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Service—

36030, 42026 & 42032 Fxx, Jxx Washer-Extractors

Read the separate safety manual before installing, operating, or servicing

PELLERIN MILNOR CORPORATION POST OFFICE BOX 400, KENNER, LOUISIANA 70063-0400, U.S.A.

Table of Contents
for MAP42FXXBE/2012405A

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ABOUT THIS MANUAL

Scope—This instruction manual is intended to provide preventive maintenance procedures, service procedures and mechanical parts identification for all Milnor® 36030, 42026 and 42032Fxx and Jxx suspended washer-extractors. Measurements are in common US and metric units unless otherwise noted. Always use new fasteners when replacing or repairing parts.

See the appropriate programming, operating, and troubleshooting manual for information on the control system. See the schematic manual for electrical parts identification and electrical troubleshooting.

Manual Number/Date Code (When To Discard or Save)—The manual number/date code is located on the inside front cover, upper right corner just above the manual name. Whenever the manual is reprinted with new information, part of this number changes. **If the *date code* after the "/" changes, the new version applies to all machines covered by the old version, but is improved— thus the old version can be discarded. If the *manual number* before the "/" changes, the new manual covers only new machines.** Example: Discard MATMODELAE/8739**C**V when MATMODELAE/8739**D**V is received (minor improvements). Also, discard MATMODELAE/87**39D**V when MATMODELAE/87**46A**V is received (major improvements). But keep MATMODEL**A**E/8746FV when MATMODEL**B**E/8815AV is received, since the new manual no longer applies to machines originally shipped with the old manual.

Documents and Change Bars—The individual documents comprising this manual use the same revision criteria as the manual. Text documents also display change bars. Example: When sectionMSOP0599AE/9135**B**V becomes MSOP0599AE/9135**C**V, change bars with the letter "C" appear next to all changes for this revision. For a major rewrite (e.g., MSOP0599AE/92**26A**V), all change bars are deleted.

For Assistance—Please call:

Pellerin Milnor Corporation
Attn: Service Department
P. O. Box 400
Kenner, LA 70063-0400

Phone:(504) 467-9591
Fax:(504) 467-9777

PELLERIN MILNOR CORPORATION
LIMITED STANDARD WARRANTY

We warrant to the original purchaser that MILNOR machines including electronic hardware/software (hereafter referred to as "equipment"), will be free from defects in material and workmanship for a period of one year from the date of shipment (unless the time period is specifically extended for certain parts pursuant to a specific MILNOR published extended warranty) from our factory with no operating hour limitation. This warranty is contingent upon the equipment being installed, operated and serviced as specified in the operating manual supplied with the equipment, and operated under normal conditions by competent operators.

Providing we receive written notification of a warranted defect within 30 days of its discovery, we will at our option repair or replace the defective part or parts, FOB our factory. We retain the right to require inspection of the parts claimed defective in our factory prior to repairing or replacing same. We will not be responsible, or in any way liable, for unauthorized repairs or service to our equipment, and this warranty shall be void if the equipment is tampered with, modified, or abused, used for purposes not intended in the design and construction of the machine, or is repaired or altered in any way without MILNOR's written consent.

Parts damaged by exposure to weather, to aggressive water, or to chemical attack are not covered by this warranty. For parts which require routine replacement due to normal wear such as gaskets, contact points, brake and clutch linings, belts, hoses, and similar parts the warranty time period is 90 days.

We reserve the right to make changes in the design and/or construction of our equipment (including purchased components) without obligation to change any equipment previously supplied.

ANY SALE OR FURNISHING OF ANY EQUIPMENT BY MILNOR IS MADE ONLY UPON THE EXPRESS UNDERSTANDING THAT MILNOR MAKES NO EXPRESSED OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE OR PURPOSE OR ANY OTHER WARRANTY IMPLIED BY LAW INCLUDING BUT NOT LIMITED TO REDHIBITION. MILNOR WILL NOT BE RESPONSIBLE FOR ANY COSTS OR DAMAGES ACTUALLY INCURRED OR REQUIRED AS A RESULT OF: THE FAILURE OF ANY OTHER PERSON OR ENTITY TO PERFORM ITS RESPONSIBILITIES, FIRE OR OTHER HAZARD, ACCIDENT, IMPROPER STORAGE, MIS-USE, NEGLECT, POWER OR ENVIRONMENTAL CONTROL MALFUNCTIONS, DAMAGE FROM LIQUIDS, OR ANY OTHER CAUSE BEYOND THE NORMAL RANGE OF USE. REGARDLESS OF HOW CAUSED, IN NO EVENT SHALL MILNOR BE LIABLE FOR SPECIAL, INDIRECT, PUNITIVE, LIQUIDATED, OR CONSEQUENTIAL COSTS OR DAMAGES, OR ANY COSTS OR DAMAGES WHATSOEVER WHICH EXCEED THE PRICE PAID TO MILNOR FOR THE EQUIPMENT IT SELLS OR FURNISHES.

THE PROVISIONS ON THIS PAGE REPRESENT THE ONLY WARRANTY FROM MILNOR AND NO OTHER WARRANTY OR CONDITIONS, STATUTORY OR OTHERWISE, SHALL BE IMPLIED.

WE NEITHER ASSUME, NOR AUTHORIZE ANY EMPLOYEE OR OTHER PERSON TO ASSUME FOR US, ANY OTHER RESPONSIBILITY AND/OR LIABILITY IN CONNECTION WITH THE SALE OR FURNISHING OF OUR EQUIPMENT TO ANY BUYER.

BIUUUD19 (Published) Book specs- Dates: 20081231 / 20081231 / 20081231 Lang: ENG01 Applic: UUU

How to Get the Necessary Repair Components

This document uses Simplified Technical English.
Learn more at http://www.asd-ste100.org.

You can get components to repair your machine from the approved supplier where you got this machine. Your supplier will usually have the necessary components in stock. You can also get components from the Milnor® factory.

Tell the supplier the machine model and serial number and this data for each necessary component:

- The component number from this manual
- The component name if known
- The necessary quantity
- The necessary transportation requirements
- If the component is an electrical component, give the schematic number if known.
- If the component is a motor or an electrical control, give the nameplate data from the used component.

To write to the Milnor factory:

Pellerin Milnor Corporation
Post Office Box 400
Kenner, LA 70063-0400
UNITED STATES

Telephone: 504-467-2787
Fax: 504-469-9777
Email: parts@milnor.com

— End of BIUUUD19 —

Safety—Suspended, Open Pocket, Non-tilting Washer-Extractors

1. General Safety Requirements—Vital Information for Management Personnel [Document BIUUUS04]

Incorrect installation, neglected preventive maintenance, abuse, and/or improper repairs, or changes to the machine can cause unsafe operation and personal injuries, such as multiple fractures, amputations, or death. The owner or his selected representative (owner/user) is responsible for understanding and ensuring the proper operation and maintenance of the machine. The owner/user must familiarize himself with the contents of all machine instruction manuals. The owner/user should direct any questions about these instructions to a Milnor® dealer or the Milnor® Service department.

Most regulatory authorities (including OSHA in the USA and CE in Europe) hold the owner/user ultimately responsible for maintaining a safe working environment. Therefore, the owner/user must do or ensure the following:

- recognize all foreseeable safety hazards within his facility and take actions to protect his personnel, equipment, and facility;
- work equipment is suitable, properly adapted, can be used without risks to health or safety, and is adequately maintained;
- where specific hazards are likely to be involved, access to the equipment is restricted to those employees given the task of using it;
- only specifically designated workers carry out repairs, modifications, maintenance, or servicing;
- information, instruction, and training is provided;
- workers and/or their representatives are consulted.

Work equipment must comply with the requirements listed below. The owner/user must verify that installation and maintenance of equipment is performed in such a way as to support these requirements:

- control devices must be visible, identifiable, and marked; be located outside dangerous zones; and not give rise to a hazard due to unintentional operation;
- control systems must be safe and breakdown/damage must not result in danger;
- work equipment is to be stabilized;
- protection against rupture or disintegration of work equipment;
- guarding, to prevent access to danger zones or to stop movements of dangerous parts before the danger zones are reached. Guards to be robust; not give rise to any additional hazards; not be easily removed or rendered inoperative; situated at a sufficient distance from the danger zone; not restrict view of operating cycle; allow fitting, replacing, or maintenance by restricting access to relevant area and without removal of guard/protection device;
- suitable lighting for working and maintenance areas;
- maintenance to be possible when work equipment is shut down. If not possible, then protection measures to be carried out outside danger zones;
- work equipment must be appropriate for preventing the risk of fire or overheating; discharges of gas, dust, liquid, vapor, other substances; explosion of the equipment or substances in it.

1.1. **Laundry Facility**—Provide a supporting floor that is strong and rigid enough to support–with a reasonable safety factor and without undue or objectionable deflection–the weight of the fully loaded machine and the forces transmitted by it during operation. Provide sufficient clearance for machine movement. Provide any safety guards, fences, restraints, devices, and verbal and/or posted restrictions necessary to prevent personnel, machines, or other moving machinery from accessing the machine or its path. Provide adequate ventilation to carry away heat and vapors. Ensure service connections to installed machines meet local and national safety standards, especially regarding the electrical disconnect (see the National Electric Code). Prominently post safety information, including signs showing the source of electrical disconnect.

1.2. **Personnel**—Inform personnel about hazard avoidance and the importance of care and common sense. Provide personnel with the safety and operating instructions that apply to them. Verify that personnel use proper safety and operating procedures. Verify that personnel understand and abide by the warnings on the machine and precautions in the instruction manuals.

1.3. **Safety Devices**—Ensure that no one eliminates or disables any safety device on the machine or in the facility. Do not allow machine to be used with any missing guard, cover, panel or door. Service any failing or malfunctioning device before operating the machine.

1.4. **Hazard Information**—Important information on hazards is provided on the machine safety placards, in the Safety Guide, and throughout the other machine manuals. **Placards must be kept clean so that the information is not obscured. They must be replaced immediately if lost or damaged. The Safety Guide and other machine manuals must be available at all times to the appropriate personnel.** See the machine service manual for safety placard part numbers. Contact the Milnor Parts department for replacement placards or manuals.

1.5. **Maintenance**—Ensure the machine is inspected and serviced in accordance with the norms of good practice and with the preventive maintenance schedule. Replace belts, pulleys, brake shoes/disks, clutch plates/tires, rollers, seals, alignment guides, etc. before they are severely worn. Immediately investigate any evidence of impending failure and make needed repairs (e.g., cylinder, shell, or frame cracks; drive components such as motors, gear boxes, bearings, etc., whining, grinding, smoking, or becoming abnormally hot; bending or cracking of cylinder, shell, frame, etc.; leaking seals, hoses, valves, etc.) Do not permit service or maintenance by unqualified personnel.

2. Safety Alert Messages—Internal Electrical and Mechanical Hazards [Document BIUUUS11]

The following are instructions about hazards inside the machine and in electrical enclosures.

WARNING 1: Electrocution and Electrical Burn Hazards—Contact with electric power can kill or seriously injure you. Electric power is present inside the cabinetry unless the main machine power disconnect is off.

- Do not unlock or open electric box doors.
- Do not remove guards, covers, or panels.
- Do not reach into the machine housing or frame.
- Keep yourself and others off of machine.
- Know the location of the main machine disconnect and use it in an emergency to remove all electric power from the machine.

WARNING 2: Entangle and Crush Hazards—Contact with moving components normally isolated by guards, covers, and panels, can entangle and crush your limbs. These components move automatically.

- Do not remove guards, covers, or panels.
- Do not reach into the machine housing or frame.
- Keep yourself and others off of machine.
- Know the location of all emergency stop switches, pull cords, and/or kick plates and use them in an emergency to stop machine motion.

3. Safety Alert Messages—External Mechanical Hazards [Document BIUUUS12]

The following are instructions about hazards around the front, sides, rear or top of the machine.

WARNING 3: Crush Hazards—Suspended machines only—Spaces between the shell and housing can close and crush or pinch your limbs. The shell moves within the housing during operation.

- Do not reach into the machine housing or frame.
- Keep yourself and others clear of movement areas and paths.

4. Safety Alert Messages—Cylinder and Processing Hazards

[Document BIUUUS13]

The following are instructions about hazards related to the cylinder and laundering process.

DANGER 4: Entangle and Sever Hazards—Contact with goods being processed can cause the goods to wrap around your body or limbs and dismember you. The goods are normally isolated by the locked cylinder door.

- Do not attempt to open the door or reach into the cylinder until the cylinder is stopped.
- Do not touch goods inside or hanging partially outside the turning cylinder.
- Do not operate the machine with a malfunctioning door interlock.
- Open pocket machines only—Do not jog the cylinder and pull the goods at the same time.
- Open pocket machines only—Keep yourself and others clear of cylinder and goods during jogging operation.
- Do not operate the machine with malfunctioning two-hand manual controls.
- Know the location of all emergency stop switches, pull cords, and/or kick plates and use them in an emergency to stop machine motion.
- Know the location of the main machine disconnect and use it in an emergency to remove all electric power from the machine.

WARNING 5: Crush Hazards—Contact with the turning cylinder can crush your limbs. The cylinder will repel any object you try to stop it with, possibly causing the object to strike or stab you. The turning cylinder is normally isolated by the locked cylinder door.

- Do not attempt to open the door or reach into the cylinder until the cylinder is stopped.
- Do not place any object in the turning cylinder.
- Do not operate the machine with a malfunctioning door interlock.
- Open pocket machines only—Keep yourself and others clear of cylinder and goods during jogging operation.

- Do not operate the machine with malfunctioning two-hand manual controls.

WARNING 6: Confined Space Hazards—Confinement in the cylinder can kill or injure you. Hazards include but are not limited to panic, burns, poisoning, suffocation, heat prostration, biological contamination, electrocution, and crushing.

- Do not attempt unauthorized servicing, repairs, or modification.

WARNING 7: Explosion and Fire Hazards—Flammable substances can explode or ignite in the cylinder, drain trough, or sewer. The machine is designed for washing with water, not any other solvent. Processing can cause solvent-containing goods to give off flammable vapors.

- Do not use flammable solvents in processing.
- Do not process goods containing flammable substances. Consult with your local fire department/public safety office and all insurance providers.

5. Safety Alert Messages—Unsafe Conditions [Document BIUUUS14]

5.1. Damage and Malfunction Hazards

5.1.1. Hazards Resulting from Inoperative Safety Devices

DANGER 8: Entangle and Sever Hazards—Cylinder door interlock—Operating the machine with a malfunctioning door interlock can permit opening the door when the cylinder is turning and/or starting the cycle with the door open, exposing the turning cylinder.

- Do not operate the machine with any evidence of damage or malfunction.

WARNING 9: Multiple Hazards—Operating the machine with an inoperative safety device can kill or injure personnel, damage or destroy the machine, damage property, and/or void the warranty.

- Do not tamper with or disable any safety device or operate the machine with a malfunctioning safety device. Request authorized service.

WARNING 10: Electrocution and Electrical Burn Hazards—Electric box doors—Operating the machine with any electric box door unlocked can expose high voltage conductors inside the box.

- Do not unlock or open electric box doors.

WARNING 11: Entangle and Crush Hazards—Guards, covers, and panels—Operating the machine with any guard, cover, or panel removed exposes moving components.

- Do not remove guards, covers, or panels.

5.1.2. Hazards Resulting from Damaged Mechanical Devices

WARNING 12: Multiple Hazards—Operating a damaged machine can kill or injure personnel, further damage or destroy the machine, damage property, and/or void the warranty.

- Do not operate a damaged or malfunctioning machine. Request authorized service.

WARNING 13: Explosion Hazards—Cylinder—A damaged cylinder can rip apart during extraction, puncturing the shell and discharging metal fragments at high speed.

- Do not operate the machine with any evidence of damage or malfunction.

WARNING 14: Explosion Hazards—Clutch and speed switch (multiple motor machines)—A damaged clutch or speed switch can permit the low speed motor to engage during extract. This will over-speed the motor and pulleys and can cause them to rip apart, discharging metal fragments at high speed.

- Stop the machine immediately if any of these conditions occur: • abnormal whining sound during extract • skidding sound as extract ends • clutches remain engaged or re-engage during extract

5.2. Careless Use Hazards

5.2.1. Careless Operation Hazards—Vital Information for Operator Personnel (see also operator hazards throughout manual)

WARNING 15: Multiple Hazards—Careless operator actions can kill or injure personnel, damage or destroy the machine, damage property, and/or void the warranty.

- Do not tamper with or disable any safety device or operate the machine with a malfunctioning safety device. Request authorized service.
- Do not operate a damaged or malfunctioning machine. Request authorized service.
- Do not attempt unauthorized servicing, repairs, or modification.
- Do not use the machine in any manner contrary to the factory instructions.
- Use the machine only for its customary and intended purpose.
- Understand the consequences of operating manually.

5.2.2. Careless Servicing Hazards—Vital Information for Service Personnel (see also service hazards throughout manuals)

WARNING 16: Electrocution and Electrical Burn Hazards—Contact with electric power can kill or seriously injure you. Electric power is present inside the cabinetry unless the main machine power disconnect is off.

- Do not service the machine unless qualified and authorized. You must clearly understand the hazards and how to avoid them.
- Abide by the current OSHA lockout/tagout standard when lockout/tagout is called for in the service instructions. Outside the USA, abide by the OSHA standard in the absence of any other overriding standard.

WARNING 17: Entangle and Crush Hazards—Contact with moving components normally isolated by guards, covers, and panels, can entangle and crush your limbs. These components move automatically.

- Do not service the machine unless qualified and authorized. You must clearly understand the hazards and how to avoid them.
- Abide by the current OSHA lockout/tagout standard when lockout/tagout is called for in the service instructions. Outside the USA, abide by the OSHA standard in the absence of any other overriding standard.

WARNING 18: Confined Space Hazards—Confinement in the cylinder can kill or injure you. Hazards include but are not limited to panic, burns, poisoning, suffocation, heat prostration, biological contamination, electrocution, and crushing.

- Do not enter the cylinder until it has been thoroughly purged, flushed, drained, cooled, and immobilized.

— End of BIUUUS27 —

About the Forces Transmitted by Milnor® Washer-extractors

During washing and extracting, all washer-extractors transmit both static and dynamic (cyclic) forces to the floor, foundation, or any other supporting structure. During washing, the impact of the goods as they drop imparts forces which are quite difficult to quantify. Size for size, both rigid and flexibly-mounted machines transmit approximately the same forces during washing. During extracting, rigid machines transmit forces up to 30 times greater than equivalent flexibly-mounted models. The actual magnitude of these forces vary according to several factors:

- machine size,
- final extraction speed,
- amount, condition, and type of goods being processed,
- the liquor level and chemical conditions in the bath preceding extraction, and
- other miscellaneous factors.

Estimates of the maximum force normally encountered are available for each Milnor® model and size upon request. Floor or foundation sizes shown on any Milnor® document are only for on-grade situations based only on previous experience without implying any warranty, obligation, or responsibility on our part.

1. Rigid Machines

Size for size, rigid washer-extractors naturally require a stronger, more rigid floor, foundation, or other supporting structure than flexibly-mounted models. If the supporting soil under the slab is itself strong and rigid enough and has not subsided to leave the floor slab suspended without support, on grade installations can often be made directly to an existing floor slab if it has enough strength and rigidity to safely withstand our published forces without transmitting undue vibration. If the subsoil has subsided, or if the floor slab itself has insufficient strength and rigidity, a deeper foundation, poured as to become monolithic with the floor slab, may be required. Support pilings may even be required if the subsoil itself is “springy” (i.e., if its resonant frequency is near the operating speed of the machine). Above-grade installations of rigid machines also require a sufficiently strong and rigid floor or other supporting structure as described below.

2. Flexibly-mounted Machines

Size for size, flexibly-mounted machines generally do not require as strong a floor, foundation, or other supporting structure as do rigid machines. However, a floor or other supporting structure having sufficient strength and rigidity, as described in Section 3, is nonetheless vitally important for these models as well.

3. How Strong and Rigid?

Many building codes in the U.S.A. specify that laundry floors must have a minimum live load capacity of 150 pounds per square foot (732 kilograms per square meter). However, even compliance with this or any other standard does not necessarily guarantee sufficient rigidity. In any event, it is the sole responsibility of the owner/user to assure that the floor and/or any other supporting structure exceeds not only all applicable building codes, but also that the floor and/or any other supporting structure for each washer-extractor or group of washer-extractors actually has sufficient strength and rigidity, plus a reasonable factor of safety for both, to support the weight of all the fully loaded machine(s) including the weight of the water and goods, and including the published 360º rotating sinusoidal RMS forces that are transmitted by the machine(s). Moreover, the floor, foundation, or other supporting structure must have sufficient

rigidity (i.e., a natural or resonant frequency many times greater than the machine speed with a reasonable factor of safety); otherwise, the mentioned 360º rotating sinusoidal RMS forces can be multiplied and magnified many times. It is especially important to consider all potential vibration problems that might occur due to all possible combinations of forcing frequencies (rotating speeds) of the machine(s) compared to the natural frequencies of the floor and/or any other supporting structure(s). A qualified soil and/or structural engineer must be engaged for this purpose.

Figure 1: How Rotating Forces Act on the Foundation

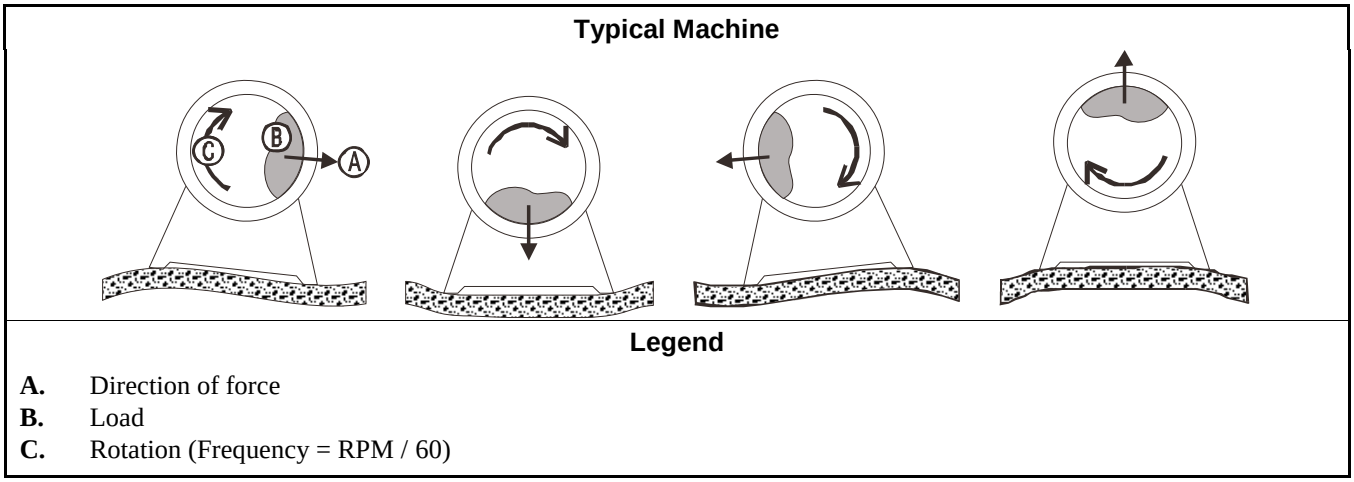


Figure 1 above is intended to depict both on-grade and above-grade installations and is equally applicable to flexibly-mounted washer-extractors, as well as to rigid models installed either directly on a floor slab or on a foundation poured integrally with the slab. Current machine data is available from Milnor® upon request. All data is subject to change without notice and may have changed since last printed. It is the sole responsibility of every potential owner to obtain written confirmation that any data furnished by Milnor® applies for the model(s) and serial number(s) of the specific machines.

— End of BIWUUI02 —

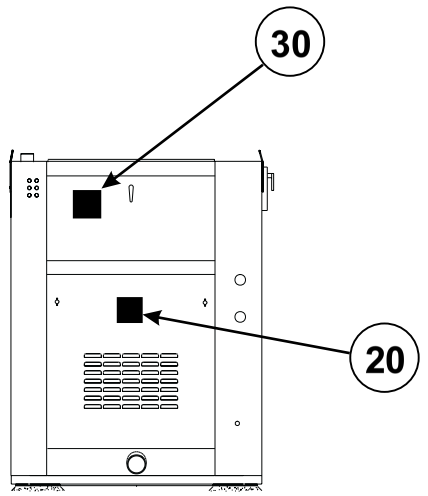
Safety Placard Use and Placement

30022, 36030F8J, F8W & 42032F7J, F7W

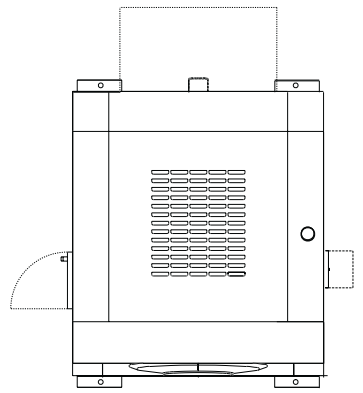
Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400

Litho in U.S.A.

Notes:
1. **Replace placard immediately, if removed or unreadable.**
2. **Approximate locations of placards are shown. Mounting holes are provided on machine. Use #8 self-tapping screws.**

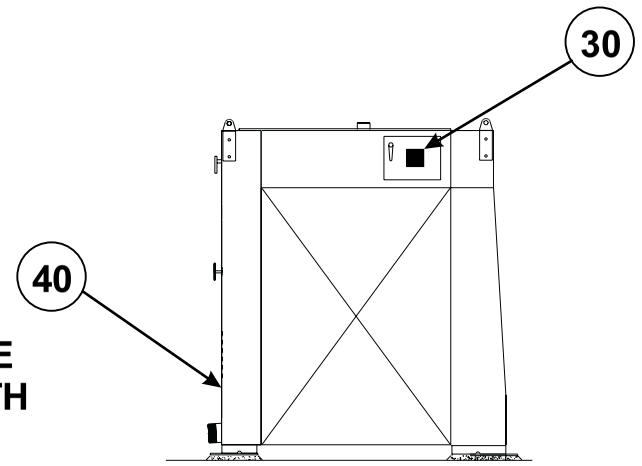


REAR VIEW

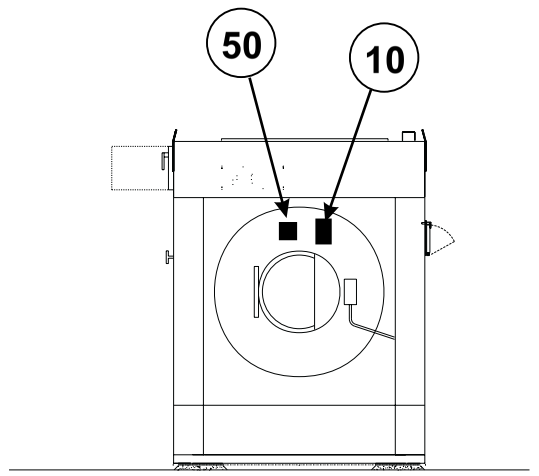


PLAN VIEW

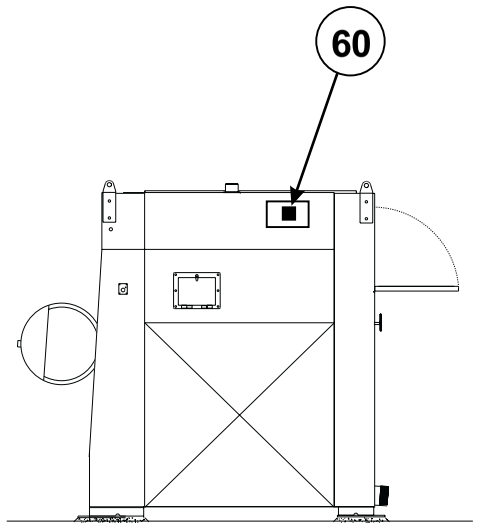
ON STEAM PIPE ONLY IF MACHINE IS EQUIPPED WITH STEAM



LEFT VIEW



FRONT VIEW



RIGHT VIEW

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Parts List—Safety Placard Placement

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
----------	----------	----------	----------ASSEMBLIES----------	----------
			none	
----------	----------	----------	----------COMPONENTS----------	----------
All	10	01 10631A	NPLT:SHELL FRT WARN NOTILT-TCATA	
All	20	01 10689A	NPLT:BELT HAZARD SM TCATA	
All	30	01 10377A	NPLT:ELEC HAZARD LG-TCATA	
All	40	01 10685A	NPLT:BURN HAZARD WARN-TCATA	STEAM INLET ONLY
All	50	01 10699A	NPLT:SERV HZRD-PLYEST-TCATA	
All	60	01 10375B	NPLT:ELEC HAZARD SMALL-TCATA	

Safety Placard Use and Placement ISO

30022, 36030F8J, F8W & 42032F7J, F7W

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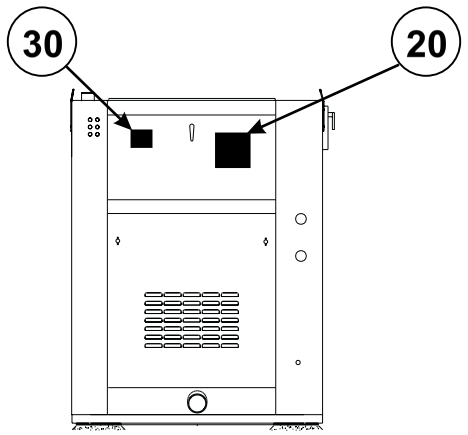
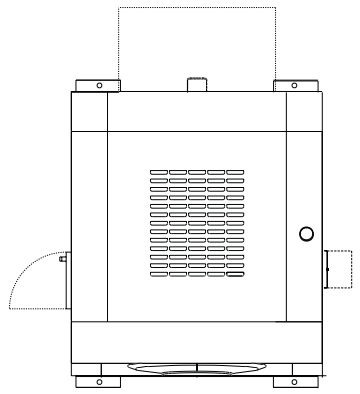
ISO Placards shown on this page

Notes:

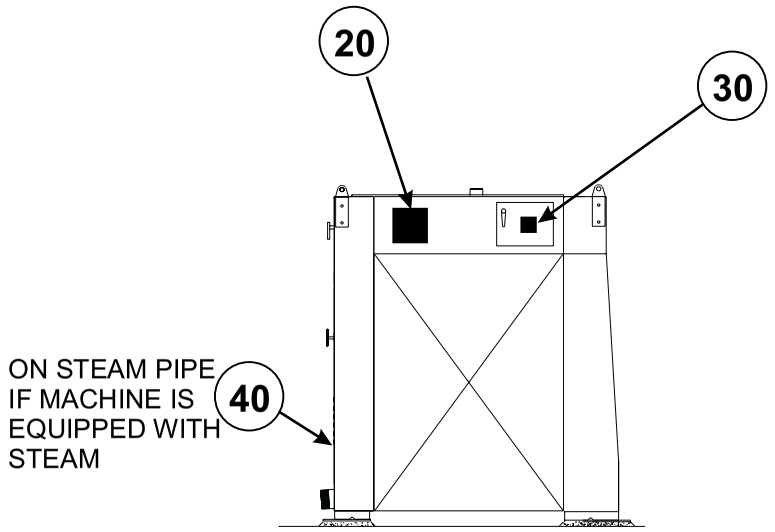
1. **Replace placard immediately, if removed or unreadable.**
2. **Approximate locations of placards are shown. If Aluminum Placard Mounting holes are provided on machine. Use #8 self-tapping screws.**



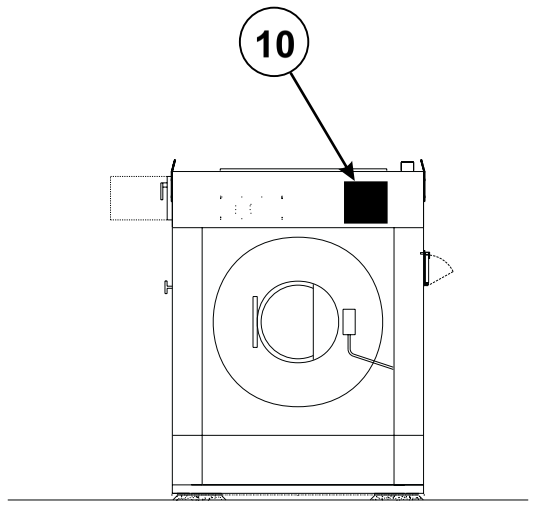
REAR VIEW



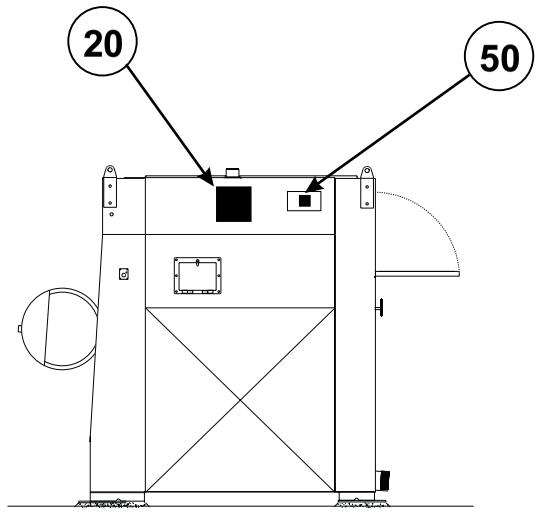
PLAN VIEW



LEFT VIEW



FRONT VIEW



RIGHT VIEW

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Litho in U.S.A.

Parts List—Safety Placard Placement

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
			none	
			----------COMPONENTS----------	
All	10	01 10631X	NPLT:WE1-NONTILT WARNGS FRT	
All	20	01 10628X	NPLT:NONTILT W/E WARNING SIDE	
All	30	01 10377	NPLTE:”WARNING” 4X4	
All	40	01 10649X	NPLT:HOT BEHIND CVR WARN-ISO	STEAM INLET ONLY
All	50	01 10375	NPLTE:"WARNING" 2X2	

Glossary of Tag Illustrations— F-Style, Q-Style, 36" & 42" V-Style, and X-Style Washer-Extractors

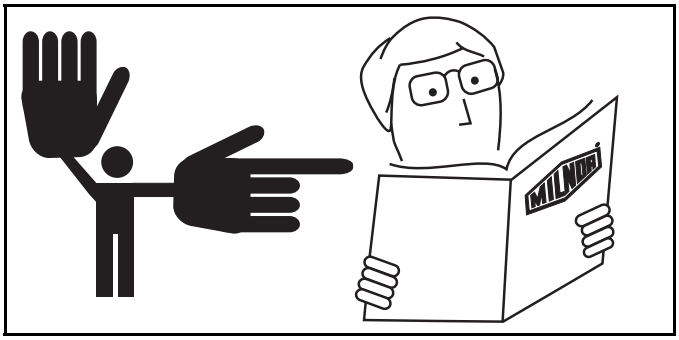
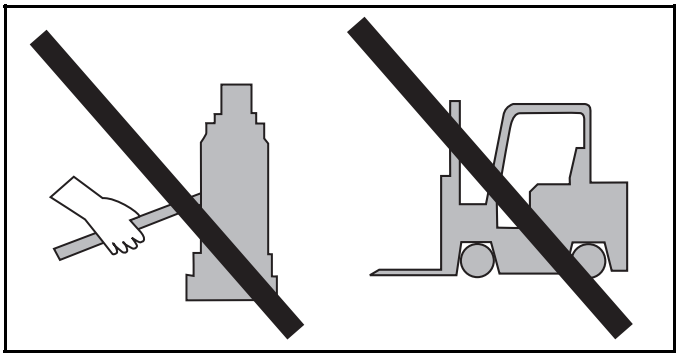
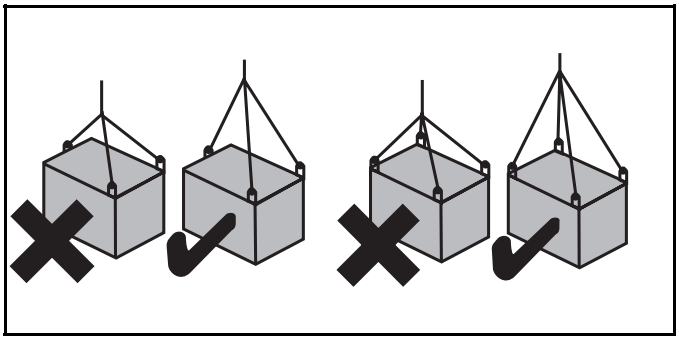
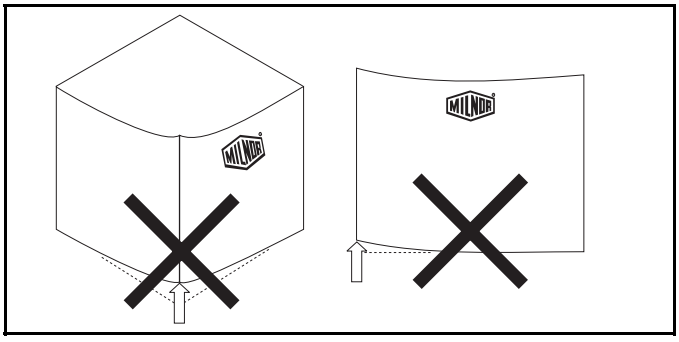
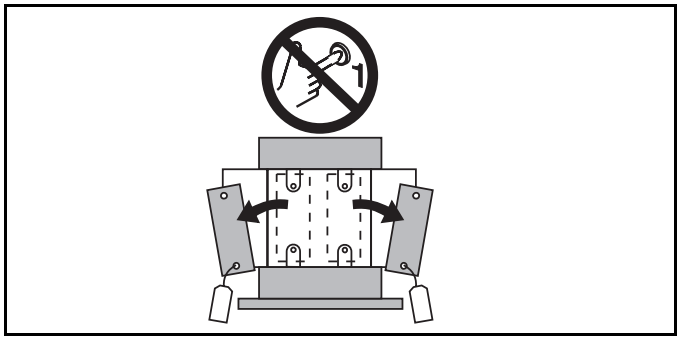
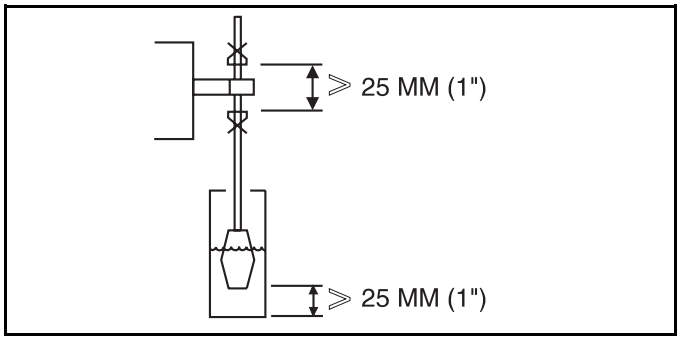
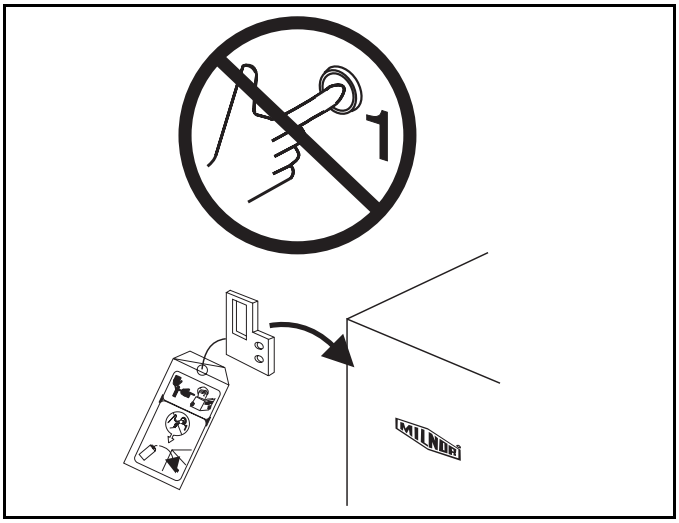
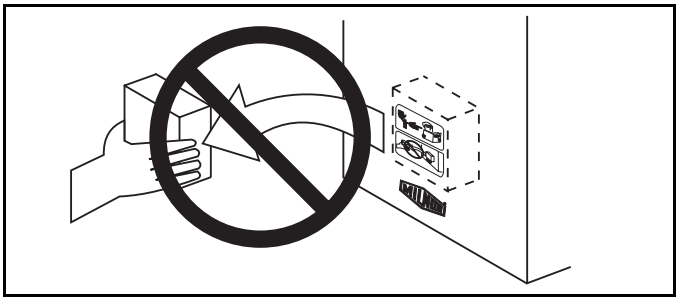
Illustration	Explanation
	Stop! Read the manual first for complete instructions before continuing.
	Do not jack the machine here. Do not lift the machine here.
	Use three point or four point lifting as determined by the lifting eyes furnished. Rig the load using lifting cables of sufficient size and length to ensure cables are not over-stressed.
	Do not lift the machine from one corner or one side edge.

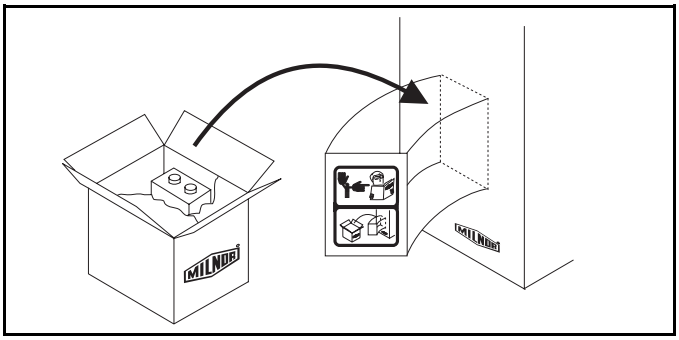
Illustration	Explanation
	Do not start this machine until the packing materials, lifting brackets, etc. with this tag attached or behind this panel are removed. These materials are painted red. Safety stands or brackets (also painted red) may be provided with this machine. Do not discard safety stands or brackets
	Do not step or stand on this machine part.
	Maintain a 25 mm. (1") minimum clearance between float clips. Set "low level" so that the bottom of the float is always at least 25mm (1") above the bottom of the float tube.
	This motor or pump should rotate in the direction of the arrow.



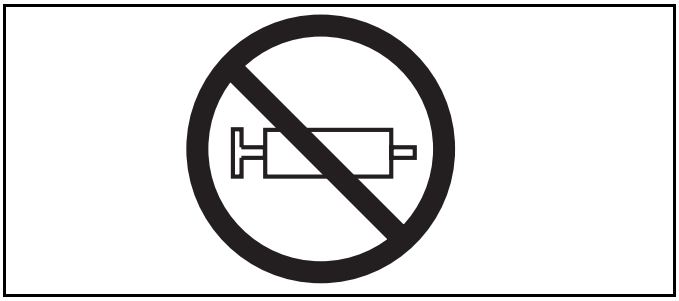
Do not start this machine until the part with this tag is installed on the machine.



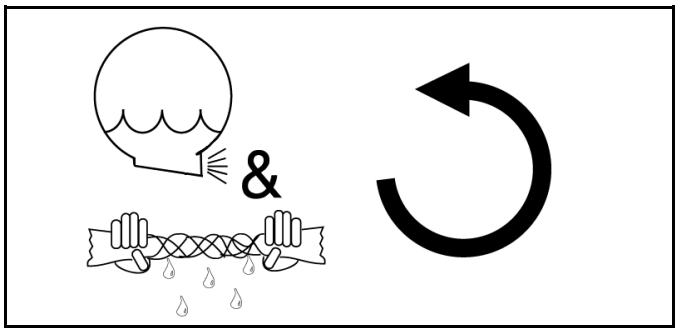
Do not remove this component from the machine.



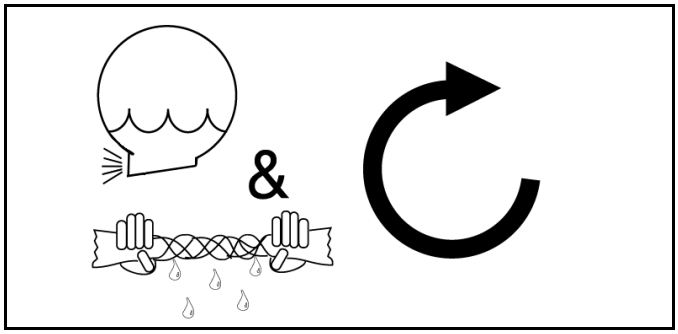
Install the appropriate part here before operating the machine.



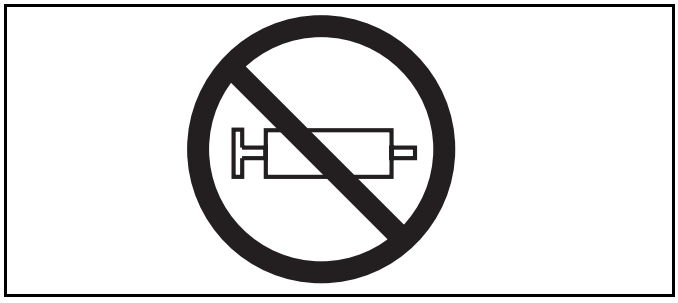
Do not pump grease here.



During drain and extract, the cylinder must rotate counterclockwise when viewed from here (rear of machine).

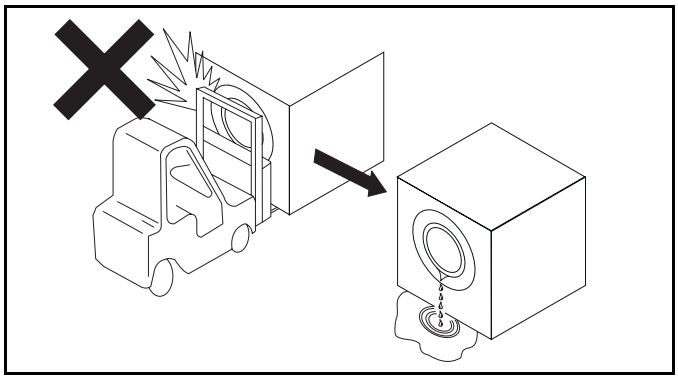


During drain and extract, the cylinder must rotate clockwise when viewed from here (front of machine).

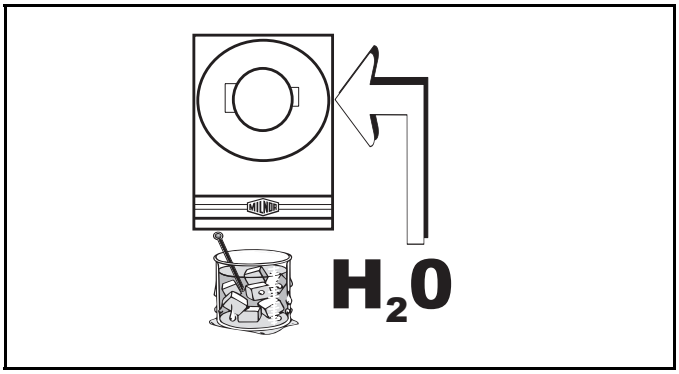


Do not pump grease here.

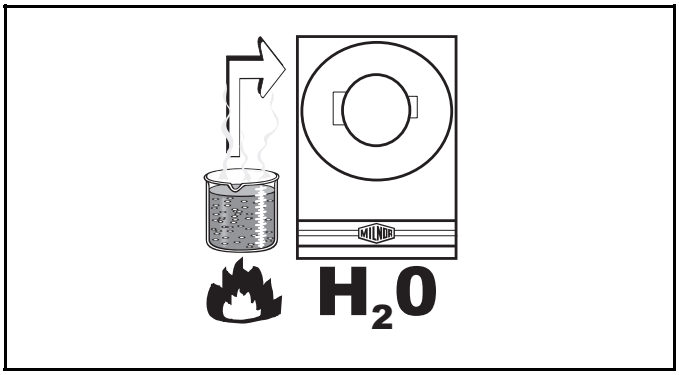
.



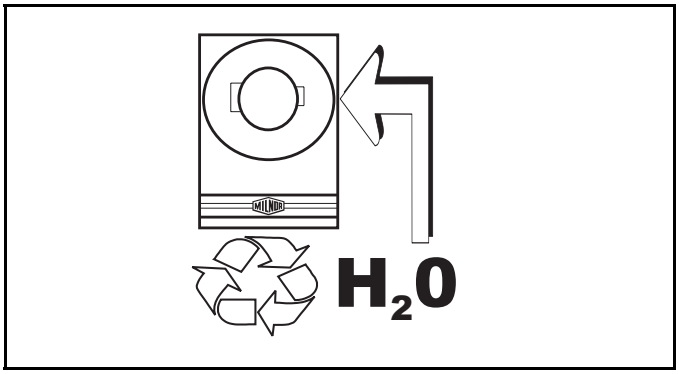
Do not strike shell front of washer-extractors during fork lifting. Striking shell front will cause door to leak.



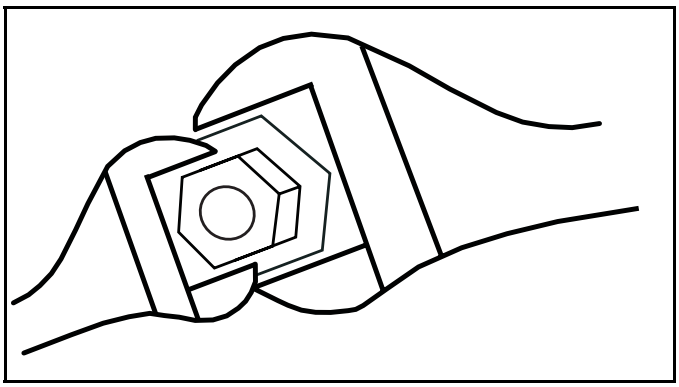
Make cold water connection here.



Make hot water connection here.



Make third (reuse) water connection here.



Hold the connection side of the valve with a wrench when connecting plumbing.

Avoiding Damage From Allied Remote Chemical Delivery Systems

Milnor® does not manufacture or supply remote chemical delivery systems and this document is meant only to illustrate some of the possible problems that can be minimized during installation of such systems by the chemical supply company. Milnor washer-extractors and CBW® batch washers (tunnels) are available with convenient inlets for such systems (see Figure 1). Most common of the types of systems currently used in commercial laundering operations are pumped chemical systems. Other types, such as constant pressure, re-circulating ring main systems have also been, and may continue to be used with Milnor equipment.

This document warns about some of the possible hazards posed by chemical systems and lists certain requirements needed to minimize those hazards. The procedures for interfacing with allied chemical systems and information pertinent to chemical use in general are provided elsewhere in the product manuals (see Note 1).

Figure 1: Pumped Chemical Inlets on CBW Batch Washer

Note 1: Misuse of laundering chemicals (such as injecting excessive concentrations of chlorine bleach or permitting acid sours to react with hypo chlorite) due to incorrect formulation can also be hazardous. Information pertinent to chemical use is provided elsewhere in the product manuals.

1. How a Chemical System Can Damage the Machine It Serves

Milnor has manufactured washer-extractors and tunnel washers with the same stainless steel specification since its founding. Every batch of steel used is certified and documented by the steel mill. Testing of samples damaged by corrosion have, in every case, proven the steel to be well within the AISI 304 specification.

Chemical products commonly found in the laundry industry, when used in **established** dosages and proper operating parameters, under the auspices of an experienced chemical specialist, should produce satisfactory results, with no consequential detrimental effects. The industry has published standards in Riggs and Sherrill, “Textile Laundering Technology”. However, the stainless steel can be damaged and even destroyed by **abnormal** contact with chlorine bleach, hydrofluosilicic acid and other commonly used chemicals, as will occur if chemicals are unintentionally leaked into the machine, particularly when it is no longer in use and especially when machine surfaces are dry.

Some chemical systems have been found to permit chemicals to dribble from the supply lines, or worse, to siphon from the supply tank into the machine, during operation and long after the system is shut down—as after working hours and during weekends. If this occurs, **deterioration (rusting) of the stainless steel and damage to any textiles therein will inevitably result. If this condition goes undetected, machine damage is likely to be catastrophic.** No machine is immune to such damage.

CAUTION 1: Equipment and Textile Damage Hazards—Chemicals leaked into the machine, particularly when it is idle can destroy machine components and textiles left in the machine. **Pellerin Milnor Corporation accepts absolutely no responsibility for damage to its equipment or to textiles therein from abnormal contact with chemicals.**

- Ensure that the chemical system prevents unintentional release of chemicals.
- Inspect regularly for proper operation and evidence of damage.

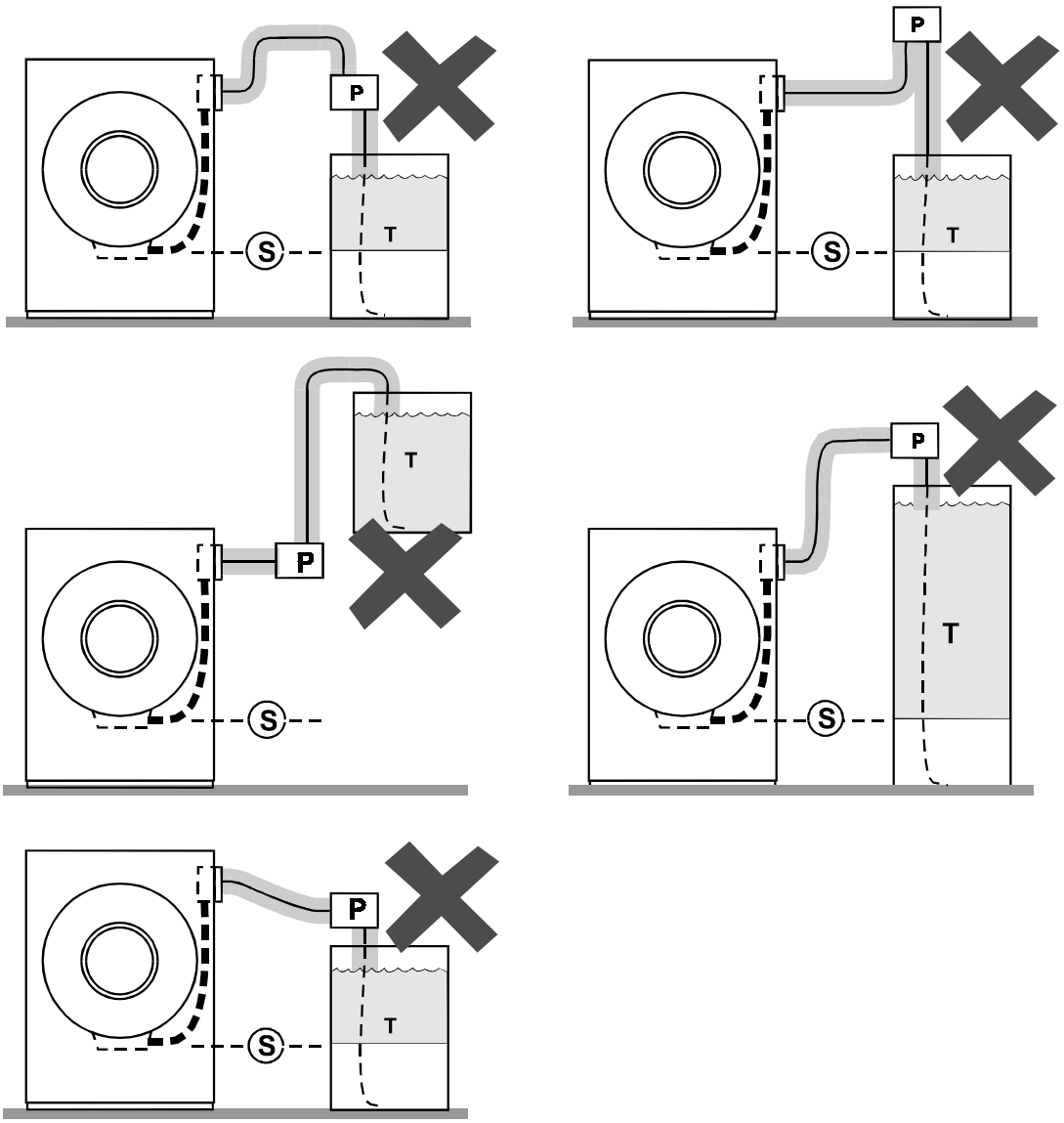
2. Requirements for Chemical Systems Used With Milnor Machines

It is the responsibility of the chemical system manufacturer and supplier to ensure that their system is safe for personnel and equipment. Some important points are described below.

2.1. Ensure the System Cannot Siphon.—The supply system must be designed to counteract any siphoning that could occur as a result of having a sealed supply line between the bottom of the chemical tank and the internal machine connection at the drain trough. As shown in the Figure 2 examples, if the pump (P) and/or the valving does not provide positive closure and there is no vacuum breaker protection, siphoning is likely to occur. In each of the Figure 2 illustrations, the volume of chemical in the tank above the siphon level (S), and indicated by shading, will flow into the machine.

Figure 2: Siphoning From the Chemical Tank into the Machine

Examples

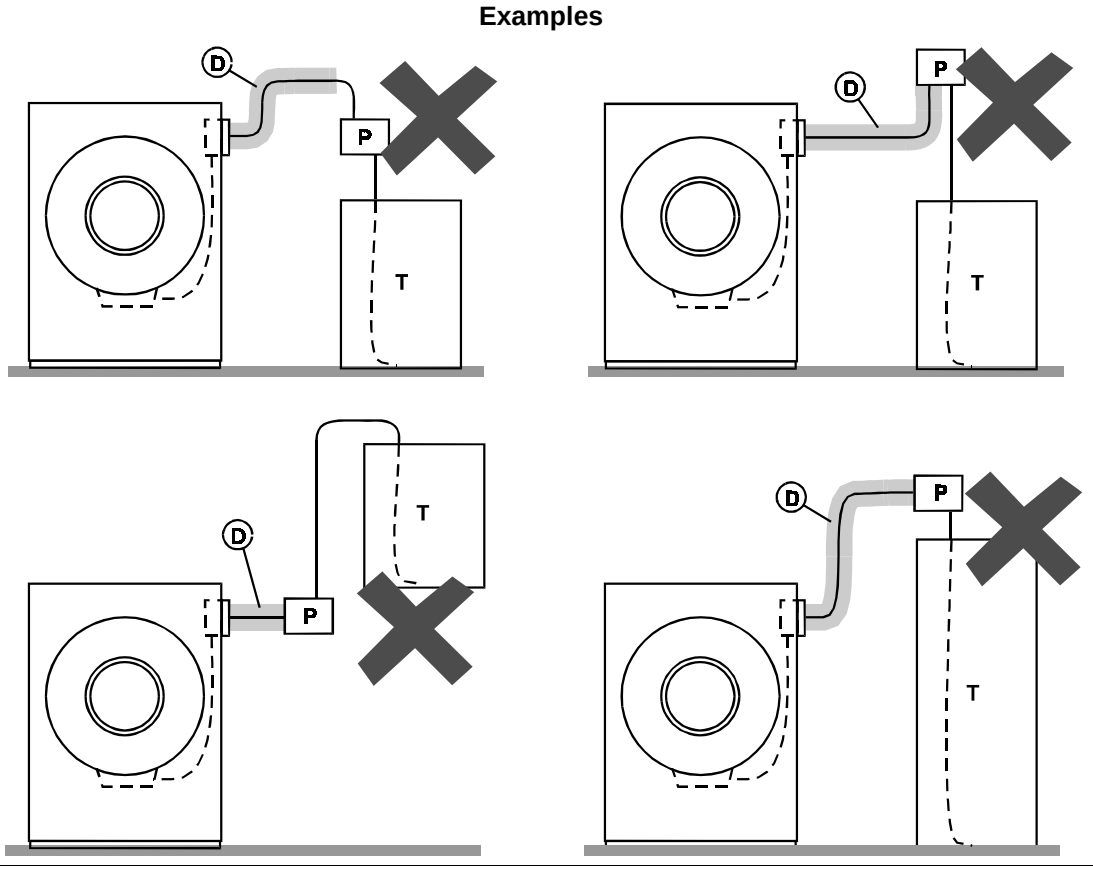


Legend

P. Pump
S. Siphon level. Shading indicates the chemical delivery line and tank content that can siphon into the machine.
T. Chemical tank

2.2. Ensure the Chemical Lines Cannot Dribble—The pumped chemical system may provide a means of positively closing the chemical line at the pump location, but not at the injection site. Hence, any concentrated chemical that remains in the injection line between the pump and the machine is free to flow into the machine. Some examples of this are shown in Figure 3.

Figure 3: Dribbling From Chemical Supply Line Into Machine (assumes positive closure at the pump)



Legend

D. Portion of supply line, the contents of which can dribble into the machine
P. Pump
T. Chemical tank

3. Design and Installation Recommendations

It is the responsibility of the chemical system manufacturer and supplier to use whatever measures are necessary to ensure that their system is safe for personnel and equipment. The following are some of the possible methods the manufacturer or supplier may wish to use, as appropriate.

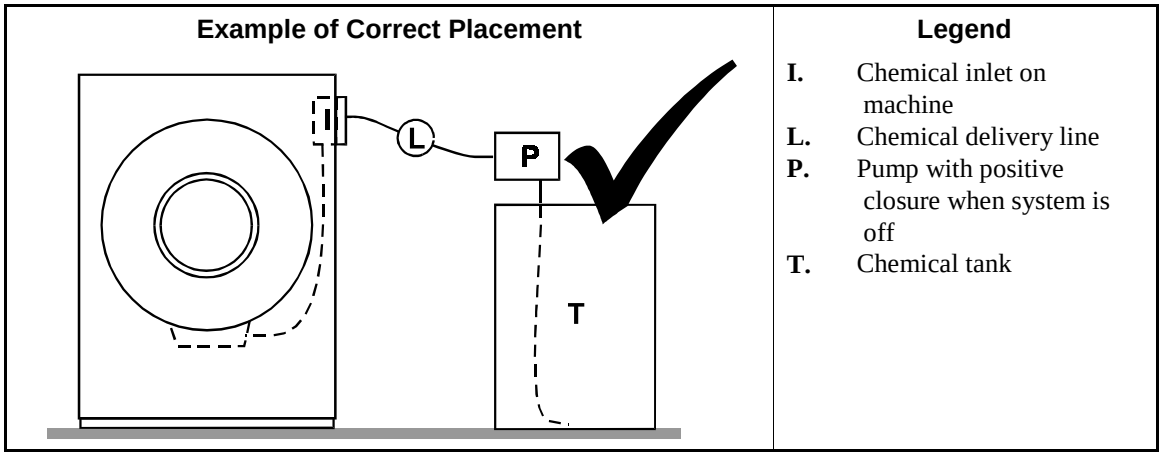
3.1. Siphoning: Positively close the line.—If the pump does not provide positive closure when the system is off, employ a shutoff valve in the line to serve this purpose.

3.2. Siphoning: Break the siphon.—Provide an air gap or vacuum breaker in the chemical delivery line. This must be located above the "full" line of the tank.

3.3. Dribbling: Flush the entire chemical delivery line.—If any concentrated chemical that remains in the injection line between the pump and the machine is free to flow into the machine, employ a system that flushes the entire line between the pump and the injection point with fresh water after each injection.

3.4. Dribbling: Locate the entire chemical line below the machine inlet.—Assuming the chemical system does not retain any line pressure and that the pump provides positive closure when the system is off, locate the entire chemical delivery line below the level of the chemical inlet. An example of this is shown in Figure 4.

Figure 4: Locating a Pumped Chemical System With Positive Closure To Protect Against Machine Damage



4. Guarding Against Leaks

All personnel who may work with the chemical system (e.g., chemical system manufacturer, chemical system supplier, chemical supplier, operator, maintenance personnel) should be vigilant in observing for leaks in the system. When connecting, or reconnecting chemical lines, whether at installation, after taking samples, or when replacing components, at a minimum ensure that:

1. the proper components are used,
2. all connections are the proper fit, and
3. all components are securely connected.

CAUTION 2: Injury and Damage Hazards—Chemicals leaking from a chemical system may be corrosive or toxic. Such chemicals can injure personnel and damage equipment.

- Use care when connecting chemical lines.
- Inspect regularly for leaks.

— End of BIWUUI03 —

Section 1

Service and Maintenance

BIIFUM01 (Published) Book specs- Dates: 20030311 / 20030311 / 20030311 Lang: ENG01 Applic: IFC IFD

Preventive Maintenance

As required by the warranty and to achieve optimum performance and service life from Milnor washer-extractors, the schedules, instructions and precautions herein must be strictly followed.

WARNING 1: Entangle and Crush Hazards—Guards, covers, and panels—Operating the machine with any guard, cover, or panel removed exposes moving components.

- Lock out and tag out power at the main machine disconnect before servicing, or in accordance with factory service procedures.
- Do not service machine unless qualified and authorized.

CAUTION 2: Pinch Hazard—Suspended machines only—Spaces between the shell and housing can close and crush or pinch your limbs. The shell moves within the housing during operation.

- NEVER place fingers in gap between shell and frame.

CAUTION 3: Bearing and Seal Damage Hazard—Mixing different base greases can cause bearing and seal damage. Consult lubricant manufacturer before using a non-specified lubricant.

1. Lubrication Precautions [Document BIUUUM01]

CAUTION 4: Machine Damage Hazard—Improper lubrication can damage machine components and cause the machine to malfunction.

- Do not mix petroleum and synthetic based lubricants.
- Do not use an unspecified lubricant without consulting the lubricant manufacturer.
- Do not apply grease with a pneumatic grease gun. Use only a hand-operated grease gun.
- Do not over-lubricate.
- Always clean grease fittings before adding grease. Clean off excess grease.
- Ensure that lubricants do not drip onto belts, brake shoes or drums.

WARNING 5: Entangle and Crush Hazards—Contact with moving components normally isolated by guards, covers, and panels, can entangle and crush your limbs. These components move automatically.

- Lock out and tag out power at the main machine disconnect before servicing, or in accordance with factory service procedures.
- Do not service machine unless qualified and authorized.

1.1. **Pumping Grease**—Pump grease slowly, taking 10-12 seconds to complete each stroke. A grease gun can build up extremely high pressure which will force seals out of position and cause them to leak.

1.2. **Grease Quantity**—Apply the quantity of grease called for in the checklist. Over-lubrication can be as damaging as under-lubrication. Where quantities are stated in strokes, one stroke of the grease gun is assumed to provide .0624 fluid oz. (1.77 grams) (by volume) of grease. Therefore, one fluid ounce (28.3 grams) of grease would be provided by 16 stokes of the grease gun. Determine the flow rate of your grease gun by pumping one ounce into a calibrated container. If fewer than 16 stokes are required, all quantities in strokes in the chart should be reduced accordingly, and if more than 16 strokes are required, the number of strokes should be increased. Before starting lubrication, make sure your grease gun is working and that you get a full charge of grease with every stroke.

1.3. **Lubricant Specifications**—Lubricant specifications are provided in the preventive maintenance checklist. Lubricants should be purchased locally. If a specified lubricant is not available locally, it is permissible to substitute a product that has been specified as equivalent by the lubricant manufacturer. If you cannot obtain either the specified lubricant or a valid equivalent locally, contact the Milnor Service Department for assistance.

2. Main Bearing Housing Preventive Maintenance

WARNING 6: Entangle and Crush Hazards—Guards, covers, and panels—Operating the machine with any guard, cover, or panel removed exposes moving components.

- Power is ON and cylinder is turning during the following procedure. Permit only qualified maintenance personnel to perform this procedure.

Grease seals and main bearings as follows:

1. Locate the seal and bearing grease fittings plate (Figure 1).
2. Place the machine in a wash step (see operating manual).
3. With the cylinder turning, grease the seals and bearings as called for in the “Preventive Maintenance Checklist” and “Lubrication Precautions.”

3. Preventive Maintenance

Table 1: Preventive Maintenance Checklist

Components		Action	Frequency	Specifications/References/Figures
Main Bearing Housing	Bearings	Slowly grease: 2 strokes - 0.12 ounces (3.54 grams) at two locations.	Monthly	Shell Alvania EP (or equivalent), See "36030Fxx and 42032Fxx Bearing Housing Maintenance Points"
	Seals	Slowly grease: 1 stroke - 0.06 ounces (1.77 grams) at one location		
Pharmaceutical Machine Main Bearing Housing	Bearings	Slowly grease: 2 strokes - 0.12 ounces (3.54 grams) at two locations.	Every 10 days or 32 operating hours	Shell Cygnus-2 food grade grease only (or equivalent), See "36030Fxx and 42032Fxx Bearing Housing Maintenance Points."
	Seals	Slowly grease: 1 stroke - 0.06 ounces (1.77 grams) at one location		
Drive Train	Drive belts	Check for wear and tension. Check pulleys for wear.	Weekly	See "Drive Belt Service" and "Service Notes" in this section.
	Inverter fans and vents	Verify fan operation. Vacuum out vents and electrical box.		See "36030Fxx and 42032Fxx Drive Train Maintenance Points"
Suspension	Rubber springs	Check for cracks and deterioration.	Monthly	See "36030Fxx and 42032Fxx Suspension Maintenance Points"
	Shocks	Check for leaks, replace as required.		
Suspension (Staph-Guard machines)	Isolator cushions	Checks for cracks and deterioration.	Monthly	See "Staph-Guard Suspension Maintenance Points"
	Isolator oil level	Check oil level.	Monthly	Shell Rotella T 10W30 (or equivalent)
	Isolator oil	Replace oil	Annually	As above
	Isolator fasteners	Check torque.	Annually	250 inch-pounds
	Shocks	Check for leaks. Replace as necessary.	Monthly	
Foundation	Bolts	Check for loose bolts and damaged grout. Tighten and/or repair as necessary.	Monthly	Dimensional drawings
Chemical Supply (if so equipped)	Water and chemical supply hoses	Check for leaks, observe operation.	Monthly	See "36030Fxx and 42032Fxx Chemical Supply Maintenance Points" and "Service Notes" in this section.
	Water pressure gauge	Verify pressure 25 - 28 psi (1.96 - 1.97 kg. sq. cm.)	Monthly	See "36030 and 42032Fxx Chemical Supply Maintenance Points or Staph-Guard Water Pressure Gauge."

Components		Action	Frequency	Specifications/References/Figures
	Flushing supply injector (if equipped)	Clean out each compartment as needed.	Weekly	See "36030 and 42032Fxx Chemical Supply Maintenance Points"
	Water supply injector valve strainers (if so equipped)	Inspect and clean the strainers in supply injector valves	Monthly	
Steam	Steam strainer (if so equipped)	Inspect and clean strainer as required.	Monthly	See "Optional Steam Strainer Location"
Cylinder (Staph-Guard machines)	Cylinder door handle	Inspect pins and chain links for bending and cracking. Clean tracks and springs. Check for easy operation.	Daily	See "Staph-Guard Cylinder Door Handle"
Curtain (Staph-Guard machines)	Curtain	Check for cracks and holes.	Monthly	See "Staph-Guard Curtain"
Disc brake (Staph-Guard machines)	Reservoir	Check reservoir fluid level	Monthly	DOT3 brake fluid, see "Staph-Guard Disc Brake" and "Servicing disc brakes...BIEUUM01"
	Brake pads	Check for wear		
Soil Side Door (Staph-Guard machines)	Inflatable seal	Check seal-to-door attachment	Monthly	See "Staph-Guard Door Seal Components"
	Seal pressure gauges	Verify pressure 10 - 12 psi (0.70 - 0.84 kg. sq. cm.)		
Clean side door (42Fxx Staph-Guard only)	Door seal pressure gauge	Verify pressure 48 - 50 psi (3.37 - 3.51 kg. sq. cm.)	Monthly	

4. Drive Belt Service

Check tension for a new belt according to the following schedule and tighten belt if needed, as described below.

- **After 24 hours operation (three eight-hour shifts).**
- **After 80 hours operation (ten eight-hour shifts).**
- **After 160 hours operation (twenty eight-hour shifts).**
- If the belt is new, accurately measure the outer diameter of the belt. This measurement is L1. Find L1 in the “Banded Belt Initial Tension” section of the “Final Drive Belt Tension” table, then locate the “Tensioned Length” corresponding to L1. Tie a string to this length and install the belt, then:
  - » Fit string to the outer diameter of both pulleys and slowly raise motor platform until string is tight.
  - » After 24 hours of operation, remove tension from the belt and measure the outer diameter again, then see L2 in the “Banded Belt Final Tension” section of the Final Drive Belt Tension table. Find the corresponding “Tensioned Length.” Tie a string to this length.

Once again, fit string to the outer diameter of both pulleys, then slowly raise motor platform until string is tight.

- If tightening an existing belt, see step above.

Table 2: 36030Fxx Final Drive Tension

Banded belt initial tension			Banded belt final tension		
L1 (inches)	**Multiplier**	**Tensioned length (inches)**	**L2 (inches)**	**Multiplier**	**Tensioned length (inches)**
116		116.3	116		116.6
116.2		116.5	116.2		116.8
116.4		116.7	116.4		117
116.6		116.9	116.6		117.2
116.8		117.2	116.8		117.4
117		117.4	117		117.6
117.2		117.6	117.2		117.8
117.4		117.8	117.4		118
117.6		118	117.6		118.2
117.8		118.2	117.8		118.4
118		118.4	118		118.6
118.2		118.6	118.2		118.8
118.4		118.8	118.4		119
118.6		119	118.6		119.2
118.8	1.003	119.2	118.8	1.005	119.4
119		119.4	119		119.6
119.2		119.6	119.2		119.8
119.4		119.8	119.4		120
119.6		120	119.6		120.2
119.8		120.2	119.8		120.4
120		120.4	120		120.6
120.2		120.6	120.2		120.8
120.4		120.8	120.4		121
120.6		121	120.6		121.2
120.8		121.2	120.8		121.4
121		121.4	121		121.6
121.2		121.6	121.2		121.8
121.4		121.8	121.4		122
121.6		122	121.6		122.2

Table 3: 42032Fxx Final Drive Tension

Banded belt initial tension			Banded belt final tension		
L1 (inches)	**Multiplier**	**Tensioned length (inches)**	**L2 (inches)**	**Multiplier**	**Tensioned length (inches)**
124	1.003	124.4	124	1.005	124.6
124.2		124.6	124.2		124.8
124.4		124.8	124.4		125
124.6		125	124.6		125.2
124.8		125.2	124.8		125.4
125		125.4	125		125.6
125.2		125.6	125.2		125.8
125.4		125.8	125.4		126
125.6		126	125.6		126.2
125.8		126.2	125.8		126.4
126		126.4	126		126.6
126.2		126.6	126.2		126.8
126.4		126.8	126.4		127
126.6		127	126.6		127.2
126.8		127.2	126.8		127.4
127		127.4	127		127.6
127.2		127.6	127.2		127.8
127.4		127.8	127.4		128
127.6		128	127.6		128.2
127.8		128.2	128.8		128.4
128		128.4	128		128.6
128.2		128.6	128.2		128.8
128.4		128.8	128.4		129
128.6		129	128.6		129.2
128.8		129.2	128.8		129.4
129		129.4	129		129.6
129.2		129.6	129.2		129.8
129.4		129.8	129.4		130

5. Service Notes

Note 1: All V-belts are not alike. So-called “Super” or “High Capacity” belts frequently have considerably higher capacities than “Standard” belts. Sometimes a particular manufacturer's V-belts will be more suitable for a certain application and another manufacturer's V-belts may be suitable for a different application. This may occur in spite of the fact that both manufacturer's V-belts are reputedly “interchangeable.” Because of this, it is always best to purchase replacement belts from the original manufacturer of the equipment. If you do not wish to do this, we suggest that when you replace the belts, you purchase the exact style and type belts with which the machine was originally equipped. This is the best way to achieve belt life on your replacement belts equal to the life of the original set. If you are not

satisfied with the life of the original set, you should ask our factory if a better belt has been developed for the specific application.

Note 2: Dry bleaches may cause the inside of the supply injector to show evidence of mild rusting. If this occurs, carefully clean away rusting at least once a week. Always inject dry bleach from the cup or scoop. Never allow dry bleach to come into direct contact with the stainless steel components of the supply injector.

6. Service Points

Figure 1: 36030Fxx and 42032Fxx Bearing Housing Maintenance Points

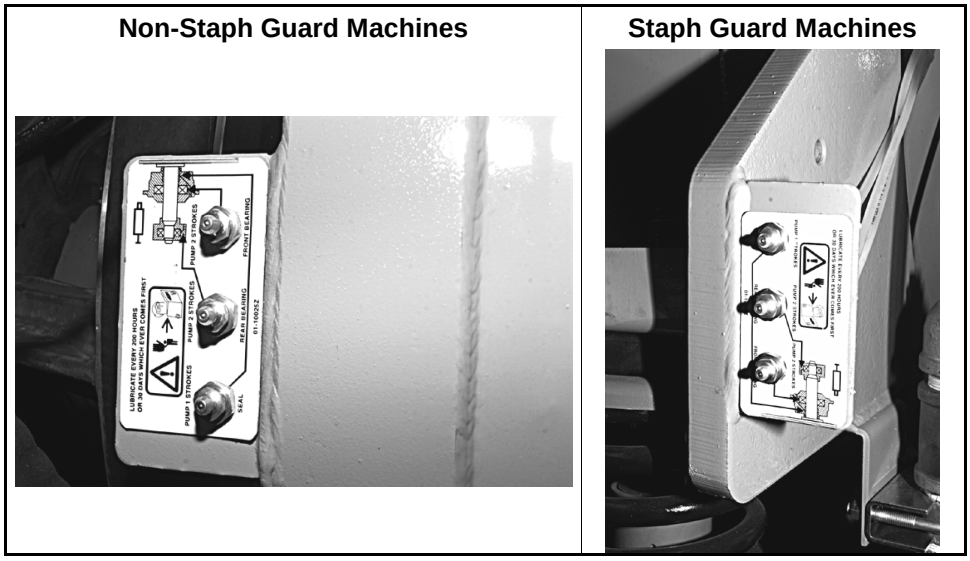


Figure 2: 36030Fxx and 42032Fxx Drive Train Maintenance Points

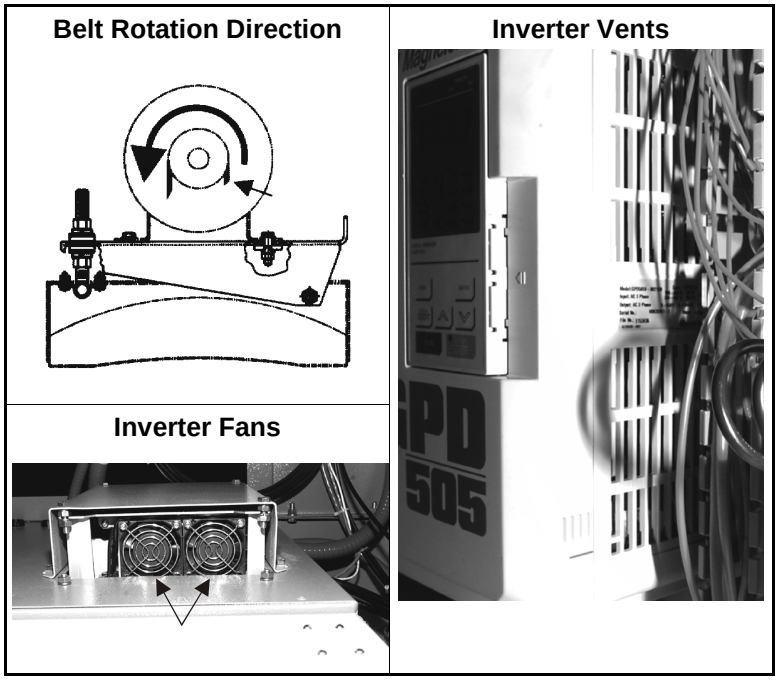


Figure 3: 36030Fxx and 42032Fxx Suspension Maintenance Points

Rubber springs (four locations)	Shocks (four locations)
	

Figure 4: Staph-Guard Isolator Fastener

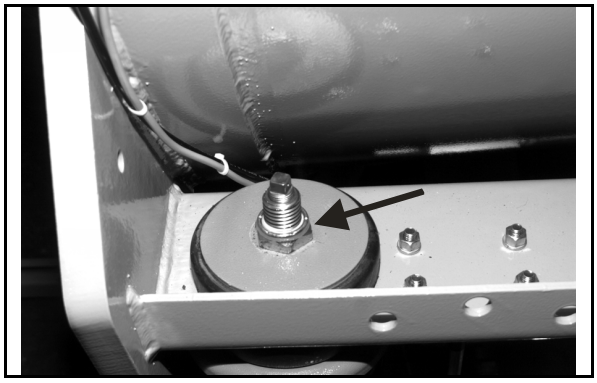


Figure 5: Staph-Guard Suspension Maintenance Points

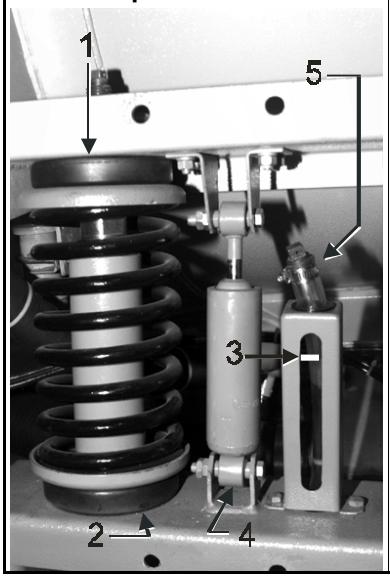
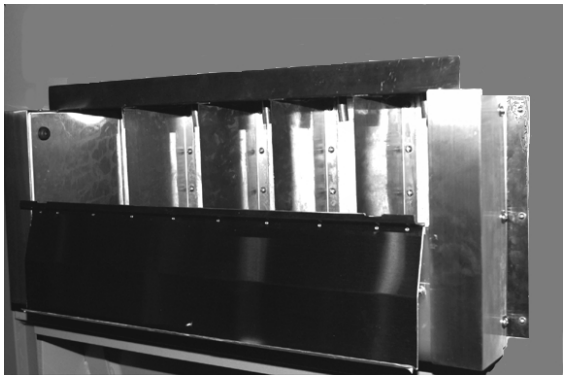
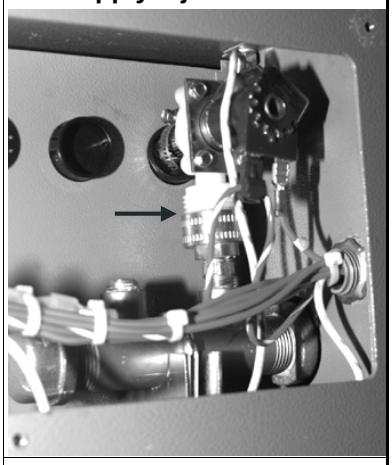
Suspension Items	Legend
	**1.** Isolator assembly **2.** Cushion **3.** Oil level **4.** Shocks **5.** Isolator oil level, drain and fill tube

Figure 6: 36030Fxx and 42032Fxx Flushing Supply Maintenance Points (If so equipped)

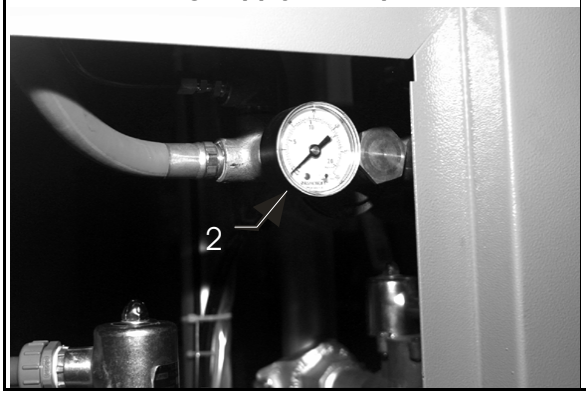
Flushing supply injector



Supply injector valve



Flushing supply water pressure



Legend

1. Strainer (inside valve body)

2. 25 - 28 psi (1.76 - 1.97 kg. sq. cm.)

Figure 7: Optional Steam Strainer Location

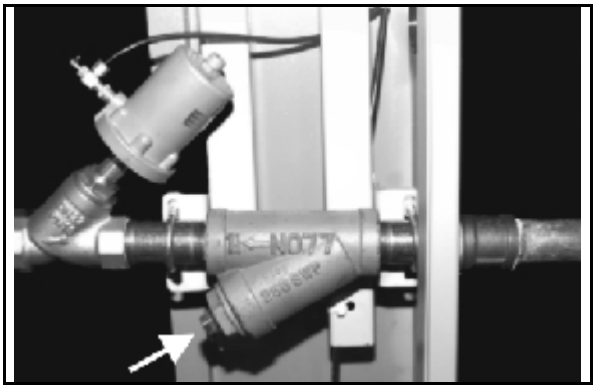


Figure 8: Staph-Guard Water Pressure Gauge

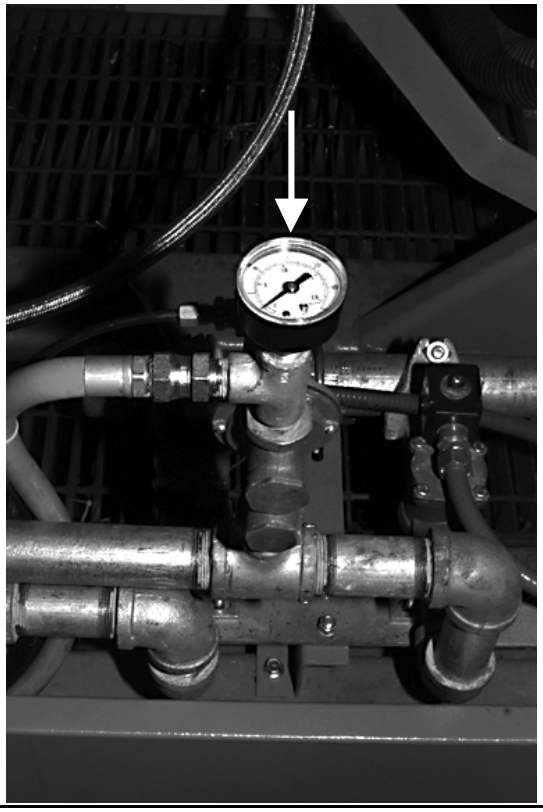
Gauge	Legend
	**25 - 28 psi (1.76 - 1.97 kg. sq. cm.)**

Figure 9: Staph-Guard Cylinder Door Handle

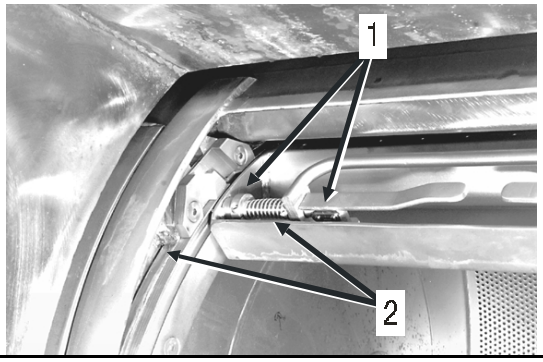
Cylinder door	Legend
	**1.** Pins and chain links **2.** Tracks and springs

Figure 10: Staph-Guard Curtain

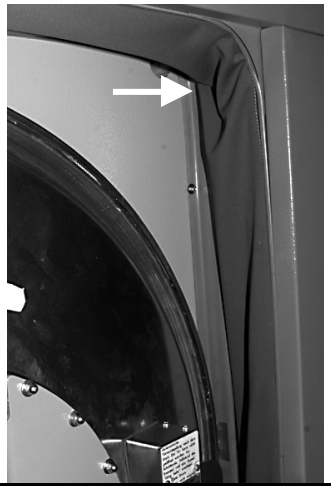
Curtain	Legend
	Curtain

Figure 11: Staph-Guard Disc Brake

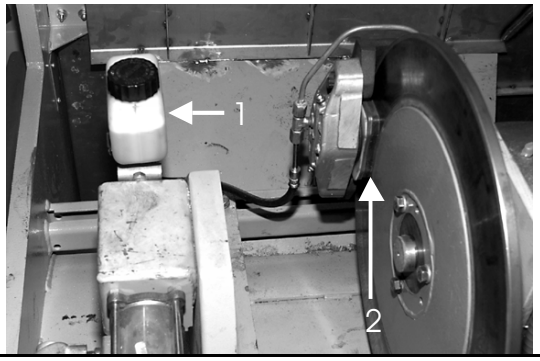
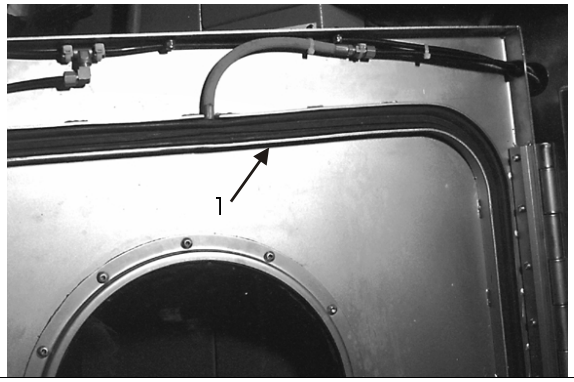
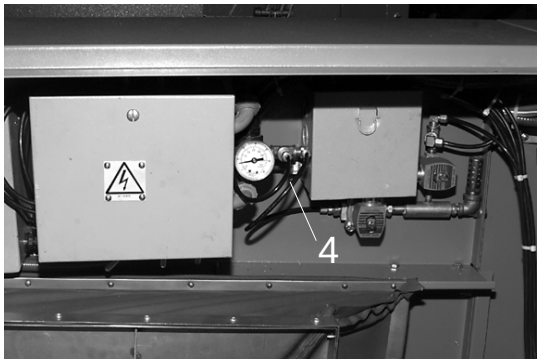
Disc brake components	Legend
	**1.** Reservoir **2.** Disc brake pads

Figure 12: Staph-Guard Door Seal Components

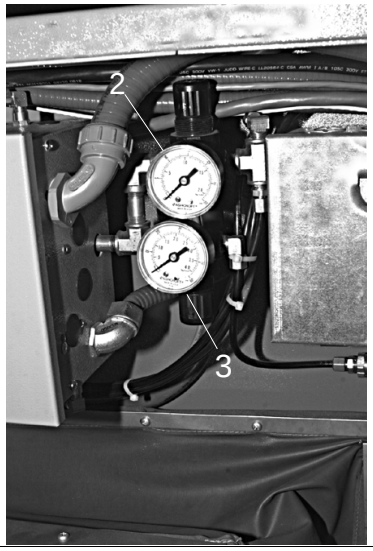
Soil side door inflatable seal



36030Fxx Inflatable seal and door pressure gauge



42032Fxx Inflatable door seal and door seal pressure gauges



Legend

1. Inflatable door seal
2. Clean side door seal pressure gauge, 48-50 psi (3.37-3.51 kg. sq. cm.)
3. Soil side door inflatable seal door pressure gauge, 10-12 psi (0.70 -0.84 kg. sq. cm.)
4. Soil side door inflatable seal door pressure gauge, 10-12 psi (0.70 -0.84 kg. sq. cm.)

— End of BIIFUM01 —

BIEUUM01 (Published) Book specs- Dates: 20120629 / 20120629 / 20120629 Lang: ENG01 Applic: HDU IFL IFG IFS IHU IEU PVU MXC MXD

Disk Brake Maintenance

This document uses Simplified Technical English.
Learn more at http://www.asd-ste100.org.

NOTICE P1: "Remove power from the machine" means use the necessary safety procedure for your location. In the USA, this is the OSHA lockout/tagout (LOTO) procedure. More local requirements can also apply.

You can do these types of maintenance on the disk brake:

- do an inspection of the brake as specified in the maintenance schedule,
- replace the friction pads,
- do an overhaul on the calipers,
- replace the hydraulic fluid,
- adjust the connection between the brake cylinder and the air cylinder.

For the first four types of maintenance, you must remove air from (bleed) the hydraulic circuit.

Section 6 tells how to operate the disk brakes. You can use it in some of the types of maintenance in this procedure.

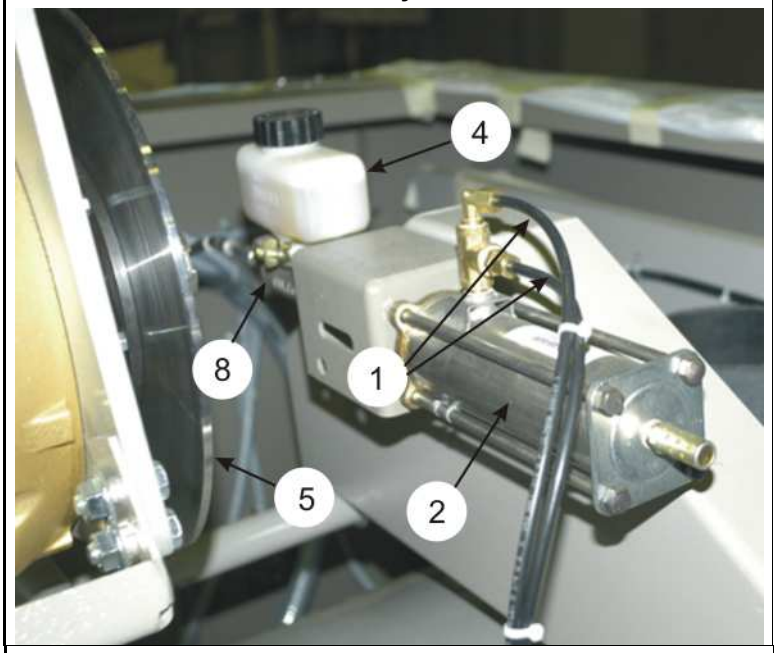
WARNING 2: Risk of injury or death —A machine in operation without safety guards is dangerous.

- You must be an approved maintenance technician.
- Use special caution when this instruction tells you to do work with electrical power on. Remove power from the machine for all other maintenance. Obey safety codes.
- Replace all guards and covers.

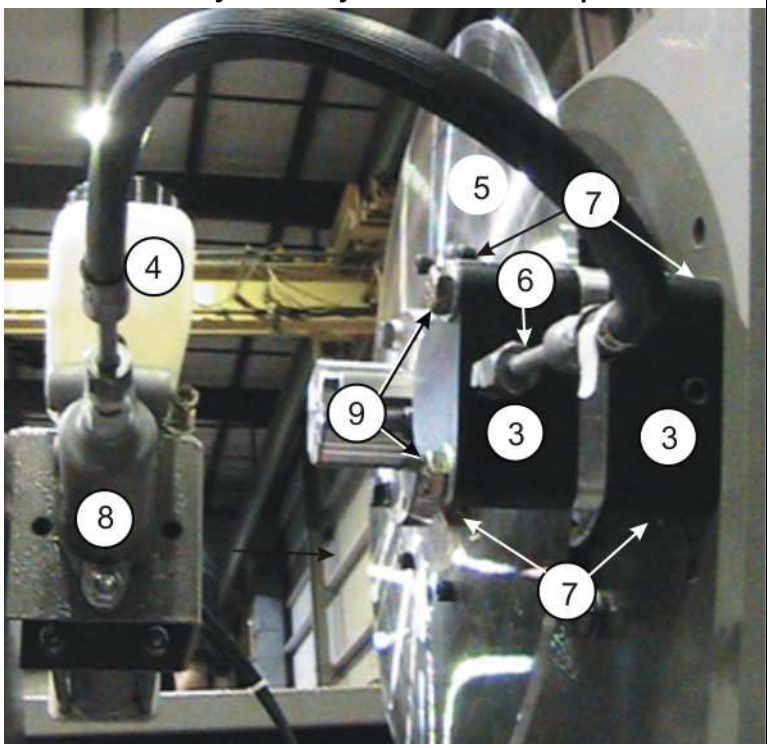
Tip: During parts of this procedure when you open up the calipers or hydraulic lines, put a cloth under the calipers to catch hydraulic fluid and parts that will fall. For safety, fully remove spilled hydraulic fluid after brake maintenance. This will help you easily identify leaks.

Figure 1: A typical hydraulic brake system

The air cylinder



The hydraulic cylinder and the caliper



Legend

1. Tubing for air
2. Air cylinder
3. Caliper body halves (Figure 2, item 2)
4. Hydraulic reservoir
5. Rotor disk
6. Hydraulic inlet
7. Valves to drain fluid and bleed the brake
8. Hydraulic cylinder
9. Bolts to attach the caliper (Figure 2, item 1)

1. The Inspection of the Brake

Note 1: The brakes shown in this document can look different from your equipment.

Note 2: Do this inspection when the maintenance schedule tells it is necessary. Do this inspection after you replace friction pads or do a caliper overhaul.

1.1. Examine the fluid in the reservoir. —Change the hydraulic fluid if it smells, has contamination, or has an unusual color. See Section 4.

> **Note 3:** Brake fluid can become defective from heat in the brake system. Brake fluid absorbs water from air. Water in the brake system causes corrosion.

If necessary, add new DOT 3 fluid to 0.25 inch (6.35 millimeters) from the top of the reservoir. Follow the precautions on the container.

1.2. Examine the rotor disk surface (Figure 1, item 5). —Replace the disk if it is worn or if it is not flat.

1.3. Examine the brake pads (Figure 2, item 4). —To do this, you will remove/replace the calipers and bleed the hydraulic system. See Section 3 and Section 4.

1. **Remove power from the machine (see Notice P1).**
2. Remove the bolts (Figure 1, item 9) that attach the caliper halves (Figure 1, item 7).
3. Remove the caliper halves.
4. Replace the pads as told in Section 2 if
   - the pads make an unusual noise when you apply the brake
   - if the rotor is worn or damaged
   - if the pad thickness is less than 1/16 inches (2 mm) (Figure 2, item 14) above the mounting screw (Figure 2, item 3). Always replace the two brake pads at the same time.
5. Put the caliper halves in their positions on the brake assembly. Tighten the mounting bolts to 30 foot-pounds (41 Newton-meters).
6. Bleed the hydraulic systems as told in Section 4.4.
7. Supply electrical power to the machine.

1.4. Examine the condition of all of the brake system.

1. Make sure that brake mounting components are tightly installed.
2. Make sure that fittings are tight. Make sure that there are no leaks.

2. How to Do a Friction Pad Replacement

You must have the necessary replacement friction pads for your machine. Refer to the brake parts document in your machine manual. You will find part numbers for components or overhaul/repair kits. The overhaul/repair kit contains O-rings, pads, and other components.

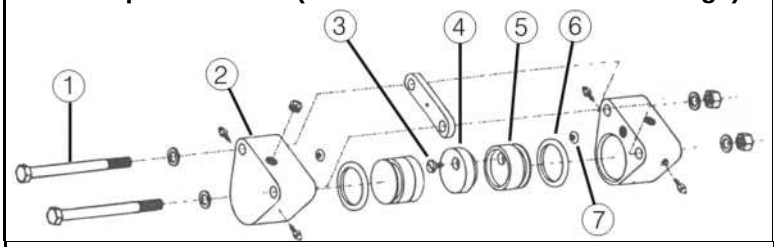
1. **Remove power from the machine (see Notice P1).**
2. Remove the used fluid. See Section 4.3.
3. Remove the two bolts that attach the caliper (Figure 1, item 9) and the two caliper halves (Figure 1, item 3) to get access to the friction pads. Do not disconnect the hydraulic line (Figure 1, item 6).
4. If there are leaks, see Section 3 "How to Do a Caliper Overhaul " before you continue.
5. Replace each friction pad:
   a. Remove the brass screw (Figure 2, item 3) that attaches the pad to the piston.
   b. Attach the new pad to the piston. Tighten the screw.
   c. Make sure that the screw head is fully in the recess in the pad.
6. Make sure that the connection o-rings are clean and in their positions (Figure 2, item 7).

7. Put the caliper halves in their positions on the brake assembly. Tighten the mounting bolts to 30 foot-pounds (41 Newton-meters).
8. Bleed the brake. See Section 4 “How to Change Hydraulic Fluid and Remove (Bleed) Air from the Brake Circuit ”.
9. Supply electrical power to the machine.

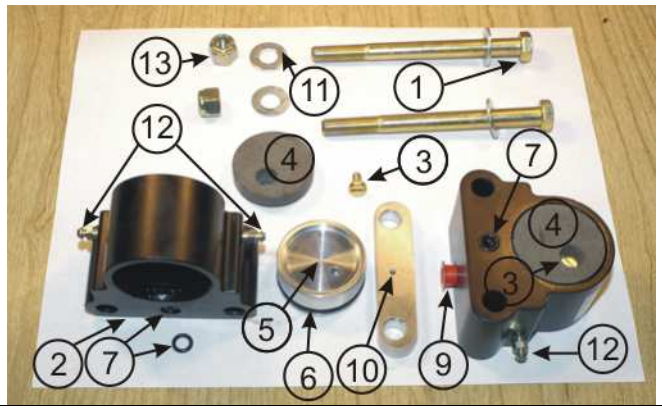
3. How to Do a Caliper Overhaul

Figure 2: The Caliper Components

The Expanded View (Shows the Piston and the O-rings)



The Caliper and the Pad



Legend

1. The bolts to attach the caliper (Figure 1, item 9)
2. Caliper body halves (Figure 1, item 3)
3. Brass screw
4. Friction pad
5. Piston
6. The Piston O-ring
7. The connection O-ring and its position
8. Plug for the hydraulic inlet
9. A hydraulic inlet (connected on one caliper, a plug (item 8) on the other)
10. The hole in the spacer
11. Washer
12. One of the four valves to bleed the fluid
13. Nut
14. The pad thickness must be more than than 1/16 inches (2 mm) above item 3

Fittings for the Hydraulic Inlet

Look at the pad thickness above the top of the screw

Tip: Hydraulic fluid flows from one caliper to the other caliper. Fluid flows through the connection O-rings (Figure 2, item 7) and the hole in the spacer (Figure 2, item 10). When you disconnect the calipers, hydraulic fluid can flow from the hole at the connection O-rings. Air can get in the line. After you connect the calipers, you must bleed the system.

You must have the necessary kit for the overhaul of your machine. Refer to the brake parts document in your machine's manual.

1. **Remove power from the machine (see Notice P1).**
2. Get access to the caliper halves (see Section 2).
3. Do an overhaul on each caliper:
   a. Remove and discard the connection O-rings (Figure 2, item 7) on the caliper bodies.
   b. Apply compressed air to the fitting for the hydraulic inlets (see Figure 2, item 8) to push the pistons out.
   c. Replace the piston O-rings (Figure 2, item 6).
   d. Put the pistons in the caliper body. Carefully tap the pistons with a wood or rubber hammer to install it.
   e. Replace the connection O-rings. (Figure 2, item 7)
   f. Replace the friction pads (see Section 2).
4. Replace the caliper halves as specified in Section 2.
5. Bleed the brake circuit (see Section 4).
6. Supply electrical power to the machine.

4. How to Change Hydraulic Fluid and Remove (Bleed) Air from the Brake Circuit

4.1. Risks and Precautions

WARNING 3: Risk of injury —Machine power must be on for these procedures.

- Stay away from operating mechanisms.

CAUTION 4: Risk of injury and damage —This procedure releases pressurized brake fluid.

- Keep brake fluid out of your eyes and mouth. Wear eye protection.
- Follow procedures carefully to prevent damage to the face of the disk or the pistons.

CAUTION 5: Risk of malfunction . —Air in hydraulic fluid will compress. Compressed air in the brake line will cause brake malfunctions.

- Remove (bleed) air from the brake circuit before you operate the machine.

4.2. Requirements —These personnel and items are necessary for this procedure:

- two technicians
- an 8-ounce container of new brake fluid
- Alternative procedures to remove air and used brake fluid:
  - » a suction pump (faster procedure) (see Figure 3)
  - » with pressure in the hydraulic cylinder and gravity (see Figure 4)

Tip: The Vacula suction pump can do the work more quickly than by gravity and pressure in the hydraulic cylinder. It is also cleaner because all of the hydraulic fluid goes into the container supplied. It helps you not spill the hydraulic fluid.

- If you use a suction pump as shown in Figure 3, follow the manufacturer's instructions.
- If you use the tools as shown in Figure 4, follow the instructions in Section 4.3 and Section 4.4.

Figure 3: Pumps Used to Remove Hydraulic Fluid Quickly

Alternative Pumps for Suction of Hydraulic Fluid

Legend

1. A manual suction pump
2. The Vacula suction pump uses compressed air and holds used hydraulic fluid.

Figure 4: Typical Tools to Remove Air (Bleed) Brakes and Used Hydraulic Fluid

These tools use gravity and pressure in the hydraulic cylinder	Legend
	**1.** a clean 12 ounce container **2.** a flexible hose to attach from the bleed valves to a container **3.** a wrench for the bleed valves (Figure 2, item 12) **4.** a suction device to remove brake fluid from the reservoir

4.3. Use the tools in Figure 4 to remove the used hydraulic fluid and clean the line. —Do these steps:

1. Use a suction tool (Figure 4, item 4) to remove the used fluid from the reservoir. Clean the contamination.
2. Connect the tubing (Figure 4, item 2) and container (Figure 4, item 1) to the valve on the caliper (Figure 1, item 7).
3. Open the valve.
4. Add new fluid to flush out the lines.
5. Apply/release the brake (See Section 6) approximately 5 to 15 times. This will flush the used fluid out of the lines.
6. Close the valve.

Note 4: These steps will cause air to go into the line.

4.4. Add new hydraulic fluid and remove (bleed) air from the brake circuit.

Note 5: This procedure uses pressure in the hydraulic cylinder and the tools in Figure 4.

1. Fill the reservoir with new DOT 3 brake fluid. When you do the remaining steps, continue to add new fluid to the reservoir. Do not let the reservoir become more than half empty. You must make sure that the reservoir has fluid to prevent air flow into the system from the reservoir.
2. Apply electrical power to the machine. Release the brake.
3. See the part of the machine reference manual that tells how to operate the outputs manually.

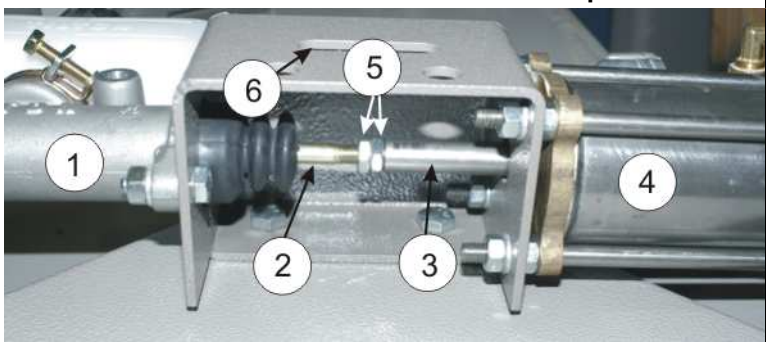
4. Put a small quantity of new brake fluid (approximately inches (50 mm)) in the 12 ounce container (Figure 4, item 1).
5. Do these steps for each bleed valve (Figure 1, item 1) . Two technicians are necessary. This will move the fluid in one direction and push air out of the line:
   a. Attach a clean tube to the valve. Put the other end in the container (Figure 4, item 1) below the fluid.
   b. Make sure that the reservoir is full of fluid.
   c. Apply the brake (See section 6).
   d. Open the bleed valve. (Figure 2, item 12)
   e. Look for air bubbles in the container when you push the air and fluid out through the tube.
   f. Close the valve.
   g. Release the brake.
   h. Continue the steps b through g until no more air comes out of the line.
6. Add fluid to the top of the reservoir. Replace the cap.
7. Operate the brake many times. Make sure that it operates correctly.

5. How to Adjust the Connection between the Brake Cylinder and the Air Cylinder

If you removed the brake cylinder or the air cylinder, you must adjust this connection.

Figure 5: The Connection between the Brake Cylinder and the Air Cylinder

A view of the brake rod and related components

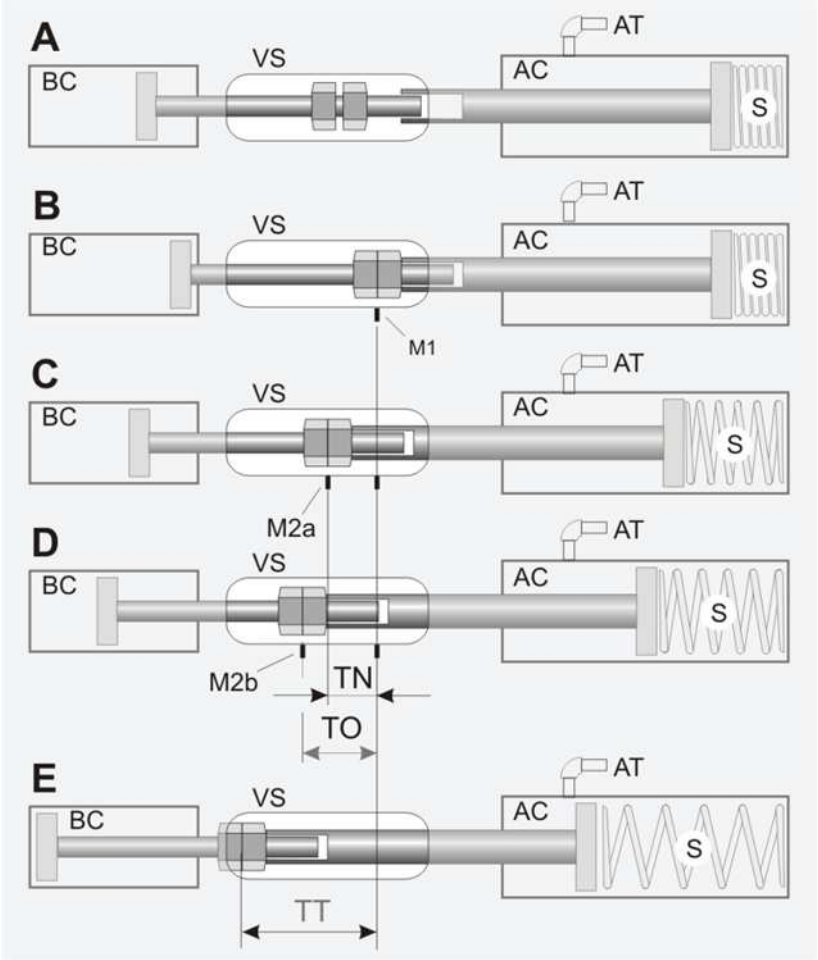


Legend

1. The brake cylinder
2. The rod for the brake cylinder
3. The rod for the air cylinder
4. The air cylinder
5. Two nuts to lock the rods together
6. The slot to see the nuts

Figure 6: The Adjustment between the Brake Rod and the Air Cylinder

Schematic Views of Different Conditions



Legend

AC. Air cylinder (Figure 5, item 4)
BC. Brake cylinder (Figure 5, item 1)
VS. Slot to see the nuts (Figure 5, item 6)
A. Before travel adjustment -- Rods not locked by nuts (Figure 5, item 5)
B. After travel adjustment -- the brake released (See Section 6.2)
C. Brake applied--NEW pads (See Section 6.1)
D. Brake applied--OLD pads
E. This will occur if you apply the brake with the hydraulic line removed
TN. Rod travel, new pads
TO. Rod travel, very worn pads
TT. Full travel with the hydraulic line removed
M1 First mark at the view slot -- the brake released
M2a. Second mark--one possible position -- the brake applied
M2b. Second mark-- a different position -- the brake applied
AT. Air tubing (See Figure 1,1). Air releases the brake.
S. Spring applies the brake

5.1. Adjust for maximum rod travel.

1. Operate the master switch to energize control power.
2. Make sure that the air pressure that releases the brake (Figure 7, item 1) is 85 -100 PSI (5.95 - 07.0 kg/cm-cm).
3. Make sure that the nuts that lock the rods together (Figure 5, item 5) are loose.
4. Release the brake (see Section 6). Let the air cylinder rod fully retract into the air cylinder as shown in Figure 6, A.
5. Turn the brake rod into the air cylinder rod until the brake rod comes out of the brake cylinder fully. See Figure 6, B.
6. Lock the brake rod (Figure 5, item 2) to the air cylinder rod (Figure 5, item 3) with two nuts (Figure 5, item 5).

5.2. Make sure that the brake will continue to operate while the pads wear.

1. Release the brake. On the view slot, put a mark at the position of the lock nuts. (Figure 6, item M1).
2. Apply the brake. See Section 6.
3. Put a mark at the position of the lock nuts when the brake is applied. This can be at position M2a, M2b, or between M2a and M2b. When the pads wear this position will move.
4. Make sure that the distance the rod moves when you apply the brake is 0.75 to 1.0 inches (19-25 mm). If the travel is more than this, the brake piston can hit the mechanical stop before the brake engages fully. This condition is shown in Figure 6 , E (dimension TT).

6. Operation of Brake Systems

Look at the electrical schematics of your machine to find how your brake is controlled. Some machines release the brake when you close the door. Some machines have a control relay to release or apply the brake.

6.1. How to Apply the Brake for Machines with a "Break Release" Output

1. Turn the "brake release" control output off to de-energize the air valve to remove air pressure to the air cylinder (Figure 1, item 1).
2. With no air pressure, a spring in the air cylinder will apply force to the hydraulic cylinder (Figure 1, item 8). This will apply pressure to the brake pads (Figure 2, item 4) against the rotor disk (Figure 1, item 5). (Figure 6, item C,D)

Note 6: If electrical power or compressed air is missing, hydraulic pressure will apply the brake.

6.2. How to Release the Brake for Machines with a "Brake Release" Output

1. Turn the control output called "brake release" on to energize the air cylinder valve.
2. Air pressure compresses the spring and releases the brake. (Figure 6, item B)

6.3. How to Apply and then Release the Brake Quickly —There are two air tubes at (Figure 1, item 1). One supplies compressed air from an air valve. The other sends this compressed air to a pressure switch. If you remove one of the two tubes when compressed air is there, you will apply the brake.

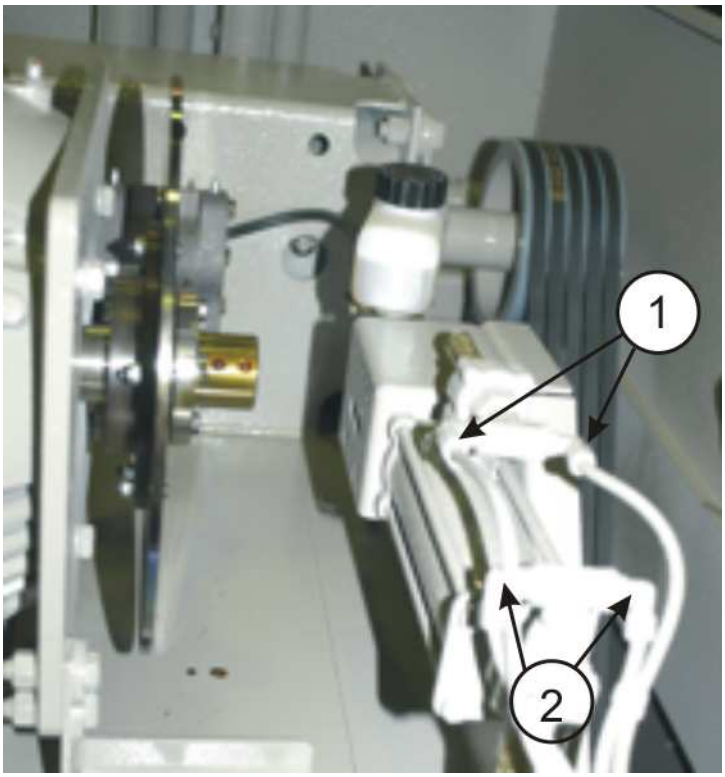
1. Disconnect the air tubing (Figure 1, item 1).

2. Turn the "brake release" output on. The air valve will supply compressed air to one of the tubes. (Figure 1, item 1).
3. Quickly move one of the compressed air tubes (Figure 1, item 1) on and off the air cylinder.
4. After you complete this procedure, connect the air tubing.

6.4. How the Brake Operates on Divided Cylinder Machines

Figure 7: A Typical First and Second Brake on a Divided Cylinder Machine

Two pairs of air tubing connect to different ends of the air cylinder.



Legend

1. Tubing for air that releases the first brake (85 -100 PSI) (5.95 - 07.0 kg/cm-cm)

2. Tubing for air that applies the second brake (10 – 12 PSI) (0.7-0.84 kg/cm-cm)

- On divided cylinder machines, two pair of air tubes connect to different ends of the air cylinder.
- When the cylinder turns, air pressure at Figure 7, item 1 compresses the spring and releases the brake.
- When you operate the stop control, air pressure at 1 is removed. Then the spring in the air cylinder applies the brake.
- If you open the door, the 2nd brake is applied. Then the air pressure at Figure 7, item 2 and the spring apply the brake.

6.5. The Second Brake —If your machine has a second brake which uses air pressure and spring pressure, it will have a pressure regulator. Make sure that you adjust the air pressure of the second brake (Figure 7, item 2) to 10 – 12 PSI (0.7-0.84 kg/cm-cm).

— End of BIEUUM01 —

LUBRICANTS FOR MILNOR® MACHINES

The following are lubricants used in Milnor® machines. Always refer to the preventive maintenance instructions for specific lubricating instructions. Consult lubricant manufacturer to verify equivalence before using a substitute. Mixing different base greases can cause bearing and seal damage.

	Washer-Extractors										
Open Pocket Machines	**Bearing housings**	**Gear reducers**	**Isolators**	**Hydro-Cushions®**	**Motors**	**Commutator cam**	**Balancing mechanism**	**Disc brake (if so equipped)**	**Hydraulic tilt mechanism**	**Door latches**	**Other grease points**
30015, 20, 22, C, S, and M	30										
3022F8J	220		220								
36021Q4x, 36026Q4x											
36021BWP						Wells	1540				
36021Q6x, 36026Q6x, 42024Q4x, 42026Q6x	EPLF 2	220			EPLF 2						
36030Fxx			1030					DOT 3			
42032Fxx											
42026QHP 48032BHP/BTL/BTN 48036QHP/QTL/QTN		220		220					1030	Door	EPLF 2
52038WP1/WTL/WTN				1030							
64046ExN 72046ExN 72058JxN			1030					DOT 3	68		
Divided Cylinder Machines											
42031 - 44 WP2/3 42031 - 44 SP2/3 60044 SP2/3 72044 SP2/3	EPLF 2	220		1030	EPLF 2			DOT 3		Door	EPLF 2

	CBW®, Extractor, Press, Shuttles, Conveyors, and Dryvacs													
	Bearing housings	**Gear reducer**	**Drive motors**	**Hydro-Cushions®**	**Hydraulic mechanisms**	**Disc brake**	**Mist oiler**	**Guide rollers**	**Drive/Support rollers**	**Blower shaft bearings**	**Press pressure pump**	**Blower motors**	**Inflatable rib couplings**	**Shuttle chain**	**All other grease points**
CBW®		220					T32	EPLF 2	EPLF 2						
42032M7E	EPLF 2			220	68	DOT 3							SRI		
42032M9E			EPLF 2	32											EPLF 2
Single Stage Press		1030													
Press							23				630				
Dryer									EPLF 2	EP2		R			
Shuttle & Conveyor		634												FL	
Dryvac										EP2		R			

Oils

DOT 3	=	NAPA Super Heavy Duty Brake Fluid DOT 3
23	=	Shell Tellus® 23
30	=	High quality SAE 30, 40, or 50 weight motor oil (non-detergent, if available)
32	=	Shell Tellus® 32
T32	=	Shell Turbo® T32
68	=	Shell Tellus® 68
220	=	Shell Morlina® 220
630	=	Valvoline Special Moly® EP 630
634	=	Mobile SHC® 634 Oil
1030	=	Shell Rotella T® 10W30
1540	=	Shell Rotella T® HD 15W40

Greases

Door	=	Doorease® Stick lubricant
EPLF 2	=	Shell Alvania® EP-LF Type 2
EP2	=	Shell Darina® EP-2
FL	=	Recol Food Lubricant
R	=	Shell Dolium® R
Wells	=	Wells CL200 Cam Lubricant
SRI	=	Chevron SRI oil

REPLACING THE 42032Fxx BEARING HOUSING

DANGER: ENTANGLE AND CRUSH HAZARD

Contact with moving components normally isolated by guards, covers, and panels, can entangle and crush your limbs. These components move automatically.

- ☞ **Do not service unless qualified and authorized.**
- ☞ **Lock OFF and tag out power at the wall disconnect before servicing the bearing housing.**

Required Kit and Materials—Refer to BMP950010 for bearing assembly parts. This procedure only covers bearing housing replacement. Due to the exacting internal tolerances bearing housings require, we do not recommend that you re-build the bearing housing, but rather that it be returned to Milnor for re-building or exchange. Have available the following items on hand before replacing a bearing housing: bearing and fixture kit KMBRGPULLR and cylinder puller kit PK10 0010 or equivalent, (available from Milnor on a rental or purchase basis), loctite 242 and primer (or equivalents), a hoist, and a lifting sling.

Preparation—Referring to FIGURE 1, lower the motor platform to loosen the final drive belt. Do not move the top nuts as they are a reference when retightening bolts

FIGURE 1 (MSSM0285AE)
Motor Mount

1. Drive wedges between the cylinder and the shell front at eight places then clamp the cylinder to the shell front as shown in FIGURE 2.
2. Remove the cylinder retainer bolt (FIGURE 3), cover, spacer and the two allen screws covering the puller mounting holes. Mount hydraulic ram to the cylinder using the 7" positioning bolt and kit plate as shown in Figure 4. Connect hydraulic pump to ram.
3. Remove 4 equally spaced bearing housing bolts. Replace these bearing housing bolts with guide pins (FIGURE 11). The guide pins support the loosened bearing housing until it can be removed. Thread four bolts into the bearing push-off holes.
4. Remove rear pulley bolts. Thread a bolt into rear of bearing shaft to protect the threads from the pulling fixture bolt (FIGURE 5). Install pulling fixture and remove pulley (FIGURE 6).

FIGURE 2 MSSM0285AE
Cylinder Clamp

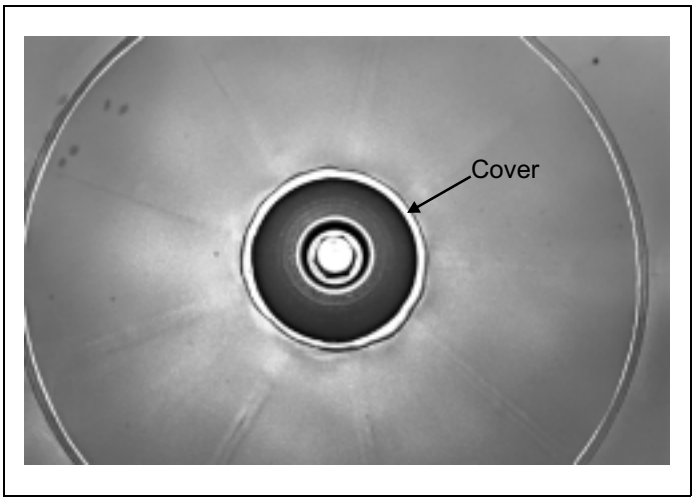


FIGURE 3
Cylinder Retainer Bolt

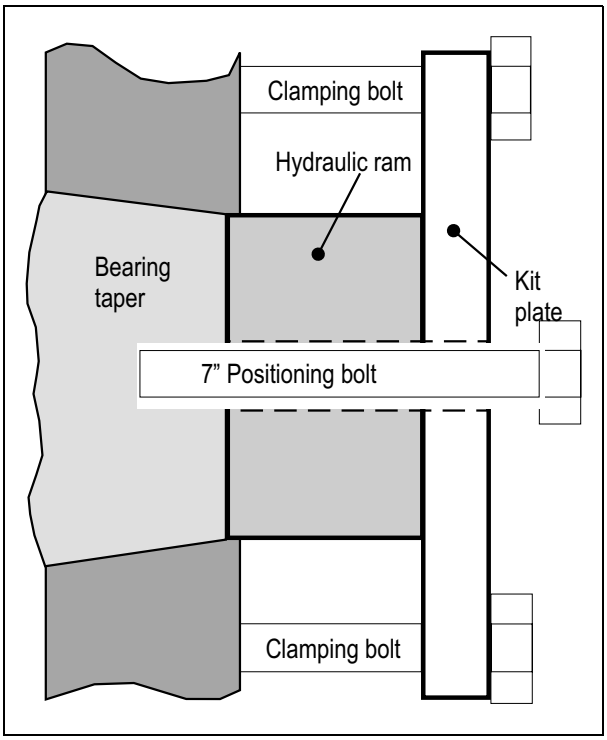


FIGURE 4
Mounting Hydraulic Ram to Remove Cylinder

5. Remove all remaining bearing bolts and turn each push-off bolt about a quarter of a turn in order to assist in bearing removal.

6. Pump hydraulic ram to push the bearing housing out of the mounting ring. Once housing is free of the mounting ring, use the push-off bolts to continue pushing the bearing housing along the guide pins until the tapered hub is free from mounting ring.

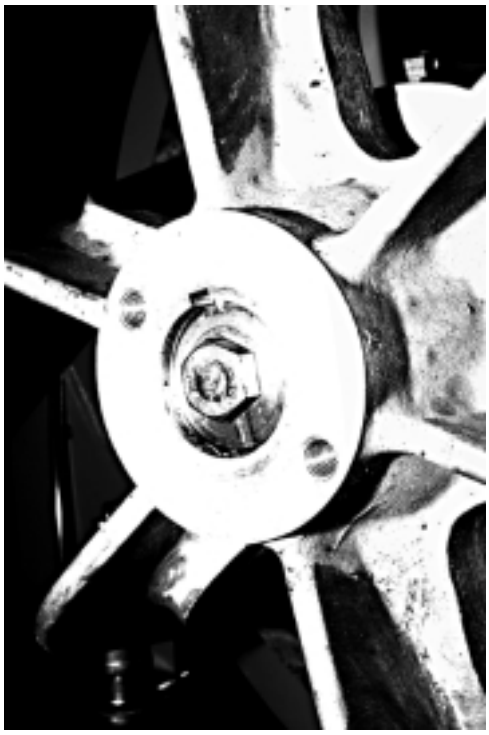


FIGURE 5 (MSSM0285AE)
Protecting Bearing Shaft Threads

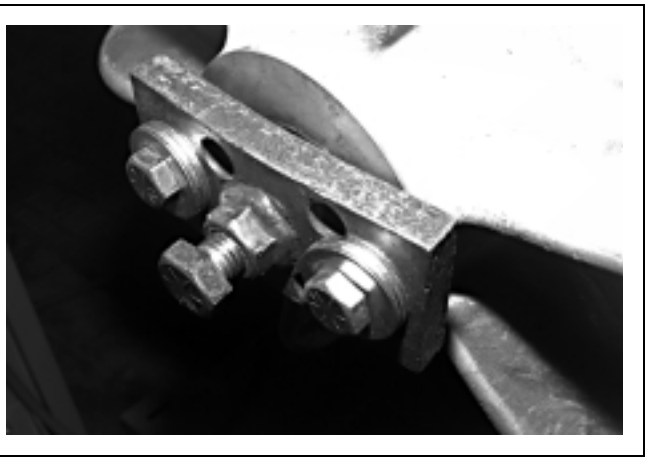


FIGURE 6 (MSSM0285AE)
Pulley Pulling Fixture

FIGURE 7 (MSSM0285AE)
Removing Fan For Hoist Clearance

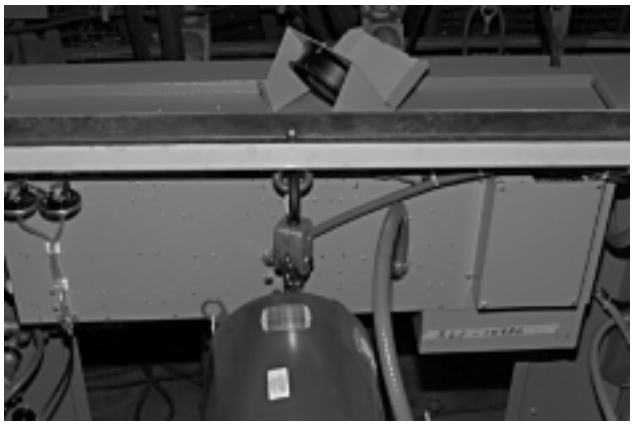


FIGURE 8 (MSSM0285AE)
Bearing Support Fixture in Place

Rigging the Bearing Support Fixture and Removing the Bearing

1. Remove the electric fan (FIGURE 7).
2. Mount eye-bolt on the bearing support fixture and place on top of the machine (FIGURE 7). Disconnect grease lines from housing.
3. Install hoist and sling (FIGURES 9, 10, and 11).

FIGURE 9 (MSSM0285AE)
Attaching Hoist to Eye-bolt on Bearing Support Fixture

FIGURE 10 (MSSM0285AE)
Bearing Housing Sling Details

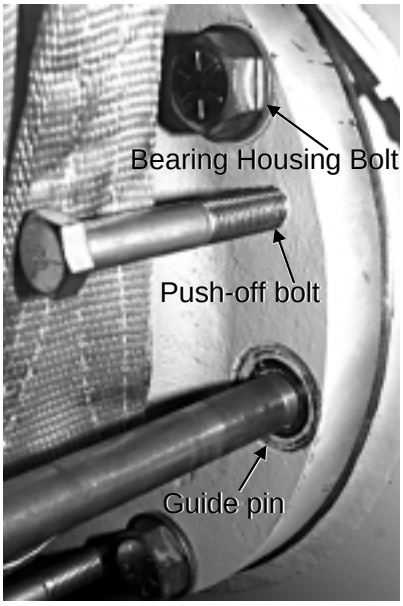


FIGURE 11 (MSSM0285AE)
Identifing Bearing Housing Bolts, Push-off bolts, and Guide Pins

Re-installing the Bearing Housing

FIGURE 12 (MSSM0285AE)
Bearing O-Ring

1. Use trichloroethene and light sanding to remove old Loctite from mounting ring surfaces. Retap mounting holes and blow out with compressed air.
2. Install new O-ring on bearing housing (Figure 12). Clean and de-burr mounting surfaces of bearing housing and shaft hub.
3. Position housing and shaft in machine. Make sure the bottom of the housing (identified by the drain slot) is on the bottom.
4. Install guide pins through the bearing housing and into the mounting ring. Leave hoist and strap attached until bearing is firmly mounted in mounting ring. Push the housing along the guide pins into the mounting ring. Apply Loctite primer to each bearing bolt. Do not wipe clean. Apply loctite 242 to primered bolts. Torque bolts to 1,018 foot-pounds (1,381 newton-meters).
5. Install the key in the hub.

Re-installing the Cylinder

Assemble the hydraulic ram as shown in Figure 13. Use the cylinder retainer bolt cover (Figure 3), and the 7" long positioning bolt from the cylinder puller kit.

1. Mount hydraulic ram on the bearing hub and pressurize pump.
2. Periodically stop during the pressing process and check how far the cylinder has moved up the bearing hub. Stop pressing when cylinder is 1/16-1/32" of an inch from end of the hub (Figure 14). If the cylinder does not stop where indicated, and pushes flush with the bearing taper, then check the bearing taper.

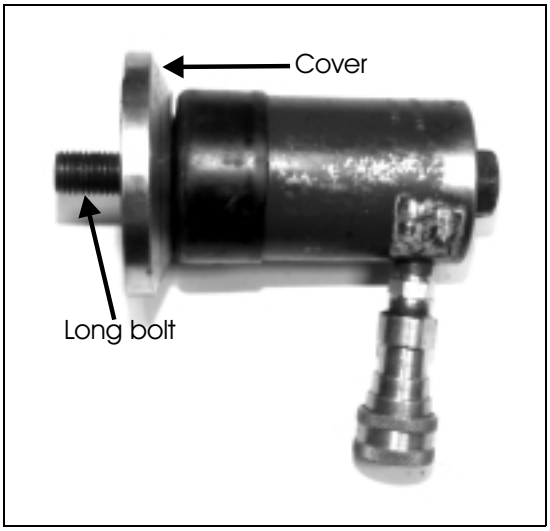


FIGURE 13 (MSSM0285AE)
Assembling the Ram for Cylinder Installation

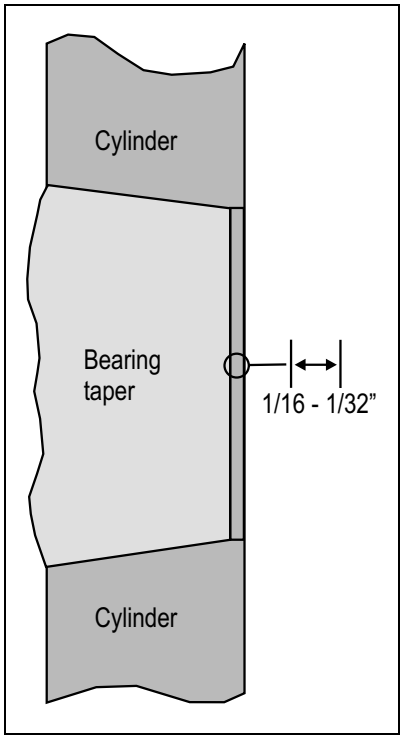


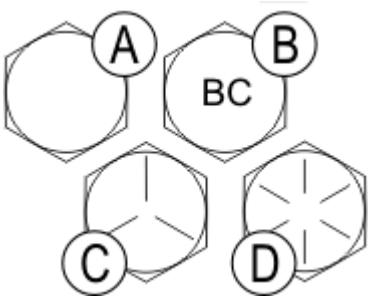
FIGURE 14 (MSSM0285AE)
Required Clearance between Bearing Taper and Installed Cylinder

BIUUUM04 (Published) Book specs- Dates: 20080506 / 20080506 / 20080506 Lang: ENG01 Applic: UUU

Fastener Torque Requirements

Torque requirements for other fasteners are specified in the specific document which describes the assembly. **If fastener torque specifications or threadlocking compound requirements in an assembly document vary from the specifications in this document, use the assembly document.**

Figure 1: Common Bolts Used in Milnor Equipment

Bolt Head Identifying Marks	Legend
	**A.** SAE Grades 1 and 2, ASTM A307, and stainless steel **B.** ASTM A354 Grade BC **C.** SAE Grade 5, ASTM A449 **D.** SAE Grade 8 and ASTM A354 BD

1. Torque Values

The tables below list the standard size, grade, threadlocking compound, and torque requirements for fasteners commonly used on Milnor® equipment.

Note 1: Data derived from Pellerin Milnor® Corporation "Bolt Torque Specification" (bolt_torque_milnor.xls/2002096).

1.1. Carbon Steel Fasteners

1.1.1. Without Threadlocking Compound

Table 1: Torque Values for Dry Fasteners 5/16-inch and Smaller

	Bolt Grade							
	Grade 2		Grade 5		Grade 8		Grade BC	
Bolt Size	Pound-Inches	N-m	Pound-Inches	N-m	Pound-Inches	N-m	Pound-Inches	N-m
1/4 x 20	66	7	101	11	143	16	126	14
1/4 x 28	76	9	116	13	163	18	--	--
5/16 x 18	136	15	209	24	295	33	258	29
5/16 x 24	150	17	232	26	325	37	--	--

Table 2: Torque Values for Dry Fasteners Larger Than 5/16-inch

	Bolt Grade							
	Grade 2		Grade 5		Grade 8		Grade BC	
Bolt Size	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m
3/8 x 16	20	27	31	42	44	59	38	52
3/8 x 24	23	31	35	47	50	68	--	--
7/16 x 14	32	43	49	66	70	95	61	83
7/16 x 20	36	49	55	75	78	105	--	--
1/2 x 13	49	66	75	102	107	145	93	126
1/2 x 20	55	75	85	115	120	163	--	--
9/16 x 12	70	95	109	148	154	209	134	182
9/16 x 18	78	106	121	164	171	232	--	--
5/8 x 11	97	131	150	203	212	287	186	252
5/8 x 18	110	149	170	231	240	325	--	--
3/4 x 10	172	233	266	361	376	510	329	446
3/14 x 16	192	261	297	403	420	569	--	--
7/8 x 9	167	226	429	582	606	821	531	719
7/8 x 14	184	249	473	641	668	906	--	--
1 x 8	250	339	644	873	909	1232	796	1079
1 x 12	274	371	704	954	994	1348	--	--
1 x 14	281	381	723	980	1020	1383	--	--
1 1/8 x 7	354	480	794	1077	1287	1745	1126	1527
1 1/8 x 12	397	538	891	1208	1444	1958	--	--
1 1/4 x 7	500	678	1120	1519	1817	2464	1590	2155
1 1/4 x 12	553	750	1241	1682	2012	2728	--	--
1 3/8 x 6	655	888	1469	1992	2382	3230	2085	2827
1 3/8 x 12	746	1011	1672	2267	2712	3677	--	--
1 1/2 x 6	869	1178	1949	2642	3161	4286	2767	3751
1 1/2 x 12	979	1327	2194	2974	3557	4822	--	--

Table 3: Torque Values for Plated Fasteners 5/16-inch and Smaller

	Bolt Grade							
	Grade 2		Grade 5		Grade 8		Grade BC	
Bolt Size	Pound-Inches	N-m	Pound-Inches	N-m	Pound-Inches	N-m	Pound-Inches	N-m
1/4 x 20	49	6	76	9	107	12	95	11
1/4 x 28	56	6	88	10	122	14	--	--
5/16 x 18	102	12	156	18	222	25	193	22
5/16 x 24	113	13	174	20	245	28	--	--

Table 4: Torque Values for Plated Fasteners Larger Than 5/16-inch

	Bolt Grade							
	Grade 2		Grade 5		Grade 8		Grade BC	
Bolt Size	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m
3/8 x 16	15	20	23	31	33	44	29	38
3/8 x 24	17	23	26	35	37	49	--	--
7/16 x 14	24	32	37	50	52	71	46	61
7/16 x 20	27	36	41	55	58	78	--	--
1/2 x 13	37	49	56	76	80	106	70	93
1/2 x 20	41	55	64	85	90	120	--	--
9/16 x 12	53	70	81	110	115	153	101	134
9/16 x 18	59	79	91	122	128	174	--	--
5/8 x 11	73	97	113	150	159	212	139	186
5/8 x 18	83	110	127	172	180	240	--	--
3/4 x 10	129	173	200	266	282	376	246	329
3/14 x 16	144	192	223	297	315	420	--	--
7/8 x 9	125	166	322	430	455	606	398	531
7/8 x 14	138	184	355	474	501	668	--	--
1 x 8	188	250	483	644	682	909	597	796
1 x 12	205	274	528	716	746	995	--	--
1 x 14	210	280	542	735	765	1037	--	--
1 1/8 x 7	266	354	595	807	966	1288	845	1126
1 1/8 x 12	298	404	668	890	1083	1444	--	--
1 1/4 x 7	375	500	840	1120	1363	1817	1192	1590
1 1/4 x 12	415	553	930	1261	1509	2013	--	--
1 3/8 x 6	491	655	1102	1470	1787	2382	1564	2085
1 3/8 x 12	559	758	1254	1672	2034	2712	--	--
1 1/2 x 6	652	870	1462	1982	2371	3161	2075	2767
1 1/2 x 12	733	994	1645	2194	2668	3557	--	--

1.1.2. With Threadlocking Compound

Table 5: Threadlocking Compound Selection by Bolt Size

	Bolt Size			
LocTite Product	1/4"	1/4" – 5/8"	5/8" – 7/8"	1" +
LocTite 222	OK			
LocTite 242		OK		
LocTite 262			OK	
LocTite 272			High temperature	
LocTite 277				OK

Table 6: Torque Values for Applications of LocTite 222

	Bolt Grade							
	Grade 2		Grade 5		Grade 8		Grade BC	
Bolt Size	Pound-inches	N-m	Pound-inches	N-m	Pound-inches	N-m	Pound-inches	N-m
1/4 x 20	60	7	96	11	132	15	108	12
1/4 x 28	72	8	108	12	144	16	--	--

Table 7: Torque Values for Applications of LocTite 242

	Bolt Grade							
	Grade 2		Grade 5		Grade 8		Grade BC	
Bolt Size	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m
5/16 x 18	11	15	17	23	25	34	22	30
5/16 x 24	13	18	19	26	27	37	27	37
3/8 x 16	20	27	31	42	44	60	38	52
3/8 x 24	23	31	35	47	50	68	--	--
7/16 x 14	32	43	49	66	70	95	61	83
7/16 x 20	36	49	55	75	78	106	--	--
1/2 x 13	49	66	75	102	107	145	93	126
1/2 x 20	55	75	85	115	120	163	--	--
9/16 x 12	70	95	109	148	154	209	134	182
9/16 x 18	78	106	121	164	171	232	--	--
5/8 x 11	97	132	150	203	212	287	186	252
5/8 x 18	110	149	170	230	240	325	--	--

Table 8: Torque Values for Applications of LocTite 262

	Bolt Grade							
	Grade 2		Grade 5		Grade 8		Grade BC	
Bolt Size	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m
3/4 x 10	155	210	240	325	338	458	296	401
3/4 x 16	173	235	267	362	378	512	--	--
7/8 x 9	150	203	386	523	546	740	477	647
7/8 x 14	165	224	426	578	601	815	--	--

Table 9: Torque Values for Applications of LocTite 272 (High Temperature)

	Bolt Grade							
	Grade 2		Grade 5		Grade 8		Grade BC	
Bolt Size	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m
1 x 8	350	475	901	1222	1272	1725	1114	1510
1 x 12	383	519	986	1337	1392	1887	--	--
1 x 14	393	533	1012	1372	1428	1936	--	--
1-1/8 x 7	496	672	1111	1506	1802	2443	1577	2138
1-1/8 x 12	556	754	1247	1691	2022	2741	--	--
1-1/4 x 7	700	949	1568	2126	2544	3449	2226	3018
1-1/4 x 12	774	1049	1737	2355	2816	3818	--	--
1-3/8 x 6	917	1243	2056	2788	3335	4522	2919	3958
1-3/8 x 12	1044	1415	2341	3174	3797	5148	--	--
1-1/2 x 6	1217	1650	2729	3700	4426	6001	3873	5251
1-1/2 x 12	1369	1856	3071	4164	4980	6752	--	--

Table 10: Torque Values for Applications of LocTite 277

	Bolt Grade							
	Grade 2		Grade 5		Grade 8		Grade BC	
Bolt Size	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m
1 x 8	325	441	837	1135	1181	1601	1034	1402
1 x 12	356	483	916	1242	1293	1753	--	--
1 x 14	365	495	939	1273	1326	1798	--	--
1-1/8 x 7	461	625	1032	1399	1674	2270	1464	1985
1-1/8 x 12	516	700	1158	1570	1877	2545	--	--
1-1/4 x 7	650	881	1456	1974	2362	3202	2067	2802
1-1/4 x 12	719	975	1613	2187	2615	3545	--	--
1-3/8 x 6	851	1154	1909	2588	3097	4199	2710	3674
1-3/8 x 12	970	1315	2174	2948	3526	4781	--	--
1-1/2 x 6	1130	1532	2534	3436	4110	5572	3597	4877
1-1/2 x 12	1271	1723	2852	3867	4624	6269	--	--

1.2. Stainless Steel Fasteners

Table 11: Torque Values for Stainless Steel Fasteners 5/16-inch and Smaller

	316 Stainless		18-8 Stainless		18-8 Stainless with Loctite 767	
Nominal Bolt Size	Pound-Inches	N-m	Pound-Inches	N-m	Pound-Inches	N-m
1/4 x 20	79	9	76	9	45	5
1/4 x 28	100	11	94	11	56	6
5/16 x 18	138	16	132	15	79	9
5/16 x 24	148	17	142	16	85	10

Table 12: Torque Values for Stainless Steel Fasteners Larger Than 5/16-inch

Bolt Size	316 Stainless		18-8 Stainless		18-8 Stainless with Loctite 767	
	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m
3/8 x 16	21	28	20	27	12	16
3/8 x 24	23	31	22	29	13	18
7/16 x 14	33	44	31	42	19	25
7/16 x 20	35	47	33	45	20	27
1/2 x 13	45	61	43	58	26	35
1/2 x 20	47	64	45	61	27	37
9/16 x 12	59	81	57	77	34	46
9/16 x 18	66	89	63	85	38	51
5/8 x 11	97	131	93	125	56	75
5/8 x 18	108	150	104	141	62	84
3/4 x 10	132	179	128	173	77	104
3/4 x 16	130	176	124	168	75	101
7/8 x 9	203	275	194	263	116	158
7/8 x 14	202	273	193	262	116	157
1 x 8	300	406	287	389	172	233
1 x 14	271	367	259	351	156	211
1-1/8 x 7	432	586	413	560	248	336
1-1/8 x 12	408	553	390	529	234	317
1-1/4 x 7	546	740	523	709	314	425
1-1/4 x 12	504	683	480	651	288	390
1-1/2 x 6	930	1261	888	1204	533	722
1-1/2 x 12	732	992	703	953	422	572

2. Preparation

WARNING 1: Fire Hazard—Some solvents and primer products are flammable.

- Use in a well ventilated area.
- Do not use flammable products near ignition sources.

1. Clean all threads with a wire brush, a tap, or a die.
2. Degrease the fasteners and the mating threads with a cleaning solvent. Wipe the parts dry.

   Note 2: LocTite 7649 Primer N™ will remove grease from parts, but it costs more than a standard organic or petroleum solvent.

3. Prime the fasteners and the mating threads with LocTite 7649 Primer N™ or equal. Allow the primer to dry for at least one minute.

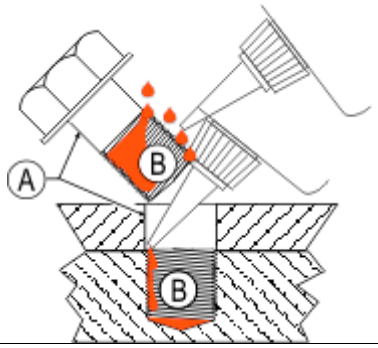
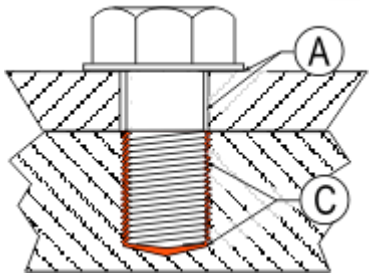
3. Application of Threadlocking Compound

CAUTION 2: Malfunction Hazard—Improper application of threadlocking compounds may result in fasteners becoming loose from impact, heat, or vibration. Loose fasteners can cause the equipment to malfunction.

- Read and follow the threadlocking compound manufacturer's instructions and warnings.

Apply threadlocking compound to the thread engagement areas of fasteners and mating threads only.

Figure 2: Blind Hole

Application	Coverage
	

Legend

A. No threadlocking compound here
B. Apply here
C. Fill all gaps with threadlocking compound

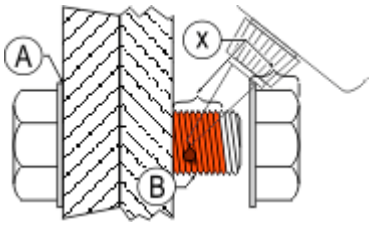
3.1. Blind Holes

1. Apply several drops of threadlocking compound down the female threads to the bottom of the hole.
2. Apply several drops of threadlocking compound to the bolt.
3. Tighten bolt to value shown in the appropriate table (Table 5 through Table 11).

3.2. Through Holes

1. Insert bolt through assembly.
2. Apply several drops of threadlocking compound to the bolt thread area that will engage the nut.
3. Tighten bolt to value shown in the appropriate table (Table 5 through Table 11).

Figure 3: Through Hole

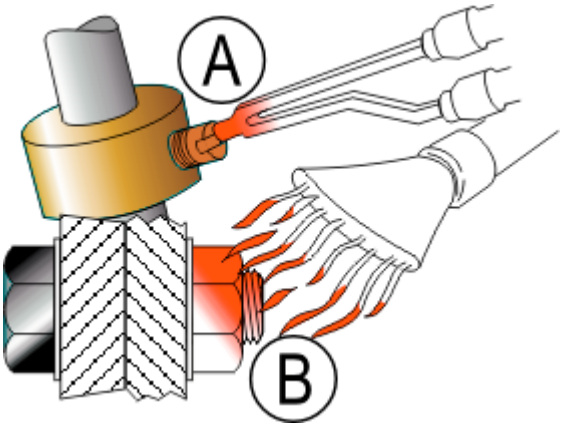
Application	Legend
	**A.** No threadlocking compound here **B.** Cover this area **x.** Nut depth

3.3. Disassembly—For low-strength and medium-strength products, disassemble with hand tools.

For high-strength products, apply localized heat for five minutes. Disassemble with hand tools while the parts are still hot.

Figure 4: Disassembly

Use Localized Heat



Legend

A. Soldering gun heating small fastener
B. Torch heating large fastener

— End of BIUUUM04 —

Guards & Covers Installation

36030F8J, F8W with Marshmallow Suspension

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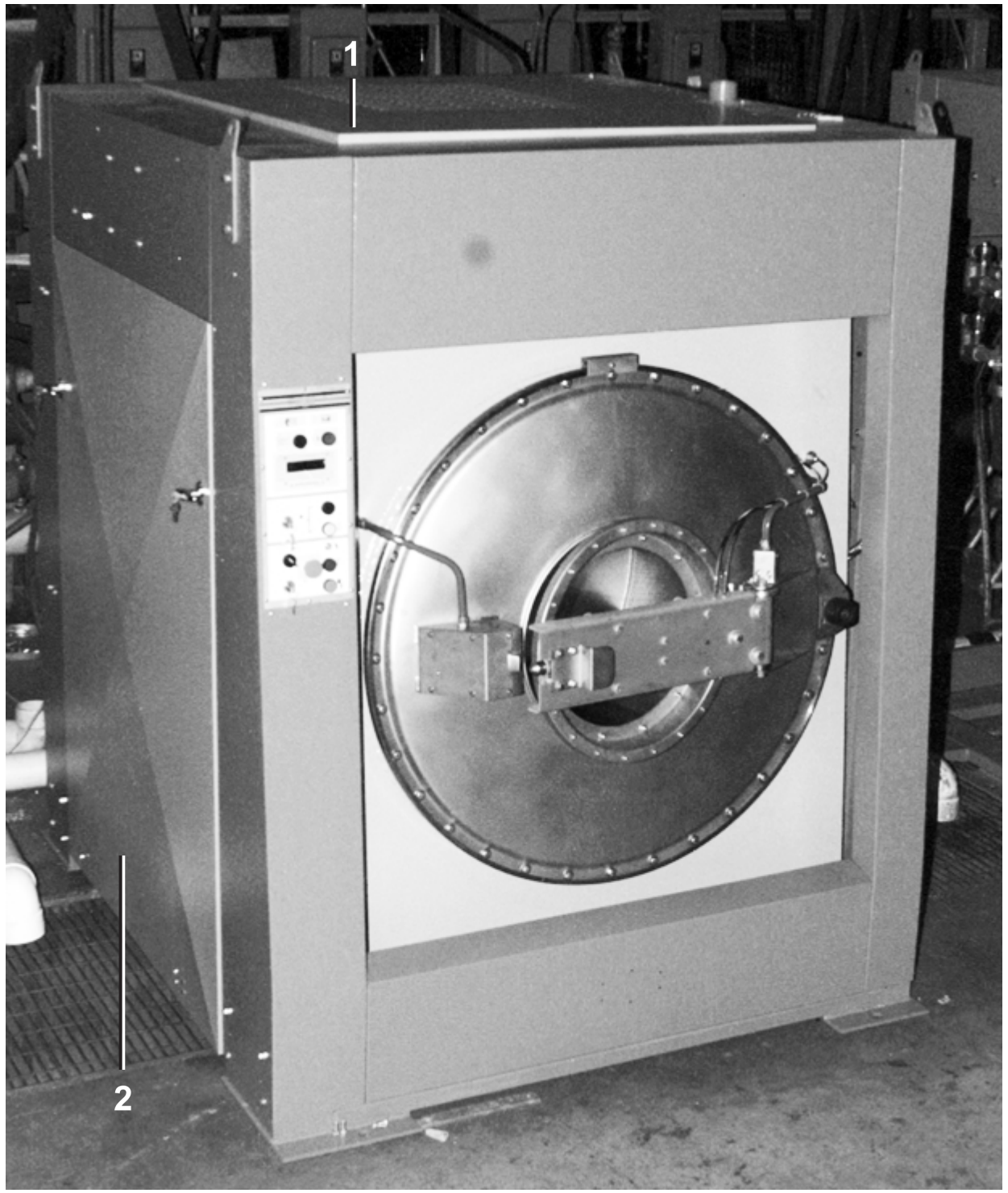

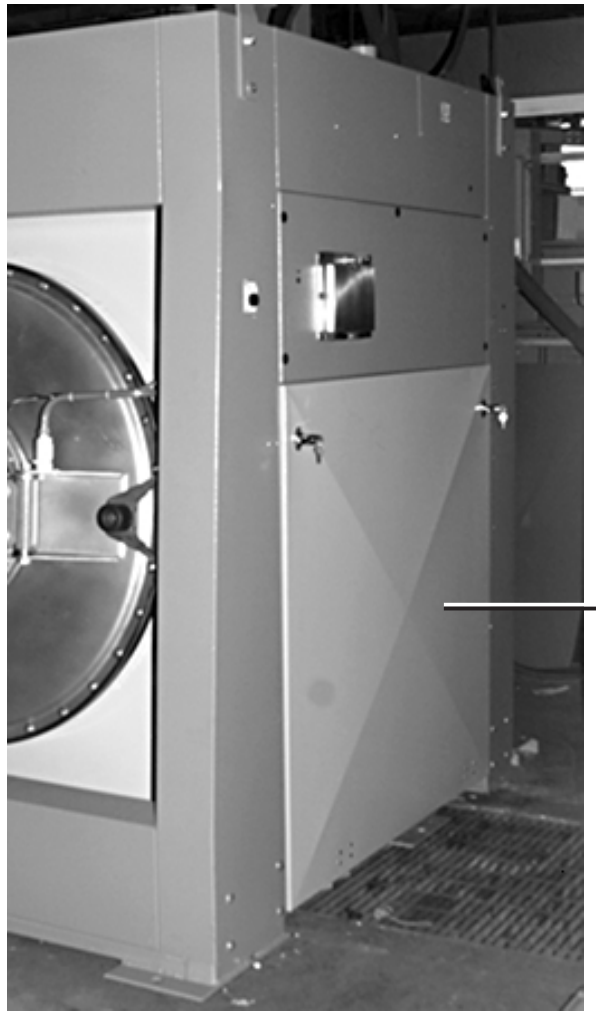

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Parts List—Guards & Covers Installation

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	GGS35001	95451Z GUARDS&COVERS INSTALL 3630F8	
			----------COMPONENTS----------	
	1	02 21583A	98023DCOSM=TOP COVER PANEL 3630F	
	2	AGS35003	95451Z ASSY=LEFT COVER PANEL 3630F	
	3	AGS35001	95451Z ASSY=SIDE COVER PANEL 3630F	
	4	AGS35002	95451Z ASSY=REAR COVER PANEL 3630F	

Parts List, cont.—Guards & Covers Installation

Used In	Item	Part Number	Description	Comments

Guards & Covers

42032F7J,F7W

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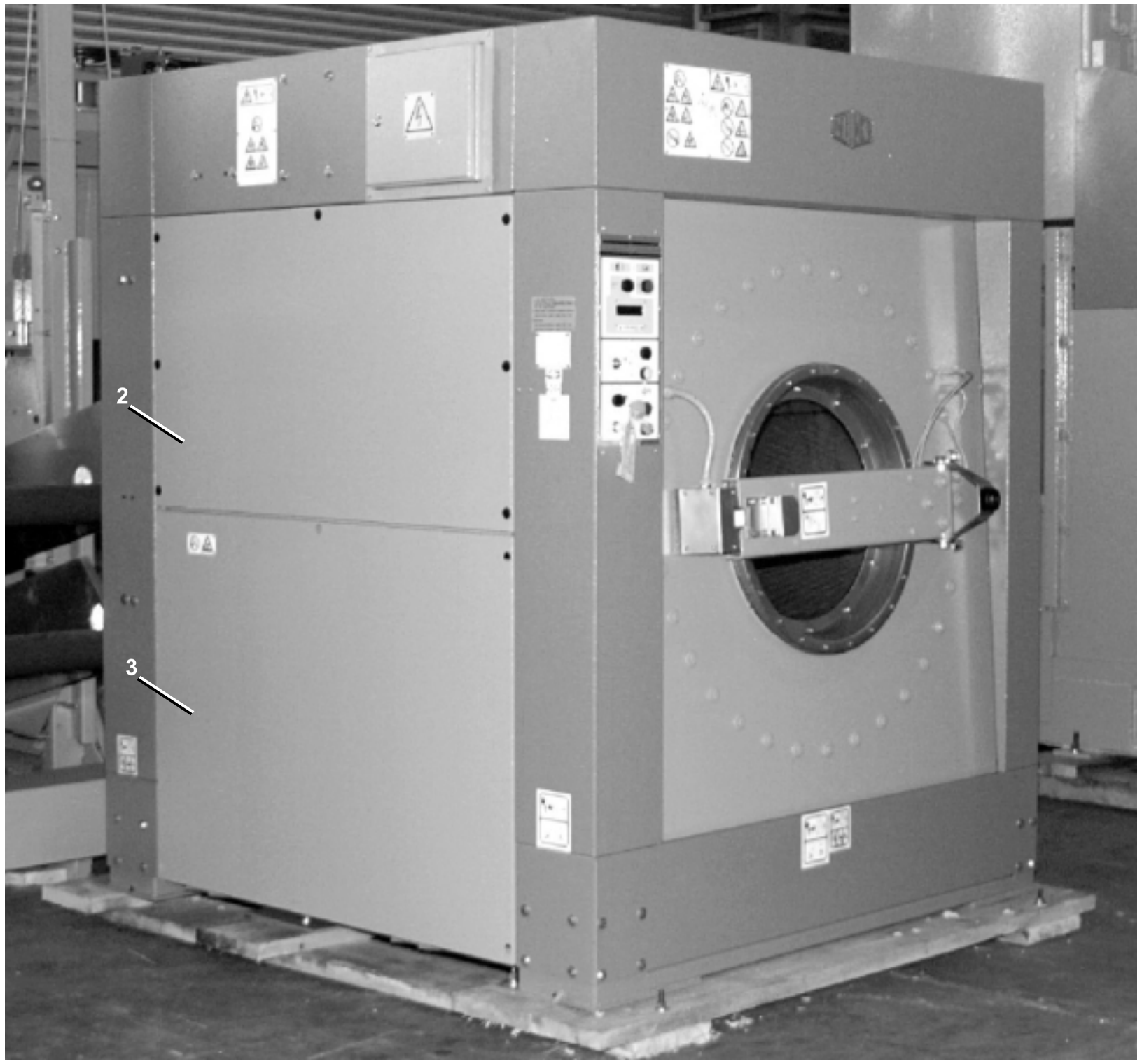

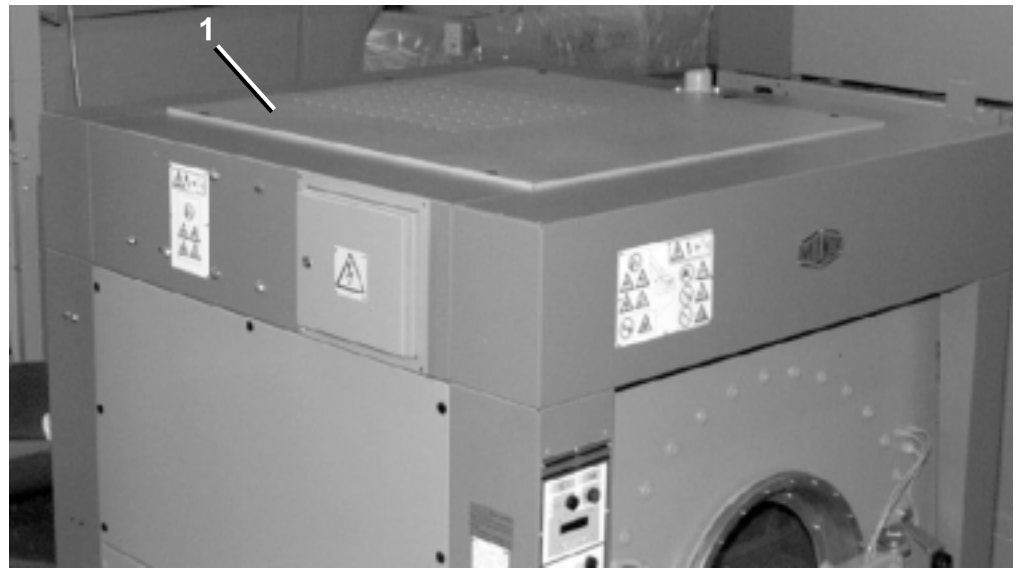

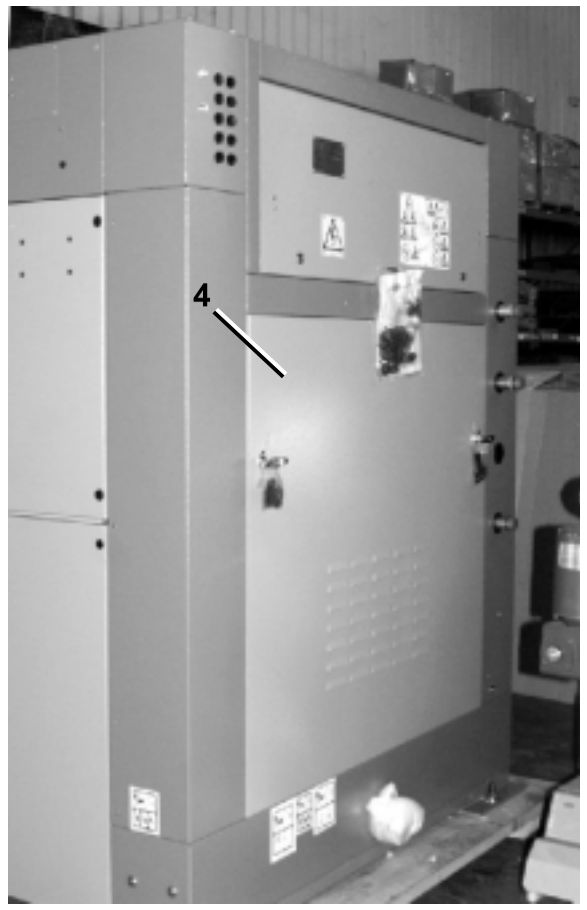

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Parts List—Guards & Covers

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
----------	----------	----------	----------ASSEMBLIES----------	----------
	A	GGS42001A	4232F GUARDS&COVERS INSTALL	none
----------	----------	----------	----------COMPONENTS----------	----------
All	1	02 21083B	COSM=TOP CVR PNL 4232 F/S	
all	2	02 21081B	4232F SIDE COVER TOP	
all	3	02 21081C	4232F SIDE COVER LOWER	
all	4	AGS42002A	4232F REAR COVER ASSY	
all	5	AGS42001	ASSY=SIDE PANEL SOAP CHT RT	

Guards & Covers - STAPH-GUARD®

36030F8S,36030F8R,42032F7S,42032F7R

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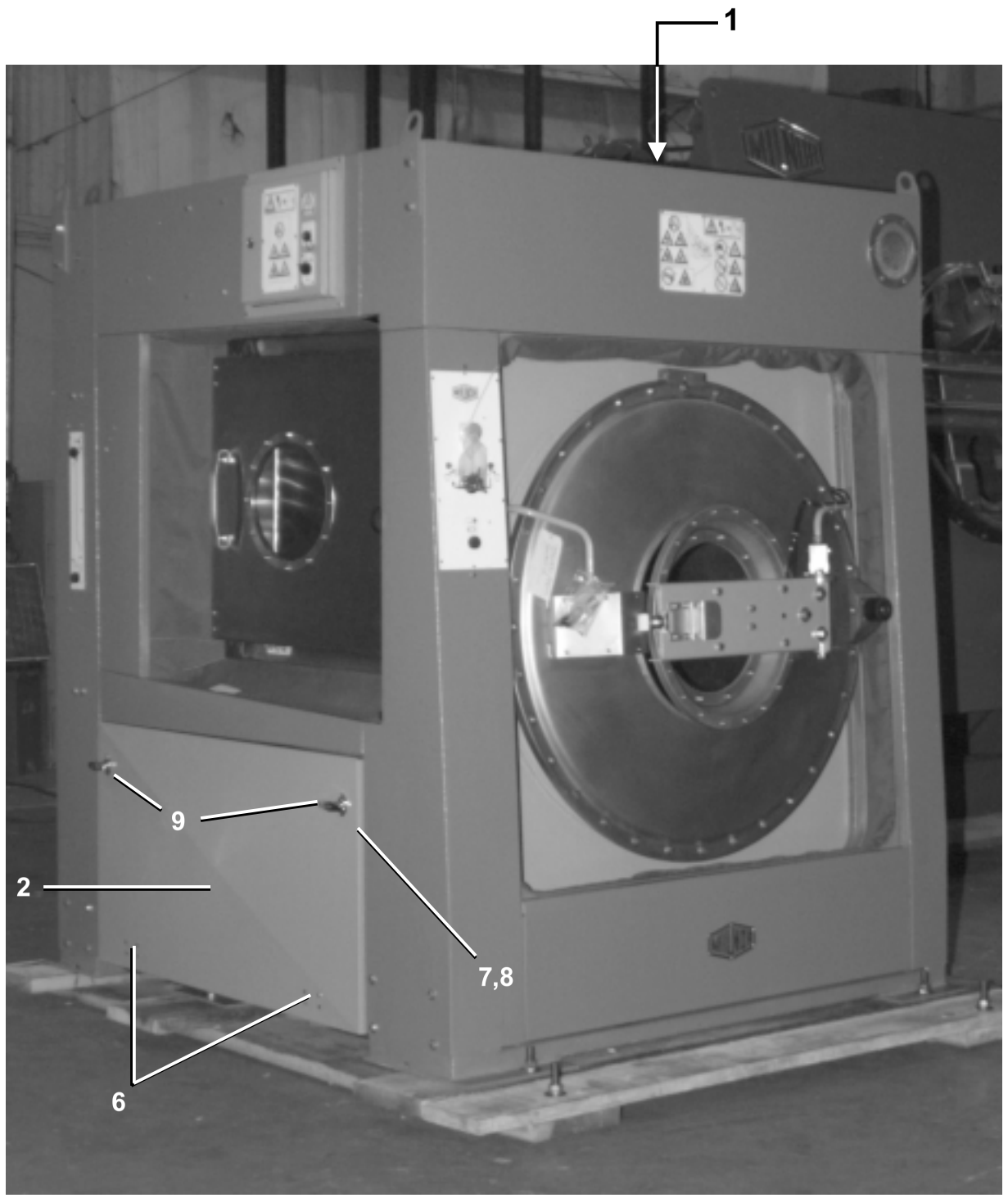
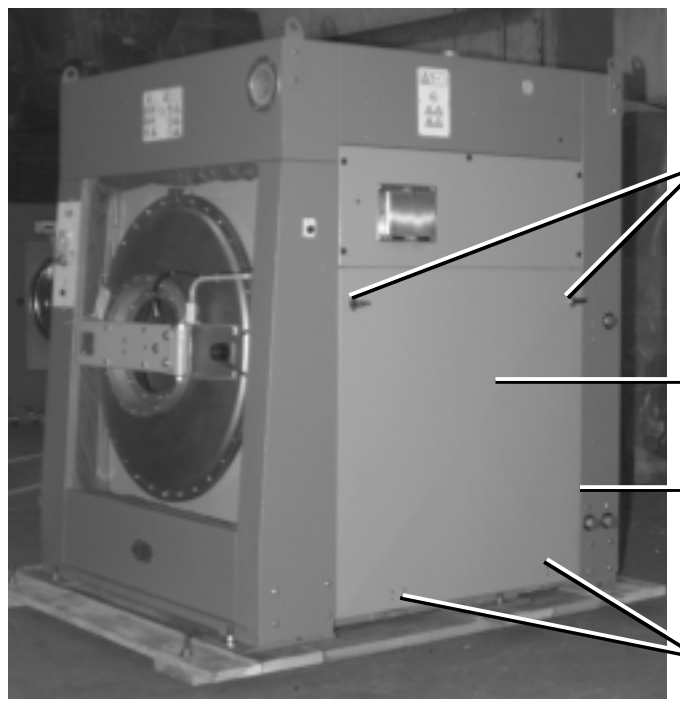
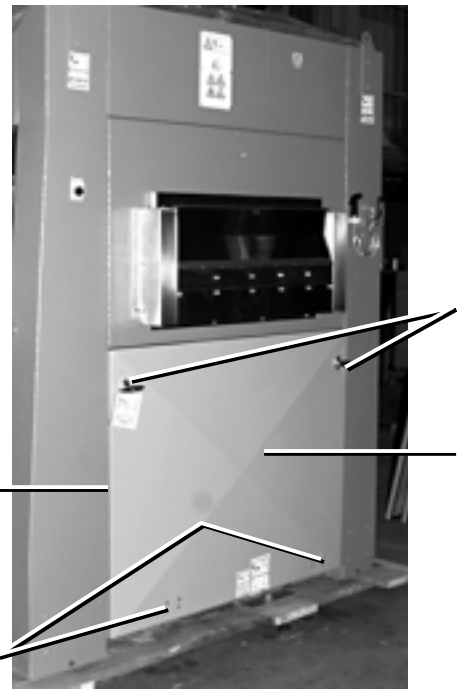


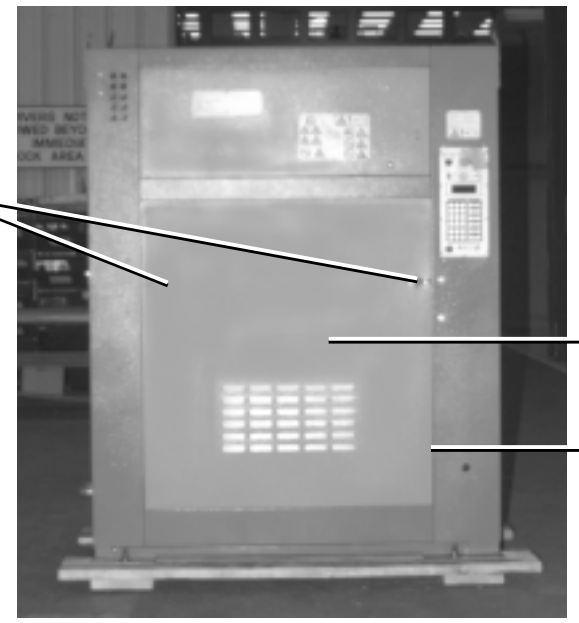
NOTE: 42032F7S SHOWN, 36030F8S SIMILAR (SEE PARTS LIST)



DRY SOAPCHUTE ONLY



5-COMPARTMENT SUPPLY ONLY



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Parts List—Guards & Covers Installation - STAPH-GUARD®

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	GGS35003S	INST=GUARDS&COVER 3630S RTSOIL	3630F8J,F8W,F8R,F8S
	B	GGS42004A	4232F7S GUARDS/COVERS INTL	4232F7J,F7W,F7R,F7S
	C	AGS35005S	ASSY=RT CVR PNL 3630S RT SOIL	
	D	AGS35001S	ASSY=SIDE COV DRY SUP 3630S8	
	E	AGS35004S	ASSY=COV PNL 5COMP SUP3630S8	
	F	AGS35006S	ASSY=5COMP LF CVR PNL RT SOIL	
	G	AGS42004	ASSY=5COMP SIDE CVR PNL RT	
	H	AGS42005	ASSY=5COMP SIDE CVR PNL LF	
	J	AGS35002S	ASSY=REAR COVER PANEL 3630S8	
	K	AGS42002A	4232F REAR COVER ASSY	
			----------COMPONENTS----------	
A	1	02 21583A	COSM=TOP COVER PANEL 3630F	
B	1	02 21083B	COSM=TOP CVR PNL 4232 F/S	
A	2	02 21584R	COSM=RT SIDE CVR PNL RT SOIL	
A	2	02 21584S	COSM=LF SIDE CVR PNL 3630S8	
B	2	02 21081D	4232F7S LOWER SIDE PANEL	LEFT/RIGHT
A	3	02 21581S	COSM=RT SIDE CVR PNL 3630S8	
B	3	02 21081C	4232F SIDE COVER LOWER	
A	4	02 21580S	COSM=RT SD CVR PNL 5COMP 36S8	
A	4	02 21580R	COSM=SOAP CHUTE RTSOIL CVR PNL	
B	4	02 21085	COSM=LF SIDE CVR PNL 5COMP	
B	4	02 21085R	COSM=RT SIDE CVR PNL 5COMP	
A	5	02 21582S	COSM=REAR COVER PANEL 3630S8	
B	5	02 21082A	COSM=REAR COVER PANEL 4232	
all	6	02 21095	BRACKET=LWR COVER MOUNTING	
all	7	07 50275	DOOR SEAL SINGLE LIP *	
all	8	20C070	3M CASE SEALING ADHESIVE	
all	9	27A012LTKL	LOCK"T"HANDL,L.LTCH&MTGHDW	

Parts List, cont.—Guards & Covers Installation - STAPH-GUARD®

Used In	Item	Part Number	Description	Comments

Shipping Brackets

3630F8J,F8S,F8R,F8W 42032F7J,F7W,F7S,F7R

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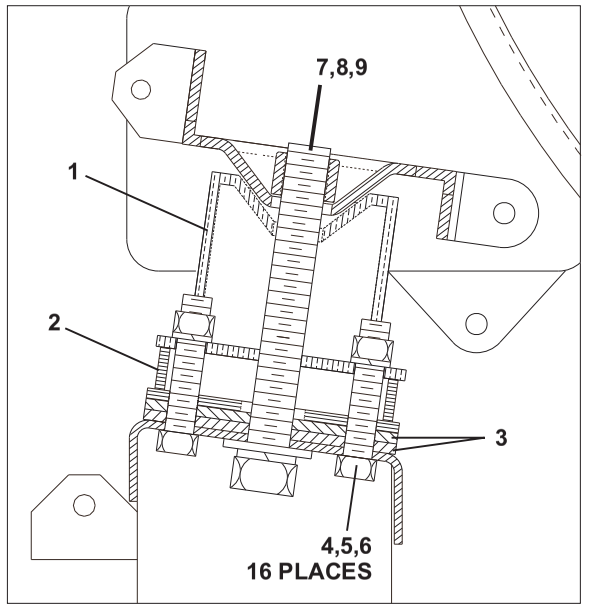
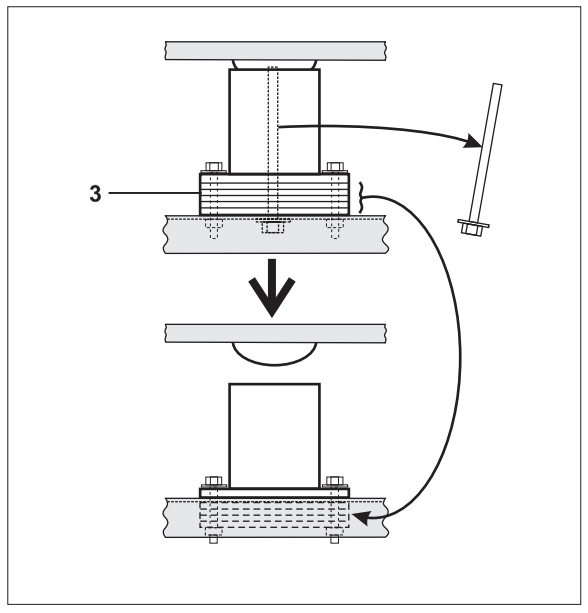
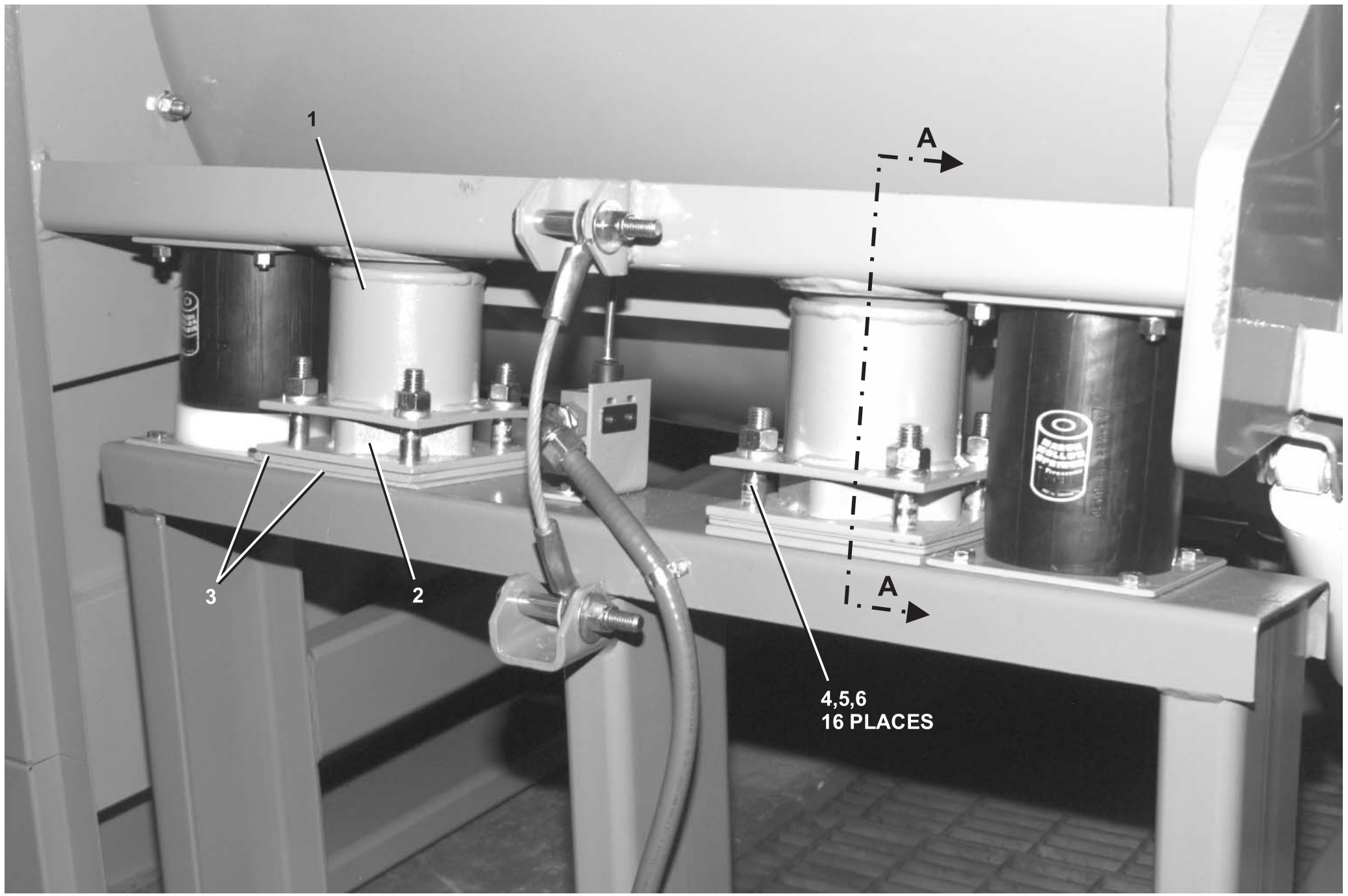


SECTION A-A
TYPICAL 4 PLACES

Before operating, remove the shipping brackets (painted red). The shipping brackets may be retained in the event the machine must be moved. Store the brackets under the channel, as shown below.





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Parts List—Shipping Brackets

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	GSB42002A	INST=SHIPPING BRKTS 4232 MRSHM	3630F, 4232F
			----------COMPONENTS----------	
all	1	W3 25161A	*PLATE=HOLD DOWN RING WLMT	
all	2	W2 21177	4232F LOWER CUP/CONE BRKT	
all	3	03 06406C	PLATE-HOLD DOWN RING-TOP	
all	4	15K226F	HXCAPSCR 5/8-11UNC2AX3 GR5 ZIN	
all	5	15U315	LOKWASHER MEDIUM 5/8 ZINCPL	
all	6	15G238	HXNUT 5/8-11UNC2B SAE ZINC GR2	
all	7	15B240	HXCAPSCR 1-8 X7+1/2" GR5 ZC	
all	8	15U400	LOCKWASHER MEDIUM 1" ZINCPL	
all	9	15U390P	FLATWASHER(USS STD) 1" ZNC P	

Section 2

Drive Assemblies

Drive Chart

42032F7J,F7W 36030F8J,F8W

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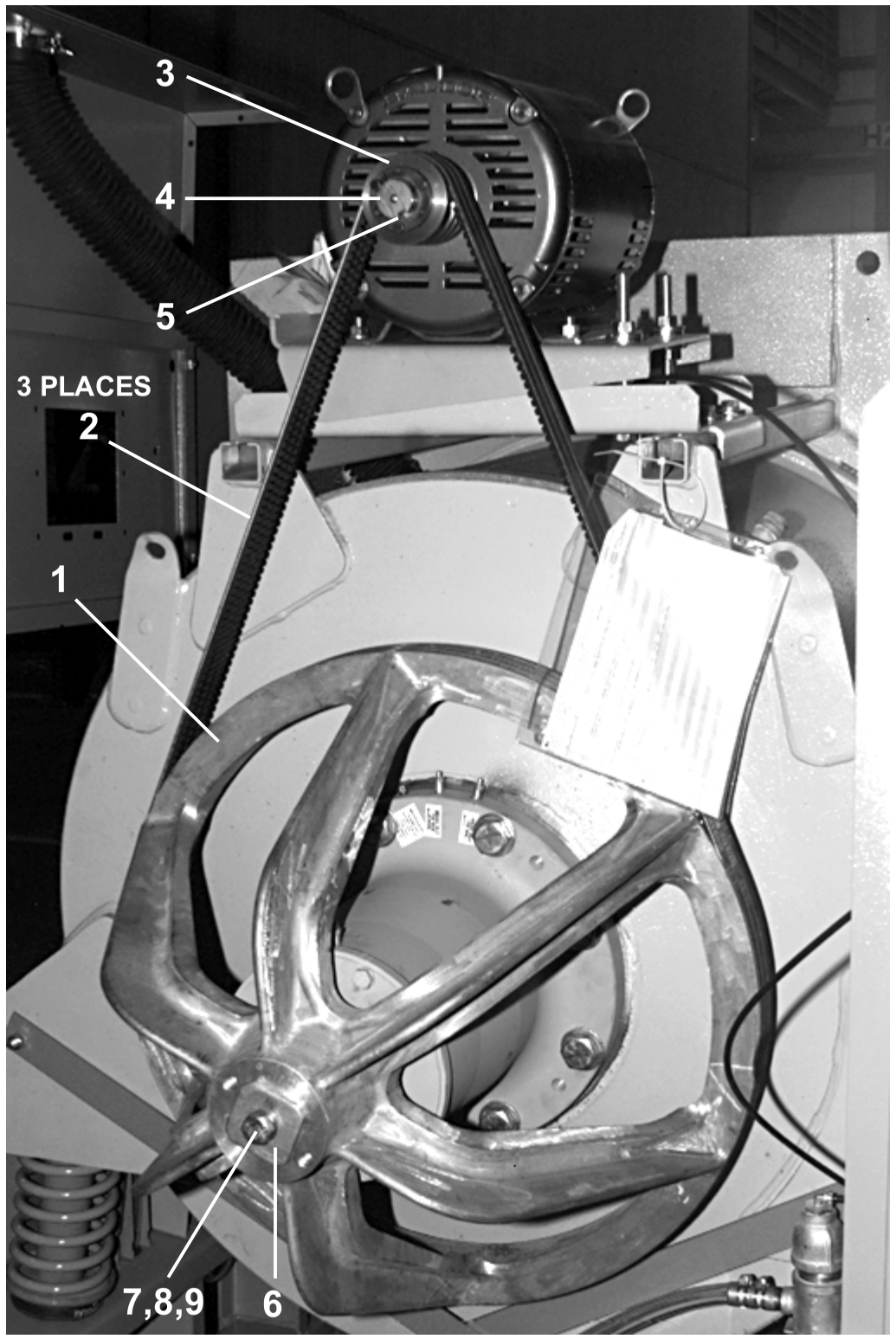

Parts List—Drive Chart

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
----------ASSEMBLIES----------				
	A	D17 00150	DRIVECHART=4232F7 50 CYL	4232F7J,F7W
	B	D17 00250	DRIVECHART=3630F8 50/60 CYL	3630F8J,F8W
----------COMPONENTS----------				
all	1	X2 21931	MACH=PULLEY, FAB, 3630F	
A	2	56VB124XB3	VBAND 3RBX124 EACH=1	
B	2	56VB116XB3	VBAND 3RBX116 EACH=1	
all	3	56034B3SH	VPUL 3B3.4/A3.0 (SH) TYPE QD	
A	4	56Q1MSH	1+5/8" BUSH VPUL QD TYPE SH	
B	4	56Q1GSH	1+3/8" BUSH VPUL QD TYPE SH	
all	5	15E232	SQMACHKEY 3/8X3/8X3+3/4	
all	6	02 14359A	SHAFT RETNR SPACER 2+3/4" SQ	
all	7	15U340	LOCKWASH MEDIUM 3/4 ZINCPL	
all	8	15B208	HEXCAPSCR 3/4-10X2+1/4 SS18-8	
all	9	20C008C	THDLKSEAL LCT24241 RMUBL250CC	

Drive Chart - STAPH-GUARD®

36030F8R,F8S 42032F7R,F7S

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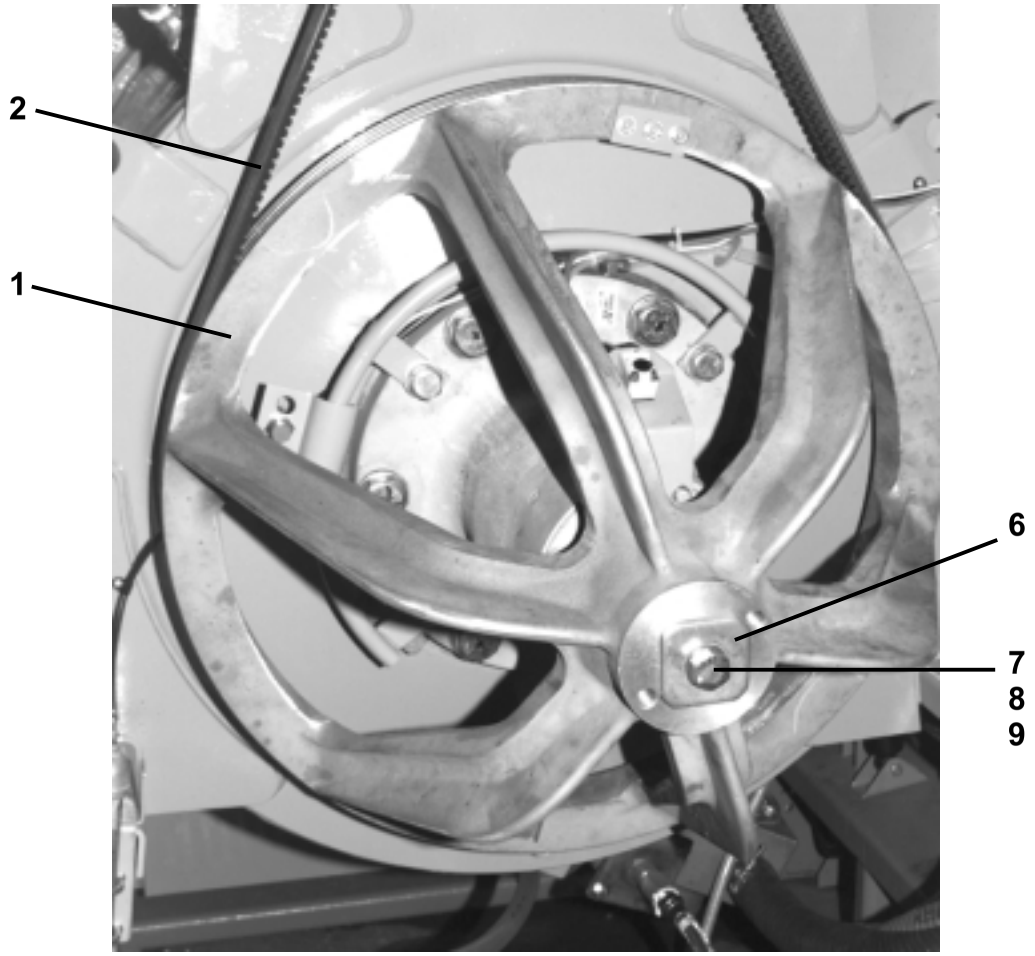

Parts List—Drive Chart - STAPH-GUARD®

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	D17 00350	DRIVECHART=3630SG7 50C	3630F8S,F8R
	B	D17 00450	DRIVECHART=4232F7S 50HZ	4232F7S,F7R
			----------COMPONENTS----------	
all	1	X2 21931A	MACH=MAIN PULLEY W/TARGET	
A	2	56VB116XB3	VBAND 3RBX116 EACH=1	
B	2	56VB124XB3	VBAND 3RBX124 EACH=1	
all	3	56034B3SH	VPUL 3B3.4/A3.0 (SH) TYPE QD	
A	4	56Q1GSH	1+3/8" BUSH VPUL QD TYPE SH	
B	4	56Q1MSH	1+5/8" BUSH VPUL QD TYPE SH	
all	5	15E232	SQMACHKEY 3/8X3/8X3+3/4	
all	6	02 14359A	SHAFT RETNR SPACER 2+3/4" SQ	
all	7	15U321H	FLTWASH 3/4 HARD ASTM F436	
all	8	15K232A	HEXCAPSCR 3/4-10X2 GR8 ZINC	
all	9	20C008C	THDLKSEAL LCT24241 RMUBL250CC	

Motor Mount Assembly

42032F7J,F7W,F7S,F7R 36030F8J,F8W,F8S,F8R

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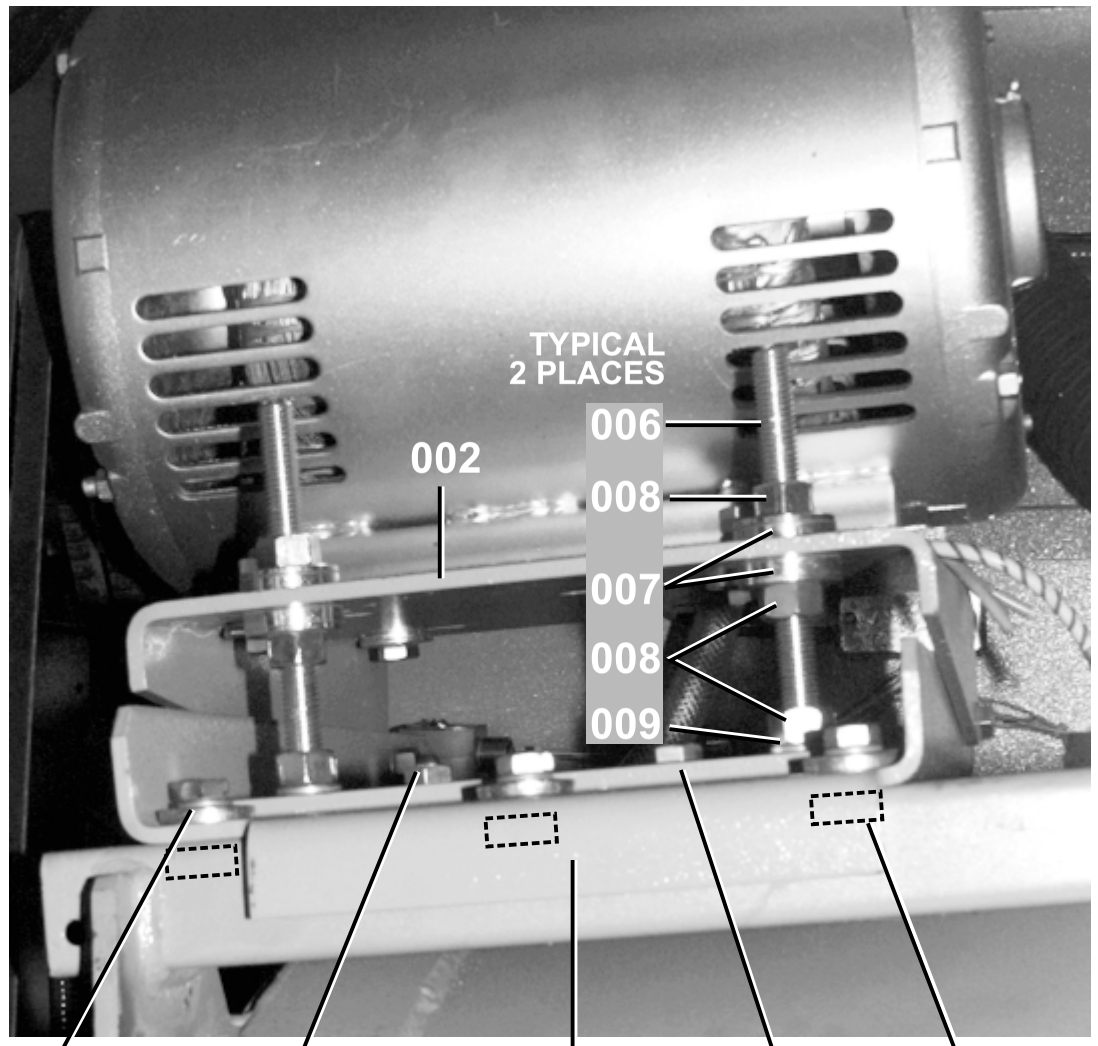

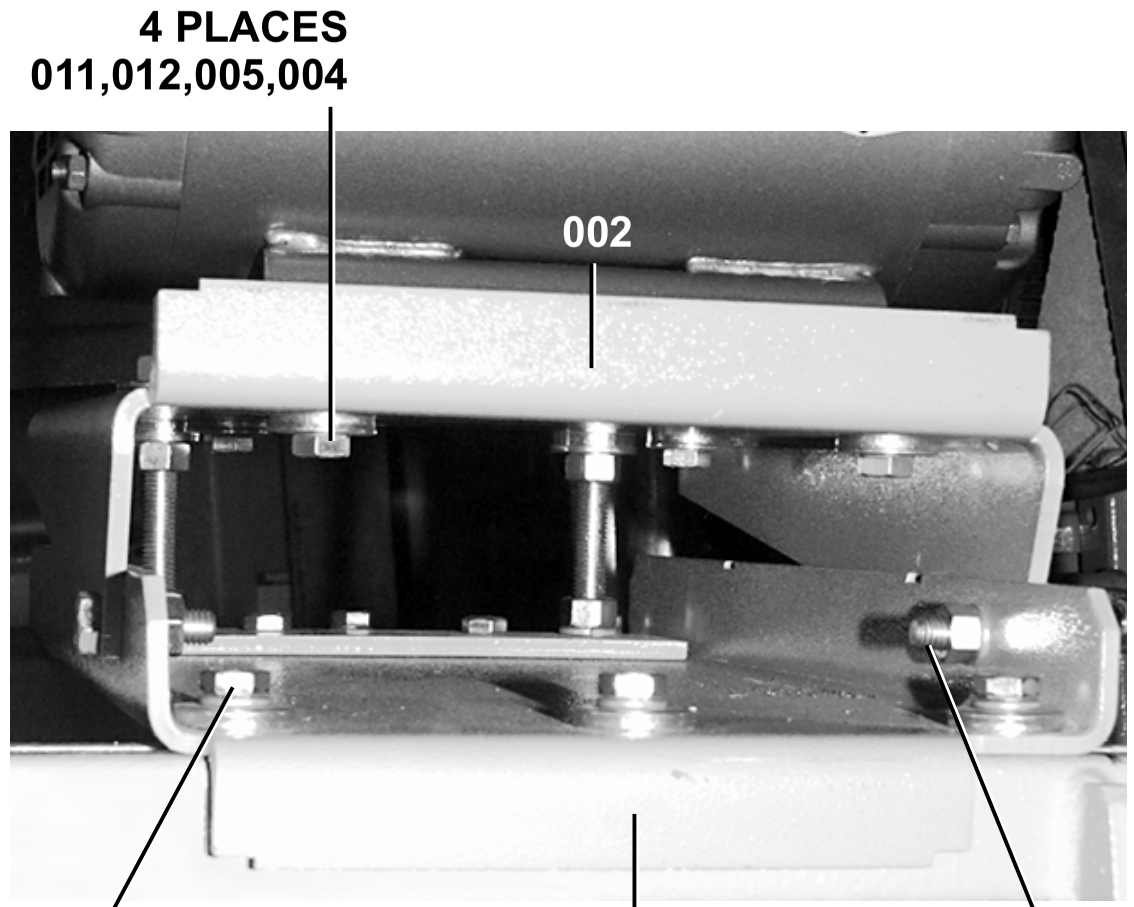

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Parts List—Motor Mount Assembly

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	ADB42001	95516B ASSY=4232F MOTOR MOUNT	42032F7J/W/S/R
	B	ADB35001	95451Z ASSY=3630F8 MOTOR MOUNT	36030F8J/W/S/R
			----------COMPONENTS----------	
all	1	02 21060	95362D PLATE=4232F MOTOR MOUNT BASE	
all	2A	02 21061	95194D BASE=4232F MOTOR MOUNT PLATE	
all	2B	02 21062	95362C LOCK BAR=MTR MNT ADJ BOLTS	
all	3	15K162	HXCAPSCR 1/2-13UNC2AX1.5 GR5 PLATED	
all	4	15G230	HXNUT 1/2-13UNC2B SAE ZINC GR2	
all	5	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	
all	6	15B186	HEXHD BOLT 5/8-110NC2X7 FULLTHRD ZC	
all	7	17W030	01Z SPHERICAL WASHER SET 5/8 M/F	
all	8	15G238	HXNUT 5/8-11UNC2B SAE ZINC GR2	
all	9	15U315	LOKWASHER MEDIUM 5/8 ZINCPL	
B	10	02 19283	86477B NUT=1/2-13UNCX1+1/25Q SPEC	
all	11	15K173A	HXCAPSCR 1/2-13UNC2AX1.75 GR5 PLATD	
all	12	15U390	FLATWASHER(USS STD) 1" UNPLATED	

Motor Cooling Fan

42032F7J,F7W,F7S,F7R 36030F8J,F8W,F8S,F8R

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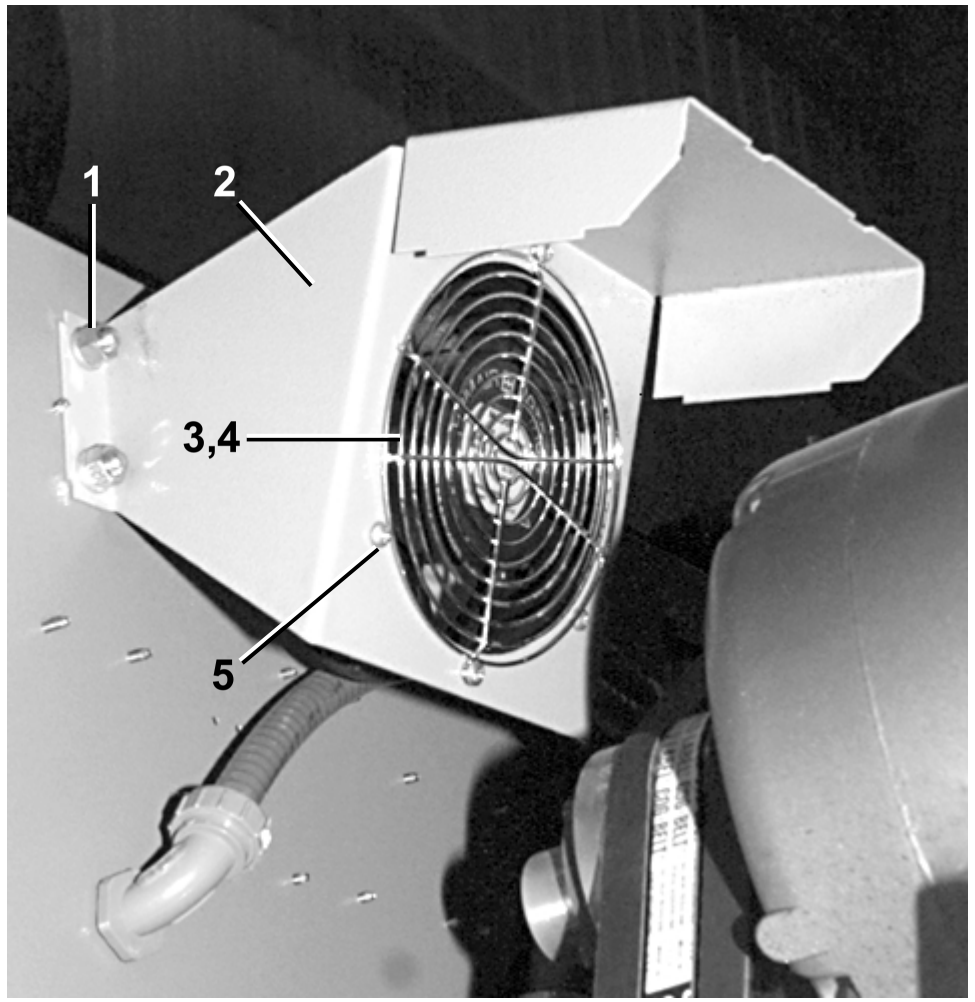

Parts List—Motor Cooling Fan

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
			none	
			----------COMPONENTS----------	
all	1	15K095	HXCPSCR 3/8-16UNC2AX1 GR5 ZINC/CAD	
all	2	02 03868A	95486D BRKT:42032 F7J 6" FAN	
all	3A	13AF235A71	FAN 235CFM 230V50/60C NEWARK#44F916	42032F7x
all	3B	13AF100A71	FAN 92CFM230V60 NEWARK #90F6926	36030F8x
all	4A	13AFGRD002	FAN FINGER GUARD(235)NEWARK#90F2315	42032F7x
all	4B	13AFGRD001	FAN FINGER GUARD NEWARK#46F5117	36030F8x
all	5	15P100	07Z THDCUT-F PANHD 8-32 X 3/8 SS410	

Brake Installation with Autospot

36030F8S,F8R 42032F7S,F7R

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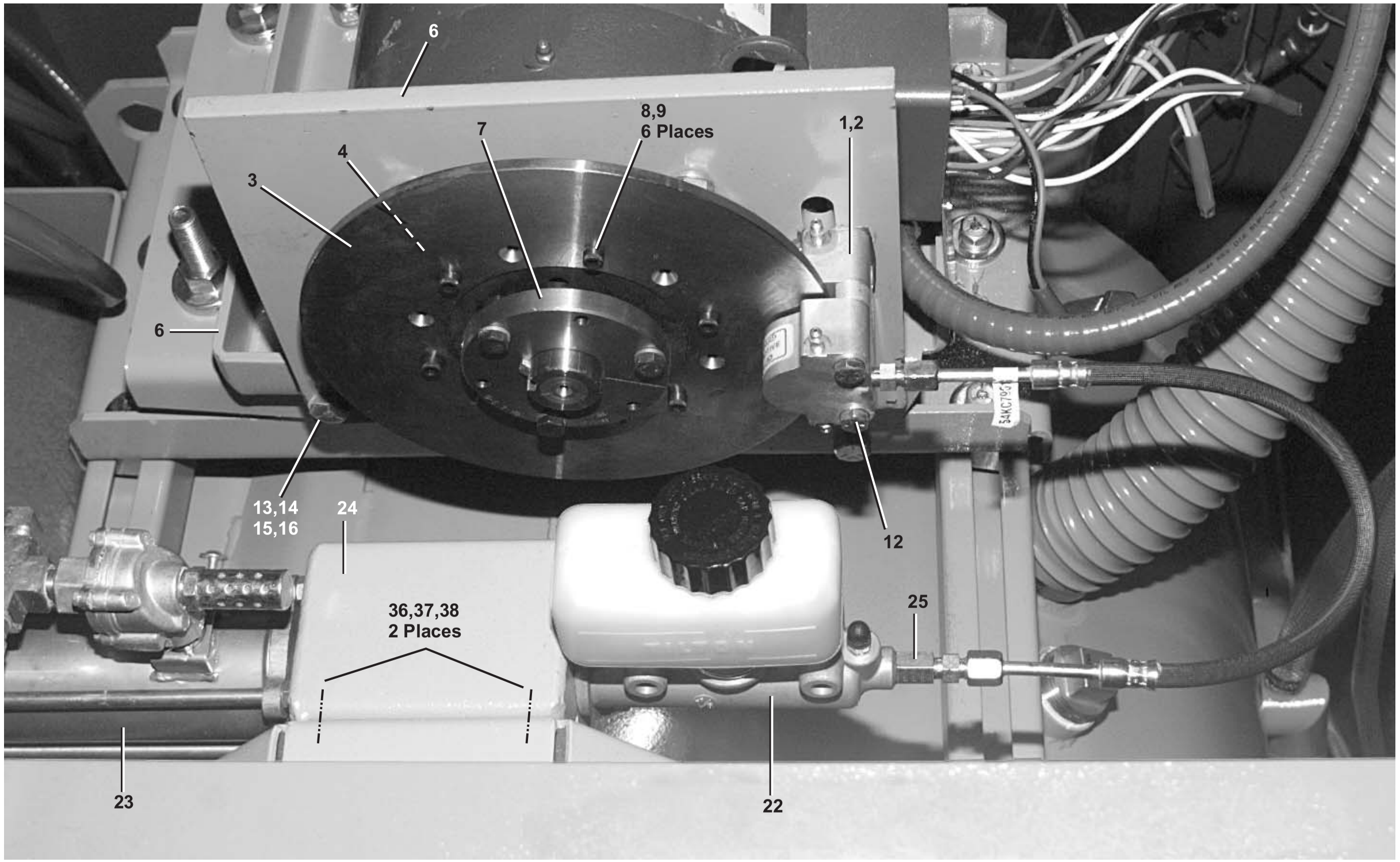

Brake Installation with Autospot

36030F8S,F8R 42032F7S,F7R

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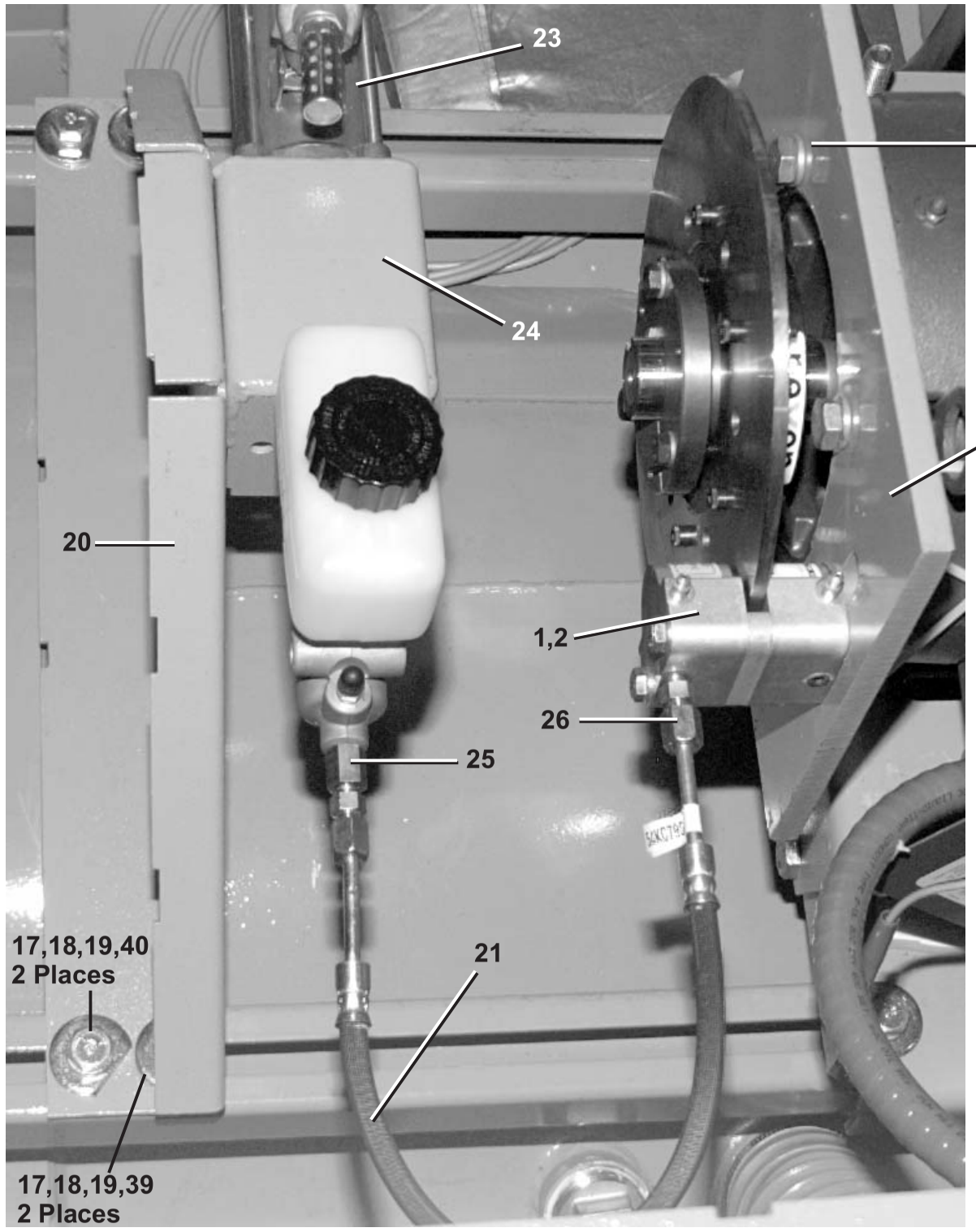
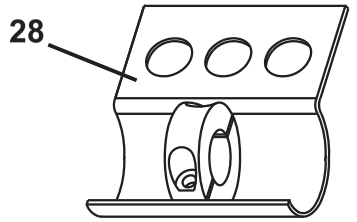
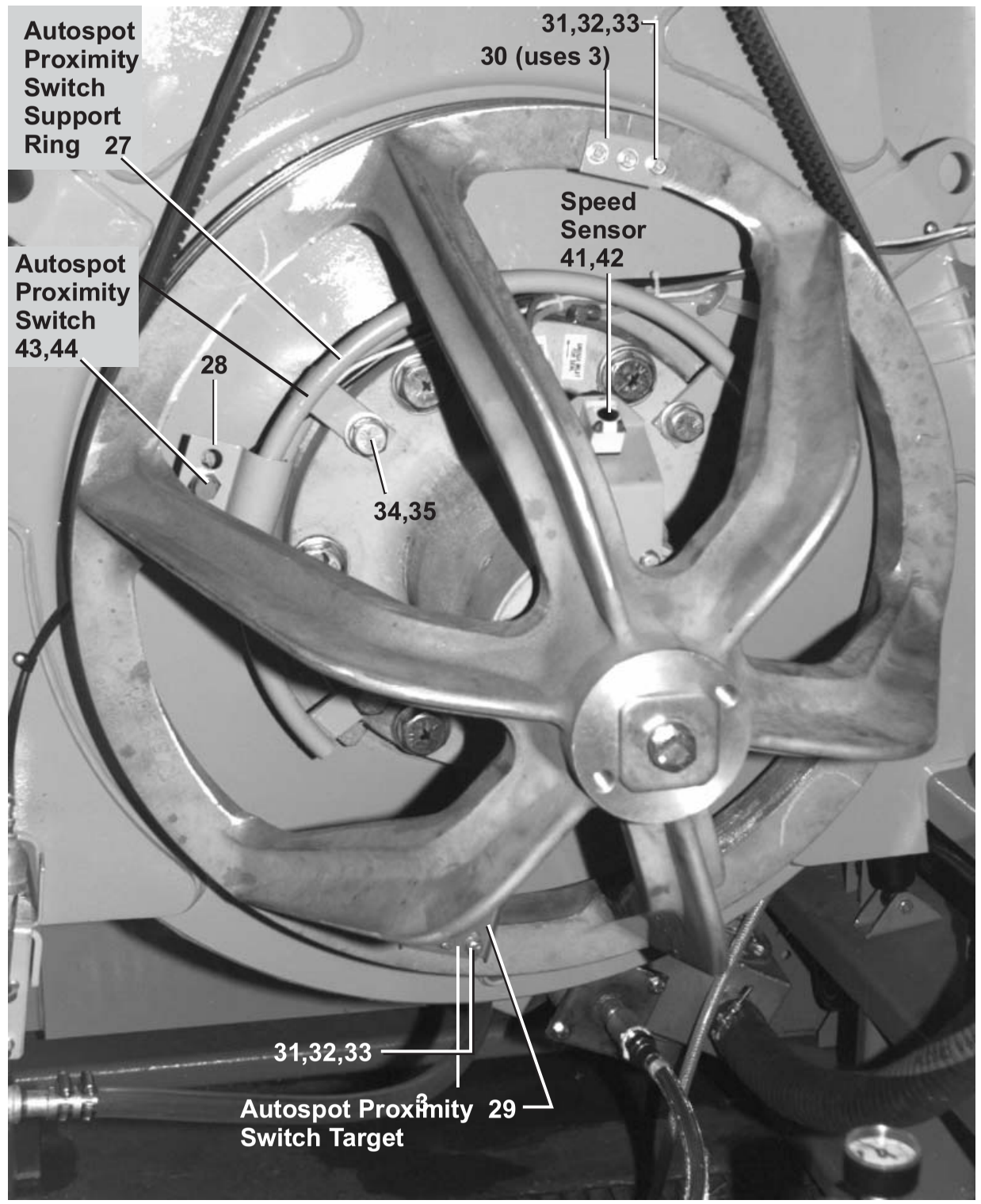




Detail: Autospot Proximity Switch Mounting



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Parts List—Brake Installation with Autospot

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	GBR35001	CYLINDER STOP/BRAKE=3630SG	36030F8S,F8R
	B	GBR42001	CYLINDER STOP/BRAKE=4232SG	42032F7S,F7R
	C	ABR35001	DISC BRAKE ASSY-3630SG	
	D	ABR42001	DISC BRAKE ASSY-4232SG	
			----------COMPONENTS----------	
all	1	54KC7972	CALIPER HYD D/A 1/4" H38DBRG 4004-0757	
all	3	X2 21760	MACH=CALIPER DISC, 10.00" OD	
all	4	X2 21761	MACH=HUB,FOR 10"OD DISC	
CD	5	02 21653	BRAKE CAL MOUNTING PLATE	
C	6	W2 21655	TORQARM MOTOR BRAKE-3630SG	
D	6	W2 21740	WLMT=MTR TORQ ARM, 4232SG	
A	7	56Q1GSK	1+3/8" BUSH VPUL QD TYPE SK	
B	7	56Q1MSK	1+5/8" BUSH VPUL QD TYPE SK	
all	8	15K041B	SKCPSCR 1/4-20X1"BLK GR8	
all	9	15G166A	HXLOKNUT NYL1/4-20 UNC2A STL/Z	
all	10	15K151	HXCAPSCR 1/2-13UNC24X1.25 GR5	
all	11	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	
all	12	15K081C	HEXCAPSCR 5/16-24X4 GR.8 ZINC	
all	13	15K171B	HEXCAPSCR 1/2-13X1+3/4 GR8 ZIN	
all	14	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	
all	15	15U281A	WASHER=CLIPPED 1/2 ID .06THK	
all	16	15G230	HXNUT 1/2-13UNC2B SAE ZINC GR2	
all	17	15K173A	HXCAPSCR 1/2-13UNC2AX1.75 GR5	
all	18	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	
all	19	02 19283	NUT=1/2-13UNCX1+1/2SQ SPEC	
CD	20	02 21650	MASTER CYL SUPP BRKT	
CD	21	54KC7961BG	BRAKE HOSE=1/8"X18"OAL #50612	
CD	22	54KMC1125U	MASTER CYL TILTON 74-1125U	
CD	23	AAC65001	AIRCYL=BRAKE ASSY 6446E6N	
CD	24	W3 65238	*WLMT=MASTER BRAKE CYL BRKT	
all	25	52AY0ER003	STR.1/4"MJICX1/8"MP#2404-4-2	
all	26	52XY0ER004	STRADTUN3/16MJX1/8FP#2405-3-2	
A	27	W2 21656	MAIN PULLEY SW MTG RING WLMT	
B	27	W2 21736	WLMT=MAIN PULL SW MTG, 4232SG	
all	28	W2 21658	PULLEY PROX SW MTG WLMT	
all	29	02 21659	CYLINDER STOP TARGET	
all	30	02 21660	TARGET C'BALANCE PLATE	
all	31	15K039	HXCAPSCR 1/4-20UNC2AX3/4 GR5 Z	
all	32	15G165	HXNUT 1/4-20UNC2BSAE ZC GR2	
all	33	15U180	LOCKWASHER MEDIUM 1/4 ZINCPL	
all	34	15K232	HXCAPSCREW 3/4-10UNC2X2 GR5 ZC	
all	35	15U340	LOCKWASH MEDIUM 3/4 ZINCPL	
all	36	15K095	HXCPSCR 3/8-16UNC2AX1 GR5 ZINC	
all	37	15U255	LOCKWASHER MEDIUM 3/8 ZINCPL	
all	38	15G205	HXNUT 3/8-16UNC2B ZINC Gr2	
all	39	15U490	FLAWASH 1+1/2X17/32X1/4ZINC	
all	40	02 11603C	90273B WASHER DBLR=1.5W/CUTOFF SIDE	
all	41	02 21819	PULLEY PHOTOEYE BRKT, 4840F	
all	42	09RPE013	SENSOR E-Z BEAM DC	
all	43	09RPS18ADU	PRXSW QK CONN 18M NO-DC UNSHLD	
all	44	09RPSDC095	CON.90DEG FEMALE DC 3A300V 5M	

Main Bearing Installation

36030F8J,F8W,F8S,F8R 42032F7J,F7W,F7S,F7R
3626X8J,X8W 4226X7J,X7W 4232X7J,X7W

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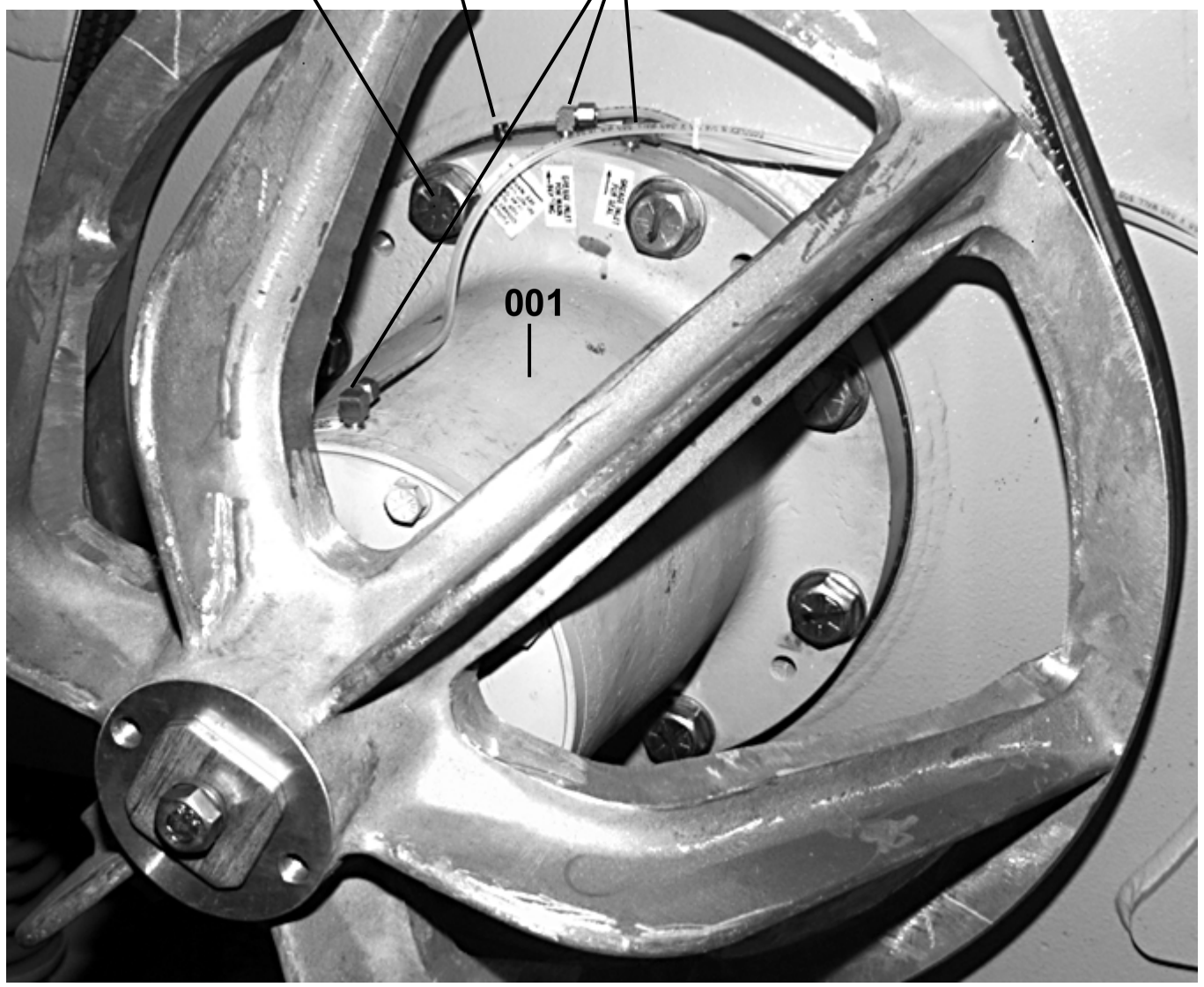
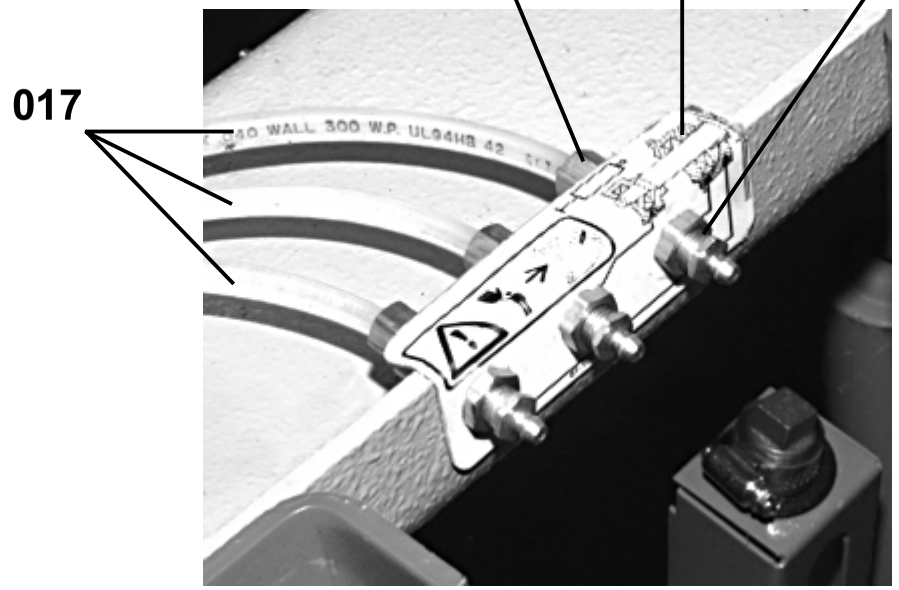


(3630F8J, 4232F7J SHOWN)



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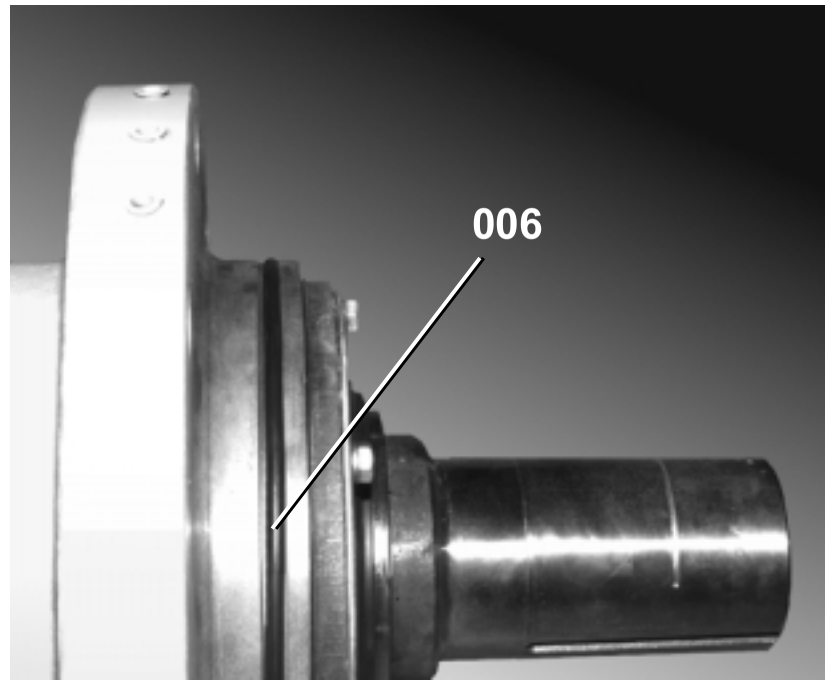
(4226X7J SHOWN)



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Parts List—Main Bearing Installation

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	GBM42001	96023B INSTALL=MAIN BEARING 4232F7	42032F7
	B	GBM35001	95451Z INSTALL=MAIN BEARING 3630F8	36030F8
	C	GBM4226X7	2003324N INSTALL-MAIN BEARING 42X	4226X8J,4232X8J
	D	GBM3626X7	2002000Z INSTL=MAIN BEARING 3626X7	3626X8J
			----------COMPONENTS----------	
A	1	ABM42001	93000Z*MAIN BEARING ASSY=4232F7	4232F7J, 4226X7J, 4232X7J
all	1	ABM35001	95451Z*MAIN BEARING ASSY=3630F8	3630F8J, 3626X8J
all	2	15K235K	01Z HXCAPSCR 1-14X3 GR 8 ZINC	
all	3	15U393	03Z FLATWASHER 1"GR 9 ZN DICHR	
all	5	54M021	GREASEFIT=1/8PIPEX1+1/4STR 1607-B	
A,C	6	60C176	ORING 10.50 IDX1/4CS BUNA-N #449	423F7J, 4226/4232X8J
B,D	6	60C170	ORING 8"IDX3/16CS BUNA-N 70 #369	3630F8J, 3626X8J
all	7	20C007G	THREADLOCKER-REMOVABLE 50CC #242-31	
all	8	53A031B	BODY-MAL90ELL1/4X1/8COMPPH#269C-42B	
all	9	53A059A	NUT 1/4"COMP.HOLYOKE ANDERSON#61A-4	
all	10	53A500	1/4" SLEEVE-DELRIN	
all	11	53A501	TUBEINSERT .170"OD	
all	12	53A007B	BODY=FEMCONN 1/4X1/4 COMP W#B66X4X4	
all	13	15U281A	83286B WASHER=CLIPPED 1/2 ID .06THK	
all	14	01 10025Z	98056B NPLT:BEARING+SEAL LUB - 42” & 36”	
all	15	5SB0E0CBEO	HEXPIPBUSH 1/4 X 1/8 BRASS 125#	
all	16	54M015	65408A GREASEFIT 60X36/60X44 1610BL	
all	17	60E004TC	02Z TUBING NYL(NAT)1/4"ODX.17 ID *	

Bearing Assembly

3630F8J, 3626X8J,X8W

BMP040023/2010062B
(Sheet 1 of 3)

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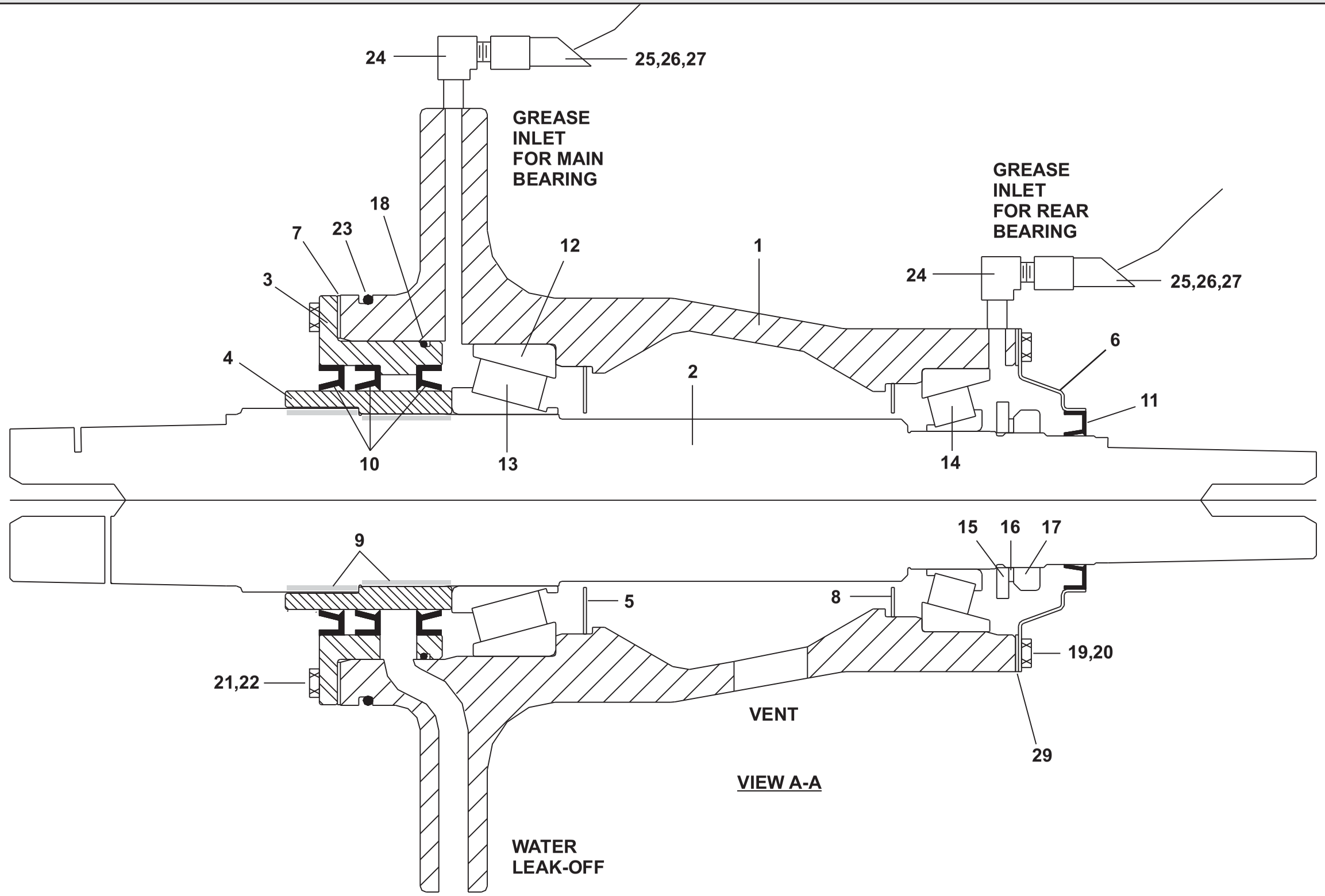

Bearing Assembly
3630F8J, 3626X8J,X8W

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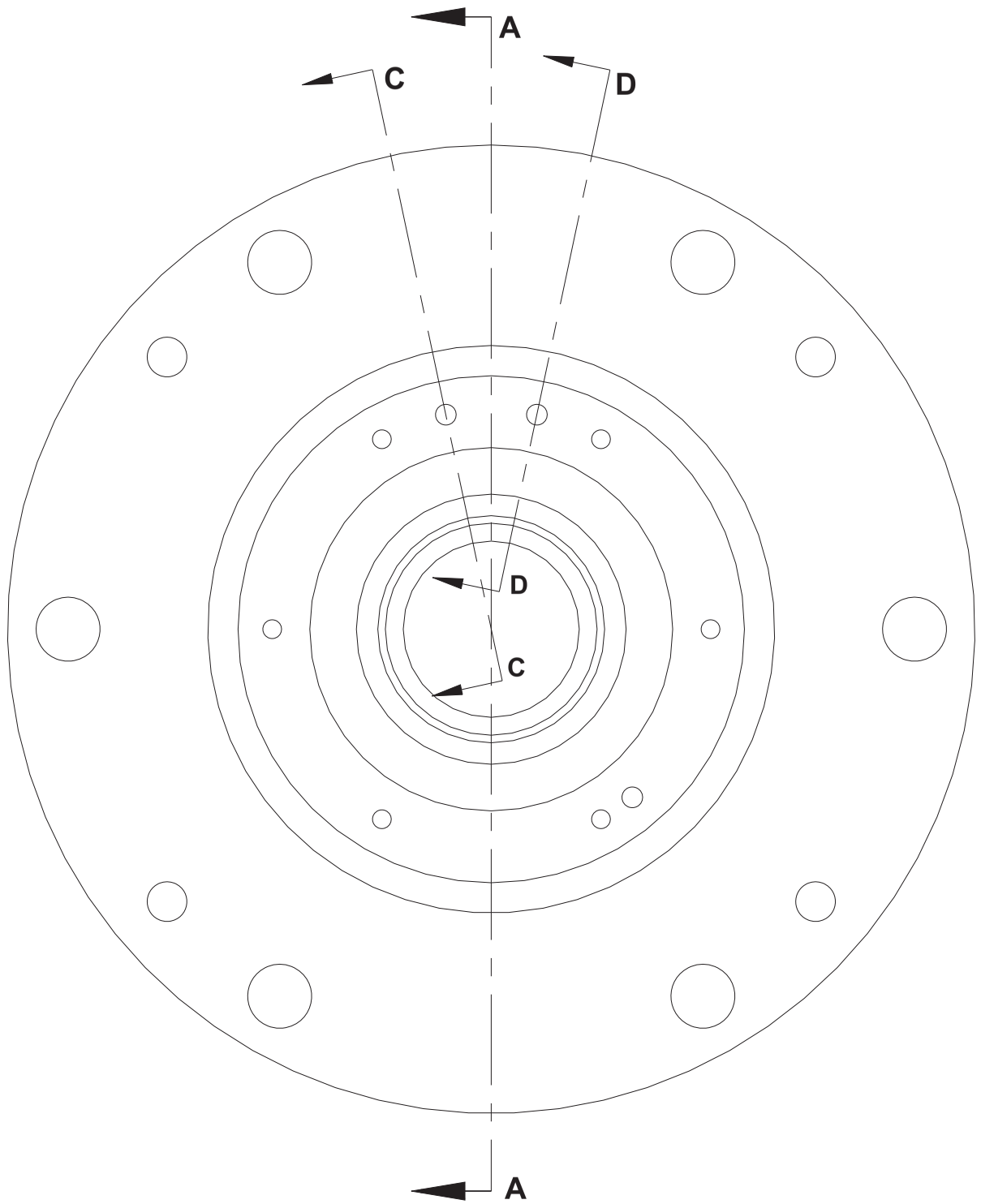
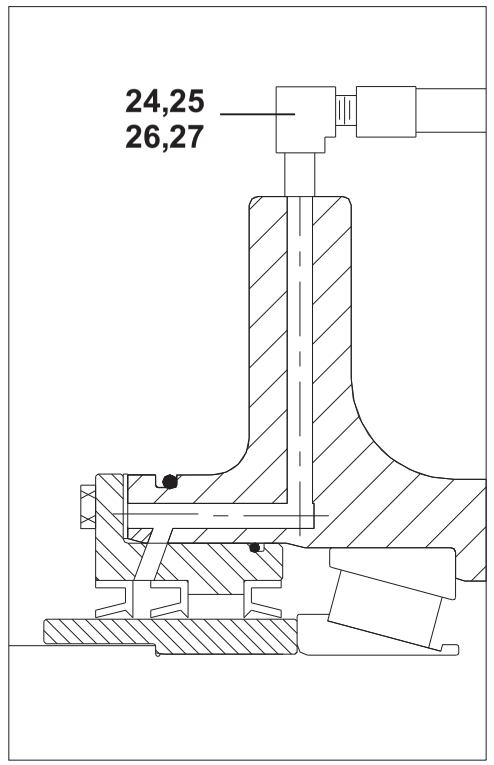
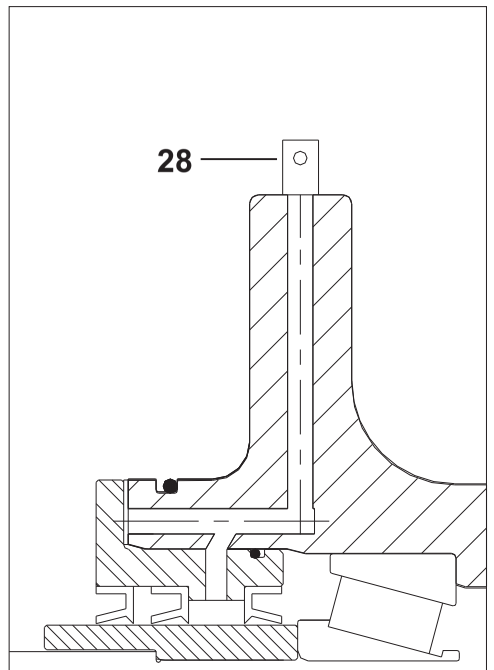


VIEW B-B



C-C
GREASE INLET
FOR SEALS



D-D
FLUSHING
FOR SEALS

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Parts List—Bearing Assembly

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	ABN35001	ASSY= FRNTBNG 3630F8 STD	3630F8J
	B	ABN3626X7	ASSY=FRNTBNG 3626X7	3626X8J,X8W
	C	ABM35001	MAIN BEARING ASSY=3630F8	3630F8J,3626X8J,X8W
			----------COMPONENTS----------	
all	1	X2 21540	MACH=MAIN BEARING HOUSE 3630	
all	2	X2 21543A	MACH=MAIN SHAFT 3626X7	
all	3	X2 21541	MACH=FRONT SEAL HOLDER 3630F	
all	4	X2 21544	SEAL SLEEVE=3630 BRG ASSY	
all	5	02 21542	FRONT GREASE SHIELD 3630F	
all	6	02 21545	REAR SEAL HOLDER 3630F8	
all	7	02 21547	GASKET=FRNT SEAL HOLDR 3630F	
all	8	02 21550	REAR GREASE SHIELD 3630F	
all	9	20C011C	RETAIN CMPD 250CC LCT#609-41	
all	10	24S114	SEAL 4.5X5.5X.50 JM# 9170 LUP	
all	11	24S053	SEAL 2.625X3.625X.437#10051L5	
all	12	54A337	CUP 6535 SKF 1/BOX	
all	13	54A336	CONE 6580 S-ROW S-BORE SKF1/BX	
all	14	54A335465	TIMK H414210 2-24/H414249 2-51	
all	15	56ATW14	TONGUE WASH TIM K91514 FOR N14	
all	16	56AHW114	TW114 BEARING LOCWASHER	
all	17	56AHN14	N14 BEARING LOCKNUT	
all	18	60C160J	ORING 6+1/4ID1/8CS BUNA70 #259	
all	19	15K039	HXCAPSCR 1/4-20UNC2AX3/4 GR5 Z	
all	20	15U180	LOCKWASHER MEDIUM 1/4 ZINCPL	
all	21	15K112	HXCAPSCR 3/8-16X1+1/2 SS18-8	
all	22	15U260	LOCKWASHER MEDIUM 3/8 SS18-8	
all	23	60C170	ORING 8"IDX3/16CS BUNA70 #369	
all	24	5N0C01KG42	NPT NIP 1/8X1.5 TBE GALSTL S40	
all	25	53A500	SLEEVE DELRIN 1/4"OD#60PT-4	
all	26	53A501	TUBE INSERT .163"OD #63PT-4-40	

Parts List, cont.—Bearing Assemby

Used In	Item	Part Number	Description	Comments
all	27	53A059A	NUT 1/4"BR.HOLYOKE AND #61A-4	
all	28	5SP0CFESSV	NPTPLUG1/8SQSLDBLKSTL LVENT125	
All	29	02 21546	EXCLUDER SEAL GASKET	

Bearing Assembly

4226X7J,X7W 4232X7J,X7W 4232F7R,F7S

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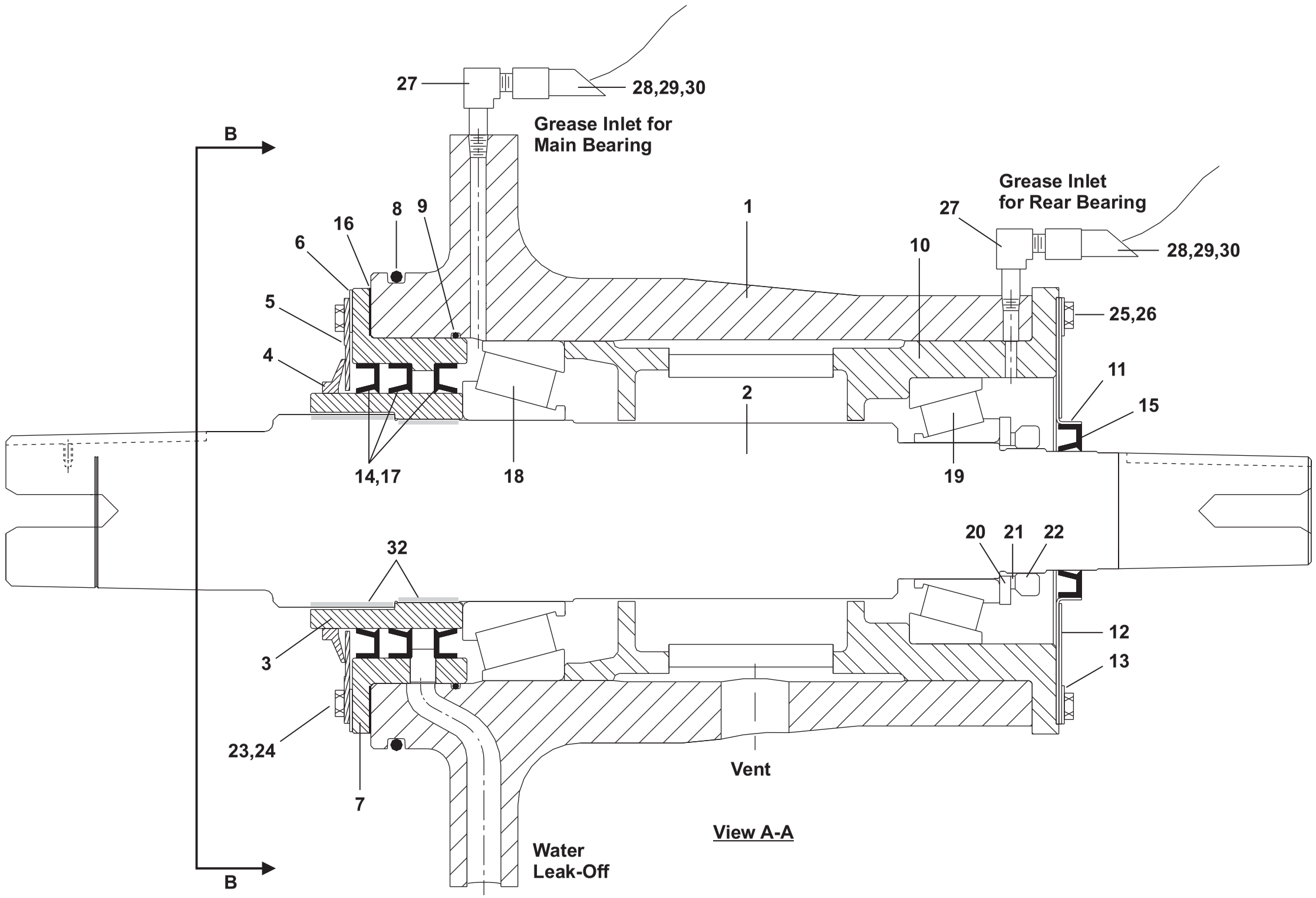

Bearing Assembly

4226X7J,X7W 4232X7J,X7W 4232F7R,F7S

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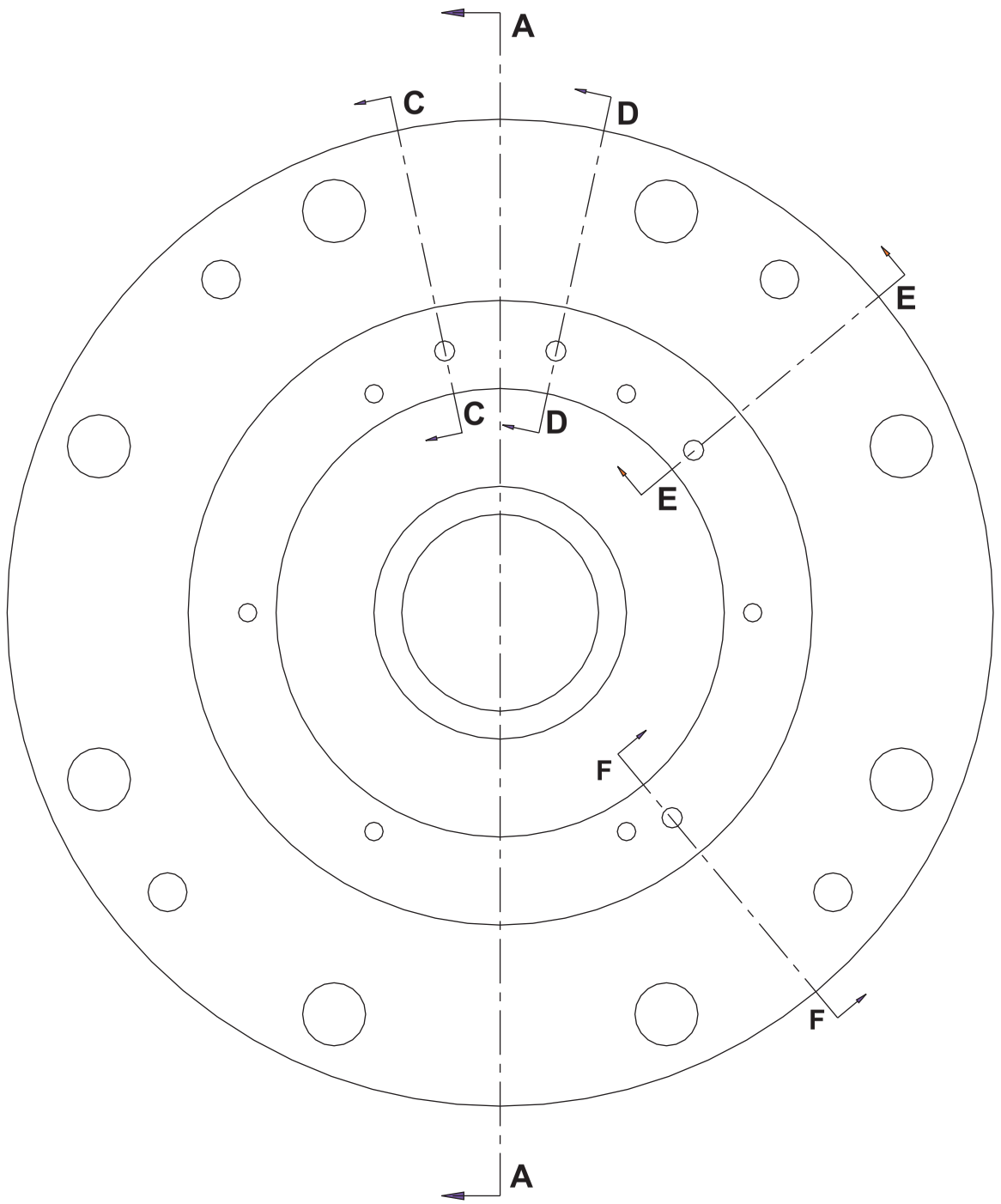
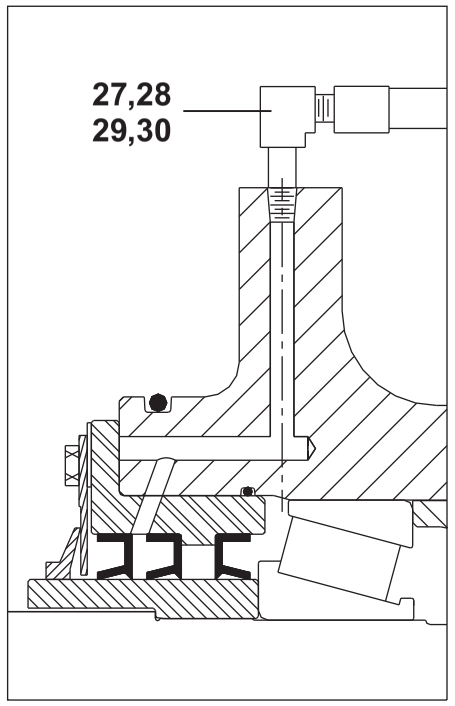
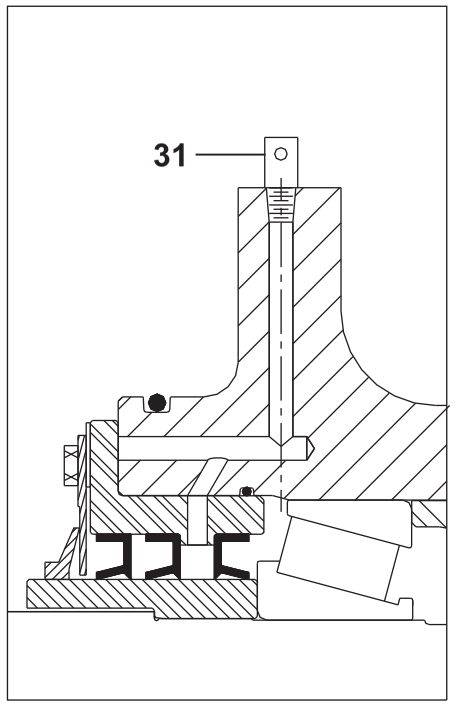


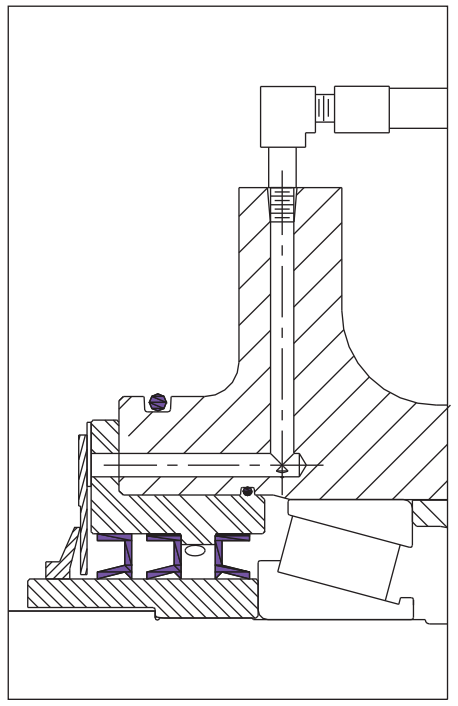
View B-B



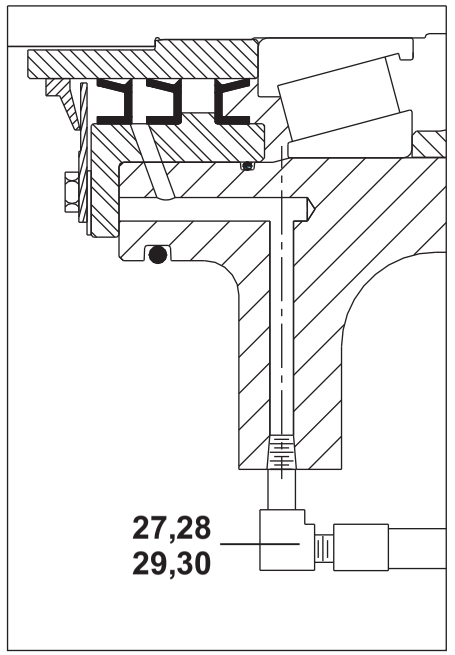
C-C: Grease Inlet for the Seals



D-D: Inlet to Flush the Seals



E-E: Air injection used with KDADDAI001 (Optional)



F-F: Leak-Off for the Seals

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Parts List—Bearing Assembly

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	ABN42001	ASSY= FRNTBNG 4232F7 STD	4232F7R/S 4226X7J,X7W 4232X7J,X7W
	B	ABM42001	MAIN BEARING ASSY=4232F7	4232F7R/S, 4226X7J,X7W 4232X7J,X7W
			----------COMPONENTS----------	
all	1	X2 21040	MACH=MAIN BEARING HOUSING	
all	2	X2 21043	MACH=MAIN SHAFT 4232F BRG	
all	3	02 21044	SEAL SLEEVE=4232F BRG ASSY	
all	4	24S137	SEAL5.188X6.75X.5#051819356SSW	
all	5	02 21049	COVER=EXCLUDER SEAL 4232F	
all	6	02 21048	GASKET=EXCLUDR SEAL 4232F	
all	7	X2 21041	MACH=FRONT SEAL HOLDER 4232F	
all	8	60C176	ORING 10 IDX1/4"CS BUNA-N#449	
all	9	60C169	ORING 7+1/2ID1/8CS BUNA70 #264	
all	10	X2 21042	MACH=REAR BEARING CARRIER	
all	11	02 21045	REAR SEAL HOLDER 4232F7	
all	12	02 21046	SPACER=4232F REAR SEAL HOLDR	
all	13	02 21045A	CLAMP SHOE=REAR SEAL HOLDER	
all	14	24S135	SEAL5.188X6.5X.5 #05187336LPDN	
all	15	24S053	SEAL 2.625X3.625X.437#10051L5	
all	16	02 21047	GASKET=FRNT SEAL HOLDR 4232F	
all	17	20C011C	RETAIN CMPD 250CC LCT#609-41	
all	18	54AT101190	TIMKN HH221449/TIMKN HH221410	
all	19	54A050S	TIMKEN CONE 6461/CUP 6420 SET	
all	20	56ATW14	TONGUE WASH TIM K91514 FOR N14	
all	21	56AHW114	TW114 BEARING LOCWASHER	
all	22	56AHN14	N14 BEARING LOCKNUT	
all	23	15K112	HXCAPSCR 3/8-16X1+1/2 SS18-8	
all	24	15U260	LOCKWASHER MEDIUM 3/8 SS18-8	

Parts List, cont.—Bearing Assembly

Used In	Item	Part Number	Description	Comments
all	24	15U260	LOCKWASHER MEDIUM 3/8 SS18-8	
all	25	15K176A	S0KCAPSCR 1/2-13X1.75 ZN GR8+	
all	26	15U317B	FLWASH,1.062ODX.531IDX.115 TH	
all	27	5N0C01KG42	NPT NIP 1/8X1.5 TBE GALSTL S40	
all	28	53A500	SLEEVE DELRIN 1/4"OD#60PT-4	
all	29	53A501	TUBE INSERT .163"OD #63PT-4-40	
all	30	53A059A	NUT 1/4"BR.HOLYOKE AND #61A-4	
all	31	5SP0CFESSV	NPTPLUG1/8SQSLDBLKSTL LVENT125	
All	32	20C012D	RETAINCMPD ADH LCT#68015 10CC	

Section 3

Shell and Door Assemblies

Shellfront, Shell & Cylinder Installation

42032F7J,F7W,F7S,F7R

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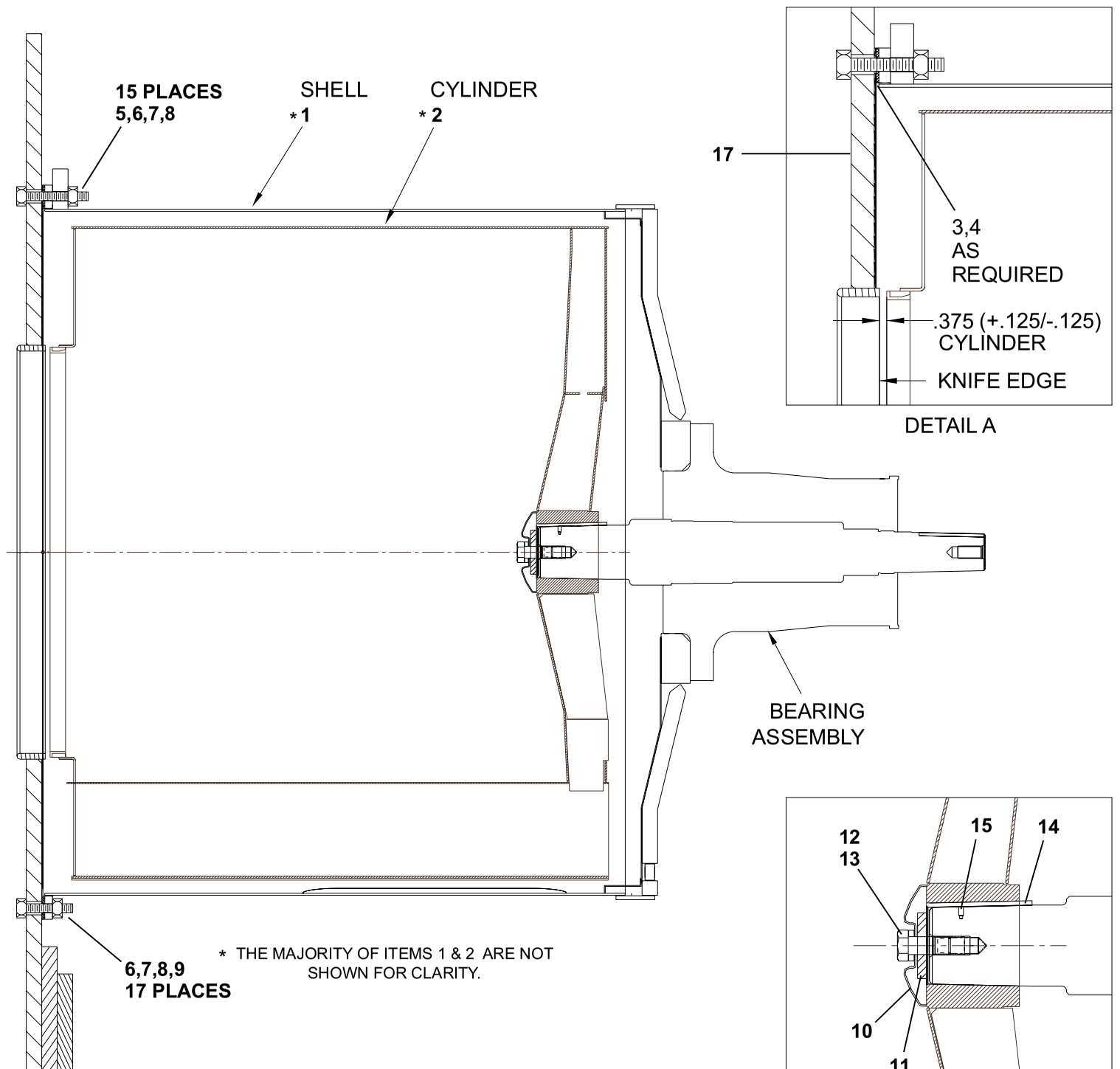

Parts List—Shellfront, Shell & Cylinder Installation

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
.				
----------ASSEMBLIES----------				
	A	GSF42004	SHELLFRONT INSTALL 4232F7	
	B	GSC42001A	SHELL&CYL W/ MRSHMLLW 4232F7	
----------COMPONENTS----------				
all	1	W2 21010B	*WELD=4232F SHELL FLAT FRONT	
all	2	ACA4232F7C	WLMT=4232F7 CYLINDER FLAT FRNT	4232F7J,F7W
all	2	ACA4232F7D	ASSY=CYL-LEFT, 4232SG FLAT FRT	4232F7S
all	2	ACA4232F7E	ASSY=CYL-RIGHT,4232SG FLAT FRT	4232F7R
all	3	02 11153A	GASKET=46"BCX1/8THK=4/42Q+D	
all	4	02 11153	GASKET=46"BCX1/16THK=4/42Q+D	
all	5	15K198	HEXCAPSCR 1/2-13UNC2AX3 GR5 ZI	
all	6	15G230	HXNUT 1/2-13UNC2B SAE ZINC GR2	
all	7	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	
all	8	15U490	FLTWASH 1+1/2X17/32X1/4 ZINC	
all	9	15K201A	HXCAPSCR 1/2"-13X4" GRD 8 ZINC	
all	10	02 11196	COVER=SHAFT RETAINER=304S/S	
all	11	02 11186	RETAINER+SPACER-SHAFT=4226	
all	12	15B208	HEXCAPSCR 3/4-10X2+1/4 SS18-8	
all	13	15U350	LOCKWASHER 3/4 MED SS18-8	
all	14	02 09126	SHAFTKEY-SS303=OEW'S 2+5/8"L	
all	15	15N082	FILMACSCR 8-32UNC2X3/8SS18-8	
all	16	20C007G	THDLOCKSEAL LCT24231 RMUBL50CC	
all	17	W2 21011F	4232 SHELLFRONT WELDMENT	

Shell & Cylinder Installation

36030F8J,F8P,F8W,F8S with Marshmallow Suspension

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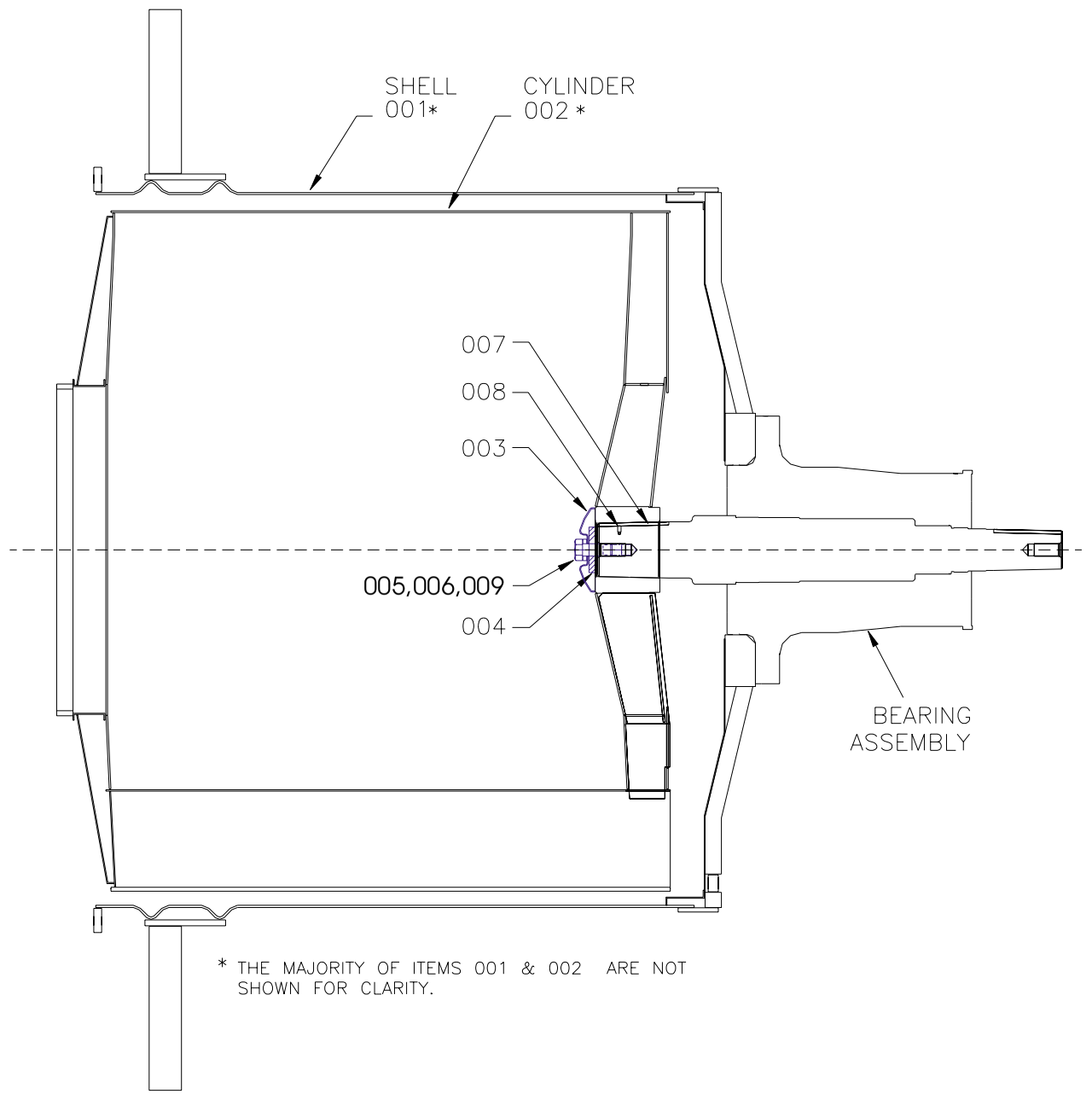
Litho in U.S.A.



Parts List—Shell & Cylinder Installation

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	GSC35001	95451Z SHELLECYL INSTALL 3630F8	36030F8J/P/W
			----------COMPONENTS----------	
	1	W2 21502	96046Z*WELD=3630F8 SHELL ASSEMBLY	3630F8J,F8W
	1	W2 21617L	2003502D SHELL, 3630SG-LEFT	3630F8S
	1	W2 21617R	2000473N SHELL, 3630SG-RIGHT	3630F8R
	2	ACA3630F8	96011Z*ASSY=3630F CYLINDER	3630F8J,F8W
	2	ACA3630SGL	97000Z ASSY=CYLINDER-LEFT, 3630SG	3630F8S
	2	ACA3630SGR	98000Z ASSY=CYLINDER-RIGHT,3630SG	3630F8R
All	3	02 11196	92567B COVER=SHAFT RETAINER=304S/S	
all	4	02 11186	79107B RETAINER+SPACER-SHAFT=4226	
all	5	15B208	HEXCAPSCR 3/4-10X2+1/4 SS18-8	
all	6	15U350	LOCKWASHER 3/4 MED SS18-8	
all	7	02 09126	89021A SHAFTKEY-SS303=OEW'S 2+5/8"L	
all	8	15N082	FILMACSCR 8-32UNC2X3/8SS18-8	
all	9	20C007G	THDLOCK-RMUBL-50CC LCT#242-31	

Marshmallow Spring Suspension

3630F8J,F8W,F8S,F8R 42032F7J,F7W,F7S,F7R

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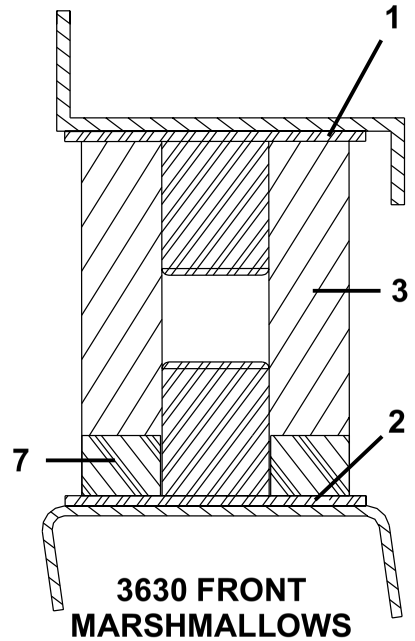
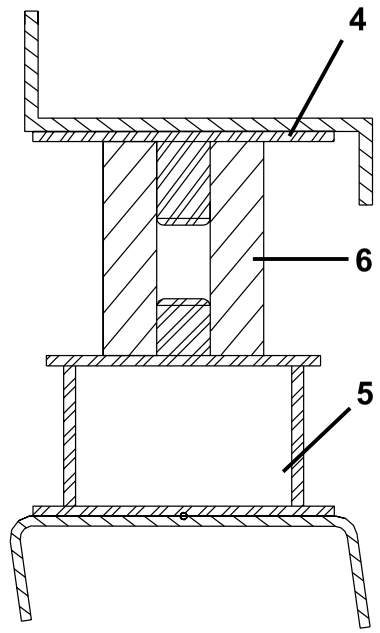
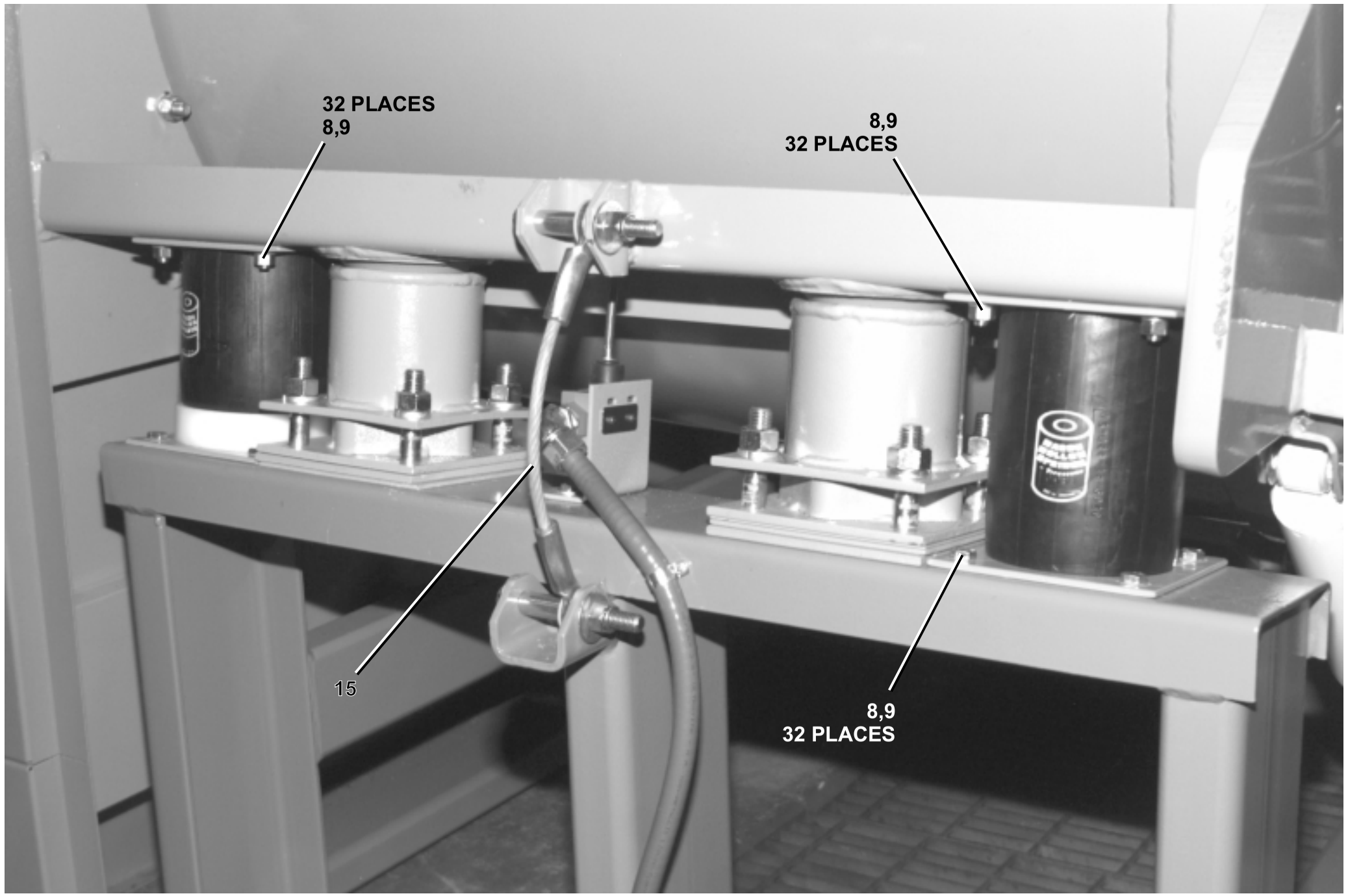
Litho in U.S.A.

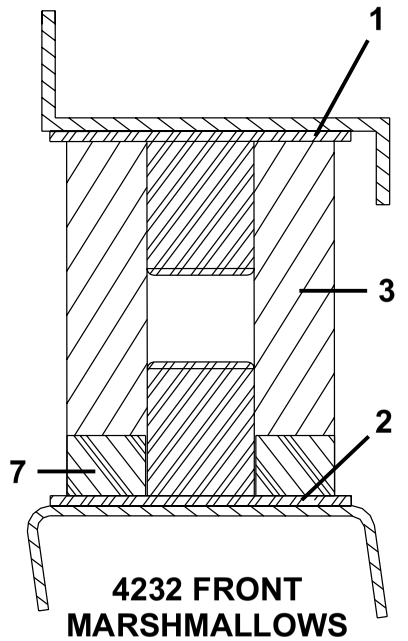


3630 FRONT MARSHMALLOWS

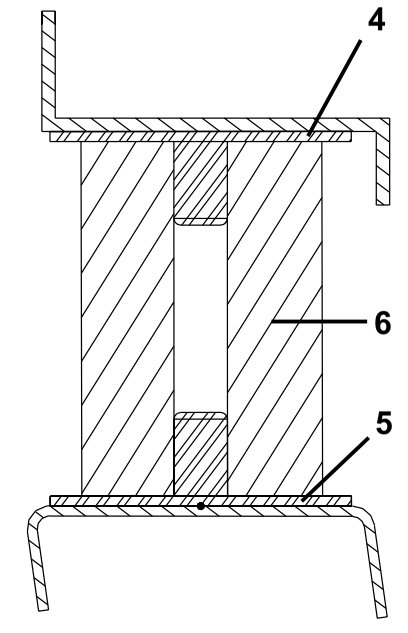


3630 REAR MARSHMALLOWS





4232 FRONT MARSHMALLOWS



4232 REAR MARSHMALLOWS

Marshmallow Spring Suspension

3630F8J,F8W,F8S,F8R 42032F7J,F7W,F7S,F7R

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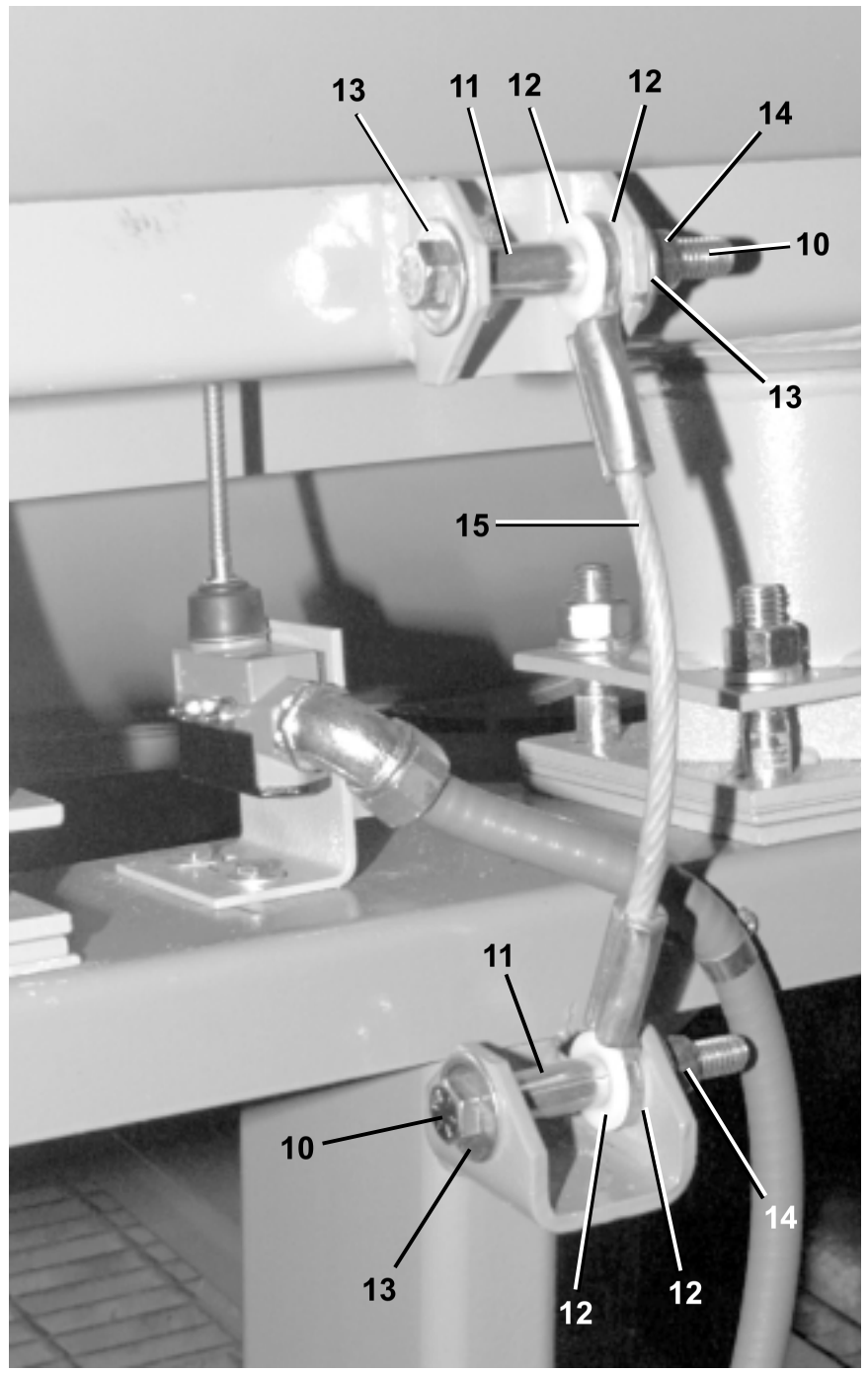

Parts List—Marshmallow Spring Suspension

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	GMS35001	3630 MARSHMELLOW SPRING INST	3630F8J,F8W,F8R,F8S
	B	GIC42001A	MARSHMELLOW INSTALL 4232F7	4232F7J,F7W,F7R,F7S
	C	AMS35002	3630 FRNT MRSHMLLW SPRING ASSY	
	D	AMS35001	3630 REAR MRSHMLLW SPRING ASSY	
	E	AIC42004	MARSHMELLOW ASSY=4232F FRONT	
	F	AIC42003	MARSHMELLOW ASSY=4232F REAR	
			----------COMPONENTS----------	
all	1	W2 21170A	WLMT=4232 FRNT TOP MRSH PLATE	
all	2	W2 21170	WLMT=4232 FRNT BTTM MRSH PLATE	
A	3	60B127	MM SPRG 4X2X6 F#W223580180	
B	3	60B136	MM SPRG 4.5X2X6 F#W223580178	
A	4	W2 21172	3630 M-SPRING TOWER MOUNT	
B	4	W2 21171	WLMT=4232 REAR MRSHMLLW PLT	
A	5	W2 21171A	WLMT=3630 TOP MARSHMLLOW MNT	
B	5	W2 21171	WLMT=4232 REAR MRSHMLLW PLT	
A	6	60B135	MM SPRG 3X1X4 F#W223580047	
B	6	60B134	MM SPRG 4.5X1X7 F#W223580091	
all	7	02 21174	4232 REAR MARSHMELLOW RISER	
all	8	15K092Z	HEXFLGSCR 3/8-16X1 GR5 ZINC	
all	9	15G198	HXFLGNUT 3/8-16 ZINC	
all	10	15K201A	HXCAPSCR 1/2"-13X4" GRD 8 ZINC	
all	11	27B250	SPCRROLL.5ID1.5L.062T STLZNC	
all	12	15U348A	FLTWASH NYLON 1+1/4"ODX1/2"ID	
all	13	15U280	FL+WASHER(USS STD)1/2 ZNC PL+D	
all	14	15G234N	HXLOCKNUT NYL 1/2-13UNC2 STL/Z	
all	15	27A969	CABLE ASSY SAVA#205801	

Shock Absorber Installation

3630F8J,F8W,F8R,F8S 4232F7J,F7W,F7R,F7S

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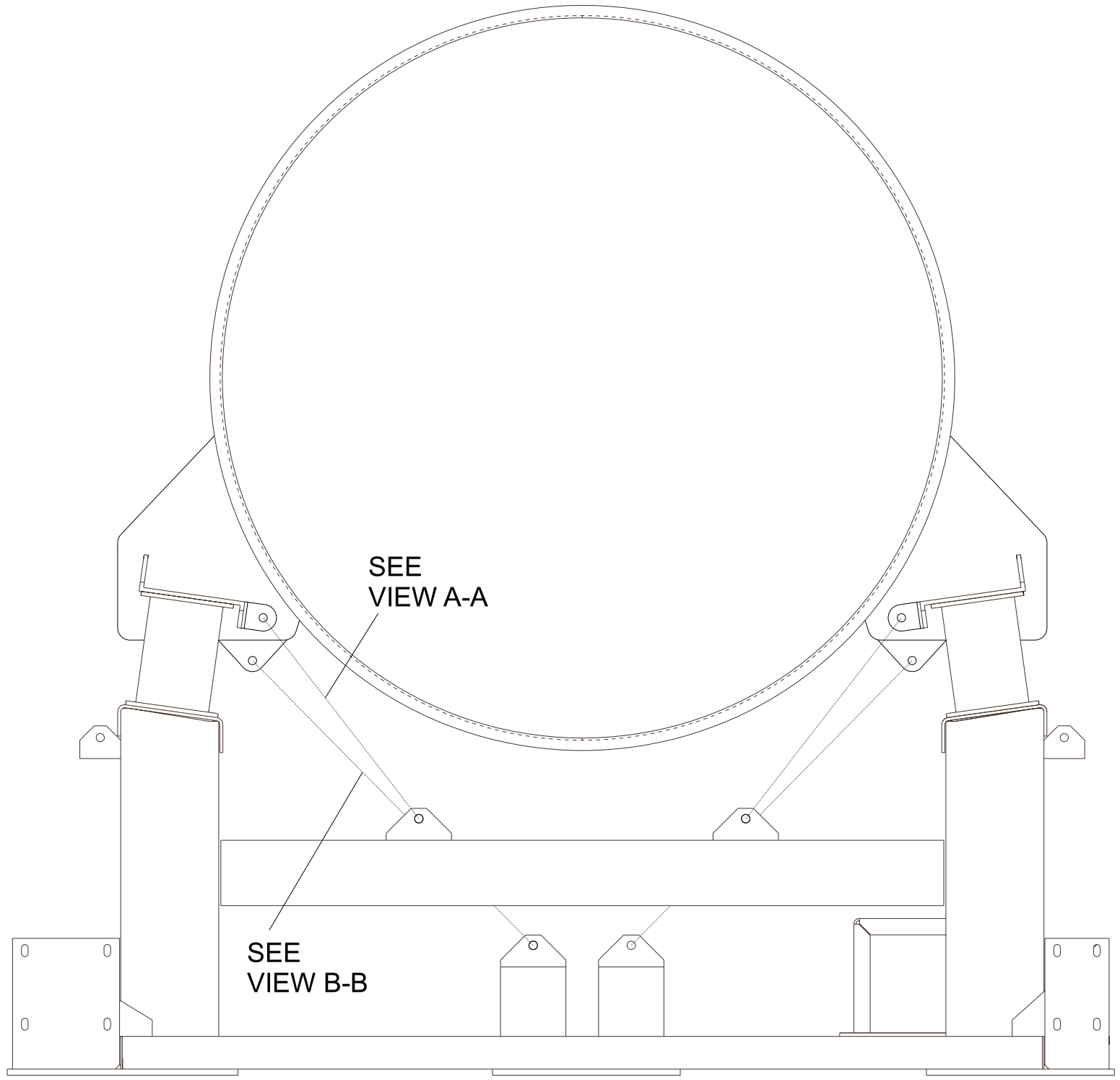
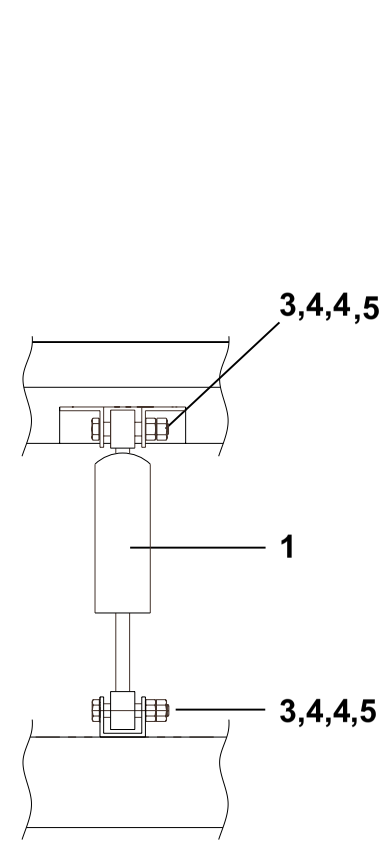
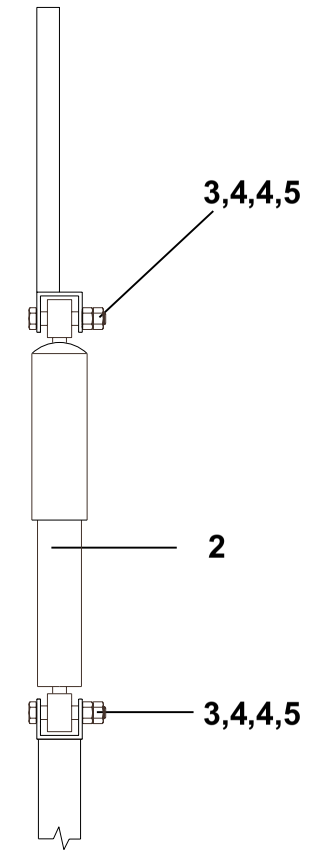




VIEW A-A

TYPICAL
FRONT
CYLINDERS



VIEW B-B

TYPICAL
REAR
CYLINDERS

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Parts List—Shock Absorber Installation

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
----------	----------	----------	----------ASSEMBLIES----------	----------
	A	GIC42002A	SHOCK INSTALL MRSHMLL 4232F	4232F7J,F7W,F7R,F7S
	B	GIC35002A	3630 SHOCK W/ MARSHMELLOW INST	3630F8J,F8W,F8R,F8S
----------	----------	----------	----------COMPONENTS----------	----------
A	1	60BS6832	SHOCK ABSORBR GABRIEL65488440X	
B	1	60BS6838	SHOCK ABSORBER A#078051	
all	2	60BS6838	SHOCK ABSORBER A#078051	
all	3	15K198	HEXCAPSCR 1/2-13UNC2AX3 GR5 ZI	
all	4	15G231	HXFINJAMNUT 1/2-13UNC2B ZINC G	
All	5	15U280	FL+WASHER(USS STD)1/2 ZNC PL+D	

Excursion Switch

3630F8J,F8W,F8S,F8R 42026F7J,F7W,F7S,F7R

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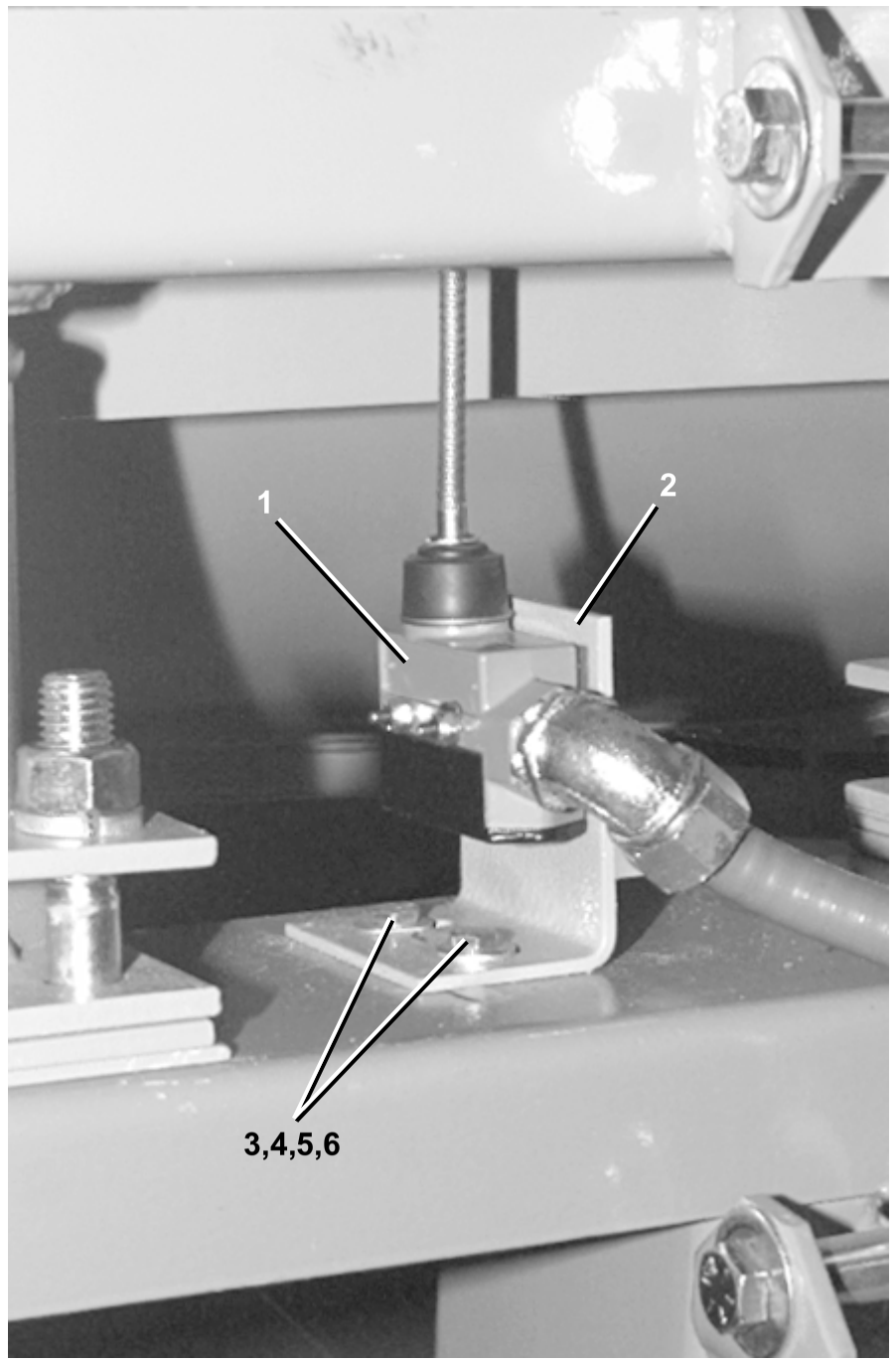

Parts List—Excursion Switch

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	GES42001	EXCURSION SWITCH INST 4232F	
			----------COMPONENTS----------	
all	1	09R008ASTD	* 09R008A+MOUNTING HDWRE+INST	
all	2	02 21179	4232 EXCUR SWTCH MNT BRKT	
all	3	15K039	HXCAPSCR 1/4-20UNC2AX3/4 GR5 Z	
all	4	15U185	FLATWASHER(USS STD) 1/4" ZNC P	
all	5	15G177	HXNUT 1/4-28UNF2B SAE ZINC GR2	
all	6	15U180	LOCKWASHER MEDIUM 1/4 ZINCPL	

Door Assembly & Installation

4232F7J,F7W,F7S,F7R

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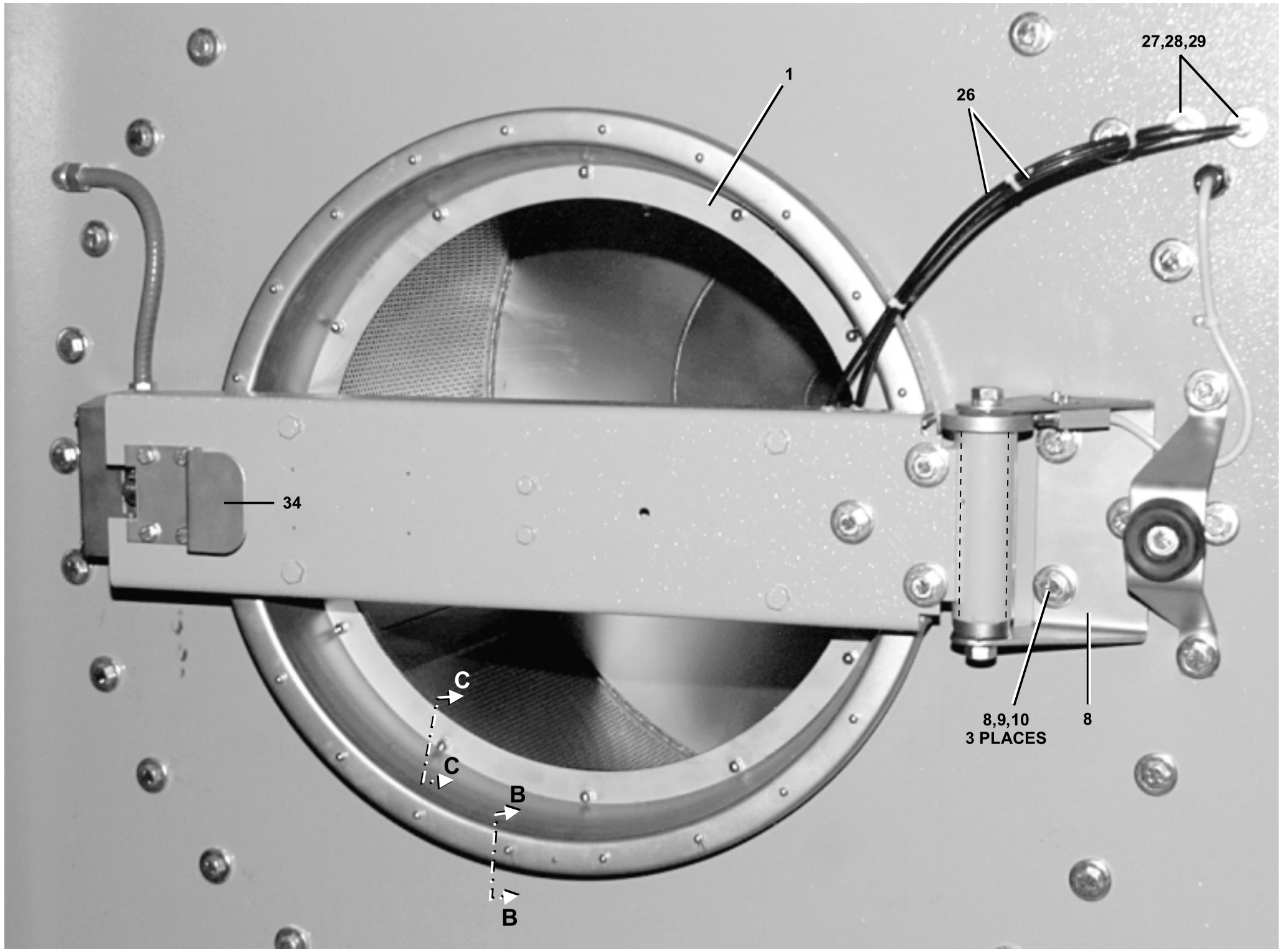

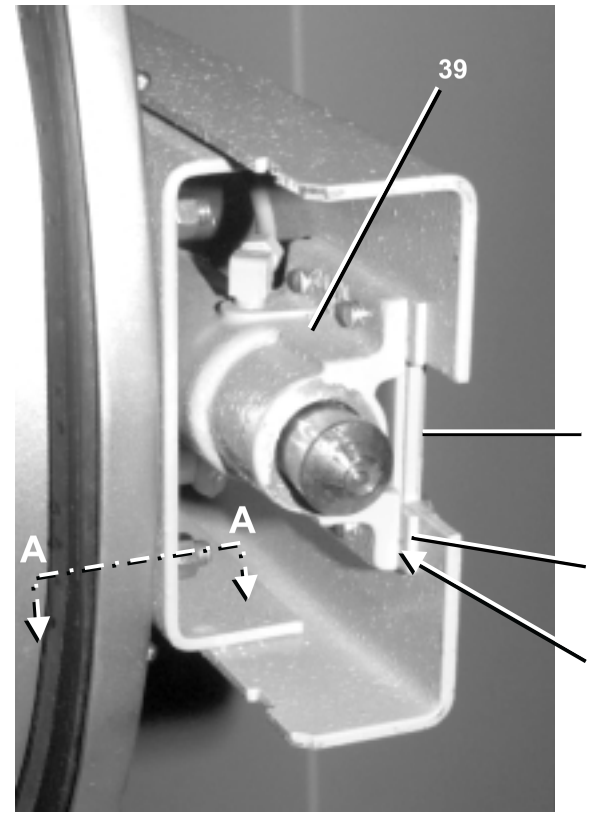

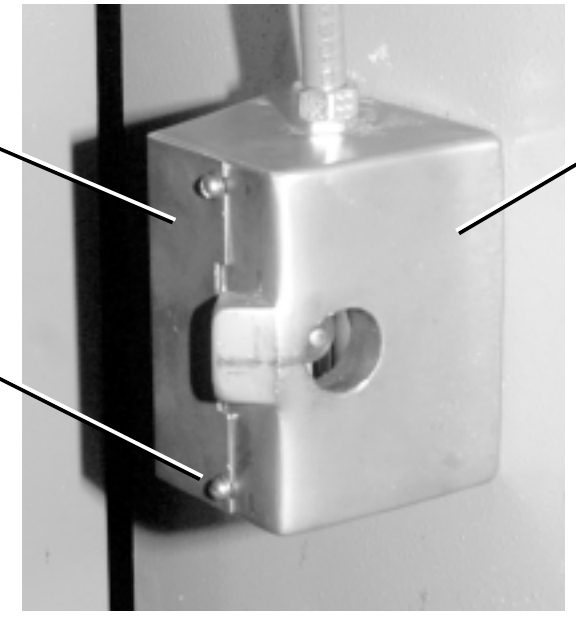

Door Assembly & Installation

42032F7J,F7W,F7S,F7R

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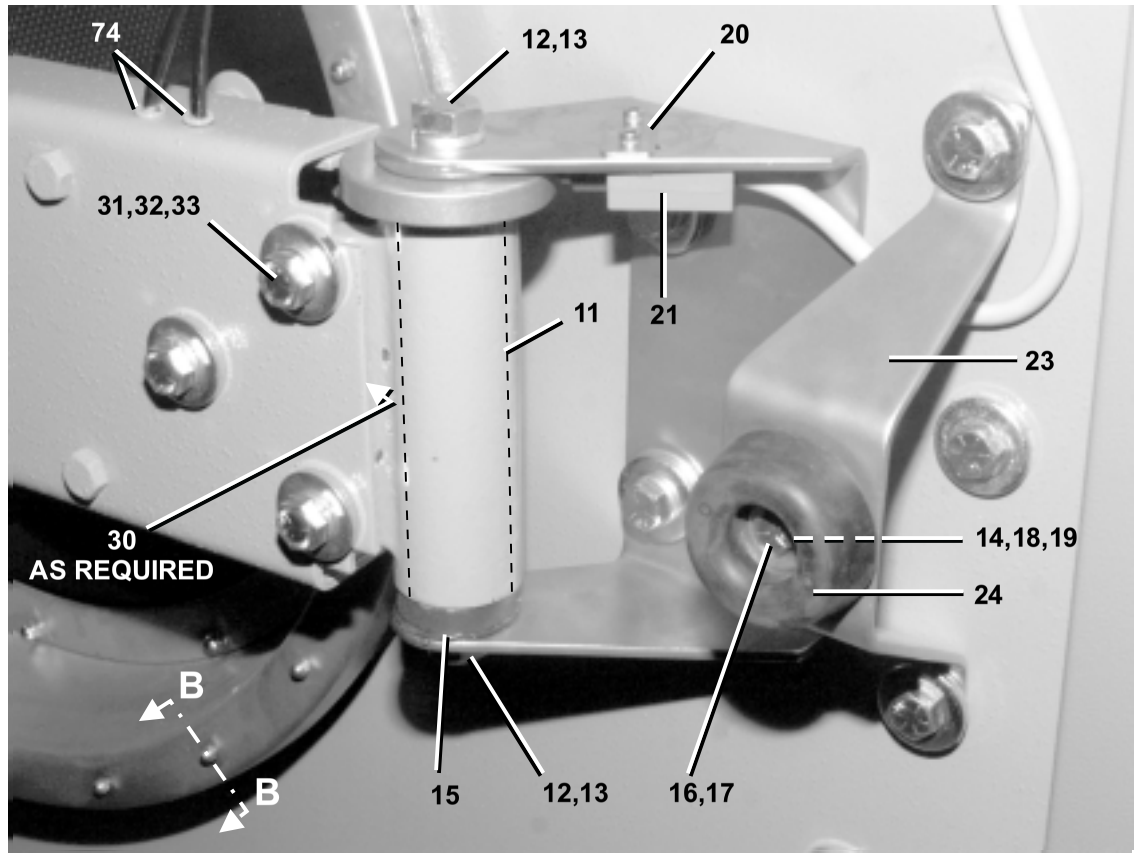
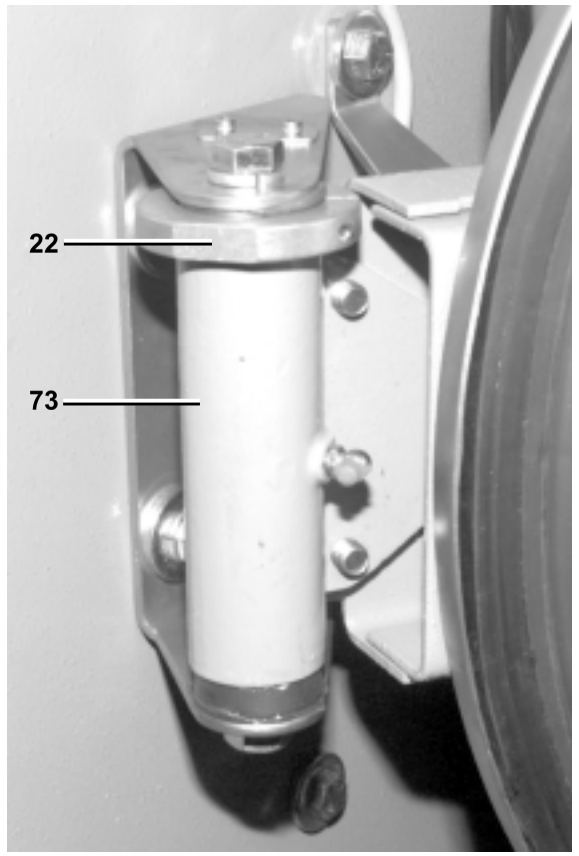
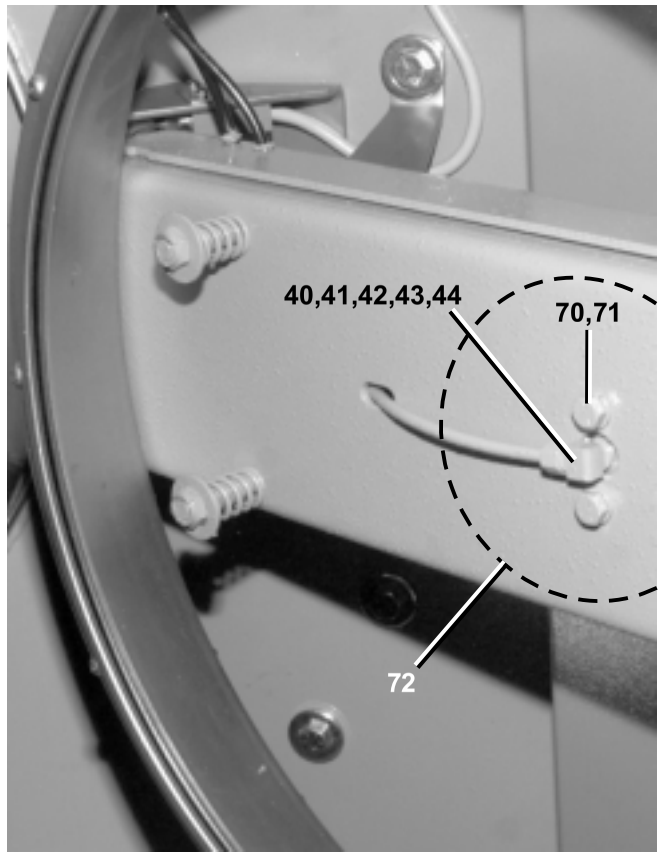
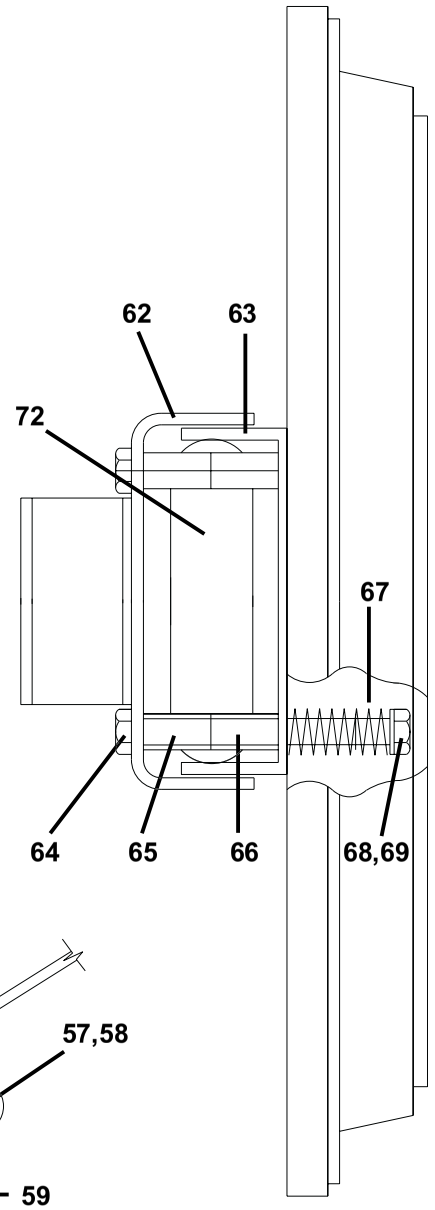
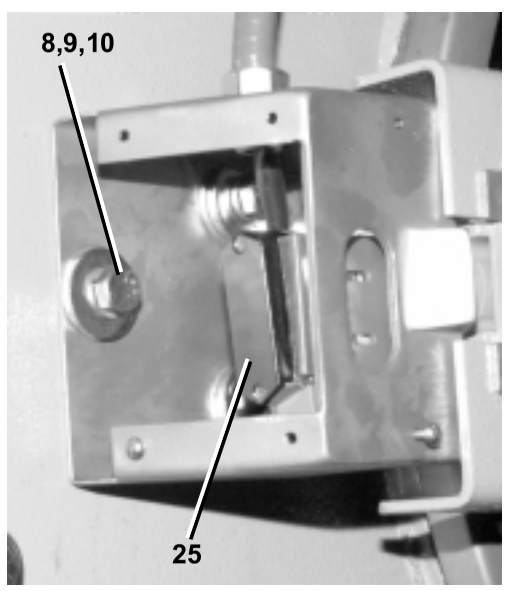
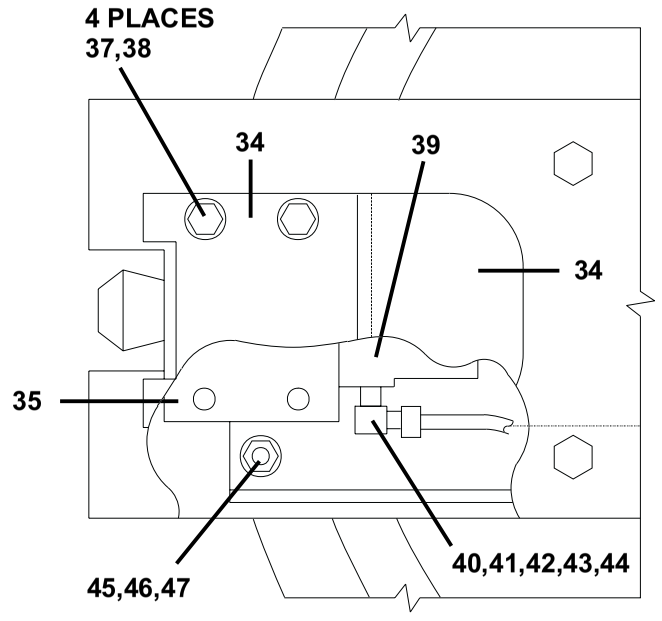


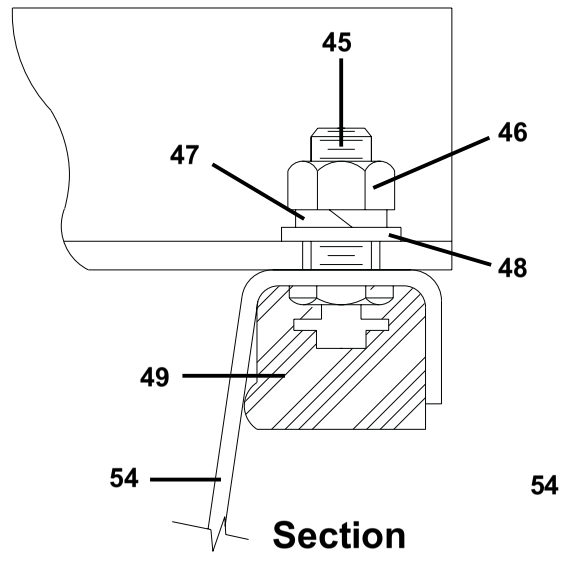




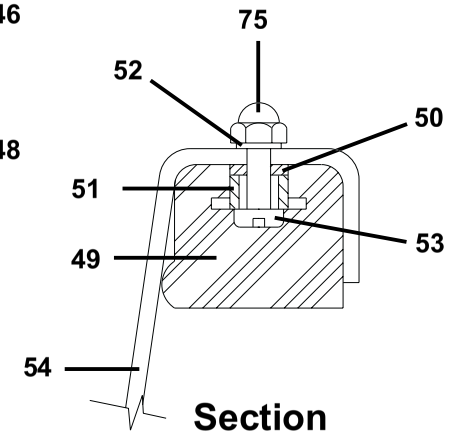




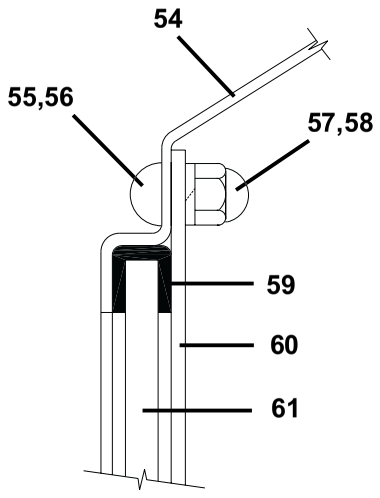




Section
A-A



Section
B-B



Section
C-C

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Parts List—Door Assembly & Installation

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
-----------	-----------	-----------	---ASSEMBLIES---	-----------
	A	GSD4232F	INSTL=SHELL DOOR, 4232F	
	B	ASD48001	*ASSY=SHELL DOOR 4832BHE	
-----------	-----------	-----------	---COMPONENTS---	-----------
all	1	ASD48001	*ASSY=SHELL DOOR 4832BHE	
all	2	W2 21182	WLMT=4232 DOOR STRIKER	
all	3	02 21184	4232 DOOR STRIKER COVER	
all	4	15U135S	FLATWASH#10 .5620DX.203IDX.04+	
all	5	15N117	RDMACSCR 10-24UNC2X3/8SS18-8	
all	6	15U160	LOCKWASHER MEDIUM #10 SS18-8	
all	7	02 21181	4232 DOOR HINGE BRKT	
all	8	15K145D	HXCAPSCR 1/2-13UNC2AX3/4 SS18-	
all	9	15U310	LOKWASHER REGULAR 1/2 SS18-8	
all	10	15U285	FLATWASHER 1/2 STD COMM SS18-8	
all	11	02 11162B	HINGE PIN=20" DOOR-INTNLTHDS	
all	12	15K221	HEXCAPSCR 5/8-11 UNC2X2GR5 ZIN	
all	13	15U315	LOKWASHER MEDIUM 5/8 ZINCPL	
all	14	15G206	HEXNUT 3/8-16 UNC2 SS 18-8	
all	15	15U349	FLAWASH 101NYLON 1.93"ODX1.25I	
all	16	15K122	HEXCAPSCR 3/8-16UNCX2 SS18-8	
all	17	15U243S	FLAWASHER 7/8ODX33/64IDX16GA 1	
all	18	15U245	FLTWASH 3/8 STD COMM 18-8 SS	
all	19	15U260	LOCKWASHER MEDIUM 3/8 SS18-8	
all	20	02 10391A	COVER STRIP=MICRO SW #10	
all	21	09RM01212S	CAPSW 12' 180DEG ROLLER SILVER	
all	22	54JH13125A	HINGE COLLAR SPLIT 3.125ALUM	
all	23	02 11162H	BRKT=4232 DOOR BUMPER	
all	24	60C075	TRUCK BUMPER 2+1/2ODW3/8HO.613	
all	25	09R008BSTD	* 09R008B+MOUNTING HDWRE+INST	
all	26	60E004TE	1/4"OD X.170"ID NYL(BLK)TUBING	
all	27	53A500	SLEEVE DELRIN 1/4"OD#60PT-4	
all	28	53A501	TUBE INSERT .163"OD #63PT-4-40	
all	29	53A509	TUBE INSERT 5/16"OD X .53"LG.	
all	30	02 15016	SHIM=DOOR CHANNEL HINGE 4226	
all	31	15K151	HXCAPSCR 1/2-13UNC24X1.25 GR5	
all	32	15U490	FLAWASH 1+1/2X17/32X1/4ZINC	
all	33	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	
all	34	02 15633A	DOOR LATCH HANDLE 42Q	
all	35	02 15633	ADJPLATE=DOORLATCH CAD	
all	36	02 15633B	DR LATCH ADJ PLATE-16 GA	
all	37	15U260	LOCKWASHER MEDIUM 3/8 SS18-8	
all	38	15K096A	HXCPSCR.3/8-16X1SS18-8.123HD.H	
all	39	SA 15 028	* DOOR LATCH ASSY-DIVCYLS	
all	40	53A500	SLEEVE DELRIN 1/4"OD#60PT-4	
all	41	53A501	TUBE INSERT .163"OD #63PT-4-40	
all	42	53A059A	NUT 1/4"BR.HOLYOKE AND #61A-4	
all	43	53A005B	BODYMALCON1/4X1/8COMP #B68A-4A	
all	44	53A031B	BODY-EL90MALE.25X1/8 #269C-42B	
all	45	15K096A	HXCPSCR.3/8-16X1SS18-8.123HD.H	
all	46	15G205	HXNUT 3/8-16UNC2B ZINC GR2	
all	47	15U260	LOCKWASHER MEDIUM 3/8 SS18-8	
all	48	15U245	FLTWASH 3/8 STD COMM 18-8 SS	
all	49	03 48152	DOOR GASKET RING 26" DOOR	
all	50	03 48157	RETAINER=DOOR GASKET RING	
all	51	27B260156S	SPCRSLD.26ID.375OD.156L 316SS	
all	52	15U120B	LOCKWASHER MEDIUM #8 SS18-8	
all	53	15N091	PANHDMACHSCR 8/32UNC2X1/2 S/S	
all	54	03 48048A	DRAWN SECTION=26"DOOR 4832	
all	55	15K033	BUTSOKCAPSCR 1/4-20X5/8 SS18-8	
all	56	24G020N	ROLLED WASH.252ID NYLTITE 25W	
all	57	15U181	LOCKWASHER MEDIUM 1/4 SS18-8	
all	58	15G140	HXCAPNT 1/4-20 #C250=20 NKLPLT	
all	59	03 48052	GASKET=DR GLASS 26"OPENING48	
all	60	03 48049	RING=DR GLASS RETAINING 4832	
all	61	03 48050	DR GLASS=26"DOOR OPENING 48	
all	62	03 48060	CHANNEL=DOOR OUTER 4832BWE	
all	63	03 48061	CHANNEL=DOOR INNER 4832BWE	
all	64	15K202T	HEXCAPSCR 1/2-13 X 4.75 ZINC	
all	65	27B2400K0N	SPCRROLL.5ID.687L.062T STLZNC	
all	66	27B2400K1P	SPCRROLL.5ID1.75L.062T STLZNC	
all	67	02 18187	SPRING=OUTER DOOR 60WEHU CAD	
all	68	15G234	LOKNUT 1/2-13NC CAD FLXLOC#21F	
all	69	15U280	FL+WASHER(USS STD)1/2 ZNC PL+D	
all	70	15K095	HXCPSCR 3/8-16UNC2AX1 GR5 ZINC	
all	71	15U255	LOCKWASHER MEDIUM 3/8 ZINCPL	
all	72	60B090	AIRMT S-131 1CONV.F#W013587731	
all	73	X2 15016A	DR HINGE MACHINED 7.499 LG	
all	74	12P1AGSB	SNAPBUSH 3/8"MH X 1/4" T=1/8	
all	75	15G095	HXCPNUT 8-32 UNC2 BRASS NKL PL	

Door Latch

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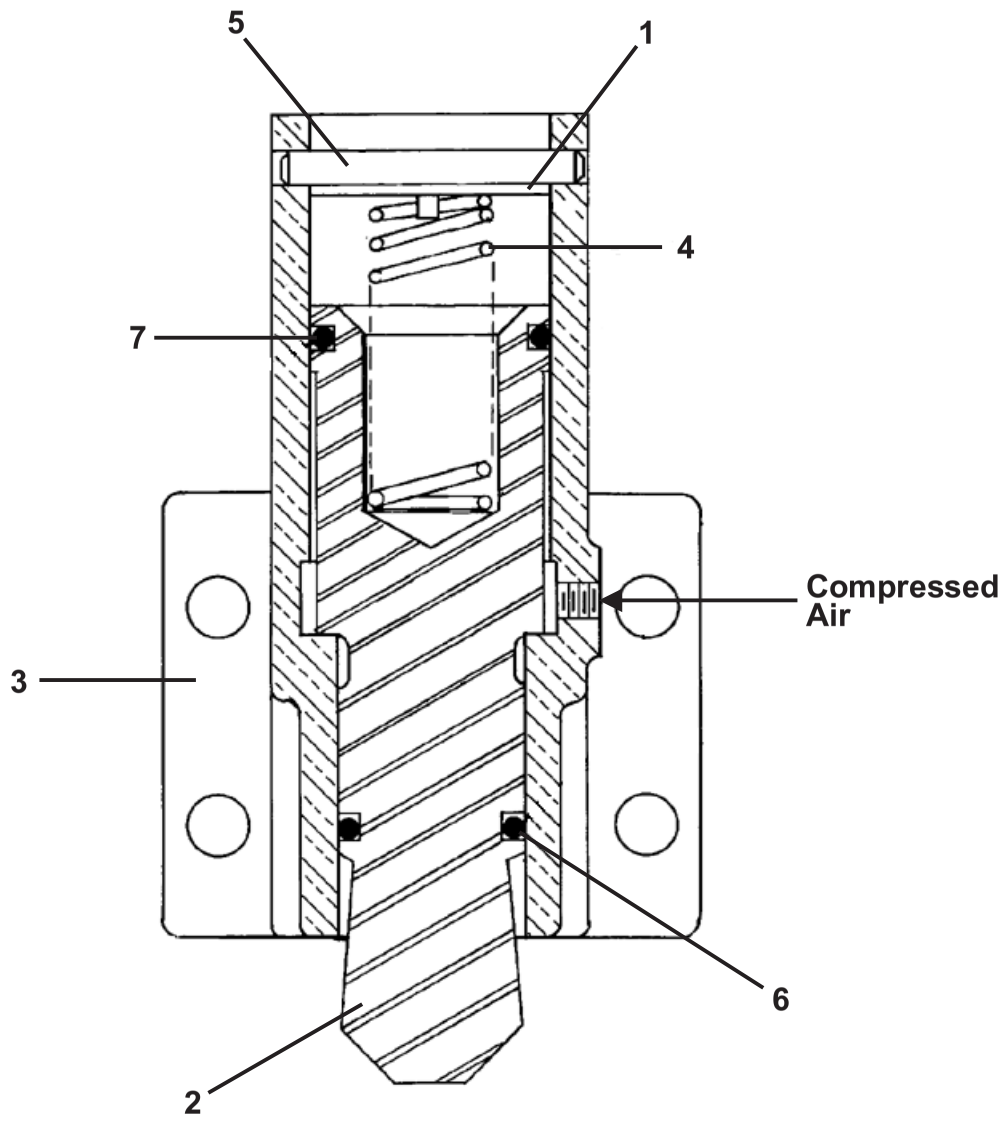

Parts List—Door Latch

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	SA 15 028	70239D* DOOR LATCH ASSY-DIVCYLS	
			----------COMPONENTS----------	
all	1	02 15105	RETAINER LATCHSPRING	
all	2	02 15297	91103B PLUNGER=DOORLOCK(DIVCYL)	
all	3	02 15298	CYLINDER-DOORLATCH INTERLOCK	
all	4	02 15836	68201A DOOR LATCH SPRING (302SS)	
all	5	15H090	01Z SPRNG PIN 1/4X1+7/8 LONG PLAIN	
all	6	60C122	ORING 1" ID 1/8CS BN 70 DURO #214	
all	7	60C128	ORING 1+3/8 ID 1/8CS BN 70DURO #220	

Shellfront Assembly

36030F8J,F8W 36030F8S

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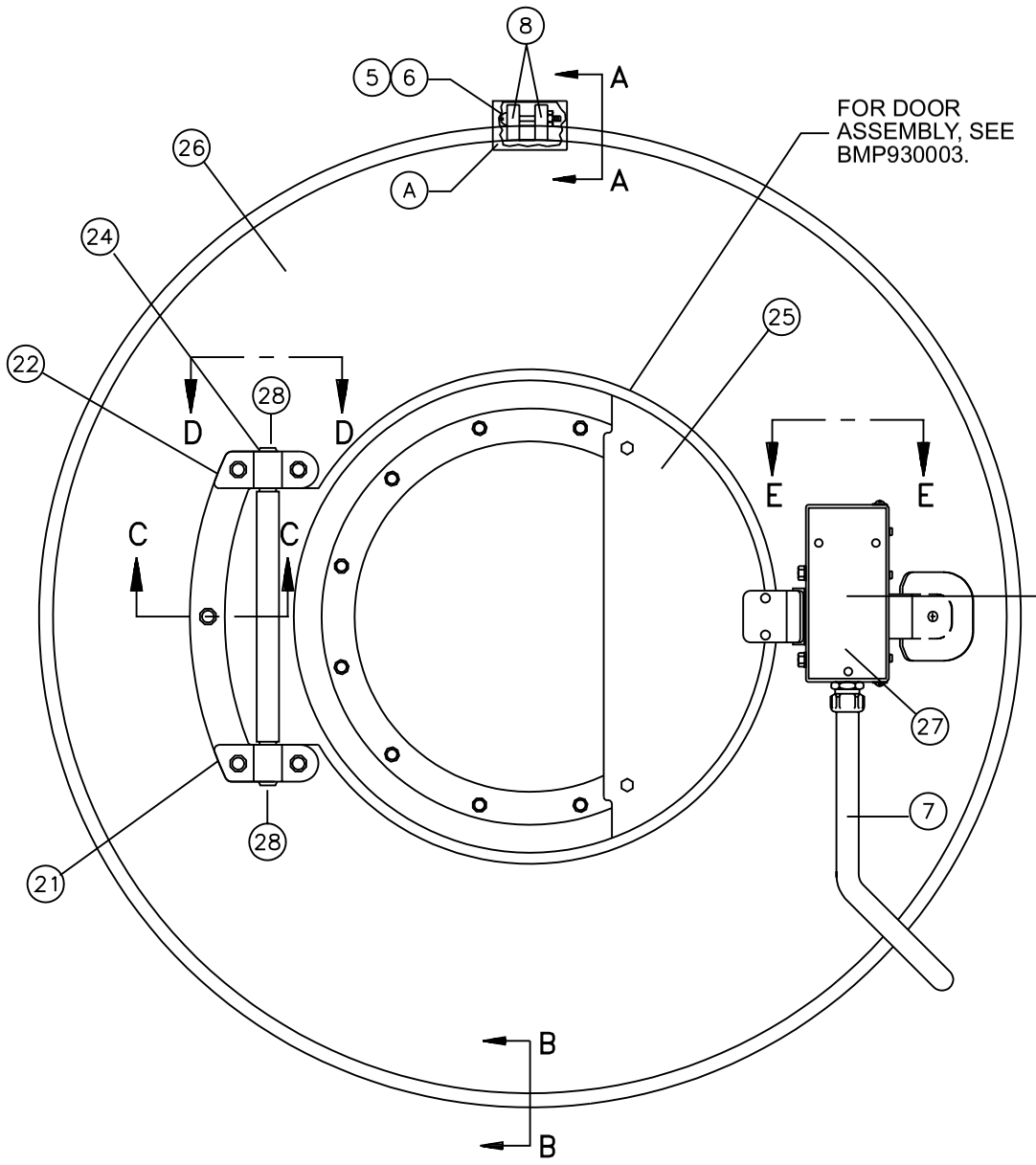
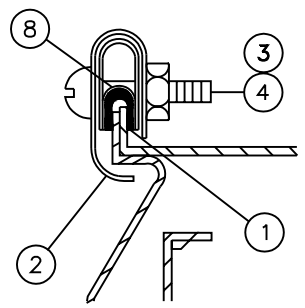
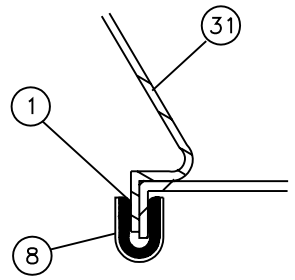
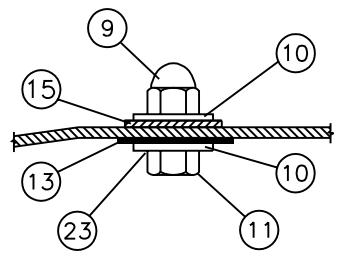




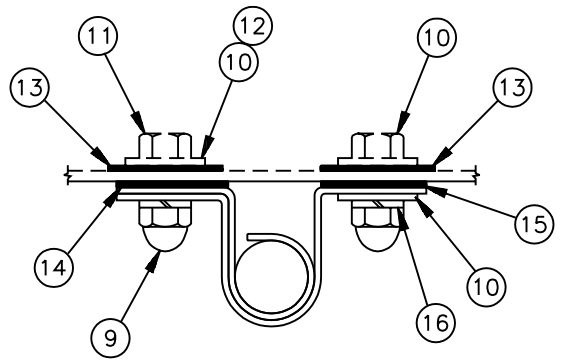
VIEW A-A



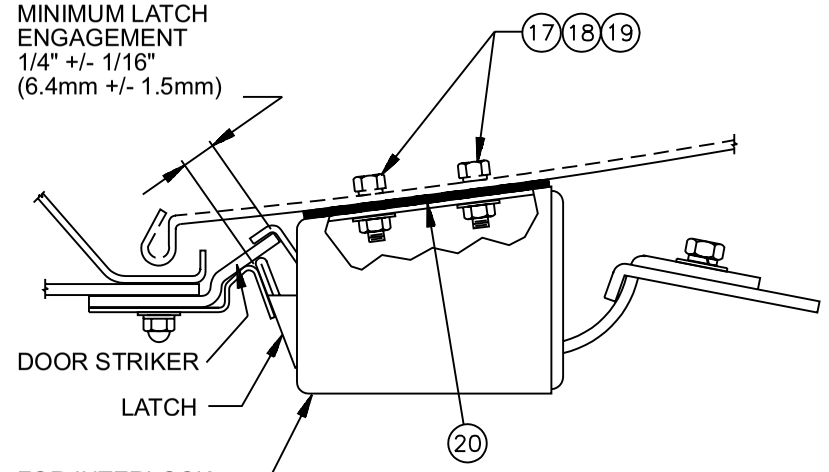
VIEW B-B



SECTION C-C



VIEW D-D



VIEW E-E

ADJUSTMENTS:

1. Adjust door striker so that it touches the latch squarely and evenly.

2. Adjust the latch so that the minimum engagement with the door closed equals 1/4" +/- 1/16" (6.4mm +/_ 1.5mm)

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Litho in U.S.A.

Parts List—Shellfront Assembly

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
----------ASSEMBLIES----------				
	A	GSF35001	97000Z INSTALL=SHELLFRONT 3630	
	B	ASF35001	95000Z ASSY=SHLFRNT 3630F8	
----------COMPONENTS----------				
all	1	02 02087A	50#,75#&60#COMBO EXTRUSION-SHELL	
all	2	02 02181	85332B GUARD=SHELL MOUNT RING CLIP	
all	3	15N146	RDMACHSCR 10-24UNC2X1 SS18-8	
all	4	15G130	HEXMACHSCRNUT 10-24UNC2 SS18-8	
all	5	15K046S	HEXCAPSCR 1/4-20UNC2A X 2.25 SS18-8	
all	6	15G170	HEXNUT 1/4-20UNC2 SS18-8	
all	7	03 C2B32D	97371C CONDUIT:3630 F8 DOOR INLK	
all	8	Y2 09031	SHELL FRONT RING = 36" CYL SHELL	
all	9	15G200	01Z HXCPNUT 3/8-16 UNC2A 5/8X1/2	
all	10	15U245	01Z FLTWASH 3/8 STD COMM 18-8 SS	
all	11	15K086	HXCAPSCR 3/8-16NCX3/4 SS18-8	
all	12	24G030N	ROLLED WASH.379ID NYLTITE 37W	
all	13	02 02293	93402A DOOR HANDLE NUT GASKET	
all	14	03-11054A	SPACER=DOOR HINGE/4226	
all	15	02 11944	90402B DOOR HINGE DOUBLER=SPACER42Q	
all	16	15U238	LOKWAS INTOOTH 3/8" (US STD) 410SS	
all	17	15N174	HXCAPSCR 1/4-20UNC2X5/8SS18-8	
all	18	24G030N	ROLLED WASH.379ID NYLTITE 37W	
all	19	15G168	SQNUT 1/4-20UNC2 SS18-8	
all	20	02 03669	93123A GASKET=INTRLK HOUSING	
all	21	02 09224	91392B DOUBLER=LOWER S/S DOOR HINGE	
all	22	02 09223	91392B DOUBLER=UPPER S/S DOOR HINGE	
all	23	20C007	THDLOCK CMPD-10CC LCT#222-21	
all	24	54E017	FLGBRG3/8X5/8X1.25BRZ FB610-10	
all	25	A13-03500G	ASSY=SHELLDOOR DRAWN, 36XX	
all	26	X2 14195A	89506D SHELLFRONT ALL 36" W/ILOCK	
all	27	EDL00221	96411 INTRLKHSG ASSY=N/LOCK 220V	

Parts List, cont.—Shellfront Assembly

Used In	Item	Part Number	Description	Comments
all	28	12P1AMHP1	HOLEPLUG 5/8" BLACK LPE	
all	29	15P090	TRDCUT-F PHILPANHD 8-32X1/4 S/S410	

Door Assembly

36021/36026/42026Qxx 36021/36026/42026/42030Vxx 36030F8J,F8P,F8W,F8S,F8R 3621C4E

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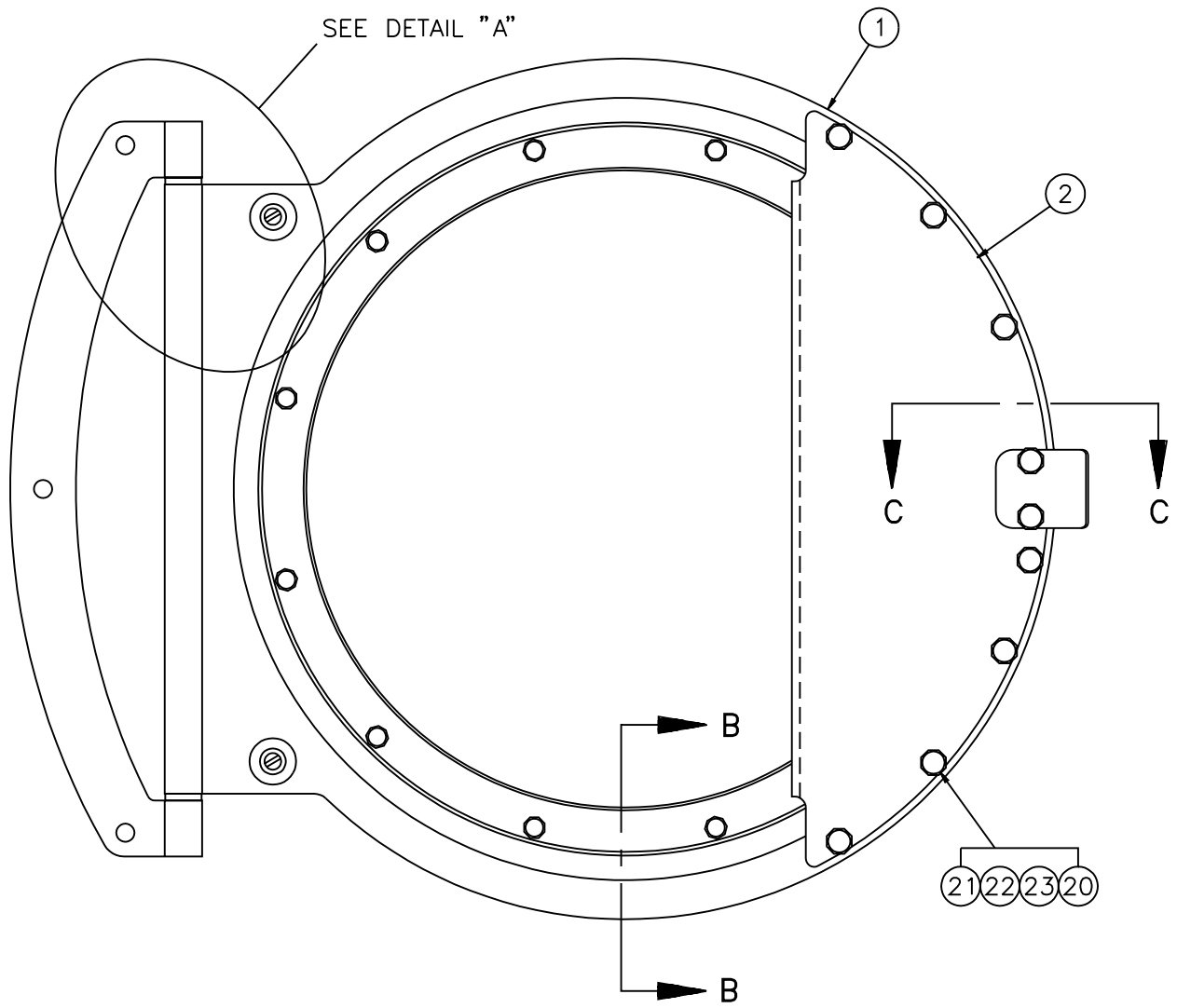
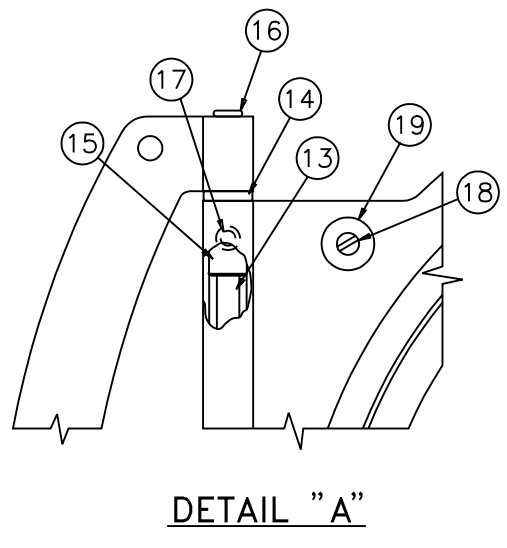
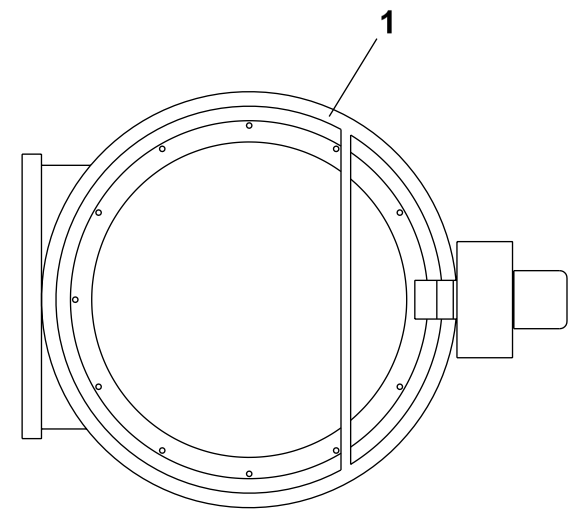
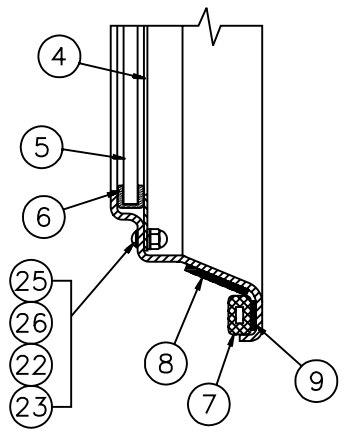




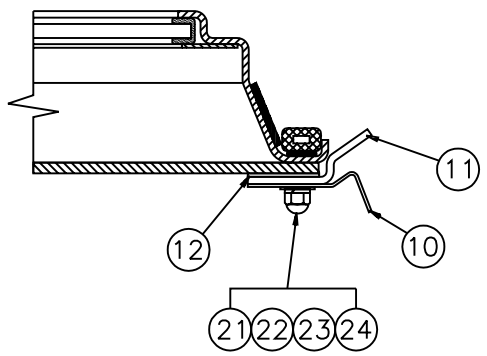
DETAIL "A"



42026Vxx
42030Vxx



SECTION "B–B"



SECTION "C–C"

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Parts List—Door Assembly

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	A13 03500C	* SHELLDOOR ASSY,DRAWN =36QWE	36021,36026QXX,
	B	ASD119001	*DOOR ASSY-DRAWN=4226 RWP	42026QXX
	C	A13 03500G	ASSY=SHELLDOOR DRAWN, 36XX	3621C4E,36030F8 36026VXX
	D	ASD119001B	ASSY=SHELLDOOR W/STIFF, 4226	42026V6J, 42030V6J
			----------COMPONENTS----------	
A	1	X2 09220C	SHELL DOOR DRWN-QWE ILOC	
B	1	W2 11904T	*DOOR WELDMENT=4226 RWP/E	
C	1	X2 09220G	MACH=SHELLDOOR DRAWN, 36XX	
D	1	W2 11904Q	WLMT=SHELLDOOR W/STIFF, 4226	
A	2	02 14857	DOOR HANDLE=3626/3621 RWP	
B	2	02 11904E	DOOR HANDLE=ILOC 4226 RWP	
all	3	02 09221	HINGE=SHELL DOOR 18" DRAWN S	
A,C	4	02 09129	RING=DOOR GLASS PRESS-18"OPG	
B,D	4	02 11904P	RING=GLASS RETAINER-4226RWP	
A,C	5	02 09219	DRGLASS 14+13/16"36W+DRWN DR	
B,D	5	02 12008	DOORGLASS 17"DIA=4226W DOOR	
A,C	6	02 09141	A GASKET-DORGLAS GTR52-5220-1	
B,D	6	02 12054	DOOR GLASS GASKET	
A,C	7	02 14168	SPONGE DOORGASKET=BLACK	
B,D	7	02 11904V	DOOR GASKET 4226RWP MED BLACK	
A,C	8	02 14431	EXTR BAND STAMPED SS CYLDOOR	
B,D	8	02 11904U	BUMPER=CYL DOOR STAMPED42RWP	
B only	9	60A003B	NEO RUBBER STRIP 1/8" X 1" CLS	
A,B	10	03 01423C	LATCH GUARD ILOC 3015-20	
C,D	10	03 01423H	LATCH GUARD = ILOC 3015-20	
A,B	11	03 01420A	DOOR STRIKER=ILOC	
C,D	11	03 01420G	DOOR STRIKER = ILOC	
A,B	12	02 11904K	SHIM=DOOR HANDLE=4226RWP	
C,D	12	02 09263	SHIM=SHELLDOOR LATCH, 36XX	
all	13	02 12144	PIN-HINGE=20+18" DOORS	
all	14	02 02817	FLANGE BRG=DOOR HINGE-NYLON	
all	15	02 02815	PLAIN BRG=DOOR HINGE-NYLON	
all	16	12P1AGHP1	HOLEPLUG 3/8"BLACK LPE	
all	17	15Q077	SOKSETSCR 1/4-20X1/4 ZINC ALLE	

Parts List, cont.—Door Assembly

Used In	Item	Part Number	Description	Comments
A,C	18	15N146	RDMACHSCR 10-24UNC2X1 SS18-8	
A,C	19	60C080	RECESS BUMPER RUBBERLAVELLE #7	
A,C	20	15N176	FLATMACSCR 1/4-20NCX3/4SS18-8	
B	20	15N173A	FLTMACSCR 1/4-20 UNCX5/8 UCUTS	
all	21	15U188	FLTWASH 1/4 STD COMM SS18-8	
all	22	15U181	LOCKWASHER MEDIUM 1/4 SS18-8	
all	23	15G140	HXCAPNT 1/4-20 #C250=20 NKLPLT	
all	24	15N191	FLATMACHSCR 1/4-20X7/8 SS18-8	
all	25	15K031	BUTSOKCAPSCR 1/4-20X1/2 SS18-8	
all	26	24G020N	ROLLED WASH.252ID NYLTITE 25W	

Interlock Assembly

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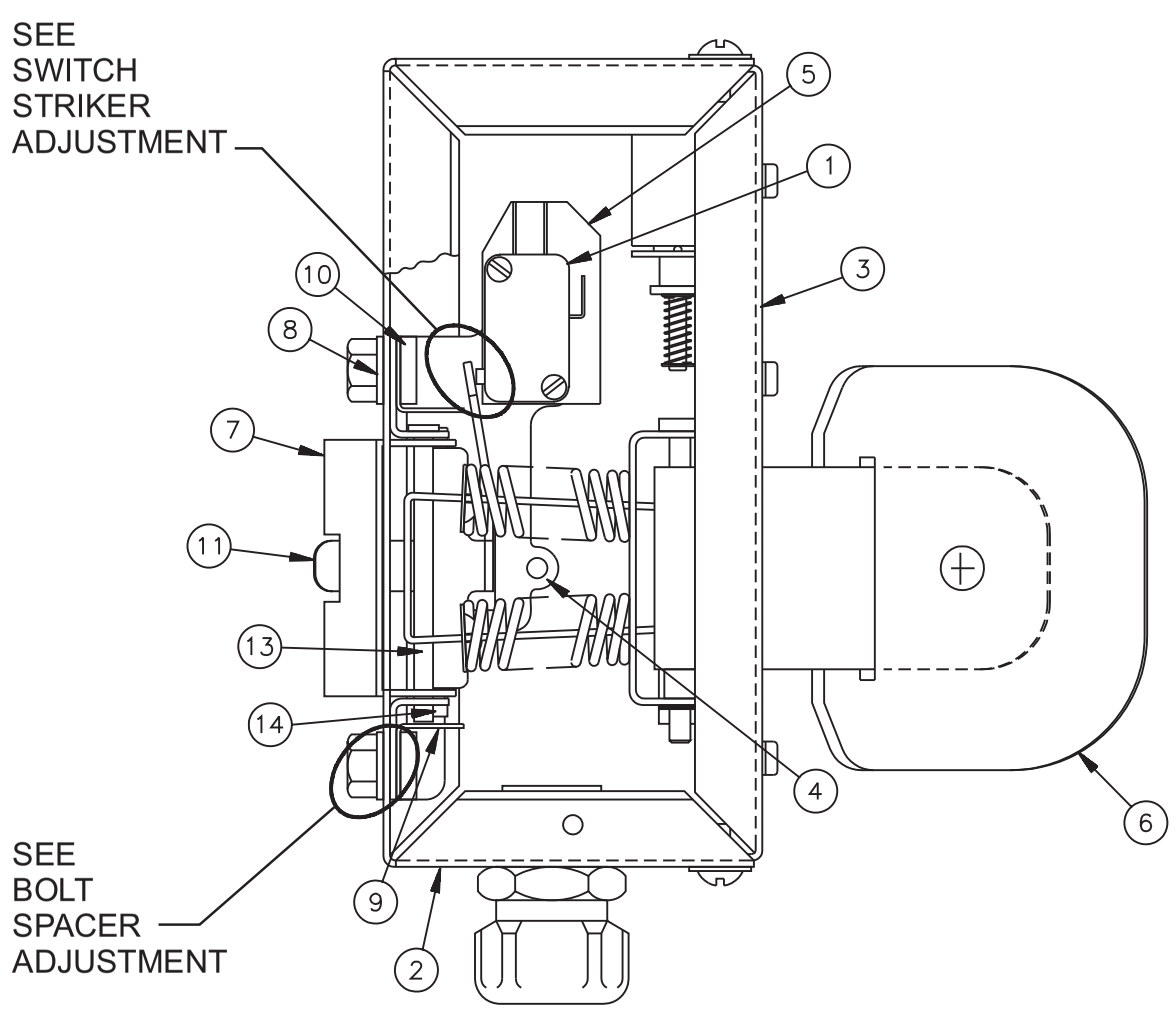
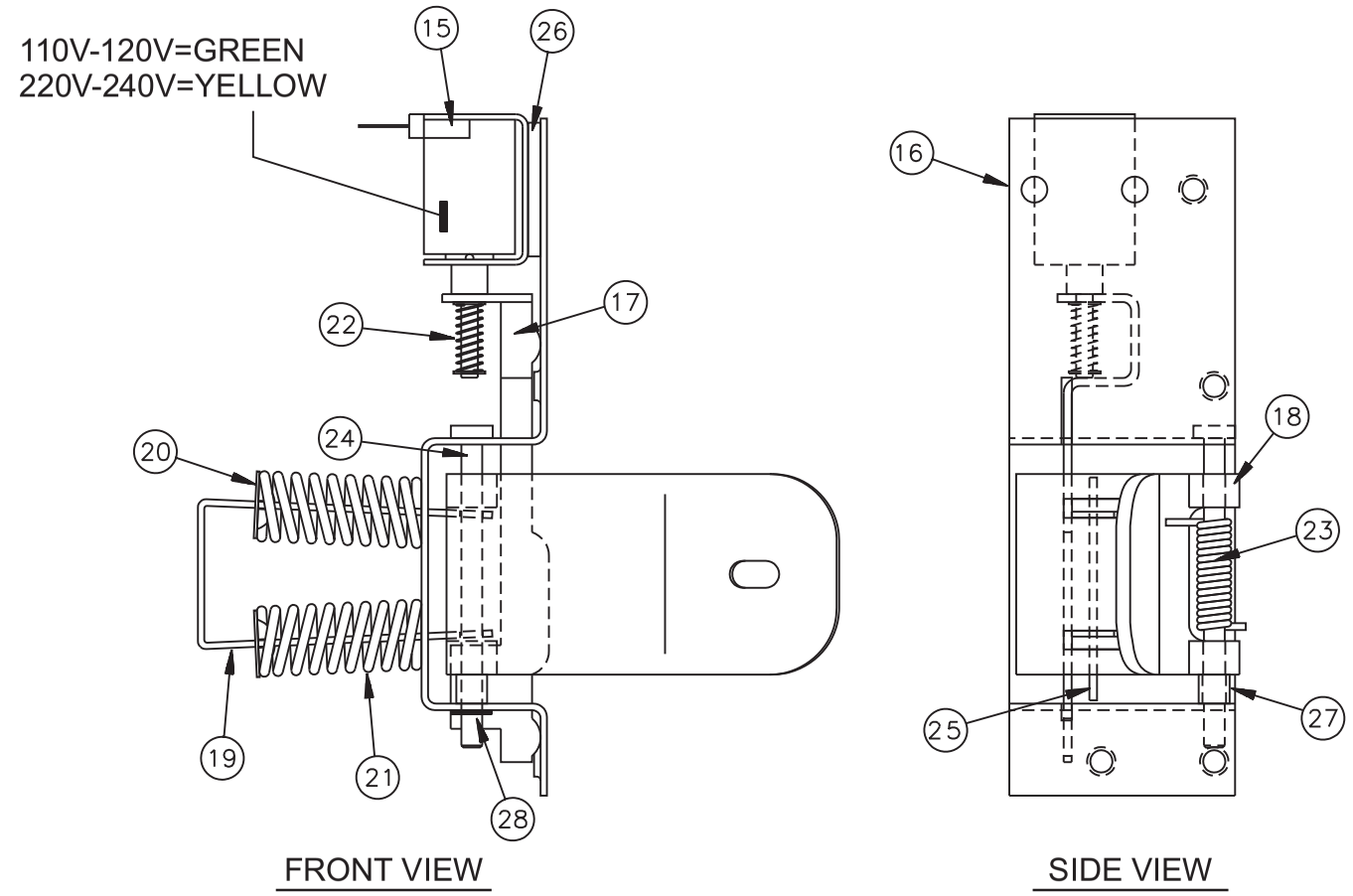
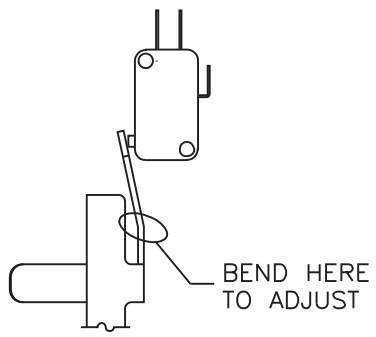




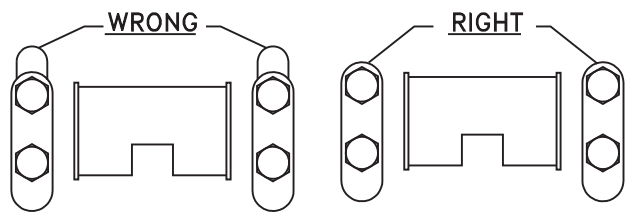
ASSEMBLIES 00AA,00BB,00CC,00DD

SWITCH STRIKER ADJUSTMENT



Adjust the switch striker arm by bending as shown so that :
1) The switch is activated when the door is closed
2) The switch does not actuate when the unlatching lever is fully depressed with the door open
3) The arm does not over travel and hit the switch housing when the door is closed and the switch is actuated.

BOLT SPACER ADJUSTMENT



Bolt Spacer Adjustment
1) On a new machine the slots on the front housing should not show a gap past the bolt spacers.
2) The spacers should be installed with the long side toward the shellfront

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Parts List—Interlock Assembly

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	EDL00171	88093# INTRLKHSG ASSY=N/UNLOCK 240V	**30015V7J,T5J,T5E** 3015/20/22 Mxx,Cxx,Vxx
	AA	EDL00171A	93207@ RR PIVOT PL ASSY=N/UNLOK240V	USED ON 00A (CONTAINS ITEMS 15-28)
	B	EDL00221	96411 INTRLKHSG ASSY=N/LOCK 220V	3022F8J/P/W 3630F8J/P/W/S
	BB	EDL00271A	93207#*RR PIVOT PL ASSY=N/LOCK 220V	USED ON 00B (CONTAINS ITEMS 15-28)
	C	EDL00337	88093#*INTRLKHSG ASSY=N/LOCK 120V	36&42QXX,BWP 3015D4A **36021V6J, 3621V5J, 3626V5J** **36026V7J, 42026V6J** **42030V6J**
	CC	EDL00337A	93207# RR PIVOT PL ASSY=N/LOCK 120V	USED ON 00C (CONTAINS ITEMS 15-28)
	D	EDL00371	94000Z INTERLKHSG=N/LOCK+SWITCH240V	**3022V6J,T5J** 3022S4J,S4G,S5J 3015K4A,S4J,S5G,S5J
	DD	EDL00271A	93207#*RR PIVOT PL ASSY=N/LOCK 220V	USED ON 00D & 00E (CONTAINS ITEMS 15-28)
	E	EDL00271	88093#INTRLKHSG ASSY=N/LOCK 220V	**30022T5E**
			----------COMPONENTS----------	
all	1	09R014A	05ZMIMI-SW SPDT STAKON #V15G1C26K	
all D only	2 2	03 01426 03 01426A	77201D HOUSING=FRONT=ILOC 94186D HOUSING=FRONT= ILOC W/UNLATC	
all D only	3 3	03 01427A 03 01427B	77181C HOUSING=REAR=ILOC (C-7) 94186D HOUSING=REAR=ILOC W/UNLATCH	
all	4	03 01429	75479C PLATE=FNT PIVOT=ILOC	
all	5	03 01335	INSULATOR=AUTOSPOT	
all	6	03 01425A	92683C DOOR HANDLE EXTENSION	
all	7	03 01423	75736B LATCH = INTERLOCK	
all	8	03 01417	75100B PLATE=SPACER=ILOC	
all	9	03 01418B	75194B KEEPER=LATCH PIN/NOTCH	
all	10	03 01418	75100B TAP STRIP=ILOC	

Parts List, cont.—Interlock Assembly

Used In	Item	Part Number	Description	Comments
all	11	03 01424A	90501B STRIKER=SWITCH=LONG TAB	
all	12	03 01442	92697B SOLENOID INSULATION=DR INTRK	(NOT SHOWN)
all	13	03 01443	84251AFLATHDRIVET 5/32X2+5/16 ZINC	
all	14	15H091	01Z STRGHTPIN 5/32"X2.25 LG ZINC	
AA,BB,DD CC	15 15	09K062B71 09K062B37	04Z SOLENOID 240/60--220/50 = ILOC 03Z SOLENOID(C-7)120/60--110/50	
all	16	03 01428A	93207C PLATE=REAR PIVOT=ILOC (C-7)	
AA BB,DD CC	17 17 17	03 01421B 03 01421A 03 01421D	93207B SLIDE=NORMALLY OPEN(C7 SOL) 75736B SLIDE=NORMALLY LOCKED=ILOC 77341B SLIDE=NORMALLY LOCKED(C7-S)	
all	18	03 01425	75479B HANDLE=ILOC	
all	19	03 01422	94256C KEEPER=SPRING=ILOC	
all	20	03 01444A	77503B SPRING CUP = ILOC	
all	21	03 01444	82293ASPRING .51/1.69/46+CADPL	
all	22	03 01445	88481ASPRING .2/.625/.319+CADPL	
all	23	03 01445B	75935B TORQUE SPRING (.53 IN-#)CDPL	
all	24	03 01443	84251AFLATHDRIVET 5/32X2+5/16 ZINC	
all	25	15H090I	STRAIGHT PIN 5/32"DIAX1.75"LG ZINC	
AA only	26	03 S1X1	88172B SHIM:DOOR INTLK SOLENOID N4P	
all B	27 27	27B205080Z 27B205080E	SPCRROLL.177ID.218L.027T STLZC 01ZSPCRROLL.177ID.25L.027TK CSZNC	
BB,CC,DD	28	03 01418C	75736B KEEPER=NORMLOCKED SLIDE=ILOC	

Section 4

Staph-Guard Assemblies

Cylinder & Door Assembly - STAPH-GUARD®

36030F8S, 42032F7S

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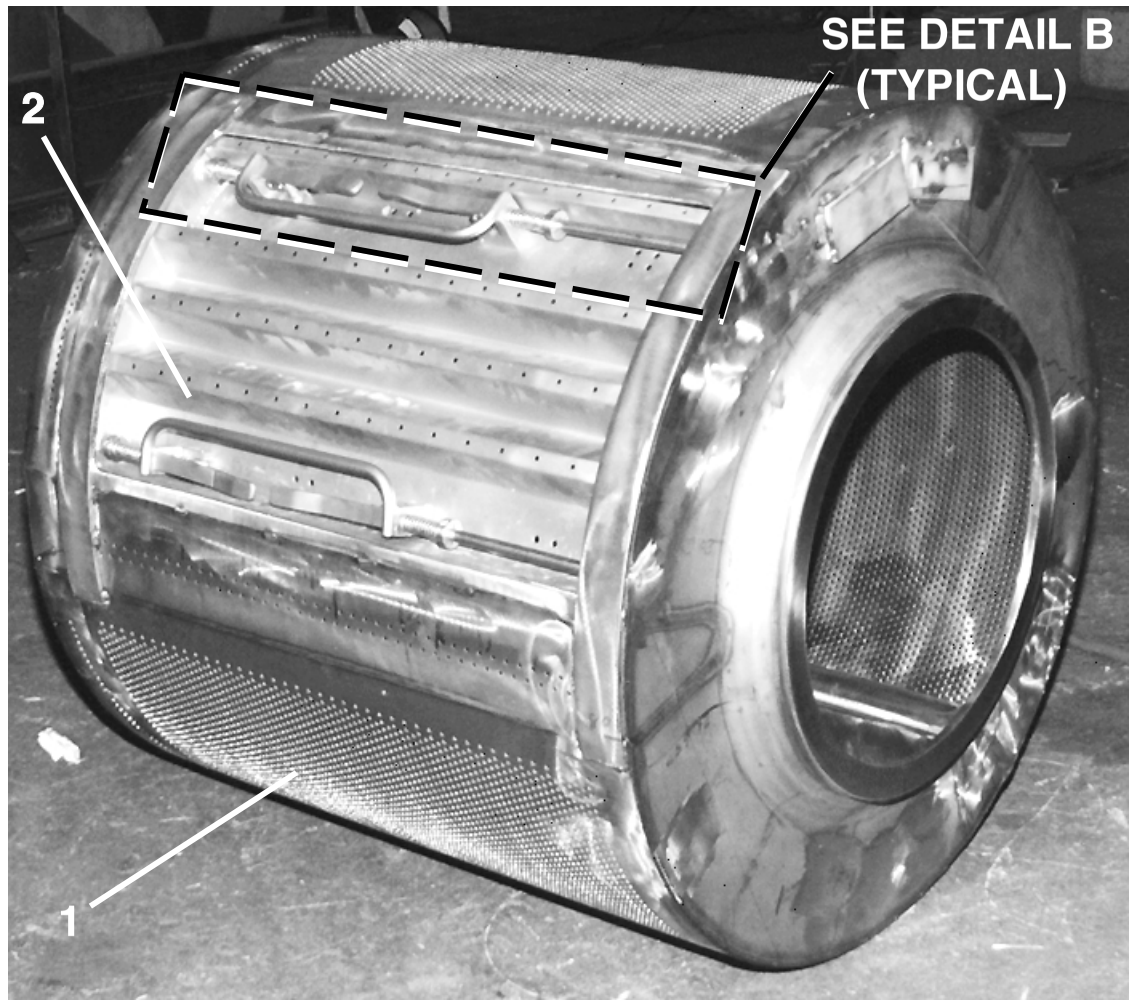
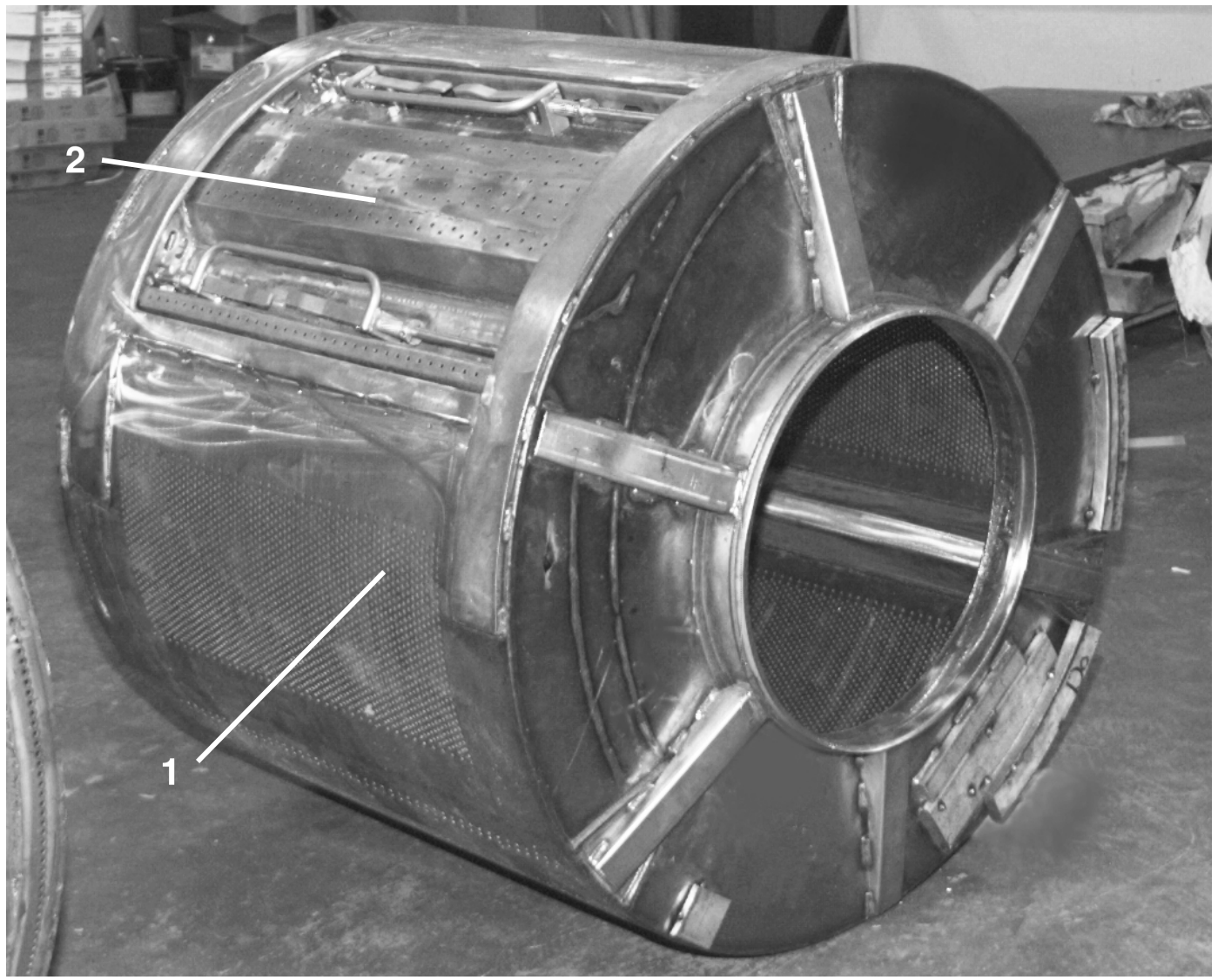
Litho in U.S.A.



36030F8S STAPH-GUARD® CYLINDER



42032F7S STAPH-GUARD® CYLINDER

Cylinder & Door Assembly - STAPH-GUARD®

36030F8S, 42032F7S

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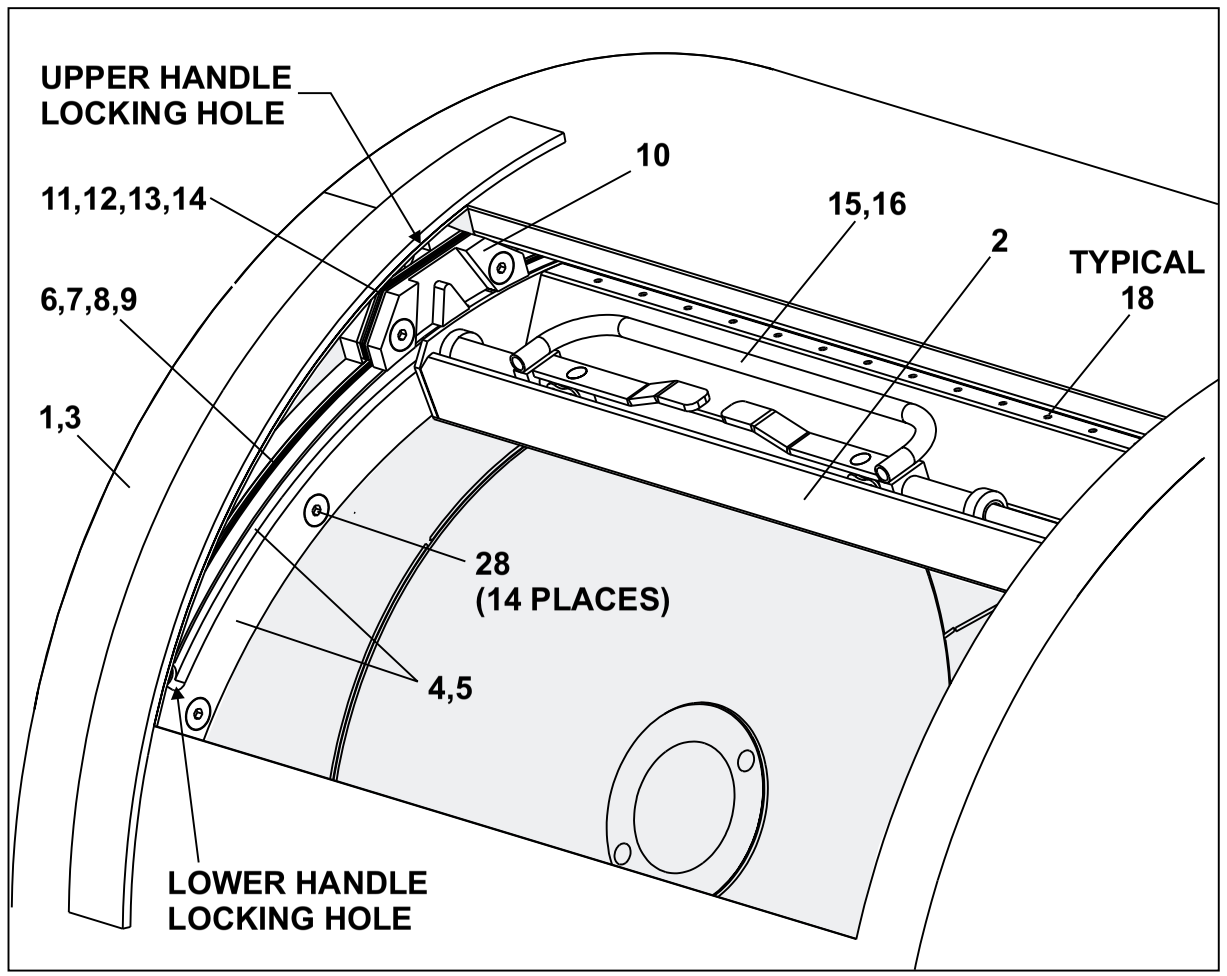
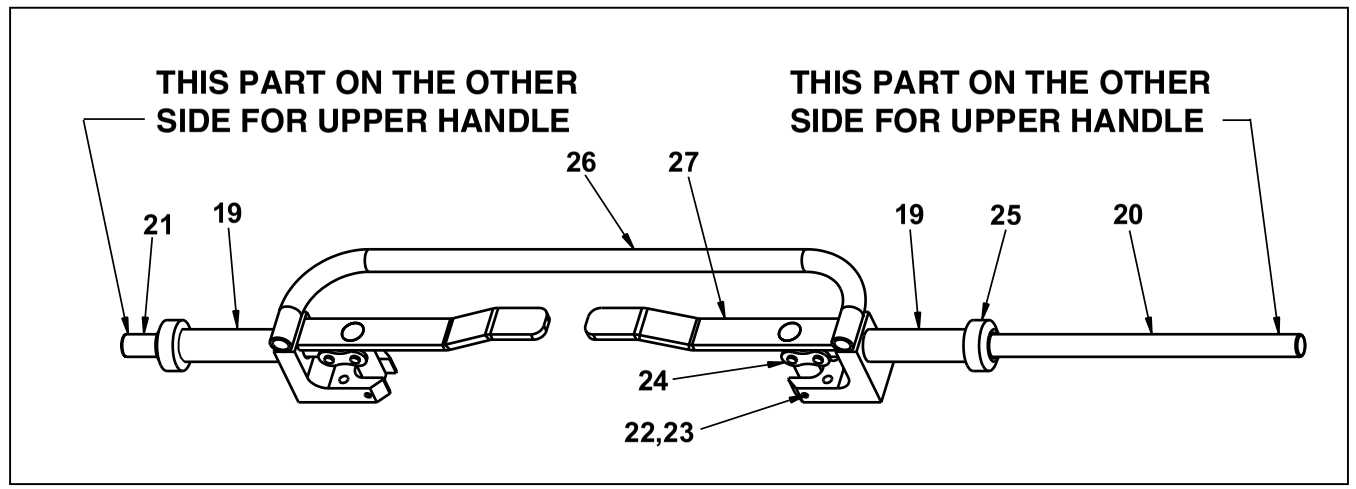
BMP970038/98183V (2 of 3)

Litho in U.S.A.



DETAIL A - CYLINDER INNER TRACK & DOOR



DETAIL B - DOOR HANDLES (TYPICAL)

Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400

Litho in U.S.A.

Parts List—Cylinder & Door Assembly - STAPH-GUARD®

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	ZLWACYLS0A	3630STAPHGUARD-LEFT CYLINDER	REFERENCE ONLY
	B	ACA3630SGL	97000Z ASSY=CYLINDER-LEFT, 3630SG	
	C	A33 21605L	97000Z ASSY=CYLINDER DR-LEFT,3630SG	
	D	ZMWACYLS0A	4232STAPHGUARD-LEFT CYLINDER	REFERENCE ONLY
	E	ACA4232SGL	98000Z ASSY=CYLINDER-LEFT, 4232SG	
	F	A33 21680L	97000Z ASSY=CYLINDER DR-LEFT,4232SG	
			----------COMPONENTS----------	
A	1A	ACA3630SGL	97000Z ASSY=CYLINDER-LEFT, 3630SG	
A	1B	ACA4232SGL	98000Z ASSY=CYLINDER-LEFT, 4232SG	
A	2A	A33 21605L	97000Z ASSY=CYLINDER DR-LEFT, 3630SG	
A	2B	A33 21680L	97000Z ASSY=CYLINDER DR-LEFT, 4232SG	
B	3A	W2 21614L	97000Z WLMT=CYL-LEFT, 3630SG	
B	3B	W2 21696L	97000Z WLMT=CYL-LEFT, 4232SG	
B	4A	X2 21602A	97336B CYL DOOR SLOT RAIL-A, 3630SG	
ALL	4B	X2 21691A	98000Z CYL DOOR SLOT RAIL-A, 4232SG	
B	5A	X2 21602B	97336# CYL DOOR SLOT RAIL-B, 3630SG	
ALL	5B	X2 21691B	98000Z CYL DOOR SLOT RAIL-B,4232SG	
all	6A	02 21603A	97336B CYL DR RAIL SHIM 11GA,3630SG	
ALL	6B	02 21692A	98000Z CYL DR RAIL SHIM 11GA,4232SG	
all	7A	02 21603B	97336# CYL DR RAIL SHIM 14GA,3630SG	
ALL	7B	02 21692B	98000Z CYL DR RAIL SHIM 14GA,4232SG	
all	8A	02 21603C	97336# CYL DR RAIL SHIM 16GA,3630SG	
ALL	8B	02 21692C	98000Z CYL DR RAIL SHIM 16GA,4232SG	
all	9A	02 21603D	97336# CYL DR RAIL SHIM 18GA,3630SG	
ALL	9B	02 21692D	98000Z CYL DR RAIL SHIM 18GA,4232SG	
all	10A	X2 21662	97347B CYL SLOT RAIL EXTN, 3630SG	
ALL	10B	X2 21694	98000Z CYL SLOT RAIL EXTN, 4232SG	
all	11A	02 21663A	97346B CYL DR EXTN SHIM 11GA,3630SG	
ALL	11B	02 21695A	98000Z CYL DR EXTN SHIM 11GA,4232SG	
all	12A	02 21663B	97346# CYL DR EXTN SHIM 14GA,3630SG	
ALL	12B	02 21695B	98000Z CYL DR EXTN SHIM 14GA,4232SG	
all	13A	02 21663C	97346# CYL DR EXTN SHIM 16GA,3630SG	
ALL	13B	02 21695C	98000Z CYL DR EXTN SHIM 16GA,4232SG	
all	14A	02 21663D	97346# CYL DR EXTN SHIM 18GA,3630SG	
ALL	14B	02 21695D	98000Z CYL DR EXTN SHIM 18GA,4232SG	
C	15A	A33 21610L	97337B ASSY=CYL DR HANDLE-L, 3630SG	LOWER HANDLE
C	15B	A33 21689L	98147B ASSY=CYL DR HANDLE-L, 4232SG	LOWER HANDLE
C	16A	A33 21610R	97337# ASSY=CYL DR HANDLE-R, 3630SG	UPPER HANDLE
C	16B	A33 21689R	98147# ASSY=CYL DR HANDLE-R, 4232SG	UPPER HANDLE
all	17A	W2 21605	97000Z WELDMT=CYL DOOR, 3630SG	
ALL	17B	W2 21680L	98000Z WLMT=CYL DOOR-LEFT, 4232SG	
all	18	15K040A	BUTSOKCAPSCR 1/4-20X3/4 SS18-8	
all	19	02 21638	97293B SPRING=CYL DOOR, 3630SG	PART OF 15A-B, 16A-B
all	20A	02 21612A	97293B CYL DOOR LONG PIN, 3630SG	PART OF 15A, 16A
ALL	20B	02 21612E	98143# CYL DOOR LONG PIN, 4232SG	PART OF 15B, 16B
all	21A	02 21612B	97293# CYL DOOR SHORT PIN, 3630SG	PART OF 15A, 16A
ALL	21B	02 21612G	98143# CYL DOOR SHORT PIN, 4232SG	PART OF 15B, 16B
all	22	15H019	STDCOTTERPIN 1/16X1/2 SS18-8	PART OF 15A-B, 16A-B
ALL	23	17A006	CLEVIS PIN 1/4X1.25 SS	PART OF 15A-B, 16A-B
all	24	54G050SS	01ZCONN LINK ANSI 50SS SPRINGCLIP	PART OF 15A-B, 16A-B
all	25	54JH10500S	SHFTCOLLAR 1PC SPLIT .5" SS	PART OF 15A-B, 16A-B
all	26	W2 21610	97337B WELDMT=CYL DR HANDLE, 3630SG	PART OF 15A-B, 16A-B
all	27	W2 21616	97313B WLMT=CYL DOOR LEVER, 3630SG	PART OF 15A-B, 16A-B
ALL	28	15K086F	SOKCAPSCR FLT HD 3/8-16 X 1" 18-8SS	

Staph-Guard® Load Door

36030F8S, 42032F7S

BMP970047/98183V
(Sheet 1 of 2)

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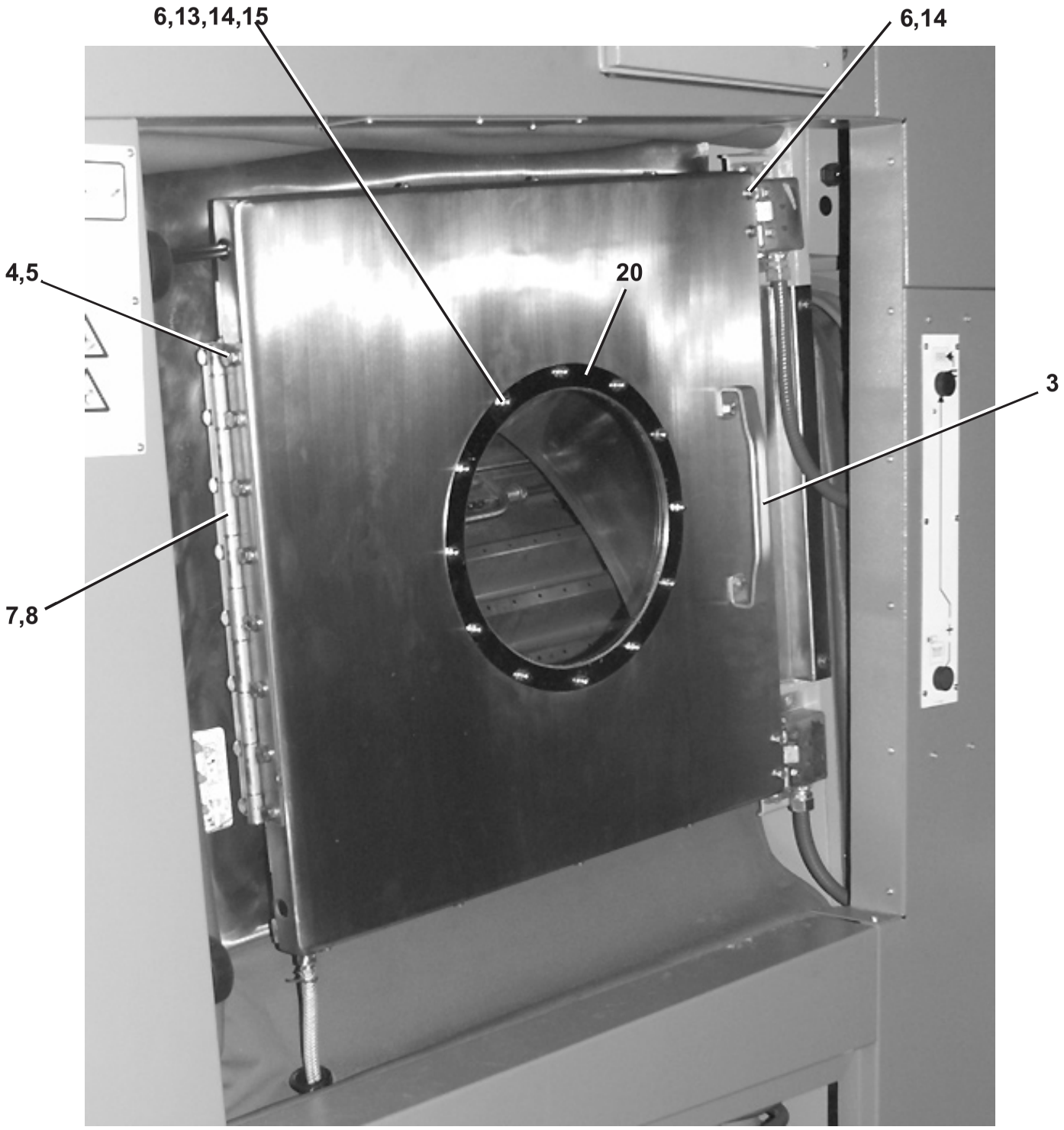
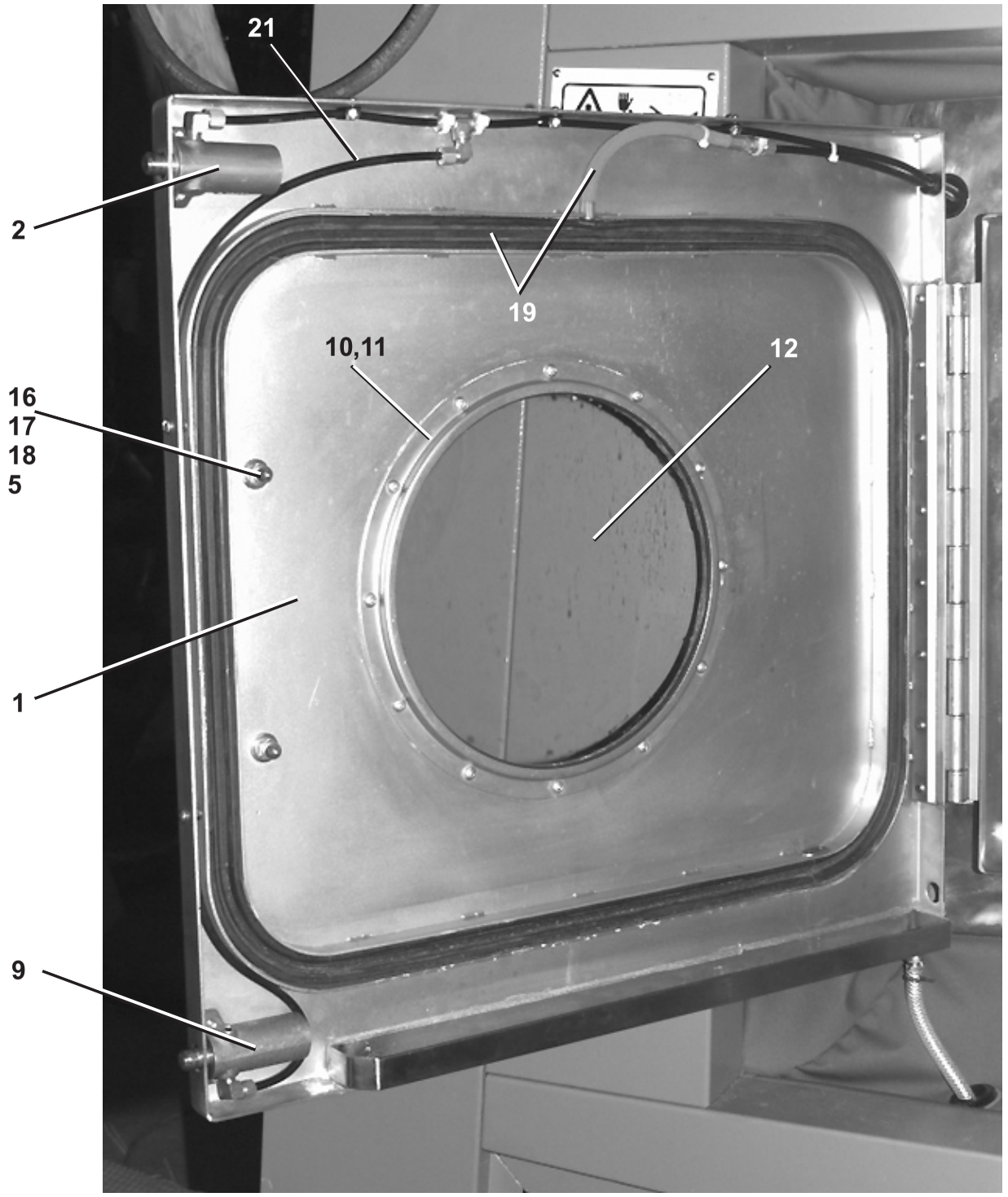
BMP970047/98183V (1 of 2)

Litho in U.S.A.





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Litho in U.S.A.

Parts List—Staph-Guard® Load Door

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	A33 21625L	97516NASSY=CHUTE DOOR-L, 3630SG	36030F8S,42032F7S
			----------COMPONENTS----------	
all	1	W2 21625L	97361D*WLMT=CHUTE DR-LEFT, 3630SG	
all	2	SA 10 020	90516B* DOORLATCH ASSY-SMALL	SEE BMP701316
all	3	02 175037	92452C HANDLE=SHELDOR=WED-SS	
all	4	15K083S	HXCAPSCR 3/8-16NCX1/2 SS18-8	
all	5	15U260	LOCKWASHER MEDIUM 3/8 SS18-8	
all	6	15K031A	BUTSOKLOKCAPSCR 1/4-20X1/2 188	
all	7	02 18855	94277B HALFHINGE=60"WED CYLDOR RITE	
all	8	02 18864	70120A PIN=LG CYL DOOR HINGE	
all	9	SA 10 020A	90516# ASSY=DR LATCH-SMALL W/TAP LF	SEE BMP701316
all	10	07 50057A	97327# RING=SIGHGLASS LOAD DR MOD	
all	11	02 02366A	92601B GASKET DOORGLASS = DRYER	
all	12	02 09215	83096A DRGLASS 12 3/8DIA SS STAMPED	
all	13	24G020N	ROLLED WASH.252ID NYLTITE 25W	
all	14	15U181	LOCKWASHER MEDIUM 1/4 SS18-8	
all	15	15G140S	HEXCAPNUT(ACORN) 1/4-20 SS 18-8	
all	16	15K083V	BUTSOKCAPSCR 3/8-16X3/4 SS18-8	
all	17	24G030N	ROLLED WASH.379ID NYLTITE 37W	
all	18	15G200SS	HEXCAPNUT HIGH-CR 3/8-16 SS 18-8	
all	19	02 21672	97369B CHUTE DOOR SEAL, 3630SG	
all	20	02 09021	79436A RING=DOOR GLASS PRESSURE	
all	21	60E004TE	04Z 1/4"OD X.170"ID NYL TUBING *	

Door Latch Assembly

36030F8S 42032F7S 52038WTL 60044WP2 72044DA1,WP2

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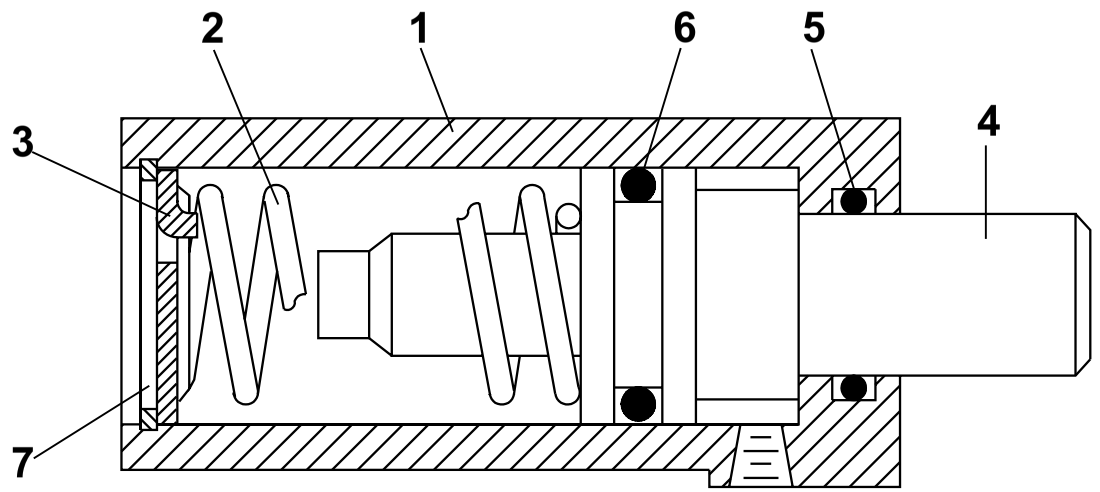

Parts List—Door Latch Assembly

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	SA 10 020	90516B* DOORLATCH ASSY-SMALL	
			----------COMPONENTS----------	
all	1A	02 10188	CYLINDER-DOORLATCH	
all	1B	02 10188L	97087# CYL=DR LATCH W/TAP LEFT SIDE	
all	2	02 10222	82391B SPRING=DOOR LATCH=BALCOM	
all	3	02 10221	RETAINER-DOORLATCH SPRING	
all	4	Y2 10314	70256B* PLUNGER=DOOR INTERLOCK	
all	5	60C112	ORING 5/8 ID 3/32CS BN 70 DURO #114	
all	6	60C115	ORING 3/4 ID 1/8CS BN70 DURO #210	
all	7	17B014	INTRETRING IND#3000-X100-ST-ZD ZINC	

Staphguard Door Interlock Switch

3630F8R,F8S 4232F7R, F7S

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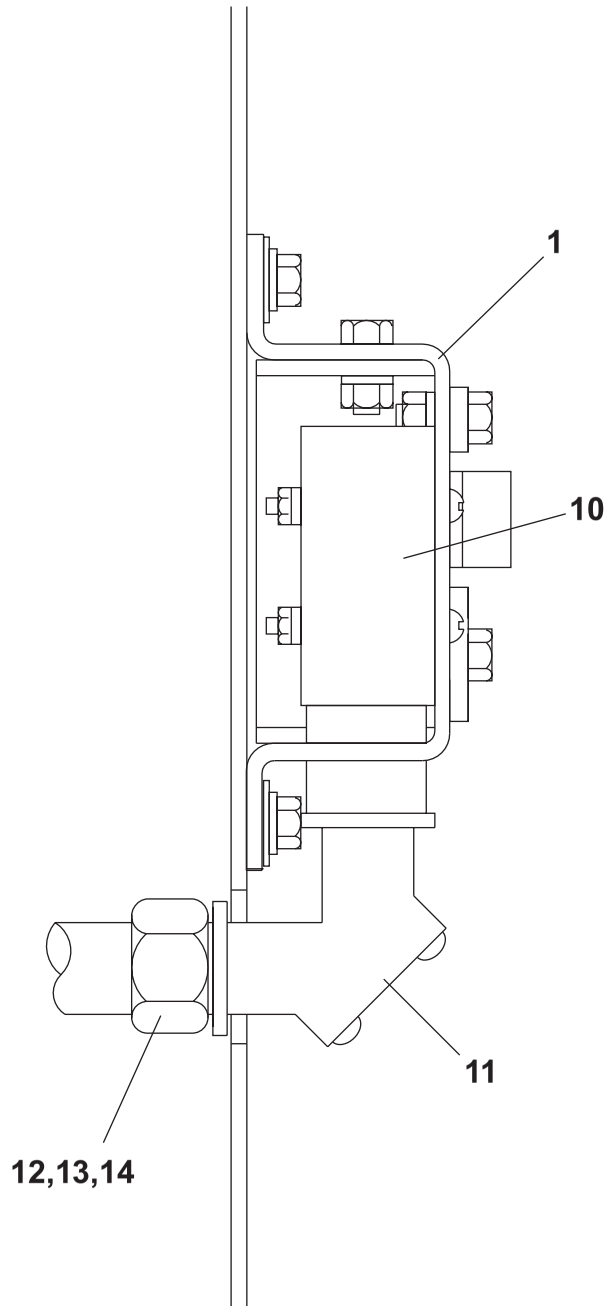

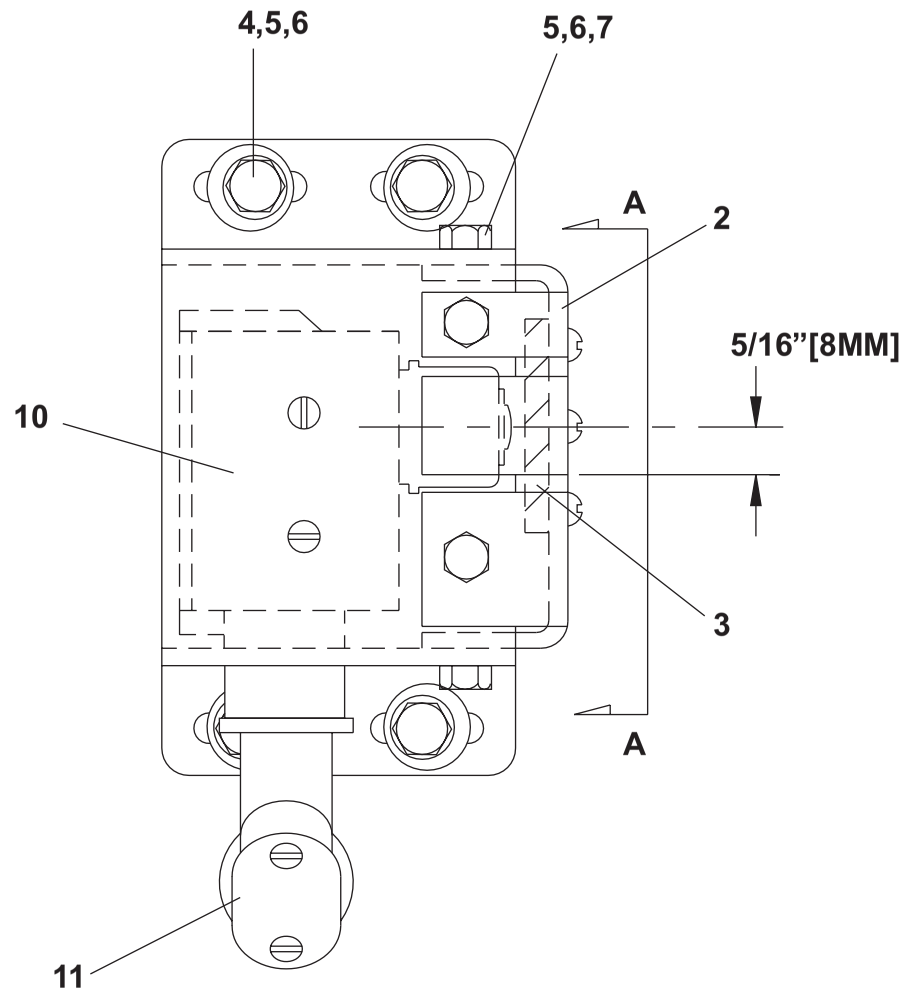

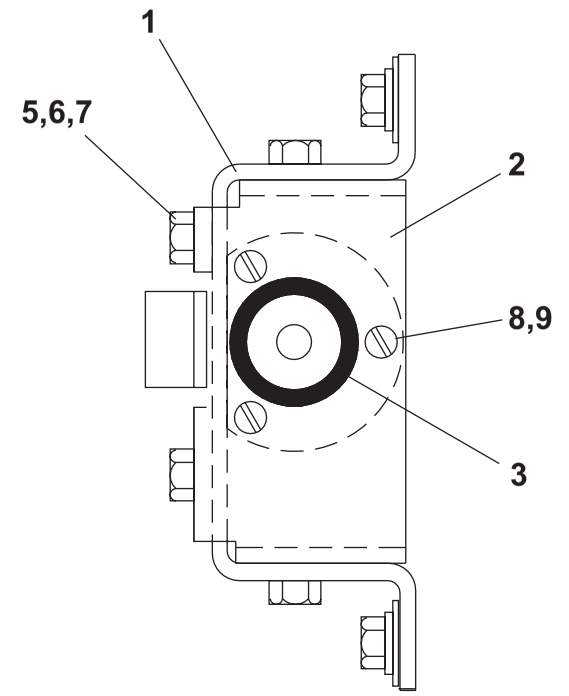

VIEW A-A

Upper switch assembly is shown.
Lower switch assembly is opposite.
See parts list.

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Parts List—Staphguard Door Interlock

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	10CV42SDST	MK5 MIC 4232F7S DOOR SW	
			----------COMPONENTS----------	
A	1	02-18952	BRACKET=DOOR 60 WED	UPPER
B	1	02 18979	BRACKET=DORSW-RT-WED	LOWER
A	2	02 18953	STRIKER-DORSW=60" WED	UPPER
B	2	02-18978	STRIKER-DORSW RT-WED-SS	LOWER
all	3	X3 11630	MACH=BUSHING-PLUNGER	
all	4	15K039	HXCAPSCR 1/4-20UNC2AX3/4 GR5 Z	
all	5	15U180	LOCKWASHER MEDIUM 1/4 ZINCPL	
all	6	15U185	FLATWASHER(USS STD) 1/4" ZNC P	
all	7	15K030	HEXCAPSCR 1/4-20UNC2X1/2 GR5 Z	
all	8	15N092A	SLPANHDMACSCR 8-32UNC2AX1/2 ZC	
all	9	15G164	HX THIN LOCKNUT NYL1/4-20 SS	
all	10	09R012STDG	09R012 +MOUNTING HDWRE+INST	
all	11	12K054	1/2"HDY CORNER ELBOW PECO #670	
all	12	12M041	3/8" X STR. SEALTITE CONN.	
all	13	12C0375FN	3/8" FLX NON-METAL CONDUIT	
all	14	12C037FNS	3/8"XSTR NON-METAL SEALTITE	

StaphAIRTROL®
36030F8S, 42032F7S

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BMP970041/98183V (1 of 2)

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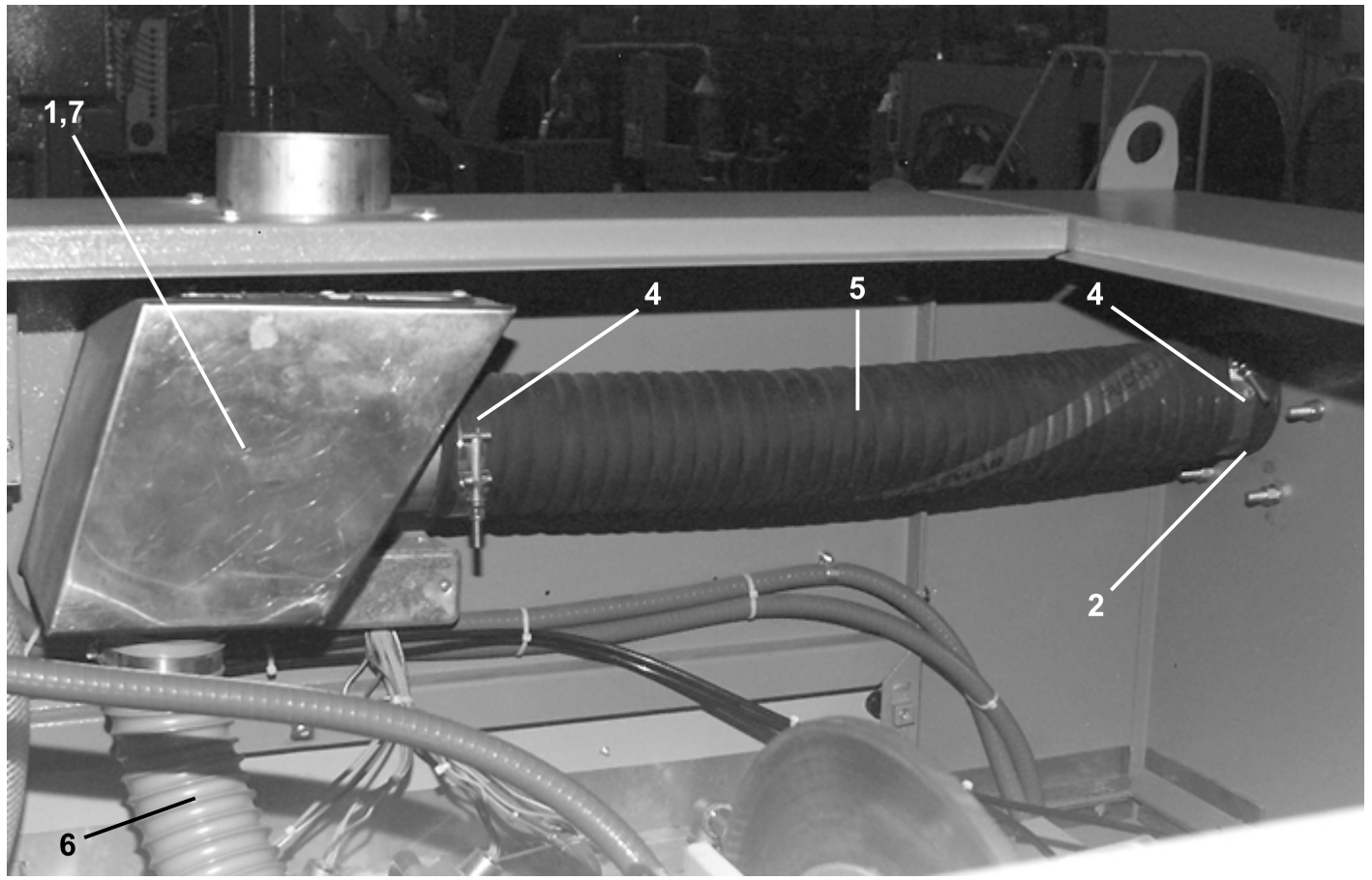

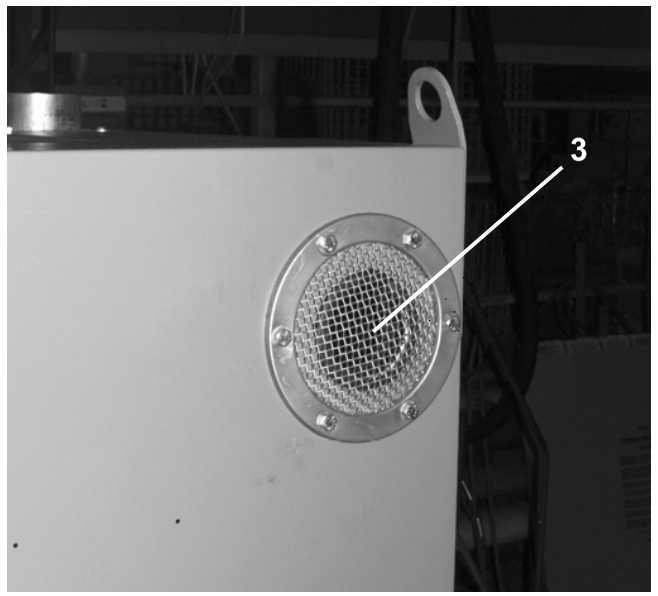

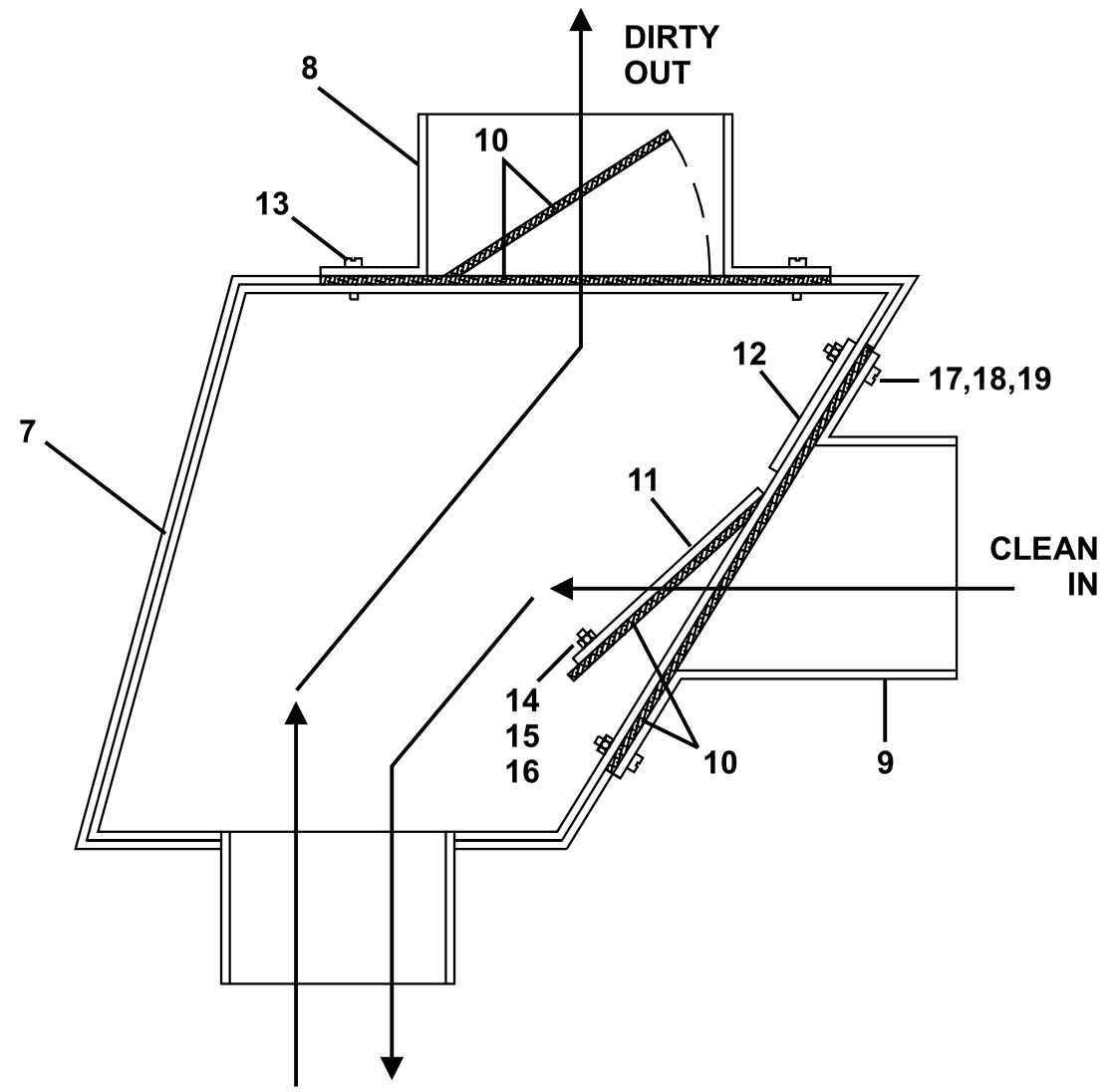

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Parts List—StaphAIRTROL®

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	GVA35001S	97000Z INSTL=AIRTROL STAPH 4" 3630S8	FOR REFERENCE ONLY
	B	AVA35001S	97000Z ASSY=AIRTROL STAPH 4" 3630S8	
	C	GVA42001S	98166N INSTL=AIRTROL STAPH 4" 4232S	FOR REFERENCE ONLY
	D	AVA42001S	98166N ASSY=AIRTROL STAPH 4" 4232S	
			----------COMPONENTS----------	
A	1A	AVA35001S	97000Z ASSY=AIRTROL STAPH 4" 3630S8	36038F8S ONLY
C	1B	AVA42001S	98166N ASSY=AIRTROL STAPH 4" 4232S	42032F7S ONLY
all	2	W2 15787	93411# TUBE 3+1/2X1+1/2-SQEND-WELD	
all	3	W2 15892A	97297C WLMT, AIRTROL INSCREEN=42SGU	
all	4	27A084	HOSECLAMP 3+9/16-4.5CADSC#HS64	
all	5	60E306	06ZHOS E3.5"WATER CORRUGATED (V50)	
all	6	60E325	01Z HO SE DUCT-VINYL 3" #36051	
B	7A	W2 15842A	97000Z WLMT=AIRTROL BODY 3630S8	36030F8S ONLY
D	7B	W2 15842B	98000Z WLMT=AIRTROL BODY 4232S	42032F7S ONLY
all	8	W2 15843A	97000ZWLMT=AIRTROL EXHAUST 3630F8	
all	9	W2 15844	93303B* WLMT,AIRTROL INTAKE=42SGU	
all	10	02 15386	69056B FLAPPER-AIRTROL 7.5X6=42SGH	
all	11	02 15837	72024B PLATE=AIRTROL FLAPPER	
all	12	02 15862	72024A PLATE-BACKUP AIRTROL 42SGH	
all	13	15P010	12Z PHILPAN TRDCUTSCRTYP10-24X1/2SS	
all	14	15N050	RDMACSCR 6-32UNC2X1/2 SS18-8	
all	15	15G071	HXLOKNUT 6-32UNC3B ESNA#22NM-62 G2	
all	16	15U060	01Z FLAT WASHER#6 ANSI TYPEB BRASS	
all	17	15U160	LOCKWASHER MEDIUM #10 SS18-8	
all	18	15P050	11Z PHDCUT-F PANHD 10-24X3/4 SS410	
all	19	15G130	HEXMACHSCRNUT 10-24UNC2 SS18-8	

Staph Barrier - STAPH-GUARD®

36030F8S, 3630F8R, 42032F7S, 4232F7R

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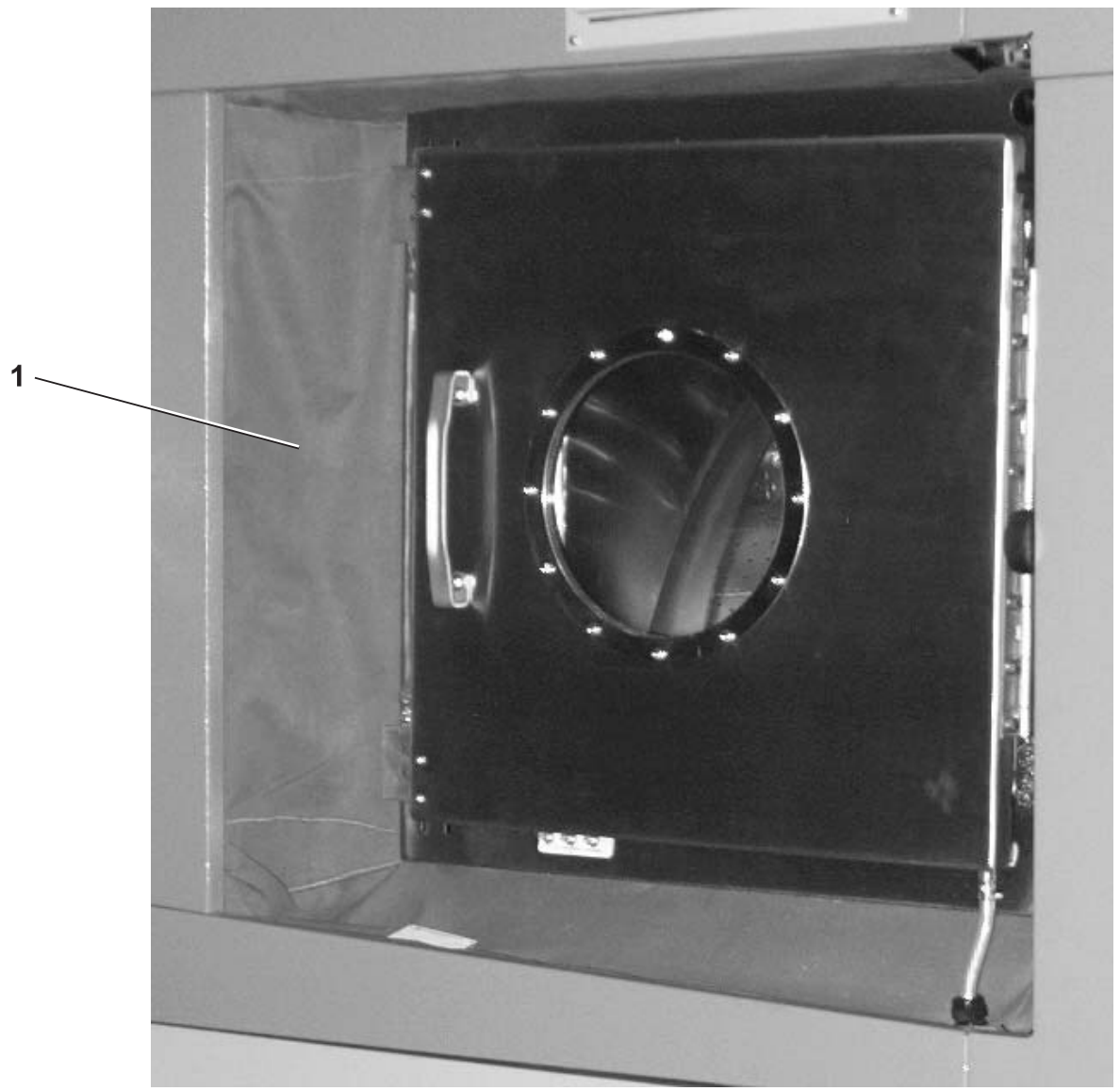
NOTE: 42032F7S SHOWN, 36030F8S SIMILAR (SEE PARTS LIST)



LOAD DOOR BARRIER

Staph Barrier - STAPH-GUARD®

36030F8S, 3630F8R, 42032F7S, 4232F7R

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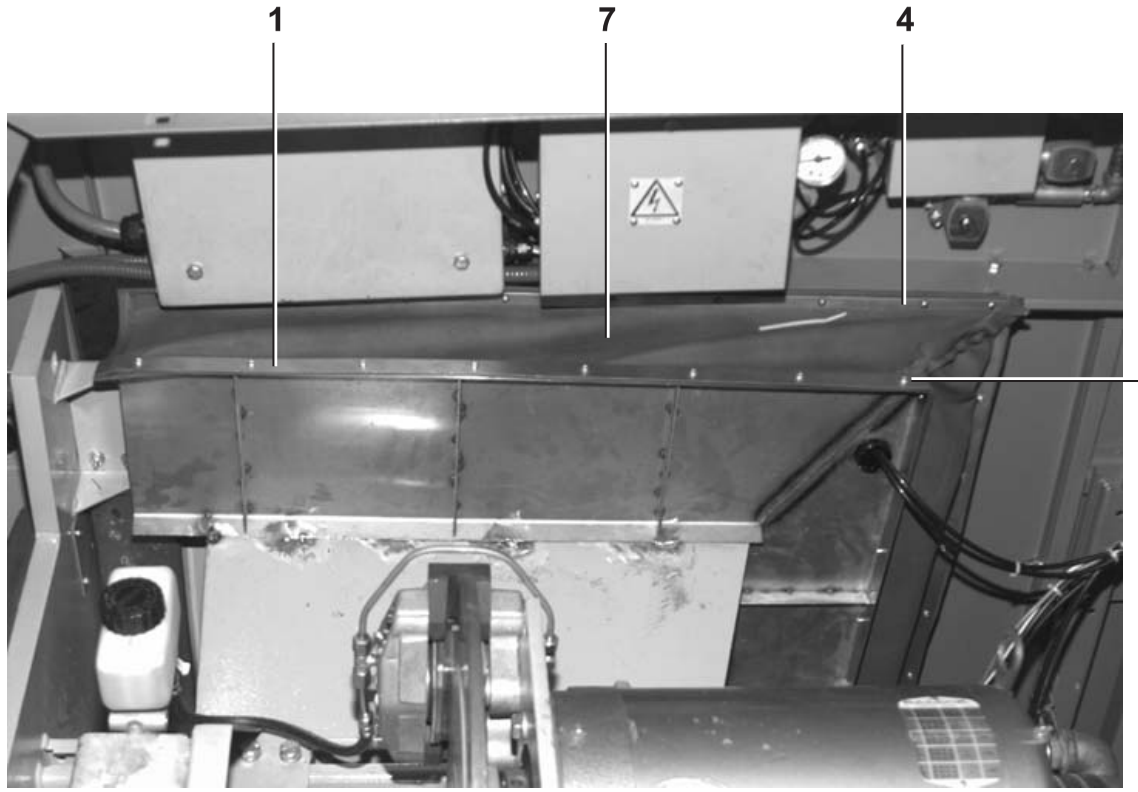
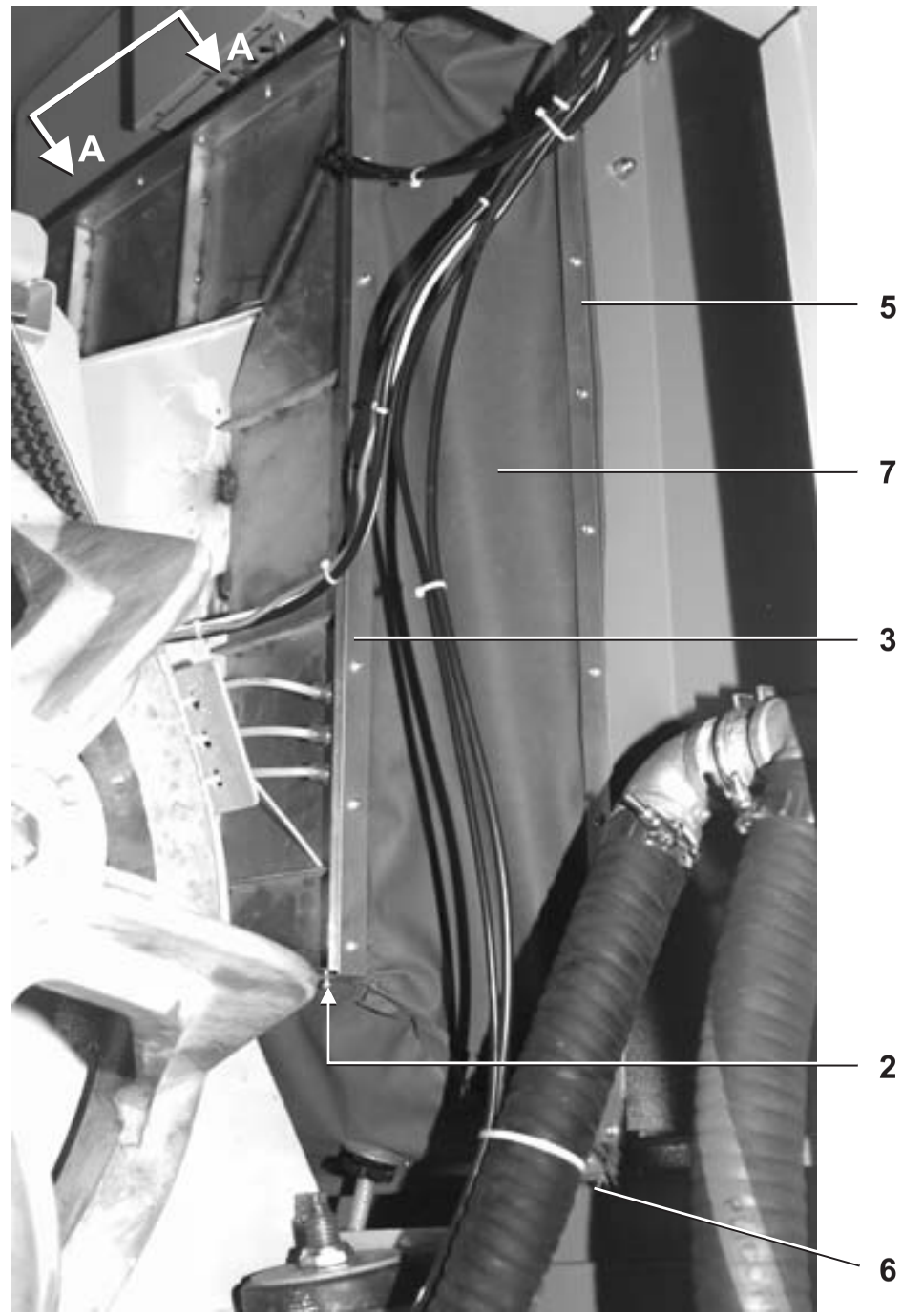
SOIL SIDE STAPH BARRIER



VIEW A-A
LOAD DOOR BARRIER
(VIEWED FROM INSIDE)



VIEW B-B
LOAD DOOR BARRIER
(VIEWED FROM INSIDE)

Staph Barrier - STAPH-GUARD®

36030F8S, 3630F8R, 42032F7S, 4232F7R

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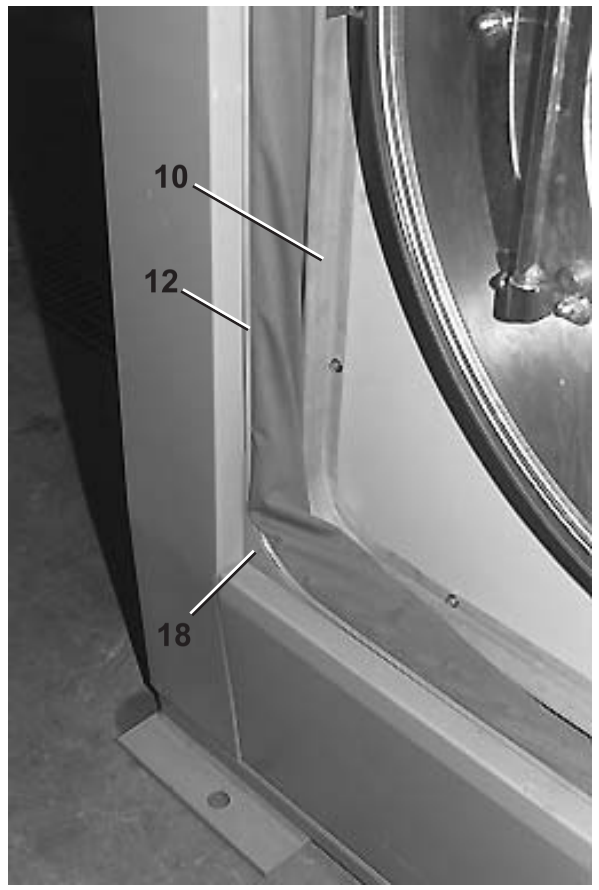
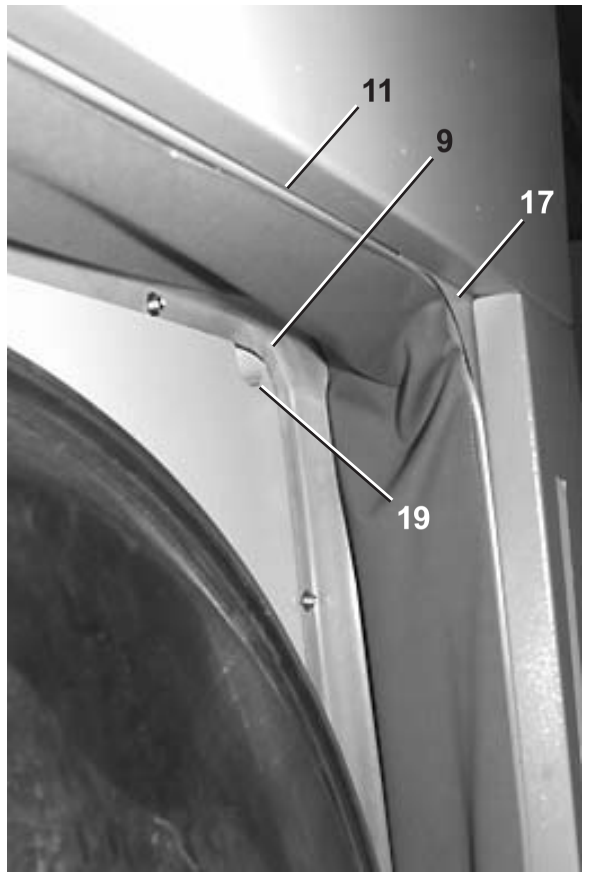
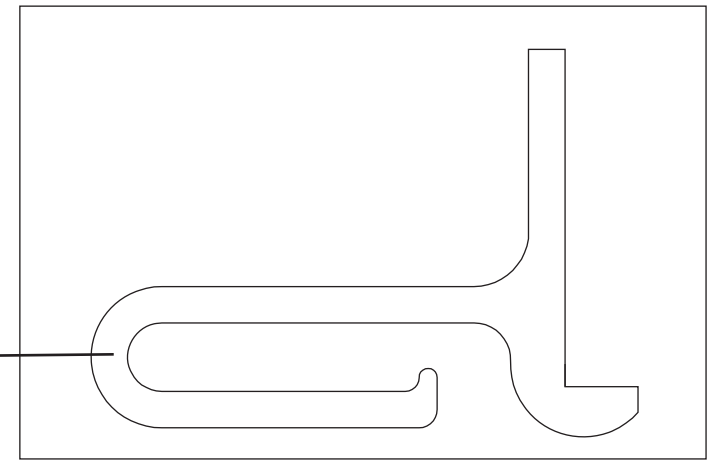


VIEW C-C

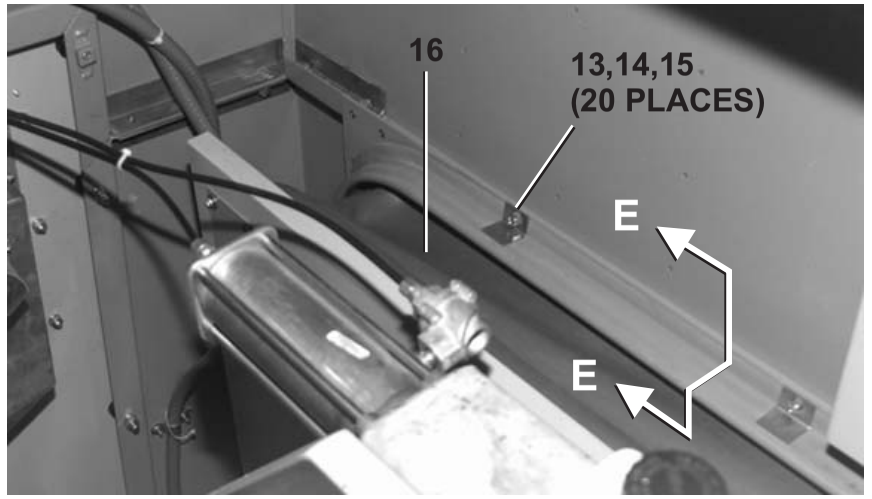


VIEW D-D

CLEANSIDE BARRIER



SECTION E-E
BARRIER SEAL EXTRUSION



VIEW F
CLEANSIDE BARRIER
(VIEWED FROM INSIDE)

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Parts List—Staph Barrier

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
.				
			----------ASSEMBLIES----------	
	A	GBS35001	SOIL SIDE BOOT-L, 3630SG	3630F8S
	B	GBS35002	SOIL SIDE BOOT-R, 3630SG	3630F8R
	C	GBS42001	SOIL SIDE BOOT-L, 4232SG	4232F7S
	D	GBS42002	SOIL SIDE BOOT-R, 4232SG	4232F7R
	E	GBF35001	STAPH BARRIER FRONT, 3630SG	3630F8S, F8R
	F	GBF42001	STAPH BARRIER FRONT, 4232SG	4232F7S,F7R
			----------COMPONENTS----------	
all	1	02 21719A	CHUTE MEMB BLT STRIP-A, 4232SG	
all	2	02 21719B	CHUTE MEMB BLT STRIP-B, 4232SG	
AB	3	02 21719C	CHUTE MEMB BLT STRP-C, 4232SG	
CD	3	02 21719D	CHUTE MEMBRANE STRIP-D	
AB	4	02 21679	DOUBLER=BOOT FR/TOP 3630S	
CD	4	02 21679C	DOUBLER=BOOT FR/TOP 4232S	
AB	5	02 21679A	DOUBLER=BOOT FR/SIDE 3630S	
CD	5	02 21679D	DOUBLER=BOOT FR/SIDE 4232S	
AB	6	02 21679B	DOUBLER=BOOT FR/BTM 3630S	
CD	6	02 21679E	DOUBLER=BOOT FR/BTM 4232S	
A	7	02 21669A	BOOT="C" SHAPE SOILSIDE 36S8LF	
B	7	02 21669B	BOOT="C" SHAPE SOILSIDE 36S8RT	
C	7	02 21689A	BOOT="C"SHAPE SOILSIDE LF 42S	
D	7	02 21689B	BOOT="C" SHAPE SOILSIDE RT 42S	
all	8	02 21719E	CHUTE MEMBRANE STRIP-E	
E	9	02 18781J	EXTRUSION SHELL CS LF 36SG	
F	9	02 18781N	EXTRUSION SHELL CS LF 4232SG	
E	10	02 18781K	EXTRUSION SHELL CS RT 36SG	
F	10	02 18781P	EXTRUSION SHELL CS RT 4232SG	
E	11	02 18781L	EXTRUSION FRAME CS LF 36SG	
F	11	02 18781Q	EXTRUSION FRAME CS LF 4232SG	
E	12	02 18781M	EXTRUSION FRAME CS RT 36SG	
F	12	02 18781R	EXTRUSION FRAME CS RT 4232SG	
all	13	02 175032	CLAMP BOOT 60142 +60SG	
all	14	15P175	TRDCUT-F HXHD 1/4-20UNC2AX1/2	
all	15	15U320	FLATWASHER(USS STD) 3/4" UNPLT	
E	16	02 21669	BOOT=58"X61"X10"CLNSD 36S8	
F	16	02 21689	BOOT=66"X66"X10"CLNSD 4232S	
all	17	02 21643	PLT=FR FRNT UP CRNR 3630S (COLOR=WARM GRAY)	
all	18	02 21643A	PLT=FR FRNT LO CRNR 3630S (COLOR=PHANTOM GRAY)	
all	19	02 21678	SHELL FRT PLUG 3630SG/P10EX187	
all	19	02 21643B	STAPHGUARD BARRIER COVER	
all	20	02 21677	CLAMP=BOOT SHLFRT SEAM 3630S	
all	21	15P010	TRDCUT PHILPANHDSCR 10-24X1/2S	

Section 5

Chemical Supply Devices

Soap Chute

30022H8J,X8J 30022F8J, F8W 3630F8J,FW,F8R,F8S 4232F7J,F7W,F7S,F7R
3626X8J,X8W 4226X7J,X7W 4232X7J,X7W

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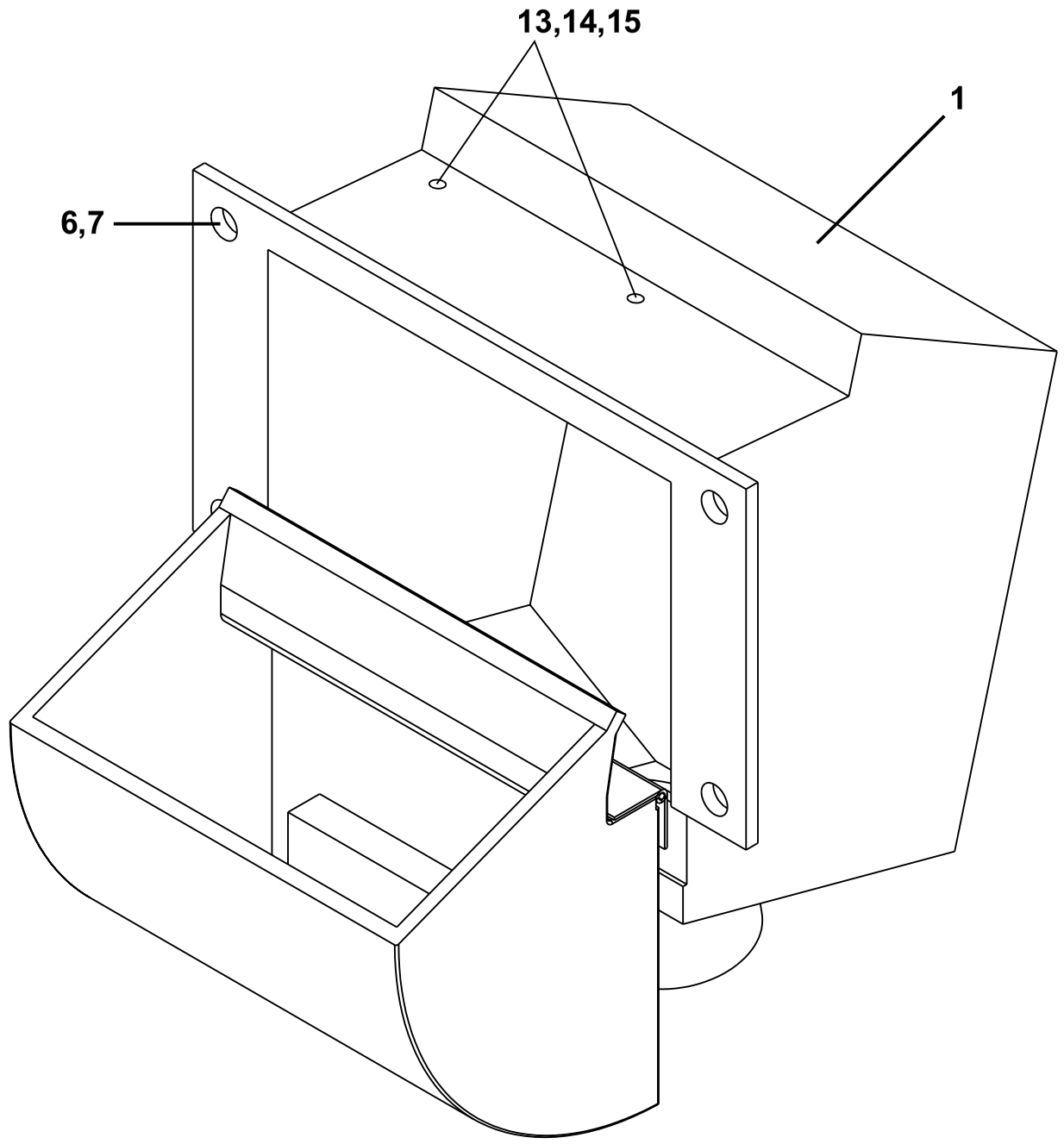

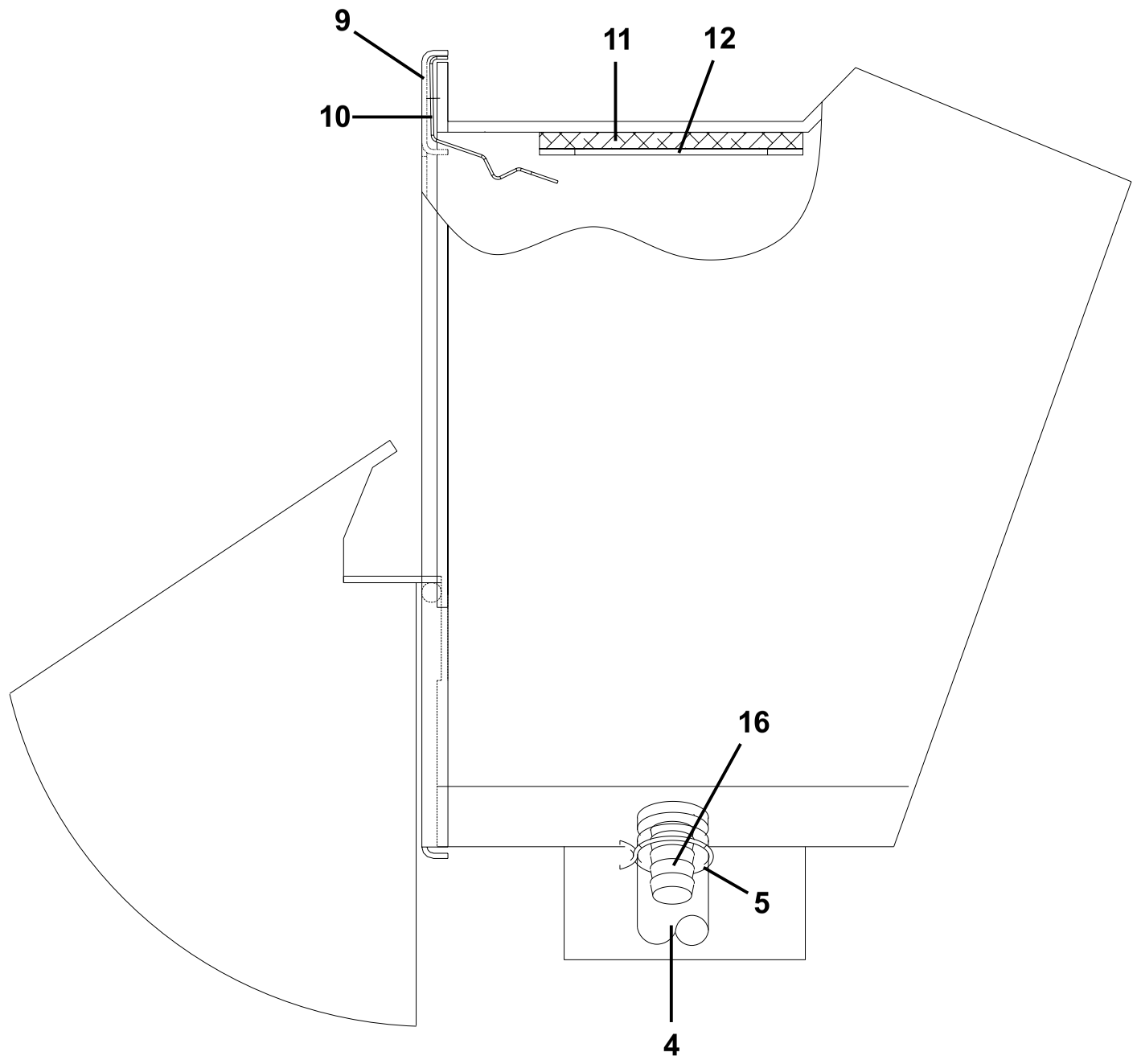

Soap Chute

30022H8J,X8J 30022F8J, F8W 4232F7J,F7W,F7S,F7R
3626X8J,X8W 4226X7J,X7W 4232X7J,X7W

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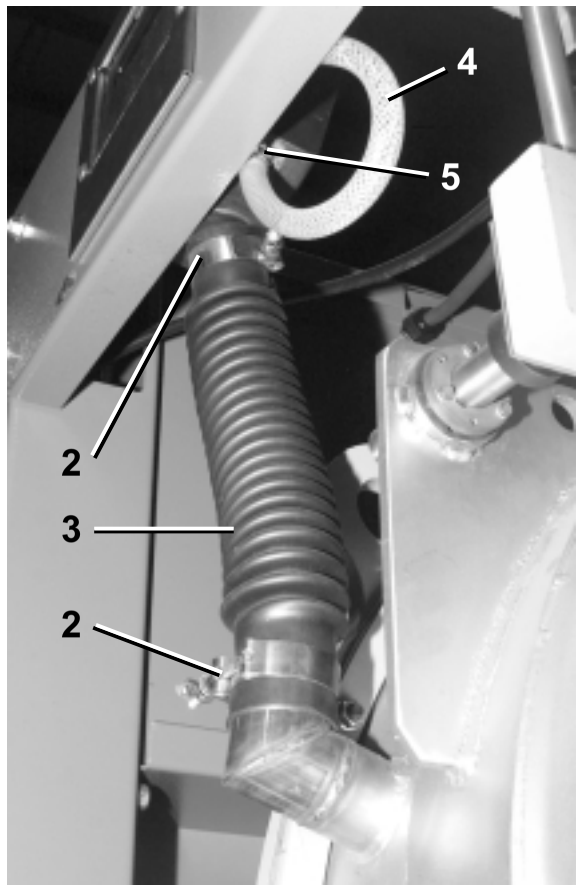
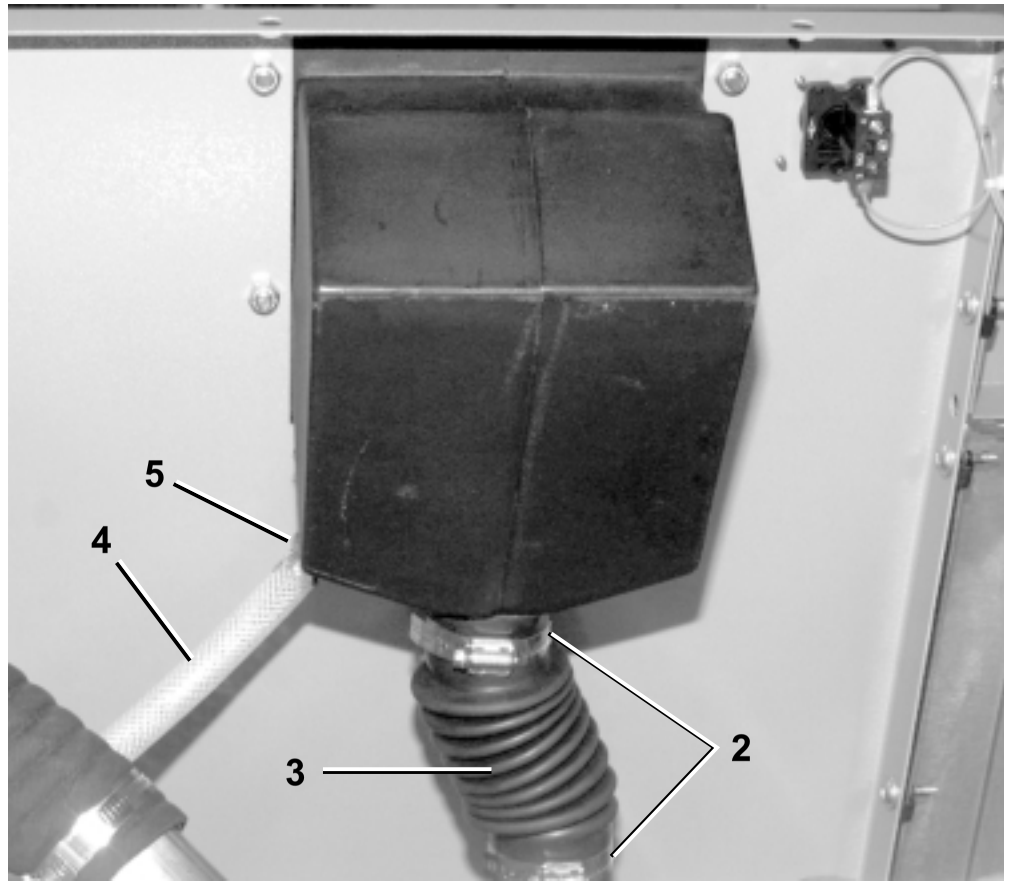


30022X8J SHOWN

30022H8J SHOWN



Parts List—Soap Chute

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	GWS3022H8	INSTL=SOAP CHUTE LC, 3022H8	30022H8J
	B	GWS30201A	INST=DRY SOAP CHUTE PLASTIC	30022F8J,F8W,F8P
	C	GWS42001B	2001000Z INST=PLASTIC SOAP CHUTE 4232F	42032F7J,F7P,F7W
	D	GWS3022X8	INST=SOAP CHUTE ASSY 3022X8J	3022X8J
	E	GWS3626X7	20003000Z INST=SOAP CHUTE ASSY 3626X	3626X8J,X8W
	F	GWS4226X	2003000Z INST=SOAP CHUTE ASSY 4226X	4226X7J,X7W
	G	GWS4232X	2003000Z INST=SOAP CHUTE ASSY 4232X	4232X7J,X7W
	H	GWS35001A	INST=PLASTIC SOAP CHUTE	3630F8J,F8W
	J	GWS35001C	INST=PLASTIC SOAP CHUTE 3630SG RT	3630F8R,F8S
	K	GWS42001C	INST=PLASTIC SOAP CHUTE RT LD	4232F7R,F7S
			----------COMPONENTS----------	
all	1	AWS30211A	PLASTIC SOAP ASSY	
all	2	27A070	T-BOLT HOSECLAMP 1.94"-2.25"	
A	3	02 03870C	FLEXTUBE=2"ID X 8"LG.W/CUFFS	
B,F,G,K	3	02 03870	FLEXTUBE=SOAPCHUTE 2"IDX24LG	
C,E,H,J	3	02 03870D	FLEXTUBE=2"ID X 14"LG W/CUFFS	
all	4	60E006C	PVC TUBING NYL.REINF.5IDX.75OD	
all	5	27A045	HOSECLAMP .750"DIA SPRINGTYPE	
all	6	15K053	BUTSOKCAPSCR 5/16-18X3/4 SS18-	
all	7	15G188	HEXLOKNUT 5/16-18 BRASS	
all	9	02 04215	PLASTIC SOAP CHUTE BEZEL	
all	10	02 04217	PLASTIC SOAP CHUTE LATCH	
all	11	02 04216	SOAP CHUTE SPLASH GUARD	
all	12	98A002AT	PAD 6"X9"REG.DUTY,TURCO#A90551	
all	13	15G105	HEXMACSCRNUT 8-32UNC2 SS18-8	
all	14	15N095	RDMACSCR 8-32UNC2X3/4 SS18-8	
all	15	15U120B	LOCKWASHER MEDIUM #8 SS18-8	
all	16	51BB0KN00B	BULKHD FITT 1/2"BARBED,POLYPRO	

Peristaltic Supply Installation

36030F8J,F8P,F8W,F8S 42032F7J,F7P,F7W,F7S

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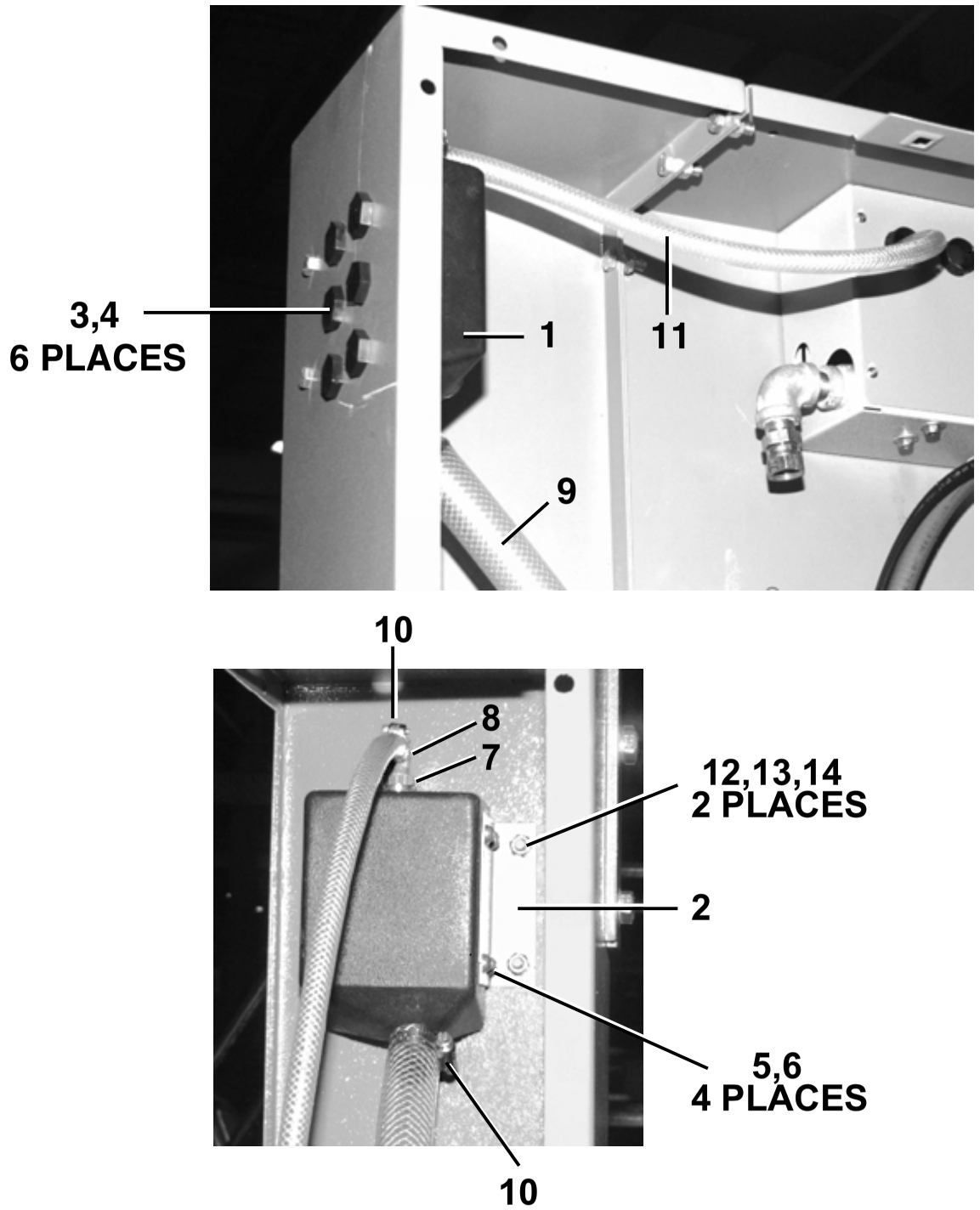
BMP950024/98183V (1 of 1)

Litho in U.S.A.



Parts List—Peristaltic Supply Installation

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	GWL42001	96031B INST=PERISTALTIC 4232F	42032F7J,P,W,S
	B	GWL35001	95451Z INST=PERISTALIC 3630F8	36030F8J,P,W,S
			----------COMPONENTS----------	
all	1	02 03589O	97136D MOLDED LIQ SUPPLY MANFOLD=10	
all	2	02 21092	95263C BRKT=4232F PERISTALTIC BOX	
all	3	5SP0KXFHS	01Z HEX HEAD PIPE PLUG 1/2"	
all	4	20C040	SIL SEAL RTV BLACK 85GR #59330	
all	5	15K032	BUTSOKCAPSCR 1/4-20X3/8 SS18-8	
all	6	15U181	LOCKWASHER MEDIUM 1/4 SS18-8	
all	7	5SB0K0EBEO	NPTHEXBUSH 1/2X1/4 BRASS 125#	
all	8	51E504EB	ELB HOSESTEM 3/8HX1/4NPT BRASS	
all	9	60E010	02Z TUBING 1"X1.312 POLYBRAID *	
all	10	27A090	HOSECLAMP,11/16-1.5" CADSCR HS-16	
all	11	60E006B	01Z PVC TUBING(BRAID)3/8IDX.60D *	
all	12	15K060	HXCAPSCR 5/16-18UNCAX3/4 GR5 ZN/CD	
all	13	15U210	LOKWASHER MEDIUM 5/16 ZINCPL	
all	14	15G185	HXNUT 5/16-18UNC2B SAE ZINC GR2	

5 Compartment Supply

36030F8J,F8W,F8S,F8R 42032F7J,F7W,F7S,F7R

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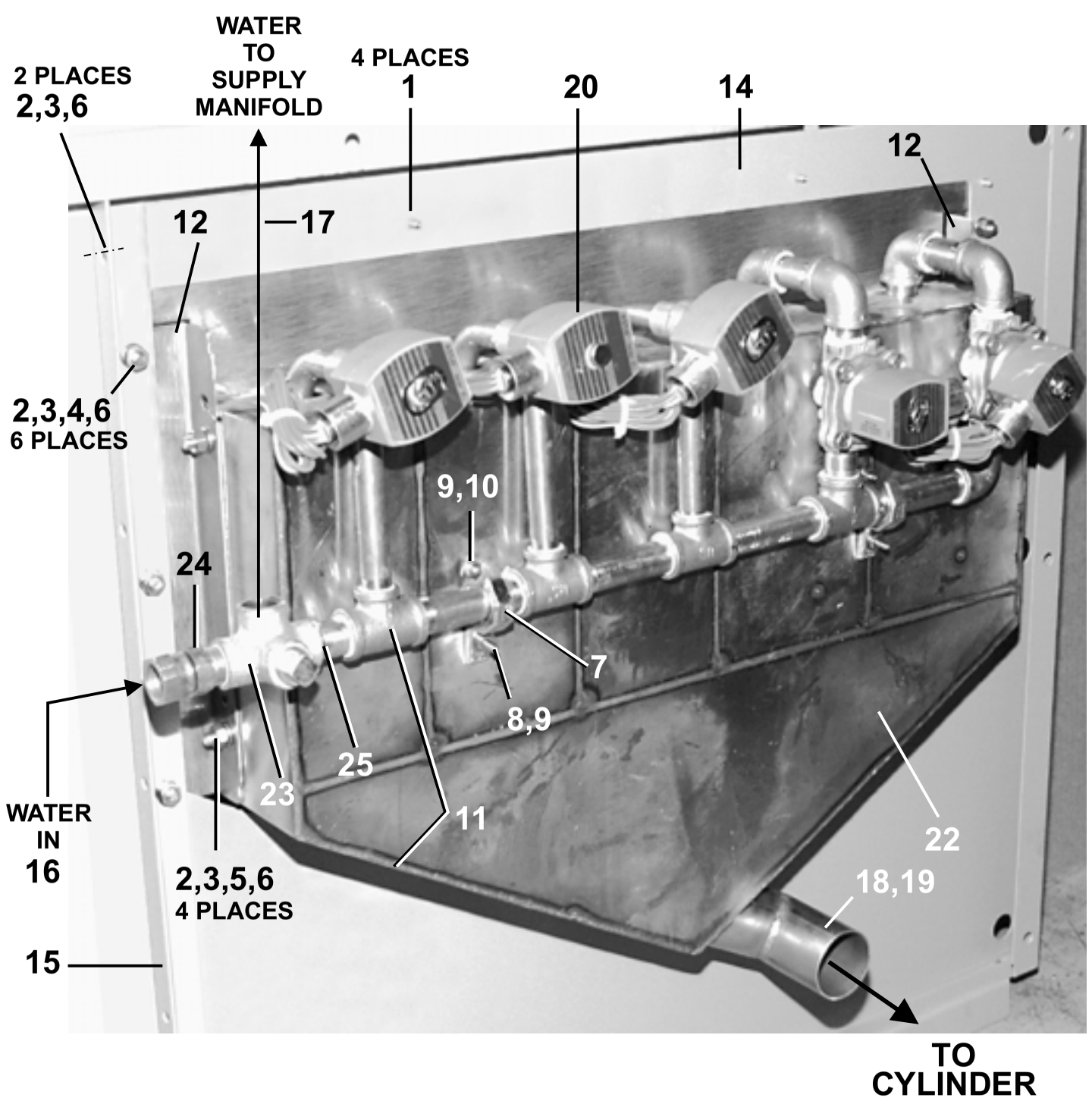

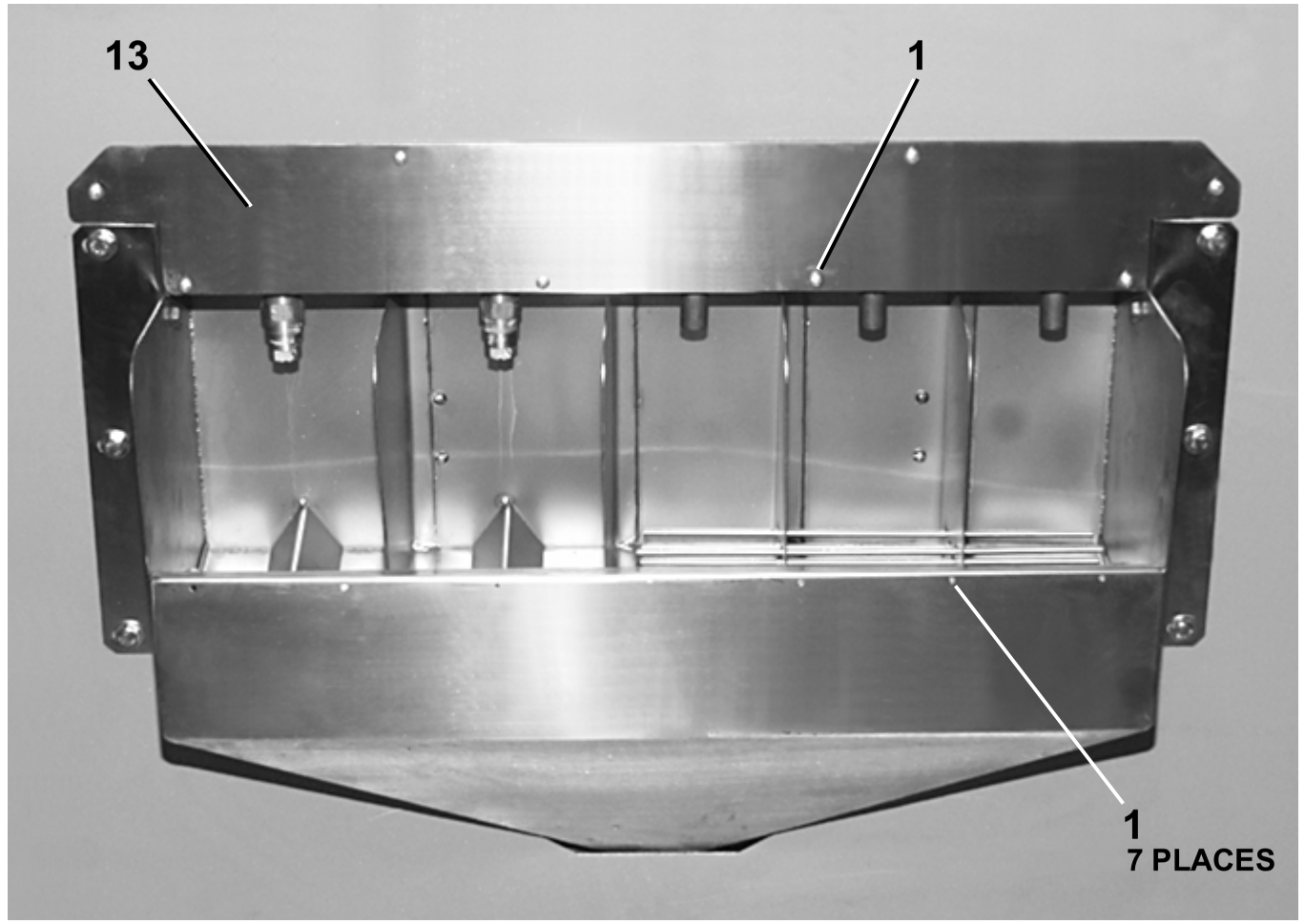

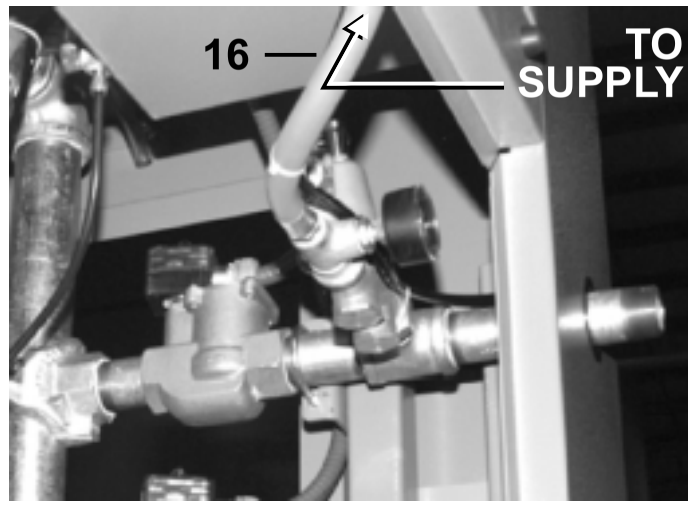

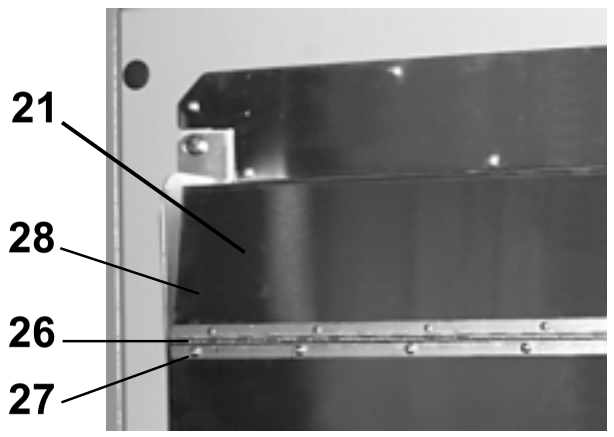

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Parts List—5 Compartment Supply

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	GWS42003	96046B INST=4232F 5COMP SUPPLY-9541	42032F7J,W,S,R
	B	GWS35002	96000Z INST=3630F 5COMP SUPPLY	36030F8J,W
	C	GWS35002S	97000Z INSTL=5 COMP SUPPLY 36030S8	36030F8S,F8R
			----------COMPONENTS----------	
all	1	15P100	07Z THDCUT-F PANHD 8-32 X 3/8 SS410	PART OF 11
all	2	15K052	HXCAPSCR 5/16-18UNC2AX3/4 SS18-8	PART OF 11
all	3	15U205	LOCKWASHER MEDIUM 5/16" 18-8SS	PART OF 11
all	4	15U201	FLATWASH 7/80DX3/8IDX.062THK SS18-8	PART OF 11
all	5	24G027N	ROLLED WASHER .312"ID NYLTITE #31W	PART OF 11
all	6	15G186	HEXNUT 5/16-18UNC2 SS18-8	PART OF 11
all	7	27A017	1/2"PIPESTRAP 1HOLE R.COND TB#1276	PART OF 11
all	8	15N140	RDMACSCR 10-24UNC2AX3/4 ZINC GR2	PART OF 11
all	9	15G125	HXMACHSCRNUT 10-24UNC2B ZINC GR2	PART OF 11
all	10	15N117	RDMACSCR 10-24UNC2X3/8SS18-8	PART OF 11
A	11	AWS42003	96046# ASSY=5FLUSH SUPPLY INJ-4232F	COMPLETE ASSEMBLY
B,C	11	AWS35002	96000Z ASSY=5FLUSH SUPPLY INJ-3630F	COMPLETE ASSEMBLY
all	12	02 21163	95421C SUPPLY 5COMP MTG ANGLE-4232F	
all	13	02 21164	95421C SUPPLY 5COMP TOP COVER-4232F	
A	14	02 21167	95421D SUPPLY 5COMP MTG PANEL-4232F	
B	14	02 21588	96333D SUPPLY 5COMP MTG PANEL-3630F	
C	14	02 21588S	97000ZSUPPLY 5COMP MTG PANEL 3630S	
all	15	02 21166	95421C SUPPLY MTG PANEL STIFFENER	
all	16	60E085C75A	92117N HOSE ASSY=1/2"X75"LG+ENDS	
all	17	60E085C26K	81502N HOSE ASSY=1/2"X26 1/2LG+ENDS	
all	18	60E260	02Z HOSE 2"ID SUCT EPDM COVER/TUBE*	
all	19	27A075	T-BOLT HOSECLAMP 2.75"-3.06"	
all	20	SA 16 034B	96042B VALVASSY 5FLUSH=4232F	PART OF 11
all	21	SA 09 047	70297B COVER=SUPPLY INJECTOR	PART OF 11
all	22	W2 21162	95421D*SUPPLY 5COMP WLMT=4232F	PART OF 11
all	23	5S0KNFB	NPT SIDEOUT TEE 1/2" GALMAL	PART OF 11

Parts List, cont.—5 Compartment Supply

Used In	Item	Part Number	Description	Comments
all	24	51X017	UNION STRADAPT 1/2" PH#0107-8-8	PART OF 11
all	25	5N0K01KBE2	NPT NIPPLE 1/2X1.5 TBE BRASS 125#	PART OF 11
all	26	02 09105	83163A HINGE=VALVE ENCLOSURE STNSTL	PART OF 21
all	27	15J004	01Z TUBULAR RIVET TRS#40988 3/16"	PART OF 21
all	28	02 09182	92433B LID=SUPPLY INJECTOR	PART OF 21

Valve Assembly for 5 Compartment Supply

42032F7J,F7W,F7S,F7R 36030F8J,F8W,F8S,F8R

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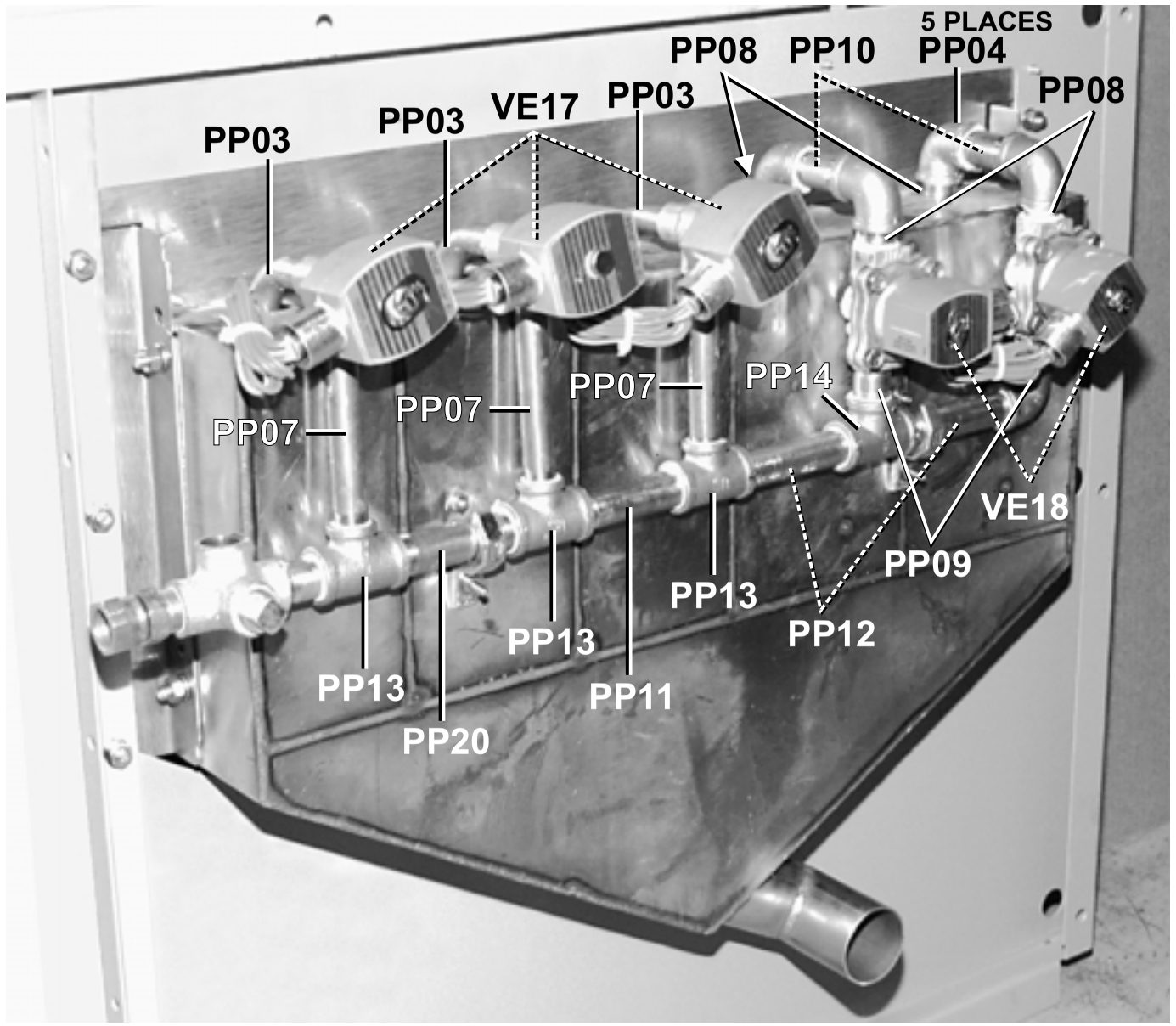
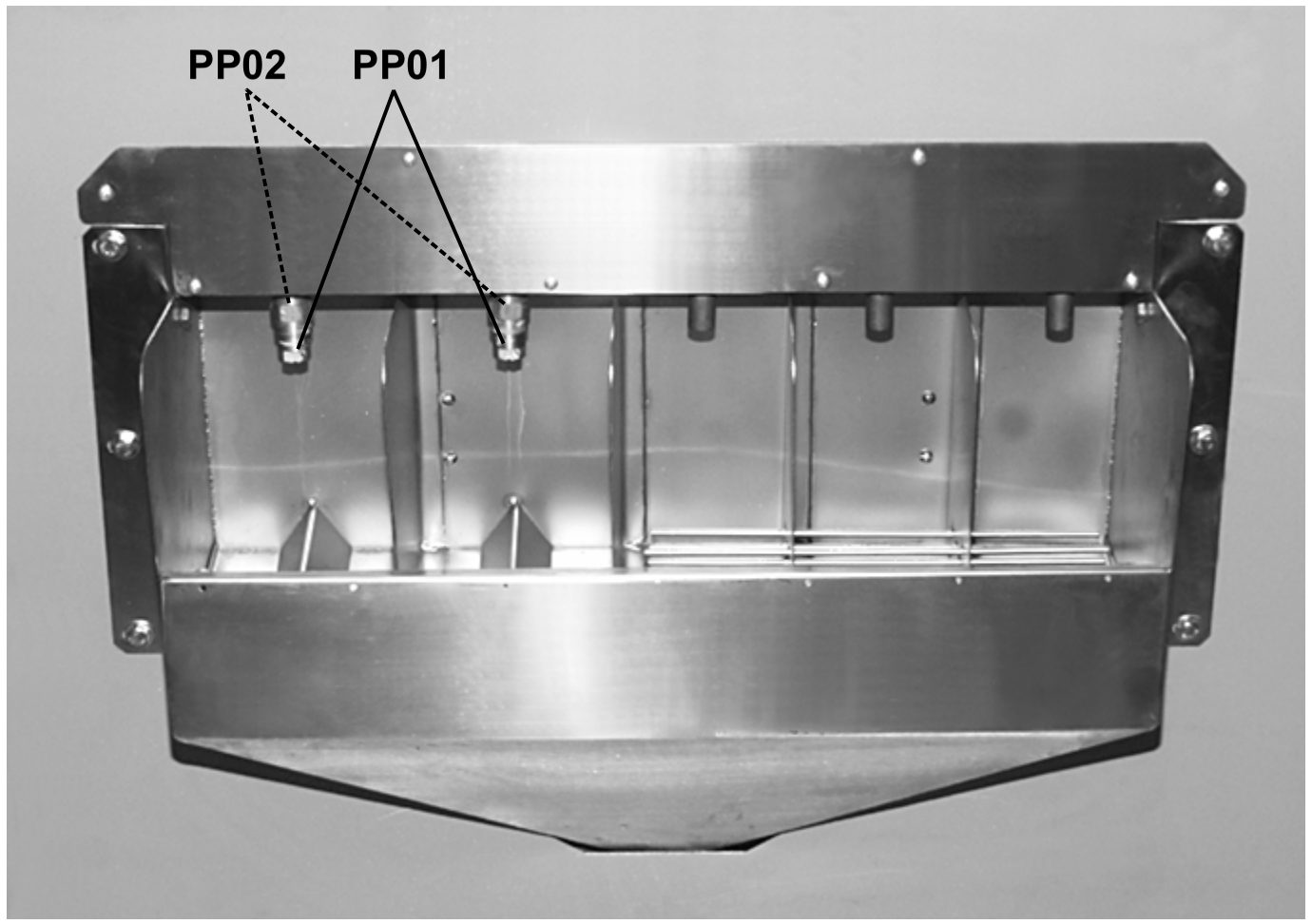


42032 MODEL
SHOWN



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Parts List—Valve Assembly for 5 Compartment Supply

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	00A	AWS35002	96000Z ASSY=5FLUSH SUPPLY INJ-3630F	36030F8J/P/W/S
	00B	AWS42003	96046 ASSY=5FLUSH SUPPLY INJ-4232F	42032F7J/P/W/S
00A,00B	00C	SA 16 034B	96042B VALVASSY 5FLUSH=4232F	
			----------COMPONENTS----------	
all	PP01	27A001	NOZZLE BRASS 1/2" SPRAYSYS #HH29SQ	
all	PP02	5SCC0KSFH	NPT HALFCOUP 1/2 SS304 150#BARSTOCK	
all	PP03	02 09237	79516B PIPE FORMED 90DEG BRS SUPINJ	
all	PP04	5SL0KBEA	NPT ELBOW 90DEG 1/2" BRASS 125#	
all	PP07	5N0G04KBE2	NPT NIPPLE 3/8X4.5 TBE BRASS 125#	
all	PP08	5N0KCLSBE2	NPT NIPPLE 1/2XCLS TBE BRASS 125#	
all	PP09	5N0K01KBE2	NPT NIPPLE 1/2X1.5 TBE BRASS 125#	
all	PP10	5N0K02ABE2	NPT NIPPLE 1/2X2 TBE BRASS 125#	
all	PP11	5N0K03KB42	NPT NIPPLE 1/2X3.5 TBE BRASS STD	
all	PP12	5N0K04ABE2	NPT NIPPLE 1/2X4 TBE BRASS 125#	
all	PP13	5S0KBEA0G	NPT TEE 1/2X1/2X3/8" BRASS 125#	
all	PP14	5S0KBEA	NPT TEE 1/2" BRASS 125#	
all	PP20	5N0K03ABE2	NPT NIPPLE 1/2X3 TBE BRASS 125#	
all	VE17	96TCC2AA71	01Z 3/8" N/C 2WAY 240V50/60C VALVE	
all	VE18	96TDC2AA71	04Z 1/2" N/C 2WAY 240V50/60C VALVE	

Section 6

Water and Steam Piping and Assemblies

Water & Steam Schematics

3630F8J,F8W 42032F7J,F7W

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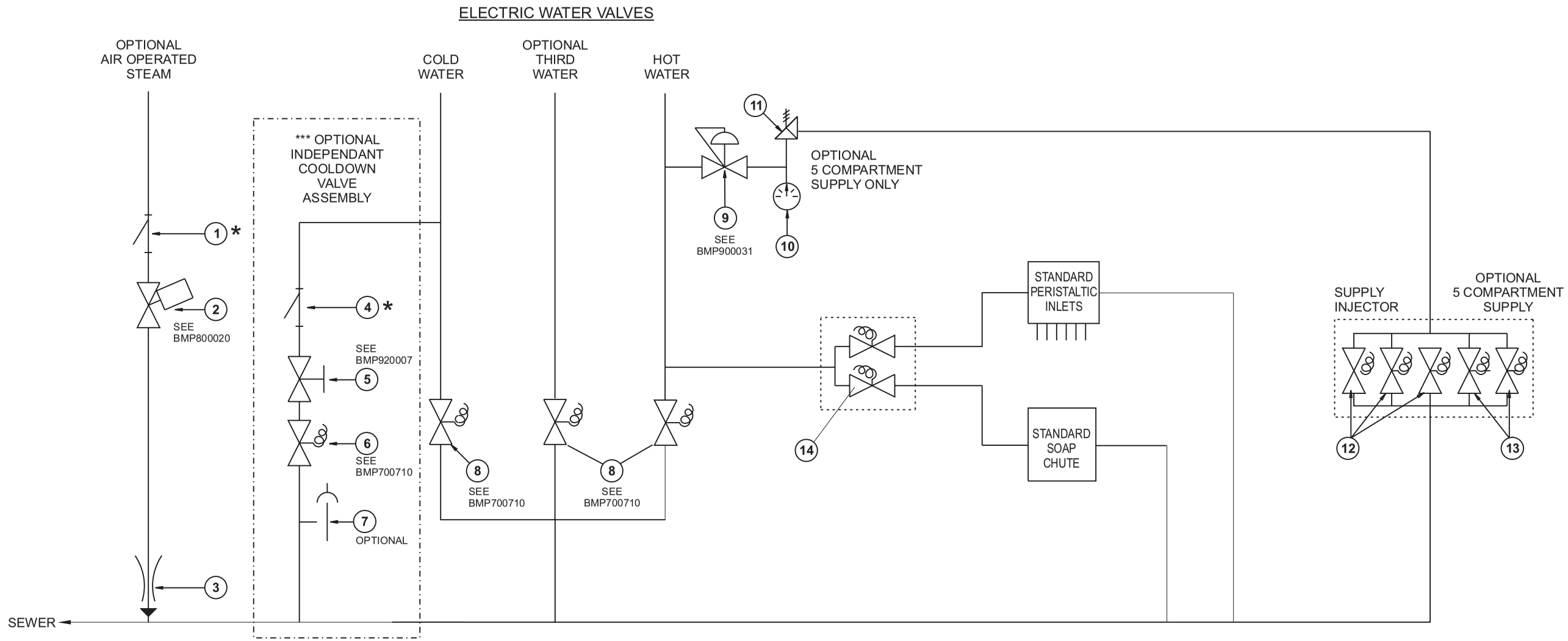

* - STRAINER MUST BE CLEANED, SEE "PREVENTIVE MAINTENANCE" IN THE TABLE OF CONTENTS.

** - PRESSURE REGULATOR MUST REMAIN SET AT THE FACTORY SETTING OF 28 P.S.I. SEE BMP900031 FOR MAINTENANCE PROCEDURES.

*** - STANDARD COOLDOWN USES THE STANDARD WATER INLET VALVE AND IS SOFTWARE CONTROLLED. THE INDEPENDANT COOLDOWN VALVE ASSEMBLY IS OPTIONAL.

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Parts List—Water & Steam Schematics

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
			none	
			----------COMPONENTS----------	
all	1	51T060	Y-STRAINER 1+1/4" CAST IRON	
all	2	96D0011E	1.25"NPTBRZ N/C STEAMVALANGBD	
all	3	X6 20247A	3/4" NPT .5"SPARGER MACH.	
all	4	51T030	Y-STRAINER 3/4" CAST IRON	
all	5	96D050A	3/4"BALLVALVE BRZ WATTS#B6100	
all	6	96P053A71	3/4"VAL 240VHAYS#6-2110IS-240	
all	7	96M022	3/4" VAC BREAKER #288A	
all	8	96P151A71	1.25"VAL240V HAYS9-2110IS-240	
all	9	96J030D	1/2"PRESSREG SET28# FEMXUN	
all	10	30N100	PRESSGAUGE 1/8"BACKCN.0-30PSI	
all	11	96M001	1/2X3/8" RELIEF VALVE SET31#	
all	12	96TCC2AA71	3/8" N/C 2WAY 240V50/60C VALVE	
all	13	96TDC2AA71	1/2" N/C 2WAY 240V50/60C VALVE	
all	14	96P053D71	3/4"INLET 1/2"DUOHOSEOUT 220V	

Water Inlets

3630F8J,F8W 42032F7J,F7W

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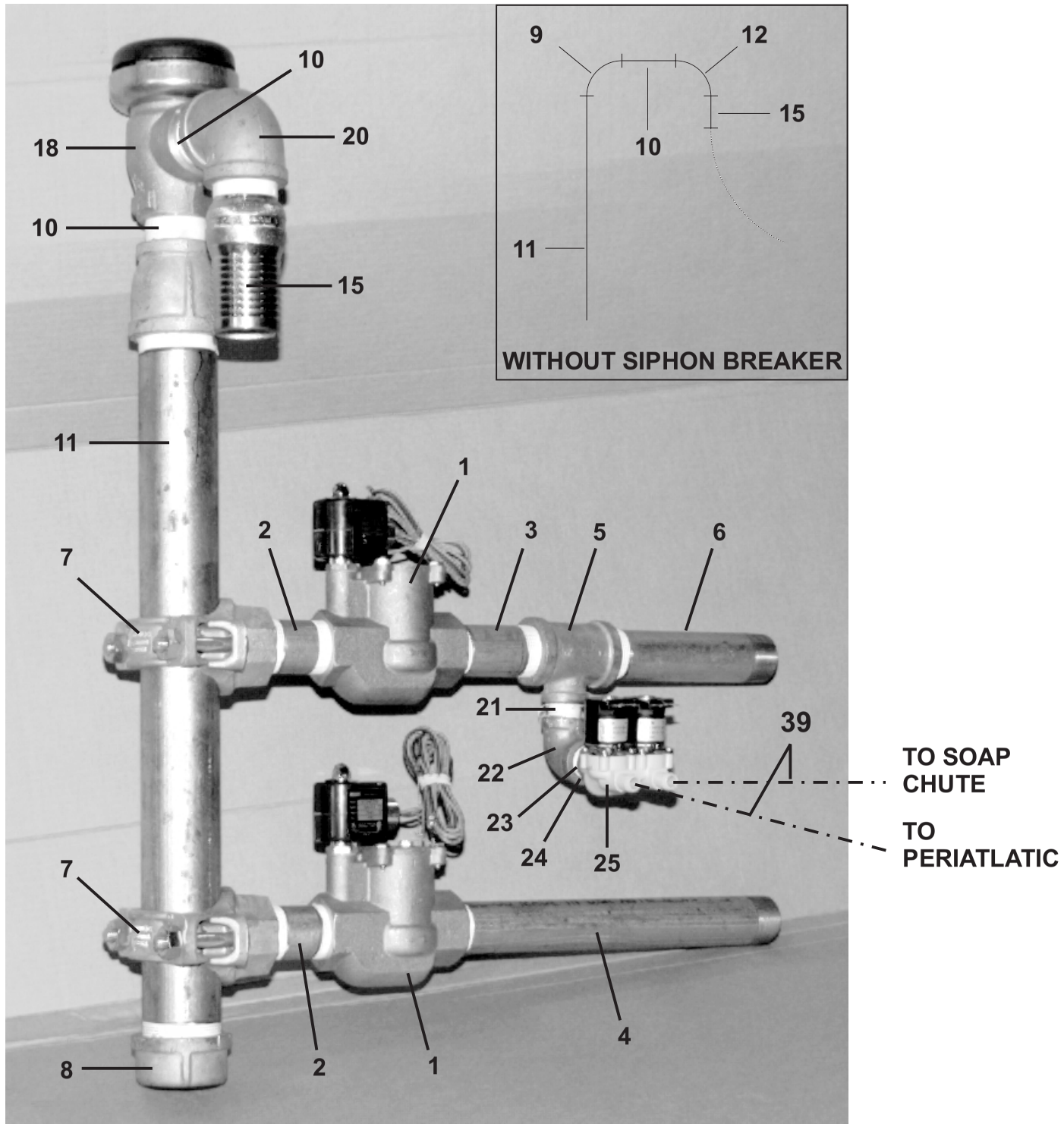

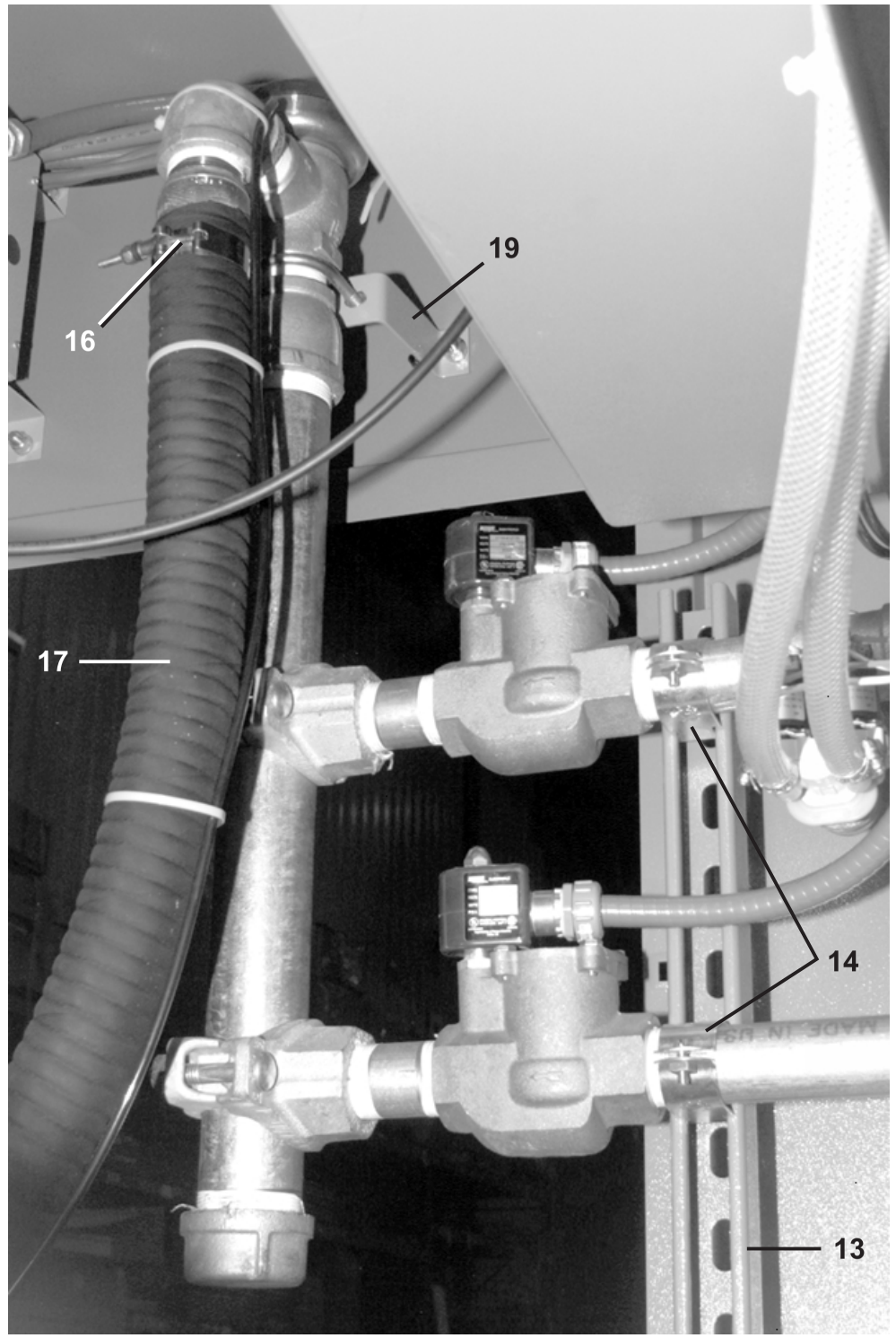

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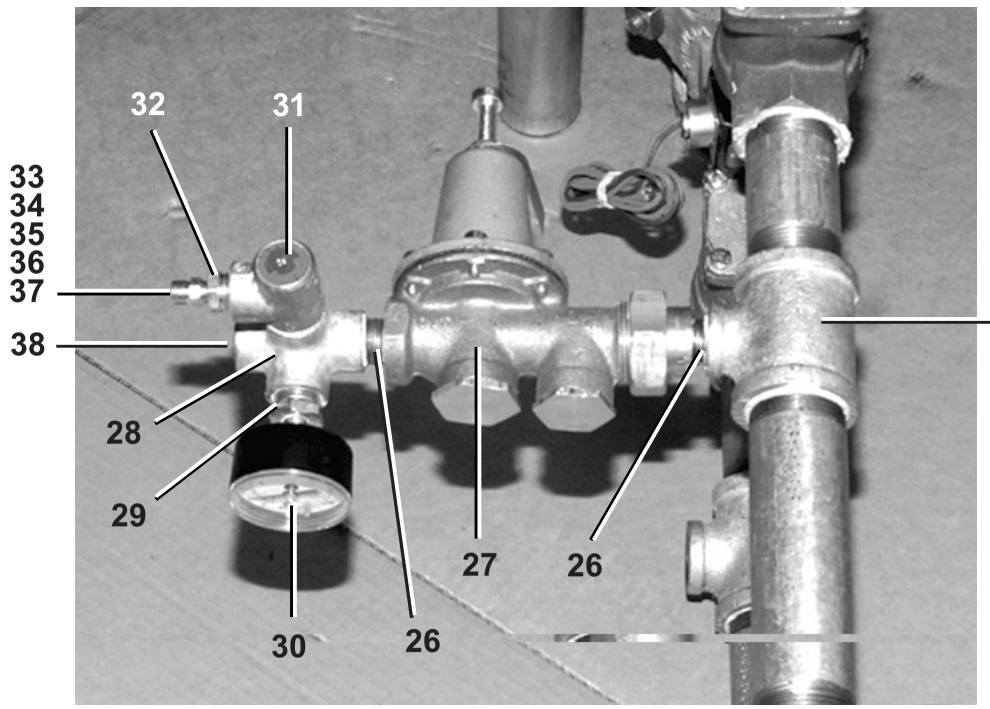
Litho in U.S.A.



DETAIL A-A
5 COMPARTMENT SUPPLY

Parts List—Water Inlets

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	GVW42002G	INST=H20 4232F ELEC FLAT FRNT	4232F7J,F7W
	B	GVW35002	INST=ELEC HOT COLD H2O 3630F	3630F8J,F8W
	C	AVW42002C	ASSY=H20 4232F ELEC FLAT FRNT	
	D	AVW35002	ASSY=ELEC HOT+COLD H2O 3630F	
	E	AVW35002A	ASSY=ELEC PRESS REGUL 3630F8	
			----------COMPONENTS----------	
all	1	96P151A71	1.25"VAL240V HAYS9-2110IS-240	
all	2	5N1E03AG42	NPT NIP 1.25X3 TBE GALSTL SK40	
all	3	5N1E04AG42	NPT NIP 1.25X4 TBE GALSTL SK40	
all	4	5N1E13AG42	NPT NIP 1.25X13 TBE GALSTL SK4	
all	5	5S1ENFA0P1	NPTTEE 1.25X1.25X3/4 GALMA150#	
all	6	5N1E07AG42	NPT NIP 1.25X7 TBE GALSTL SK40	
all	7	51V301	MECH-T 2X1.25 FEM #920N GALV	
all	8	5SCA2ANF	NPT CAP 2" GALMAL 150#	
all	9	5SL2ANFA1K	NPTELB 90DEG 2X1.5 GALMAL 150#	
all	10	5N1KCLSG42	NPT NIP 1.5XCLS TBE GALSTLSK40	
all	11	02 21219	MACH=NIPPLE+2HOLES FOR TEE	
all	12	5SL1KNFA	NPT ELBOW 90DEG 1.5" GALMAL 15	
all	13	03 11058	UNISTRUT-34"	
all	14	27A0125	CLP-RGDSTL COND P1100-1 1/4	
all	15	51E098AP	KINGREDNIP2"IDX1.5MPT #STC2520	
all	16	27A072	T-BOLT HOSECLAMP2.16-2.47CADSC	
A	17	60E255A53A	HOSE=2*"ID X 53"LG (NO DRAWING	
B	17	60E255A33A	HOSE=2*"ID X 33"LG (NO DRAWING	
all	18	SA 03 009	1.5"SIPHONBRKR+SCUPPER ASSY	
all	19	02 21599	2" PIPE MNT BRKT 3.8 DEEP	
all	20	5SL1KNFA	NPT ELBOW 90DEG 1.5" GALMAL 15	
all	21	5N0PCLSG42	NPT NIP 3/4XCLS TBE GALSTL S40	
all	22	5SL0PNFA	NPTELB 90DEG 3/4 GALMAL 150#	
all	23	51E513FG	3/4"FHXMP GARDENHOSE#83GH12-12	
all	24	53A060HA	WASHER=HOSE #901GH-12	

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Parts List—Water Inlets

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
all	25	96P053D71	3/4"INLET 1/2"DUOHOSEOUT 220V	
all	26	5N0KCLSG42	NPT NIP 1/2XCLS TBE GALSTLSK40	
all	27	96J030D	1/2"PRESSREG SET28# FEMXUN	
all	28	5S0KNFB	NPT SIDEOUT TEE 1/2" GALMAL	
all	29	5SB0K0CDEO	NPTHEXBUSH 1/2X1/8 GALCI 125#	
all	30	30N100	PRESSGAUGE 1/8"BACKCN.0-30PSI	
all	31	96M001	1/2X3/8" RELIEF VALVE SET31#	
all	32	5SB0G0CBEO	NPTHEXBUSH 3/8X1/8 BRASS 125#	
all	33	53A005B	BODYMALCON1/4X1/8COMP #B68A-4A	
all	34	53A059A	NUT 1/4"BR.HOLYOKE AND #61A-4	
all	35	53A501	TUBE INSERT .163"OD #63PT-4-40	
all	36	53A500	SLEEVE DELRIN 1/4"OD#60PT-4	
all	37	60E004TE	1/4"OD X.170"ID NYL(BLK)TUBING	
all	38	60E085C75A	HOSE ASSY=1/2"X75"LG+ENDS	
all	39	60E085	HOSE WATER1/2"DAYCO#7092-50250	
.				

Water Inlets STAPH-GUARD®

3630-F8R,F8S 4232F7R,F7S

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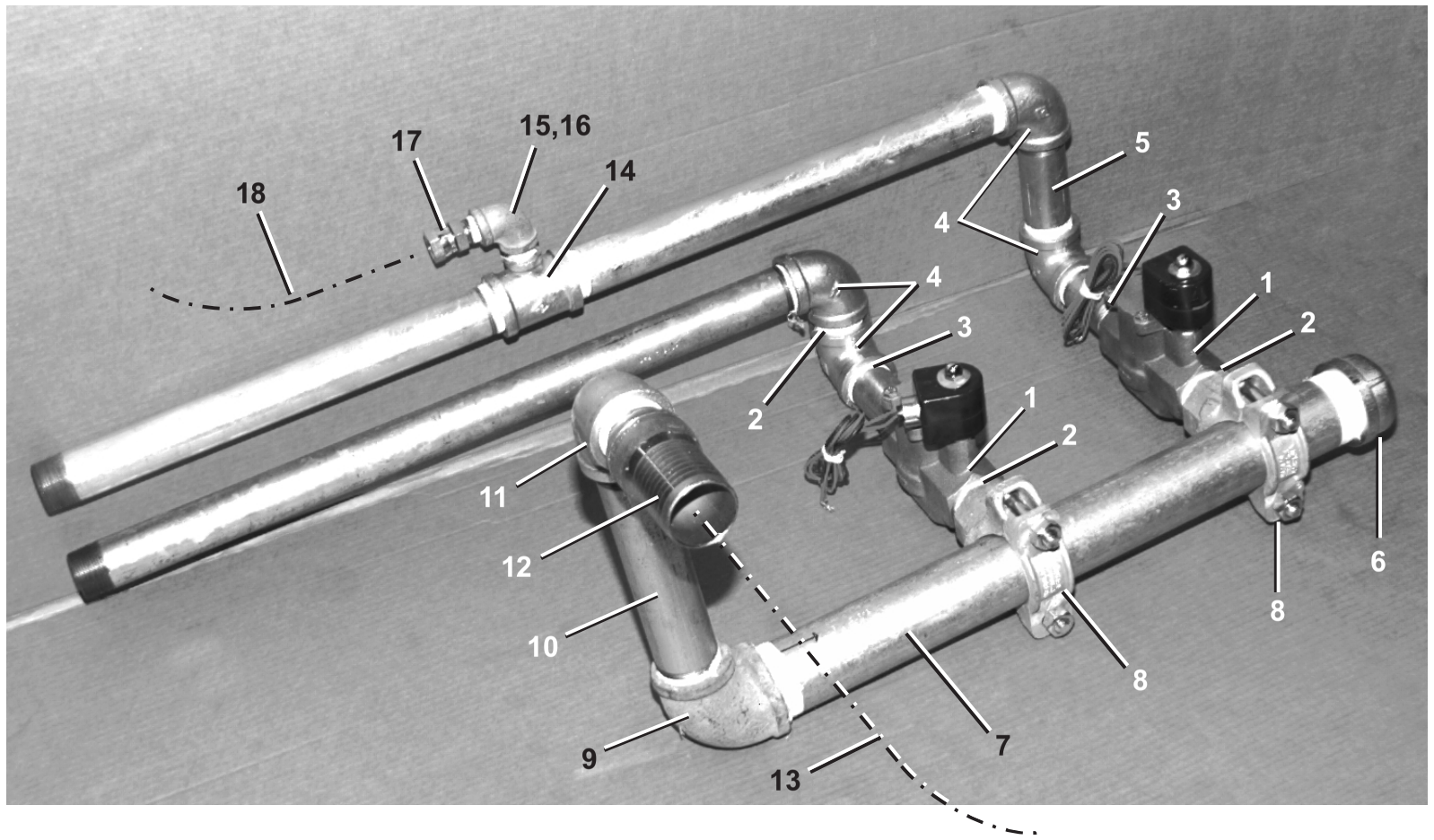

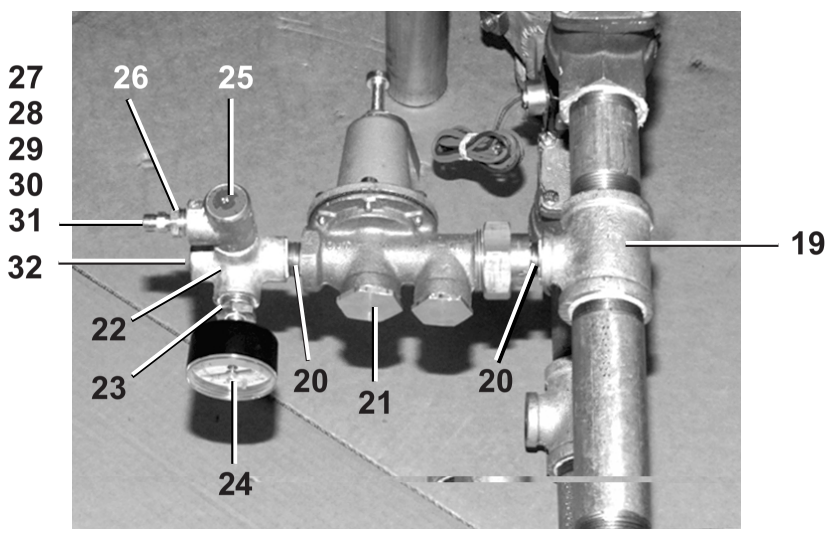

DETAIL A: 5 COMPARTMENT SUPPLY

Parts List—Water Inlets

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
.				
			----------ASSEMBLIES----------	
	A	GVW35002	INST=ELEC HOT COLD H2O 3630F	
	B	GVW42002S	INST=H20 INL 4232F S/G ELEC	
			----------COMPONENTS----------	
all	1	96P151A71	1.25"VAL240V HAYS9-2110IS-240	
all	2	5N1ECLSG42	NPT NIP 1.25XCLS TBE GALSTLS40	
all	3	5N1E04AG42	NPT NIP 1.25X4 TBE GALSTL SK40	
all	4	5SL1ENFA	NPT ELB 90DEG 1.25 GALMAL 150#	
all	5	5N1E05AG42	NPT NIP 1.25X5 TBE GALSTL SK40	
all	6	5SCA2ANF	NPT CAP 2" GALMAL 150#	
all	7	02 21219	MACH=NIPPLE+2HOLES FOR TEE	
all	8	51V301	MECH-T 2X1.25 FEM #920N GALV	
all	9	5SL2ANFA1K	NPTELB 90DEG 2X1.5 GALMAL 150#	
all	10	5N1K05KG42	NPT NIP 1.5X5.5 TBE GALSTLSK40	
all	11	5SL1KNFA	NPT ELBOW 90DEG 1.5" GALMAL 15	
all	12	51E098AP	KINGREDNIP2"IDX1.5MPT #STC2520	
all	13	60E255A53A	HOSE=2*"ID X 53"LG (NO DRAWING	
all	14	5S1ENFA0K	NPTTEE 1.25X1.25X1/2GALMAL150#	
all	15	5N0KCLSG42	NPT NIP 1/2XCLS TBE GALSTLSK40	
all	16	5SL0KNFA	NPTELB 90DEG 1/2 GALMAL 150#	
all	17	51X017	UNIONSTRADT 1/2"#1404-8-8	
all	18	60E085C75A	HOSE ASSY=1/2"X75"LG+ENDS	
all	19	5N1E13AG42	NPT NIP 1.25X13 TBE GALSTL SK4	
all	20	5N0KCLSG42	NPT NIP 1/2XCLS TBE GALSTLSK40	
all	21	96J030D	1/2"PRESSREG SET28# FEMXUN	
all	22	5SL0KNFB	NPT ELBOW 90DEG SIDEOUT 1/2"GM	
all	23	5SB0K0CDEO	NPTHEXBUSH 1/2X1/8 GALCI 125#	
all	24	30N100	PRESSGAUGE 1/8"BACKCN.0-30PSI	
all	25	96M001	1/2X3/8" RELIEF VALVE SET31#	
all	26	5SB0G0CBEO	NPTHEXBUSH 3/8X1/8 BRASS 125#	

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Parts List—Water Inlets

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
all	27	53A005B	BODYMALCON1/4X1/8COMP #B68A-4A	
all	28	53A059A	NUT 1/4"BR.HOLYOKE AND #61A-4	
all	29	53A501	TUBE INSERT .163"OD #63PT-4-40	
all	30	53A500	SLEEVE DELRIN 1/4"OD#60PT-4	
all	31	60E004TE	1/4"OD X.170"ID NYL(BLK)TUBING	
all	32	60E085C75A	HOSE ASSY=1/2"X75"LG+ENDS	
.				

Optional Independant Cooldown Valve Assembly - Electric

36030F8J,F8P,F8W,F8S 42032F7J,F7P,F7W,F7S

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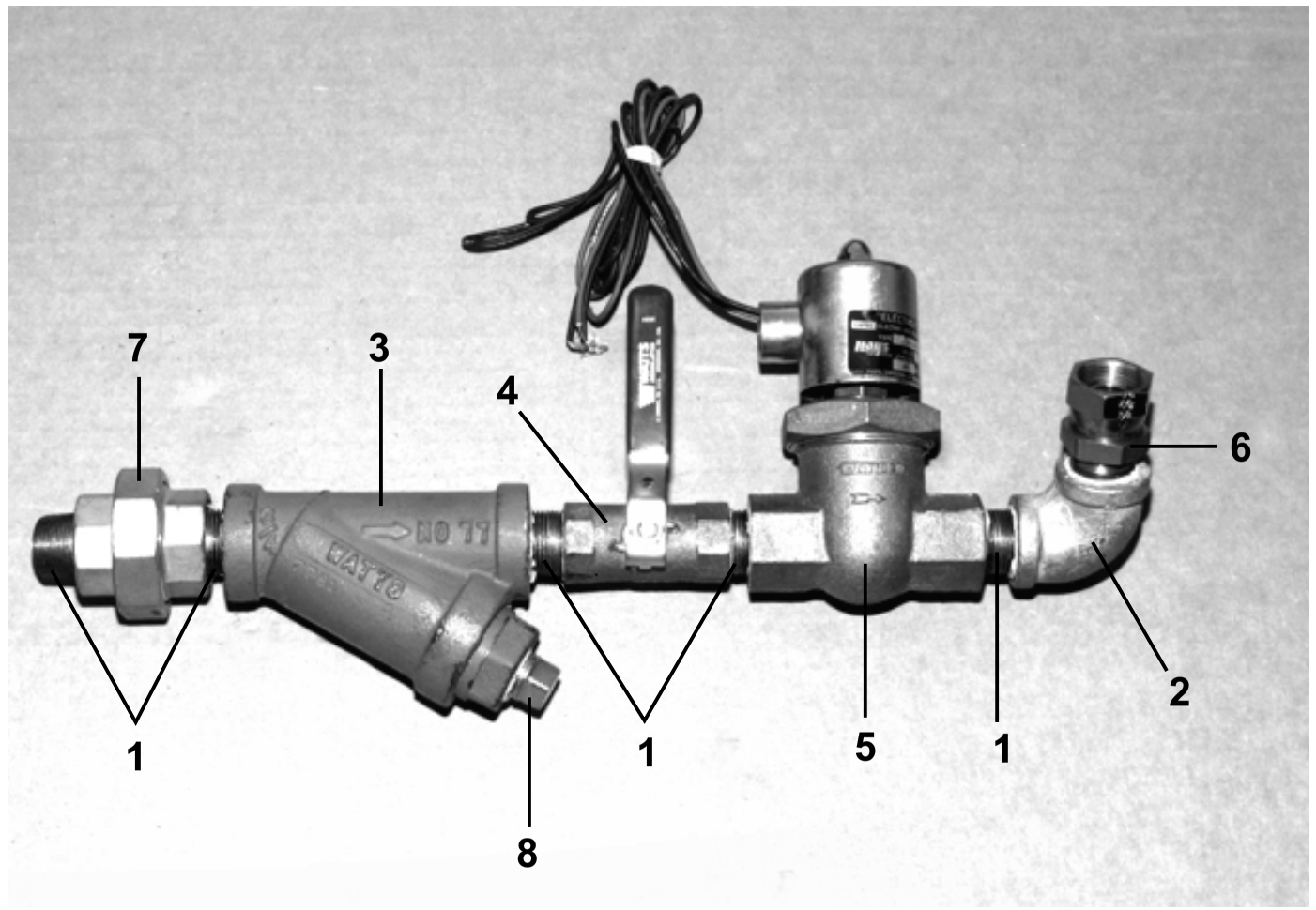


- STANDARD COOLDOWN USES THE STANDARD WATER INLET VALVE AND IS SOFTWARE CONTROLLED. THE INDEPENDANT COOLDOWN VALVE ASSEMBLY IS OPTIONAL.

Parts List—Optional Independant Cooldown Electric

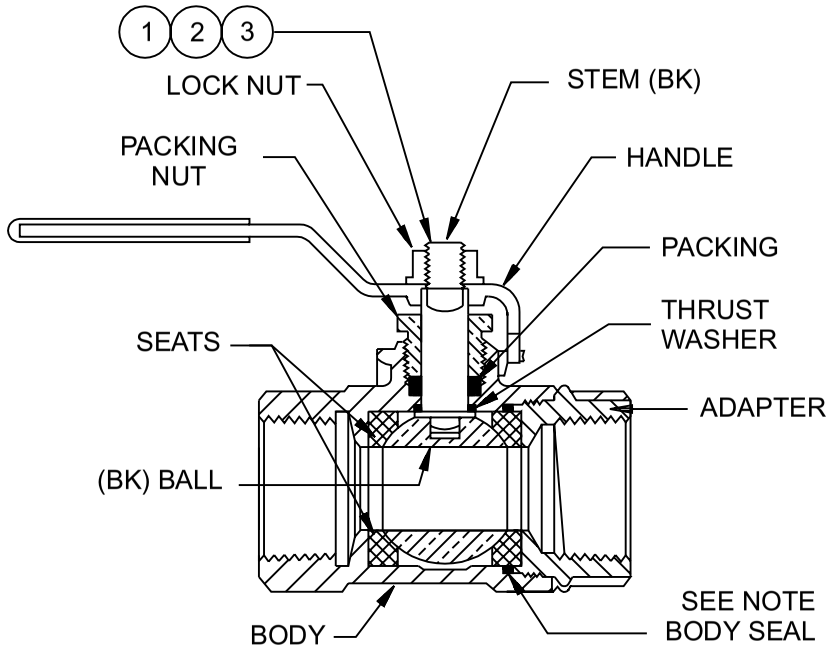
Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	AVC11003P	92137# COOLDOWN INLET-ELEC 42QHP	42032F7J/P/W/S
	B	AVC35001	96000Z ASSY=COOLDOWN 3630F8-ELECT	36030F8J/P/W/S
			----------COMPONENTS----------	
all	1	5N0PCLSG42	NPT NIPPLE 3/4XCLS TBE GALSTL SK40	
all	2	5SL0PNFA	NPT ELBOW 90DEG 3/4" GALMAL 150#	
all	3	51T030	01Z Y-STRAINER 3/4" CAST IRON	
all	4	96D050A	01Z 3/4"BALLVALVE BRZ WATTS#B6100	
all	5	96P053A71	02Z 3/4"VAL 240V60/50C #2110-6121IS	
all	6	51X019	UNION STRADAPT 3/4" PH#0107-12-12	
all	7	5SU0PNF	NPT UNION 3/4" GALMAL 150#	
all	8	5SP0KGFSS	NPT PLUG 1/2 SOSOLID GALSTL	

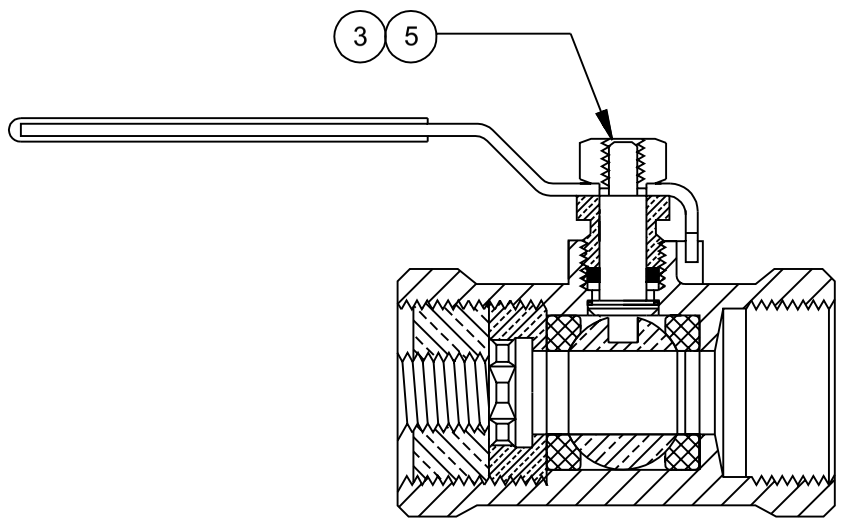
Watts Ball Valves and Repair Kits

Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400
BMP920007/96067V (1 of 2)
Litho in U.S.A.

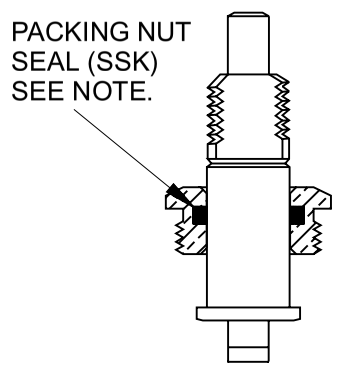
BALL VALVES WITHOUT ACTUATOR PADS FOR MANUAL OPERATION



1/2" BRONZE OR 1/2", 3/4" STAINLESS
NO REPAIR KITS

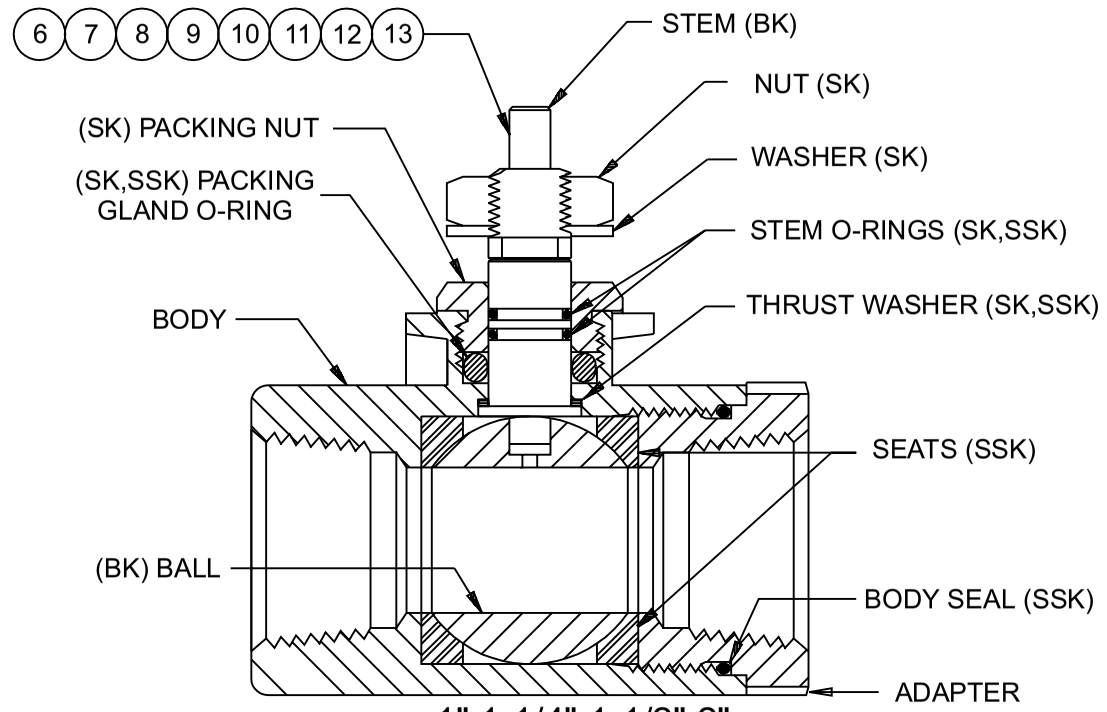


3/4",1"
BRONZE
NO REPAIR KITS



DETAIL
OLD STYLE STEM

AIR OPERATED BALL VALVES



1",1-1/4",1-1/2",2"
BRONZE & STAINLESS

(For Bracketry and Mounting Hardware, See BMP920005. For Air Cylinders that Operate Watts Ball Valves, See BMP920006.)

HOW TO USE THIS DRAWING:

The ball valves are separated by size, material, and type of operation. Find the cross section which shows your ball valve (example 1-1/2" bronze air operated). See the parts list for the item number which represents your ball valve (1-1/2" bronze air operated would be item 10 on the parts list). For valves that offer repair kits the internal parts are labled and marked as to which kit they are found in:

- (BK) part of Ball Kit
- (SK) part of Stem Kit
- (SSK) part of Seat/Seal Kit

For the part number of the Seat/Seal Kit for item 10 (1-1/2" bronze air operated valve) see the parts list and look for item 10SSK, likewise the Stem Kit will be 10SK.

NOTE:

AIR OPERATED VALVES: (SSK) kits for air operated ball valves include all parts required to repair either our old style or new style stems. A packing nut seal is provided to repair our old style stems which had a seal in the packing nut (see Detail). Our new style stem uses a double o-ring design.

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P. O. Box 400, Kenner, LA 70063-0400

Litho in U.S.A.

Parts List—Watts Ball Valves and Repair Kits

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
----------ASSEMBLIES----------				
			none	
----------COMPONENTS----------				
all	1	96D034	04Z BALLVALVE 1/2" WATTS #6400-SS	1/2"BRONZE-MANUAL, NO KITS
all	2	96D040WSS	01Z 1/2" BALLVALVE S/S WATTS#S-8000	1/2"STAINLESS-MANUAL
all	002BK	96V040BK	BALL KIT WATTS #BV4SSA6	
all	002SSK	96V040SSK	01Z REPKIT 1/2"VAL WATTS#3SSK-02-RK	
all	3	96D050A	01Z 3/4"BALLVALVE BRZ WATTS#B6100	3/4"BRONZE-MANUAL, NO KITS
all	4	96D055WSS	01Z 3/4"BALLVALVE S/S WATTS#S-8000	3/4"STAINLESS-MANUAL
all	004BK	96V055BK	BALL & STEM KIT WATTS #4BSK-SSRK	
all	004SSK	96V055SSK	01Z REPKIT 3/4"VAL WATTS#4SSK-02-RK	
all	5	96D084	01Z BALL VALVE 1" WATTS#B6100 BRZ	1" BRONZE-MANUAL , NO KITS
all	6	96D085WEXS	07Z BALVAL 1" BRZ WATTS#B6400SSZ107	1" BRONZE-AIR OPERATED
all	006BK	96V085BK	BALL KIT WATTS #1-BALL-RK-Z107	
all	006SK	96V085SK	02Z STEM KIT 1" WATTS#1-ST-RK-Z107	
all	006SSK	96V085SSK	02Z REPKIT 1"BALVAL#1SSK-02-KK-Z107	
all	7	96D085WSS	07Z BALVAL 1" SS WATTS S8000-Z107	1" STAINLESS-AIR OPERATED
all	007BK	96V085BK	BALL KIT WATTS #1-BALL-RK-Z107	
all	007SK	96V085SK	02Z STEM KIT 1" WATTS#1-ST-RK-Z107	
all	007SSK	96V085SSK	02Z REPKIT 1"BALVAL#1SSK-02-KK-Z107	
all	8	96D086WEXS	08Z BAVAL 1+1/4BRZ WATS#B6400SSZ107	1-1/4"BRONZE-AIR OPERATED
all	008BK	96V086BK	BALL KIT WATTS #1.25-BALL-RK-Z107	
all	008SK	96V086A7SK	02Z STEMKIT 1.25-1.5-ST-RK-Z107	

Parts List, cont.—Watts Ball Valves and Repair Kits

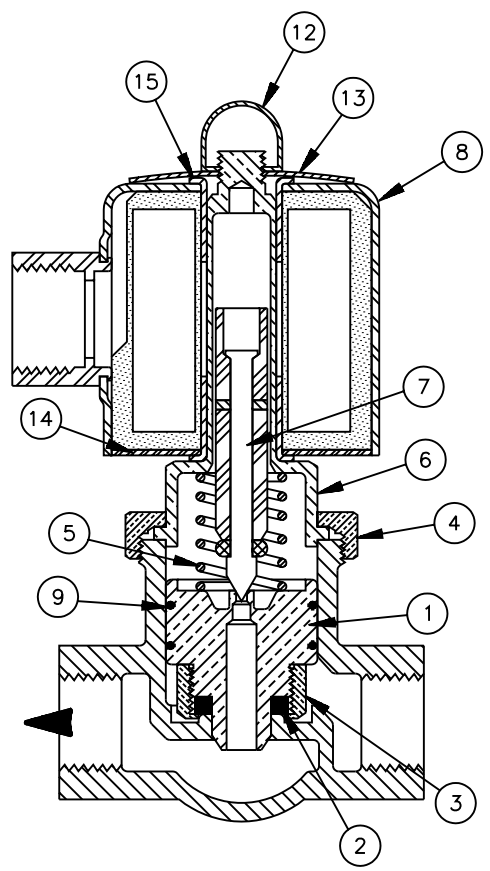
Used In	Item	Part Number	Description	Comments
all	008SSK	96V086SSK	02Z REPKIT 1.25BALVALSSK-02-RK-Z107	
all	9	96D086WSS	08Z BAVAL 1+1/4"SS WATTS S8000-Z107	1-1/4"STAINLESS-AIR OPER.
all	009BK	96V086BK	BALL KIT WATTS #1.25-BALL-RK-Z107	
all	009SK	96V086A7SK	02Z STEMKIT 1.25-1.5-ST-RK-Z107	
all	009SSK	96V086SSK	02Z REPKIT 1.25BALVALSSK-02-RK-Z107	
all	10	96D087WEXS	09Z BAVAL 1+1/2BRZ WATS#B6400SSZ107	1-1/2"BRONZE-AIR OPERATED
all	010BK	96V087BK	BALL KIT WATTS #1.5-BALL-RK-Z107	
all	010SK	96V086A7SK	02Z STEMKIT 1.25-1.5-ST-RK-Z107	
all	010SSK	96V087SSK	02Z REPAIR KIT 1.5" BALL VALVE	
all	11	96D087WSS	08Z BAVAL 1+1/2"SS WATTS S8000-Z107	1-1/2"STAINLESS-AIR/ OPER.
all	011BK	96V087BK	BALL KIT WATTS #1.5-BALL-RK-Z107	
all	011SK	96V086A7SK	02Z STEMKIT 1.25-1.5-ST-RK-Z107	
all	011SSK	96V087SSK	02Z REPAIR KIT 1.5" BALL VALVE	
all	12	96D088WEXS	09Z BALVAL 2" BRZ WATTS#B6400SSZ107	2"BRONZE-AIR OPERATED
all	012BK	96V088BK	BALL KIT WATTS #2-BALL-RK-Z28	
all	012SK	96V088SK	03Z STEM KIT 2" WATTS#2-ST-RK-Z107	
all	012SSK	96V088SSK	02Z REPKIT 2"VAL WAT2SSK-02-RK-Z107	
all	13	96D088WSS	09Z BALVAL 2" SS WATTS S8000-Z107	2"STAINLESS-AIR OPERATED
all	013BK	96V088BK	BALL KIT WATTS #2-BALL-RK-Z28	
all	013SK	96V088SK	03Z STEM KIT 2" WATTS#2-ST-RK-Z107	
all	013SSK	96V088SSK	02Z REPKIT 2"VAL WAT2SSK-02-RK-Z107	

Hays Electric Inlet Valves

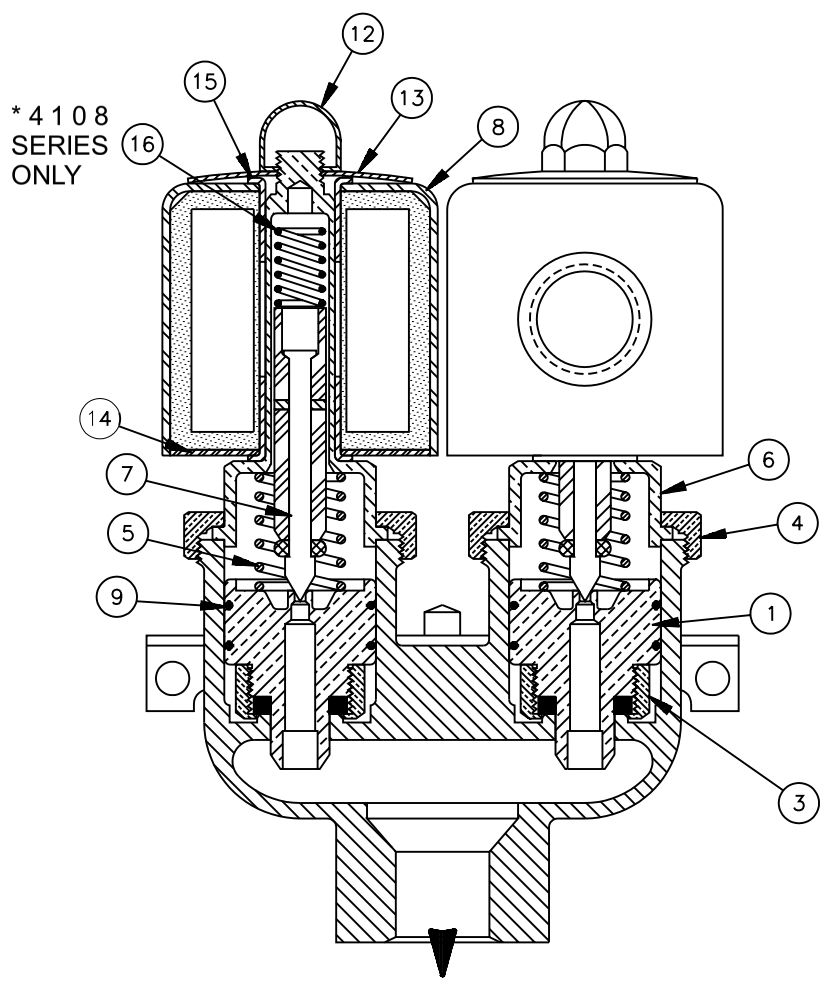
Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400

Litho in U.S.A.

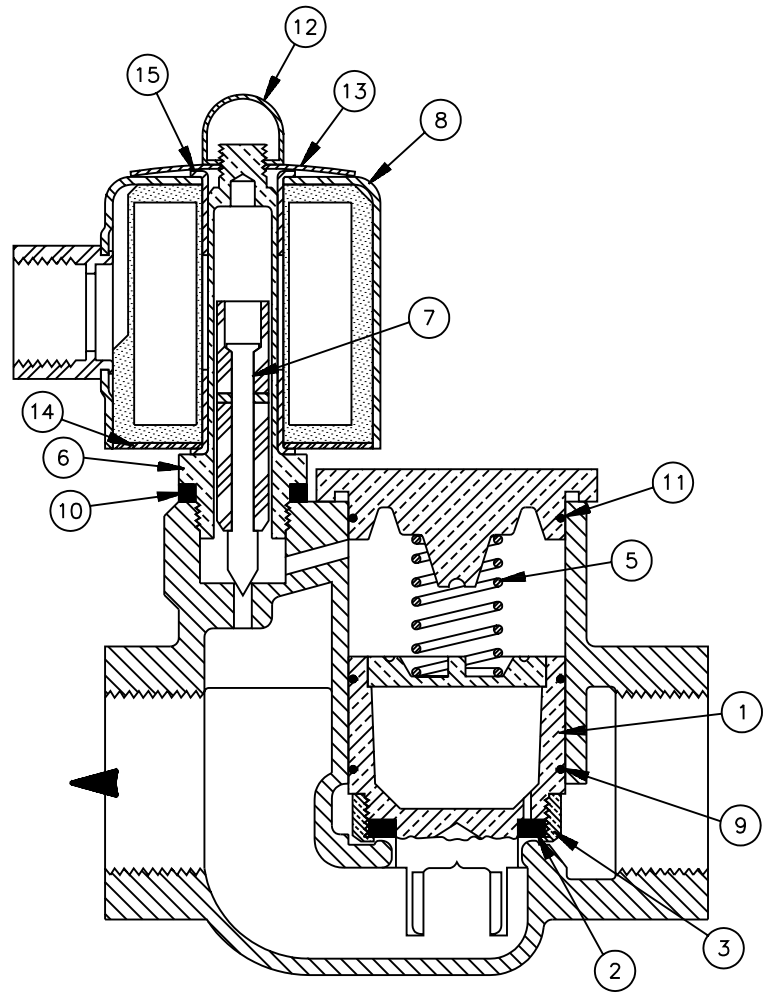
NOTE:
HAYS 4108 SERIES DUOVALVE IS REPLACED BY THE 3108 SERIES(SHOWN). IF REPLACEMENT PARTS ARE NEEDED FOR THE OBSOLETE 4108 SERIES SEE PARTS LIST ON REVERSE SIDE.



00S,00W,00X,00XX
3/8" BALANCING & 3/4" VALVES



00T,00U,00V
1/2" DUO VALVES



00Y,00Z,00ZZ
1-1/4" VALVES

GENERAL MAINTENANCE:

1) THOSE VALVES WITH COUPLING NUTS MUSTY NOT BE EXCESSIVELY TIGHTENED. USE A STEADY PULL WITH A 14" OR SMALLER WRENCH. DO NOT HAMMER ON NUT OR WRENCH. LIMIT MAXIMUM TORQUE ON COUPLING NUT TO 600LB/INCH. EXCESSIVE THIGHTENING OF COUPLING NUT WILL DISTORT VALVE BODY CAUSING THE PISTON BODY TO JAM AND THE VALVE WILL NOT SHUT OFF.

2) IF THE VALVE LEAKS BETWEEN THE BODY AND BONNET, LOOSEN THE COUPLING NUT AND TURN THE BODY SLIGHTLY, THEN TIGHTEN THE COUPLING NUT. IF THE VALVE STILL LEAKS, REPEAT THE OPERATION. IN NO CASE MUST THE NUT BE TIGHTENED EXCESSIVELY.

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BMP700710/96081V (2 of 2)
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Parts List—Hays Electric Inlet Valves

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	S	96P014	02Z 3/8" VALVE 120V HAYS 2195-0055	
	T	96P016	10Z 1/2" DUOVAL 120V HAYS3108-6021	
	U	96P016A24	08Z 1/2" DUOVAL 24V HAYS3108-6421	
	V	96P016A71	05Z 1/2" DUOVAL 240V HAYS3108-6121	
	W	96P053	05Z 3/4"VAL 24V HAYS 2110-6421IS	
	X	96P053A37	06Z 3/4"VAL 110V HAYS #2110-6021IS	
	XX	96P053A71	3/4" HAYS VALVE 240V60/50C FACTMADE	
	Y	96P151	09Z 1+1/4" VAL 24V HAYS 2110-6421IS	
	Z	96P151A37	05Z 1+1/4" VAL 110V HAYS2110-6021IS	
	ZZ	96P151A71	1.25" HAYSVALVE 240V60/50C FACTMADE	
			----------COMPONENTS----------	
S	1	96V245	PISTON ASSY HAYS #7735505	
T-V	1	96V216	PISTON-TEFLON FOR HAYS STYLE 3108	
W-XX	1	96V222	PISTON ASSY HAYS 7730004 FOR 96P053	
Y-ZZ	1	96V224B	PISTON ASSY HAYS #7643101=96P151	
all	1	96V216A	PISTON-TEFLON FOR HAYS STYLE 4108	OBSOLETE 4108 DUOVALVE
S-V,	2	96V247	SEATWASHER HAYS #8222301 96P014+16	OBSOLETE 4108 DUOVALVE ALSO
W-XX	2	96V225	SEAT WASHER HAYS #8249801	
Y-ZZ	2	96V225A	SEAT WASHER HAYS #84048 FOR 96P151	
S-V,	3	96V248	SEATWASHER NUT HAYS#82222 96P014+16	OBSOLETE 4108 DUOVALVE ALSO
W-Z	3	96V226	SEAT WASHER NUT HAYS #86030 =96P053	
S-V	4	96V246	COUPLING NUT HAYS #76303 96P014+16	
W-Z	4	96V254	COUPLING NUT HAYS #76028 = 96P053	
S-V,Y-ZZ	5	96V244	PISTON SPRING FOR HAYS STYLE 3108	
W-XX	5	96V222A	PISTON SPRING HAYS 82488	
all	5	96V244A	PISTON SPRING HAYS 4108 HAYS #88108	OBSOLETE 4108 DUOVALVE
S-V	6	96V242	BONNET FOR HAYS 3108 HAYS#83021	
W-XX	6	96V258	BONNET HAYS #73026 FOR 96P053	
Y-Z	6	96V260	BONNET HAYS #83192 FOR 96P151	
S onlY	7	96V243	PLUNGER ASSY TEFLON TIP HAYS #74327	
T-ZZ	7	96V223	PLUNGER HAYS #7319503	
all	7	96V223A	PLUNGER ASSY FOR HAYS STYLE 4108	OBSOLETE 4108 DUOVALVE

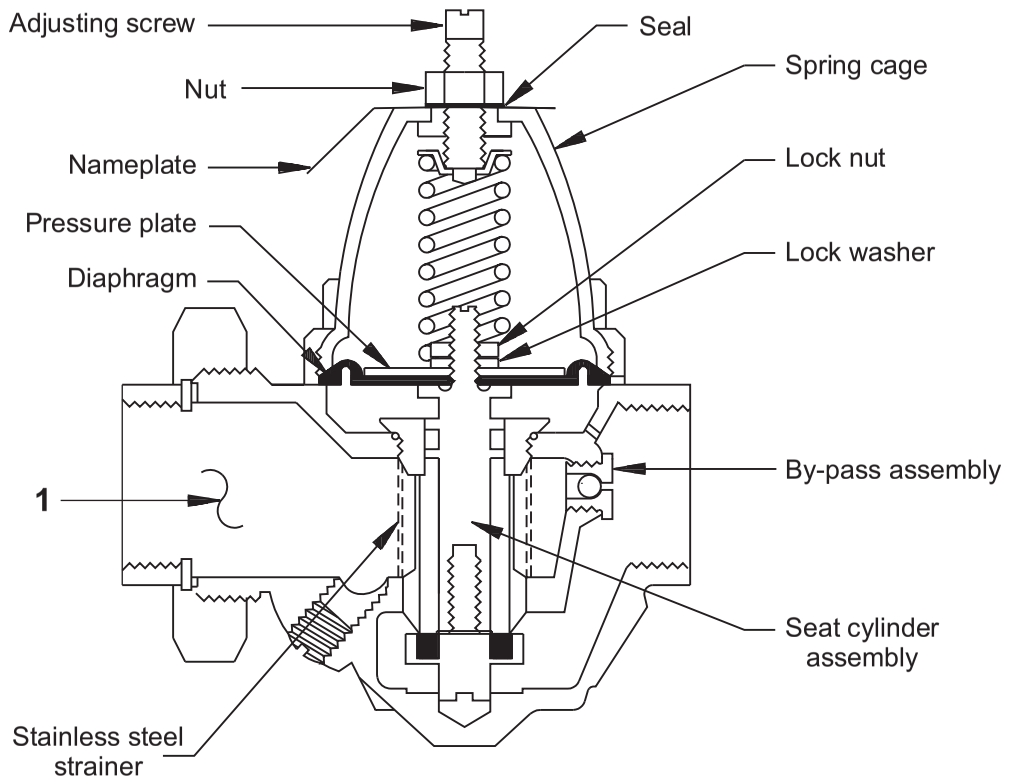
Parts List, cont.—Hays Electric Inlet Valves

Used In	Item	Part Number	Description	Comments
S-T,X,Z	8	96V211	COIL 120V50/60C FOR HAYS STYLE 3108	
U,W,Y,ZZ	8	96V210	COIL 24V50/60C FOR HAYS STYLE 3108	
V,XX	8	96V212	COIL 240V50/60C FOR HAYS STYLE 3108	
S-V,	9	96V217	TEFLON SPLIT RING 1/2" HAYS#8502901	OBSOLETE 4108 DUOVALVE ALSO
W-XX	9	96V222T	TEFLON SPLIT RING HAYS #8503002	
Y-ZZ	9	96V224T	TEFLON SPLITRING 1 1/4"HAYS#8503102	
Y-ZZ onlY	10	96V229	BONNET GASKET HAYS #82224= 96P151	
Y-Z onlY	11	96V261	O-RING (SEAL CAP) HAYS#87407=96P151	
all	12	96V250	PALNUT HAYS #3069-PC	
all	13	96V251	SPRING WASHER HAYS #83600	
all	14	96V264	BOTTOM PLATE (COIL) HAYS#8223601	
all	15	96V262	FERRULE (COIL SLEEVE) HAYS #82239	
all	16	96V244PS	PLUNGER SPRING FOR HAYS STYLE 4108	OBSOLETE 4108 DUOVALVE ONLY
all	17	96V250A	COIL RETAINER HAYS4108 HAYS #82958	(NOT SHOWN) OBSOLETE 4108 DUOVALVE

Pressure Regulators

Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400

Litho in U.S.A.



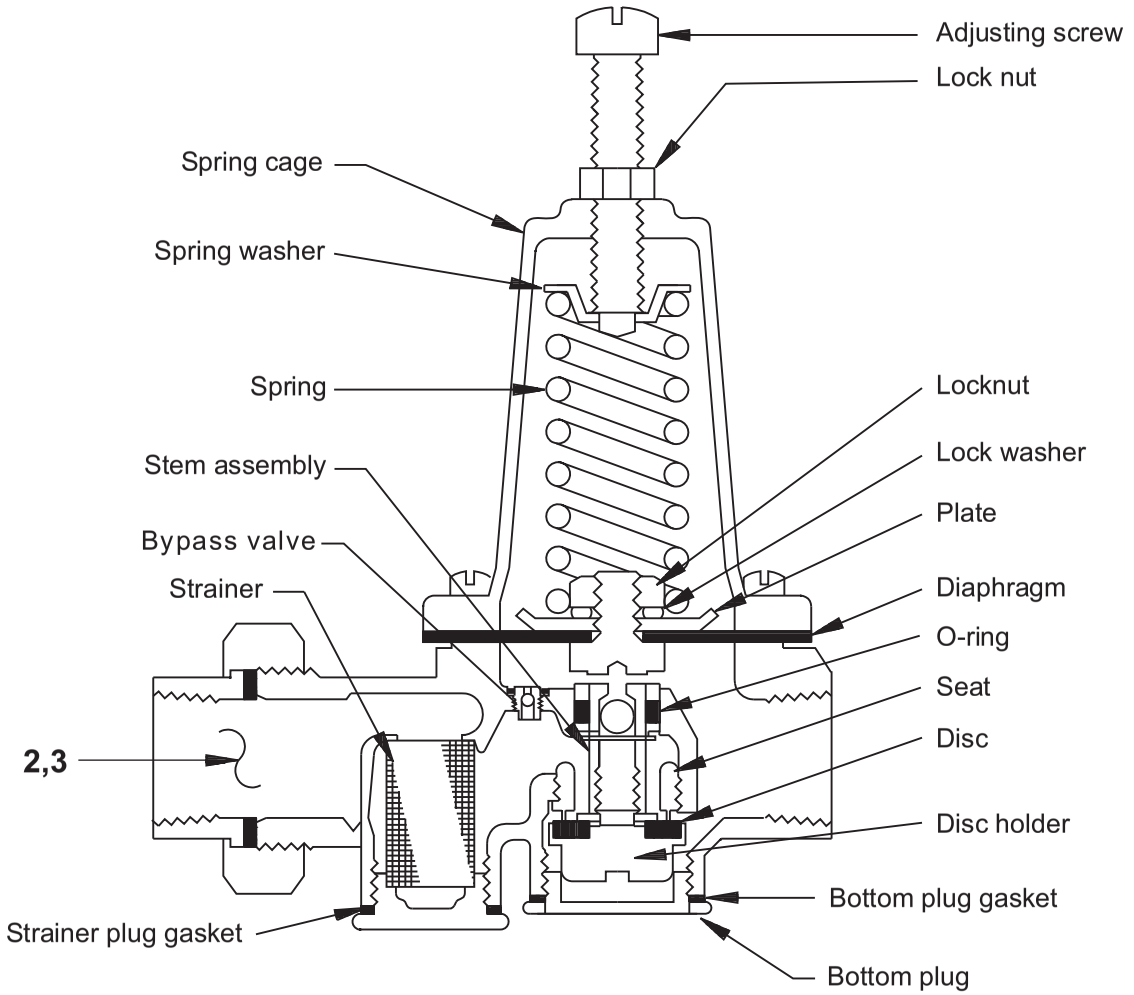
To clean:

1.Remove spring cage and all parts above diaphragm.

2. Loosen and remove diaphragm lock nut, lock washer, pressure plate, and diaphragm from valve stem.

3. Unscrew seat cylinder from body and remove entire assembly.

4. Open gate valve to flush out collected sediment.



To clean :

1. Remove bottom plug and gasket.

2. Loosen disc holder with screwdriver or socket wrench.

3. Inspect disc and clean.

4. Seat can be removed, if necessary, with an allen wrench or socket wrench.

5. Unscrew and remove adjusting screw, check nut, and spring cage screws. Lift off spring cage, spring washer and adjusting spring.

6. Loosen and remove lock nut, lock washer, plate, and diaphragm.

7. Lift stem assembly upwards to remove from body.

8. To reassemble valve follow above instructions in reverse. Tighten or loosen adjusting screw for the required pressure of 28 P.S.I.

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Litho in U.S.A.

Parts List—Pressure Regulators

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------COMPONENTS----------	
	1	96J030FF	01Z 1/2"PRESS REG SET 28# FEM X FEM	½" REGULATOR 3621V ONLY
	2	96J030D	01Z 1/2" PRESREGULTR SET 28# FEM-UN	½" REGULATORS ALL OTHER MODELS
	3	96J031D	01Z 3/4" PRESREGULTR SET 28# FEM-UN	3/4" REGULATORS

Air Operated Steam Injection

36030F8J,F8W,F8S,F8R 42032F7J,F7W,F7S,F7R

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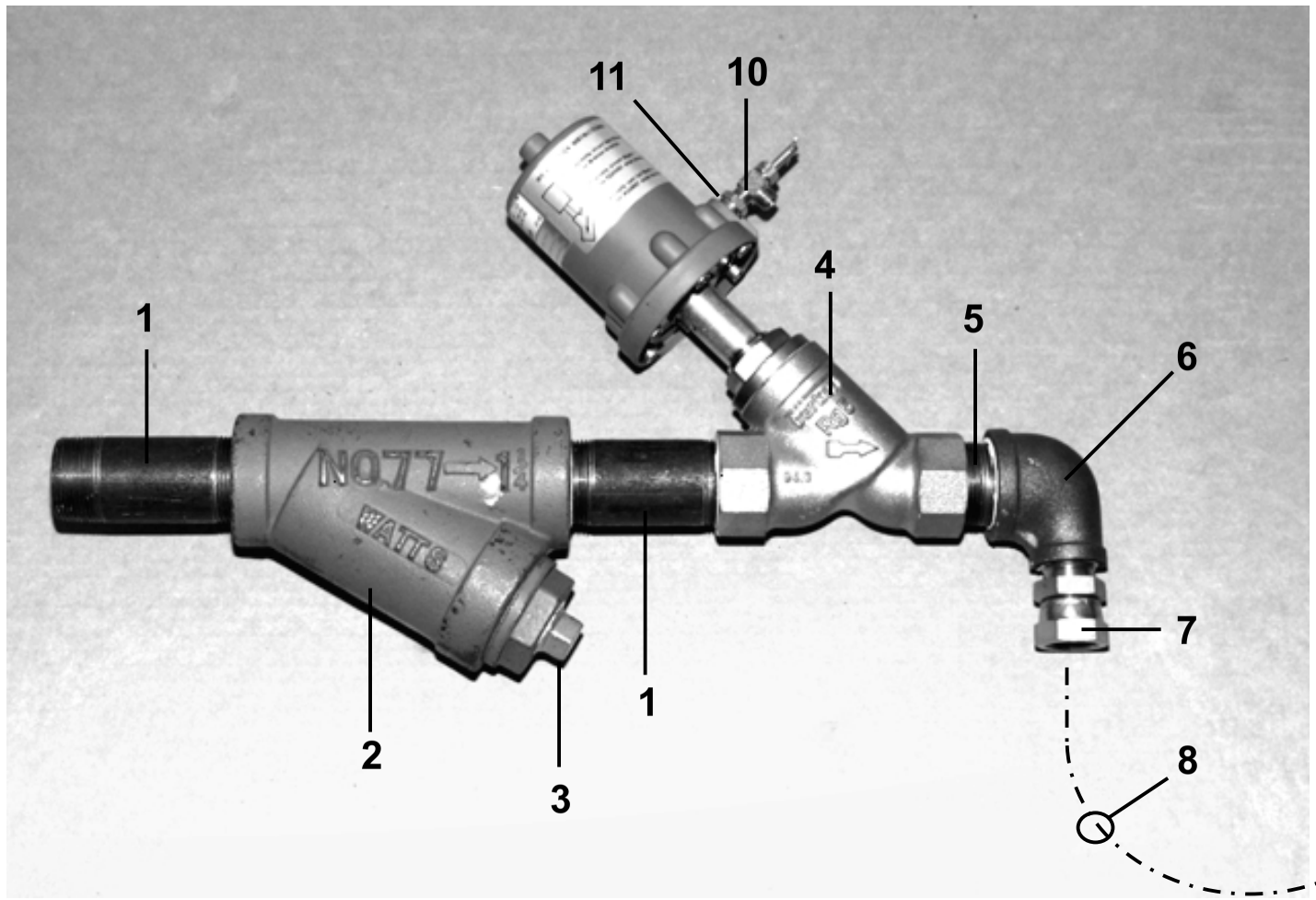
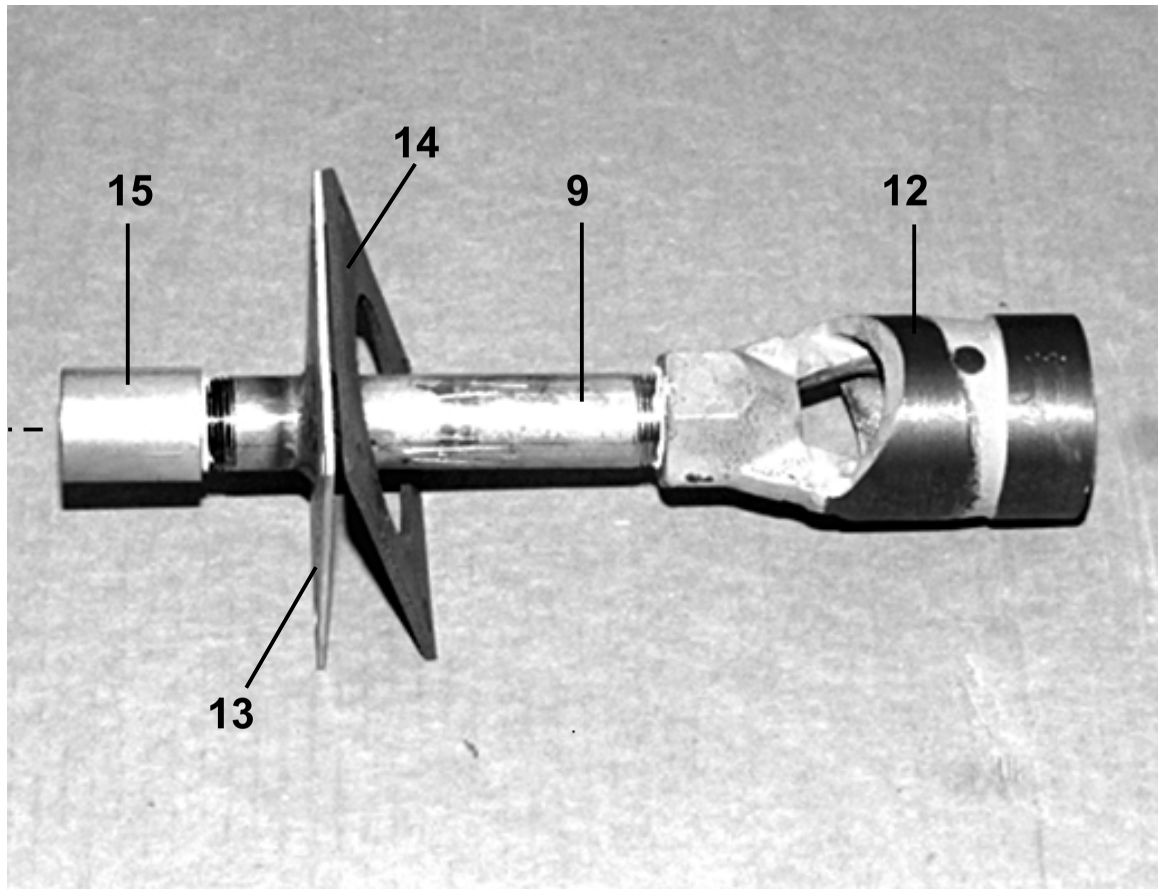
Litho in U.S.A.





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Litho in U.S.A.

Parts List—Air Operated Steam Injection

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	ZMWJF2C00A	4232F7 ADD AIROP STEAM INJECTION	42032F7J/W
	B	ZLWJF2C00A	3630F8 ADD AIROP STEAM INJECTION	36030F8J/W
	C	ZLWSF2C00A	3630S8 ADD AIROP STEAM INJECTION	36030F8S,F8R
	D	ZMWSF2C00A	4232F7S ADD AIROP STEAM INJECTION	42032F7S,F7R
	E	AVS11004C	95000Z STEAM PIPE + NOZZEL ASSY 42F	
			----------COMPONENTS----------	
A,D	1A	5N1E04AF42	NPT NIP 1.25X4 TBE BLKSTL SK40	
B,C	1B	5N0P04AF42	NPT NIP 3/4X4 TBE BLKSTL SK40	
A,D	2A	51T060	01Z Y-STRAINER 1+1/4" CAST IRON	
B,C	2B	51T030	01Z Y-STRAINER 3/4" CAST IRON	
A,D	3A	5SP0PHFSS	NPT PLUG 3/4 SQ SOLID STL/ZINC	
B,C	3B	5SP0KGFSS	NPT PLUG 1/2 SOSOLID GALSTL	
A,D	4A	96D0011E	14Z 1.25"NPTBRZ N/C STEAMVALANGBD	
B,C	4B	96D0009E	05Z 3/4"NPTBRZ N/C STEAMVAL ANGBOD	
A,D	5A	5N1ECLSF42	NPT NIP 1.25XCLS TBE BLKSTLS40	
B,C	5B	5N0PCLSF42	NPT NIP 3/4XCLS TBE BLKSTLSK40	
A,D	6A	5SL1EFFA0P	NPTELB 90DEG 1.25X3/4BLKMAL150	
B,C	6B	5SL0PMIA	NPTELB 90DEG 3/4 BLKMAL 300#	
A,B,C,D	7	51X019	UNIONSTRADT 3/4"PH#0107-12-12	
A,B,C,D	8	60E512C45A	STEAM HOSE SS BRAID5/8+2ENDS=45"	
A,B,C,D	9	AVS11004C	95000Z STEAM PIPE + NOZZEL ASSY 42F	COMPLETE ASSEMBLY
A,B,C,D	10	96H018	ANGLE NEEDLE VLV 1/4"T X 1/8MP	
A,B,C,D	11	5SB0E0CBEO	NPTHEXBUSH 1/4X1/8 BRASS 125#	
E	12	X6 20247A	97146# 3/4" NPT .5"SPARGER MACH.	PART OF 9
E	13	W2 11365	93241B*STEAM PIPE+FLANGE WLMT	PART OF 9
E	14	02 11369D	95191B GASKET STEAM FLANGE MTG DYE	PART OF 9
E	15	5SCC0PSF	NPT COUP 3/4 SS304 150#	PART OF 9

Drain Valve Installation

42032F7J,F7W,F7S,F7R

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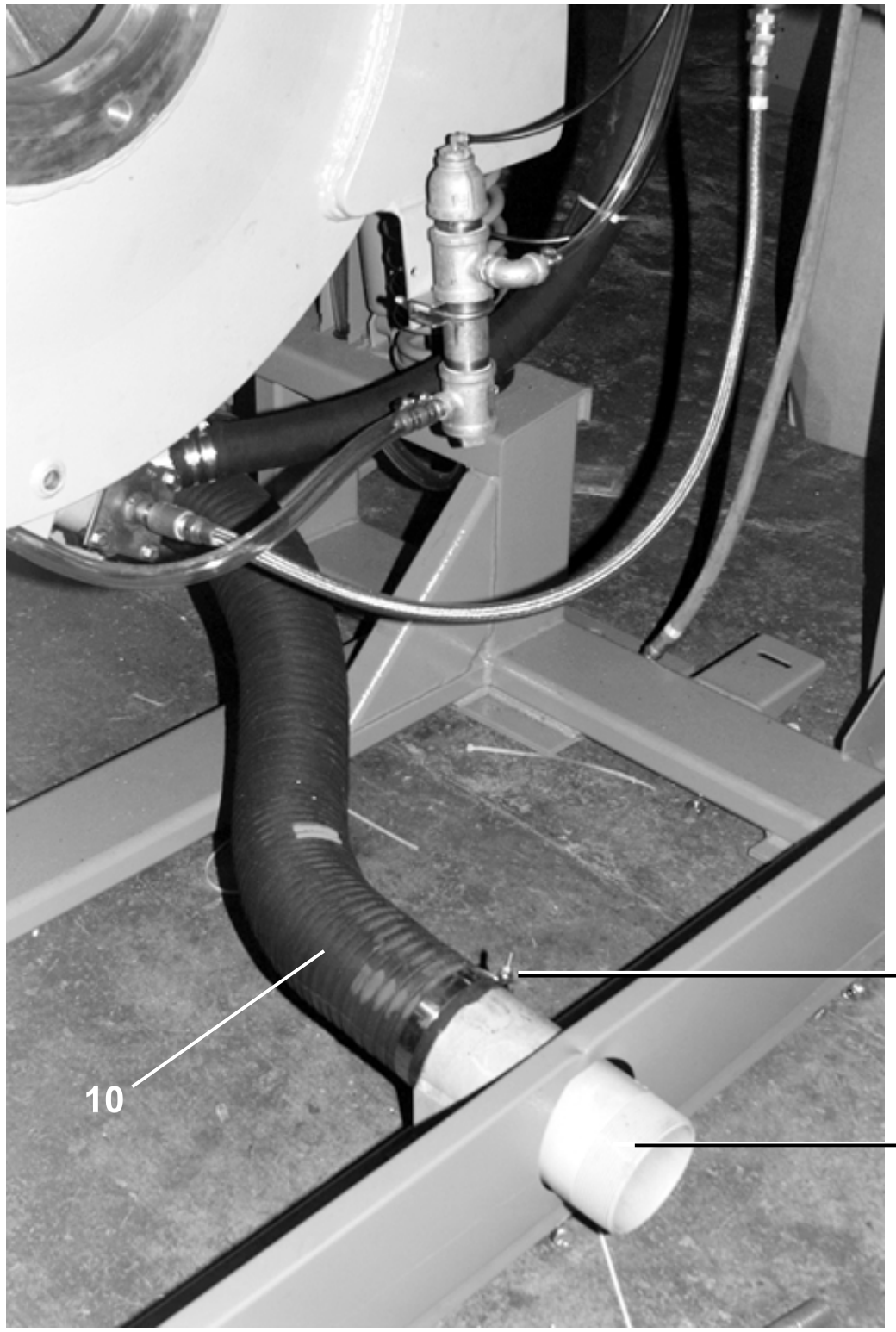
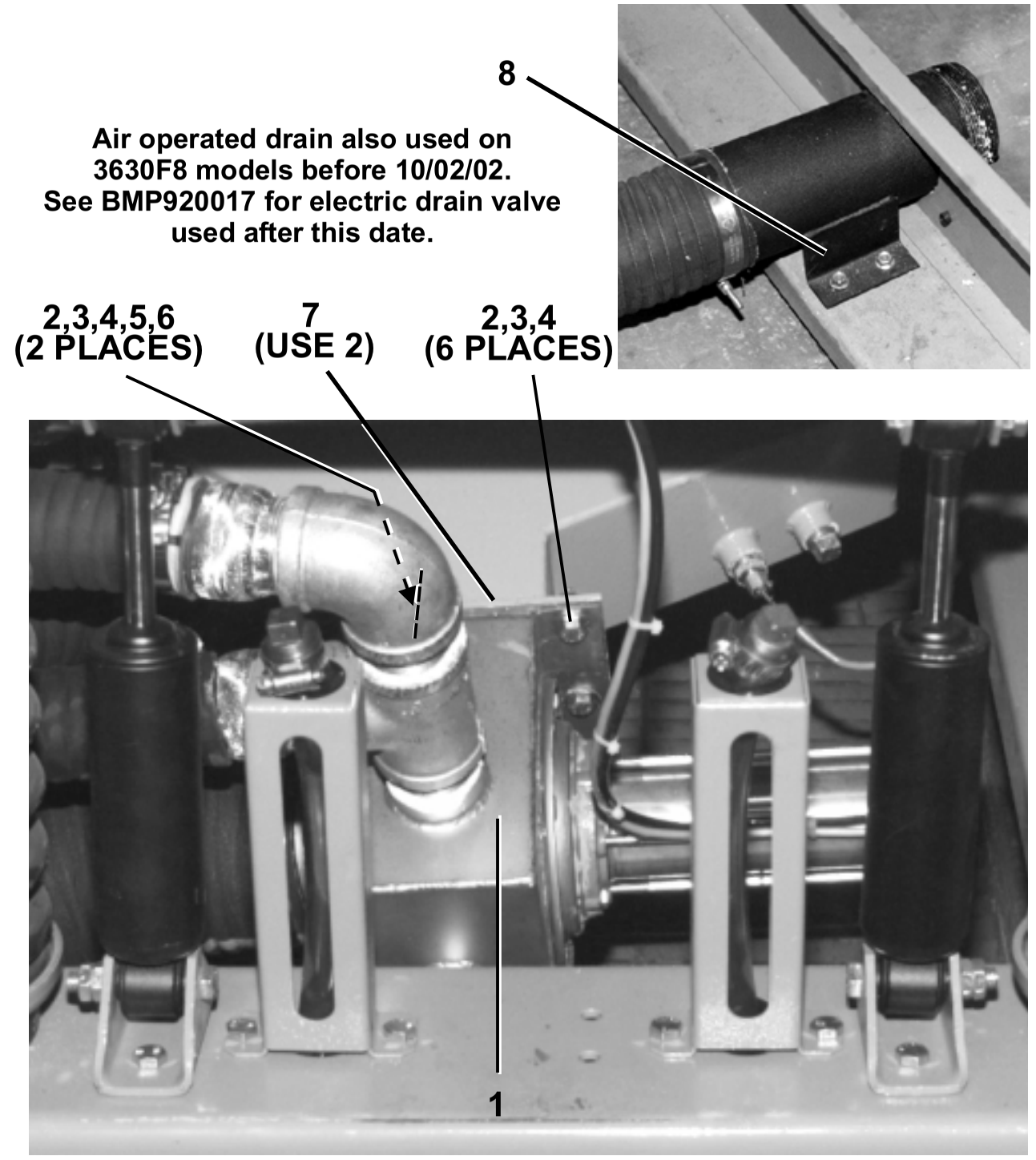


Air operated drain also used on 3630F8 models before 10/02/02. See BMP920017 for electric drain valve used after this date.



DRAIN VALVE INSTALLATION (FxJ,FxP,FxW)

Drain Valve Installation

42032F7J,F7W,F7S,F7R

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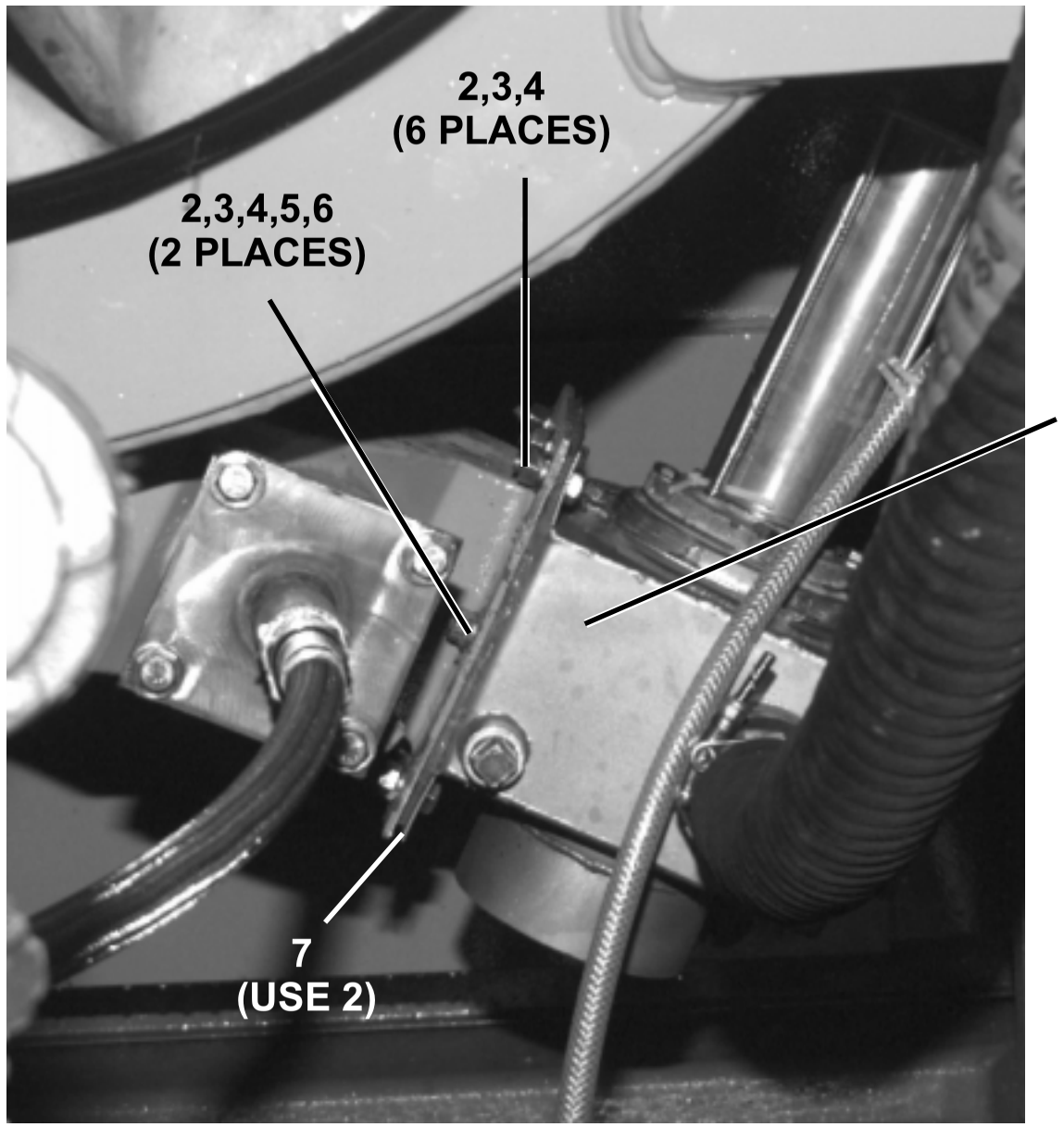

STAPH-GUARD® DRAIN VALVE INSTALLATION

Parts List—Drain Valve Installation

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
.				
----------ASSEMBLIES----------				
	A	GVW42003	95516B INST=DRAIN ASSY 4232F	42032F7J,W,S,R
	B	GVW35003	95451Z INST=DRAIN ASSY 3630F8	36030F8J,W(BEFORE 2002)
	C	GVW35003S	97000Z INSTL=DRAIN ASSY 3630S8	36030F8S,R(BEFORE 2002)
----------COMPONENTS----------				
all	1	A15 15100	84242C 4"SGL.DUMPVALVE 4231WE+SG	
all	2	15K096	HEXCAPSCR 3/8-16UNC2X1SS18-8	
all	3	15U260	LOCKWASHER MEDIUM 3/8 SS18-8	
all	4	15G206	HEXNUT 3/8-16 UNC2 SS 18-8	
all	5	15U245	01Z FLTWASH 3/8 STD COMM 18-8 SS	
all	6	24G030N	ROLLED WASHER .379"ID NYLTITE #37W	
all	7	02 15026	GASKET-7"SQ=4"FLANGEDUMP	
all	8	W2 14691	96177D*WLDMT:DRAIN PIPE 3621 F8P	
all	9	27A087	HOSECLAMP,4+1/16-5" CADSCR HS-72	
all	10	60E309	02Z HOSE 4+1/2" ID GATES 63SB *	

3 & 4 Inch Dump Valve Assembly

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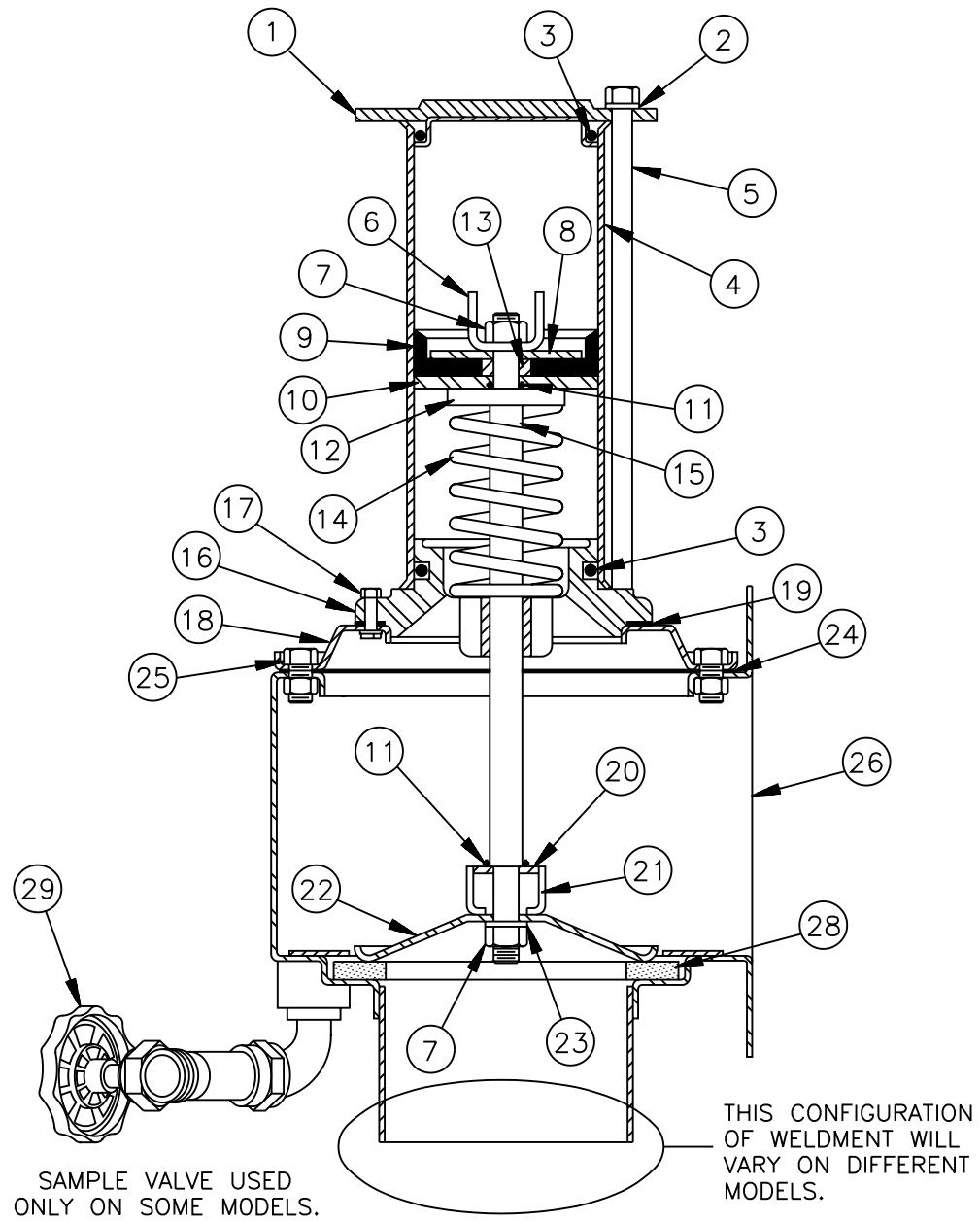
⚠WARNING⚠

EXPLOSION HAZARD--Air cylinder can burst apart with great force. Circled items are under high spring tension. Follow maintenance instructions MSSM0130AE carefully.



Parts List—3 & 4 Inch Dump Valve Assembly

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			ASSEMBLIES	
	N	W2 15997	BODY=4" DUMPVALVE=4231WE+SG	CBW REUSE TANK
	P	AVD14003	91000Z ASSY DMPVALVE 36QU	3621/26Q4G/J/P, Q6G/J/P
	Q	AVD14001A	89000Z ASSY=DUMP VALVE 42S6P	4226Q4G/JP,Q6G/J/P
	R	AVD14001	89000Z ASSY=DUMP VALVE 3621F8P	3621F8P
	S	A14 06500B	82341T*DUMP VALVE ASSY=4S/S 4226QHE	4840F7J,F7W,F7N,F7B 48/42QTL/N/HP, 48BTL/N/HP
	T	A15 15100	84242C 4"SGL.DUMPVALVE 4231WE+SG	4231WP2,WP3/WW CBW®,4232F7J,P,W 3630F8J,W,P
	U	A14 06500	84242@*DUMP VALVE ASSY=4"NPT SS	3621NSP
	V	A14 06500A	84242J* 4"SS DUMPVALVE=3621+4226DYA	4226DA1
	W	A14 06500F	84266@ DUMPVALVE=10GA 4" S/S	4226DP1,DYP
	X	SA 09 013A	84242C*DUMP VALVE ASSY-3"NPT SS	3016NSE
	Y	A14 06400	89457U* BONNET+CYL=4"SS DIVCYL DUMP	00N-00T(CONTAINS 1-23)
	Z	A14 06400A	89457%* BONNET+AIRCYL=4"DYA DUMPVAL	00U-00X(CONTAINS 1-23)
			COMPONENTS	
all	1	02 02101	71334A CYLHEAD W/TAPPED HOLE	
Y	2	15U210	LOKWASHER MEDIUM 5/16 ZINCPL	
Z	2	15U205	LOCKWASHER MEDIUM 5/16" 18-8SS	
Y	3	60C132	ORING 2"ID 3/16CS BUNA 70 DURO #329	
Z	3	60C132V	ORING 2 ID 3/16CS VITON 75 # 329	
all	4	02 02068	94266A AIRCYL-STAINLESS=DUMPVALVE	
Y	5	02 10585D	91142# TIE BOLT=5/16-18X7.875 PLTD	
Z	5	02 10585	91142B TIE BOLT=5/16-18X7.875LG SS	
all	6	03 01313	70219A STOP=AIR CYL W/2+11/16STROKE	
all	7	15G220	02Z LTHX THIN LOKNUT 3/8-24 SSNTE	
all	8	02 02085	75161A UP WASHER=2"OD=PISTONCUP	
all	9	02 02194	93217B PISTONCUP=DUMPVALVE 2+3/8"	
all	10	02 02105B	92253B 2.38"ACYL BRASS PISCUP WASHR	
Y	11	60C106	ORING 5/16ID 1/16CS BN 70 DURO #011	
Z	11	60C106V	O-RING 5/16"IDX1/16"CS VITON 11-011	
all	12	02 18651	73171A WASHER=2WAY BRAKECYL	
all	13	02 02185	79237A WASHER=PISTON CUP COMP LIMIT	
all	14	02 17023	83392B SPRING-SS=DUMP 1.5OD8FL21#/"	

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Parts List, cont.—3 & 4 Inch Dump Valve Assembly

Used In	Item	Part Number	Description	Comments
All	15	02 16021I	94191# DUMPVAL STEM-4"+8" DYE 316L	
Y	16	X2 02743	87382B BONNET=2"DUMP VALVE	
Z	16	X2 02743S	73141B BONNET=2"DUMP VALVE-SS	
all	17A	15G168	SQNUT 1/4-20UNC2 SS18-8	
all	17B	24G020N	ROLLED WASHER .252"ID NYLTITE #25W	
all	17C	15K041S	HEXCAPSCR 1/4-20UNC2AX1 SS18-8	
all	17D	15U181	LOCKWASHER MEDIUM 1/4 SS18-8	
all	18	02 14447	92037B BONNET=4"S/S DUMP VALVE	
Y	19	02 18931F	93362B GASKET=DUMPVALVE-1/60+72WEHU	
Z	19	02 18932B	93362# GASKET=DUMPVAL 1/8"RED SILIC	
Y	20	02 16021E	94323B WASHER 3/8IDX1.250D DUMPVAL	
Z	20	02 18651A	83526B WASHER=DUMP VALVE DISC	
Y	21	02 16021C	92051B BUMPER=DUMP VALVE BONNET	
Y	21	02 16021D	92632B DUMP VALVE BUMPER RETAINER	
Z	21	02 16021S	84206B BUMPER=DUMP VAL BONT S/S	
all	22	02 14446	87503B DISC-4"S/S DUMP VALVE	
all	23	15U245	01Z FLTWASH 3/8 STD COMM 18-8 SS	
(P-V,X)	24	02 14443	93362B GASKET-4"S/S DUMP VAL BONNET	
W	24	02 14443E	91067B GASKET=DUMP/VENT VAL N-8090	
all	25A	15K086	HXCAPSCR 3/8-16NCX3/4 SS18-8	
all	25B	24G030N	ROLLED WASHER .379"ID NYLTITE #37W	
P-T	25C	15U200	FLATWASHER(USS STD) 5/16"ZNC PLT	
R	26	W2 14740	94261D*WLMT=DUMP VALVE 3621F8P	
S	26	W2 11304	89417T*DUMP VALVE BODY WELDMT 4226	
N,T	26	W2 15997	91383@* BODY=4"DUMPVALVE=4231WE+SG	
U	26	W2 14445S	80433@*DUMPVALVE WLMT=SCREWED 4"NPT	
V	26	W2 14445	91383Y* BODY=4"DUMPVALVE=36BWE+QTS	
W	26	W2 14445F	91383@*DUMP VALVE WLDMT 4226DYP	
X	26	W2 14445J	80433T*DUMPVALVE WLMT=SCREWED 3"NPT	
Q	26	W2 14740A	91446Y*WLDMT=DUMP VALVE 42S6P	
P	26	W2 11943	93071D*WLMT=DUMPVAL DRN TO REAR 36Q	
(Q-T)	27	5SP0KGFSS	NPT PLUG 1/2 SOSOLID GALSTL	
(U-X)	27	5SP0KSFHC	NPT PLUG 1/2 HEX 304SS 150#	
all	28	02 14166	77131A SEAT 4" DUMP VALVE BUNA-N	
all	29	96DB0PNA	01Z HOSE BIBB 3/4" MALE INLT CELCON	ONLY ON SOME MODELS

Single Drain to Rear

36030F8J,F8W

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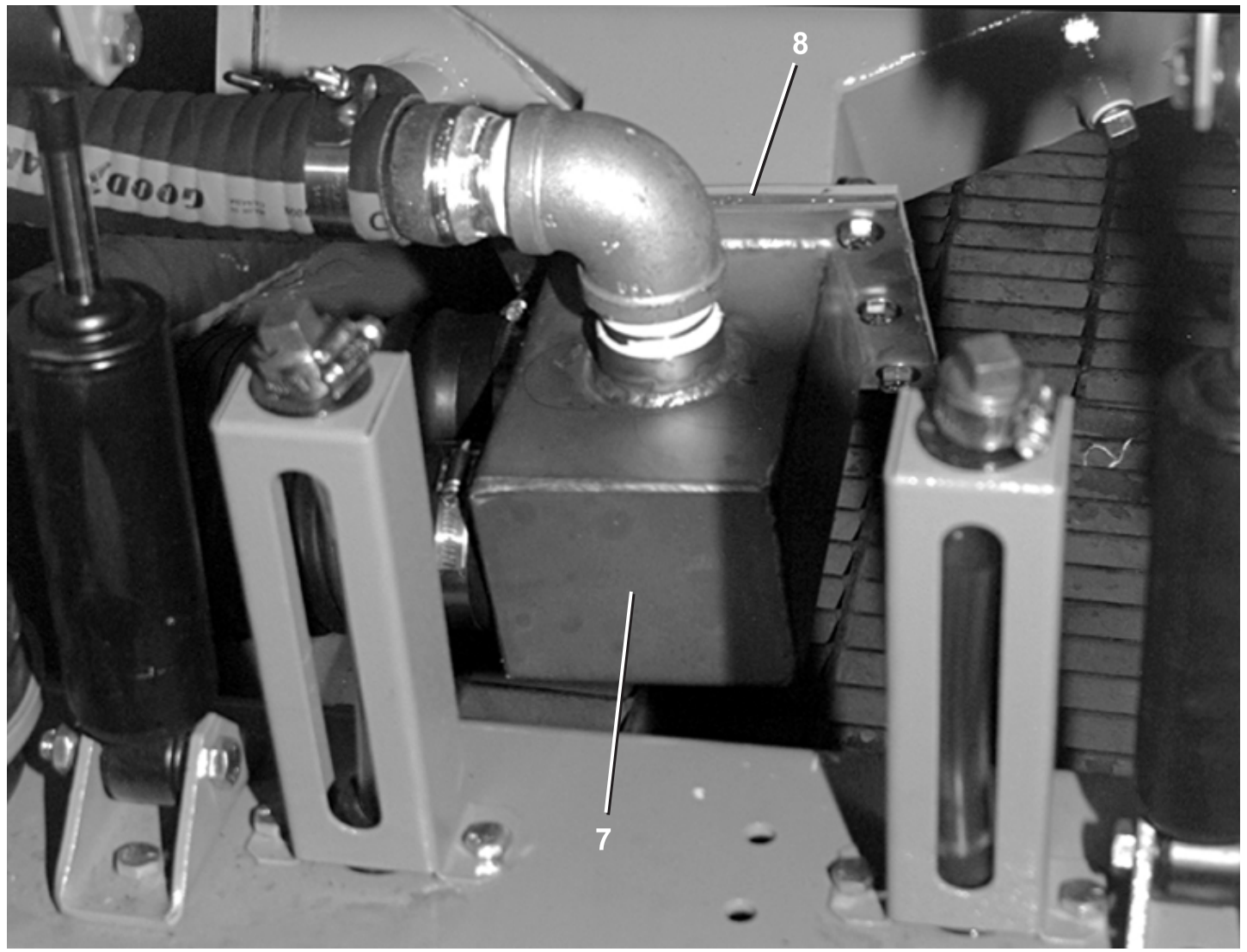
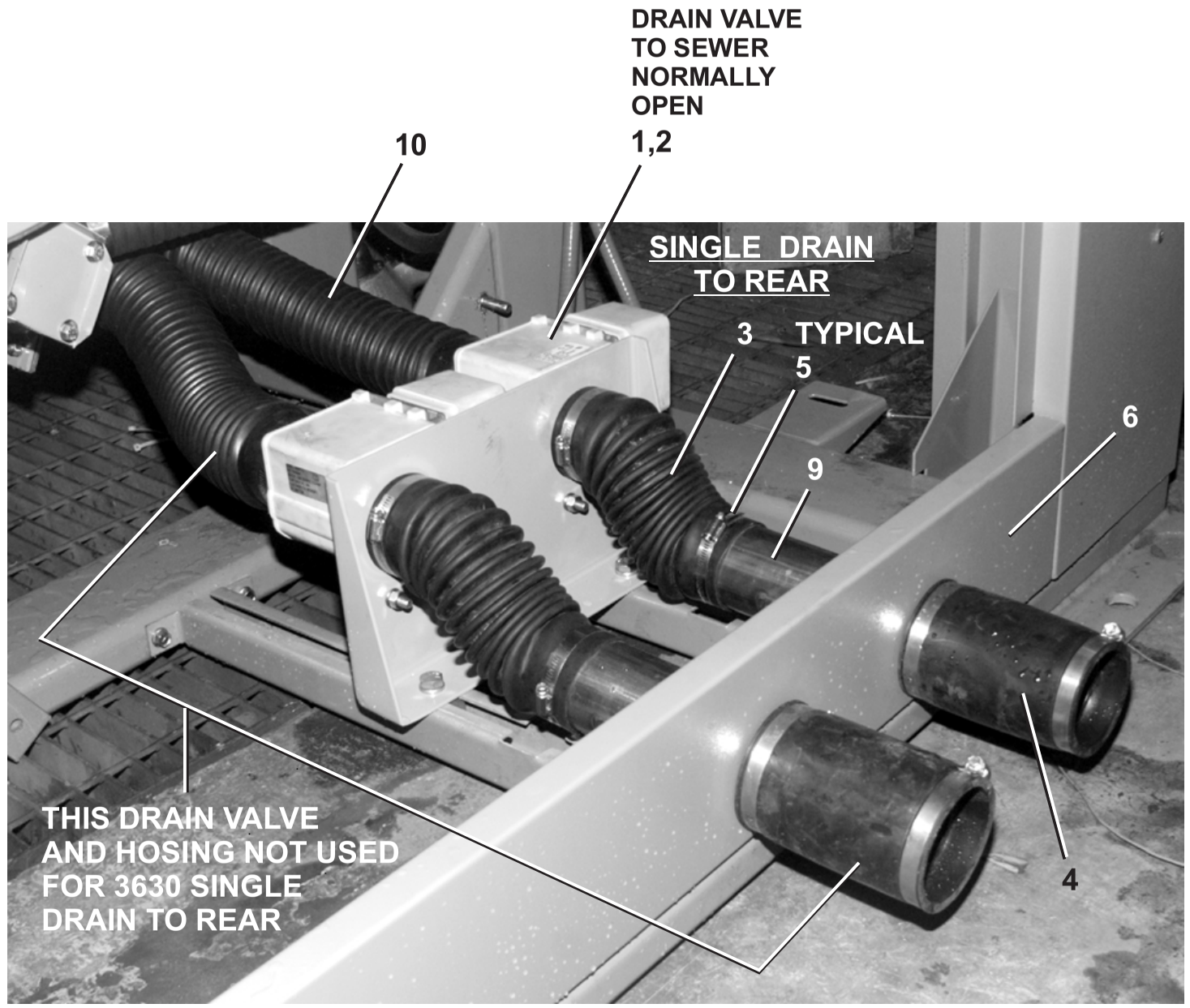


4232F7J WITH DUAL DRAIN PICTURED. SEE PARTS LIST FOR 3630F8J SINGLE DRAIN TO REAR PART NUMBERS.



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Parts List—Single Drain to Rear

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	GVD35004	INST SINGLEDRAIN 3" ELEC-REAR	
			----------COMPONENTS----------	
all	1	96D350A71	DRINVAL 3"N/O MTRDR240V 50/60C	
all	2	96D35C0V	MTRCOVER 2-PCFOR 3"DRAINVAL	
all	3	02 03846I	FLEXTUBE 3"ID X 15"LG-3630F	
all	4	60B075	DFW56-33PMSP RUBB CONN.	
all	5	27A075A	T-BOLT HOSECLAMP 3.03-3.34"	
all	6	02 21576A	COSM=LOREAR DUAL DRAIN 3"ELEC	
all	7	W2 21236A	WELD SINGLE DRAIN 3" ELECT	
all	8	02 15026	GASKET-7"SQ=4"FLGDUMP VALVE	
all	9	W3 11063	WLMT=ELECT DRAIN PIPE	
all	10	02 03846A	FLEXTUBE-DRN 3"ID X 18"LG.	

3” Electric Drain Valve

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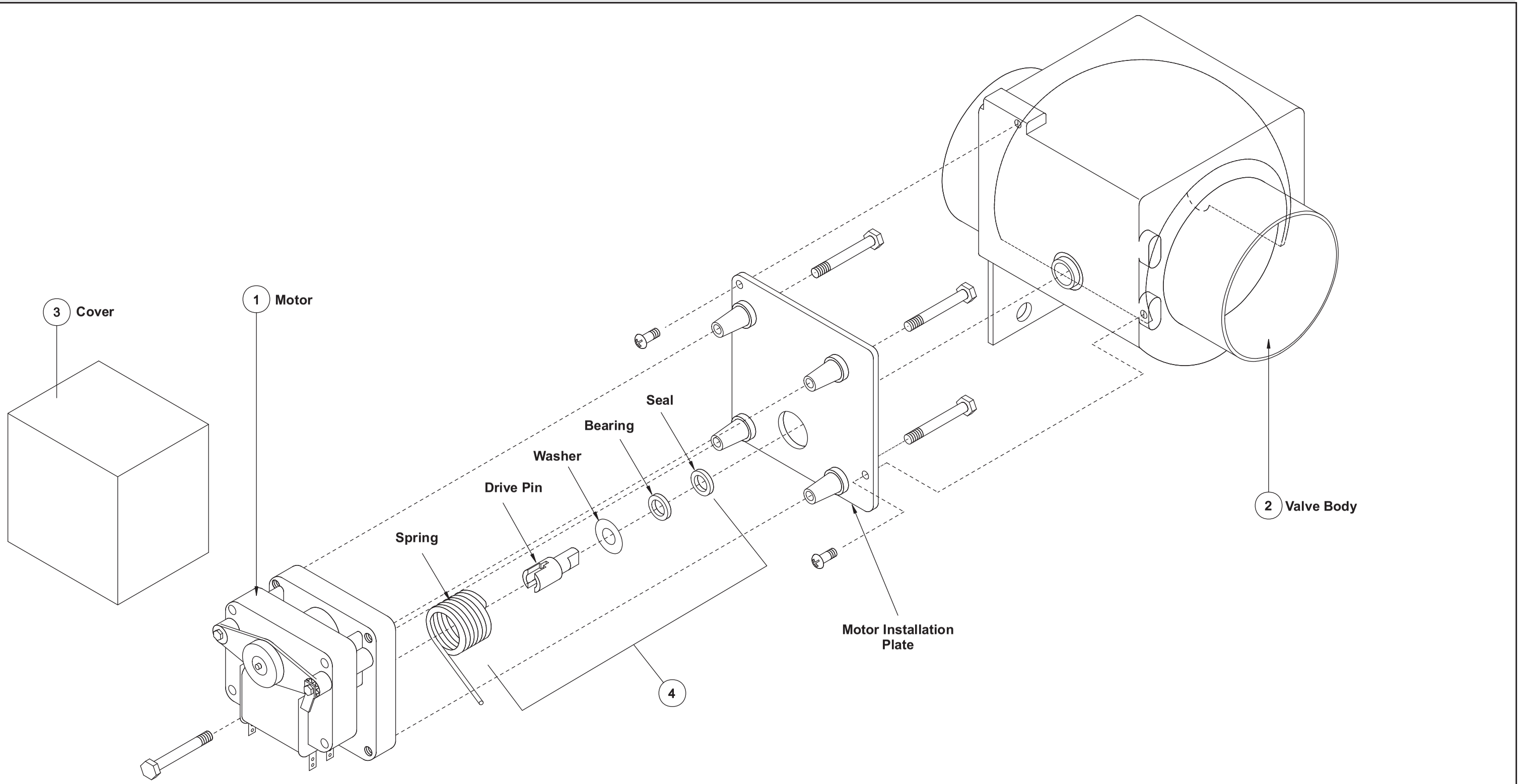

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Parts List—3” Electric Drain Valve

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	96D350A37C	DRNVAL 3"N/O 120V50/60C W/COVER	
	B	96D350A71	DRINVAL 3"N/O MTRDR240V 50/60C	
	C	96D350B71	DRINVAL 3"N/C MTRDR240V 50/60	
			----------COMPONENTS----------	
A	1	96D35MTR37	120V 50/60CMTR FOR 3"DRAINVAL	
BC	1	96D35MTR71	240V 50/60CMTR FOR 3"DRAINVAL	
all	2	96D35B0D	B0DY & BALL FOR 3" DRAIN VALVE	
all	3	96D35C0V	MTRCOVER 2-PCFOR 3"DRAINVAL	
all	4	96D35PIN	DRIVE PIN KIT FOR 3" DRAIN VAL	

Dual Drain to Rear

42032F7J,F7W

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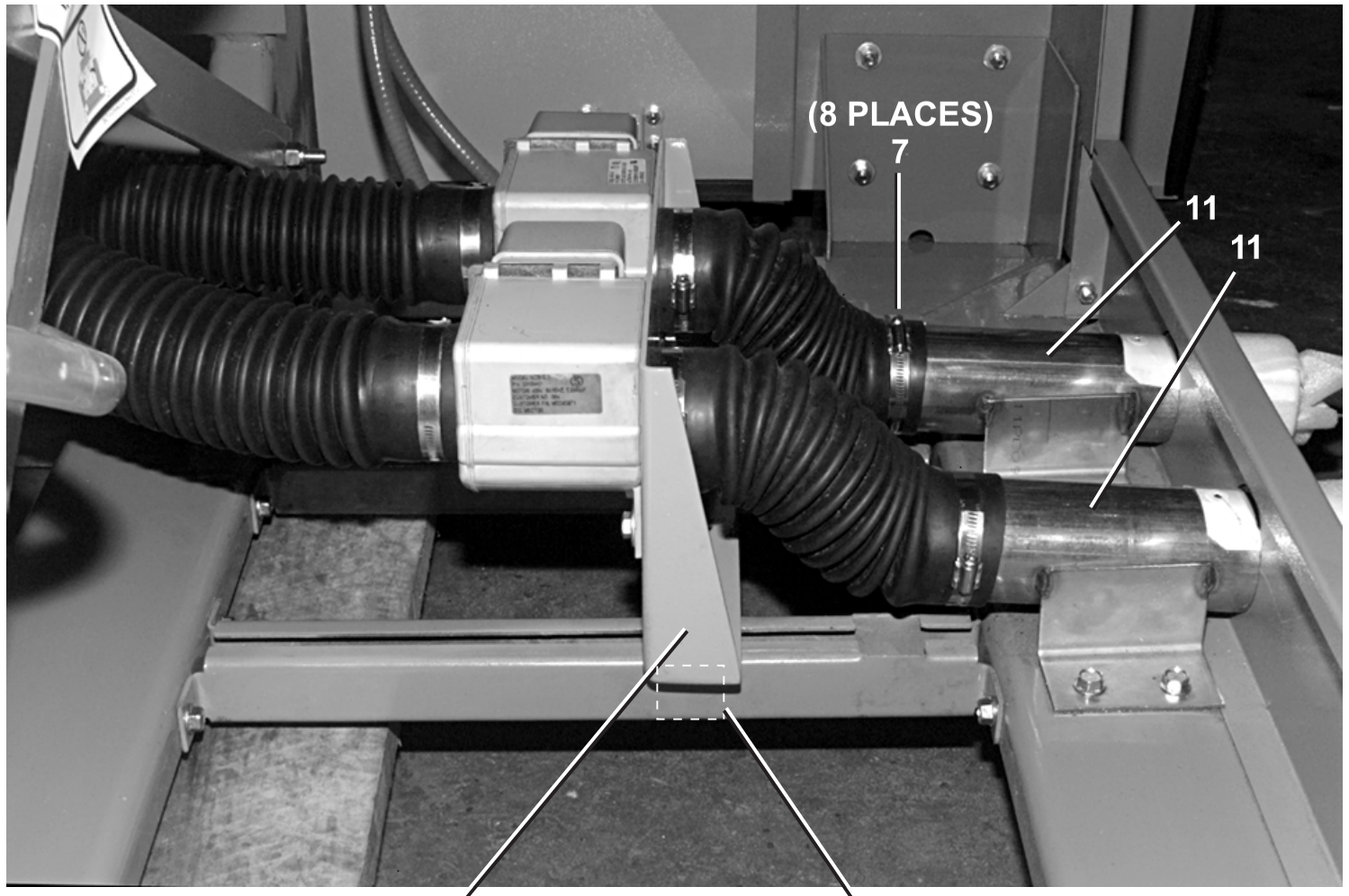

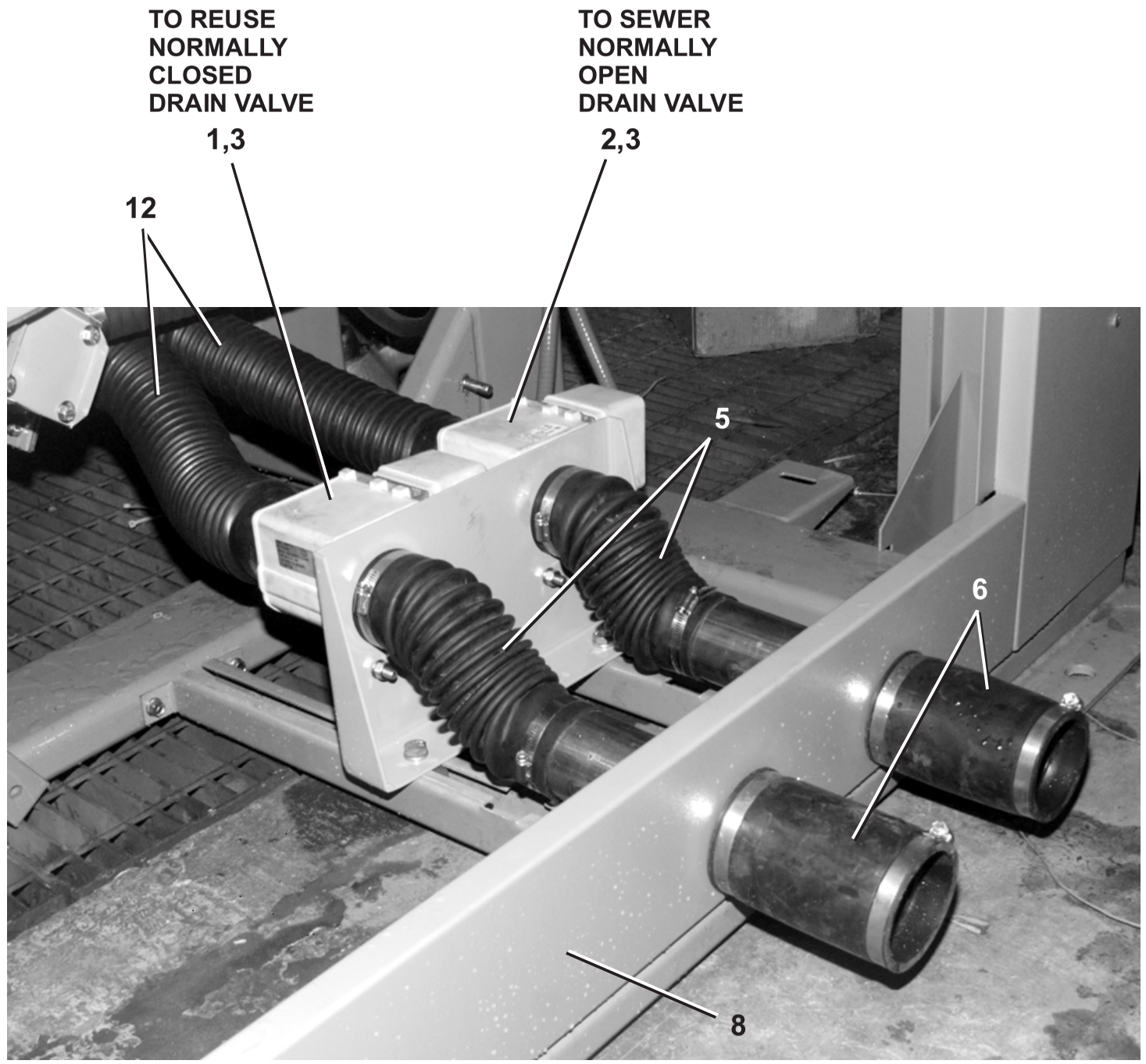

Dual Drain to Rear

42032F7J,F7W

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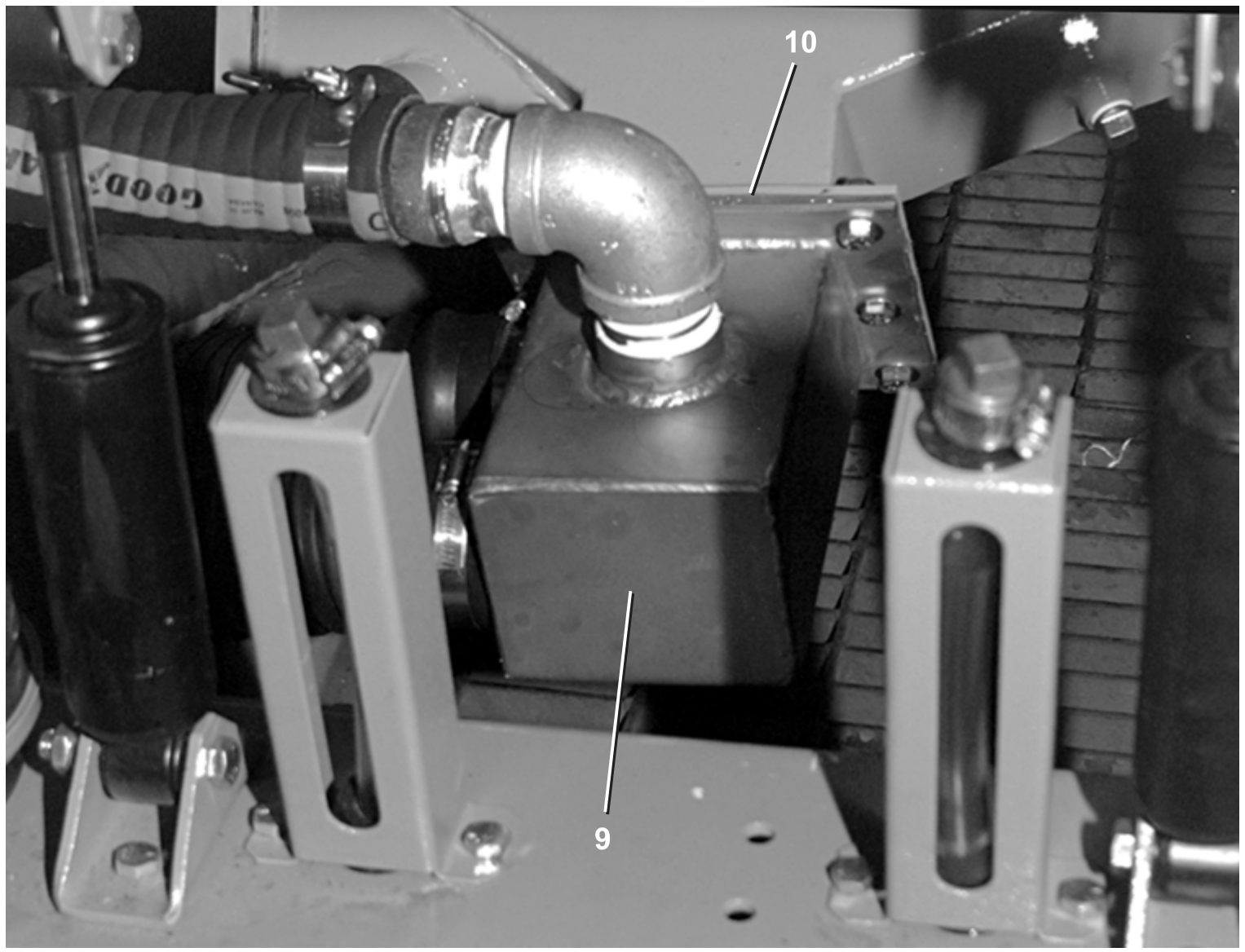

Parts List—Dual Drain to Rear

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
.				
			----------ASSEMBLIES----------	
	A	GVD42002	DUALDUMP-3"REAR ELEC 4232F	
			----------COMPONENTS----------	
all	1	96D350B71	DRINVAL 3"N/C MTRDR240V 50/60	
all	2	96D350A71	DRINVAL 3"N/O MTRDR240V 50/60C	
all	3	96D35C0V	MTRCOVER 2-PCFOR 3"DRAINVAL	
all	4	02 03896R	DUALDUMP BKT 4232	
all	5	02 03846D	FLEXTUBE-DRN 3"ID X 9"LG.	
all	6	60B075	DFW56-33PMSP RUBB CONN.	
all	7	27A075A	T-BOLT HOSECLAMP 3.03-3.34"	
all	8	02 21070C	4232F REAR PANEL DUAL DRN	
all	9	W2 21236	WELD DUALDRAIN 3"ELECT REAR	
all	10	02 15026	GASKET-7"SQ=4"FLGDUMP VALVE	
all	11	W3 11063	WLMT=ELECT DRAIN PIPE	
all	12	02 03846A	FLEXTUBE-DRN 3"ID X 18"LG.	
all	13	02 19283	NUT=1/2-13UNCX1+1/2SQ SPEC	
all	14	15K162	HXCAPSCR 1/2-13UNC2AX1.5 GR5 P	
all	15	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	

Air Chamber Pressure Switch

36030F8J,F8W,F8R,F8S

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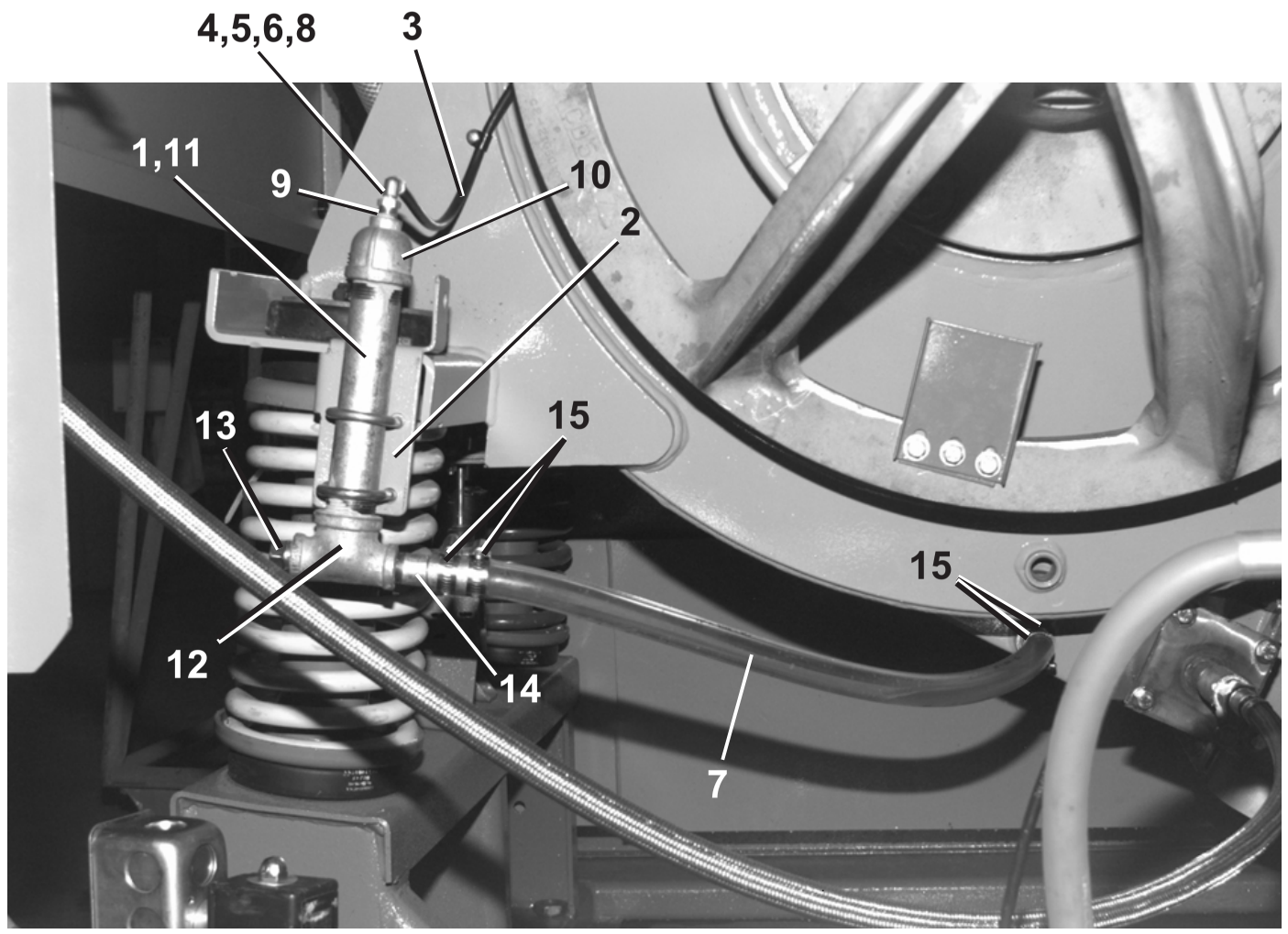

Parts List—Air Chamber

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
----------			----------ASSEMBLIES----------	
	A	GLL35002	96000Z INSTALL=3630F8J AIR CHAMBER	
A	B	ALL35002	96000Z ASSY=3630F8J AIR CHAMBER	
----------			----------COMPONENTS----------	
A	1	ALL35002	96000Z ASSY=3630F8J AIR CHAMBER	CONTAINS ITEMS 8 - 14
A	2	02 21596	96453B BRKT=PRES/SW MNTG 3630F8	
A	3	60E005	TUBING 5/16"OD POLY-FLOW#55P-FOOT	
A	4	53A059A	NUT 1/4"BR.HOLYOKE AND #61A-4	
A	5	53A501	TUBEINSERT .170"OD	
A	6	53A500	1/4" SLEEVE-DELRIN	
A	7	60E008	02ZPVC TUBING .75IDX1"OD HC#1965 *	
B	8	53A032	ELB90MAL5/16X1/8POLY #169P-5-2	
B	9	5SB0E0CBEO	NPTHEXBUSH 1/4X1/8 BRASS 125#	
B	10	5SR1A0ENF	NPT RED 1X1/4 GALMAL 150#	
B	11	5N1A07AG42	NPT NIP 1X7 TBE GALSTL SK40	
B	12	5S0KNFA1A	NPT TEE 1/2X1/2X1" GALMAL 150#	
B	13	5SP0PHFSS	NPT PLUG 3/4 SQ SOLID STL/ZINC	
B	14	5N0K03AG41	NPT NIP 1/2X3 TOE GALSTL SK40	
A	15	27A090	HOSECLAMP 11/16-1.5"CADSC#HS16	

Air Chamber Pressure Switch

42032F7J,F7W,F7S,F7R

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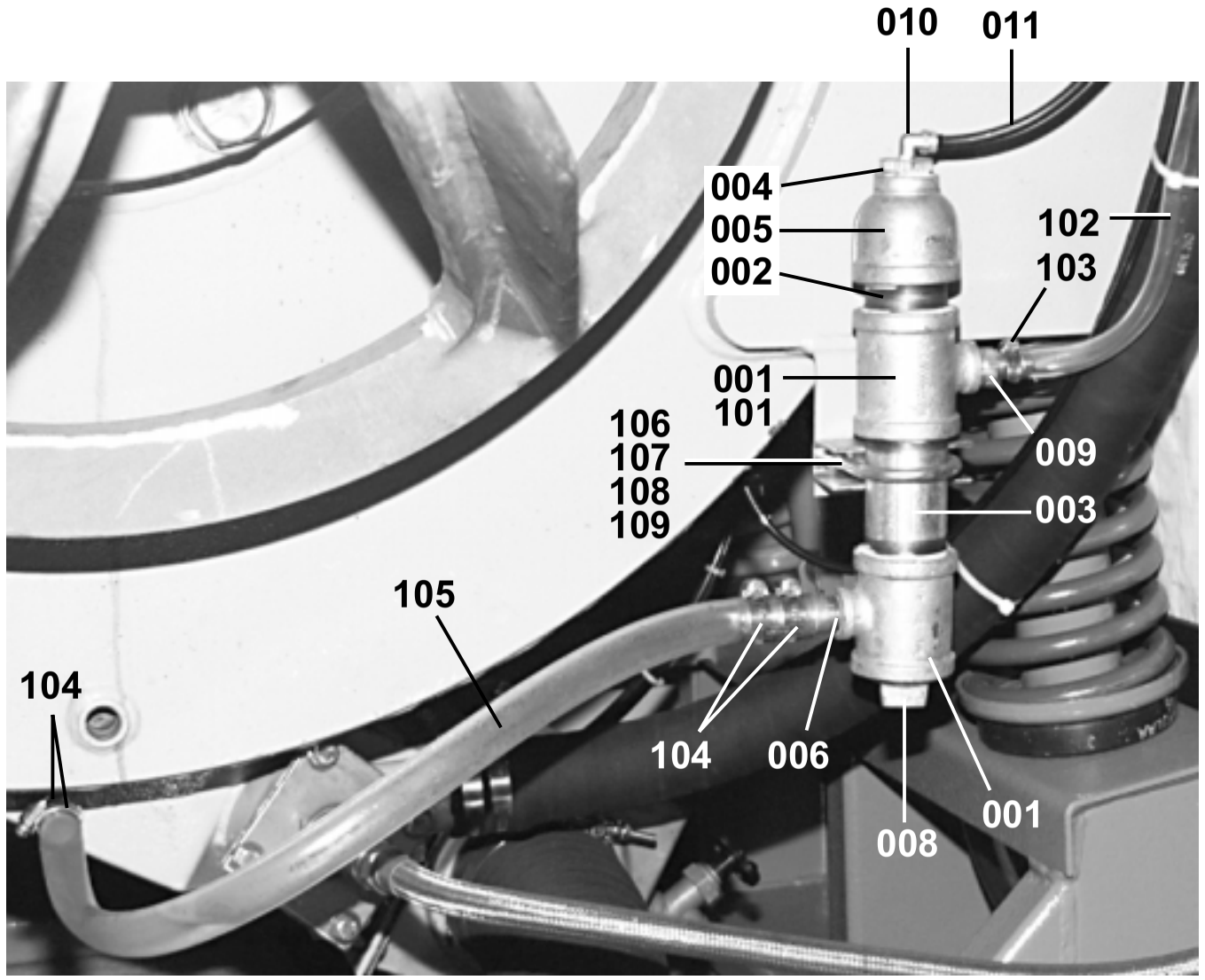

Parts List—Air Chamber Pressure Switch

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	GLL42001	96041B INSTALL=4232F AIR CHAMBER	
A	B	ALL42001	96041# ASSY=422F AIR CHAMBER	
			----------COMPONENTS----------	
B	1	5S1KNFA0K	NPT TEE 1.5X1.5X1/2" GALMAL 150#	
B	2	5N1KCLSG42	NPT NIPPLE 1.5XCLS TBE GALSTL SK40	
B	3	5N1K04AG42	NPT NIPPLE 1.5X4 TBE GALSTL SK40	
B	4	5SB0P0CNFA	HEXPIPBUSH 3/4X1/8GALV.150# CORED	
B	5	5SR1K0PNF	NPT RED 1.5X3/4 GALMAL 150#	
B	6	5N0K03AG41	NPT NIPPLE 1/2X3 TOE GALSTL SK40	
B	7	5SB0K0EHEO	NPTHEXBUSH 1/2X1/4 STLZNC 125#	
B	8	51P055	PLUG PIPE SQ 1+1/2 GALCORED CI 125#	
B	9	51E509	HOSESTEM BRASS 1/2 MPTX1/2 HOSE ID	
B	10	53A032	MAL90ELL 5/16X1/8POLYFLO #169P-5-2	
B	11	60E005	TUBING 5/16"OD POLY-FLOW#55P-FOOT	
A	101	ALL42001	96041# ASSY=422F AIR CHAMBER	CONTAINS 1-11
A	102	60E005P	04Z PVC TUBING 1/2"ID X 5/8"OD	
A	103	27A044	HOSECLAMP 5/8"ID BREEZE #6706SS	
A	104	27A057	HOSECLAMP, 7/16"-1" CADSCREW #HS-8	
A	105	60E008	02Z PVC 3/4IDX1"OD HC#1965	
A	106	02 16306	77433B CLAMP 1+1/2 PIPE	
A	107	27A032	05Z UBOLT 1.5"PIPE 3/8-16X3-3/4"LEG	
A	108	15G205	HXNUT 3/8-16UNC2B ZINC GR2	
A	109	15U255	LOCKWASHER MEDIUM 3/8 ZINCPL	

Section 7

Pneumatic Assemblies

Pneumatic Schematic

42032F7J,F7W 36030F8J,F8W

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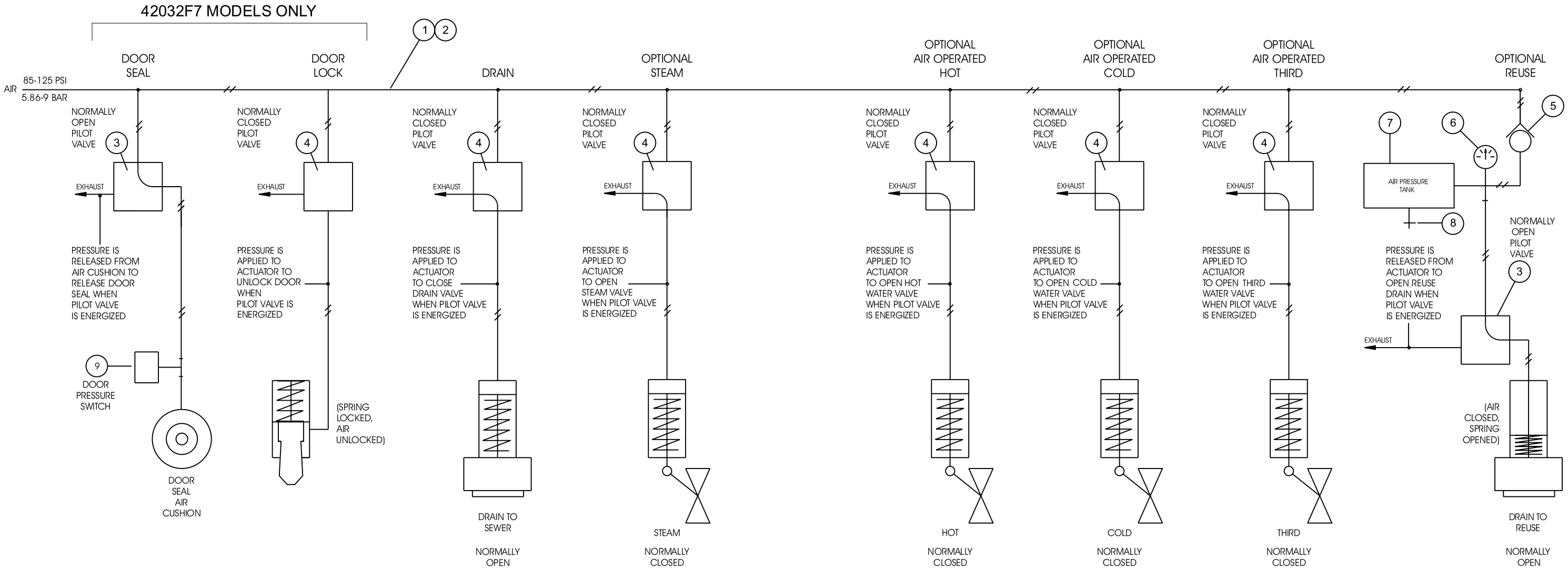
P. O. Box 400, Kenner, LA 70063-0400

Litho in U.S.A.



Pellerin Milnor Corporation
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Litho in U.S.A.

Parts List—Pneumatic Schematic

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	AVA71F7J	95401N VALVE SET 42032F7J	
			----------COMPONENTS----------	
all	1	X3 01507D	88462C MANIFOLD BLOCK MACH 6 PORTS	
all	2	03 LF1X5K	88303C LOCK BAR=VALVE SET 10 STAT	
all	3	96R302A71	00Z 1/8"AIR PILOT 3WANO 240V50/60C	
all	4	96R301A71	03Z 118" PILOT 3W-N/C 220/50 240/60	
all	5	96D047AAK	06Z CHECK VALVE 1/4"DELT#CMMQ20B	
all	6	30N102	07Z PRESSGUAGE 1/4"BOTCONN 0-160PSI	
all	7	W3 25307D	88186C*TANK=AIR PRESSURE RESERVE	
all	8	96H018	NEEDLE VALVE	
all	9	09N082A	12Z PRESSW NASON CLOSE @ 62 LB.	

Pneumatic Schematic - STAPH-GUARD®

36030F8S, 42032F7S

BMP970046/98183V
(Sheet 1 of 2)

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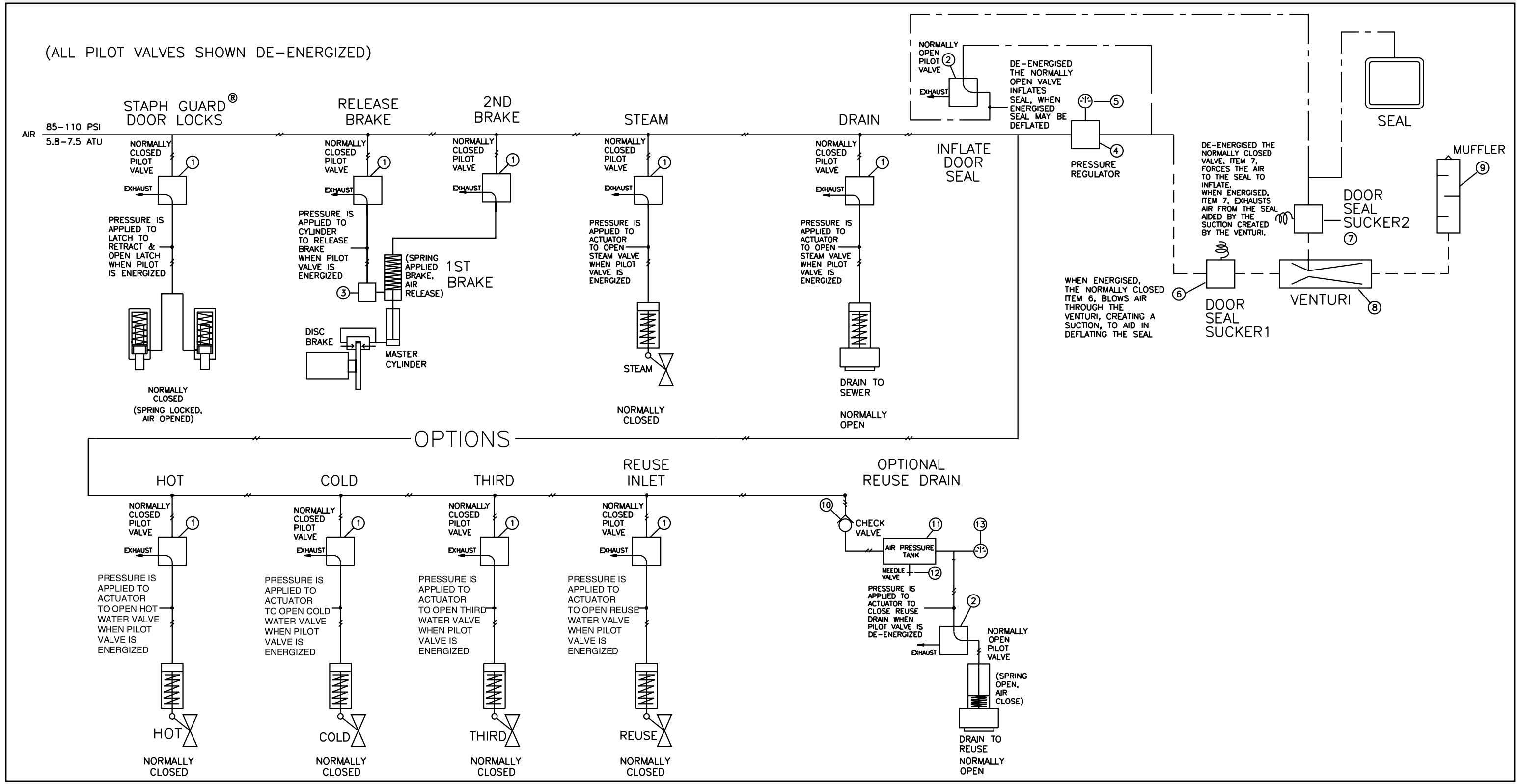

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Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	AVA71F7J	95401N VALVE SET 42032F7J	
	B	AVA72F7J	96447Z VALVE SET 36030F8	
			----------COMPONENTS----------	
all	1	96R301A71	03Z 1/8" AIRPILOT 3W NC 240V50/60	
all	2	96R302A71	00Z 1/8" AIRPILOT 3W NO 240V50/60	
all	3	96M055	01Z QUICK EXHAUST VALVE 1/4"	
all	4	96J019E	1/4"PRESS REG2-50P R07-200-RNEA	
all	5	30N101	09ZPRESSGAUGE 1/8"BACKCN.0-60PSI	
all	6	96TDC2AA71	04Z 1/2" N/C 2WAY 240V50/60C VALVE	
all	7	96TBC2AA71	03Z 1/4" N/C 2WAY 240V50/60C	
all	8	02 19309	81023B VACUUM PUMP--AIR OPERATED	
all	9	27A005B	MUFFLER 1/2" BANTAM B48	
all	10	96D047AAK	06Z CHECK VALVE 1/4"DELT#CMMQ20B	
all	11	96H018	ANGLE NEEDLE VLV 1/4"T X 1/8MP	
all	12	W3 25307D	88186C*TANK=AIR PRESSURE RESERVE	
all	13	30N102	08ZPRESSGAUGE 1/4BOTCON.0-150PSI	