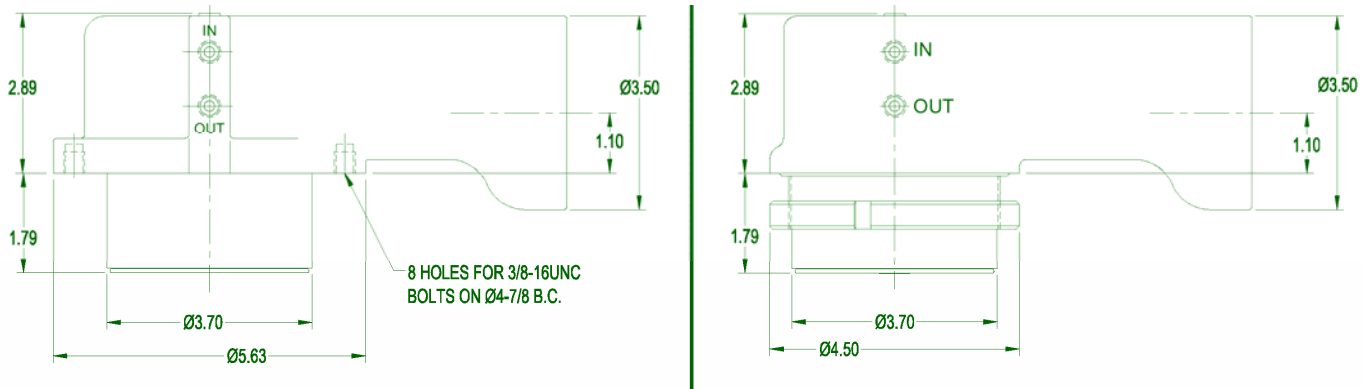
NO.	REQ'D	DESCRIPTION	MATERIAL	Part No.	
				Bolted Style	Threaded Style
1	1	Retaining Ring – Cap	Stainless	9Q4977	9Q4977
2	1	Rubber Rain Cap	EPDM	75010EP	75010EP
3	1	Air Cylinder Cap	Alum./E-coat	19957ALEY	19957ALEY
4	1	O-ring - Cap	Buna **	19971BN **	19971BN **
5	1	Spring Retainer Nut	Alum.	19934AL	19934AL
6	1	Spring Retainer Washer	Brass	19959BR	19959BR
7	1	Hard Anodized Stem	Alum.	75006AL	75006AL
8	1	Spring	302 SS	19960SL	19960SL
9	1	Gasket	Cork/Buna	RGA301CB	N.A.
	1	O-ring - Mounting	Viton	N.A.	17657VT
10	1	Mounting Ring w/ Set Screws	Alum.	N.A.	19950AL
11	1	O-ring - Seat	Tef-Sil	19930TS	19930TS
12	1	O-ring Holder	Alum.	28033AL	28033AL
13	1	Seal – Shaft	PTFE/SS	19973SSTF	19973SSTF
14	1	Shaft Seal Retainer	Alum.	19958AL	19958AL
15	1	Retaining Ring – Shaft Seal	Stainless	9Q4976	9Q4976
16	1	Bolts & Lock washers	Steel/Zn Plt.	*75002ZC	N.A.

* Part number for Stainless Mounting Kit 75002SL.

** Suffix "023" on assembly number replaces Buna seals w/ Fluorosilicone i.e. 19467BN changes to 19467FS

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper function of this product and void all warranties.

Betts 3-1/2" Air Operated Sequential Interlock Air Operated Valve



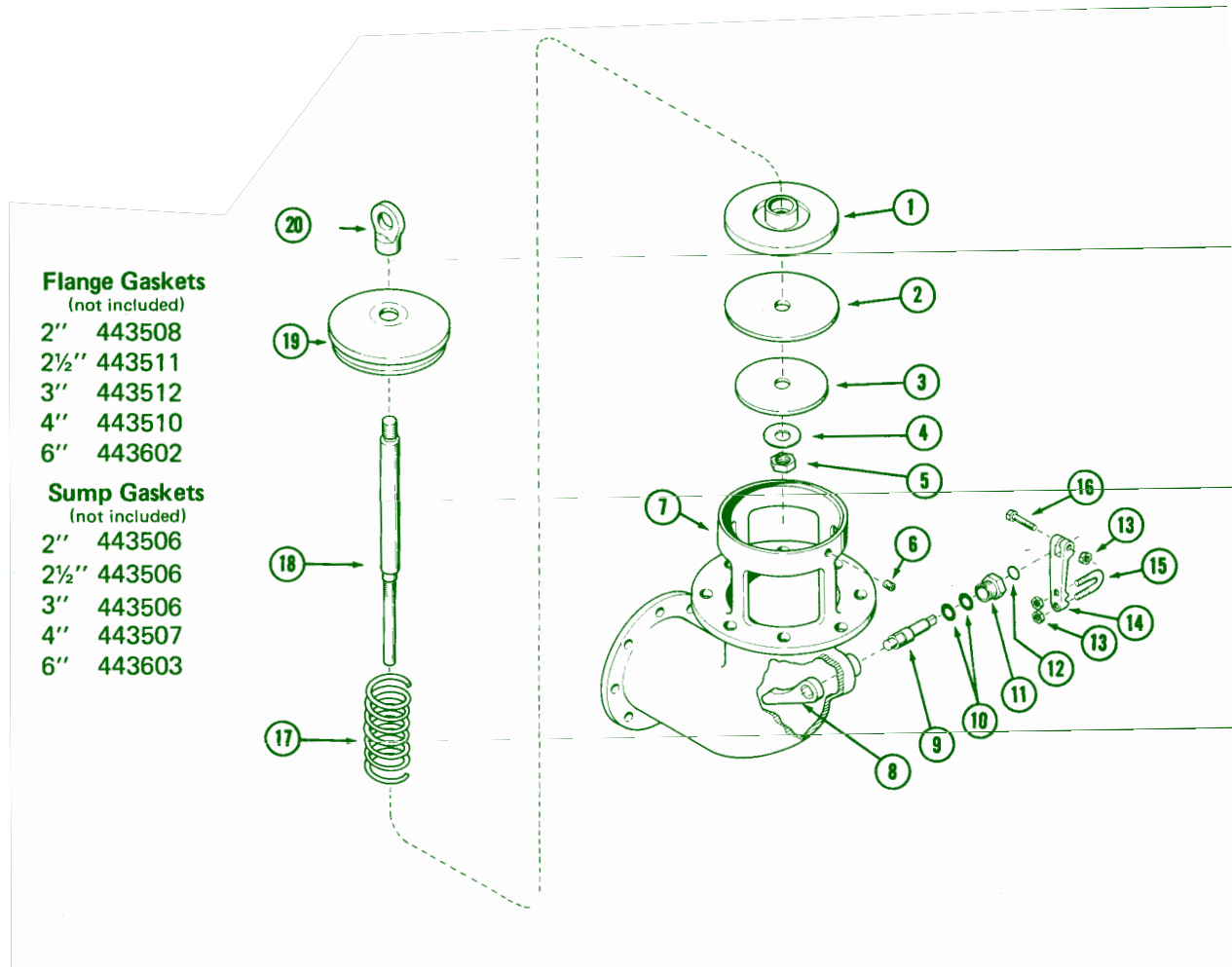
NO.	REQ'D	DESCRIPTION	MATERIAL	Part No.	
				Bolted Style	Threaded Style
1	1	Retaining Ring – Cap	Stainless Steel	9Q4977	9Q4977
2	1	Rubber Rain Cap	EPDM	75010EP	75010EP
3	1	Air Cylinder Cap	Alum./E-coat	19957ALEY	19957ALEY
4	1	Interlock Ball	316 Stainless	9Z4857	9Z4857
5	1	O-ring – Interlock	Buna **	19467BN **	19467BN **
6	1	O-ring – Cap	Buna **	19971BN **	19971BN **
7	1	Piston	Alum./Anodized	75212AL	75212AL
8	1	Seal – Piston	PTFE/SS	75119SSTF	75119SSTF
9	1	O-ring - Piston	Buna **	19931BN **	19931BN **
10	1	Hard Anodized Stem	Alum.	28117AL	28117AL
11	1	Spring	302 SS	19960SL	19960SL
12	1	Gasket	Cork/Buna	RGA301CB	N.A.
	1	O-ring – Mounting	Viton	N.A.	17657VT
13	1	Mounting Ring w/ Set Screws	Alum.	N.A.	19950AL
14	1	O-ring Seat	Tef-Sil	19930TS	19930TS
15	1	O-ring Holder	Alum.	28033AL	28033AL
16	1	Seal – Shaft	PTFE/SS	19973SSTF	19973SSTF
17	1	Shaft Seal Retainer	Alum.	19958AL	19958AL
18	1	Retaining Ring – Shaft Seal	Stainless Steel	9Q4976	9Q4976
19	1	Bolts & Lock washers	Steel/Zn Plt.	*75002ZC	N.A.

* Part number for Stainless Mounting Kit – 75002SL.

** Suffix "023" replaces Buna seals w/ Fluorosilicone i.e. 19467BN changes to 19467FS.

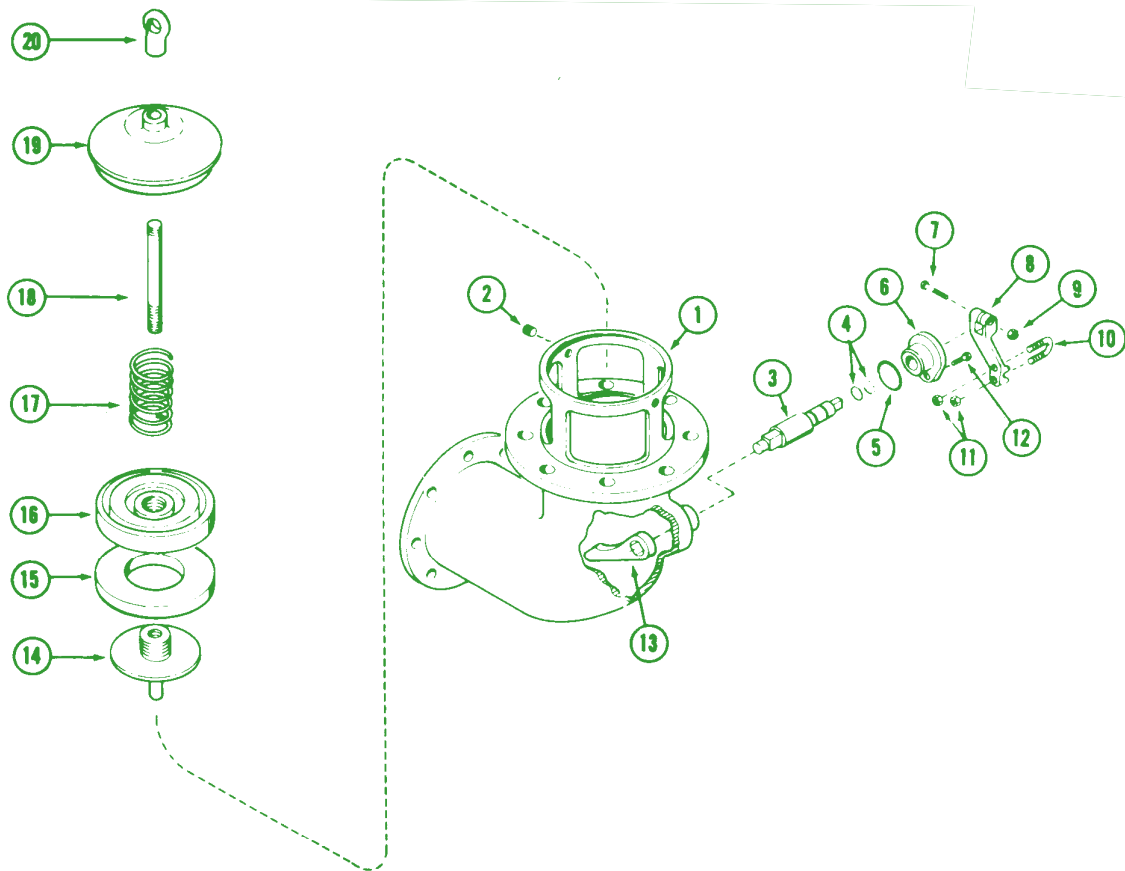
WARNING: Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper function of this product and void all warranties.

Emco Wheaton F241 Valve



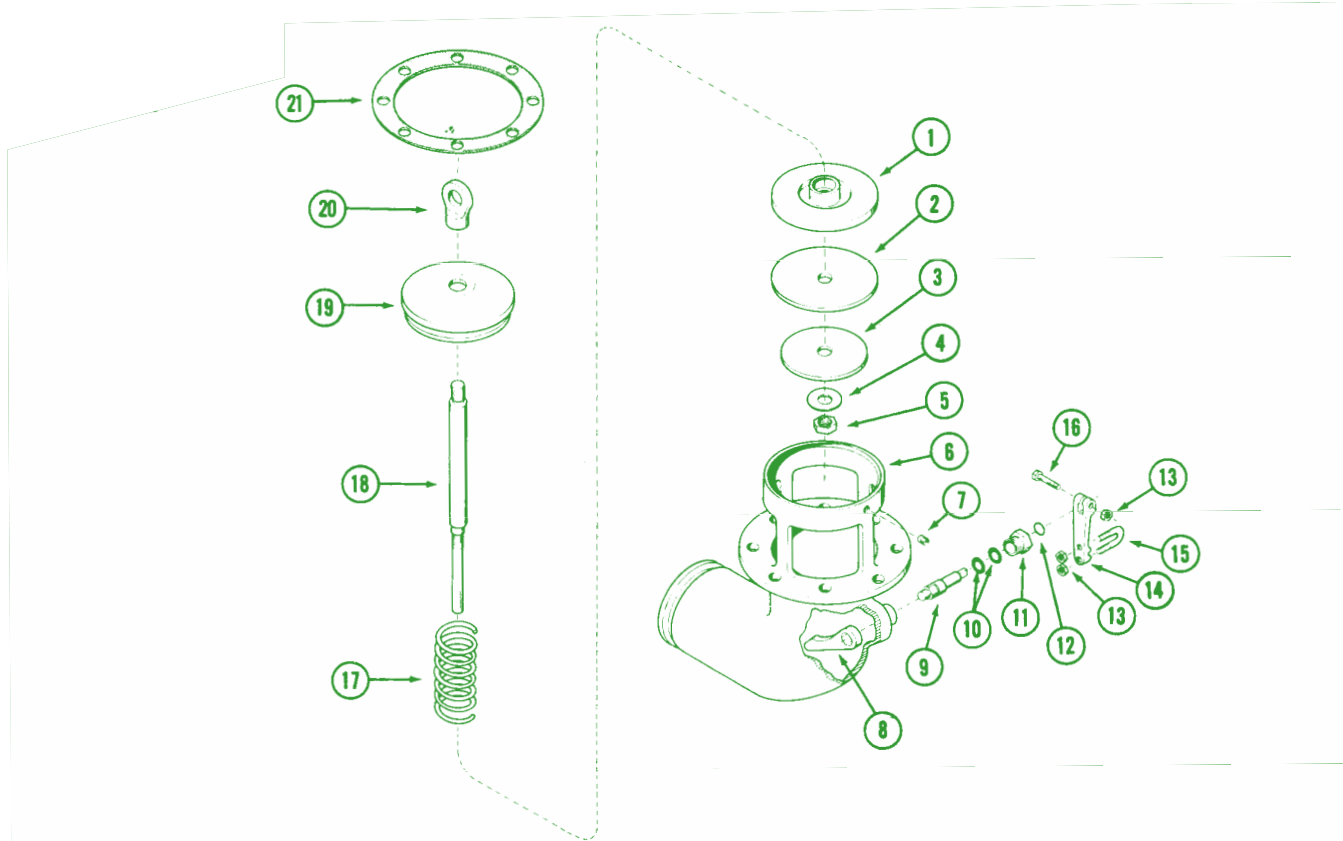
REF.	DESCRIPTION	BUNA-“N” DISC				TEFLON DISC			VITON DISC	REQ.
		PART NUMBER				PART NUMBER			PART NUMBER	
		F241-001 2"	F241-002 2½"	F241-003 3"	F241-004 4"	F241-006 2"	F241-008 3"	F241-009 4"	F241-033 4"	
1	Disc Holder	408051	408051	408051	408031	408051	408051	408031	408031	1
2	Plunger Disc	407710	407710	407710	407747	407707	407707	446362	408024	1
3	Disc Retainer Plate	407699	407699	407699	450342	407699	407699	450342	450342	1
4	Washer	407723	407723	407723	407723	407700	407700	407700	407700	1
5	Plunger Stem Nut	407722	407722	407722	407722	407701	407701	407701	407701	1
6	Body	407735	407731	407706	407705	407735	407706	407705	407705	1
7	Set Screw	444562	444562	444562	444562	444562	444562	444562	444562	3
8	Cam	407717	407717	407717	407751	407704	407704	407727	407727	1
9	Operating Stem	407713	407713	407713	407713	443468	443468	443468	443468	1
10	Packing Gland	407804	407804	407804	407804	407804	407804	407804	407804	2
11	Stuffing Box Nut	407709	407709	407709	407709	407709	407709	407709	407709	1
12	O-Ring	404942	404942	404942	404942	404942	404942	404942	408361	1
13	Nut	445540	445540	445540	445540	445540	445540	445540	445540	3
14	Operating Lever	441836	441836	441836	442144	441836	441836	442144	442144	1
15	U-Bolt	443793	443793	443793	443793	443793	443793	443793	443793	1
16	Screw	407943	407943	407943	407943	407943	407943	407943	407943	1
17	Spring	409733	409733	409733	561083	443460	443460	443460	443460	1
18	Plunger Stem	407715	407715	407715	407749	407702	407702	446361	446361	1
19	Bonnet	444671	444671	444671	450339	444671	444671	450339	450339	1
20	Plunger Ball	440036	440036	440036	440036	440036	440036	440036	440036	1

Emco Wheaton F241 Valve



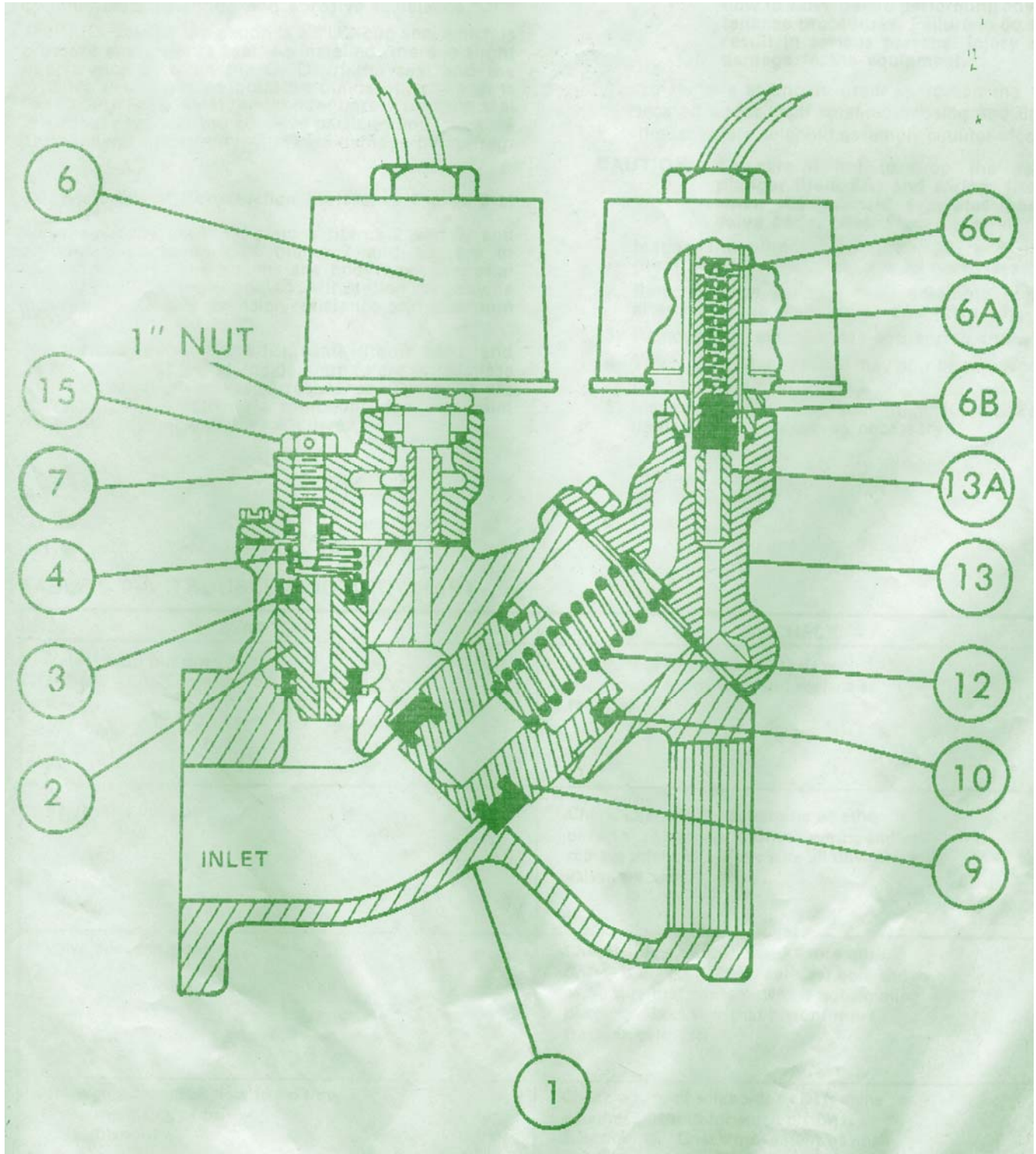
REF.	DESCRIPTION	PART NUMBER	REQ'D.	MAT'L.
	EMERGENCY VALVE - 90°	F241-005 6"		
1	Body	440450	1	Alum.
2	Set Screw	444562	4	S.S.
3	Operating Stem	443614	1	Steel
4	O-Ring	404113	2	Buna
5	O-Ring	443611	1	Buna
6	Stuffing Box Cover	440492	1	Bronze
7	Screw	409736	1	Stl. Pl.
8	Operating Lever	440462	1	Iron
9	Nut	403150	1	Stl. Pl.
10	U-Bolt	443793	1	Stl. Pl.
11	Nut	445540	2	Stl. Pl.
12	Stuffing Box Screw	470114	1	Stl. Pl.
13	Cam	408584	1	Bronze
14	Plunger Bottom	440456	1	Bronze
15	Plunger Disc	443584	1	Buna
16	Disc Holder	440458	1	Alum.
17	Plunger Spring	443580	1	Steel
18	Plunger Stem	448734	1	Brass
19	Bonnet	440454	1	Alum.
20	Plunger Bail	440466	1	Brass

Emco Wheaton F242 Valve



REF.	DESCRIPTION	PART NUMBER					REQ'D.	MAT'L.
		F242-001 2"	F242-002 2½"	F242-003 3"	F242-004 4"	F242-024 4"		
1	Disc Holder	408051	408051	408051	408031	408031	1	Alum.
2	Plunger Disc	407710	407710	407710	407747	—	1	Buna-N
3	Plunger Disc	—	—	—	—	408024	1	Viton
3	Disc Retainer Plate	407699	407699	407699	450342	450342	1	Alum.
4	Washer	407723	407723	407723	407723	407723	1	Steel
5	Nut	407722	407722	407722	407722	407722	1	Steel
6	Body	407737	407733	407718	407743	407743	1	Alum.
7	Set Screw	444562	444562	444562	444562	444562	3	S.S.
8	Cam	407717	407717	407717	—	—	1	Steel
	Cam	—	—	—	407751	407751	1	M. Iron
9	Operating Stem	407713	407713	407713	407713	407713	1	Steel
10	Packing Gland	407804	407804	407804	407804	407804	2	Teflon
11	Stuffing Box Nut	407709	407709	407709	407709	407709	1	Brass
12	O-Ring	404942	404942	404942	404942	—	1	Buna-N
	O-Ring	—	—	—	—	408361	1	Viton
13	Nut	445540	445540	445540	445540	445540	3	Stl. Pl.
14	Operating Lever	441836	441836	441836	442144	442144	1	M. Iron
15	U-Bolt	443793	443793	443793	443793	443793	1	Stl. Pl.
16	Screw	407943	407943	407943	407943	407943	1	Stl. Pl.
17	Spring	409733	409733	409733	443462	443462	1	Wire
18	Plunger Stem	407715	407715	407715	407749	407749	1	Stl. Pl.
19	Bonnet	444671	444671	444671	450339	450339	1	Alum.
20	Plunger Bail	440036	440036	440036	440036	440036	1	Alum.

Mid:Com BV-188

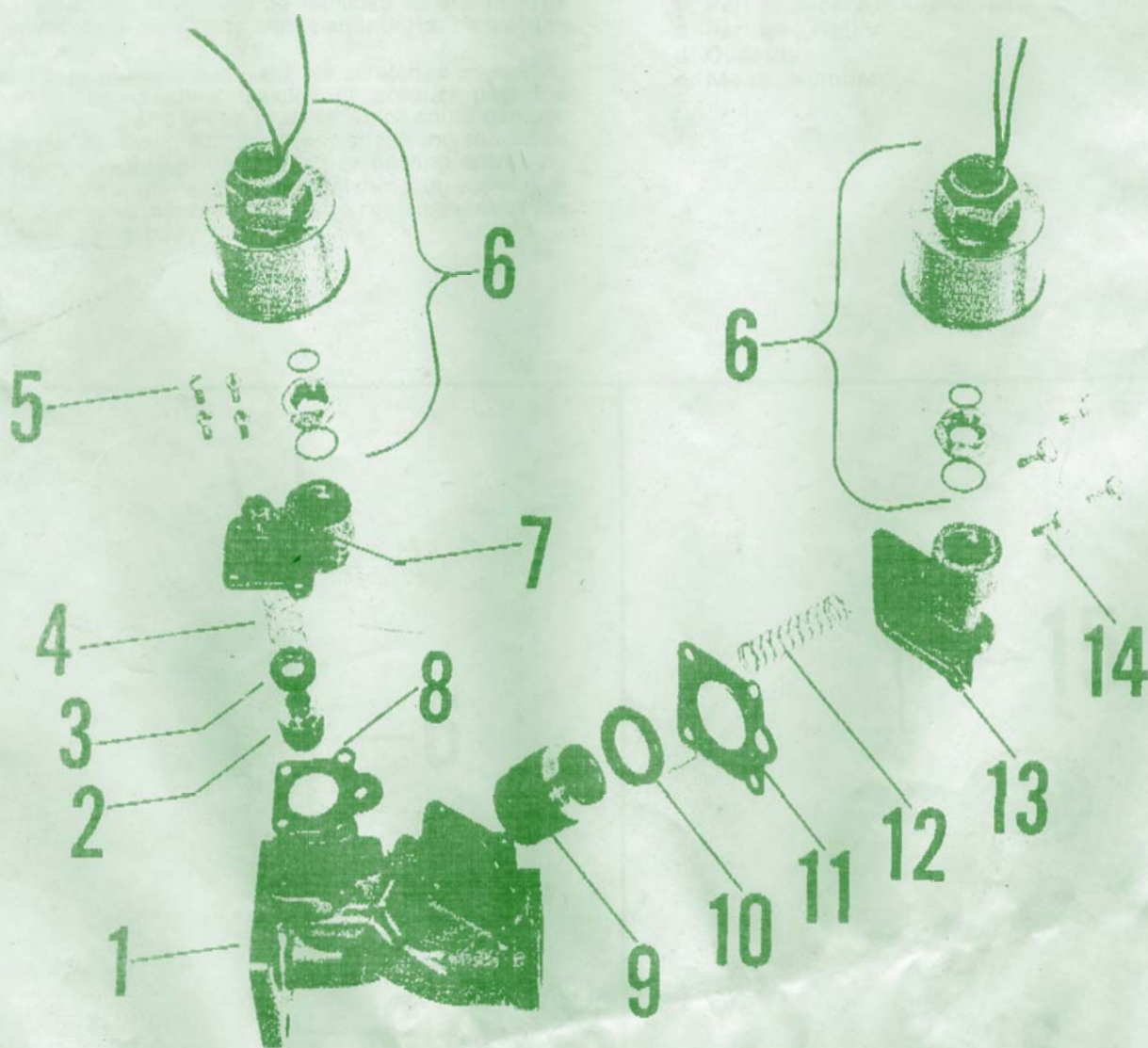


Mid:Com BV-188

ITEM	DESCRIPTION	PART NO.	NO. REQ.	ITEM	DESCRIPTION	PART NO.	NO. REQ.
1	VALVE BODY	520701	1	9	PISTON	520719	1
2	PISTON	520718	1	* 10	SEAL U-CUP	157046	1
3	SEAL U-CUP SMALL VALVE	157045	1	* 11	CYLINDER HEAD GASKET	520713	1
4	SPRING - SMALL VALVE	520716	1	12	SPRING	520717	1
5	10-32 x 7/16 SCREW	150533	4	13	CYLINDER HEAD ASSEMBLY	520705	1
6	SOLENOID	520704	2	14	1/4 - 20 x 5/8 SCREW	150726	4
7	CYLINDER HEAD ASSEMBLY	520710	1	15	ADJUSTMENT SCREW	520709	1
8	GASKET - SMALL VALVE	157045	1	* 16	O-RING	152066	1

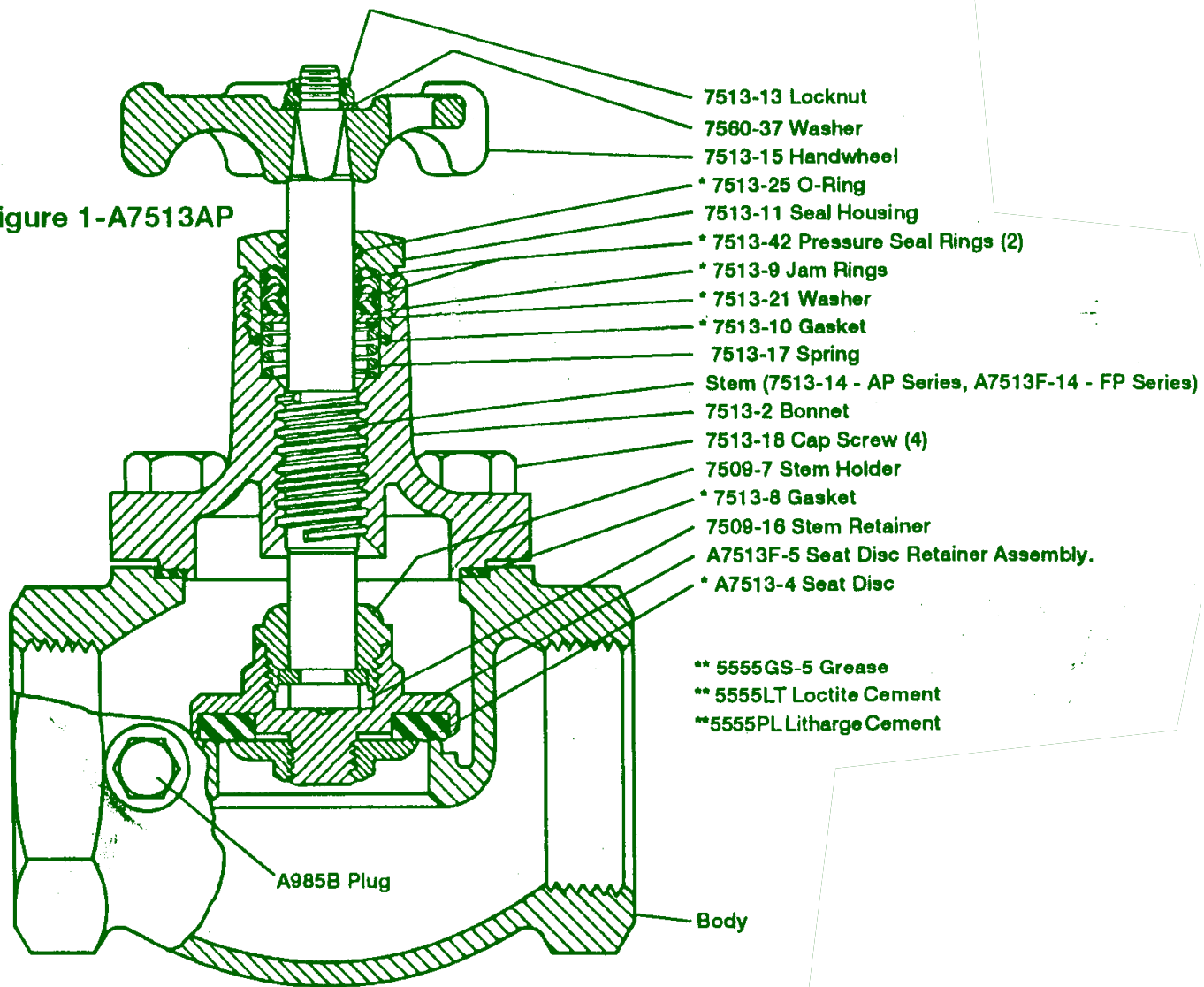
* Recommended Spare Parts

95 20714

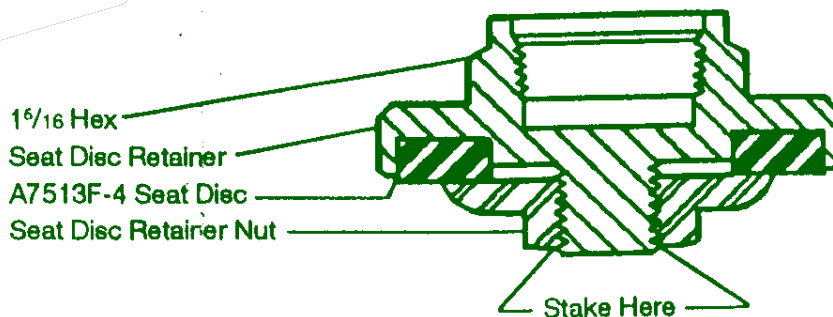


Rego A77513 Valve Assembly

Figure 1-A7513AP

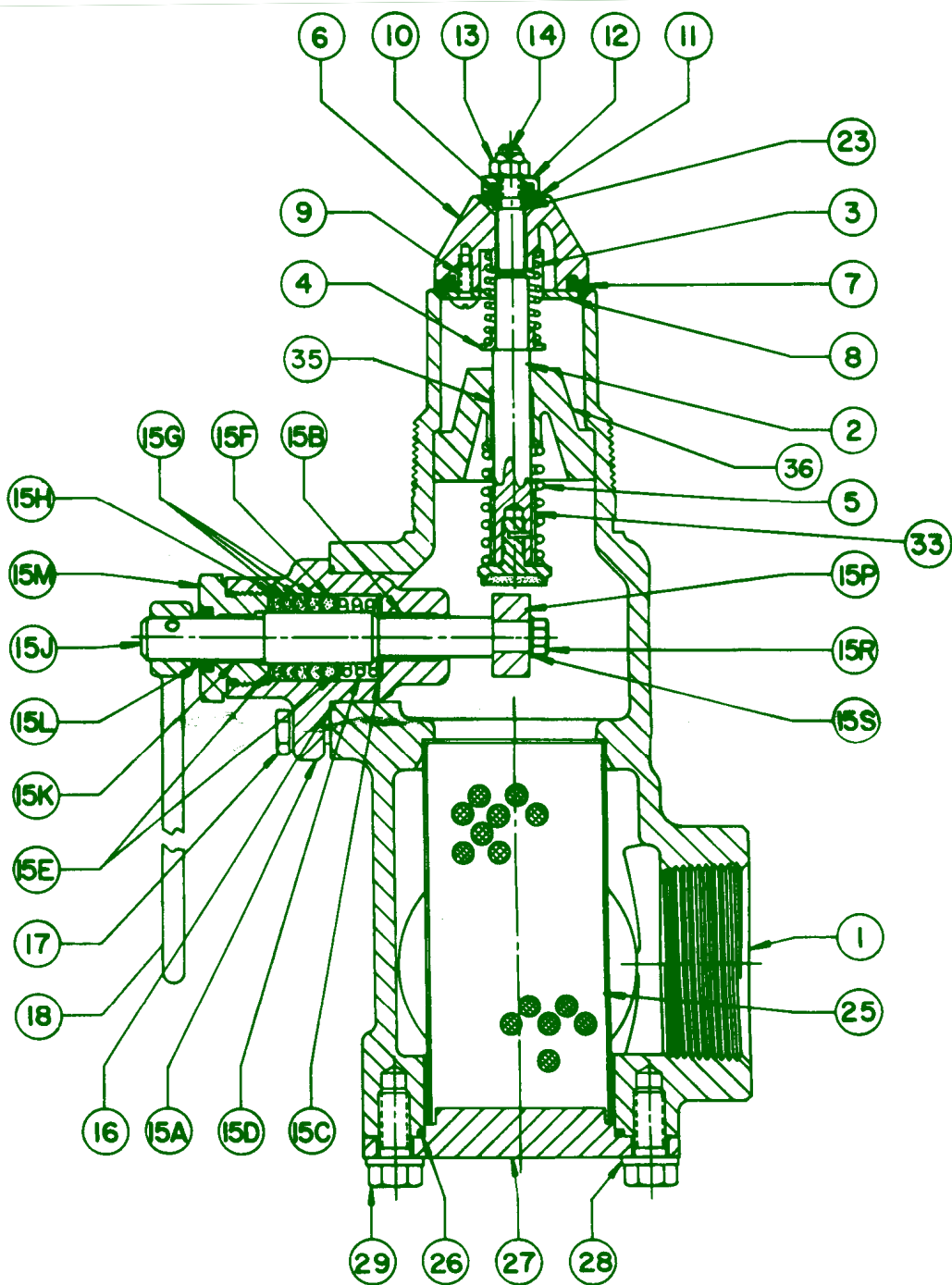


A7513F-5 Seat Disc and Retainer Assembly



Fisher Type C402 Internal Valves

Key	Description
1	Body
2	Stem Assembly
3	Excess Flow Spring
4	Spring Seat
5	Shutoff Spring
6	Disc Holder
7*	Lower Disc
8	Disc Retainer
9	Screw (3 req'd)
10	Disc Retainer
11*	Upper Disc
12	Disc Holder
13	Hex Nut
14	Cotter Pin
15A	Bonnet
15B*	Liner Bushing
15C	Washer
15D	Spring
15E	Washer (2 req'd)
15F*	Male Packing Adaptor
15G*	Packing (3 req'd)
15H*	Female Packing Adaptor
15J	Stub Shaft
15K*	Liner Bushing
15L	Rod Wiper
15M	Retainer Nut
15N	Groove Pin
15P	Cam
15R	Cap Screw
15S	Washer
16*	O-Ring
17	Cap Screw (3 req'd)
18	Operating Lever
19	Cotter Pin (Not shown)
20	Nameplate (Not shown)
21	Drive Screw (2 req'd) (Not shown)
22	Pipe Plug (Not shown)
23*	Washer
33	Travel Stop
35	Bushing
36	Guide



For C402 Only

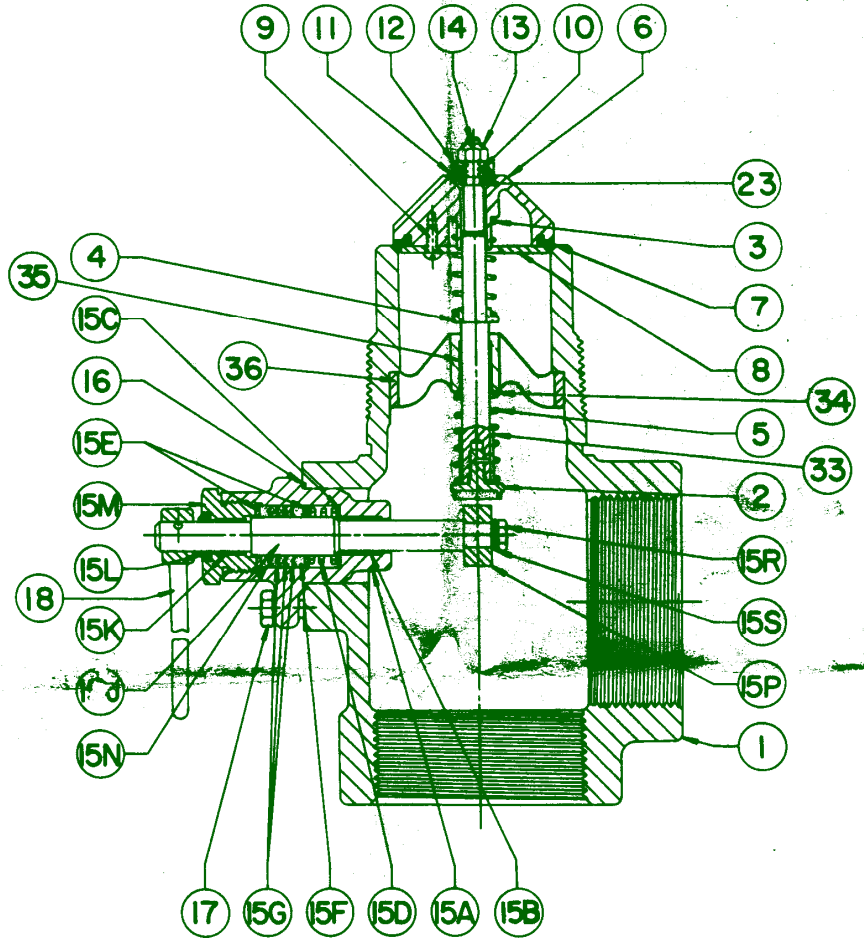
25	Stainer
26*	O-Ring
27	Bottom Flange
28	Lock Washer (8 req'd)
29	Cap Screw (8 req'd)

*Recommended spare part.

Figure 3. Type C402

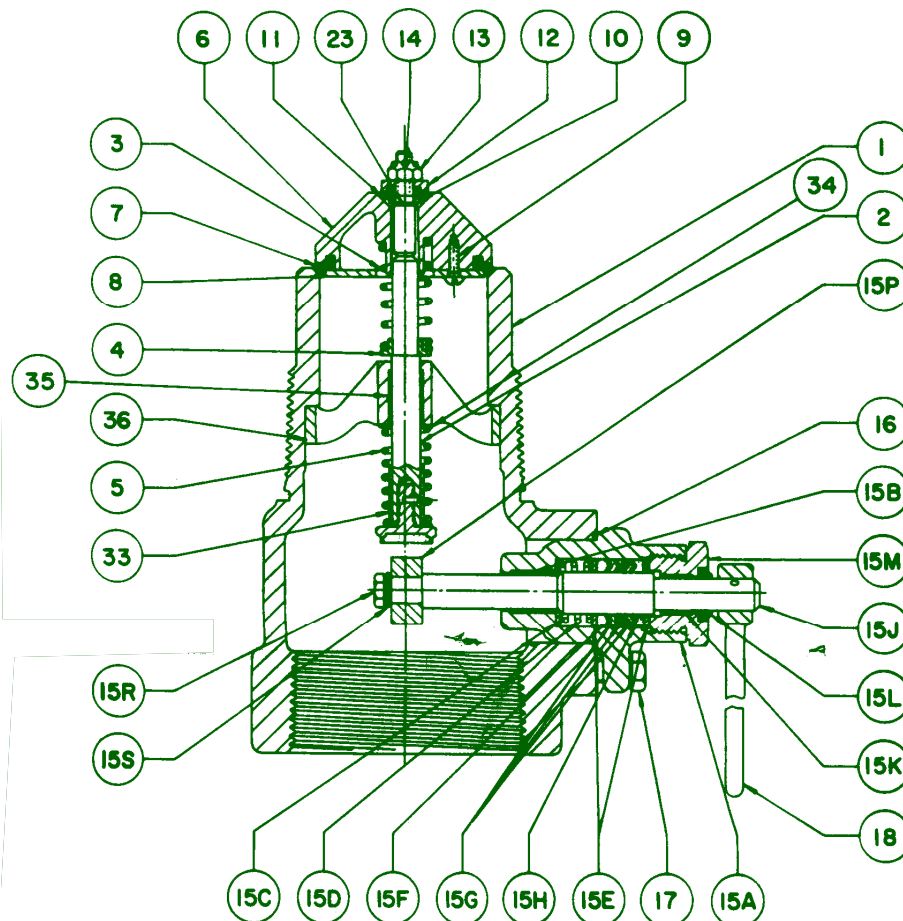
Fisher Type C421 Internal Valves

Key	Description
1	Body
2	Stem Assembly
3	Excess Flow Spring
4	Spring Seat
5	Shutoff Spring
6	Disc Holder
7*	Lower Disc
8	Disc Retainer
9	Screw (3 req'd)
10	Disc Retainer
11*	Upper Disc
12	Disc Holder
13	Hex Nut
14	Cotter Pin
15A	Bonnet
15B*	Liner Bushing
15C	Washer
15D	Spring
15E	Washer (2 req'd)
15F*	Male Packing Adaptor
15G*	Packing (3 req'd)
15H*	Female Packing Adaptor
15J	Stub Shaft
15K*	Liner Bushing
15L	Rod Wiper
15M	Retainer Nut
15N	Groove Pin
15P	Cam
15R	Cap Screw
15S	Washer
16*	O-Ring
17	Cap Screw (3 req'd)
18	Operating Lever
19	Cotter Pin (Not shown)
20	Nameplate (Not shown)
21	Drive Screw (2 req'd) (Not shown)
22	Pipe Plug (Not shown)
23*	Washer
33	Travel Stop
35	Bushing
36	Guide

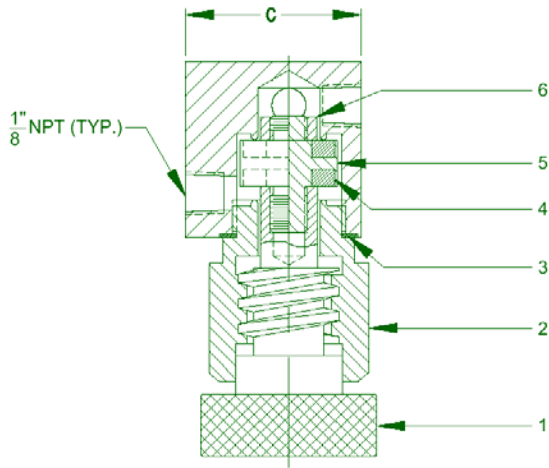


Fisher Type C427 Internal Valves

Key	Description
1	Body
2	Stem Assembly
3	Excess Flow Spring
4	Spring Seat
5	Shutoff Spring
6	Disc Holder
7*	Lower Disc
8	Disc Retainer
9	Screw (3 req'd)
10	Disc Retainer
11*	Upper Disc
12	Disc Holder
13	Hex Nut
14	Cotter Pin
15A	Bonnet
15B*	Liner Bushing
15C	Washer
15D	Spring
15E	Washer (2 req'd)
15F*	Male Packing Adaptor
15G*	Packing (3 req'd)
15H*	Female Packing Adaptor
15J	Stub Shaft
15K*	Liner Bushing
15L	Rod Wiper
15M	Retainer Nut
15N	Groove Pin
15P	Cam
15R	Cap Screw
15S	Washer
16*	O-Ring
17	Cap Screw (3 req'd)
18	Operating Lever
19	Cotter Pin (Not shown)
20	Nameplate (Not shown)
21	Drive Screw (2 req'd) (Not shown)
22	Pipe Plug (Not shown)
23*	Washer
33	Travel Stop
35	Bushing
36	Guide



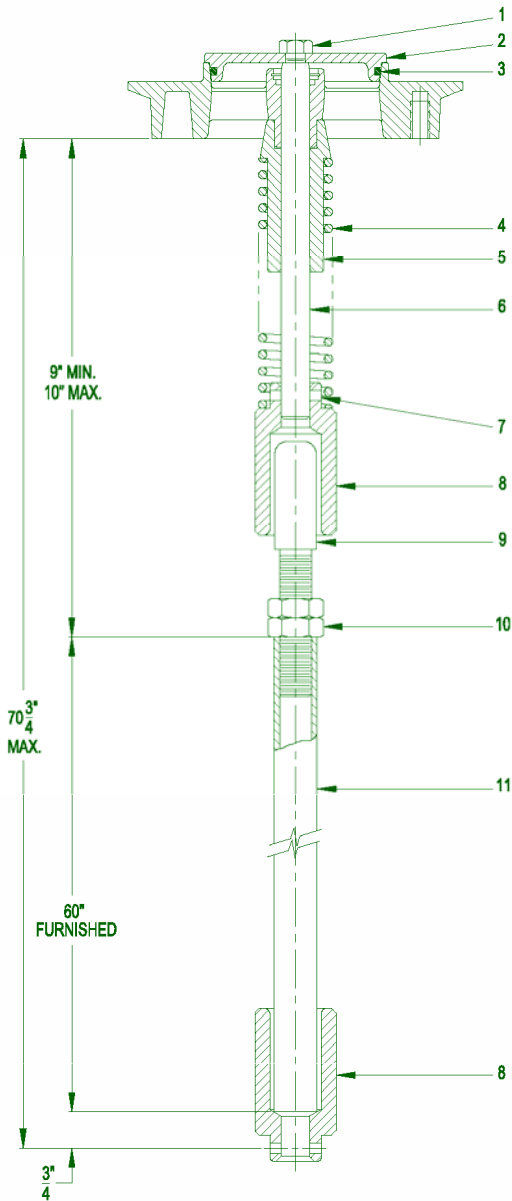
Betts Air Distributor Air Valves



PARTS LIST				
No.	Description	Req.	Material	Part No.
1	Stem	1	Aluminum	AD15008AL
2	Upper Seat	1	Aluminum	AD15009AL
3	Gasket	1	Fiber	AD15518FB
4	Comp Disc.	2	Buna-N	AD15011BN
5	Disc Holder	1	Aluminum	AD15010AL
6	Disc Ret. Nut	1	Stainless	AD16868SL

NOTE: For complete replacement sub-assembly (Items 1-6) order Part No. AD17826ALBN.

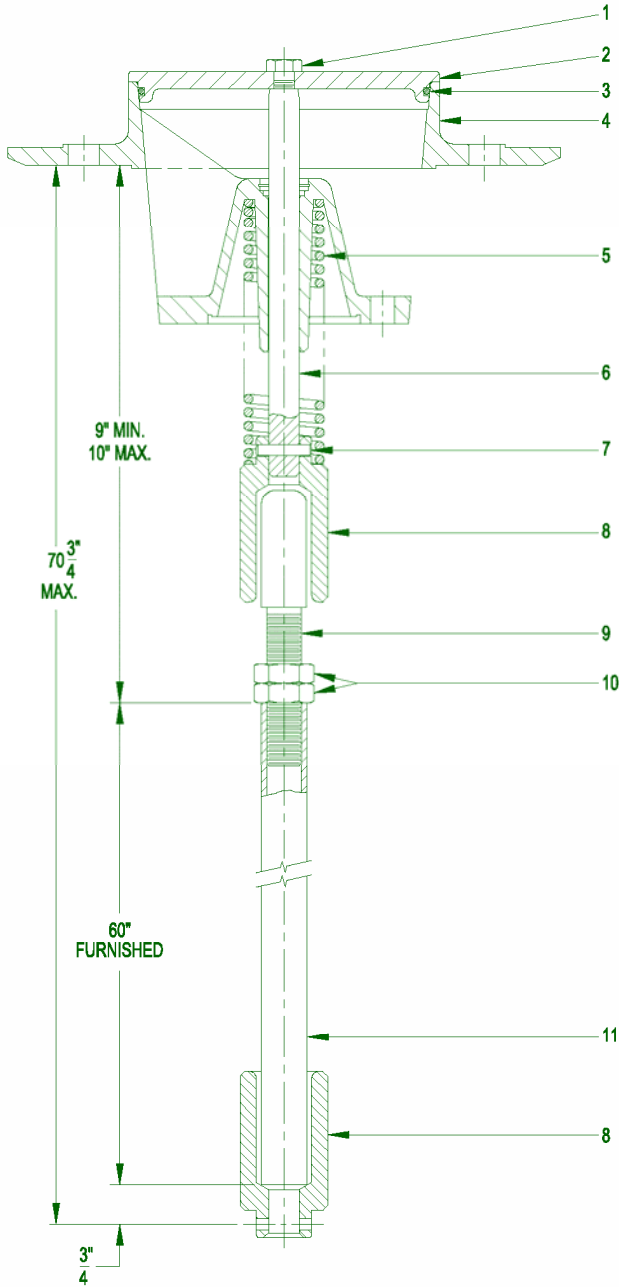
Betts 3-1/2" Push Vent



PARTS LIST

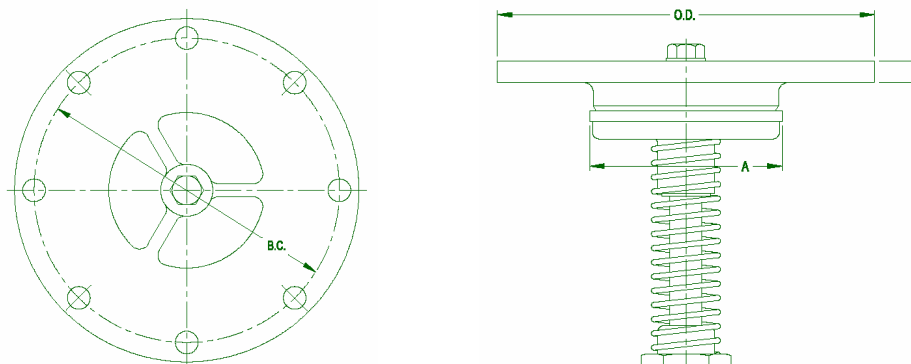
No.	Description	Req.	Material	Part No.
1	Cap Screw ³ / ₈ -16x ³ / ₄	1	Stnls	9Q5884
2	Disc Holder	1	Alum	17841AL
3	O-Ring	1	Tef/Sil	18106TS
4	Spring	1	Stnls	17052SL
5	Body	1	Alum	26856AL
6	Stem	1	Alum	16971AL
7	Spirol Pin ³ / ₁₆ x1	1	Stnls	9Q5901
8	Spring Retainer	2	Alum	16974AL
9	Adjusting Bar	1	Alum	16554AL
10	Hex Jam Nuts ⁵ / ₈ -18 Thd	2	Stnls	9Q5868
11	Push Rod	1	Alum	17074AL

Betts 5-1/2" Push Vent



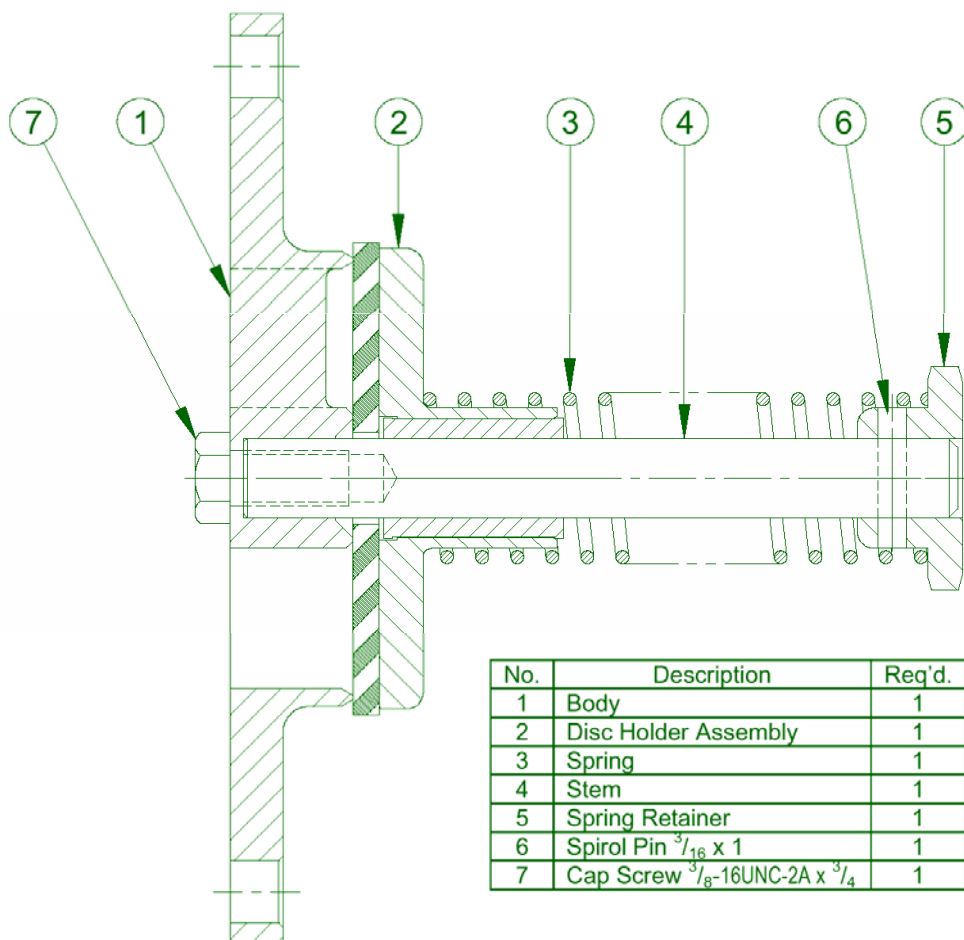
No.	Description	Req.	Material	Part No.
1	Cap Screw $\frac{3}{8}$ -16x $\frac{3}{4}$	1	Stnls	9Q5884
2	O-Ring Holder	1	Alum	26909AL
3	O-Ring	1	Tef/Sil	18250TS
4	Body	1	Alum	45736AL
5	Spring	1	Stnls	17052SL
6	Stem	1	Alum	16971AL
7	Spirol Pin $\frac{3}{16}$ x1	1	Stnls	9Q5901
8	Spring Retainer	2	Alum	16974AL
9	Adjusting Bar	1	Alum	16554AL
10	Hex Jam Nuts $\frac{5}{8}$ -18 Thd	2	Stnls	9Q5868
11	Push Rod	1	Alum	17074AL

Betts Inbreathing Vapor System Vent



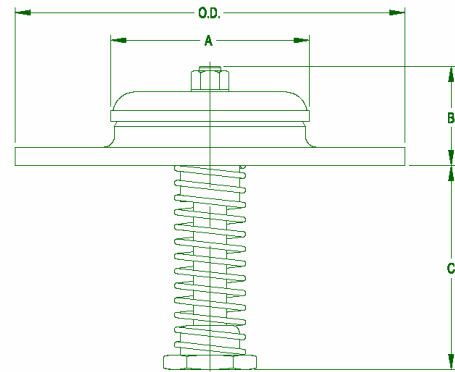
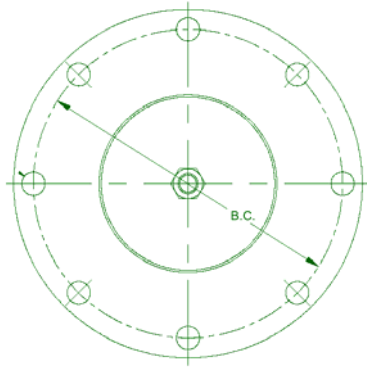
A	B	C	Mounting Flange				Disc Travel
			O.D.	B.C.	N.H.	S.H.	
3 ³ / ₈	5 ⁵ / ₈	4 ¹³ / ₁₆	6 ⁵ / ₈	5 ⁷ / ₈	8	7 ⁷ / ₁₆	2"

Description	Material	Wt.	Assembly No.
Vent Assembly	Aluminum/Stainless with Buna-N Disc	2.0	PV26364-AL-B
Gasket	Cork-Buna-N		RGA 401-CB



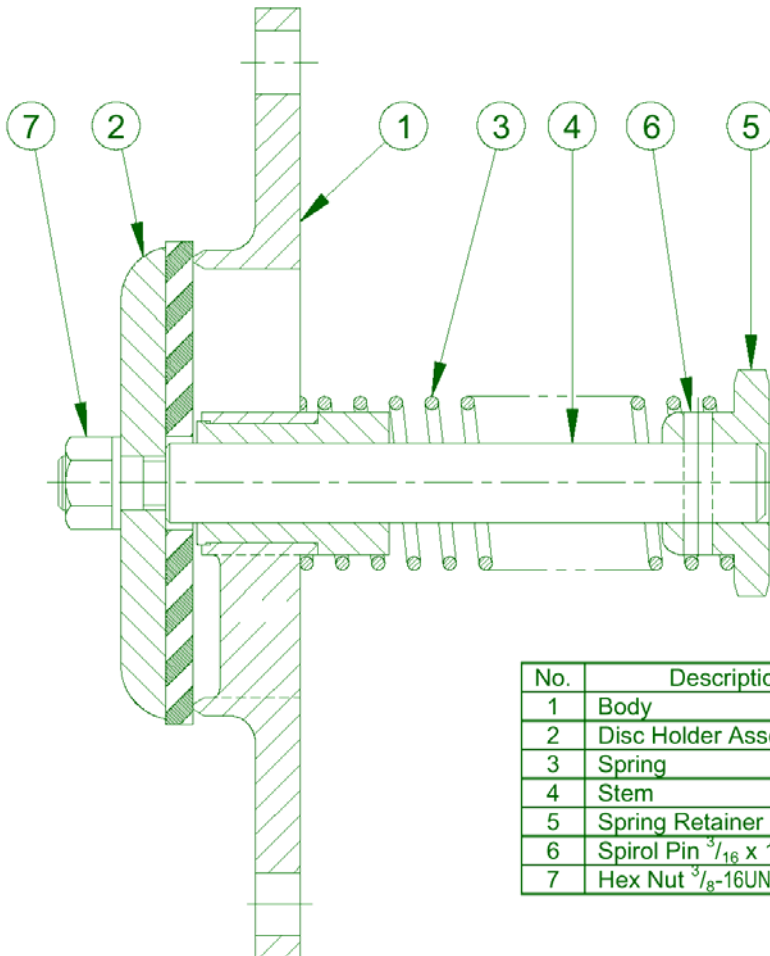
No.	Description	Req'd.	Material	Part No.
1	Body	1	Aluminum	26381AL
2	Disc Holder Assembly	1	Alum/Buna-N	17209AB
3	Spring	1	Steel "E" Coated	17192EY
4	Stem	1	Stainless	17205SL
5	Spring Retainer	1	Aluminum	17051AL
6	Spirol Pin ³ / ₁₆ x 1	1	Stainless	9Q5901
7	Cap Screw ³ / ₈ -16UNC-2A x ³ / ₄	1	Stainless	9Q5884

Betts Outbreathing Vapor System Vent



A	B	C	Mounting Flange				Disc Travel
			O.D.	B.C.	N.H.	S.H.	
3 ³ / ₈	1 ¹¹ / ₁₆	3 ¹ / ₄	6 ⁵ / ₈	5 ⁷ / ₈	8	7 ⁷ / ₁₆	2"

Description	Material	Wt.	Assembly No.
Vent Assembly	Aluminum/Stainless with Buna-N Disc	1.5	PV26363 AL B
Gasket	Cork-Buna-N		RGA 401-CB

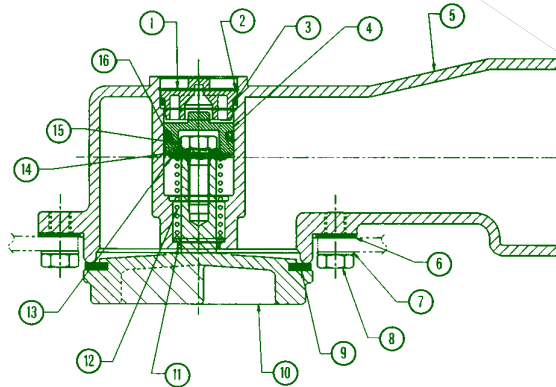


No.	Description	Req'd.	Material	Part No.
1	Body	1	Aluminum	26382AL
2	Disc Holder Assembly	1	Alum/Buna-N	17210AB
3	Spring	1	Steel "E" Coated	17192EY
4	Stem	1	Stainless	17204SL
5	Spring Retainer	1	Aluminum	17051AL
6	Spirol Pin ³ / ₁₆ x 1	1	Stainless	9Q5901
7	Hex Nut ³ / ₈ -16UNC-2A Thd.	1	Stainless	9Q5809

Civacon 1985 & 1986 Recovery Vents

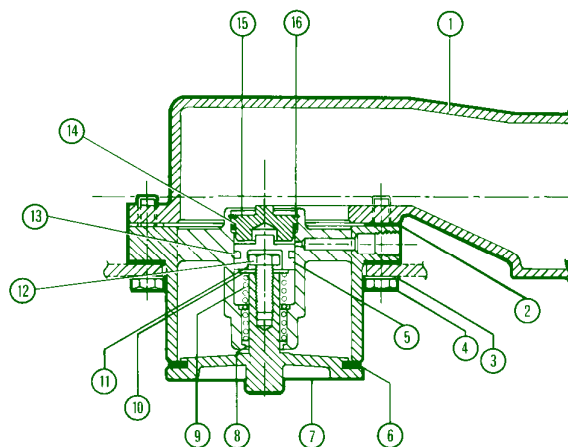
1985 AFTER FEBRUARY 1992

Key	Part No.	Description
1	H-20516-M	Plug
2	H-20066-M	Retaining Ring
3	H-20249-M	O-Ring
4	H-20063-M	Piston
5	E-10005-A	Hood
6	C-10011-M	Gasket
7	H-20074-M	Sealing Washer (8)
8	H-20518-M	Hex Cap Screw (8)
9	H-20069-M	Disc
10	C-10010-A	Poppet
11	H-20517-M	Bearing
12	H-20068-M	Spring
13	H-5487-M	Washer
14	H-4467-M	Lock Washer
15	H-20070-M	Screw
16	H-20249-M	O-Ring



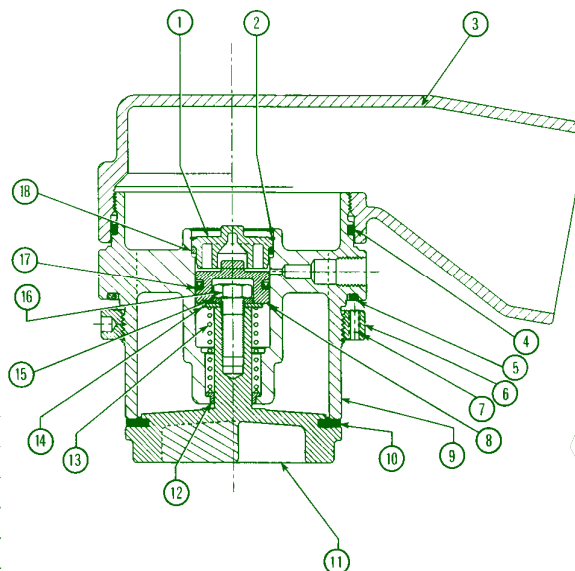
1985 PRIOR TO FEBRUARY 1992

Key	Part No.	Description
1	1985-H-1202	Hood
2	C-10011-M	Gasket (2)
3	H-20074-M	Sealing Washer (8)
4	H-20075-M	Hex Cap Screw (8)
5	H-20063-RP	Piston
6	H-20069-M	Disc
7	C-10010-A	Poppet
8	H-20064-M	Bearing
9	H-20068-M	Spring
10	H-5487-M	Washer
11	H-4467-M	Lockwasher
12	H-20070-M	Screw
13	H-20250-M	U-Cup Packing
14	H-20249-M	O-Ring
15	H-20062-M	Plug
16	H-20066-M	Retaining Ring



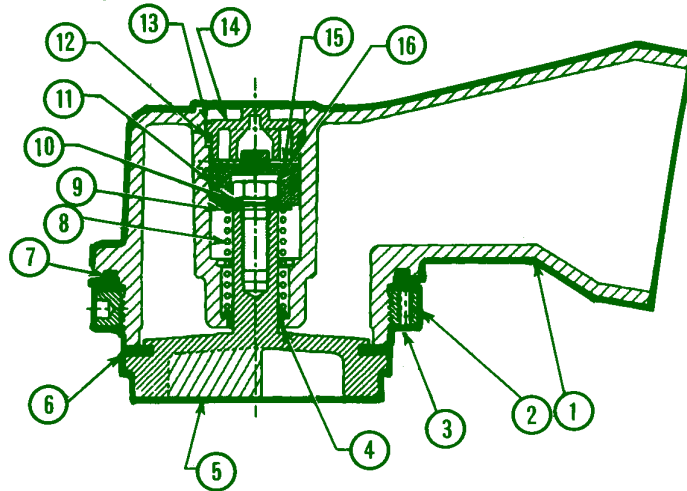
1986 - 3" PRIOR TO DECEMBER 1992

Key	Part No.	Description
1	H-20062-M	Plug
2	H-20066-M	Retaining Ring
3	1986-H-1302	Hood
4	H-20195-M	O-Ring
5	H-20124-M	O-Ring
6	H-20083-RS	Lock Ring
7	H-20123-M	Set Screw
8	H-20063-M	Piston
9	D-10044-A	Body
10	H-20122-M	Disc
11	C-10045-A	Poppet
12	H-20064-M	Bearing
13	H-20068-M	Spring
14	H-5487-M	Washer
15	H-4467-M	Lockwasher
16	H-20070-M	Screw
17	H-20250-M	U-Cup Packing
18	H-20249-M	O-Ring



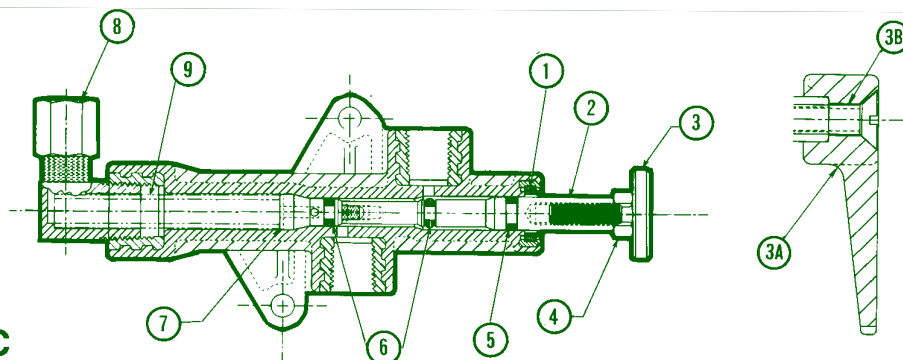
Civacon 1986 Vapor Recovery Vent

1986 - Starting December 1992



Key	Part No.	Description	Key	Part No.	Description
1	E-10162-A	Body	9	H-05487-A	Washer
2	H-20083-M	Locking Ring	10	H-04467-M	Lock Washer
3	H-20123-M	Set Screw	11	H-20250-M	U-Cup Packing
4	H-20517-M	Bearing	12	H-20249-M	O-Ring
5	C-10045-A	Poppet	13	H-20066-M	Retaining Ring
6	H-20122-M	Disc	14	H-20516-M	Plug
7	H-20124-M	O-Ring	15	H-20063-M	Piston
8	H-20068-M	Spring	16	H-20070-M	Screw

Civacon 865C & 865CVH Air Interlock Valve



865C

Key	Part No.	Description
1	H-20015-M	Wiper Seal
2	→ H-20019-RB	Stem
3	H-20488-M	Stem Adjuster
4	H-500-M	Nut
5	→ H-20085-M	O-Ring
6	→ H-20084-M	O-Ring (2)
7	→ H-20014-RB	Stem Retainer
8	H-20022-M	90° Male Elbow
9	H-20023-M	Spring

→ Parts included in 865CRK0001

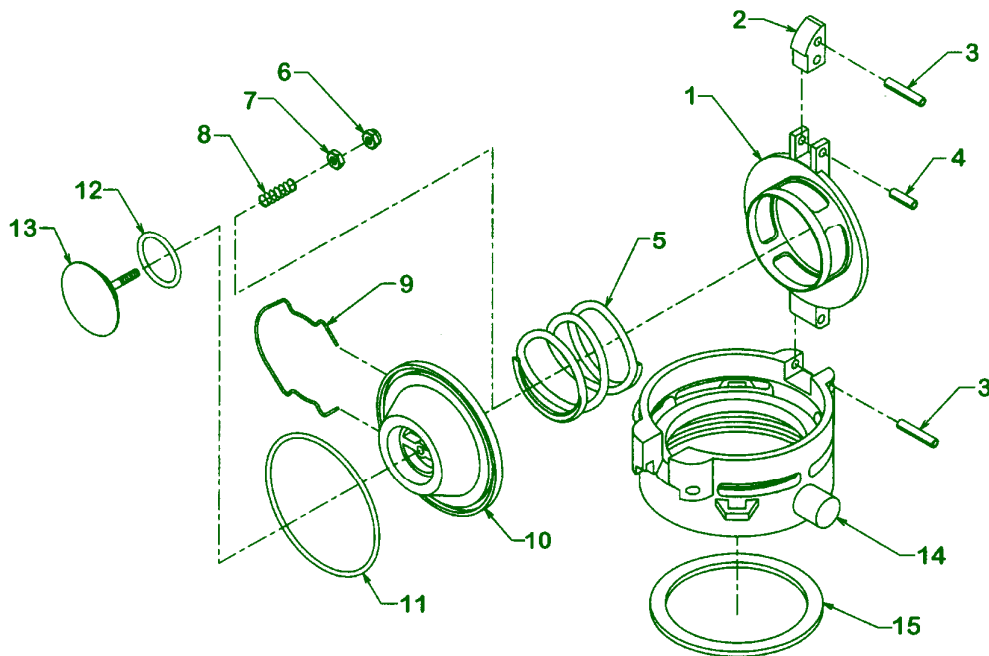
865CVH Same as 865 except as noted

Key	Part No.	Description
3	replaced by: 3A and 3B	
3a	H-20017-M	Screw
3b	H-20030-A	Push Plate
4	Not used on 865 CVH	

When ordering Stem Adjusters for use with 865K Mounting Bracket order as follows:

865K	3"	H-20489-M
	4"	H-20490-M

Girard Sanitary Vent



This Product



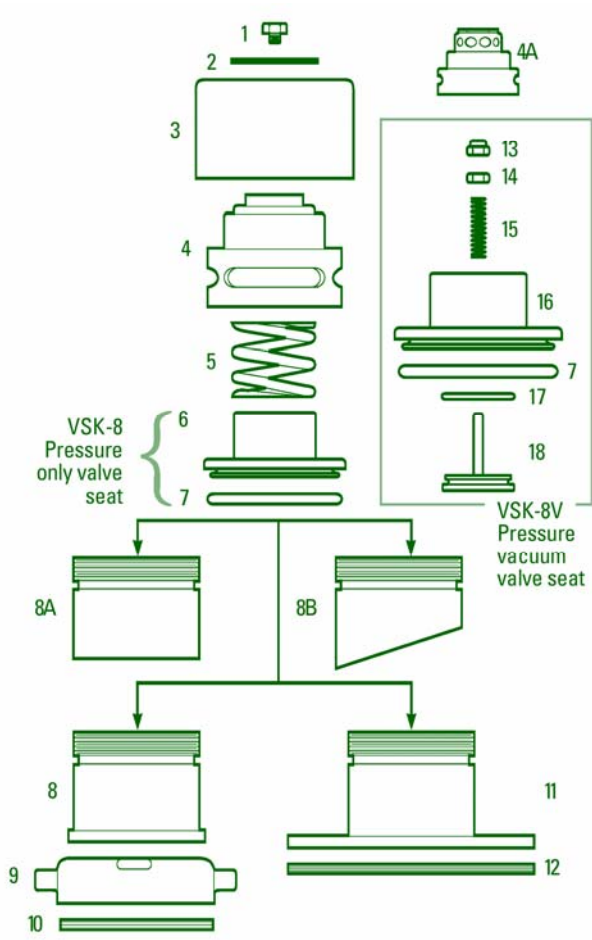
Meets the
Applicable 3-A
Sanitary Standard

Item	Part Number	Description	8	501006	VACUUM SPRING
1	501001	FLAP	9	501007	RETAINING CLIP
2	501002SS	STAINLESS STEEL LINK	10	501008	PRESSURE POPPET
3	501003	LONG PIN (2 Req'd)	11*	403013RG	PRESSURE O-RING
4	501004	SHORT PIN	12*	202037	VACUUM O-RING
5	501005	PRESSURE SPRING	13	501009	VACUUM POPPET
6	202039A	VACUUM LOCK NUT	14	501012	HOUSING
7	202039	VACUUM NUT	15*	3TSR	PTFE SLIM GASKET

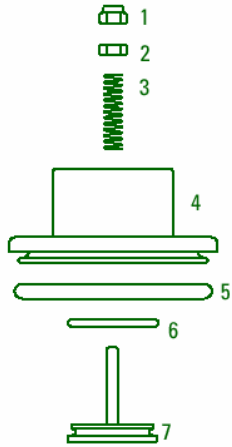
* IBCV- OSK (IBC VENT O-RING SERVICE KIT) Kit Includes Items #: 11, 12 and 15

Ordering Information				
For 3" ACME Threaded Connection Only				
FACTORY SETTINGS				
	Pressure	PSI	Barg	
ACME35-XX		3.5	.24	
ACME50-XX		5	.35	
ACMESP-XX	Special Pressure Setting (Please advise)			
To Specify Vacuum Setting. Substitute "XX" with the suffix below:				
	Vacuum	"Hg.	PSI	Barg
V1		1"	- 1/2	-.034
V2		2"	- 1	-.068
SV	Special Vacuum Setting (Please advise)			

Girard MC 307 Pressure Relief Vent



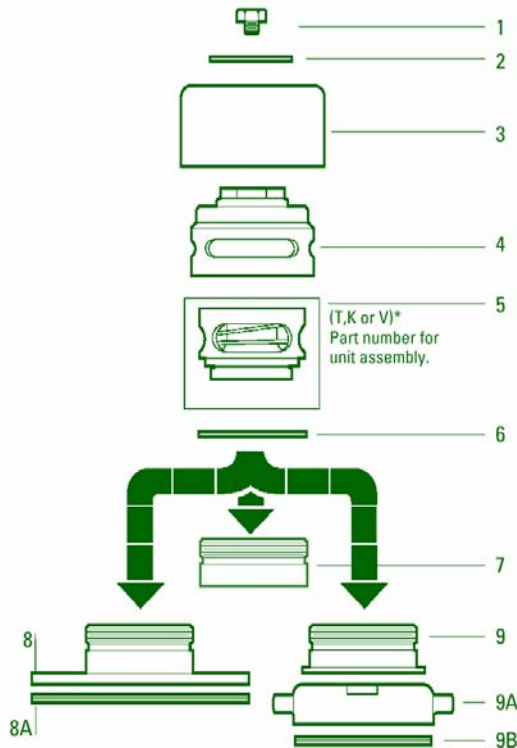
Part #	Description
1	202001 Bolt
2	202002 Identification & Rating Disc
3	202003-1 Rain Cover
4	202004-1 Upper Housing-pressure only
4A	202004 Upper Housing - Pressure Vac. Vents
5	202005 Pressure Spring
6	202006D VSK-8 Spring Retainer
7	202008D Tef-O-Sil Pressure "O"-Ring
8	202011 Lower Housing -B Model
8A	202011A Lower Housing - S Model
8B	202011B Lower Housing - M Model 18 Degree Bias
9	202012 Swivel Nut-B Model
10	3-TR Solid Teflon® Gasket
11	202014 Lower Housing -Flange-F Model
12	202015 Teflon® Envelope Flange Gasket
13	202039A Locknut
14	202039 Nut
15	202038 Vacuum Spring
16	202006DV VSK-8V Spring Retainer
17	202037 Tef-O-Sil "O"-Ring (Vacuum)
18	202035 Vacuum Poppet



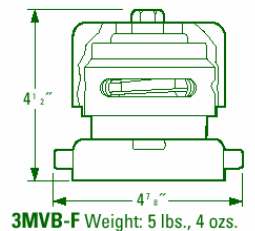
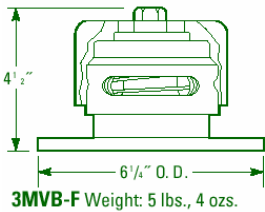
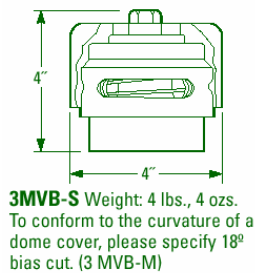
Part #	Description
1	202039A Locknut
2	202039 Nut
3	202038 Vacuum Spring
4	202006DV VSK-8V Spring Retainer
5	202008D Tef-O-Sil Pressure "O"- Ring
6	202037 Vacuum "O"- Ring
7	202035 Vacuum Poppet
8	202006D VSK-8 Spring Retainer
9	202008D Tef-O-Sil Pressure "O"- Ring



Girard MC 307 Magnetic Vacuum Breaker



Item	Part #	Description
1	201001	Bolt
2	201002	Rating Disc
3	201003	Rain Cover
4	201004	Upper Housing
5K*	201005K	Valve Housing with Kalrez®
5T*	201005T	Same as the above, with Tef-O-Sil "O" Ring. *(Assembled Unit).
5V*	201005V	Same as the above, with Viton® "O" Ring. (green) *(Assembled Unit).
6	201006TS	Tef-O-Sil "O" Ring
7	201007-1	Stub End - Lower Housing
8	201008	Flanged Lower Housing - 3" TTMA
8A	201009	Teflon® Envelope Flange Gasket
9	201007	Swivel Spud - Lower Housing
9A	201011	Swivel Nut - 3" N.P.T.
9B	3-TR	Teflon® Ring Gasket

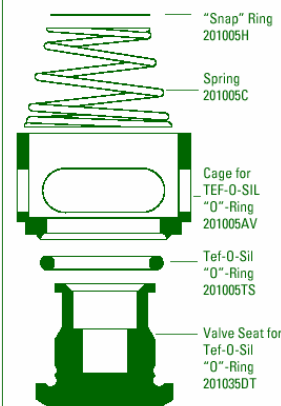


Vacuum Breaker Housings

TEF-O-SIL O-RING VALVE SEAT



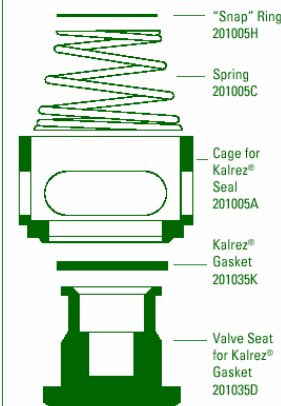
Assembly Part #201005T



KALREZ® O-RING VALVE SEAT



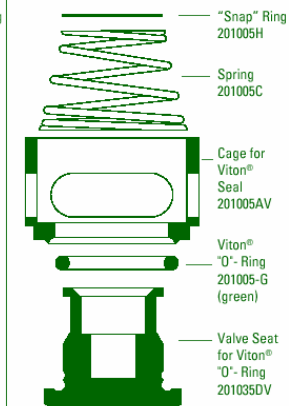
Assembly Part # 201005K



VITON® O-RING VALVE SEAT



Assembly Part # 201005V



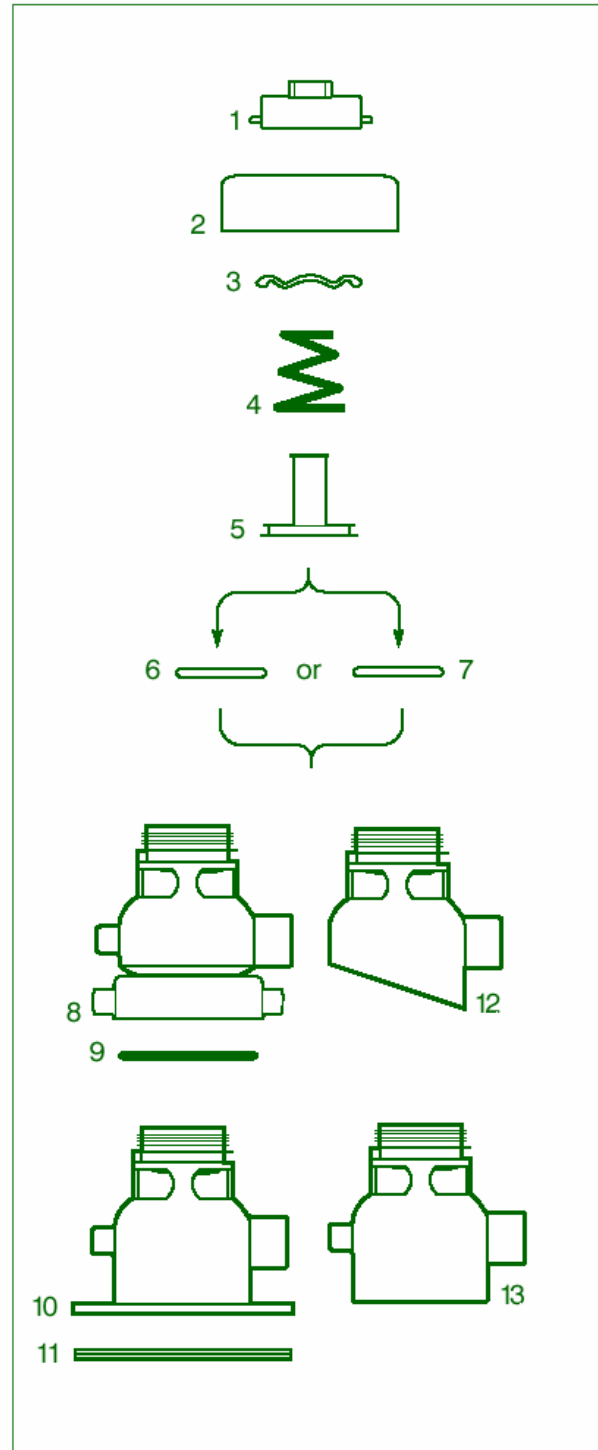
Girard DOT 407 Magnetic Vacuum Breaker (3")

ITEM	PART NUMBER	DESCRIPTION
1	403001	V/B Cap
2	403003EP	Rain Cover
3	401017	Lock Ring
4	403006S	Conical Spring
5	403010-O	Poppet
6	401011KO	Kalrez® O-Ring
7	401011TS	"Tef-O-Sil" O-Ring
8	4030123T	Housing 3" NPT (Swivel)
9	3TSR	Teflon® "Slim Ring" Gasket
10	4030123F	Housing 3" TTMA (Flange)
11	3CFE	Teflon® Envelope Gasket
12	403012M	Housing-Bias
13	403012S	Housing-Stub

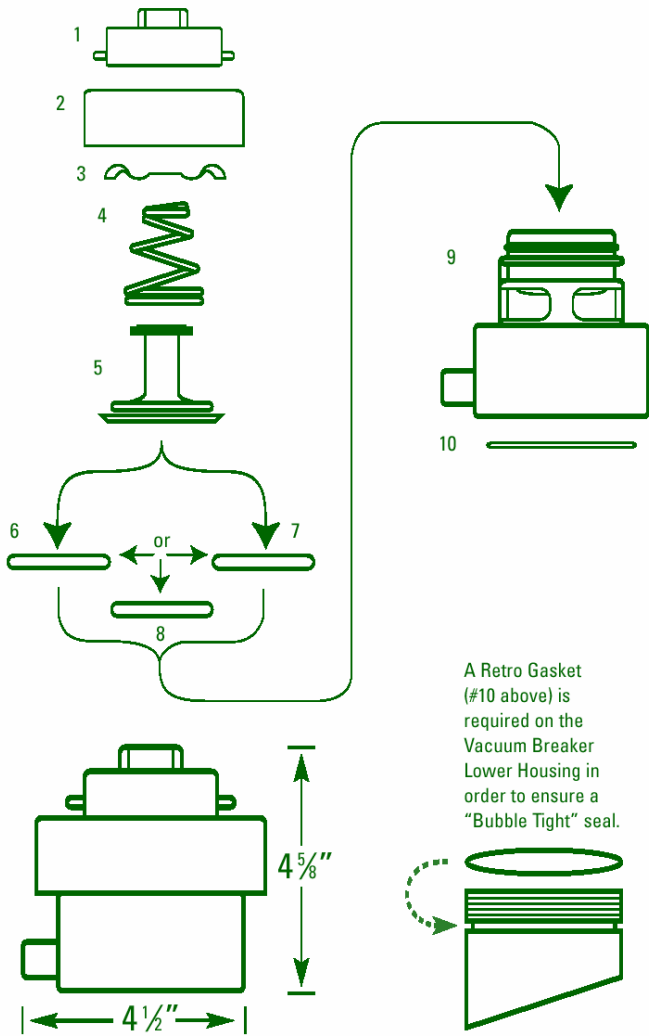
ACCESSORY ITEMS (not shown)	
1" Female Inlet Style (standard)	
403016C	1" Close Male Nipple
202017C	1" S/S Ball Valve
202018A	1" Universal Male Fitting
202019	¼" Liquid Filled Gauge 0-60 psi
¾" Female Inlet Style (optional, specify if required)	
403015	1" x ¾" Reducing Bushing
403016	¾" Close Nipple
202017	¾" S/S Ball Valve
202018	¾" Universal Male Fitting
202019	¼" Liquid Filled Gauge 0-60 psi

PERFORMANCE	
Instant opening -	at 4" Hg.
Flow rates -	12,000 SCFH at 6" Hg.
Test Pressure -	Seat is bubble tight on pressures from 0-50 PSIG.
Magnetic Field -	Coated magnets. Can not be contaminated by surrounding metals or products being transported.
Teflon® -	Suited for all ladings. (Check with the manufacturer).
Kalrez® -	Identical chemical properties as Teflon®. Suited for all ladings.

ORDERING INFORMATION
All magnetic vacuum breakers are equipped with a standard 1" NPT female inlet fitting for an unloading accessory package. (Optional ¾" female can be furnished upon request). A ¼" NPT female fitting is also standard to accept a gauge. A ¼" and 1" pipe plug (316 Stainless Steel) are also available upon request.



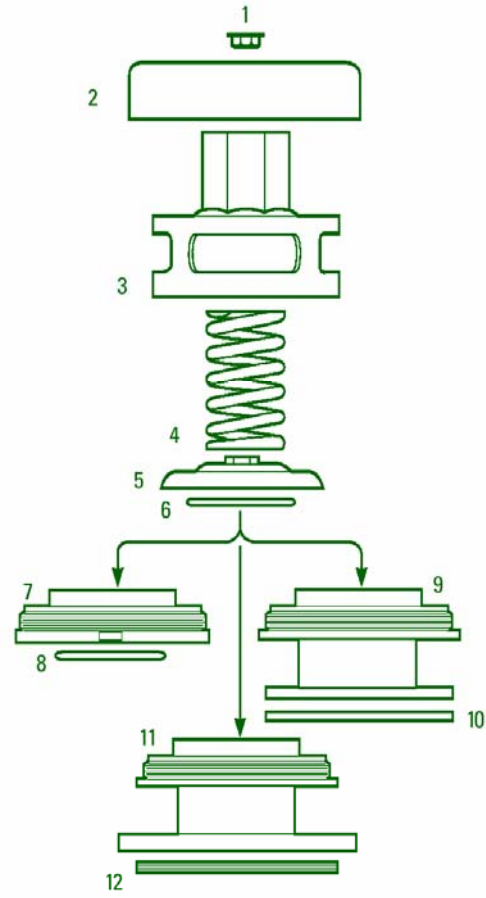
Girard MC 407 Magnetic Vacuum Breaker Retro Style



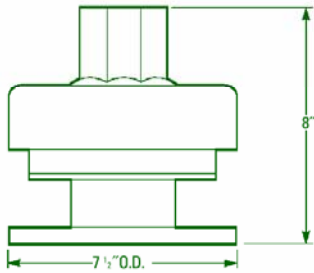
ITEMS	PART NUMBER	DESCRIPTION
1	403001	Cap
2	403003EP	Rain Cover
3	401017	Lock Ring
4	403006S	Conical Spring
5	403010-0	Poppet
6	401011KO	Kalrez® "O" Ring
7	401011TS	Tef-O-Sil "O" Ring
8	401011-V	Viton® "O" Ring
9	403012R	Retro Housing
10	403013RG	Retro Gasket

Girard 3" DOT 407 Pressure Relief Vent

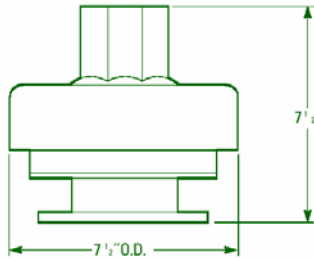
ITEMS	PART NUMBER	DESCRIPTION
1	402019	Plug
2	402003L	Rain Cover
3	402004L	Low Profile Upper Housing Specify MAWP
4	402005 402005HP	Spring (for MAWP < 45 only) Spring (for MAWP > 45 only)
5	402006LN	Low Profile Poppet With Nut
6	402007	Teflon® Silicone "O" Ring
7	402018	3" T Model Lower Housing
8	3TOR	Solid Teflon® "O" Ring Gasket
9	402020	3" F Model Lower Housing (TTMA)
10	3CFE	Teflon® Envelope Flange Gasket (TTMA)
11	402021	3" AF Model Lower Housing
12	402022	Teflon® Envelope Flange Gasket (ANSI)



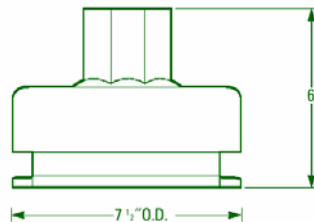
DOT 3X407AF
(3" Ansi)
Weight:
19 lbs.



DOT 3X407F
(3" TTMA Flange)
Weight:
15 lbs.



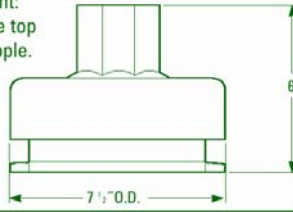
DOT 3X407T
Weight: 11 lbs.
Installed
Height:
5 1/4" over the
top of the
pipe nipple



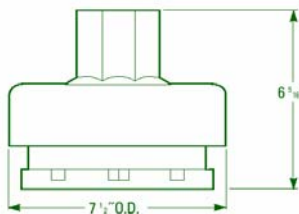
3" N.P.S
Female
Thread

Girard 4" Low Profile 407 Vent

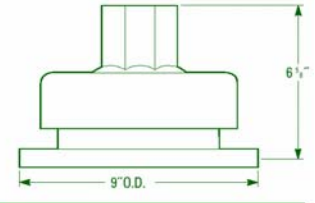
DOT 407 LT:
Weight: 10 lbs.
Installed Height:
5 1/2" over the top
of the pipe nipple.



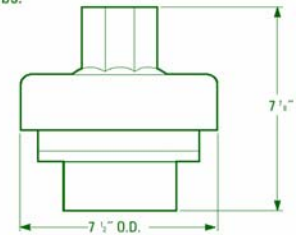
DOT 407 LF:
Weight: 13 lbs.



DOT407 LAF:
Weight: 19 lbs.



DOT407 LS:
Weight: 14 lbs.



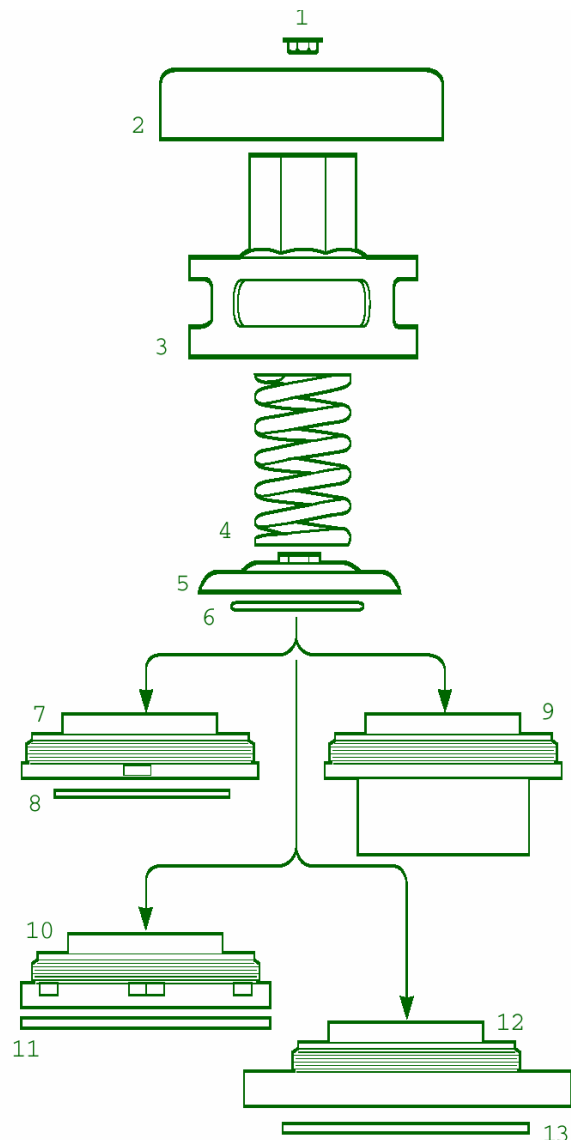
PERFORMANCE SPECIFICATIONS

MAWP	Test Pressure	Flow (SCFH)	Exposed Surface
25	40	374,512	737
25	45	431,308	946
30	45	431,308	946
35	52.5	484,718	1156

MATERIALS OF CONSTRUCTION

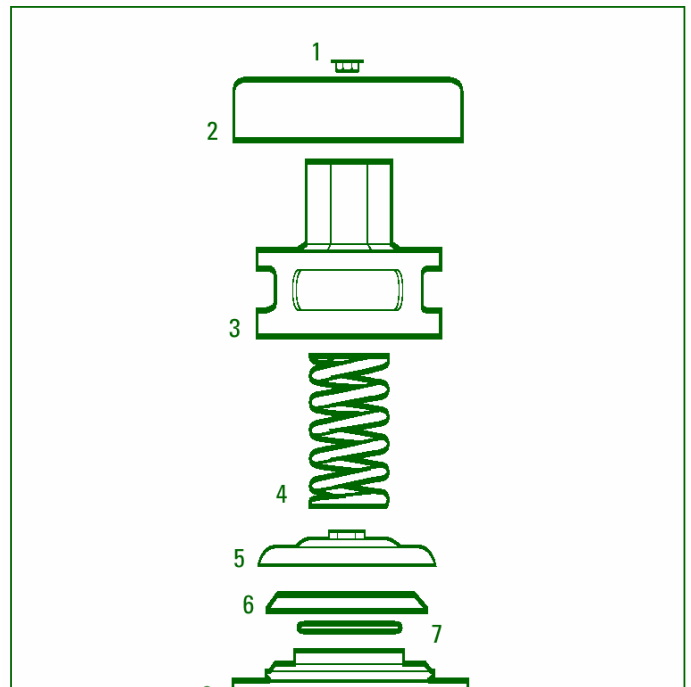
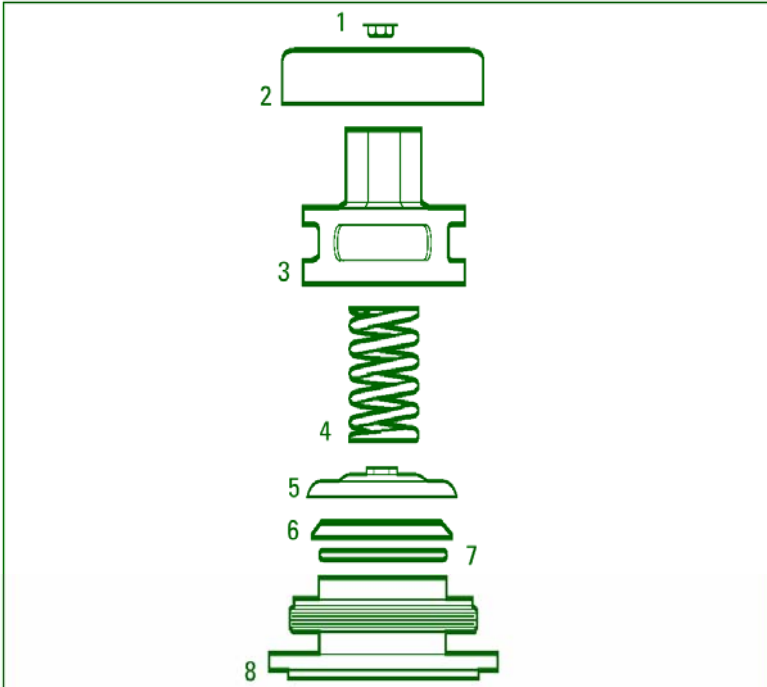
All metallic parts	Stainless Steel
"O" Ring	Teflon® encapsulated silicone
Gasket	Teflon®

ITEMS	PART NUMBER	DESCRIPTION
1	402019	Plug
2	402003L	Rain Cover
3	402004L	Low Profile Upper Housing Specify MAWP
4	402005 402005HP	Spring (for MAWP < 45 only) Spring (for MAWP > 45 only)
5	402006LN	Low Profile Poppet with Nut
6	402007	Teflon® Silicone "O" Ring
7	402011L	4" LT Model Lower Housing
8	4TR	Solid Teflon® Gasket
9	402012L	LS Model Lower Housing
10	402014L	4" LF Model Lower Housing
11	4CFE	Teflon® Encapsulated Flange Gasket (TTMA)
12	402015L	4" LAF Model Lower Housing
13	402016	Teflon® Envelope Flange Gasket (ANSI)



Girard Geiliner GE-DOT407-AFTL

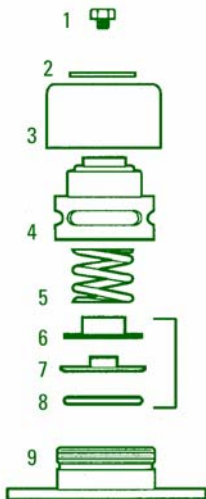
Girard Geiliner GE-DOT 407-LAFTL



ITEMS	PART NUMBER	DESCRIPTION
1	40219	Plug
2	402003L	Rain Cover (Low Profile)
3	402004L	Upper Housing (Low Profile)
4	402005	Spring
5	402006LN	Low Profile Poppet with Nut
6	402008	Teflon® Seat
7	402007	Teflon® Silicone "O" Ring
8	402021 TL	Teflon® lined Lower Housing

ITEMS	PART NUMBER	DESCRIPTION
1	402019	Plug
2	402003L	Rain Cover (Low Profile)
3	402004L	Upper Housing (Low Profile)
4	402005	Spring
5	402006LN	Low Profile Poppet with Nut
6	402008	Teflon® Seat
7	402007	Teflon® Silicone "O" Ring
8	402015 LPTL	Teflon® Lined Lower Housing

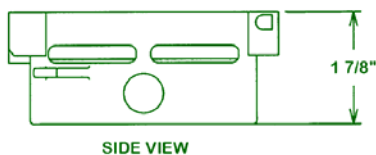
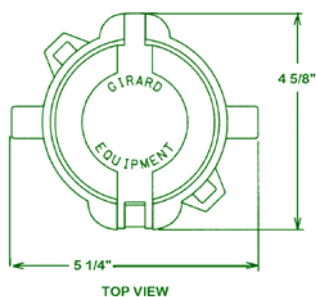
Girard Geiliner GE-PV-300-2AFTL



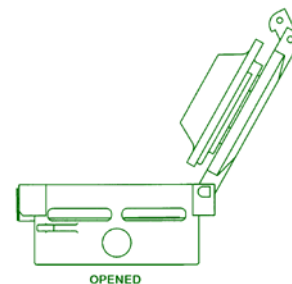
Teflon® liner doubles as the inlet gasket.

ITEMS	PARTS NUMBER	DESCRIPTION
1	202001	Bolt
2	202002PV	Identification & Rating Disc
3	202003-1	Rain Cover
4	20204-1	Upper Housing
5	202005	Pressure Spring
6	202006C	Upper Spring Retainer
7	202020C	Solid Teflon® Valve Seat
8	202008C	Teflon® Silicone "O" Ring
9	202014TL	Teflon® Lined Lower Housing

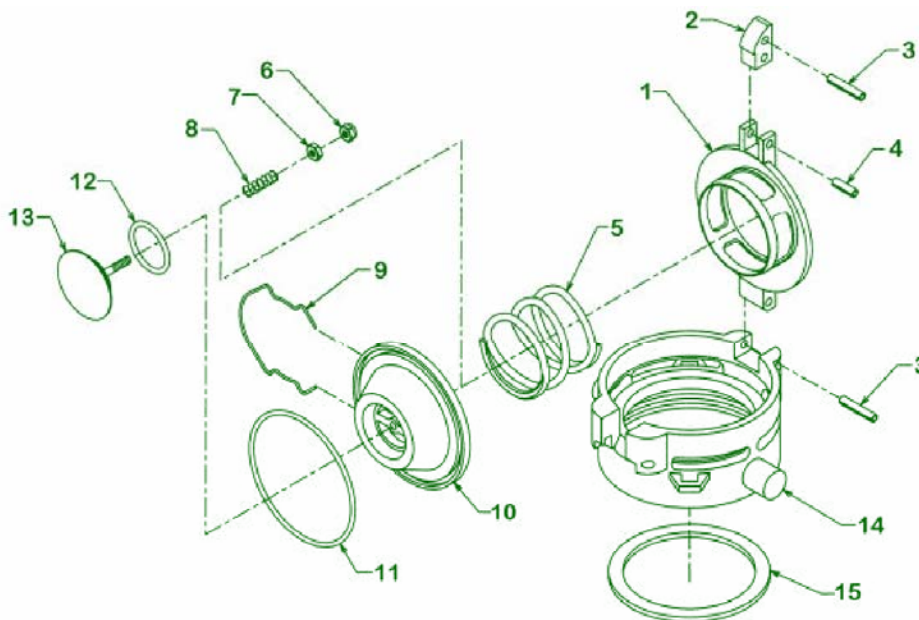
Girard IBC Vent/Fill Cap



SIDE VIEW



OPENED



Item	Part Number	Description	8	501006	VACUUM SPRING
1	501001	FLAP	9	501007	RETAINING CLIP
2	501002	FUSIBLE LINK	10	501008	PRESSURE POPPET
3	501003	LONG PIN (2 Req'd)	11 *	403013RG	PRESSURE O-RING
4	501004	SHORT PIN	12 *	202037	VACUUM O-RING
5	501005	PRESSURE SPRING	13	501009	VACUUM POPPET
6	202039A	VACUUM LOCK NUT	14	501012	HOUSING
7	202039	VACUUM NUT	15 *	3TSR	PTFE SLIM GASKET

* **IBCV- OSK (IBC VENT O-RING SERVICE KIT)** Kit Includes Items #: 11, 12 and 15

Ordering Information				
FACTORY SETTINGS				
	Pressure	PSI	Barg	
IBC35-XX		3.5	.24	
IBC50-XX		5	.35	
IBCSP-XX	Special Pressure Setting (Please advise)			
To Specify Vacuum Setting. Substitute "XX" with the suffix below				
	Vacuum	Hg	PSI	Barg
V1		1"	-1/2	-.034
V2		2"	-1	-.068
SV	Special Vacuum Setting (Please advise)			

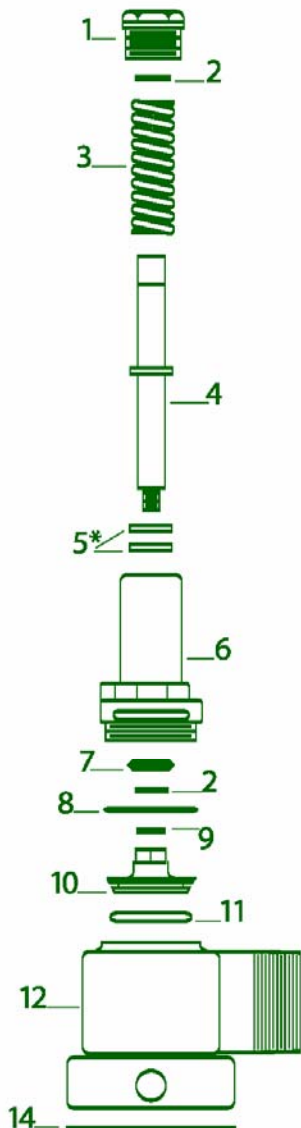
Girard Intermodal Tank Container Vent

FLANGE PATTERNS	
2½" ANSI (ASA) 150#	
3" ANSI (ASA) 150#	
All Flanged vents are tapped for ¼" gauge except for IMF-TL Vents. If you require a different flange pattern, please advise us when ordering.	

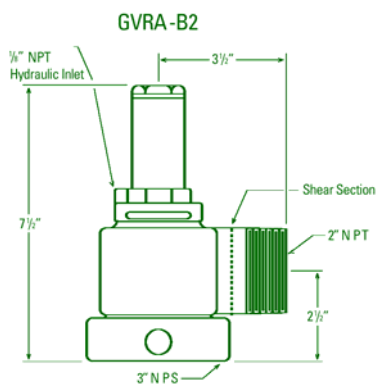
PRESSURE SETTINGS		
Bar		Psi
2.17	=	31.0
4.4	=	63.8

PERFORMANCE SPECIFICATIONS			
SET PRESSURE	FULL FLOW	FLOW PRESSURE	83% FLOW (FED.REG.)
2.17 Barg 31 Psig	8614 m³/hr 5070 SCFM	2.61 Barg 37.5 Psig	7149 m³/hr 4208 SCFM
4.4 Barg 63.8 Psig	15086 m³/hr. 8879 SCFM	5.28 Barg 76.56 Barg	12521 m³/hr 7370 SCFM

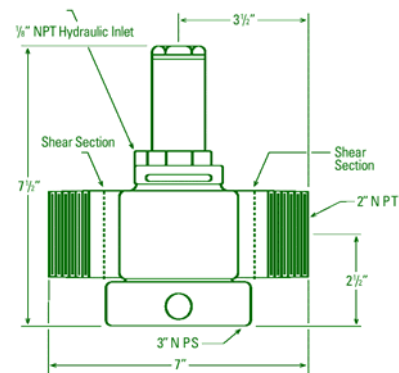
Girard 3" Hydraulic Vapor Recovery Adaptor



Item	Part #	Description
1	701001	Cylinder Cap
2	701002	Rod O-Ring (2 Required)
3	701003	Spring
4	701004	Rod
5*	701005U 701005L	Hydraulic Seals (Upper) Hydraulic Seals (Lower)
6	701006	Cylinder
7	701007	Wiper
8	701008	Cylinder / Housing O-Ring
9	701009	Lock Washer
10	701010	Poppet
11	701011	Poppet O-Ring (Tef-O-Sil)
12	701012-1	Housing-Single 2" NPS Port 3" NPT Swivel Connection
13	701013-2	Housing-Tee (Not Shown)
14	3-TSR	3" Teflon® Gasket

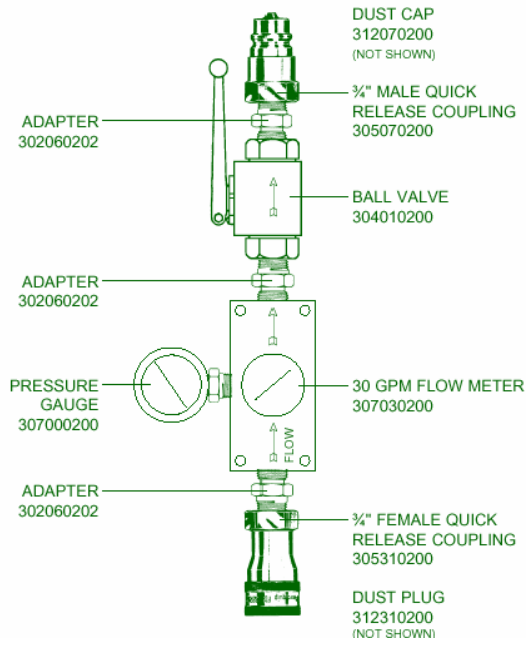


A fluorescent orange indicator provides positive visual confirmation that the valve is open and can be seen from ground level. An additional provision has been added to enable the use of a variety of valve position sensors.

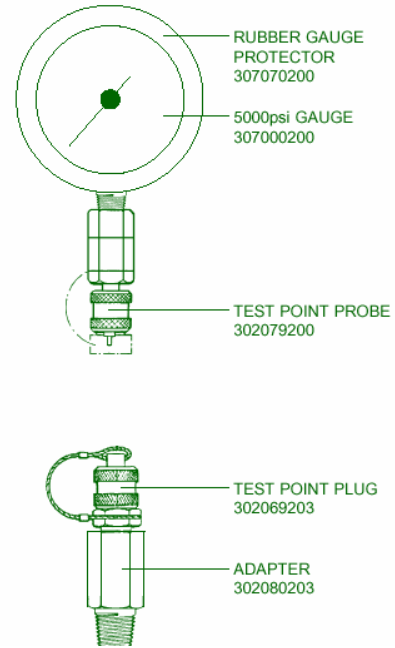


Drum DH3 Hydrapak

HYDRAULIC TEST STACK
with 3/4" COUPLERS
PART NO. 409040201 ~ 30 G.P.M.



TEST POINT
PART NO. 409030201

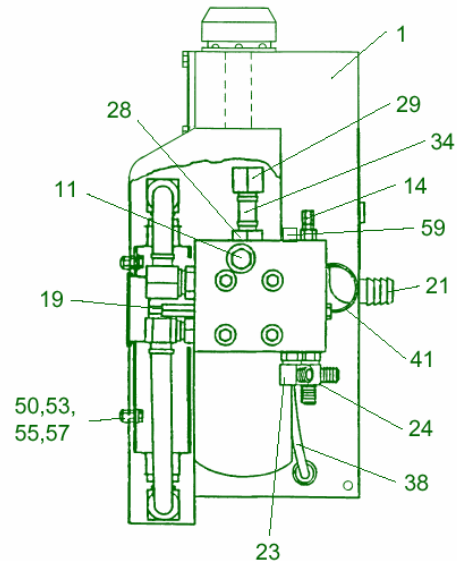
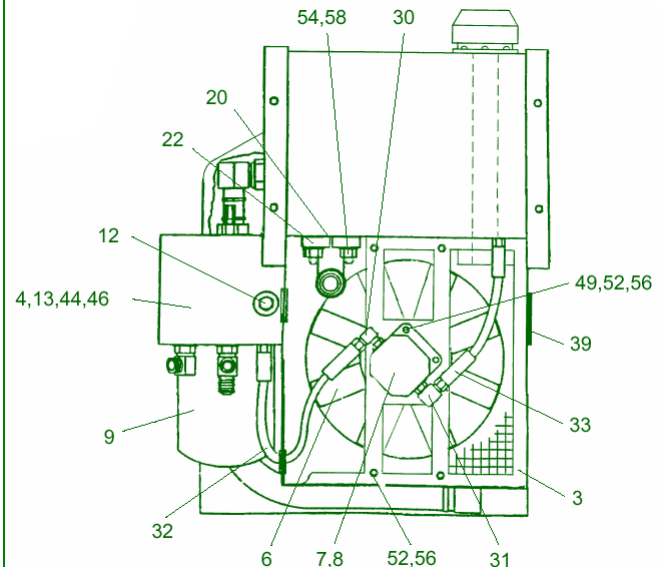
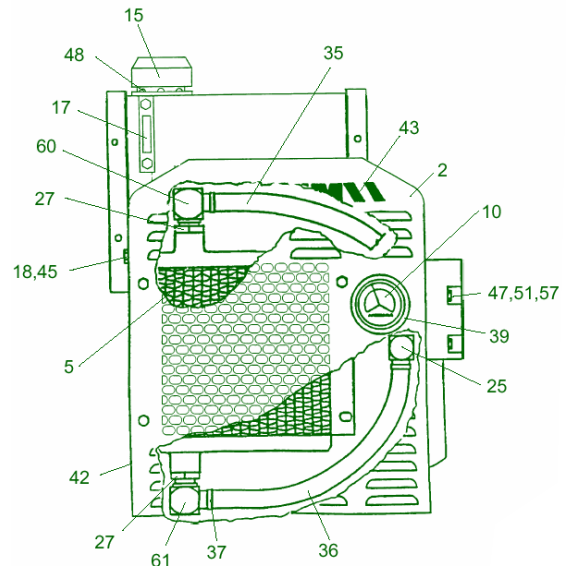


Optional Equipment

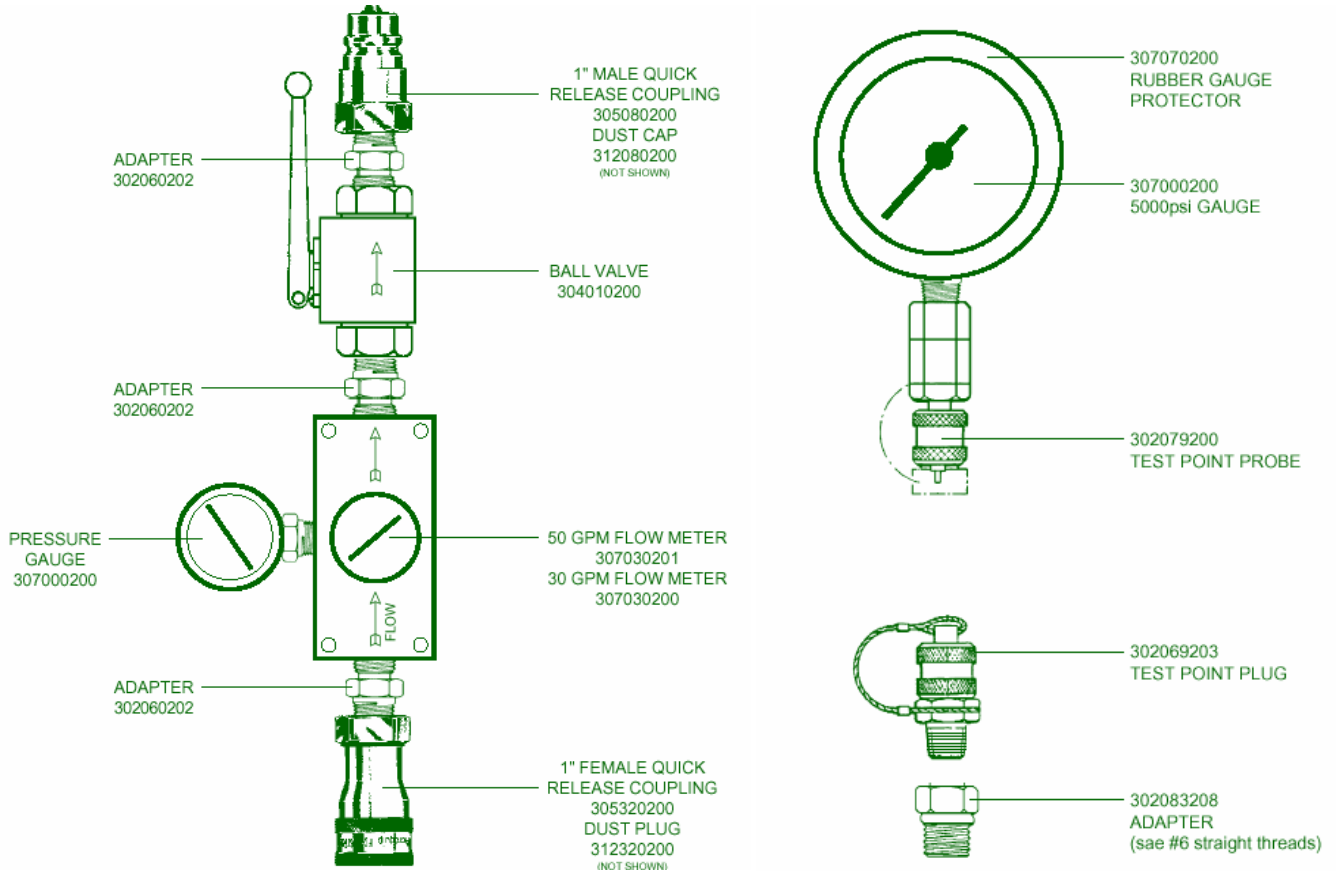
Part#	Description
406000201	Seal kit, Complete - DH225/DH325
513160200	Seal Kit, Flow Control/Relief valve
513160201	Seal Kit, Check Valve
512050205	Seal, Motor Shaft

Drum DH3 Hydrapak

1	BODY, STAINLESS STEEL - DH325	500080202	1
2	COVER KIT - DH325	703000202	1
3	MOTOR MOUNT / REAR GUARD - DH325	538071200	1
4	CONTROL BLOCK ALUM. - bare	311003200	1
4	CONTROL BLOCK ALUM. - complete	604000200	1
5	HEAT EXCHANGER - DH325	308011204	1
6	FAN, PLASTIC w/ HUB - DH325	506022202	1
7	MOTOR (fan) - DH325 0.129" (early)	300001210	1
7A	MOTOR (fan) - DH325 0.097" (current)	300001211	1
8	RETAINING RING, EXTERNAL	244010200	2
9	OIL FILTER	306000201	1
10	RESTRICTION INDICATOR	307008200	1
11	BYPASS VALVE - RADIATOR	304040200	1
12	FLOW CONTROLLER - 3.25gpm (early)	304060201	1
12A	FLOW CONTROLLER - 2.5gpm (current)	304060202	1
13	BYPASS VALVE - FILTER	304059200	1
14	RELIEF VALVE - 2500psi	303000208	1
14	RELIEF VALVE - 2000psi	303000209	1
14	RELIEF VALVE - 3000psi	303000210	1
15	FILLER CAP w/ FLANGE	309000201	1
15	GASKET, FILLER CAP - NEOPRENE	526162200	1
15	GASKET, FILLER CAP FLANGE - NEOPRENE	526162201	1
17	OIL LEVEL GAUGE	307050203	1
18	MAGNETIC PLUG	258208208	1
19	ADAPTOR - 1/4"nptm X 1/4"nptf	302080203	1
20	O-RING, SPLIT FLANGE	522001206	1
21	ELBOW HOSE BARB 1.5" X 1.25" - 90deg.	302186204	1
21	ELBOW HOSE BARB 1.5" X 1.50" - 90deg.	302186201	1
21	ELBOW HOSE BARB 1.5" X 2.00" - 90deg.	302186202	1
21	ELBOW HOSE BARB 1.5" X 1.25" - 45deg.	302186203	1
22	SPLIT FLANGE HALF 1.5"	302160200	2
23	ELBOW - 3/4"o'ring X 1"jicm	302095201	1
24	TEE - 3/4"o'ring X 3/4"jic X 3/4"jic	302005200	1
25	ELBOW BARB - 1"o'ring X 1" hose	302183200	2
26	ELBOW BARB - 1"npt X 1" hose	302180202	2
27	SEAL NUT - 1"npt	302140200	2
28	HOSE BARB - 1"o'ring X 1" hose	302173200	1
29	ELBOW BARB - 1"npt X 1" hose	302180200	1
30	ELBOW - 3/8"o'ring X 3/8"jic	302115201	1
31	ELBOW - 3/8"o'ring X 1/2"jic	302095207	1
32	HOSE ASSY - BLOCK TO MOTOR	407215200	1
33	HOSE ASSY - MOTOR TO TANK	407215201	1
34	HOSE - BLOCK TO TANK	310030201	1
35	HOSE - BLOCK TO RAD. TOP	310030202	1
36	HOSE - BLOCK TO RAD. BOTTOM	310030203	1
37	HOSE CLAMP, STEEL WORM GEAR	299070207	6
38	GROMMET - 7/8"	521070200	1
39	GROMMET - 2-3/4"	521070201	1
41	GROMMET - 2-1/4"	521070203	1
42	MINI TRIM (sold per foot)	537040200	5.7
43	LABEL //DRUM// (LP) (HP)	537001200	1
44	PLUG - 1/4"	250104004	1
45	PLUG - 1/2" S/S	250108208	1
46	PLUG - #12 SAE o'ring (current)	302123204	3
46	PLUG - #6 SAE o'ring (current)	302123203	1
47	WASHER FLAT - 10mm	194410400	1
48	CAPSCREW SKT - 10-32 X 1/2" S.S.	212303205	6
49	CAPSCREW HEX - 5/16" X 1" PL.	214005416	4
50	CAPSCREW HEX - 3/8" X 1-1/4" S.S.	214006220	4
51	CAPSCREW HEX - 3/8" X 6-1/2" PL.	299032200	4
52	NUT - 5/16" PL.	236005400	8
53	NUT - 3/8" S.S.	236006200	4
54	NUT - 1/2" PL.	236008400	4
55	NUT - 3/8" S.S. (nylock)	236106200	8
56	WASHER LOCK - 5/16" PL.	240005400	8
57	WASHER LOCK - 3/8" S.S.	240006200	8
58	WASHER LOCK - 1/2" PL.	240008400	4
59	ADAPTER PLUG - 1/4"npt	302120201	1
60	ELBOW - 1"npt X 1" hose	302180200	1
61	TEE - 1"npt X 1/4"npt X 1"	302029202	1



Drum DH5 Hydrapak

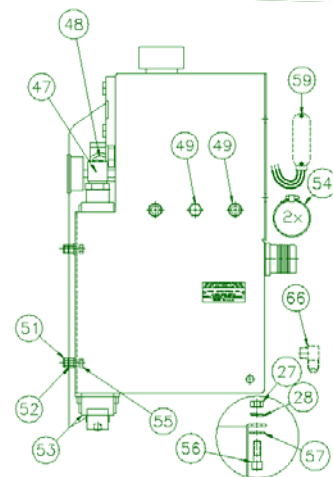
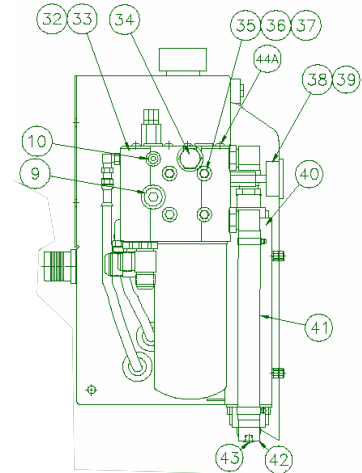
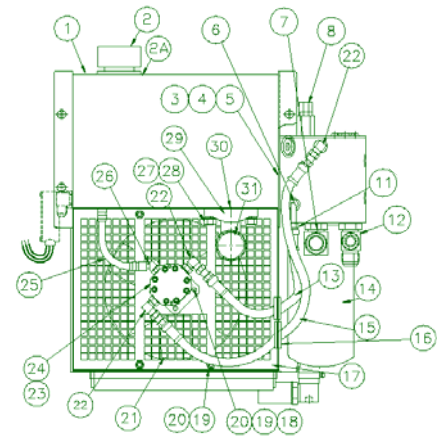


Optional Equipment

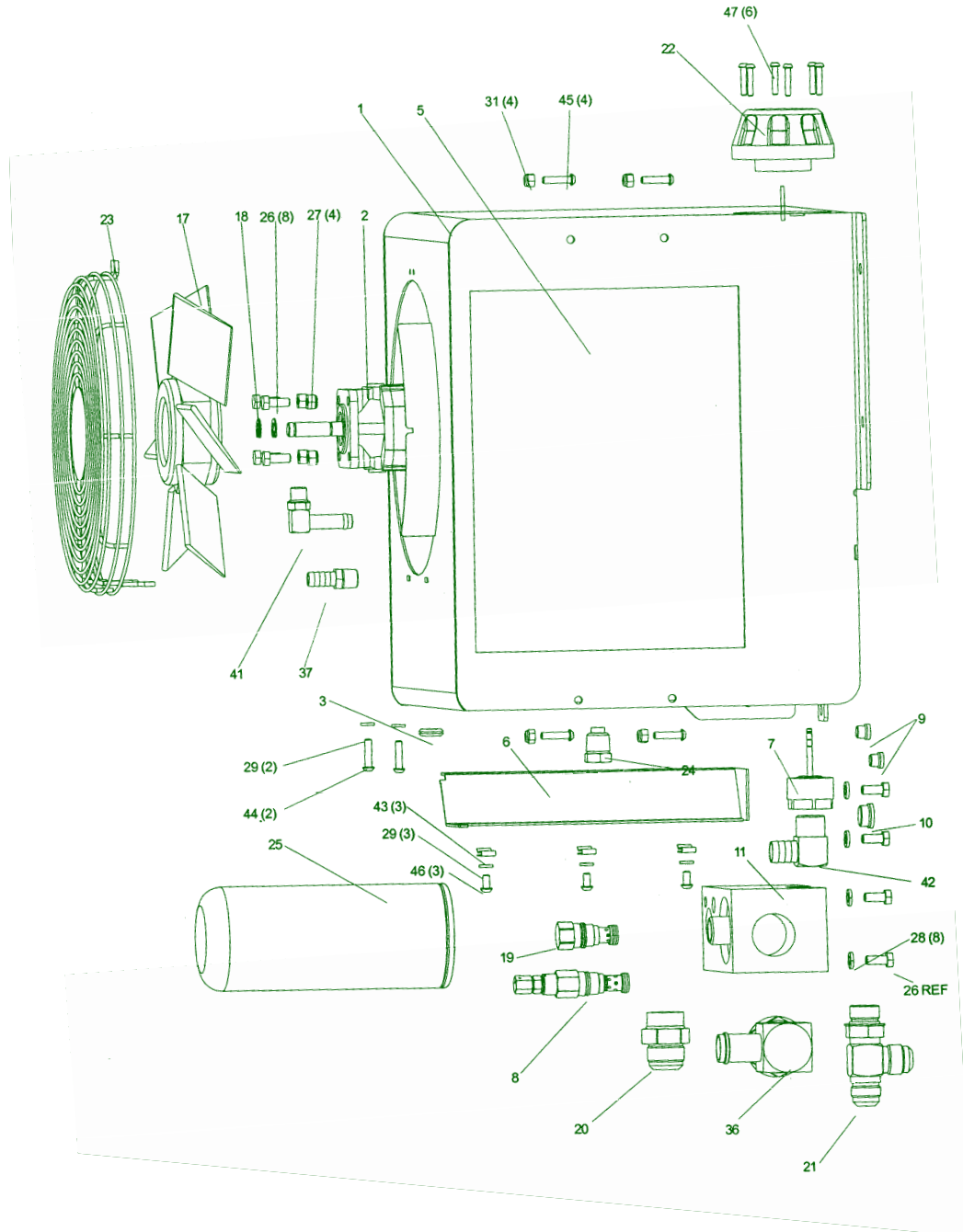
Part#	Description
717000200	Heater Kit - 12v DC
302091202	Elbow (case drain) - 1/2" NPT x #8 JICM
703000209	Pressure Cap Kit - Complete
309042200	Pressure Filler Cap (10 PSI)
516033201	Spacer Ring for Pressure Cap
825013203	Adaptor - 1/4" NPTM x 1/4" Push In
214503224	Cap Screw 10-32 x 1-1/2"
825003203	Tee - 1/4" Push In
818001201	Air Regulator with Gauge - 1/4" (1-25 PSI)
507043202	Bracket, Air Regulator
518062201	Nut, Air Regulator

Drum DH5 Parts Breakout

1	BODY, MAINFRAME - DH525	500080205	1
2	FILLER CAP without METAL BASKET	309005200	1
2a	FILLER CAP BASKET, stainless	313071200	1
3	HYD. ADP. #20 O-RING X 1-5/8" O-RING	302069104	1
4	O-RING, -325 - VITON	522011215	1
5	O-RING, #20 SAE - VITON	522001223	1
6	HYD. ELBOW #6 O-RING X #6 JIC (long)	302065217	1
7	HYD. ELBOW #16 O-RING X #20 JIC	302095220	1
8	RELIEF VALVE - 2500psi	303001203	1
9	PLUG, #12 SAE	302123204	1
10	PLUG, #6 SAE	302123203	1
11	FLOW CONTROL VALVE - 2.40gpm	304060202	1
12	TEE, #16 SAE X #16 JIC X #16 JIC	302005201	1
13	HOSE - BLOCK to MOTOR (HP "IN")	407211200	1
14	OIL FILTER - STD. DH5	306000203	1
14	OIL FILTER - WATER REMOVAL	306000202	1
15	HOSE - MOTOR to TANK (LP "RETURN")	407211201	1
16	GROMMET - 7/8"	521070200	2
17	MOTOR MOUNT - DH5	538071201	1
18	CAPSCREW - 5/16" X 1" plated	214005416	4
19	LOCKWASHER - 5/16" plated	240005400	8
20	NUT - 5/16" plated	236005400	8
21	FAN - DH3 & DH5	506022202	1
22	ELBOW - 3/8" O-RING X 3/8" JIC	302115201	2
23	MOTOR - DH5	300001223	1
24	RETAINING RING	244010200	2
25	HOSE - MOTOR to TANK	407211202	1
26	ELBOW - #4 SAE X #4 JIC (45deg)	302095218	1
27	NUT - 1/2" plated	236008400	8
28	LOCK WASHER - 1/2" plated	240008400	8
29	SPLIT FLANGE HALF - 2" code 61	302160201	2
30	O-RING, 2" code 61 - VITON	522011212	1
31	ELBOW, 2" code 61 SPLIT FLG. single 2" Hose	302186207	1
31	ELBOW, 2" code 61 SPLIT FLG. double 1.5" Hose	302186208	1
32	CONTROL BLOCK	311003206	1
33	CHECK VALVE, 25psi	304059202	1
34	CHECK VALVE, 60psi	304040205	1
35	CAPSCREW - 3/8" X 6-1/2" plated	299032200	4
36	LOCK WASHER - 3/8" stainless	240006200	4
37	FLAT WASHER - 10mm plated	194410400	4
38	FILTER RESTRICTION GAUGE	307008200	1
39	ADAPTER - 1/4" NPT X 1/4" NPT	302080203	1
40	HOSE CLAMP	299070207	4
41	HOSE - RADIATOR OUT to BLOCK	310030208	1
42	TEE - 1" HOSE X 1/4" NPT X #16 O-RING	302029207	1
43	PLUG - 1/4" NPT	250104004	1
44	GROMMET - 2-3/4"	521070201	1
44a	CAPSCREW - M10 X 16mm stainless	128310216	7
45	COVER KIT	703000208	1
46	OIL LEVEL GAUGE	307050203	1
47	ELBOW - #16 O-RING X 1" HOSE	302183200	1
48	HOSE - BLOCK to RADIATOR INLET	310030207	1
49	PLUG - 1/2" NPT stainless	250108208	2
50	MAGNETIC PLUG - 1/2" NPT	258208208	1
51	NUT - 3/8" w/NYLON INSERT	236106200	4
52	NUT - 3/8" stainless	236006200	1
53	HEAT EXCHANGER DH5	308011205	1
54	HOSE CLAMP - 2"	299070210	1
55	CAPSCREW - 3/8" X 1-1/4" stainless	214006220	1
56	CAPSCREW - 1/2" X 1-1/2" stainless	214108224	1
57	FLAT WASHER - 1/2" stainless	240408200	1
58	CAPSCREW - 10-32 X 3/4"	212303212	6



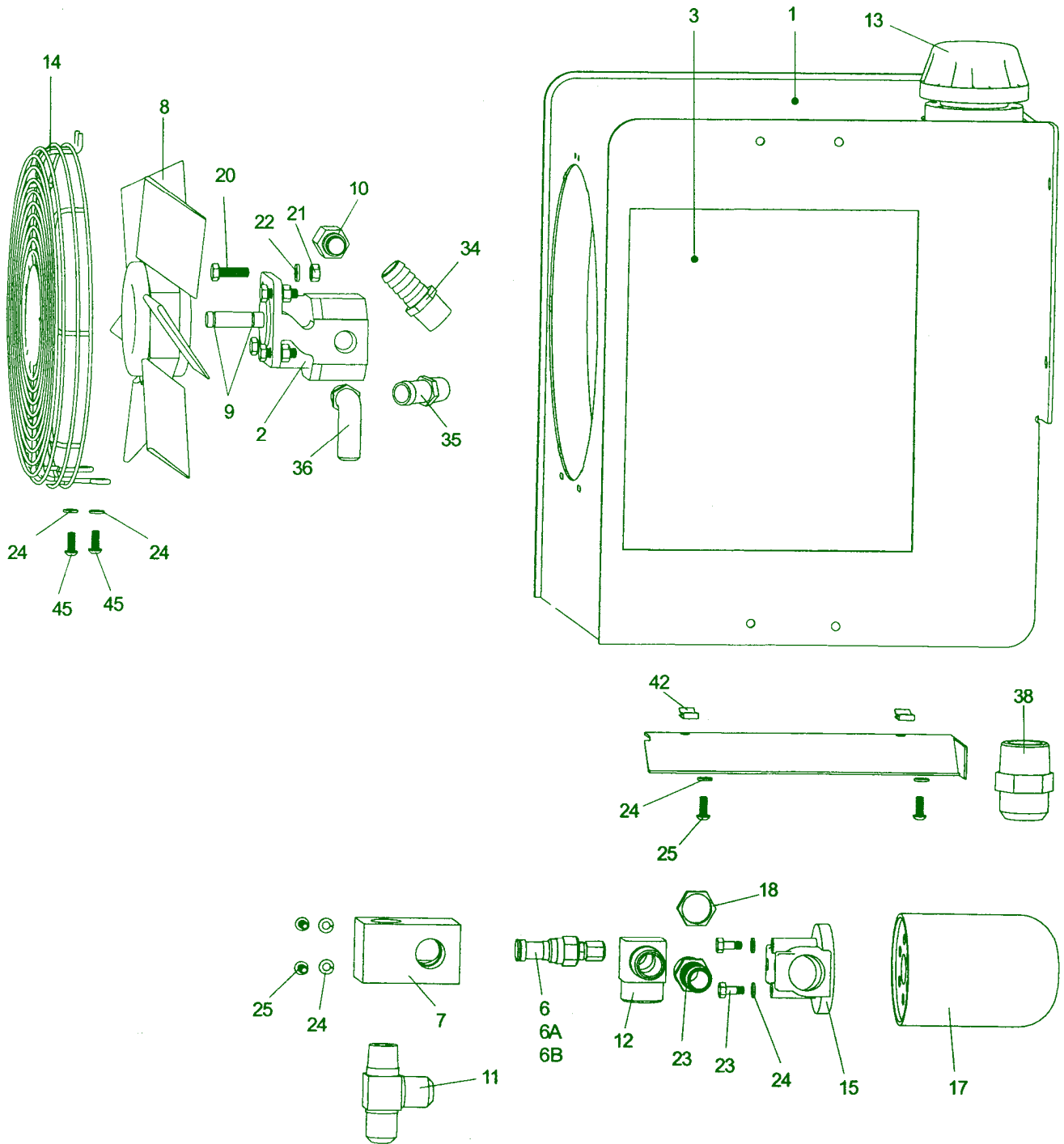
Drum MH1 Pre 2002



Drum MH1 Pre 2002

Item	Description	Part No.	QTY
1	BODY MAINFRAME MH1 (6 HOLE)	500080207	1
1	BODY MAINFRAME MH1 (4 HOLE)	500080208	1
2	FAN MOTOR - 6 hole unit	300001224	1
2	FAN MOTOR - 4 hole unit	300001202	1
3	HEAT EXCHANGER (radiator)	308011207	1
4	RELIEF VALVE, KICK DOWN	303000019	1
5	BODY, RV	311000200	1
6	FAN	506022203	1
7	RETAINING RING	244010200	2
8	FLOW CONTROL - 6 HOLE UNIT	304060207	1
8	FLOW CONTROL - 4 HOLE UNIT	304060208	1
9	HYD TEE -12NPTM x -12NPTM x -12NPTF	302020204	1
10	HYD TEE -12NPTM x -12JICM x -12JICM	302001200	1
11	HYD FILLER/BREATHER CAP 5PSI NYL BSKT	309001202	1
13	GRILL MH1 FAN RAISED NARROW LOOPS 6 HOLE	521022200	1
13	GRILL MH SERIES FAN RAISED WIDE LOOPS	521022201	1
14	HYD GAUGE MH1 FLTR 2" CBM SS SLCN	307000212	1
15	GROMMET 2-5/16"ID 2-3/4" GD 1/8"GW NBR	521070205	1
16	HYD FILTER HEAD #20 w/25 PSI BYP MH1	313070202	1
17	MAGNETIC PLUG 1/2" NPT (not shown)	258208208	1
18	HYD BUSH -12 NPTM x -4 NPTF	302130206	1
19	HYD FLTR SPIN 3.7"d 1" 10 mic NOM	306000205	1
20	HYD SEAL NUT -12 NPT	302140201	1
21	RADIATOR MOUNTING CLAMP FOR MH1 (98)	299070214	2
22	HYD ADP -12 NPTM x -12 JICM	302061200	1
23	HYD SEAL NUT -6 NPT (not shown)	302140202	1
24	CAPSCREW HEX HEAD GR 5 5/16"x1"-ZINC PLT	214005416	4
25	NUT NYLOCK 5/16-18 - PLTD	236105400	4
26	WASHER LOCK GR5 5/16" ZINC PLATED	240005400	4
27	CAPSCREW HEX HD SS 1/4-20 X 5/8	214004210	2
28	WASHER LOCK GR 5 1/4" PLTD	240004400	4
29	CAPSCREW BTN HD 1/4"-20 X 5/8" S/S	214304210	6
30	1/4-20 X 1.5 STAINLESSBTN HD CAP SCR	214304024	1
31	NUT HEX NYLOCK GR 5 1/4-20 PL	236104400	1
33	HYD ADP -6 NPTM x -4 JICM	302061218	1
34	HYD ADP -4 NPTM x -4 JICM	302061213	1
36	PLUG-PRESSURE SKT HD GR5 1/4" NPT	250104004	1
38	HOSE CLAMP, 1-1/4" (not shown)	299070211	2
39	HOSE CLAMP, 3/4" (not shown)	299070212	2
40	HOSE CLAMP, 1/2" (not shown)	299070213	2
41	HOSE BARB STRGHT -12 x -12 NPTM* (not shown)	302170203	2
42	HOSE BARB STRGHT -8 x -8 NPTM (not shown)	302170204	1
43	HOSE BARB ELB -8 x -8 NPTM (not shown)	302180205	1
44	INLET HOSE, FAN MOTOR (not shown) - 6 hole unit	407200208	1
44	INLET HOSE, FAN MOTOR (not shown) - 4 hole unit	407021215	1
45	HYD ADP -20 NPTM x -20 JICM	302061216	1
46	OUTLET HOSE, RADIATOR (not shown) - 6 hole unit	310010202	1
46	OUTLET HOSE, RADIATOR (not shown) -4 hole unit	310010203	1
47	INLET HOSE, RADIATOR (not shown) - 6 hole unit	310010201	1
47	INLET HOSE, RADIATOR (not shown) - 4 hole unit	310030214	1
48	RETURN HOSE, FAN MOTOR	310010205	1
49	SPEED NUT, 1/4"	299120204	4
50	CAPSCREW, 1/4" X 3/4"	214304012	2
51	FLAT WASHER, 1/4"	240404000	1

Drum MH1 2002



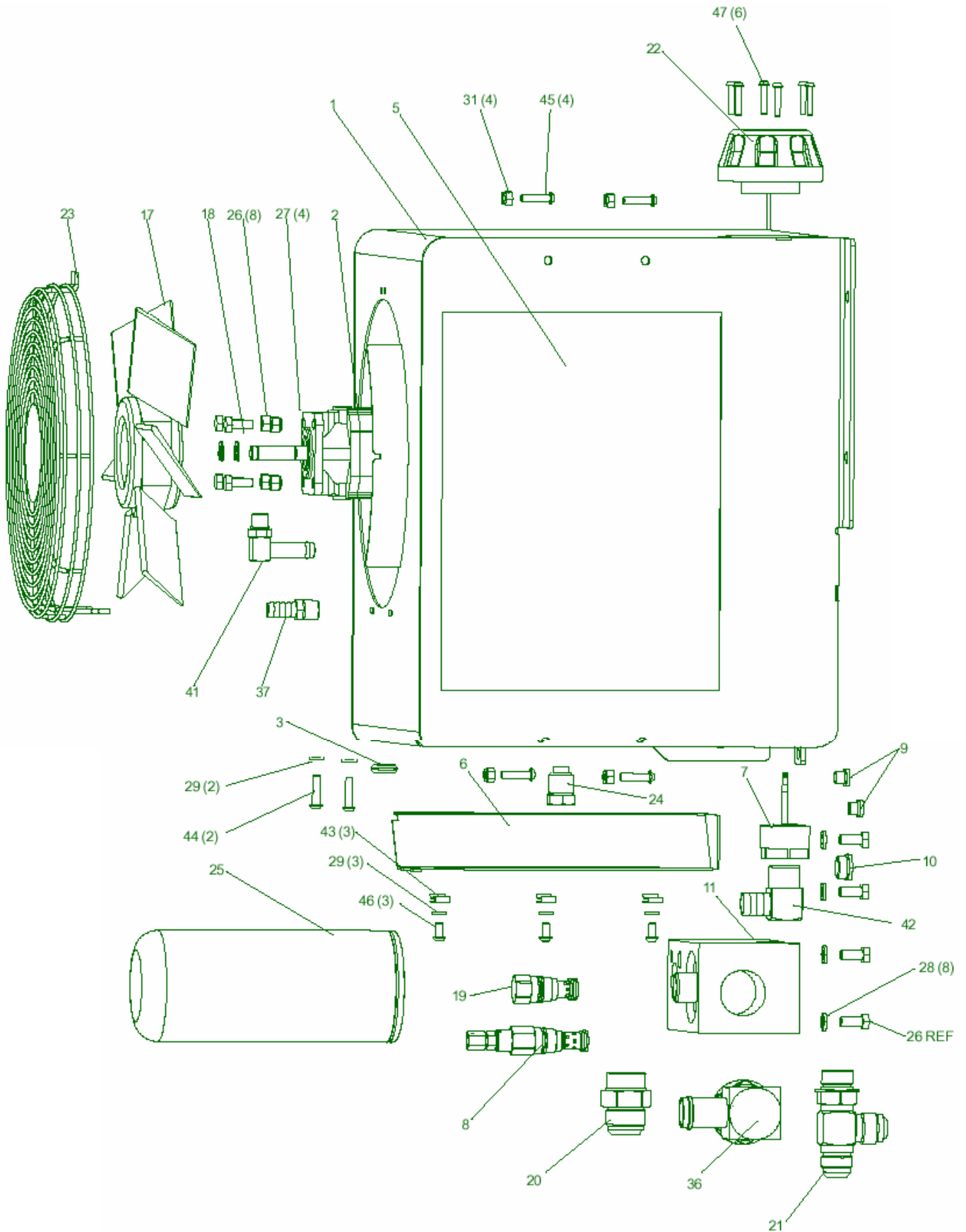
Drum MH1 2002

Item	Description	Part No.	QTY
1	BODY MAINFRAME	500080216	1
2	FAN MOTOR	300001202	1
3	HEAT EXCHANGER (radiator)	308011210	1
4	WASHER FLAT GR 5 1/4" PLTD	240404000	4
5	NUT HEX NYLOCK GR 5 1/4-20 PL	236104400	4
6	HYD RELIEF VALVE 2000 PSI	303000209	1
6A	HYD RELIEF VALVE 2500 PSI	303000208	1
6B	HYD RELIEF VALVE 3000 PSI	303000210	1
7	RELIEF VALVE BODY	311000201	1
8	FAN	506022203	1
9	FAN MOTOR FLOW CONTROL	304060210	1
11	HYD TEE -12NPTM x -12NPTM x -12JICM	302021200	1
12	HYD TEE -12JICM x -12ORBM x -12JICM	302005200	1
13	FILLER BREATHER	309001202	1
14	FAN GRILL	521022201	1
15	HYD FILTER HEAD #20 w/25 PSI BYP MH1	313070202	1
16	FILTER HEAD	258208208	1
17	MAGNETIC PLUG	306000205	1
18	FILTER	302140201	3
19	HYD SEAL NUT -6 NPT	302140202	1
20	CAPSCREW HEX HEAD GR 5 5/16"x1" (not shown)	214005416	4
21	NUT NYLOCK 5/16-18 - PLTD (not shown)	236105400	4
22	WASHER LOCK GR5 5/16" ZINC PLATED	240005400	4
23	CAPSCREW HEX HD SS 1/4-20 X 5/8	214004210	2
24	WASHER LOCK GR 5 1/4" PLTD	240004400	2
25	CAPSCREW 1/4-20 X 5/8" BRN HD	214304210	4
26	LABEL MH SERIAL NUMBER ALUM	537010224	1
27	HYD ELB -6 NPTM x -4 JICM	302091224	1
28	LABEL (not shown)	537001207	1
29	HYD PLUG -4 ORBM - SOCKET HEAD	302123206	1
30	RIVET POP ALUM 0.156 x 0.254 x 0.125	299061200	2
31	HOSE CLAMP 11/16"-1-1/4" (not shown)	299070211	4
32	HOSE CLAMP 3/4" (not shown)	299070212	2
33	HOSE CLAMP 1/2" (not shown)	299070213	2
34	HYD HOSE BARB STRGHT -12 x -12 NPTM*	302170203	2
35	HYD HOSE BARB STRGHT -8 x -8 NPTM	302170204	1
36	HYD HOSE BARB ELB -8 x -8 NPTM	302180205	1
37	HOSE ASSY MH1 MOTOR FEED 4 HOLE (not shown)	407021217	1
38	HYD ADP -20 NPTM x -20 JICM	302061216	1
39	HYD HOSE MH1 RAD OUT 4 HOLE (not shown)	310030216	1
40	HYD HOSE MH1 RAD IN 4 HOLE (not shown)	310030215	1
41	HYD HOSE MH MOTOR RETURN 1/2" x 3" (not shown)	310010208	1
42	1/4-20 SPEED NUTS STANDARD FINISH	299120204	3
43	1/4-20 X 1.25 STAINLESS BTN HD CAP SCR (not shown)	214304020	4
44	CAP SCREW #10-32 X 1 S.S. BTN. HD. C.S.(not shown)	212303216	6
45	CAPSCREW 1/4-20 X 1" HEX STAINLESS (not shown)	214004216	2
46	HYD CHECK VLV 25 PSI RAD BYPASS (not shown)	304059203	1
47	HYD HOSE MH1 CHECK VALVE (not shown)	310030214	1

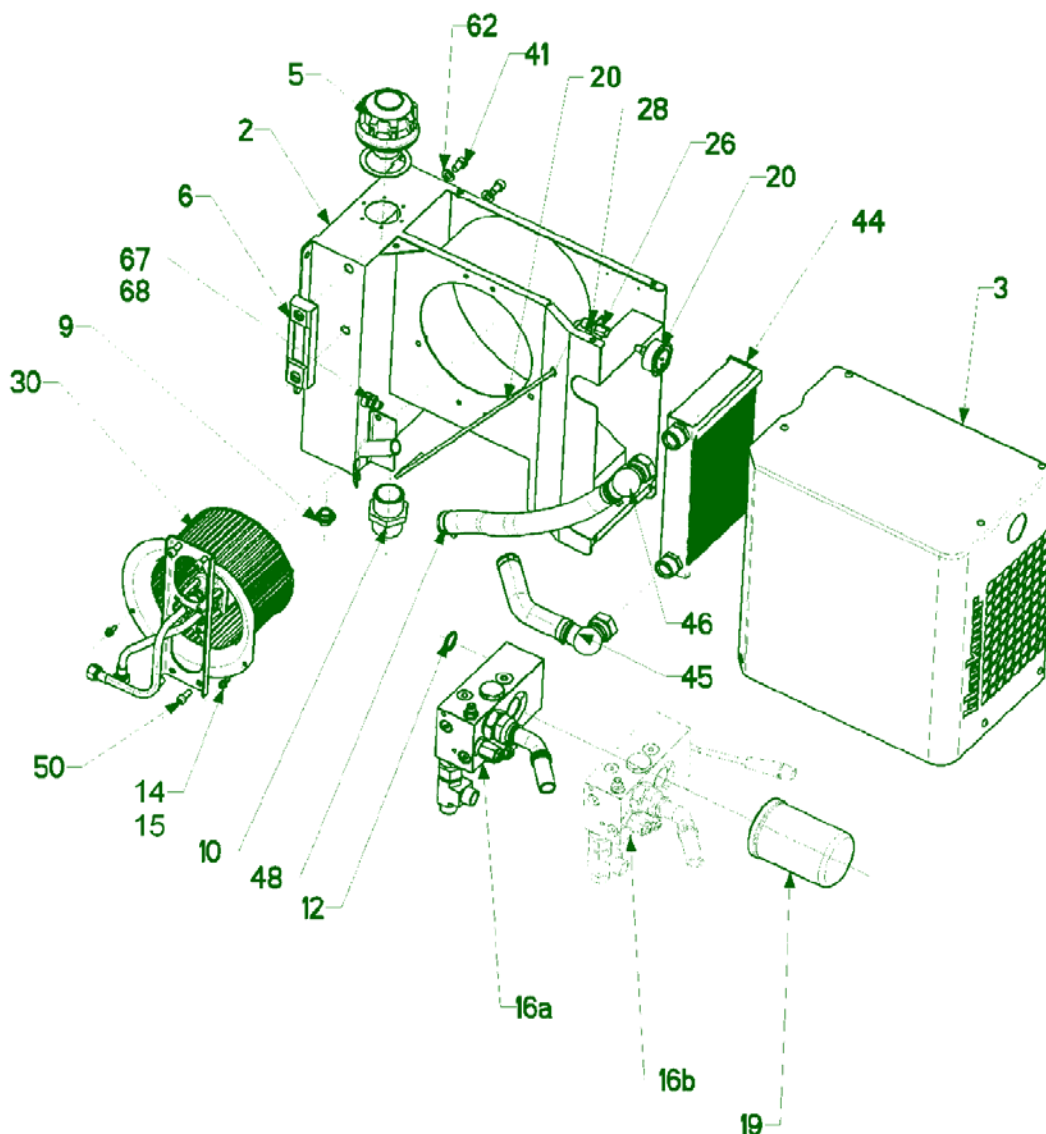
Drum MH3 Hydrapak

1	MAINFRAME	500080214	1	1-1/2 CODE 61 SUCTION
1	MAINFRAME	500080215	1	2" NPTF SUCTION
2	HYDRAULIC FAN MOTOR	300001228	1	
3	GROMMET	521070206	1	
4	HOSE ASSY. FAN TO MANIFOLD	407021216	1	NOT SHOWN
5	HYD. RADIATOR	308011210	1	
6	RADIATOR BLANKING PLATE	540063209	1	
7	RADIATOR BY-PASS CHECK	304059203	1	
8	HYD. RELIEF VALVE	303000208	1	2500 PSI
8	HYD. RELIEF VALVE	303000210	1	3000 PSI
9	HYDRAULIC PLUG SOCKET HEAD	302123206	2	#4 ORBM
10	HYDRAULIC PLUG SOCKET HEAD	302123200	1	#8 ORBM
11	HYDRAULIC MANIFOLD	311003202	1	
12	# 10-32 GR.5 PLATED NUT	236103000	1	
13	MANIFOLD CHECK VALVE DISC	532111202	1	NOT SHOWN
14	MANIFOLD CHECK VALVE SPRING	517000204	1	NOT SHOWN
15	MANIFOLD CHECK VALVE WASHER	532112200	1	NOT SHOWN
16	MANIFOLD CHECK VALV GUIDE BOLT	212103040	1	NOT SHOWN
17	FAN	506022203	1	
18	RETAINING RING FOR FAN	244010200	2	
19	FAN MOTOR FLOW CONTROL	304060209	1	
20	HYDRAULIC FITTING	302065207	1	# 16 ORBM X # 16 JICM
21	HYDRAULIC TEE FITTING	302005200	1	# 12 JICM X # 12 ORBM X # 12 JICM
22	FILLER / BREATHER CAP	309001202	1	
23	FAN GRILL / GUARD	521022201	1	
24	MAGNETIC DRAIN PLUG	258208208	1	# 8 NPTM
25	HYDRAULIC FILTER	306000206	1	SPIN ON STYLE
26	CAP SCREW	214005416	8	5/16-18 X 1 GR5 PLATED
27	NYLOCK NUT	236105400	4	5/16-18 PLATED
28	LOCK WASHER	240005400	8	5/16 GR 5 PLATED
29	LOCK WSHER	240004400	3	1/4 GR 5 PLATED
30	FLAT WAHER	240404000	4	1/4 GR 5 PLATED
31	NYLOCK NUT	236104400	4	1/4-20 GR 5 PLATED
32	HYDRULIC ELBOW FITTING	302095219	1	# 6 ORBM X # 4 JICM
33	HOSE CLAMP WORM TYPE	299070211	2	NOT SHOWN
34	HOSE CLAMP SLOTLESS WORM	299070207	4	NOT SHOWN
35	HOSE CLAMP CONSTANT TENSION	299070213	2	NOT SHOWN
36	HYDRAULIC ELBOW FITTING	302183203	1	# 16 HOSE BARB X # 20 ORBM
37	HYDRAULIC FITTING	302170205	1	# 8 HOSE BARB X # 6 NPTM
38	HYDRAULIC HOSE	310010208	1	1/2" FAN MTR. RETURN NOT SHOWN
39	HYDRAULIC HOSE	310030211	1	1" MANIFOLD TO RADIATOR NOT SHOWN
40	HYDRAULIC HOSE	310030212	1	1" RADIATOR TO TANK NOT SHOWN
41	HYDRAULIC ELBOW FITTING	302183202	1	# 8 HOSE BARB X # 6 ORBM
42	HYDRAULIC ELBOW FITTING	302180204	1	# 12 HOSE BARB X # 12 MPTM
43	SPEED NUTS	299120204	3	1/4-20
44	CAP SCREW	214004216	2	1/4-20 X 1 S.S. HEX HEAD
45	CAP SCREW	214304020	4	1/4-20 X 1-1/4 S.S. BTN HEAD
46	CAP SCREW	214304210	3	1/4-20 X 5/8 S.S. BTN HEAD
47	CAP SCREW	212303216	6	# 10-32 X 1 S.S. BTN HEAD
48	HYDRAULIC HOSE	310030217	1	RADIATOR CHECK TO TANK NOT SHOWN

Drum MH3 Hydrapak

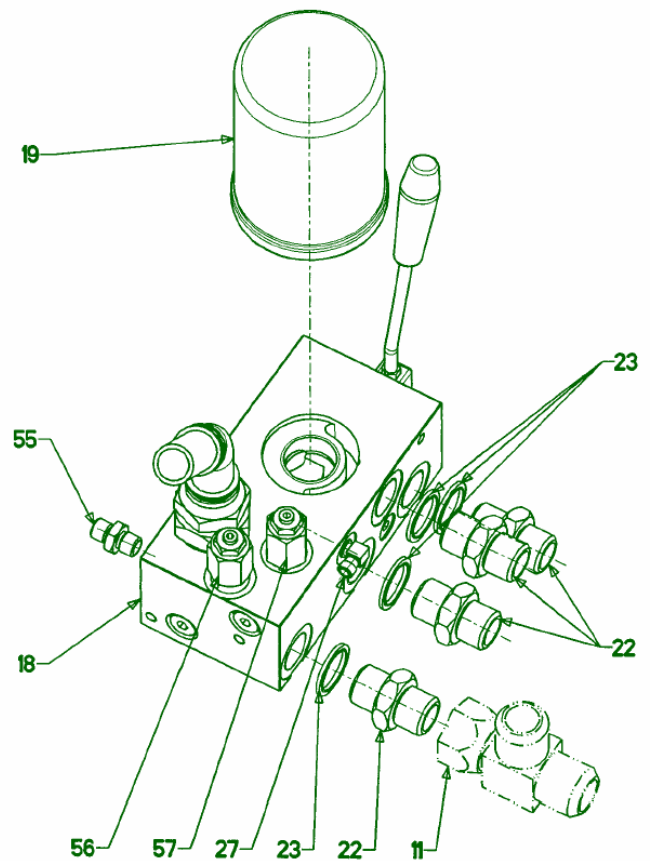
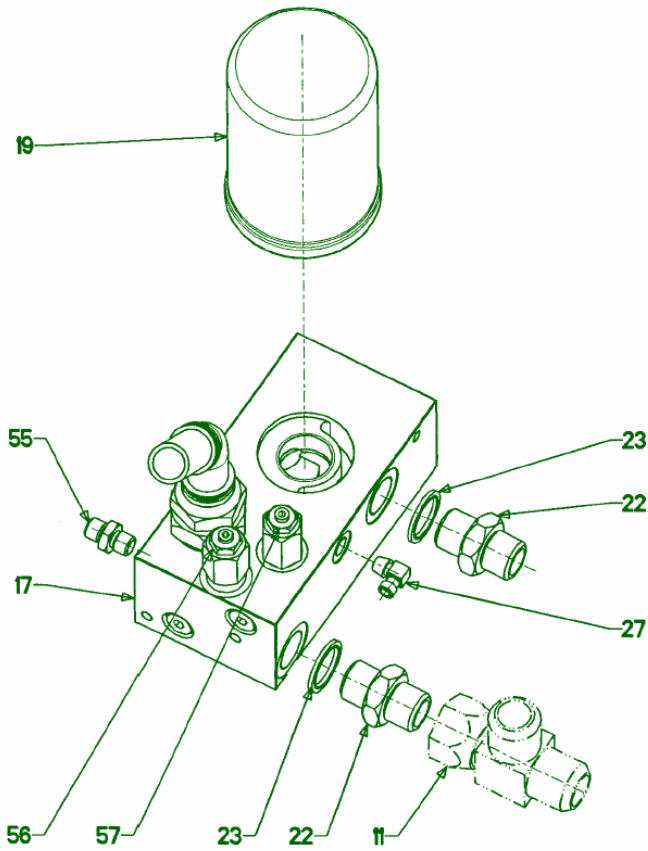


Blackmer 2010A Hydraulic Cooler



Ref. No.	Description	Parts /Unit	Part No.	Ref. No.	Description	Parts /Unit	Part No.
2	Tank	1	Y219885	20	Filter Gauge	1	Y312554
3	Cover – Stainless Steel	1	Y219172	26	Fitting – M/F G1/8"	1	Y219668
5	Filler/Breather Cap	1	Y219809	28	Fitting – female 1/8" BSP x 4 mm	1	Y219666
6	Oil Temperature/Level Gauge	1	Y219175	30	Fan Motor Assembly – Complete	1	Y312149
9	BSP Plug – 1/2"	1	Y219178	41	M10 screw	2	Y219669
10	BSP-NPT Adapter 1 1/2"	1	Y219180	44	Radiator	1	Y219202
	NPT Adapter 1 1/2"	1	Y219179	45	Radiator Hose ⁽¹⁾	1	Y219203
12	Seal	1	Y219931	46	Radiator Hose ⁽¹⁾	1	Y219204
14	Capscrews – M6 x 16	9	Y217209	48	Hose mounting clamp	4	Y219898
15	Washer – M6	9	Y200169	50	Capscrew – M8 x 15	6	Y200412
16A	Valve Block Assembly	1	Y312148	62	Washer BS 3/8"	2	Y219731
16B	Valve Block Assembly – With Selector Valve (Optional)	1	Y312151	67	Washer BS 1/4"	1	Y219198
19	Return Filter	1	Y219185	68	Fitting – Male 1/4" BSP	1	Y219812

Blackmer 2010A Hydraulic Cooler



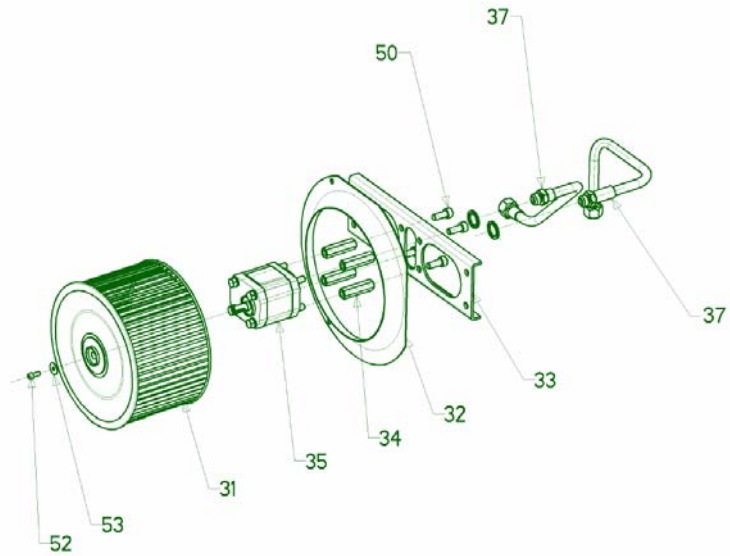
Ref. No.	Description	Parts per Unit	Part No.
11	T Fitting 1"5/16 JIC F/M ⁽¹⁾	1	Y219811
17	Valve Block	1	Y219775
19	Return Filter	1	Y219185
22	Adapter – 3/4" BSP1"5/16x12 JIC M/M	2	Y219810
	Adapter – 3/4" BSP/BSP M/M	2	Y219187
23	Seal	2	Y219188
27	Elbow – 1/4" BSP x 4 mm	1	Y219667
55	Adapter 3/8" BSP/ 1/4" BSP M/M	1	Y219219
56	Relief Valve	1	Y219220
57	Fan Speed Control Valve	1	Y219221

Part 11 is only available for NPT HYDRIVE

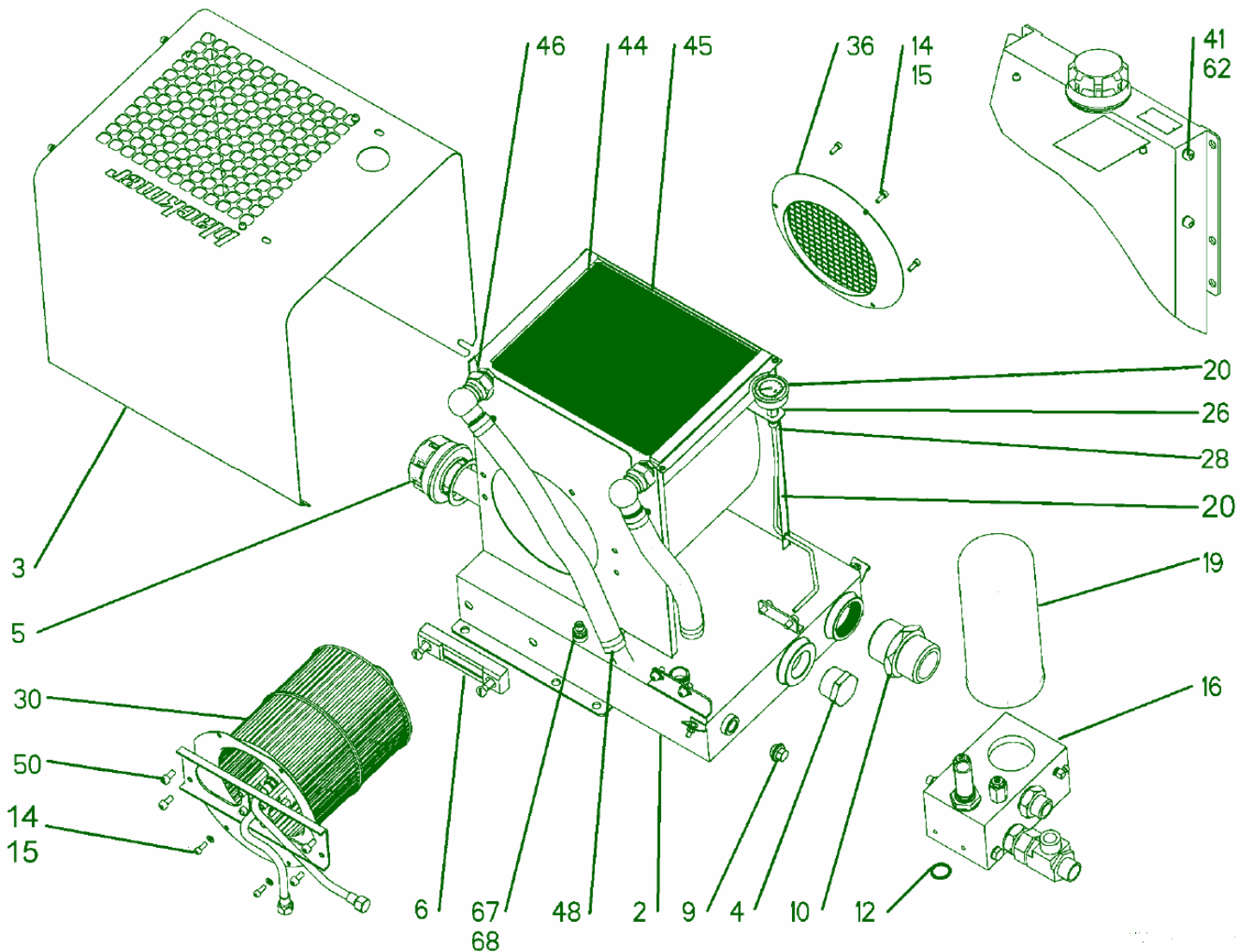
Ref. No.	Description	Parts per Unit	Part No.
11	T Fitting 1"5/16 JIC F/M ⁽¹⁾	1	Y219811
18	Valve Block – Selector Valve	1	Y219774
19	Return Filter	1	Y219185
22	Adapter – 3/4" BSP1"5/16x12 JIC M/M	4	Y219810
	Adapter – 3/4" BSP/ BSP M/M	4	Y219187
23	Seal	4	Y219188
27	Elbow – 1/4" BSP x 4 mm	1	Y219667
55	Adapter – 3/8" BSP/ 1/4" BSP M/M	1	Y219219
56	Relief Valve	1	Y219220
57	Fan Speed Control Valve	1	Y219221

⁽¹⁾ Part 11 is only available for NPT HYDRIVE

Blackmer 2010A Hydraulic Cooler

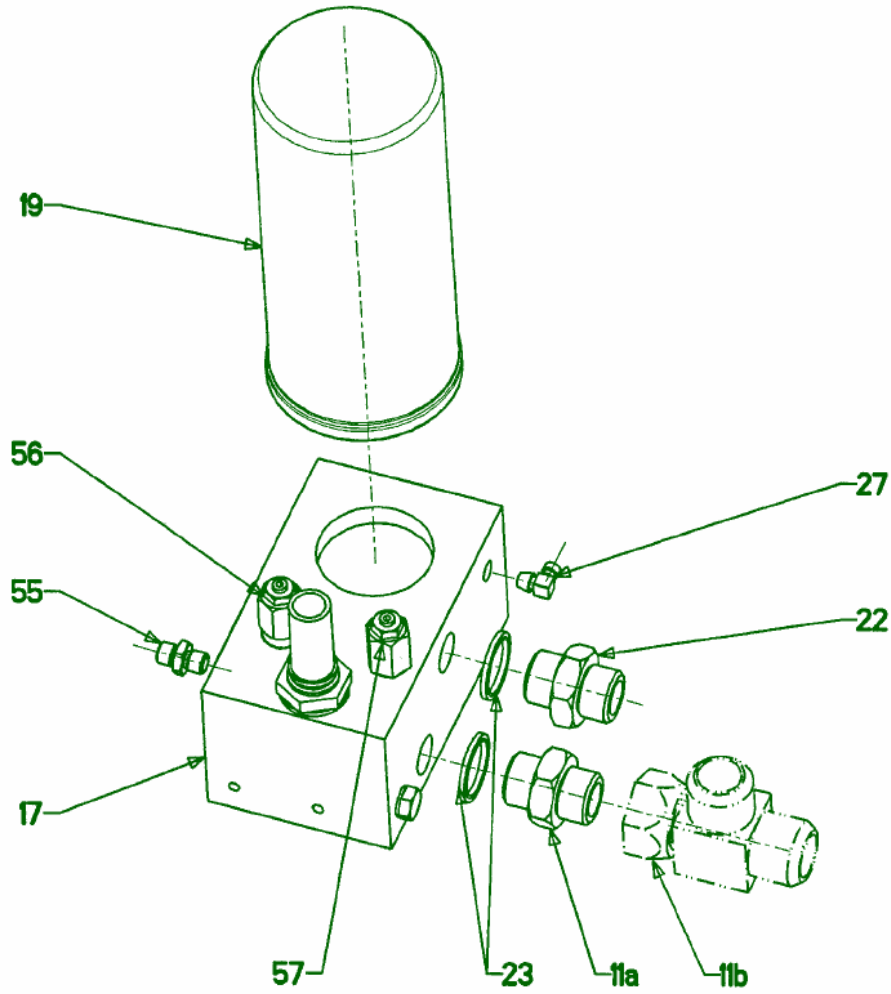


Ref. No.	Description	Parts per Unit	Part No.
31	Fan	1	Y219193
32	Fan Inlet Ring	1	Y219194
33	Motor Mounting Bracket	1	Y219195
34	Motor Spacers	4	Y219196
35	Hydraulic Motor – 2 cc	1	Y219197
37	High Pressure Hydraulic Hose	2	Y219199
50	Capscrew – M8 x 15	4	Y200412
52	Capscrew – M5 x 12	1	Y200391
53	Washer –L5	1	Y205073

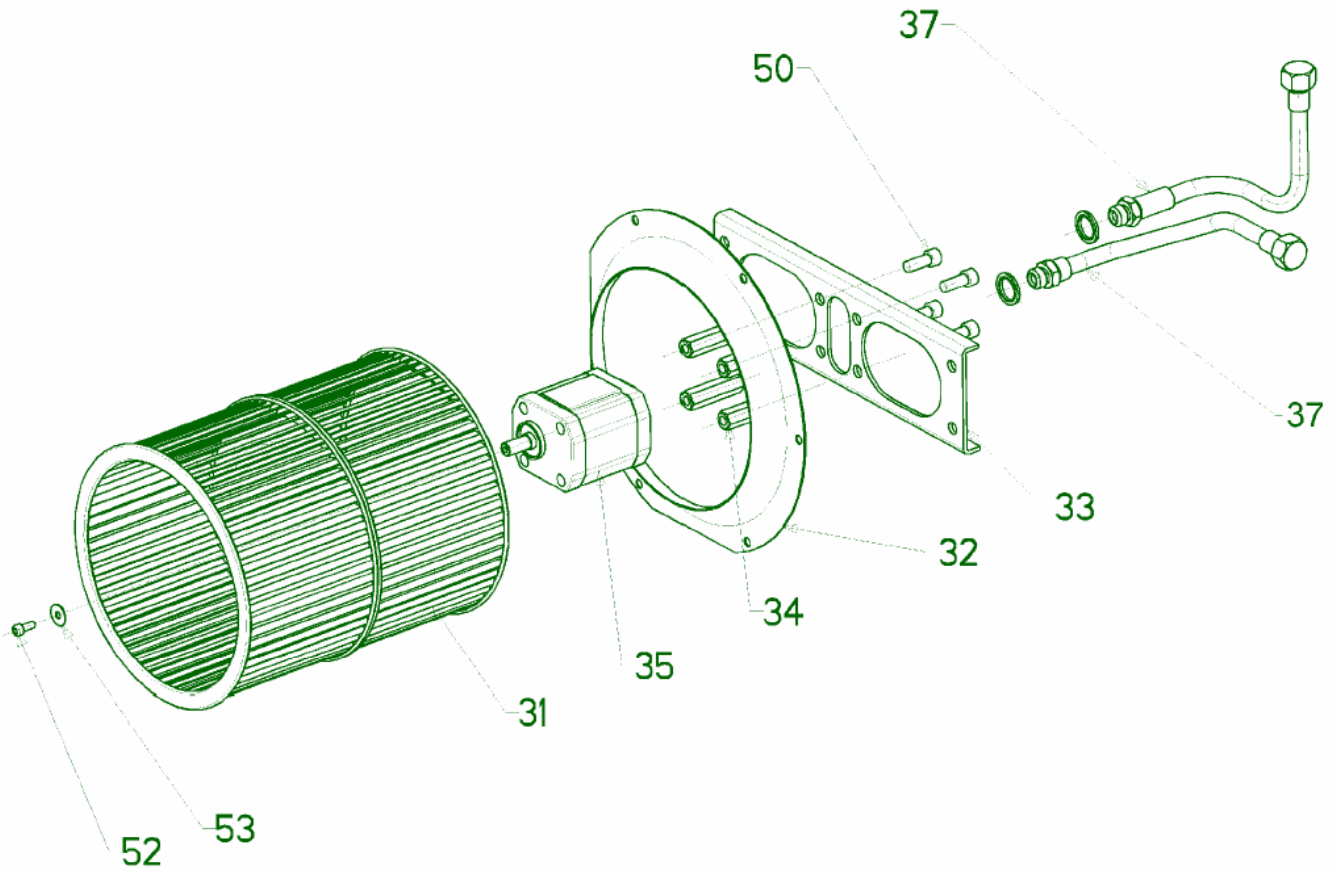
Blackmer 2020A Hydraulic Cooler

Ref. No.	Description	Parts per Unit	Part No.	Ref. No.	Description	Parts per Unit	Part No.
2	Tank	1	Y219862	26	Fitting – M/F 1/8" BSP x 4 mm	1	Y219668
3	Cover – Stainless Steel	1	Y219610	28	Fitting – female 1/8" BSP x 4 mm	1	Y219666
4	2 nd opening tank plug	1	Y219807	30	Fan Motor Assembly – Complete	1	Y312331
5	Filler/Breather Cap ⁽¹⁾	1	Y219809	36	Fan protection grid	1	Y219614
6	Oil Temperature/Level Gauge	1	Y219175	41	M10 screw	2	Y219669
9	BSP Plug – 1/2"	1	Y219178	44	Radiator	1	Y219617
10	BSP-NPT Adapter 2 "	1	Y219621	45	Radiator Hose ⁽²⁾	1	Y219618
	NPT Adapter 2 "	1	Y219620	46	Radiator Hose ⁽²⁾	1	Y219619
12	Seal	1	Y219931	48	Hose mounting clamp	4	Y219898
14	Capscrews – M6 x 16	11	Y217209	50	Capscrew – M8 x 15	8	Y200412
15	Washer – M6	13	Y200169	62	Washer BS 3/8"	2	Y219731
16	Valve Block Assembly	1	Y312330	67	Washer BS 1/4"	1	Y219198
19	Return Filter	1	Y219612	68	Fitting – Male 1/4" BSP	1	Y219812
20	Filter Gauge	1	Y312554				

Blackmer 2020A Hydraulic Cooler

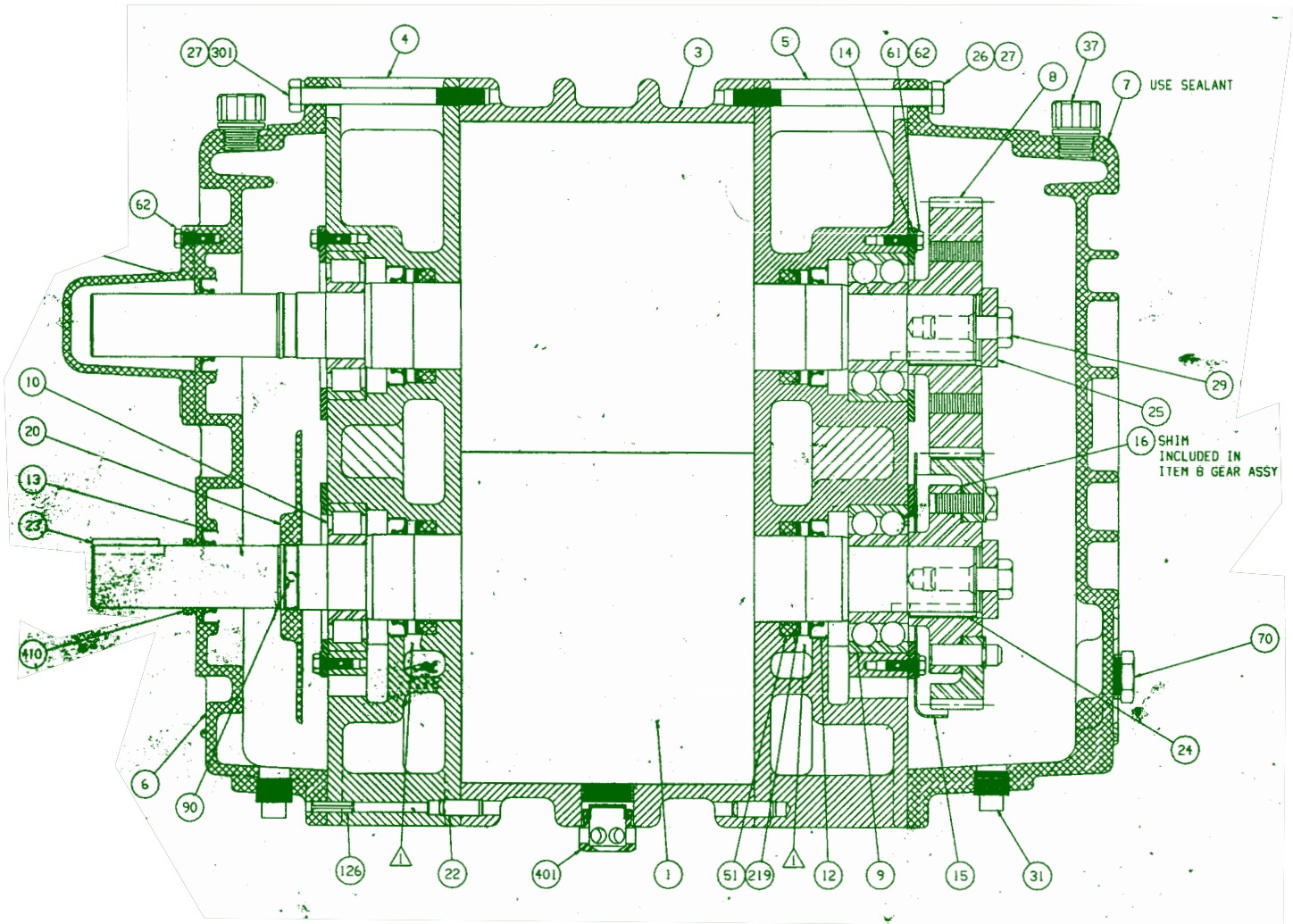


Ref. No.	Description	Parts per Unit	Part No.
11a	40 RACCORD 1"BSPx1 5/16"JIC M/M ⁽¹⁾	1	Y219624
11b	T Fitting 1" 5/8 JIC F/M ⁽¹⁾	1	Y219811
17	Valve Block	1	Y219776
19	Return Filter	1	Y219612
22	Adapter – 1" BSP 1 5/8" x 12 JIC M/M ⁽¹⁾	1	Y219806
	Adapter – 1" BSP/BSP M/M	2	Y219622
23	Seal	2	Y219623
27	Elbow – ¼" BSP x 4 mm	1	Y219667
55	Adapter 3/8" BSP/1/4" BSP M/M	1	Y219219
56	Relief Valve	1	Y219625
57	Fan Speed Control Valve	1	Y219626

Blackmer 2020A Hydraulic Cooler

Ref. No.	Description	Parts per Unit	Part No.
31	Fan	1	Y219613
32	Fan Inlet Ring	1	Y219194
33	Motor Mounting Bracket	1	Y219195
34	Motor Spacers	4	Y219196
35	Hydraulic Motor – 2 cc	1	Y219615
37	High Pressure Hydraulic Hose	2	Y219199 ⁽¹⁾
50	Capscrew – M8 x 15	4	Y200412
52	Capscrew – M5 x 12	1	Y200391
53	Washer –L5	1	Y205073

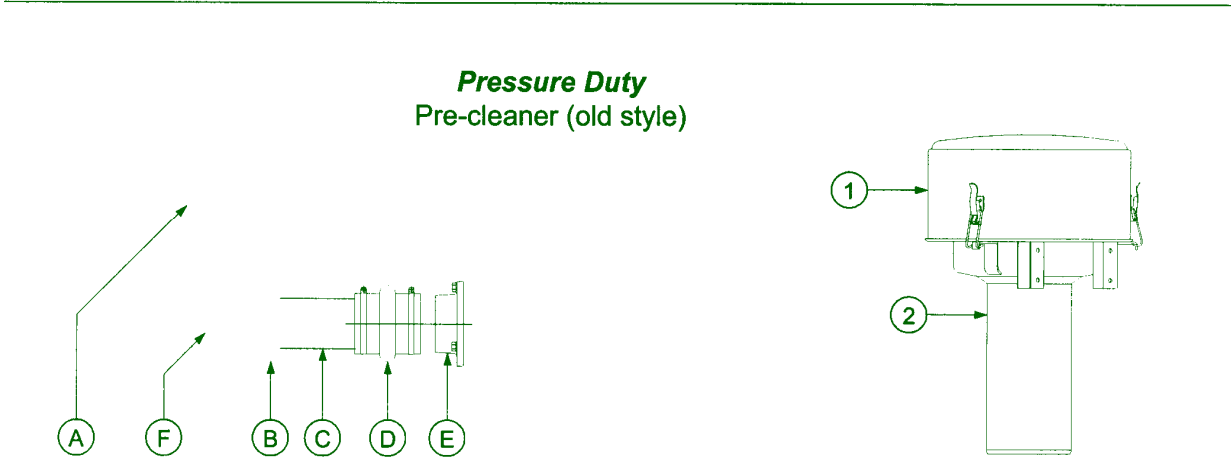
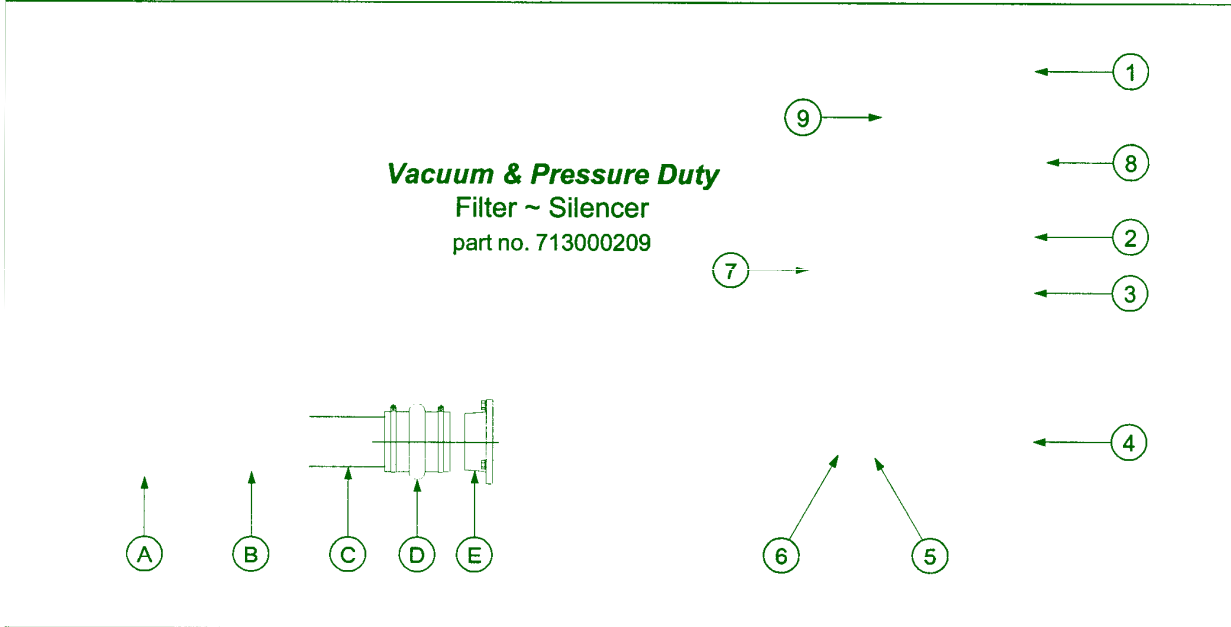
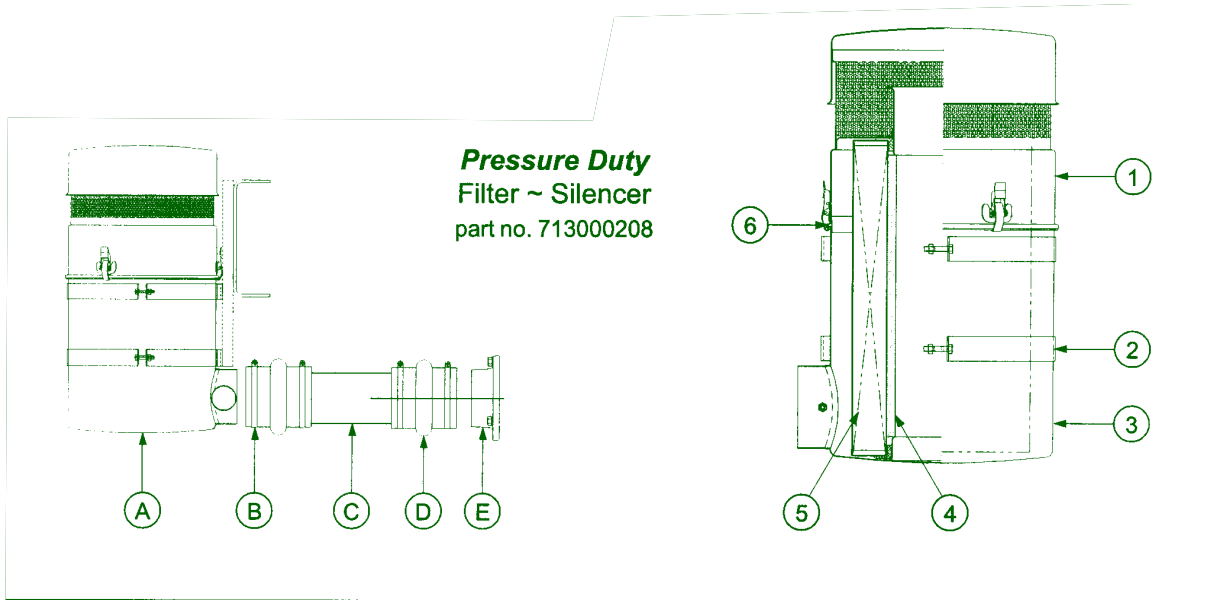
Drum 807 and 907 Blowers



Drum 807 and 907 Blowers

ITEM	DESCRIPTION	PART NO.	QTY
1	ROTOR, D807	503064218	2
1	ROTOR, D907	503064219	2
3	HOUSING, D807	500011218	1
3	HOUSING, D907	500011219	1
4	ENDPLATE - DE	501010208	1
5	ENDPLATE - NDE	501010206	1
6	COVER DE	521031201	1
7	COVER NDE	521041205	1
8	GEAR SET ASSY PAIR D800/D807/D907includes:	529000205	1
	lockplates	518092208	2
	dowel pin	299150000	2
	capscrews 12mm X 35mm	199060201	4
	shims, timing	516072223	1
	gear hub (not sold separately)		
	gears (not sold separately)		
9+	BALL BEARING, double - COMPLETE	510004200	2
10+	ROLLER BEARING, straight - COMPLETE	510003202	2
12+	SEAL, DOUBLE LIP - VITON	512051201	4
13+	SEAL, DOUBLE LIP - VITON	512051200	2
14	RETAINER PLATE, BEARING	518000202	4
15	DUCT, OIL DEFLECTOR	506040202	1
16	SHIM, TIMING (included in gear assembly)	516072223	1
20	SLINGER D807/907/907X w/SETSCREWS	515080201	1
22	PIN, DOWEL GR5 10 X 20	174210020	4
23	KEY, DRIVE SQ 3/8 X 3/8 X 1-5/8	299014212	1
24+	KEY - GEAR	299014213	2
25	WASHER, ROTOR	240430007	2
26	CAPSCREW HEX HD ISO 8.8 M10 x 120mm PLTD	128010120	16
27	WASHER LOCK GR5 M10 ZINC PLATED	194010400	32
29	CAPSCREW HEX HD ISO 8.8 M14x2 x40mm	130014040	2
31	PLUG PRESSURE SQ HD GR5 MAG 7/8-14	258012010	2
37+	HYD FILLER BREATHER - METAL - D807-D907	309025200	2
51+	SEAL, LABRYNTH - PTFE	513135200	4
61	WASHER FLAT 3/16" PLATED	240403400	20
62	CAPSCREW HEX HD ISO 8.8 M6 X 20mm	124006420	23
70	OIL SIGHT GLASS	307058202	2
90	SETSCREW CUP POINT M4 X 12mm PLATED	140004412	2
126	PIN DOWEL 1/4" X 1" GR5	266204016	2
219+	RETAINER, SEAL	518080201	4
296	COVER D807 SHAFT NDE	521041208	1
301	CAPSCREW HEX HD ISO 8.8 M10 x 110 MM PLT	128010110	16
401+	MELT PLUG 360 deg F	509010204	2
510	SEAL V-RING NITRILE	513030202	1
	MOUNTING BOLT, M16 X35mm	132016035	4
	MOUNTING WASHER, M16	194016000	4
+	GASKET, FLANGE	526002201	2
	LUBE OIL MOBIL SHC630 SYNTHETIC QRT -US	520000200	1
+	SERVICE KIT D807/D907	710011210	1

Drum 807 and 907 Blowers

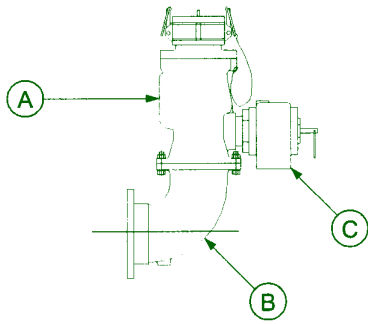


Drum 807 and 907 Blowers

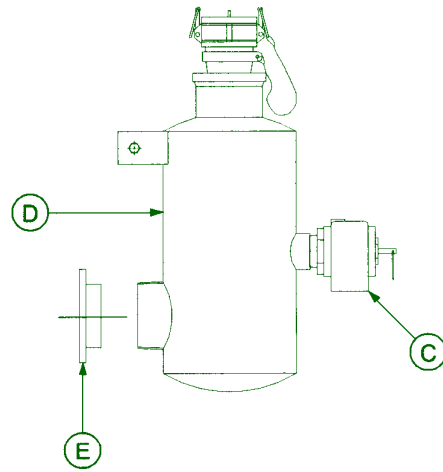
ITEM	DESCRIPTION	PART NO.	QTY
A	AIR FILTER - complete	713000208	1
	1 FILTER LID	525030204	1
	2 CLAMP RING	525040203	2
	3 FILTER BASE	525050203	1
	4 PRE-CLEANER (foam)	525090200	1
	5 FILTER ELEMENT (VF120W)	525000207	1
	6 SEAL RING (rubber)	513151200	1
B	HOSE CLAMPS	299071201	4
C	PIPE, 5" X 5" (alum)	531280217	1
D	HUMP HOSE, 5"	531250200	2
E	SUCTION FLANGE KIT	711010215	1
	FLANGE, 5" (alum)	508021205	1
	BOLT, 12mm X 30mm	130012030	4
	WASHER, 12mm	194012000	4
	GASKET, FLANGE	526002201	1
A	AIR FILTER complete	713000209	1
	1 FILTER LID	525030205	1
	2 FILTER COVER	525030206	1
	3 CLAMP RING	525040203	2
	4 FILTER BASE	525050203	1
	5 PRE-CLEANER (foam)	525090200	1
	6 FILTER ELEMENT-PAPER (VF120W)	525000207	1
	7 SEAL RING (rubber)	513151200	1
	8 CLAMP FOR LID	525044200	1
	9 CAMLOCK - 4"	531212202	1
B	HOSE CLAMPS	299071201	4
C	PIPE, 5" X 20" (alum)	531280217	1
D	HUMP HOSE, 5"	531250200	2
E	SUCTION FLANGE KIT	711010215	1
	FLANGE D807 x 5" HOSE OFFSET (alum)	508021205	1
	BOLT, 12mm X 30MM	130012030	4
	WASHER, 12MM	194012000	4
	GASKET, FLANGE	526002201	1
A	PRE-CLEANER (old style) complete	713050201	1
	1 FILTER LID	525030207	1
	2 FILTER HSG AIR PRECLEANER BODY ASSY	525050204	1
	3 FILTER BOWL PRECLEANER	525100200	1
B	HOSE CLAMP WORM S/S 6IN	299071201	4
C	TUBE 5" DIA X 19-7/8" LONG AL	531280217	1
D	HUMP HOSE, 5" (rubber)	531250200	1
E	SUCTION FLANGE KIT	711010215	1
	FLANGE D807 x 5" HOSE OFFSET (alum)	508021205	1
	BOLT, 12mm X 30MM	130012030	4
	WASHER, 12MM	194012000	4
	GASKET, FLANGE	526002201	1
F	ELBOW 5" SHORT RAD TUBE 90d RUBBER	531105201	1

Drum 807 and 907 Blowers

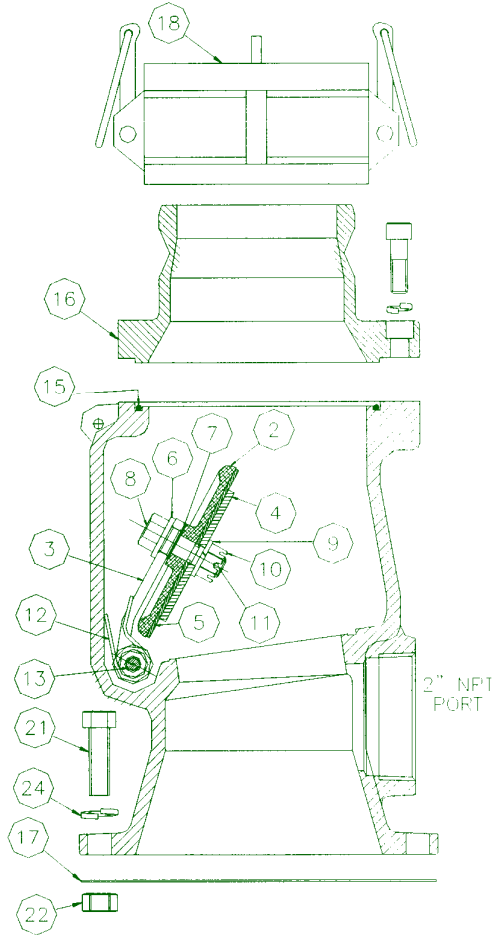
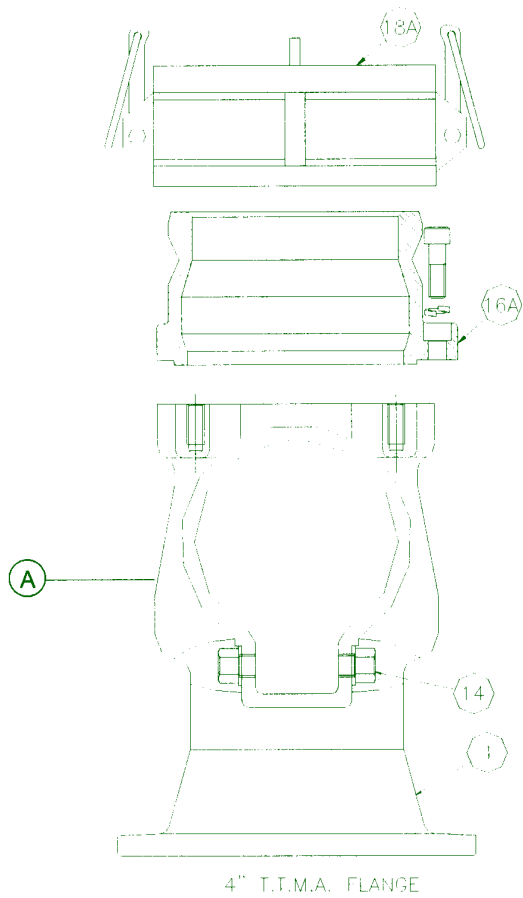
Check Valve Discharge



Muffler Discharge



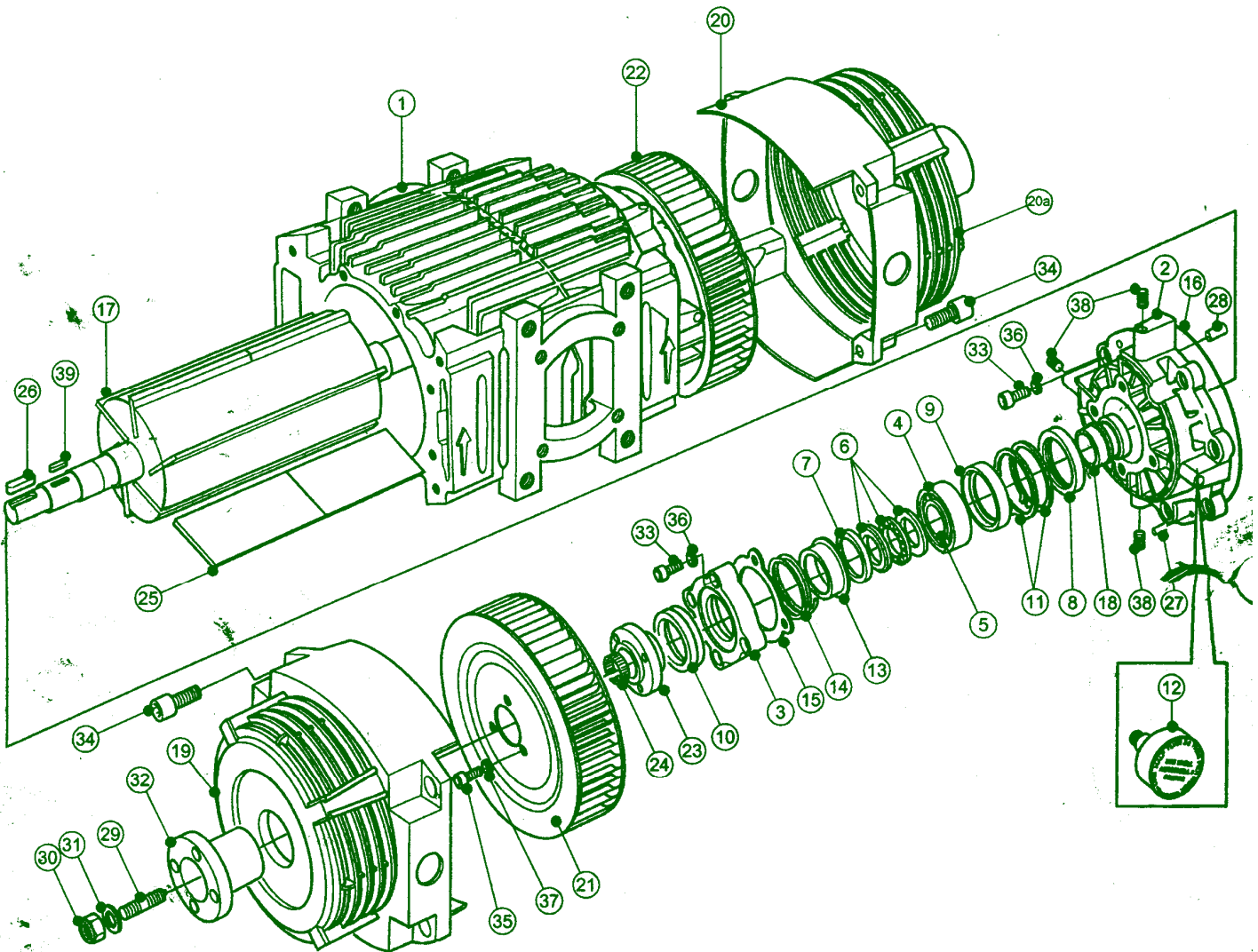
Check Valve Assembly



Drum 807 and 907 Blowers

Item	Description	Part No.	QTY
A	DISCHARGE AIR CHECK VALVE, 3" - COMPLETE	716001209	1
A	DISCHARGE AIR CHECK VALVE, 4" - COMPLETE	716001213	1
	1 HOUSING	500073203	1
	2 POPPET	532132200	1
	3 VALVE ARM	532142200	1
	4 SEAL WASHER	532151200	1
	5 SEAL	532163200	1
	6 LOCKWASHER, stainless - 3/8"	240006200	1
	7 WAVE SPRING	517032202	1
	8 NUT, brass w/tin plate - 3/8"	236006600	2
	9 TORSION SPRING	532170200	1
	10 SHAFT	532180200	1
	11 SHAFTNUT	532192200	2
	12 O'RING	522041200	1
	13 3" CAMLOCK ADAPTER w/ fasteners	531222201	1
	13a 4" CAMLOCK ADAPTER w/ fasteners	531222202	1
	14 GASKET, TTMA - 4"	526042200	1
	15 DUST CAP- 3" (alum)	531200200	1
	15a CAMLOCK DUST CAP 4" (alum)	531200201	1
	18 CAPSCREW - 3/8" X 1-1/4"	214006420	8
	19 NUT, plated - 3/8"	236006400	8
	20 LOCKWASHER, plated - 3/8"	240006400	8
B	FLANGE KIT D807 90d x 4" TTMA AL -US	711010216	1
	ELBOW FLANGE, 90 DEG, 4" TTMA, (aluminum)	531102203	1
	SCREW, HEX, 12mm X 30mm	130012030	4
	WASHER, 12mm	194012000	4
	GASKET, FLANGE	526002201	1
C	RELIEF VALVE D807 2"NPTM 20psi	705000207	1
C	RELIEF VALVE D907 2"NPTM 16psi	705000206	1
D	DISCHARGE MUFFLER, 3" CAMLOCK - COMPLETE	716001226	1
D	DISCHARGE MUFFLER, 4" CAMLOCK - COMPLETE	716001227	1
D	STAINLESS DISCHARGE MUFFLER, 3" CAMLOCK - COMP	716001228	1
D	STAINLESS DISCHARGE MUFFLER, 4" CAMLOCK - COMP	716001229	1
	MUFFLER, steel, 90deg w/ temp. guage port (bare)	539001207	1
	MUFFLER, stainless, 90deg w/ temp. guage port (bare)	539001208	1
	BUSHING 4" X 3" NPT	531261203	1
	CAMLOCK, 3" male	531212200	1
	DUST CAP - 3"	531200200	1
	CAMLOCK 4" male	531212202	1
	DUSTCAP - 4"	531200201	1
E	DISCHARGE AIR FLANGE KIT - COMPLETE	711010218	1
	FLANGE, 4"npt, cast iron	508010204	1
	SCREW, HEX, 12mm X 30mm	130012030	4
	WASHER, 12mm	194012000	4
	GASKET, FLANGE	526002201	1
F	BRKT MNTG D807 CHANNEL	507013210	1
F	BRKT MNTG D807 2.5deg CHANNEL	507013217	1
G	DRIVE FLANGE 1310 1-1/2" w/3/8"KEY	519370201	1

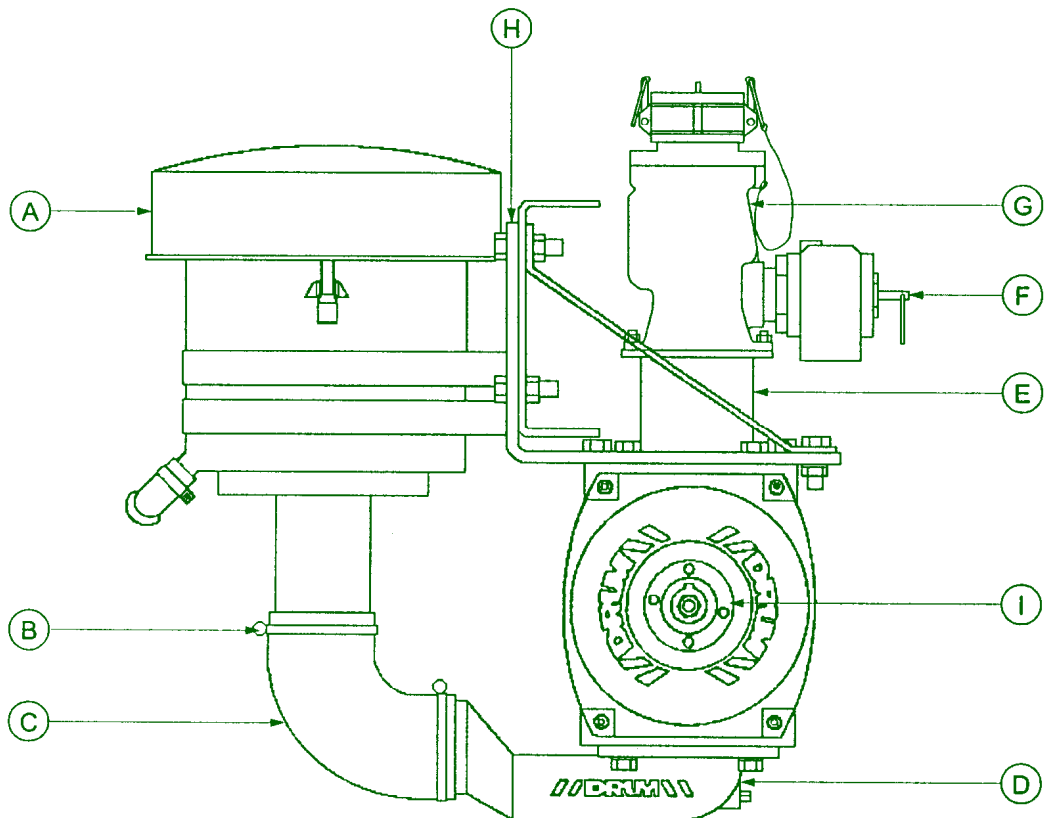
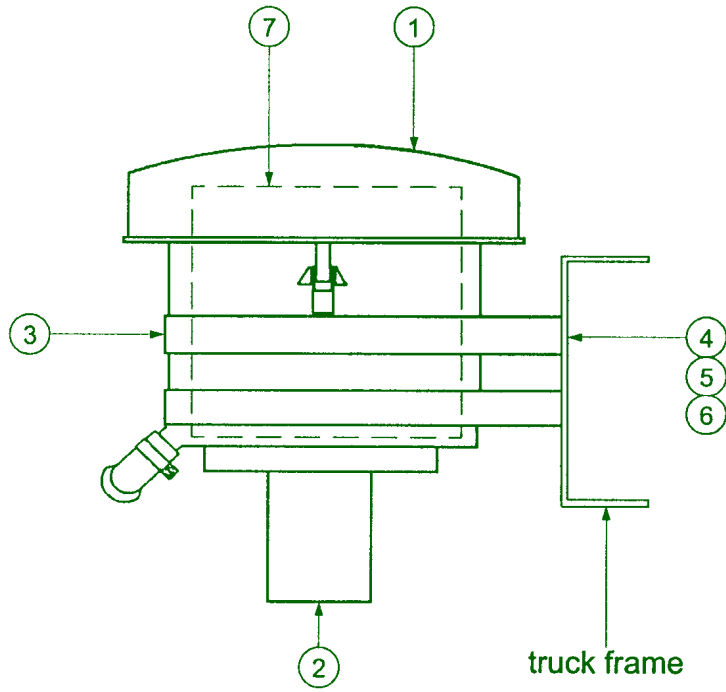
Drum 450 Blower



Drum 450 Blower

ITEM	DESCRIPTION	PART NO.	QTY.
1	BODY, BLOWER - D450 (20psi)	500011200	1
1	BODY, BLOWER - HPD450 (25psi)	500011210	1
1	BODY, BLOWER - XHPD450 (29psi)	500011217	1
2	SIDEPLATE - PTFE COATED	501011200	2
3	CAP, BEARING HOUSING	521000202	2
4★	ROLLER BEARING - OUTER	510023204	2
5★	ROLLER BEARING - INNER	510013204	2
O	ROLLER BEARING - COMPLETE	510003203	2
6★	BALL BEARING - COMPLETE	510000201	2
7★	SEATING RING, BEARING	510030200	2
8★	SEAL - LABYRINTH	513100200	2
9★	SEAL - SINGLE LIP (ptfe)	512151200	2
10★	SEAL - SINGLE LIP, V-RING (nitrile)	513030201	2
11	CIRCLIP - 8mm	175009800	4
12	LUBRICATION STAUFFER - ¼"mnpt	515050200	2
12	LABEL, "AEROSHELL #5"	537001201	2
13	RETAINER, SPRING	518010200	2
14	SPRING, STEEL	517020200	2
15★	SHIM PACK	516070225	1
16★△	O-RING - SIDEPLATE	522010203	2
17	ROTOR & SHAFT ASS'Y	503063203	1
18	SPACER SLEEVE	516000206	2
19	COWL, D.E. - w/GUARDS	505051202	1
20	COWL, N.D.E. - w/GUARDS	505061202	1
20a	PLASTIC GUARD for COWL	521220200	8
O	FAN KIT, C.C.W. (fan, fan hub, & fasteners)	703040210	1
O	FAN KIT, C.W. (fan, fan hub, & fasteners)	703040209	1
21	FAN, C.C.W. - STAINLESS STEEL	506014200	1
22	FAN, C.W. - STAINLESS STEEL	506004200	1
23	FAN HUB - STAINLESS STEEL	516051202	2
24★△	STAR TOLERANCE RING - 40mm X 16mm	196040216	2
25★△	BLADE - D450	511000203	12
26	KEY, ROTOR - 10mm X 8mm X 50mm	199050203	1
27	PIN, SPIRAL plated - 6mm X 30mm	174006430	2
28	PIN, DOWEL plated - 10mm X 24mm	174210424	2
29	STUD, 12mm X 30mm (1.75 pitch)	170112430	1
30	LOCKNUT - 12mm	190112400	1
31	WASHER, DRIVE FLANGE	518020204	1
32	DRIVE FLANGE - taper shaft	519370200	1
33	CAPSCREW, SKT - 10mm X 25mm	124110425	24
34	CAPSCREW, SKT - 10mm X 20mm	128110020	8
35	CAPSCREW, SKT - 6mm X 10mm	124106010	6
36	WASHER, SPRING - 10mm	194010400	24
37	WASHER, SPRING - 6mm	194006000	6
38	PLUG - ¼"npt	250104004	6
39	KEY, FAN - 5mm x 5mm x 25mm	199050207	2
O★	MOUNTING BOLT, M16 X 45mm (2.0 pitch)	132414045	4
O★	MOUNTING WASHER, M16	194016000	4
O★△	GASKET, FLANGE	526002200	1
O★	GREASE HIGH TEMP - AEROSHELL #5 (14oz.)	520010203	1
△	BLADE KIT - D450, HPD450, XHPD450	710010200	1
★	SERVICE KIT - D450, HPD450, XHPD450	710011201	1

Drum 450 Blower



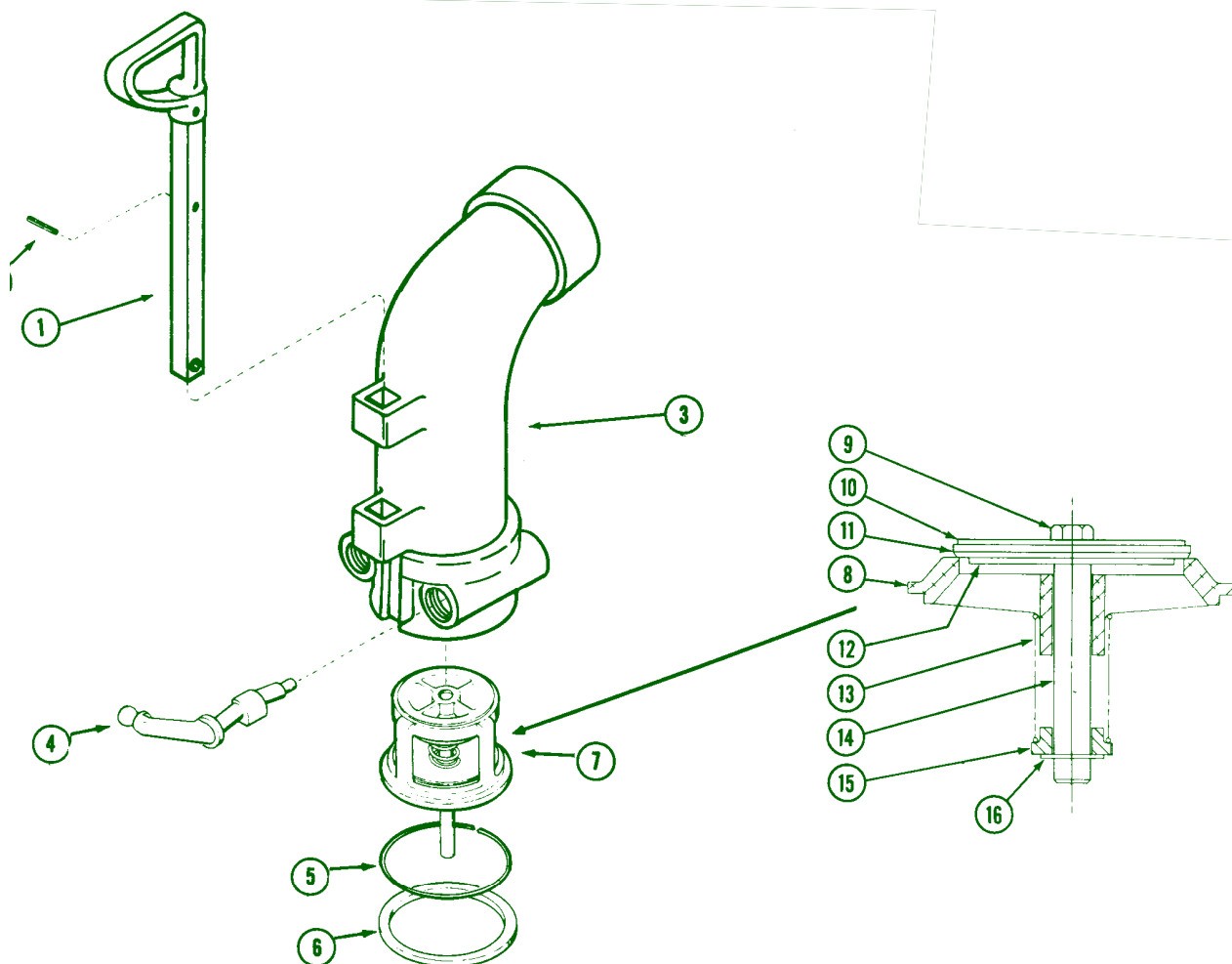
Drum 450 Blower

ITEM	DESCRIPTION	PART NO.	QTY
A	AIR FILTER (HPD450 - D600) - COMPLETE	713000206	1
	1 LID (inlet cap)	525030201	1
	2 BODY (canister bottom)	525050202	1
	3 CLAMP	507500200	2
	4 CLAMP BOLTS -3/8" X 3/4"	214006412	4
	5 CLAMP WASHERS - 3/8"	240006400	4
	6 CLAMP NUTS - 3/8"	236006400	4
	7 FILTER ELEMENT (VF120A)	525000204	1
B	HOSE CLAMPS	299070201	2
C	ELBOW 4" SHORT RAD TUBE 90d RUBBER	531105200	1
D	FLANGE KIT D450/600 SUCTION	711010206	1
	SUCTION ELBOW (alum.)	531102200	1
	SCREW, HEX (12mm X 35mm)	130012035	4
	WASHER, FLAT - 12mm	194012000	4
	GASKET, FLANGE	526002200	1
E	DISCHARGE FLANGE KIT - COMPLETE	711010220	1
	DISCHARGE FLANGE - 4" TTMA	508121200	1
	SCREW, HEX - 12mm X 30mm	130012030	4
	WASHER, FLAT - 12mm	194012000	4
	GASKET, FLANGE	526002200	1
F	RELIEF VALVE 2"NPTM 18psi D600	705000201	1
F	RELIEF VALVE 2"NPTM 25psi - HPD450	705000208	1
F	RELIEF VALVE 2"NPTM 29psi - XHPD450	705000215	1
G	CHECKVALVE ASS'Y, 3" camlock with cap (see page 16 for more details)	716001209	1
H	MOUNTING BRACKET - COMPLETE	712010204	1
	BRACKET - 90	507013201	1
	BRACKET - ANGLE STRAP	507013200	2
	CAPSCREW, 5/8" X 1-3/4"	214010428	2
	LOCKWASHER, 5/8"	240010000	2
	NUT, 5/8"	236010000	2
I	COUPLER FLANGE K1300 40mm TAPER	519370200	1

Dixon Bayco Hopper Tee Accessories & Replacement Parts

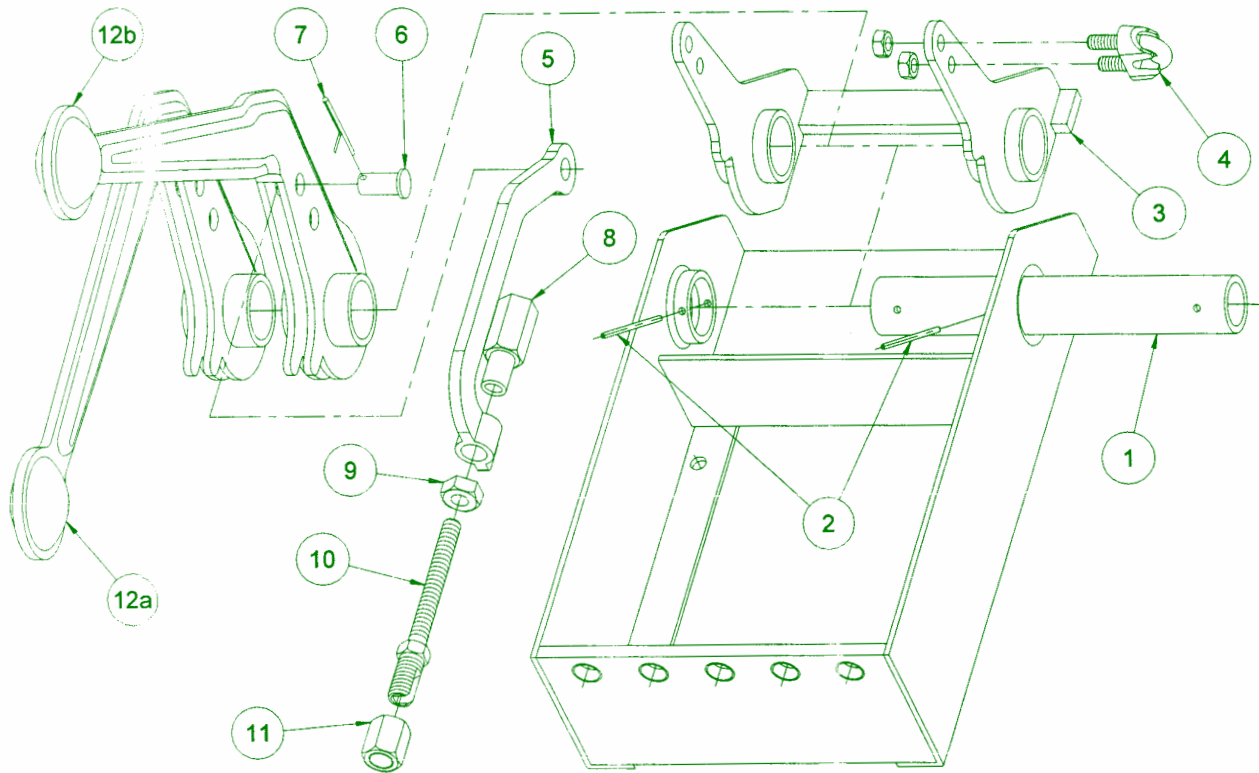
Part #	Description
4x4BD DOOR	4x4 Bottom Drop Door Only
5/6BD DOOR	5&6 Bottom Drop Door Only
8x4BD DOOR	8x4 Bottom Drop Door Only
4x4-BD GASKET	4x4 Bottom Drop Gasket Only
5x4-BD GASKET	5x4 Bottom Drop Gasket Only
6x4-BD GASKET	6x4 Bottom Drop Gasket Only
8x4-BD GASKET	8x4 Bottom Drop Gasket Only
4x4BD DOOR ASBLY	4x4 Bottom Drop Door Assembly with Gasket
5x4BD DOOR ASBLY	5x4 Bottom Drop Door Assembly with Gasket
6x4BD DOOR ASBLY	6x4 Bottom Drop Door Assembly with Gasket
8x4BD DOOR ASBLY	8x4 Bottom Drop Door Assembly with Gasket
5x4 WING	5x4 Bottom Drop Weld on Replacement Ring (each)
6x4 WING	6x4 Bottom Drop Weld on Replacement Ring (each)
8x4 WING	8x4 Bottom Drop Weld on Replacement Ring (each)
3/8 T-BOLT	4x4 Bottom Drop Door T-bolt (each)
3/8 INSERT	4x4 Bottom Drop Door Threaded Insert (each)
BD WINGNUT	5/6/8 Bottom Drop Wing Nut (each)
BD BOLTS	5/6/8 Bottom Drop Bolt (each)
GASKET RETAINER	Gasket Retainer - all sizes
3/8 RETAINER BOLT	S/S 3/8 Gasket Retainer Bolt & Locknut - all sizes

Emco Wheaton F77 4" x 4" Cam & Groove Vapor Coupler



REF.	DESCRIPTION CAM & GROOVE VAPOR COUPLER 4" X 4"	PART NUMBER		REQ'D.	MAT'L.
		Viton	Buna		
		F77-004	F77-005		
1	Handle	562246	562246	1	Alum.
2	Roll Pin	408270	408270	2	Steel
3	Body	563444	563444	1	Alum.
4	Cam - RIGHT HAND	563435	563435	1	Bronze
	Cam - LEFT HAND	563436	563436	1	Bronze
5	Retainer	409350	409350	1	Steel
6	Gasket	563458	408604	1	Buna
7	Housing Assembly	492900	492901	1	—
8	Housing	563455	563455	1	Celcon
9	Hex HD Screw	444514	444514	1	Steel
10	Top Plate	409193	409193	1	Steel
11	Disc	409192	409192	1	Buna
12	Bottom Plate	409191	409191	1	Steel
13	Spring	409560	409560	1	—
14	Plunger	563638	563638	1	Alum.
15	Spring Retainer	563456	563456	1	Celcon
16	Retaining Ring	563461	563461	1	Steel

Betts Universal Mechanical Operator

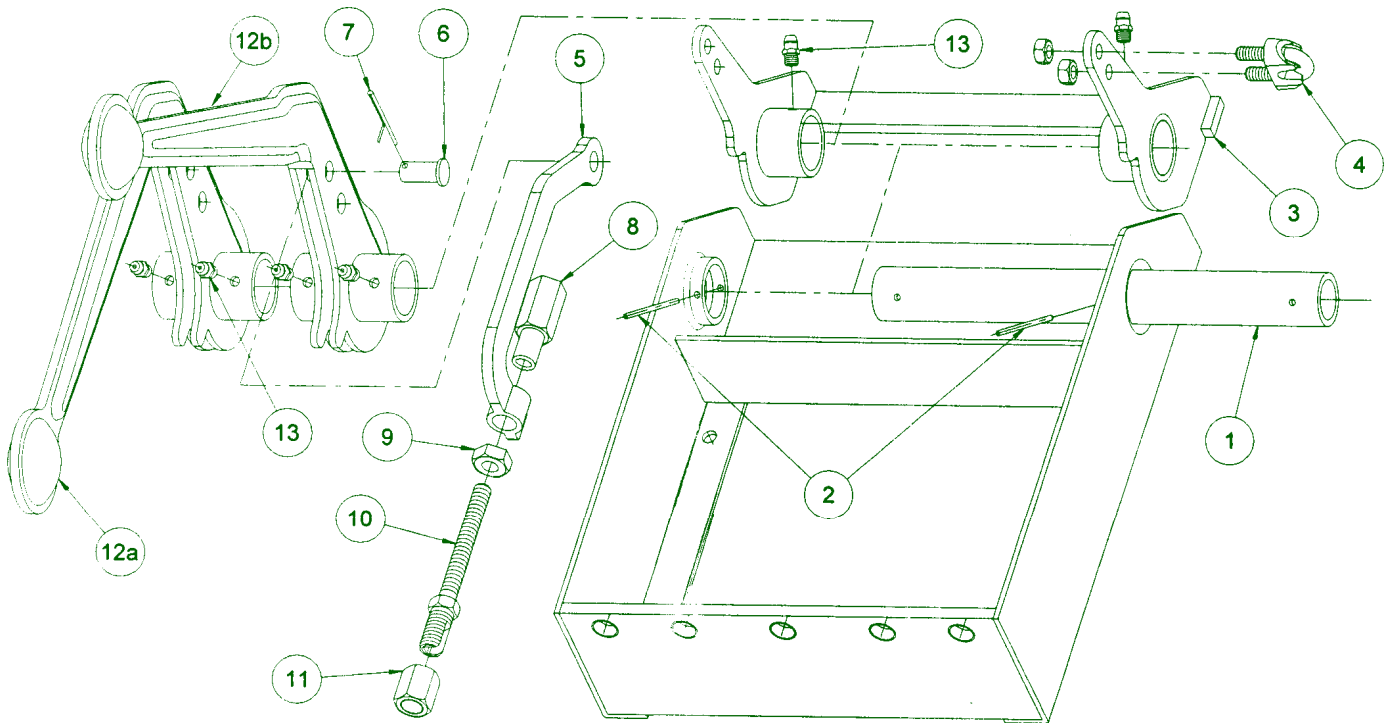


No.	Description	Material	Part No.						
			1 Compt.	2 Compt.	3 Compt.	4 Compt.	5 Compt.	6 Compt.	7 Compt.
1	Shaft	Brass	20298A	20298B	20298C	20298D	20298E	20298F	20298G
2	Roll Pin	Steel	9Q5816						
3	Trip Lever Assy	Steel	20301A	20301B	20301C	20301D	20301E	20301F	20301G
4	Cable Clamp	Steel	9Q1660						
5	Offset Link	Steel	10083A						
6	Offset Link Clevis	Steel	15757MS						
7	Offset Link Cotter Pin	Steel	9Q5865						
8	Fusible Bushing Nut	Brass	19724BR						
9	Lock Nut	Steel	9Q5808A						
10	Adjusting Bolt	Steel	20040A						
11	Clamping Nut	Steel	10268A						
12a	Lever (Style - A)	Steel	20258A						
12b	Lever (Style - B)	Steel	20269A						

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper function of this product.

Note: Adjusting Bolt assembly 20040A001 includes items 8, 9, 10, 11.

Betts Universal Lubricated Mechanical Operator

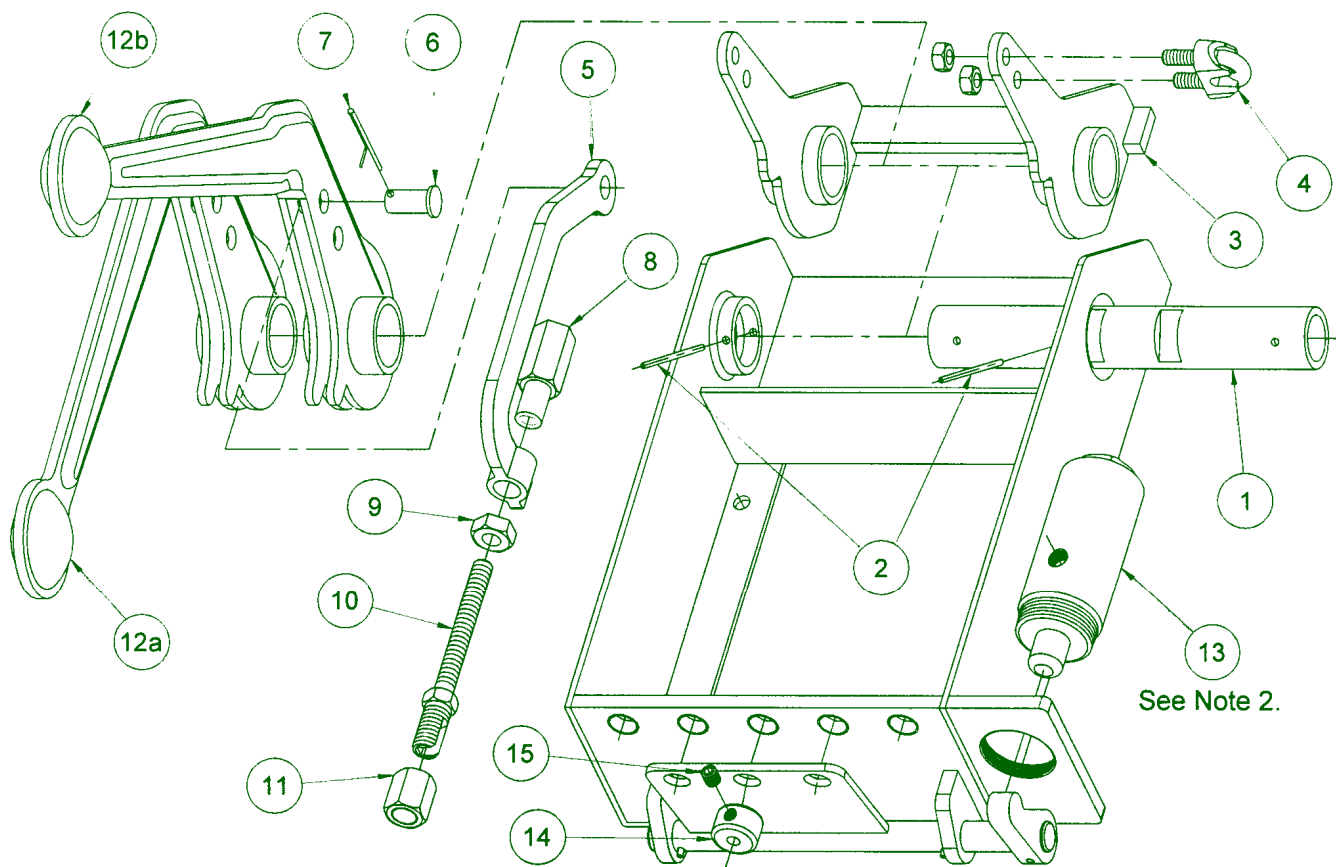


No.	Description	Material	Part No.						
			1 Compt.	2 Compt.	3 Compt.	4 Compt.	5 Compt.	6 Compt.	7 Compt.
1	Shaft	Brass	20126A	20126B	20126C	20126D	20126E	20126F	20126G
2	Roll Pin	Steel	9Q5816						
3	Trip Lever Assy	Steel	20123A	20123B	20123C	20123D	20123E	20123F	20123G
4	Cable Clamp	Steel	9Q1660						
5	Offset Link	Steel	10083A						
6	Offset Link Clevis	Steel	15757MS						
7	Offset Link Cotter Pin	Steel	9Q5865						
8	Fusible Bushing Nut	Brass	19724BR						
9	Lock Nut	Steel	9Q5808A						
10	Adjusting Bolt	Steel	20040A						
11	Clamping Nut	Steel	10268A						
12a	Lever (Style - A)	Steel	20281A						
12b	Lever (Style - B)	Steel	20282A						
13	Grease Fitting	Steel	9Z4871						

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper function of this product.

Note: Adjusting Bolt assembly 20040A001 includes items 8, 9, 10, 11.

Betts Delta 1 Mechanical Operator



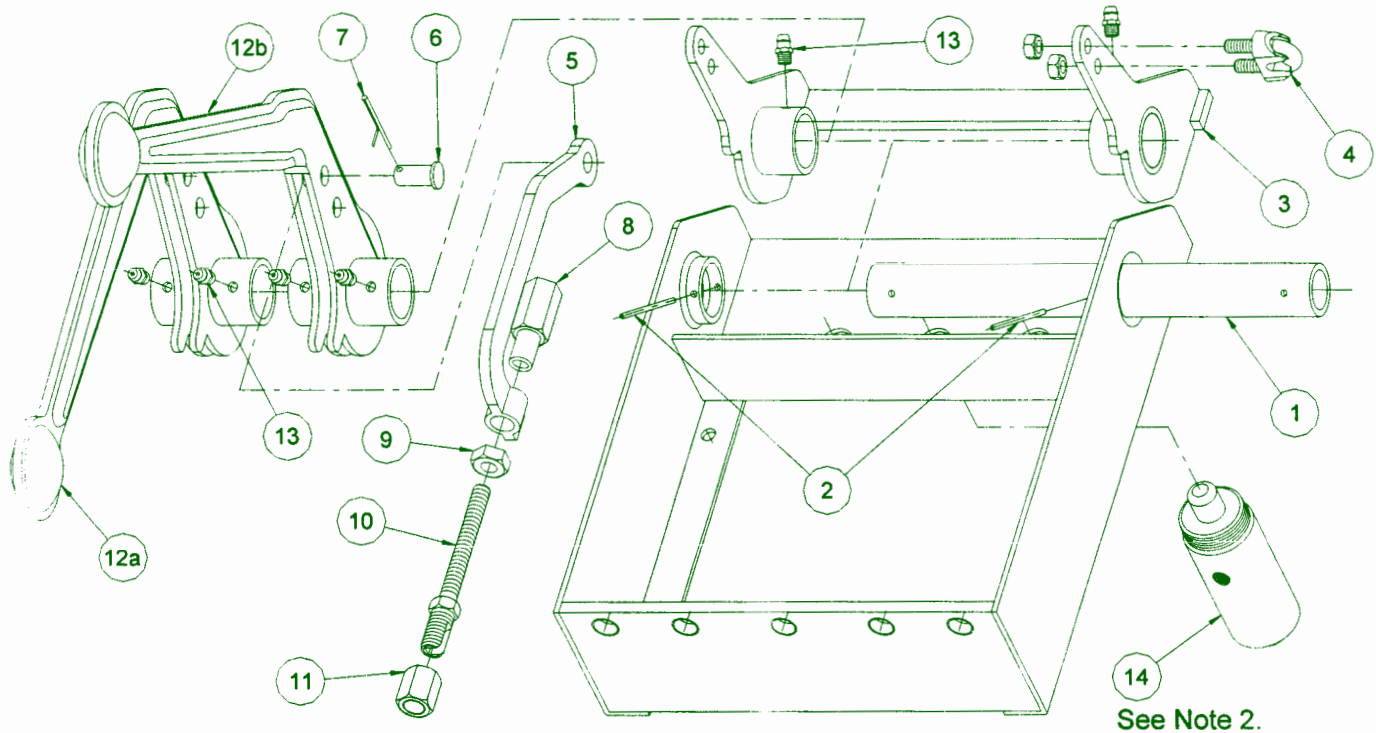
No.	Description	Material	Part No.					
			1 Compt.	2 Compt.	3 Compt.	4 Compt.	5 Compt.	6 Compt.
1	Shaft	Brass	20811A	20811B	20811C	20811D	20811E	20811F
2	Roll Pin	Steel	9Q5816					
3	Trip Lever Assy	Steel	20301A	20301B	20301C	20301D	20301E	20301F
4	Cable Clamp	Steel	9Q1660					
5	Offset Link	Steel	10083A					
6	Offset Link Clevis	Steel	15757MS					
7	Offset Link Cotter Pin	Steel	9Q5865					
8	Fusible Bushing Nut	Brass	19724BR					
9	Lock Nut	Steel	9Q5808A					
10	Adjusting Bolt	Steel	20040A					
11	Clamping Nut	Steel	10268A					
12a	Lever (Style - A)	Steel	20258A					
12b	Lever (Style - B)	Steel	20269A					
13	Air Valve (See note 2)	Brass	20761 (See note 2)					
14	Cable Bushing	Steel	10942ZC					
15	Set Screw	Steel	9Q5893					

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper function of this product.

Note: 1. Adjusting Bolt assembly 20040A001 includes items 8, 9, 10, 11.

2. Three-way air valve part no. 20761 not included. Order separately. See Section 31, Page 4A.

Betts Delta 2 Mechanical Operator



See Note 2.

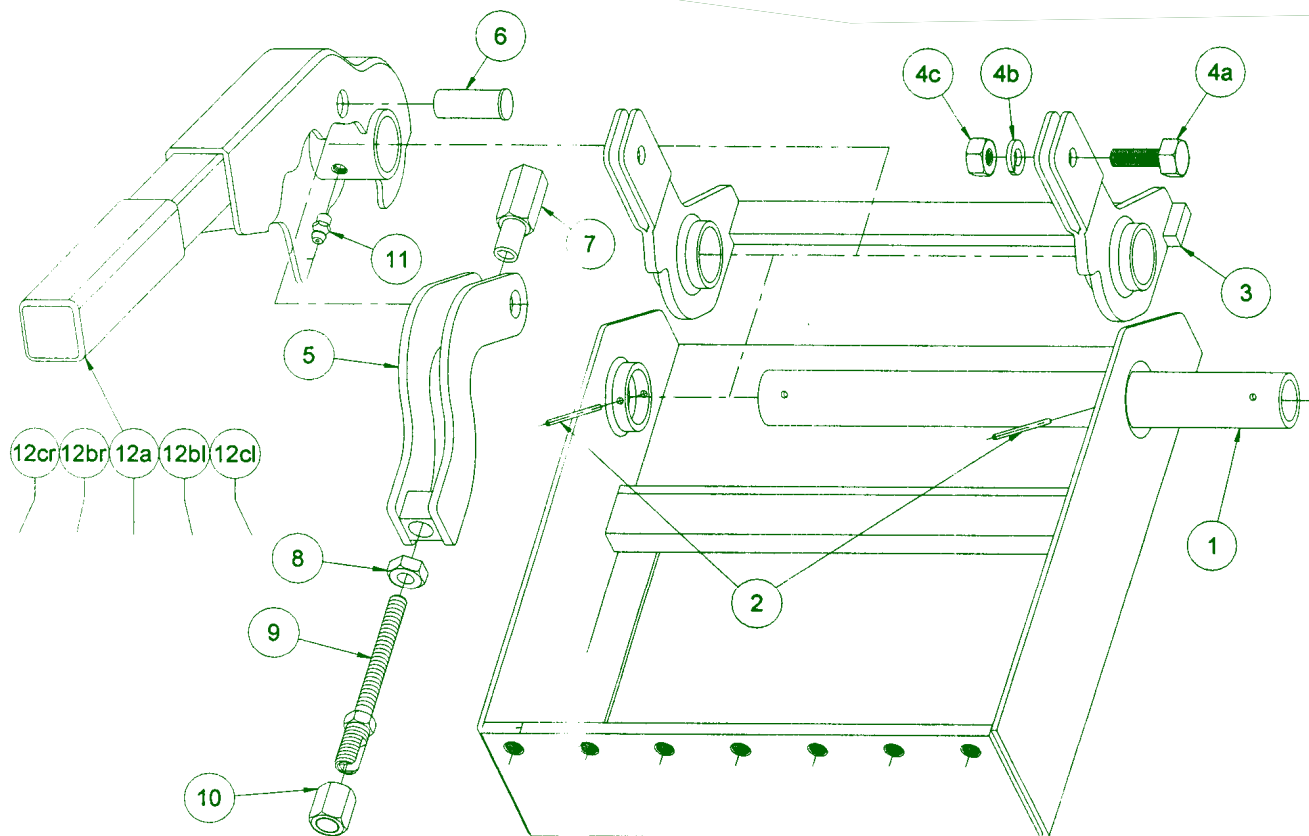
No.	Description	Material	Part No.					
			1 Compt.	2 Compt.	3 Compt.	4 Compt.	5 Compt.	6 Compt.
1	Shaft	Brass	20822A	20822B	20822C	20822D	20822E	20822F
2	Roll Pin	Steel	9Q5816					
3	Trip Lever Assy	Steel	20123A	20123B	20123C	20123D	20123E	20123F
4	Cable Clamp	Steel	9Q1660					
5	Offset Link	Steel	10083A					
6	Offset Link Clevis	Steel	15757MS					
7	Offset Link Cotter Pin	Steel	9Q5865					
8	Fusible Bushing Nut	Brass	19724BR					
9	Lock Nut	Steel	9Q5808A					
10	Adjusting Bolt	Steel	20040A					
11	Clamping Nut	Steel	10268A					
12a	Lever (Style - A)	Steel	20281A					
12b	Lever (Style - B)	Steel	20282A					
13	Grease Fitting	Steel	9Z4871					
14	Air Valve (See note 2)	Steel	20761 (See note 2)					

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper function of this product.

Note: 1. Adjusting Bolt assembly 20040A001 includes items 8, 9, 10, 11.

2. Three-way air valve part on. 20761 not included. Order separately; one required per compartment.
See Section 31, Page 4A.

Betts Deluxe Mechanical Operator

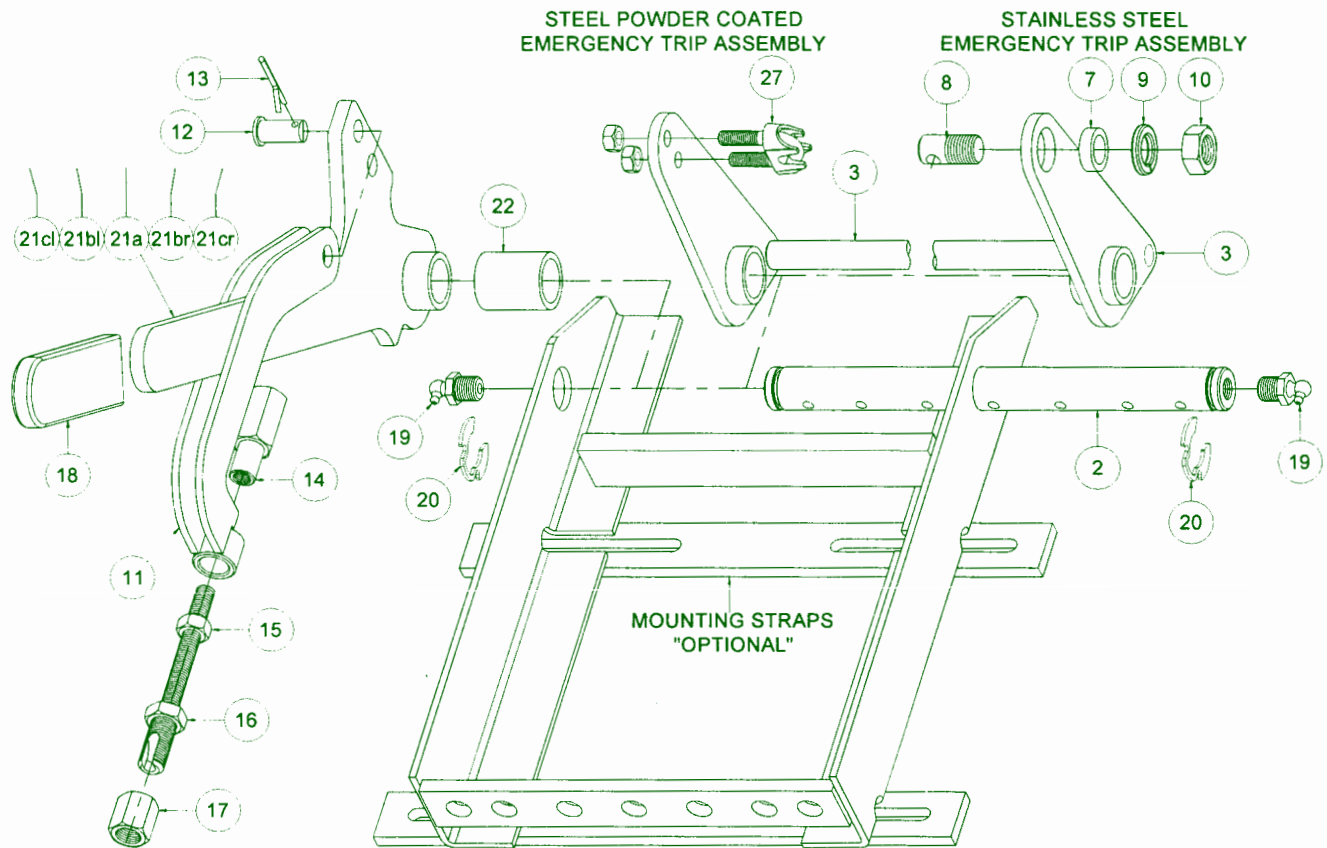


No.	Description	Material	Part No.				
			1 Compt.	2 Compt.	3 Compt.	4 Compt.	5 Compt.
1	Shaft	Brass	20790A	20790B	20790C	20790D	20790E
2	Roll Pin	Steel	9Q5816				
3	Trip Lever Assy.	Steel	20784A	20784B	20784C	20784D	20784E
4a	5/16-18 x 1" Bolt	Steel	9Q5829				
4b	5/16" Lock Washer	Steel	9Q5847				
4c	5/16" Nut	Steel	9Q5808				
5	Heavy Duty Dual Link	Steel	20716				
6	Link Clevis	Steel	19080				
7	Fusible Bushing Nut	Brass	19724BR				
8	Lock Nut	Steel	9Q5808A				
9	Adjusting Bolt	Steel	20040A				
10	Clamping Nut	Steel	10268A				
11	Grease Fitting	Steel	9Z4871				
12a	Lever (center)	Steel	20725	-	20725	-	20725
12bl	Lever (left hand)	Steel	-	41186L	41186L	41186L	41186L
12br	Lever (right hand)	Steel	-	41186R	41186R	41186R	41186R
12cl	Lever (left hand)	Steel	-	-	-	41187L	41187L
12cr	Lever (right hand)	Steel	-	-	-	41187R	41187R

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper function of this product.

Note: Adjusting Bolt assembly 20040A001 includes items 8, 9,10,11.

Betts Compact Mechanical Operator Lubricated



No.	Description	Material		Part No.				
		Steel Model	Stainless Model	1 Compt.	2 Compt.	3 Compt.	4 Compt.	5 Compt.
2	GREASABLE SHAFT	304 SS		27766SL		27715SL		
3	EMERGENCY TRIP LEVER ASSEMBLY	STEEL PC	304 SS	35659EY-2* / 35686SL-2**		35659EY-5* / 35686SL-5**		
7	EMERGENCY CABLE CLAMP BUSHING	NA	304 SS	19617SL**				
8	EMERGENCY TRIP CABLE CLAMP	NA	304 SS	19622SL**				
9	1/2 in. SPRING LOCK WASHER	NA	304 SS	9Q5908**				
10	1/2 -20 JAM NUT	NA	304 SS	9Q5909**				
11	LINK ARM ASSEMBLY	STEEL PC	304 SS	27733EY* / 27733SL**				
12	CLEVIS PIN	STEEL ZC	304 SS	15757ZC* / 19621SL**				
13	3/32 in. x 3/4 in. COTTER PIN	BRASS	304 SS	9Q5865* / 9Q5866**				
14	FUSIBLE BUSHING NUT	BRASS		19724BR				
15	5/16 -24 HEX NUT	STEEL ZC	304 SS	9Q5808A* / 9Q5858**				
16	ADJUSTING BOLT	STEEL	303 SS	20040ZC* / S20040A**				
17	CLAMPING NUT	STEEL ZC	304 SS	10268ZC* / S10268A**				
18	HANDLE GRIP - RED/BLUE	VINYL -RED	VINYL - BLUE	9Z4830* / 9Z4829**				
19	GREASE FITTING	STEEL		9Z4872				
20	RETAINING RING	STEEL ZC	304 SS	9Q4974* / 9Q4973**				
21cl	LEVER ARM ASSEMBLY - LEFT #2	STEEL PC	304 SS	NA	46631EYL2* / 46631SLL2**			
21bl	LEVER ARM ASSEMBLY - LEFT #1	STEEL PC	304 SS	NA	NA	NA	NA	46631EYL1*/46631SLL1**
21a	LEVER ARM ASSEMBLY - STRAIGHT	STEEL PC	304 SS	46631EY*/46631SL**	NA	46631EY* / 46631SL**		
21br	LEVER ARM ASSEMBLY - RIGHT #1	STEEL PC	304 SS	NA	NA	NA	NA	46631EYR1*/46631SLR1**
21cr	LEVER ARM ASSEMBLY - RIGHT #2	STEEL PC	304 SS	NA	46631EYR2* / 46631SLR2**			
22	REPLACEMENT BUSHING	STEEL PC	304 SS	19624EY*/19624SL**	NA	19624EY* / 19624SL**		NA
27	CABLE CLAMP	STEEL ZC	NA	9Q1660*				

"EY" FOR STEEL POWDER COATED GLOSS BLACK, "SL" FOR STAINLESS, "ZC" STEEL ZINC COATED.

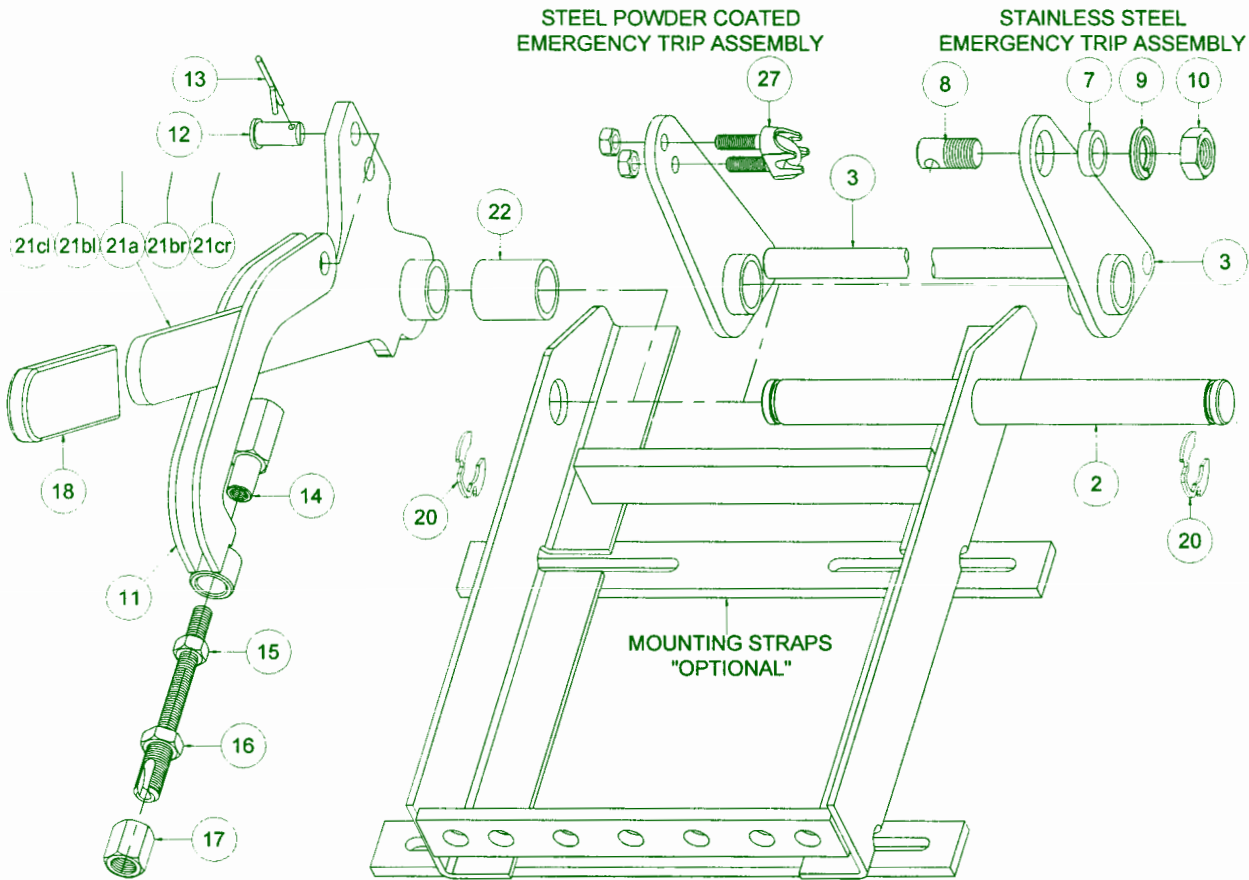
* PARTS FOR STEEL POWDER COATED GLOSS BLACK MODELS ONLY

** PARTS FOR STAINLESS MODELS ONLY

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper function of this product.

Note: Adjusting Bolt assembly 20040A001 and S20040A001 includes items 14,15,16,17.

Betts Compact Mechanical Operator Non-Lubricated



No.	Description	Material		Part No.				
		Steel Model	Stainless Model	1 Compt.	2 Compt.	3 Compt.	4 Compt.	5 Compt.
2	SHAFT	304 SS		27818SL-2		27818SL-5		
3	EMERGENCY TRIP LEVER ASSEMBLY	STEEL PC	304 SS	35659EY-2* / 35686SL-2**		35659EY-5* / 35686SL-5**		
7	EMERGENCY CABLE CLAMP BUSHING	NA	304 SS	19617SL**				
8	EMERGENCY TRIP CABLE CLAMP	NA	304 SS	19622SL**				
9	1/2 in. SPRING LOCK WASHER	STEEL ZC	304 SS	9Q5908**				
10	1/2 -20 JAM NUT	STEEL ZC	304 SS	9Q5909**				
11	LINK ARM ASSEMBLY	STEEL PC	304 SS	27733EY* / 27733SL**				
12	CLEVIS PIN	STEEL ZC	304 SS	15757ZC* / 19621SL**				
13	3/32 in. x 3/4 in. COTTER PIN	BRASS	304 SS	9Q5865* / 9Q5866**				
14	FUSIBLE BUSHING NUT	BRASS		19724BR				
15	5/16 -24 HEX NUT	STEEL ZC	304 SS	9Q5808A* / 9Q5858**				
16	ADJUSTING BOLT	STEEL	303 SS	20040ZC* / S20040A**				
17	CLAMPING NUT	STEEL ZC	304 SS	10268ZC* / S10268A**				
18	HANDLE GRIP - RED/BLUE	VINYL -RED	VINYL - BLUE	9Z4830* / 9Z4829**				
20	RETAINING RING	STEEL ZC	304 SS	9Q4974* / 9Q4973**				
21cl	LEVER ARM ASSEMBLY - LEFT #2	STEEL PC	304 SS	NA	46631EYL2* / 46631SLL2**			
21bl	LEVER ARM ASSEMBLY - LEFT #1	STEEL PC	304 SS	NA	NA	NA	NA	46631EYL1* / 46631SLL1**
21a	LEVER ARM ASSEMBLY - STRAIGHT	STEEL PC	304 SS	46631EY* / 46631SL**	NA	46631EY* / 46631SL**		
21br	LEVER ARM ASSEMBLY - RIGHT #1	STEEL PC	304 SS	NA	NA	NA	NA	46631EYR1* / 46631SLR1**
21cr	LEVER ARM ASSEMBLY - RIGHT #2	STEEL PC	304 SS	NA	46631EYR2* / 46631SLR2**			
22	REPLACEMENT BUSHING	STEEL PC	304 SS	19624EY* / 19624SL**	NA	19624EY* / 19624SL**		NA
27	CABLE CLAMP	STEEL ZC	NA	9Q1660*				

*EY" FOR STEEL POWDER COATED GLOSS BLACK , "SL" FOR STAINLESS, "ZC" STEEL ZINC COATED.

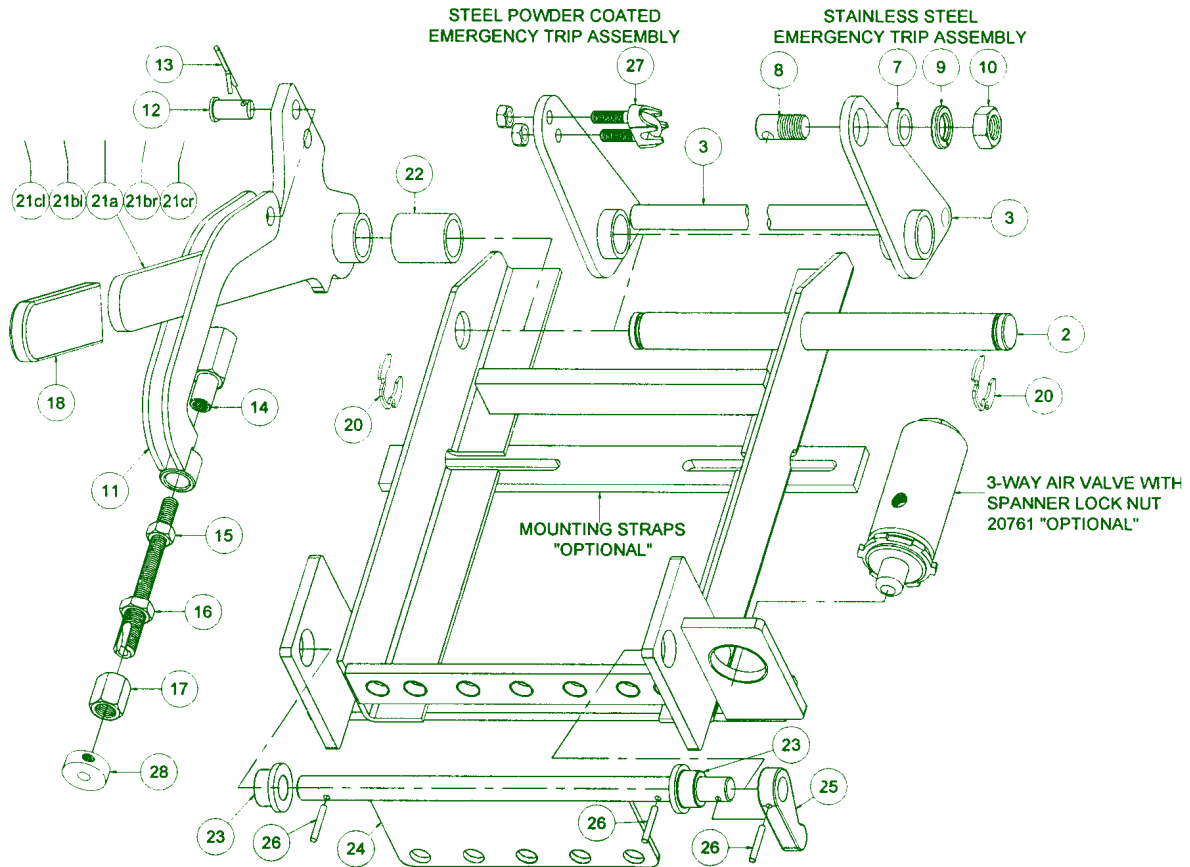
* PARTS FOR STEEL POWDER COATED GLOSS BLACK MODELS ONLY

** PARTS FOR STAINLESS MODELS ONLY

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper function of this product.

Note: Adjusting Bolt assembly 20040A001 and S20040A001 includes items 14,15,16,17.

Betts Mechanical Operator Delta 1 Non-Lubricated



No.	Description	Material		Part No.				
		Steel Model	Stainless Model	1 Compt.	2 Compt.	3 Compt.	4 Compt.	5 Compt.
2	SHAFT	304 SS		27818SL-2		27818SL-5		
3	EMERGENCY TRIP LEVER ASSEMBLY	STEEL PC	304 SS	35659EY-2* / 35686SL-2**		35659EY-5* / 35686SL-5**		
7	EMERGENCY CABLE CLAMP	NA	304 SS	19617SL**				
8	EMERGENCY TRIP CABLE CLAMP	NA	304 SS	19622SL**				
9	1/2 in. SPRING LOCK WASHER	STEEL ZC	304 SS	9Q5899* / 9Q5908**				
10	1/2 -20 JAM NUT	STEEL ZC	304 SS	9Q5910* / 9Q5909**				
11	LINK ARM ASSEMBLY	STEEL PC	304 SS	27733EY* / 27733SL**				
12	CLEVIS PIN	STEEL ZC	304 SS	15757ZC* / 19621SL**				
13	3/32 in. x 3/4 in. COTTER PIN	BRASS	304 SS	9Q5865* / 9Q5866**				
14	FUSIBLE BUSHING NUT	BRASS		19724BR				
15	5/16 -24 HEX NUT	STEEL ZC	304 SS	9Q5808A* / 9Q5858**				
16	ADJUSTING BOLT	STEEL	303 SS	20040ZC* / S20040A**				
17	CLAMPING NUT	STEEL ZC	304 SS	10268ZC* / S10268A**				
18	HANDLE GRIP - RED/BLUE	VINYL - RED	VINYL - BLUE	9Z4830* / 9Z4829**				
20	RETAINING RING	STEEL ZC		9Q4974* / 9Q4974**				
21cl	LEVER ARM ASSEMBLY - LEFT #2	STEEL PC	304 SS	NA	46631EYL2* / 46631SLL2**			
21bl	LEVER ARM ASSEMBLY - LEFT #1	STEEL PC	304 SS	NA	NA	NA	NA	46631EYL1* / 46631SLL1**
21a	LEVER ARM ASSEMBLY -STRAIGHT	STEEL PC	304 SS	46631EY* / 46631SL**	NA	46631EY* / 46631SL**		
21br	LEVER ARM ASSEMBLY - RIGHT #1	STEEL PC	304 SS	NA	NA	NA	NA	46631EYR1* / 46631SLR1**
21cr	LEVER ARM ASSEMBLY - RIGHT #2	STEEL PC	304 SS	NA	46631EYR2* / 46631SLR2**			
22	REPLACEMENT BUSHING	STEEL PC	304 SS	19624EY* / 19624SL**	NA	19624EY* / 19624SL**		NA
23	BUSHING	BRONZE		9Z4869				
24	SHAFT & GATE ASSEMBLY	STEEL ZC	304 SS	27811ZC* / 27811SL**		27812ZC* / 27812SL**		
25	CAM	STEEL ZC		10938ZC				
26	ROLL PIN 1/8 x 7/8	STEEL	420 SS	9Q5894* / 9Q5920**				
27	CABLE CLAMP	STEEL ZC	NA	9Q1660*				
28	CABLE BUSHING & SET SCREW	STEEL ZC		10942				

"EY" FOR STEEL POWDER COATED GLOSS BLACK, "SL" FOR STAINLESS, "ZC" STEEL ZINC COATED.

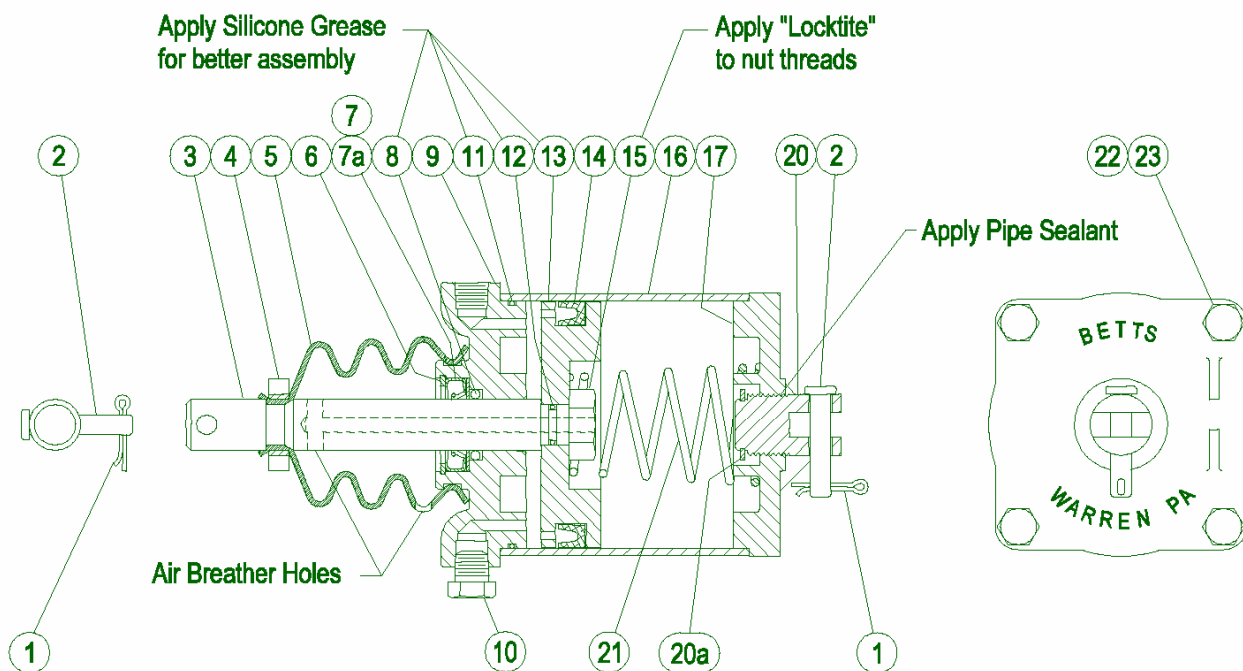
* PARTS FOR STEEL POWDER COATED GLOSS BLACK MODELS ONLY

** PARTS FOR STAINLESS MODELS ONLY

WARNING Use only genuine BETTS INDUSTRIES INC. replacement parts. Use of substitute parts can impair the proper function of this product.

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Betts Air Cylinder



REBUILD KIT AC19307BN - Includes Items 3, 4, 5, 7, 7a, 8, 11, 12, 14, 20, and 21
 REPAIR KIT AC18674BN - Includes Items 4, 5, 6, 7, 7a, 8, 11, 12, and 14

NO.	REQ.	DESCRIPTION	MATERIAL	PART NO.
1	2	Cotter Pin 3/32 X 3/4"	Brass	9Q5865
2	2	Clevis Pin	Steel Zinc Plt.	9Q4728
3	1	Shaft	Stnls 304	17661SL
4	1	Boot Retainer	Delrin	17952DL
5	1	Boot	Neoprene	17777NE
6	1	Retaining Ring	Steel - Zinc Plt.	9Q4967
7	1	Wiper Seal	Steel - Phosphate Coated	19085PA
7a	1	Spacer	Teflon	19057TF
8	1	O-Ring Shaft Seal	Buna-N	18066BN
9	1	End Plate	Aluminum	17880AL
10	1	Fusible Plug	Brass	FP15003BR
11	1	O-Ring - End Plate	Buna-N	17666BN
12	1	O-Ring - Shaft	Buna-N	17781BN
13	1	Piston	Aluminum	17660AL
14	1	Piston Seal	Buna-N (special low temp.)	17669BN
15	1	Hex Half Nut 1/2-20 Thd.	Steel - Zinc Plt.	9Q5910
16	1	Cylinder	Aluminum	17659AL
17	1	Mounting End Plate	Aluminum	17881AL
20	1	Clevis	Steel - Black Epoxy Coated	19060EY
20a	1	Clevis Retaining Ring	Stnls. 316	9Q4970
21	1	Spring	Steel - Black Epoxy Coated	18742EY
22	4	Locknut 1/4-28 Thd.	Steel - Zinc Plt.	9Q5807
23	4	Bolt 1/4-28 X 4"	Steel - Zinc Plt.	9Q1270

10" Fill Model 8010

Collar, Retainer Plate Shim Washer	Hinge Arm, Latch, Fill Cover	Hinge Pin, Washer, Cotter Pin	Vent	Weight	Assembly No.
Steel	Steel Zinc Pt.	Stainless 304	Aluminum	16.5 lb.	FVA8010BSM
Aluminum	Steel Zinc Pt.			12.0 lb.	FVA8010BAM
Stainless 304	Stainless 304			14.0 lb.	FVA8010CCM
Stainless 316	Stainless 304*			14.0 lb.	FVA8010DDM

*Fill Cover Material Stainless 316

10" PAF 406-98 Pressure Relief Valve

Collar	Latch Hinge Arm	Cover	Hinge Pin Cotter Pin Washer	Spring	Normal Vent	Wt. (lb)	Assembly No.
Steel	Steel	Aluminum "E" Coated	Stnls 304	Van Steel "E" Coated	Aluminum	18.9	PPVL710BSB
Aluminum	Zinc Pt.					15.9	PPVL710BAB
Stnls 304	Stnls 304					18.9	PPVL710CCB
Stnls 316	Stnls 304					18.9	PPVL710DDB

4" Surge Suppression Relief Valve

Model 8292ALTS mounts in a special 20" offset PAF manhole and model 8290ALTS mounts on either Betts model 6516 weld pad or a standard TTMA 4" weld flange. Both models are constructed of aluminum, stainless steel, zinc plated steel and Tef-Sil seals.

O-Ring Holder & Mtg. Flange	Stem	Bolts	Description	Wt.	Assembly No.
Aluminum	Stainless	Steel Zinc Pt.	For Mounting on Manhole	5.25#	8292ALTS
			For Mounting on Flange		8290ALTS

Aluminum w/ Stainless	Mounting Pad	2.5#	6516AL
Stainless	Mounting Pad	7.5#	6516SS

12" X 16" Elliptical Inspection Manhole (Model 8006)

Cover Plate	Clamping Ring	Clamping Bolt and Washer	Clamping Bolt Nut	Wt. (lb.)	Assembly No.
Steel	Steel	Steel Zinc Pt.	Brass	11.8	8006SXB
Steel Zinc Pt.	Steel Zinc Pt.	Steel Zinc Pt.	Brass	11.8	8006BXB
Stnls 304	Stnls 304	Stnls 304	Stnls 304	12.0	8006CXB
Stnls 316	Stnls 304	Stnls 304	Stnls 304	12.0	8006DXB

12" X 16" Elliptical Manhole with 10" Fill (Model 8012)

Cover Plate, Fill Gasket Retainer, Shim Washer	Clamping Ring, Fill Cover, Strongback, Latch	Clamping Bolt and Washer	Clamping Bolt Nut	Vent	Wt. (lb.)	Assembly No.
Steel Zinc Pt.	Steel Zinc Pt.	Steel Zinc Pt.	Brass	Alum.	14.8	FVA8012BXB

12" X 16" Elliptical PAF1000 Manhole w/Pressure Relief Valve Model 8412

Cover Plate, PRV Cover, Gasket Retainer	Clamping Ring, Bolt & Washer, Strongback, Latch	Clamping Ring Nut	Spring Bolt & Nut	Spring	Spring Well	Vent	Wt. (lb)	Assembly No.
Stnls 304	Stnls 304	Stnls 316	Stnls 316	Stnls 17-7	Stnls 316	Alum.	18.4	FVA8412CXB
Stnls 316	Stnls 304						18.4	FVA8412DXB

**12" X 16" Elliptical PAF450 Manhole w/Pressure Relief Valve
Model 9712**

Cover Plate	PRV Cover	Clamping Ring, Bolt & Washer, Strongback, Latch	Clamping Ring Nut	Spring Bolt & Nut	Spring	Normal Vent	Wt. (lb.)	Assembly No.
Steel Zinc Pt.	Alum.	Steel Zinc Pt.	Brass	Stnls 304*	Van. Steel	Alum.	18.3	FVA9712BXB
Stnls 304		Stnls 304	Stnls 304	18.8			FVA9712CXB	
Stnls 316		Stnls 304	Stnls 304	Stnls 304			18.8	FVA9712DXB

*Nut Material – Steel Zinc Plated

**12" X 16" Elliptical PAF 406-98 Manhole w/Integral Relief Valve & 10" Fill
Model L712**

Cover Plate	Relief Valve	Clamping Ring, Bolt, Washer, Strongback, & Latch	Clamping Ring Nut	Normal Vent	Wt. (lb)	Assembly No.
Steel Zinc Pt.	Alum.	Steel Zinc Pt.	Brass	Alum.	19.7	PPVL712BXB
Stnls 304	Alum.	Stnls 304	Stnls 304	Alum.	20.2	PPVL712CXB

16" Round Inspection Hole (Model 8007)

Cover Plate	Clamping Ring	Clamping Bolt and Washer	Clamping Bolt Nut	Wt.	Assembly No.
Steel	Steel	Steel Zinc Pt.	Brass	15.8	8007SXB
Steel Zinc Pt.	Steel Zinc Pt.	Steel Zinc Pt.	Brass	15.8	8007BXB
Stnls 304	Stnls 304	Stnls 304	Stnls 304	16.4	8007CXB
Stnls 316	Stnls 304	Stnls 304	Stnls 304	16.4	8007DXB

16" Round Manhole with 10" Fill (Model 8016)

Cover Plate Fill Gasket Retainer Shim Washer	Clamping Ring Fill Cover Strongback Latch	Clamping Bolt and Washer	Clamping Bolt Nut	Vent	Wt.	Assembly No.
Steel	Steel	Steel Zinc Pt.	Brass	Alum.	20.5	FVA8016SXB
Steel Zinc Pt.	Steel Zinc Pt.	Steel Zinc Pt.	Brass	Alum.	20.5	FVA8016BXB
▪ Stnls 304	Steel Zinc Pt.	Steel Zinc Pt.	Brass	Alum.	20.7	FVA8016CXB
Stnls 304	Stnls 304	Stnls 304	Stnls 304	Alum.	20.7	FVA8016CXB
Stnls 316	Stnls 304*	Stnls 304	Stnls 304	Alum.	20.7	FVA8016DXB

▪ Fill Gasket Retainer and Shims–Aluminum

* Fill Cover Material–Stainless 316

**16" PAF450 Manhole w/Pressure Relief Valve
Model 9716 - Standard
Model 9742 - Self-Latching**

Cover Plate	PRV Cover	Clamping Ring, Bolt & Washer, Strongback, Latch	Clamping Ring Nut	Spring Bolt & Nut	Spring	Normal Vent	Wt. (lb.)	Assembly No.
Steel Zinc Pt.	Alum.	Steel Zinc Pt.	Brass	Stnls 304**	Van. Steel	Alum.	22.1	FVA9716BXB
Stnls 304		Stnls 304	Stnls 304	22.6			FVA9716CXB	
Stnls 316		Stnls 304	Stnls 304	22.6			FVA9716DXB	

**Nut Material – Steel Zinc Plated

Substitute 9742 for 9761 in the assembly number if you are ordering the self-latching model.

**16" PAF450 Manhole w/Pressure Relief Valve
Model 9816 - Standard
Model 9842 - Self-Latching**

Cover Plate	PRV Cover	Clamping Ring, Bolt & Washer, Strongback, Latch	Clamping Ring Nut	Spring Bolt & Nut	Spring	Normal Vent	Wt. (lb.)	Assembly No.
Steel Zinc Pt.	Alum.	Steel Zinc Pt.	Brass	Stnls 304**	Van. Steel	Alum.	22.1	FVA9816BXB
Stnls 304		Stnls 304	Stnls 304	22.6			FVA9816CXB	
Stnls 316		Stnls 304	Stnls 304	22.6			FVA9816DXB	

**Nut Material – Steel Zinc Plated

Substitute 9842 for 9816 in the assembly number if you are ordering the self-latching model.

16" Hot Product Manhole with 10" Fill

Cover & Fill Material	Clamping Ring	Clamping Bolt & Washer	Wt.	Assembly No.
Steel E-Coated	Steel Zinc Pt.	Steel Zinc Pt.	31.0 lb.	8274YXV
Stnls 304	Stnls 304	Stnls 304	31.0 lb.	8274CXV
Stnls 316	Stnls 304	Stnls 304	31.0 lb.	8274DXV

**16" Manhole - Standard/Fill Style
with 8" Surge Suppression relief Valve**

Cover Plate, Clamping Ring	Relief Valve	Clamping Ring, Bolt & Washer	Clamping Ring Nut	Wingnut	Normal Vent	Wt. (lb)	Assembly No.
Steel Zinc Pt.	Alum.	Steel Zinc Pt.	Brass	Brass	Alum.	26.1	**xxxF416BXB
Stnls 304	Alum.	Stnls 304	Brass	Brass	Alum.	26.5	**xxxF416CXB
Stnls 316	Alum.	Stnls 304	Brass	Brass	Alum.	26.5	**xxxF416DXB

** Specify Normal Vent: Manholes are supplied with a normal vent according to the three letter prefix of the assembly number.

“FVA” prefix specifies model 6238AL normal vent for MC306 tanks

“PPV” prefix specifies model 6496AL normal vent for DOT406 tanks

**16" Manhole - Offset/Fill Style
with 8" Surge Suppression relief Valve**

NOTE: 3-1/2" vent and Liquid Level Switch not included in assembly.

Cover Plate, Clamping Ring	Relief Valve	Clamping Ring, Bolt & Washer	Clamping Ring Nut	Wingnut	Normal Vent	Wt. (lb)	Assembly No.
Steel Zinc Pt.	Alum.	Steel Zinc Pt.	Brass	Brass	Alum.	25.3	**xxxF516BXB
Stnls 304	Alum.	Stnls 304	Brass	Brass	Alum.	25.7	**xxxF516CXB
Stnls 316	Alum.	Stnls 304	Brass	Brass	Alum.	25.7	**xxxF516DXB

** Specify Normal Vent: Manholes are supplied with a normal vent according to the three letter prefix of the assembly number.

“FVA” prefix specifies model 6238AL normal vent for MC306 tanks

“PPV” prefix specifies model 6496AL normal vent for DOT406 tanks

**16" Manhole - Standard/Bolt Style
with 8" Surge Suppression relief Valve**

Cover Plate, Clamping Ring	Relief Valve	Mounting Nuts & Washers	Clamping Ring Nut	Normal Vent	Wt. (lb)	Assembly No.
Steel Zinc Pt.	Alum.	Steel Zinc Pt.	Brass	Alum.	24.9	**xxxB416BXB
Stnls 304	Alum.	Stnls 304	Brass	Alum.	25.3	**xxxB416CXB
Stnls 316	Alum.	Stnls 304	Brass	Alum.	25.3	**xxxB416DXB

** Specify Normal Vent: Manholes are supplied with a normal vent according to the three letter prefix of the assembly number.

“FVA” prefix specifies model 6238AL normal vent for MC306 tanks

“PPV” prefix specifies model 6496AL normal vent for DOT406 tanks

16" Manhole - Offset/Bolted Style with 8" Surge Suppression Relief Valve

NOTE: 3-1/2" vent and Liquid Level Switch not included in assembly.

Cover Plate, Clamping Ring	Relief Valve	Mounting Nuts & Washers	Clamping Ring Nut	Normal Vent	Wt. (lb)	Assembly No.
Steel Zinc Plt.	Alum.	Steel Zinc Plt.	Brass	Alum.	24.1	**xxxB516BXB
Stnls 304	Alum.	Stnls 304	Brass	Alum.	24.5	**xxxB516CXB
Stnls 316	Alum.	Stnls 304	Brass	Alum.	24.5	**xxxB516DXB

** Specify Normal Vent: Manholes are supplied with a normal vent according to the three letter prefix of the assembly number.
 "FVA" prefix specifies model 6238AL normal vent for MC306 tanks
 "PPV" prefix specifies model 6496AL normal vent for DOT406 tanks

Substitute L742 for L716 in the assembly number if you are ordering the self-latching model.

16" PAF 406-98 Manhole with Integral Relief Valve w/10" Fill Model L716 - Standard, Model L742 Self-Latching

Cover Plate	Relief Valve	Clamping Ring, Bolt, Washer, Strongback, & Latch	Clamping Ring Nut	Normal Vent	Wt. (lb)	Assembly No.
Steel Zinc Plt.	Alum.	Steel Zinc Plt.	Brass	Alum.	24.2	PPVL716BXB
Stnls 304	Alum.	Stnls 304	Stnls 304	Alum.	24.7	PPVL716CXB
Stnls 316	Alum.	Stnls 304	Stnls 304	Alum.	24.7	PPVL716DXB

16" PAF 406-98 Offset Manhole with Integral Relief Valve w/10" Fill Model L816 - Standard, Model L842 Self-Latching

Substitute L842 for L816 in the assembly number if you are ordering the self-latching model.

Note: 3-1/2" Vent and Liquid Level Switch not included in assembly.

Cover Plate	Relief Valve	Clamping Ring, Bolt, Washer, Strongback, and Latch	Clamping Ring Nut	Normal Vent	Wt. (lb)	Assembly No.
Steel Zinc Plt.	Alum.	Steel Zinc Plt.	Brass	Alum.	23.4	PPVL816BXB
Stnls 304	Alum.	Stnls 304	Stnls 304	Alum.	23.9	PPVL816CXB
Stnls 316	Alum.	Stnls 304	Stnls 304	Alum.	23.9	PPVL816DXB

Substitute R442 for R416 in the assembly number if you are ordering the self-latching model.

16" PAF 306-98 Manhole with Integral Relief Valve w/10" Fill Model R416 - Standard, Model R442 Self-Latching

Cover Plate	Relief Valve	Clamping Ring, Bolt, Washer, Strongback, & Latch	Clamping Ring Nut	Normal Vent	Wt. (lb)	Assembly No.
Steel Zinc Plt.	Alum.	Steel Zinc Plt.	Brass	Alum.	24.2	FVAR416BXB
Stnls 304	Alum.	Stnls 304	Stnls 304	Alum.	24.7	FVAR416CXB
Stnls 316	Alum.	Stnls 304	Stnls 304	Alum.	24.7	FVAR416DXB

16" PAF 306-98 Offset Manhole with Integral Relief Valve w/10" Fill Model R516 - Standard, Model R542 Self-Latching

Substitute R542 for R516 in the assembly number if you are ordering the self-latching model.

Note: 3-1/2" Vent and Liquid Level Switch not included in assembly.

Cover Plate	Relief Valve	Clamping Ring, Bolt, Washer, Strongback, and Latch	Clamping Ring Nut	Normal Vent	Wt. (lb)	Assembly No.
Steel Zinc Plt.	Alum.	Steel Zinc Plt.	Brass	Alum.	23.4	FVAR516BXB
Stnls 304	Alum.	Stnls 304	Stnls 304	Alum.	23.9	FVAR516CXB
Stnls 316	Alum.	Stnls 304	Stnls 304	Alum.	23.9	FVAR516DXB

20" Round Inspection Hole

Cover Plate	Clamping Ring	Clamping Bolt and Washer	Clamping Bolt Nut	Wt.	Assembly No.
Steel	Steel	Steel Zinc Pt.	Brass	21.7	8008SXB
Steel Zinc Pt.	Steel Zinc Pt.	Steel Zinc Pt.	Brass	21.7	8008BXB
Stnls 304	Stnls 304	Stnls 304	Stnls 304	22.2	8008CXB
Stnls 316	Stnls 304	Stnls 304	Stnls 304	22.2	8008DXB

20" Round Manhole with 10" Fill

Cover Plate, Fill Gasket Retainer, Shim Washer	Clamping Ring, Fill Cover, Strongback, Latch	Clamping Bolt and Washer	Clamping Bolt Nut	Vent	Wt. (lb.)	Assembly No.
Steel	Steel	Steel Zinc Pt.	Brass	Alum.	26.5	FVA8020SXB
Steel Zinc Pt.	Steel Zinc Pt.	Steel Zinc Pt.	Brass	Alum.	26.5	FVA8020BXB
Stnls 304*	Steel Zinc Pt.	Steel Zinc Pt.	Brass	Alum.	27.0	FVA8020GXB
Stnls 304	Stnls 304	Stnls 304	Stnls 304	Alum.	27.0	FVA8020CXB
Stnls 304	Stnls 304**	Stnls 304	Stnls 304	Alum.	27.0	FVA8020DXB

**Fill Gasket Retainer and Shims-Aluminum **Fill Cover Material-Stainless 316*

Substitute 9763 for 9720 in the assembly number if you are ordering the self-latching model.

20" PAF450 Manhole with Pressure Relief Valve Model 9720 - Standard, Model 9763 Self-Latching

Cover Plate	PRV Cover	Clamping Ring, Bolt & Washer, Strongback, Latch	Clamping Ring Nut	Spring Bolt & Nut	Spring	Normal Vent	Wt. (lb.)	Assembly No.
Steel Zinc Pt.	Alum.	Steel Zinc Pt.	Brass	Stnls 304**	Van. Steel	Alum.	29.2	FVA9720BXB
Stnls 304		Stnls 304	Stnls 304	29.7			FVA9720CXB	
Stnls 316		Stnls 304	Stnls 304	29.7			FVA9720DXB	

***Nut Material - Steel Zinc Plated*

20" PAF450 Manhole with Pressure Relief Valve Model 9820 - Standard, Model 9863 Self-Latching

Substitute 9863 for 9820 in the assembly number if you are ordering

Note: 3-1/2" vent and Liquid Level Switch not included in assembly.

Cover Plate	PRV Cover	Clamping Ring, Bolt & Washer, Strongback, Latch	Clamping Ring Nut	Spring Bolt & Nut	Spring	Normal Vent	Wt. (lb.)	Assembly No.
Steel Zinc Pt.	Alum.	Steel Zinc Pt.	Brass	Stnls 304**	Van. Steel	Alum.	28.4	FVA9820BXB
Stnls 304		Stnls 304	Stnls 304	28.9			FVA9820CXB	
Stnls 316		Stnls 304	Stnls 304	28.9			FVA9820DXB	

***Nut Material - Steel Zinc Plated*

20" Hot Product Manhole with 10" Fill

Cover & Fill Material	Clamping Ring	Clamping Bolt & Washer	Wt.	Assembly No.
Steel E-Coated	Steel Zinc Pt.	Steel Zinc Pt.	37.5 lb.	8269YXV

NOTE: 20" Model not available in stainless steel.

20" Manhole - Standard/Fill Style with 8" Surge Suppression Relief Valve

Cover Plate, Clamping Ring	Relief Valve	Clamping Ring, Bolt & Washer	Clamping Ring Nut	Wingnut	Normal Vent	Wt. (lb)	Assembly No.
Steel Zinc Plt.	Alum.	Steel Zinc Plt.	Brass	Brass	Alum.	33.4	**xxxF420BXB
Stnls 304	Alum.	Stnls 304	Brass	Brass	Alum.	33.9	**xxxF420CXB
Stnls 316	Alum.	Stnls 304	Brass	Brass	Alum.	33.9	**xxxF420DXB

** Specify Normal Vent: Manholes are supplied with a normal vent according to the three letter prefix of the assembly number.
 "FVA" prefix specifies model 6238AL normal vent for MC306 tanks
 "PPV" prefix specifies model 6496AL normal vent for DOT406 tanks

20" Manhole - Offset/Fill Style with 8" Surge Suppression Relief Valve

NOTE: 3-1/2" vent and Liquid Level Switch not included in assembly.

Cover Plate, Clamping Ring	Relief Valve	Clamping Ring, Bolt & Washer	Clamping Ring Nut	Wingnut	Normal Vent	Wt. (lb)	Assembly No.
Steel Zinc Plt.	Alum.	Steel Zinc Plt.	Brass	Brass	Alum.	31.7	**xxxF520BXB
Stnls 304	Alum.	Stnls 304	Brass	Brass	Alum.	32.2	**xxxF520CXB
Stnls 316	Alum.	Stnls 304	Brass	Brass	Alum.	32.2	**xxxF520DXB

** Specify Normal Vent: Manholes are supplied with a normal vent according to the three letter prefix of the assembly number.
 "FVA" prefix specifies model 6238AL normal vent for MC306 tanks
 "PPV" prefix specifies model 6496AL normal vent for DOT406 tanks

20" Manhole - Standard/Bolted Style with 8" Surge Suppression Relief Valve

Cover Plate, Clamping Ring	Relief Valve	Mounting Nuts & Washers	Clamping Ring Nut	Normal Vent	Wt. (lb)	Assembly No.
Steel Zinc Plt.	Alum.	Steel Zinc Plt.	Brass	Alum.	32.3	**xxxB420BXB
Stnls 304	Alum.	Stnls 304	Brass	Alum.	32.8	**xxxB420CXB
Stnls 316	Alum.	Stnls 304	Brass	Alum.	32.8	**xxxB420DXB

** Specify Normal Vent: Manholes are supplied with a normal vent according to the three letter prefix of the assembly number.
 "FVA" prefix specifies model 6238AL normal vent for MC306 tanks
 "PPV" prefix specifies model 6496AL normal vent for DOT406 tanks

20" Manhole - Offset/Bolted Style with 8" Surge Suppression Relief Valve

NOTE: 3-1/2" vent and Liquid Level Switch not included in assembly.

Cover Plate, Clamping Ring	Relief Valve	Mounting Nuts & Washers	Clamping Ring Nut	Normal Vent	Wt. (lb)	Assembly No.
Steel Zinc Plt.	Alum.	Steel Zinc Plt.	Brass	Alum.	30.6	**xxxB520BXB
Stnls 304	Alum.	Stnls 304	Brass	Alum.	31.1	**xxxB520CXB
Stnls 316	Alum.	Stnls 304	Brass	Alum.	31.1	**xxxB520DXB

** Specify Normal Vent: Manholes are supplied with a normal vent according to the three letter prefix of the assembly number.
 "FVA" prefix specifies model 6238AL normal vent for MC306 tanks
 "PPV" prefix specifies model 6496AL normal vent for DOT406 tanks

Substitute L763 for L720 in the assembly number if you are ordering the self-latching model.

20" PAF 406-98 Manhole with Integral Relief Valve with 10" Fill Model L720 Standard, Model L763 Self-Latching

Cover Plate	Relief Valve	Clamping Ring, Bolt, Washer, Stongback, & Latch	Clamping Ring Nut	Normal Vent	Wt. (lb)	Assembly No.
Steel Zinc Plt.	Alum.	Steel Zinc Plt.	Brass	Alum.	30.5	PPVL720BXB
Stnls 304	Alum.	Stnls 304	Stnls 304	Alum.	31.0	PPVL720CXB
Stnls 316	Alum.	Stnls 304	Stnls 304	Alum.	31.0	PPVL720DXB

20" PAF 406-98 Offset Manhole with Integral Relief Valve w/10" Fill Model L820 Standard, Model L863 Self-Latching

Substitute L863 for L820 in the assembly number if you are ordering the self-latching model.

Note: 3-1/2" Vent and Liquid Level Switch not included in assembly.

Cover Plate	Relief Valve	Clamping Ring, Bolt, Washer, Stongback, & Latch	Clamping Ring Nut	Normal Vent	Wt. (lb)	Assembly No.
Steel Zinc Plt.	Alum.	Steel Zinc Plt.	Brass	Alum.	29.7	PPVL820BXB
Stnls 304	Alum.	Stnls 304	Stnls 304	Alum.	30.2	PPVL820CXB
Stnls 316	Alum.	Stnls 304	Stnls 304	Alum.	30.2	PPVL820DXB

Substitute R463 for R420 in the assembly number if you are ordering the self-latching model.

20" PAF 306-98 Manhole with Integral Relief Valve w/10" Fill Model R420 Standard, Model R463 Self-Latching

Cover Plate	Relief Valve	Clamping Ring, Bolt, Washer, Stongback, & Latch	Clamping Ring Nut	Normal Vent	Wt. (lb)	Assembly No.
Steel Zinc Plt.	Alum.	Steel Zinc Plt.	Brass	Alum.	30.5	FVAR420BXB
Stnls 304	Alum.	Stnls 304	Stnls 304	Alum.	31.0	FVAR420CXB
Stnls 316	Alum.	Stnls 304	Stnls 304	Alum.	31.0	FVAR420DXB

20" PAF 306-98 Offset Manhole with Integral Relief Valve w/10" Fill Model R520 Standard, Model R563 Self-Latching

Substitute R563 for R520 in the assembly number if you are ordering the self-latching model.

Note: 3-1/2" Vent and Liquid Level Switch not included in assembly.

Cover Plate	Relief Valve	Clamping Ring, Bolt, Washer, Stongback, & Latch	Clamping Ring Nut	Normal Vent	Wt. (lb)	Assembly No.
Steel Zinc Plt.	Alum.	Steel Zinc Plt.	Brass	Alum.	29.7	FVAR520BXB
Stnls 304	Alum.	Stnls 304	Stnls 304	Alum.	30.2	FVAR520CXB
Stnls 316	Alum.	Stnls 304	Stnls 304	Alum.	30.2	FVAR520DXB

10" Pressure Fill (Model 8370)

Weld Collar	Cover	Wing-Nut, Swing Bolts Hinge Pins	Number Holddowns	*Working Pressure	Weight	Collar Height	Assembly No.
Aluminum	Steel	Stnls 304	3	50 PSI 3.4 BAR	11.5LB 5.23Kg	6" (152.4mm)	8370ASW-6"
Aluminum	Stnls 316L	Stnls 304			8370ALW-6"		
Steel	Steel	Stnls 304			21.5LB 9.77Kg	8370SCW-6"	
Stnls 316L	Stnls 316L	Stnls 304			8370LCW-6"		
Aluminum	Steel	Stnls 304	3	50 PSI 3.4 BAR	16.5LB 8.25Kg	10" (254mm)	8370ASW-10"
Aluminum	Stnls 316L	Stnls 304			8370ALW-10"		
Steel	Steel	Stnls 304			32.5LB 14.77Kg	8370SCW-10"	
Stnls 316L	Stnls 316L	Stnls 304			8370LCW-10"		

20" Full Opening Manhole (Model 8310)

Weld Collar	Cover	Wing-Nut, Swing Bolts Hinge Pins	Number Holddowns	*Working Pressure	Weight	Collar Height	Assembly No.
Aluminum	Steel	Stnls 304	6	43.5 PSI 3 BAR	47LB 21.4Kg	4" (101.6mm)	8310ASW-4"
Aluminum	Stnls 316L	Stnls 304			8310ALW-4"		
Steel	Steel	Stnls 304			58LB 26.4Kg		8310SCW-4"
Stnls 316L	Stnls 316L	Stnls 304			8310LCW-4"		
Aluminum	Steel	Stnls 304	6	43.5 PSI 3 BAR	50LB 22.7Kg	6" (152.4mm)	8310ASW-6"
Aluminum	Stnls 316L	Stnls 304			8310ALW-6"		
Steel	Steel	Stnls 304			68LB 30.9Kg		8310SCW-6"
Stnls 316L	Stnls 316L	Stnls 304			8310LCW-6"		
Aluminum	Steel	Stnls 304	6	43.5 PSI 3 BAR	56LB 25.5Kg	10" (254mm)	8310ASW-10"
Aluminum	Stnls 316L	Stnls 304			8310ALW-10"		
Steel	Steel	Stnls 304			86LB 36.28Kg		8310SCW-10"
Stnls 316L	Stnls 316L	Stnls 304			8310LCW-10"		

20" Full Opening Manhole (Model 8327)

Weld Collar	Cover	Wing-Nut, Swing Bolts Hinge Pins	Number Holddowns	*Working Pressure	Weight	Collar Height	Assembly No.
Aluminum	Steel	Stnls 304	4	5 PSI	44LB 20.0Kg	4" (101.6mm)	8327ASW-4"
Aluminum	Stnls 316L	Stnls 304			8327ALW-4"		
Steel	Steel	Stnls 304			54LB 24.5Kg		8327SCW-4"
Stnls 316L	Stnls 316L	Stnls 304			8327LCW-4"		
Aluminum	Steel	Stnls 304	4	5 PSI	47LB 21.4Kg	6" (152.4mm)	8327ASW-6"
Aluminum	Stnls 316L	Stnls 304			8327ALW-6"		
Steel	Steel	Stnls 304			64LB 28.8Kg		8327SCW-6"
Stnls 316L	Stnls 316L	Stnls 304			8327LCW-6"		
Aluminum	Steel	Stnls 304	4	5 PSI	53LB 24.1Kg	10" (254mm)	8327ASW-10"
Aluminum	Stnls 316L	Stnls 304			8327ALW-10"		
Steel	Steel	Stnls 304			82LB 37.3Kg		8327SCW-10"
Stnls 316L	Stnls 316L	Stnls 304			8327LCW-10"		

20" Full Opening Manhole with 10" Relief Valve (PAF 450 Style) Model 9730

Weld Collar	Cover Assembly	Wingnut & Pins	10" Cover Vent	Spring	Number Holddowns	Wt.	Assembly No.
Steel	Steel	Stnls 304	Aluminum	Van Steel	6	70.5	FVA9730SCB
Aluminum	Steel	Stnls 304	Aluminum	Van Steel	6	50.5	FVA9730ASB
Aluminum	Stnls	Stnls 304	Aluminum	Van Steel	6	50.5	FVA9730ACB
Stnls 316	Stnls 316	Stnls 304	Aluminum	Van Steel	6	70.5	FVA9730DCB

20" Full Opening Manhole with 8" Relief Valve (Model 8311)

Weld Collar	Cover	Hardware	8" Relief Valve	Number Hold Downs	Weight	Collar Height	Assembly No.
Aluminum	Steel	Stnls 304	Aluminum, Epoxy Coated	6	58.0 lb	6" (152.4mm)	8311ASB-6"
Aluminum	Stnls 316L				58.0 lb		8311ALB-6"
Steel	Steel				76.0 lb		8311SCB-6"
Stnls 316L	Stnls 316L				76.0 lb		8311LCB-6"
Aluminum	Steel				64.0 lb	8311ASB-10"	
Aluminum	Stnls 316L				64.0 lb	8311ALB-10"	
Steel	Steel				94.0 lb	8311SCB-10"	
Stnls 316L	Stnls 316L				94.0 lb	8311LCB-10"	

10" Pressure Fill ASME Type (Model 8368)

Weld Collar	Cover	Wing-Nut, Swing Bolts Hinge Pins	Number Holddowns	*Working Pressure	Weight	Collar Height	Assembly No.
Aluminum	Steel	Stnls 304	3	50 PSI 3.4 BAR	11.5LB 5.23Kg	6" (152.4mm)	8368ASW-6"
Aluminum	Stnls 316L	Stnls 304			8368ALW-6"		
Steel	Steel	Stnls 304			21.5LB 9.77Kg		8368SCW-6"
Stnls 316L	Stnls 316L	Stnls 304			8368LCW-6"		
Aluminum	Steel	Stnls 304	3	50 PSI 3.4 BAR	16.5LB 8.25Kg	10" (254mm)	8368ASW-10"
Aluminum	Stnls 316L	Stnls 304			8368ALW-10"		
Steel	Steel	Stnls 304			32.5LB 14.77Kg		8368SCW-10"
Stnls 316L	Stnls 316L	Stnls 304			8368LCW-10"		

10" Pressure Fill ASME Type (Model 8369)

Weld Collar	Cover	Wing-Nut, Swing Bolts Hinge Pins	Number Holddowns	*Working Pressure	Weight	Collar Height	Assembly No.
Aluminum	Steel	Stnls 304	4	100 PSI 6.8 BAR	14.5LB 6.59Kg	6" (152.4mm)	8369ASW-6"
Aluminum	Stnls 316L	Stnls 304			8369ALW-6"		
Steel	Steel	Stnls 304			24.5LB 11.14Kg		8369SCW-6"
Stnls 316L	Stnls 316L	Stnls 304			8369LCW-6"		
Aluminum	Steel	Stnls 304	4	100 PSI 6.8 BAR	19.5LB 8.86Kg	10" (254mm)	8369ASW-10"
Aluminum	Stnls 316L	Stnls 304			8369ALW-10"		
Steel	Steel	Stnls 304			35.5LB 16.12Kg		8369SCW-10"
Stnls 316L	Stnls 316L	Stnls 304			8369LCW-10"		

20" Full Opening Manhole with 10" Fill ASME Type (Model 8387)

Weld Collar	Cover	Wing-Nut, Swing Bolts Hinge Pins	Number Holddowns	*Working Pressure	Weight	Collar Height	Assembly No.
Aluminum	Steel	Stnls 304	3 Fill 6 Manhole	50 PSI 3.4 BAR	65.5LB 29.8Kg	6" (152.4mm)	8387ASW-6"
Aluminum	Stnls 316L	Stnls 304			8387ALW-6"		
Steel	Steel	Stnls 304			83.5LB 37.8Kg		8387SCW-6"
Stnls 316L	Stnls 316L	Stnls 304			8387LCW-6"		
Aluminum	Steel	Stnls 304	3 Fill 6 Manhole	50 PSI 3.4 BAR	71.5LB 32.5Kg	10" (254mm)	8387ASW-10"
Aluminum	Stnls 316L	Stnls 304			8387ALW-10"		
Steel	Steel	Stnls 304			101.5LB 46.03Kg		8387SCW-10"
Stnls 316L	Stnls 316L	Stnls 304			8387LCW-10"		

20" Full Opening Manhole ASME Type (Model 8350)

Weld Collar	Cover	Wing-Nut, Swing Bolts Hinge Pins	Number Holddowns	*Working Pressure	Weight	Collar Height	Assembly No.
Aluminum	Steel	Stnls 304	6	50 PSI 3.4 BAR	52LB 23.6Kg	6" (152.4mm)	8350ASW-6"
Aluminum	Stnls 316L	Stnls 304			8350ALW-6"		
Steel	Steel	Stnls 304			70LB 31.8Kg		8350SCW-6"
Stnls 316L	Stnls 316L	Stnls 304			8350LCW-6"		
Aluminum	Steel	Stnls 304	6	50 PSI 3.4 BAR	58LB 26.4Kg	10" (254mm)	8350ASW-10"
Aluminum	Stnls 316L	Stnls 304			8350ALW-10"		
Steel	Steel	Stnls 304			88LB 40Kg		8350SCW-10"
Stnls 316L	Stnls 316L	Stnls 304			8350LCW-10"		

20" Full Opening Manhole (Model 8355)

Weld Collar	Cover	Wing-Nut, Swing Bolts Hinge Pins	Number Holddowns	*Working Pressure	Weight	Collar Height	Assembly No.
Aluminum	Steel	Stnls 304	6	50 PSI 3.4 BAR	52LB 23.6Kg	6" (152.4mm)	8355ASW-6"
Aluminum	Stnls 316L	Stnls 304			8355ALW-6"		
Steel	Steel	Stnls 304			70LB 31.8Kg		8355SCW-6"
Stnls 316L	Stnls 316L	Stnls 304			8355LCW-6"		
Aluminum	Steel	Stnls 304	6	50 PSI 3.4 BAR	38LB 26.4Kg	10" (254mm)	8355ASW-10"
Aluminum	Stnls 316L	Stnls 304			8355ALW-10"		
Steel	Steel	Stnls 304			88LB 40Kg		8355SCW-10"
Stnls 316L	Stnls 316L	Stnls 304			8355LCW-10"		

10" Pressure Fill ASME Type (Model 8261)

Weld Collar	Cover	Wing-Nut Washer Hinge Pins	Number Holddowns	*Working Pressure	Weight	Collar Height	Assembly No.
Steel	Steel	Stnls 304	4	50 PSI 3.4 BAR	36LB 16.33Kg	6" (152.4mm)	8261SCX-6"
Stnls 316L	Stnls 316L	Stnls 304			8261LCX-6"		
Steel	Steel	Stnls 304	4	50 PSI 3.4 BAR	42LB 19.0Kg	10" (254mm)	8261SCX-10"
Stnls 316L	Stnls 316L	Stnls 304			8261LCX-10"		

20" Full Opening Manhole ASME Type (Model 8205)

Weld Collar	Cover	Wing-Nut Washer Hinge Pins	Number Holddowns	*Working Pressure	Weight	Collar Height	Assembly No.
Steel	Steel	Stnls 304	8	50 PSI 3.4 BAR	88LB 39.9Kg	6" (152.4mm)	8205SCX-6"
Stnls 316L	Stnls 316L	Stnls 304			8205LCX-6"		
Steel	Steel	Stnls 304	8	50 PSI 3.4 BAR	106LB 48Kg	10" (254mm)	8205SCX-10"
Stnls 316L	Stnls 316L	Stnls 304			8205LCX-10"		

20" Full Opening Manhole with 10" Fill ASME Type (Model 8260)

Weld Collar	Covers	Wing-Nut Washer Hinge Pins	Number Holddowns	*Working Pressure	Weight	Collar Height	Assembly No.
Steel	Steel	Stnls 304	4 Fill 8 Manhole	50 PSI 3.4 BAR	112LB 50.8Kg	6" (152.4mm)	8260SCX-6"
Stnls 316L	Stnls 316L	Stnls 304			8260LCX-6"		
Steel	Steel	Stnls 304	4 Fill 8 Manhole	50 PSI 3.4 BAR	130LB 58.9Kg	10" (254mm)	8260SCX-10"
Stnls 316L	Stnls 316L	Stnls 304			8260LCX-10"		

20" Full Opening Manhole ASME Type (Model 8380)

Weld Collar	Cover	Wing-Nut, Swing Bolts Hinge Pins	Number Holddowns	*Working Pressure	Weight	Collar Height	Assembly No.
Aluminum	Steel	Stnls 304	8	100 PSI 6.8 BAR	56LB 25.5Kg	6" (152.4mm)	8380ASW-6"
Aluminum	Stnls 316L	Stnls 304			8380ALW-6"		
Steel	Steel	Stnls 304			75LB 34.1Kg		8380SCW-6"
Stnls 316L	Stnls 316L	Stnls 304			8380LCW-6"		
Aluminum	Steel	Stnls 304	8	100 PSI 6.8 BAR	62LB 28.2Kg	10" (254mm)	8380ASW-10"
Aluminum	Stnls 316L	Stnls 304			8380ALW-10"		
Steel	Steel	Stnls 304			93LB 42.3Kg		8380SCW-10"
Stnls 316L	Stnls 316L	Stnls 304			8380LCW-10"		

24" Full Opening Manhole ASME Type (Model 8324)

Weld Collar	Cover	Wing-Nut Washer Hinge Pins	Number Holddowns	* Working Pressure		Weight	Collar Height	Assembly No.
				PSI	BAR			
Steel	Steel	Stnls 304	8	100	6.8	100LB	6" (152.4mm)	8324SCW-6"
Stnls 316L	Stnls 316L	Stnls 304				45.5Kg		8324LCW-6"
Steel	Steel	Stnls 304	8	100	6.8	125LB	10" (254mm)	8324SCW-10"
Stnls 316L	Stnls 316L	Stnls 304				56.9Kg		8324LCW-10"

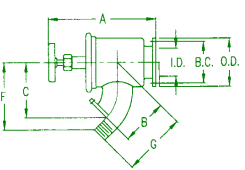
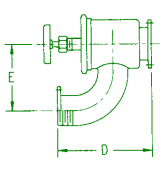
16" Full Opening Manhole ASME Type (Model 8303)

Weld Collar	Cover	Wing-Nut, Swing Bolts Hinge Pins	Number Holddowns	*Working Pressure		Weight	Collar Height	Assembly No.
				PSI	BAR			
Aluminum	Steel	Stnls 304	6	50	3.4	41.5LB	6" (152.4mm)	8303ASW-6"
Aluminum	Stnls 316L	Stnls 304				18.86Kg		8303ALW-6"
Steel	Steel	Stnls 304				55.9LB		8303SCW-6"
Stnls 316L	Stnls 316L	Stnls 304				25.36Kg		8303LCW-6"
Aluminum	Steel	Stnls 304	6	50	3.4	46.5LB	10" (254mm)	8303ASW-10"
Aluminum	Stnls 316L	Stnls 304				21.14Kg		8303ALW-10"
Steel	Steel	Stnls 304				70.5LB		8303SCW-10"
Stnls 316L	Stnls 316L	Stnls 304				31.98Kg		8303LCW-10"

18" Full Opening Manhole ASME Type (Model 8418)

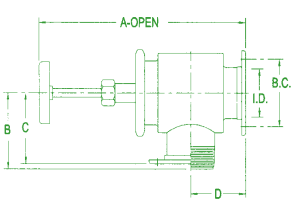
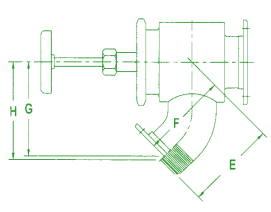
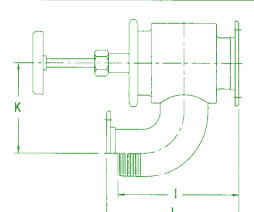
Weld Collar	Cover	Hardware	Number Hold Downs	*Working Pressure		Weight	Collar Height	Assembly No.
Steel	Steel	Stnls 304	6	100	6.8	61.4 lb.	6" (152.4mm)	8418SCW-6"
Stnls 316L	Stnls 316L					63.7 lb.		8418LCW-6"
Steel	Steel	Stnls 304	6	100	6.8	76.1 lb.	10" (254mm)	8418SCW-10"
Stnls 316L	Stnls 316L					79.0 lb.		8418LCW-10"

Betts Q.R.B. Quick Clean Hydrolet Valve

Dimensions			
Size	Assembly No.	Wt.	Material
3"	QC763SST Flanged Outlet	16.0	316 stnls.
3"	QC773SST Threaded Outlet	16.0	316 stnls.
	Assembly No.	Wt.	Material
	QC703SST Flanged Outlet	17.5	316 stnls.
	QC713SST Threaded Outlet	17.5	316 stnls.

Size	A	B	C	D	E	F	G	Flanged Inlet & Outlet				Thd. Outlet
								I.D.	O.D.	B.C.	Holes	Pipe Size
3"	12 1/2	5 1/2	6 7/16	11	7 1/2	7 13/16	7 1/2	3 3/8	5 5/8	4 7/8	8-7/16	3"

Betts Q.R.B Hydrolet Valve

DIMENSIONS										
Size	Assembly No.	Wt.	Material	Assembly No.	Wt.	Material	Assembly No.	Wt.	Material	
FLANGED	3"	QR723ALB	9.3	Alum.	QR763ALB	9.5	Alum.	QR703ALB	10.3	Alum.
		QR723SST	15.0	Stnls. 316	QR763SST	15.3	Stnls. 316	QR703SST	16.0	Stnls. 316
	4"	QR724ALB	13.0	Alum.	QR764ALB	14.0	Alum.	QR704ALB	14.3	Alum.
		QR724SST	19.8	Stnls. 316	QR764SST	20.3	Stnls. 316	QR704SST	20.5	Stnls. 316
THREADED	3"	QR733ALB	8.8	Alum.	QR773ALB	9.0	Alum.	QR713ALB	10.0	Alum.
		QR733SST	14.0	Stnls. 316	QR773SST	14.3	Stnls. 316	QR713SST	15.0	Stnls. 316
	4"	QR734ALB	13.0	Alum.	QR774ALB	14.0	Alum.	QR714ALB	14.3	Alum.
		QR734SST	19.8	Stnls. 316	QR774SST	20.3	Stnls. 316	QR714SST	20.5	Stnls. 316

NOTE: Stainless 316 valves are standard with teflon disc, gasket & packing (Suffix "T"). Aluminum valves are standard with buna-N disc, cork-buna-N gasket and teflon packing (Suffix "B"). For variations and replacement parts see section 10, page 5B.

Dimensions

Size	A	B	C	D	E	F	G	H	I	J	K	Flange-Inlet & Outlet			Thrd. Outlet
												I.D.	B.C.	Holes	Pipe Size
3"	15	5 1/2	5 1/8	4	6 9/16	6 1/4	6 3/4	7	8 13/16	9 5/8	6 1/2	3 3/8	4 7/8	8-7/16	3"
4"	15 3/16	6 7/16	5	4 5/16	8 1/8	7 3/4	8 5/16	8 9/16	10 9/16	10 1/4	8	4 3/8	5 7/8	8-7/16	4"

Betts Q.R.B. Hydrolet Valve with Outside Screw and Yoke

DIMENSIONS										
Size	Assembly No.	Wt.	Material	Assembly No.	Wt.	Material	Assembly No.	Wt.	Material	
FLANGED	3"	QY723ALB	9.8	Alum.	QY763ALB	10.8	Alum.	QY703ALB	10.8	Alum.
		QY723SST	15.8	Stnls. 316	QY763SST	16.0	Stnls. 316	QY703SST	16.8	Stnls. 316
	4"	QY724ALB	14.0	Alum.	QY764ALB	15.0	Alum.	QY704ALB	15.3	Alum.
		QY724SST	20.8	Stnls. 316	QY764SST	21.3	Stnls. 316	QY704SST	21.5	Stnls. 316
THREADED	3"	QY733ALB	9.3	Alum.	QY773ALB	9.5	Alum.	QY713ALB	10.5	Alum.
		QY733SST	14.8	Stnls. 316	QY773SST	14.8	Stnls. 316	QY713SST	15.8	Stnls. 316
	4"	QY734ALB	14.0	Alum.	QY774ALB	15.0	Alum.	QY714ALB	15.3	Alum.
		QY734SST	20.8	Stnls. 316	QY774SST	21.3	Stnls. 316	QY714SST	21.5	Stnls. 316

NOTE: Stainless 316 valves are standard with teflon disc, gasket & packing (Suffix "T"). Aluminum valves are standard with buna-N disc, cork-buna-N gasket and teflon packing (Suffix "B"). For variations and replacement parts see section 10, page 5B.

Dimensions

Size	A	B	C	D	E	F	G	H	I	J	K	Flange-Inlet & Outlet			Thrd. Outlet Pipe Size
												I.D.	B.C.	Holes	
3"	17 ¹⁵ / ₁₆	5 ¹ / ₂	5 ¹ / ₈	4	6 ⁹ / ₁₆	6 ¹ / ₄	6 ³ / ₄	7	8 ¹³ / ₁₆	9 ⁵ / ₈	6 ¹ / ₂	3 ³ / ₈	4 ⁷ / ₈	8 ⁷ / ₁₆	3"
4"	18 ⁵ / ₈	6 ⁷ / ₁₆	5	4 ⁵ / ₁₆	8 ¹ / ₈	7 ³ / ₄	8 ⁵ / ₁₆	8 ⁹ / ₁₆	10 ⁹ / ₁₆	10 ¹ / ₄	8	4 ³ / ₈	5 ⁷ / ₈	8 ⁷ / ₁₆	4"

Betts Steam Jacketed QRB Hydrolet Valve

DIMENSIONS										
Size	Assembly No.	Wt.	Material	Assembly No.	Wt.	Material	Assembly No.	Wt.	Material	
FLANGED	3"	JQ723SST	18.0	Stnls. 316	JQ763SST	18.6	Stnls. 316	JQ703SST	18.9	Stnls. 316
		JQ724SST	25.0	Stnls. 316	JQ764SST	26.5	Stnls. 316	JQ704SST	27.3	Stnls. 316
THREADED	3"	JQ733SST	18.0	Stnls. 316	JQ773SST	18.6	Stnls. 316	JQ713SST	18.9	Stnls. 316
		JQ734SST	25.0	Stnls. 316	JQ774SST	26.5	Stnls. 316	JQ714SST	27.3	Stnls. 316

NOTE: Stainless 316 valves are standard with teflon disc, gasket & packing (Suffix "T"). For variations and replacement parts see section 10, page 5B. Jacket material on stainless valves is of a stainless 304 material. Steam connections are 1/2" NPT.

Dimensions

Size	A	B	C	D	E	F	G	H	I	J	K	Flange-Inlet & Outlet			Thrd. Outlet Pipe Size
												I.D.	B.C.	Holes	
3"	15	5 ¹ / ₂	5 ¹ / ₈	4	6 ⁹ / ₁₆	6 ¹ / ₄	6 ³ / ₄	7	8 ¹³ / ₁₆	9 ⁵ / ₈	6 ¹ / ₂	3 ³ / ₈	4 ⁷ / ₈	8 ⁷ / ₁₆	3"
4"	15 ³ / ₁₆	6 ⁷ / ₁₆	5	4 ⁵ / ₁₆	8 ¹ / ₈	7 ³ / ₄	8 ⁵ / ₁₆	8 ⁹ / ₁₆	10 ⁹ / ₁₆	10 ¹ / ₄	8	4 ³ / ₈	5 ⁷ / ₈	8 ⁷ / ₁₆	4"

Betts Steam Jacketed QRB Hydrolet Valve with Outside Screw and Yoke

DIMENSIONS												
	Size	Assembly No.	Wt.	Material	Assembly No.	Wt.	Material	Assembly No.	Wt.	Material		
FLANGED	3"	JY723SST	18.8	Stnls. 316	JY763SST	19.4	Stnls. 316	JY703SST	19.7	Stnls. 316		
	4"	JY724SST	26.0	Stnls. 316	JY764SST	27.5	Stnls. 316	JY704SST	28.3	Stnls. 316		
THREADED	3"	JY733SST	18.8	Stnls. 316	JY773SST	19.4	Stnls. 316	JY713SST	19.7	Stnls. 316		
	4"	JY734SST	26.0	Stnls. 316	JY774SST	27.5	Stnls. 316	JY714SST	28.3	Stnls. 316		

NOTE: Stainless 316 valves are standard with teflon disc, gasket & packing (Suffix "T"). For variations and replacement parts see section 10, page 5B. Jacket material on stainless valves is of a stainless 304 material. Steam connections are 1/2" NPT.

Dimensions

Size	A	B	C	D	E	F	G	H	I	J	K	Flange-Inlet & Outlet			Thrd. Outlet
												I.D.	B.C.	Holes	Pipe Size
3"	17 ¹⁵ / ₁₆	5 ¹ / ₂	5 ¹ / ₈	4	6 ⁹ / ₁₆	6 ¹ / ₄	6 ³ / ₄	7	8 ¹³ / ₁₆	9 ⁵ / ₈	6 ¹ / ₂	3 ³ / ₈	4 ⁷ / ₈	8 - ⁷ / ₁₆	3"
4"	18 ⁵ / ₈	6 ⁷ / ₁₆	5	4 ⁵ / ₁₆	8 ¹ / ₈	7 ³ / ₄	8 ⁵ / ₁₆	8 ⁹ / ₁₆	10 ⁹ / ₁₆	10 ¹ / ₄	8	4 ³ / ₈	5 ⁷ / ₈	8 - ⁷ / ₁₆	4"

Betts Flush Valve

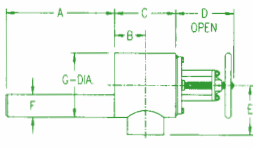
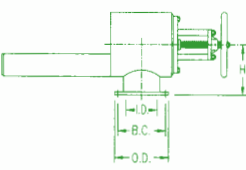
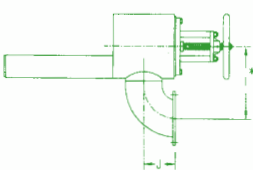
	Size	Flanged Outlet Assembly No.	Threaded Outlet Assembly No.	Wt.	Material	
		3"	FV863 MSM			TV863 MSM	14.3	Steel
					316 Stainless	
4"		FV864 MSM	TV864 MSM	18.4	Steel	
		FV864 SSM	TV864 SSM		316 Stainless	
		FV864 ALM	NOT AVAILABLE *		11.5	Alum./Stainless
6"		FV866 SSM	NOT AVAILABLE *		316 Stainless	
		FV866 ALM			Alum./Stainless	
3"		FV893 MSM	TV893 MSM	14.6	Steel	
		FV893 SSM	TV893 SSM		316 Stainless	
4"			TV894 MSM	18.7	Steel	
	FV894 SSM	TV894 SSM	316 Stainless			
	FV894 ALM	NOT AVAILABLE *	12.3		Alum./Stainless	
6"	FV896 MSM			Steel		
	FV896 SSM	NOT AVAILABLE *			316 Stainless	

* Valves with threaded outlets not available, recommend use of flange by thread adapter. See section 20, page 5A.
 NOTES: Valves as listed have Non-Asbestos packing and metal disc (suffix "M"). For Buna-N use "B", Non-Asbestos "A", Viton "V" and Teflon "T". For replacement parts see section 15, page 2A.
 To provide a flat mounting surface we recommend the use of our sumps as shown in section 40.
 Valves with metal to metal seat are also available with HEAT CONE - please specify!

Dimensions

Size	A	B	C	D	E	F	G	H	Flanged Inlet				Flanged Outlet				Thrd. Outlet
									I.D.	O.D.	B.C.	Holes	I.D.	O.D.	B.C.	Holes	Pipe Size
3"	6 ¹ / ₄	5 ³ / ₈	4	5 ⁹ / ₁₆	11 ¹ / ₂	5	4 ¹⁵ / ₁₆	6 ⁷ / ₁₆	3 ³ / ₈	7 ¹ / ₄	6 ¹ / ₄	6 - ⁹ / ₁₆	3 ¹⁷ / ₃₂	6 ¹ / ₈	4 ⁷ / ₈	8 - ⁷ / ₁₆	3"
4"	8	6 ¹⁵ / ₁₆	5 ³ / ₁₆	7 ¹ / ₁₆	13	6 ¹ / ₂	6 ⁷ / ₁₆	8 ⁷ / ₁₆	4 ³ / ₈	8 ¹ / ₄	7 ¹ / ₄	8 - ⁹ / ₁₆	4 ¹⁷ / ₃₂	7 ¹ / ₈	5 ⁷ / ₈	8 - ⁷ / ₁₆	4"
6"		9 ⁵ / ₈	6 ³ / ₄		18 ¹ / ₄	9 ¹ / ₂	9 ¹ / ₈		6 ¹ / ₈	10 ¹ / ₄	9 ¹ / ₄	12 - ⁹ / ₁₆	6 ¹¹ / ₁₆	9	8 ¹ / ₈	12 - ⁷ / ₁₆	

Betts Rear Head Valve

Dimensions								
Material			Assembly No.	Wt.	Assembly No.	Wt.	Assembly No.	Wt.
Size	Body	Trim						
4"	Alum	Steel	RH45919ALA	29.0	RH45926ALA	30.0	RH45944ALA	32.0
	Steel	Steel	RH45919MSA	40.0	RH45926MSA	42.0	RH45944MSA	44.0
6"	Alum	Steel			RH46279ALA		RH46280ALA	
	Steel	Steel			RH46279MSA		RH46280MSA	

NOTE: Valves as listed above are standard with Non-Asbestos disc, packing, and gasket(Suffix "A"). For variations and replacement parts see back side of this page.

Grease fitting standard.

* Standard dimensions given – variations acceptable – Please specify

Dimensions

Size	A	B	C	D	E	F	G	H	I	J	Flanged Outlet				Plain Outlet
											I.D.	O.D.	B.C.	Holes	Pipe Size
4"	13 1/4	3 7/8	7 5/8	9 5/8	6	2 3/4	7 5/8	6 1/8	8 3/4	5	4	6 5/8	5 7/8	8 - 7/16	4"
6"	13 1/4	3 7/8	7 5/8	9 5/8	6	2 3/4	9 5/8	6 1/8	12	6 1/8	6 11/16	9	8 1/8	12 - 7/16	6"

Betts 3", 4" and 6" Sliding Valve

TTMA DRILLING

Size	Assembly No. Flanged x Flanged	Material	Wt.	Size	Assembly No. Flanged x Threaded	Material	Wt.
3"	SV903 MSM	Steel	11.4	3"	SV913 MSM	Steel	10.9
	SV903 SSM	316 Stainless			SV913 SSM	316 Stainless	
4"	SV904 MSM	Steel	14.9	4"	SV914 MSM	Steel	14.1
	SV904 SSM	316 Stainless			SV914 SSM	316 Stainless	
6"	SV906 MSM	Steel	32.5	6"	SV916 MSM	Steel	30.0
	SV906 SSM	316 Stainless			SV916 SSM	316 Stainless	

ANSI DRILLING *

Size	Assembly No. Flanged x Flanged	Material	Wt.	Size	Assembly No. Flanged x Threaded	Material	Wt.
3"	SV953 MSM	Steel	19.0	3"	SV963 MSM	Steel	15.0
	SV953 SSM	316 Stainless			SV963 SSM	316 Stainless	
4"	SV954 MSM	Steel	24.5	4"	SV964 MSM	Steel	20.0
	SV954 SSM	316 Stainless			SV964 SSM	316 Stainless	
6"	SV956 MSM	Steel	46.0	6"	SV966 MSM	Steel	40.0
	SV956 SSM	316 Stainless			SV966 SSM	316 Stainless	

Dimensions

Size	A	B	C	D	E	F	TTMA Flange				ANSI Flange *				Max. Working Pressure
							O.D.	B.C.	Holes	Thick.	O.D.	B.C.	Holes	Thick.	
3"	9 1/2	11 5/8	9	19	3 3/16	2 1/4 †	6 1/8	4 7/8	8 - 7/16	.1345	7 1/2	6	4 - 3/4	1 1/2	50 PSI
4"	10	13	9	24	3 5/16	2 5/8 *	7 1/8	5 7/8	8 - 7/16	.1345	9	7 1/2	8 - 3/4	1 1/2	50 PSI
6"	8	17	14	26	5 1/16	4	9 3/8	8 1/8	12 - 7/16	.1345	11	9 1/2	8 - 7/8	1 1/2	50 PSI

* ANSI Dimension 3 1/2"

* Drilling Dimensions Only

† 3" ANSI Dimension 2 5/8"

Betts 3", 4" and 6" Sliding Valve with Replaceable O-Ring Seat

TTMA DRILLING

Size	Assembly No. Flanged x Flanged	Material	Wt.	Size	Assembly No. Flanged x Threaded	Material	Wt.
3"	SV903 MSM	Steel	11.4	3"	SV913 MSM	Steel	10.9
	SV903 SSM	316 Stainless			SV913 SSM	316 Stainless	
4"	SV904 MSM	Steel	14.9	4"	SV914 MSM	Steel	14.1
	SV904 SSM	316 Stainless			SV914 SSM	316 Stainless	
6"	SV906 MSM	Steel	32.5	6"	SV916 MSM	Steel	30.0
	SV906 SSM	316 Stainless			SV916 SSM	316 Stainless	

ANSI DRILLING *

Size	Assembly No. Flanged x Flanged	Material	Wt.	Size	Assembly No. Flanged x Threaded	Material	Wt.
3"	SV953 MSM	Steel	19.0	3"	SV963 MSM	Steel	15.0
	SV953 SSM	316 Stainless			SV963 SSM	316 Stainless	
4"	SV954 MSM	Steel	24.5	4"	SV964 MSM	Steel	20.0
	SV954 SSM	316 Stainless			SV964 SSM	316 Stainless	
6"	SV956 MSM	Steel	46.0	6"	SV966 MSM	Steel	40.0
	SV956 SSM	316 Stainless			SV966 SSM	316 Stainless	

Dimensions

Size	A	B	C	D	E	F	TTMA Flange				ANSI Flange *				Max. Working Pressure
							O.D.	B.C.	Holes	Thick.	O.D.	B.C.	Holes	Thick.	
3"	9 1/2	11 5/8	9	19	3 3/16	2 1/4 †	6 1/8	4 7/8	8 - 7/16	.1345	7 1/2	6	4 - 3/4	1/2	50 PSI
4"	10	13	9	24	3 5/16	2 5/8 *	7 1/8	5 7/8	8 - 7/16	.1345	9	7 1/2	8 - 3/4	1/2	50 PSI
6"	8	17	14	26	5 1/16	4	9 3/8	8 1/8	12 - 7/16	.1345	11	9 1/2	8 - 7/8	1/2	50 PSI

*ANSI Dimension 3 1/2"

*Drilling Dimensions Only

† 3" ANSI Dimension 2 5/8"

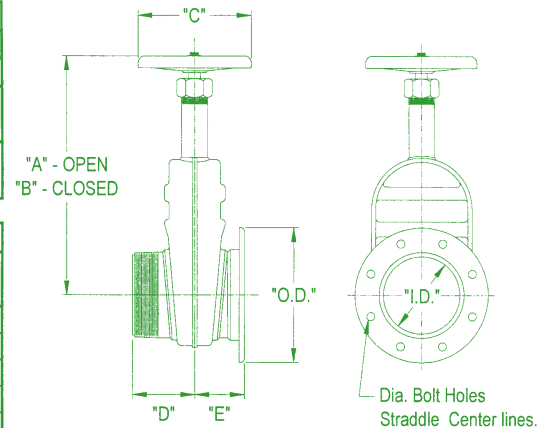
Betts Gate Valve (Flanged X Threaded) Fabricated - Double Acting

See section 18 Page 4A for parts list.

Flanges are Drilled to TTMA Recommendations.

Pipe Size	Dimensions										
	Body					Pipe Thread	Flange				
	A	B	C	D	E		I.D.	O.D.	B.C.	No.	Dia.
3	14 1/4	12 5/8	4 1/2	3 3/16	2 1/4	3" NPT	3 1/16	Stl & SS 6 1/8	4 7/8	8	7/16
								Aluminum 5 5/8			
4	15 1/4	13 1/8	6	3 5/16	2 5/8	4" NPT	4 1/32	Stl & SS 7 1/8	5 7/8	8	7/16
								Aluminum 6 5/8			

Pipe Size	Descriptions				Part Numbers	Wt Lbs.
	Body	Stem	Discs	Packing		
3	Steel	Brass	Stainless Steel	3 Teflon Suspensoid Rings	G 1003	9.4
	Steel	Steel	Stainless Steel		FG 1003	9.3
	Aluminum	Aluminum	Stainless Steel		AAG 1003	4.5
	Aluminum	Stainless Steel	Stainless Steel		ASG 1003	5.0
	Stainless Steel	Stainless Steel	Stainless Steel		SG 1003	9.3
4	316 Stainless	316 Stainless	316 Stainless	SSG 1003	9.3	
	Steel	Brass	Stainless Steel	3 Teflon Suspensoid Rings	G 1004	12.5
	Steel	Steel	Stainless Steel		FG 1004	12.3
	Aluminum	Aluminum	Stainless Steel		AAG 1004	6.3
	Aluminum	Stainless Steel	Stainless Steel		ASG 1004	6.9
Stainless Steel	Stainless Steel	Stainless Steel	SG 1004		12.3	
316 Stainless	316 Stainless	316 Stainless	SSG 1004	12.3		



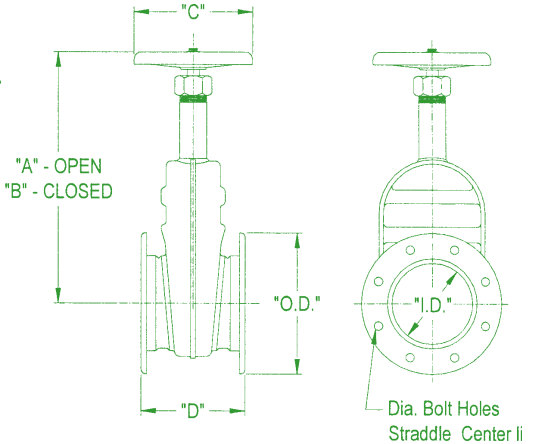
Betts Gate Valve (Flanged X Flanged) Fabricated - Double Acting

See section 18 Page 4A for parts list.

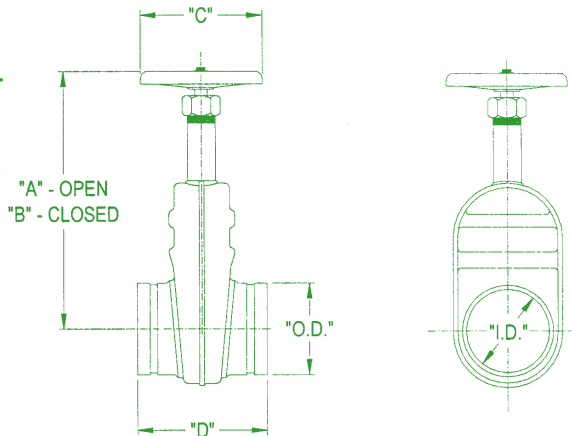
Flanges are Drilled to TTMA Recommendations.

Pipe Size	Body				Pipe Thread	Flange				
	A	B	C	D		I.D.	O.D.	B.C.	No.	Dia.
3	14 1/4	12 5/8	4 1/2	4 1/2	N/A	3 1/16	Stl & SS 6 1/8	4 7/8	8	7/16
							Aluminum 5 5/8			
4	15 1/4	13 1/8	6	5 1/4	N/A	4 1/32	Stl & SS 7 1/8	5 7/8	8	7/16
							Aluminum 6 5/8			

Pipe Size	Material				Packing	Part Numbers	Wt Lbs.
	Body	Stem	Discs				
3	Steel	Brass	Stainless Steel	3 Teflon Suspensoid Rings	G 1013	9.9	
	Steel	Steel	Stainless Steel		FG 1013	9.8	
	Aluminum	Aluminum	Stainless Steel		AAG 1013	4.7	
	Aluminum	Stainless Steel	Stainless Steel		ASG 1013	5.2	
	Stainless Steel	Stainless Steel	Stainless Steel		SG 1013	9.8	
	316 Stainless	316 Stainless	316 Stainless		SSG 1013	9.8	
4	Steel	Brass	Stainless Steel	3 Teflon Suspensoid Rings	G 1014	13.3	
	Steel	Steel	Stainless Steel		FG 1014	13.1	
	Aluminum	Aluminum	Stainless Steel		AAG 1014	6.6	
	Aluminum	Stainless Steel	Stainless Steel		ASG 1014	7.2	
	Stainless Steel	Stainless Steel	Stainless Steel		SG 1014	13.1	
	316 Stainless	316 Stainless	316 Stainless		SSG 1014	13.1	



Betts Gate Valve (Grooved X Grooved) Fabricated - Double Acting



See section 18 Page 4A for parts list.

Pipe Size	Body				Pipe Thread	Connection		Remarks
	A	B	C	D		I.D.	O.D.	
3	14 1/4	12 5/8	4 1/2	5 1/2	N/A	3 1/16	3 1/2	Ends are grooved for standard type couplings per Mil Spec MIL-C-10387B
4	15 1/4	13 1/8	6	6 3/8	N/A	4 1/32	4 1/2	

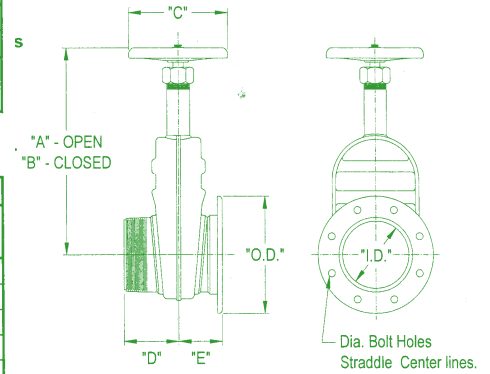
Pipe Size	Material				Packing	Part Numbers	Wt Lbs.
	Body	Stem	Discs				
3	Steel	Brass	Stainless Steel	3 Teflon Suspensoid Rings	G 1033	8.9	
	Steel	Steel	Stainless Steel		FG 1033	8.8	
	Aluminum	Aluminum	Stainless Steel		AAG 1033	4.3	
	Aluminum	Stainless Steel	Stainless Steel		ASG 1033	4.8	
	Stainless Steel	Stainless Steel	Stainless Steel		SG 1033	8.8	
	316 Stainless	316 Stainless	316 Stainless		SSG 1033	8.8	
4	Steel	Brass	Stainless Steel	3 Teflon Suspensoid Rings	G 1034	11.3	
	Steel	Steel	Stainless Steel		FG 1034	11.1	
	Aluminum	Aluminum	Stainless Steel		AAG 1034	5.5	
	Aluminum	Stainless Steel	Stainless Steel		ASG 1034	5.9	
	Stainless Steel	Stainless Steel	Stainless Steel		SG 1034	11.1	
	316 Stainless	316 Stainless	316 Stainless		SSG 1034	11.1	

Betts Gate Valve (Flanged X Threaded) Replaceable O-Ring Seat

See section 18 Page 4A for parts list.

Flanges are Drilled to TTMA Recommendations.

Dimensions											
Pipe Size	Body					Pipe Thread	Flange				
	A	B	C	D	E		I.D.	O.D.	B.C.	No.	Dia.
4	15 1/4	13 1/8	6	3 5/16	2 5/8	4" NPT	4 1/32	Stl & SS 7 1/8	5 7/8	8	7/16
								Aluminum 6 5/8			



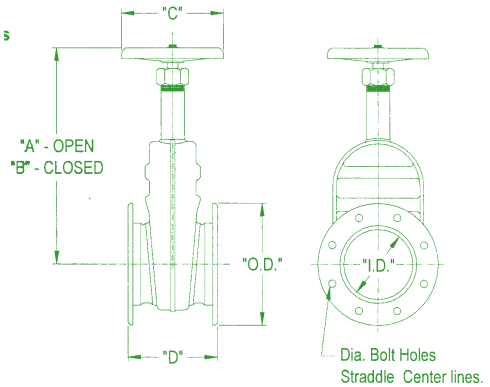
Descriptions						
Pipe Size	Material				Part Numbers	Wt Lbs.
	Body	Stem	Discs	Packing		
4	Steel	Brass	Stainless Steel	3 Teflon Suspensoid Rings	G 2004	12.5
	Steel	Steel	Stainless Steel		FG 2004	12.3
	Aluminum	Aluminum	Stainless Steel		AAG 2004	6.3
	Aluminum	Stainless Steel	Stainless Steel		ASG 2004	6.9
	Stainless Steel	Stainless Steel	Stainless Steel		SG 2004	12.3
	316 Stainless	316 Stainless	316 Stainless		SSG 2004	12.3

Betts Gate Valve (Flanged X Flanged) Replaceable O-Ring Seat

See section 18 Page 4A for parts list.

Flanges are Drilled to TTMA Recommendations.

Dimensions										
Pipe Size	Body				Pipe Thread	Flange				
	A	B	C	D		I.D.	O.D.	B.C.	No.	Dia.
4	15 1/4	13 1/8	6	5 1/4	N/A	4 1/32	Stl & SS 7 1/8	5 7/8	8	7/16
							Aluminum 6 5/8			

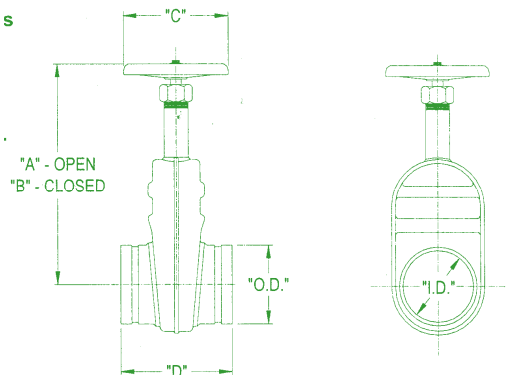


Descriptions						
Pipe Size	Material				Part Numbers	Wt Lbs.
	Body	Stem	Discs	Packing		
4	Steel	Brass	Stainless Steel	3 Teflon Suspensoid Rings	G 2014	13.3
	Steel	Steel	Stainless Steel		FG 2014	13.1
	Aluminum	Aluminum	Stainless Steel		AAG 2014	6.6
	Aluminum	Stainless Steel	Stainless Steel		ASG 2014	7.2
	Stainless Steel	Stainless Steel	Stainless Steel		SG 2014	13.1
	316 Stainless	316 Stainless	316 Stainless		SSG 2014	13.1

Betts Gate Valve (Grooved X Grooved) Replaceable O-Ring Seat

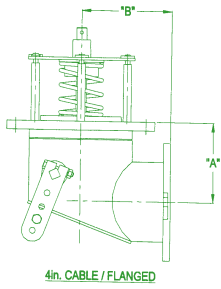
See section 18 Page 4A for parts list.

Dimensions								
Pipe Size	Body				Pipe Thread	Connection		Remarks
	A	B	C	D		I.D.	O.D.	
4	15 1/4	13 1/8	6	6 3/8	N/A	4 1/32	4 1/2	Ends are grooved for standard type couplings per Mil Spec MIL-C-10387B

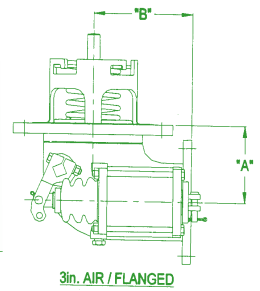


Descriptions						
Pipe Size	Material				Part Numbers	Wt Lbs.
	Body	Stem	Discs	Packing		
4	Steel	Brass	Stainless Steel	3 Teflon Suspensoid Rings	G 2034	11.3
	Steel	Steel	Stainless Steel		FG 2034	11.1
	Aluminum	Aluminum	Stainless Steel		AAG 2034	5.5
	Aluminum	Stainless Steel	Stainless Steel		ASG 2034	5.9
	Stainless Steel	Stainless Steel	Stainless Steel		SG 2034	11.1
	316 Stainless	316 Stainless	316 Stainless		SSG 2034	11.1

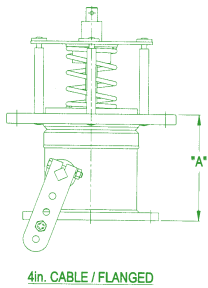
Betts Emergency Valve Stainless Steel 90 Degree Elbow



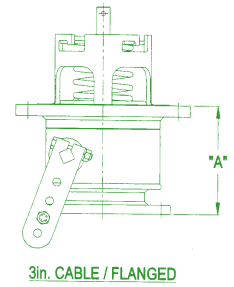
Size	Assembly No.	Air/Cable	Outlet	Wt.	Dimensions		Inlet Flange		Outlet Flange	
					A	B	B.C.	Holes	B.C.	Holes
3"	EV46110SSSTS	Air	3" Flg	15.5	3.50"	4.50"	6.25"	6-9/16	4.88"	8-7/16
	EV46097SSSTS	Cable	3" Flg	13.2						
4"	EV46227SSSTS	Air	4" Flg	26.5	4.38"	5.00"	7.25"	8-9/16	5.88"	8-7/16
	EV46242SSSTS	Cable	4" Flg	24.2						



Betts Emergency Valve Stainless Steel Straight



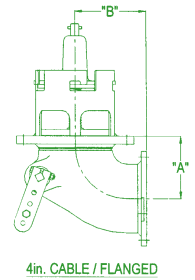
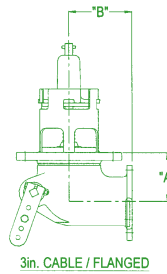
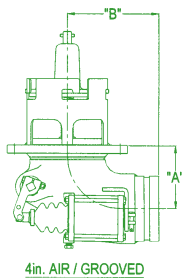
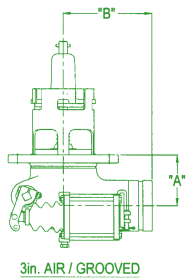
Size	Assembly No.	Air/Cable	Outlet	Wt.	Dimensions	Inlet Flange		Outlet Flange	
					A	B.C.	Holes	B.C.	Holes
3"	Not Available	Air	3" Flg	N.A.	4.50"	6.25"	6-9/16	4.88"	8-7/16
	EV46326SSSTS	Cable	3" Flg	13.0					
4"	Not Available	Air	4" Flg	N.A.	5.25"	7.25"	8-9/16	5.88"	8-7/16
	EV46629SSSTS	Cable	4" Flg	15.7					



Betts Emergency Valve Aluminum Flat Seat Style 90 Degree Elbow

Size	*Assembly No.	Air/Cable	Outlet	Wt.	Dimensions		Inlet Flange		Outlet Flange	
					A	B	B.C.	Holes	B.C.	Holes
3"	EV46672ALB	Air	3" Grv	10.5	3.50"	6.06"	6.25"	6-9/16	N.A.	N.A.
	EV46673ALB	Cable	3" Grv	8.2						
	EV46670ALB	Air	3" Flg	10.5	3.50"	4.50"	6.25"	6-9/16	4.88"	8-7/16
	EV46671ALB	Cable	3" Flg	8.2						
4"	EV46435ALB	Air	4" Grv	12.7	4.38"	6.25"	7.25"	8-9/16	N.A.	N.A.
	EV46398ALB	Cable	4" Grv	10.4						
	EV46428ALB	Air	4" Flg	12.7	4.38"	5.00"	7.25"	8-9/16	5.88"	8-7/16
	EV46399ALB	Cable	4" Flg	10.4						

*Specify Viton seals by substituting "V" for "B" in Assembly Number.

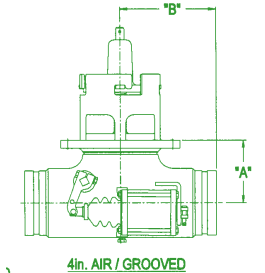
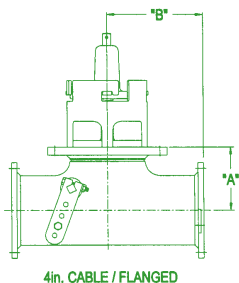
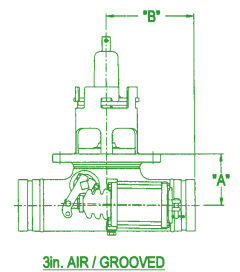
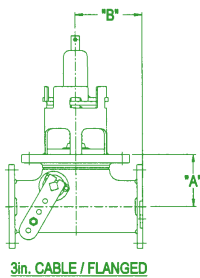


Betts Emergency Valve Aluminum Flat Seat Tee

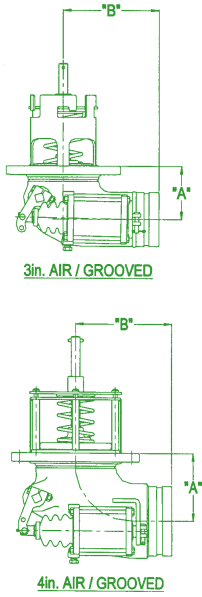
See Section 30 Page 10A for parts list.

Size	*Assembly No.	Air/Cable	Outlet	Wt.	Dimensions		Inlet Flange		Outlet Flange	
					A	B	B.C.	Holes	B.C.	Holes
3"	EV46536ALB	Air	3" Grv	11.8	3.50"	5.94"	6.25"	6-9/16	N.A.	N.A.
	EV46534ALB	Cable	3" Grv	9.5						
	EV46537ALB	Air	3" Flg	11.8	3.50"	4.50"	6.25"	6-9/16	4.88"	8-7/16
	EV46535ALB	Cable	3" Flg	9.5						
4"	EV46625ALB	Air	4" Grv	12.9	4.38"	6.63"	7.25"	8-9/16	N.A.	N.A.
	EV46623ALB	Cable	4" Grv	10.6						
	EV46626ALB	Air	4" Flg	12.9	4.38"	5.13"	7.25"	8-9/16	5.88"	8-7/16
	EV46624ALB	Cable	4" Flg	10.6						

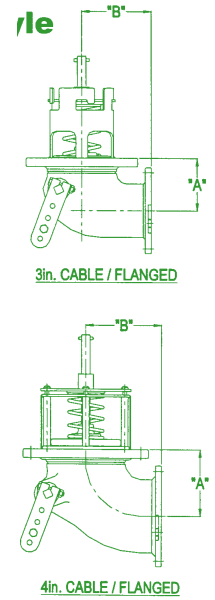
*Specify Viton seals by substituting "V" for "B" in Assembly Number.



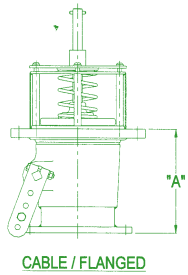
Betts Emergency Valve Stainless Steel 90 Degree Elbow



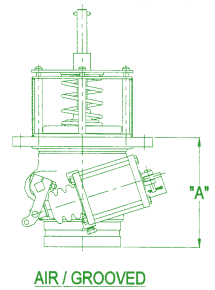
Size	Assembly No.	Air /Cable	Outlet	Wt.	Dimensions		Inlet Flange		Outlet Flange	
					A	B	B.C.	Holes	B.C.	Holes
3"	EV46169ALTS	Air	3" Grv	9.7	3.50"	6.06"	6.25"	6-9/16	N.A.	N.A.
	EV46158ALTS	Cable	3" Grv	7.5						
	EV46152ALTS	Air	3" Flg	9.7	3.50"	4.50"	6.25"	6-9/16	4.88"	8-7/16
	EV46157ALTS	Cable	3" Flg	7.5						
4"	EV46455ALTS	Air	4" Grv	13.5	4.38"	6.25"	7.25"	8-9/16	N.A.	N.A.
	EV46458ALTS	Cable	4" Grv	11.3						
	EV46456ALTS	Air	4- 1/2" Grv	13.5	4.38"	6.25"	7.25"	8-9/16	N.A.	N.A.
	EV46459ALTS	Cable	4- 1/2" Grv	11.3						
	EV46454ALTS	Air	4" Flg	13.5	4.38"	5.00"	7.25"	8-9/16	5.88"	8-7/16
	EV46457ALTS	Cable	4" Flg	11.3						



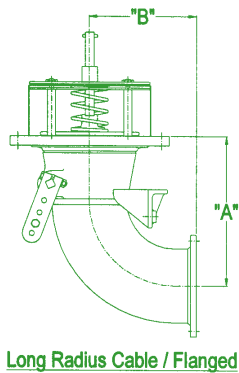
Betts Emergency Aluminum Tapered Seat Style Straight



Size	Assembly No.	Air /Cable	Outlet	Wt.	Dimensions	Inlet Flange		Outlet Flange	
					A	B.C.	Holes	B.C.	Holes
4"	EV46461ALTS	Air	4" Grv	13.5	6.50"	7.25"	8-9/16	N.A.	N.A.
	EV46464ALTS	Cable	4" Grv	10.0					
	EV46462ALTS	Air	4- 1/2" Grv	13.5	6.50"	7.25"	8-9/16	N.A.	N.A.
	EV46465ALTS	Cable	4- 1/2" Grv	10.0					
	EV46460ALTS	Air	4" Flg	13.5	6.50"	7.25"	8-9/16	5.88"	8-7/16
	EV46463ALTS	Cable	4" Flg	10.0					

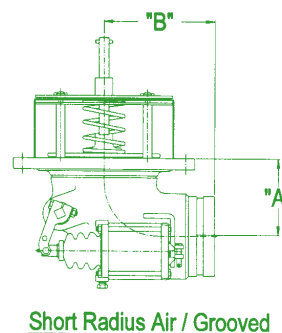
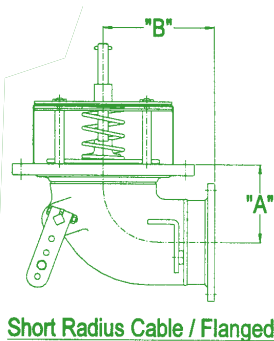
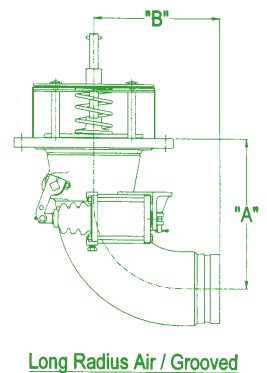


Betts Emergency Valve Aluminum 6" X 4" High Flow 90 Degree Elbow



Size	Assembly No.	Air /Cable	Outlet	Wt.	Dimensions		*Inlet Flange		Outlet Flange	
					A	B	B.C.	Holes	B.C.	Holes
6"x4" SHORT RADIUS	EV46467ALTS	Air	4" Grv	16.4	4.38"	6.25"	9.25"	12-9/16	N.A.	N.A.
	EV46470ALTS	Cable	4" Grv	14.2						
	EV46468ALTS	Air	4- 1/2" Grv	16.4	4.38"	6.25"	9.25"	12-9/16		
	EV46471ALTS	Cable	4- 1/2" Grv	14.2						
	EV46466ALTS	Air	4" Flg	16.4	4.38"	6.25"	9.25"	12-9/16	5.88"	8-7/16
	EV46469ALTS	Cable	4" Flg	14.2						
6"x4" LONG RADIUS	EV46473ALTS	Air	4" Grv	18.2	9.75"	8.13"	9.25"	12-9/16	N.A.	N.A.
	EV46476ALTS	Cable	4" Grv	16.0						
	EV46474ALTS	Air	4- 1/2" Grv	18.2	9.75"	8.13"	9.25"	12-9/16		
	EV46477ALTS	Cable	4- 1/2" Grv	16.0						
	EV46472ALTS	Air	4" Flg	18.2	9.75"	6.75"	9.25"	12-9/16	5.88"	8-7/16
	EV46475ALTS	Cable	4" Flg	16.0						

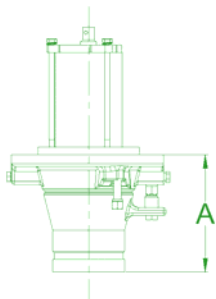
*NOTE: Valves mount to standard 6" TTMA sump



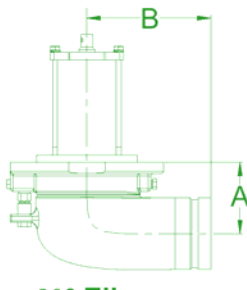
Betts 3" Emergency Valve Aluminum Internal, Tapered Seat Style

Size	Assembly No.	Inlet Flange		Outlet		Dimensions		Wt. (lbs.)	F _b -max Per TTMA RP86	Temp. Range *	MAWP**
		B.C	Holes	B.C.	Holes	A	B				
3" Straight	EV46964ALTS	6.25"	6-9/16	3" GROOVED		5.71"	N.A.	7.3	25,800 lb	-40°F To +212°F	26 PSI
	EV46967ALTS			4.88	8-7/16	4.25"	N.A.	7.5			
3" Elbow	EV46934ALTS			3" GROOVED		3.50"	6.06"	8.1	50,400 lb		
	EV46947ALTS			4.88	8-7/16	3.50"	4.50"	8.3			
3" Tee	EV46980ALTS			3" GROOVED		3.50"	5.94"	8.8	36,200 lb		
	EV46981ALTS			4.88	8-7/16	3.50"	4.50"	9.2			

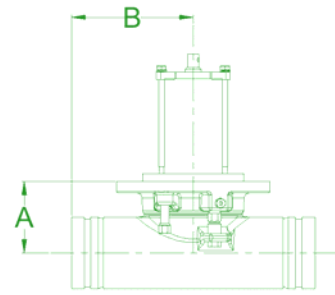
* Fusible plug melts at +212° F, Valve and air cylinder working temperature is -40°F to +250° F.



Straight



90° Elbow



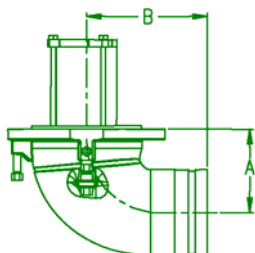
Tee

Betts 4" Emergency Valve Aluminum Internal, Tapered Seat Style

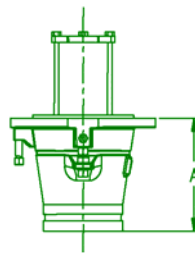
Size	Assembly No.	Inlet Flange		Outlet		Dimensions		Wt. (lbs.)	F _b -max Per TTMA RP86	Temp. Range *	MAWP**
		B.C	Holes	B.C.	Holes	A	B				
4" Straight	EV46909ALTS	7.25"	8-9/16	4" GROOVED		6.50"	N.A.	8.0	24,000 lb	-40°F to +212°F	18 PSI
	EV46910ALTS			5.88	8-7/16	6.50"	N.A.	8.5			
4" Elbow	EV46911ALTS			4" GROOVED		4.38"	6.25"	8.7	44,400 lb		
	EV46912ALTS			5.88	8-7/16	4.38"	6.25"	9.0			
4" Tee	EV46991ALTS			4" GROOVED		4.38"	6.63"	10.5	32,000 lb		
	EV46992ALTS			5.88	8-7/16	4.38"	6.63"	10.8			

* Fusible plug melts at +212° F, Valve and air cylinder working temperature is -40°F to +250° F.

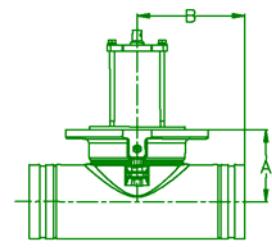
** MAWP based on line pressure of 80 PSI.



90° Elbow



Straight



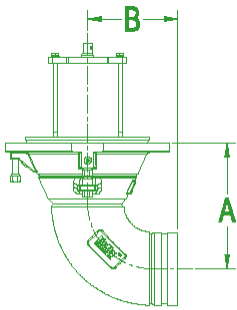
Tee

Betts 3" Emergency Valve Aluminum Internal, Tapered Seat Style

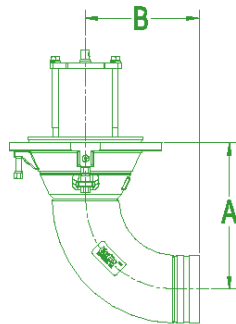
Size	Assembly No.	Inlet Flange		Outlet		Dimensions		Wt. (lbs).	F _{b-max} Per TTMA RP86	Temp. Range *	MAWP**
		B.C	Holes	B.C.	Holes	A	B				
6" Straight	EV46913ALTS	9.25"	12-9/16	4" GROOVED		7.63"	N.A.	14	22,900 lb	-40°F To +212°F	20 PSI
	EV46914ALTS			5.88	8-7/16	7.25"	N.A.	14			
6" Long Radius Elbow	EV46923ALTS			4" GROOVED		9.75"	8.13"	16	16,600 lb		
	EV46924ALTS			5.88	8-7/16	9.75"	6.75"	16			
6" Mid Radius Elbow	EV46943ALTS			4" GROOVED		7.75"	5.62"	15	22,300 lb		
	EV46944ALTS			5.88	8-7/16	7.75"	6.22"	15			
6" Tee	EV46941ALTS			4" GROOVED		9.75"	8.13"	19	16,600lb		
	EV46942ALTS			5.88	8-7/16	9.75"	6.75"	19			

* Fusible plug melts at +212° F, Valve and air cylinder working temperature is -40°F to +250° F.

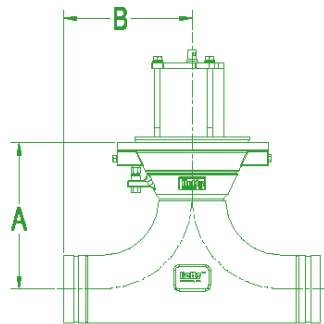
** MAWP based on line pressure of 80 PSI.



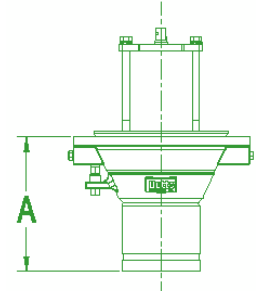
Mid Radius



Long Radius

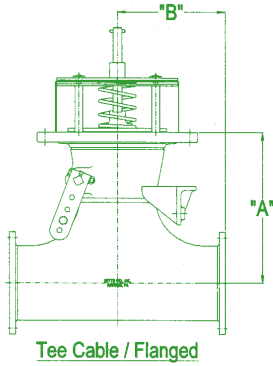


Tee



Straight

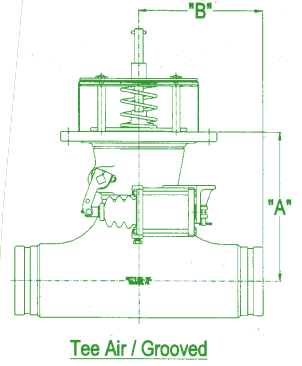
Betts Emergency Valve Aluminum 6" X 4" High Flow Straight and Tee



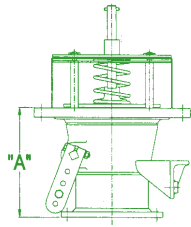
Tee Cable / Flanged

Size	Assembly No.	Air /Cable	Outlet	Wt.	Dimensions		*Inlet Flange		Outlet Flange	
					A	B	B.C.	Holes	B.C.	Holes
6"x4" STRAIGHT	EV46479ALTS	Air	4" Grv	16.0	7.63"	N.A.	9.25"	12-9/16"	N.A.	N.A.
	EV46482ALTS	Cable	4" Grv	13.8						
	EV46480ALTS	Air	4- 1/2" Grv	16.0	8.38"	N.A.	9.25"	12-9/16"	N.A.	N.A.
	EV46483ALTS	Cable	4- 1/2" Grv	13.8	7.63"	N.A.	9.25"	12-9/16"	N.A.	N.A.
	EV46478ALTS	Air	4" Flg	16.0	7.25"	N.A.	9.25"	12-9/16"	5.88"	8-7/16"
EV46481ALTS	Cable	4" Flg	13.8							
6"x4" TEE	EV46485ALTS	Air	4" Grv	20.8	9.75"	8.13"	9.25"	12-9/16"	N.A.	N.A.
	EV46488ALTS	Cable	4" Grv	18.6						
	EV46486ALTS	Air	4- 1/2" Grv	20.8	9.75"	8.13"	9.25"	12-9/16"	N.A.	N.A.
	EV46489ALTS	Cable	4- 1/2" Grv	18.6						
	EV46484ALTS	Air	4" Flg	20.8	9.75"	6.75"	9.25"	12-9/16"	5.88"	8-7/16"
	EV46487ALTS	Cable	4" Flg	18.6						

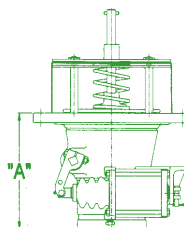
*NOTE: Valves mount to standard 6" TTMA sump



Tee Air / Grooved



Straight Cable / Flanged



Straight Air / Grooved

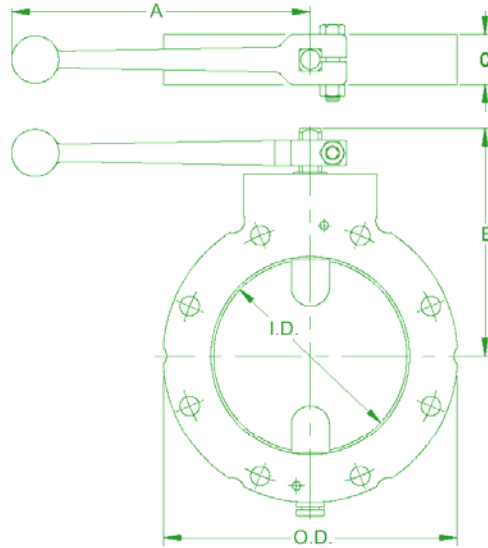
Betts Air Distributor

No. Comp.	Assembly No.	Weight	Material	Dimensions		
				A	B	C
1	AD25011-1ALB	1.50	Alum.	5-5/16	4"	1-3/4
2	AD25011-2ALB	1.80	Alum.	5-5/16	4"	1-3/4
3	AD25011-3ALB	2.69	Alum.	5-5/16	6"	1-3/4
4	AD25011-4ALB	3.63	Alum.	5-5/16	8"	1-3/4
5	AD25011-5ALB	4.50	Alum.	5-5/16	10"	1-3/4
6	AD25011-6ALB	5.40	Alum.	5-5/16	12"	1-3/4
7	AD25011-7ALB	6.30	Alum.	5-5/16	14"	1-3/4
8	AD25011-8ALB	7.40	Alum.	5-5/16	16"	1-3/4

Betts Wet-R-Dri Repair Kit

For WD Valve Size	Repair Kit Part No.	Suffix: BN Buna-N Disc PY Urethane Disc VT Viton Disc EP EPDM Disc REPAIR KITS CONSIST OF: 1 Disc 2 Drive Shaft O-Rings 1 Bearing Shaft O-Ring 2 Drive Lock Pins 2 Flange Gaskets 1 Sec. 20, Page 1A & B
2"	WD18402BN WD18402VT	
3"	WD18403BN WD18403VT	
4"	WD18404VT	
5"	WD18405VT	
6"	WD18406PY WD18406VT	
8"	WD18408PY WD18408VT	
All Detent	WD18400SL	Detent Repair Kit (For all sizes detent models) CONSISTS OF: 1 Detent Ball WD109SL 1 Detent Spring WD110SL 1 Retaining Screw WD111SL

Betts Wet-R-Dri Valve (TTMA Style) Standard and Detent



Size	Standard Model	Wt.	Detent Model	Wt.	Standard Material		Max. Working Pressure	Temperature Range
	Assembly No.		Assembly No.		Body	Disc		
2"	WD200 AL B	2.4	WD201 AL B	2.4	Aluminum	Buna-N	75 PSI	See Chart Below
	WD200 GI B	4.6	WD201 GI B	4.6	Grey Iron			
3"	WD300 AL B	3.6	WD301 AL B	3.6	Aluminum	Buna-N	75 PSI	
	WD300 GI B	6.9	WD301 GI B	6.9	Grey Iron			
4"	WD400 AL V	4.5	WD401 AL V	4.5	Aluminum	Viton	75 PSI	
	WD400 GI V	8.3	WD401 GI V	8.3	Grey Iron			
5"	WD500 AL V	7.9	WD501 AL V	7.9	Aluminum	Viton	50 PSI	
6"	WD600 AL U	11.8	WD601 AL U	11.8	Aluminum	Urethane	50 PSI	
8"	WD800 AL U	17.3	WD801 AL U	17.3	Aluminum	Urethane	50 PSI	

NOTE: Standard drilling fits TTMA recommended standards.

Valves are available with the following options: Stainless steel liners and shafts, grease fittings installed in the drive and bearing shafts, and "E" Coating of aluminum valves (recommended for aluminum valves used in water service).

For repair kit, see Section 20, Page 5B.

Dimensions

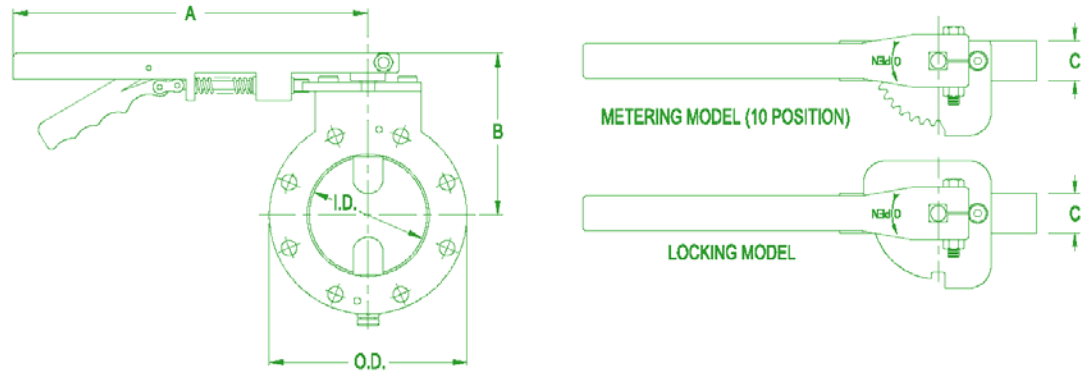
Size	A	B	C	I.D.	O.D.	B.C.	Holes
2"	6 ³ / ₄	4 ¹ / ₄	1 ¹ / ₈	2 ¹ / ₄	3 ³ / ₄	3 ³ / ₄	6 ⁻⁷ / ₁₆
3"	6 ³ / ₄	4 ⁵ / ₈	1 ¹ / ₈	3 ³ / ₈	5 ⁵ / ₈	4 ¹ / ₈	8 ⁻⁷ / ₁₆
4"	6 ³ / ₄	5 ¹ / ₈	1 ¹ / ₈	4 ³ / ₈	6 ⁵ / ₈	5 ⁷ / ₈	8 ⁻⁷ / ₁₆
5"	6 ³ / ₄	6 ³ / ₈	2 ¹ / ₈	5 ¹ / ₁₆	7 ⁵ / ₈	7	12 ⁻⁷ / ₁₆
6"	12	7	2 ¹ / ₈	6 ¹ / ₈	8 ⁵ / ₈	8 ¹ / ₈	12 ⁻⁷ / ₁₆
8"	12	8	2 ¹ / ₂	8	10 ⁷ / ₈	10 ¹ / ₈	16 ⁻⁷ / ₁₆

Suffix for Disc Material

Buna-N		Viton	Urethane		EPDM
Black	White		Black	White	
B	WB	V	U	WU	E
-40°F	-40°F	-0°F	-40°F	-40°F	-50°F
+200°F	+200°F	+400°F	+200°F	+200°F	+300°F

NOTE: Temperature ranges based on published information and may vary due to actual operating conditions.

Betts Wet-R-Dri Valve (TTMA Style) Locking and Metering



The Betts Wet-R-Dri Valve is designed for handling liquid, gaseous or dry products, and is available in a variety of sizes and models. This space saving valve is lightweight, easily maintained, and has a positive stop in the open and closed position. The Locking model has a 2 notch indexing plate which locks disc in the open or closed positions. The Metering model has a 10 notch indexing plate which allows disc to be positioned in 10 various positions.

Size	Locking Model	Wt.	Metering Model	Wt.	Standard Material		Max. Working Pressure	Temperature Range
	Assembly No.		Assembly No.		Body	Disc		
2"	WD202 AL B	3.3	WD204 AL B	3.1	Aluminum	Buna-N	75 PSI	See Chart Below
	WD202 GI B	5.5	WD204 GI B	5.3	Grey Iron			
3"	WD302 AL B	4.5	WD304 AL B	4.3	Aluminum	Buna-N	75 PSI	
	WD302 GI B	7.8	WD304 GI B	7.6	Grey Iron			
4"	WD402 AL V	5.4	WD404 AL V	5.2	Aluminum	Viton	75 PSI	
	WD402 GI V	9.2	WD404 GI V	9.0	Grey Iron			
5"	WD502 AL V	8.8	WD504 AL V	8.6	Aluminum	Viton	50 PSI	
6"	WD602 AL U	12.4	WD604 AL U	12.2	Aluminum	Urethane	50 PSI	
8"	WD802 AL U	17.9	WD804 AL U	17.7	Aluminum	Urethane	50 PSI	

NOTES: Standard drilling fits TTMA recommended standards.

Valves are available with the following options: Stainless steel liners and shafts, grease fittings installed in the drive and bearing shafts, and "E" Coating of aluminum valves (recommended for aluminum valves used in water service). For repair kit, see Section 20, Page 5B.

Dimensions

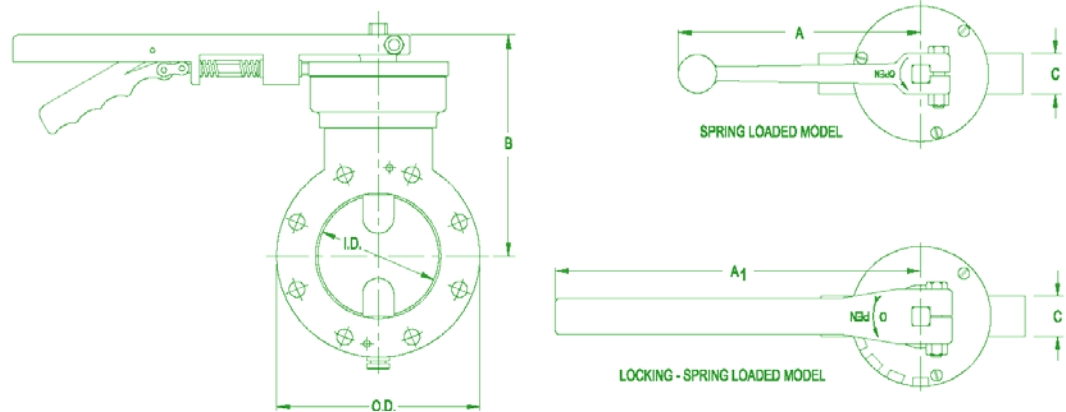
Size	A	B	C	I.D.	O.D.	B.C.	Holes
2"	10 ¹ / ₈	4 ¹ / ₄	1 ¹ / ₈	2 ¹ / ₄	3 ³ / ₄	3 ³ / ₄	6 ⁻⁷ / ₁₆
3"	10 ¹ / ₈	4 ⁵ / ₈	1 ¹ / ₈	3 ³ / ₈	5 ⁵ / ₈	4 ¹ / ₈	8 ⁻⁷ / ₁₆
4"	10 ¹ / ₈	5 ¹ / ₈	1 ¹ / ₈	4 ³ / ₈	6 ⁵ / ₈	5 ¹ / ₈	8 ⁻⁷ / ₁₆
5"	10 ¹ / ₈	6 ³ / ₈	2 ¹ / ₈	5 ⁷ / ₁₆	7 ⁵ / ₈	7	12 ⁻⁷ / ₁₆
6"	12	7	2 ¹ / ₈	6 ¹ / ₈	8 ⁵ / ₈	8 ¹ / ₈	12 ⁻⁷ / ₁₆
8"	12	8	2 ¹ / ₂	8	10 ⁷ / ₈	10 ¹ / ₈	16 ⁻⁷ / ₁₆

Suffix for Disc Material

Buna-N		Viton	Urethane		EPDM
Black	White		Black	White	
B	WB	V	U	WU	E
-40°F	-40°F	-0°F	-40°F	-40°F	-50°F
+200°F	+200°F	+400°F	+200°F	+200°F	+300°F

NOTE: Temperature ranges based on published information and may vary due to actual operating conditions.

Betts Wet-R-Dri Valve (TTMA Style) Locking Type Spring Loaded and Spring Loaded



The Betts Wet-R-Dri Valve is designed for handling liquid, gaseous or dry products, and is available in a variety of sizes and models. This space saving valve is lightweight, easily maintained, and has a positive stop in the open and closed position. Both spring loaded valves provide an immediate and positive shut off. The locking type permits valve to be mechanically held open while the spring loaded type can be used for remote operation or as a dead man valve.

Size	Locking-Spring Loaded	Wt.	Spring Loaded	Wt.	Standard Material		Max. Working Pressure	Temperature Range
	Assembly No.		Assembly No.		Body	Disc		
2"	WD203 AL B	5.5	WD205 AL B	4.4	Aluminum	Buna-N	75 PSI	See Chart Below
	WD203 GI B	7.7	WD205 GI B	6.6	Grey Iron			
3"	WD303 AL B	6.7	WD305 AL B	5.6	Aluminum	Buna-N	75 PSI	
	WD303 GI B	10.0	WD305 GI B	8.9	Grey Iron			
4"	WD403 AL V	7.6	WD405 AL V	6.5	Aluminum	Viton	75 PSI	
	WD403 GI V	11.4	WD405 GI V	10.3	Grey Iron			
5"	WD503 AL V	11.0	WD505 AL V	9.9	Aluminum	Viton	50 PSI	

NOTES: Standard drilling fits TTMA recommended standards.

Valves are available with the following options: Stainless steel liners and shafts, grease fittings installed in the drive and bearing shafts, and "E" Coating of aluminum valves (recommended for aluminum valves used in water service). For repair kit, see Section 20, Page 5B.

Dimensions

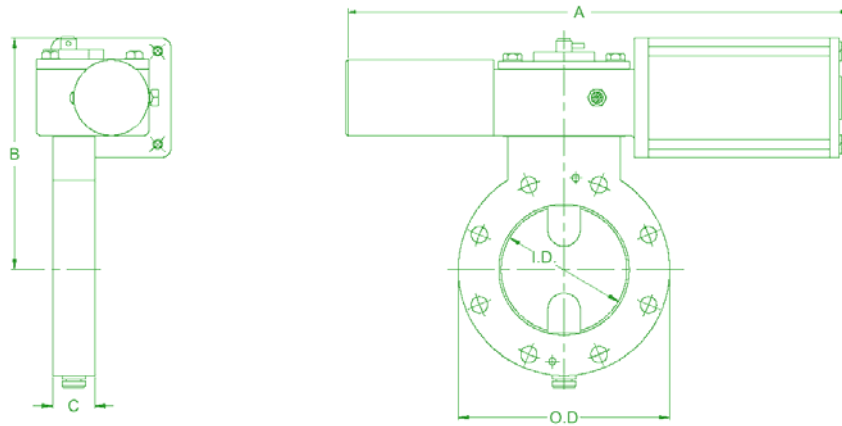
Size	A	A ₁	B	C	I.D.	O.D.	B.C.	Holes
2"	6 ³ / ₄	10 ¹ / ₈	6	1 ¹ / ₈	2 ¹ / ₄	3 ³ / ₄	3 ³ / ₄	6 ⁻ / ₁₆
3"	6 ³ / ₄	10 ¹ / ₈	6 ¹ / ₄	1 ¹ / ₈	3 ³ / ₈	5 ⁵ / ₈	4 ¹ / ₈	8 ⁻ / ₁₆
4"	6 ³ / ₄	10 ¹ / ₈	6 ³ / ₄	1 ¹ / ₈	4 ³ / ₈	6 ⁵ / ₈	5 ¹ / ₈	8 ⁻ / ₁₆
5"	6 ³ / ₄	10 ¹ / ₈	8	2 ¹ / ₈	5 ⁷ / ₁₆	7 ⁵ / ₈	7	12 ⁻ / ₁₆

Suffix for Disc Material

Buna-N		Viton	Urethane		EPDM
Black	White		Black	White	
B	WB	V	U	WU	E
-40°F	-40°F	-40°F	-40°F	-40°F	-40°F
+200°F	+200°F	+200°F	+200°F	+200°F	+200°F

NOTE: Temperature ranges based on published information and may vary due to actual operating conditions.

Betts Wet-R-Dri Valve (TTMA Style) Air Operated



The Betts Wet-R-Dri Valve is designed for handling liquid, gaseous or dry products, and is available in a variety of sizes and models. This space saving valve is lightweight, easily maintained, and has a positive stop in the open and closed position. The air operated valve is opened and closed by air. The air-spring operated valve can be sold as either an air to open, spring return valve or as an air to close spring to open valve. Please specify.

Size	Air Actuated Model	Wt.	Air-Spring Model	Wt.	Standard Material		Max. Working Pressure	Temperature Range
	Assembly No.		Assembly No.		Body	Disc		
2"	WD217 AL B	5.9	WD219 AL B	6.4	Aluminum	Buna-N	75 PSI	See Chart Below
	WD217 GI B	8.1	WD219 GI B	8.6	Grey Iron			
3"	WD317 AL B	7.1	WD319 AL B	7.6	Aluminum	Buna-N	75 PSI	
	WD317 GI B	10.4	WD319 GI B	10.9	Grey Iron			
4"	WD417 AL V	8.0	WD419 AL V	8.5	Aluminum	Viton	75 PSI	
	WD417 GI V	11.8	WD419 GI V	12.3	Grey Iron			
5"	WD517 AL V	11.4	WD519 AL V	11.9	Aluminum	Viton	50 PSI	
6"	WD617 AL U	15.3	WD619 AL U	15.8	Aluminum	Urethane	50 PSI	
8"	WD817 AL U	20.8	WD819 AL U	21.3	Aluminum	Urethane	50 PSI	

NOTES: Standard drilling fits TTMA recommended standards.

Valves are available with the following options: Stainless steel liners and shafts, and "E" Coating of aluminum valves (recommended for aluminum valves used in water service).

For repair kit, see Section 20, Page 5B.

Dimensions

Size	A	B	C	I.D.	O.D.	B.C.	Holes
2"	13 ⁵ / ₁₆	5 ¹³ / ₁₆	1 ¹ / ₈	2 ¹ / ₄	3 ³ / ₄	3 ³ / ₄	6- ⁷ / ₁₆
3"	13 ⁵ / ₁₆	6 ⁵ / ₃₂	1 ¹ / ₈	3 ³ / ₈	5 ⁵ / ₈	4 ¹ / ₈	8- ⁷ / ₁₆
4"	13 ⁵ / ₁₆	6 ¹¹ / ₁₆	1 ¹ / ₈	4 ³ / ₈	6 ⁵ / ₈	5 ⁷ / ₈	8- ⁷ / ₁₆
5"	13 ⁵ / ₁₆	7 ¹ / ₈	2 ¹ / ₈	5 ⁷ / ₁₆	7 ⁵ / ₈	7	12- ⁷ / ₁₆
6"	13 ⁵ / ₁₆	8 ¹ / ₁₆	2 ¹ / ₈	6 ¹ / ₈	8 ⁵ / ₈	8 ¹ / ₈	12- ⁷ / ₁₆
8"	13 ⁵ / ₁₆	9 ³ / ₈	2 ¹ / ₂	8	10 ⁷ / ₈	10 ¹ / ₈	16- ⁷ / ₁₆

Suffix for Disc Material

Buna-N		Viton	Urethane		EPDM
Black	White		Black	White	
B	WB	V	U	WU	E
-40°F	-40°F	-0°F	-40°F	-40°F	-50°F
+200°F	+200°F	+400°F	+200°F	+200°F	+300°F

NOTE: Temperature ranges based on published information and may vary due to actual operating conditions.

Betts Quick Clean Chemical Hydraulic Valve

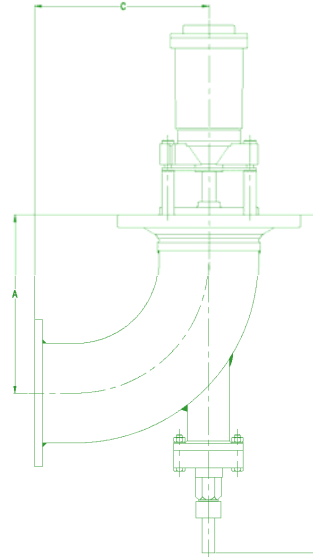
VALVE DIMENSIONS

Size	A	B	C	Inlet Flange			Outlet Flange		
				O.D.	B.C.	N.H.	O.D.	B.C.	N.H.
4x3	4 ³ / ₄	12 ¹ / ₄	4 ¹ / ₂				5 ⁵ / ₈	4 ⁷ / ₈	8 ⁻⁷ / ₁₆
4x4	8 ¹ / ₈	15	7 ⁷ / ₈	8 ¹ / ₄	7 ¹ / ₄	8 ⁻⁹ / ₁₆	6 ⁵ / ₈	5 ⁷ / ₈	8 ⁻⁷ / ₁₆
4x3*	6 ⁵ / ₃₂	14 ³ / ₈	4 ¹ / ₂				5 ⁵ / ₈	4 ⁷ / ₈	8 ⁻⁷ / ₁₆

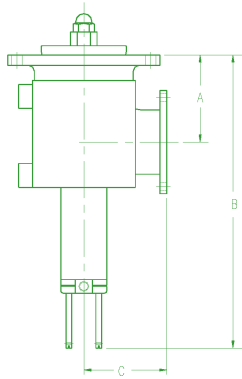
Size	Style Description	Material	Wt.	Assembly No.
4x3	90° Elbow	Stnls 316	23.5	CH46861SSSTS
4x4	90° Elbow	Stnls 316	25.0	CH46874SSSTS
4x3*	Special 90° Elbow	Stnls 316	24.0	CH46870SSSTS

NOTE: A flat mounting surface must be provided for valve seat flange. We recommend mounting pad No. MP19752LC, see Section 40. For hydraulic pump and distributor, see Section 35 Page 3B.

*Special 4x3 valve designed as a direct replacement on tanks plumbed for Betts Internal Chemical Hydraulic valves with 4x3 shear elbows (see Section 35 Page 5A)



Betts Steam Jacketed Chemical Hydraulic Valve



Size	Assembly No.	Material *	Inlet Flange		Outlet		Dimensions			Wt. (lbs.)	Temp. Range	MAWP
			B.C.	Holes	B.C.	Holes	A	B	C			
4x3 90° Elbow	CH46966SSST	316 SS	7.25"	8 ⁻⁹ / ₁₆	4 ⁷ / ₈	8 ⁻⁷ / ₁₆	4 ³ / ₄	16	4 ¹ / ₂	33	-40°F to +400°F	50
	CH46966LHT	316 SS w/ Hastelloy trim**										
4x4 90° Elbow	CH46960SSST	316 SS	7.25"	8 ⁻⁹ / ₁₆	5 ⁷ / ₈	8 ⁻⁷ / ₁₆	7 ⁵ / ₈	16	7 ⁷ / ₈	34.5	-40°F to +400°F	50
	CH46960LHT	316 SS w/ Hastelloy trim**										

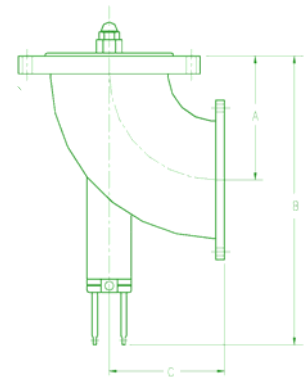
* Material listing is for all wetted surfaces exposed to product during normal operation of valve.

** Hastelloy trimmed valves includes hastelloy C-276 upper stem half (5), hastelloy C-22 trimmed disc (3), & body trimmed w/ hastelloy C-22 in the area in contact w/ the seat (6).

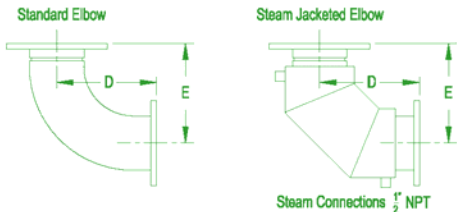
Suffix "017" indicates Teflon Seat w/ Double Tef-Sil O-Ring.

Betts Hot Product Valve

Size	Assembly No.	Material	Inlet Flange		Outlet		Dimensions			Wt. (lbs.)	Temp. Range	MAWP
			B.C.	Holes	B.C.	Holes	A	B	C			
6" 90° Elbow	CH46971MSB	STEEL/ BUNA	9 ¹ / ₄	12 ⁻⁹ / ₁₆	8 ¹ / ₈	12 ⁻⁹ / ₁₆	7	16 ³ / ₈	6 ¹ / ₂	55	-40°F to +275°F	50
6" 90° Elbow	CH46971MST	STEEL/ TEFLON®	9 ¹ / ₄	12 ⁻⁹ / ₁₆	8 ¹ / ₈	12 ⁻⁹ / ₁₆	7	16 ³ / ₈	6 ¹ / ₂	55	-40°F to +400°F	50



Betts Internal Chemical Hydraulic Valve



Description	Material	Wt.	Assembly No.
Internal Hydraulic Valve	Stnls 316	31#	CH45843SST

Valves are available with various replaceable type seats by adding suffix to standard assembly numbers.

Suffix "014" indicates Teflon Seat w/ Kalrez O-Ring.

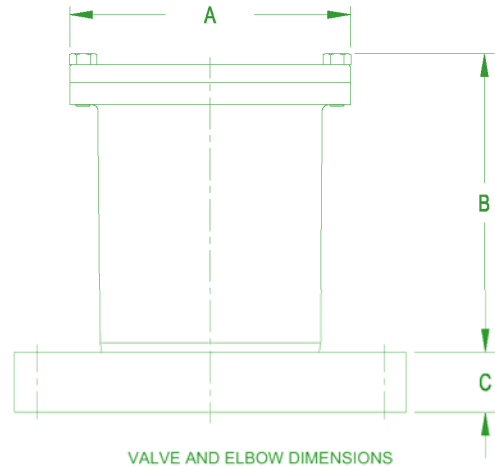
Suffix "016" indicates Kalrez Seat.

Suffix "017" indicates Teflon Seat w/ Double Tef-Sil O-Ring.

Size	Style Description	Material	Wt.	Assembly No.
4x4	90° Standard	Stnls 316	11.8#	CH16859SS
4x3	Elbow Assembly	Stnls 316	9.4#	CH26165SS

4x4	90° Steam Jacketed	Stnls 316	20#	CH16826SS
4x3	Elbow Assembly	Stnls 316	13.7#	CH26166SS

Steam jacket rated at 150 psi maximum working pressure.

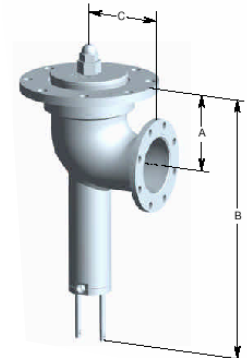


VALVE AND ELBOW DIMENSIONS

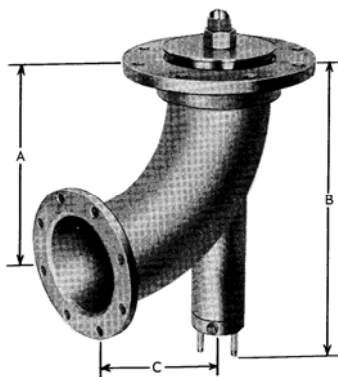
Size	A	B	C	D	E	Inlet Flange			Outlet Flange		
						O.D.	B.C.	N.H.	O.D.	B.C.	N.H.
4x4	5 ⁷ / ₈	6 ¹ / ₄	1 ¹ / ₄	8 ¹¹ / ₃₂	8 ¹¹ / ₃₂	8 ¹ / ₄	7 ¹ / ₄	8 ⁹ / ₁₆	6 ⁵ / ₈	5 ⁷ / ₈	8 ⁷ / ₁₆
4x3				4 ¹ / ₂	4 ³ / ₄				5 ⁵ / ₈	4 ⁷ / ₈	8 ⁷ / ₁₆

Betts External Hydraulic Valve

Size	Assembly No.	Material *	Inlet Flange		Outlet		Dimensions			Wt. (lbs.)	Temp. Range	MAWP
			B.C.	Holes	B.C.	Holes	A	B	C			
4x3 90° Elbow	CH46955SST	316 SS	7.25"	8 ⁹ / ₁₆	4 ⁷ / ₈	8 ⁷ / ₁₆	4 ³ / ₄	16	4 ¹ / ₂	29	-40°F to +400°F	50
	CH46955LHT	316 SS w/ Hastelloy trim**										
4x4 90° Elbow	CH46949SST	316 SS	7.25"	8 ⁹ / ₁₆	5 ⁷ / ₈	8 ⁷ / ₁₆	7 ⁵ / ₈	16	7 ⁷ / ₈	30.5	-40°F to +400°F	50
	CH46949LHT	316 SS w/ Hastelloy trim**										



Betts Standard Hydraulic Valve



Size	A	B	C	Inlet Flange			Outlet Flange		
				O.D.	B.C.	N.H.	O.D.	B.C.	N.H.
4x4	7 ⁵ / ₈	14 ¹ / ₂	7 ⁷ / ₈	8 ¹ / ₄	7 ¹ / ₄	8 ⁹ / ₁₆	6 ⁵ / ₈	5 ⁷ / ₈	8 ⁷ / ₁₆
4x3	4 ³ / ₄	14 ¹ / ₂	4 ¹ / ₂				5 ⁵ / ₈	4 ⁷ / ₈	8 ⁷ / ₁₆

Size	Style Description	Material	Wt.	Assembly No.
4x4	90° Elbow	Stnls 316	28#	CH45586SST
4x3	90° Elbow	Stnls 316	26.5#	CH45613SST

Valves are available with various replaceable type seats by adding suffix to standard assembly numbers.

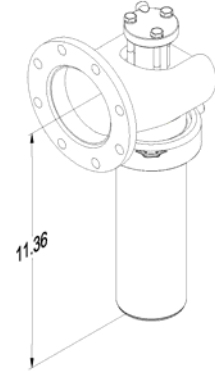
Suffix "014" indicates Teflon Seat w/ Kalrez O-Ring.

Suffix "016" indicates Kalrez Seat.

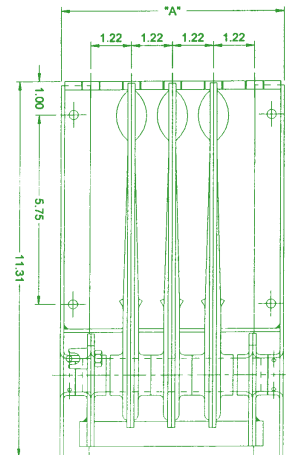
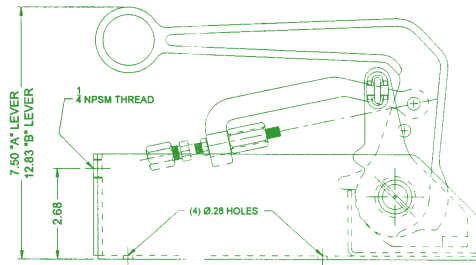
Suffix "017" indicates Teflon Seat w/ Double Tef-Sil O-Ring.

Betts Hydraulic Vapor Valve

SIZE	MOUNTING	OUTLET	WT.	ASSEMBLY NO.
3"	3" NPT	3" TTMA	13.2 lb.	CH46553SSTS
3"	3" TTMA	3" TTMA	13.2 lb.	CH46636SSTS



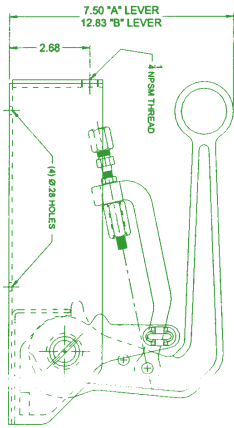
Betts Universal Mechanical Operator (Non-Lubricated)



No. of Compts.	Finish	Weight (lb)	Part Number	Dimension "A"
1	Plain	8.0	40397A	4-7/32
	E-coated	8.0	40397AEY	
2	Plain	10.3	40397B	5-7/16
	E-coated	10.3	40397BEY	
3	Plain	12.5	40397C	6-21/32
	E-coated	12.5	40397CEY	
4	Plain	14.8	40397D	7-7/8
	E-coated	14.8	40397DEY	
5	Plain	17.0	40397E	9-3/32
	E-coated	17.0	40397EEY	
6	Plain	19.3	40397F	10-5/16
	E-coated	19.3	40397FEY	
7	Plain	21.5	40397G	11-17/32
	E-coated	21.5	40397GEY	

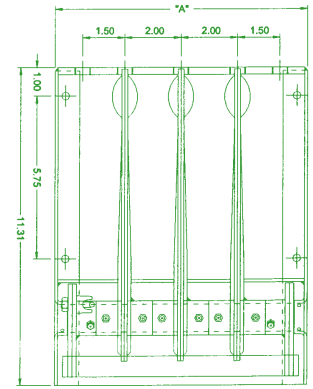
Notes: 1. Add suffix -01 to specify "B" style levers, i.e. 40397A01 or 40397A01EY.

Betts Universal Mechanical Operator (Lubricated)

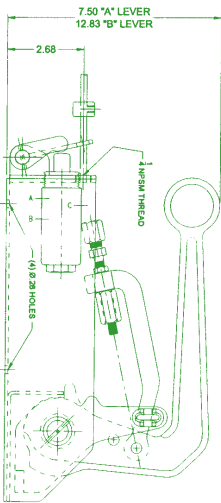


No. of Compts.	Finish	Weight (lb)	Part Number	Dimension "A"
1	Plain	8.0	40412A	4-31/32
	E-coated	8.0	40412AEY	
2	Plain	11.2	40412B	6-31/32
	E-coated	11.2	40412BEY	
3	Plain	14.3	40412C	8-31/32
	E-coated	14.3	40412CEY	
4	Plain	17.5	40412D	10-31/32
	E-coated	17.5	40412DEY	
5	Plain	20.6	40412E	12-31/32
	E-coated	20.6	40412EEY	
6	Plain	23.8	40412F	14-31/32
	E-coated	23.8	40412FEY	
7	Plain	26.9	40412G	16-31/32
	E-coated	26.9	40412GEY	

Notes: 1. Add suffix -01 to specify "B" style levers, i.e. 40412A01 or 40412A01EY.

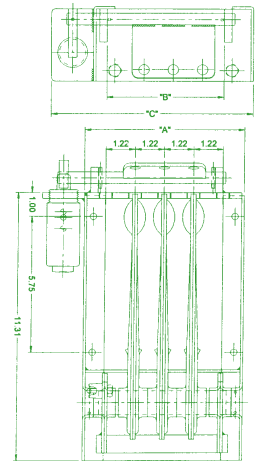


Betts Mechanical Operator Universal Delta 1



No. of Compts.	Finish	Weight (lb)	Part Number	Dimension "A"	Dimension "B"	Dimension "C"
1	Plain	9.8	41158A	4-7/32	2-11/16	5-31/32
	E-coated	9.8	41158AEY			
2	Plain	12.0	41158B	5-7/16	3-3/16	7-3/16
	E-coated	12.0	41158BEY			
3	Plain	14.3	41158C	6-21/32	4-25/32	8-13/32
	E-coated	14.3	41158CEY			
4	Plain	16.5	41158D	7-7/8	6	9-5/8
	E-coated	16.5	41158DEY			
5	Plain	18.8	41158E	9-3/32	7-7/32	10-27/32
	E-coated	18.8	41158EEY			
6	Plain	21.5	41158F	10-5/16	10-27/32	12-1/16
	E-coated	21.5	41158FEY			

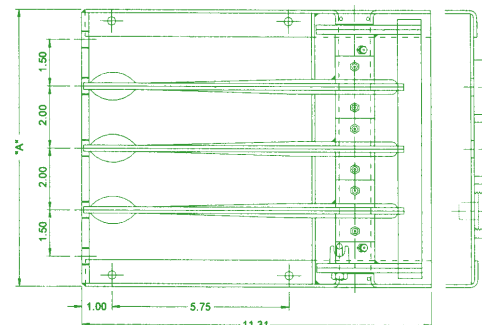
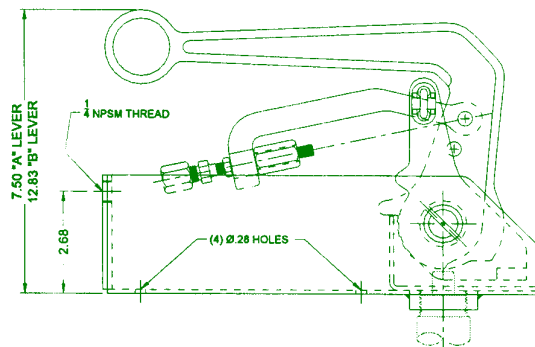
Notes: 1. Add suffix -01 to specify "B" style levers, i.e. 41158A01 or 41158A01EY.
2. Three-way air valve part on. 20761 not included.

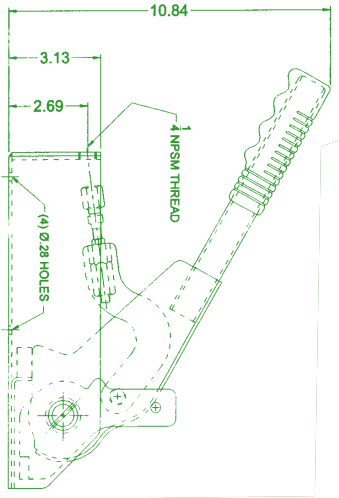


Betts Mechanical Operator Universal Delta 2

No. of Compts.	Finish	Weight (lb)	Part Number	Dimension "A"
1	Plain	8.5	41251A	4-31/32
	E-coated	8.5	41251AEY	
2	Plain	11.9	41251B	6-31/32
	E-coated	11.9	41251BEY	
3	Plain	15.3	41251C	8-31/32
	E-coated	15.3	41251CEY	
4	Plain	18.7	41251D	10-31/32
	E-coated	18.7	41251DEY	
5	Plain	22.1	41251E	12-31/32
	E-coated	22.1	41251EEY	

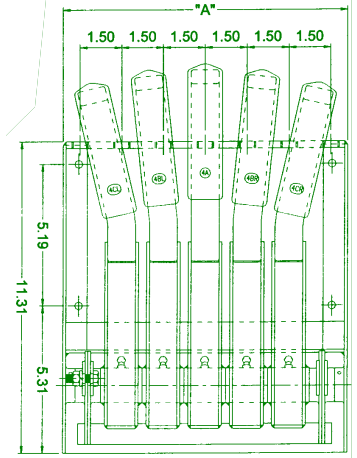
Notes: 1. Add suffix -01 to specify "B" style levers, i.e. 41251A01 or 41251A01EY.
2. Three-way air valve part on. 20761 not included.





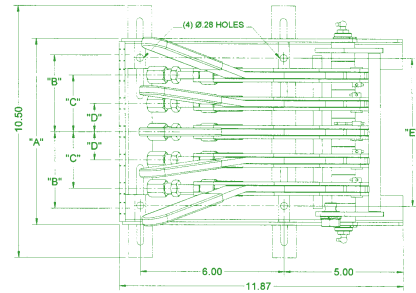
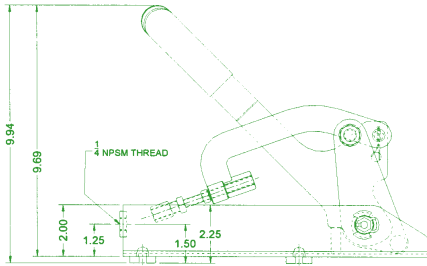
Betts Mechanical Operator Deluxe

No. of Compts.	Weight (lb)	Part Number	Dimension "A"
1	8.6	41185A	4-7/32
2	12.7	41185B	5-23/32
3	16.8	41185C	7-7/32
4	20.9	41185D	8-23/32
5	25.0	41185E	10-7/32



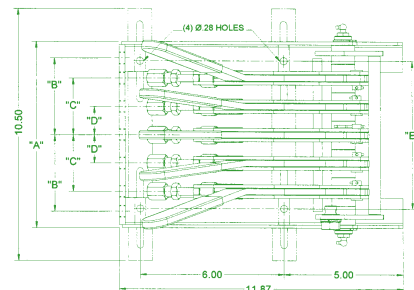
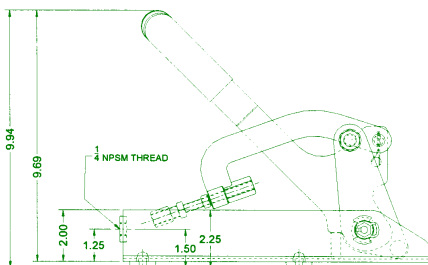
Betts Mechanical Operator Compact - Lubricated

No. of Compts.	Material	Weight (lb)	Part No.	Dim. "A" (in.)	Dim. "B" (in.)	Dim. "C" (in.)	Dim. "D" (in.)	Dim. "E" (in.)
1	Stainless	7.0	OP9001SL	4.20	1.41	N/A	.59	2.60
	Steel Powder Coated		OP9001EY					
2	Stainless	9.4	OP9002SL	7.75	3.19	2.36	1.18	6.15
	Steel Powder Coated		OP9002EY					
3	Stainless	12.5	OP9003SL	7.75	3.19	2.36	1.18	6.15
	Steel Powder Coated		OP9003EY					
4	Stainless	14.9	OP9004SL	7.75	3.19	2.36	1.18	6.15
	Steel Powder Coated		OP9004EY					
5	Stainless	17.3	OP9005SL	7.75	3.19	2.36	1.18	6.15
	Steel Powder Coated		OP9005EY					



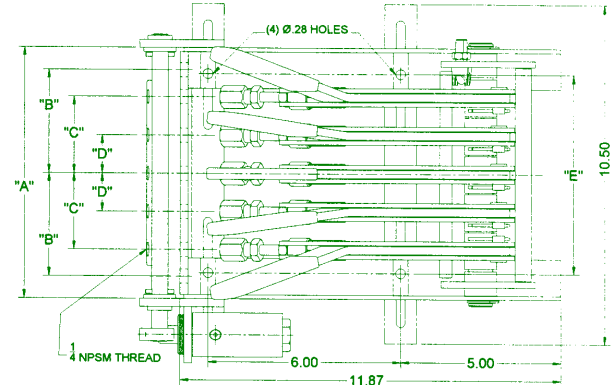
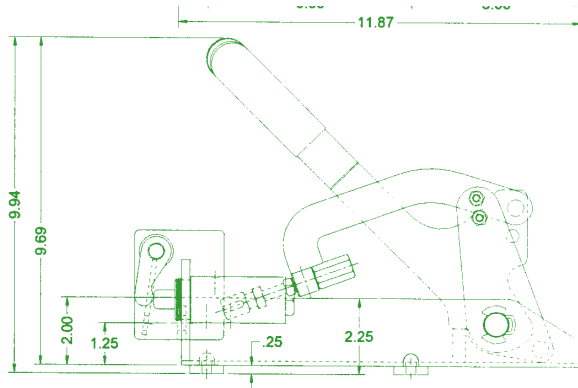
Betts Mechanical Operator Compact - Non-Lubricated

No. of Compts.	Material	Weight (lb)	Part No.	Dim. "A" (in.)	Dim. "B" (in.)	Dim. "C" (in.)	Dim. "D" (in.)	Dim. "E" (in.)
1	Stainless	7.1	OP9011SL	4.20	1.41	N/A	.59	2.60
	Steel Powder Coated		OP9011EY					
2	Stainless	9.5	OP9012SL	7.75	3.19	2.36	1.18	6.15
	Steel Powder Coated		OP9012EY					
3	Stainless	12.7	OP9013SL	7.75	3.19	2.36	1.18	6.15
	Steel Powder Coated		OP9013EY					
4	Stainless	15.1	OP9014SL	7.75	3.19	2.36	1.18	6.15
	Steel Powder Coated		OP9014EY					
5	Stainless	17.5	OP9015SL	7.75	3.19	2.36	1.18	6.15
	Steel Powder Coated		OP9015EY					



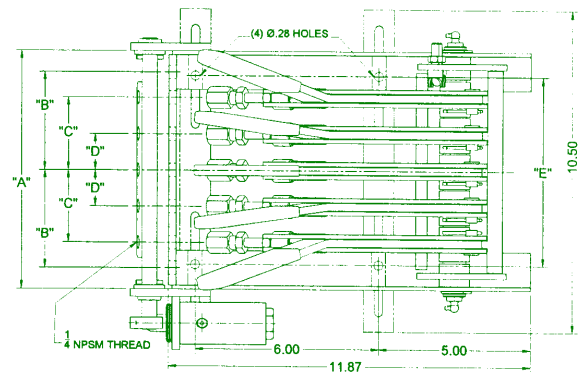
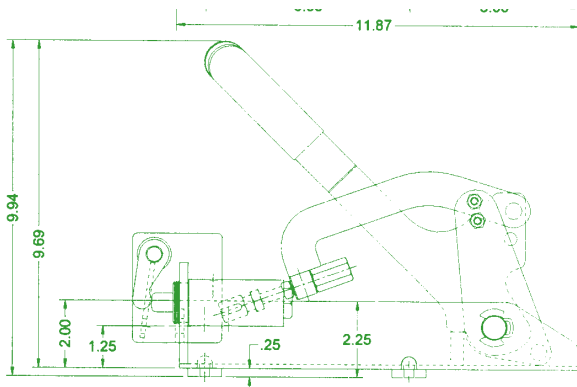
Betts Mechanical Operator Compact Delta 1 Non-Lubricated

No. of Compts.	Material	Weight (lb)	Part No.	Dim. "A" (in.)	Dim. "B" (in.)	Dim. "C" (in.)	Dim. "D" (in.)	Dim. "E" (in.)
1	Stainless	9.8	OP9111SL	4.20	1.41	N/A	.59	2.60
	Steel Powder Coated		OP9111EY					
2	Stainless	12.2	OP9112SL	4.20	1.41	N/A	.59	2.60
	Steel Powder Coated		OP9112EY					
3	Stainless	15.8	OP9113SL	7.75	3.19	2.36	1.18	6.15
	Steel Powder Coated		OP9113EY					
4	Stainless	18.2	OP9114SL	7.75	3.19	2.36	1.18	6.15
	Steel Powder Coated		OP9114EY					
5	Stainless	20.6	OP9115SL	7.75	3.19	2.36	1.18	6.15
	Steel Powder Coated		OP9115EY					



Betts Mechanical Operator Compact Delta 1 Lubricated

No. of Compts.	Material	Weight (lb)	Part No.	Dim. "A" (in.)	Dim. "B" (in.)	Dim. "C" (in.)	Dim. "D" (in.)	Dim. "E" (in.)
1	Stainless	9.8	OP9101SL	4.20	1.41	N/A	.59	2.60
	Steel Powder Coated		OP9101EY					
2	Stainless	12.2	OP9102SL	4.20	1.41	N/A	.59	2.60
	Steel Powder Coated		OP9102EY					
3	Stainless	15.8	OP9103SL	7.75	3.19	2.36	1.18	6.15
	Steel Powder Coated		OP9103EY					
4	Stainless	18.2	OP9104SL	7.75	3.19	2.36	1.18	6.15
	Steel Powder Coated		OP9104EY					
5	Stainless	20.6	OP9105SL	7.75	3.19	2.36	1.18	6.15
	Steel Powder Coated		OP9105EY					

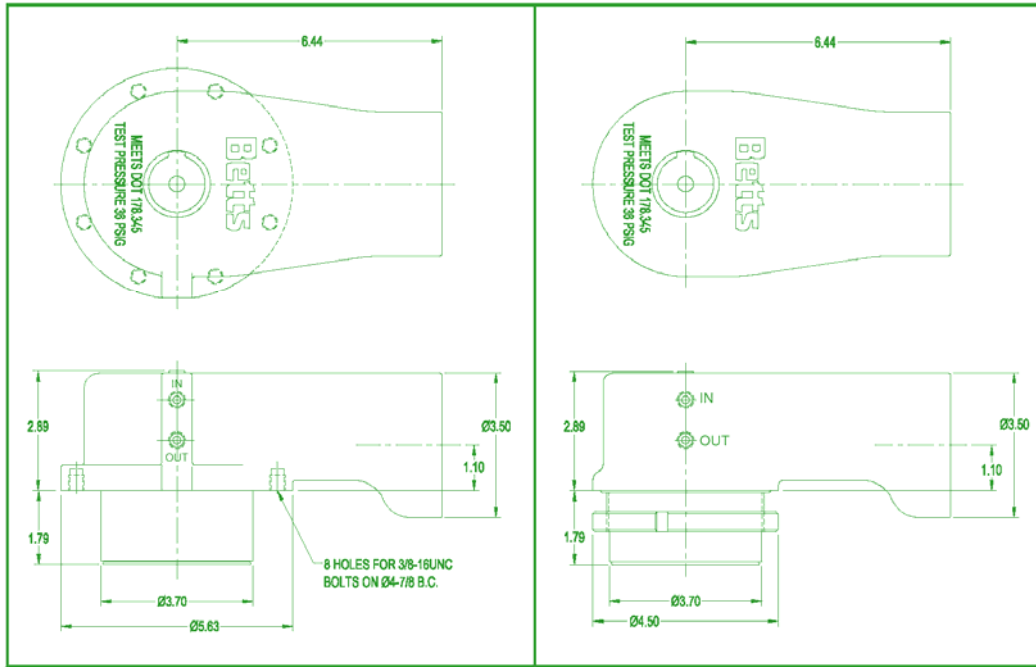


Betts 3-1/2" Aluminum Vapor Valve Air Operated Sequential Interlock

Bolted Model: *AV46850ALTS

* Add suffix "022" for Stainless Mounting Bolts

Threaded Model: AV46855ALTS

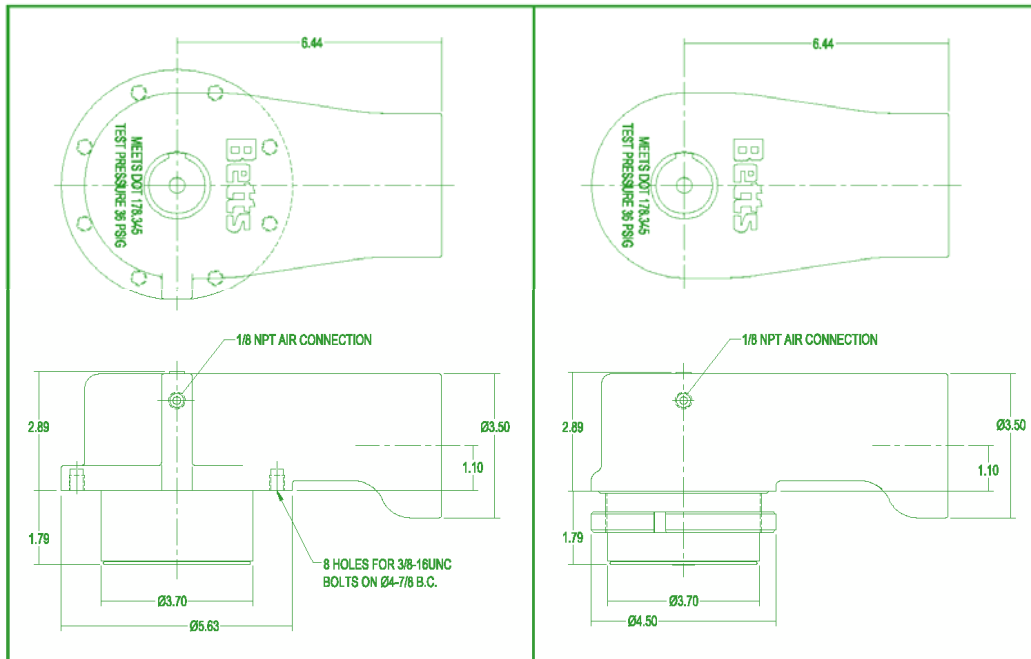


Betts 3-1/2" Aluminum Vapor Valve Air Operated

Bolted Model: *AV46865ALTS

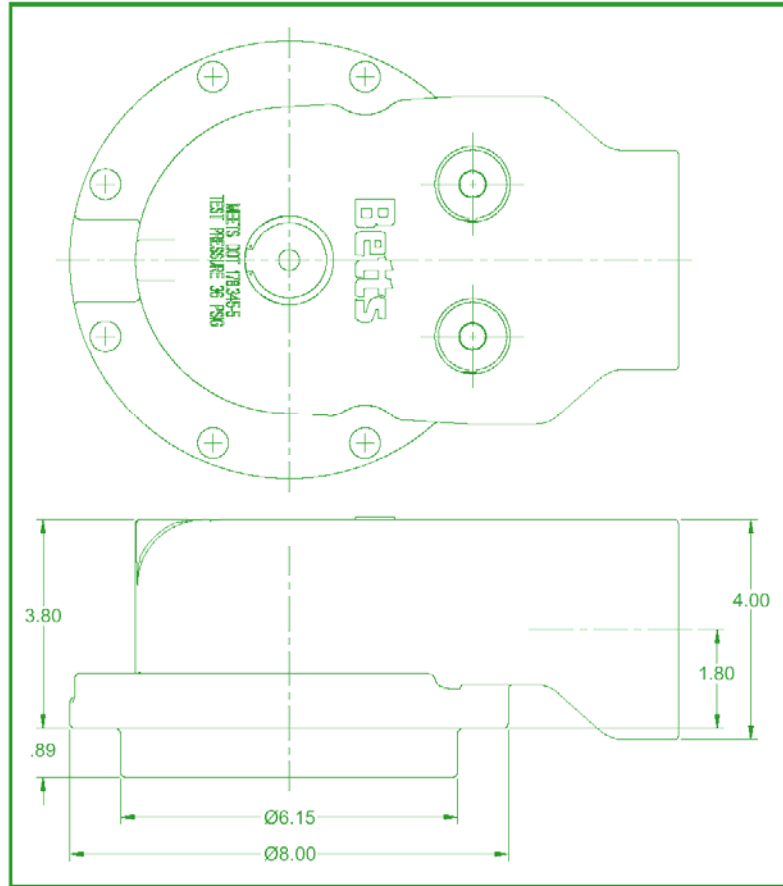
* Add suffix "022" for Stainless Mounting Bolts

Threaded Model: AV46864ALTS



Betts 4" Aluminum Vapor Valve Air Operated Sequential Interlock

AV46836ALTS



Dixon Bayco Butterfly Valves and Parts

Complete Valve with Nodular Iron Disc

Size	Part Number
2"	2-400-1500
3"	3-400-1500
4"	4-400-1500
4" TTMA	4A-400-1500
5"	5-400-1500
6"	6-400-1500

Nodular Iron Replacement Discs

Size	Part Number
2"	2-400-422237F
3"	3-400-422237F
4"	4-400-422237U
5"	5-400-422237U
6"	6-400-422237U

Black Replacement Nitrile Seats

Size	Part Number
2"	2-400-422500
3"	3-400-422500
4"	4-400-422500
4"	4A-400-422500
5"	5-400-422500
6"	6-400-422500

Complete Valve with 316 Stainless Steel Disc

Size	Part Number
3"	3-400-3501
4"	4-400-3501
5"	5-400-3501
6"	6-400-3501

316 Stainless Steel Replacement Discs

Size	Part Number
2"	2-400-422209F
3"	3-400-422209F
4"	4-400-422209U
5"	5-400-422209U
6"	6-400-422209U

White Replacement Nitrile Seats

Size	Part Number
2"	2-400-422501
3"	3-400-422501
4"	4-400-422501
4"	4A-400-422501
5"	5-400-422501
6"	6-400-422501

Complete Valve with 316 SS Disc

Size	Part Number
3"	3-390-828501
4"	4-390-828U501
5"	5-390-828U501
6"	* 6-390-828U501

316 Stainless Steel Replacement Discs

Size	Part Number
3"	3-390-209F
4"	4-390-209U
5"	5-390-209U
6"	6-390-209U

White Replacement Nitrile Seats

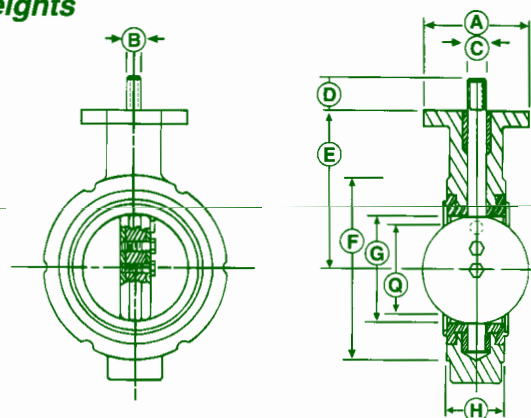
Size	Part Number
3"	3-400-422501
4"	4-400-422501
5"	5-400-422501
6"	6-390-363501

Dimensions & Weights

Size	Dimensions									Weight in Lbs.
	A	B	C	D	E	F	G	H	Q	
2"	4.000	.375	.563	1.250	3.938	4.125	2.125	1.625	1.688	3
3"	4.000	.375	.563	1.250	4.875	5.375	3.125	1.750	2.875	5
4"	4.000	.438	.625	1.250	6.000	6.875	4.125	2.000	3.875	8
5"	4.000	.438	.625	1.250	6.000	7.625	5.188	2.125	5.000	9
6"	4.000	.438	.625	1.250	6.500	8.750	6.125	2.125	6.000	9

NOTES:

- Q dimension is the minimum allowable inside diameter of the pipe or mating flange.



Dixon Bayco Swing Check Valves

3" Round Flanged (3" TTMA)

- #3000N with metal-to-metal seal
- #3000SP with metal-to-metal seal and spring loaded flapper
- #3000B with Buna Rubber Seal
- #3000S with Silicon Rubber Seal
- #3000BSP with Buna seal and spring loaded flapper
- #3000SSP with Silicon Rubber Seal and spring loaded flapper

3" Threaded Ends (3" NPT)

- #3000TE with metal-to-metal seal
- #3000TESP with metal-to-metal seal with spring loaded
- #3000TEB with Buna Rubber Seal
- #3000TES with Silicon Rubber Seal
- #3000TEBSP with Buna seal and spring loaded flapper
- #3000TESSP with Silicon Rubber Seal and spring loaded flapper

3" Square Flanged (TTMA Pattern)

- #3001SQN with metal-to-metal seal
- #3001SQSP with metal-to-metal seal and spring loaded flapper
- #3001SQB with Buna Rubber Seal
- #3001SQS with Silicon Rubber Seal
- #3001SQBSP with Buna seal and spring loaded flapper
- #3001SQSSP with Silicon Rubber Seal and spring loaded flapper

4" Round Flange (4" TTMA)

- #3101 with metal-to-metal seal and spring loaded flapper

Dixon Bayco 6000, 6200, and 6400 Series

6000 Series



#6000A

Includes assembled 4" male inlet as shown

#6000

Economy model with D handle (no inlet)

#6000T

Includes assembled Anti-Spill Sleeve (no inlet)

4" Drop Elbows (6000 & 6200 Series) (Order inlets separately, see below)

- comes with acrylic sight glass and buna seals for sight glass
- bolt-on inlets (order separate) for easy replacement
- solid bronze locking arms housed in polymer bushings
- lubrication fitting for locking stem, stem made of stainless steel
- modular quality cast aluminum construction
- viton main seal at service station collar interface

NOTE: Elbows available assembled with various combinations of inlets (below), anti-spill sleeves (see page 10) and extension kits (see page 11). Call for pricing and availability, if model # combination not shown.



#6000-14

4" Female

#6000-15

3" Female



#6000-16

3" Male

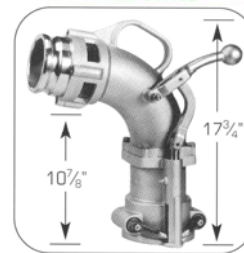
#6000-17

4" Male

Elbow Inlets

- for #6000, #6000AS and #6200 elbows
- available as male or female, 3" or 4" sizes
- bolt on easy to install/replace
- aluminum bodies with bronze cam arms
- comes with stainless steel cap screws (4)

6200 Series



#6200

Side action lever without inlet

#6200C

Includes 3" male inlet assembled

#6200AT

Includes 4" male inlet & anti spill sleeve assembled

#6200A

Includes 4" male inlet assembled (shown)

#6200D

Includes 4" female inlet assembled

#6200TL

Includes anti-spill sleeve & safety latch assembled (no inlet)

#6200B

Includes 3" female inlet assembled

#6200L

Includes Safety latch assembled (no inlet)

#6200T

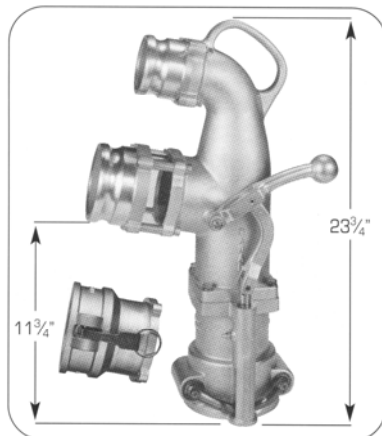
Includes assembled Anti-Spill Sleeve (no inlet)

#6200P

Includes extension kit assembled (no inlet)

#6200AP

Includes 4" male inlet and extension kit assembled



#6400F (4" Female inlet)

#6430 (3" Male inlet)

#6430F (3" Female inlet)

Co-Axial Elbow

- for single point vapor recovery only
- 3" male vapor outlet (top)
- comes assembled with choice of 3" or 4" male or female inlets
- NOTE:** Inlets made special for co-axials only.
- quality aluminum cast construction
- bolt on inlets/outlets for easy, fast replacement
- acrylic sight glass with buna seals
- solid bronze locking arms

NOTE: Co-axial elbows also available with anti-spill safety latch (see page 10). See Price List for products #6400L, #6400FL, #6430L and #6430FL which include safety latch.

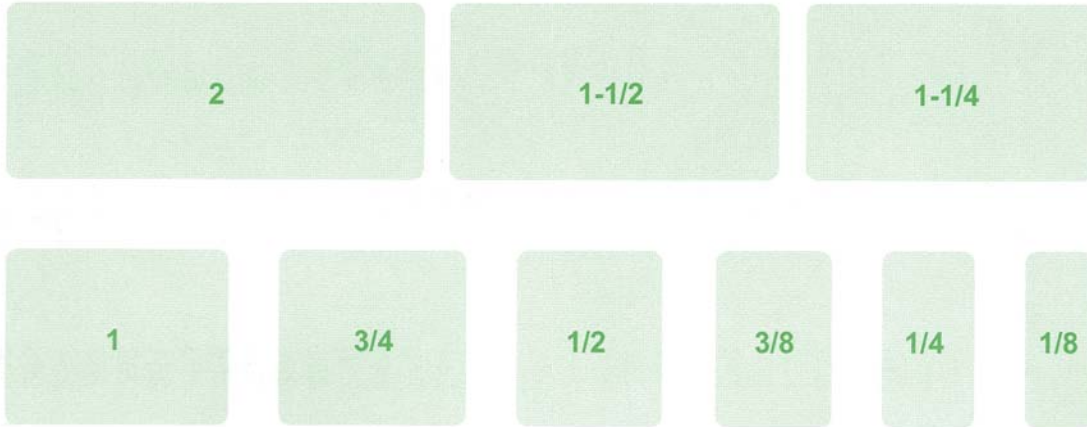
#6400 Ext. Kit (see pg. 11) raises co-axial elbow clearance an additional 3" to approx. 14 3/4" when extra height for deep fill boxes is required.

#6400P: Includes extension kit assembled to #6400.

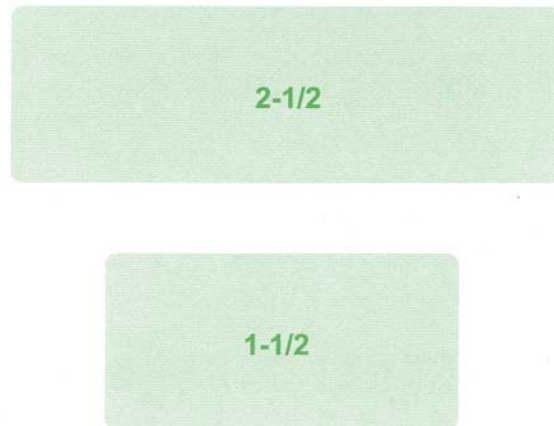
Fitting Size Chart

Diagrams are actual size. Just line item up with the size that best fits to get proper measurement.

Male NPT Thread Sizes



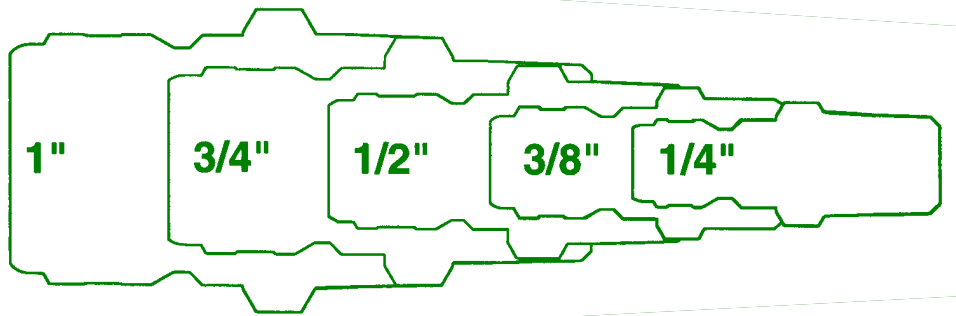
Male NST Thread Sizes



Hydraulic Plug Profile Chart

Diagrams are actual size. Just line item up with the size that best fits to get proper measurement.

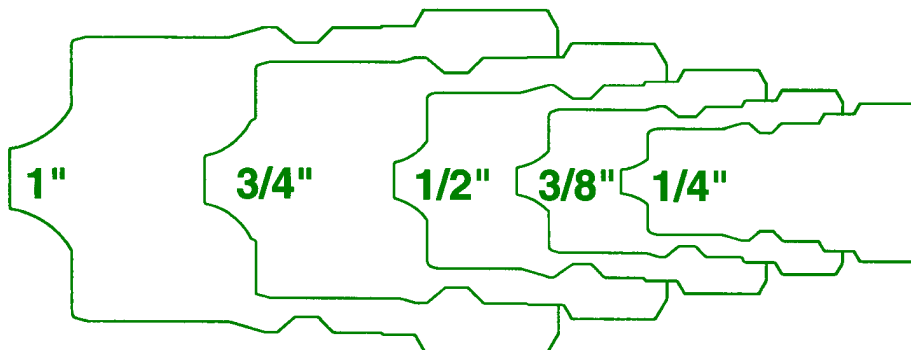
Dixon Bayco Straight Tru Fittings



Flo-Mate Couplings



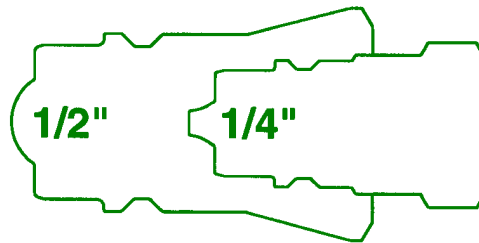
Dixon Bayco Industrial Fittings



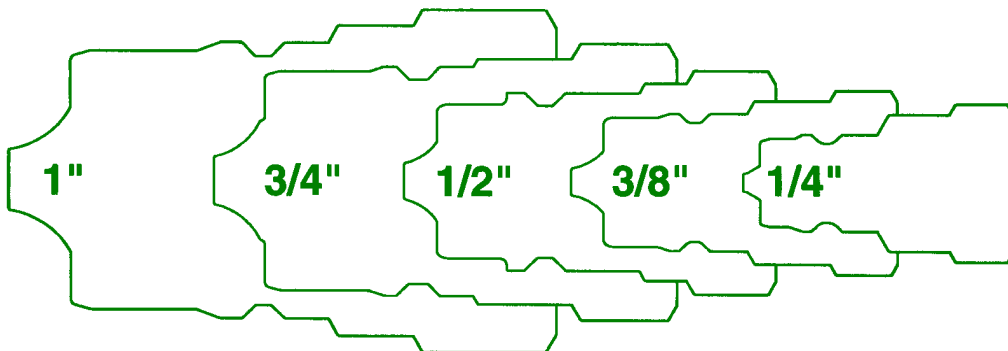
Hydraulic Plug Profile Chart

Diagrams are actual size. Just line item up with the size that best fits to get proper measurement.

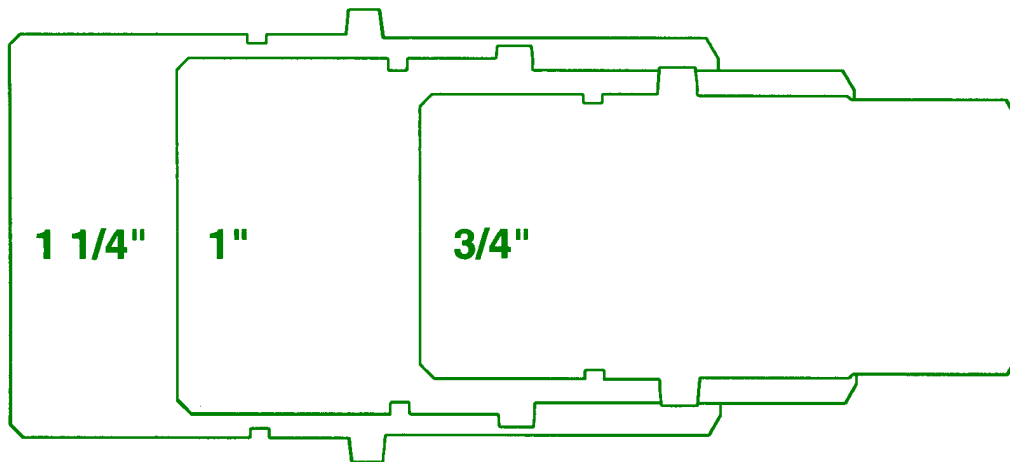
Dixon Bayco Agricultural Fittings



Dixon Bayco 5600 Series



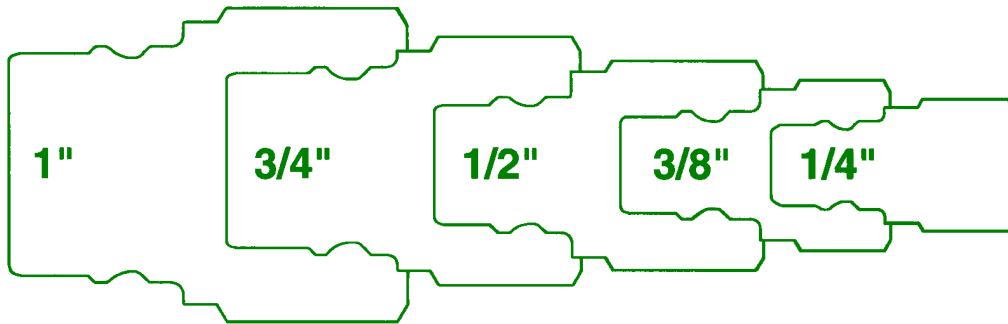
Dixon Bayco 7800 Series



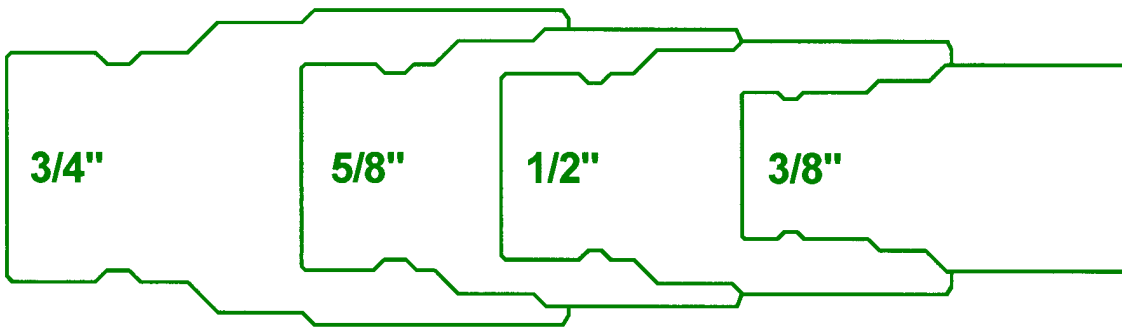
Hydraulic Plug Profile Chart

Diagrams are actual size. Just line item up with the size that best fits to get proper measurement.

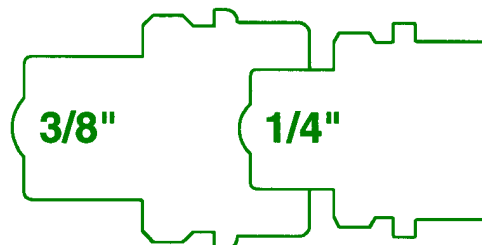
Dixon Bayco VH Series



Dixon Bayco Flush Face Fittings

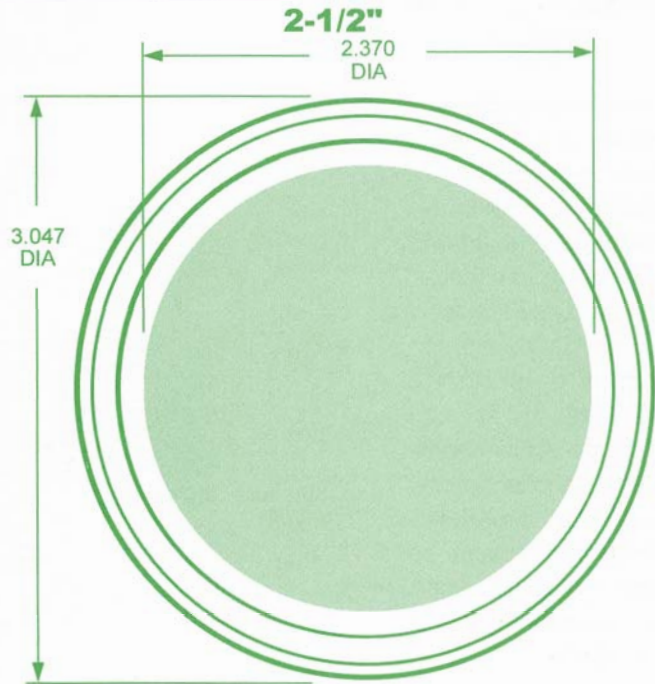
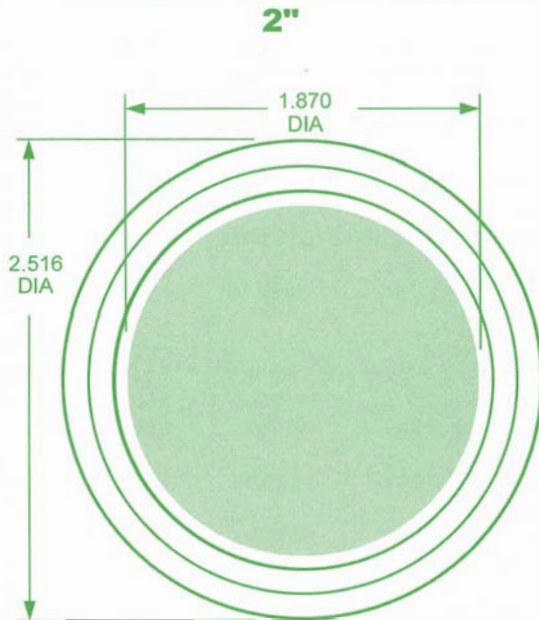
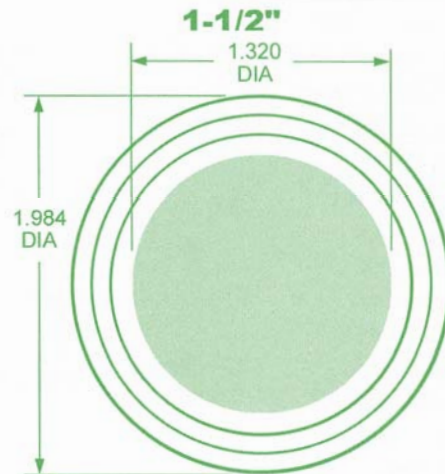
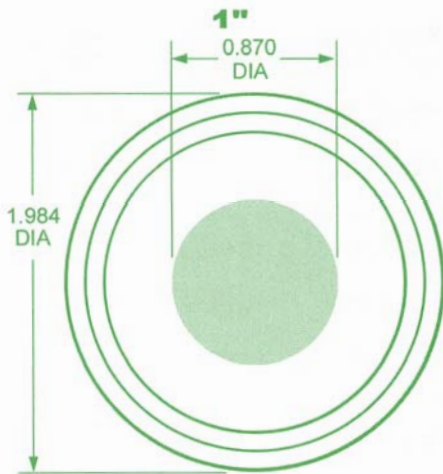
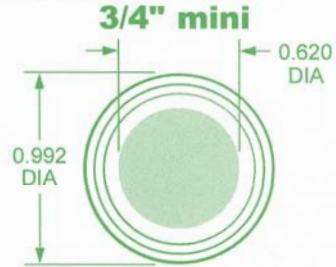
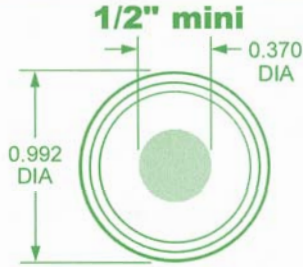


Dixon Bayco 3000 Series



Sanitary Sizing Guide

- These actual size diagrams are provided to eliminate sizing errors when specifying sanitary fittings.
- The outside diameters are the same for 1/2" and 3/4" (0.992 O.D.) and 1" and 1 1/2" (1.984 O.D.)
- Sizes 2" and above have specific outside diameter dimensions
- Diagrams are not available for 3" and above, a table is supplied for your convenience.



Sanitary Size	OD of clamp end	ID of fitting	Sanitary Size	OD of clamp end	ID of fitting
1/2"	0.992	0.370	3"	3.579	2.870
3/4"	0.992	0.620	4"	4.682	3.834
1"	1.984	0.870	6"	6.562	5.782
1 1/2"	1.984	1.320	8"	8.602	7.760
2"	2.516	1.870	10"	10.570	9.782
2 1/2"	3.047	2.370	12"	12.570	11.760

