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Installation and Service—

MCR09E5,MCR18E4 MWR09E5,MWR18E4 MWR18X4,MWR18J4 Washer Extractor

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

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

Please Read

About the Manual Identifying Information on the Cover—The front cover displays pertinent identifying information for this manual. Most important, are the published manual number (part number) /ECN (date code). Generally, when a replacement manual is furnished, it will have the same published manual number, but the latest available ECN. This provides the user with the latest information applicable to his machine. Similarly all documents comprising the manual will be the latest available as of the date the manual was printed, even though older ECN dates for those documents may be listed in the table of contents.

When communicating with the Milnor factory regarding this manual, please also provide the other identifying information shown on the cover, including the publishing system, access date, and whether the document ECN's are the latest available or exact.

Best Available Information—This manual contains the most accurate and complete information available when Milnor shipped your machine/software. Products are occasionally released with the best available documentation, even though the device identification (model numbers, etc.) on the documentation does not explicitly include the delivered model. In such cases, use the documentation provided.

Although unlikely, incorrect manuals may have been shipped with your machine. If you believe you received the wrong manuals, or if you need specific information about any aspect of your machine not addressed in the provided documentation, contact the Milnor Customer Service group.

References to Yellow Troubleshooting Pages—This manual may contain references to "yellow pages." Although the pages containing trouble-shooting procedures are no longer printed on yellow paper, troubleshooting instructions, if any, will be contained in the easily located "Troubleshooting" section. See the table of contents.

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Help us to improve this manual by sending your comments to:

Pellerin Milnor Corporation
Attn: Technical Publications
P. O. Box 400
Kenner, LA 70063-0400
Fax: (504) 469-1849

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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 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 repaired or altered in any way without MILNOR’s written consent.

Parts which require routine replacement due to normal wear – such as gaskets, contact points, brake and clutch linings and similar parts – are not covered by this warranty, nor are parts damaged by exposure to weather or to chemicals.

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. 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, MISUSE, 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.

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.

BMP720097
92732A

How to order repair parts

Repair parts may be ordered either from the authorized dealer who sold you this machine, or directly from the MILNOR factory. In most cases, your dealer will have these parts in stock.

When ordering parts, please be sure to give us the following information:

1. Model and serial number of the machine for which the parts are required
2. Part number
3. Name of the part
4. Quantity needed
5. Method of shipment desired
6. In correspondence regarding motors or electrical controls, please include all nameplate data, including wiring diagram number and the make or manufacturer of the motor or controls.

All parts will be shipped C.O.D. transportation charges collect only.

Please read this manual

It is strongly recommended that you read the installation and operating manual before attempting to install or operate your machine. We suggest that this manual be kept in your business office so that it will not become lost.

PELLERIN MILNOR CORPORATION
P.O. BOX 400, KENNER, LA., 70063-0400, U.S.A.
FAX: Administration 504/468-9307, Engineering 504/469-1849, Service 504/469-9777

BMP720097R
72332A

Safety Placard Use and Placement

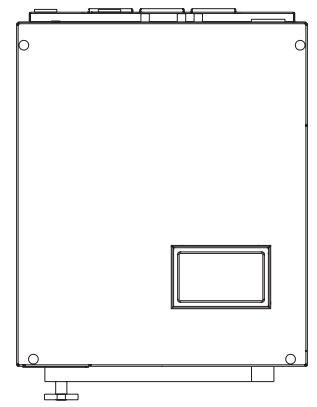
MCR12E5, MCR18E4

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

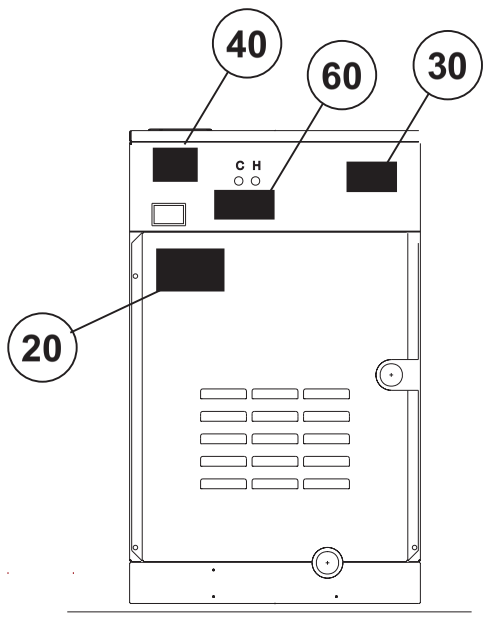
Litho in U.S.A.

Notes:

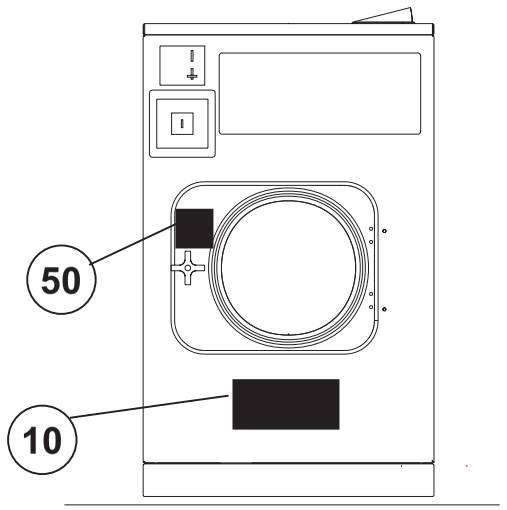
1. **Replace placard immediately, if removed or unreadable.**
2. **Approximate locations of placards are shown. Mounting holes are provided on machine. If aluminum placard use #8 self-tapping screws.**



PLAN VIEW



REAR VIEW



FRONT VIEW

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

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 10707B	NPLT:WARNING FRT SHELL MW COIN	
all	20	01 10708B	NPLT:REAR WARNINGS MW COIN	
all	30	01 10375D	NPLT:ELEC HAZARD MW-TCATA	
all	40	01 10092E	NPLT:SPEC PLT-MD IN CHINA-ENG	
all	50	01 10709B	NPLT:DOOR ILOC INST MCR	
all	60	01 10710A	NPLT:CAUTION CHEMICAL SYSTEM	

Safety Placard Use and Placement

MWR12E5, MWR18E4, MWR18X4, MWR18J4

Pellerin Milnor Corporation
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Litho in U.S.A.

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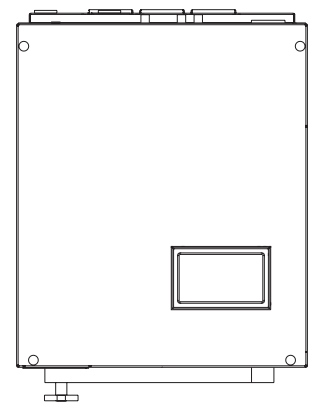
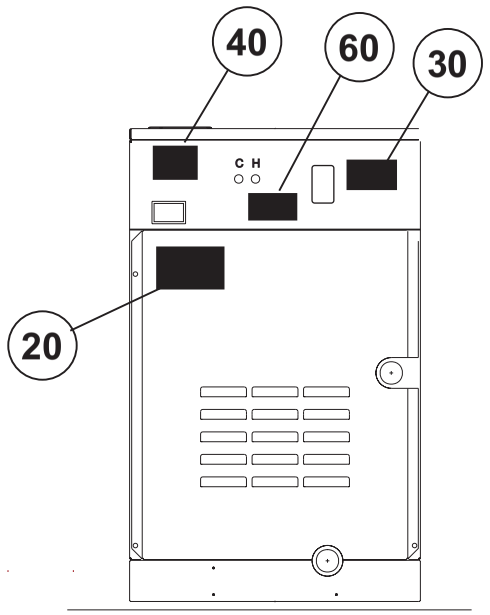
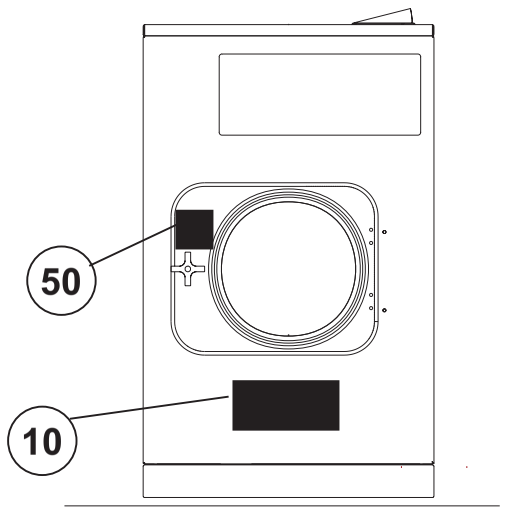


PLAN VIEW



REAR VIEW



FRONT VIEW

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

Litho in U.S.A.

Parts List—Safety Placard Placement

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all	20	01 10708B	NPLT:REAR WARNINGS MW COIN	
all	30	01 10375D	NPLT:ELEC HAZARD MW-TCATA	
all	40	01 10092E	NPLT:SPEC PLT-MD IN CHINA-ENG	
all	50	01 10709B	NPLT:DOOR ILOC INST MCR	
all	60	01 10710A	NPLT:CAUTION CHEMICAL SYSTEM	

Guards and Covers

MCR12E5, MCR18E4, MWR12E5, MWR18E4, MWR18X4, MWR18J4

BMP050007/2007492B
(Sheet 1 of 2)

Pellerin Milnor Corporation
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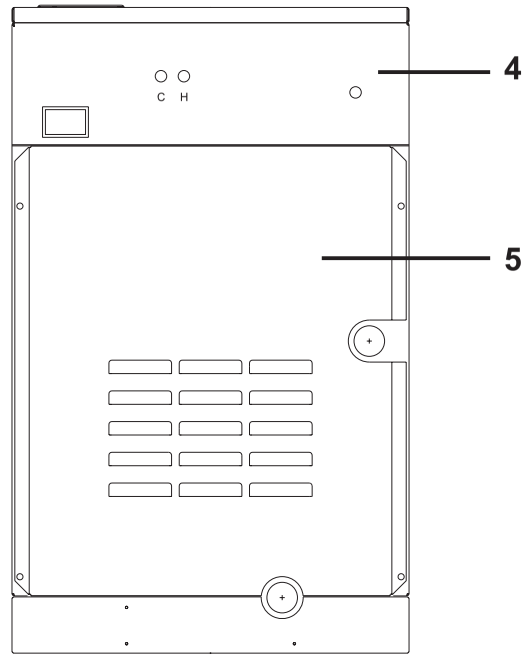
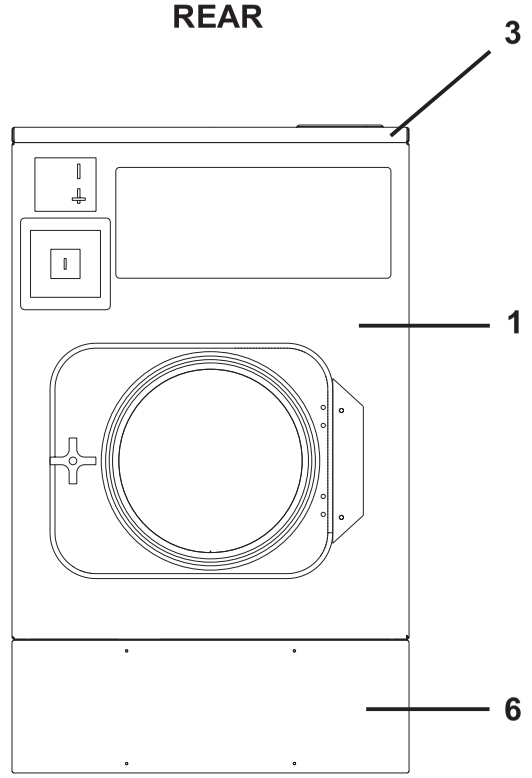
Litho in U.S.A.

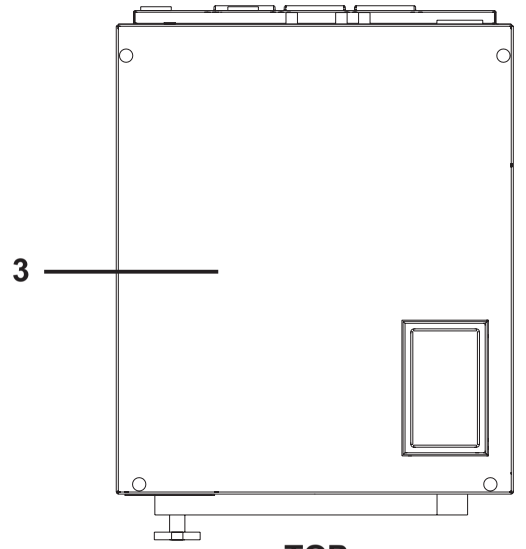
MWR18X4
EP EXPRESS &
MWR18J4
EP PLUS
CONTROLS
NOT SHOWN



REAR

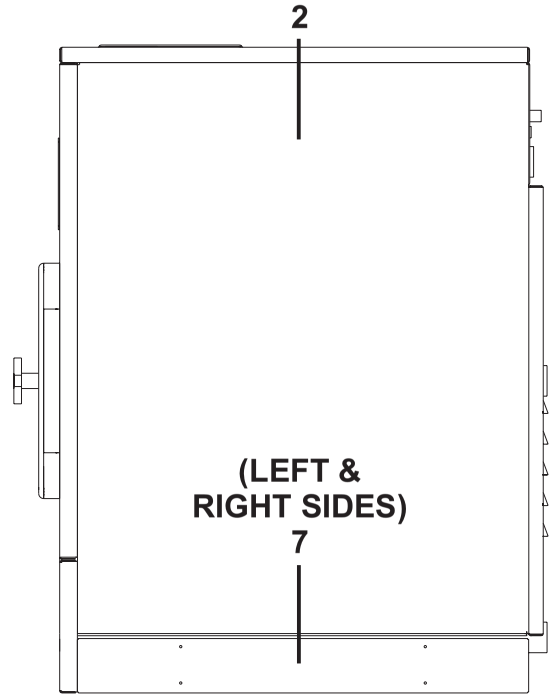


FRONT



TOP

(LEFT &
RIGHT SIDES)



RIGHT

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

Litho in U.S.A.

Parts List—Guard & 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	GHG575X347	2314 CABINET ASSEMBLY 9KG	MCR12E5
	B	GHG700X468	CABINET 18KG	MCR18E4
	C	GHG9KGOPL	2005124D CABINET 9KG-OPL	MWR12E5
	D	GHG18KGOPL	2005124D CABINET 18KG-OPL	MWR18E4,MWR18X4 MWR18J4
			----------COMPONENTS----------	
A	1	03 40001	CABINET FRONT 575X347	
B	1	03 40201	CABINET FRONT 18KG	
C	1	03 40001A	2005124D CABINET FRONT 9KG-OPL	
D	1	03 40201A	2005124D CABINET FRONT 18KG-OPL	
A,C	2	03 40002	2005214D PANEL SIDE STAINLESS 9KG	
B,D	2	03 40202	2005214D PANEL SIDE STAINLESS 18KG	
A,C	3	03 40003	CABINET TOP 575X347	
B,D	3	03 40203	CABINET TOP 700X468	
A,C	4	03 40004	CABINET REAR VAL MT 575X347	
B,D	4	03 40204	CABINET REAR MTBKT 700X468	
A,C	5	03 40027	CABINET BACK COVER 575X347	
B,D	5	03 40227	CABINET REAR GUARD 18KG	
A,C	6	03 40040	LOWER FRONT GUARD 9KG	
B,D	6	03 40240	LOWER FRONT COVER	
A,C	7	03 40040A	LOWER SIDE COVER LF/RT	
B,D	7	03 40240A	LOWER SIDE COVER	

About the Forces Transmitted by Milnor® Washer-extractors

Document BIWUUI02
Specified Date 20001108
As-of Date 20001108
Access Date 20001108

Applicability ..... WUU

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

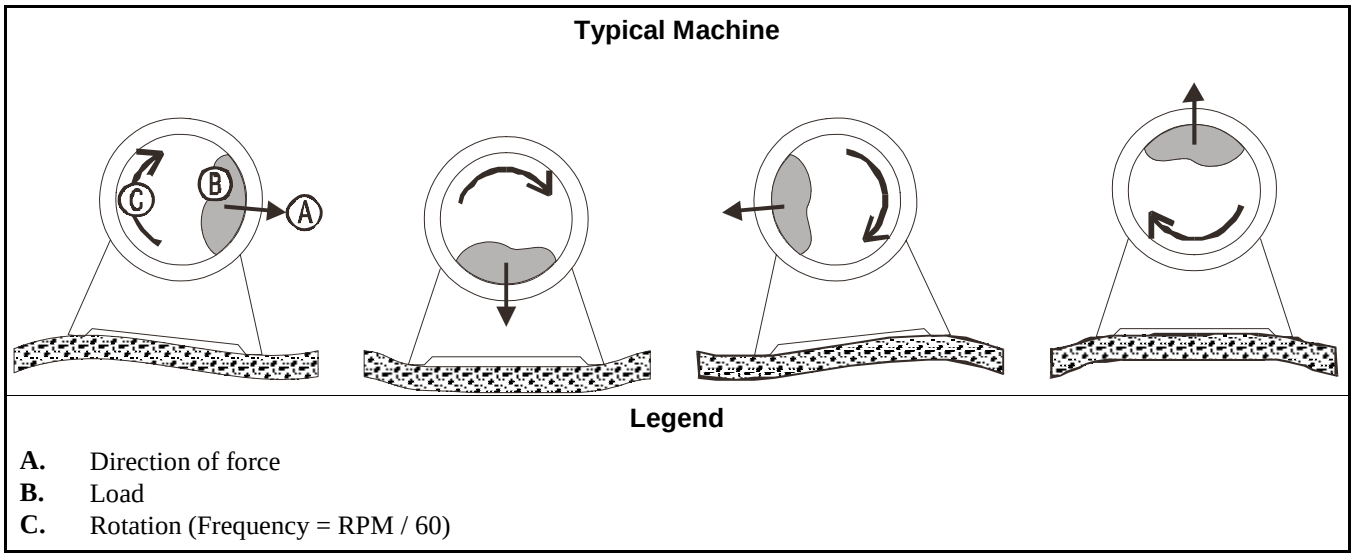


Figure 1 above is intended to depict both on-grade and above-grade installations and is equally applicable to flexibly-mounted washer-extractors, as well as to rigid models installed either directly on a floor slab or on a foundation poured integrally with the slab. Current machine data is available 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 —

Glossary of Tag Illustrations— G-Style, 30" T-Style, & 30" V-Style Washer-Extractors

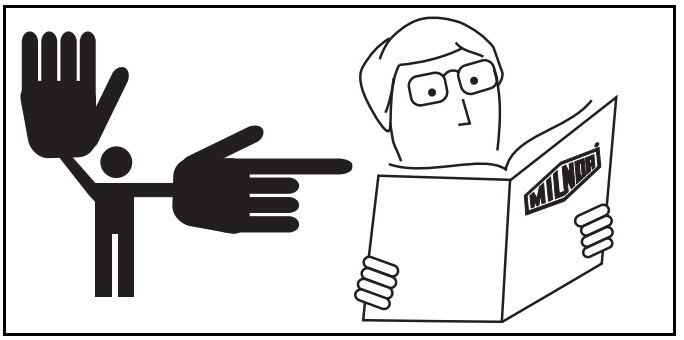
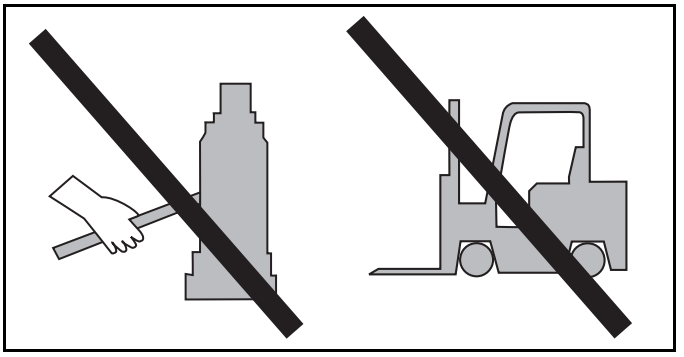
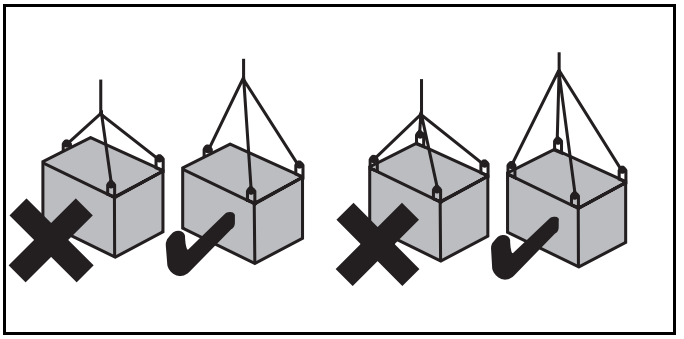
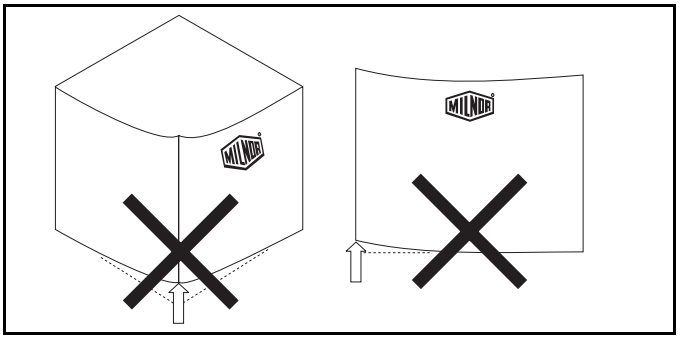
Illustration	Explanation
	Stop! Read the manual first for complete instructions before continuing.
	Do not jack the machine here. Do not lift the machine here.
	Use three point or four point lifting as determined by the lifting eyes furnished. Rig the load using lifting cables of sufficient size and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

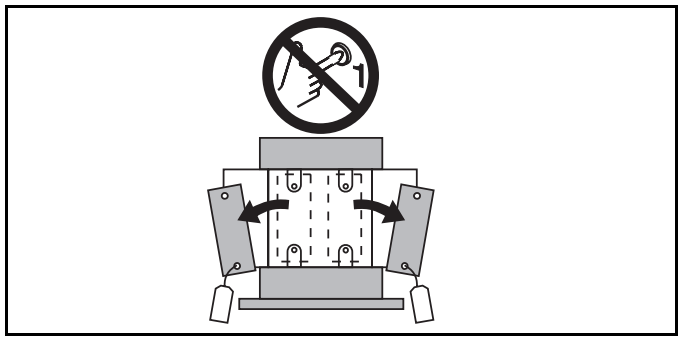
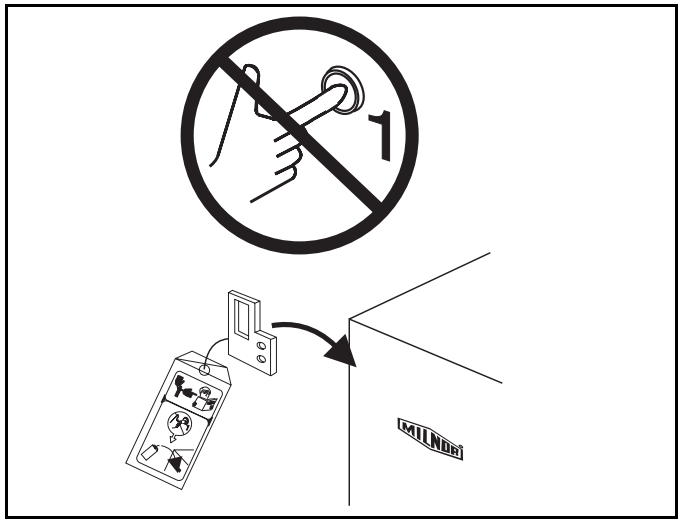
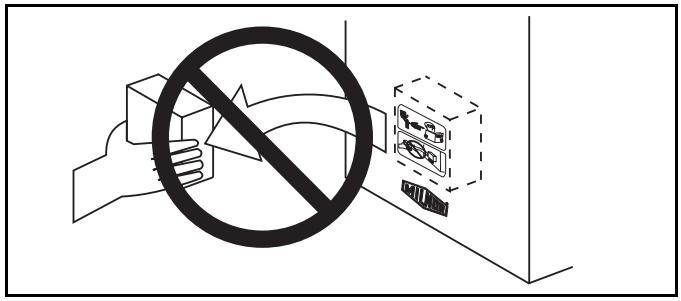
Illustration	Explanation
	Do not start this machine until the packing materials, lifting brackets, etc. with this tag attached or behind this panel are removed. These materials are painted red. Safety stands or brackets (also painted red) may be provided with this machine. Do not discard safety stands or brackets
	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.

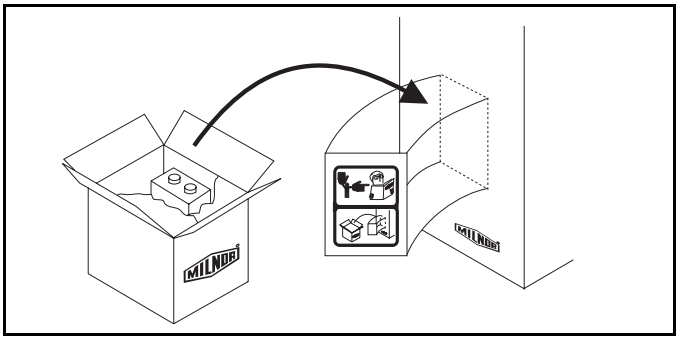
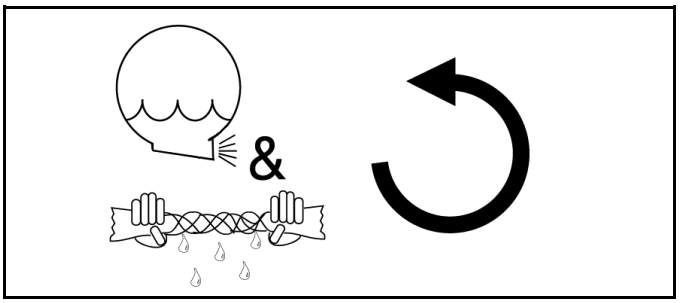
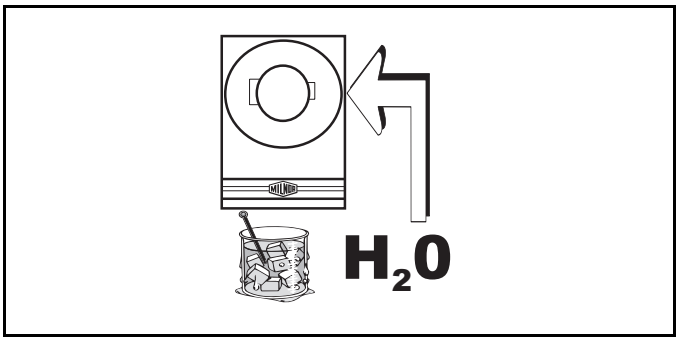
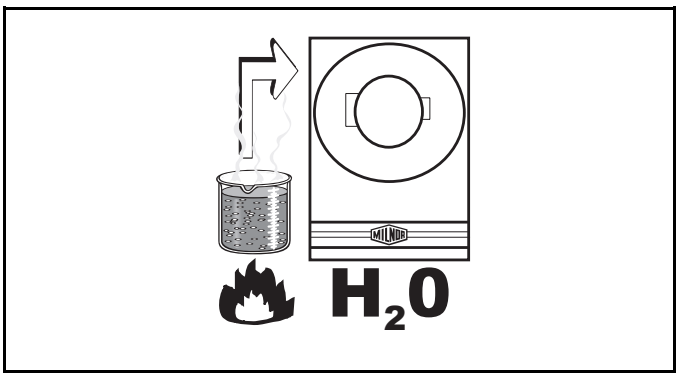
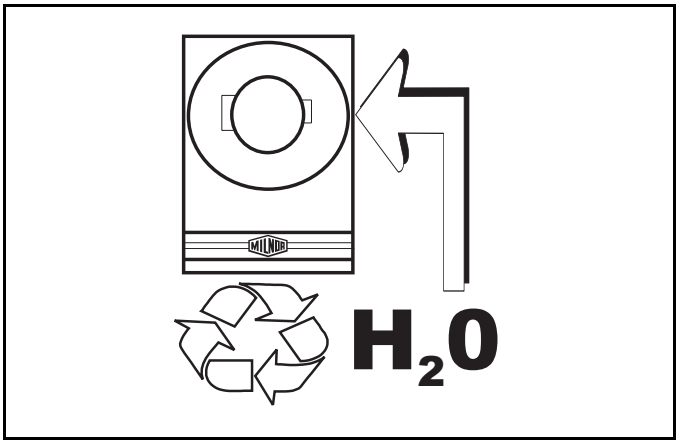
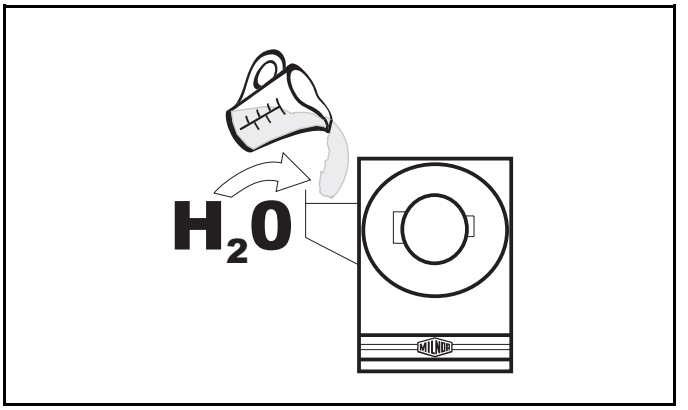
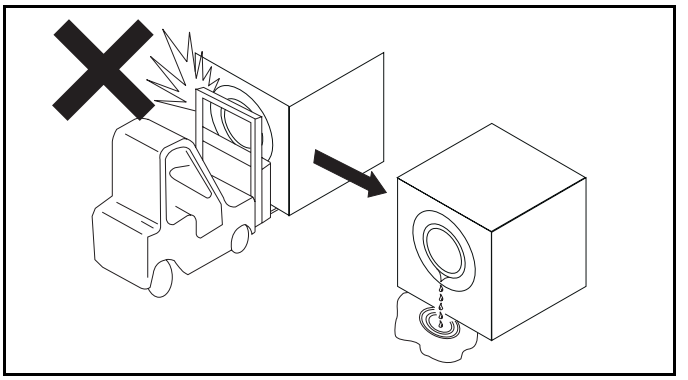
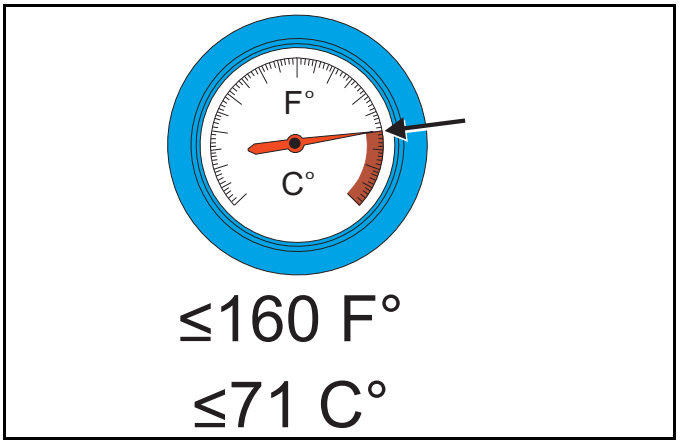
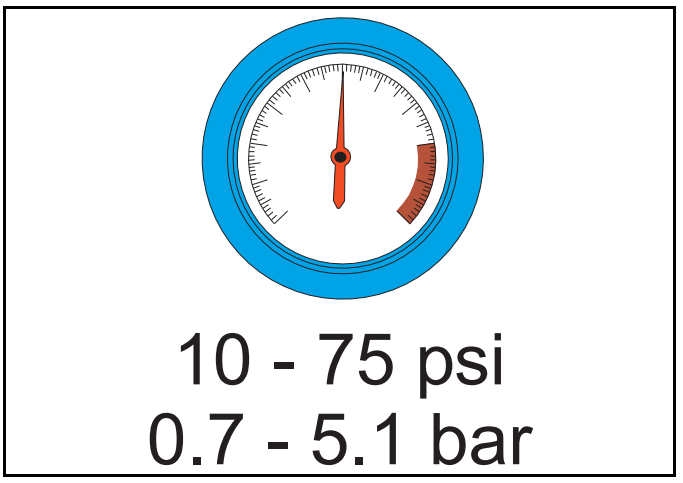
Illustration	Explanation
	Install the appropriate part here before operating the machine.
	During drain and extract, the cylinder must rotate counterclockwise when viewed from here (rear of machine).
	Make cold water connection here.
	Make hot water connection here.

Illustration	Explanation
	Make third (reuse) water connection here.
	Make flushing water connection here.
	Do not strike shell front of washer-extractors during fork lifting. Striking shell front will cause door to leak.
	Water hammer will rupture the water inlet valves on this machine. Eliminate water hammer on waterlines to this machine. Follow all applicable codes when installing water hammer arresters on water lines.



Excessive water temperture will damage valves. Do not exceed 160 degrees Fahrenheit (71 degrees Celsius).



Excessive air pressure will damage valves. Do not exceed 80 psi (5.5 bar).

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.

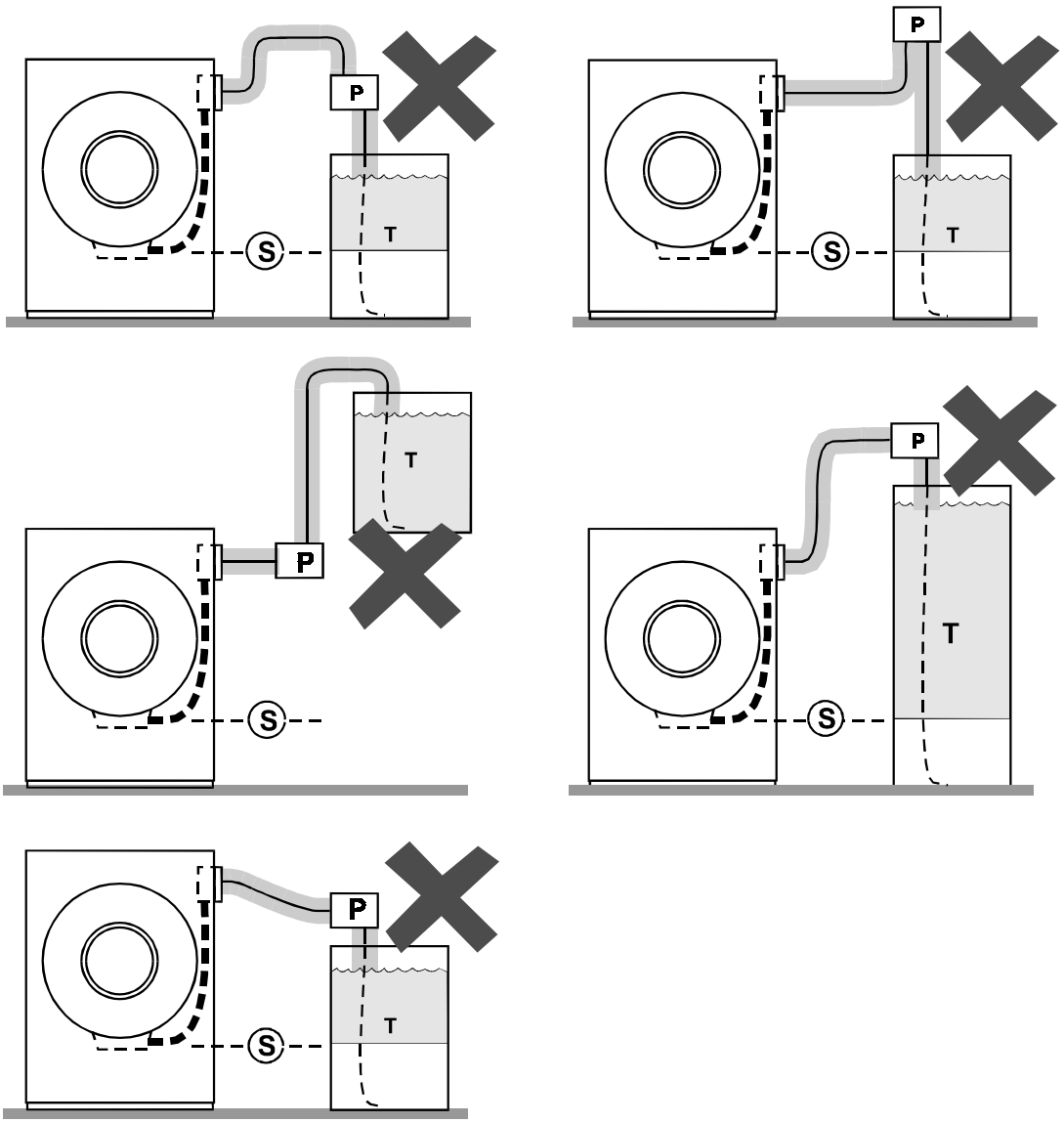
2. Requirements for Chemical Systems Used With Milnor Machines

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

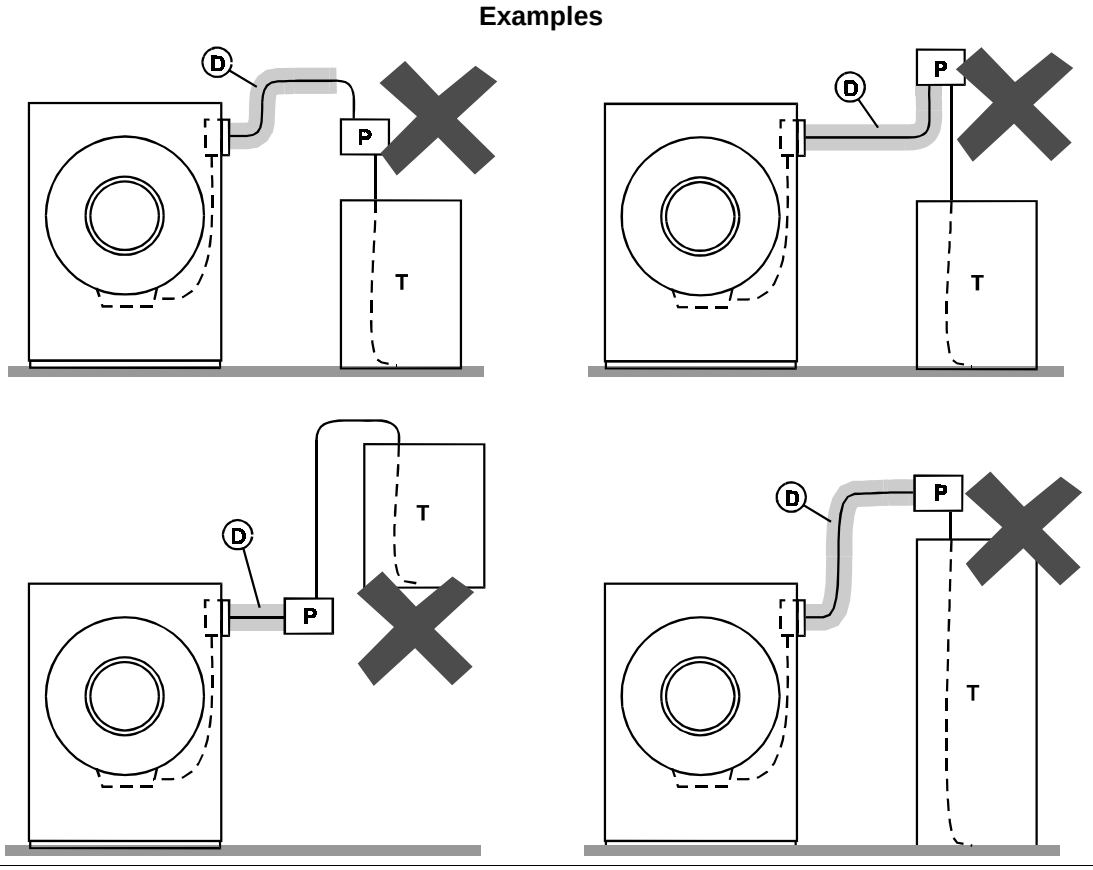


Legend

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.

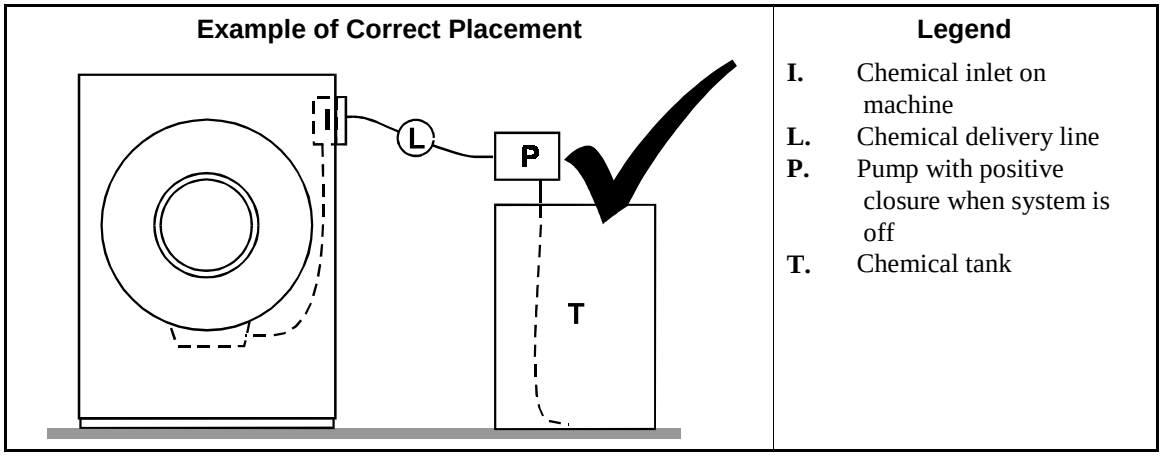
3.1. Siphoning: Positively close the line.—If the pump does not provide positive closure when the system is off, employ a shutoff valve in the line to serve this purpose.

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 —

Handling and Setting Procedures for Rigid Mount Washer-Extractors

1. Handling Precautions

1. Remove the protective coverings (leaving the machine on shipping skids) and carefully examine for possible shipping damage. **If the machine is damaged, notify the transportation company immediately.**

   Note 1: Once the machine is given to the carrier for delivery, it is the sole responsibility of the carrier to ensure that no damage occurs during transit. In addition to readily apparent damage, carriers are liable for concealed damage. **Do not hesitate to file a claim with the carrier if the machine is damaged in any way during shipment.** Milnor® will be glad to assist you in filing your claim, but is not responsible for any shipping damage to the machine once it has been delivered to the carrier in good condition.

2. Consult Milnor® for instructions if crane lifting is required.
3. Use skids with the forklift. If possible, leave the machine on the shipping skids until it is about to be placed in its final position. Once the skids are removed, take care in placing forks under the machine. **Do not allow the forks to come in contact with valves, piping, motors, etc., located under the machine.**
4. Never push, pull, or exert pressure on any components that protrude from the machine frame (shell front, door, supply injector, electric boxes, controls, belt guard, conduits, inlet piping, etc.).
5. Ensure that the shell door is closed and secured.

2. Site Requirements

2.1. Space Requirements

1. All openings and corridors through which equipment must pass during installation must be large enough to accommodate the width and the height of the machine (as shown on the dimensional drawings). It is occasionally possible to reduce the overall dimensions by removing piping or other special modifications. Consult Milnor® for additional information.
2. Sufficient clearance must be provided for normal operation and maintenance procedures.

2.2. Operational Requirements

1. Allow sufficient ventilation for heat and vapors of normal operation to dissipate.
2. Provide easy access to controls. Operators must be able to reach and view all status lights, machine controls, and any additional controls associated with the machine (e.g., electrical power connections, water and steam shut-offs, etc.).

2.3. Foundation Requirements—The machine must be anchored in accordance with the installation instructions. The floor and/or all other support components must have sufficient strength (and rigidity with due consideration for the natural or resonant frequency thereof) to withstand the fully loaded weight of the machine, including the wet goods and any repeated sinusoidal (rotating) forces generated during its operation. Determining the suitability of floors, foundations, and other supporting structures normally requires analysis by a qualified structural engineer. See “ABOUT THE FORCES TRANSMITTED BY MILNOR® WASHER-EXTRACTORS” (See Table of Contents) for more information.

3. Anchoring Requirements

Machines must be securely anchored to an adequate pedestal base (supplied by others) or a concrete foundation. The bolt holes in the pedestal top flange should be located and drilled only after the machine is on site and can be used as a template for bolt hole locations (See the pedestal base dimensional drawings in this manual). Customer must determine location of bolt holes in bottom flange if the machine is to be bolted to a foundation. Foundation templates are available for some machines. Consult Milnor if any obstruction prevents the installation of any anchor bolt. **Properly install anchor bolts at ALL anchor bolt holes on the machine. Anchor bolts cannot be indiscriminately omitted.**

CAUTION 1: STRIKE AND MACHINE DAMAGE HAZARDS—A machine can "rip" away from its foundation if the machine is not anchored and grouted in strict accordance with the dimensional drawing and setting instructions provided in this manual. Damage resulting from improper installation is not covered by warranty.

- Strictly follow setting instructions and dimensional drawing guidelines when anchoring and setting this machine.

4. Setting Procedures

1. With the machine near the final location, unbolt the shipping skids.
   - If using a pedestal mount (and after observing all precautions), lift machine level with top of pedestal and slide onto pedestal. Bolt or weld machine to pedestal as desired (See the pedestal base dimensional drawings for additional information).
   - If using a foundation (and after observing all precautions), lift the machine off the skid and onto temporary blocking. Install anchor bolts, taking care to align the bolts with the base plates to avoid bolt thread damage. **Determine that the minimum clearance between each base plate and floor surface is as specified (see dimensional drawings).** Shim the machine at temporary blockings to level the machine from left to right and front to back. Use a carpenter's level along the right and left side of the base to determine if the machine is level from front to back. Place a level laterally across the base plates to determine if the machine is level from right to left then see the grouting instructions below.

CAUTION 2: MACHINE DAMAGE AND MALFUNCTION HAZARDS—Tightening anchor bolt fasteners onto spacers (without grout or with improperly applied grout) twists the machine frame and causes cylinder misalignment.

- Never tighten anchor bolt fasteners before grouting.
- Grout must displace total clearance between base plate and existing foundation floor. Voids must not exist!

1. After determining the final position of the machine, apply grout between the existing foundation floor and base, while observing the following considerations:
   - All machines are designed to be grouted under the full area of all base plates. Grout prevents the anchor bolts from distorting the frame when the fasteners are tightened. Total area under each base plate must be completely filled with grout (see dimensional drawings). Voids under base plates can magnify vibration, causing unsatisfactory operation. Use only industrial strength non-shrinking grout.
   - If the grout (after mixing) is of proper consistency, pack or trowel it by hand.

- If the grout (after mixing) is too thin (causing it to flow from under the base pads), install temporary cardboard framing around the pads to retain the grout until it cures.

2. After the grout has completely cured, raise the machine sufficiently to remove all temporary blocking and shims. **Be careful to avoid disturbing or damaging grout.**
3. Lower machine onto grout and tighten all foundation fasteners until they contact the top of the base plate.

2. Tighten all fasteners evenly, using only one-quarter turn on each fastener before moving to the next one. While tightening, frequently skip from front to back and right to left to insure uniform tension. After tightening all fasteners, check each fastener at least twice.

— End of BIRUUI01 —

External Fuse/Breaker, Wiring, and Disconnect Requirements

An external fuse **or** circuit breaker and a disconnect switch must be provided in the facility for (and dedicated to) the machine. These may be in the same or separate, **permanently mounted** electric boxes. Electric power and ground connections will be made between the incoming power junction box on the machine and this external box (or one of the boxes).

1. Fuse or Circuit Breaker Size

Refer to the "External Fuse and Wire Sizes..." document for your machine model. This document will be found either in the machine's installation manual or in manual MAEFUSE1AE "External Fuse and Wire Sizes for Milnor Machines." Choose the fuse or circuit breaker from the appropriate column of the table provided, as follows:

1.1. If a fuse is used—Match the fuse listed in the "Fuse" column for your machine's voltage. The specified fuse sizes are consistent with the USA National Electric Code (NEC), section 430-52, exception No. 2, Part B, which states: "The rating of a time-delay (dual-element) fuse shall be permitted to be increased, but shall in no case exceed 225 percent of the full-load current."

1.2. If a standard circuit breaker is used—Match the amperage rating listed in the "Breaker" column for your machine's voltage.

1.3. If an inverse time circuit breaker is used—Match the characteristics (amperage rating) of the fuse listed in the "Fuse" column for your machine's voltage. When applied to an inverse time circuit breaker, the specified fuse sizes are consistent with the USA National Electric Code (NEC), section 430-52, exception No. 2, Part C, which states: "The rating of an inverse time circuit breaker shall be permitted to be increased, but shall in no case exceed 400 percent for full-load currents of 100 amperes or less."

2. Wire Size

Use wiring no smaller than that listed for your machine's voltage in the "Wire size..." column in the "External Fuse and Wire Sizes..." document. The table value applies to runs up to 50 feet (15 meters). Use the next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters). If an inverse time circuit breaker is used and local codes require a larger wire size than that specified by Milnor, abide by the local code.

Notice 1: The specified wire size may appear too small for the fuse or circuit breaker shown. However, it is consistent with both the load imposed and with the USA National Electric Code.

3. Ground

The ground wire and connections must ensure a reliable earth ground (zero potential). Use wiring of at least as large a gauge as that required for incoming power. Do not rely on conduit, machine anchorage, etc. Use the ground lug provided in the incoming power junction box on the machine.

4. Disconnect Switch for Lockout/Tagout

The disconnect switch must permit personnel to disconnect and lockout/tagout electric power from the machine. In the USA, refer to OSHA standard 1910.147 "The control of hazardous energy (lockout/tagout)". Refer to the USA National Electric Code for requirements on locating the switch. In other locales, abide by these standards if no other local codes apply.

— End of BFUUUF01 —

External Fuse or Breaker and Wire Sizes for Washer-extractors MCR09E5, MWR09E5, MCR12E5, MWR12E5

Table 1: Specifications (Largest motor: 1 HP)

Volt Code	Voltage (VAC) See note 1	Running Amps - See note 2	Phase	Cycles (Hz)	Fuse OR circuit breaker		Wire size for 50 ft (15 m) run (AWG/mm²) See notes 4, 5
					Fuse (Amps) See notes 3, 5	Breaker (Amps) See notes 3, 5	
37	120	7	1	60	FRN15	15	14 / 2.50
46	200	4	3	50	FRN6	6	14 / 2.50
62	220	3	3	50	FRN6	6	14 / 2.50
71/74	208/240	4/3	1 or 3	60	FRN6	6	14 / 2.50
82	380	3	3	50	FRS5	5	14 / 2.50
83	380	3	3	60	FRS5	5	14 / 2.50
84	400	3	3	50	FRS5	5	14 / 2.50
85	415	2.5	3	50	FRS5	5	14 / 2.50
88	440	2.5	3	50	FRS5	5	14 / 2.50
96	480	2	3	60	FRS5	5	14 / 2.50
99	600→480	1.5	3	60	FRS5	5	14 / 2.50

Notes:

1. Not all voltages available in all models.
2. Running amps are for the portion of the cycle with the highest, steady-state demand (after the motor is up to speed) and are approximate.
3. If fuses are used, they must be Bussmann Fusetron or similar lag type. If standard circuit breakers are used, they must match the amperage rating listed in the "Breaker" column. If inverse time circuit breakers are used, they must match the characteristics (amperage rating) listed in the "Fuse" column. An over-sized fuse or breaker poses a fire hazard (see caution below). An under-sized fuse or breaker will trip needlessly.
4. Wire size is per the USA National Electric Code. **Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 m). Use wire two sizes larger for runs greater than 100 feet (30 m).** Under-sized wiring poses a fire hazard (see caution). This can also cause voltage drops even if the wire's current-carrying capacity exceeds that of the fuse/breaker. Voltage drops cause machine faults and reduce motor starting torque (e.g., a 5% voltage drop causes a motor to produce only 90% of rated torque). Voltage drop is greatest the instant the motor is energized, when highest torque is required.
5. See document BFUUUF01 "External Fuse...Requirements" for more information.

CAUTION 1: Fire hazard—An over-sized fuse/circuit breaker or under-sized wiring can permit the wiring to overheat and cause a fire.

- Always use the fuse/circuit breaker and wire size specified here.

— End of BFRCAF01 —

External Fuse or Breaker and Wire Sizes for Washer-extractors MCR18E4, MWR18E4, MWR18X4, MWR18J4 (no steam and steam)

See BFRCBF02 for MWR18J4 with electric heat.

Table 1: Specifications (Largest motor: 3 HP)

Volt Code	Voltage (VAC) See note 1	Running Amps - See note 2	Phase	Cycles (Hz)	Fuse OR circuit breaker		Wire size for 50 ft (15 m) run (AWG/mm²) See notes 4, 5
					Fuse (Amps) See notes 3, 5	Breaker (Amps) See notes 3, 5	
46	200	7	3	50	FRN15	15	14 / 2.5
62	220	7	3	50	FRN15	15	14 / 2.5
71/74	208/240	9/8	1 or 3	60	FRN15	15	14 / 2.5
82	380	4.5	3	50	FRS8	15	14 / 2.50
83	380	4.5	3	60	FRS8	15	14 / 2.50
84	400	4.5	3	50	FRS8	15	14 / 2.50
85	415	4.5	3	50	FRS8	15	14 / 2.50
88	440	3.5	3	50	FRS5	15	14 / 2.50
96	480	3.5	3	60	FRS5	15	14 / 2.50
99	600→480	3.5	3	60	FRS5	15	14 / 2.50

Notes:

1. Not all voltages available in all models.
2. Running amps are for the portion of the cycle with the highest, steady-state demand (after the motor is up to speed) and are approximate.
3. If fuses are used, they must be Bussmann Fusetron or similar lag type. If standard circuit breakers are used, they must match the amperage rating listed in the "Breaker" column. If inverse time circuit breakers are used, they must match the characteristics (amperage rating) listed in the "Fuse" column. An over-sized fuse or breaker poses a fire hazard (see caution below). An under-sized fuse or breaker will trip needlessly.
4. Wire size is per the USA National Electric Code. **Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 m). Use wire two sizes larger for runs greater than 100 feet (30 m).** Under-sized wiring poses a fire hazard (see caution). This can also cause voltage drops even if the wire's current-carrying capacity exceeds that of the fuse/breaker. Voltage drops cause machine faults and reduce motor starting torque (e.g., a 5% voltage drop causes a motor to produce only 90% of rated torque). Voltage drop is greatest the instant the motor is energized, when highest torque is required.
5. See document BFUUUF01 "External Fuse...Requirements" for more information.

CAUTION 1: Fire hazard—An over-sized fuse/circuit breaker or under-sized wiring can permit the wiring to overheat and cause a fire.

- Always use the fuse/circuit breaker and wire size specified here.

— End of BFRCBF01 —

BIRQVI01 (Published) Book specs- Dates: 20071203 / 20071203 / 20071203 Lang: ENG01 Applic: RCU

Service Connections

1. General

Required service connections, (depending on machine model and optional features) are as follows:

1. Piped inlets and outlets (cold water, hot water, flush water, third water, direct steam, compressed air, liquid supply, and drain to sewer). The sizes and locations of piped inlets and outlets are shown on the dimensional drawing for your machine.
2. Electrical power connections.

2. Requirements for Piped Connections

Notice 1: Machine Damage—Plastic water valves can fail if improper connectors are used.

- Only use garden hose bib type connectors.

1. Inlet pressures must be within the minimum/maximum range specified. Pressure outside of the specified range may cause the machine to operate inefficiently or malfunction and may damage machine components.
2. Thoroughly flush all water lines before making connections.
3. We recommend installing 40 mesh strainers or filters in front of the cold, hot and third water valves.
4. When connecting water and steam inlets, always install unions and shut off valves at the point of connection to permit removal of the machine components for servicing, when necessary.
5. Suds overflow (if so equipped) to drain, must be vented per plumbing code.

CAUTION 2: Machine Damage Hazards—Pumped chemical systems, if not properly installed, can cause corrosion damage.

- See the reference manual for precautions and additional information before making any chemical connections.

3. Piped Inlets

Table 1: Piped inlets for MCR09E5, MCR12E5, MCR18E5 and MWR09E5, MWR12E5, MWR18E5 models

Connection Description	Source Requirements	Piping Requirements, Comments
Cold water inlet	3/4" garden hose thread @ 10 - 75 psi (69 - 531 kPa)	Pipe material per plumbing code
Hot water inlet		
Flush water inlet	3/4" garden hose thread with 1/2" hose @ 10 - 75 psi (69 - 531 kPa)	

4. Piped Outlets

Table 2: Piped Outlets for MCR09E5, MCR12E5, MCR18E5 and MWR09E5, MWR12E5, MWR18E5 models

Model	Connection Description	Destination Requirements or Description	Piping Specifications
MCR09E5, MCR12E5, MWR09E5, and MWR12E5	Drain	2" ID hose connection	Rubber hose, PVC or other approved material per plumbing code
	Suds Overflow	2" ID hose connection	Per code
MCR18E5 and MWR18E5	Drain	3" OD hose connection	Rubber hose, PVC or other approved material per plumbing code
	Suds Overflow	2" OD hose connection	Per code

5. Power Connections and Precautions

WARNING 3: 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.

Notice 4: Machine Damage—Voltage fluctuations of more than 10% above or below the specified voltage for your machine can damage electrical components, especially motors.

- Any such conditions should be corrected prior to commissioning your machine.

1. Electrical connections must be made by a competent electrician.
2. Machine must be grounded by connecting to a grounded metal, permanent wiring system, or an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment-grounding terminal on the machine.
3. Stinger leg, if any, must be connected to terminal L3, never to terminals L1 or L2.
4. Make power connections within junction boxes on the rear of the machine.
5. Verify motor rotation (Figure 1). See the operating and trouble shooting manual for more information. If the cylinder turns in the wrong direction, interchange the wires connected to L1 and L2. Never move L3 under any circumstances. All motors are phased for proper rotation. Never attempt to reconnect motors or the motor control devices.
6. Machines ordered for 208/240 volt operation are shipped set for 240 volt operation from the factory (Figure 2). If the supply voltage is 208 volts, then remove the top, and place the line voltage switch in the 208 volt position.

Figure 1: Correct Rotation During Drain and Extract (when viewing front of machine)

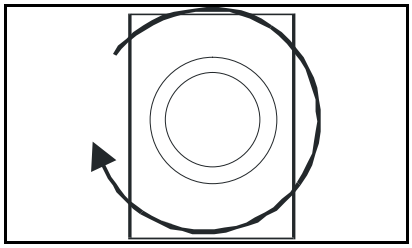


Figure 2: Line Voltage Switch

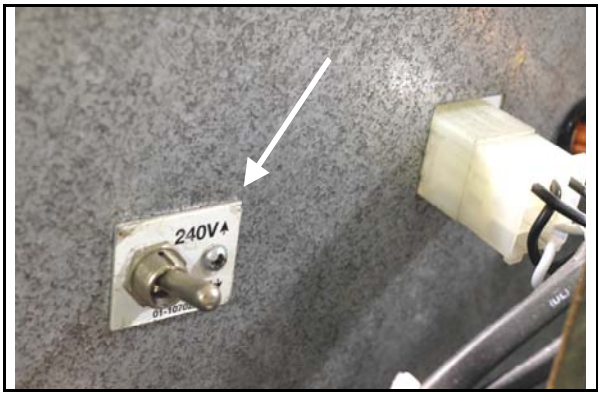


Figure 3: Vibration Switch

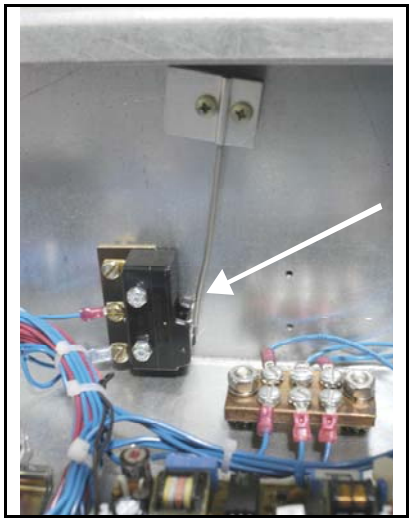


Figure 4: Motor Mount Blocking

6. Remove Shipping Restraints

Remove all shipping restraints (usually marked in red). Restraints may be located behind access panels. Restraints may include the vibration switch (Figure 3) restraint, motor mount blocking (Figure 4).

7. Check Cylinder Surface

Check the perforated cylinder for smoothness. Milnor will not accept responsibility for the cylinder finish after the machine is placed in service.

— End of BIRQVI01 —

Section 1

Service and Maintenance

BIRQUM01 (Published) Book specs- Dates: 20050302 / 20050302 / 20050302 Lang: ENG01 Applic: RCU

Preventive Maintenance

1. Lubrication Guidelines

As required by the warranty, to ensure safe operation, 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 Hazard—Belts and pulleys can entangle and crush body parts.

- Lock OFF and tag out power at the wall disconnect before servicing, except where specifically instructed otherwise in this section.
- Insure belt and pulley guards are in place during service procedures.
- Permit only qualified maintenance personnel to perform these procedures.

2. MCR09E7 and MCR18E7 Maintenance

The bearing housings on these machines feature sealed bearings and require no periodic maintenance. Other maintenance items appear in the Preventive Maintenance Schedule below:

3. Preventive Maintenance Schedule

Table 1: Preventive Maintenance Checklist

Component		Action	Frequency	Specifications/Figure
Drive Train	Belts and pulleys	Check for wear, replace as required	Monthly	See "Drive Train Pulleys and Belts"
	Motors (if equipped with grease fittings) (See Note 2)	See "Baldor Motor Maintenance...," in this manual (See Note 3)	Every three Months	See motor nameplate. If not specified, use Shell Alvania (or equivalent). See "Motor Grease Points"
Drive Inverter	Inverter	Verify fan operation. Vacuum out inverter vents.	Monthly	See "Inverter Maintenance Points"
Hoses, Clamps, and Connections	Inlet, drain, and chemical hoses and connections	Check for leaks, cracks and bulges	Monthly	

Note 1: Monthly/200 hours = Once a month or once every 200 operating hours, whichever comes first.

Note 2: Do not over-lubricate motors. Over-lubrication of a motor can seriously damage it by forcing grease into motor windings.

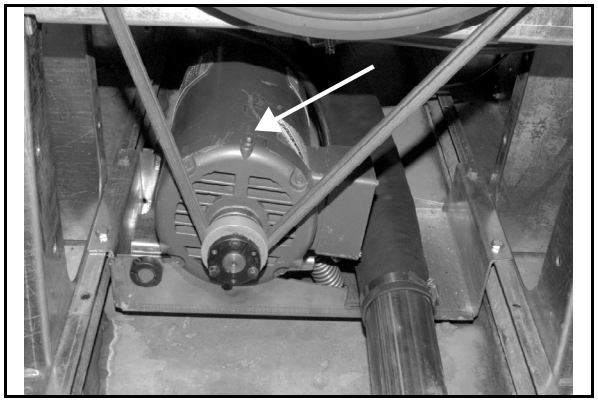
Note 3: If motor manufacturer's instructions conflict with manual section MSSM0274AE, follow manufacturers instructions. Motors are warranted by the manufacturers, not by Milnor.

4. Maintenance Points

Figure 1: Drive Train Pulleys and Belts (MCR18E7 shown)

Figure 2: Inverter maintenance points (MCR18E7 shown)

Figure 3: Motor grease points (two locations - if so equipped)



— End of BIRQUM01 —

Section 2

Drive Assemblies

Drive Chart

MCR12E5, MCR18E4, MWR12E5, MWR18E4, MWR18X4, MWR18J4

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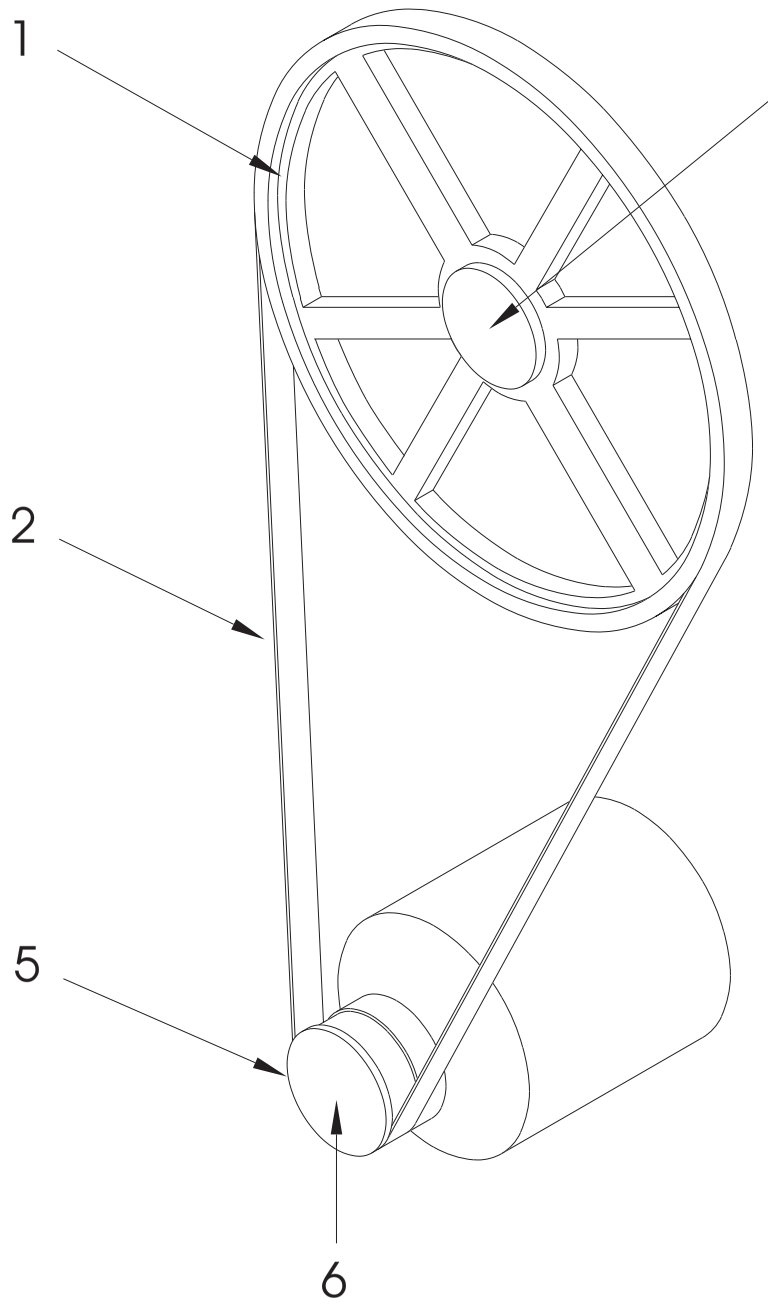

Parts List—Drive Chart

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	D33 03760	DRIVE CHART MCR09E5	MCR12E5, MWR1235
	B	D33 03660	DRIVE CHART MCR18E4	MCR18E4, MWR18E4 MWR18X4,MWR18J4
			----------COMPONENTS----------	
A	1	98CMCR0917	VPAUL TB BUSHING SPZ 355X2	
B	1	98CMCR1817	VPAUL TB BUSHING SPZ 500X2	
A	2	98CMCR0909	SINGLE DRIVE BELT SPZ1362LW	
B	2	98CMCR1809	SINGLE DRIVE BELT SPZ1937LW	
A	3	98CMCR0918	BUSH TB TYP 2012X38, BSW7/16"	
B	3	98CMCR1818	BUSH TB TYPE 2517X38, BSW7/16”	
all	4	98CMCR0919	KEY 10*8*60	
all	5	98CMCR0920	VPAUL TB BUSHING SPZ 56X2	
All	5	98CMCR1820	VPAUL TB BUSHING SPZ 67X2	
all	6	98CMCR0921	BUSH TB TYP 1108X19, BSW1/4" S	
All	6	96CMCR1821	BUSH TB TYP 1108X28, BSW1/4"	

Motor Mount

MCR09E5, MCR18E4, MWR09E5, MWR18E4, MWR18X4, MWR18J4

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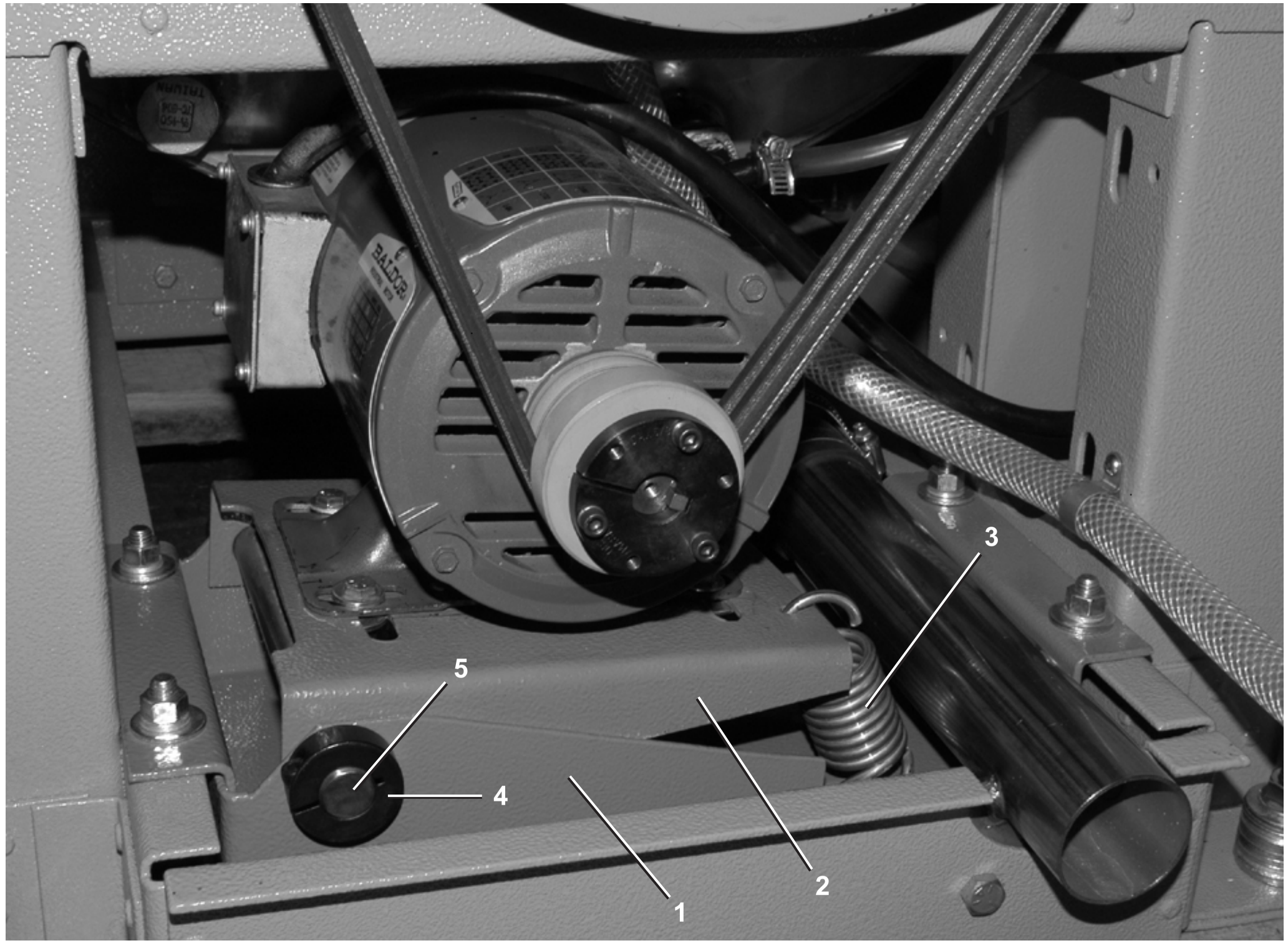

Motor Mount

MCR09E5, MCR18E4, MWR09E5, MWR18E4, MWR18X4, MWR18J4

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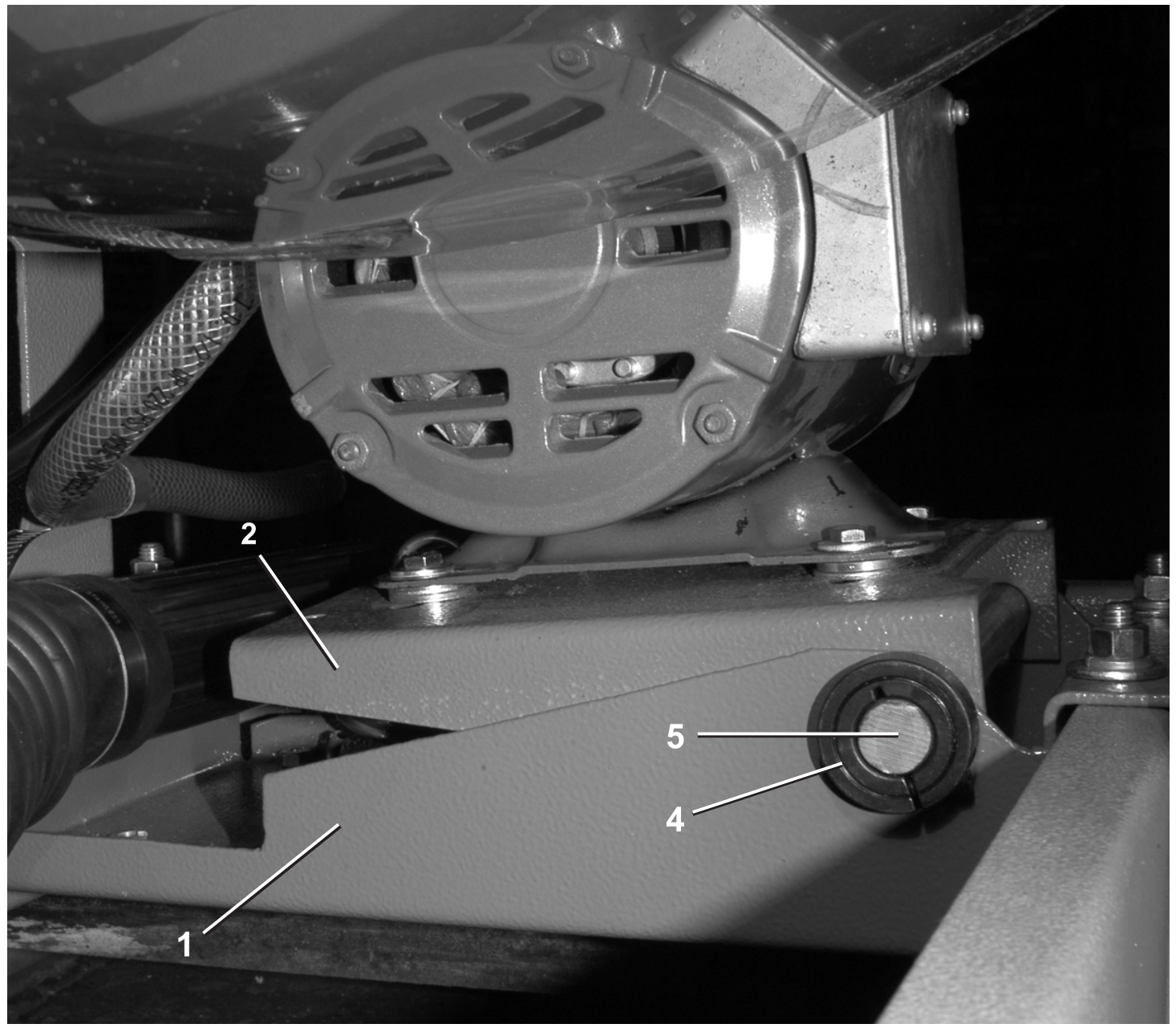

Parts List—Motor Mount

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	ADB575X347	2314 MOTOR MT ASSY	MCR09E5,MWR09E5
	B	ADB700X468	MOTOR MT ASSY 18KG	MCR18E4,MWR18E4 MWR18X4,MWR18J4
			----------COMPONENTS----------	
all	1	03 40026	MOTOR MOUNT SUB PLATE	
A	2	02 04256C	MOTOR MOUNT MCR09	
B	2	03 40226B	MOTOR MOUNT	
all	3	02 04259	SPRNG/MOT MOUNT/3022S4#SPC2690	
all	4	98CMCR0923	SHFTCOLLAR 3/4" CLPTYP CFG#12S	
A	5	98CMCR0922	ROD=PIVOT MTR MT MCR09	
B	5	03 40226C	ROD PIVOT MTR MT 18KG	

Section 3

Bearing Assemblies

Bearing Assembly & Installation

MCR12E5, MCR18E4, MWR12E5, MWR18E4, MWR18X4, MWR18J4

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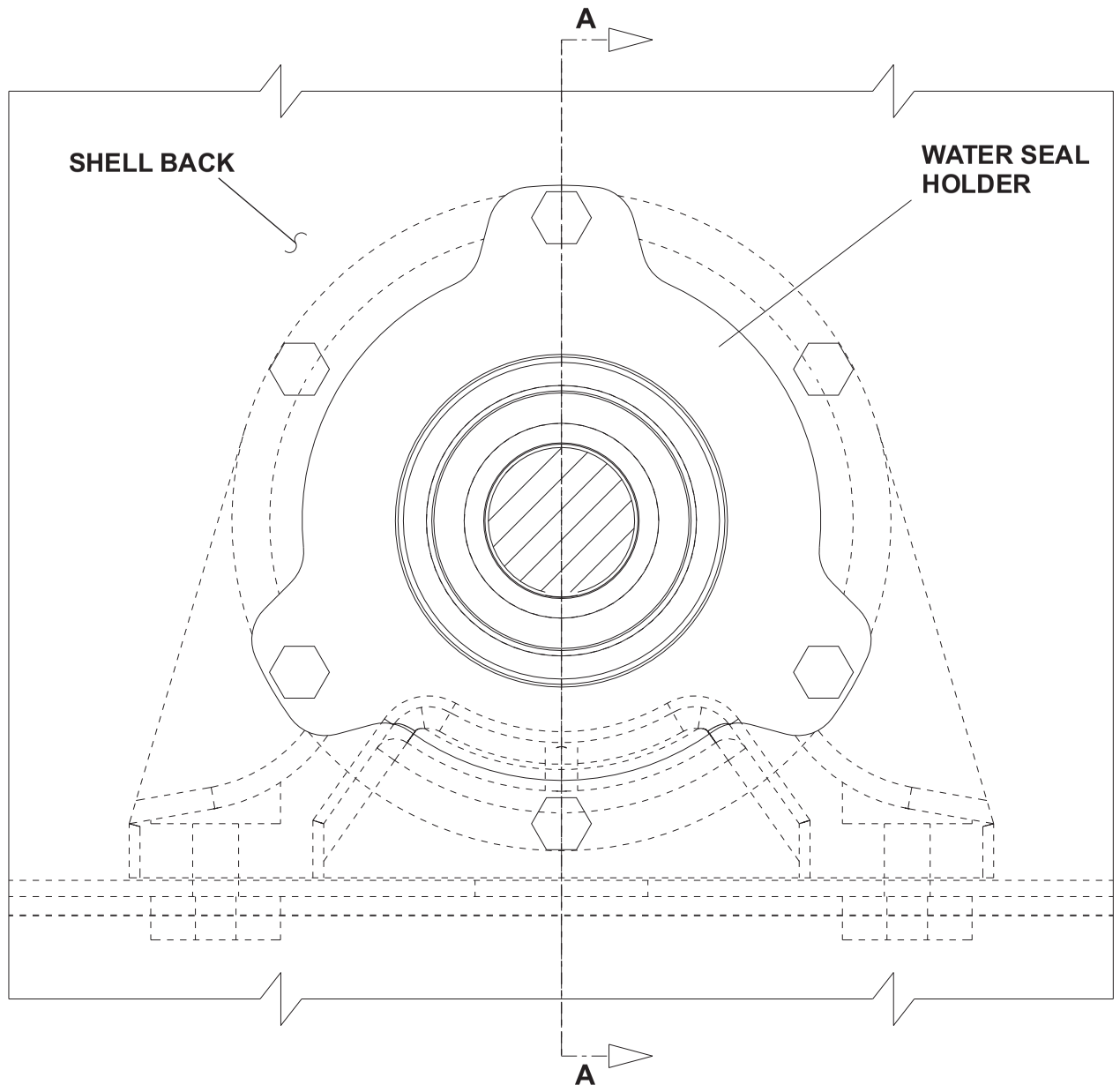
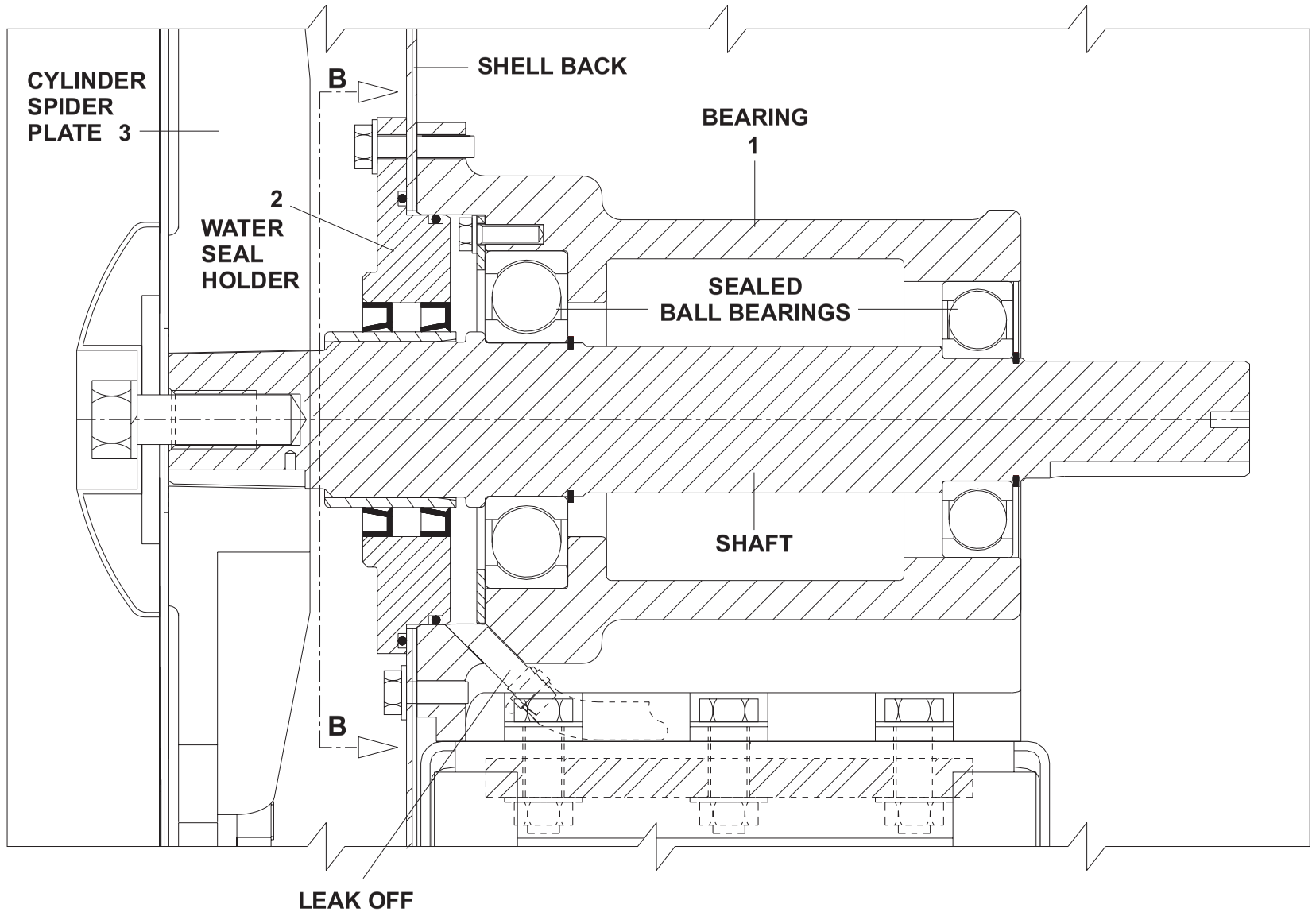


VIEW B-B



VIEW A-A

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Parts List—Bearing 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
			----------COMPONENTS----------	
	1	98CMCR0907	MCR09 BEARING HOUSE ASSY	
	2	98CMCR0916	MCR9/18 WATER SEAL HOLDER ASSY	
	3	ACA2314CYL	CYLINDER ASSY 575X347	MCR12E5, MWR12E5
	3	ACA2818CYL	CYLINDER ASSY WELDED 2818	MCR18E4, MWR18E5 MWR18X4, MWR18J4

Section 4

Shell and Door Assemblies

Door Installation

MCR12E5, MCR18E4, MWR12E5, MWR18E4, MWR18X4, MWR18J4

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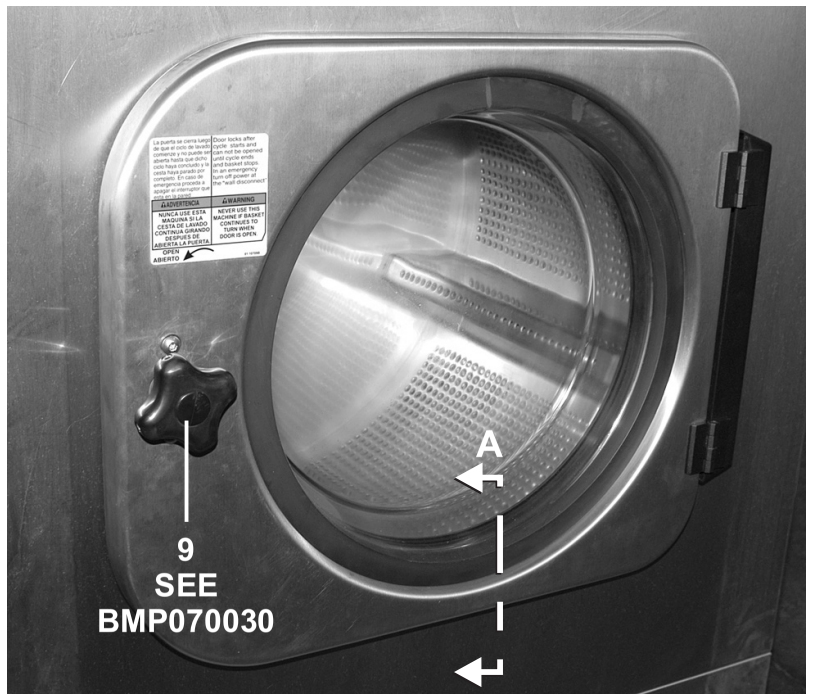

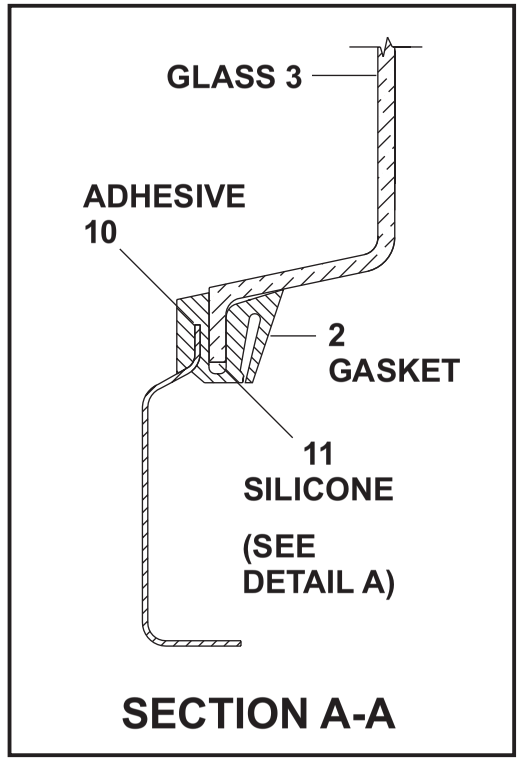

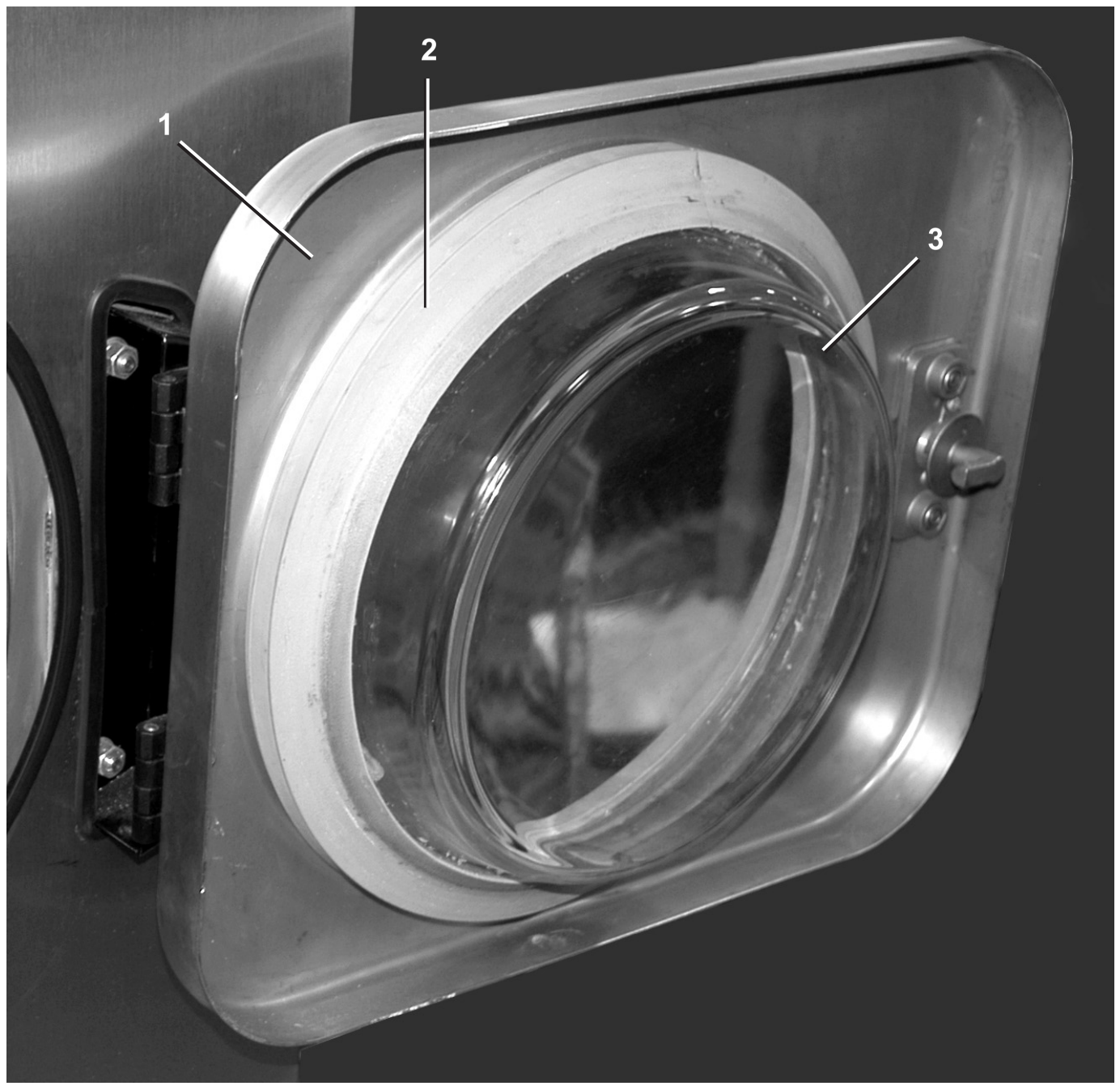

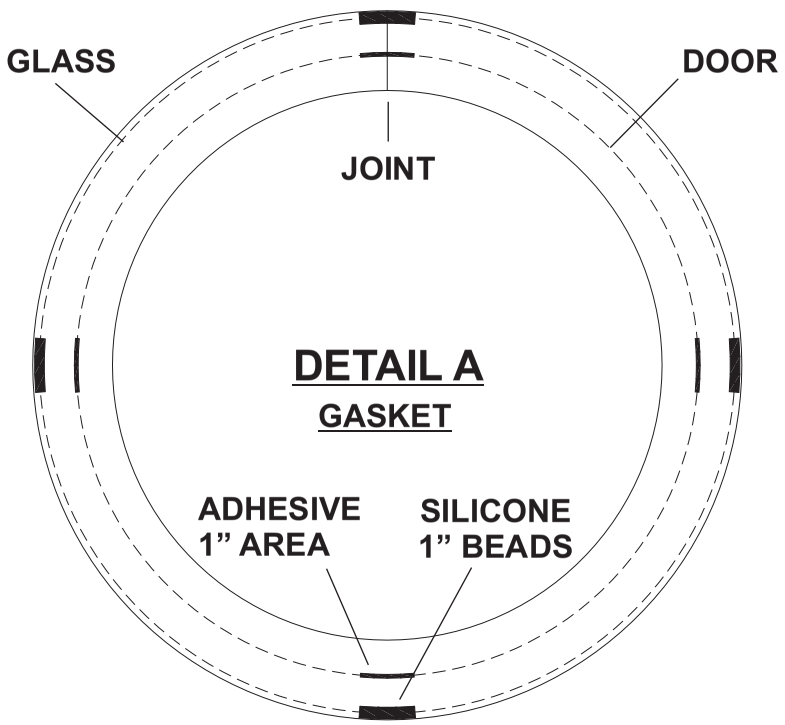

DOOR GLASS INSTALLATION:

1. INSTALL THE GASKET INTO THE DOOR BEFORE INSTALLING THE GLASS. THE RUBBER SEAL JOINT SHOULD BE LOCATED AT TOP DEAD CENTER OF THE DOOR. ADJUST IF NECESSARY.

2. APPLY A FEW DROPS OF ADHESIVE (ITEM 10) OVER A 1” AREA, 4 PLACES, AT 90 DEGREES AROUND THE RUBBER SEAL, IN THE AREA WHERE THE DOOR IS TO BE SEATED.

3. APPLY A 1” BEAD OF SILICONE (ITEM 11) IN 4 PLACES, AT 90 DEGREES AROUND THE RUBBER SEAL, IN THE AREA WHERE THE GLASS IS TO BE SEATED.

4. WHILE INSTALLING THE GLASS INTO THE RUBBER SEAL, ENSURE THAT NO SILICONE IS EXPOSED ON OUTER SURFACE OF THE RUBBER SEAL.

Door Installation

MCR12E5, MCR18E4, MWR12E5, MWR18E4, MWR18X4, MWR18J4

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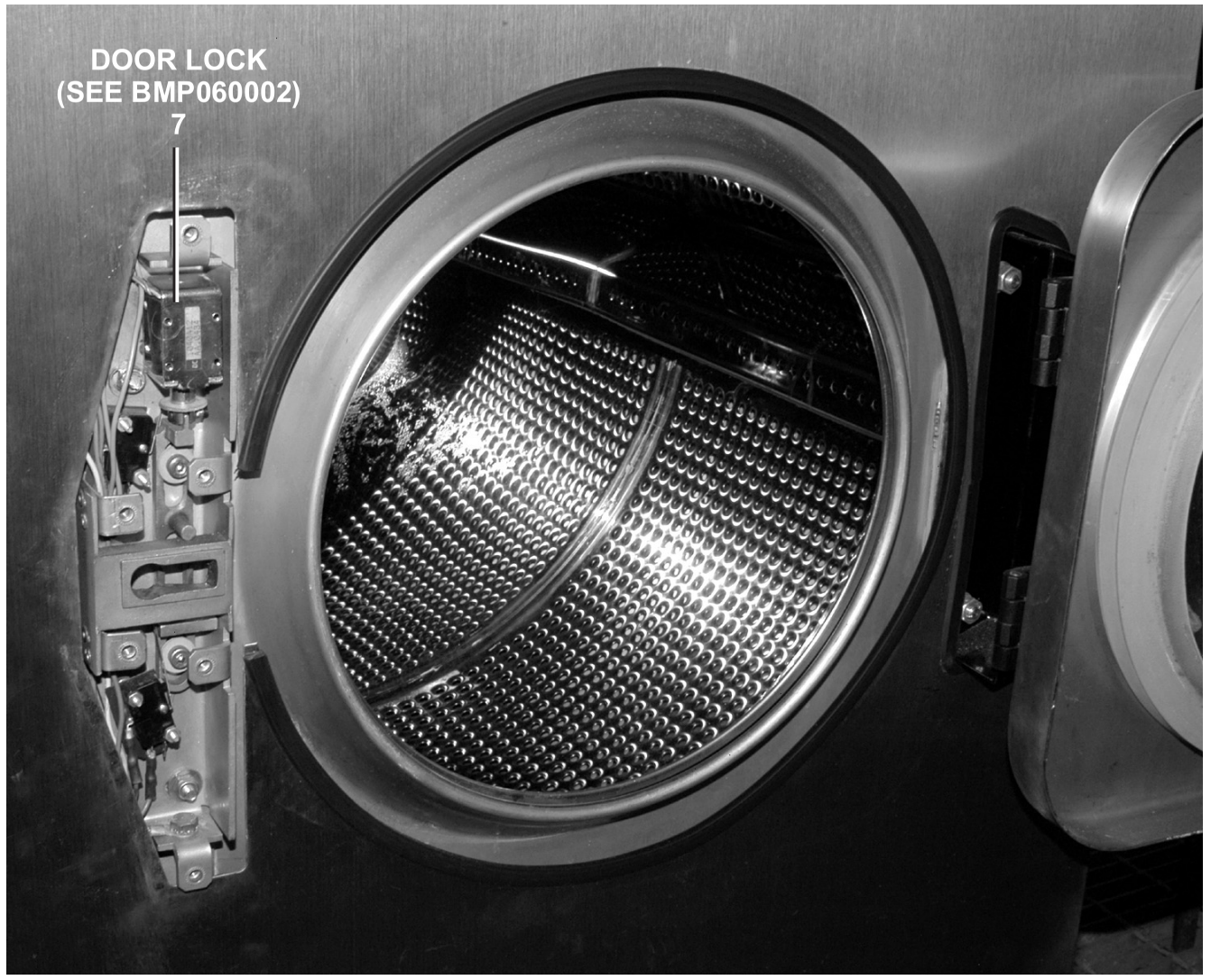

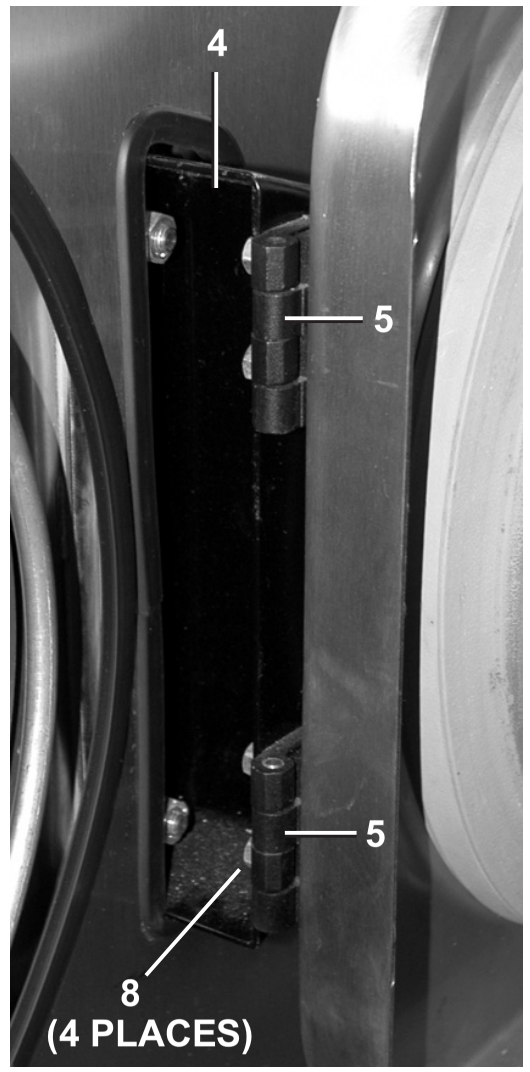

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Parts List—Door Installation

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	ASD12001	DOOR 12" 9KG	MCR12E5, MWR12E5
	B	ASD12002	DOOR 15.5" 18KG	MCR18E4, MWR18E4, MWR18X4,MWR18J4
			----------COMPONENTS----------	
A	1	03 40022	DOOR 12" CABINET	
B	1	03 40222	DOOR 14" 18KG	
A	2	03 40022A	GASKET 12 " 2314MCR09	
B	2	03 40222A	GASKET DOOR 14"	
A	3	03 40022G	DOOR GLASS 12"	
B	3	03 40222G	DOOR GLASS DEEP 14"	
all	4	03 40024	HING MOUNT BKT 9KG	
all	5	27A108	DOORHINGE EMKA#1056-U8	
all	6	02 03228A	COVER INTERLOCK	
	7	A33 03227A	ASSY=DOOR LOCK A, MCR09/18	MCR12E5, MCR18E4
	7	98CMCR0924	ASSY=DOOR LOCK A	MWR12E5, MWR18E4 MWR18X4, MWR18J4
all	8	15G004HA	HEXLOCKNUT M6-1 18-8SS	
all	9	A33 03289A	ASSY=DR HNDL MECH A,3022H	
all	10	20CA40H	3-M CA40H INST. ADHESIVE 1OZ	
all	11	20C040B	SUPERFLEX CLR RTV SIL 10.2OZ	

Door Lock Mechanism

MCR12E5, MCR18E4, MWR12E5, MWR18E4, MWR18X4, MWR18J4

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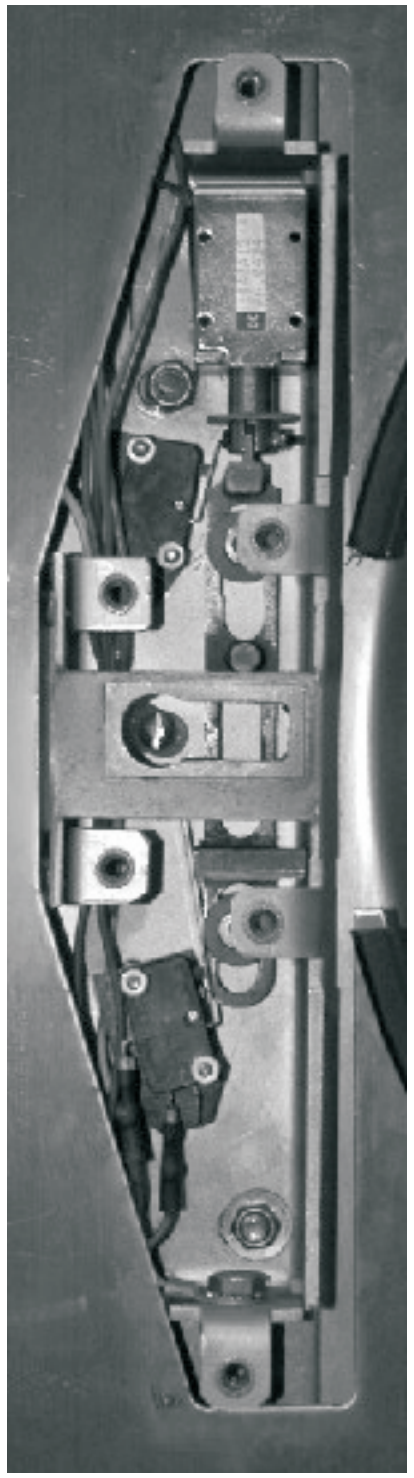
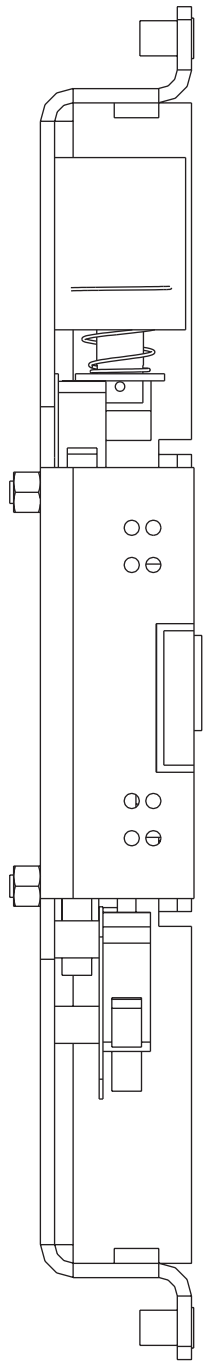
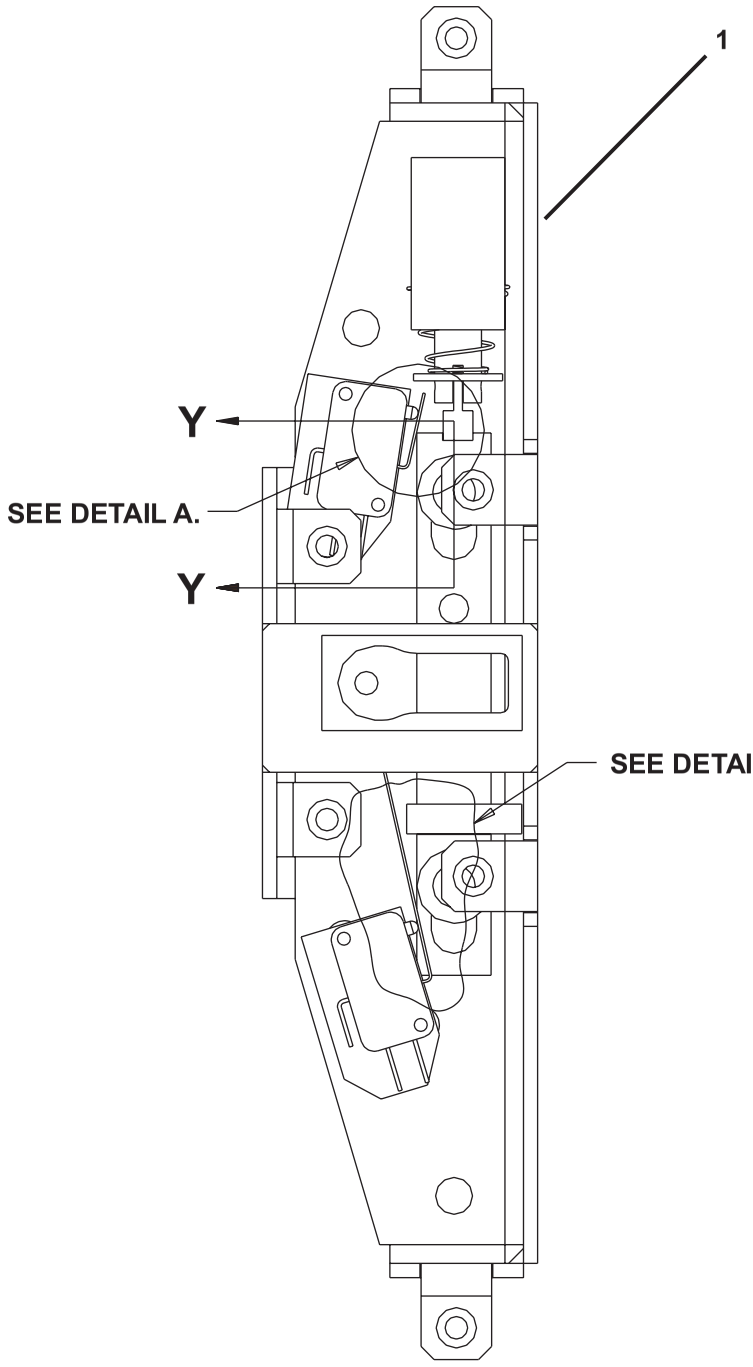
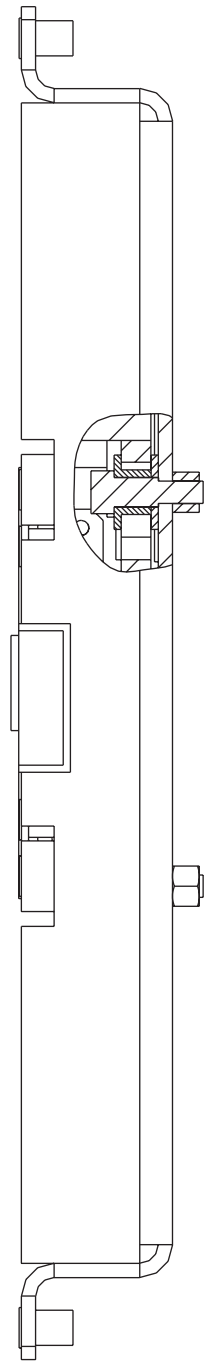
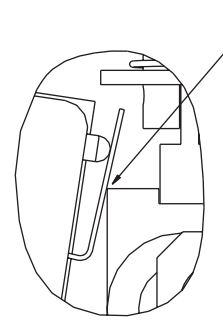








SECTION Y-Y

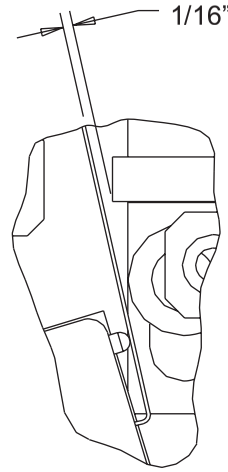


WITH THE DOOR LOCK SLIDER “DOWN” (UNLOCKED), ENSURE THAT THE MICROSWITCH “IS NOT” ACTIVATED.

NOTE: THE DOOR LOCK SLIDER IS SHOWN IN THE DOWN POSITION.

WITH THE DOOR LOCK BAR “UP” (LOCKED), ENSURE THAT THE MICROSWITCH “IS” ACTIVATED.

SEE DETAIL A.



THIS CLEARANCE MUST BE BE MEASURED WHILE THE DOOR LOCK SLIDER IS IN THE DOWN POSITION (UNLOCKED).

NOTE: THE DOOR LOCK SLIDER IS SHOWN IN THE DOWN POSITION.

DETAIL B.

Door Lock Mechanism

MCR12E5, MCR18E4, MWR12E5, MWR18E4, MWR18X4, MWR18J4

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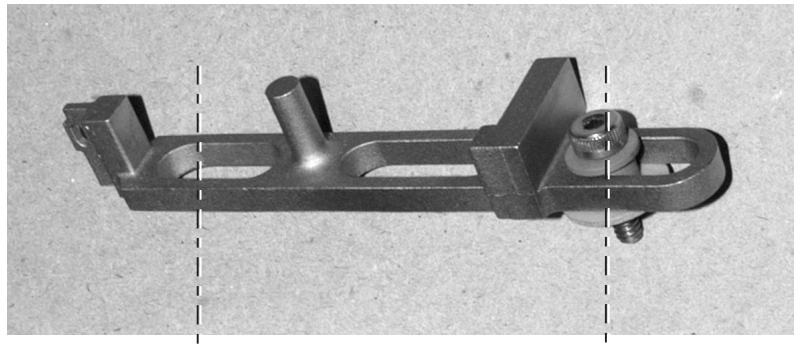

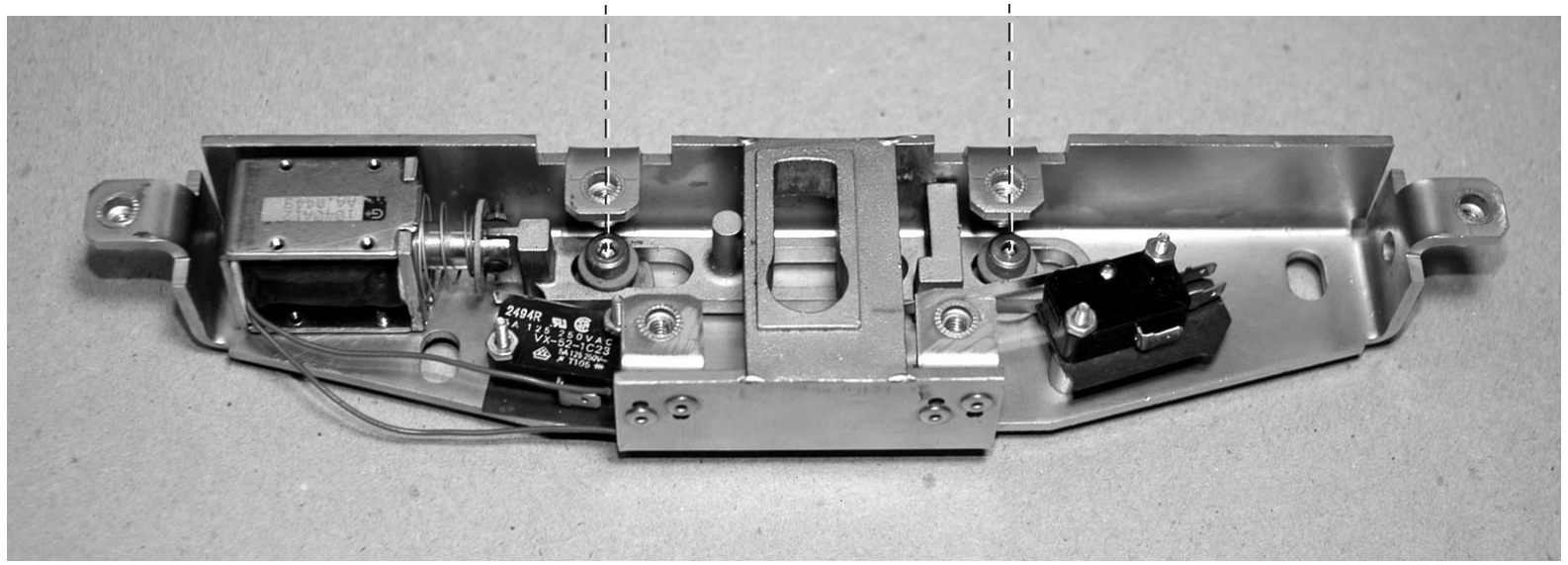

Parts List—Door Lock Mechanism

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----------	
	1	A33 03227A	ASSY=DOOR LOCK A, MCR09/18	MCR12E5, MCR18E5
	1	98CMCR0924	ASSY=DOOR LOCK A	MWR12E5, MWR18E5 MWR18X4,MWR18J4

Door Locking Handle

MCR12E5, MCR18E5, MWR12E5, MWR18E5, MWR18X4, MWR18J4

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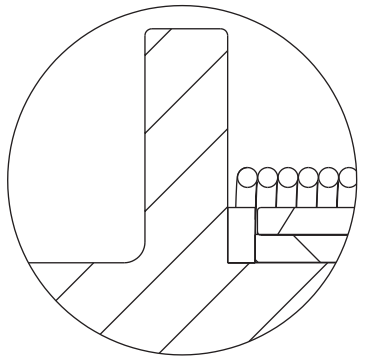
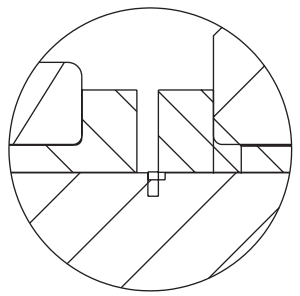
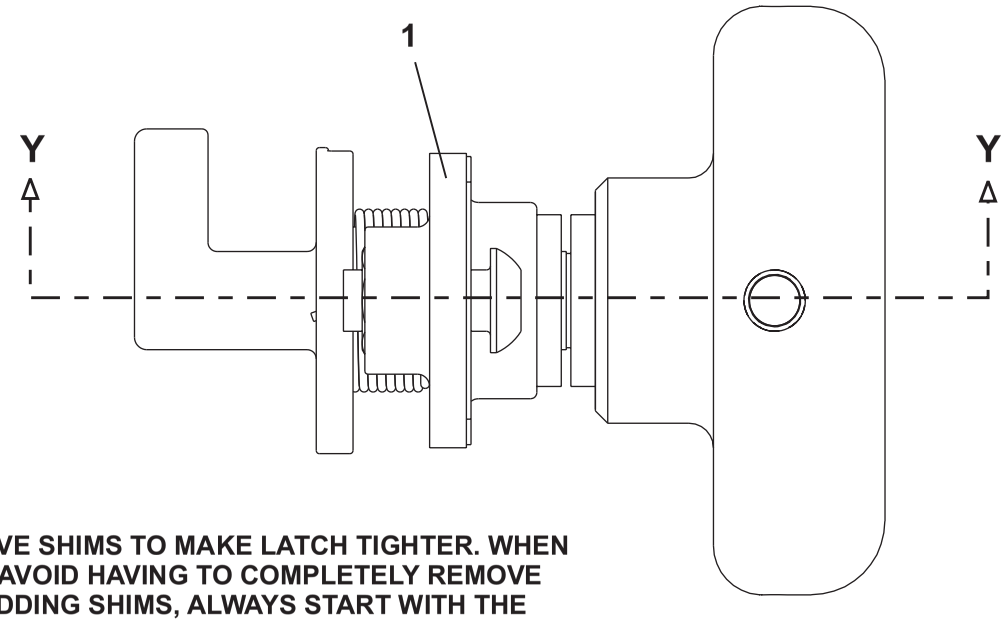
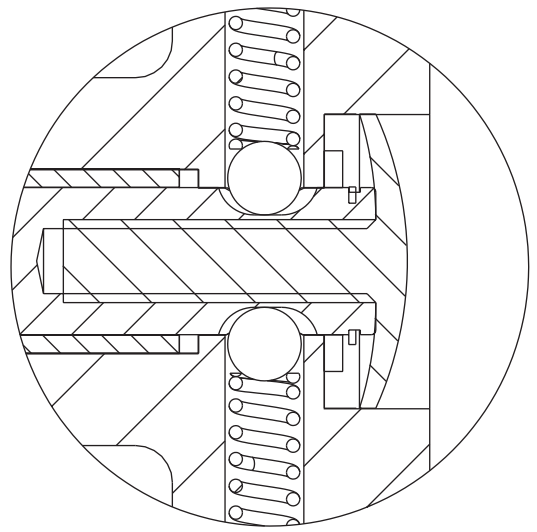


DETAIL A



DETAIL B

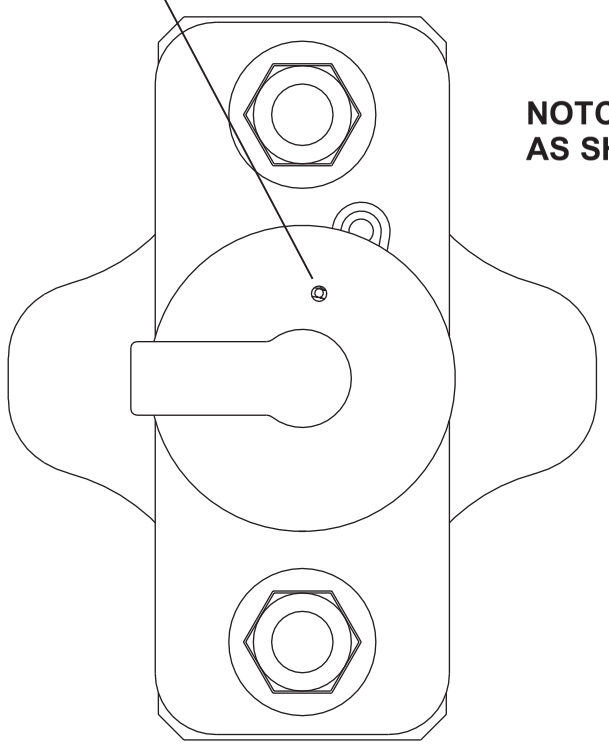


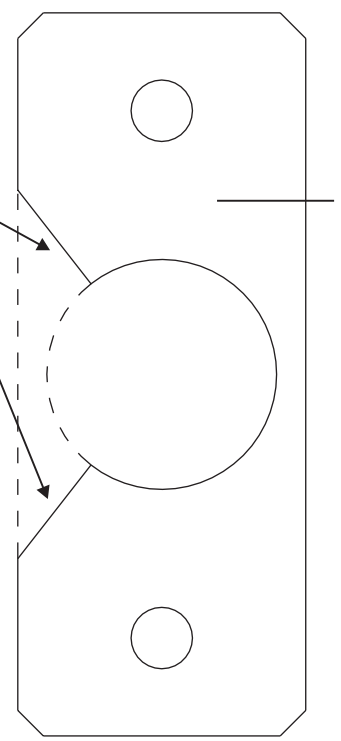


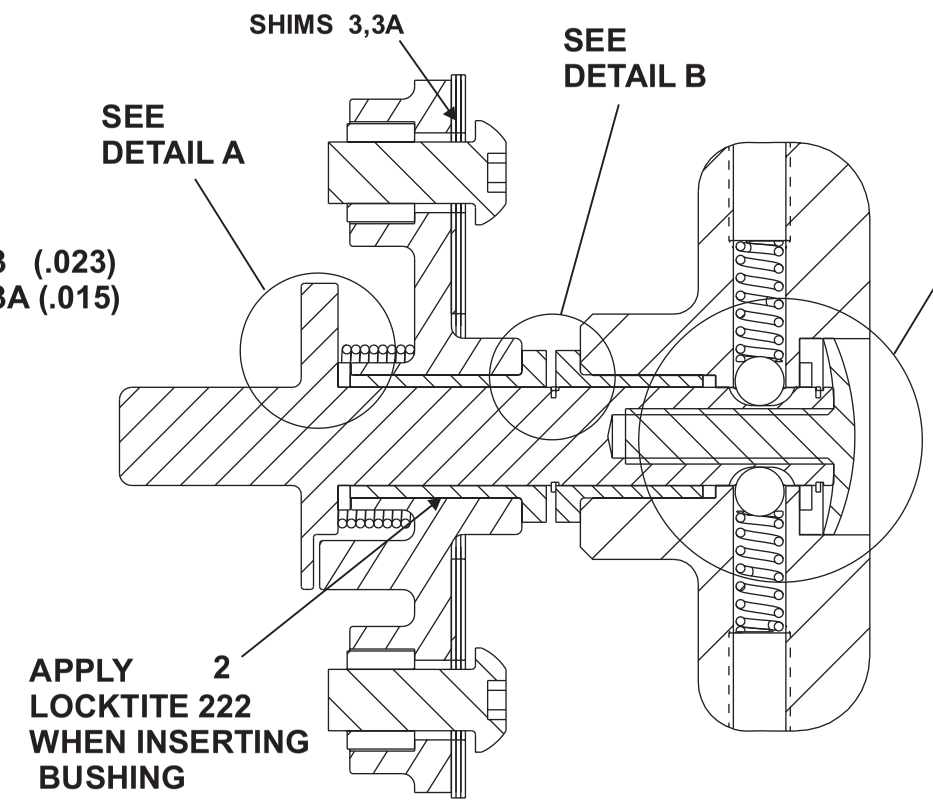
DETAIL C

WIND TORSION SPRING 1/4 TURN, THEN INSERT FREE END OF SPRING INTO THIS HOLE.

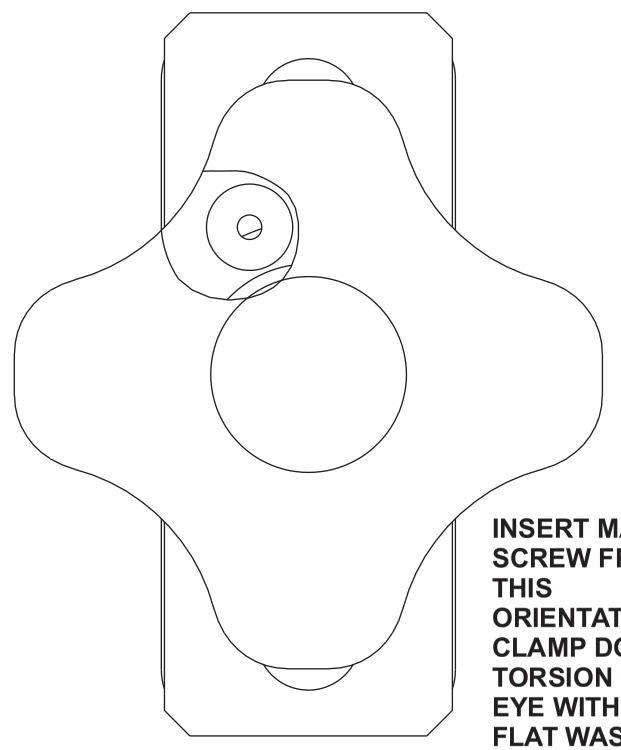
ADD SHIMS TO MAKE LATCH LOOSER. REMOVE SHIMS TO MAKE LATCH TIGHTER. WHEN ADDING SHIMS, NOTCH SHIM AS SHOWN, TO AVOID HAVING TO COMPLETELY REMOVE HANDLE ASSEMBLY. WHEN REMOVING OR ADDING SHIMS, ALWAYS START WITH THE THINNEST SHIM.







SECTION Y-Y



INSERT MACHINE SCREW FROM THIS ORIENTATION. CLAMP DOWN TORSION SPRING EYE WITH THE FLAT WASHER

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Parts List—Door Locking Handle

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----------	----------
all	1	98CMCR0925	ASSY=DR HNDL MECH	
all	2	20C007	THDLOCKSEAL LCT#22221 CMPD10CC	
all	3	02 04192	SHIM=DOOR MOUNT PLATE, 3022H	
all	3A	02 04192A	.015 SHIM=DOOR MNT PL,3022H7	

Section 5

Control and Sensing

Coin Acceptor & Vault

MCR12E5, MCR18E4

BMP040093/2007492B
(Sheet 1 of 2)

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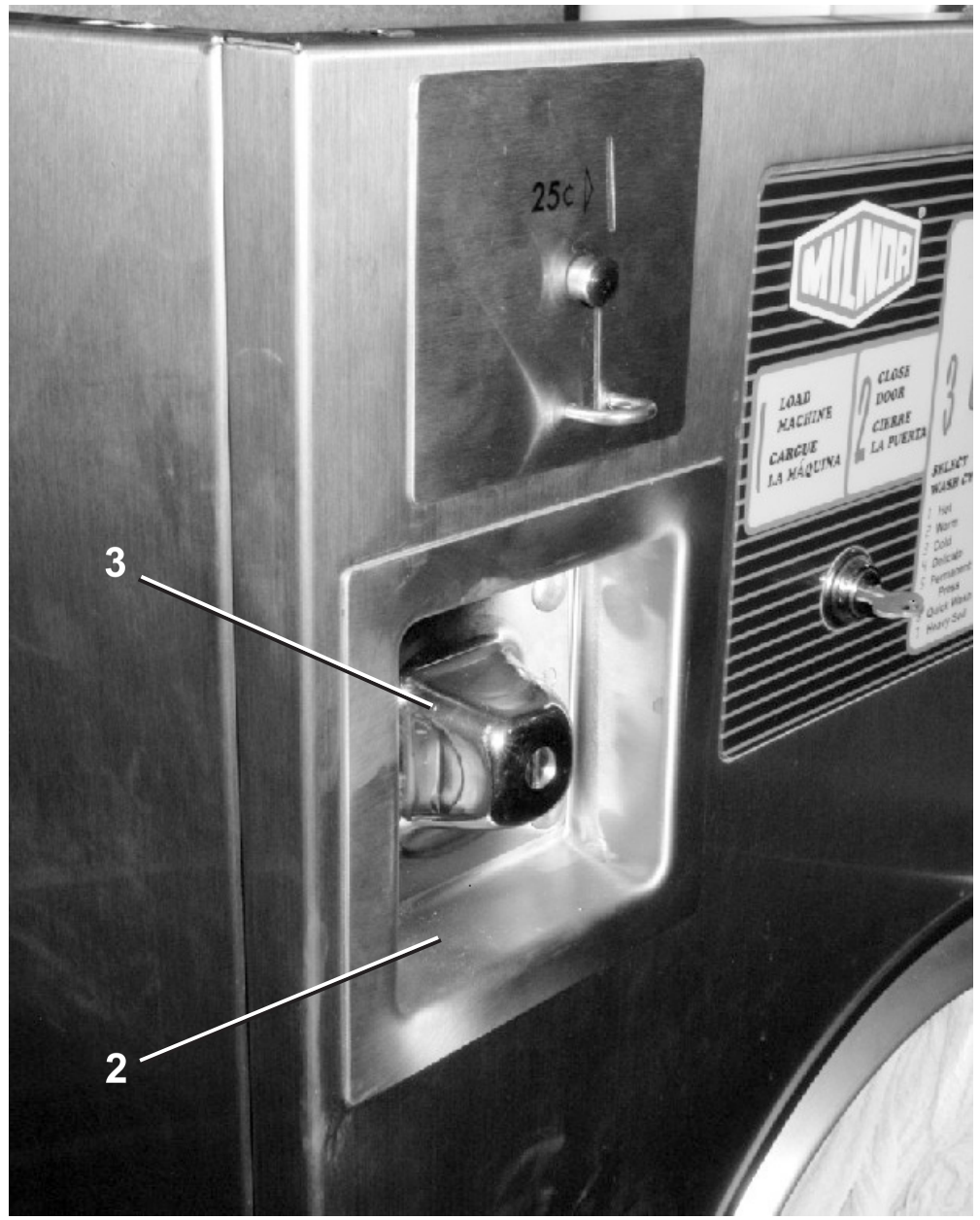

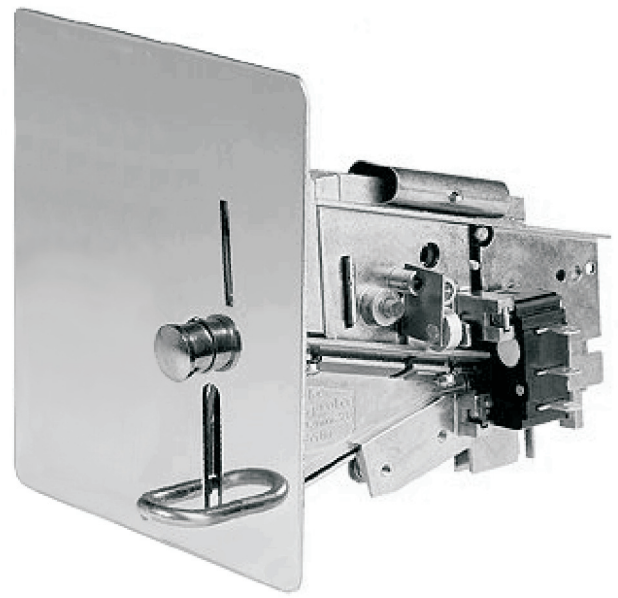

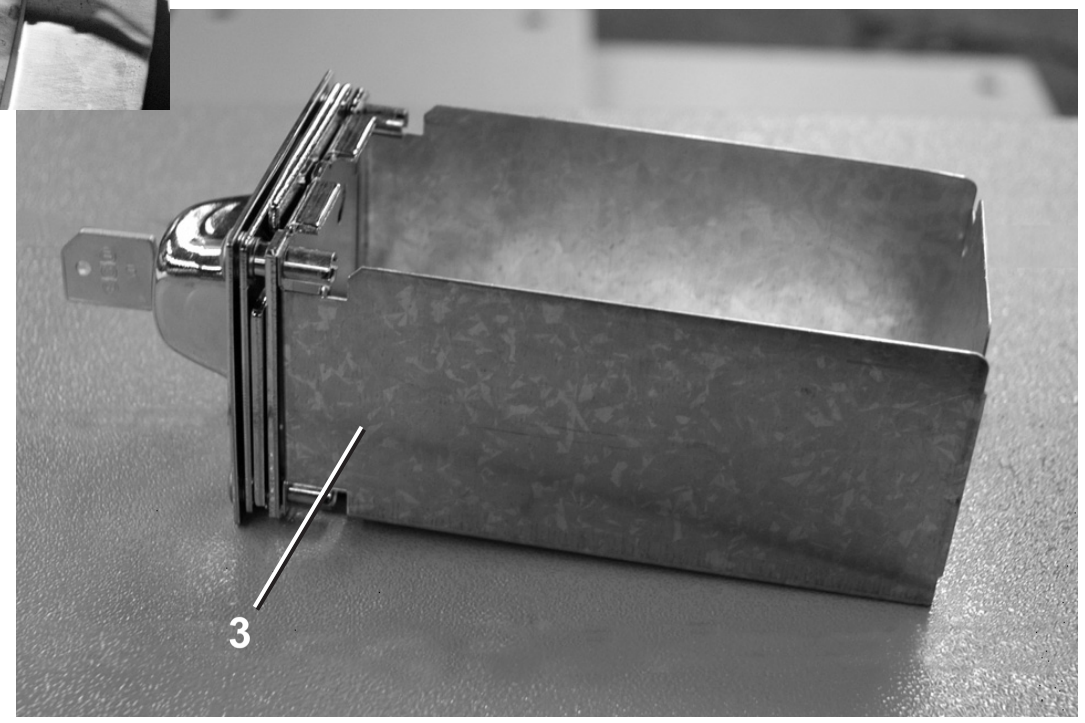

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Parts List—Coin Acceptor & Vault

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	GCM33002	COIN ASSY INSTALL 2314MCR09	
----------COMPONENTS----------				
all	1	38C085	REJ.W/LOCK-MECH 230V CASTIC	
all	2	W3 40029	2314MCR09 COIN VAULT WELD	
all	3	38C152KI	COIN LOC BX KEY-INDV.#71942-XD	KEYED INDIVIDUALLY
all	3	38C152KA	COIN LOC BX#71942-XD KEY-ALIKE	KEYED ALIKE

Level Switch

MCR12E5, MCR18E4, MWR09E5, MWR18E4, MWR18X4

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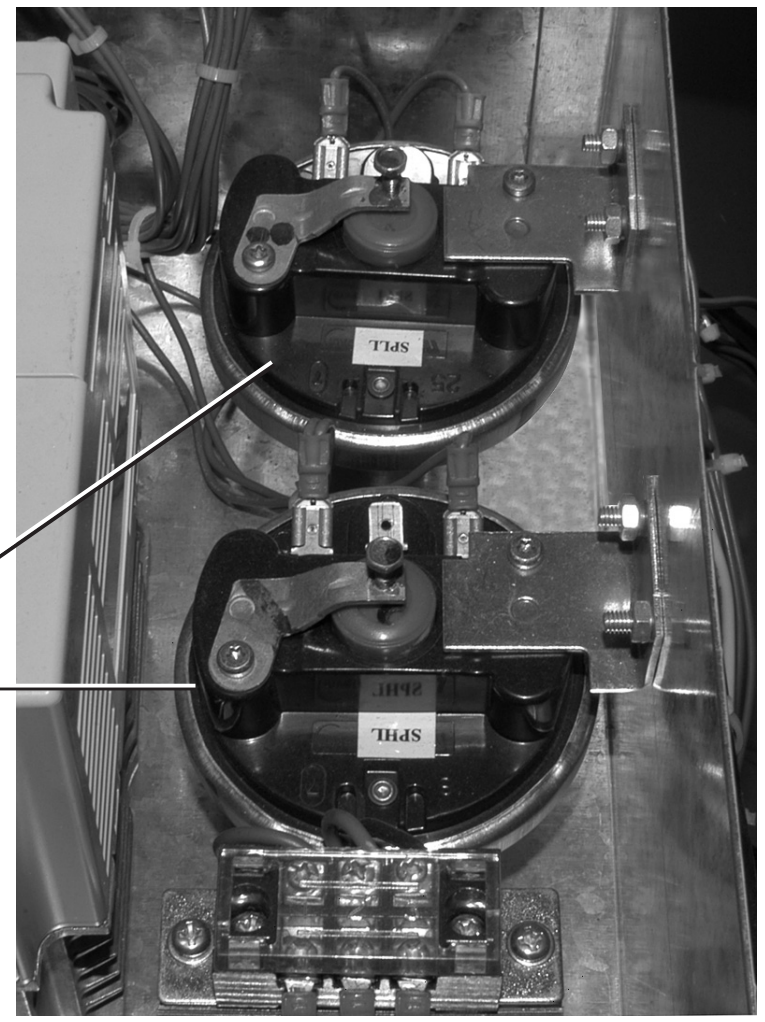
Litho in U.S.A.

MCR12E5, MCR18E4
(USE 1 LEVEL SWITCH)

MWR12E5, MWR18E4, MWR18X4
(USE 2 LEVEL SWITCHES)



Parts List—Level 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			MCR12E5
	B			MCR18E4
	C			MWR12E5
	D			MWR18E4, MWR18X4
			----------COMPONENTS----------	
A	1	09N086A	PRESS SW INVENSYS #738-761	
B	1	09N086A	PRESS SW INVENSYS #738-761	
C	1	09N089	PRESSURE SWITCH	
D	1	09N086A	PRESS SW INVENSYS #738-761	
C,D	2	09N086A	PRESS SW INVENSYS #738-761	

VIBRATION SAFETY SWITCH ADJUSTMENTS

B What the Vibration Safety Switch Does

The *vibration safety switch* pictured below is an important safety feature. If properly adjusted, the switch will momentarily actuate as a result of repeated machine movement caused by an out-of-balance condition. Table A below illustrates the effect of the *vibration safety switch* actuation.

Table A—Effect of Tripping Vibration Safety Switch

Machine Model	Function of Vibration Safety Switch
30015, 30020, and 30022	Disables high speed extract
All microprocessor-controlled washer-extractors not listed above, and all dye machines	De-energizes three-wire relay, effectively terminating machine operation

Adjustments

When the machine leaves Milnor®, the actuator arm is tie-wrapped to prevent damage (except on 30015, 30020, and 30022 models). **This tie wrap must be removed after the machine is set into position but before the machine is operated.**

Adjustment of this switch from the factory setting is not recommended; however, it should be checked for proper functioning and adjusted if its proper setting is lost.

As shown at right in FIGURE 1, the unit consists of a *sensitive micro-switch* with an extended actuating arm supporting an eccentric weight. The weight may be adjusted by moving it up and down on the arm and by rotating it on the arm. In addition, the *micro-switch* itself may be tilted from side to side.

The sensitivity of the switch increases as the eccentricweight is raised on the actuating arm and decreases as the weight is lowered.

The unit should be adjusted so that the actuating arm will always reset by itself, this being accomplished by rotating either the switch or the weight to give just enough bias to cause the switch to reset. Check the adjustment by moving the arm to the left then slowly releasing it. Make sure the microswitch clicks when the arm is **slowly** released, thus indicating

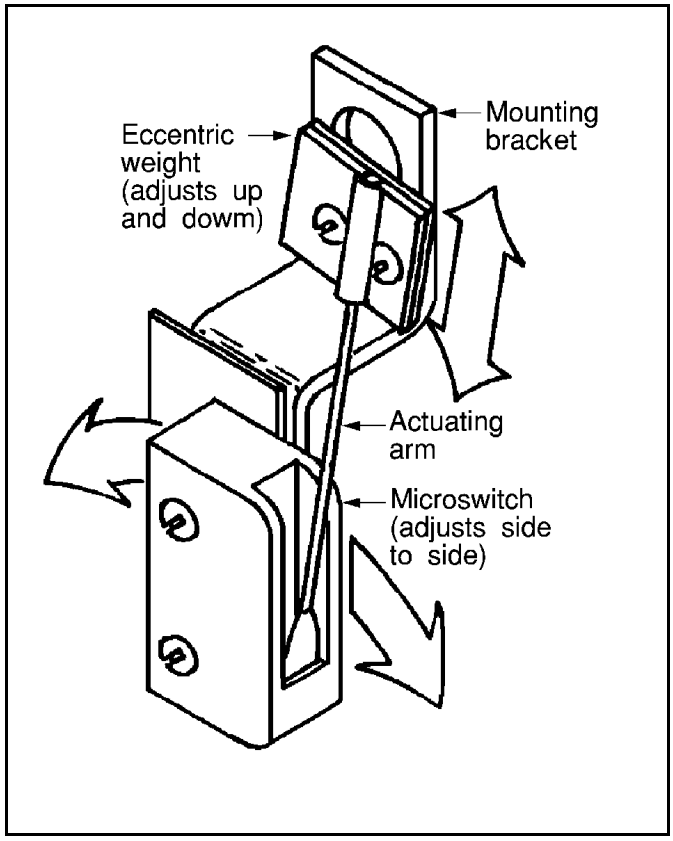


FIGURE 1 (MSSMA408BE)
Vibration Switch

that it has reset. In the released position the arm should rest **lightly** but definitely against the stop on the *micro-switch* case that prevents any further arm movement to the left.

For machines with rigid mounted shells, where the machine is bolted to a very substantial foundation, very little machine movement will occur for a given degree of out-of-balance. Under such conditions it may be better to adjust the switch to be very sensitive. With less substantial foundations (e.g., ones where the sub-soil is mushy or springy or otherwise not as desirable), considerably greater machine movement will occur for a given degree of out-of-balance, in which case a less sensitive *vibration switch* setting may be indicated.

Vibration Safety Switch

MCR12E5, MCR18E4, MWR12E5, MWR18E4, MWR18X4, MWR18J4

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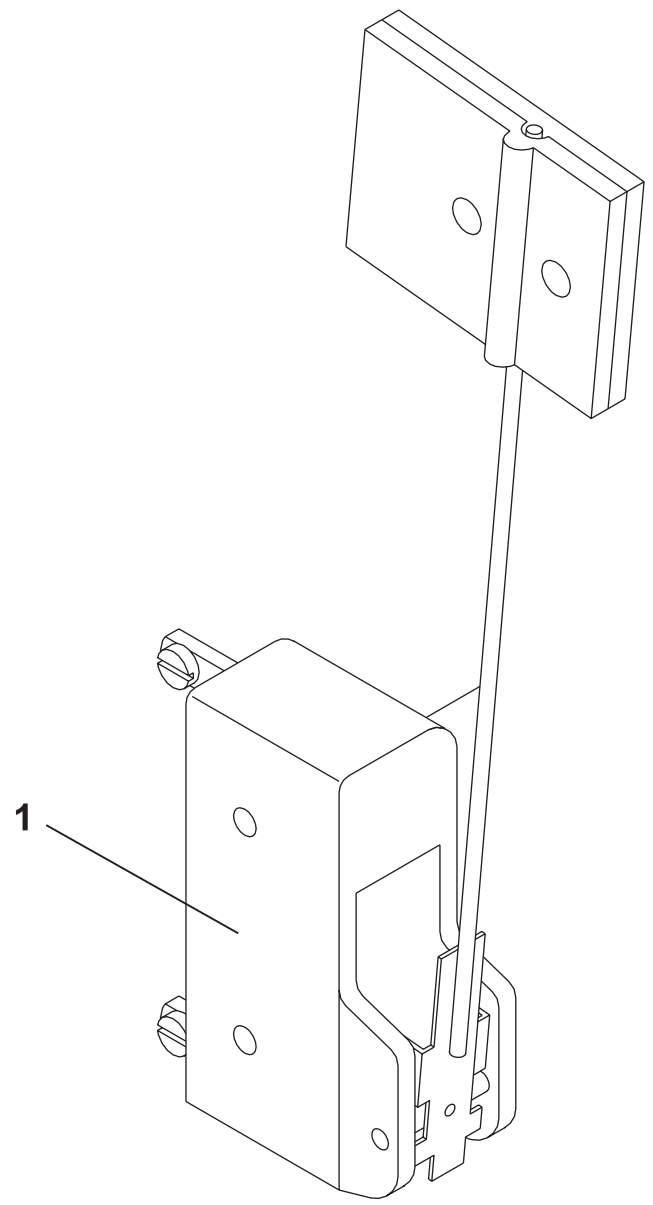

Parts List—Vibration Safety Switch

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
			----------COMPONENTS----------	
all	1	98CMCR0910	VIBRATION SWITCH	

Section 6

Chemical Supply

Soap Chute

MCR12E5, MCR18E4

BMP060004/2007492B
(Sheet 1 of 3)

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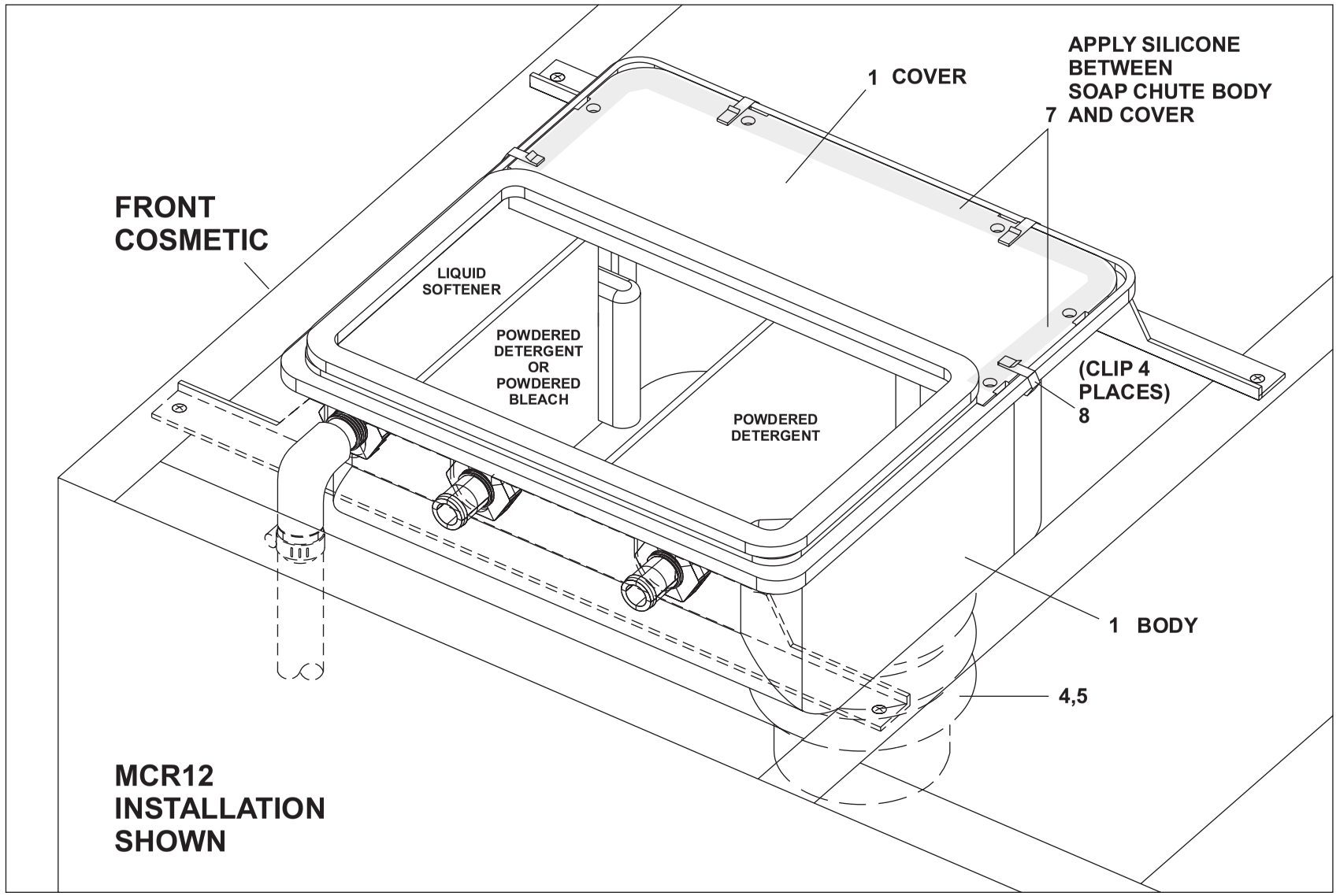
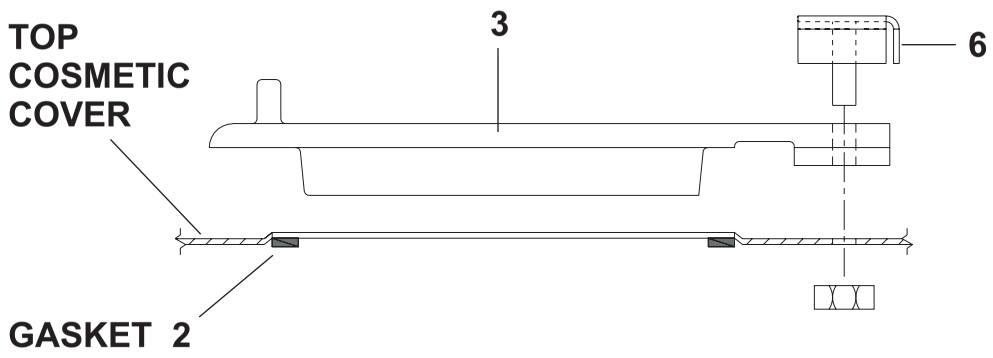


SOAP CHUTE INSTALLATION



60

Soap Chute

MCR12E5, MCR18E4

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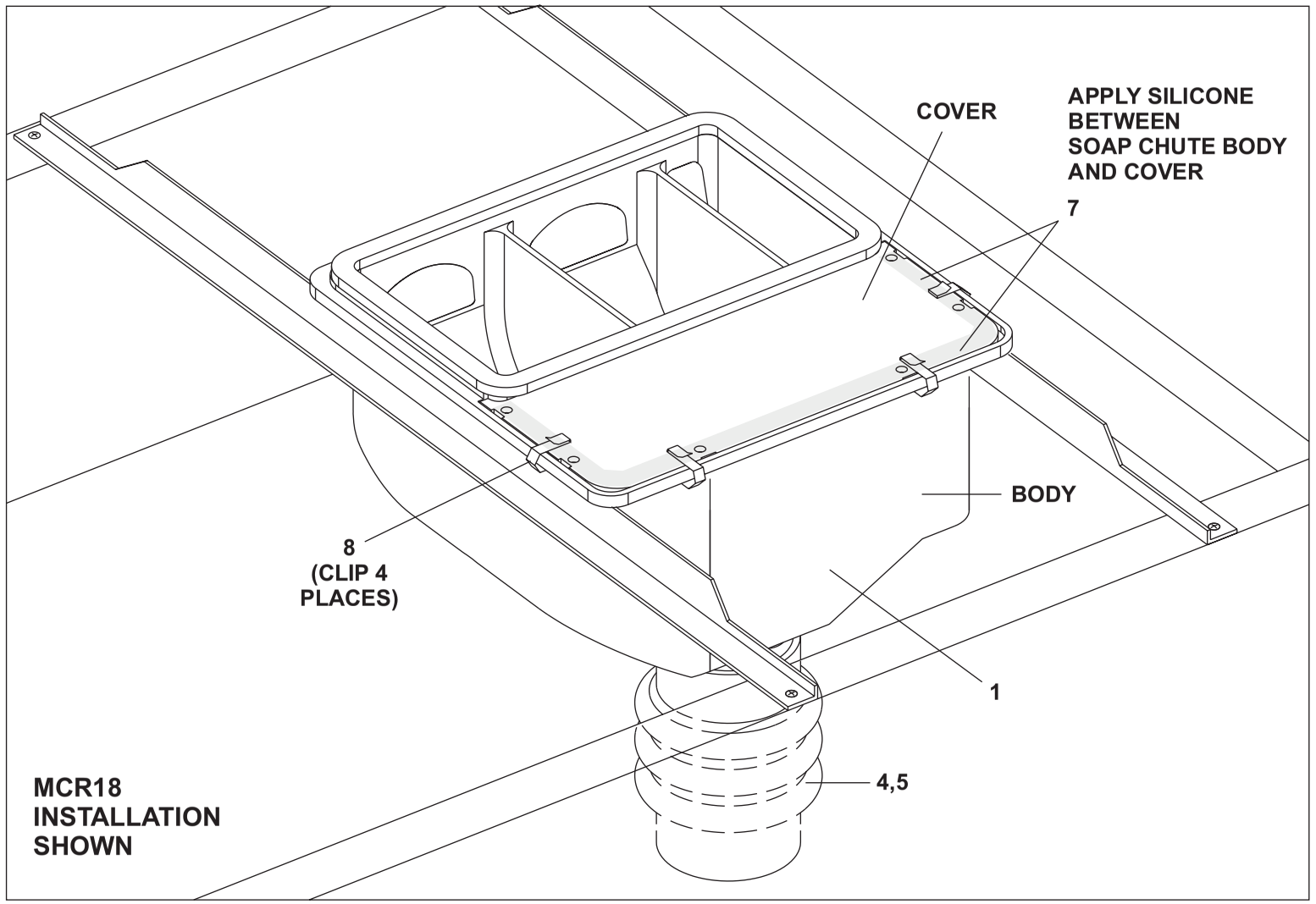

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Parts List—Soap Chute

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
			----------COMPONENTS----------	
all	1	AWS33005	SOAP CHUTE ASSY 3 COMP	
all	2	03 40039B	GASKET SOAP CHUTE	
all	3	03 40039C	COVER SOAP CHUTE	
all	4	03 40039H	FLEXIBLE TUBE=SOAP CHUTE 4.25"	
all	5	27A065S	HOSECLAMP 1.56"-2.5"SSSCR#32	
all	6	03 40039D	HINGE COVER SOAP CHUTE	
all	7	20C040B	SUPERFLEX CLR RTV SIL 10.2OZ	
all	8	12P015D	CABLE CLIP TINN#C23214-017	

Soap Chute

MWR12E5, MWR18E4, MWR18J4

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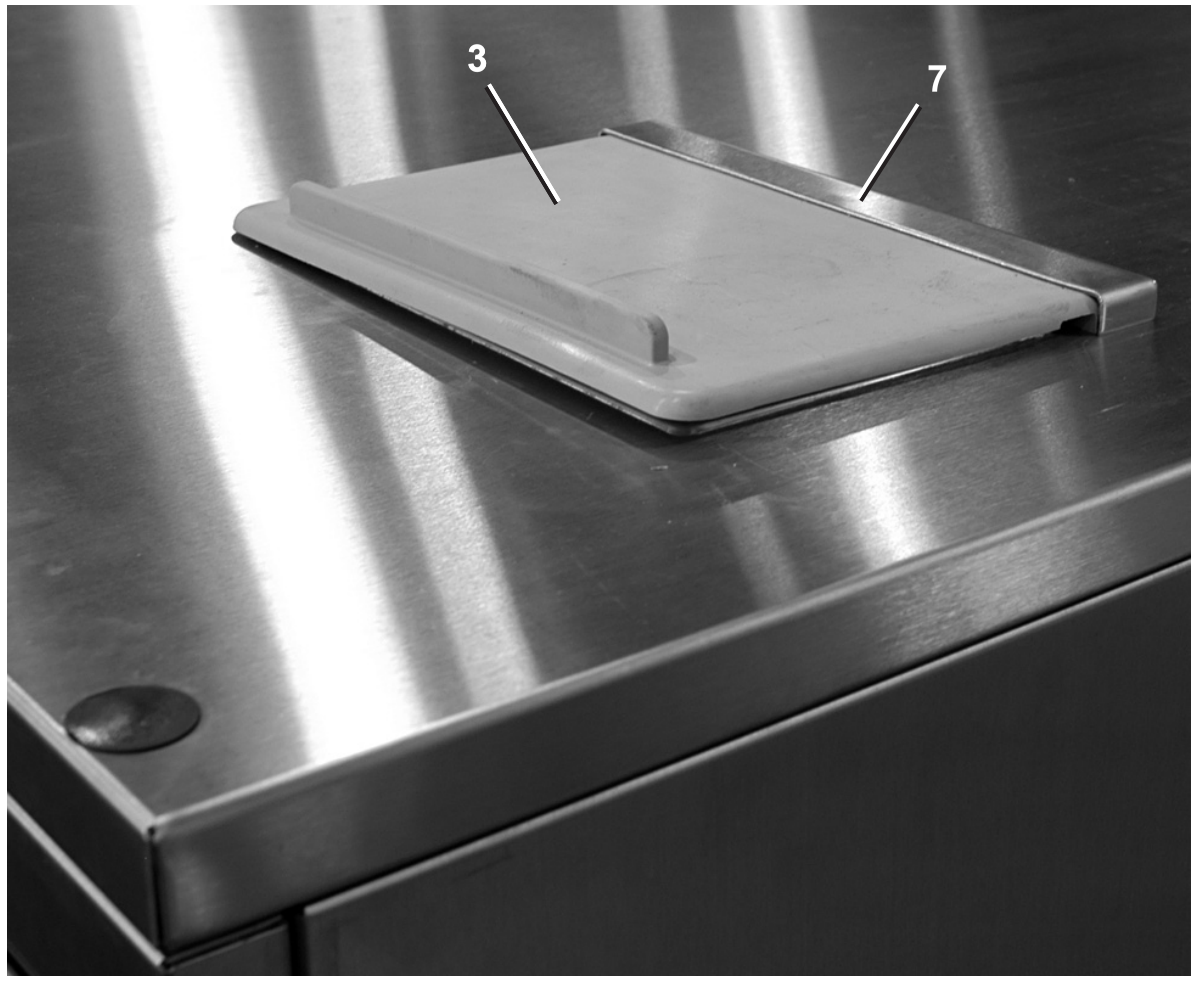

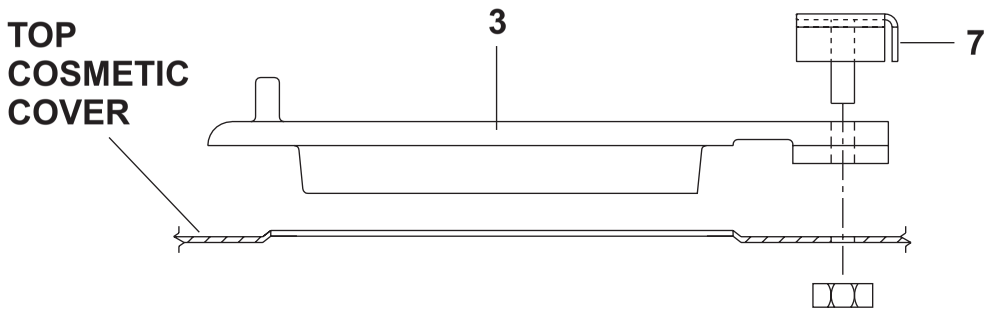

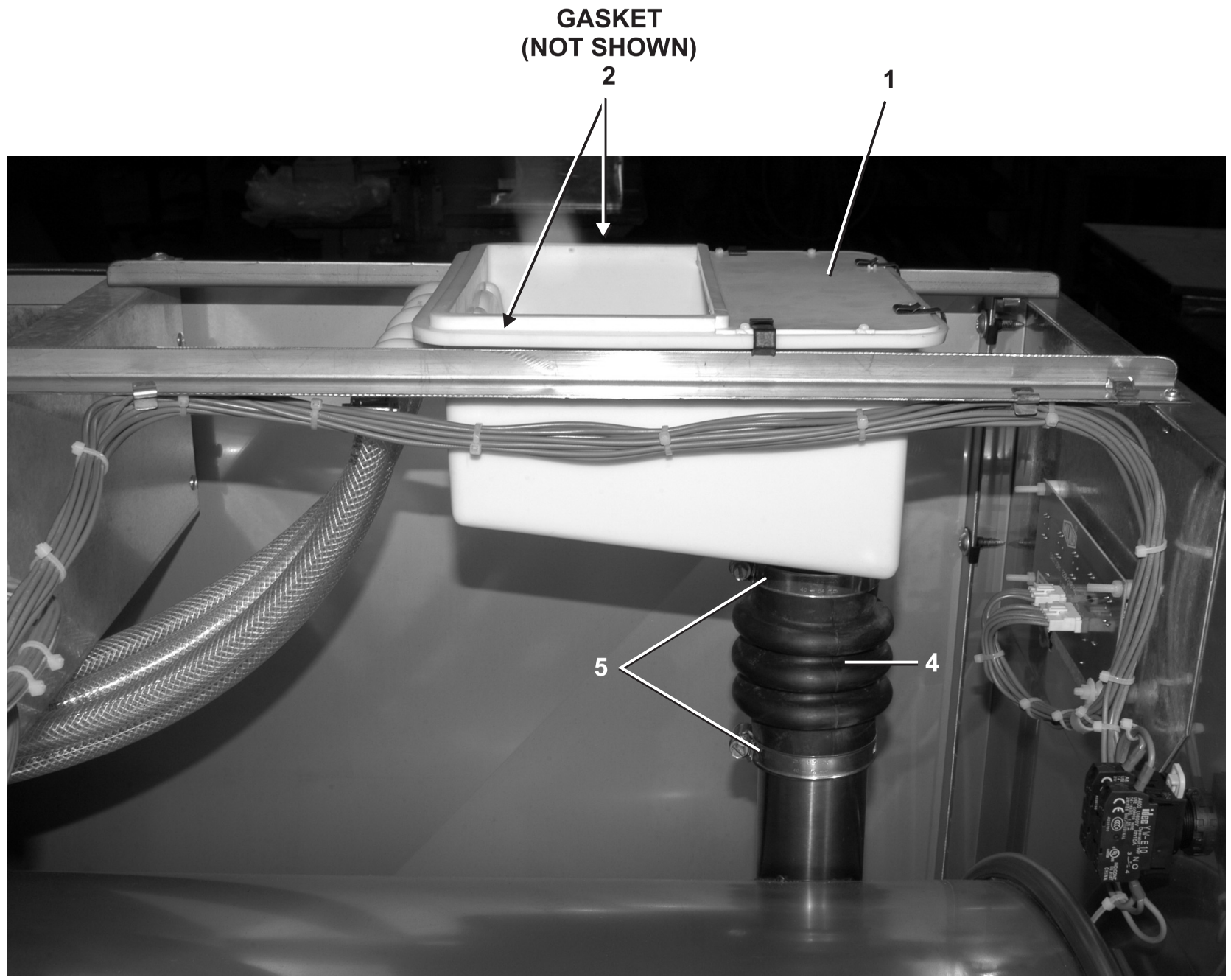

Soap Chute

MWR12E5, MWR18E4, MWR18J4

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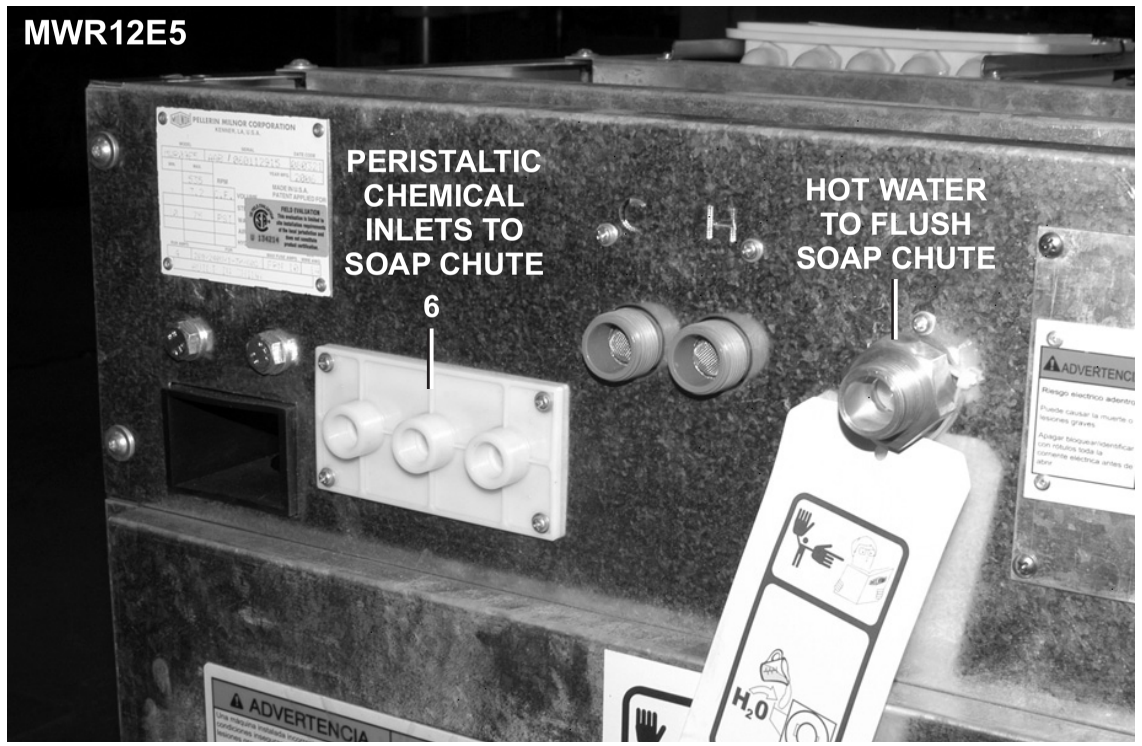

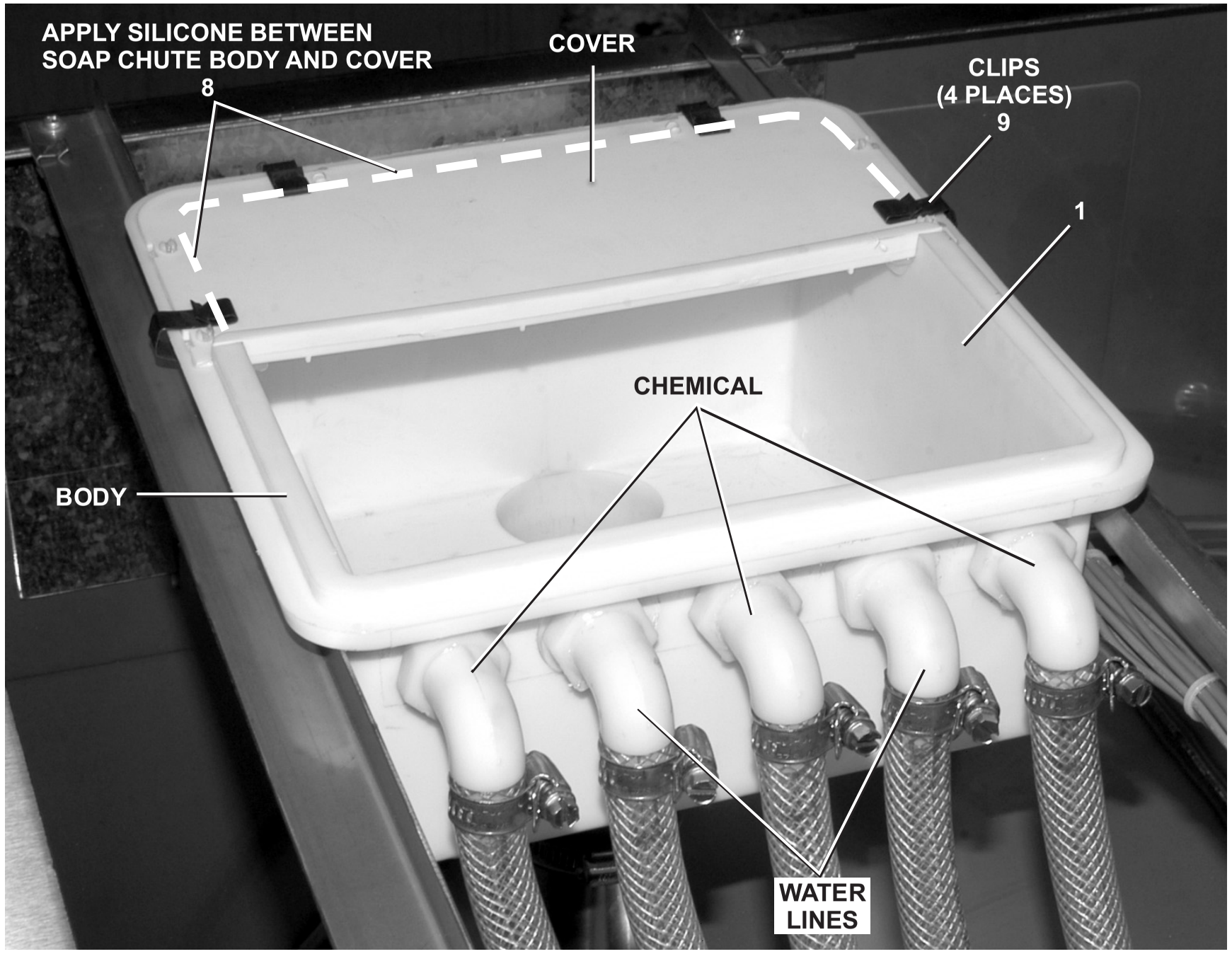

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Parts List—Soap Chute

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----------	
			none	
			----------COMPONENTS----------	
all	1	AWS33006	DRY AND LIQUID SUPPLY OPL	
all	2	03 40039B	GASKET SOAP CHUTE	
all	3	03 40039C	COVER SOAP CHUTE	
all	4	03 40039H	FLEXIBLE TUBE=SOAP CHUTE 4.25"	
all	5	27A065	HOSECLAMP 1.56"-2.5"SSSCR#32	
all	6	03 40043	INLET LIQUID SUPPLY	
all	7	W3 40039D	WELD HINGE COVER SOAP CHUTE	
All	8	20C040B	SUPERFLEX CLR RTV SIL 10.2OZ	
All	9	12P015D	CABLE CLIP TINN#C23214-017	

Soap Chute

MWR18X4

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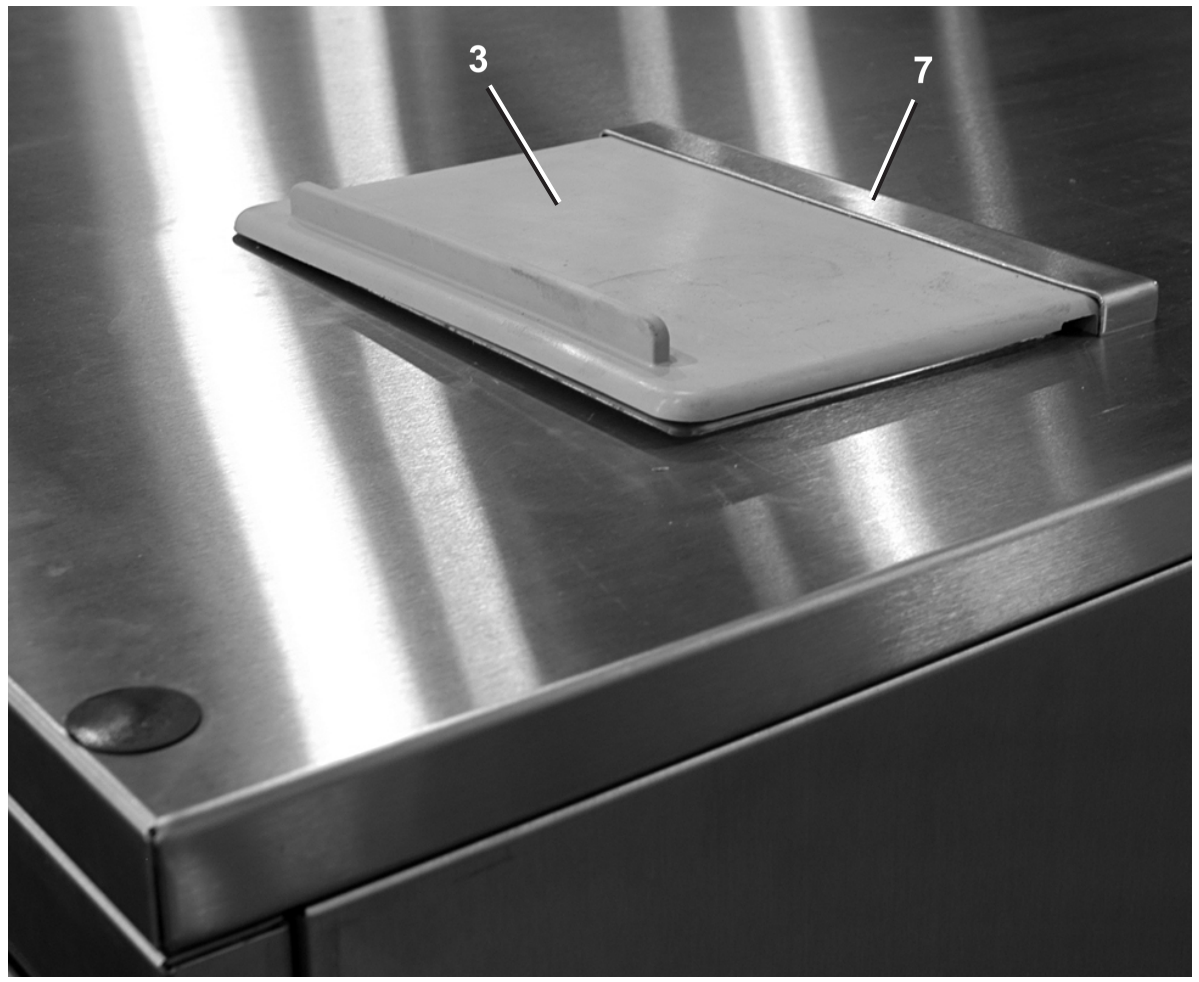

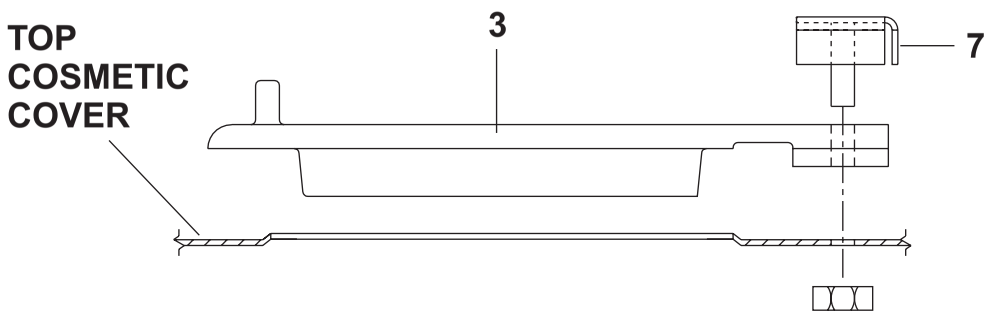

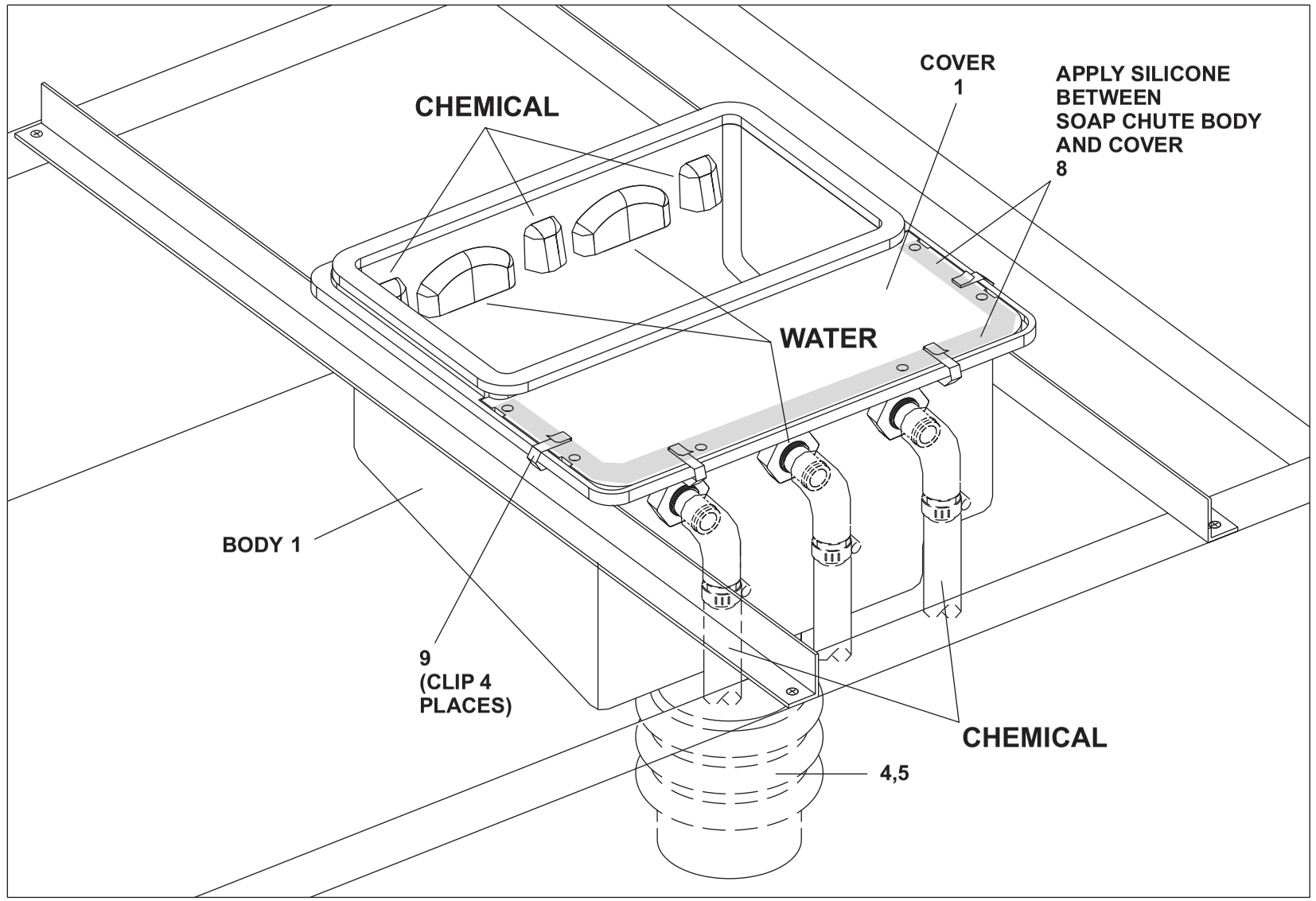

SOAP CHUTE INSTALLATION

Soap Chute
MWR18X4

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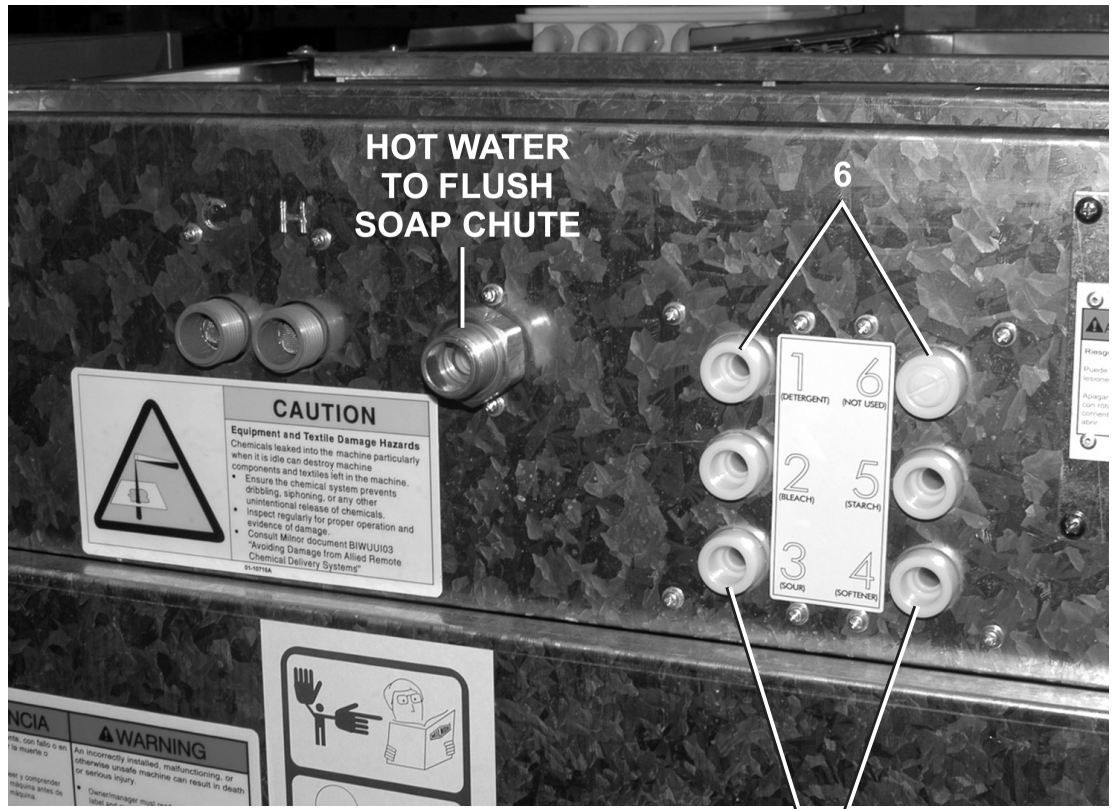
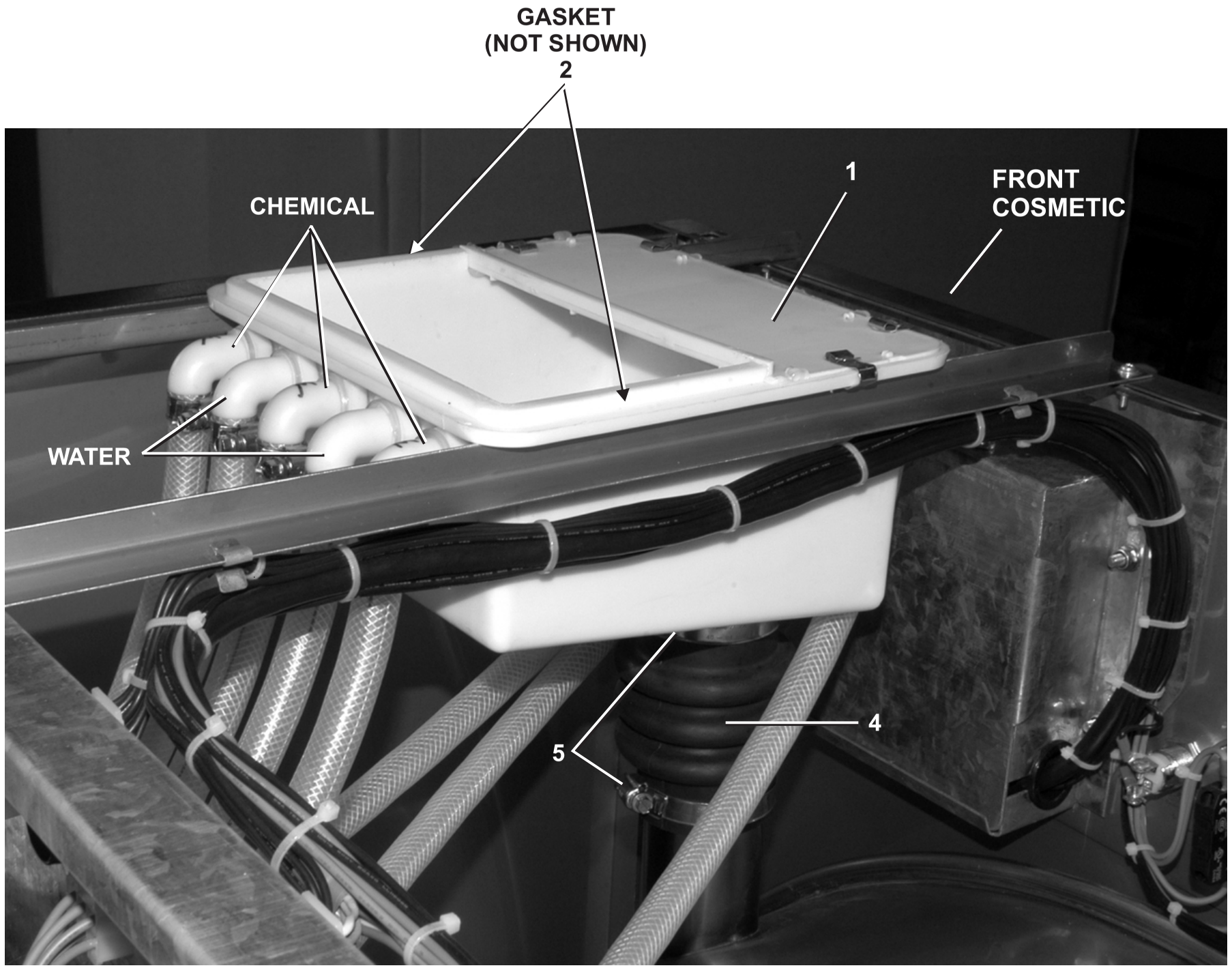


PERISTALTIC CHEMICAL INLETS TO SOAP CHUTE MWR18X4



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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
			----------COMPONENTS----------	
all	1	AWS33007	DRY/LIQ SUPLY EP EXPRESS	
all	2	03 40039B	GASKET SOAP CHUTE	
all	3	03 40039C	COVER SOAP CHUTE	
all	4	03 40039H	FLEXIBLE TUBE=SOAP CHUTE 4.25"	
all	5	27A065	HOSECLAMP 1.56"-2.5"SSSCR#32	
all	6	03 40043B	INLET SIX LIQUID SUPPLY	
all	7	W3 40039D	HINGE COVER SOAP CHUTE	
all	8	20C040B	SUPERFLEX CLR RTV SIL 10.2OZ	
all	9	12P015D	CABLE CLIP TINN#C23214-017	

Section 7

Water and Drain

Water Inlet Installation

MCR12E5, MCR18E4

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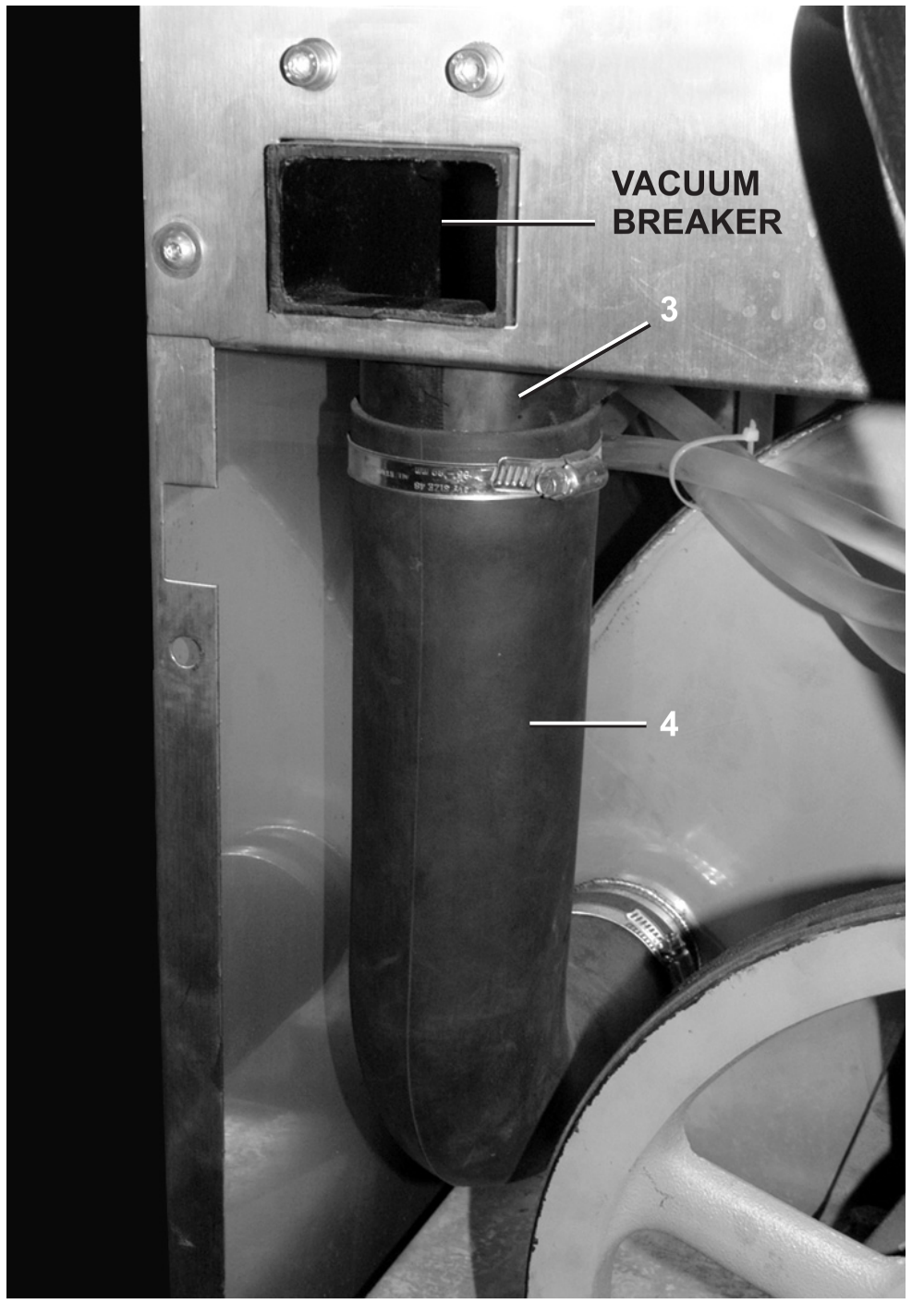
Litho in U.S.A.



Water Inlet Installation

MCR12E5, MCR18E4

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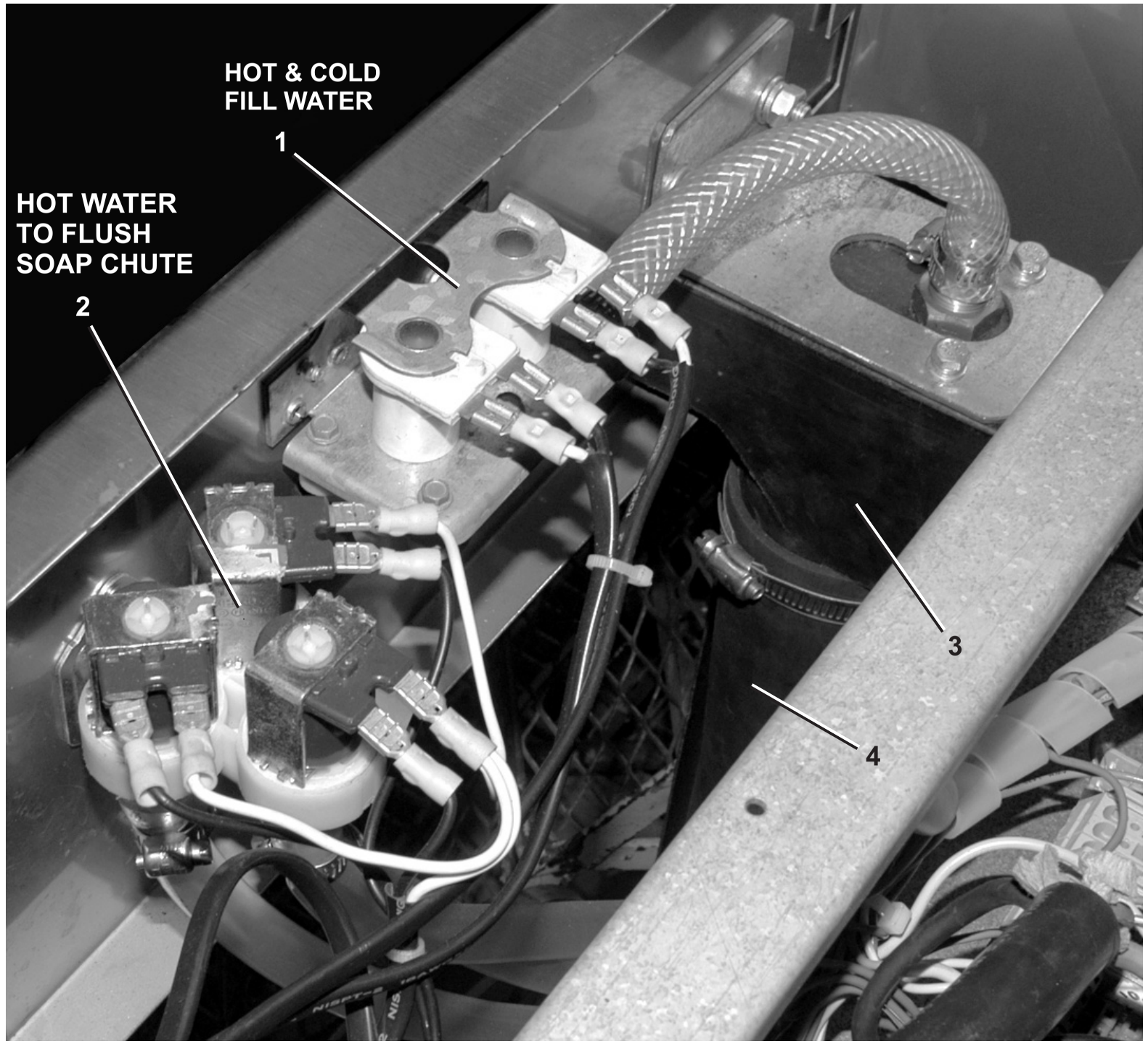
Litho in U.S.A.



Parts List—Water Inlets MCR

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----------	----------
all	1	98CMCR0937	3/4"DUOINLET 1/2"HOSEOUT	
all	2	98CMCR0938	3/4 INLET 13M 3 OUT 220/240V	
all	3	98CMCR0939	PERISTALTIC/WATER INLET COIN	
A	4	03 40025A	FILL HOSE	MCR12E5
B	4	03 40225A	FILL HOSE	MCR18E4

Water Inlet Installation

MWR12E5, MWR18E4, MWR18X4, MWR18J4

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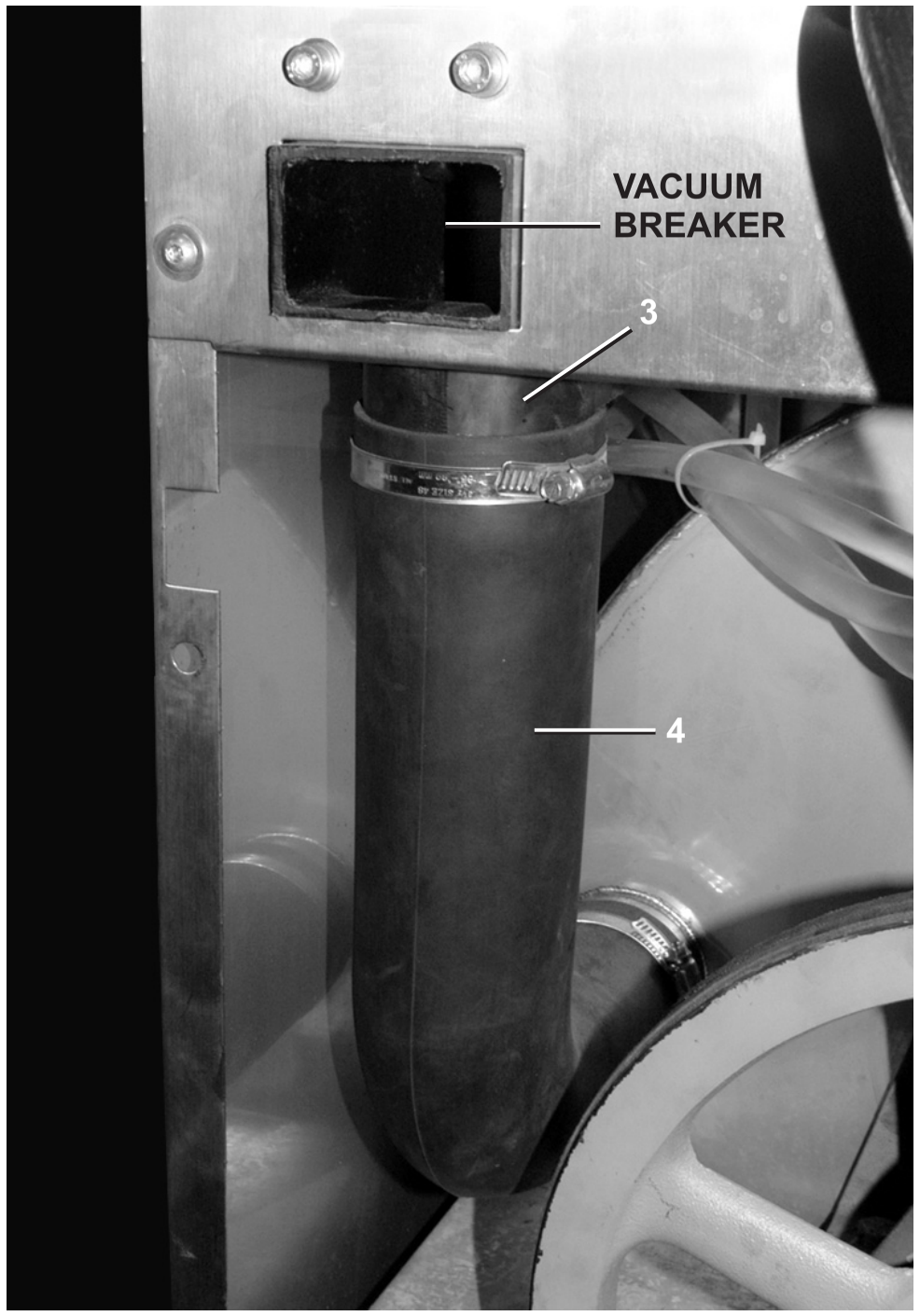

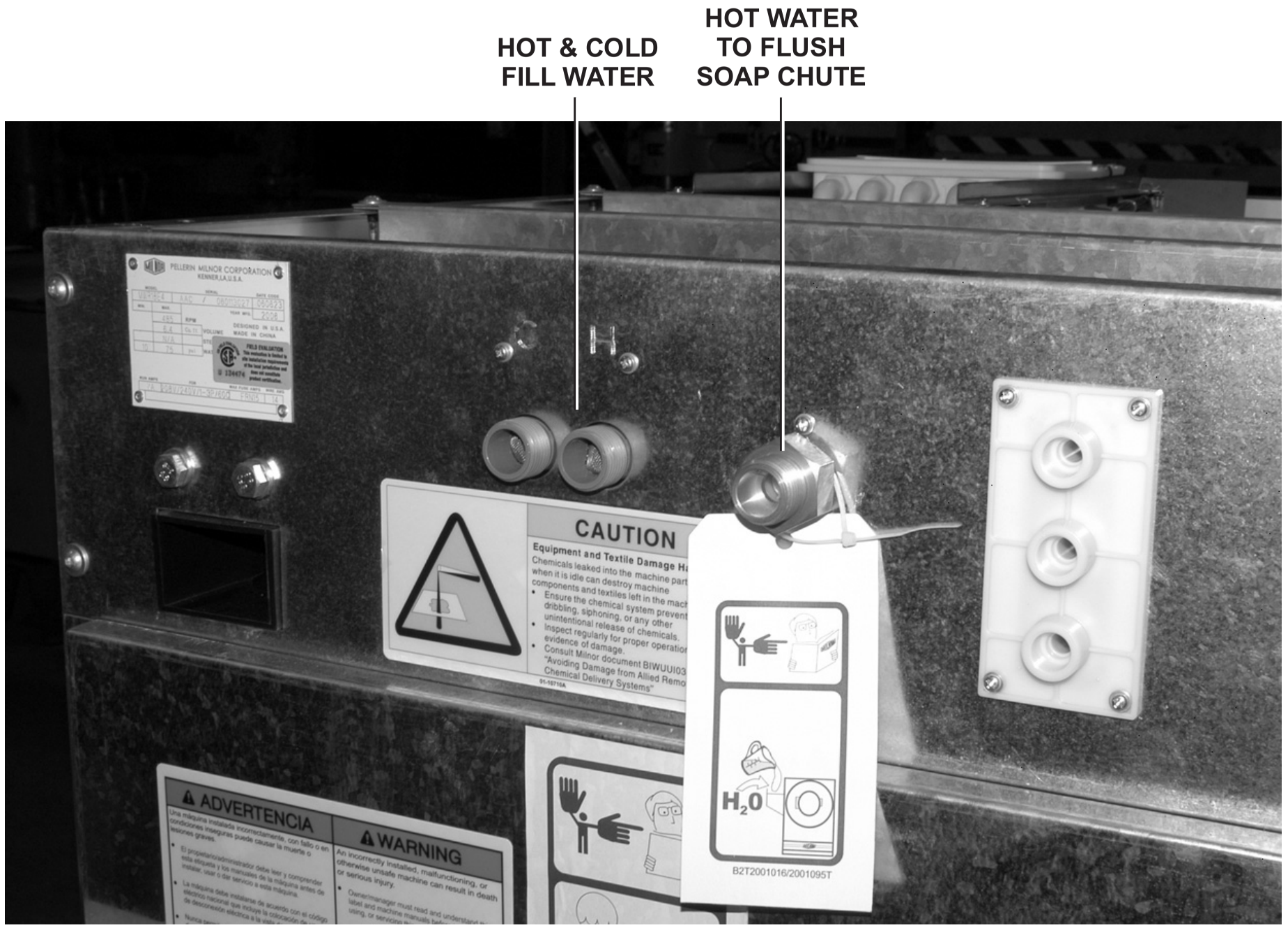

Water Inlet Installation

MWR12E5, MWR18E4, MWR18X4, MWR18J4

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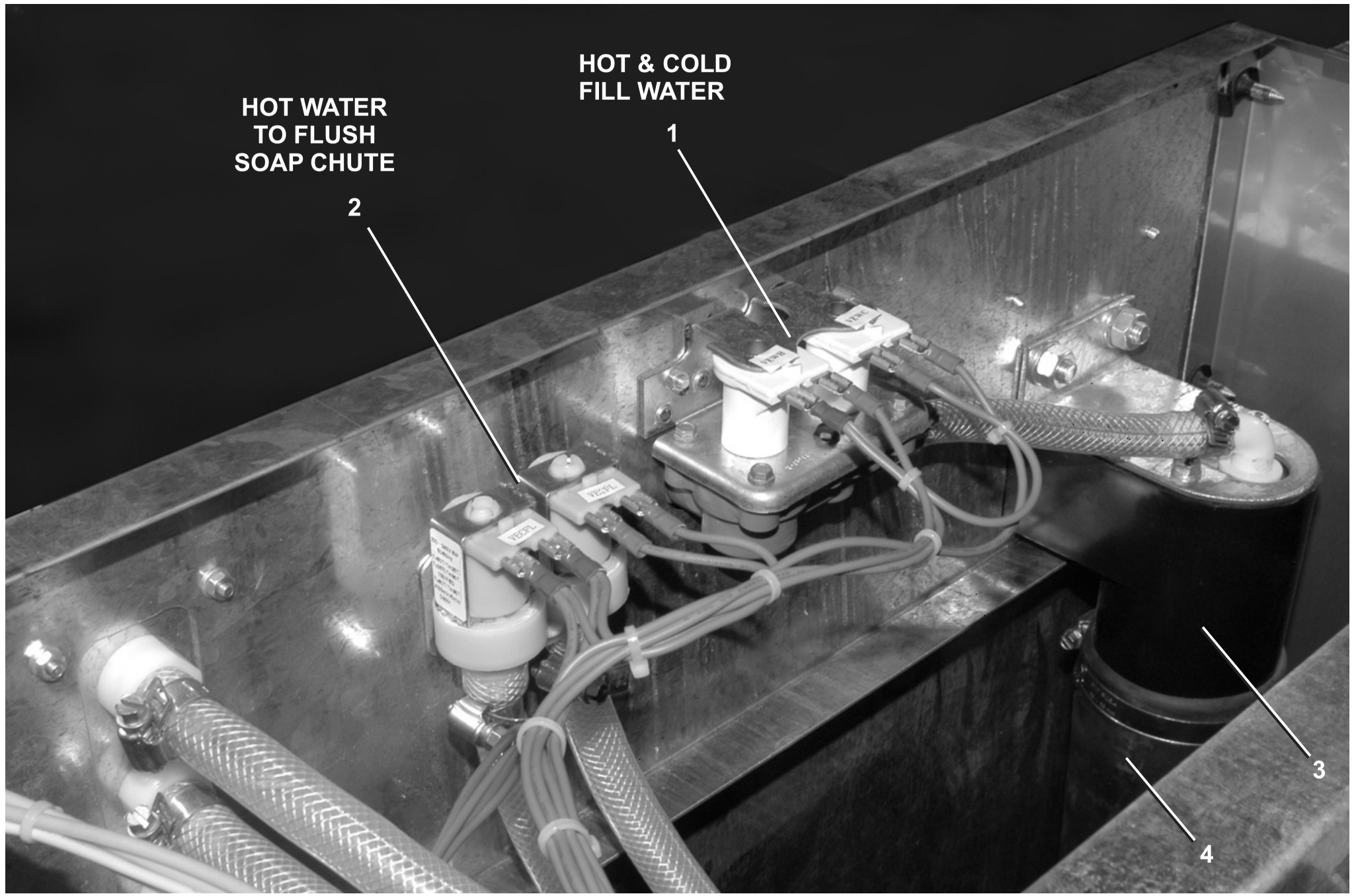
Litho in U.S.A.



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Parts List—Water Inlet 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
			----------COMPONENTS----------	
all	1	98CMCR0937	3/4"DUOINLET 1/2"HOSEOUT	
all	2	98CMCR0942	3/4 INLET 13M 2 OUT 220/240V	
all	3	98CMCR0939	PERISTALTIC/WATER INLET COIN	
A	4	03 40025A	FILL HOSE	MWR12E5
B	4	03 40225A	FILL HOSE	MWR18E4,MWR18X4, MWR18J4

Drain Installation

MCR12E5, MCR18E4, MWR12E5, MWR18E4, MWR18X4, MWR18J4

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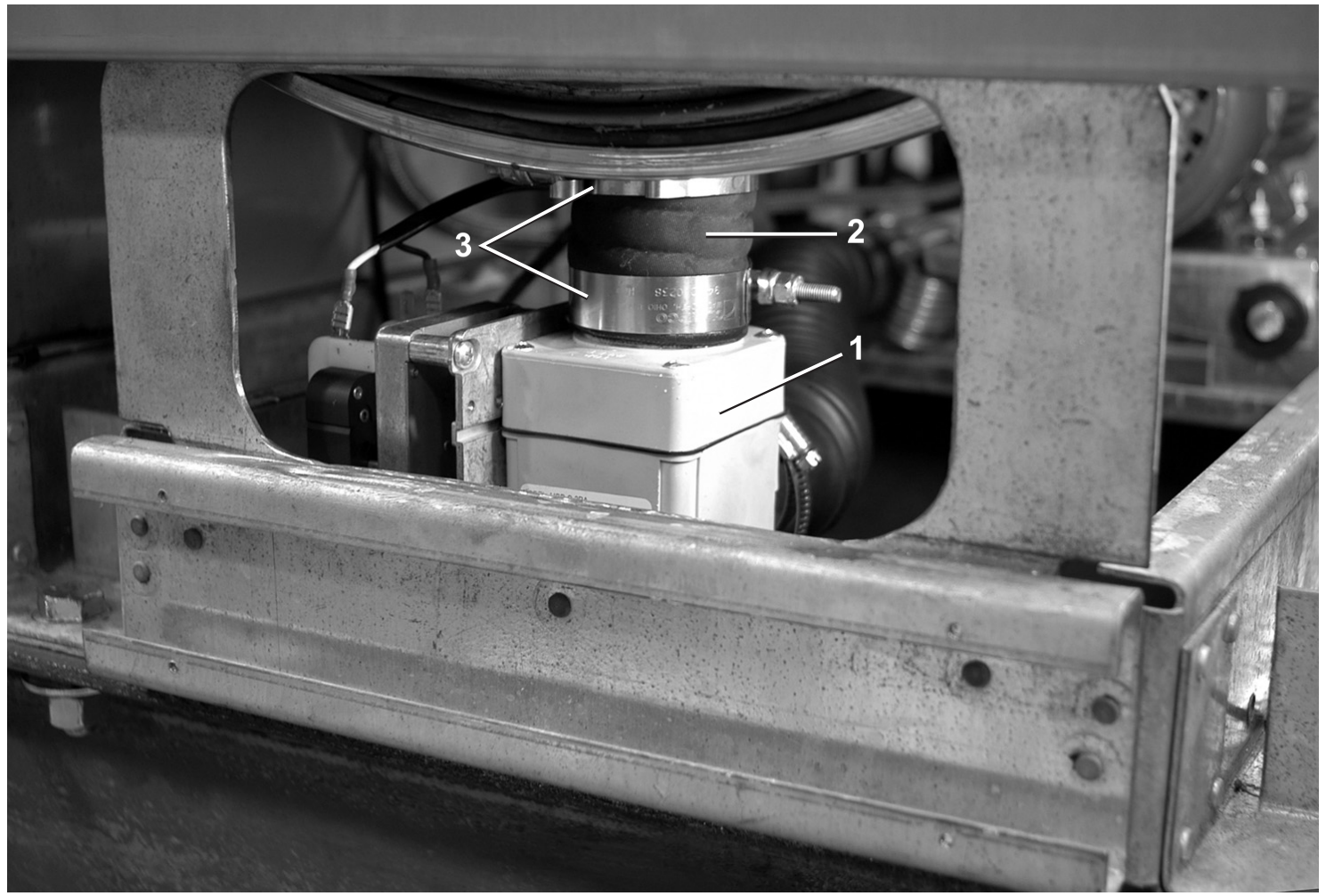

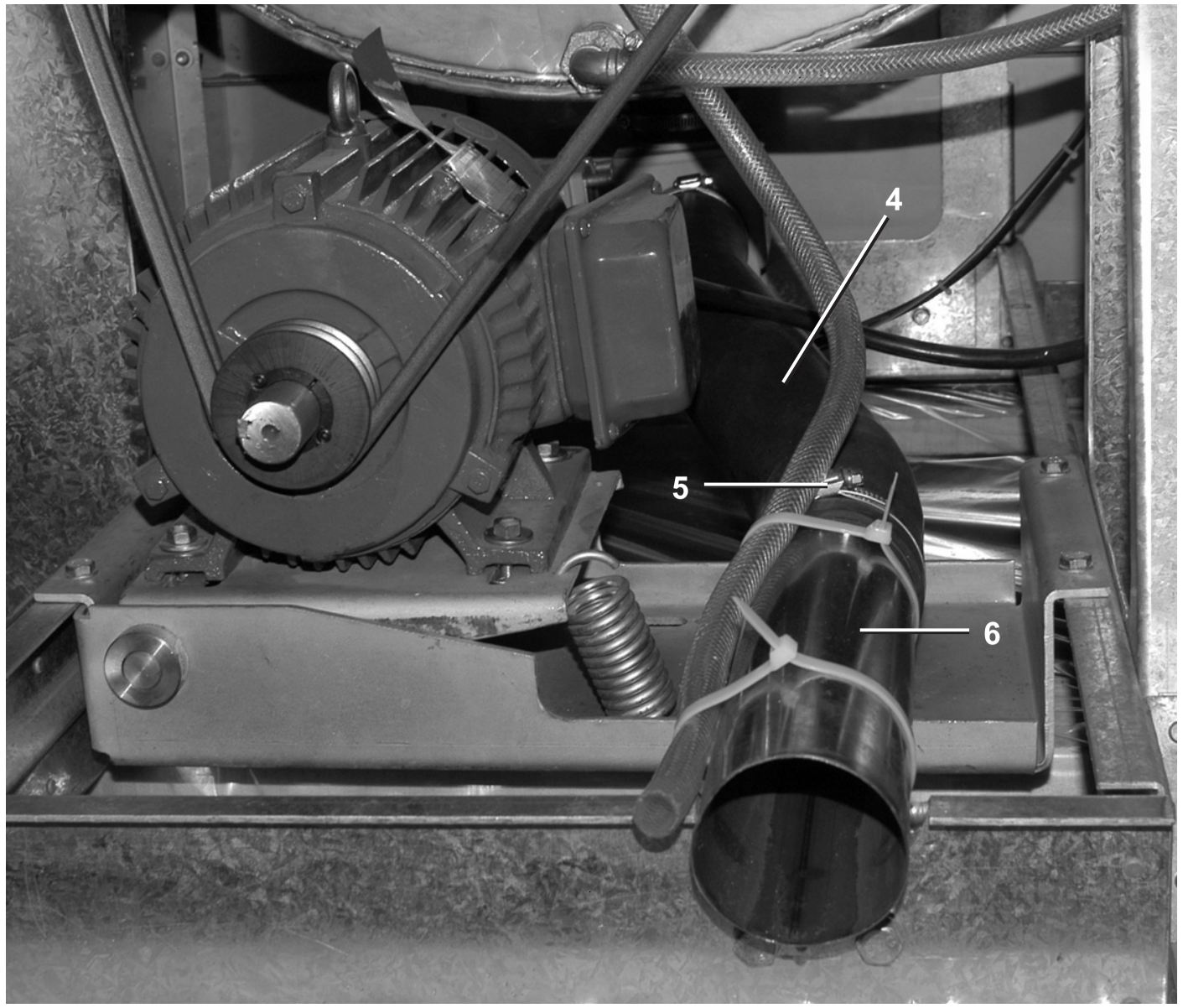

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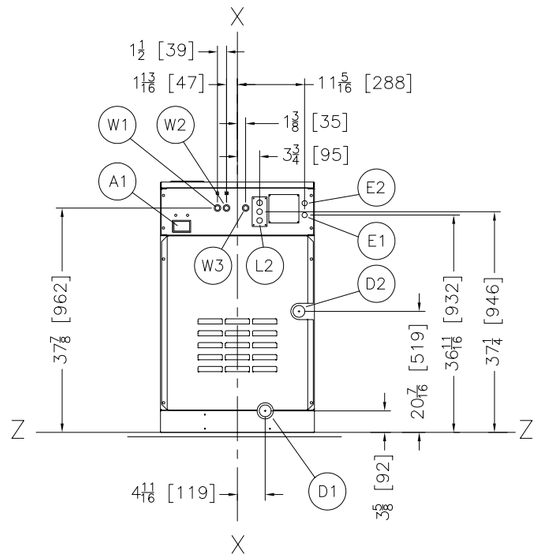
Parts List—Drain Installation

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.

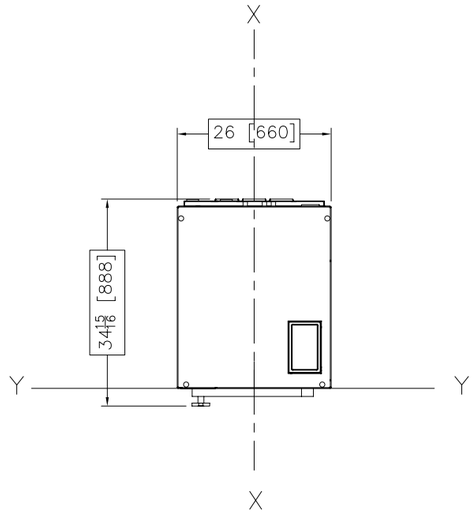
Used In	Item	Part Number	Description	Comments
.				
----------	----------	----------	----------ASSEMBLIES----------	----------
	A			MCR12E5,MWR12E5
	B			MCR18E4,MWR18E4
				MWR18X4,MWR18J4
----------	----------	----------	----------COMPONENTS----------	----------
A	1	96D25RAA71	2005035A DRAINVALRTANG 2"N/O 240V 50/60	
B	1	96D35RAA71	2003476A DRAINVAL RT-ANG 3" 240V 50/60C	
A	2	60E255	2004246A HOSE 2" WATER CORRUGATED(V50)	
B	2	60E303W	HOSE 3"ID DRAIN-PLICORD 125	
A	3	27A066S	T-BOLT HOSECLAMP SS 2.35-2.66	
B	3	27A077AA	T-BOLT HOSECLAMP 3.28-3.59"SS	
A	4	03 40025	2005016C TUBE=DRAIN	
B	4	03 40225	2005042C TUBE=DRAIN VAL 3"	
A	5	27A065S	HOSECLAMP 1.56"-2.5"SSSCR#32	
B	5	27A074S	HOSECLAMP 2+1/16-3"SSSCR#64040	
A	6	W3 40041	2005016C DRAIN PIPE REAR WELD 9KG	
B	6	W3 40241	2005042C WELD DRAIN TUBE	

Section 8

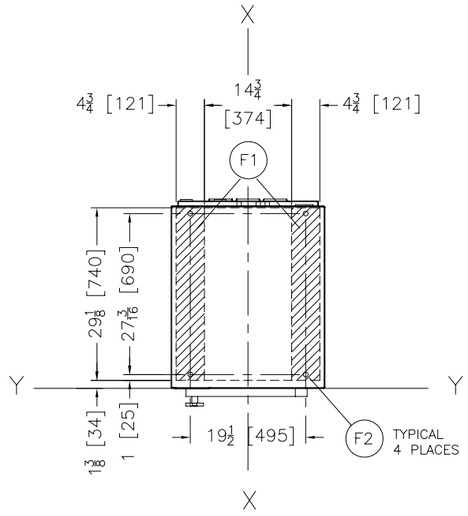
Dimensional Drawings



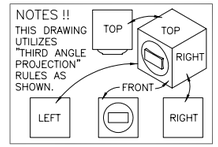
REAR VIEW

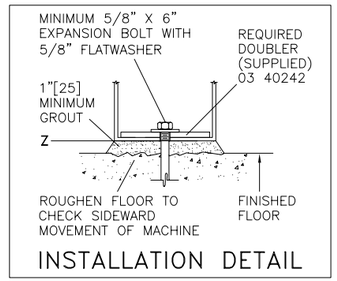


PLAN VIEW

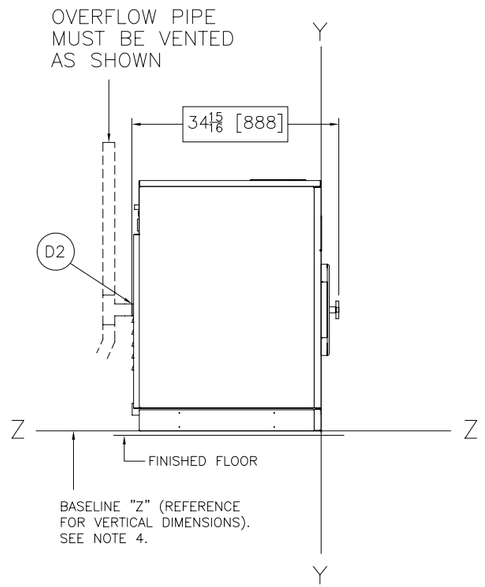


FOUNDATION PLAN

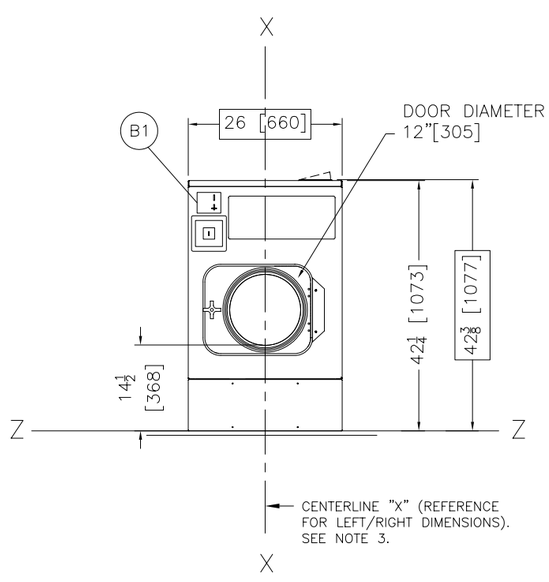




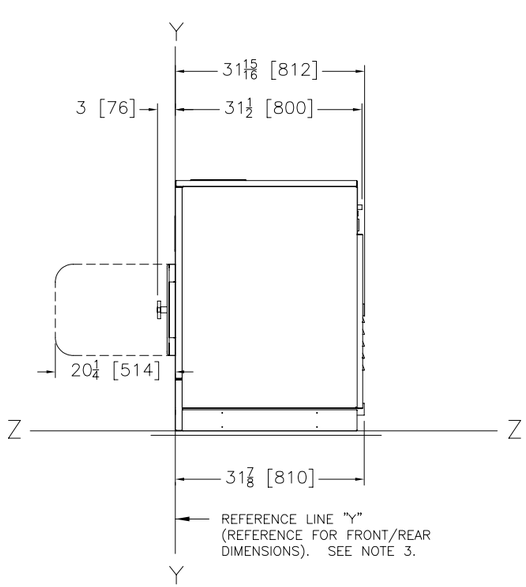
INSTALLATION DETAIL



LEFT VIEW



FRONT VIEW



RIGHT VIEW

ITEM	LEGEND
W3	HOT WATER FOR SOAP CHUTE INLET, 3/4" GARDEN HOSE
	CONNECTION WITH 1/2" HOSE
W2	HOT WATER INLET, 3/4" GARDEN HOSE
W1	COLD WATER INLET, 3/4" GARDEN HOSE
L2	PERISTALTIC CHEMICAL INLETS, MWR09E5 ONLY
L1	SOAP CHUTE
F2	(4) 13/16" ANCHOR BOLT HOLES, USE 5/8" X 6" BOLTS
	MINIMUM.
F1	FOUNDATION BASE PADS
E2	ELECTRICAL CHEMICAL OUTPUTS
E1	MAIN ELECTRICAL CONNECTION
D2	OVERFLOW, 2" ID HOSE CONNECTION
D1	DRAIN 2" ID HOSE CONNECTION
B1	COIN ACCEPTOR, MCR09E5 ONLY
A1	VACUUM BREAKER, NO CONNECTION

NOTES

7 SHIM TO LEVEL THE MACHINE AND ALLOW FOR 1" [25] MINIMUM GROUT. ANCHOR ALL (4) ANCHOR BOLT HOLES, OR THE WARRANTY WILL BE DECLARED INVALID. USE 5/8" X 6" BOLTS, MINIMUM, WITH DOUBLER BOLT DOWN PLATES (SUPPLIED). SEE INSTALLATION MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS.

6 AS OF THIS WRITING, THE MINIMUM CLEARANCE REQUIRED BY U.S. NATIONAL ELECTRIC CODES, FROM ELECTRIC BOX TO ANY OBJECT IS:
36 [914] IF OBJECT IS AN UNGROUNDED (INSULATED) WALL.
42 [1067] IF OBJECT IS A GROUNDED WALL (ie. BARE CONCRETE, BRICK, ETC.)
48 [1219] IF OBJECT IS ANY LIVE PART.
CHECK LOCAL ELECTRIC CODES FOR FURTHER RESTRICTIONS.

5 CUSTOMER TO SUPPLY CIRCUIT BREAKER OR FUSED BRANCH CIRCUIT DISCONNECT (SAFETY) SWITCHES WITH LAG TYPE FUSES FROM POWER SOURCE TO MACHINE. A SEPARATE GROUND WIRE MUST BE CONNECTED FROM DISCONNECT TO EQUIPMENT.

4 BASELINE "Z" IS THE REFERENCE FOR ALL VERTICAL DIMENSIONS. ON MACHINES WITH WITH FIXED BASE PADS, BASELINE "Z" CORRESPONDS TO THE BOTTOM OF THE BASE PAD. ON MACHINES WITH ADJUSTABLE FEET, BASELINE "Z" CORRESPONDS TO THE BOTTOM OF THE FEET WHEN ADJUSTED SO THAT THE MACHINE IS AT ITS MINIMUM ACCEPTABLE HEIGHT. ON TRAVERSING SHUTTLES, BASELINE "Z" CORRESPONDS TO THE BOTTOM OF THE BOTTOM RAIL. THE DISTANCE BETWEEN BASELINE "Z" AND THE FINISHED FLOOR WILL VARY AS REQUIRED TO ENSURE BASELINE "Z" IS HORIZONTAL AND ANY INTERFACING MACHINES REQUIRING GROUT ARE SET ON A MINIMUM 1"[25] THICK GROUT BED.

3 USE REFERENCE LINES "X", "Y", AND "Z" TO LOCATE ALL SERVICE CONNECTIONS.

2 NUMBERS IN BRACKETS [] DENOTE DIMENSIONS IN MILLIMETERS.

1 ALL DIMENSIONS SHOWN ARE APPROXIMATE, SUBJECT TO NORMAL MANUFACTURING TOLERANCES, AND TO OCCASIONAL CHANGES WITHOUT NOTICE THROUGH REDESIGN AND/OR RELOCATION OF COMPONENTS, ETC. DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED, AND IN NO EVENT PRE-PIPE CLOSER THAN FIVE FEET FROM MACHINE. FACTORY MUST BE CONSULTED FOR DIMENSIONS IF MACHINE IS TO BE MOVED THROUGH NARROW OR LOW CORRIDORS OR OPENINGS.

ATTENTION

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ATTENTION

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MCR09E5, MWR09E5

DM 0 0.5M
INCHES 0 12 24

DWG# BDMCR09EAE
2007463D

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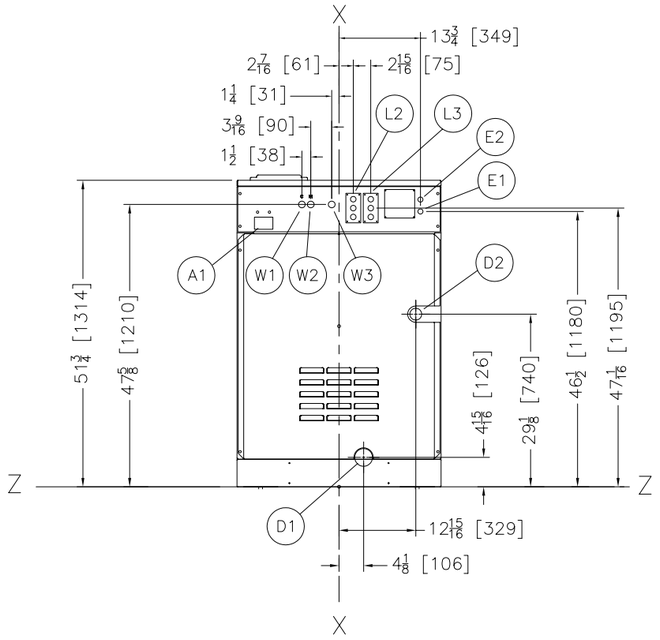
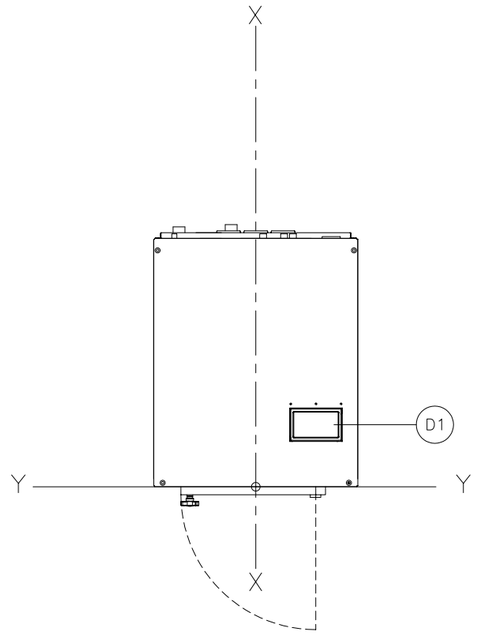
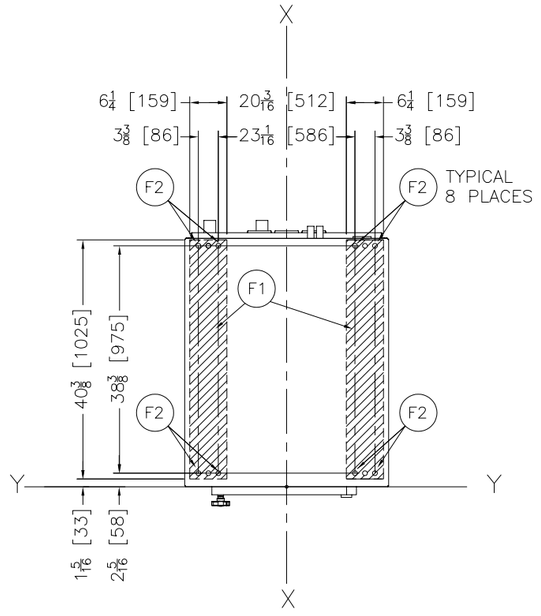
P.O. Box 400 Kenner, LA 70063, USA, Phone 504/467-9591,
FAX 504/469-1849, Email: mktg@milnor.com



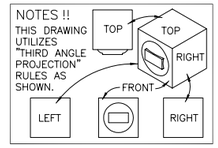
REAR VIEW

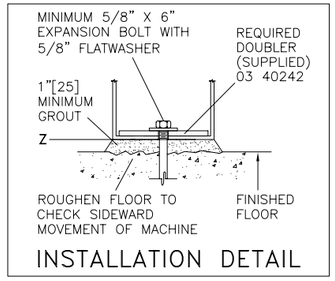


PLAN VIEW



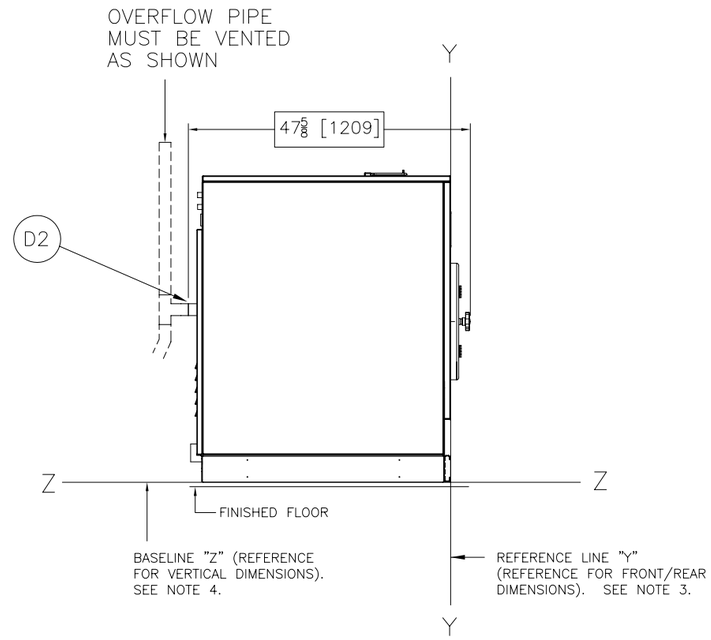
FOUNDATION PLAN



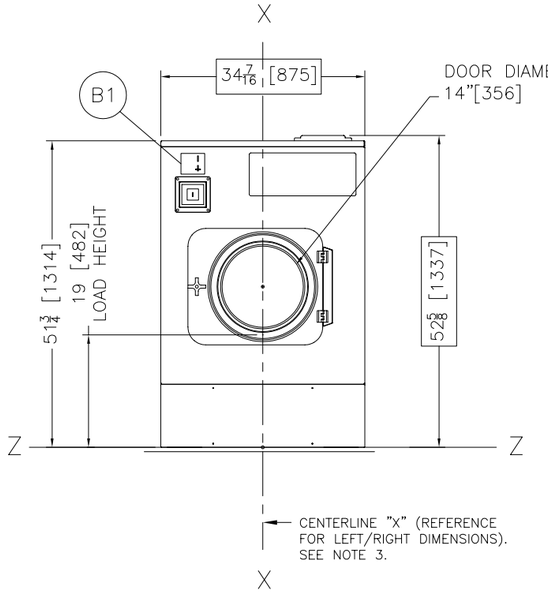


INSTALLATION DETAIL

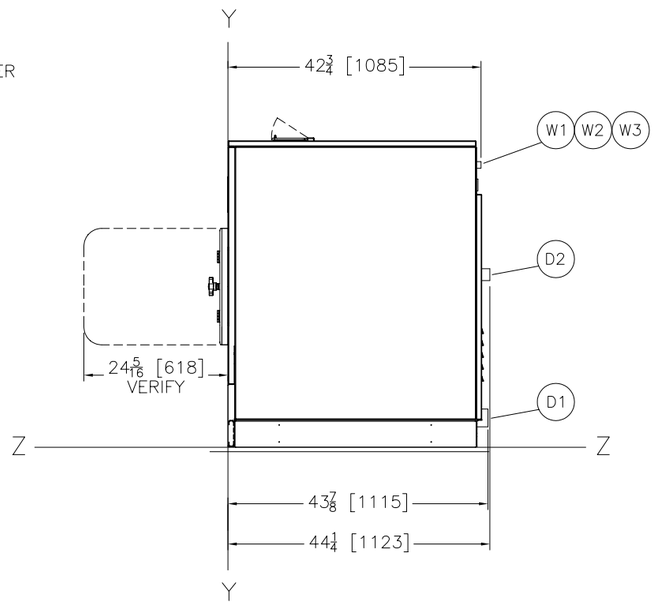
W3	HOT WATER FOR SOAP CHUTE INLET, 3/4" GARDEN HOSE
	CONNECTION WITH 1/2" HOSE
W2	HOT WATER INLET, 3/4" GARDEN HOSE
W1	COLD WATER INLET, 3/4" GARDEN HOSE
L3	ADDITIONAL 3 CHEMICAL SUPPLY INLETS, MWR18X4 ONLY
L2	3 CHEMICAL SUPPLY INLETS, MWR18E4 & MWR18X4 ONLY
L1	SOAP CHUTE
F2	(8) 13/16" ANCHOR BOLT HOLES, USE 5/8" X 6" BOLTS
	MINIMUM
F1	FOUNDATION BASE PADS
E2	ELECTRICAL CHEMICAL OUTPUTS
E1	MAIN ELECTRICAL CONNECTION
D2	OVERFLOW, 2" ID HOSE CONNECTION
D1	DRAIN 3" ID HOSE CONNECTION
B1	COIN ACCEPTOR, MCR18E4 ONLY
A1	VACUUM BREAKER, NO CONNECTION
ITEM	LEGEND



LEFT VIEW



FRONT VIEW



RIGHT VIEW

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MCR18E4, MWR18E4, MWR18X4

DM 0 0.5M 1M
INCHES 0 12 24 36

DWG# BDMCR18EAE 2007463D

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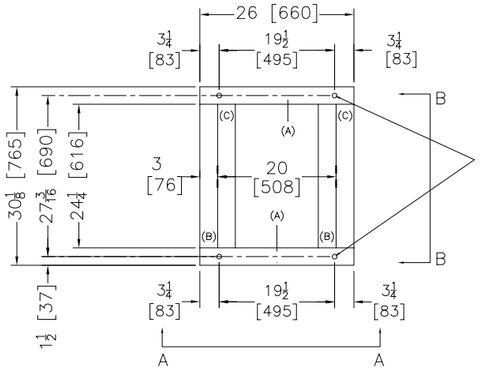
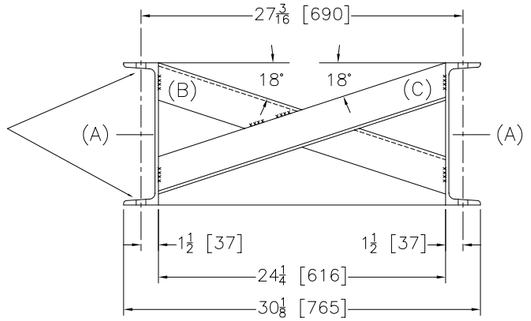
FAX 504/469-1849, Email: mktg@milnor.com



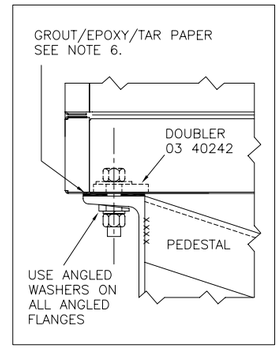
PEDESTAL PLAN

ANCHOR BOLT HOLES 13/16" DIA. DRILL IN TOP AND BOTTOM FLANGES OF CHANNEL (8 PLACES)

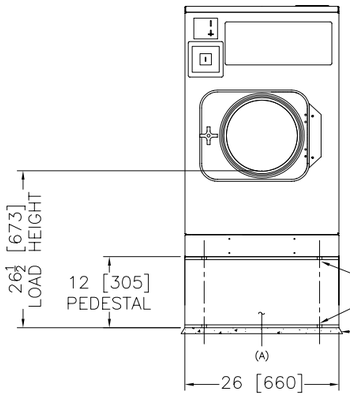
ANGLED WASHERS MUST BE USED AS DRAWN SEE DETAIL A.



ENLARGED VIEW B–B



DETAIL A

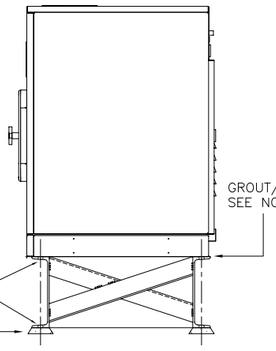


VIEW A–A

ANGLED WASHERS MUST BE USED AS DRAWN SEE DETAIL A.

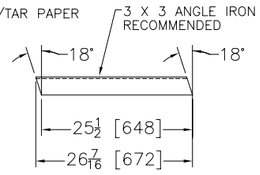
ANCHOR BOLT HOLES 13/16" DIA. DRILL IN TOP AND BOTTOM FLANGES OF CHANNEL (8 PLACES)

GROUT SEE NOTE 3.

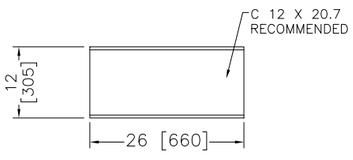


VIEW B–B

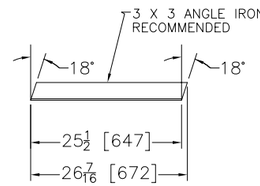
GROUT/EPOXY/TAR PAPER SEE NOTE 6.



(B) LEFT CROSS MEMBERS (TYPICAL 3)



(A) CHANNEL (TYPICAL 2)



(C) RIGHT CROSS MEMBERS (TYPICAL 3)

NOTES

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5 THIS DRAWING SHOWS A RECOMMENDED PEDESTAL DESIGN FOR (1) MILNOR MCR09E5 COIN MACHINE. THIS BASE MAY BE USED WHENEVER LOCAL CONDITIONS ARE SUCH THAT MACHINE OPERATION WOULD BE ENHANCED BY RAISING THE MACHINES 12 [305] INCHES.

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3 WHEN INSTALLING MACHINE AND PEDESTAL BASE, IT IS RECOMMENDED TO LAY THE PEDESTAL ON A MINIMUM 1 [25] THICK GROUT BED AND BOLT THE MACHINE TO IT.

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PEDESTAL FOR (1) MCR/MWR09E5

DM 0 0.5M
INCHES 0 12 24

DWG# BDMCRBB1AE 2007463D

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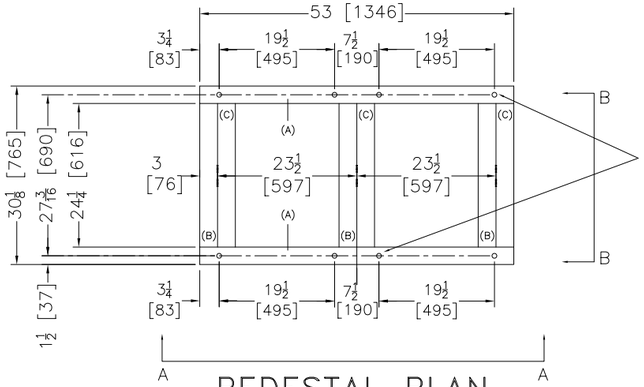
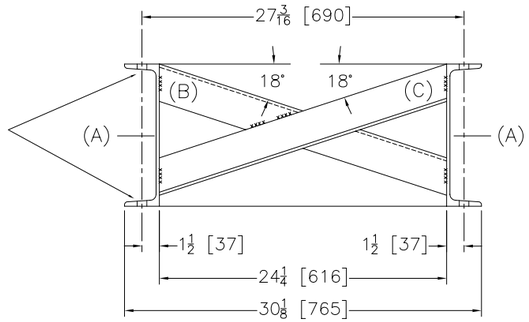


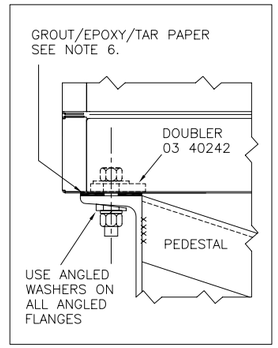
PEDESTAL PLAN

ANCHOR BOLT HOLES 13/16" DIA. DRILL IN TOP AND BOTTOM FLANGES OF CHANNEL (16 PLACES)

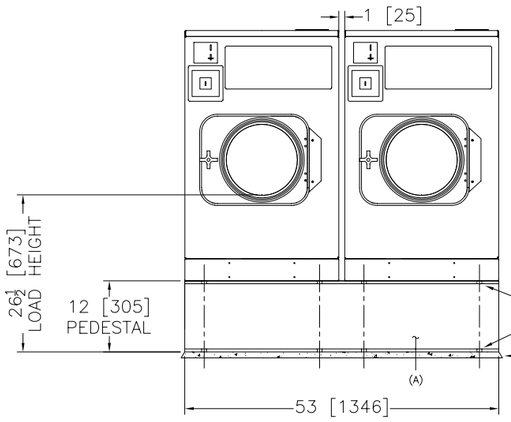
ANGLED WASHERS MUST BE USED AS DRAWN SEE DETAIL A.



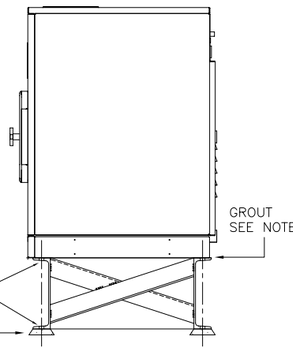
ENLARGED VIEW B–B



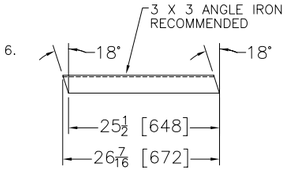
DETAIL A



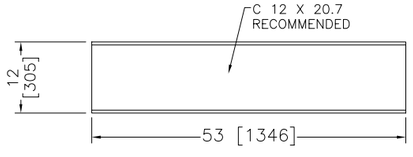
VIEW A–A



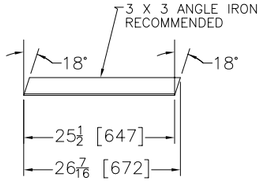
VIEW B–B



(B) LEFT CROSS MEMBERS (TYPICAL 3)



(A) CHANNEL (TYPICAL 2)



(C) RIGHT CROSS MEMBERS (TYPICAL 3)

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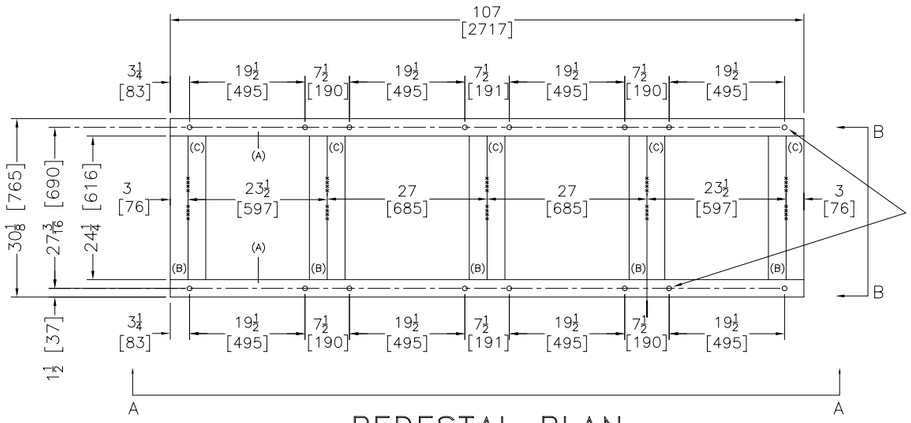
PEDESTAL FOR (2) MCR/MWR09E5

DM 0 0.5M
INCHES 0 12 24

DWG# BDMCRBB2AE 2007463D

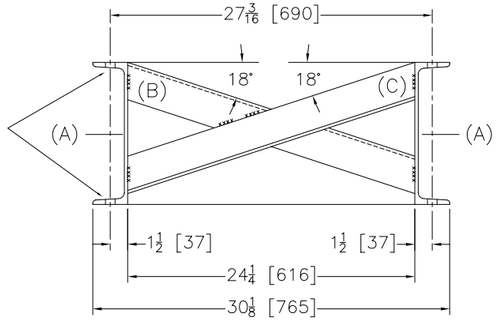
PELLERIN MILNOR CORPORATION
P.O. Box 400 Kenner, LA 70063, USA, Phone 504/467–9591,
FAX 504/469–1849, Email: mktg@milnor.com



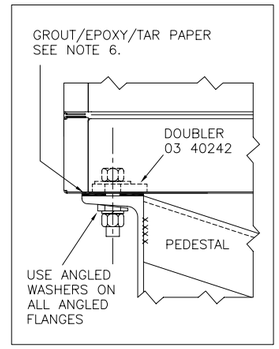
PEDESTAL PLAN

ANCHOR BOLT HOLES 13/16" DIA. DRILL IN TOP AND BOTTOM FLANGES OF CHANNEL (32 PLACES)

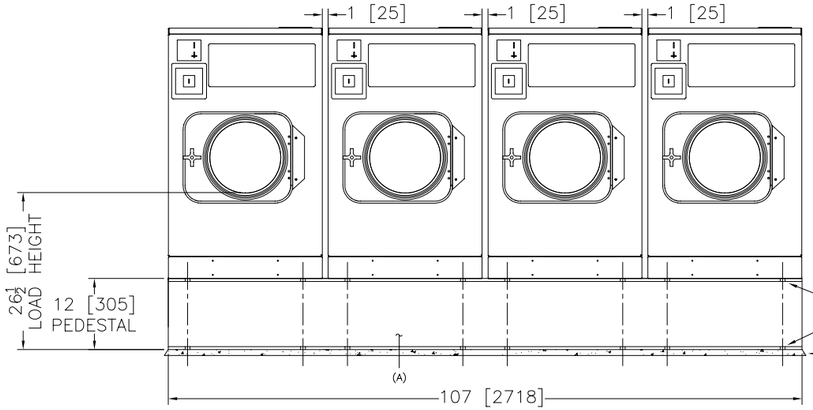
ANGLED WASHERS MUST BE USED AS DRAWN SEE DETAIL A.



ENLARGED VIEW B–B



DETAIL A

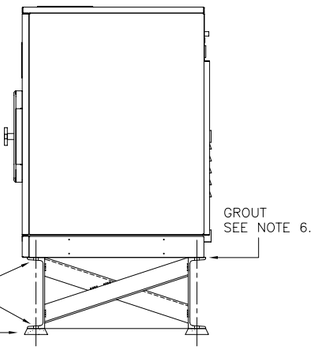


VIEW A–A

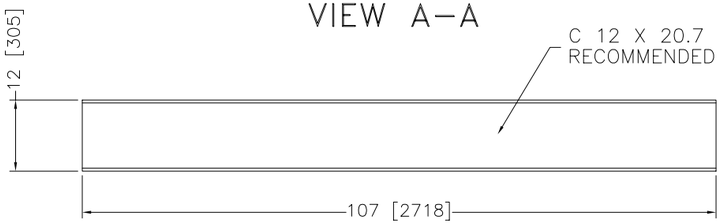
ANGLED WASHERS MUST BE USED AS DRAWN SEE DETAIL A.

ANCHOR BOLT HOLES 13/16" DIA. DRILL IN TOP AND BOTTOM FLANGES OF CHANNEL (32 PLACES)

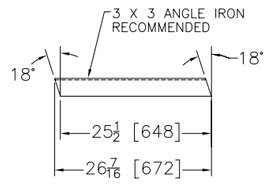
GROUT SEE NOTE 3.



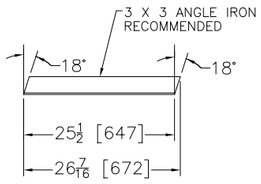
VIEW B–B



(A) CHANNEL (TYPICAL 2)



(B) LEFT CROSS MEMBERS (TYPICAL 5)



(C) RIGHT CROSS MEMBERS (TYPICAL 5)

NOTES

6 GROUT OR EPOXY OR USE TAR PAPER, BETWEEN MACHINE AND PEDESTAL BASE, TO ENSURE A TIGHT UNIFORM FIT.

5 THIS DRAWING SHOWS A RECOMMENDED PEDESTAL DESIGN FOR (4) ADJACENT MILNOR MCR09E5 COIN MACHINES. THIS BASE MAY BE USED WHENEVER LOCAL CONDITIONS ARE SUCH THAT MACHINE OPERATION WOULD BE ENHANCED BY RAISING THE MACHINES 12 [305] INCHES.

4 IF MACHINE IS TO BE BOLTED TO PEDESTAL BASE, BOLT HOLES IN PEDESTAL TOP FLANGE SHOULD BE LOCATED AND DRILLED ONLY AFTER MACHINE IS ON SITE AND CAN BE USED AS A TEMPLATE FOR BOLT HOLE LOCATIONS. IF BASE IS TO BE BOLTED TO FOUNDATION, CUSTOMER MUST DETERMINE LOCATION OF BOLT HOLES IN BOTTOM FLANGE.

3 WHEN INSTALLING MACHINE AND PEDESTAL BASE, IT IS RECOMMENDED TO LAY THE PEDESTAL ON A MINIMUM 1 [25] THICK GROUT BED AND BOLT THE MACHINE TO IT.

2 THIS BASE MUST BE FABRICATED LOCALLY AND SHOULD BE MADE SQUARE AND LEVEL. IT IS NOT SUPPLIED BY PELLERIN MILNOR CORP. THIS DRAWING CONVEYS NO EXPRESS OR IMPLIED WARRANTY WITH REGARD TO THE CONSTRUCTION AND/OR SUITABILITY OF THIS ASSEMBLY.

1 NUMBERS IN BRACKETS [] DENOTE DIMENSIONS IN MILLIMETERS.

ATTENTION

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ATTENTION

THE FLOOR AND/OR OTHER SUPPORT COMPONENTS MUST HAVE SUFFICIENT STRENGTH (AND RIGIDITY WITH DUE CONSIDERATION FOR NATURAL OR RESONANT FREQUENCY THEREOF) TO WITHSTAND THE FULLY LOADED WEIGHT OF THE MACHINE INCLUDING THE GOODS, THE WATER, AND ANY REPEATED SINUSOIDAL (ROTATING) FORCES GENERATED DURING ITS OPERATION. WRITE THE FACTORY FOR ADDITIONAL MACHINE DATA FOR USE BY A COMPETENT SOIL AND/OR STRUCTURAL ENGINEER.

PEDESTAL FOR (4) MCR/MWR09E5

DM 0 0.5M
INCHES 0 12 24

DWG# BDMCRBB4AE
2007463D

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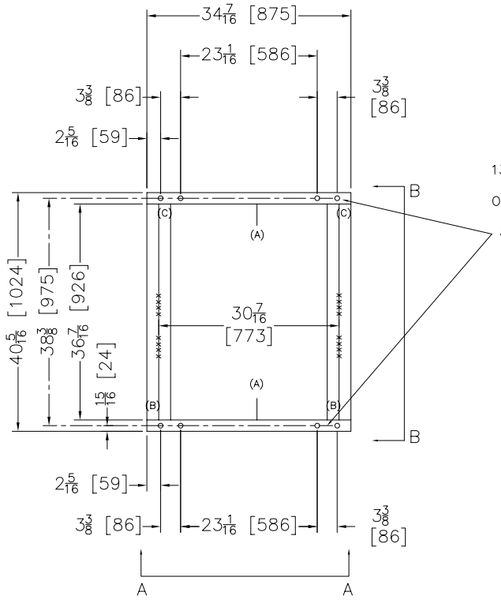
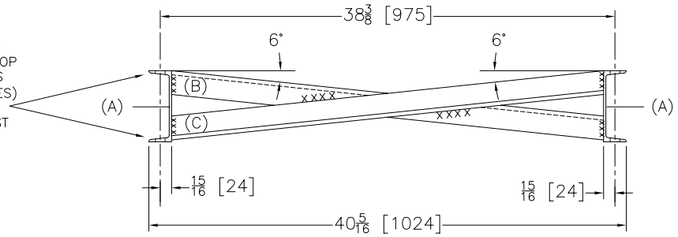
P.O. Box 400 Kenner, LA 70063, USA, Phone 504/467-9591,
FAX 504/469-1849, Email: mktg@milnor.com



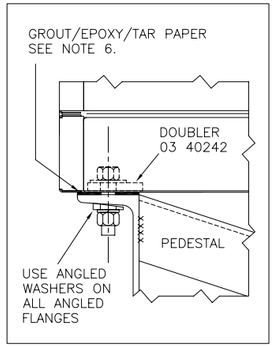
PEDESTAL PLAN

ANCHOR BOLT HOLES 13/16" DIA. DRILL IN TOP AND BOTTOM FLANGES OF CHANNEL (16 PLACES)

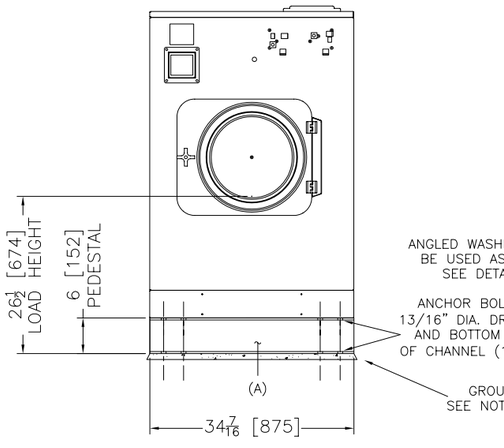
ANGLED WASHERS MUST BE USED AS DRAWN SEE DETAIL A.



ENLARGED VIEW B–B



DETAIL A

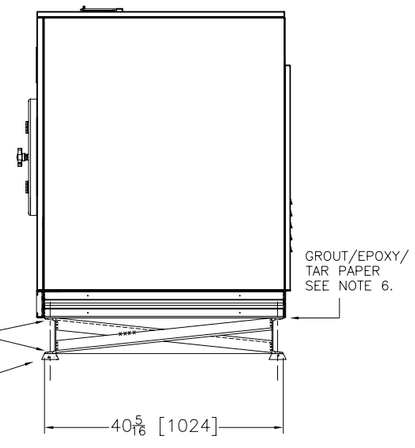


VIEW A–A

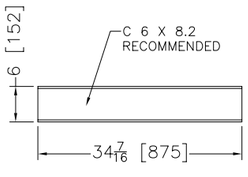
ANGLED WASHERS MUST BE USED AS DRAWN SEE DETAIL A.

ANCHOR BOLT HOLES 13/16" DIA. DRILL IN TOP AND BOTTOM FLANGES OF CHANNEL (16 PLACES)

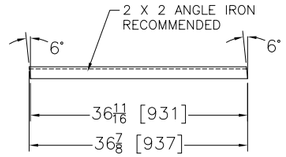
GROUT SEE NOTE 3.



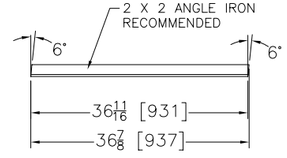
VIEW B–B



(A) CHANNEL (TYPICAL 2)



(B) LEFT CROSS MEMBERS (TYPICAL 3)



(C) RIGHT CROSS MEMBERS (TYPICAL 3)

NOTES

6 GROUT OR EPOXY OR USE TAR PAPER, BETWEEN MACHINE AND PEDESTAL BASE, TO ENSURE A TIGHT UNIFORM FIT.

5 THIS DRAWING SHOWS A RECOMMENDED PEDESTAL DESIGN FOR (1) MILNOR MCR18E5 COIN MACHINE. THIS BASE MAY BE USED WHENEVER LOCAL CONDITIONS ARE SUCH THAT MACHINE OPERATION WOULD BE ENHANCED BY RAISING THE MACHINE 6 [152] INCHES.

4 IF MACHINE IS TO BE BOLTED TO PEDESTAL BASE, BOLT HOLES IN PEDESTAL TOP FLANGE SHOULD BE LOCATED AND DRILLED ONLY AFTER MACHINE IS ON SITE AND CAN BE USED AS A TEMPLATE FOR BOLT HOLE LOCATIONS. IF BASE IS TO BE BOLTED TO FOUNDATION, CUSTOMER MUST DETERMINE LOCATION OF BOLT HOLES IN BOTTOM FLANGE.

3 **WHEN INSTALLING MACHINE AND PEDESTAL BASE, IT IS RECOMMENDED TO LAY THE PEDESTAL ON A MINIMUM 1 [25] THICK GROUT BED AND BOLT THE MACHINE TO IT.**

2 **THIS BASE MUST BE FABRICATED LOCALLY AND SHOULD BE MADE SQUARE AND LEVEL. IT IS NOT SUPPLIED BY PELLERIN MILNOR CORP. THIS DRAWING CONVEYS NO EXPRESS OR IMPLIED WARRANTY WITH REGARD TO THE CONSTRUCTION AND/OR SUITABILITY OF THIS ASSEMBLY.**

1 **NUMBERS IN BRACKETS [] DENOTE DIMENSIONS IN MILLIMETERS.**

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PEDESTAL FOR (1) MCR/MWR18

DM 0 0.5M

INCHES 0 12 24

DWG# BDMCRBL1AE 2007463D

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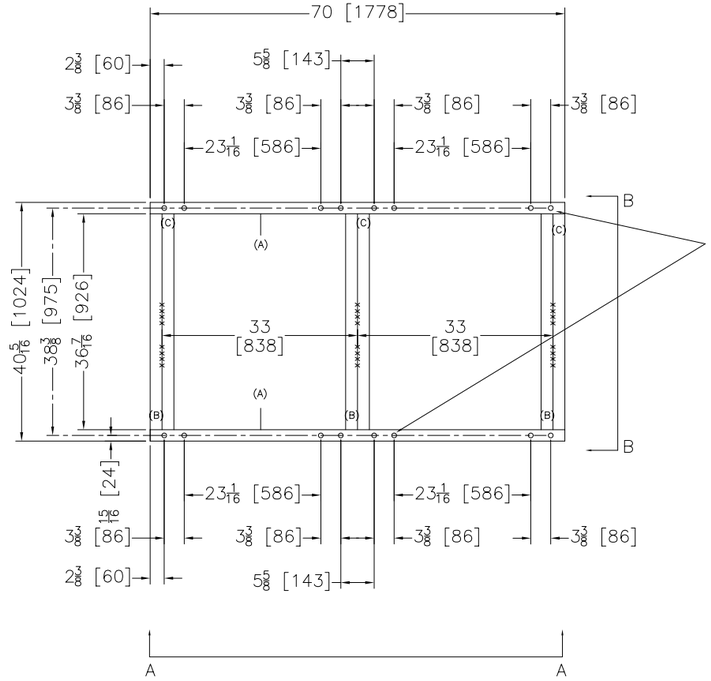
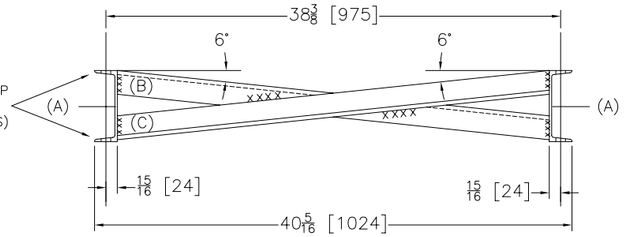
FAX 504/469-1849, Email: mktg@milnor.com



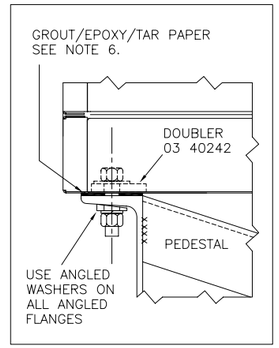
PEDESTAL PLAN

ANCHOR BOLT HOLES 13/16" DIA. DRILL IN TOP AND BOTTOM FLANGES OF CHANNEL (32 PLACES)

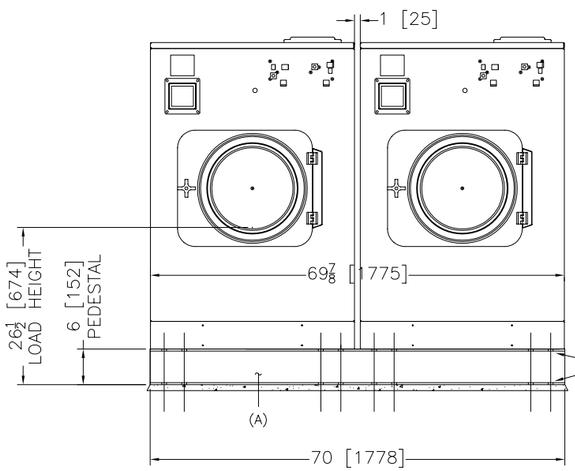
ANGLED WASHERS MUST BE USED AS DRAWN SEE DETAIL A.



ENLARGED VIEW B–B



DETAIL A



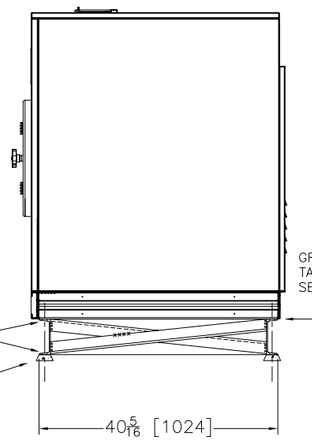
VIEW A–A

ANGLED WASHERS MUST BE USED AS DRAWN SEE DETAIL A.

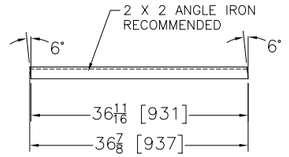
ANCHOR BOLT HOLES 13/16" DIA. DRILL IN TOP AND BOTTOM FLANGES OF CHANNEL (32 PLACES)

GROUT SEE NOTE 3.

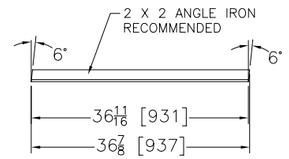
GROUT/EPOXY/TAR PAPER SEE NOTE 6.



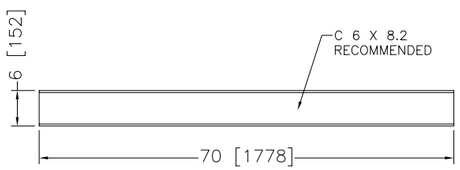
VIEW B–B



(B) LEFT CROSS MEMBERS (TYPICAL 3)



(C) RIGHT CROSS MEMBERS (TYPICAL 3)



(A) CHANNEL (TYPICAL 2)

NOTES

6 GROUT OR EPOXY OR USE TAR PAPER, BETWEEN MACHINE AND PEDESTAL BASE, TO ENSURE A TIGHT UNIFORM FIT.

5 THIS DRAWING SHOWS A RECOMMENDED PEDESTAL DESIGN FOR (2) ADJACENT MILNOR MCR18E7 COIN MACHINES. THIS BASE MAY BE USED WHENEVER LOCAL CONDITIONS ARE SUCH THAT MACHINE OPERATION WOULD BE ENHANCED BY RAISING THE MACHINES 6 [152] INCHES.

4 IF MACHINE IS TO BE BOLTED TO PEDESTAL BASE, BOLT HOLES IN PEDESTAL TOP FLANGE SHOULD BE LOCATED AND DRILLED ONLY AFTER MACHINE IS ON SITE AND CAN BE USED AS A TEMPLATE FOR BOLT HOLE LOCATIONS. IF BASE IS TO BE BOLTED TO FOUNDATION, CUSTOMER MUST DETERMINE LOCATION OF BOLT HOLES IN BOTTOM FLANGE.

3 WHEN INSTALLING MACHINE AND PEDESTAL BASE, IT IS RECOMMENDED TO LAY THE PEDESTAL ON A MINIMUM 1 [25] THICK GROUT BED AND BOLT THE MACHINE TO IT.

2 THIS BASE MUST BE FABRICATED LOCALLY AND SHOULD BE MADE SQUARE AND LEVEL. IT IS NOT SUPPLIED BY PELLERIN MILNOR CORP. THIS DRAWING CONVEYS NO EXPRESS OR IMPLIED WARRANTY WITH REGARD TO THE CONSTRUCTION AND/OR SUITABILITY OF THIS ASSEMBLY.

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PEDESTAL FOR (2) MCR/MWR18

DM 0 0.5M
INCHES 0 12 24

DWG# BDMCRBL2AE
2007463D

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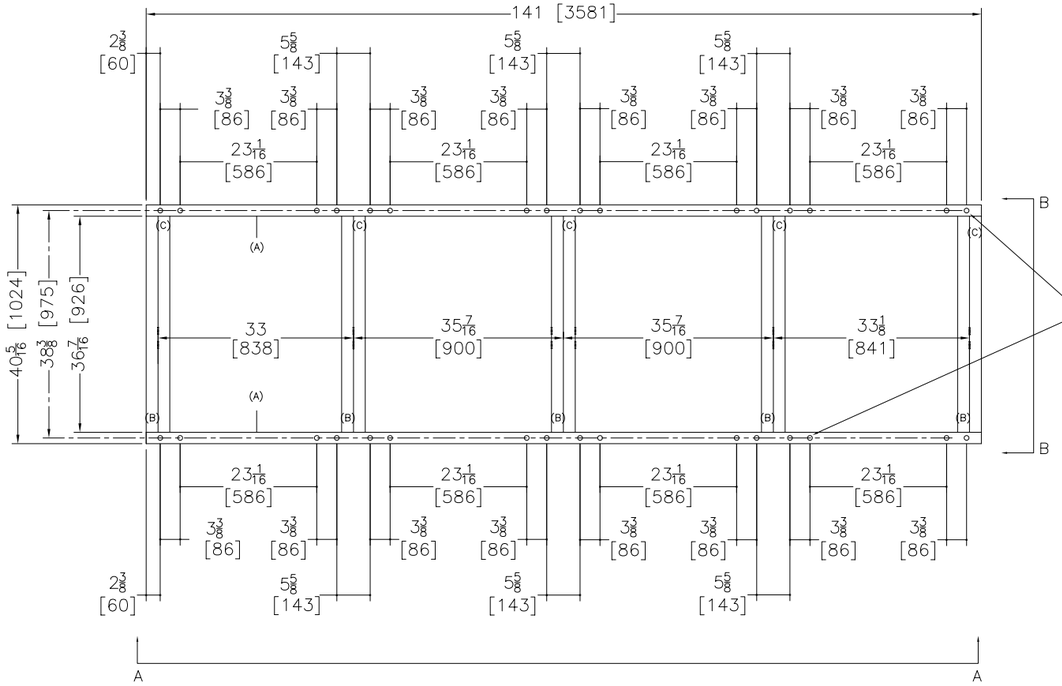
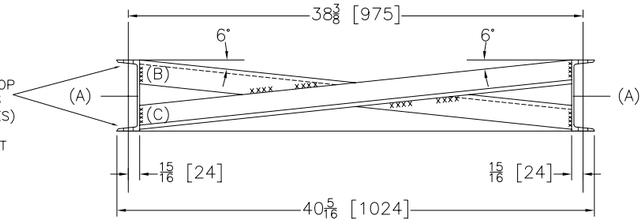
P.O. Box 400 Kenner, LA 70063, USA, Phone 504/467-9591,
FAX 504/469-1849, Email: mktg@milnor.com



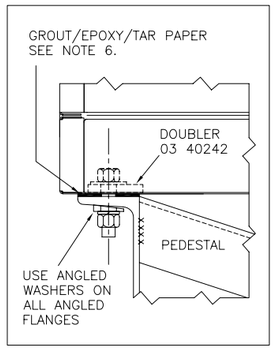
PEDESTAL PLAN

ANCHOR BOLT HOLES 13/16" DIA. DRILL IN TOP AND BOTTOM FLANGES OF CHANNEL (64 PLACES)

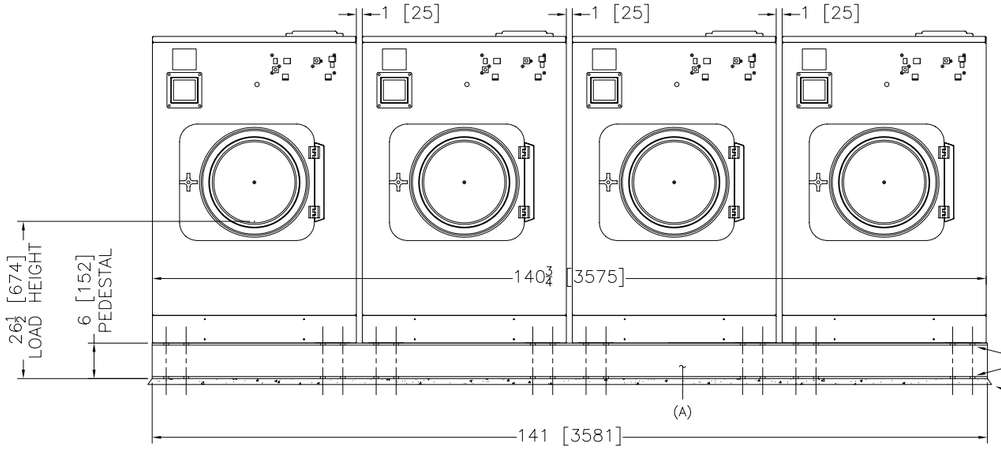
ANGLED WASHERS MUST BE USED AS DRAWN SEE DETAIL A.



ENLARGED VIEW B–B



DETAIL A

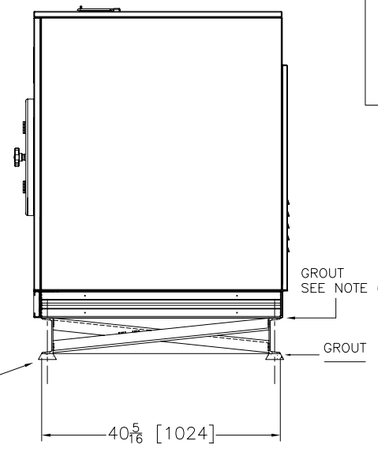


VIEW A–A

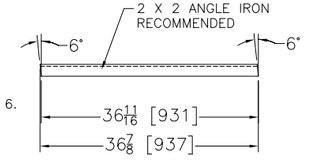
ANGLED WASHERS MUST BE USED AS DRAWN SEE DETAIL A.

ANCHOR BOLT HOLES 13/16" DIA. DRILL IN TOP AND BOTTOM FLANGES OF CHANNEL (64 PLACES)

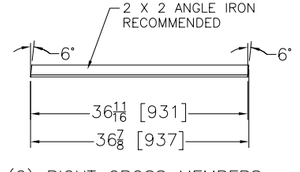
GROUT SEE NOTE 3.



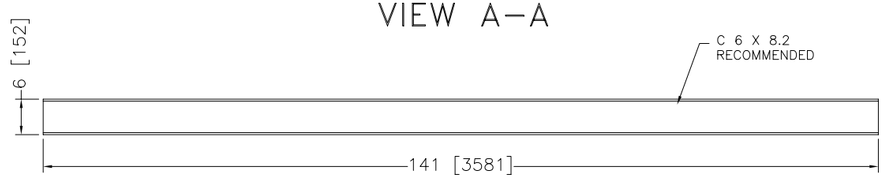
VIEW B–B



(B) LEFT CROSS MEMBERS (TYPICAL 3)



(C) RIGHT CROSS MEMBERS (TYPICAL 3)



(A) CHANNEL (TYPICAL 2)

NOTES

6 GROUT OR EPOXY OR USE TAR PAPER, BETWEEN MACHINE AND PEDESTAL BASE, TO ENSURE A TIGHT UNIFORM FIT.

5 THIS DRAWING SHOWS A RECOMMENDED PEDESTAL DESIGN FOR (4) ADJACENT MILNOR MCR018E5 COIN MACHINES. THIS BASE MAY BE USED WHENEVER LOCAL CONDITIONS ARE SUCH THAT MACHINE OPERATION WOULD BE ENHANCED BY RAISING THE MACHINES 6 [152] INCHES.

4 IF MACHINE IS TO BE BOLTED TO PEDESTAL BASE, BOLT HOLES IN PEDESTAL TOP FLANGE SHOULD BE LOCATED AND DRILLED ONLY AFTER MACHINE IS ON SITE AND CAN BE USED AS A TEMPLATE FOR BOLT HOLE LOCATIONS. IF BASE IS TO BE BOLTED TO FOUNDATION, CUSTOMER MUST DETERMINE LOCATION OF BOLT HOLES IN BOTTOM FLANGE.

3 **WHEN INSTALLING MACHINE AND PEDESTAL BASE, IT IS RECOMMENDED TO LAY THE PEDESTAL ON A MINIMUM 1 [25] THICK GROUT BED AND BOLT THE MACHINE TO IT.**

2 **THIS BASE MUST BE FABRICATED LOCALLY AND SHOULD BE MADE SQUARE AND LEVEL. IT IS NOT SUPPLIED BY PELLERIN MILNOR CORP. THIS DRAWING CONVEYS NO EXPRESS OR IMPLIED WARRANTY WITH REGARD TO THE CONSTRUCTION AND/OR SUITABILITY OF THIS ASSEMBLY.**

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PEDESTAL FOR (4) MCR,MWR18

DM 0 0.5M
INCHES 0 12 24

DWG# BDMCRBL4AE
2007463D

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