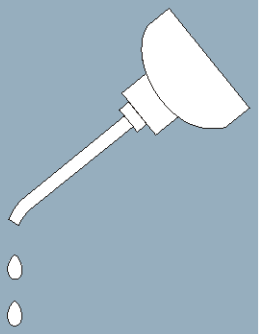
Published Manual Number/ECN: MPPPRESSAE/2021515A

- **Publishing System: TPAS2**
- **Access date: 01/11/2022**
- **Document ECNs: NOT latest**

Service

Membrane Press



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

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

Table of Contents
MPPPRESSAE/21515A

Table of Contents, continued
MPPPRESSAE/21515A

PELLERIN MILNOR CORPORATION
LIMITED STANDARD WARRANTY

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

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

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

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

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

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

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

BMP720097/19036

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

How to Get the Necessary Repair Components

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

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

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

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

To write to the Milnor factory:

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

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

— End of BIUUUD19 —

Trademarks

BNUUUU02.R01 0000158093 F.2 E.2 3/3/21 9:47 AM Released

These words are trademarks of Pellerin Milnor® Corporation and other entities:

Table 1. Trademarks

AutoSpot™	GreenFlex™	MilMetrix®	PulseFlow®
CBW®	GearTrace™	MilTouch™	RAM Command™
Drynet™	GreenTurn™	MilTouch-EX™	RecircONE®
E-P Express®	Hydro-cushion™	MILRAIL™	RinSave®
E-P OneTouch®	Mentor®	Miltrac™	SmoothCoil™
E-P Plus®	Mildata®	PBW™	Staph Guard®
Gear Guardian®	Milnor®		

End of document: BNUUUU02

Safety 1

BIUUUS27 (Published) Book specs- Dates: 20051111 / 20051111 / 20060323 Lang: ENG01 Applic: PP2

Safety—Two Stage Membrane Press

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

WARNING 3: Crush and Entrap Hazards—The main bell will crush your body or limbs if it descends while you are under it. The tamper can crush or entrap you if it descends while you are under it. Bell and tamper can descend with power off or on.

- Do not reach into the machine housing or frame.
- Use the factory supplied gaff-hook to move objects inside the housing.

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

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

WARNING 4: Crush Hazards—Spaces between the press and the receiving conveyor can close and crush or pinch your limbs. The sled extends to discharge goods onto the receiving conveyor (COINC) and some COINCS pivot to discharge.

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

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

4.1. Damage and Malfunction Hazards

4.1.1. Hazards Resulting from Inoperative Safety Devices

WARNING 5: Multiple Hazards—Operating the machine with an inoperative safety device can kill or injure personnel, damage or destroy the machine, damage property, and/or void the warranty.

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

WARNING 6: Electrocution and Electrical Burn Hazards—Electric box doors—Operating the machine with any electric box door unlocked can expose high voltage conductors inside the box.

- Do not unlock or open electric box doors.

WARNING 7: Entangle and Crush Hazards—Guards, covers, and panels—Operating the machine with any guard, cover, or panel removed exposes moving components.

- Do not remove guards, covers, or panels.

4.1.2. Hazards Resulting from Damaged Mechanical Devices

WARNING 8: Multiple Hazards—Operating a damaged machine can kill or injure personnel, further damage or destroy the machine, damage property, and/or void the warranty.

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

4.2. Careless Use Hazards

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

WARNING 9: Multiple Hazards—Careless operator actions can kill or injure personnel, damage or destroy the machine, damage property, and/or void the warranty.

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

CAUTION 10: Goods Damage and Wasted Resources—Entering incorrect cake data causes improper processing, routing, and accounting of batches.

- Understand the consequences of entering cake data.

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

WARNING 11: Electrocution and Electrical Burn Hazards—Contact with electric power can kill or seriously injure you. Electric power is present inside the cabinetry unless the main machine power disconnect is off.

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

WARNING 12: Entangle and Crush Hazards—Contact with moving components normally isolated by guards, covers, and panels, can entangle and crush your limbs. These components move automatically.

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

WARNING 13: Crush Hazards—The main bell will crush your body or limbs if it descends while you are under it. The tamper can crush or entrap you if it descends while you are under it. Bell and tamper can descend with power off or on.

- Secure both red safety stands in accordance with the instructions furnished, then lock out

and tag out power at the main machine disconnect before working under the bell.

- Shut off air pressure to the tamper and brace it with wood blocking if you must work with any part of your body under the tamper.

— End of BIUUUS27 —

Use the Red Safety Supports for Maintenance — MP25_, MP26_

BNP2UH01.C01 0000373956 A.5 A.3 8/17/21 2:22 PM Released

1. What Safety Supports are Provided and Why

BNP2UH01.C02 0000373955 A.5 8/19/21 11:22 AM Released

These machines are provided with two safety stands. After the main bell is raised, the stands are placed under the bell. The safety stands provide protection against the un-powered descent of the bell during maintenance in the event of a failure of the up locks. They are not intended to restrain the bell from coming down under power. Use the safety support(s) whenever the maintenance to be performed requires you to place any part of your body in or near the path of the vertically moving portion of the machine.

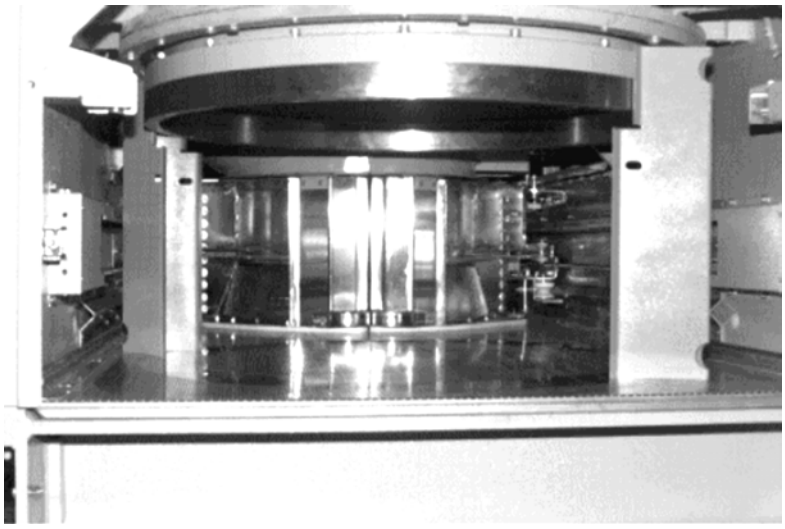
WARNING: **Incorrect use of the safety supports —** can cause the machine to descend and crush you.

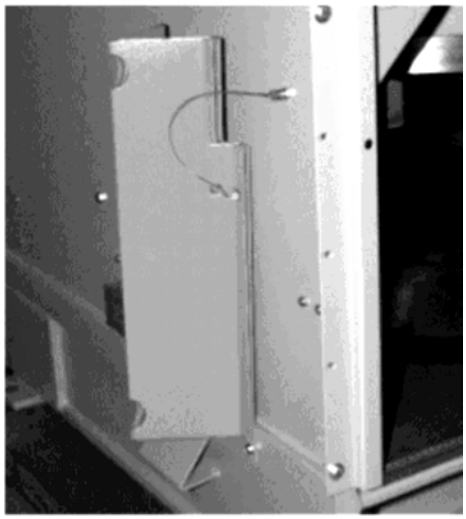
- Never work near the path of the vertically moving portion of the machine unless the safety supports are deployed and power is removed from the machine.
- Do not use power to close a small gap between the machine and the safety supports. Use care not to lower the machine with the safety supports deployed.
- When working near the installed safety stands use care not to knock the stands out of position.
- Where a pair of safety supports is provided, always use both supports.
- Maintain the safety support(s) in good condition.
- When not in use, stow the safety support(s) in the location(s) provided on the machine or in a convenient, designated location.

2. How To Deploy the Safety Stands

BNP2UH01.T01 0000373954 A.5 A.4 8/19/21 11:22 AM Released

1. Use the Manual mode to raise the bell.
2. The illustrations below show the safety stands deployed (at left) and stowed (at right). Install the stands on opposite sides of the bell (180 degrees apart).





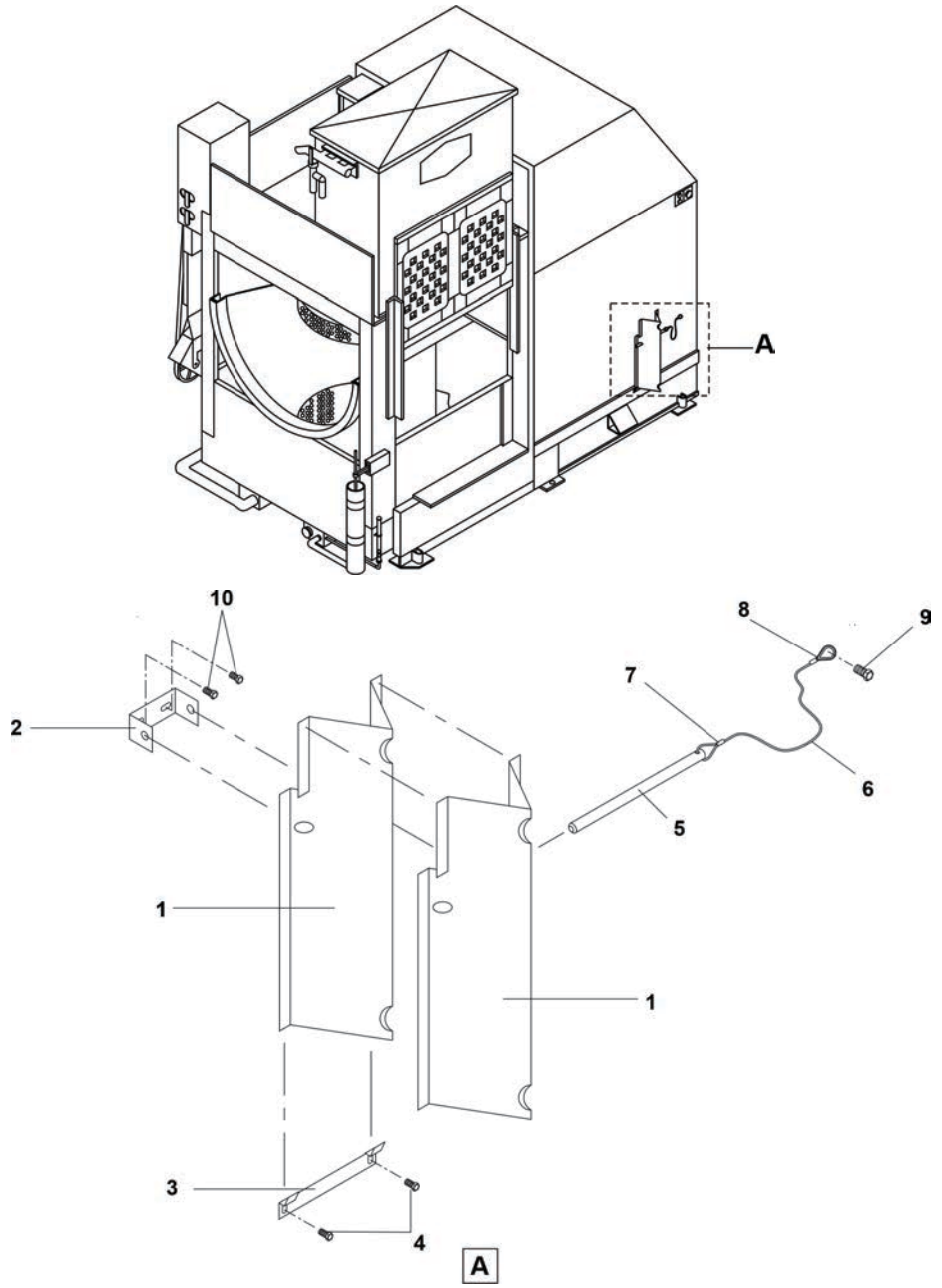
3. Remove electric power from the machine.

End of document: BNP2UH01

Press Safety Stands

MP2501, MP2601, MP2606

Safety Stands in Stowed Position



Legend

A . . . See detail view

Press Safety Stands

MP2501, MP2601, MP2606

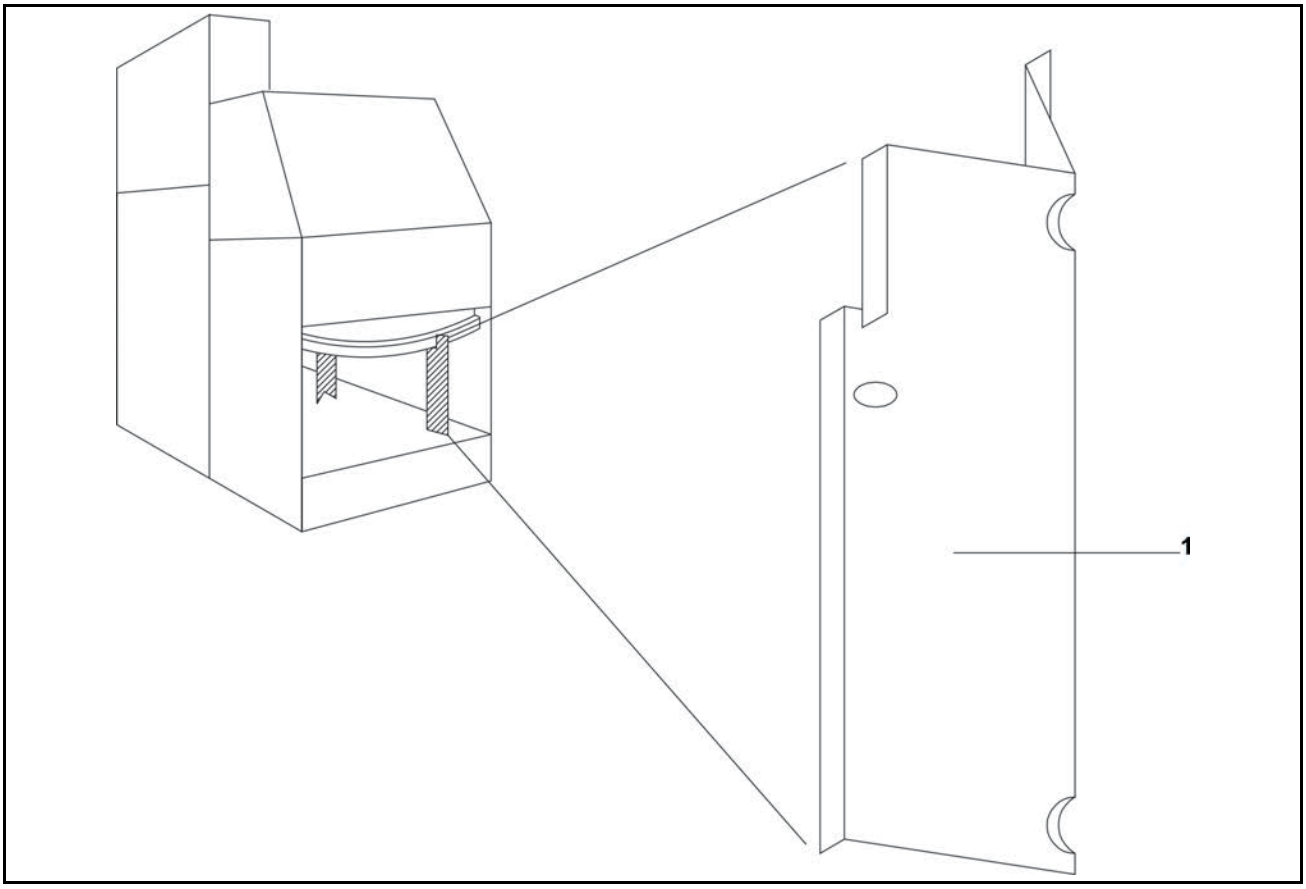


Table 1. Parts List—Press Safety Stands

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	**Item**	**Part Number**	**Description/Nomenclature**	**Comments**
			Components	
	1A	07 20834	93392D SAFETY SUPPORT FOR BELL	50KG ONLY
	1B	07 30092	93392# SAFETY SUPP-BELL 60K1LO	60KG ONLY
all	2	07 20834T	92043 B TOP BRACKET-SAFETY SUPPORT	
all	3	07 20834B	93327B BTM BRACKET-SAFETY SUPPORT	
all	4	15K086	HXCAPSCR 3/8-16NCX3/4 SS18-8	
all	5	07 20834P	BELL SAFETY SUPPORT PIN	
all	6	27A953	CABLE-AIRCRAFT 1/16SS7X7REDCV	
all	7	27A952	1/16" OVAL SLEEVE S/S	
all	8	27A951	1/16" SS WIRE ROPE THIMBLE	
all	9	15K086	HXCAPSCR 3/8-16NCX3/4 SS18-8	
all	10	15K095	HXCPSCR 3/8-16UNC2AX1 GR5 ZINC/CAD	

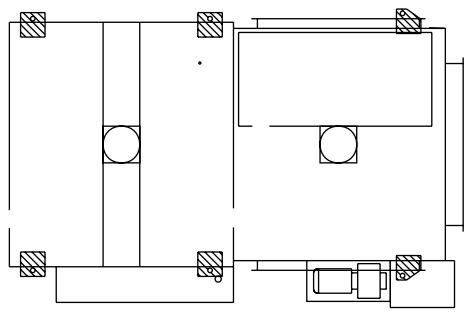
Safety Placard Use and Placement

MP2501xx, MP2601xx, & MP2606xx

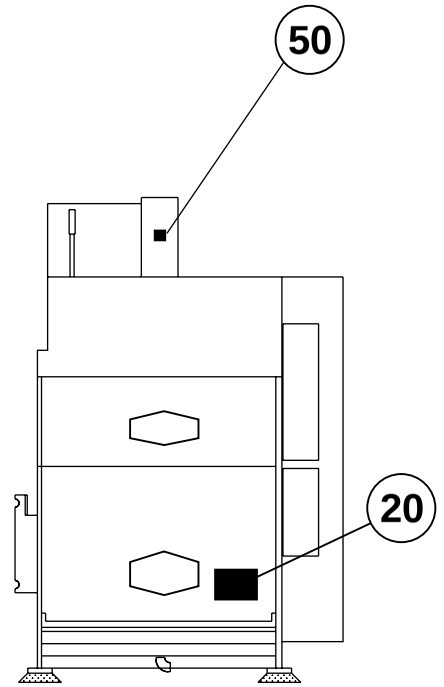
Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400

Litho in U.S.A.

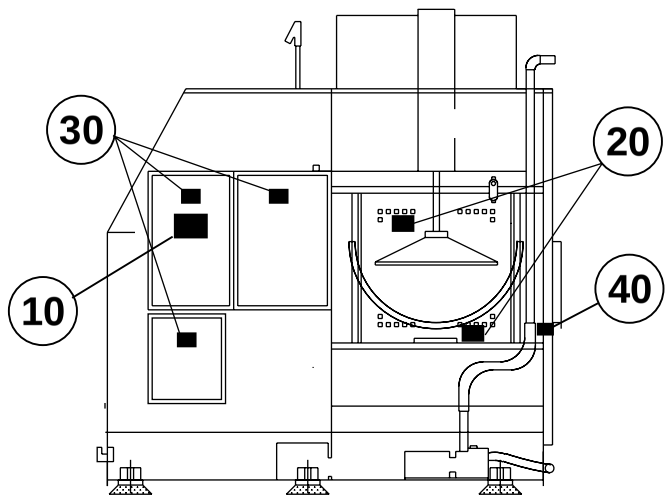
Notes:
1. **Replace placard immediately, if removed or unreadable.**
2. **Approximate locations of placards are shown. Mounting holes are provided on machine. If aluminum placard use #8 self-tapping screws.**



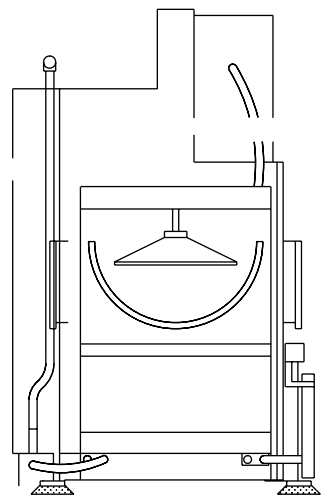
PLAN VIEW



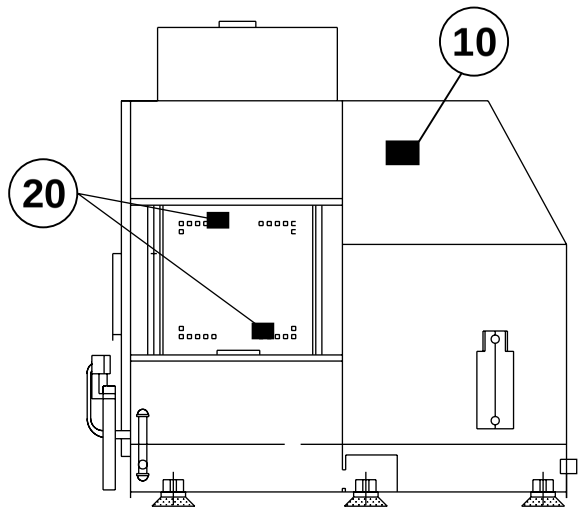
REAR (DISCHARGE END) VIEW



LEFT SIDE VIEW



FRONT VIEW



RIGHT SIDE 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 10699B	NPLT:SERV HZRD-ALUM-TCATA	
all	20	01 10668A	NPLT:PRESS DOOR HAZARD-TCATA	
all	30	01 10377A	NPLT:ELEC HAZARD LG-TCATA	
all	40	01 10689A	NPLT:BELT HAZARD SM TCATA	
all	50	01 10375B	NPLT:ELEC HAZARD SMALL-TCATA	

Safety Placard Use and Placement ISO

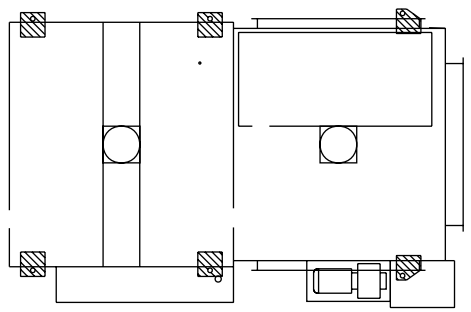
MP2501xx, MP2601xx, & MP2606xx

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

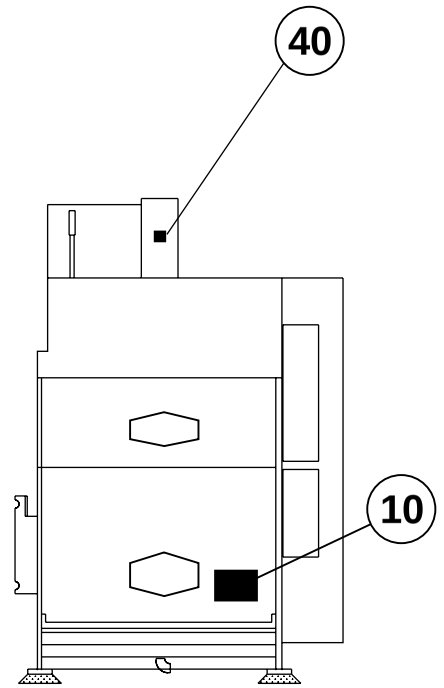
Litho in U.S.A.

ISO Placards shown on this page

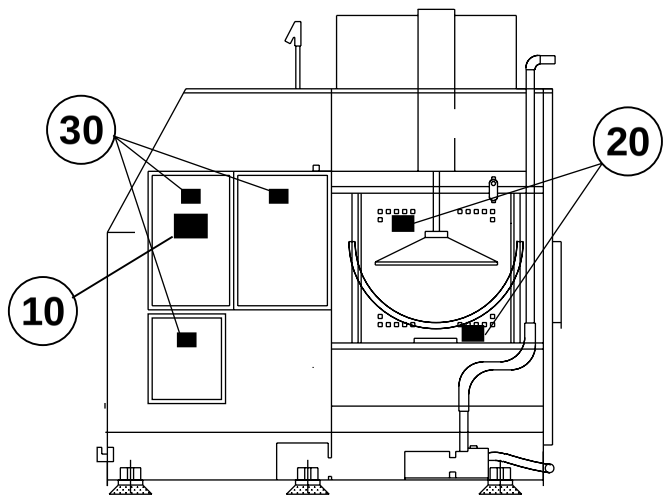
Notes:
1. **Replace placard immediately, if removed or unreadable.**
2. **Approximate locations of placards are shown. Mounting holes are provided on machine. If aluminum placard use #8 self-tapping screws.**



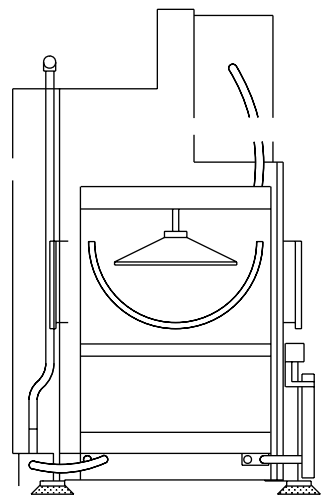
PLAN VIEW



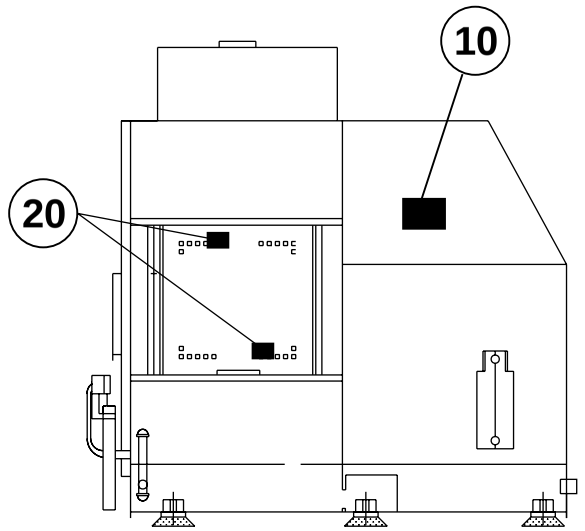
REAR (DISCHARGE END) VIEW



LEFT SIDE VIEW



FRONT VIEW



RIGHT SIDE 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 10615X	NPLT:PRESS WARNINGS ISO	
All	20	01 10577X	NPLT:PRESS WRNG CRUSHING-ISO	
all	30	01 10377	NPLTE:"WARNING" 4X4	
all	40	01 10375	NPLTE:"WARNING" 2X2	

Glossary of Tag Illustrations—Press

MSIUEPTGAE/9449BV

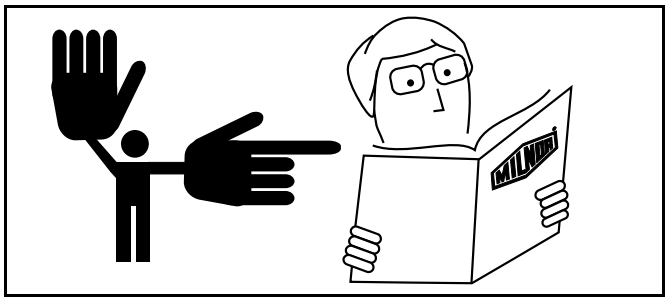
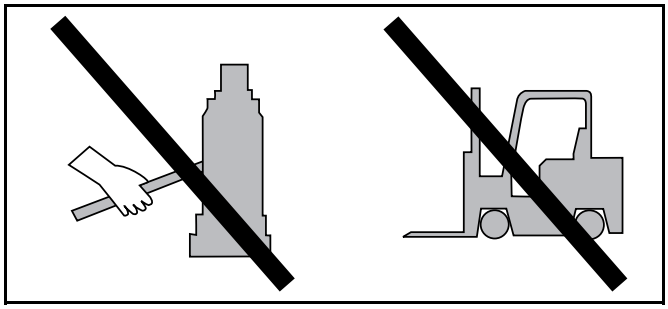
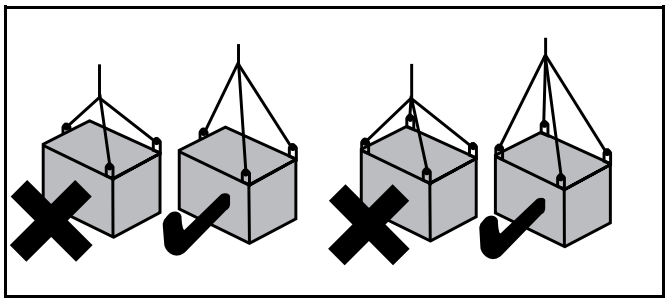
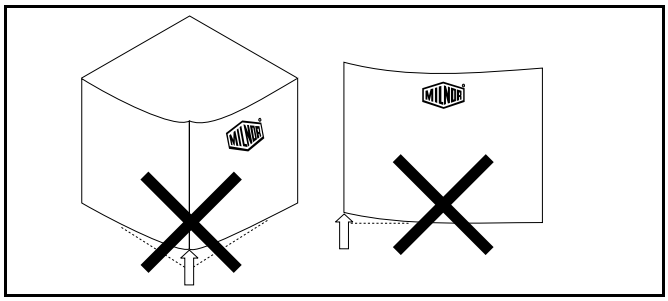
Illustration	Explanation
	Stop! Read the manual first for complete instructions before continuing.
	Do not jack the machine here. Do not lift the machine here.
	Use three point or four point lifting as determined by the lifting eyes furnished. Rig the load using lifting cables of sufficient size and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

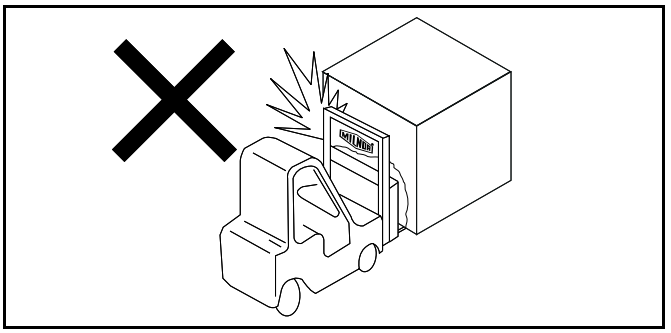
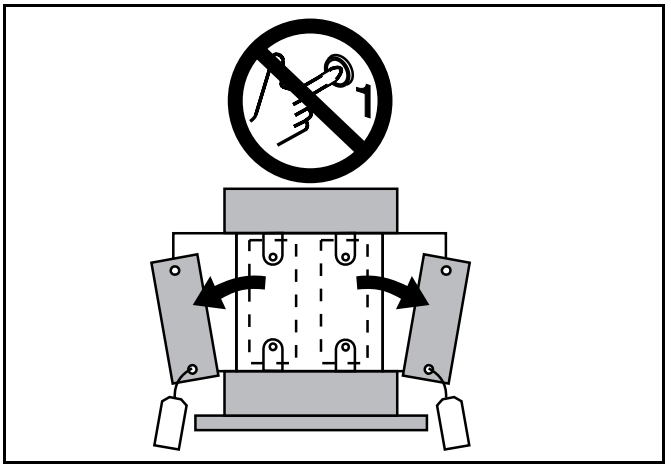
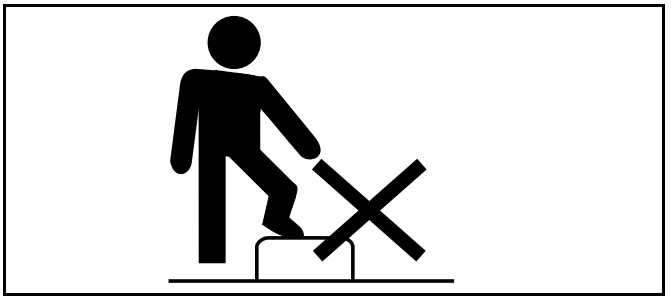
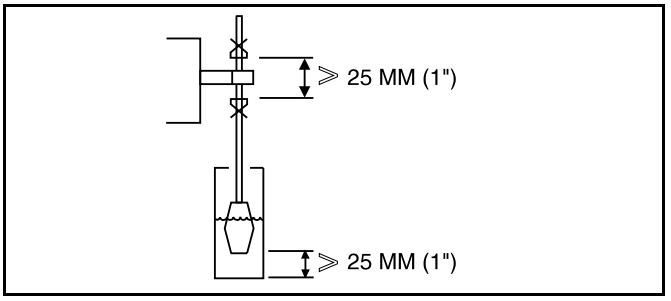
Illustration	Explanation
	Do not strike machine or components during fork lifting.
	Do not start this machine until the packing materials, lifting brackets, etc. with this tag attached or behind this panel are removed. These materials are painted red. Safety stands or brackets (also painted red) may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

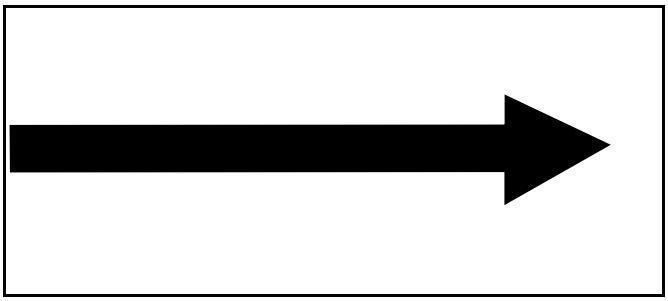
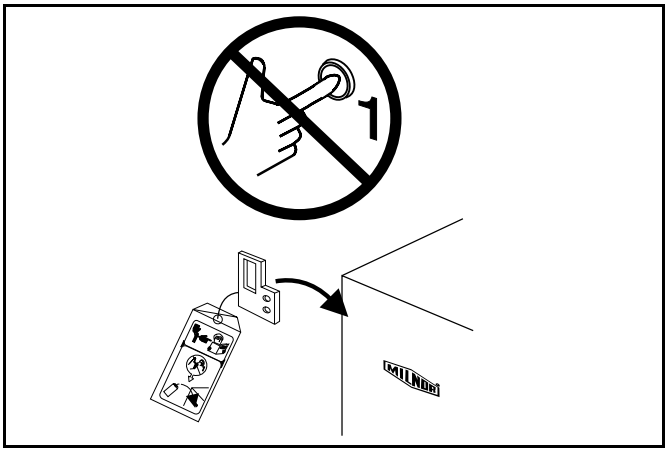
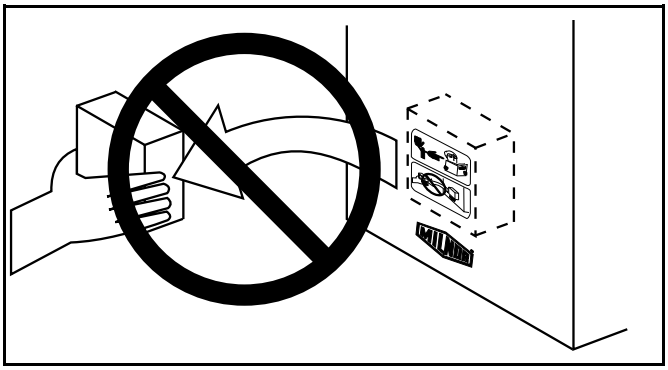
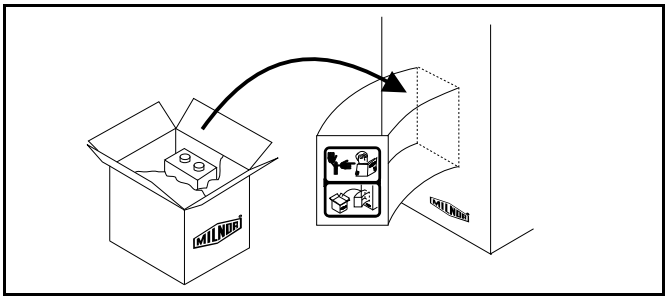
Illustration	Explanation
	This motor or pump should rotate in the direction of the arrow.
	Do not start this machine until the part with this tag is installed on the machine.
	Do not remove this component from the machine.
	Install the appropriate part here before operating the machine.

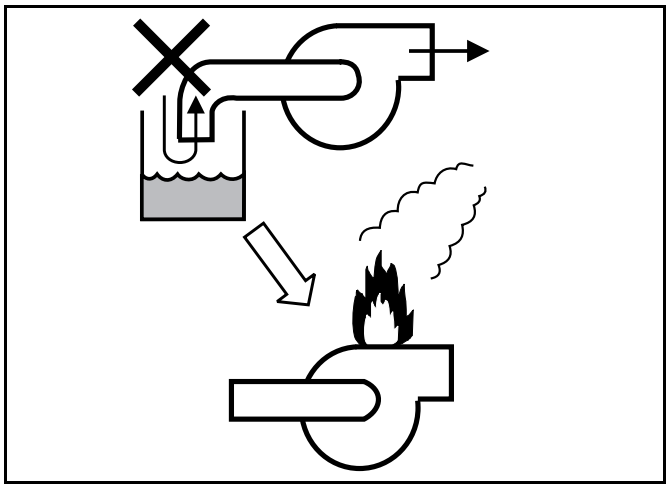
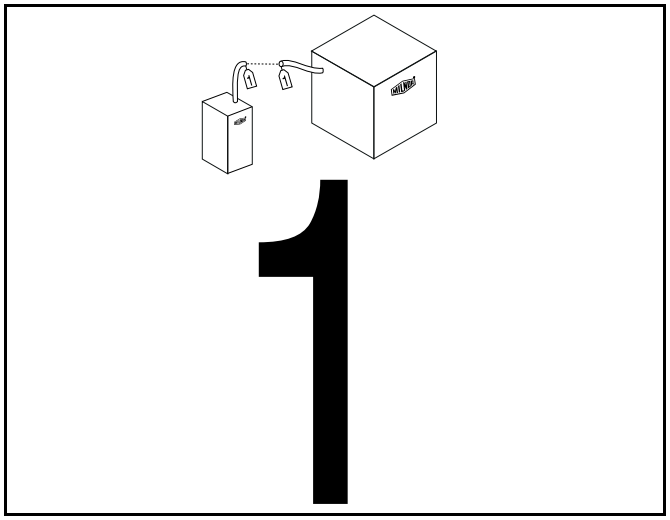
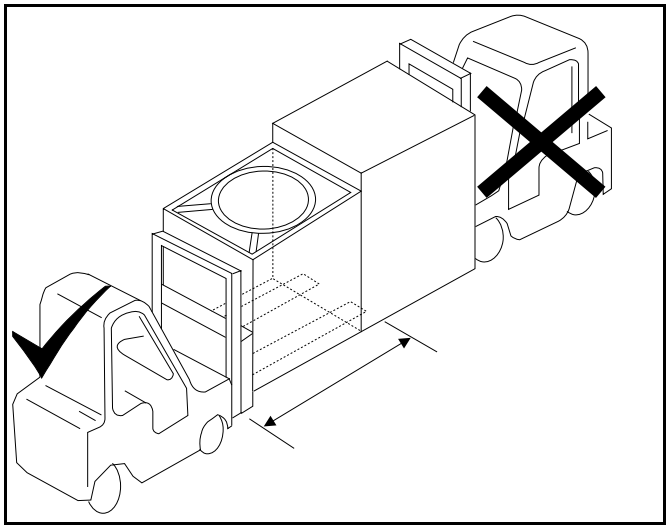
Illustration	Explanation
	Do not operate this pump unless the pump inlet is immersed in water. The pump will burn up if operated without water.
	Machine was shipped in parts. Join connections with matching tags (Join 1 and 1, join 2 and 2, 3 and 3, and so on.).
	Lift the press from in front of the main press side. Do not lift from the pre-press side.

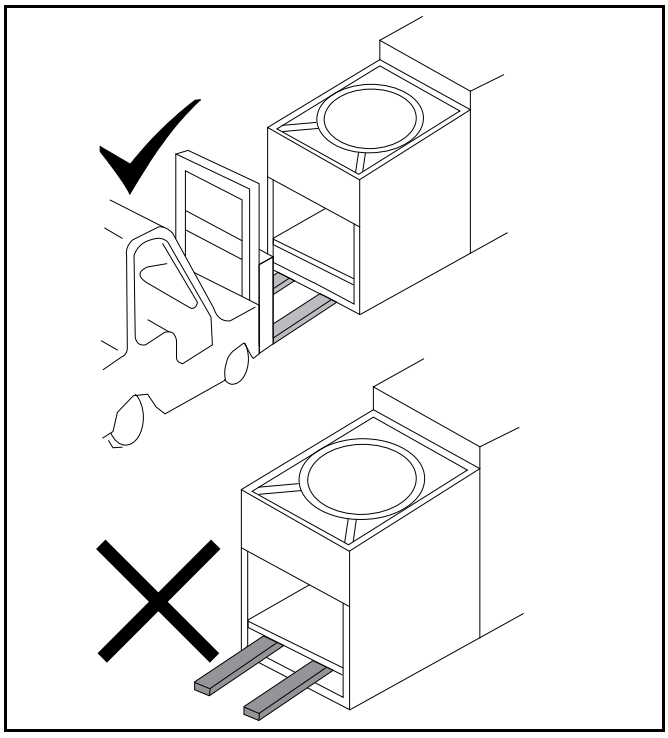
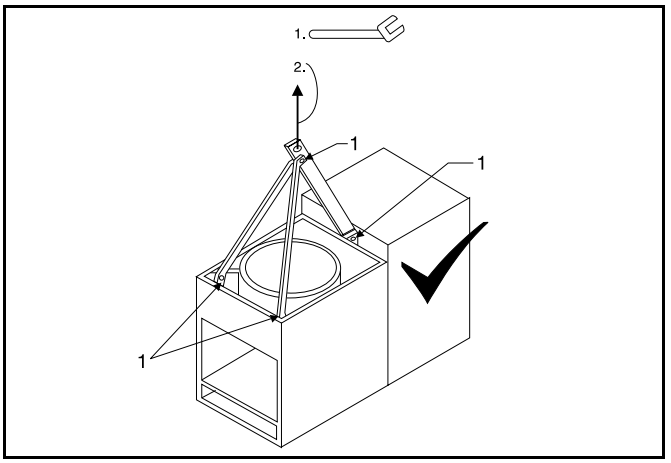
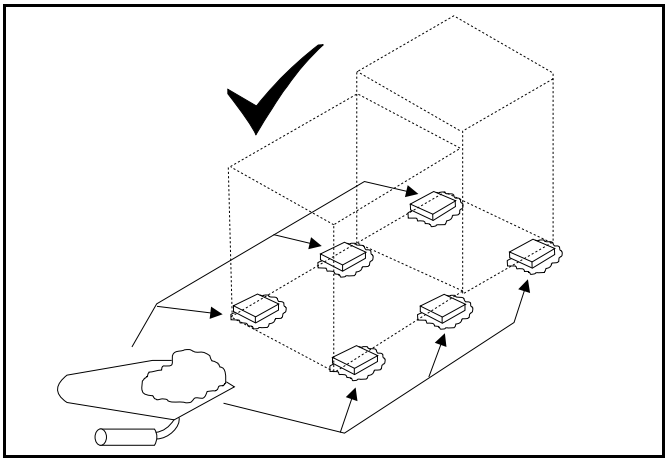
Illustration	Explanation
	Place fork lift blades under the machine. Do not place blades between the machine frame and press bed.

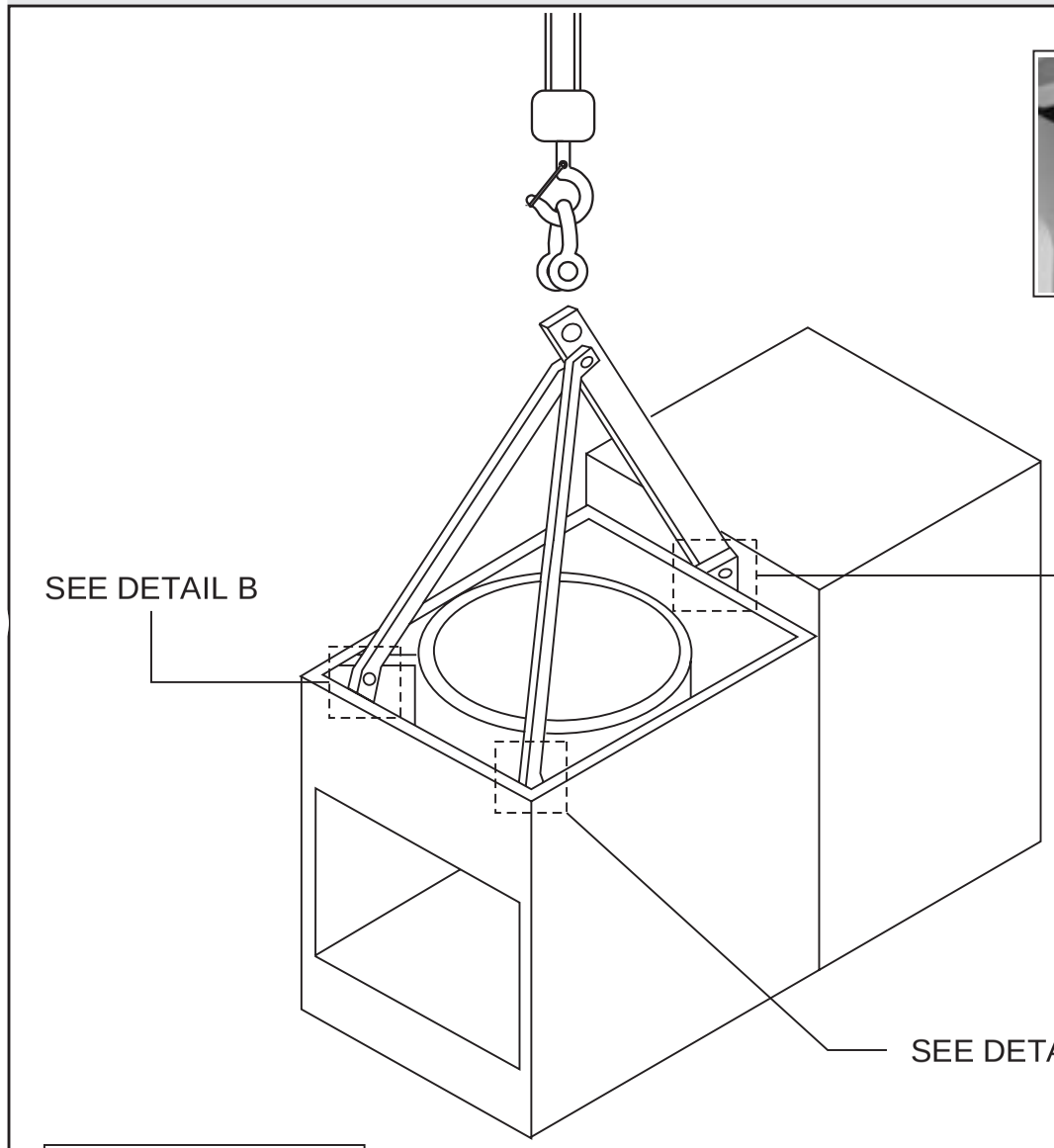
Illustration	Explanation
	When crain lifting: 1. Attach bridle for lifting by securing points labeled 1. 2. Lift from point labeled 2.
	Grout the press at each of six footpads.

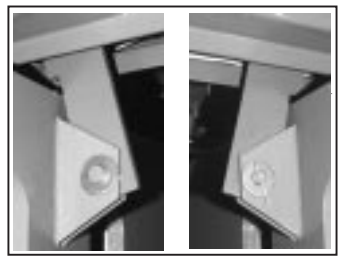
Press Lift System

MP2501, MP2601, MP2606

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

Litho in U.S.A.

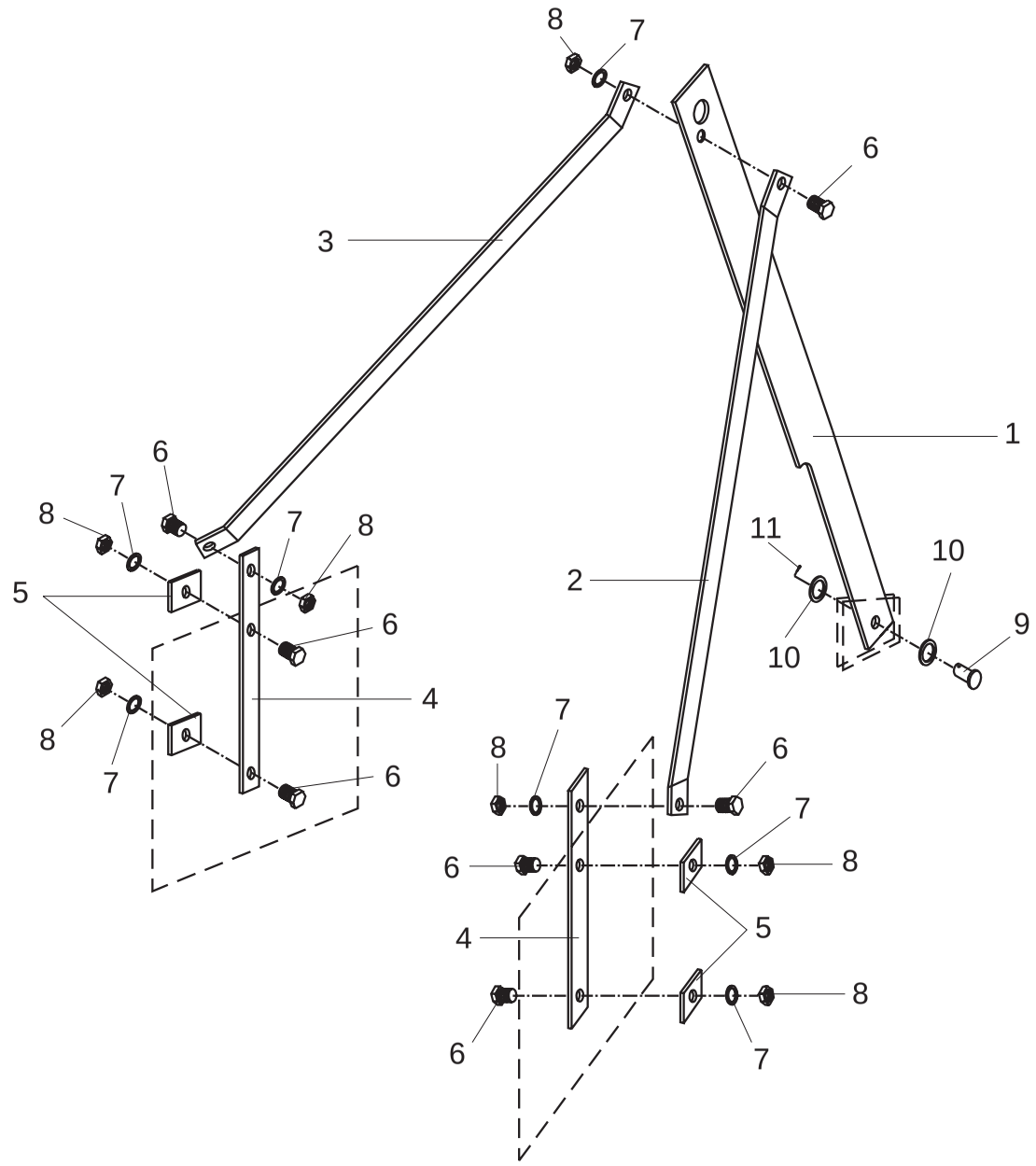




DETAIL A
MAIN LIFT BAR
ATTACHMENT

DETAIL B
RT SIDE PICK UP BAR

DETAIL C
LT SIDE PICK UP BAR



LIFT SYSTEM ASSEMBLY AND COMPONENTS

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

Litho in U.S.A.

Parts List—Press Lift System

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.

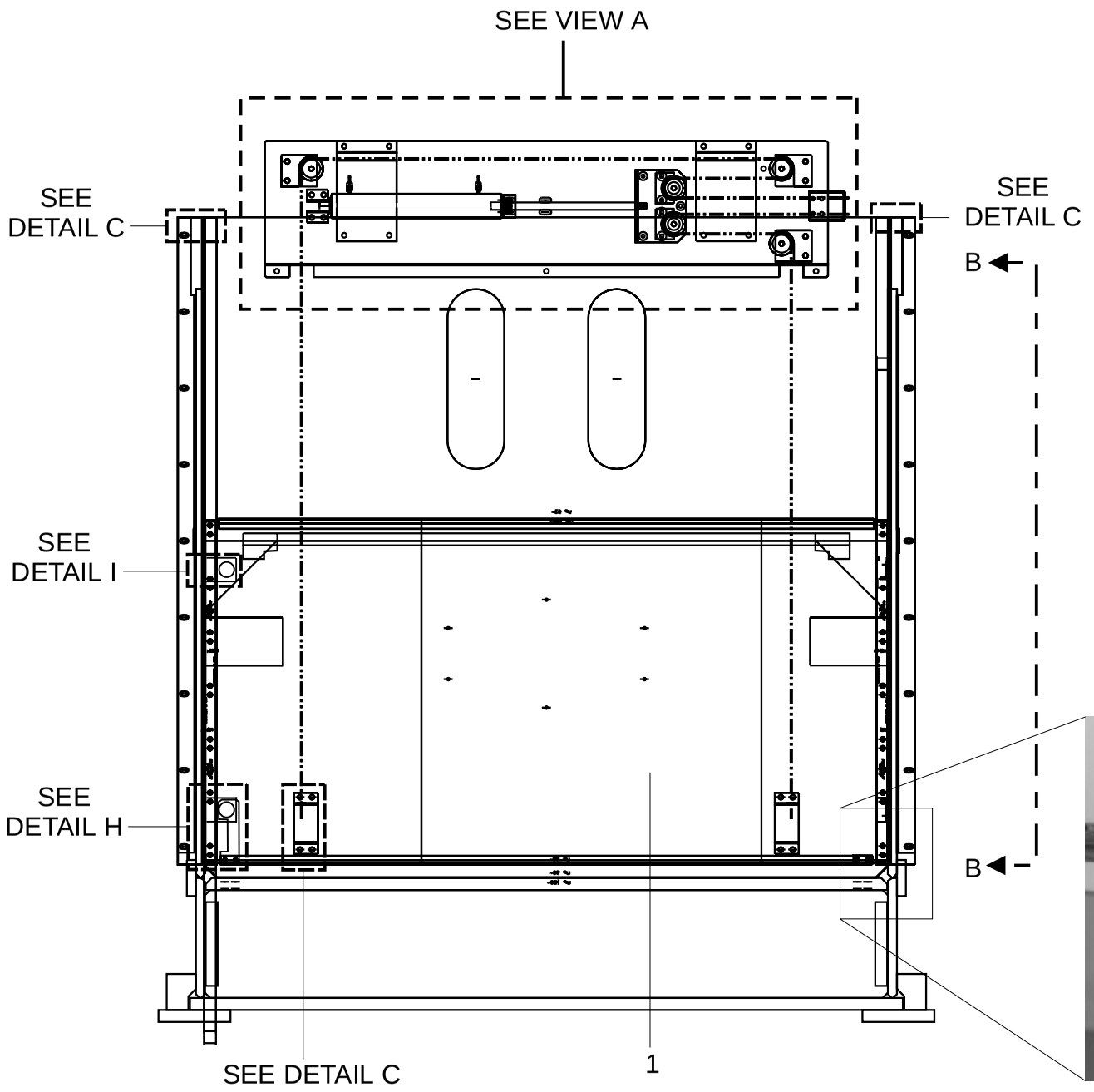
Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	A72LS002	86162B LIFT SYSTEM ASSY (PRESS)	REFERENCE ONLY
	B	A73LS002	93000Z LIFT SYSTEM ASSY 60KG	REFERENCE ONLY
			----------COMPONENTS----------	
all	1	07 20910	89157B PRESS LIFT BAR MAIN	
all	2	07 20910A	86162D PICK UP BAR,DIAGONAL LH PRES	
all	3	07 20910D	86162# PICK UP BAR,DIAGONAL RH PRES	
A	4A	07 20910B	86152B PICK UP LINK,VERTICAL(PRESS)	50KG ONLY
B	4B	07 30058	93197C PICK UP LINK BAR 60KG	60KG ONLY
all	5	07 20910C	86152B SPACER BLOCK,PRESSLIFT	
all	6	15K235	HXCAPSCR 3/4-10UNC2AX2.5 GR5 ZNC/CD	
all	7	15U340	LOCKWASH MEDIUM 3/4 ZINCPL	
all	8	15G240	HXNUT 3/4-10UNC2B SAE ZINC GR2	
all	9	17A093	CLEVISPIN=1"X1+3/4"DRILLED ZINCPLTD	
all	10	15H060	STDCOTTERPIN 3/16X2 ZINCPL	
all	11	15U390	FLATWASHER(USS STD) 1" UNPLATED	

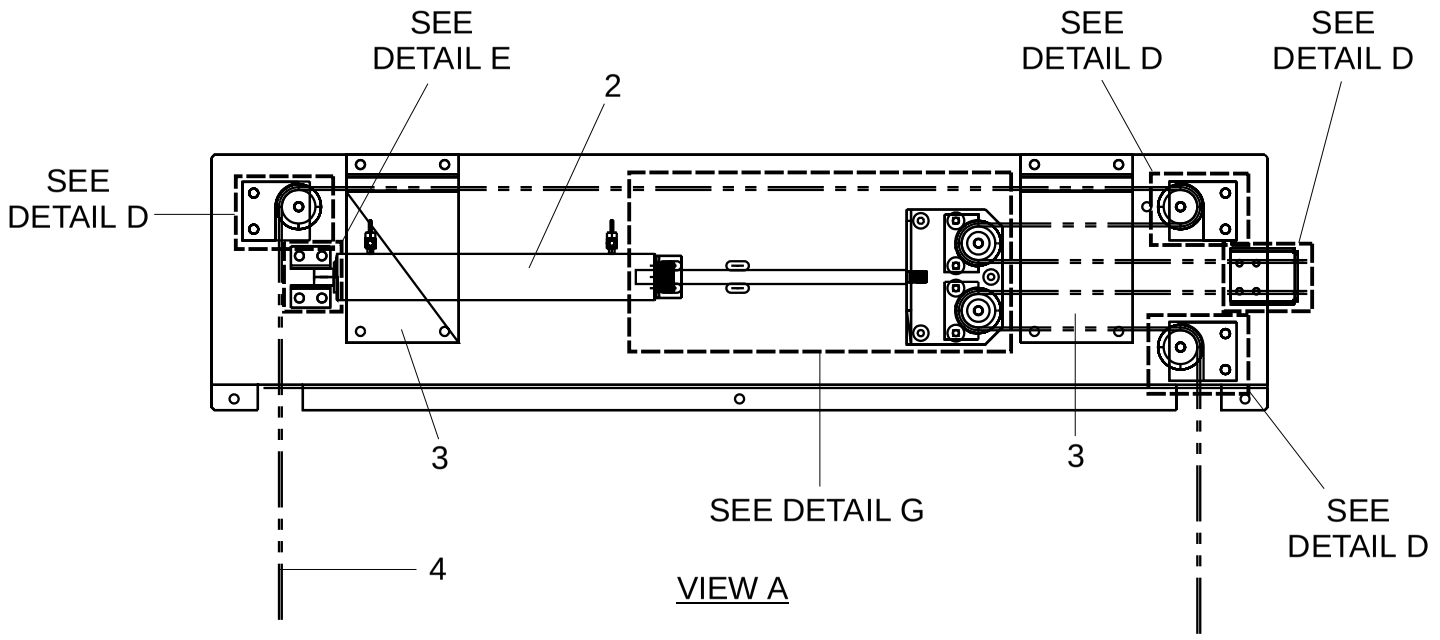
Press Unload Door

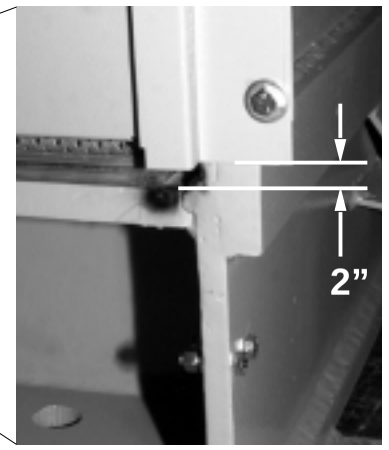
MP2501, MP2601, MP2606

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

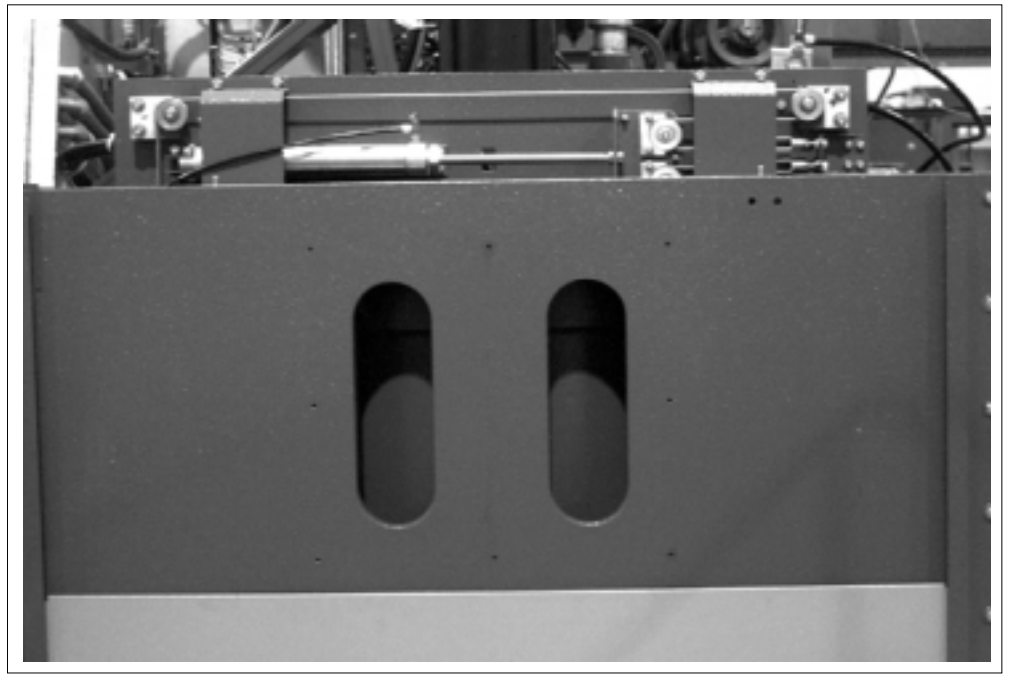
Litho in U.S.A.







SIDE BRACKET PLACEMENT FOR WELDING

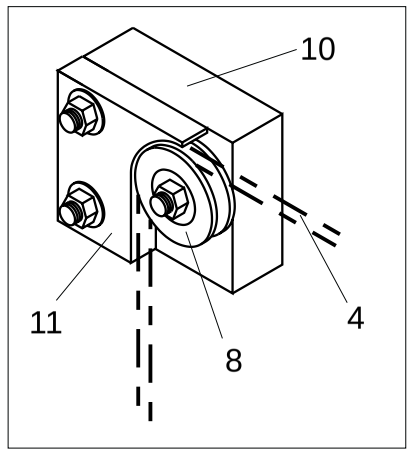


INSTALLATION OF DOOR OPERATING MECHANISM

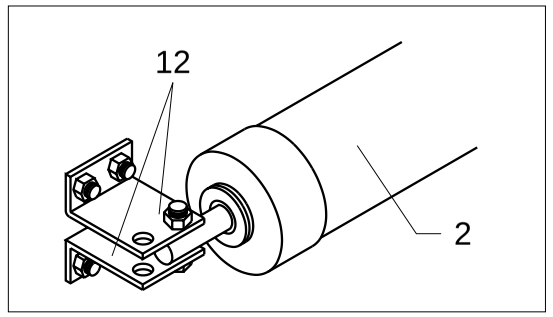
Press Unload Door
MP2501, MP2601, MP2606

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

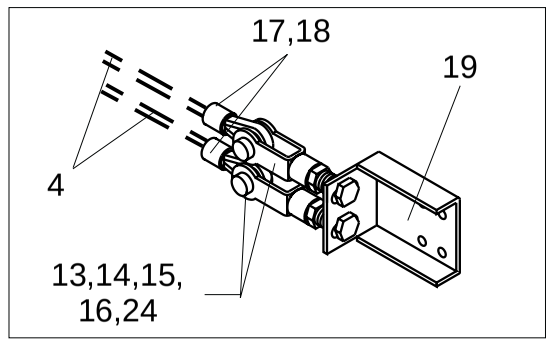
Litho in U.S.A.



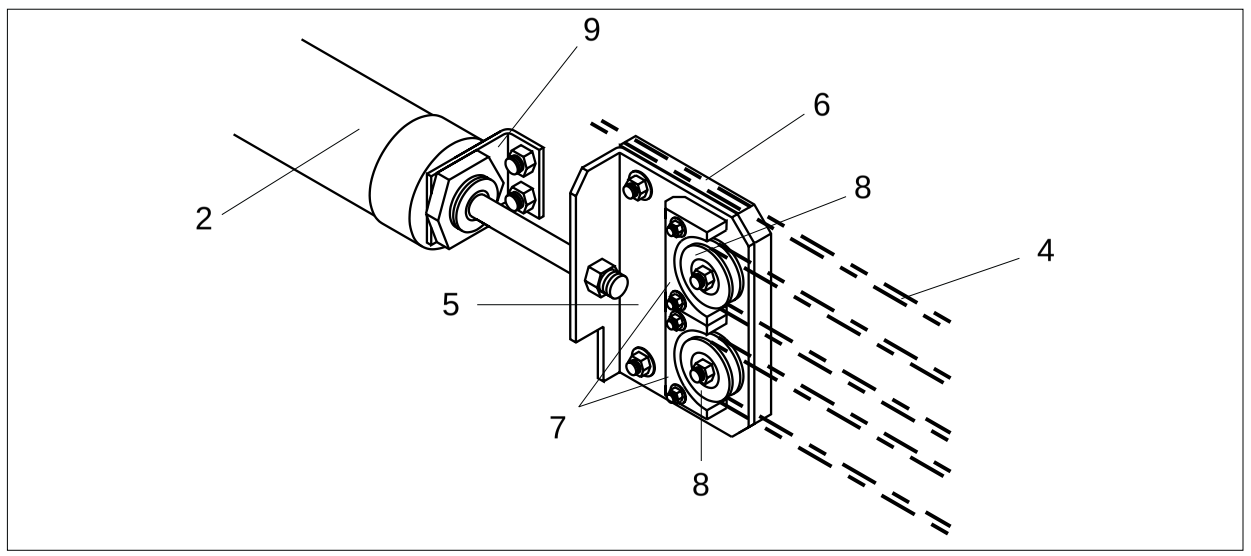
DETAIL D
PULLEY AND GUIDE
RIGHT SHOWN - LEFT OPPOSITE



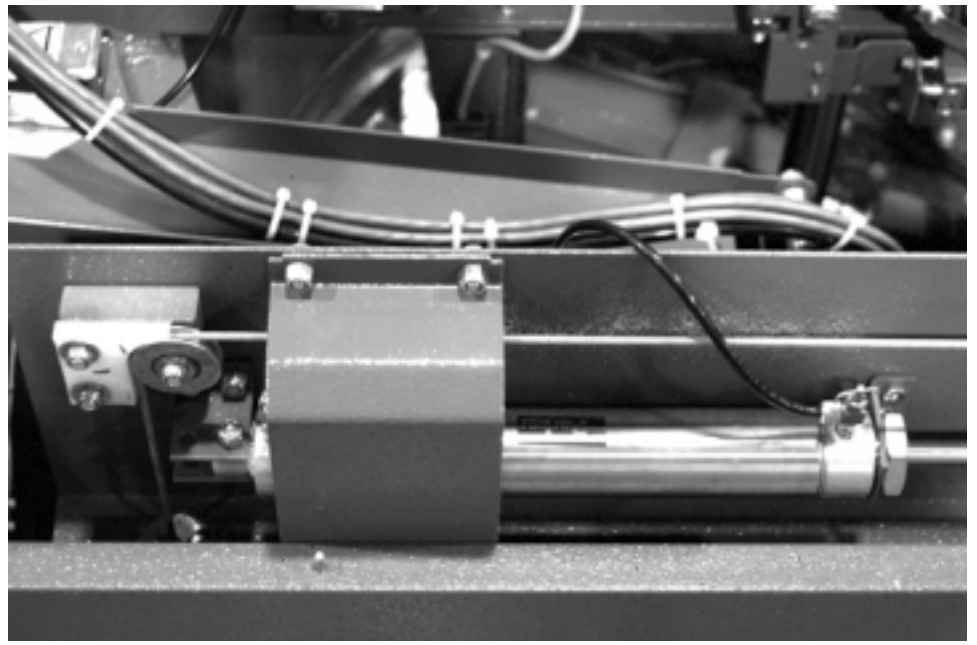
DETAIL E
AIRCYLINDER REAR MOUNT

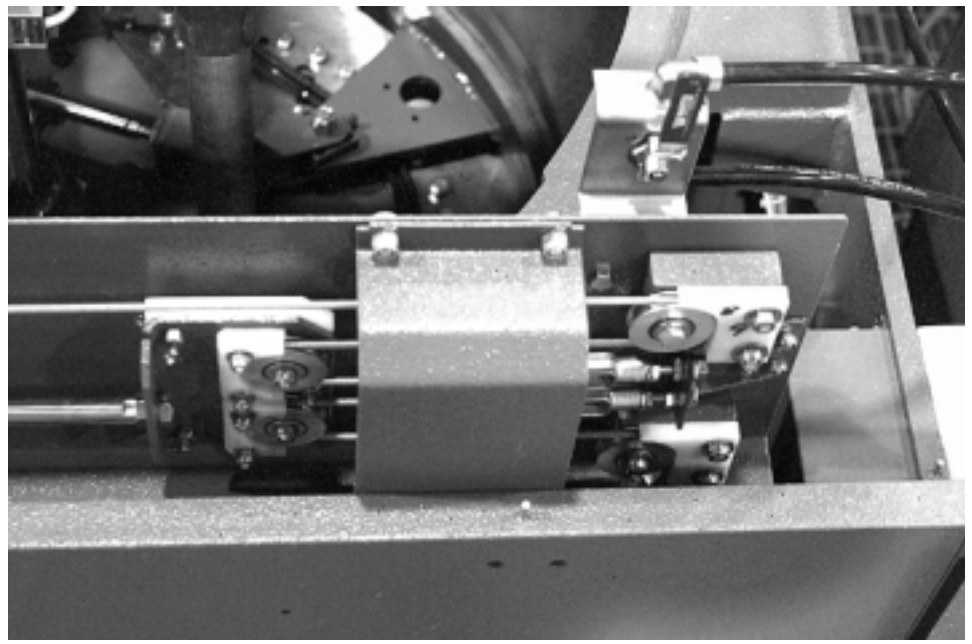


DETAIL F
CABLE ADJUST MOUNT



DETAIL G
AIRCYLINDER FRONT MOUNT AND PULLEY BRACKET



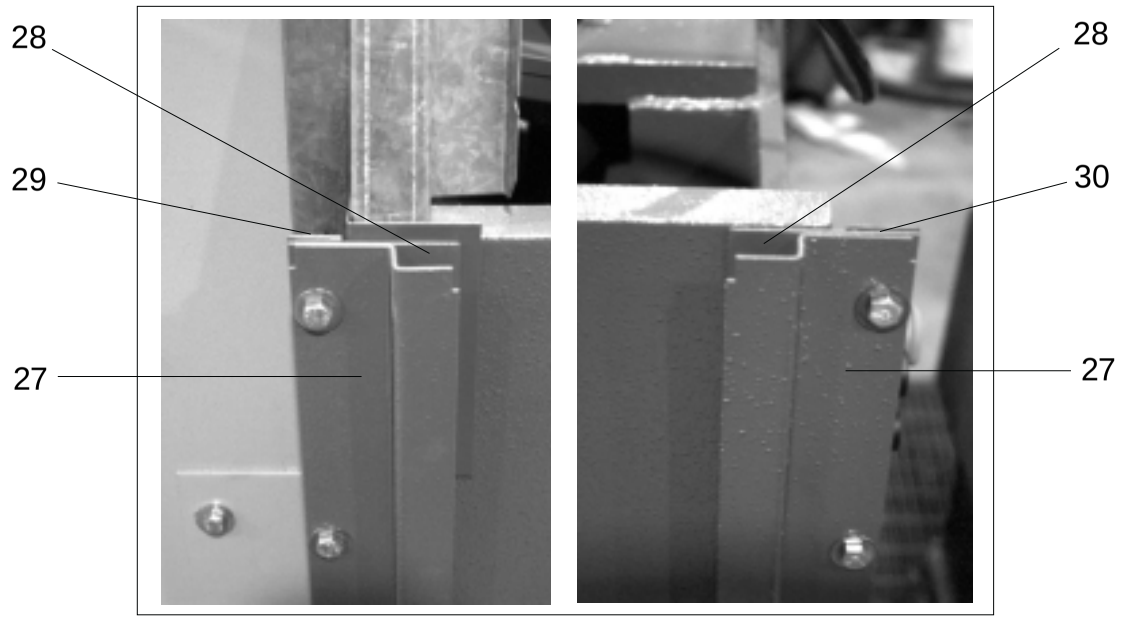


DOOR OPERATING MECHANISM

Press Unload Door
MP2501, MP2601, MP2606

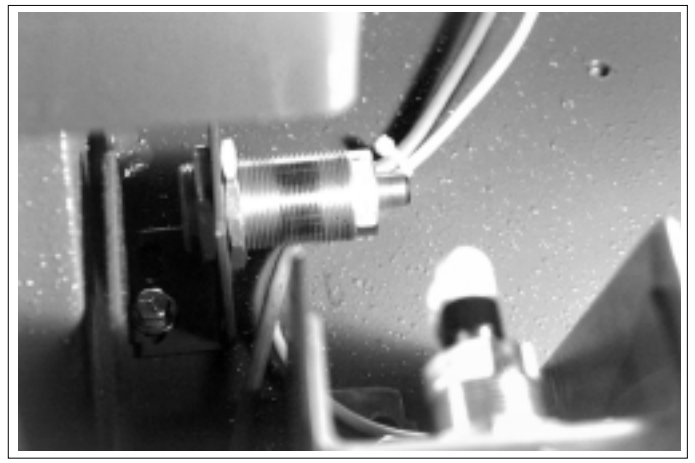
Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400

Litho in U.S.A.

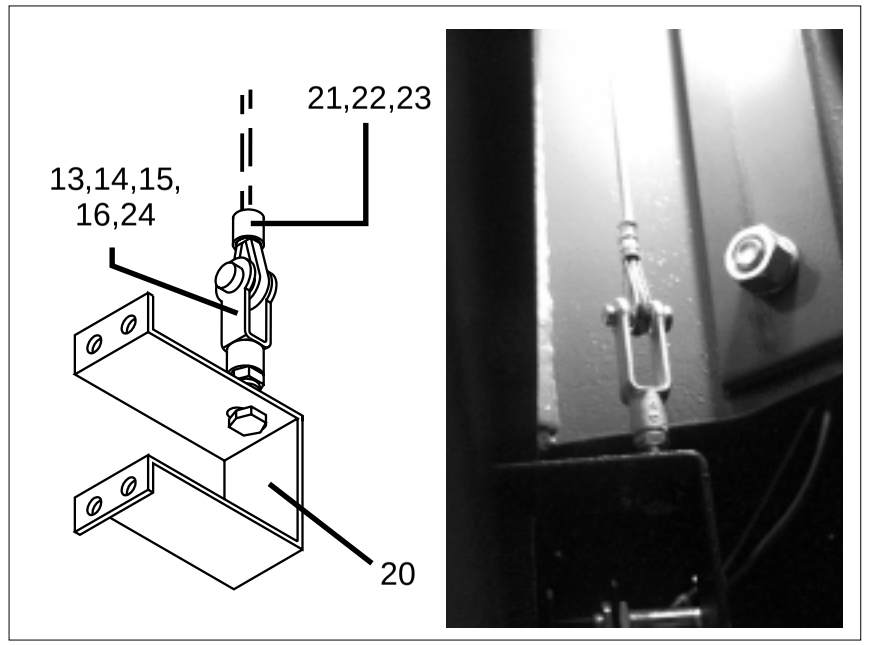


DETAIL C
DOOR TRACKS - LEFT AND RIGHT

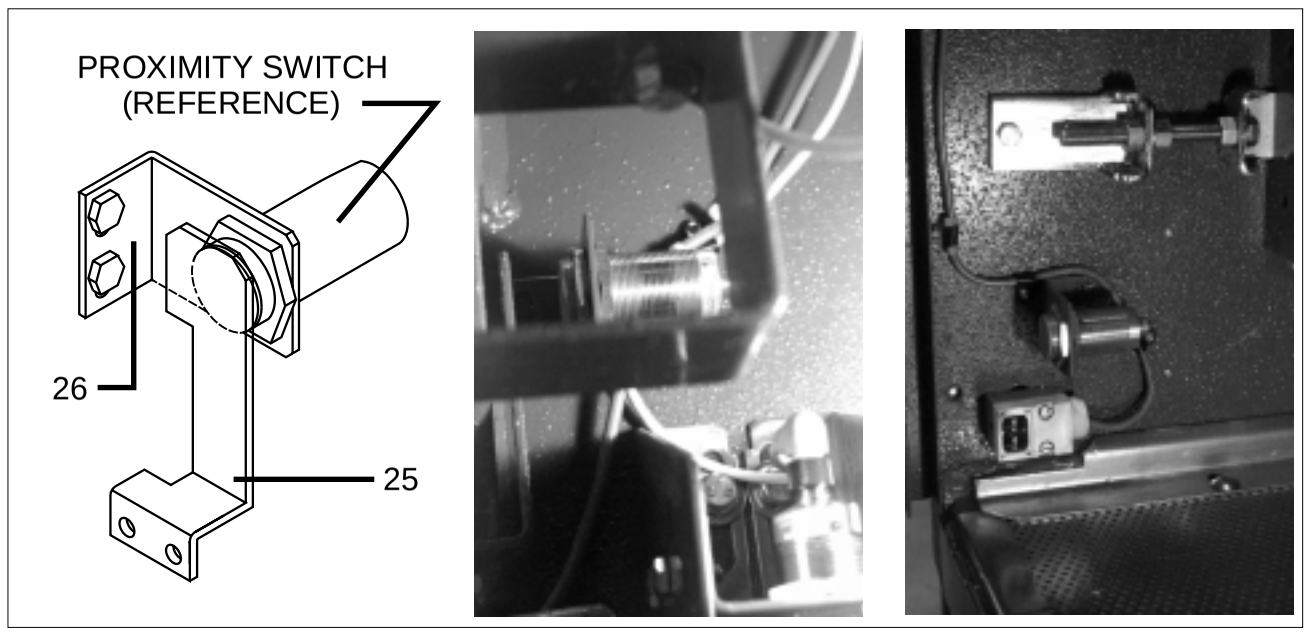
VIEW B
DOOR INSTALLATION



DETAIL I
UPPER DOOR PROXIMITY SWITCH



DETAIL H
DOOR LIFT BRACKET - LEFT SIDE (RIGHT SIDE OPPOSITE)



DETAIL H
DOOR PROXIMITY SWITCH AND TARGET

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

Litho in U.S.A.

Parts List—Press Unload Door

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

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
all	A	A72CG006	95000Z UNLD DOOR ASSY 50 KG PRESS	REFERENCE ONLY
all	B	A73CG005	94000Z UNLOAD DOOR ASSY 60 KG PRESS	REFERENCE ONLY
all	C	A72AC002	95000Z UNLD DOOR ACYL ASSY 50KG PRES	REFERENCE ONLY
all	D	A73AC001	95000Z UNLD DOOR ACYL ASSY 60KG PRES	REFERENCE ONLY
			----------COMPONENTS----------	
A	1A	07 30144	95063D UNLD DOOR-50 KG PRESS	50KG ONLY
B	1B	07 30120	94527D UNLOAD DOOR PRESS 60K	60KG ONLY
C	2A	27C216	01Z AIR CYL 2"BORE X 10"STROKE	50KG ONLY
D	2B	27C218	01Z AIR CYL. 2"BORE X 13"STROKE	60KG ONLY
all	3	07 30129	94527C AIRCYLINDER MNT PLT SUP BRKT	
all	4	27A964	CABLE #3126-G-N-6 *	
all	5	07 30128	94527C UNLOAD DOOR ROD END BRKT	
all	6	07 30128A	95253B UHMW SPACER-ROD END BRKT	
all	7	07 40937	94272B UHMW PULLEY GUIDE AIRCYL	
all	8	27A965	PULLEY-ZC.PLATED-CPS650	
all	9	07 30127	94527B UNLOAD DOOR AIRCYL MNT FRNT	
all	10	07 30140	94527B UNLOAD DOOR PULLEY SPACER	
all	11	07 40935A	94517# UHMW PULLEY CABLE GUIDE PRES	
all	12	07 30125	94527B UNLOAD DOOR AIRCYL REAR MNT	
all	13	17A010	ADJ CLEVIS MACHINED 3/8-16 ZNC PLT	
all	14	17A030	CLEVISPIN 3/8"X1+3/32"DRILLED	
all	15	15H040	STDCOTTERPIN 1/8X3/4 ZINCPL	
all	16	15K105	HXCAPSCR 3/8-16UNC2A1.25 GR5 PLATED	
all	17	27A962	THIMBLE #AN100-6	
all	18	27A963	LOOP SLEEVE # 7125-A	
all	19	07 30126	95426B UNLOAD DOOR CABLE ADJUST MNT	
all	20A	07 30130	94527C UNLOAD DOOR LIFT BRKT RT	
all	20B	07 30130A	94527# UNLOAD DOOR LIFT BRKT LFT	
all	21	27A951	1/16" SS WIRE ROPE THIMBLE	
all	22	27A952	01Z 1/16" OVAL SLEEVE S/S	

Parts List, cont.—Press Unload Door (Option)

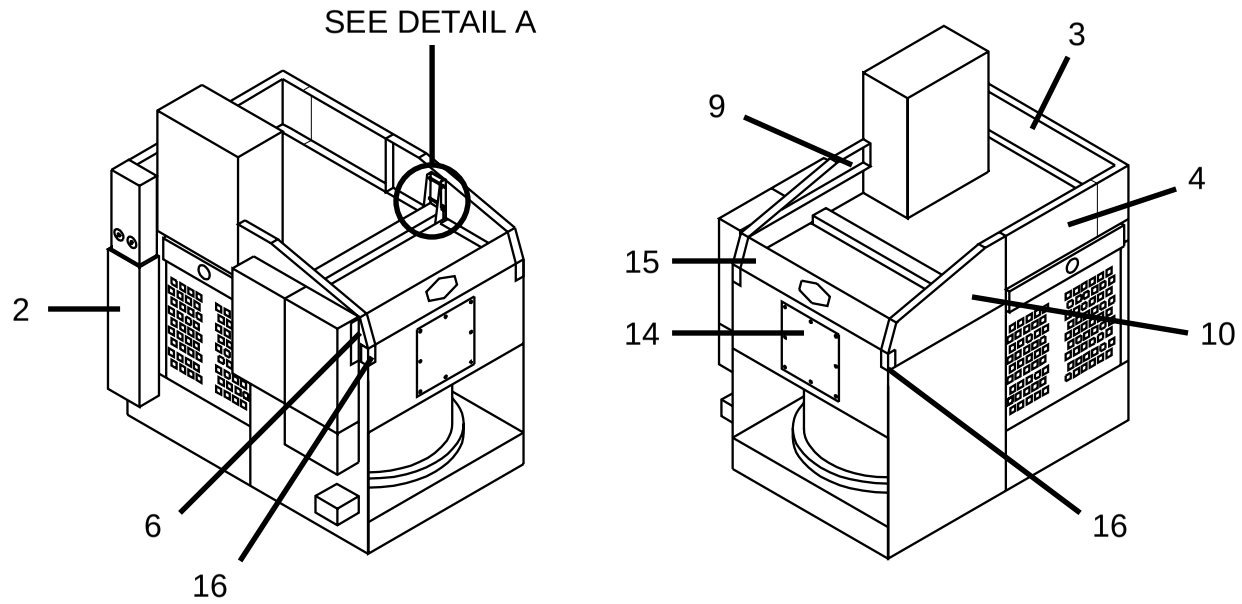
Used In	Item	Part Number	Description	Comments
all	23	27A953	CABLE-AIRCRAFT 1/16SS7X7REDCV *	
all	24	15G205	HXNUT 3/8-16UNC2B ZINC GR2	
all	25A	07 30142	95056B UNLOAD DOOR TARGET PRESS	
all	25B	07 30142A	95056# UNLD DOOR TARGET PRESS-R	
all	26	07 20761	94407B PROX SWITCH BRKT	
A	27A	07 30146	95063D UNLD DOOR OUTSIDE TRACK 50K	50KG ONLY
B	27B	07 30122	94527D UNLOAD DOOR OUTSIDE TRACK 60	60KG ONLY
A	28A	07 30147	95063D UNLD DOOR INSIDE TRACK 50K	50KG ONLY
B	28B	07 30123	94527D UNLOAD DOOR INSIDE TRACK 60	60KG ONLY
A	29A	07 30145	95337C UNLD DOOR MNT LEG 50K-RT	50KG ONLY
B	29B	07 30124	94527D UNLOAD DOOR MNT LEG 60K RT	60KG ONLY
A	30A	07 30145A	95337# UNLD DOOR MNT LEG 50K-L	50KG ONLY
B	30B	07 30124A	94527# UNLOAD DOOR MNT LEG 60K LFT	60KG ONLY

Upguards and Covers 50Kg Press

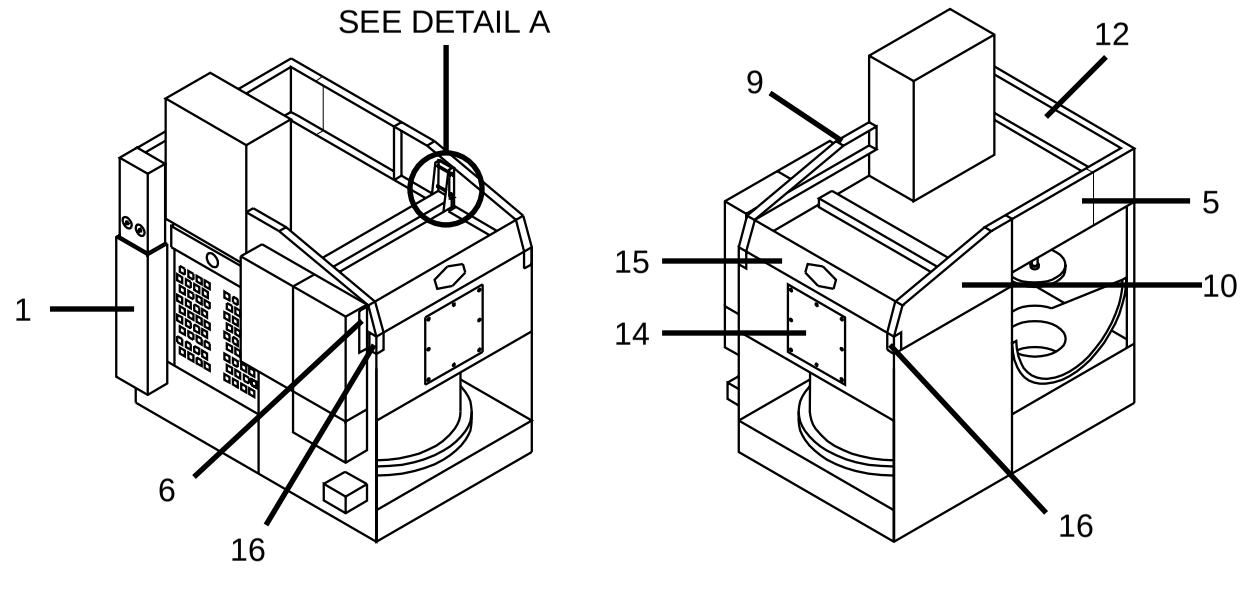
MP2501

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

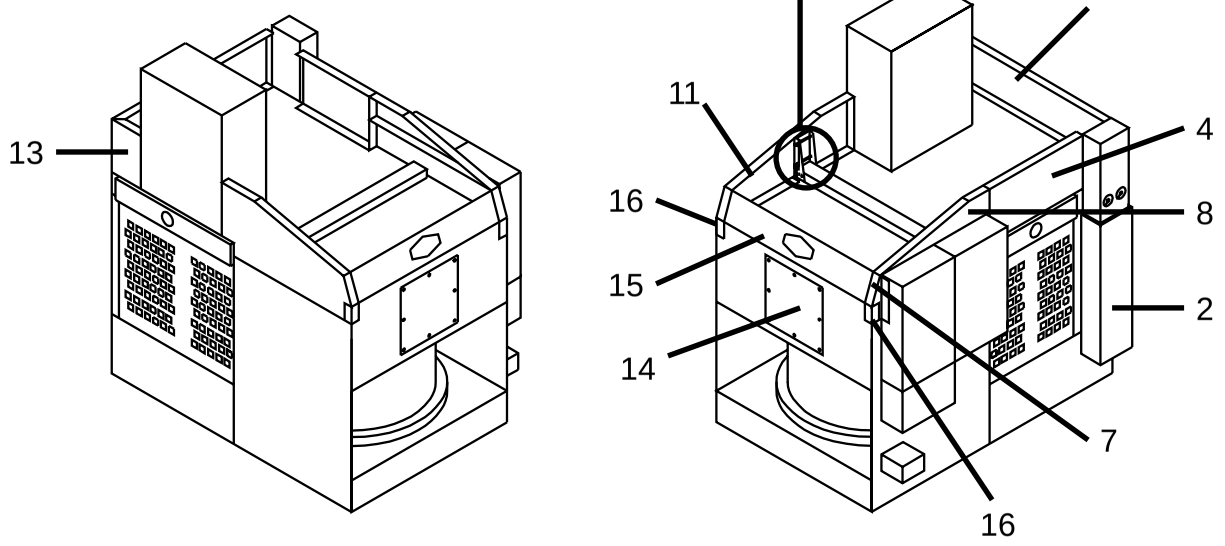
Litho in U.S.A.



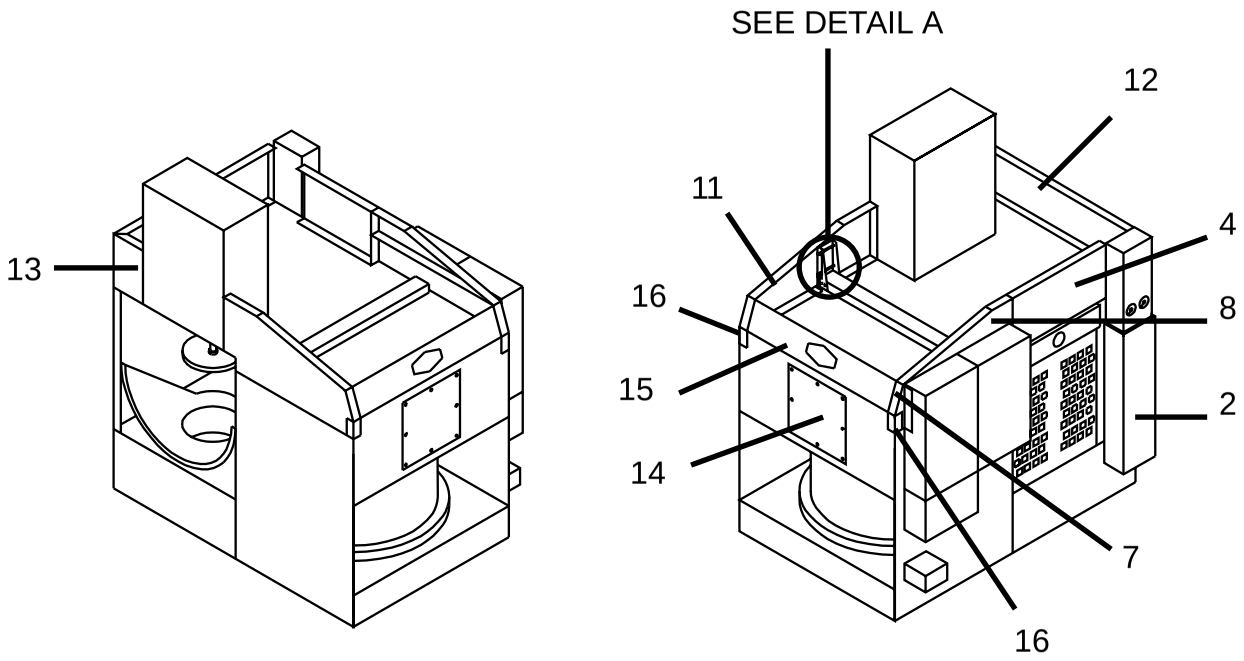
CENTERLOAD ELECTRICS=RIGHT



LEFTLOAD ELECTRICS=RIGHT



CENTERLOAD ELECTRICS=LEFT



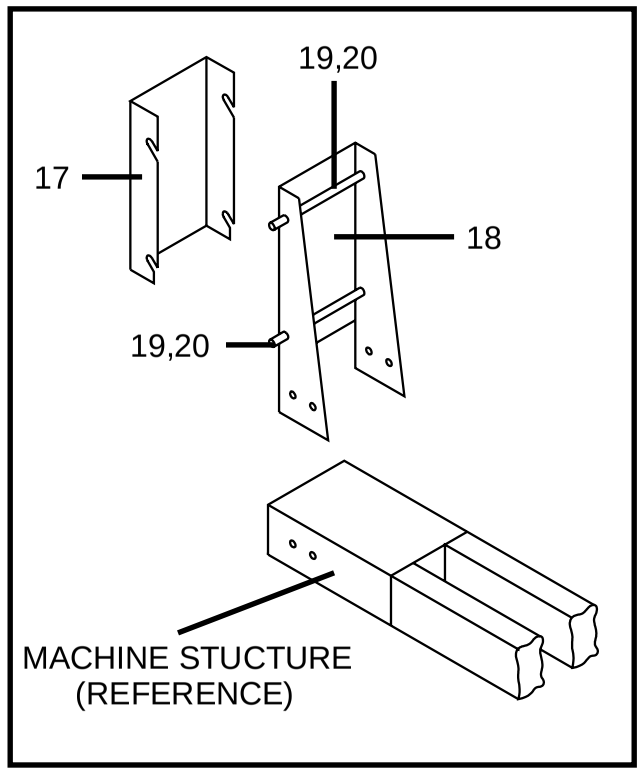
RIGHTLOAD ELECTRICS=LEFT

Upguards and Covers 50 Kg Press

MP2501

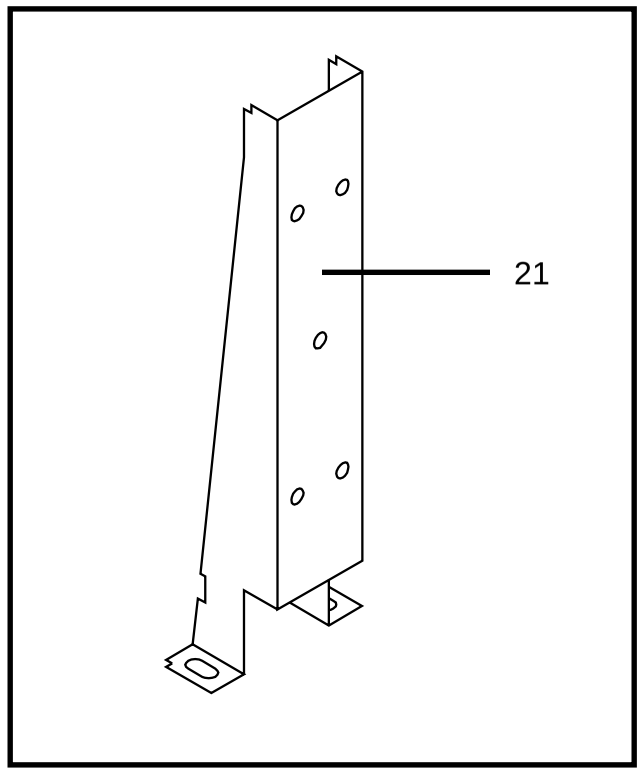
Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400

Litho in U.S.A.



DETAIL A

REMOVEABLE UPGUARD SUPPORT BRACKET



DETAIL B

COSMETIC GUARD SUPPORT BRACKET

Parts List—Upguards and Covers 50Kg Press

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	A72CG001	86000Z UPGUARDS+DOORS CENLOAD E=L	
	B	A72CG002	86000Z UPGUARDS+DOORS CENLOAD E=R	
	C	A72CG003A	20000Z UPGUARDS+DOORS LF LD EXT=ELEC	
	D	A72CG004	86000Z UPGUARDS+DOORS RITELOAD E=L	
			----------COMPONENTS----------	
B,C	1	07 20677	94266D BELT GUARD=SLED MOT RH PRESS	
A,D	2	07 20677L	94266# BELT GUARD=SLED MOT LH PRESS	
B	3	07 20857	94337D PRESS LFT REAR UPGUARD E=R	
A	4	07 20857A	94337D PRESS LFT REAR UPGUARD E=L	
C	5	07 20857B	97311D PRESS GUARD LFLOAD MID E=R	
B,C	6	07 20858R	96177# PRESS RGHT FRNT UPGUARD E=R	
A,D	7	07 20858L	96177D PRESS LEFT FRNT UPGUARD E=L	
A,D	8	07 20859	93346D PRESS LFT FRT UPGUARD E=L	
B,C	9	07 20859A	97322D PRESS RHT FRT UPGUARD E=R	
B,C	10	07 20860B	2002062D PRESS UPGUARDS LF FRNT W/CUT	
A,D	11	07 20860C	2002062D PRESS UPGUARD RT FRNT W/CUT	
C,D	12	07 20861	93486C PRESS CTR REAR UPGUARD E=L	
A	13	07 20861C	92772D REAR RHT GUARD STR LOAD E=L	
all	14	07 20862C	94512C PRESS COVER=LAUNDRY OUT	
all	15	07 20862D	91407D PRESS FRONT UPGUARD	
all	16	07 30059	93197B PRESS UPGRD CORNER SUP 60KG	
all	17	07 20586	86136D BRACKET=SUP.COS.GUARD LEFT	
all	18	07 20589	92281D BRACKET=COS GUARD PANEL SUPT	
all	19	06 20412A	83112B ROD SCREEN SUP FIBERGLASS	
all	20	17N076	01Z PUSH ON CLIP.375 SPING STEEL	
all	21	07 20897	93301C COSM.GUARD MTG BKT.PRESS	

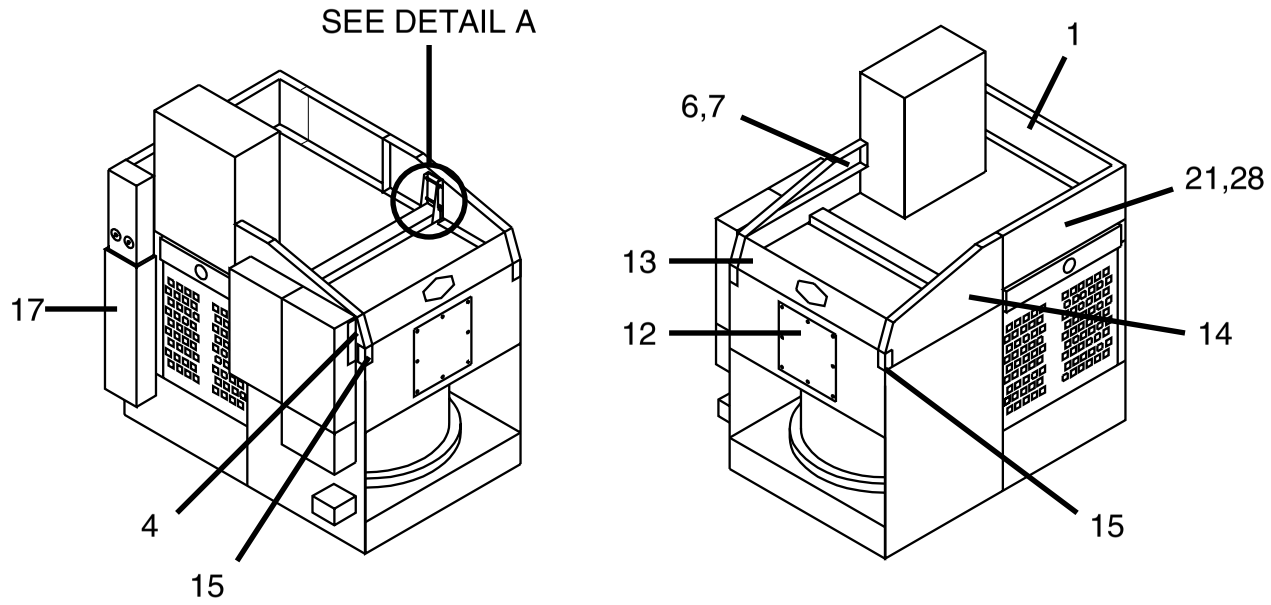
Upguards and Covers 60Kg Press

MP2601, MP2606

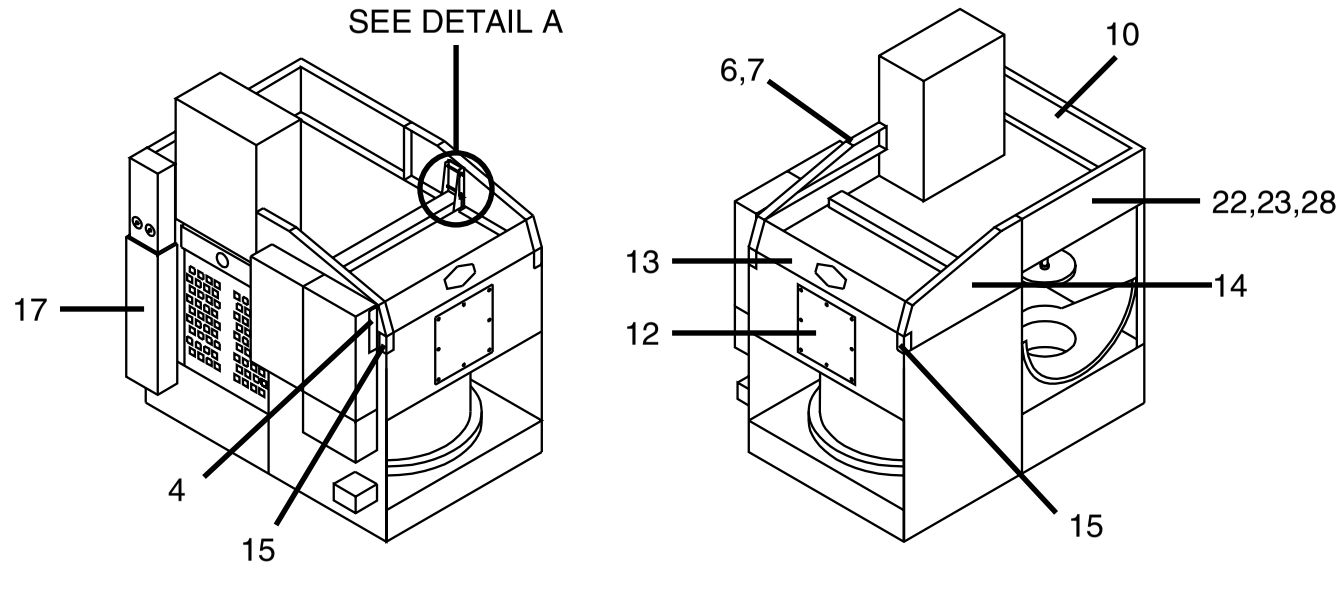
Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400

BMP970079/97501V (1 of 2)

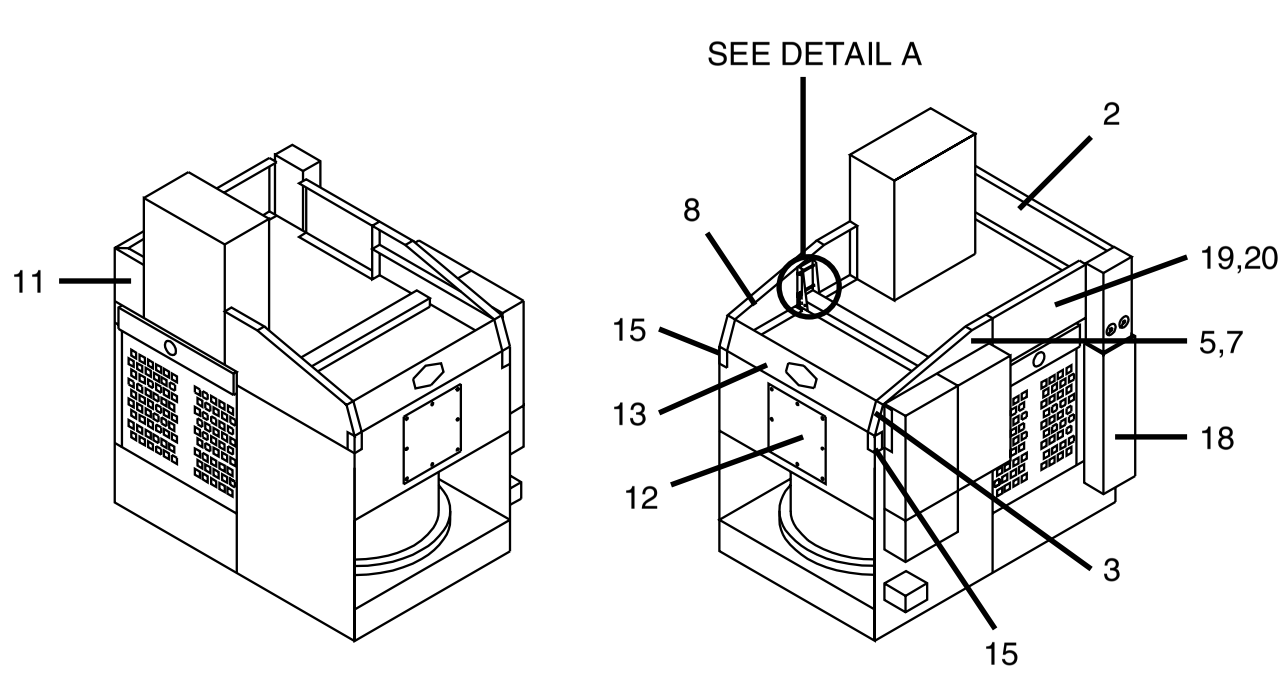
Litho in U.S.A.



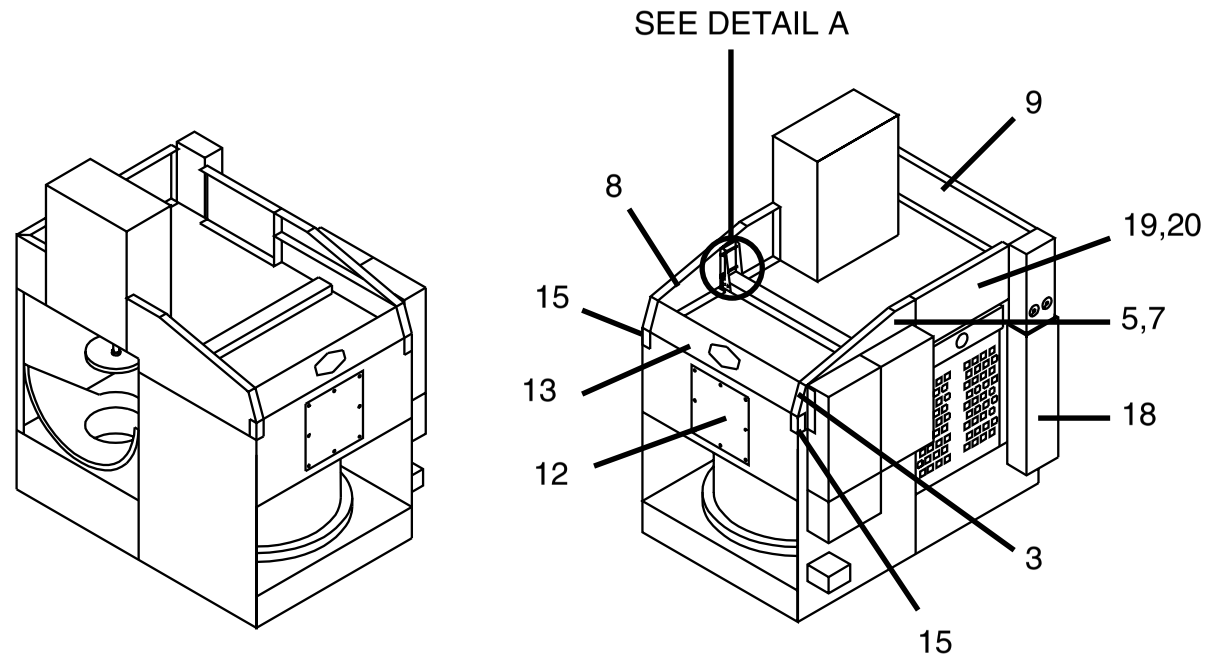
CENTERLOAD ELECTRICS=RIGHT



LEFTLOAD ELECTRICS=RIGHT



CENTERLOAD ELECTRICS=LEFT



RIGHTLOAD ELECTRICS=LEFT

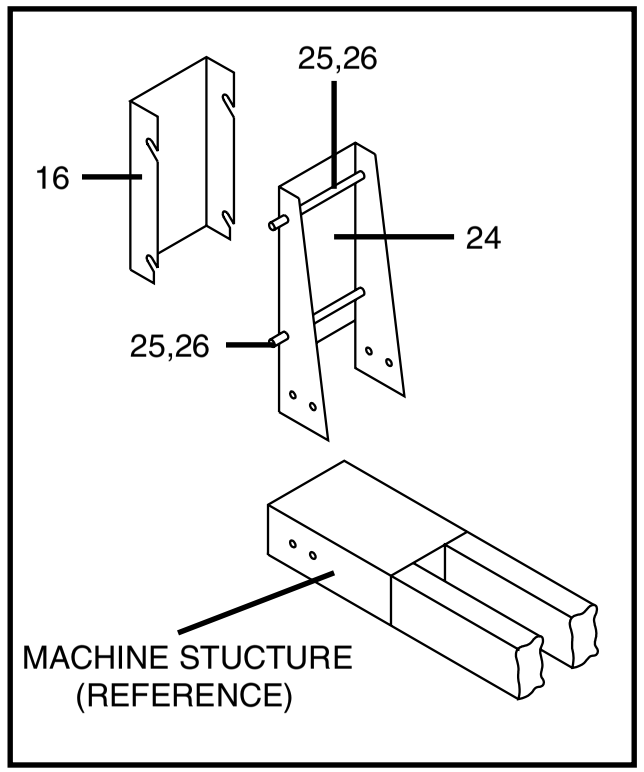
Upguards and Covers 60 Kg Press

MP2601,MP2606

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

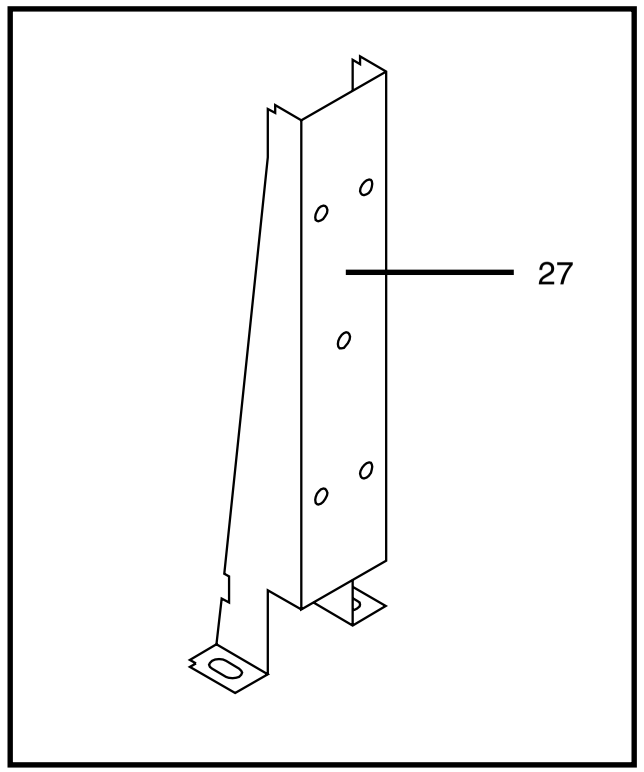
BMP970079/97501V (2 of 2)

Litho in U.S.A.



DETAIL A

REMOVEABLE UPGUARD SUPPORT BRACKET



DETAIL B

COSMETIC GUARD SUPPORT BRACKET

Parts List—Upguards and Covers 60Kg Press

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	A73CG001	93000Z UPGRD+DOORS CTRLOAD E=L 60KG	
	B	A73CG002	93000Z UPGRD+DOORS CTRLOAD=E=R 60KG	
	C	A73CG003	93000Z UPGRD+DOORS LFLOAD E=R 60KG	
	D	A73CG004	93000Z UPGRD+DOORS RTLOAD E=L 60KG	
			----------COMPONENTS----------	
B	1	07 20857	94337D PRESS LFT REAR UPGUARD E=R	
A	2	07 20857A	94337D PRESS LFT REAR UPGUARD E=L	
A,D	3	07 20858L	96177D PRESS LEFT FRNT UPGUARD E=L	
B,C	4	07 20858R	96177# PRESS RGHT FRNT UPGUARD E=R	
A,D	5	07 20859	93346D PRESS LFT FRT UPGUARD E=L	
B,C	6	07 20859A	97322D PRESS RHT FRT UPGUARD E=R	
all	7	07 20859B	97353B PRESS UPGUARD ADAPTER	
A,D	8	07 20860L	97342D PRESS UPGUARD RGHT FRONT E=L	
D	9	07 20861	93486C PRESS CTR REAR UPGUARD E=L	
C	10	07 20861A	93486# PRESS CTR REAR UPGUARD E=R	
A	11	07 20861C	92772D REAR RHT GUARD STR LOAD E=L	
all	12	07 20862C	94512C PRESS COVER=LAUNDRY OUT	
all	13	07 30053	93197D PRESS FRONT UPGUARD 60KG	
B,C	14	07 30055	93197D PRESS UPGUARD LF FRNT 60KG	
all	15	07 30059	93197B PRESS UPGRD CORNER SUP 60KG	
all	16	07 30060	94501C COSM GRD SUPT BRKT 60KG	
A,D	17	07 30062	93197D BELTGUARD COVER RT 60KG	
B,C	18	07 30062A	93197# BELTGUARD COVER LF 60KG	
A,D	19	07 30071	97017D MOTOR/PUMP COVER 60KG	
A,D	20	07 30072	94023C MOTOR PUMP CVR BRKT 60KG	
B	21	07 30090	96051D MOT CVR CENTER LOAD R=E 60K	
C	22	07 30090M	95463D MTR CVR=LFT LOAD E-R BASE	
C	23	07 30090N	95463D MTR CVR=LFT LOAD E-R BOX	
all	24	07 20589	92281D BRACKET=COS GUARD PANEL SUPT	
all	25	06 20412A	83112B ROD SCREEN SUP FIBERGLASS	
all	26	17N076	01Z PUSH ON CLIP.375 SPING STEEL	
all	27	07 20897	93301C COSM.GUARD MTG BKT.PRESS	
all	28	07 30079	93197C PUMP-MOTOR CVR MNT BRKT 60KG	

Proximity Safeguarding for Automatic Shuttle Conveyors

Proximity safeguarding—a means of preventing personnel from entering the path of a machine, such as an industrial robot, that moves within a large area.

1. Applicability

This document—

applies to Milnor® automated laundering systems with shuttle conveyors that move without operator intervention (automatic operation),

does *not* apply to shuttles that require operator input continually, such as directing all shuttle movements (manual operation).

2. References for Proximity Safeguarding

ANSI Z8.1-2016 “American National Standard for Commercial Laundry and Drycleaning Equipment and Operations - Safety Requirements”

OSHA Standard 29 CFR § 1910.212 “General Requirements for All Machines”

OSHA Directive STD 01-12-002 - Pub 8-1.3 “Guidelines for Robotic Safety”

ANSI/RIA R15.06-2012 “American National Standard for Industrial Robots and Robot Systems- Safety Requirements”

ANSI/ASME B15.1-2000 “Safety Standard for Mechanical Power Transmission Apparatus”

OSHA Publication 3067 “Concepts and Techniques of Machine Safeguarding”

ISO 10472-1 “Safety Requirements for Industrial Laundry Machinery”

3. Hazards To Personnel in Proximity to Shuttle Conveyors

Milnor automated laundering systems use automatic shuttle conveyors to transport goods among the processing machines in the system. Depending on model, an automatic shuttle conveyor may move in any of the following ways, in addition to running its conveyor belt(s):

- It may travel along (traverse) a line of machines (typically dryers).
- Its conveyor bed(s) may ascend and descend (elevate) within the machine frame.
- Its conveyor bed(s) may extend and retract within the machine frame.
- The conveyor bed and frame may pivot.
- Wet goods shuttles have a bucket that elevates and tilts.

These motions pose strike, crush, sever, and entrapment hazards to personnel in proximity to the shuttle. **For the safety of personnel, owner/users must provide proximity safeguarding that protects personnel from the moving shuttle.**

A common method of proximity safeguarding is safety fencing with interlocked gates that disable the shuttle when a gate is opened. When a shuttle is disabled, this will eventually cause other machines in the system to hold (wait for action from another machine), but it will not necessarily cause them to immediately stop moving. In the case of a tunnel system, the press or centrifugal extractor can pose additional hazards to personnel in proximity to the equipment. **Hence, the safeguards must also disable any presses or extractors.** Tunnels and dryers do not pose a significant hazard to personnel merely because they are in proximity to the equipment, and need not be automatically disabled.

WARNING 1: Multiple Hazards—Proximity safeguarding provides only partial protection and only against injury resulting from entering the shuttle path. It is not a substitute for proper

lockout/tagout procedures and good safety practices.

- Always lockout/tagout any individual machine (or follow the published maintenance procedures) when performing maintenance or clearing a fault on that machine.
- Ensure that all personnel understand the safeguards and do not attempt to defeat them.
- Inspect safeguards weekly to ensure that they are not mechanically or electrically circumvented.

4. How Milnor Accommodates Proximity Safeguarding

Milnor provides connection points on shuttles, presses and centrifugal extractors for interfacing with devices such as gate interlock switches. These connection points are tagged for easy identification. When Milnor provides equipment layout drawings for an automated laundering system, it indicates on the drawing, the perimeter of the shuttle movement area that must be guarded. The following hazard statement is displayed on connection point tags as well as equipment layout drawings prepared by Milnor:

WARNING 2: Strike, Crush, Sever, and Entrapment Hazards—Serious bodily injury or death can result to personnel in proximity to machinery/systems that traverse, elevate, extend, pivot, and/or tilt. The following mandatory minimum safety requirements must be installed with the machinery system (local codes may require additional precautions):

- Safety fence enclosing machine movement areas,
- Lockable electrical interlocks on all gates, properly interfaced as shown on machine schematics, to disable machine movement when any gate is opened,
- Signs to alert personnel to these hazards, placed prominently around the fenced area.

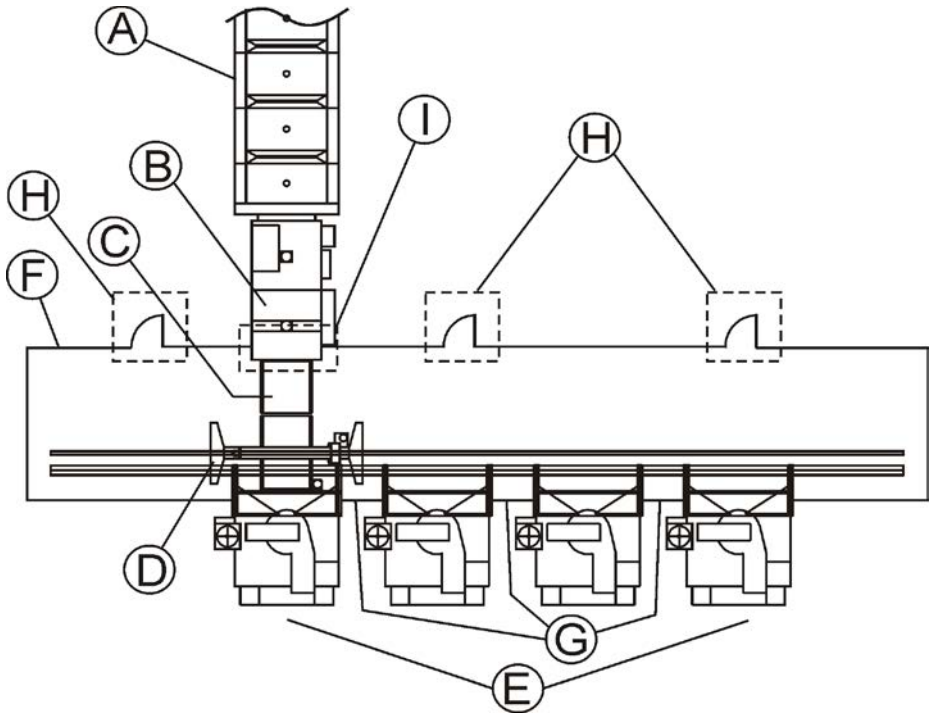
Although the objectives of proximity safeguarding are the same anywhere, design requirements vary with local codes (which occasionally change) and with the plant layout. For this reason, Milnor does not provide detailed designs or materials for proximity safeguarding. If the necessary expertise does not exist within the owner/user's organization, consult appropriate sources such as local engineers or architects specializing in industrial facility design.

5. Examples of Safety Fencing With Interlocked Gates

Fencing with interlocked gates like that depicted in Figure 1 and Figure 2, may be used to meet the proximity safeguarding requirement. Should the owner/user choose this method, the following information may be useful. However, **this information may not satisfy current or local code requirements. The owner/user must determine its suitability for his particular facility.**

Figure 1: Example Fence Layout for Automated Laundering System Where One Tunnel Serves a Bank of Dryers

Plan View of Laundering System

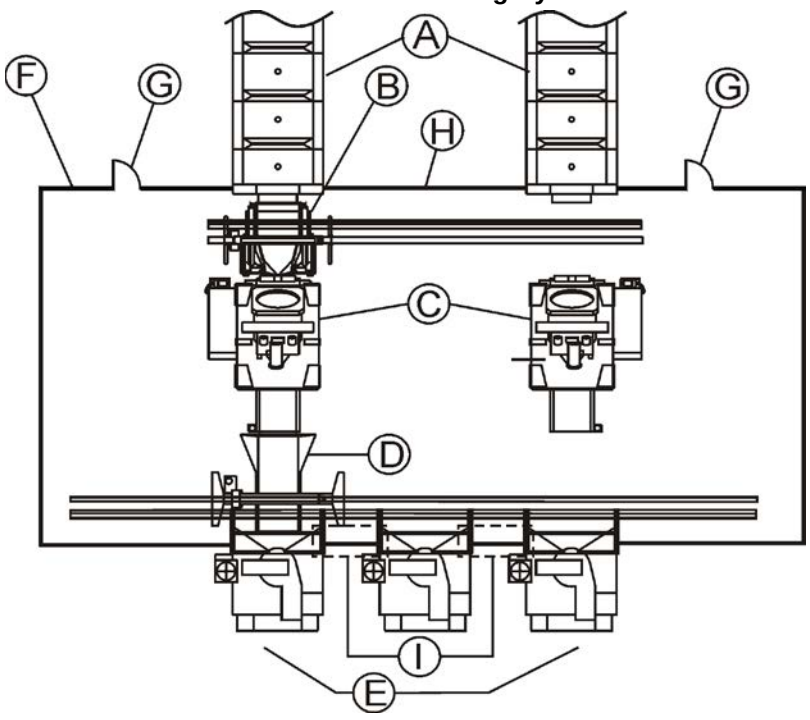


Legend

- **A.** Continuous Batch Washer (tunnel)
- **B.** Press extractor
- **C.** COINC inclined conveyor
- **D.** Traversing and elevating shuttle conveyor for pressed cakes
- **E.** Bank of dryers
- **F.** Fence enclosing path of shuttle
- **G.** Fence segments between dryers
- **H.** Electrically interlocked gates. Gates swing outward at least 90 degrees and swing area is marked on floor. Provide multiple gates for long fence runs.
- **I.** Fence restricts access to unload end of press, but does not obstruct access to press controls.

Figure 2: Example Fence Layout for Automated Laundering System Where Two Tunnels Serve a Bank of Dryers

Plan View of Laundering System



Legend

- **A.** Continuous Batch Washers (tunnels)
- **B.** Traversing and elevating shuttle conveyor for wet goods
- **C.** Centrifugal extractors
- **D.** Traversing and elevating shuttle conveyor for loose goods
- **E.** Bank of dryers
- **F.** Fence enclosing paths of both shuttles and both centrifugal extractors
- **G.** Gates interlocked with both shuttles and both centrifugal extractors.
- **H.** Fence segment between tunnels.
- **I.** Fence segments between dryers.

5.1. Fence Dimensions—The fence must discourage climbing over and prevent crawling under.

5.2. Fence Materials and Setback—The fence must be constructed of materials and located so as to prevent personnel from reaching through gaps in the fence and contacting the enclosed machinery.

5.3. Gates—Personnel gates must be held firmly closed but permit personnel to easily pass through when necessary. Gates must be equipped with a positive latching arrangement to prevent accidental opening. Adequate floor space must be provided to allow the gate to swing at least 90 degrees when fully open. Gates must open outward; that is, away from the fenced perimeter. The floor must be permanently marked to show the gate's swing area, to discourage obstructing its movement.

5.4. Control Circuitry—All gates must be electrically interlocked with any shuttle conveyors within the fenced area and with any presses or centrifugal extractors that the fence either encloses or intersects. Opening any gate must have the following effects:

1. Shuttle(s), press(es), and/or centrifugal extractor(s) stop moving immediately.
2. An audible alarm sounds.
3. Shuttle(s), press(es), and/or centrifugal extractor(s) cannot be restarted merely by closing the gate(s), but must be restarted at the machine control panel once the gate(s) are closed.

Milnor shuttles, presses and centrifugal extractors provide such functionality when properly interfaced with gate interlock switches.

5.5. System Emergency Stop Switches—The laundry must establish rules and procedures that prohibit personnel from remaining within the fenced area with machine(s) enabled, except in accordance with published maintenance procedures. System emergency stop switches (panic buttons) should be provided inside and outside the fenced perimeter. Emergency stop switches should be located so that personnel anywhere inside the fenced perimeter are only a short distance from a switch, and they should be clearly marked as to their locations and function. Connect switches in series with the gate interlocks so that pressing an emergency stop switch performs the same control function as opening a gate.

5.6. Isolating Individual Machine Controls—The interlock circuitry for each machine must be electrically isolated from that of the other machines. Hence, each gate interlock switch must provide as many pairs of dry contacts as there are machines to interface to. A pair of switch contacts must never be shared by two or more machines.

5.7. Recommended Signage—Safety placards should be posted along the fence and at each gate, alerting personnel to the hazards within. At minimum, the size of lettering and distance between placards should be such that anyone contemplating entering the fenced area will likely see and read the placard first. Wording should be provided in each native language spoken by laundry personnel.

— End of BISUUI01 —

Functional Descriptions 2

HOW THE PRESS PUMPING SYSTEM WORKS

Concept of Operation

The Pressing Stages—Extraction is accomplished in two *stages*. The *pre-press tamper* squeezes out the excess water after which the *sled* transfers the goods under the *main bell*. The *sled* then opens its doors and retracts, leaving the goods under the *bell*. Once the sled is *home*, another load of goods may transfer into the *pre-press* starting the *pre-press cycle* anew while the previous load of goods is being extracted in the *main press*.

The *main press* uses pumped water pressure for the extraction process. The pressure is exerted against a rubber diaphragm inside a steel dome. Once the *main bell* is lowered over the goods, three steel *locks* secure the *main bell* whereupon water is pumped between the *dome* and the *diaphragm*, forcing the water out of the goods.

Maintaining the Required Water Temperature—The pumping action heats the water which, after several cycles, may exceed the permissible temperature unless cold water is admitted to maintain an acceptable temperature. The temperature controller on the *press controlbox* regulates the water temperature. The temperature controller has four pointers which function as follows:

- **Black**—indicates the water temperature in the tank.
- **White**—moves the yellow and green pointers.
- **Green**—sets the minimum water temperature set point.
- **Yellow**—sets the maximum allowable water temperature set point.

If the water temperature exceeds the *maximum allowable*, the water temperature light on the control panel illuminates and cold water is admitted until the temperature falls to the *minimum temperature set point*. As cold water is admitted, any excess water flows out through the overflow. There is no minimum allowable temperature.

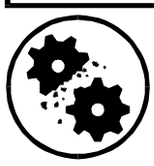
⚠ CAUTION ⚠

PUMP DAMAGE HAZARD—The high pressure pump will be damaged and the pump warranty voided if proper water temperature settings are not maintained. Proper settings are as follows:

- ☞ **Maximum allowable temperature (yellow pointer) - 125°F (52°C).**
- ☞ **The minimum temperature set point (green pointer) merely shuts off the incoming cold water and may be set to any temperature below 125°F (52°C), but always at least 15°F (8°C) higher than the temperature of the incoming cold water. The factory setting is 110°F (43°C).**

How to Check and Adjust Press Pressures

⚠ CAUTION ⚠



MACHINE DESTRUCTION HAZARD—The press frame will be destroyed if press pressure is increased beyond high pressure setting shown in the table. Performance may be degraded if pressure is lowered below factory settings.

The pressure in the hydraulic system is displayed on two gauges—the *Pump Pressure Gauge* (closest to the pre-press end) and the *Main Press Pressure Gauge* (closest to the main press end). Each gauge has a shut-off valve to prevent the gauges from cycling constantly and quickly wearing out.

⚠ CAUTION ⚠

AVOID DAMAGE to the gauges: Keep the shut-off valves closed except when reading the gauges. Close each shut-off valve ONLY WHEN THE GAUGE PRESSURE IS ZERO so that pressure is not trapped in the line thus keeping the gauge pressurized.

Pump Pressure Gauge—This gauge displays the discharge pressure at the pressure pump ahead of the *required* flow restrictor orifice. When the high pressure pump is running the discharge pressure should start at 250-315 PSI (17 to 22 Bar) and slowly rise to 15-45 PSI (1 to 3 Bar) higher than the pressure inside the main bell.

⚠ CAUTION ⚠

PUMP DAMAGE HAZARD—The pressure pump will be destroyed if the orifice is removed or a larger one is substituted (as in a misguided attempt to increase flow rate).

Main Press Pressure Gauge—This gauge displays the pressure *above the diaphragm inside the main bell.* The actual pressure achieved may be adjusted in the field. (On later models, the depicted check valve permits the pressure in the bell to continue to rise beyond the volume pump's capacity without waiting for the *volume pump to main press valve* to close.) The normal factory settings are shown below:

Table of Press Pressures Set at Milnor® Factory (as seen on the Main Press Pressure Gauge)

	Pressure Options Available			
	MP2501xx (50KG) Press and MP2601xx (60KG) Press With ***Optional Lower* Pressure**		**MP2606xx (60KG) Press With *Standard* Pressure**	
Commanded Press Pressure	High Pressure Only or High Plus One Optional Low Pressure	**High Plus Two Optional Low Pressures (Low and Medium)**	**High Pressure Only or High Plus One Optional Low Pressure**	High Plus Two Optional Low Pressures (Low and Medium)
High Pressure	450 PSI (31 Bar)	450 PSI (31 Bar)	522 PSI (36 Bar)	522 PSI (36 Bar)
Medium Pressure	not applicable	290 PSI (20 Bar)	not applicable	290 PSI (20 Bar)
Low Pressure	350 PSI (24 Bar) if applicable	120 PSI (8 Bar)	350 PSI (24 Bar) if applicable	120 PSI (8 Bar)

NOTE: Check pressure gauges if moisture content of goods leaving the press is abnormally high. Check hydraulic system as explained on the next page if the proper pressures are not being attained.

Causes of Low Press Pressure—If full pressure is commanded but the press fails to achieve full pressure, possible causes are:

1. A failure of one of the following valves to close fully:
    - *suction to main press valve*
    - *volume pump to main press valve*
    - *high pressure bypass valve,*
2. *Pressure relief valve for setting high pressure* not adjusted correctly or in need of replacement,
3. *Press pump suction strainer* blocked and in need of cleaning, or
4. *Press pump* in need of repair or replacement.

Adjusting Press Pressure—Adjust the actual pressure achieved by means of the *pressure relief valve(s)* (one for each selectable pressure), located in the upper press water tank.

⚠ WARNING ⚠

CRUSH HAZARD—Moving components such as air cylinders in the vicinity of the pressure relief valves can crush body parts caught in them.

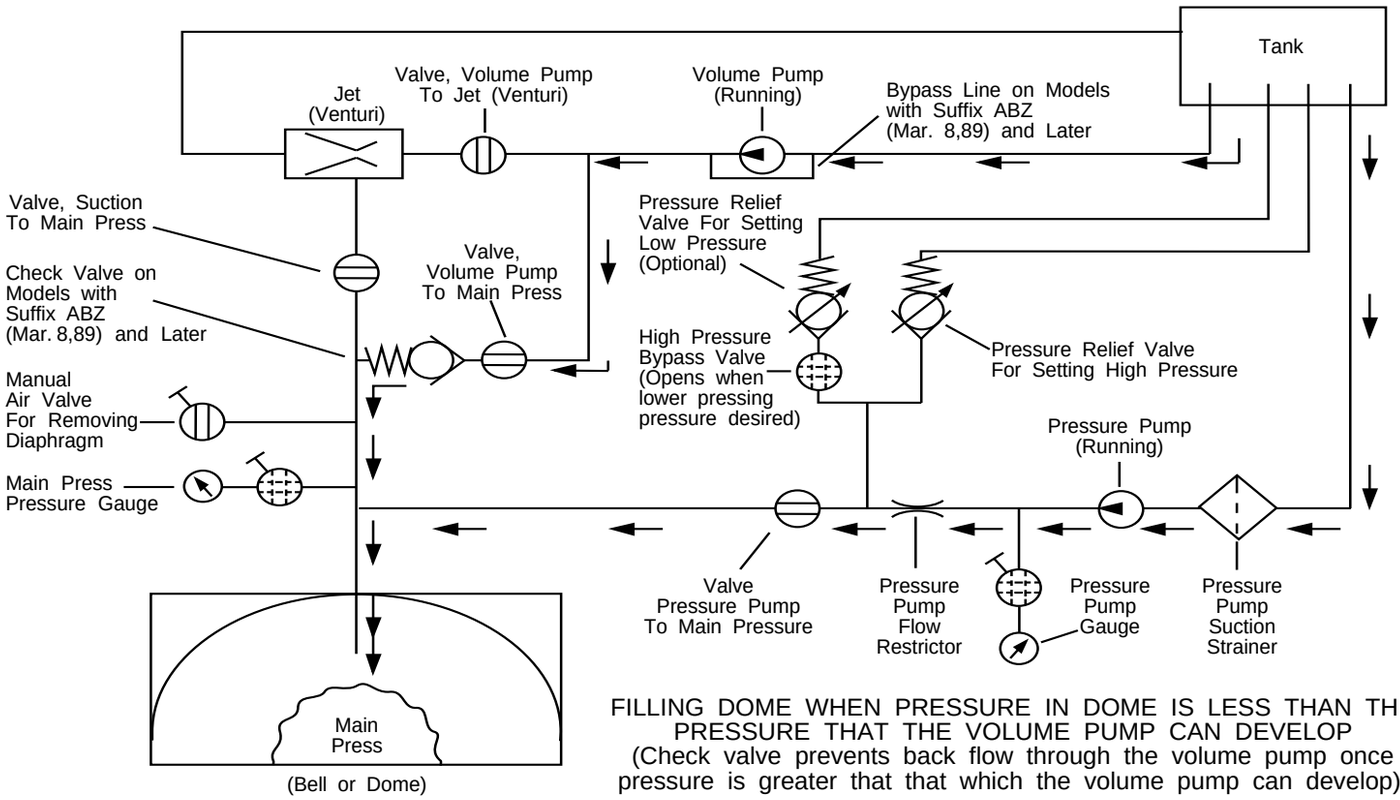
☞ **Only qualified maintenance personnel, familiar with press operation should make pressure adjustments.**

Phases of the Second Stage of the Pressing Cycle

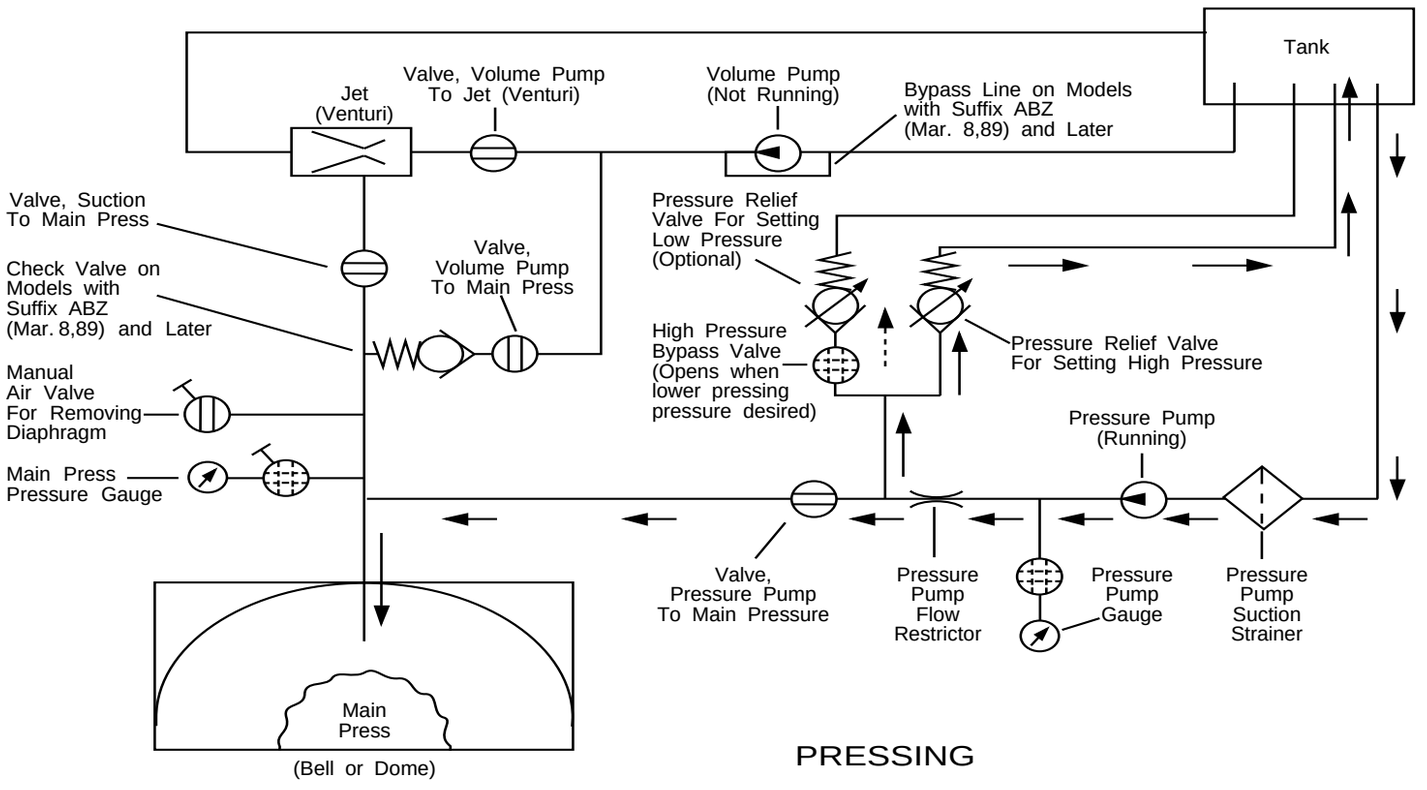
Two pumps are used in the second stage of the pressing cycle—the *volume pump* and the *pressure pump*. These two water pumps operate in a precise sequence to rapidly fill then pressurize the *dome* to one of the pressures explained in "Main Press Pressure Gauge" in this section, as commanded. At the end of the second stage, a *venturi* powered by the *volume pump* sucks the water from the *dome*, returning it to the *reservoir tank*.

The following are the phases of operation of the second stage—*main press*. See the hydraulic schematics depicting each of the phases of operation in this section:

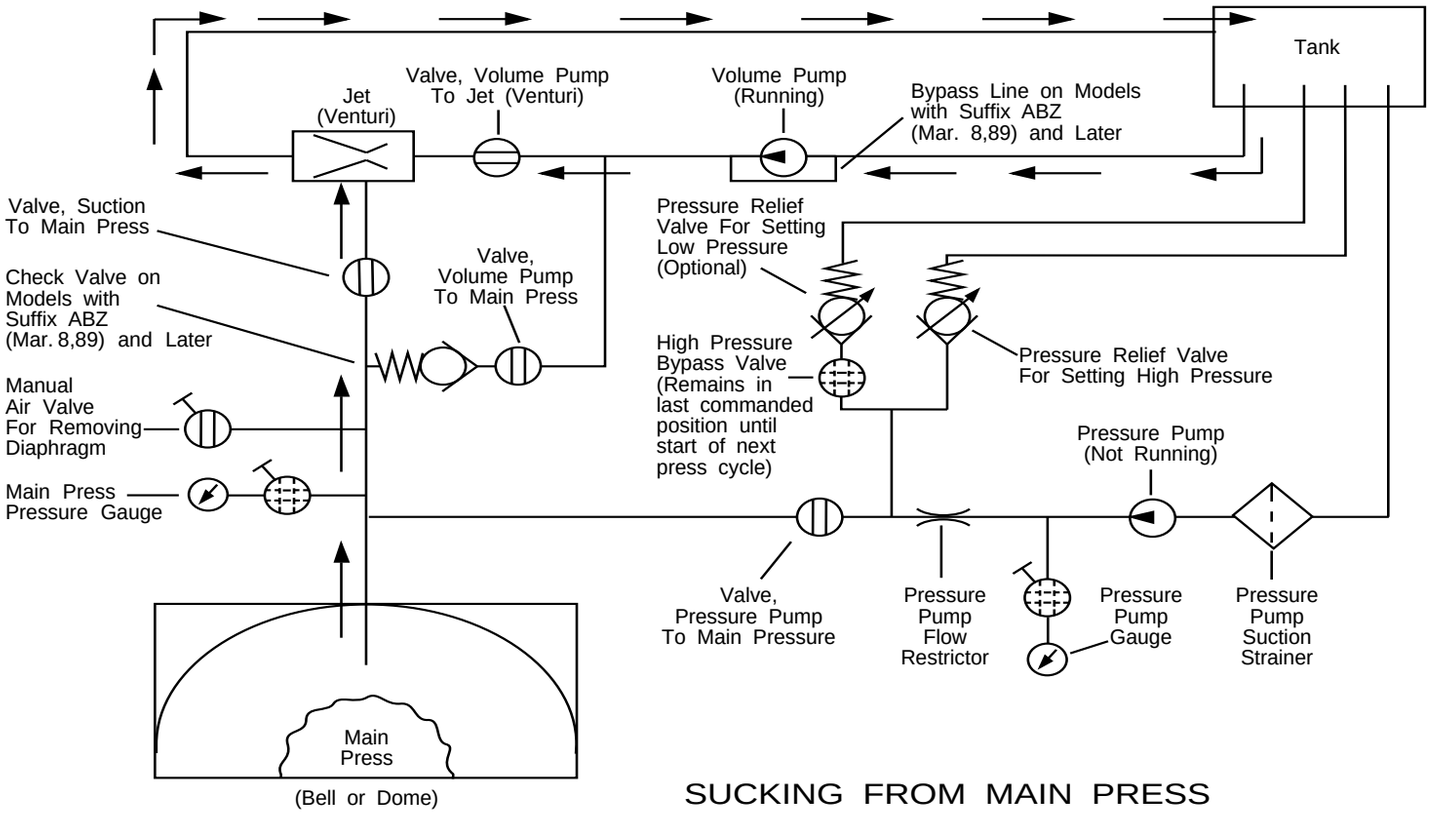
1. **Filling Dome**—Volume pump and pressure pumps running; valves set so that water transfers from reservoir tank to dome through both pumps. For presses *without* check valves, the maximum pressure achievable during this phase (approximately 100 PSI or 6.8 Bar) is limited to the capacity of the volume pump. For presses *with* check valves, once the pressure rises to the maximum available from the volume pump, the check valve closes and the pressure pump continues to raise the pressure bell.
2. **Pressing**—Volume pump off and isolated by closed valves; pressure pump running; valves set so that water transfers from reservoir tank to dome through pressure pump; high pressure bypass valve closed for high pressure or open for low pressure as commanded.
3. **Sucking from Main Press**—Pressure pump off and isolated by closed valves; volume pump on; valves set for water flow through venturi to create suction and for transferring water from dome to reservoir tank through venturi.
4. **Bell Up and Diaphragm Sucked Up for Commanded Max Time**—Both pumps off; all lines to dome closed.
5. **Night Shutdown**—Both pumps off; all lines to dome closed, bell down and locked.



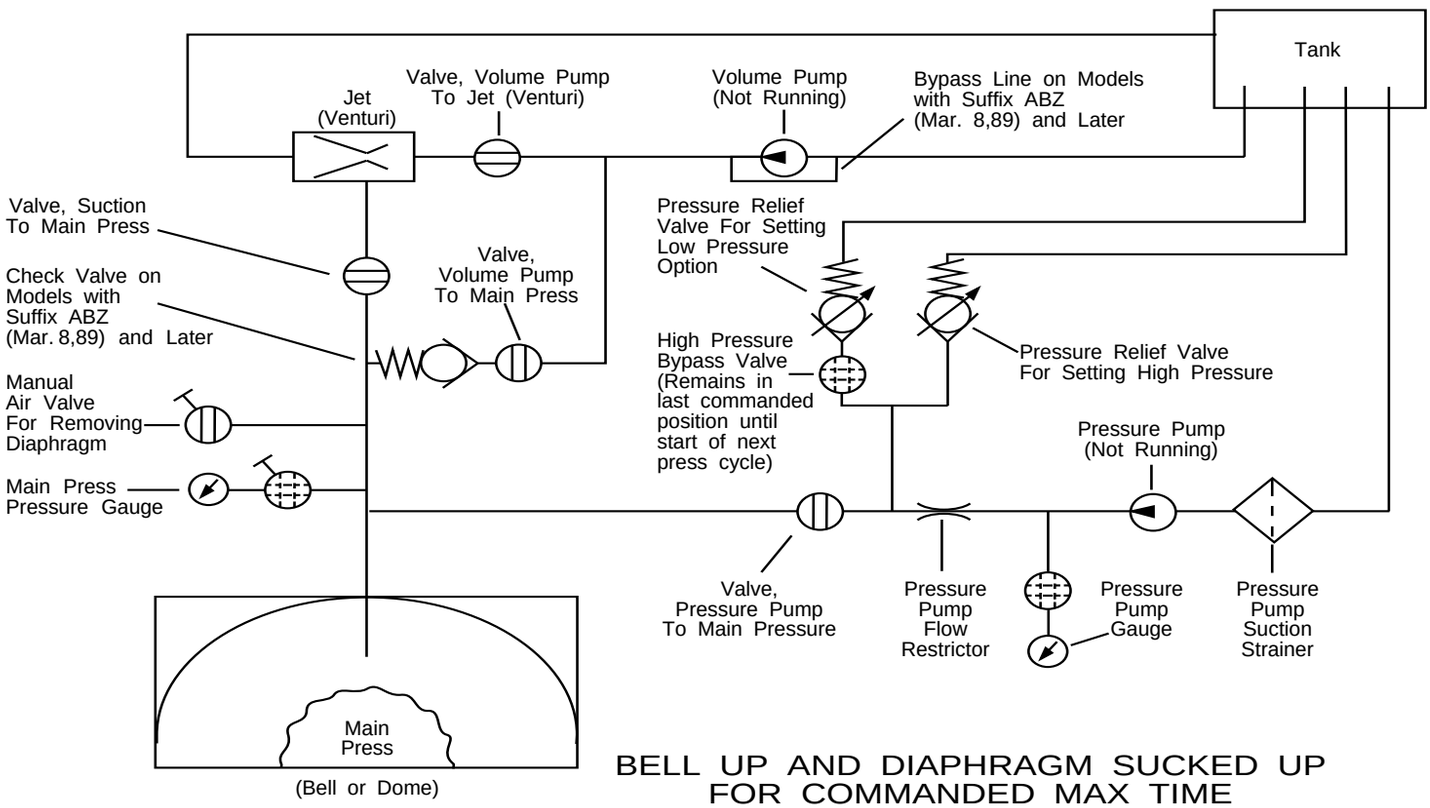
FILLING DOME WHEN PRESSURE IN DOME IS LESS THAN THE PRESSURE THAT THE VOLUME PUMP CAN DEVELOP
(Check valve prevents back flow through the volume pump once pressure is greater that that which the volume pump can develop).



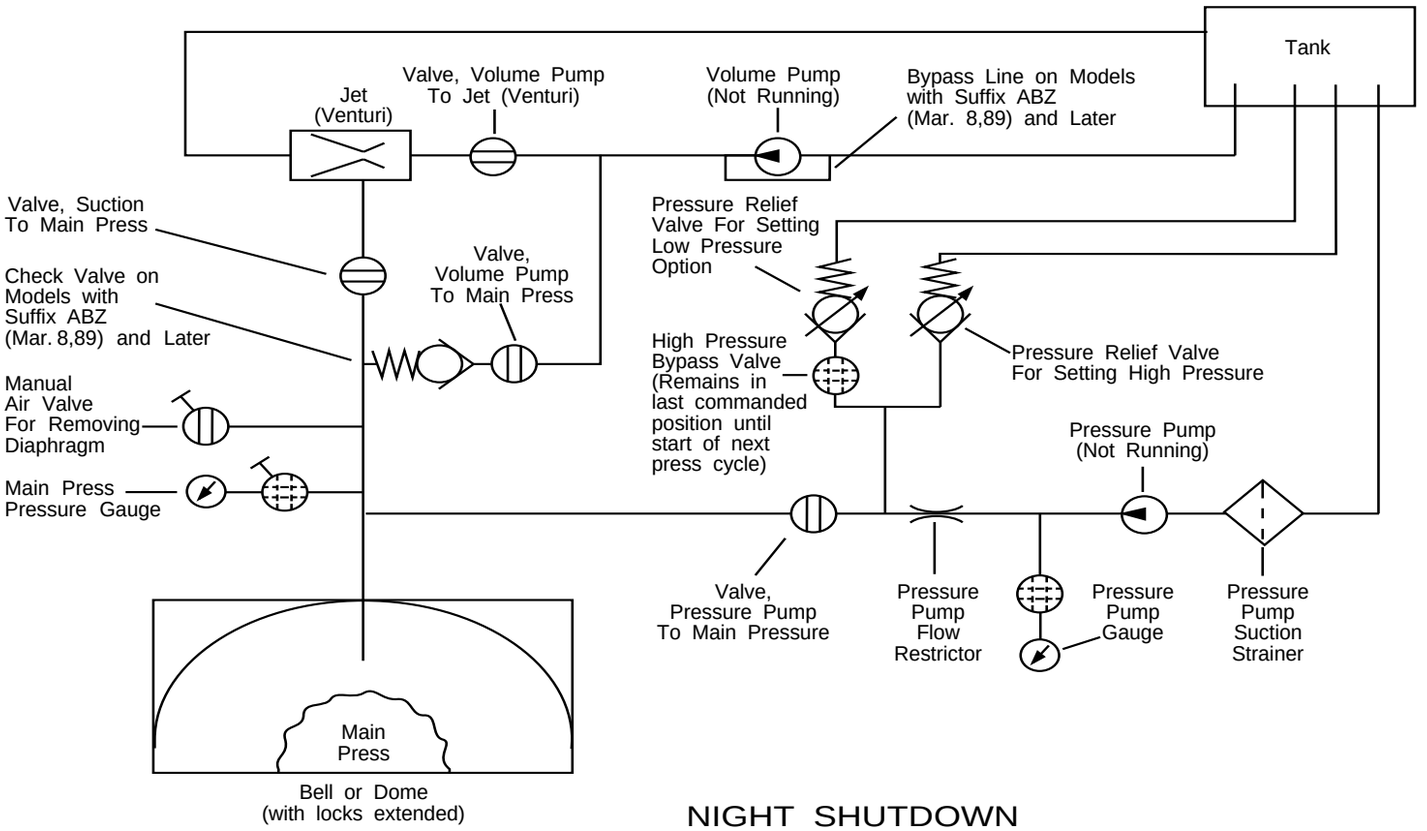
PRESSING



SUCKING FROM MAIN PRESS



BELL UP AND DIAPHRAGM SUCKED UP
FOR COMMANDED MAX TIME



NIGHT SHUTDOWN

BIPP2M01 (Published) Book specs- Dates: 20020927 / 20020927 / 20020927 Lang: ENG01 Applic: PP2

How the Press Pneumatic Circuits Work

The press contains several different types of air actuated mechanisms (listed below). The following mechanisms are grouped by the similarity of the actuation circuit.

- Sled doors/Down locks
- Up locks/Air operated water valves
- Pre-press tamper
- Second stage (main press) bell travel

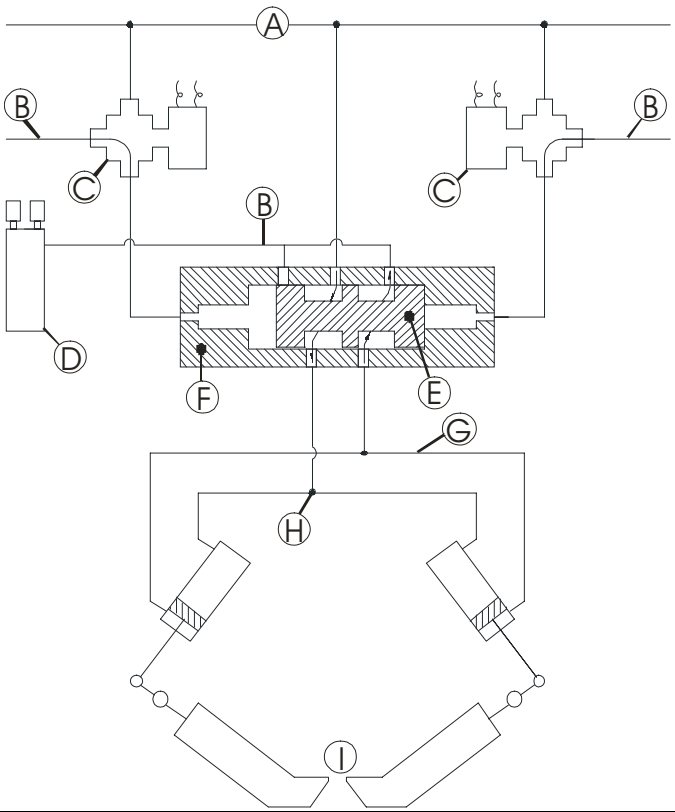
1. Sled Doors and Down Locks

The sled door and down lock circuits function in the same way. The pneumatic schematics for these circuits are shown in Figure 1 and Figure 2.

Whenever the pilot valve energizes, it moves the sliding spool from one side of the shuttle valve to the other, directing line air pressure through the valve to either open or close the device (i.e., sled door or down locks). After the pilot valve de-energizes, line air pressure continues flowing through the shuttle valve to hold the device firmly in position.

Figure 1: Sled Doors Circuit

Sled door schematic

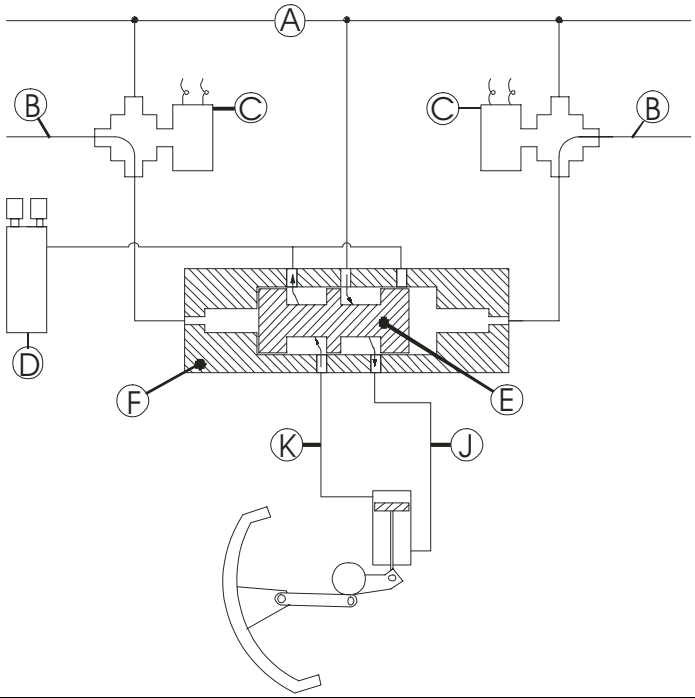


Legend

A. Main air
B. Exhaust air
C. Air operated normally-closed pilot valve
D. Accumulator
E. Sliding spool
F. Air operated shuttle valve
G. Sled door open circuit
H. Sled door closed circuit
I. Closed sled door

Figure 2: Down Locks Circuit

Down lock schematic



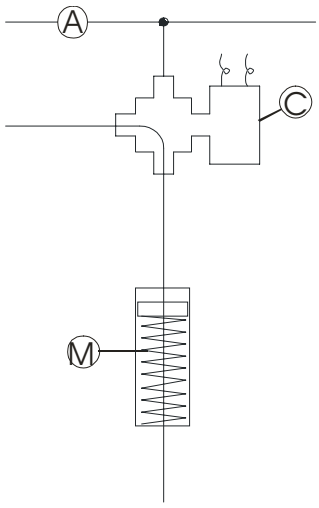
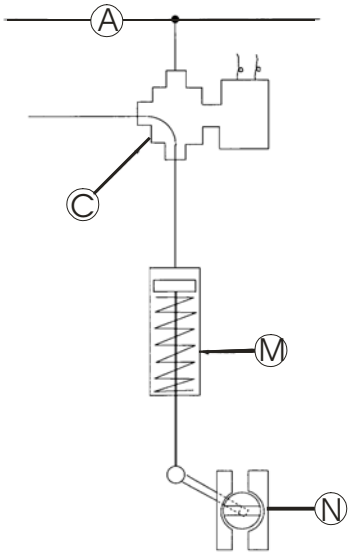
Legend

A. Main air
B. Exhaust air
C. Air operated normally closed pilot valve
D. Accumulator
E. Sliding spool
F. Air operated shuttle valve
J. Release down lock circuit
K. Extend down lock circuit

2. Up Locks and Water Valves

The pneumatic actuators for these devices function identically. The up locks are held in the locked position and normally closed water valves are held closed by spring loaded air cylinders (as shown in Figure 3 and Figure 4). When the pilot valve is energized, the air cylinder moves to the opposite position, opening the device (i.e.: locks or water valves). When the pilot valve is de-energized, the air cylinder's internal spring returns the air cylinder to the off position, locking the up locks and closing the water valves.

Figure 3: Up Locks Circuit and Water Valves Circuit

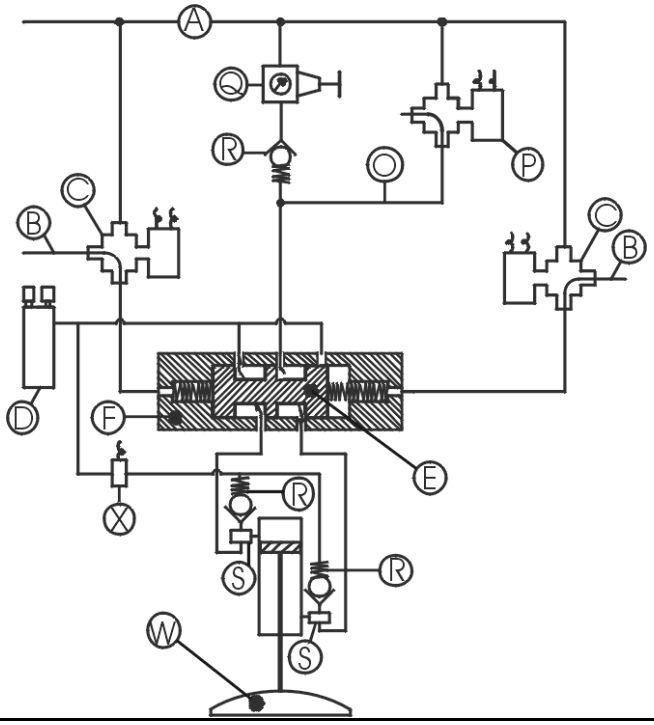
Up Locks (normally retracted)	Water Valves (normally closed)	Legend
		**A.** Main air **C.** Air operated normally closed pilot valve **M.** Spring **N.** Normally closed ball valve

3. Pre-Press Tamper

The pre-press tamper uses an air cylinder to apply initial extraction pressure to the goods. Tamper air cylinder pressure is limited by a pressure regulator (set to 35 psi) during the two-thirds of the down stroke. Referring to Figure 4, once the tamper passes the two-thirds down switch on the down stroke, the pressure regulator is bypassed and full line pressure is applied to the goods via air valve (P). This prevents the tamper from being damaged on the down stroke by goods caught on the top edge of the pre-press basket. If any emergency stop switch is pushed while the tamper is in motion, the emergency quick release valves and a emergency stop solenoid (X) combine to immediately stop the tamper and lock it in place until the press is restarted.

Figure 4: Pre-Press Tamper Circuit

Tamper Schematic



Legend

A. Main air
B. Exhaust air
C. Air operated normally closed pilot valve
D. Accumulator
E. Sliding spool
F. Air operated shuttle valve
O. High pressure air line
P. Tamper two-thirds down air valve (normally closed)
Q. Pressure regulator (35 psi - 2.4 atu)
R. Check valve
S. Emergency stop quick release valve
X. Emergency stop solenoid

4. Main Press Bell Travel Circuit

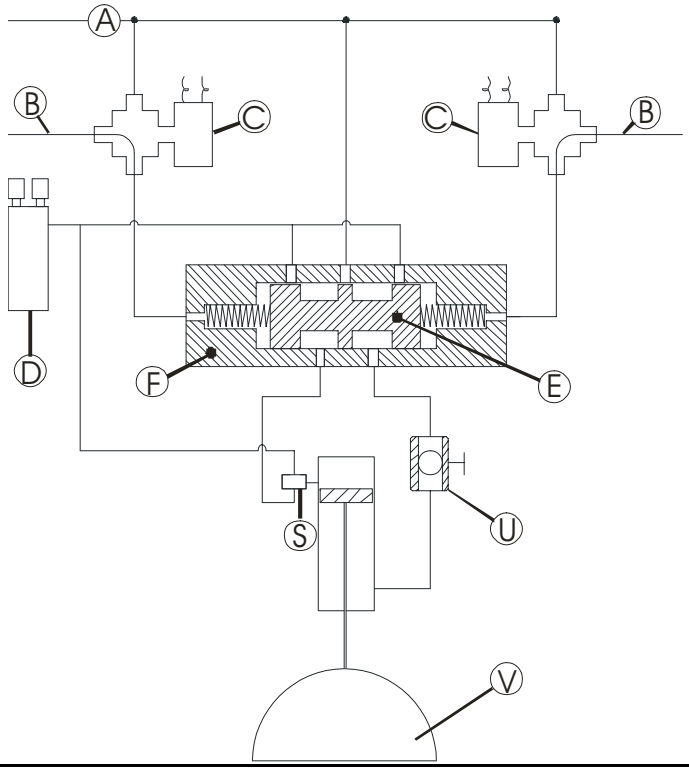
The air cylinder on the main press bell raises and lowers the bell, but does not apply pressure to the goods. Referring to Figure 5, energizing the up (or down) pilot valve raises (or lowers) the bell. When the pilot valve is de-energized, the spring loaded center off shuttle valve returns to the off position, shutting air off to the air cylinder and holding the bell in a middle position.

WARNING 1: The main bell will crush your body or limbs if it descends while you are under it. The tamper can crush or entrap you if it descends while you are under it. Bell and tamper can descend with power off or on.—The weight of the bell may cause it to drift downward if stopped in mid travel. This must be compensated for by using the manual "Bell Up Throttling Valve" (see "PRESS DIAPHRAGM REPLACEMENT").

- Secure both red safety stands in accordance with the instructions furnished, then lock out and tag out power at the main machine disconnect before working under the bell.

Figure 5: Main Press Bell Travel Circuit

Bell Schematic



Legend

A. Main air
B. Exhaust air
C. Air operated normally open pilot valve
D. Accumulator
E. Sliding spool
F. Air operated shuttle valve
S. Quick release valve
U. Bell-up throttling valve
V. Bell

— End of BIPP2M01 —

Service and Maintenance 3

LUBRICATION/PREVENTIVE MAINTENANCE FOR MEMBRANE PRESS

Lubrication Precautions

To achieve the optimum performance and service life from your Milnor® press and as a warranty requirement, your machine must be lubricated in strict accordance with the "Preventive Maintenance Checklist" in this section and these precautions:

1. Whenever applying grease—especially when greasing bearings—pump grease in slowly, not faster than five strokes per minute. Work grease gun lever slowly, taking 10 to 12 seconds to complete each stroke of the lever. A grease gun pumped too quickly can build up extremely high pressures which can damage bearing components.
2. Apply the quantity of grease called for in the checklist. Over lubrication can be as damaging as under lubrication. Where quantities are stated in strokes, one stroke of the grease gun is assumed to provide .0624 fluid ounces (by volume) of grease. Therefore, one fluid ounce of grease would be provided by 16 strokes of the grease gun. Determine the flow rate of your grease gun by pumping one ounce into a calibrated container. If fewer than 16 strokes are required, all quantities in strokes in the chart should be reduced accordingly. If more than 16 strokes are required, the number of strokes should be increased. Before starting lubrication, make sure your grease gun is working and that you get a full charge of grease with every stroke.
3. **Perform all lubrication with power to the machine locked *off*.**

Lubricant Specifications

Lubricants used on the press must adhere to the following specifications:

Table of Lubricant Specifications

Components	Lubricant
Ball joints, dome down lock bearing, sled drive shaft bearings	Shell Alvania EP-LF NLGI grade 2 or equivalent lithium base grease
Sled door hinge	
Motor bearings	
Gear reducer	Shell Rotella 10W30 or equivalent to SAE 20W (ISO 68) crankcase oil
Sled door pivot points and chain	Rocol White Chain and Drive Spray or equivalent
Air line oiler	Shell Tellus 23 or equivalent to SAE 5W (ISO 23)

Preventive Maintenance

⚠ DANGER ⚠

Descending main press bell will crush anyone under it. Bell can descend even with power off.

- ☞ **Never crawl or reach under the main press bell for maintenance unless press safety stands are in place and power to the press is locked off and tagged out.**
- ☞ **Do not "bump" safety stands out of place during maintenance.**

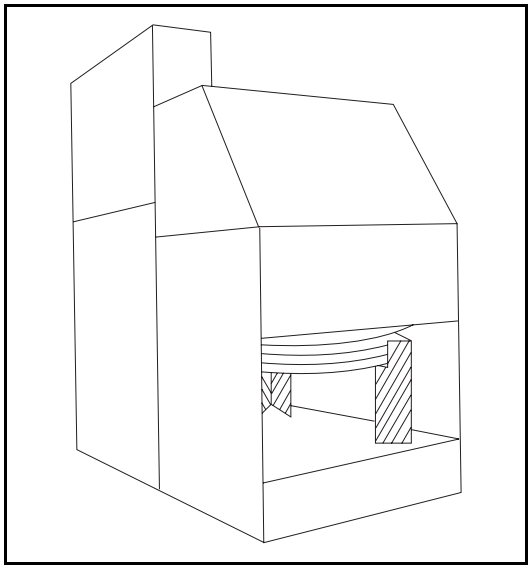


FIGURE A (MSSMD424AE)
Placement of Safety Stands

⚠ CAUTION ⚠

Failure to properly lubricate and perform preventive maintenance as described in this section will cause parts to wear prematurely and may void your warranty on these parts.

Pressure Pump

⚠ CAUTION ⚠

Performing maintenance other than lubrication on the presssure pump may void your warranty.

- ☞ **Only allow qualified personnel using a strap-type pipe wrench to perform maintenance on the pressure pump.**
- ☞ **Do not perform maintenance using any tool that may distort or scar the tube.**

⚠ CAUTION ⚠

Running the pressure pump without the flow restrictor orifice (FIGURE B) will immediately damage the pump.

- ☞ **Always replace the flow restrictor orifice after performing maintenance.**
- ☞ **Never operate the pressure pump without the flow restrictor orifice.**

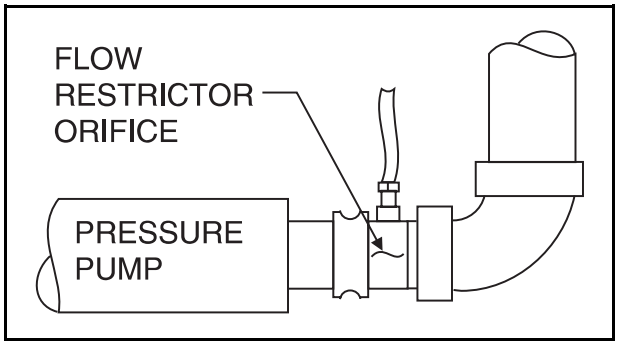


FIGURE B (MSSMD424AE)
Flow Restrictor Orifice

Return Pump—The Press Return pump can become jammed by rubber gloves, socks, wash cloths, etc. A strainer fine enough to catch these items is impractical since it would require constant cleaning due to lint buildup. If the pump jams, allow the motor overload device to shut off the motor and service the pump when the article is removed.

Replacement water seal kits are available from the Pellerin Milnor Parts Department. The kits are as follows:

Kit **27E955R01** — With Teflon bellows for pumping silicate and other chemicals.

Kit **27S019** — With Buna-N bellows for pumping water.

NOTE: The Teflon bellows seal is extremely expensive and should only be used when pumping chemicals in Central Liquid supply systems—never when pumping any water emerging from any CBW® (with the possible exception of Workwear models handling large quantities of oil and/or volatile solvents).

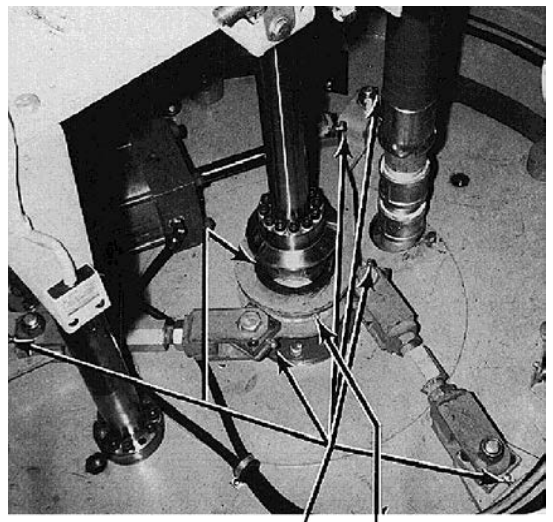


FIGURE 1 (MSSMD424AE)
Main Dome Down Lock Components

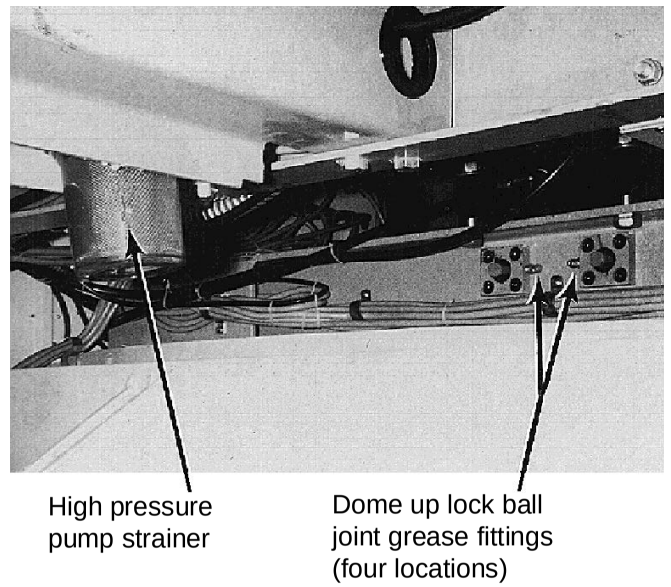


FIGURE 2 (MSSMD424AE)
Water Strainer and Main Dome Up Lock Fittings

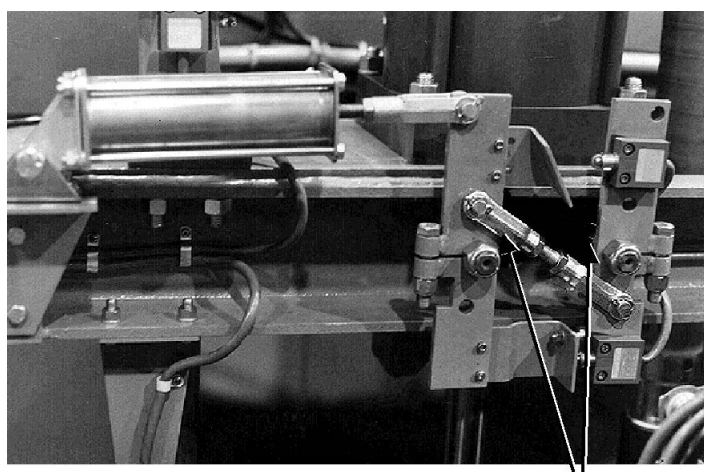


FIGURE 3 (MSSMD424AE)
Dome Up Lock Actuator

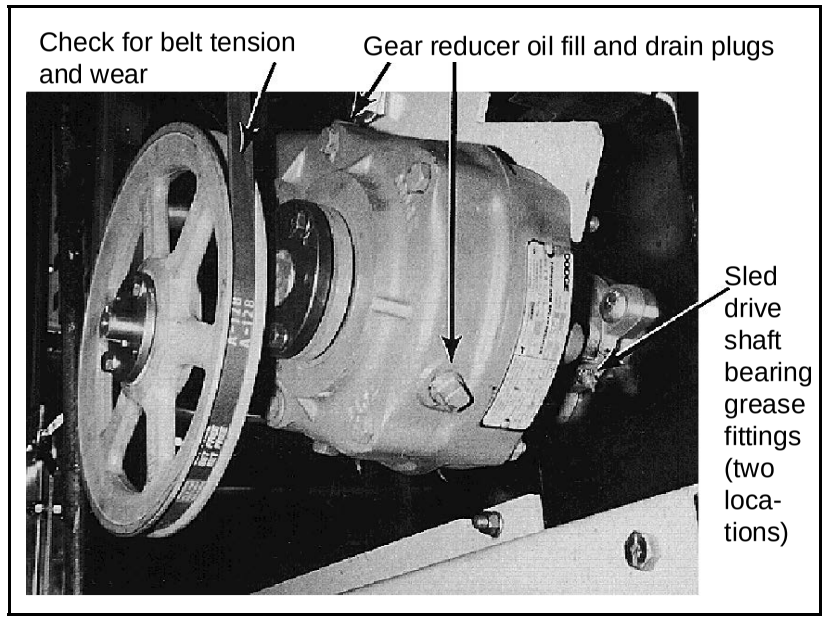


FIGURE 4 (MSSMD424AE)
Gear Reducer

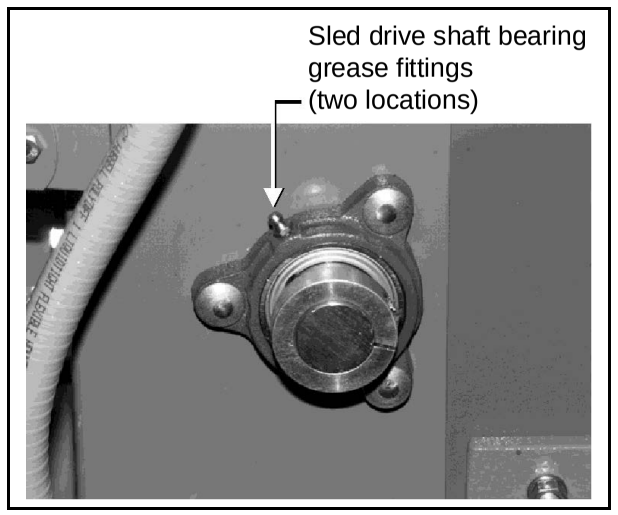


FIGURE 5 (MSSMD424AE)
Chain Drive Shaft

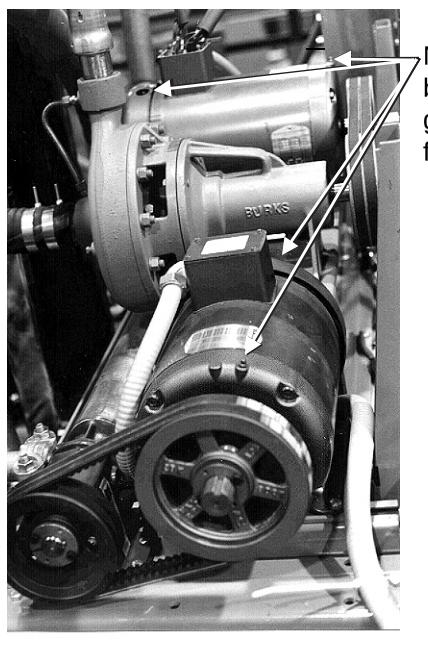


FIGURE 6 (MSSMD424AE)
Pumps and Motors

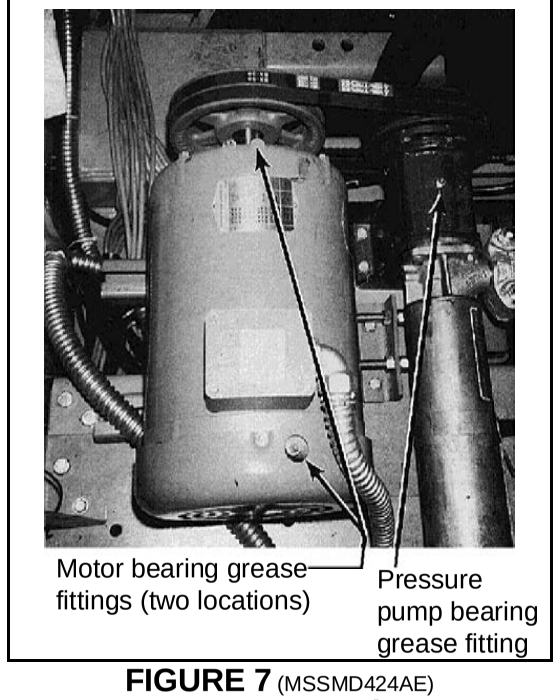


FIGURE 7 (MSSMD424AE)
Pressure Pump and Motor

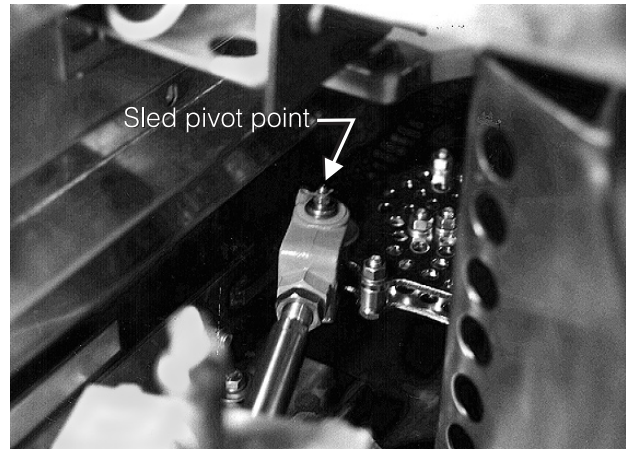


FIGURE 8 (MSSMD424AE)
Sled Door Actuators

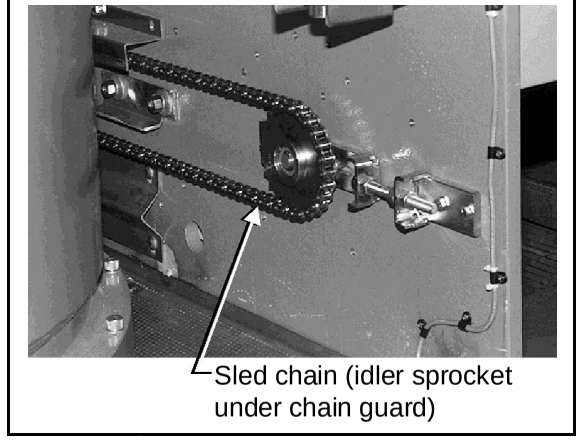


FIGURE 9 (MSSMD424AE)
Sled Chain

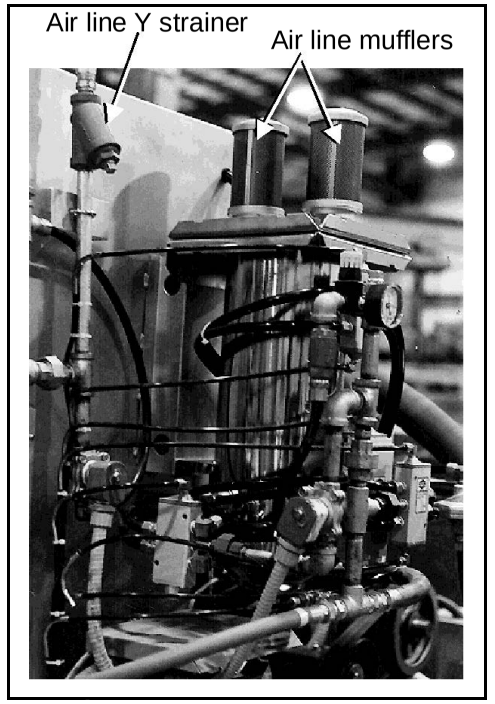


FIGURE 10 (MSSMD424AE)
Air Line Y Strainer and Mufflers

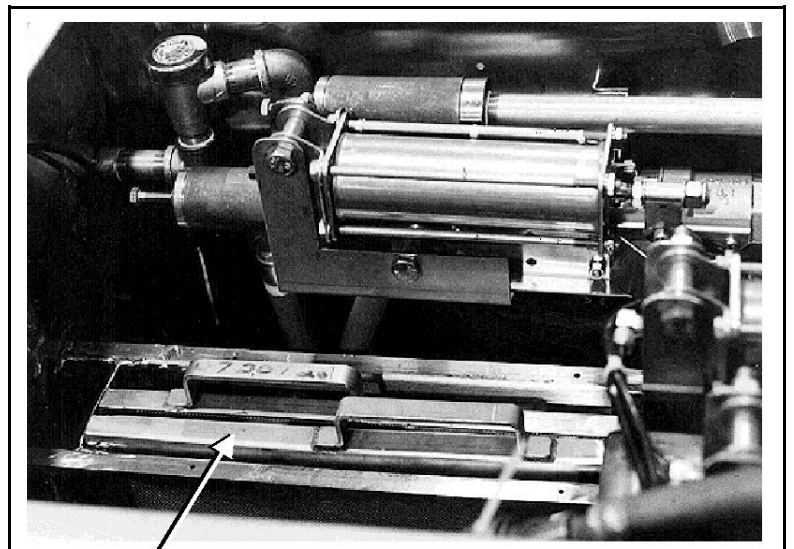


FIGURE 11 (MSSMD424AE)
Lint Screens

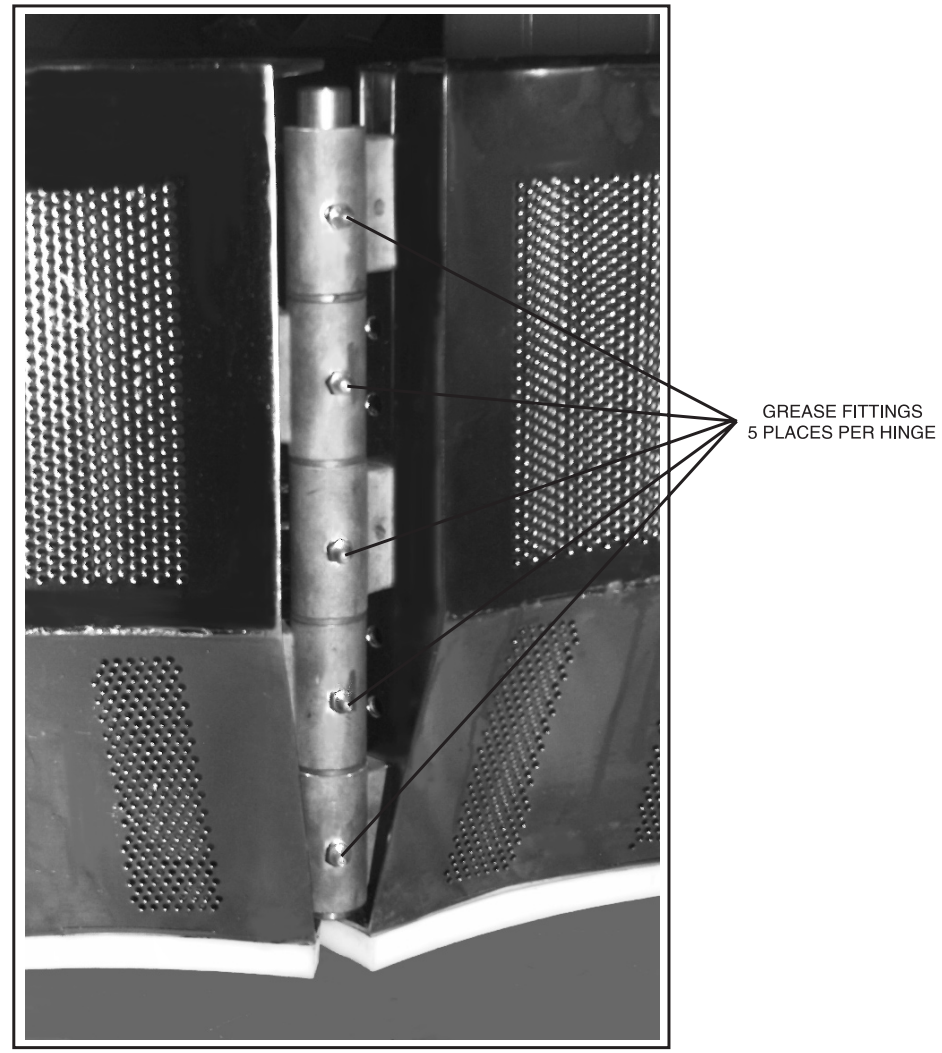


FIGURE 15 (MSSMD424AE)
Sled Door Hinge Grease Points

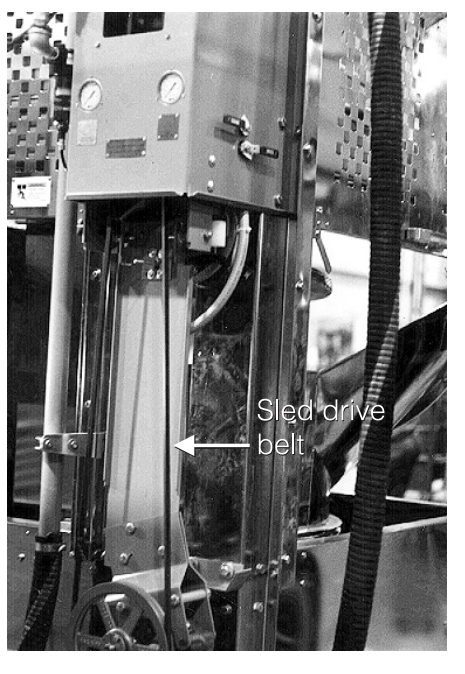


FIGURE 12 (MSSMD424AE)
Sled Drive Assembly (shown with guard removed)

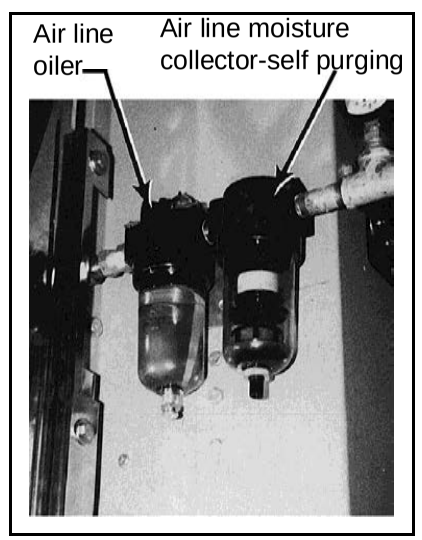


FIGURE 13 (MSSMD424AE)
Mist Lubrication and Moisture Collecton

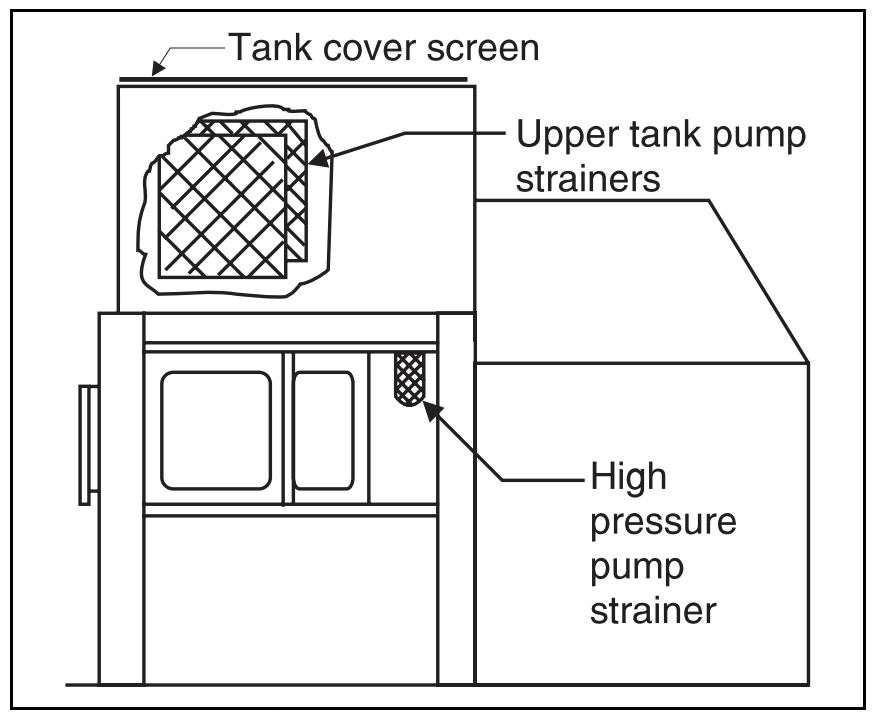


FIGURE 14 (MSSMD424AE)
Pump Strainers and Tank Cover

Preventive Maintenance Checklist

COMPONENT	ACTION	FIGURE (ITEM)	FREQUENCY					
			DAILY	WEEKLY	MONTHLY/200 Hours (See NOTE 1)	QUARTERLY/500 Hours	SEMI-ANNUAL	ANNUALLY
BEARINGS AND BALL JOINTS	Add grease (pump slowly) in the following quantities:							
• Dome down lock bearing	.25 oz. (4 strokes) at one place	FIGURE 1				X		
• Dome down lock ball joints	.12 oz. (2 strokes) at seven places	FIGURE 1				X		
• Dome up lock ball joints	.12 oz. (2 strokes) at four places	FIGURES 2 and 3				X		
• Sled drive shaft bearings	.19 oz. (3 strokes) at two places	FIGURES 4 and 5			X			
MOTOR AND PUMP BEARINGS								
• Volume pump motor bearings	See " BALDOR MOTOR MAINTENANCE ...," MSSM0274AE, in this manual. See NOTES 2 and 3 below.	FIGURE 6				X		
• Pressure pump motor bearings		FIGURE 7				X		
• Pressure pump bearings	Lubricate one place.	FIGURE 7				X		
GEAR REDUCER								
• Gear reducer	Check oil level. Change if required. Drain and refill per nameplate. Clean drain plug.	FIGURE 4					X	
SLED DOORS AND DRIVE								
• Sled door pivot points	Lubricate all pivoting components.	FIGURE 8			X			
• Sled door hinge	.06 oz. (1 stroke) at five places	FIGURE 15				X		
• Sled chain	Lubricate entire chain.	FIGURE 9			X			
COMPRESSED AIR LINE								
• Oil mist lubricator	Check reservoir. Refill if required. Check drip rate (two drops per five minutes).	FIGURE 13	X					
• Y strainer	Clean out.	FIGURE 10				X		
• Mufflers	Check for fouling. Remove and soak in solvent. Clean if required.	FIGURE 10				X		
• Moisture collector	Check for proper draining.	FIGURE 13	X					
PRESSING WATER SYSTEM								
• Tank cover screen	Check for foreign matter and clean if required	FIGURE 14	X					
• Upper tank pump strainers	Check for lint and clean if required.	FIGURES 11 and 14		X				
• High pressure pump strainer	Check for fouling. Clean if required.	FIGURES 2 and 14		X				
PUMP AND DRIVE MECHANISM								
• Belts, pulleys, clutch	Check for wear/belt tension.	FIGURES 6, 7, and 12			X			
• All (motors, pumps, etc.)	Check for soil build up. Clean.	FIGURES 6, 7, and 12			X			
LOAD BEARING SURFACES								
• Dome lock	Check for wear.	FIGURE 1				X		
• Sled antifriction surface	Check for wear.	FIGURE 15				X		
MAIN BELL DIAPHRAGM								
• Diaphragm	Check for wear or punctures. **WARNING: Never place any part of body under dome unless safety supports are secured in place and power locked *off*.**	See "PRESS DIAPHRAGM REPLACEMENT."			X			
CONTROL AND SENSING DEVICES								
• Press tank float tube	Purge by positioning the lint cover around the float rod and on top the float tube and hold firmly. Open the air inlet needle valve about five turns for about one minute. The air pressure will force the lint and /or other debris out of the float tube.	See "RECOMMENDED PRESS TANK FLOAT SWITCH SETTINGS . . ."		X				

NOTE 1: Monthly/200 hours = once a month or once every 200 operating hours, which ever comes first.

NOTE 2: Quarterly/500 hours = once every three months or once every 500 operating hours, which ever comes first.

NOTE 3: If motor or pump manufacturer's instructions conflicts with chart or manual section MSSM0274AE, follow manufacturers instructions. Motors and pumps are warrantied by their manufacturers, not by Milnor®.

CHECKING AND ADJUSTING PRESS SLIDING DOWN LOCKS

The main press bell descends onto goods at the beginning of main press operation. The sliding down locks (in the extended position) secure the bell in place before bell pressure increases. To prevent damage to press mechanisms, specific clearances must exist between the locks and the lock ring when the locks are extended or retracted.

The clearances of the down locks are set by the Milnor® factory, *but must be checked at installation and readjusted if necessary*. Clearances of the locks should also be checked if any future problems are encountered with the sliding down locks.

Preliminary Requirements

- Know how to actuate manual functions from the keypad. Review manual operation instructions in the programming, operating, and troubleshooting manual.
- Clear the bed under the main press bell. If a cake is present under the bell, use manual functions to remove it and clear the bed.
- Air pressure must be on the bell (down air cylinder pressurized).
- Bell must be down. Use manual funcitons to lower and lock the bell down, if necessary.

Clearance of Extended Locks

1. Using manual functions, extend the sliding down locks.
2. **Turn press power *off*.**
3. Check the clearance between each sliding down lock and the lock ring with a feeler gauge as shown in FIGURE 1. If an uneven gap exists between a sliding lock and the lock ring, simply allow the lock to pivot at its clevis joint (by bumping the lock with your hand) until an equal gap is achieved toward each end of the lock. A clearance of 0.030" to 0.035" (0.76mm to 0.89mm) must uniformly exist between a down lock and the lock ring (FIGURE 2).

   NOTE: Presses that have been in use for some time may require considerably more force to pivot a lock on its clevis. This may be caused by a dirt build up and/or presence of foreign material between a sliding lock, its wear plate, or the lock ring.

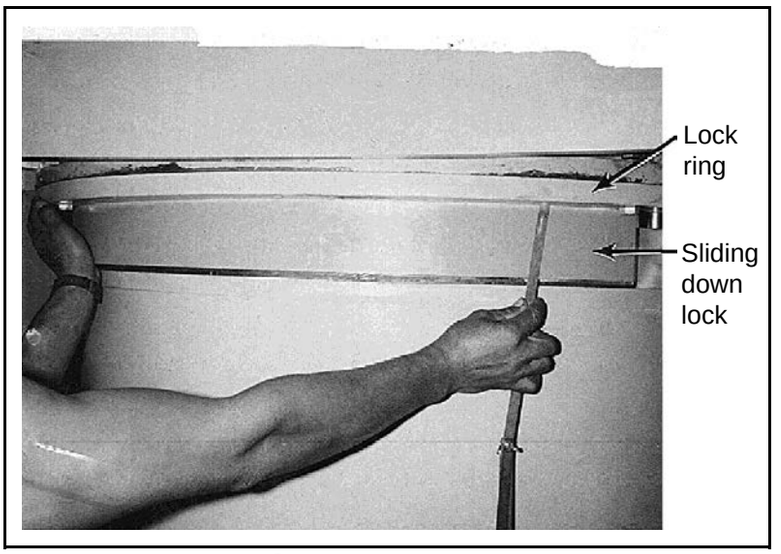


FIGURE 1 (MSSM0901AE)
Clearance Check Between Extended Sliding Lock and Lock Ring

4. Determine that the air cylinder that lowers the bell is pressurized. Check the clearance between the entire top of each sliding lock and the lock ring (gap “B” in FIGURE 2). A clearance of 0.005" to 0.030" must exist to prevent the possibility of the lock binding on the lock ring. The usual causes of an insufficient gap is the presence of foreign matter between the sliding lock and the wear plate or an obstruction between the bell and the bed. With the down locks extended and the bell pressurized, a maximum gap of 0.150" must exist between the bell and the bed (see FIGURE 2).

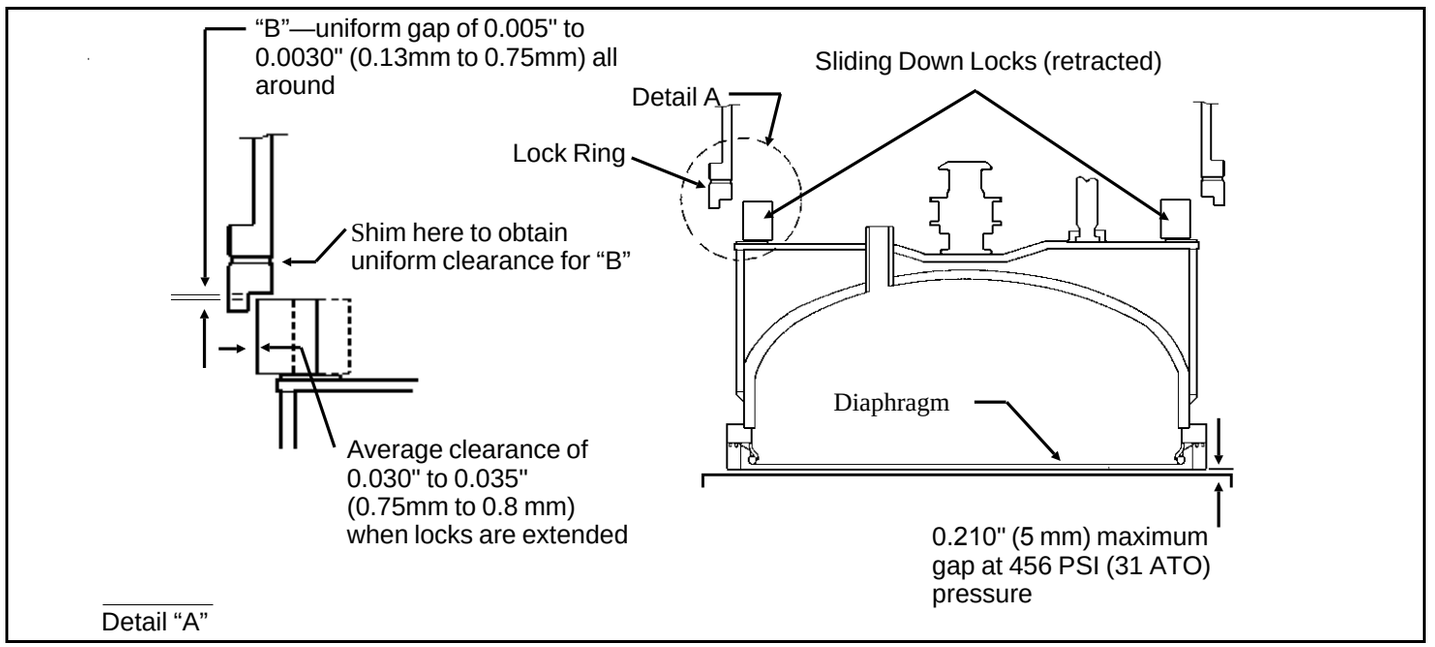


FIGURE 2 (MSSM0901AE)
Clearances of Extended Locks

Clearance of Retracted Locks

This procedure is performed on top of the bell.

1. Using manual functions, retract the sliding down locks.
2. **Turn press power *off*.**

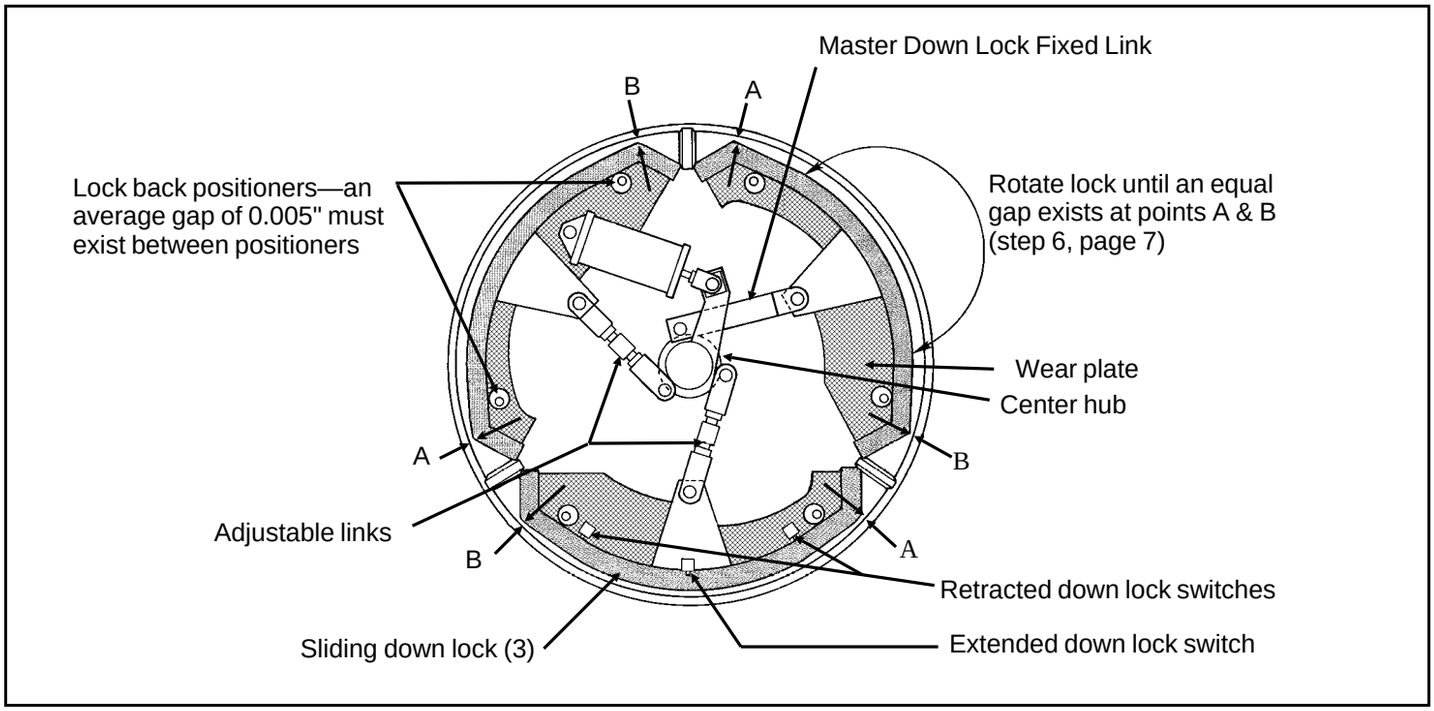


FIGURE 3 (MSSM0901AE)
Press Bell (Top View)

3. For each down lock, an average clearance of 0.005" (0.13mm) must exist between the two lock back positioners (FIGURE 3) and the down lock. For example, if one lock back positioner has a 0.007" clearance and the other positioner for that lock has a 0.003" clearance, the average clearance will be 0.005".
4. A minimum clearance of 1/4" must exist between each retracted down lock and the lock ring (points A and B in FIGURE 3).

Sequence of Adjustments

As shown in FIGURE 3, the master down lock link is non-adjustable. If the sliding down lock attached to this link does not have the clearances as specified above, it must be adjusted first. This down lock can only be adjusted by rotating the clevis on the down lock air cylinder. **Any adjustment made to the sliding down lock attached to the master down lock link will affect the adjustment of all three down locks**. If the sliding down lock attached to the fixed link is adjusted, the other two down locks must be adjusted; see “Adjusting the Fixed Link Down Lock” in this section. If the gap of the down lock with the fixed link is within specification, the two locks with adjustable links can be independently adjusted; see “Adjusting the Two Adjustable Link Down Locks” in this section.

Adjusting the Extended Position of the Down Locks

Adjusting the Fixed Link Down Locks

1. Determine that the down locks are extended.
2. **Turn press power and air service connection valve *off*.**
3. Loosen all adjustable link shaft lock nuts. Remove the two adjustable link clevises from the center hub (FIGURE 3). Note location of any clevis bolt shims.
4. Loosen the air cylinder clevis lock nut and rotate the air cylinder shaft with an open end wrench to either extend or retract the fixed link down lock. Tighten clevis lock nut and turn on the air service connection valve.
5. Determine if the specified gap exists between the down lock (with the fixed link) and the lock ring. If it is necessary to readjust the down lock, turn off the air service connection valve and repeat step four.
6. Manually extend each of the two adjustable down locks until the specified gap exists between each of the locks and the lock ring.
7. Rotate the two adjustable link shafts until each clevis aligns with its center hub bearing. Install all clevis bolts and shims and tighten all lock nuts.

⚠ CAUTION ⚠

All lock nuts must be tightened before any clearance check is made, as this can affect tolerances. To prevent premature failure of link bearings, determine that the top face of a clevis is level before lock nut is tightened.

8. Recheck the gaps on all three down locks.

Adjusting the Two Adjustable Link Down Locks

This procedure is to be performed only if the gap of the down lock with the fixed link is within specifications.

1. Determine that the down locks are retracted.
2. **Turn press power *off*.**
3. Loosen all clevis lock nuts on the two adjustable links.
4. Rotate link shafts until the specified gap exists between each down lock and the lock ring.

⚠ CAUTION ⚠

All lock nuts must be tightened before any clearance check is made as this can affect tolerances. To prevent premature failure of link bearings, determine that the top face of a clevis is level before lock nut is tightened.

5. Recheck the gap of the two down locks.

Adjusting the Retracted Position of the Down Locks

1. Using manual functions, extend the down locks.
2. **Turn press power *off*.**
3. Loosen the socket head cap screws that secure the lock back positioners for the sliding down lock to be adjusted. Turn the lock back positioners until the greatest clearance between the positioners and the back side of the down lock is achieved.
4. Locate the two retracted down lock switches shown in FIGURE 3. Loosen the socket head cap screws on both switches and move each switch the furthest they can go away from the down lock.
5. Turn press power *on* and retract the down locks using manual functions.
6. **Turn press power *off*.**
7. Pivot the down lock on its clevis until an equal distance exists between the down lock and the lock ring at points A and B in FIGURE 3.
8. Turn one of the lock back positioners until it just comes into contact with the lock. Turn the other lock back positioner for that lock until a clearance of 0.010" exists.
9. Retighten all lock back positioner cap screws.
10. Determine that gaps A and B are within specifications.
11. Adjust the retracted down lock switches as described elsewhere.

PRESS DIAPHRAGM REPLACEMENT AND INSTALLATION

Advance Preparations

Do the following before proceeding to replace the press diaphragm:

1. Have at least two qualified service technicians on hand.

2. Make sure all personnel understand the safety precautions described in this section.

3. Know how to actuate manual functions from the keypad. See manual operation in the programming, operating, and troubleshooting manual.

4. Identify the *bell-up throttling valve* and the *diaphragm inflating valve* on your machine (see FIGURES 1 and 2). When the normally open bell-up throttling valve is throttled toward closed, this diverts some of the air required to raise the cylinder (away from the main bell air cylinder). When the normally closed diaphragm inflating valve is throttled toward open, and if neither press pressure nor suction is being called for, this valve admits compressed air into the main bell.

5. Have all necessary equipment on hand. This includes the installation fixture, insert guide and diaphragm tension ring supplied with your machine (see FIGURE 3), the rubber diaphragm (two were supplied with your machine), a can of soapy water and a brush applicator. If the old diaphragm has not yet been removed, the diaphragm tension ring will still be inside the diaphragm.

6. If a cake is still present under the main bell, use the appropriate manual functions to remove it and clear the bed.

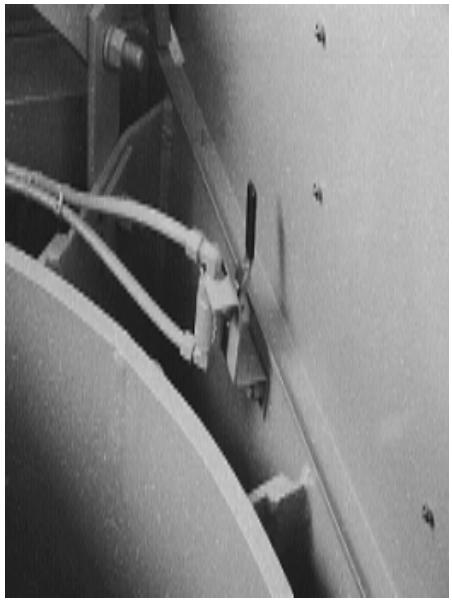


FIGURE 1 (MSSMD423AE)
Bell Up Throttling Valve in Open Position

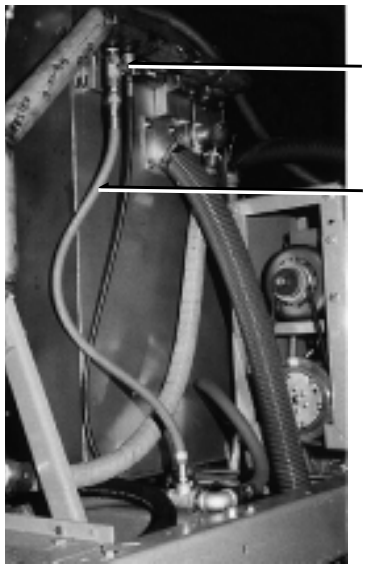


FIGURE 2 (MSSMD423AE)
Diaphragm Inflation Valve and Hose

Removing the Old Diaphragm

Suggested Procedure—The quickest way to remove the old diaphragm is to eject it by air pressure. There are two side effects of this method: 1) some water will usually spew out of the machine, and 2) the diaphragm makes a loud noise when it drops out. Eject the old diaphragm as explained here:

1. Actuate the manual functions that draw up the diaphragm until the water return hose from the diaphragm begins to oscillate. This indicaes most of the pressing water has returned to the tank.

2. Using manual functions, lower the main bell, *but do not engage the down locks. If the down locks automatically engage, use manual functions to release them.*

3. Close the bell-up throttling valve fully. This valve normally hisses loudly when closed.
4. Actuate the manual function that raises the main bell (even though the throttling valve will prevent it from raising up).

⚠ CAUTION ⚠

Step five below will eject the diaphragm from the bell. Forewarn plant personnel that a loud noise may occur, and have all unessential personnel stand clear of the press.

5. With one person operating the bell-up throttling valve and another operating the diaphragm inflating valve, adjust the bell-up throttling valve such that the bell rises approximately 8 to 10 inches above the press bed and remains there. Then slowly begin to open the diaphragm inflating valve, allowing the diaphragm to inflate against the press bed. As it does so, adjust the throttling valve, as necessary, to maintain the 8 to 10 inch clearance. With the diaphragm inflating valve, continue to increase air pressure until the diaphragm drops out.

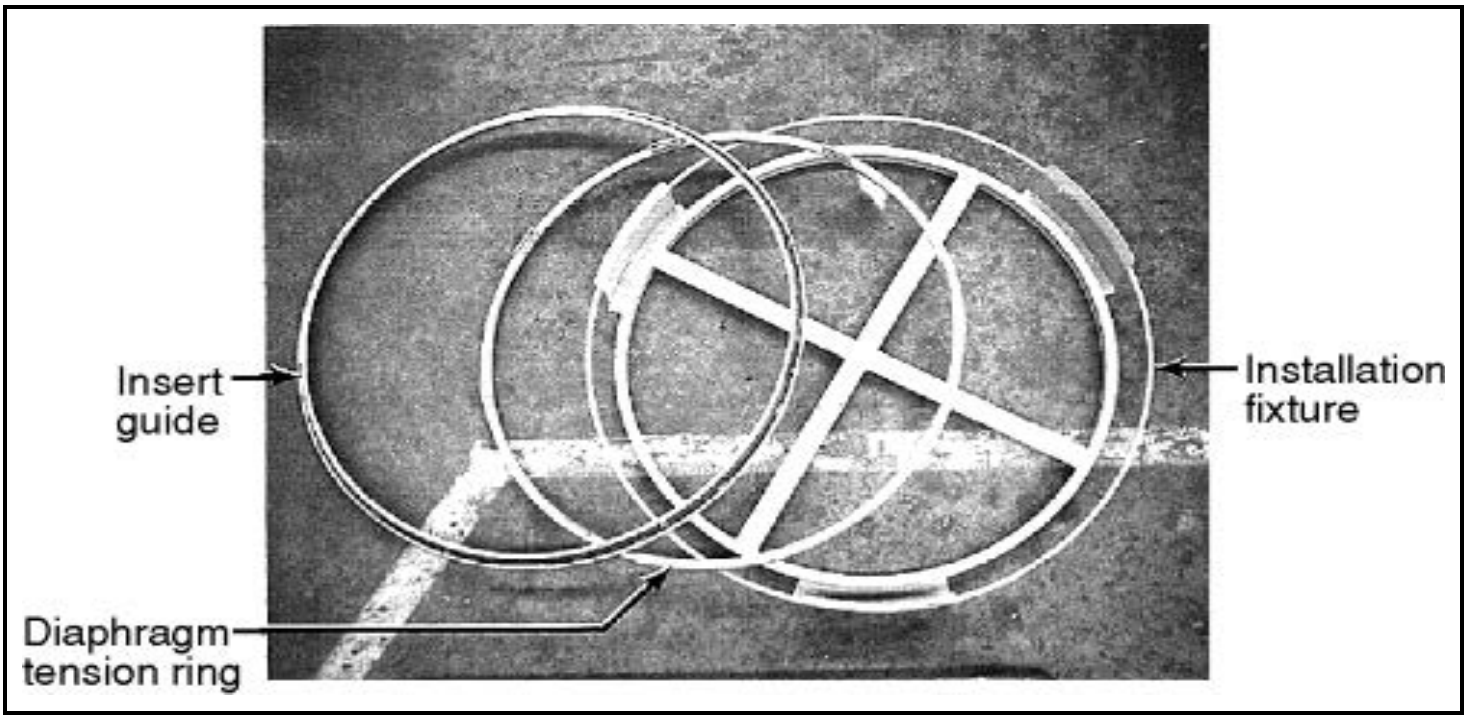


FIGURE 3 (MSSMD423AE)
Installation Fixture, Insert Guide, and Diaphragm Tension Ring

6. As soon as the diaphragm is out, close the diaphragm inflating valve and open the bell-up throttling valve fully, allowing the bell to raise up.

Alternative Procedure—If the diaphragm is damaged too badly to eject it with air pressure, the diaphragm may be pried out as explained here:

1. Actuate the manual functions that draw up the diaphragm until the water return hose from the diaphragm begins to oscillate, indicating most of the pressing water has returned to the tank (See "MANUALLY OPERATING AND VIEWING INPUTS ON THE MARK III, IV, AND V PRESS CONTROL...MSOPD435AE in the Reference manual).

2. If the bell is not already up, use manual functions to raise it.

3. Install the approved bell safety supports supplied with your machine (see FIGURE 4).

4. De-energize press power and lock power *off* at the disconnect.

⚠ DANGER ⚠

CRUSH HAZARD—Descending main bell will crush anyone under it. Bell can descend even with power off.

☞ **Lock OFF and tag out power and secure factory-supplied safety supports in place before perfoming service or maintenance under the bell. Take care not to knock the stands out of position.**

☞ **ALWAYS have one person present other than the one working under the bell, to provide assistance and assure safe working conditions.**

5. With a knife, cut away as much of the center of the diaphragm as possible.

⚠ CAUTION ⚠

The next step will cause the remaining portion of the diaphragm and the diaphragm tension ring to fall out. Position yourself such that these components cannot fall on you, causing injury.

6. With a pry bar, pry between the bell and the diaphragm tension ring, as shown in FIGURE 5, working all around to prevent the tension ring from becoming cocked inside the support ring. Continue this process until the diaphragm and its contents fall out.

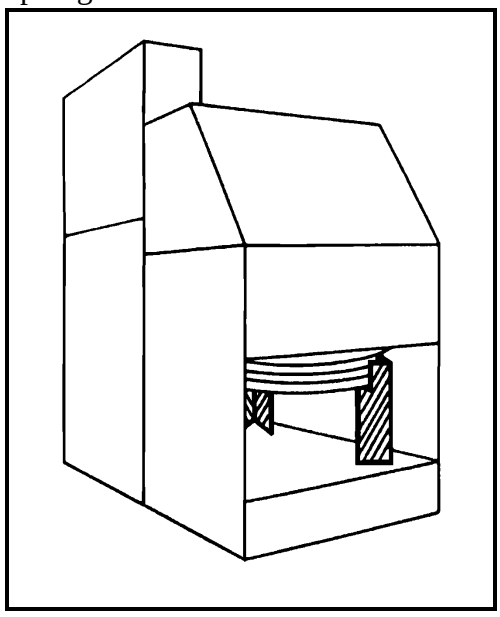


FIGURE 4 (MSSMD423AE)
Bell Up with Safety Stands Fully Seated and on Opposite Sides

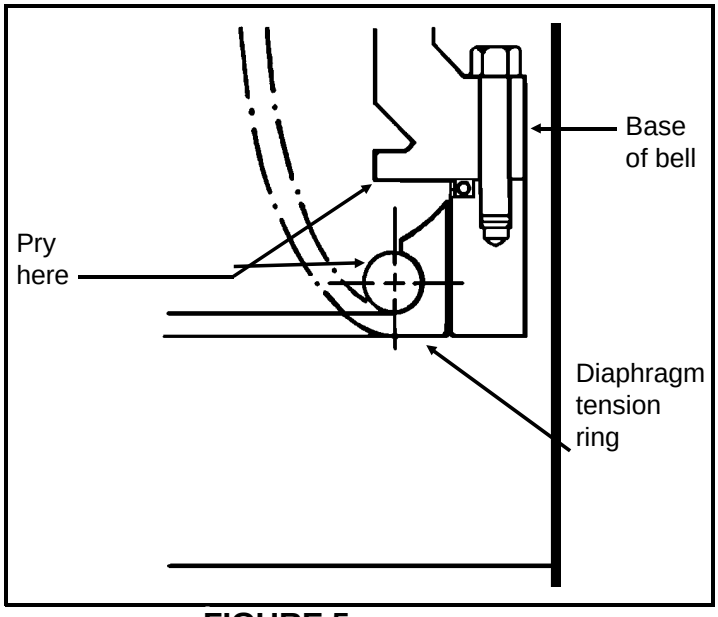


FIGURE 5 (MSSMD423AE)
Cross Section View Showing Pry Points

Installing New Diaphragm

⚠ CAUTION ⚠

Leaving the diaphragm inflation hose connected will permit water to infiltrate the compressed air line.

☞ **Disconnect the inflation hose after the diaphragm has been removed and before a new diaphragm is installed.**

1. Set the installation fixture on the ground and place the new diaphragm in it so that it is centered in the fixture with the lip pointing up.
2. Apply soapy water to the inside of the lip, then insert the diaphragm tension ring so that it seats fully (see FIGURE 6). **Never use grease.**
3. Apply soapy water to the outside of the diaphragm lip and the inside face of the insert guide.
4. Place the insert guide over the diaphragm as shown in FIGURE 7 so that it is resting on the diaphragm lip. Do not attempt to push it down around the lip.
5. Using manual functions, lower the main bell, *but do not engage the down locks.* If the down locks automatically engage, use manual functions to release them.
6. Close the bell-up throttling valve fully. This valve normally hisses loudly when closed.
7. Actuate the manual function that raises the main bell (even though the throttling valve will prevent it from raising up).

⚠ DANGER ⚠

CRUSH HAZARD—Descending main bell will crush anyone under it. Bell can descend even with power off.

☞ **NEVER crawl or reach under the press main bell.**

⚠ CAUTION ⚠

CRUSH AND MACHINE DAMAGE HAZARD—If bell is allowed to rise high enough to engage the uplocks, and the bell down switch is pressed, cylinder air pressure may overcome uplocks, causing the bell to fall to the bed.

☞ **Do not allow bell to rise more than 12 inches (305 mm) above press bed.**

☞ **Do not place body parts under press bell under this procedure.**

8. Adjust the bell-up throttling valve so that the bell rises approximately 12 inches (305 mm) and remains there. *Do not allow bell to rise above 12 inches (305 mm).* If the uplocks engage while actuating the throttling valve, use the "operate bell" menu to retract the uplocks, and lower the bell back to 12 inches (305 mm) above the press bed (See "MANUALLY OPERATING AND VIEWING INPUTS ON THE MARK III, IV, AND V PRESS...MSOPD435CE in the reference manual.")

⚠ WARNING ⚠

Sever Hazard-Descending bell can sever fingers, hands and/or other body parts caught between the bell and the installation fixture.

- ☞ **Do not put fingers, hands and/or other body parts between installation fixture and bell.**
- ☞ **Push fixture into place with wooden 2 x 4s.**

9. *Do not place hands under the bell.* Using a wooden 2X4, push the installation fixture and its contents under the bell.

10. Using the throttling valve, slowly lower the bell onto the diaphragm, making certain that it seats properly. The insert guide will constrict the lip of the diaphragm just enough to fit inside the stainless steel diaphragm support ring of the bell (see FIGURE 7). Allow the bell to push completely onto the diaphragm. As it does so, it will push the insert guide down onto the installation fixture as shown below center and right.

11. When the diaphragm is fully seated, open the bell-up throttling valve fully to raise the bell. Then, remove the installation fixture and insert guide.

12. Actuate the manual functions that draw up the diaphragm for approximately 30 seconds. This completes the installation procedure.

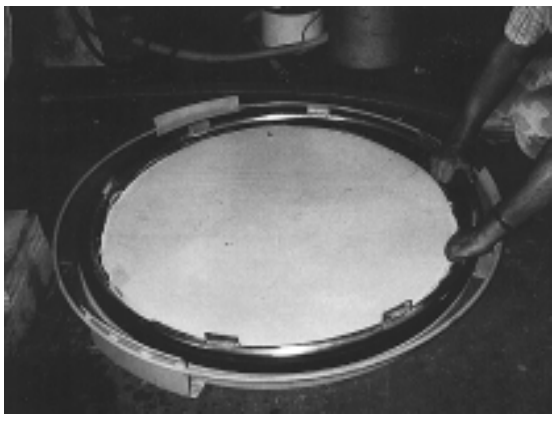


FIGURE 6 (MSSMD423AE)
Inserting Diaphragm Tension Ring

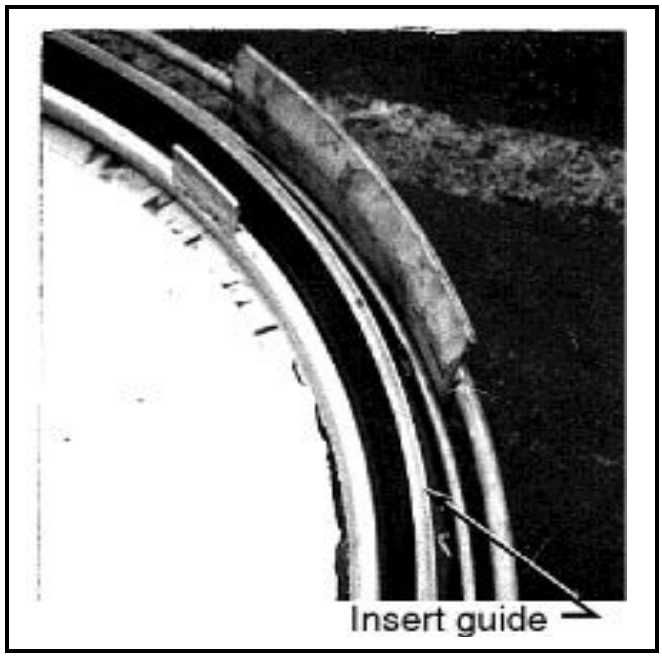


FIGURE 7 (MSSMD423AE)
Place Insert Guide Over Diaphragm

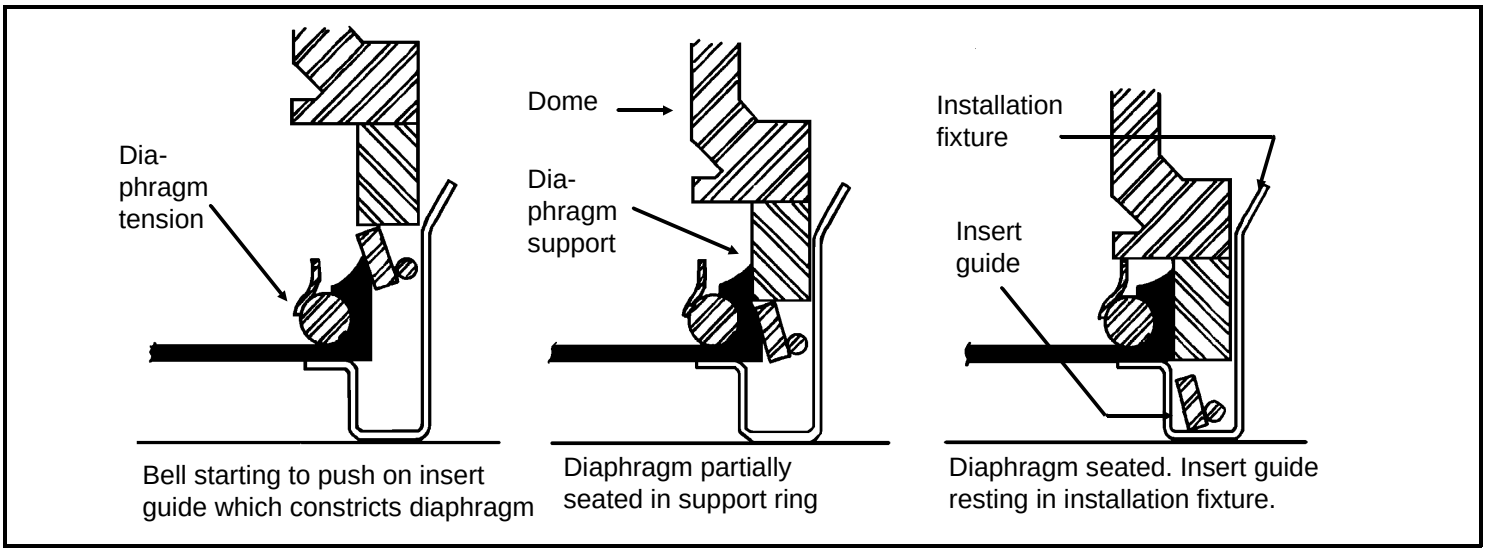


FIGURE 8 (MSSMD423AE)
Cross Section Showing Diaphragm Seating

Repairing a Damaged Diaphragm

Repair a damaged diaphragm by having any punctures vulcanized. Patches must be applied to the goods side of the diaphragm, never the water side, so the patch cannot be sucked into the venturi or the valve system.

⚠ CAUTION ⚠

Never attempt to patch a diaphragm while it is on the machine. Even if the safety stands are in position, personal injury may result if the diaphragm falls out.

PRESS BED CLEANOUT

Required Kits

This procedure requires kit KUFZZPB00A (available from Milnor®) containing a rubber blanket cut into four quadrants.

If the drain channels beneath the press bed show signs of lint clogging, (such as water overflowing the press bed and little water being recovered for batch washer reuse), clean out these channels by:

- Removing the diaphragm from the press bell.
- Laying rubber quadrants on the press bed.
- Manually operating inputs to bringing the bell down onto special rubber quadrants.
- Using manual inputs to force high pressure water from the press reservoir tank down into the press bed, flushing lint and debris out of the press bed and channels.
- Using the manual make-up valve to refill the reservoir.

Precautions While Removing the Diaphragm

⚠ DANGER ⚠

CRUSH HAZARD—Decending main bell will crush anyone under it. Bell can decend even with the power off.

☞ **Lock OFF and tag out power and secure factory-supplied supports in place before performing service or maintenance under the bell. Take care not to knock the stands out of position.**

☞ **ALLWAYS have one person present other than the one working under the bell, to provide assistance and assure safe working conditions.**

⚠ DANGER ⚠

CRUSH HAZARD—Decending main bell will crush anyone under it. Bell can decend even with power off.

☞ **NEVER crawl or reach under the press main bell.**

⚠ CAUTION ⚠

The diaphragm removal procedure ejects the diaphragm from the bell. Warn plant personnel that a loud noise may occur, and have all unessential personnel stand clear of the press.

⚠ CAUTION ⚠

The diaphragm and the diaphragm tension ring fall out of the bell during this procedure. Position yourself such that these components cannot fall on you, causing injury.

Start by removing the press diaphragm (FIGURE 1). See "PRESS DIAPHRAGM REPLACEMENT AND INSTALLATION".... in the service manual, for detailed instructions and precautions on removing the diaphragm.

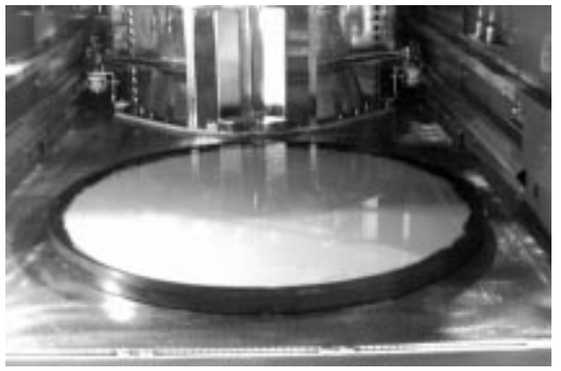


FIGURE 1 (MSSMD445AE)
Ejected Diaphragm

Cleanout Procedure

⚠ DANGER ⚠

CRUSH HAZARD—Decending main bell will crush anyone under it. Bell can descend even with power off.

☞ **Never crawl or reach under the press main bell.**

After removing the press diaphragm:

1. Access Mode 12 (BED CLEANOUT) in the the Manual Menu. See "MANUALLY OPERATING AND VIEWING INPUTS ON THE MARK III PRESS CONTROL" in the reference manual.
2. Raise press bell and slide the rubber quadrants under the bell as shown in FIGURES 2 and 3. *Do not place hands under the bell.*

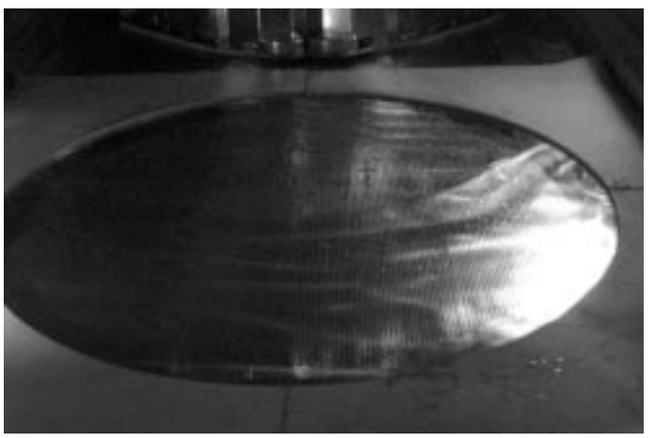


FIGURE 2 (MSSMD445AE)
Assembled Rubber Quadrant

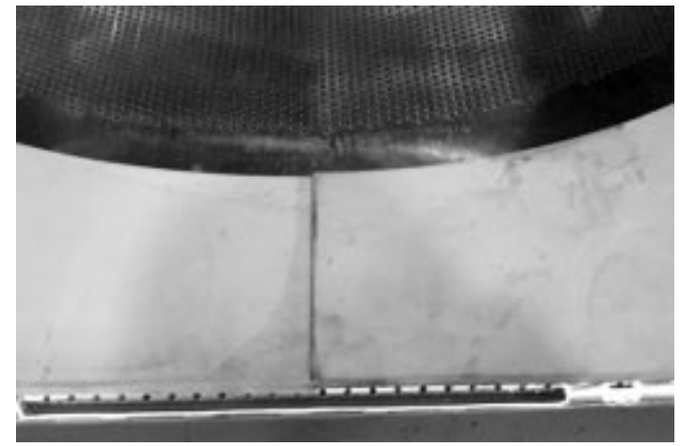


FIGURE 3 (MSSMD445AE)
Details of Rubber Quadrants

3. Proceed with cleanout procedure as explained in Mode 12 (FIGURES 4 and 5). After the reservoir water is exhausted, the *Reservoir Water LOW* lamp illuminates (FIGURE 7). Turn on the *Manual make-up water* valve (FIGURE 6) to refill the press reservoir tank.

4. Verify that the *Reservoir Water LOW* lamp extinguishes and tank levels are achieved before attempting to restart machine. View tank levels through Mode 14 (VIEW WATER TEMPERATURE). Shut off *Manual make-up water* valve after levels are achieved. Repeat steps 3 and 4 if additional cleanouts are desired. Otherwise, re-install diaphragm and return to normal operation.

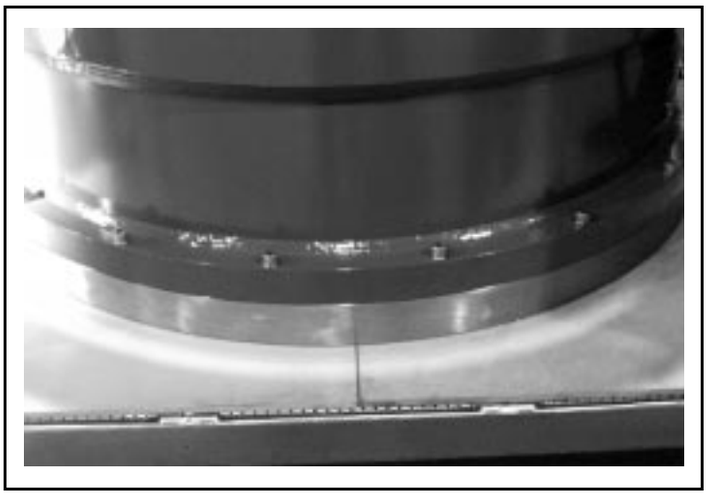


FIGURE 4 (MSSMD445AE)
Bell Lowered onto Rubber Quadrants

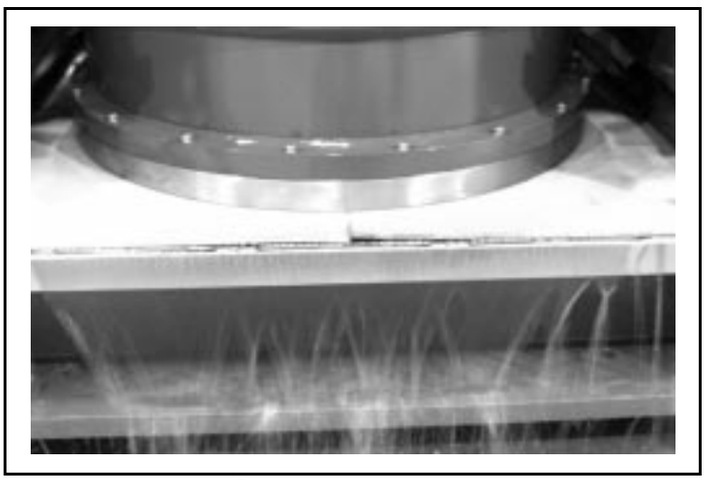


FIGURE 5 (MSSMD445AE)
Cleanout in Progress

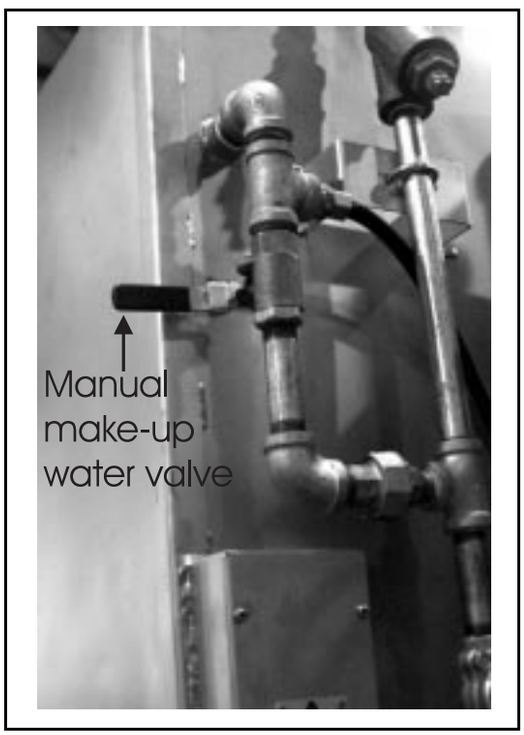


FIGURE 6 (MSSMD445AE)
Manual Make-Up Water Valve

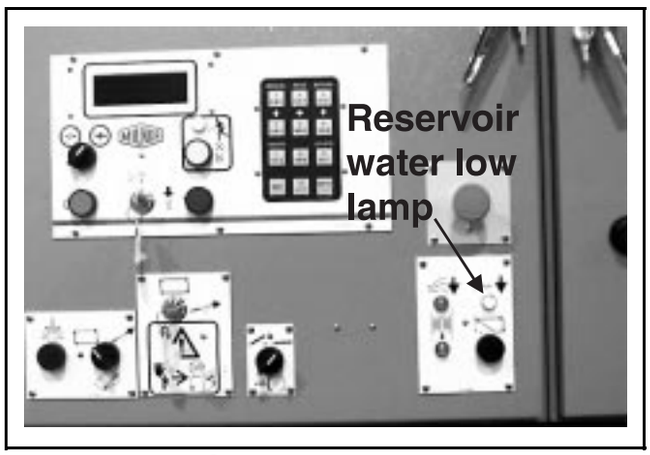


FIGURE 7 (MSSMD445AE)
Reservoir Water Low Lamp Location

B SETTING LIMIT SWITCHES

Limit Switches—Including Microswitches—Will Be Damaged If Over-actuated!

Any limit switch will be damaged if it bottoms out forcefully. This can bend the rotary shaft or damage internal components and may cause the switch to stick in one position either permanently or intermittently. Be aware that an intermittently sticking switch can be mistaken for a malfunctioning microprocessor!

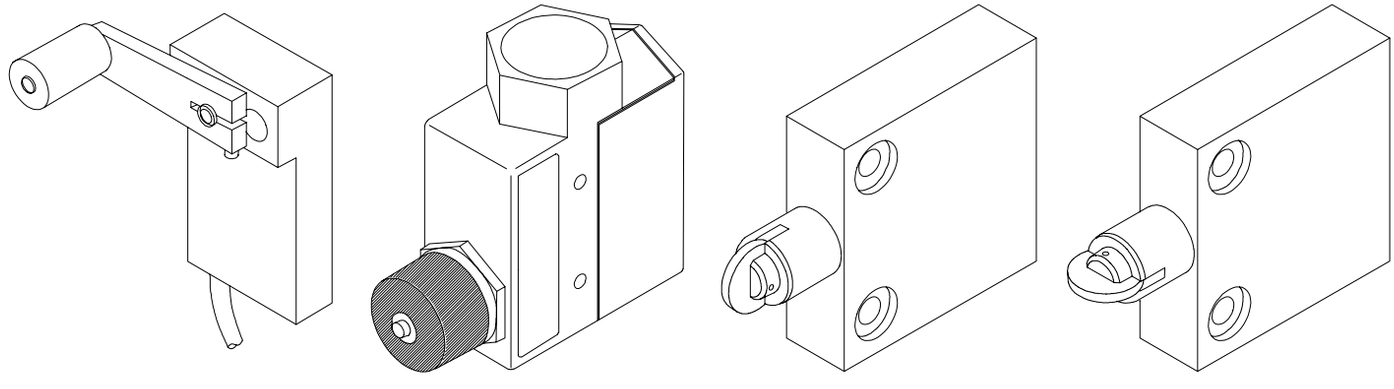


FIGURE 1a
Rotary Lever Switch

FIGURE 1b
Plunger Switch

FIGURE 1c
180° Roller Plunger

FIGURE 1d
90° Roller Plunger Switch

FIGURE 1 (MSSM0116AE)
Limit Switch Types

B

⚠ WARNING ⚠

Limit switches must function properly to ensure the safe operation of the machine.

- ☞ **Inspect switches regularly.**
- ☞ **Never operate a machine with a malfunctioning limit switch.**

Setting Switches

B

Travel of Rotary Lever or Plunger—Set switch and target so that after the switch contacts close (as determined by an ohmmeter), the lever or plunger will then move approximately half of its additional available travel (see FIGURE 2).

NOTE: It is impossible to determine by feel, sound, or experience at what point the switch contacts make. The only reliable method is to use an ohmmeter. Switches may also be bench-tested, and the plunger or rotary shaft scribed to mark this point.

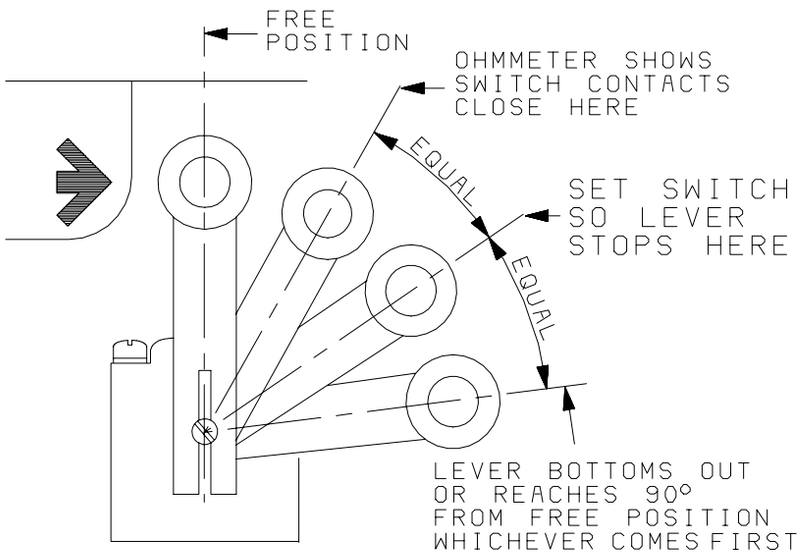


FIGURE 2a
Rotary Lever

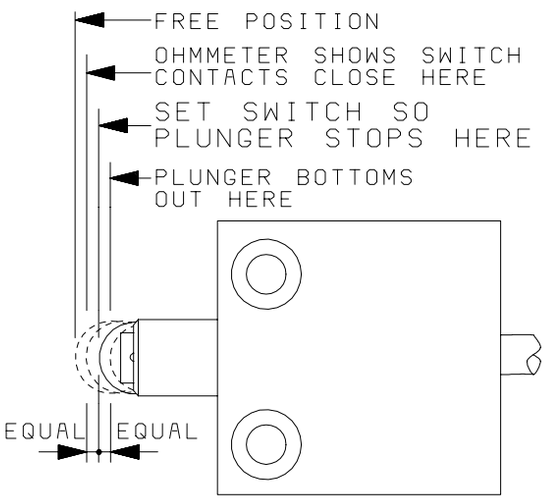


FIGURE 2b
Plunger Switches
(Roller Plunger Switch Shown)

FIGURE 2 (MSSM0116AE)
Where Lever or Plunger Should Stop

Free Position of Rotary Lever—Attach the rotary lever to the shaft so that, in the free position, the lever is at a right angle to the direction of relative movement between the switch and target (see FIGURE 3).

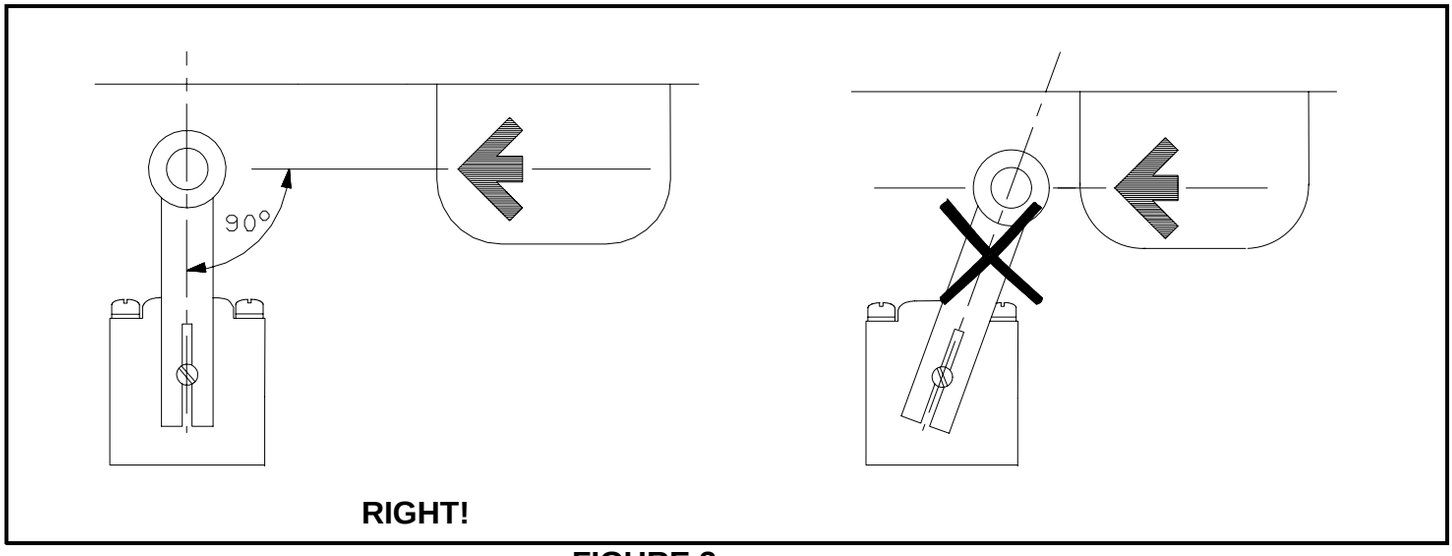


FIGURE 3 (MSSM0116AE)
Free Position of Rotary Lever

Angle of Switch—Set a plunger switch so that the target and plunger move parallel to each other. It will be approximately correct when properly installed on its mounting bracket, but may require fine adjustment.

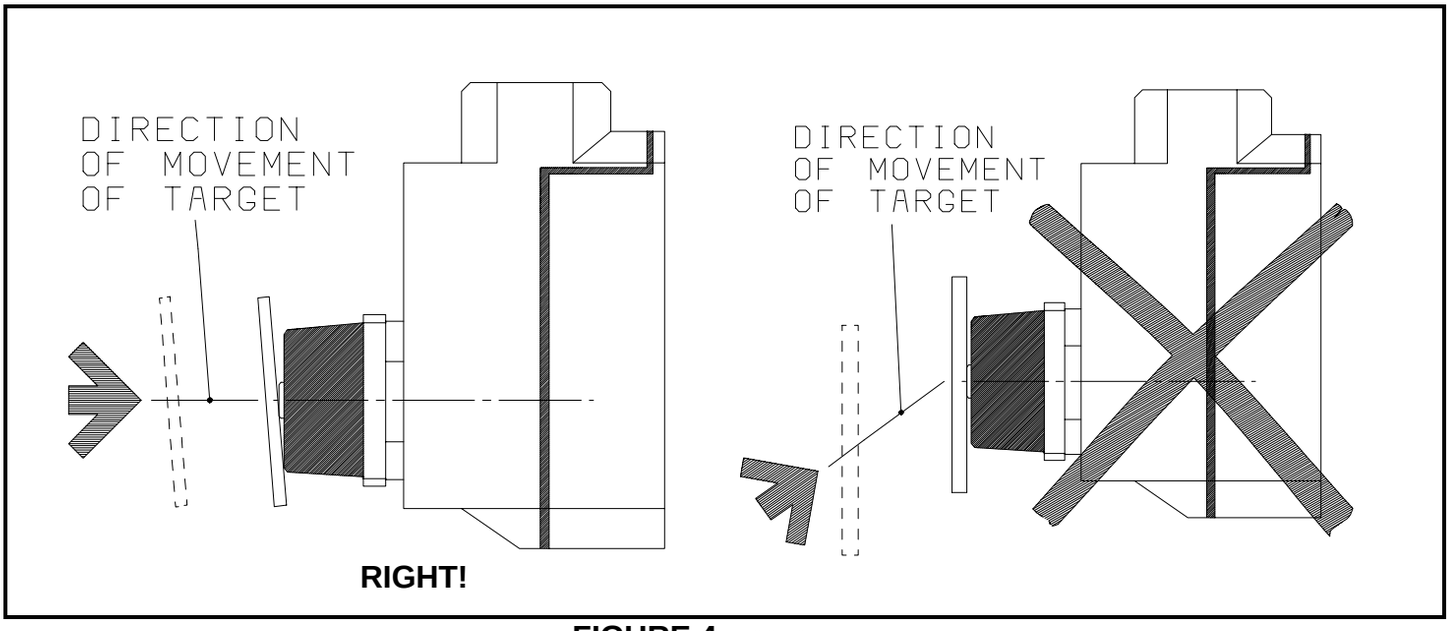


FIGURE 4 (MSSM0116AE)
Plunger Switch Angle

With a roller plunger switch, make sure that the roller rotates in the direction that will accommodate the movement of the target (not at a right angle to the target movement). Also, be sure that a replacement switch has the roller oriented the same way as the switch it replaces (see FIGURE 5).

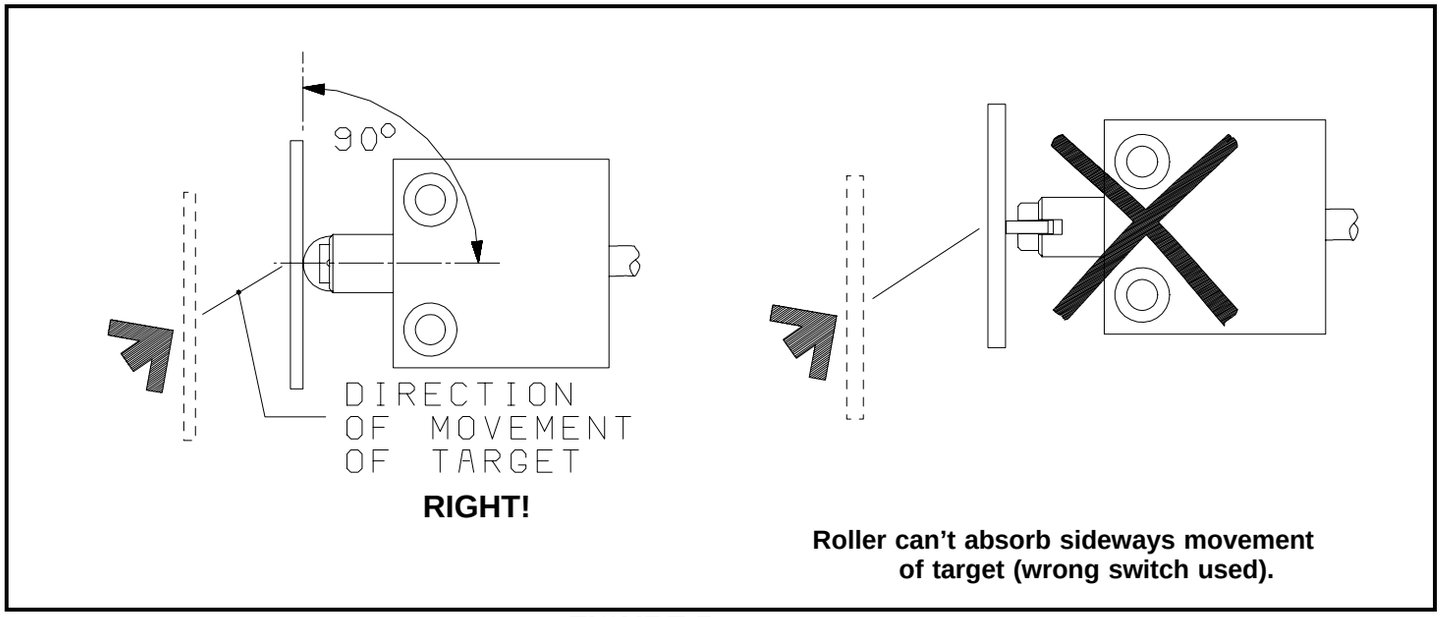


FIGURE 5 (MSSM0116AE)
Roller Plunger Switch Angle

SETTING PHOTOSENSORS

⚠ CAUTION ⚠

Excessive torque when turning potentiometers to their limits will damage them.

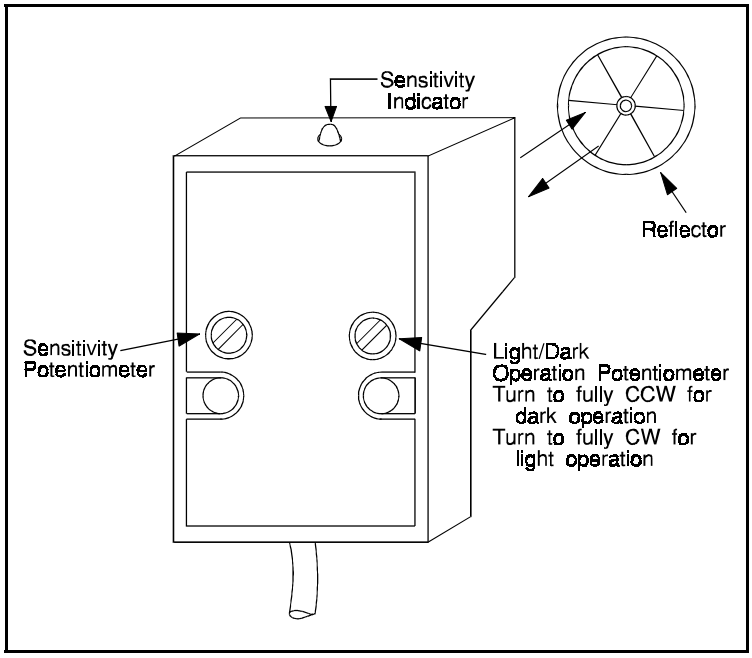


FIGURE 1 (MSSM0122AE)
Retroflective Photosensor (rear)

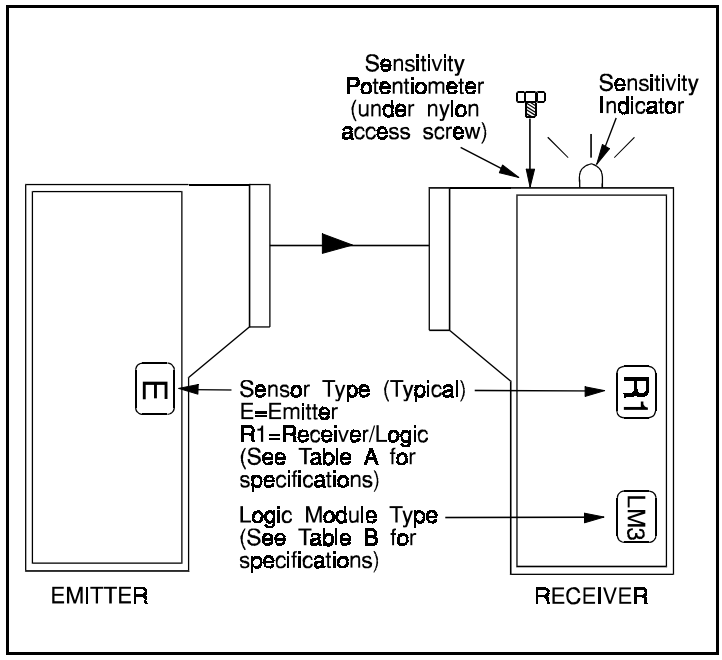


FIGURE 2 (MSSM0122AE)
Opposed-mode Photosensors

As of this writing, Milnor® uses two types of photosensors: the Banner VALU-BEAM SM-800 Retroflective and the Banner LM3 Opposed-mode models (see FIGURES 1 and 2). Both types must be properly adjusted for light or dark operation and for sensitivity. In addition, for some functions, opposed-mode photosensors have adjust-able time delays. While these devices are set at the Milnor® factory, photosensors supplied as original equipment may require adjustment to suit local conditions, and replacement units must be set initially.

NOTE: When set for dark operation, the photosensor provides an input to the Milnor® microprocessor when the beam is blocked by an object. When set for light operation, the photosensor provides an input to the microprocessor when the object normally blocking the beam is removed.

Setting Retroflective Photosensors

Retroflective photosensors use a combined receiver/emitter and separate reflector to sense when an object blocks the focused light beam. These sensors have a top-mounted sensitivity indicator that flashes faster as sensitivity is increased. Sensitivity and light/dark operation settings are made via potentiometers (see FIGURE 1). **Most Milnor® applications require dark operation.**

1. **Light/Dark Operation Potentiometer**—Adjust this single-turn potentiometer fully counterclockwise if the application calls for dark operation, or fully clockwise if it calls for light operation. When turning the potentiometer, avoid excessive torque to prevent damage.

2. **Sensitivity Potentiometer**—If this potentio-meter is turned clockwise, sensitivity increases and the sensitivity indicator flashes more rapidly. When the potentiometer is fully clockwise, the sensor is most sensitive. Adjust the sensitivity by turning the potentiometer clockwise until the indicator flashes very rapidly.

Setting Opposed-mode Photosensors

⚠ DANGER ⚠

SHOCK HAZARD—Electrical power can cause death or severe injury. Lock OFF and tag out power to the machine main bus before opening photosensor.

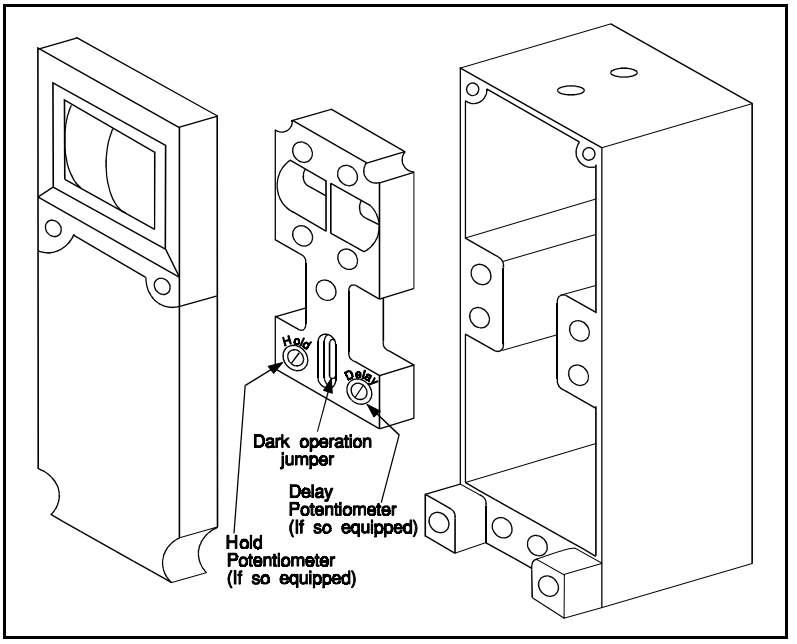


FIGURE 3 (MSSM0122AE)
Exploded View of Opposed-mode Receiver/Logic Module

Opposed-mode sensors use two units: an emitter to produce an infrared beam and a receiver/logic module to sense when objects block the beam (see FIGURE 2). The emitter-type determines the beam type and range (see Table A). The receiver/logic type determines whether the receiver reads light or dark and when it provides an input to the MILNOR microprocessor (see Table B). Receiver/logic modules are equipped with a dark operation jumper for dark operation (FIGURE 3). Removing this jumper changes the sensor to light operation. Depending on the function, the receiver/logic module may also have potentiometers for **On/Off-delay** and **Hold.** An **On-delay** potentiometer sets the amount of time the light (or dark) beam must be seen by the receiver/logic module before the input (to the MILNOR® microprocessor) makes. An **Off-delay** potentiometer sets how long the input lasts even if the beam has ceased. A **Hold** potentiometer sets the time the input will last.

Receiver/logic modules are provided with a sensitivity potentiometer (see FIGURE 2). If the potentiometer is turned fully counter-clockwise, the sensor is least sensitive, and the sensitivity indicator is extinguished. As the potentiometer is turned clockwise, sensitivity increases, and the indicator flashes more rapidly. When the potentiometer is fully clockwise, the sensor is most sensitive, and the indicator flashes so rapidly it appears steadily **ON**. Adjust the sensitivity by turning the potentiometer clockwise until the indicator begins flashing very rapidly.

Table A: Opposed-mode Sensor Types and Characteristics

Emitter/Logic Module Types	Beam	Range
E/R1	Infrared beam	150 feet (45 meters)
ED/RD1	Infrared beam	10 feet (3 meters)
EXD/RXD1	Infrared beam	30 feet (9 meters)
EV/RX1	Visible red beam	100 feet (30 meters)
EX/RX1	Infrared beam	700 feet (200 meters)

Table B: Opposed-mode Receiver/Logic Module Types and Characteristics

NOTE1: On-delay is the time delay before an input (to the MILNOR® microprocessor) is made.
NOTE 2: Hold is the length of time the input (to the MILNOR® microprocessor) is made.

Receiver/Logic Module type	The logic module provides an input to the MILNOR® microprocessor when it sees any of the following:
LM1	a light.
LM2	a change from light to dark. The input continues until the next light-to-dark change.
LM3	dark (if dark operation jumper installed) or light (if dark operation jumper removed).
LM4-2	a change from light to dark (if dark operation jumper installed) or a change from dark to light (if dark operation jumper removed).
LM4-2NR	same as LM4-2 above, but the input (to the Milnor® microprocessor) will **hold** (continue) for an adjustable time before the logic module will see the next change.
LM5	a steady light (or dark) for an adjustable **on-delay** time.
LM5R	the same as LM5 above, but the input (to the Milnor® microprocessor) will **hold** for an adjustable time.
LM5-14	a light (or dark) that lasts more than the adjustable **on-delay** time. The input (to the Milnor® microprocessor) will also **hold** for an adjustable time even if the light (or dark) ceases.
LM5T	a light (or dark). The input (to the Milnor® microprocessor) will **hold** for an adjustable time then end, even if the light (or dark) continues.
LM6-1	a light (or dark). The interval between lights (or darks) is calculated and compared to an adjustable reference time. The input (to the Milnor® microprocessor) ends if the reference time is exceeded. Alternately, the module can be adjusted so that the input ends if the interval between light (or dark) drops below the reference time.
LM8	a light (or dark) past an adjustable **on-delay** time. If the light (or dark) continues past the **on-delay** time, the input (to the Milnor® microprocessor) makes for an adjustable **hold** time. If the light (or dark) still remains at the end of the **hold** time, the input (to the Milnor® microprocessor) ends, and the **on-delay** time starts over.
LM8-1	light (or dark) past an adjustable **on-delay** time. The input to the Milnor® microprocessor makes for an adjustable **hold** time then ends.
LM8A	light (or dark) past an adjustable **on-delay** time.
LM10	five dark to light transitions. The input (to the Milnor® microprocessor) remains made for five additional light to dark transitions, then ends.

RECOMMENDED PRESS TANK FLOAT SWITCH SETTINGS FOR ITT MARLOW 1 1/2" X 1 1/2" AND GORMAN RUPP 1 1/2" X 2" PUMPS

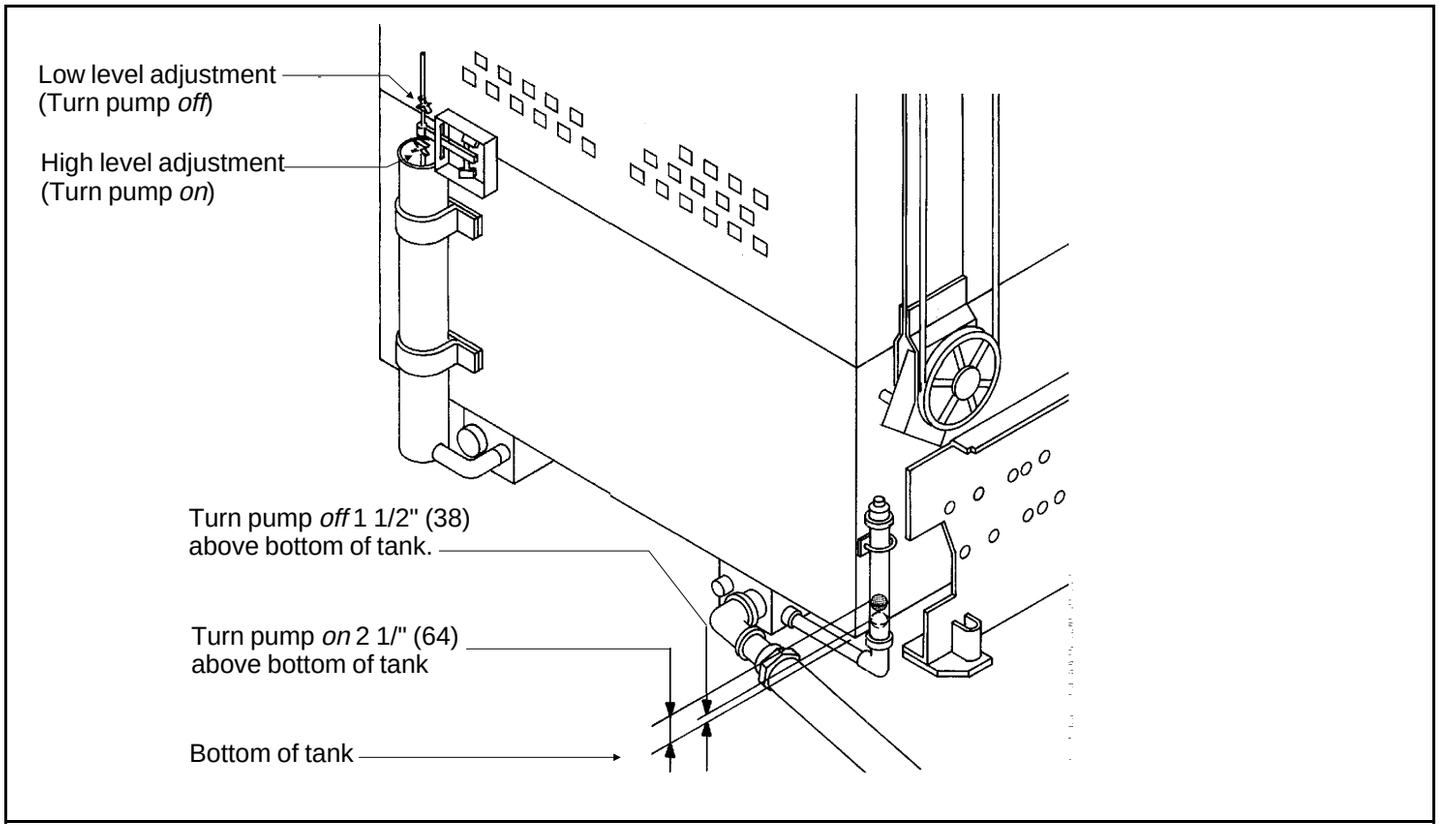


FIGURE 1 (MSSM0907AE)
Pre-press End of Press Showing Level Float and Level Indicator

Other pumps may require different float switch settings. The user is responsible for assuring that *any* pump (whether or not supplied by Milnor®) does not *cavitate* or *run dry* at any time.

NOTICE

WARRANTY VOIDED if pump damaged by *cavitation* or *running dry*.

If the pump is equipped with an outlet pressure gage and manual throttling valve, see "WHY AND HOW TO SET THE MANUAL MINIMUM PRESSURE THROTTLING VALVE ON CBW® SYSTEM PUMPS" (see Table of Contents).

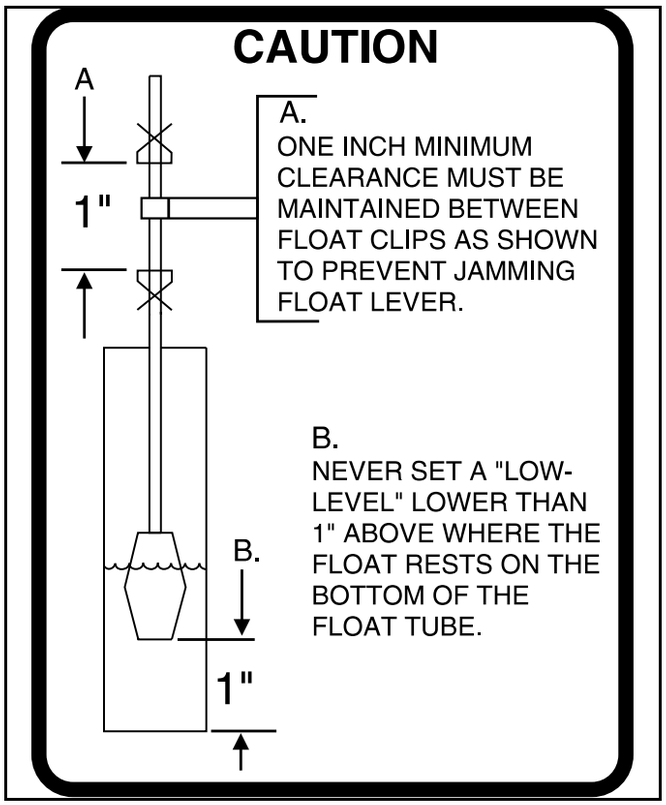


FIGURE 2 (MSSM0907AE)
Requirements for Float Tubes

BIUUUM03 (Published) Book specs- Dates: 20111018 / 20111018 / 20120629 Lang: ENG01 Applic: UUU

Motor Maintenance

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

This document is for motors used on Milnor® machines that have grease fittings. If the motor manufacturer supplies maintenance instructions, use them. If not, use this document.

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

WARNING 2: Risk of Severe Injury—A machine in operation without safety guards can pull in and mutilate your body.

- You must be an approved maintenance technician.
- Replace guards and covers that you remove for maintenance.

WARNING 3: Risk of Severe Injury—The machine has electrical power when the Master switch ($_M$) on the control panel is off or on.

- **Remove power from the machine (see Notice P1).**

1. Necessary Maintenance

1.1. Keep the motors clean.—Examine and clean motors each 500 hours of operation or a minimum of each three months. Keep the motors free of dirt, oil, grease, and water. Contamination that prevents good airflow will cause too much heat and cause motor damage.

1.2. Examine a motor that shows unusual symptoms. —Examine a motor that becomes too hot, makes noise, makes smoke, smells unusual, or opens the circuit breaker frequently. Examine a motor if the inverter gives errors. Make sure that all electrical connections are tight. Make sure that the wire insulation is good. Use a low resistance ohmmeter. Disassemble the motor to clean it fully If necessary.

1.3. Lubricate the motors.—This document gives the lubricant frequency, quantity, type, and procedure. These are all important. See the related section in document BIIFUM02 which gives the calibration procedures for grease guns.

2. How to Find the Interval and Quantity of Grease to Add

frame code—codes for the standard motor dimensions used by motor manufacturers.

standard interval—the number of hours that a motor can operate in typical conditions before you must add grease.

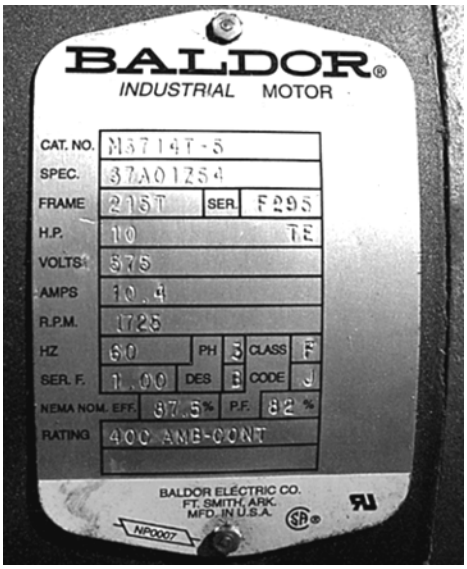
operation conditions—the conditions that can decrease the life of the motor and make it necessary to lubricate more frequently.

rating—One of three levels of operation conditions: typical, bad, very bad.

multiplication number—a decimal number given to the rating. Typical = 1.0, bad = 0.5, and very bad = 0.2.

This section gives the steps you use to find the interval and quantity of grease to add. The examples use the motor data plate shown in Figure 1.

Figure 1: Typical Data Plate on a Motor



1. Find the frame code and RPM on the motor data plate. Example:

   Frame code = 215T, RPM = 1725

2. Find the standard interval in Table 1. Example:

   Standard interval = 12,000 hours

3. Find the rating and multiplication number in Table 2 for your worst operation condition. Example: ambient temperature = 102°F (39°C). Moderate contamination.

   Rating = bad, Multiplication number = 0.5

4. Calculate the correct interval (the number of hours of operation before it is necessary to add grease). Example:

   12,000 x 0.5 = ***6,000 hours***

   Where:
   12,000 is the standard interval
   0.5 is the multiplication number for a rating = bad.

5. Find the quantity of grease for the frame code for your motor in Table 3. You can use the bearing data in the table to do maintenance. Do not use this data to adjust the quantity of grease. Example:

   grease volume = ***0.16 ounces (4.7 grams)***
   grease gun cycles = ***2.5***

Table 1: Standard Interval

NEMA (IEC)** Range of Frame Codes		Interval in Hours for the Given RPM			
		3600 RPM*	1800 RPM*	1200 RPM*	900 RPM*
Up to 215 (132)		5500	12000	18000	22000
254 to 286 (160 - 180)		3600	9500	15000	18000
324 to 365 (200 - 225)		2200	7400	12000	15000
404 to 5000 (280 - 315)	**6313 or 6314 bearings**	2200	3500	7400	10500
	Roller bearings	1100	1750	3700	5250

*** Use this column if this is near or the same RPM as your motor.**

**** Frame codes given by the IEC are shown in parentheses.**

Table 2: Operation Condition and Multiplication Number

Operation Conditions*			Rating	Multiplication Number
Maximum Ambient Temperature	**Or Atmospheric Contamination**	**Or Bearing Type**		
104°F (40°C)	Clean, not much corrosion	Ball bearing with a groove of large depth	Typical	1.0
122°F (50°C)	Moderate dirt, corrosion	Ball thrust, roller	Bad	0.5
>122°F (>50°C)	Much dirt, abrasive dust, corrosion	n.a.	Very bad	0.1

* The worst condition sets the rating.

Table 3: Grease Quantity (total quantity for all bearings in the motor)

NEMA (IEC) Range of Frame Codes	Largest Bearing Dimension in Range			Quantity of Grease *		Cycles of the Grease Gun
	Category of Bearing	Outer Diameter (mm)	Width (mm)	(Ounces)	(Grams)	
0 thru 215 (132)	6307	80	21	0.16	4.7	2.5
254 to 286 (160 - 180)	6311	120	29	0.32	9.1	5
324 to 365 (200 - 225)	6313	140	33	0.43	12.2	7
404 to 5000 (280 - 315)	NU322	240	50	1.11	31.5	18

*** This is the quantity for the two bearings.**

3. Grease Types and Procedures

Table 4: Type of Grease

Rating from Table 2	Type of Grease
Typical	Shell Dolium R, Chevron SRI, or equivalent
Bad	
Very Bad	Darmex 707 or equivalent

CAUTION 4: Damage and Malfunction Risks—Too much grease gun pressure can put grease in the motor and cause electrical components to burn out. If grease touches a brake or a clutch surface, this can cause a malfunction.

- Apply grease carefully.

Apply grease as follows:

1. **Remove power from the machine (see Notice P1).**
2. Clean grease fittings.
3. If the motor has a grease outlet plug, remove it.
4. Add the recommended quantity of grease (See Item 5). Stop immediately if you see new grease around the motor shaft, wires or the grease outlet plug.
5. If the motor has a grease outlet plug, replace it.

— End of BIUUUM03 —

PARKER OIL MIST LUBRICATOR

BMP870008
87112A

PARKER OIL MIST LUBRICATOR COMPONENT PARTS ARE IDENTIFIED IN ORDER TO SHOW HOW THE LUBRICATOR WORKS.

INSTALLATION

1. Install LUBRICATOR so Air Flow is in direction of arrows cast on body.
2. Installation should be upstream from, and as close as possible to the device it is to lubricate (valve, cylinder, tool, etc.). Wherever possible, avoid locations that require airborne oil to move in an upward direction to reach the device to be lubricated.
3. The installation of an individual lubricator for each air consuming device provides best assurance of proper lubrication.
4. In new installation, it is good practice to "wet down" the inside diameter of piping and/or hose with oil before making final connections. Although your LUBRICATOR delivers oil to the line, pre-coating the inside diameter with oil helps insure that proper amounts of oil are delivered to the point of application.

OPERATION AND SERVICE

1. FILLING — Disassembly of the oil fill plug removes and vents the bowl pressure and allows filling without shutting down the air supply line. Fill to visible rim of the bowl with oil of 150 to 200 SSU viscosity at 100°F — same as SAE No. 10 (petroleum base hydraulic oils or spindle oils are good examples). DO NOT USE OILS WITH ADHESIVES OR TACKY ADDITIVES. COMPOUNDED OILS CONTAINING SOLVENTS, GRAPHITE, SOAPS, OR DETERGENTS (automotive oils generally contain detergents) ARE NOT RECOMMENDED.
2. Replace the fill plug and seat firmly. Excessive torque is not necessary. The lubricator is now ready for setting.
3. OIL DELIVERY ADJUSTMENT — To adjust oil delivery, use a slotted screwdriver to turn the adjusting screw in the top of the lubricator.

   Leaner — Clockwise

   Richer — Counter-Clockwise

   By counting the number of drops per minute in the sight dome, you can adjust to your requirements. Generally, one drop per minute for every 10-15 SCFM flow is satisfactory.

   25 drops per minute equals one ounce per hour volume of oil passing through Sight Dome.

   NOTE: This is a constant density type lubricator which delivers a constant ratio of oil to air flow. Therefore, if air flow increases or decreases, oil delivery will be adjusted proportionately. ONLY IF A DIFFERENT RATIO IS DESIRED NEED YOUR NEEDLE VALVE SETTING BE CHANGED AFTER YOUR INITIAL SETTING.

SAFETY: TRANSPARENT BOWLS

CAUTION:

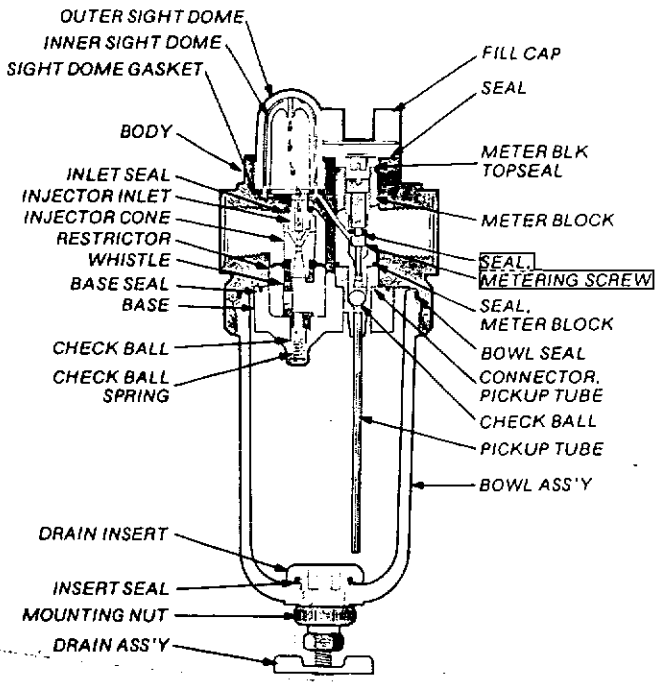
Polycarbonate bowls, being transparent and tough, are ideal for use with Filters and Lubricators. They are suitable for use in normal industrial environments, but should not be located in areas where they could be subjected to sunlight, an impact blow, nor temperatures outside of the rated range. As with most plastics, some chemicals can cause damage. Polycarbonate bowls should not be exposed to chlorinated hydrocarbons, ketones, esters and certain alcohols. They should not be used in air systems where compressors are lubricated with fire-resistant fluids such as phosphate ester and di-ester types.

Bowl guards are available for added protection of polycarbonate bowls where chemical attack may occasionally occur.

Metal bowls are recommended where ambient and/or media conditions are not compatible with polycarbonate bowls. Metal bowls resist the action of most such solvents but should not be used where strong acids or bases are present or in salt laden atmospheres. Consult the factory for specific recommendations where these conditions exist.

TO CLEAN POLYCARBONATE BOWLS USE MILD SOAP AND WATER ONLY! DO NOT use cleansing agents such as acetone, benzene, carbon tetrachloride, gasoline, toluene, etc., which are damaging to this plastic.

Bowl guards are recommended for use with polycarbonate bowls.



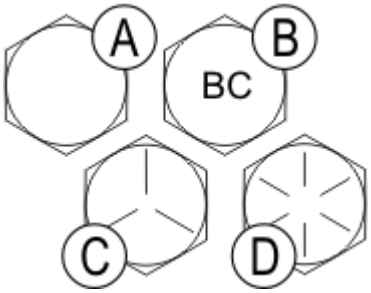
BIUUUM04 (Published) Book specs- Dates: 20180109 / 20180109 / 20180109 Lang: ENG01 Applic: UUU

Torque Requirements for Fasteners

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

The document about the assembly gives the torque requirements for other fasteners. **If fastener torque specifications or threadlocker requirements in an assembly document are different from this document, use the assembly document.**

Figure 1: The Bolts in Milnor® Equipment

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

1. Torque Values

These tables give the standard dimension, grade, threadlocker, and torque requirements for fasteners frequently used on Milnor® equipment.

Note 1: Data from the Pellerin Milnor® Corporation “Bolt Torque Specification” (bolt_torque_milnor.xls/2002096).

1.1. Fasteners Made of Carbon Steel

1.1.1. Without a Threadlocker

Table 1: Torque Values for Standard Fasteners with Maximum 5/16-inch Diameters and No Lubricant

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

Table 2: Torque Values for Standard Fasteners Larger Than 5/16-inch Diameters and No Lubricant

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

Table 3: Torque Values for Plated Fasteners with Maximum 5/16-inch Diameters and No Lubricant

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

Table 4: Torque Values for Plated Fasteners Larger Than 5/16-inch Diameters and No Lubricant

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

1.1.2. With a Threadlocker

Table 5: Threadlocker by the Diameter of the Bolt (see Note 2)

	Dimension			
LocTite Product	1/4-inch	1/4- to 5/8-inch	5/8- to 7/8-inch	1-inch +
LocTite 222	OK			
LocTite 242		OK		
LocTite 262			OK	
LocTite 272			High temperature	
LocTite 277				OK

Note 2: The acceptable bolt size ranges for various LocTite® threadlocking products is the LocTite manufacturer's **general** recommendation. Specific applications sometime require that a LocTite product is applied to a bolt size outside the ranges shown here. For example, Milnor specifies LocTite 242 for use on certain 1" bolt applications and has confirmed this usage with the LocTite manufacturer. You may see variances such as this in the documentation for specific machine assemblies.

Table 6: Torque Values if You Apply LocTite 222

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

Table 7: Torque Values if You Apply LocTite 242

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

Table 8: Torque Values if You Apply LocTite 262

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

Table 9: Torque Values if You Apply LocTite 272 (High-Temperature)

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

Table 10: Torque Values if You Apply LocTite 277

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

1.2. Stainless Steel Fasteners

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

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

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

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

2. Preparation

WARNING 2: Fire Hazard—Some solvents and primers are flammable.

- Use threadlocker and primers with sufficient airflow.
- Do not use flammable material near ignition sources.

1. Clean all threads with a wire brush or a different tool.
2. Remove the grease from the fasteners and the mating threads with solvent. Make the parts dry.

   Note 3: LocTite 7649 Primer™ or standard solvents will remove grease from parts.

3. Apply a spray of LocTite 7649 Primer™ or equal on the fasteners and the mating threads. Let the primer dry for one minute minimum.

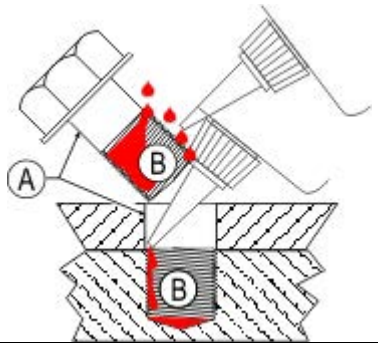
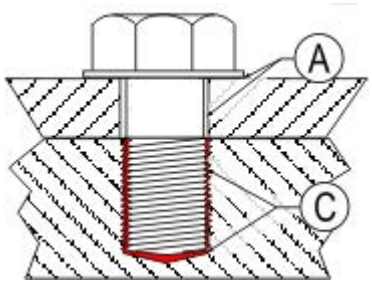
3. How to Apply a Threadlocker

CAUTION 3: Malfunction Hazard—Heat, vibration, or mechanical shocks can let the fasteners loosen if you do not apply the threadlocker correctly. Loose fasteners can cause malfunctions of the equipment.

- Read the threadlocker manufacturer's instructions and warnings. Obey these instructions.

Apply the threadlocker only to the areas where the fastener threads and the mating threads engage.

Figure 2: Blind Hole

Application	Coverage
	

Legend

A. No threadlocker here
B. Apply here
C. Fill all space with threadlocker

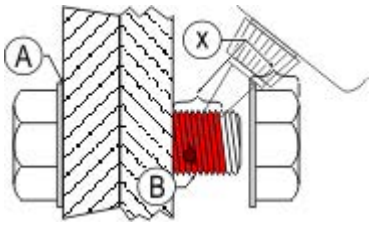
3.1. Blind Holes

1. Apply the threadlocker down the threads to the bottom of the hole.
2. Apply the threadlocker to the bolt.
3. Tighten the bolt to the value shown in the correct table (Table 5 to Table 11).

3.2. Through Holes

1. Put the bolt through the assembly.
2. Apply the threadlocker only to the bolt thread area that will engage the nut.
3. Tighten the bolt to the value shown in the correct table (Table 5 to Table 11).

Figure 3: Through Hole

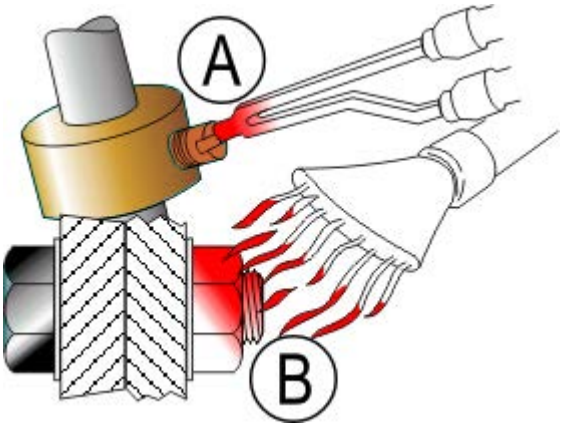
Application	Legend
	**A.** No threadlocker here **B.** Apply the threadlocker to this area **x.** Nut depth

3.3. Disassembly—For high-strength threadlocker, apply heat for five minutes. Disassemble with hand tools while the parts are hot.

For low-strength and moderate-strength threadlocker, disassemble with hand tools.

Figure 4: Disassembly

Apply Heat to a Small Area



Legend

A. How to apply heat to a small fastener
B. How to apply heat to a large fastener

— End of BIUUUM04 —

4 Assemblies and Parts

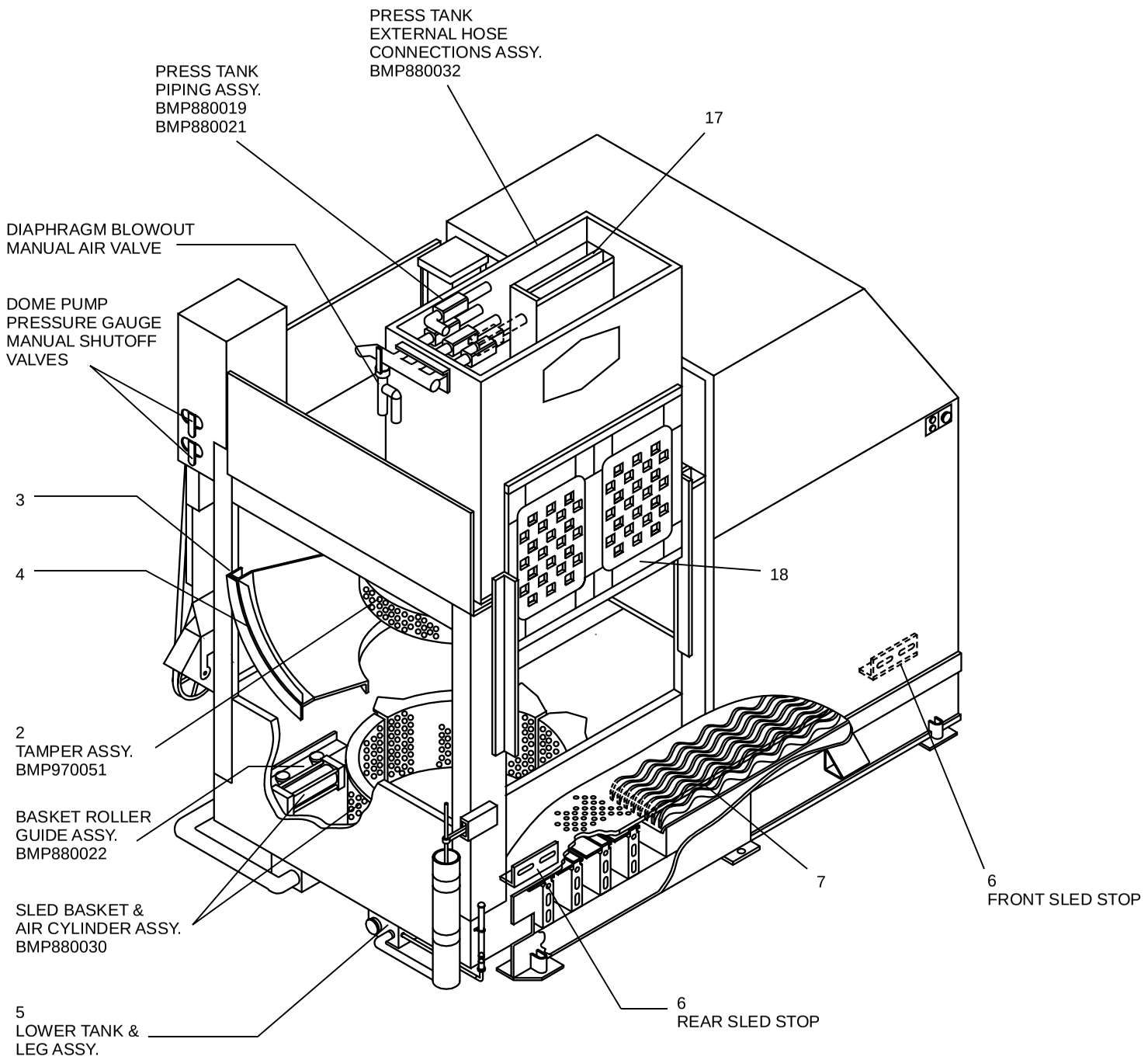
Press General Assembly (50 Kg & 60 Kg)

MP2501, MP2601, MP2606

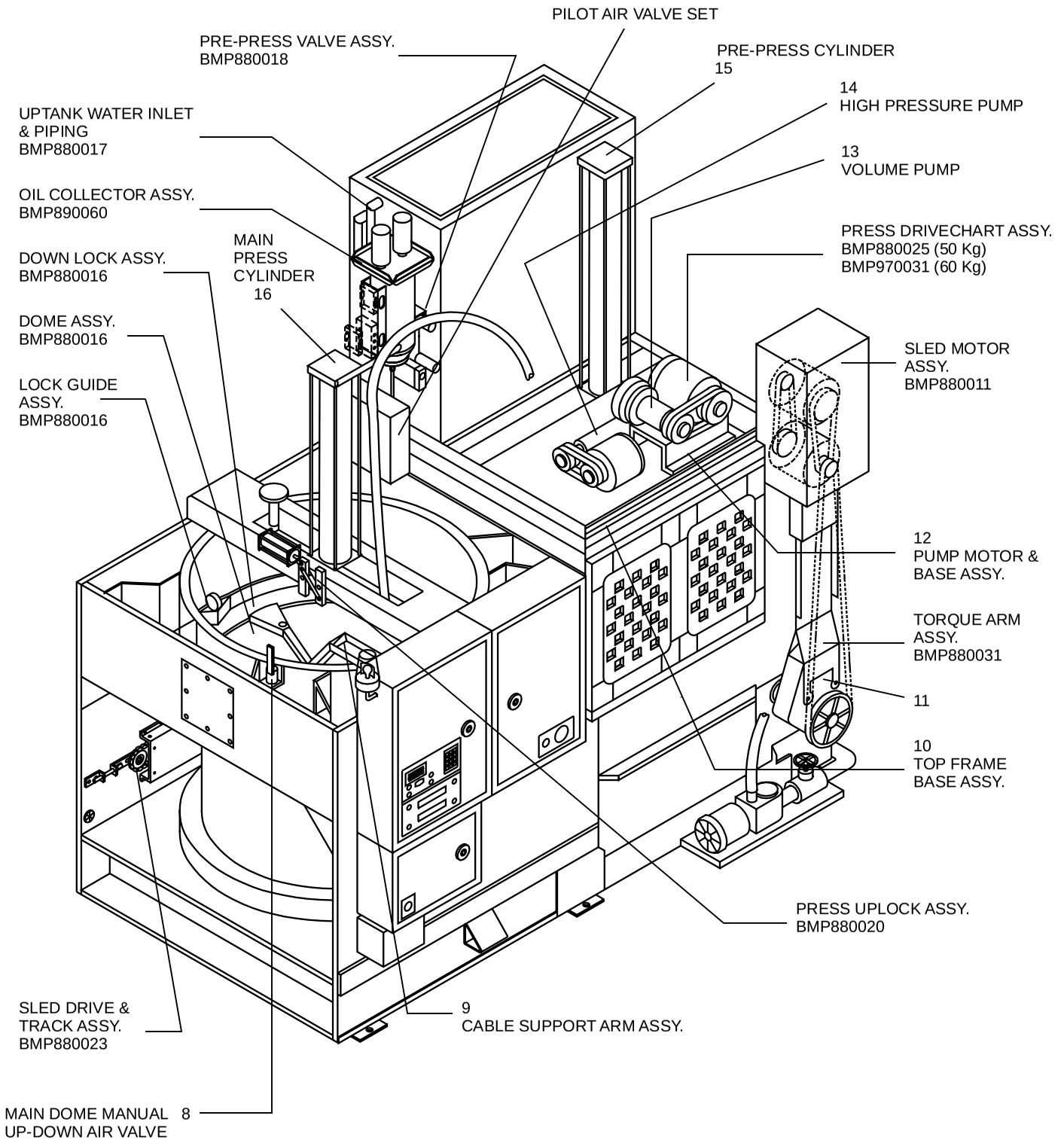
BMP870010/2005333V
(Sheet 1 of 2)

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

Litho in U.S.A.



SINGLE OR DOUBLE CLUTCH DESIGN



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

Litho in U.S.A.

Parts List—Press General Assembly (50 Kg & 60 Kg)

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

Used In	Item	Part Number	Description	Comments
----------ASSEMBLIES----------				
			none	
----------COMPONENTS----------				
all	1	96D034	04Z BALLVALVE 1/2" WATTS #6400-SS	
all	2A	A72TA001C	885163*TAMPER ASSY TILT=CENT LOAD	50KG
all	2B	A72TA001L	885163*TAMPER ASSY TILT=LEFT LOAD	50KG
all	2C	A72TA001R	885163*TAMPER ASSY TILT=RITE LOAD	50KG
all	2D	A73TA001C	93000Z ASSY=TAMPER TILT CTRLOAD 60K	60KG
all	2E	A73TA001L	93000Z ASSY=TAMPER TILT LF LOAD 60K	60KG
all	2F	A73TA001R	93000Z ASSY=TAMPER TILT RT LOAD 60K	60KG
all	3	07 20766A	91401D LOAD CHUTE FLANGE	
all	4	07 20768	87466C LOAD CHUTE FLANGE SEAL	
all	5A	A72RF003A	926461*MK2 LOWER TANK & LEG ASSY	50KG
all	5B	A73RF003A	93000Z MK2 LOWER TANK+LEG ASSY 60KG	60KG
all	6A	07 20945	89211B SLED STOP FRONT + REAR LF	
all	6B	07 20945A	89211# SLED STOP FRONT + REAR RT	
all	7	X7 20564	97183E STN.STL.COVER SHEET PRESS	
all	8	96D037	01Z 1/2"BALLVAL DOWNVNT W/LOCKHDL	
all	9A	A72SC001	86282D CABLE SUPPORT ARM ASSY E=ANY	50KG
all	9B	A73SC001	93000Z CABLE SUPP ARM ASSY E=ANY	60KG
all	10	A72TF001	86226D*TOP FRAME BASE ASSY PRESS	
all	11	54S030TA	03Z REDUCER 25.64:1 TORQUE ARM	
all	12A	A72PB001	88181D*PUMP+MOTOR BASE ASSY STD-FLO	50KG
all	12B	A72PB001A	88181D PUMP+MOTOR BASE ASSY HI FLO	50KG
all	12C	A73PB001	93000Z ASSY=PUMP+MOTOR BASE HI-FLO	60KG
all	13	27E980	05Z PUMP-VOL BURKS GNB9-1.5-9.0	
all	14A	27E970	08ZTONKPUMP SS1832GD-12400-GFN	STANDARD FLOW
all	14B	27E970A	05ZTONKPUMP SS2834DD-25400-GFN	HIGH FLOW
all	15A	27C842A	06ZAIRCYL 8X42X2 TAPERED+2CUSH	50KG
all	15B	27C848	02ZAIRCYL 8X48X2 TAPERED+2CUSH	60KG
all	16A	27C820A	10ZAIRCYL 8" X20" X2"CUSHBOTHEND	50KG
All	16B	27C1026	05ZAIRCYL10"X26"X2CUSHBOTHENDS	60KG
all	17	W7 20728	88363C*SCREEN WLDMT.UPPER PRESS TK	
all	18A	A72CG001	86000Z UPGUARDS+DOORS CENLOAD E=L	50KG
all	18B	A73CG001	93000Z UPGRD+DOORS CTRLOAD E=L	60KG

Parts List, cont.—Press General Assembly (50 Kg & 60 Kg)

Used In	Item	Part Number	Description	Comments

4

Drive Assemblies 4.1

Press Drivechart 50 Hz & 60 Hz (50 Kg Press)

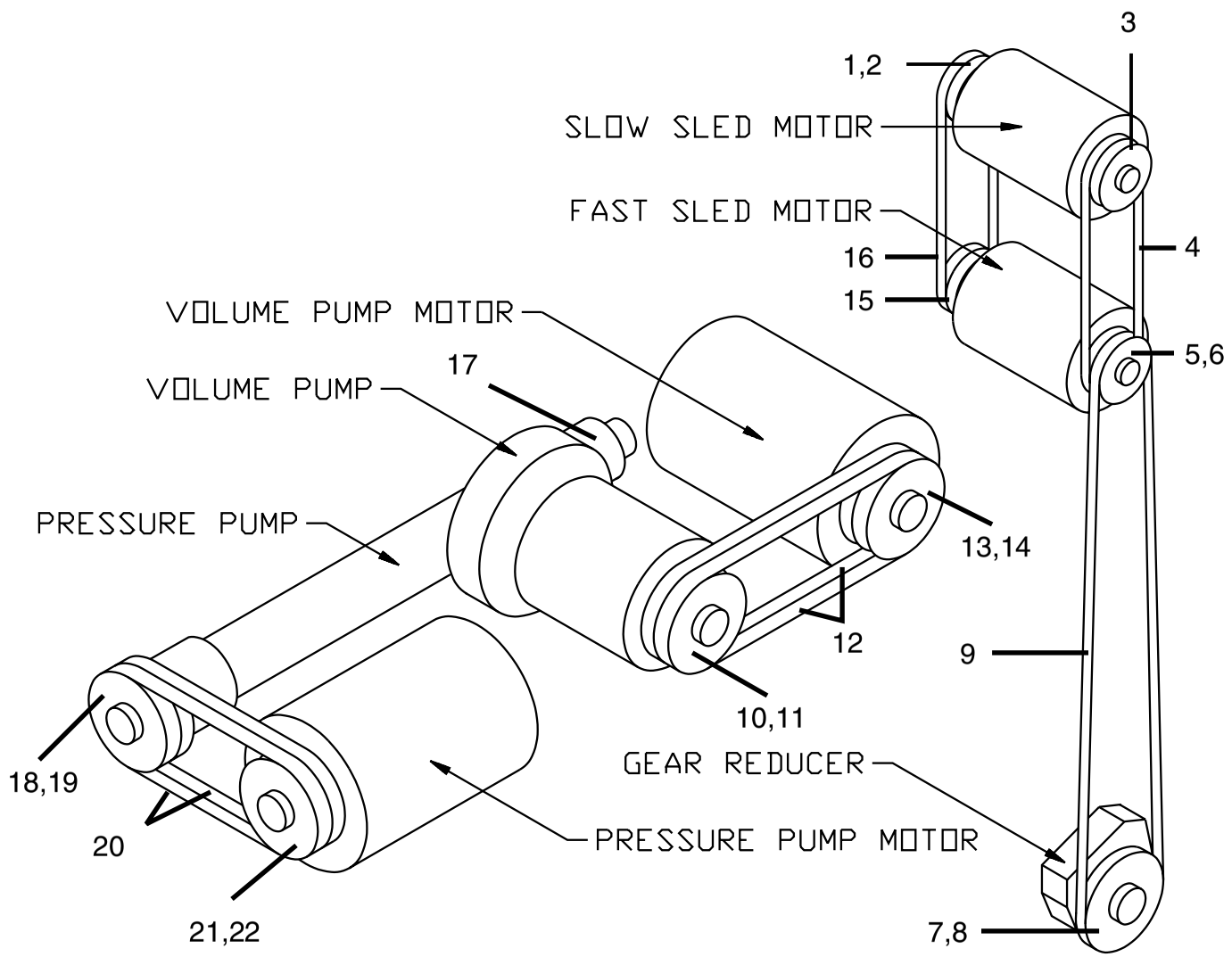
MP2501

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

BMP880025/97333V (1 of 2)

Litho in U.S.A.

SINGLE OR DOUBLE CLUTCH SLED DRIVE



NOTE: Double clutch design manufactured prior to Feb. 2, 1988. Single clutch design manufactured after Feb. 2, 1988. Machines using double clutch design may be retrofitted to single clutch design. Consult Milnor Factory.

100

Parts List—Press Drivechart 50 Hz & 60 Hz (50 Kg Press)

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	DC0000003	90152D STD.DRIVE &TENSION CHT-PRESS	FOR REFERENCE ONLY
	B	D07 20750	90152S* DRIVCHART STDFLO P-PUMP 50C	FOR REFERENCE ONLY
	C	D07 20750H	90152S* DRIVCHART HI-FLO P-PUMP 50C	FOR REFERENCE ONLY
	D	D07 20760	90152S* DRIVCHART STDFLO P-PUMP 60C	FOR REFERENCE ONLY
	E	D07 20760H	90152S* DRIVCHART HI-FLO P-PUMP 60C	FOR REFERENCE ONLY
	F	A72PT001	90136D PRESS PUMP+TANK ASSY STDFLOW	FOR REFERENCE ONLY
	G	A72PT001A	89453D PRESS PUMP+TANK ASSY HI-FLOW	FOR REFERENCE ONLY
			----------COMPONENTS----------	
all	1	56Q0RH	7/8" BUSH VPUL TYPE H,D, OR QT	
all	2	56032B1H	VPUL 1B3.2/A2.8 BK34H OR EQUAL	
all	3A	56073A20A	90057# SPLIT PULLEY-A7.7+HUB ASSY	(SINGLE CLUTCH ONLY)
all	3B	54H160AB	86521Z CLUTCH BURNISHED->54H160A	(DOUBLE CLUTCH ONLY)
all	4	56VA036X	VBELT DAYCO#AX36 (EA=1 BELT)	
all	5	56Q0RH	7/8" BUSH VPUL TYPE H,D, OR QT	
all	6	56032B2H	VPUL 2B3.2/A2.8 2BK34H R EQUAL	
all	7	56Q0PH	3/4" BUSH VPUL TYPE H,D, OR QT	
all	8	56099B1H	VPUL 1B9.9/A9.5 BK105H R EQUAL	
all	9A	56VA124S	V BELT A124	(SINGLE CLUTCH ONLY)
all	9B	56VA128S	VBELT A128 DAYCO	(DOUBLE CLUTCH ONLY)
all	10	56Q1CH	1+1/8" BUSH VPUL TYP H,D,OR QT	
all	11	56064B2H	VPUL 2B6.4/A6.0 2BK70H DYNBAL	
all	12	56VB042X	VBELT SN5-8876 BX42 (EA=1 BELT)	
D,E	13A	56Q1GP1	1+3/8" BUSH VPUL BROWNING P1	60 CYCLE ONLY
B,C	13B	56Q1GH	1+3/8" BUSH VPUL TYPE H,D,ORQT	50 CYCLE ONLY
B,C	14A	56064B2H	VPUL 2B6.4/A6.0 2BK70H DYNBAL	50 CYCLE ONLY
D,E	14B	56052B2SDS	VPUL 2B5.2/A4.8 (SDS) TYPE QD DYNBAL	60 CYCLE ONLY
all	15	54H160B	02Z CLUTCH 12VDC MA73/8A2G3	
all	16	56VA036X	VBELT DAYCO#AX36 (EA=1 BELT)	
F	17A	07 20807B	86127B FLOTROC 17GPM@300PSI VICTEND	STANDARD FLOW
G	17B	07 20807A	86127# FLOTROC 35GPM@300PSI VICTEND	HI-FLO
all	18	56Q1CH	1+1/8" BUSH VPUL TYP H,D,OR QT	
all	19	56061B2H	VPUL 2B6.1/A5.7 H B#2BK67H	
B,D,E	20A	56VB038X	V-BELT BX38 "EA"= 1 BELT	

Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400
Litho in U.S.A.

Parts List, cont.—Press Drivechart 50 Hz & 60 Hz (50 Kg Press)

Used In	Item	Part Number	Description	Comments
C	20B	56VB040X	V-BELT BX40 RAWEDGE COGGED	50 CYCLE HI-FLOW ONLY
B,C	21A	56Q1GH	1+3/8" BUSH VPUL TYPE H,D,ORQT	50 CYCLE ONLY
D,E	21B	56Q1GSDS	1+3/8" BUSH VPUL QD TYPE SDS	60 CYCLE ONLY
B,C	22A	56061B2H	VPUL 2B6.1/A5.7 H B#2BK67H	60 CYCLE ONLY
D,E	22B	56074B2H	VPUL 2B7.4/A7.0 2BK80H R EQUAL	50 CYCLE ONLY

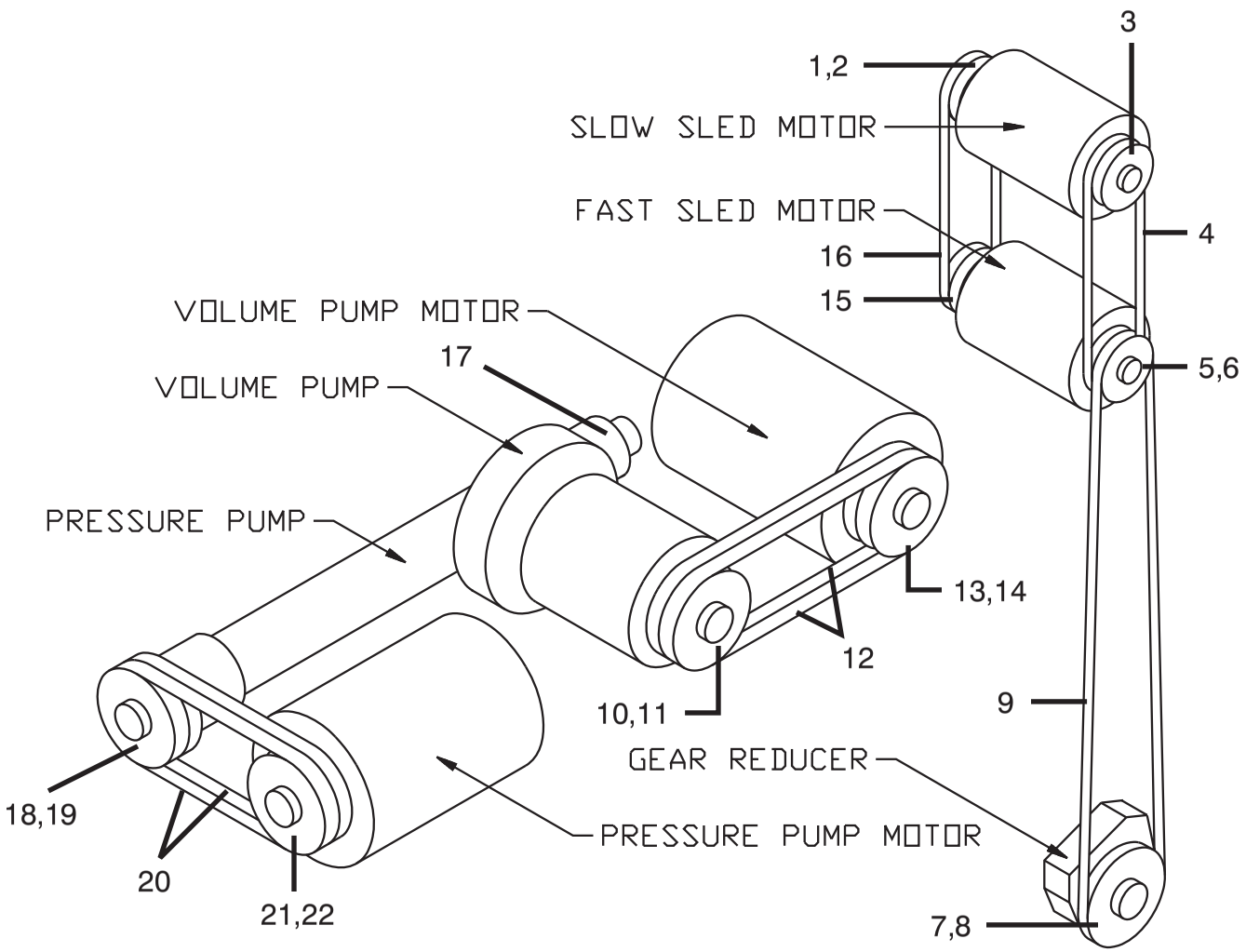
Press Drivechart 50 Hz & 60 Hz (60 Kg Press)

MP2601, MP2606

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

BMP970031/97333V (1 of 1)

Litho in U.S.A.



Parts List—Press Drivechart 50 Hz & 60 Hz (60 Kg Press)

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	DC0000005	93000Z STD.DRIVE+TENSION CHART 60KG	FOR REFERENCE ONLY
	B	D07 20850H	93000Z DRVECHART HIFLO PPUMP 50C60K	FOR REFERENCE ONLY
	C	D07 20860H	93000Z DRVECHART HIFLO PPUMP 60C60K	FOR REFERENCE ONLY
	D	A73PB001	93000Z ASSY=PUMP+MOTOR BASE HI-FLO	FOR REFERENCE ONLY
			----------COMPONENTS----------	
all	1	56Q0RH	7/8" BUSH VPUL TYPE H,D, OR QT	
all	2	56032B1H	VPUL 1B3.2/A2.8 BK34H OR EQUAL	
all	3	56073A20A	90057# SPLIT PULLEY-A7.7+HUB ASSY	
all	4	56VA036X	VBELT DAYCO#AX36 (EA=1 BELT)	
all	5	56Q0RH	7/8" BUSH VPUL TYPE H,D, OR QT	
all	6	56032B2H	VPUL 2B3.2/A2.8 2BK34H R EQUAL	
all	7	56Q0PH	3/4" BUSH VPUL TYPE H,D, OR QT	
all	8	56099B1H	VPUL 1B9.9/A9.5 BK105H R EQUAL	
all	9	56VA156S	V-BELT A156	
B	10A	56Q1CSK	1+1/8" BUSH VPUL QD TYPE SK	
C	10B	56Q1CSDS	1+1/8" BUSH VPUL QD TYPE SDS	
B	11A	56074B3SK	VPUL 3B7.4/A7.0 (SK) TYPE QD	
C	11B	56064B3SD	VPUL 3B6.4/A6.0 (SD) TYPE QD	
B	12A	56VB044X	V-BELT BX44 RAWEDGE COG	
C	12B	56VB048XM3	VBELT BX48 MATCHSET3 EA=1BELT	
B	13A	56Q1MSD	1+5/8" BUSH VPUL QD TYPE SD	
C	13B	56Q1MSK	1+5/8" BUSH VPUL QD TYPE SK	
C	14A	56060B3SD	VPUL 3B6.0/A5.4 (SD) TYPE QD	
B	14B	56080B3SK	VPUL 3B8.0/A7.6 (SK) TYPE QD	
all	15	54H160B	02Z CLUTCH 12VDC MA73/8A2G3	
all	16	56VA036X	VBELT DAYCO#AX36 (EA=1 BELT)	
all	17	07 20807A	86127# FLOTROC 35GPM@300PSI VICTEND	
all	18	56Q1CSDS	1+1/8" BUSH VPUL QD TYPE SDS	
C	19A	56064B3SD	VPUL 3B6.4/A6.0 (SD) TYPE QD	
B	19B	56060B3SD	VPUL 3B6.0/A5.4 (SD) TYPE QD	
B	20A	56VB040X	V-BELT BX40 RAWEDGE COGGED	
all	20B	56VB042X	VBELT SN5-8876 BX42 (EA=1 BELT)	
B	21A	56Q1MSD	1+5/8" BUSH VPUL QD TYPE SD	
C	21B	56Q1MSK	1+5/8" BUSH VPUL QD TYPE SK	
C	22A	56064B3SD	VPUL 3B6.4/A6.0 (SD) TYPE QD	
B	22B	56080B3SK	VPUL 3B8.0/A7.6 (SK) TYPE QD	

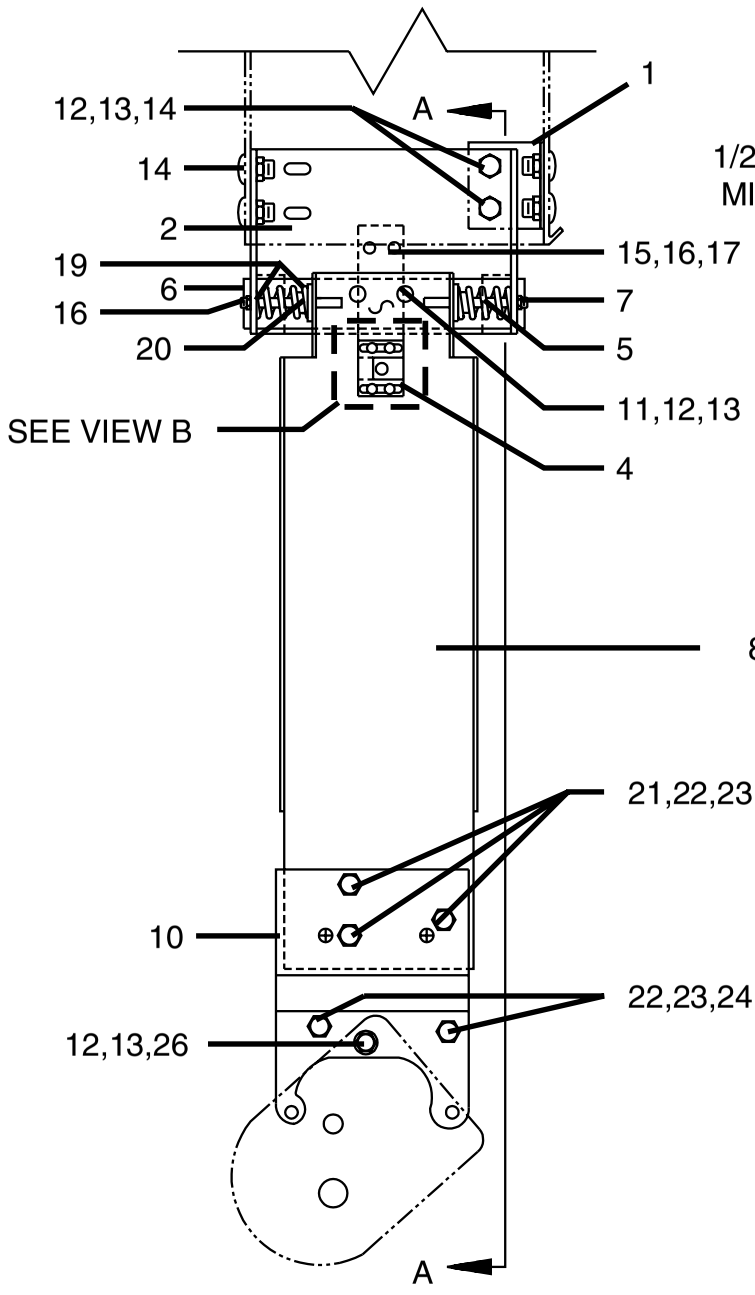
Sled Drive Torque Arm Assembly

MP2501, MP2601, MP2606

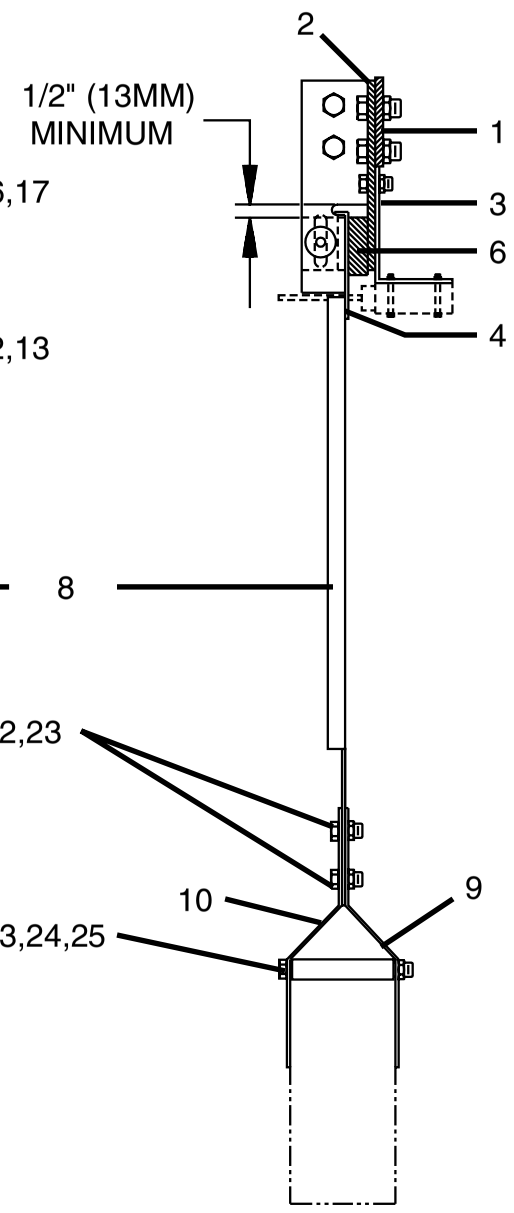
BMP880031/97353V
(Sheet 1 of 2)

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

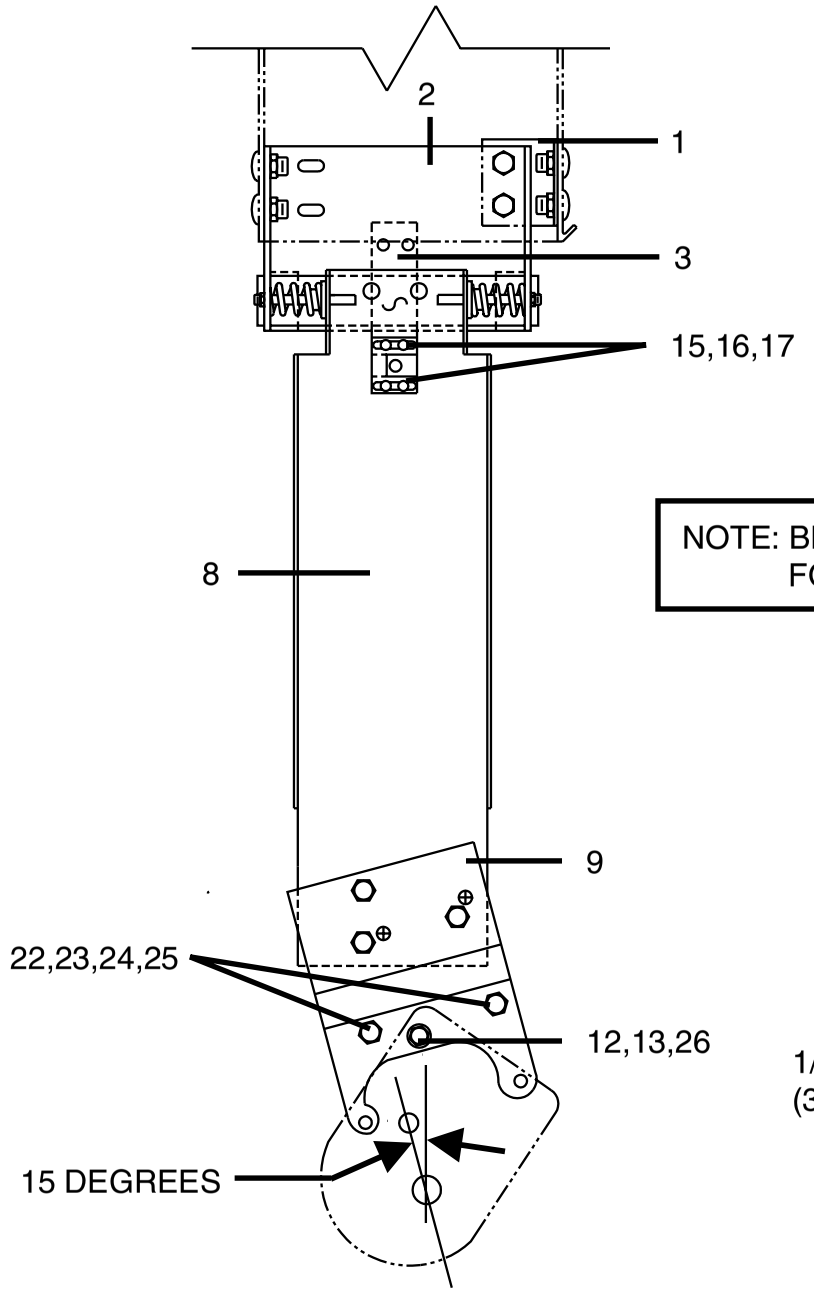
Litho in U.S.A.



RIGHT SIDE DRIVE ONLY

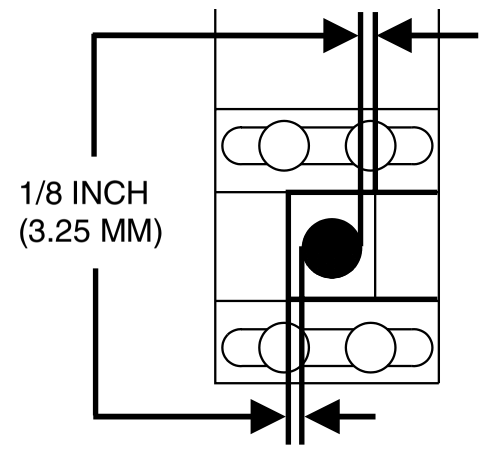


SECTION A-A



LEFT SIDE DRIVE ONLY

NOTE: BELTGUARD NOT SHOWN FOR CLARITY



VIEW B

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

Litho in U.S.A.

Parts List—Sled Drive Torque Arm Assembly

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

Used In	Item	Part Number	Description	Comments
----------			----------ASSEMBLIES----------	----------
	A	A72DS001A	88517Y*MKII SLED DRIVE TORQUE ASSY	FOR REFERENCE ONLY
	B	A73DS001A	93000Z MK II TORQUE ARM 60KG	FOR REFERENCE ONLY
----------			----------COMPONENTS----------	----------
all	1	07 21012	92433C MKII HOLD DOWN BRKT	
all	2	07 21013	92516D MKII GUIDER TORQUE BRACKET	
all	3	07 21014	88293C TORQUE ARM SWITCH BRACKET	
all	4	07 21015	88423B ACTUATOR ADJUSTING BRKT	
all	5	02 18187S	82477B SPRING=DOOR STAINLESS STEEL	
all	6	07 21016	88293B MKII TORQUE GUIDING BLOCK	
all	7	07 21017	88293B SPRING GUIDING ROD	
A	8	07 21018	88423D MK II TORQUE ARM	
B	8	07 30030	93197D SLED DRIVE TORQUE ARM 60KG	
all	9	07 21019	93481C GEAR REDUCER BRACKET LEFT	
all	10	07 21020	93481# GEAR REDUCER BRACKET RIGHT	
all	11	15K095	HXCPSCR 3/8-16UNC2AX1 GR5 ZINC/CAD	
all	12	15G201	01Z HXLOKNUT 3/8-16 NYL/SS TYPE NE	
all	13	15U240	FLATWASHER(USS STD) 3/8" ZNC PLT	
all	14	15A011	CARBOLT 3/8-16UNC2X1 ZINC GR2	
all	15	15K041	HXCAPSCR 1/4-2OUNC2AX1 GR 5 ZINC/CD	
all	16	15G166A	01Z HXLOKNUT NYL1/4-20 UNC2A STL/ZC	
all	17	15U185	FLATWASHER(USS STD) 1/4" ZNC PLT	
all	18	15G214	HXJAMNUT 3/8-16UNC2B SAE ZINC GR2	
all	19	15U210	LOKWASHER MEDIUM 5/16 ZINCPL	
all	20	07 21021	94426B REDUCING BRACKET SPACER	
all	21	15K147	HXCAPSCR 1/2-13UNC2X1 GR5 ZINC	
all	22	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	
all	23	15G230	HXNUT 1/2-13UNC2B SAE ZINC GR2	
all	24	02 02817	71108A FLANGE BRG=DOOR HINGE-NYLON	
all	24	15U314	FLATWASHER(USS STD) 5/8" ZNC PLT	
all	25	15K201C	HXCAPSCR 1/2-13UNC2AX 4.5 GR5 PLT	
all	26	15K140K	HEXCAPSCR 3/8-16 X 4.5 GR 5 ZNC	

Parts List, cont.—Sled Drive Torque Arm Assembly

Used In	Item	Part Number	Description	Comments

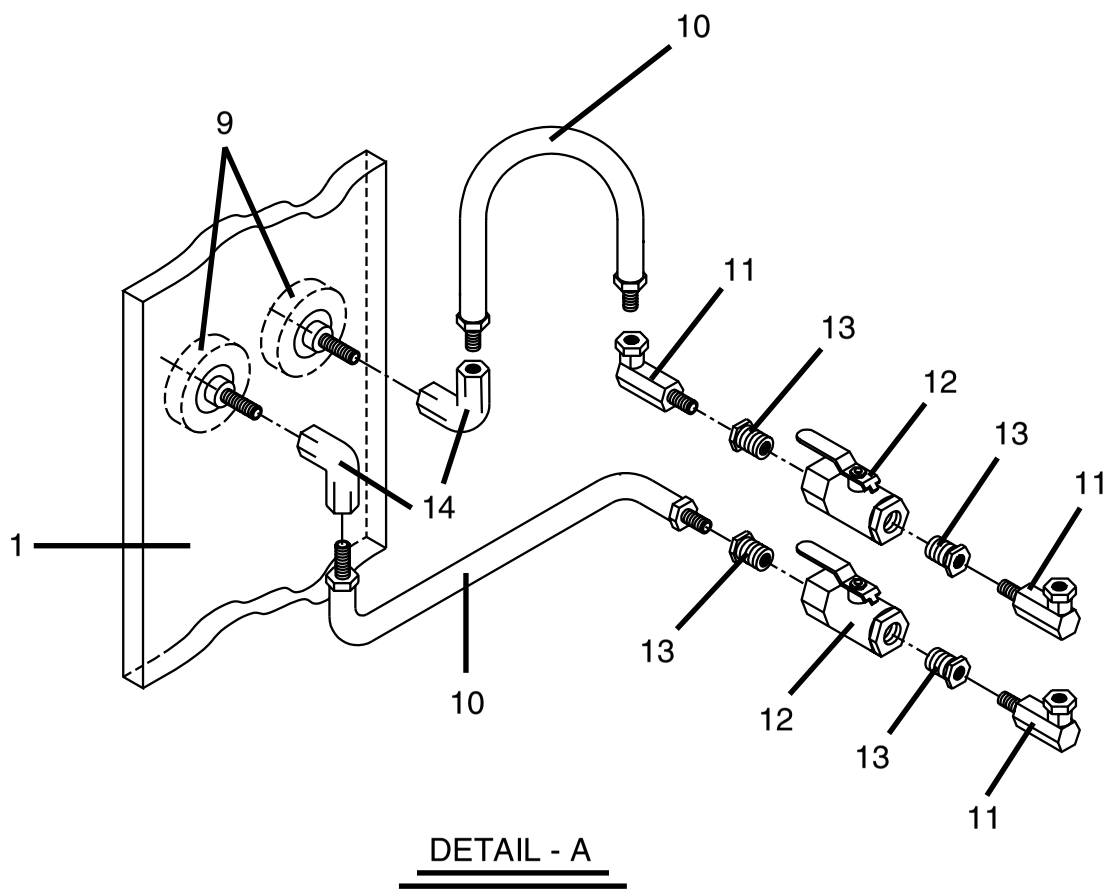
Sled Motor Assembly

MP2501, MP2601, MP2606

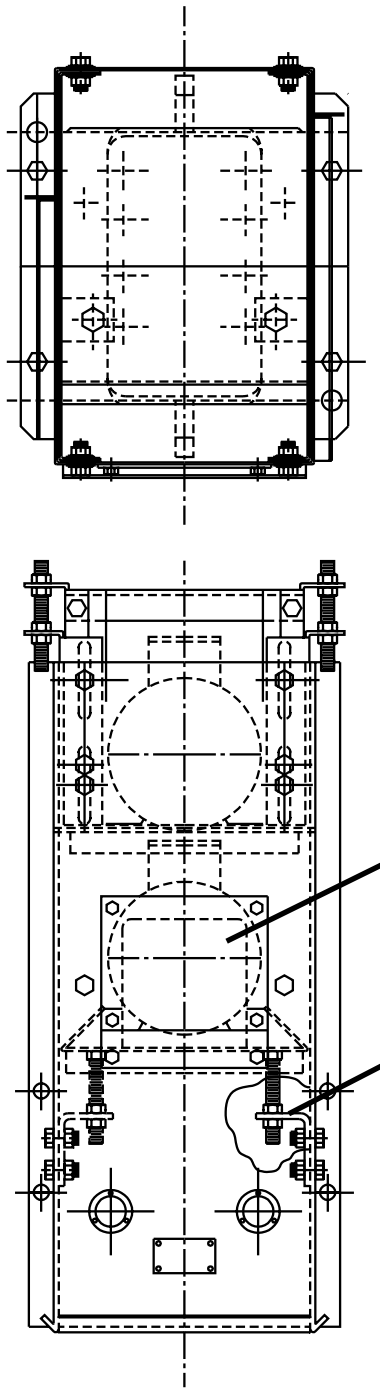
BMP880011/97461V
(Sheet 1 of 2)

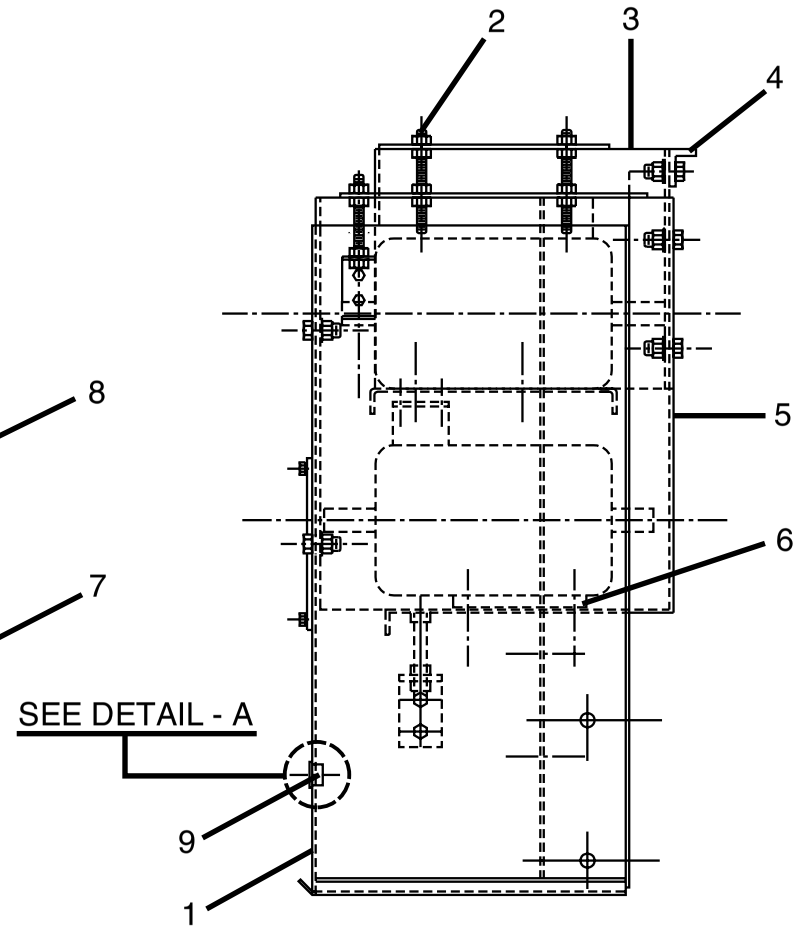
Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400

Litho in U.S.A.



DETAIL - A





105

Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400
Litho in U.S.A.

Parts List—Sled Motor Assembly

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

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	A72SD002	92361D*ASSY SLED MOTORS LEFT ELECTS	REFERENCE ONLY
	B	A72SD003	92361#*ASSY SLED MOTORS RITE ELECTS	REFERENCE ONLY
	C	A73SD002	93000Z ASSY SLED MOTORS E=L 60KG	REFERENCE ONLY
	D	A73SD003	93000Z ASSY SLED MOTORS E=R 60KG	REFERENCE ONLY
			----------COMPONENTS----------	
A,C	1A	07 20733	95252D SLED MOTOR MTG.BRKT.LEFTSIDE	
B,D	1B	07 20734	95252# SLED MOTOR MTG.BRKT.RITESIDE	
all	2	15T105	STUD 1/2"-13NCX5"THR'D.CAD PL GR2	
A,B	3A	07 20730	97171D TOP SLED MOTOR MTG.FR. PRESS	50KG ONLY
C,D	3B	07 20730B	97171# TOP SLED MOTOR MTG FR 60KG	60KG ONLY
all	4	07 20730A	87261C ANGLE TOP SLED STIFFNER	
all	5	07 20731	95303D BOT.SLED MOTOR MTG. PRESS	
all	6	07 20585	85293B SPACER BAR BASKET DRV. PRESS	
all	7	07 20533	89161C ADJ. DRIVE MOTOR BRKT. PRESS	
all	8	07 20536	88443B COVER PL.=SLED MOTOR HOUSING	
all	9	30N125	05ZGAUGE 0-1000PSI W/1/4BACKCONN	
all	10	60EH15C13A	86516N HYD HOSE 3/16"+ENDS=13"	
all	11	52XY0ER020	ADPTUNELB 1/4MPXF-NPSM	
all	12	96D034	04Z BALLVALVE 1/2" WATTS #6400-SS	
all	13	5SB0K0EHEO	NPTHEXBUSH 1/2X1/4 STLZNC 125#	
all	14	52JY0ER003	ELB90 1/4"FEM.#5504-4-4	

4 Sled Assemblies 4.2

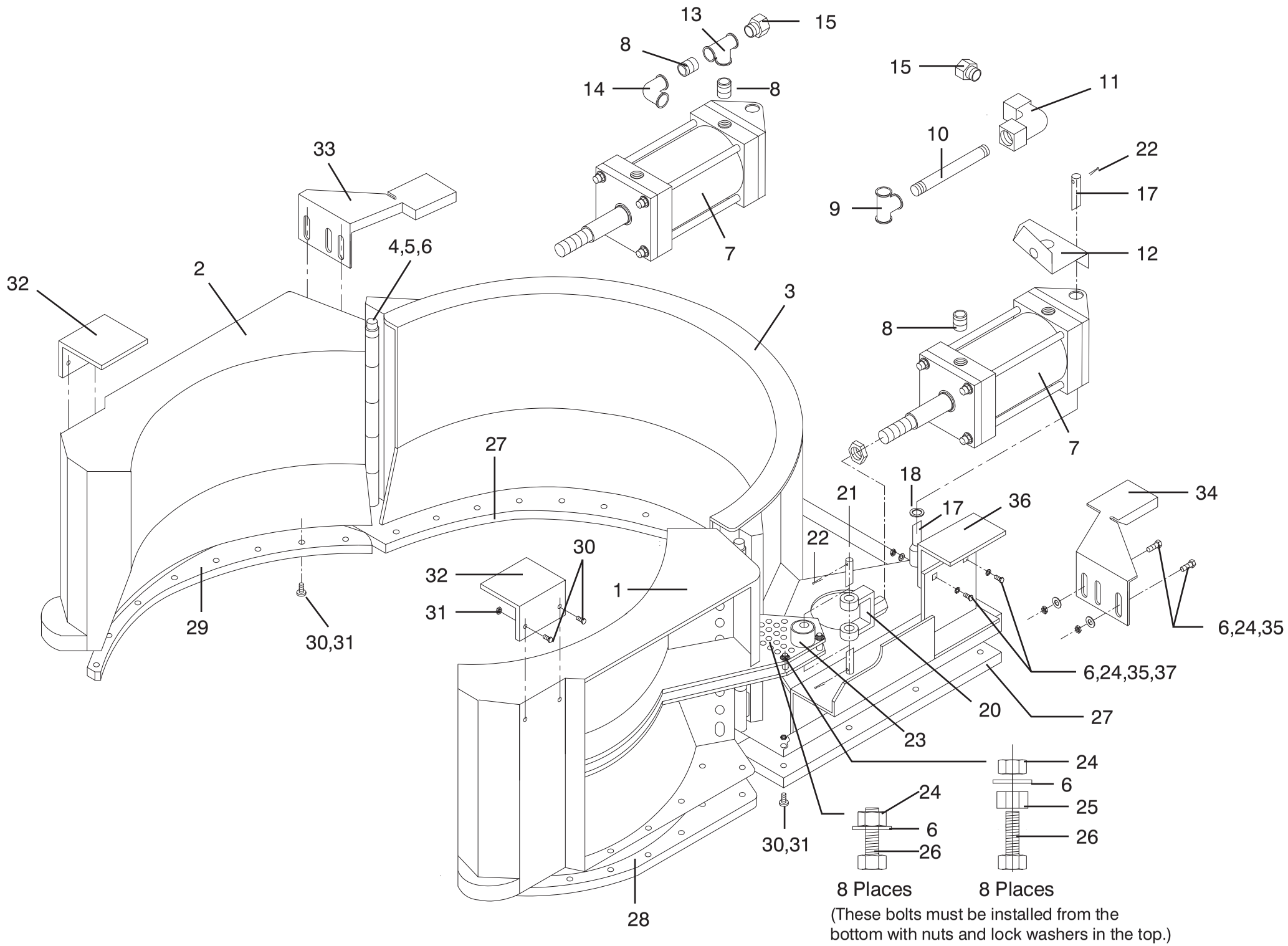
Sled Basket and Air Cylinder Assembly

MP2501, MP2601, MP2606

BMP880030/2013224B
(Sheet 1 of 2)

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

Litho in U.S.A.



(These bolts must be installed from the bottom with nuts and lock washers in the top.)

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

Litho in U.S.A.

Parts List—Sled Basket and Air Cylinder Assembly

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

Used In	Item	Part Number	Description	Comments
.				
----------			----------ASSEMBLIES----------	----------
	A	A72BA001C	SLED ASSY 32X36.3"W/1"PIN	
	B	A72BAMACH	SLED ASSY/MACH 50KG PRESS	
----------			----------COMPONENTS----------	----------
all	1	W7 20635B	*SLEDDOR WLMT.LH 32CYL36.3CON	
all	2	W7 20636B	*SLEDDOR WLMT.RH 32CYL36.3CON	
all	3	W7 20641C	*SLEDBACK WLMT 32X36.3 W/1"PI	
all	4	G72BH000	BASKET HINGE ASSY PRESS	
all	5	15K084S	HXCAPSCR 3/8-16NCX5/8 SS18-8	
all	6	15U260	LOCKWASHER MEDIUM 3/8 SS18-8	
all	7	27C700AC	AIRCYL 5X5X1 SS.ROD W/AL 1"PIN	
all	8	5N0KCLSBE2	NPT NIP 1/2XCLS TBE BRASS STD	
all	9	5S0KBEA0G	NPT TEE 1/2X1/2X3/8 BRASS 125#	
all	10	5N0G07AB42	NPT NIPPLE 3/8X7 TBE BRASS STD	
all	11	5SL0GBEA	NPTELB 90DEG 3/8 BRASS 125#	
all	12	07 20917	AIR CYL PIPE SUPPORT BKT LH	
all	13	5S0KBEA	NPT TEE 1/2" BRASS 125#	
all	14	5SL0KBEA	NPTELB 90DEG 1/2 BRASS 125#	
all	15	5SB0K0GBEO	NPTHEXBUSH 1/2X3/8 BRASS 125#	
all	16	15H061	STDCOTTERPIN 3/16X2 SS18-8	
all	18	07 20966A	MACH. WASHER PRESS AIRCYL 1"	
all	19	15G239S	HEXJAMNUT 3/4-16UNF2 SS18-8	
all	20	17A049Z	YOKE END 3/4-16UNF YELLOW ZINC	
all	21	17A045B	CLEVIS PIN W/GREASE FIT S/S	
all	22	15H045	STDCOTTERPIN 1/8X1 SS18-8	
all	23	Y7 20969	ADJ SLED PIVOT ARM MACH.	
all	24	15G206	HEXNUT 3/8-16 UNC2 SS 18-8	
all	25	07 20973	ADJ SLED PIVOT ARM SPACER	
all	26	15K112	HXCAPSCR 3/8-16X1+1/2 SS18-8	
all	27	07 20643A	SLIDERPLATE REAR SLED 36.3D	

Parts List, cont.—Sled Basket and Air Cylinder Assembly

Used In	Item	Part Number	Description	Comments
all	28	07 20634A	SLIDERPLATE LH SLEDDOR 36.3D	
all	29	07 20633A	SLIDERPLATE RH SLEDDOR 36.3D	
all	30	15N223	FLATMACSCR 3/8-16NC2 X 1+1/4 S	
all	31	15G201	HXLOKNUT 3/8-16 NYL/SS TYPE NE	
all	32	07 21075	TARGET=SLED DOOR OPEN	
all	33	W7 21078R	*TARGET=SLED CLOSE WELD RIGHT	
all	34	W7 21078L	*TARGET=SLED CLOSE WELD LEFT	
all	35	15K096	HEXCAPSCR 3/8-16UNC2X1SS18-8	
all	36	07 21062	+SLED STOP-PROX SWITCH TARGET	
all	37	15U245	FLTWASH 3/8 STD COMM 18-8 SS	

Sled Drive and Track Assembly

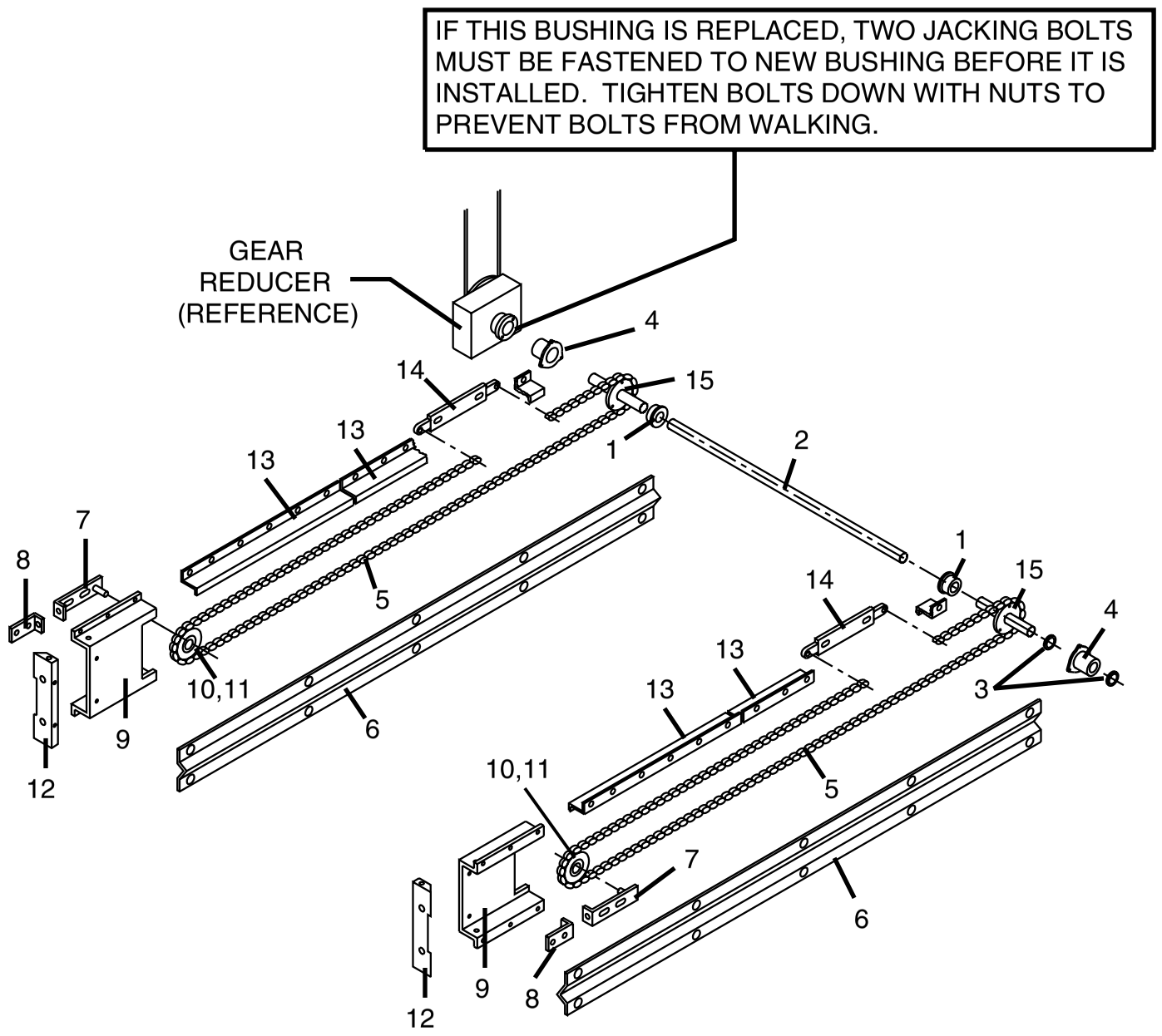
MP2501, MP2601, MP2606

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

BMP880023/97331V (1 of 1)

Litho in U.S.A.

110



Parts List—Sled Drive and Track Assembly

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

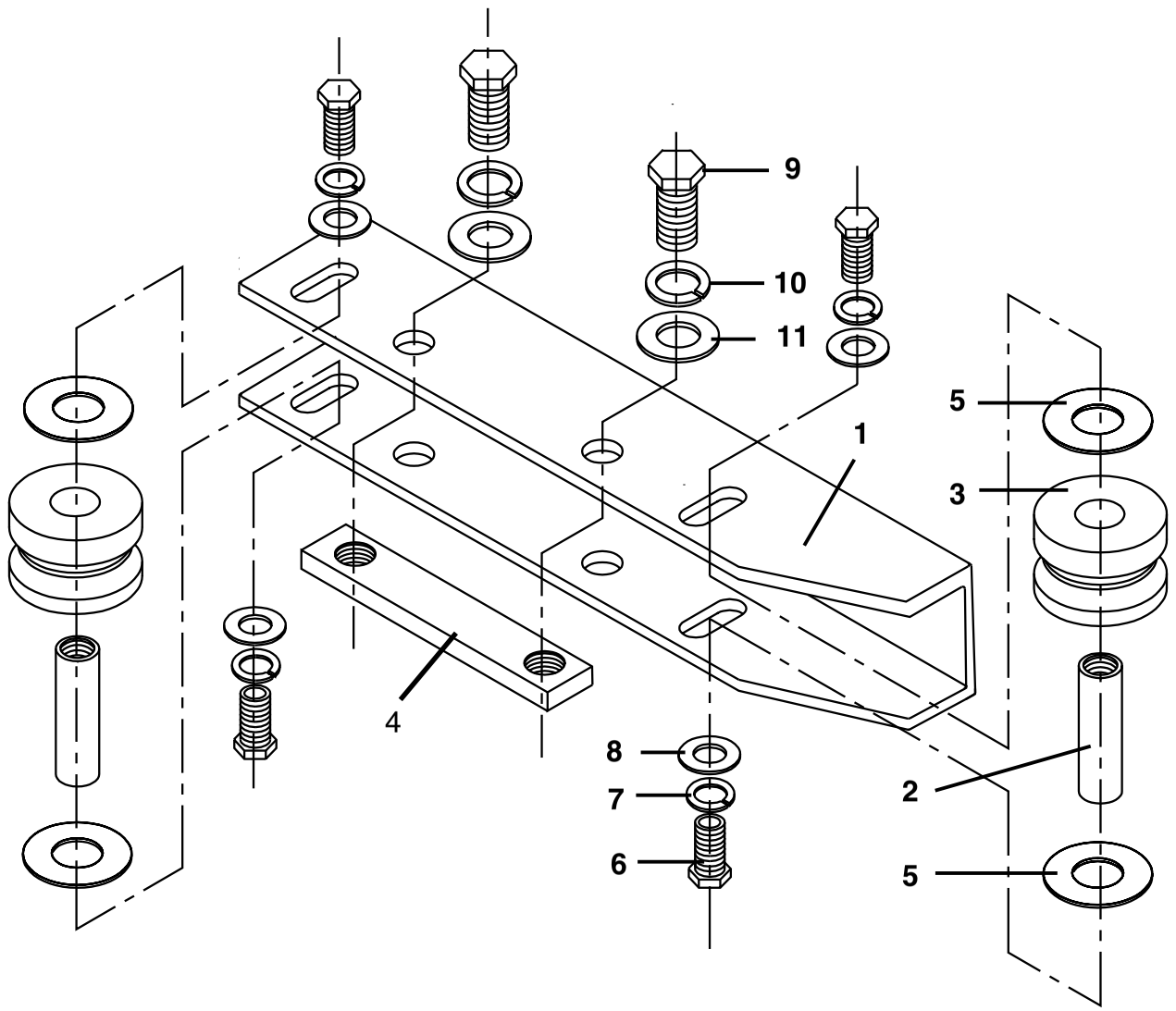
Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	A72MP001	893735 MAIN PRESS ASSY	FOR REFERENCE ONLY
	B	A73MP001	93000Z MAIN PRESS ASSY 60KG	FOR REFERENCE ONLY
	C	A72SA001C	87487D #50 SS IDLE SPROCKET&BEARING	FOR REFERENCE ONLY
	D	A72BT001A	92131D SLED DRIVE & TRACK ASSY 50SS	FOR REFERENCE ONLY
	E	A73BT001A	97000ZSLED DRIVE & TRACK ASSY 60SS	FOR REFERENCE ONLY
			----------COMPONENTS----------	
all	1	54N050H25S	SPROCKET & BUSH ASSY SPECIAL	
all	2	07 20688	94191D SHAFT-SLED DRIVE	
all	3	54JH11250A	01ZSHFTCOLLAR 1.25 CLPTYPE ALUM	
all	4	54A718	03Z FLGBRG 1+1/4" HC#FB150X1+1/4S	
all	5	54G050CSS	02Z ROLLCHAIN ANSI 50-SS-1R 5/8"P	
all	6	07 20748	88073D BASKET GUIDE TRACK	
all	7	W7 20873	87292B*IDLER BASE WLDMT.CHAIN DRIVE	
all	8	W7 20872	85473B*IDLER ADJ.WLDMT. CHAIN DRIVE	
all	9	07 20925	92063C CHAIN GUARD DISCHARGE END	
all	10	54N050C25S	90421C SPROCKET #50-25T-SS SPL 5203	
all	11A	54A918	BALLBRG D-ROW #W5203LLU W/SEAL	
all	11B	17B173	INTRETRING IND#3000-X156 SS2	
all	12	07 20925A	90466B+CHAIN GUARD END CAP-PRESS	
all	13	07 20924A	86487D PRESS CHAIN GUARD SHORT	
all	14A	X7 20867	86223# VERT.SIDE+HOLES CHAIN ATTACH	LEFT SIDE
all	14B	X7 20867R	88371# VERT.SIDE+HOLES CHAIN ATTACH	RIGHT SIDE
all	15	54N050H25S	SPROCKET & BUSH ASSY SPECIAL	

Basket Roller Guide

MP2501, MP2601, MP2606

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

Litho in U.S.A.



Parts List—Basket Roller Guide

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	A72BB002	86152Y*BASKET ROLLER GUIDE	FOR REFERENCE ONLY
			----------COMPONENTS----------	
all	1	07 20637	96306C GUIDE CHANNEL LEFT+RIGHT	
all	2	07 20639	85504B BASKET GUIDE ROLLER PIN	
all	3	07 20640	85023B BASKET GUIDE ROLLER PR2	
all	4	07 20769	85206B ROLLER GUIDE TAP STRIP	
all	5	15U321	FLTWSHR 2"ODX.812IDX.10 304S/S	
all	6	15K086	HXCAPSCR 3/8-16NCX3/4 SS18-8	
all	7	15U260	LOCKWASHER MEDIUM 3/8 SS18-8	
all	8	15U245	01Z FLTWASH 3/8 STD COMM 18-8 SS	
all	9	15K153	07Z HXPSCR 1/2 WCX1.25S.S.	
all	10	15U310	LOKWASHER REGULAR 1/2 SS18-8	
all	11	15U310S	85467B FLATWASH-SS .53 X 1.37 .187T	

4

Pre-Press and Tamper Assemblies 4.3

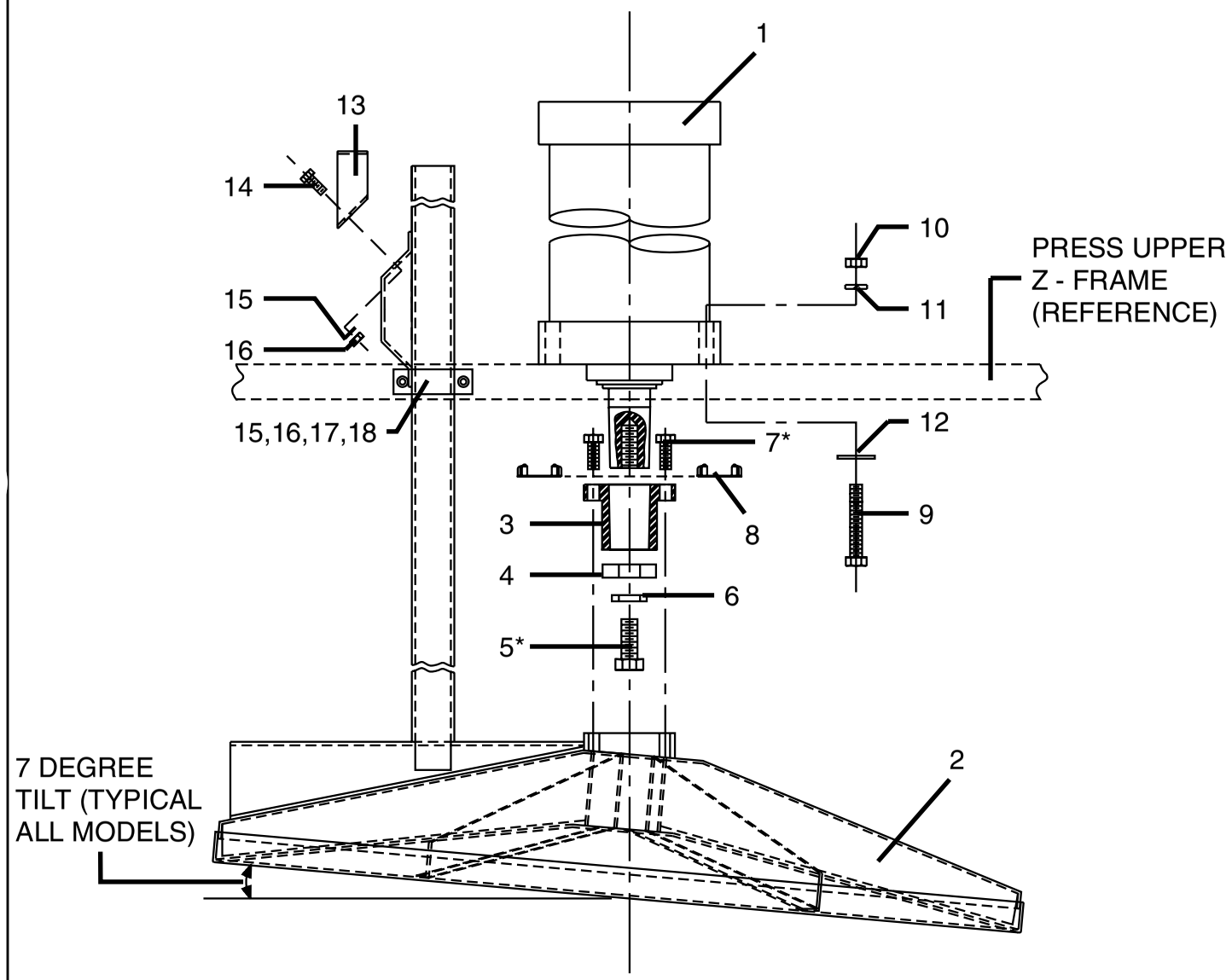
Pre-Press Tamper Assembly

MP2501, MP2601, MP2606

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

BMP970051/97383V (1 of 1)

Litho in U.S.A.



*ITEMS 5 AND 7 ASSEMBLED WITH THREAD SEALANT
(SEE PARTS LIST, ITEM 19)

NOTE: TAMPER FOR CENTERLOAD PRESSES SHOWN - TAMPERS FOR LEFTLOAD AND RIGHTLOAD PRESSES SIMILAR. REFER TO PARTS LIST FOR OTHER MODELS.

Parts List—Pre-Press Tamper Assembly

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

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	A72TA001C	885163*TAMPER ASSY TILT=CENT LOAD	FOR REFERENCE ONLY
	B	A72TA001L	885163*TAMPER ASSY TILT=LEFT LOAD	FOR REFERENCE ONLY
	C	A72TA001R	885163*TAMPER ASSY TILT=RITE LOAD	FOR REFERENCE ONLY
	D	A73TA001C	93000Z ASSY=TAMPER TILT CTRLOAD 60K	FOR REFERENCE ONLY
	E	A73TA001L	93000Z ASSY=TAMPER TILT LF LOAD 60K	FOR REFERENCE ONLY
	F	A73TA001R	93000Z ASSY=TAMPER TILT RT LOAD 60K	FOR REFERENCE ONLY
			----------COMPONENTS----------	
A,B,C	1A	27C842A	06ZAIRCYL 8X42X2 TAPERED+2CUSH	50KG ONLY
D,E,F	1B	27C848	02ZAIRCYL 8X48X2 TAPERED+2CUSH	60KG ONLY
A	2A	W7 20691C	93303D*TAMPER WLMT TILT=CENTER LOAD	50KG ONLY
B	2B	W7 20691L	93303D*TAMPER WLMT TILT=LEFT LOAD	50KG ONLY
C	2C	W7 20691R	93303D*TAMPER WLMT TILT=RITE LOAD	50KG ONLY
D	2D	W7 30088C	93303#*WLMT=TAMPER TILT CTRLOAD 60K	60KG ONLY
E	2E	W7 30088L	93303#*WLMT=TAMPER TILT LF LOAD 60K	60KG ONLY
F	2F	W7 30088R	93303#*WLMT=TAMPER TILT RT LOAD 60K	60KG ONLY
all	3	07 20690A	96112B TAMPER CYL DISC W/TAPER	
all	4	07 20690B	92757L PRE-PRESS TAMPER WASHER	
all	5	15B200	HEXCAPSCR 3/4-10X1+3/4 SS18-8	
all	6	15U350	LOCKWASHER 3/4 MED SS18-8	
all	7	15K162M	HEXCAPSCR 1/2-13UNC2A X 1.5 (MONEL)	
all	8	07 20974	86243B RETAINER 1/2-13 SCR 3+3/8 BC	
all	9	15K226K	HXCAPSCR 5/8-11UNC2AX3.5 GR5 ZNC/CD	
all	10	15G238	HXNUT 5/8-11UNC2B SAE ZINC GR2	
all	11	15U315	LOKWASHER MEDIUM 5/8 ZINCPL	
all	12	15U241	FLATWASHER 13/32IDX1+3/4ODX14GA ZNC	
all	13	W7 21070	91212#*WLMT=PRESS PROXIMITY SW TAR	
all	14	15K086	HXCAPSCR 3/8-16NCX3/4 SS18-8	
all	15	15U260	LOCKWASHER MEDIUM 3/8 SS18-8	
all	16	15G206	HEXNUT 3/8-16 UNC2 SS 18-8	
all	17	15N223	FLATMACSCR 3/8-16NC2 X 1+1/4 SS18-8	
all	18	07 20633B	94103B BASKET DOOR TOP SLIDER	
all	19	20C009	ADH/SEALANT-50CC LCT#277-31	

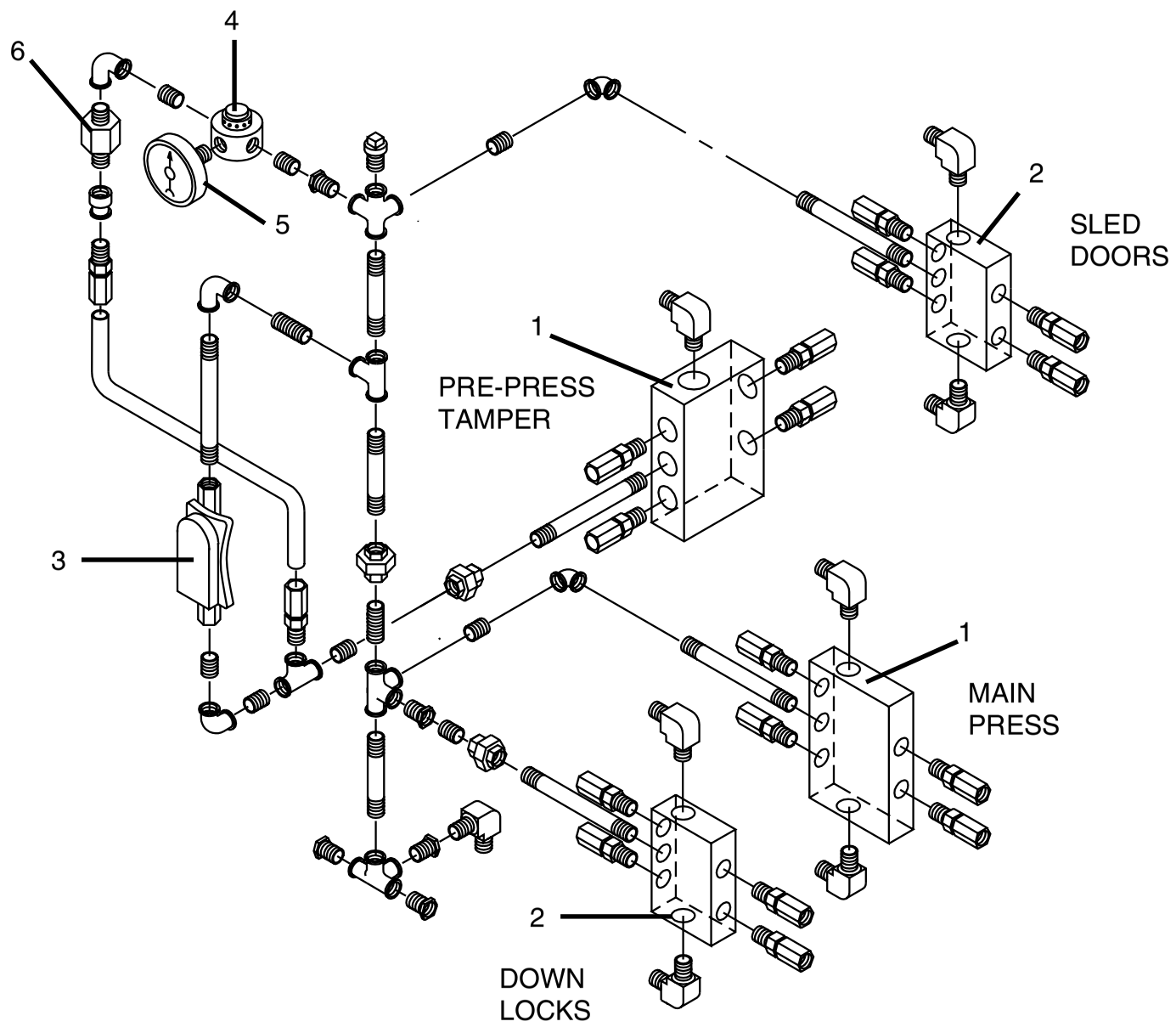
Pre-Press Valve Assembly

MP2501, MP2601, MP2606

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

BMP890056/97383V (1 of 1)

Litho in U.S.A.



Parts List—Pre-Press Valve Assembly

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

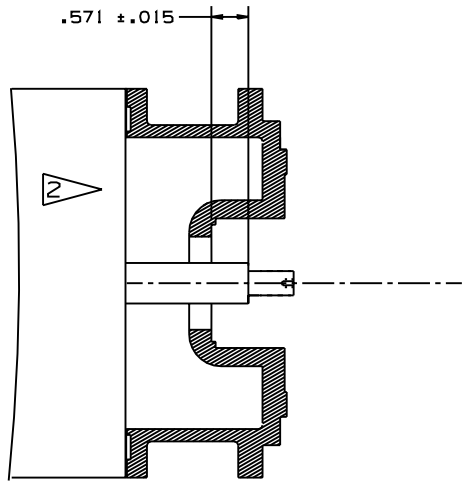
Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	A72AV001A	870233 PRE-PRESS VAL ASSY=LO PRESS	FOR REFERENCE ONLY
	B	A73AV001A	94000Z PRE-PRESS VAL ASSY=LO PRE 60	FOR REFERENCE ONLY
	C	MSFDD420AE	8836BV HOW PRESS PNUMATICS WORK <>	
			----------COMPONENTS----------	
all	1	96N0013HU	01ZSHUTLVLV 1/2"4WAY CENTER-OFF	
all	2	96N0010H	05ZSHUTLVLV 1/4" 4WAY AIROPERATED	
all	3	96TDC2AA24	04Z 1/2" N/C 2WAY 24V50/60C VALVE	
all	4	96J019F	1/4PRESREG5-100PS#R07-200-RNKA	
all	5	30N101	09ZPRESSGAUGE 1/8"BACKCN.0-60PSI	
all	6	96D044BCK	01Z 1/2" STEAM CHECK VALVE	

Milnor Centrifugal Pump

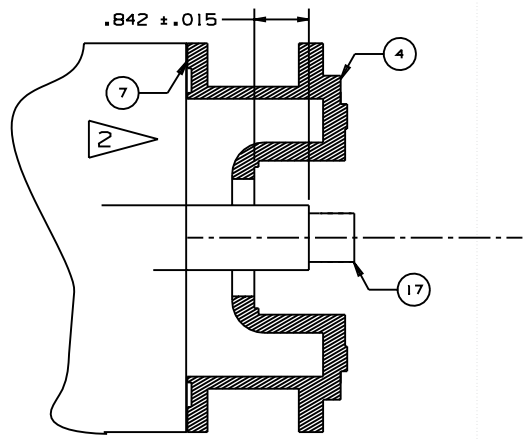
BMP930027/98092V
(Sheet 1 of 2)

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

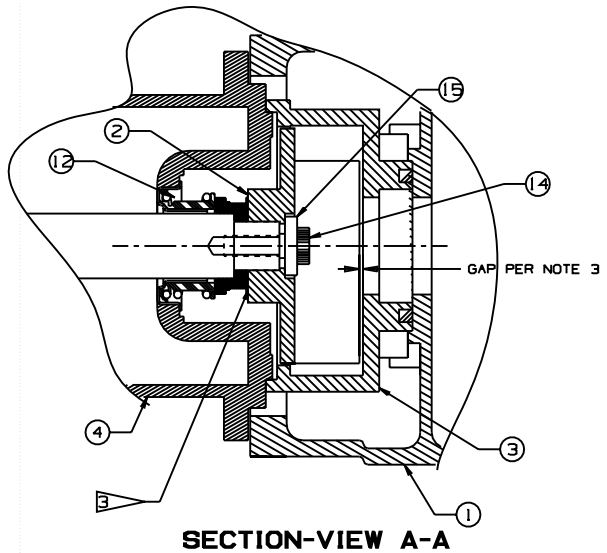
Litho in U.S.A.



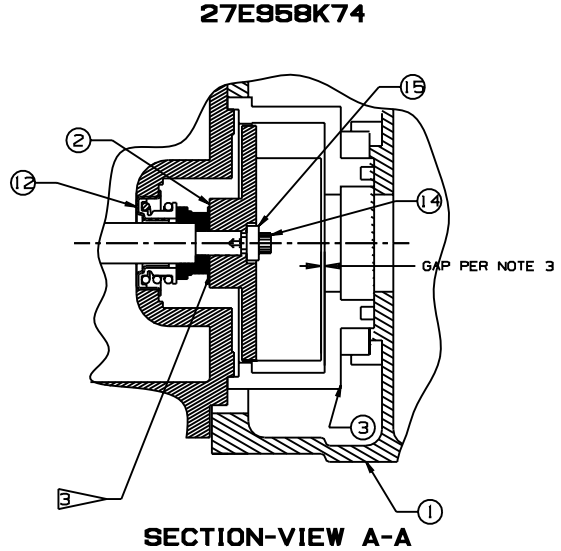
DETAIL-A1
27E958K74



DETAIL-A1
27E959K74



SECTION-VIEW A-A
27E959K74



SECTION-VIEW A-A
27E958K74

NOTES:

1. IMPORTANT: KEEP SEAL IN ITS ORIGINAL WRAPPER UNTIL READY TO USE. IT IS VERY IMPORTANT THAT NO GREASE OR ANY OTHER FOREIGN MATTER, INCLUDING FINGER PRINTS, AND SEAL LUBRICANT ON THE MATING SURFACES OF THE SEALS (ITEM 12). CONTAMINANTS ON THESE SURFACES WILL CAUSE THE SEAL TO FAIL PREMATURELY.
2. INSTALL GASKETS (ITEM 7) AS REQUIRED TO OBTAIN THE DIMENSION BETWEEN PUMP SHAFT STEP (ITEM 17) AND ADAPTER SEAL SEAT (ITEM 4), AS PER DETAIL-A1.
3. INSTALL WASHER (ITEM 10 AND 11) AS REQUIRED TO OBTAIN A .005 GAP BETWEEN IMPELLER (ITEM 2) AND DIFFUSER (ITEM 3).
4. ITEM 20 (STRAINER BASKET) APPLIES TO 27E958K74A AND 27E958K98A ONLY.

Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400
Litho in U.S.A.

Parts List—Milnor Centrifugal Pump

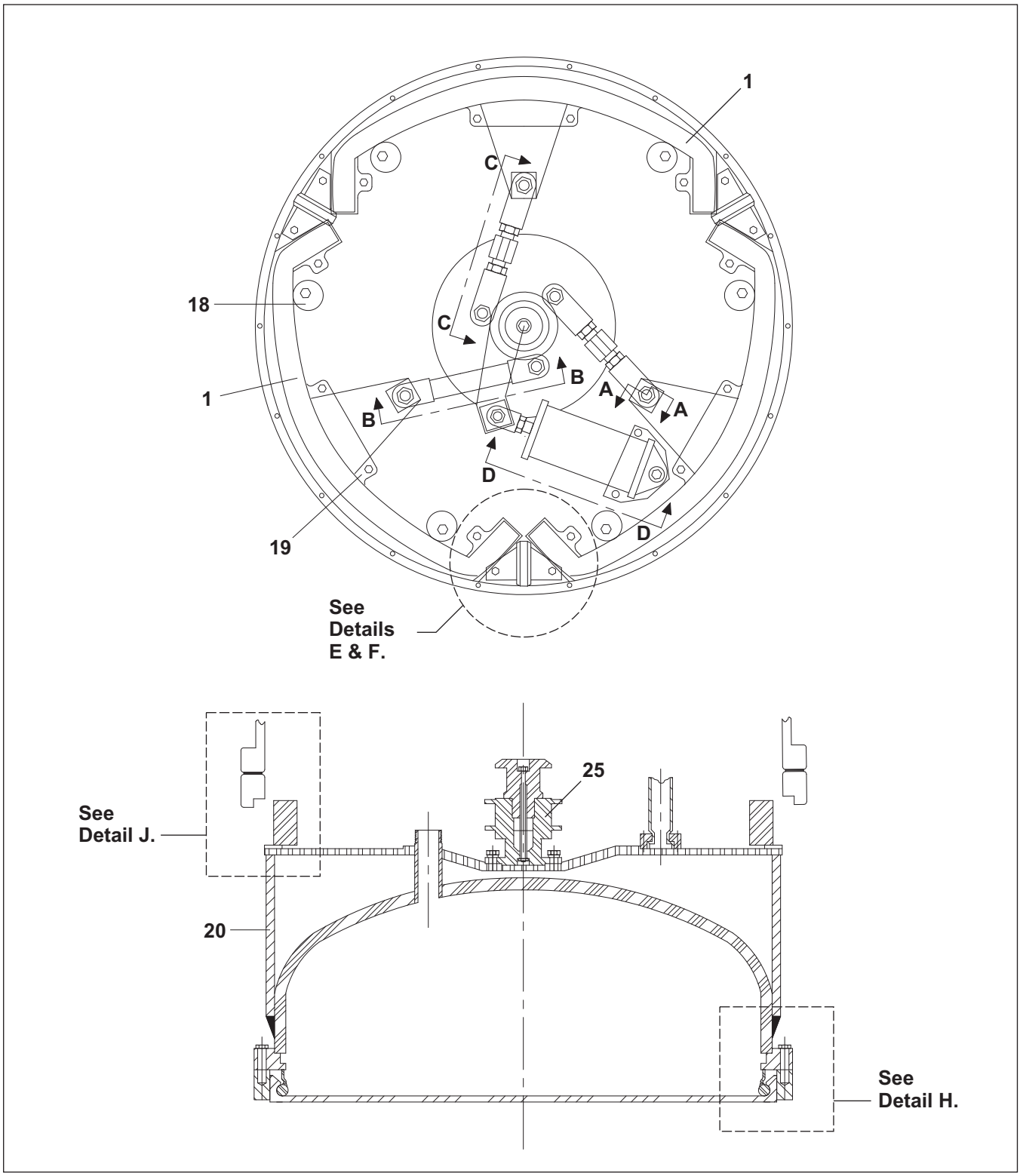
Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	27E958K74	95507D*1.5 MILNOR CENT PUMP W/O STR	
	B	27E958K98	95507# MILNOR CENT PUMP NO STR 575V	
	C	27E958K74A	95507#*1.5 MILNOR CENT PUMP W/ STRN	
	D	27E958K98A	95507#*MILNOR CENT PUMP W/STRN 600V	
			----------COMPONENTS----------	
all	1	Y6 20695	92453# 1.5 CENTRI PUMP HOUSE=MACH	
all	2	Y6 20696	94321# 1.5 CENTR PUMP IMPELLER=MACH	
all	3	Y6 20697	93497# 1.5 CENTR PUMP DIFFUSER=MACH	
all	4	Y6 20698	93497# 1.5 CENTR PUMP ADAPTER=MACH	
all	5	Y6 20699	92397# 1.5 CENTRI PUMP TOP=MACH	
all	6	06 20715	93177B1.5 CENTRI PUMP TOP GASKET	
all	7	06 20714	91232B1.5 CENTRI PUMP WATER GASKET	
all	7	06 20714A	95297B 1.5 CENTRI PUMP SPLASH SEAL	
all	8	06 20716	92362B1.5 CENTRI PUMP DFSR SEAL	
all	9	06 20717	91232B1.5 CENTRI PUMP TOP SEAL	
all	10	06 20718	95142B1.5 CENTRI PUMP SPACER THIN	
all	11	06 20718A	95142#1.5 CENTRI PUMP SPACER THK	
all	12	24S019A	.625" MECHSEAL PAC68-062-171	
all	13	5SP0EGEHC	NPT PLUG 1/4 HX GAISTL 125#	
all	14	15K024	SKCPSCR 10-32X518 SS18-8 L.H. THD	
all	15	27B219HRSS	SPACER .219ID-.531L.187	
all	16	27E955R05A	01Z UTILITY CLAMPING KNOB 5/16-18X1	
A,C	17	39T007BAU	02ZZ00 .75HP 2P TEFC UNIV CBW PUMP	
B,D	17	39T007BAX	02ZZ00 3/4HP 2P 575V3P60C TEFC	
all	18	15K085	HEXCAPSCR 3/8-16UNC2AX3/4 GR5 ZINC	
all	19	15U238	LOKWAS INTOOTH 3/8" (US STD) 410SS	
C-D only	20	27E955K00B	94233C*MILNOR STRAINER BASKET=MARLO	

4 Dome Assemblies 4.4

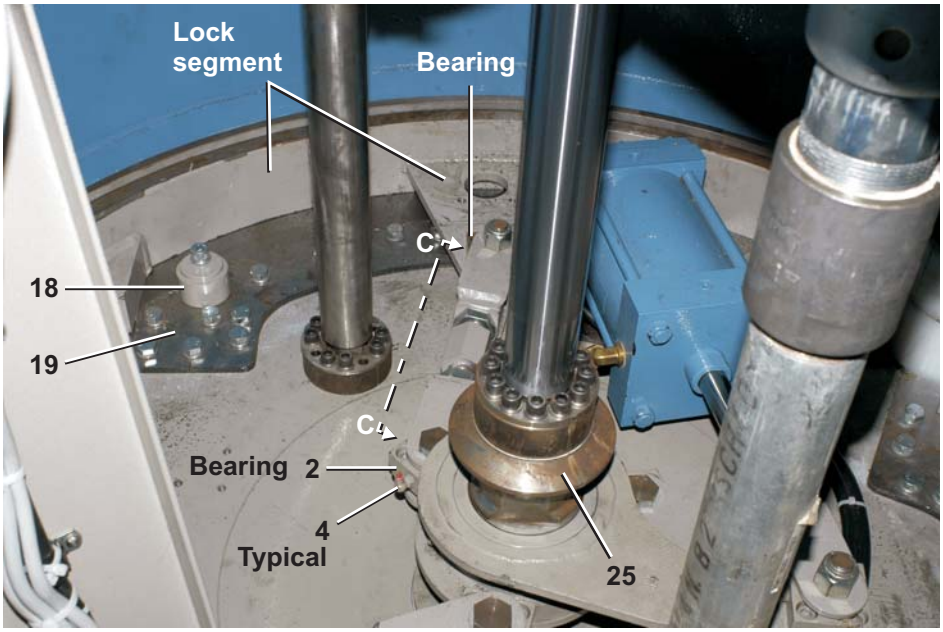
Dome, Down Locks, and Lock Guide

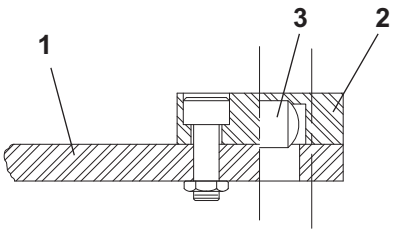
MP2501, MP2601, MP2606



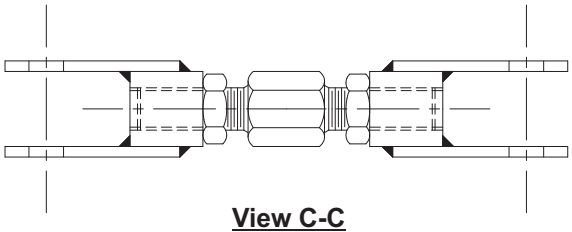
Dome, Down Locks, and Lock Guide

MP2501, MP2601, MP2606

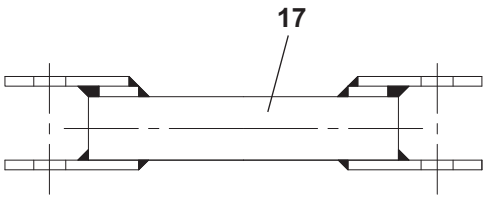




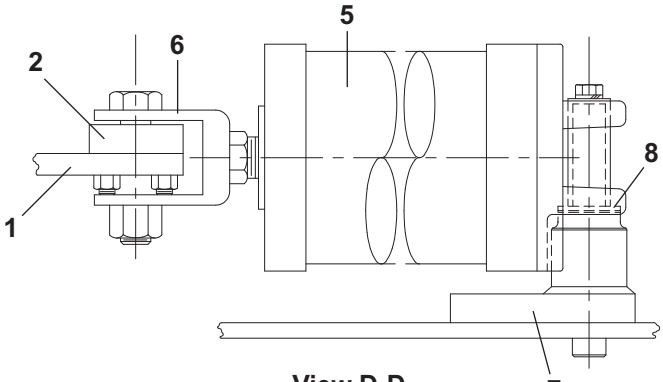
View A-A



View C-C
Adjustable Rod Linkage



View B-B
Fixed Link

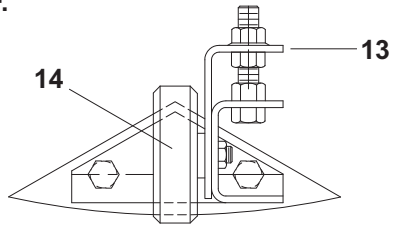


View D-D
Air Cylinder Mounting

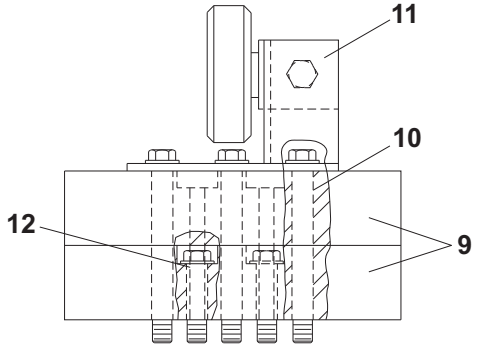
Dome, Down Locks, and Lock Guide

MP2501, MP2601, MP2606

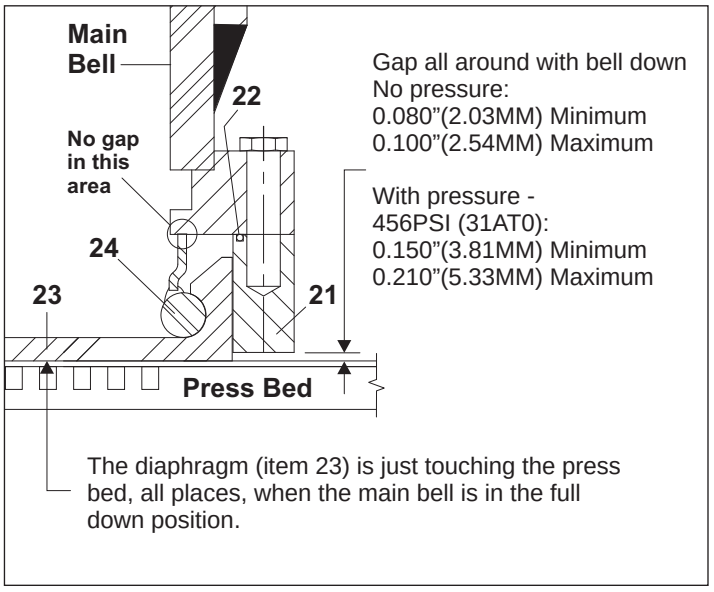
See Details E & F.



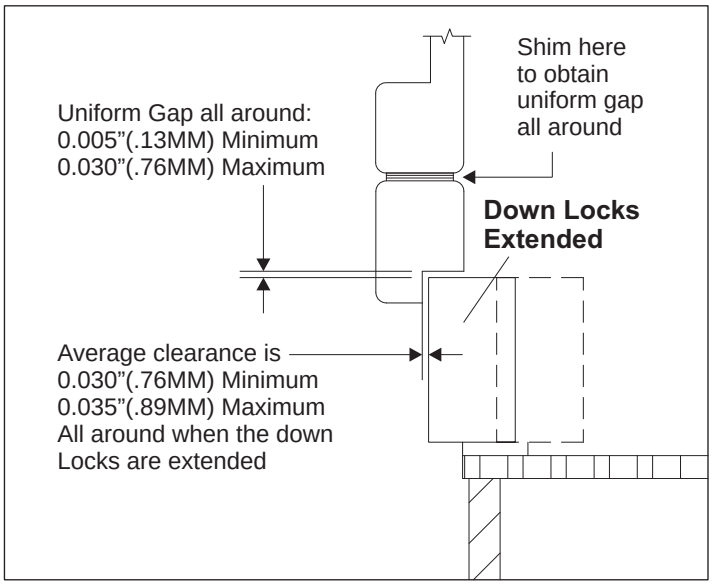
Detail E
Top View- Guide Roller



Detail F
Side View- Guide Roller



Detail H



Detail J

Dome, Down Locks, and Lock Guide

MP2501, MP2601, MP2606

Parts List—Dome, Down Locks, & Lock Guide

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.

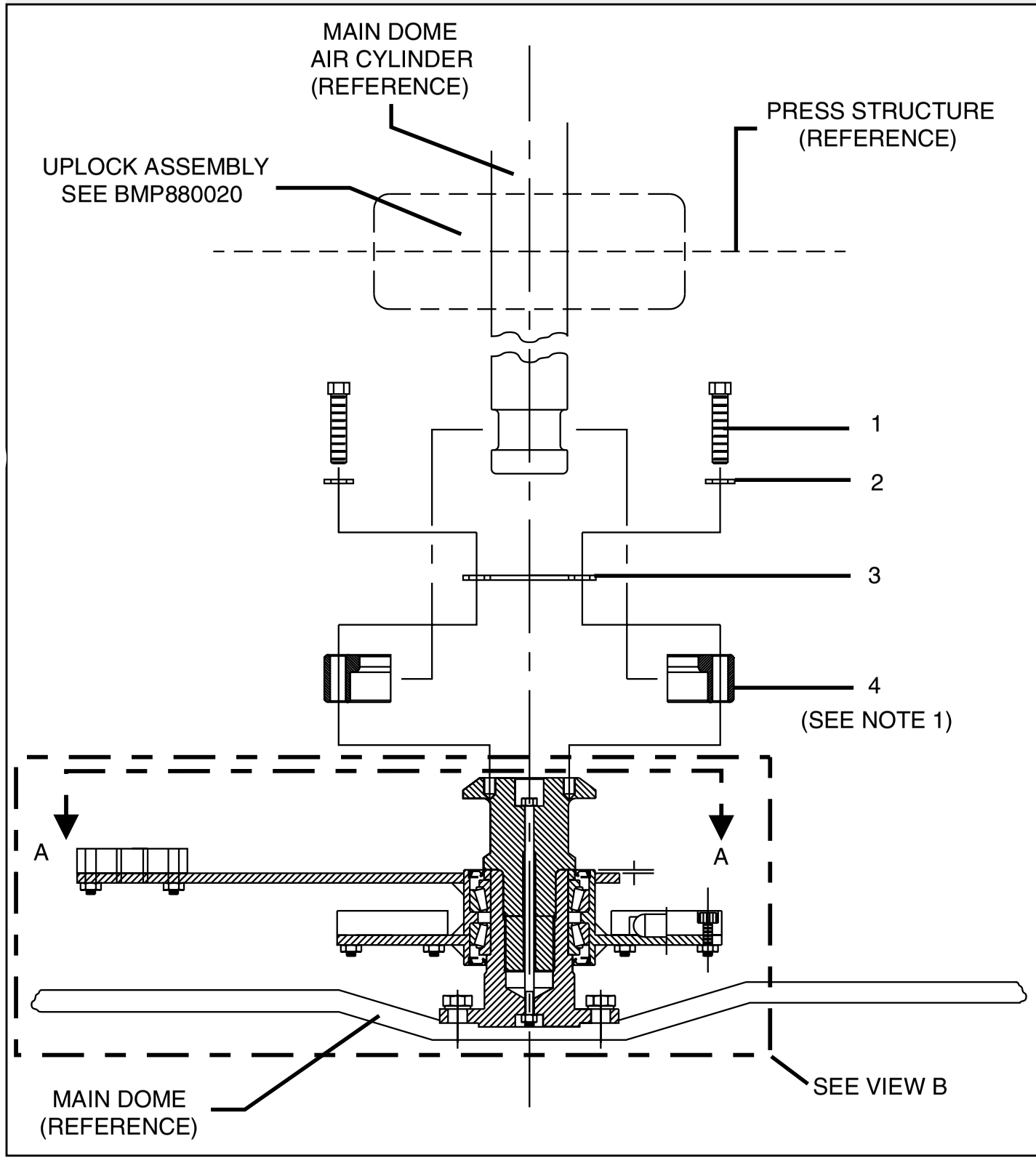
Used In	Item	Part Number	Description	Comments
.				
			----------ASSEMBLIES----------	
	A	G72DA001A	91527D GEN. DOME ASSY 8732	FOR REFERENCE ONLY
	B	A72MP001	893735 MAIN PRESS ASSY	FOR REFERENCE ONLY
	C	G73DA001	93000Z ASSY=DOME PRESS 60KG	FOR REFERENCE ONLY
	D	A73MP001	93000Z MAIN PRESS ASSY 60KG	FOR REFERENCE ONLY
			----------COMPONENTS----------	
all	1	A72LS001	86027D*LOCK SEGMENT ASSY. PRESS	
all	2	Y7 20571	88492B BEARING HOUSING (LOCKS)PRESS	
all	3	54A582	SPHPLNBRG 3/4"W/SEALS #B12LSS	
all	4	54M015	65408A GREASEFIT 60X36/60X44 1610BL	
all	5	27C700AB	AIRCYL.5X5X1 SS.ROD W/AL CLEVIS MT	
all	6	X7 20569C	93353# CLEVIS AIR CYLINDER MACH	
all	7	A72CM001A	93027# AIR CYL.MOUNT ASSY. =3/4 PL	
all	8	07 20966	94197B MACHINED WASHER PRESS AIRCYL	
all	9	07 20552A	94447C DOME AND LOCK GUIDE PRESS	
all	10	27B25032HZ	SPCRROLL.385ID2"L.076T STLZNC	
all	11	W7 20553	84487C*LOCK GUIDE WLDMT. PR2	
all	12	27B25036HZ	SPACER ROLL.385ID 2.25"L .076T STZN	
all	13	07 20554	88112C ADJUST BRKT. DOME ROLLER PR2	
all	14	A75GB003A	87421B*GUIDE ROLLER WHEEL ASSY	
all	15	W7 20555	94052B*LOCK ADJ.LINK RITE-HAND THRD	
all	16	X7 20556A	86141B ADJ. ROD 2XRIGHT HAND THR'D.	
all	17	W7 20557A	88096C*LINK WLDMT=DOME LOCK PR2	
all	18	07 20562	90026B LOCK BACK POSITIONER PRESS	
all	19	Y7 20558A	87372N WEARPLATE=DOME LOCKS (DRILL)	
A	20A	Y7 20550	92641E DOME DRILLED & MACHINED PR2	50KG ONLY
C	20B	Y7 30087	93000Z DOME DRILL + MACHINE 60KG	60KG ONLY
all	21	Y7 20570	93401C DIAPH.HOUSING RET.RING PRESS	
all	22	60C194	ORING 44+9/16ODX3/16CS BUNA70	
all	23	07 20101	97051D DIAPHRAGM LAUNDRY 41" PRESS	
all	24	W7 20520	97277D*DIAPH.EXPAND RING WLDMT PRSS	
all	25	A72HL001B	87333Y*DOME CENTER HUB ASSY	

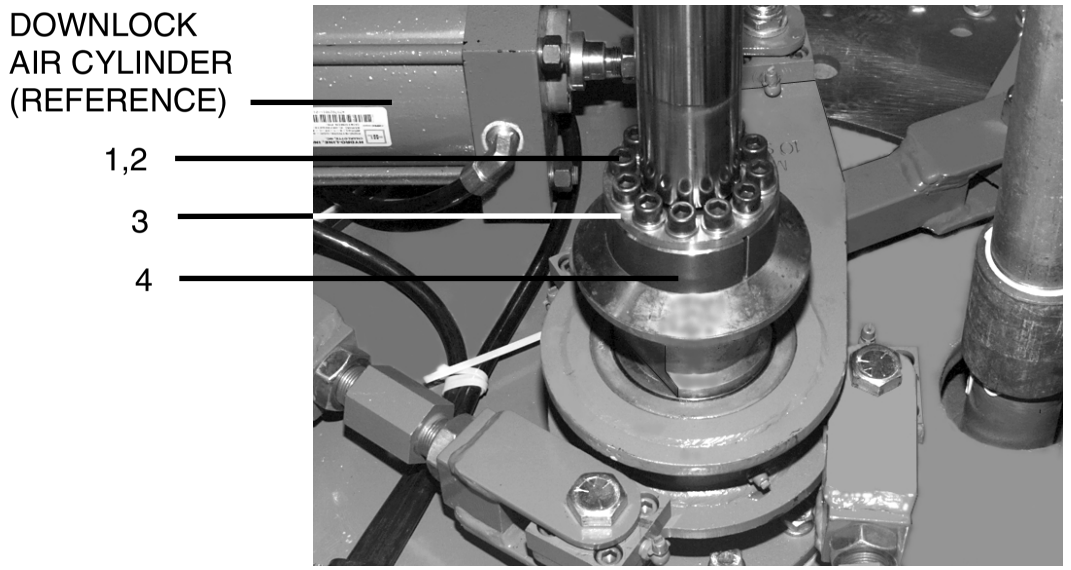
Dome Center Hub and Spindle Assembly

MP2501, MP2601, MP2606

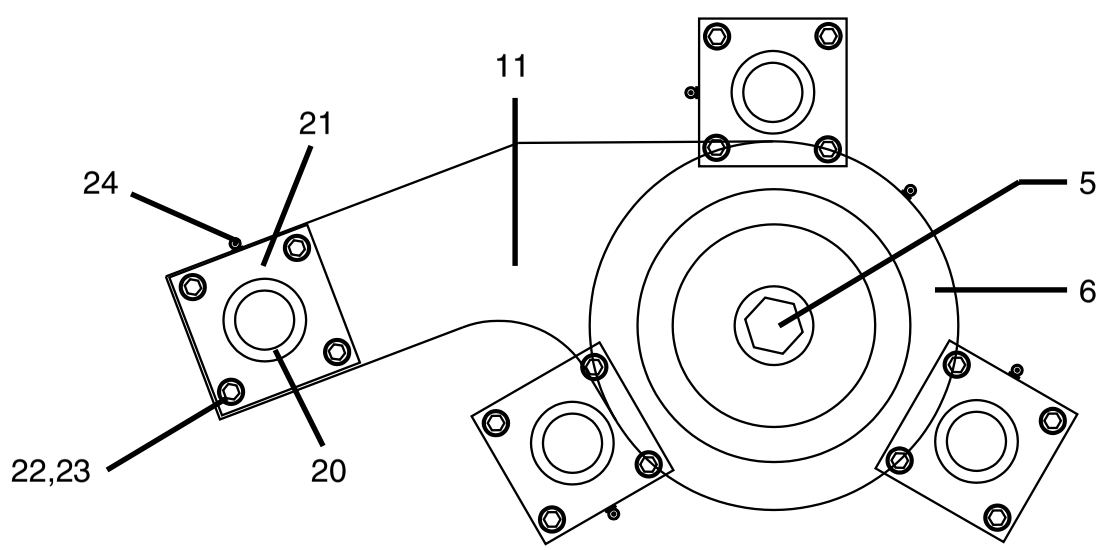
Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400

Litho in U.S.A.





ALSO SEE BMP880016, DOME, DOWN LOCK, AND LOCK GUIDE ASSY.



VIEW A - A

NOTE 1: DOME LIFT COUPLER HALVES (ITEM 4) ARE MANUFACTURED AS A MATCHED SET AND MUST BE KEPT TOGETHER. IF EITHER HALF IS LOST OR DAMAGED,THE ENTIRE SET MUST BE REPLACED.

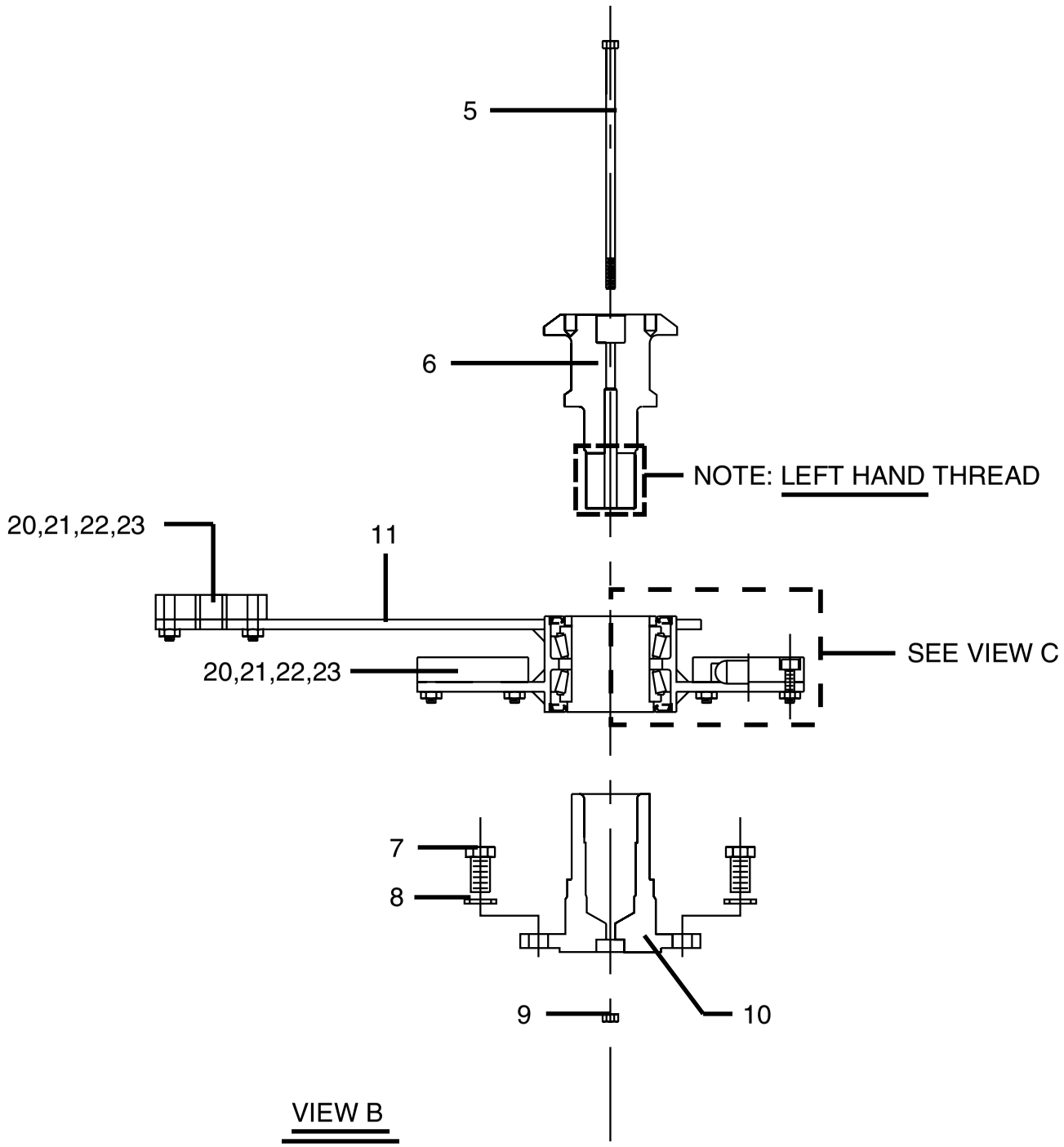
Dome Center Hub and Spindle Assembly

MP2501, MP2601, MP2606

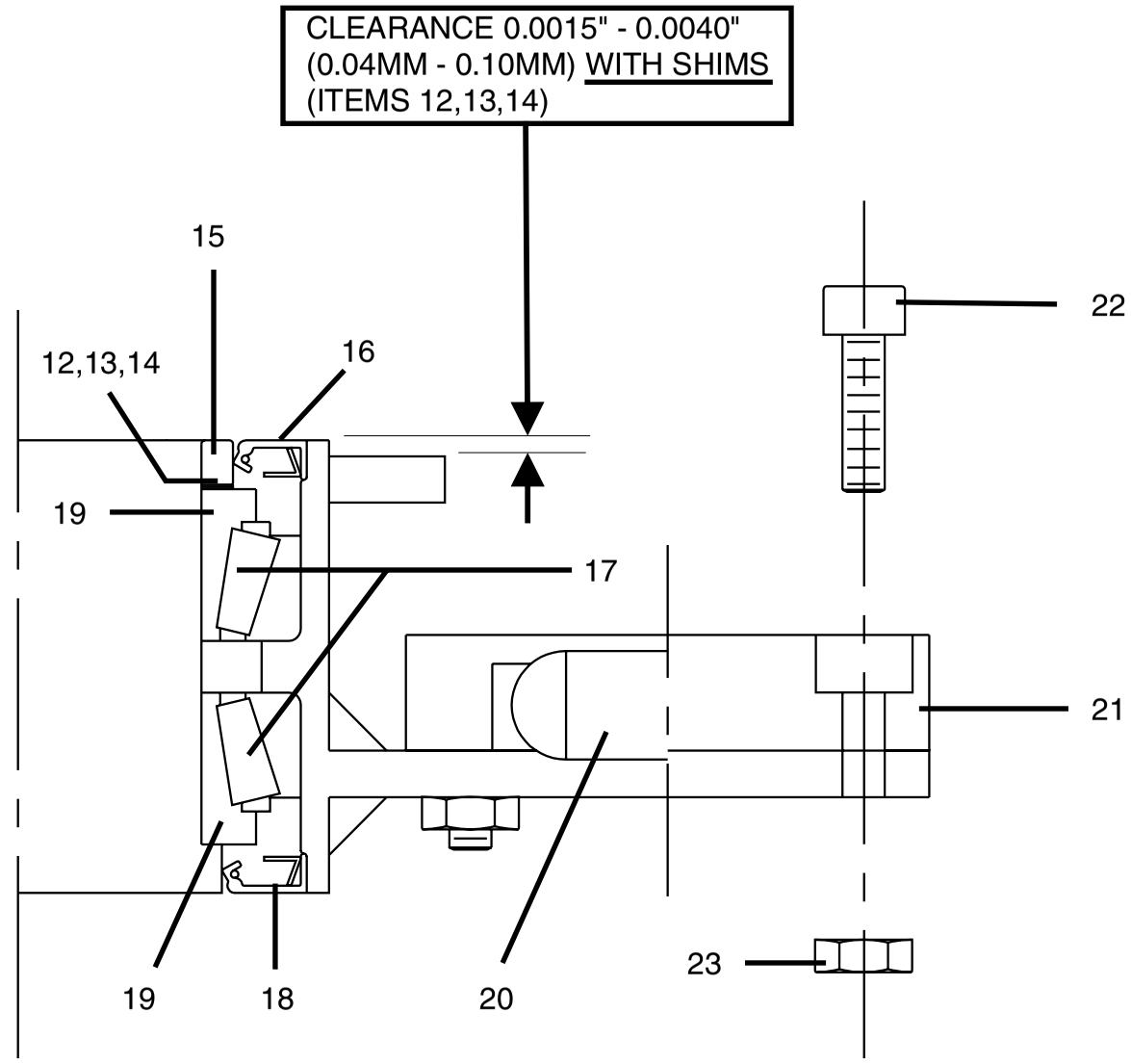
Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400

BMP970082/97456V (2 of 3)

Litho in U.S.A.



VIEW B



VIEW C

Dome Center Hub and Spindle Assembly

MP2501, MP2601, MP2606

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

Litho in U.S.A.

ASSEMBLY AND TORQUE REQUIREMENTS

1) SECURE CENTER SPINDLE (ITEM 10) IN A VISE SO IT CANNOT ROTATE. CLAMP SO AS TO ALLOW ACCESS TO HEXNUT (ITEM 9).

2) THREAD DOME DISCONNECT (ITEM 6) INTO CENTER SPINDLE (ITEM 10) AND TORQUE ITEM 6 TO 500 FT-LB (670 N-M). CAUTION: DISCONNECT (ITEM 6) HAS LEFT-HAND EXTERNAL THREADS!

3) INSERT RETAINING BOLT (ITEM 5) THROUGH DISCONNECT (ITEM 6) AND SPINDLE (ITEM 10). INSTALL HEXNUT (ITEM 9). TORQUE ITEM 9 TO 100 - 110 FT-LB (133 - 147 N-M) WHILE HOLDING DISCONNECT (ITEM 6) SO IT CANNOT ROTATE IN SPINDLE (ITEM 10), AND ALSO HOLDING BOLT (ITEM 5) SO IT CANNOT BACK OUT.

4) INSTALL SPINDLE ATTACH BOLTS (ITEM 7) WITH LOCKWASHERS (ITEM 8) AND TORQUE TO 60 FT-LB (80 N-M) EIGHT (8) PLACES. TORQUE IN A STAR PATTERN.

5) FIT DOME LIFT COUPLER HALVES (ITEM 4) AND COUPLER RETAINING RING (ITEM 3) OVER DOME AIR CYLINDER ROD END. INSTALL BOLTS (ITEM 1) AND LOCKWASHERS (ITEM 2) AND TORQUE TO 33 FT-LB (45 N-M) TWELVE (12) PLACES. TORQUE IN A STAR PATTERN.

Parts List—Dome Center Hub and Spindle Assembly

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

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	A72HL001B	87333Y*DOME CENTER HUB ASSY	
	B	A72MP001	893735 MAIN PRESS ASSY	
	C	A73MP001	93000Z MAIN PRESS ASSY 60KG	
	D	G72DA001A	91527D GEN. DOME ASSY 8732	
	E	G73DA001	93000Z ASSY=DOME PRESS 60KG	
			----------COMPONENTS----------	
all	1	15K132A	05Z SKCPSC-3/8-16X2.25BLKGR8HK	
all	2	15U255	LOCKWASHER MEDIUM 3/8 ZINCPL	
all	3	07 20810	87493B COUPLER RETRAINER RING	
all	4	Y7 20810A	88177C COUPLER=1.625D. EA=2 HALVES	
all	5	15K204	03Z HXCPSC1/2-20 X 8" GR8 2C	
all	6	X7 20529	86341C AIRCYL/DOME DISCONNECT PRESS	
all	7	15K153	07Z HXPSCR 1/2 WCX1.25S.S.	
all	8	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	
all	9	15G235A	HEXNUT 1/2-20 UNF 2B GR8 ZNC/CAD	
all	10	Y7 2056B	86511C CTR. SPINDLE MACHINING PRESS	
all	11	Y7 2055AE	88366D DOME CENTER HUB MACH	
all	12	54A608F	ALUMSHIM. WASH .010"X2.876IDX3.44OD	
all	13	54A608G	ALUMSHIM. WASH .005"X2.876IDX3.44OD	
all	14	54A608H	ALUMSHIM. WASH .002"X2.876IDX3.44OD	
all	15	X7 20529B	86333B SPACER BEARING HOLD DWN.	
all	16	24S049C	01Z SEAL CR IND. #CR34282 CRWH1	
all	17	54A586	CONE TIMKEN #29685 1/BX+PT#	
all	18	24S049D	01Z SEAL CR IND #CR31269 CRWH1	
all	19	54A585	CUP TIMKEN #29620 1/BX+PT#	
all	20	54A582	SPHPLNBRG 3/4"W/SEALS #B12LSS	
all	21	Y7 20571	88492B BEARING HOUSING (LOCKS)PRESS	
all	22	15K108	05Z SKCPSC3/8-16X1 BLK GR8 HK	
all	23	15G207	HEXLIGHTLOKNUT 3/8-16 18-8SS NTE066	
all	24	54M015	65408A GREASEFIT 60X36/60X44 1610BL	

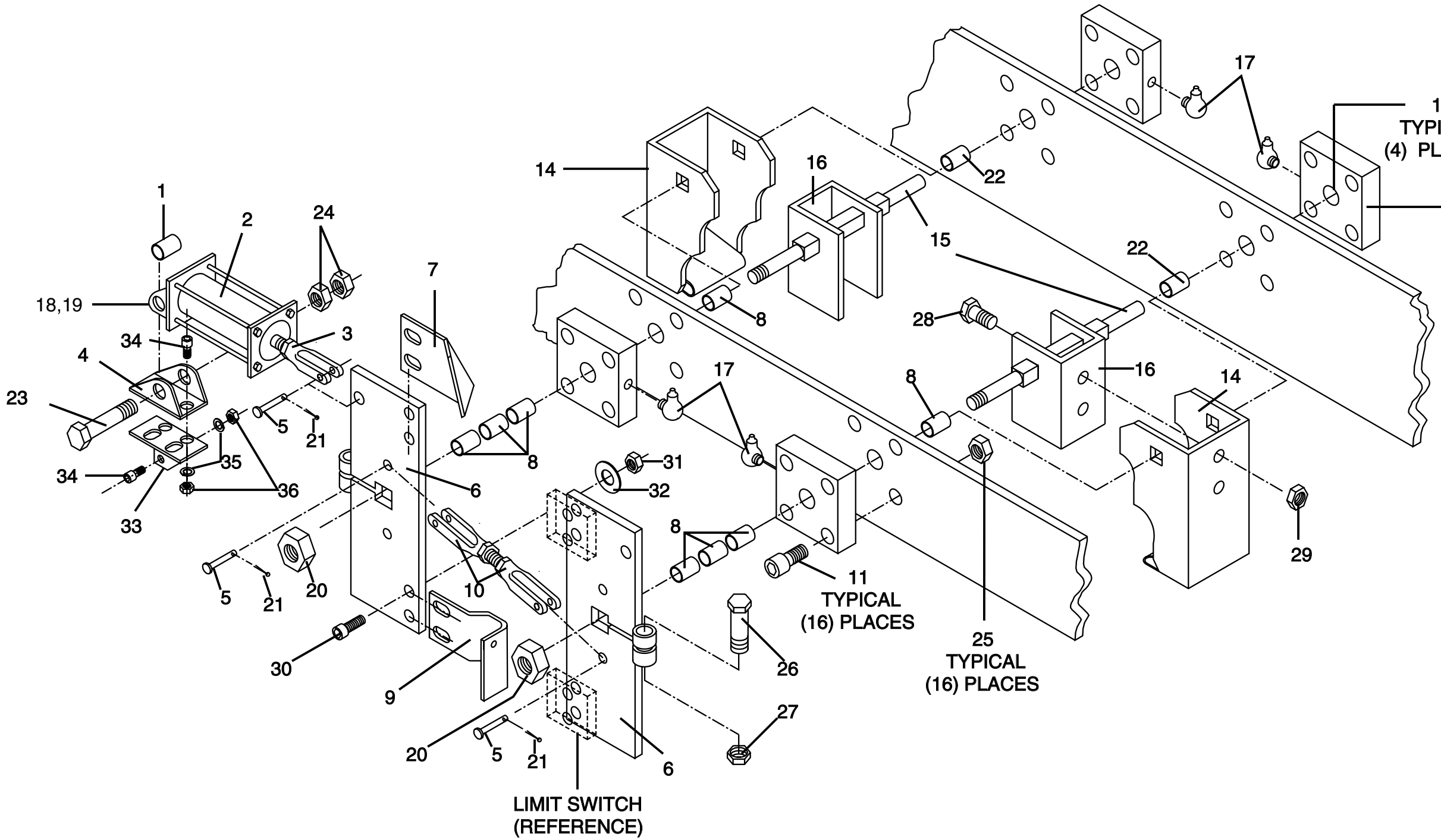
Press Uplock Assembly

MP2501, MP2601, MP2606

BMP880020/97328V
(Sheet 1 of 2)

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

Litho in U.S.A.



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

Litho in U.S.A.

Parts List—Press Uplock Assembly

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

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	A72LG002A	90217D PRESS UP LOCK ASSY	REFERENCE ONLY
	B	A73LG002A	93000Z PRESS UPLOCK ASSY 60KG	REFERENCE ONLY
			----------COMPONENTS----------	
all	1	27B2750L0T	01ZSPCRROLL.562ID.937L.048T ZNC	
all	2	A72AC001	89463Y*AIR CYL.-DOME UP LATCH PRESS	
all	3	17A020	ADJ CLEVIS MACHINED 1/2-13 ZINC PLT	
all	4	02 02556	SUPPORT=AIRCYL CADSTL	
all	5	17A040	CLEVISPIN 1/2"X1+3/8" DRILLED	
all	6	W7 20995	89476B*PLATE UP LOCK=PRESS WLMT	
all	7	07 20993	86357B BRKT=SWITCH UP LOCK OPEN	
all	8	27B239	90027B SPACER SLD.77ID.937L.08T STZ	
all	9	07 20994	93297B BRKT=SWITCH UP LOCK CLOSE	
all	10	17A022	01Z ADJ CLEVIS MACH1/2-20NF SHOR PL	
all	11	15K108	05Z SKCPSC3/8-16X1 BLK GR8 HK	
all	12	54A582	SPHPLNBRG 3/4"W/SEALS #B12LSS	
all	13	Y7 20571	88492B BEARING HOUSING (LOCKS)PRESS	
all	14	W7 20506	96516C*DOME LATCH WLDMT. PRESS	
A	15A	07 20997	87362B PRESS UP LOCK SHAFT	50KG ONLY
B	15B	07 30089	93487B PRESS UP LOCK SHAFT 60K	60KG ONLY
all	16	07 20815	93243B DOME LATCH SHAFT LOCK	
all	17	54M025	HYDFIT 1/8"-90 ALEMITE 1613-B	
all	18	02 02547	LT BRACKET=AIRCYL CAD	
all	19	02 02550	72053A BRKT=AIRCYL-RIGHT ZINC/CAD	
all	20	15G241A	HXLOCNUT 3/4-10UNC2B ZINC GR2	
all	21	15H031	STDCOTTERPIN 3/32X3/4 SS18-8	
all	22	27B238SZ	90027# SPACER SLD.77ID.875L.08T STZ	
all	23	15K206	HEXCAPSCR M5-.8X40MM 18-8SS	
all	24	15G235F	HXFNJAMNUT 9/16-12UNC2B ZINC GR2	
all	25	15G207	HEXLIGHTLOKNUT 3/8-16 18-8SS NTE066	
all	26	15K191	HXCAPSCR 1/2-13UNC2AX2.5 GR5 ZNC/CD	

Parts List, cont.—Press Uplock Assembly

Used In	Item	Part Number	Description	Comments
all	27	15G234N	HXLOCKNUT NYL 1/2-13UNC2 STL/ZNC	
all	28	15K041S	HEXCAPSCR 1/4-20UNC2AX1 SS18-8	
all	29	15G164	01Z HX THIN LOCKNUT NYL1/4-20 SS	
all	30	15K021A	SOKCAPSCR 10-24UNCX1" LG S/S	
all	31	15G126	01Z HXLOCKNUT NYLON 10-24 UNC SS NM	
all	32	15U342	FLTWASH .255/.260IDX.750DX.125T SS	
all	33	07 20996	93326C BRKT.AIRCYL. UPLOCK PRESS	
all	34	15K105	HXCAPSCR 3/8-16UNC2A1.25 GR5 PLATED	
all	35	15U255	LOCKWASHER MEDIUM 3/8 ZINCPL	
all	36	15G205	HXNUT 3/8-16UNC2B ZINC GR2	

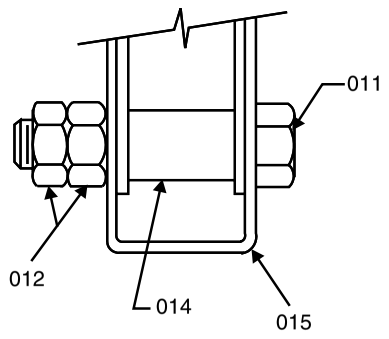
Air Cylinder - Dome Up Latch Press

MP2501xx, MP2601xx

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

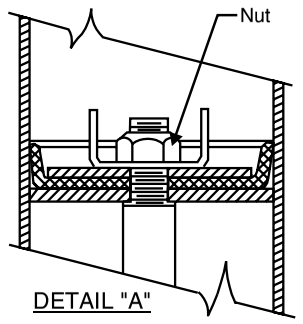
BMP970009/97122V (1 of 1)

Litho in U.S.A.



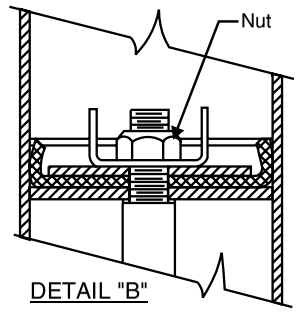
PISTON CUP AND WASHER INSTALLATION

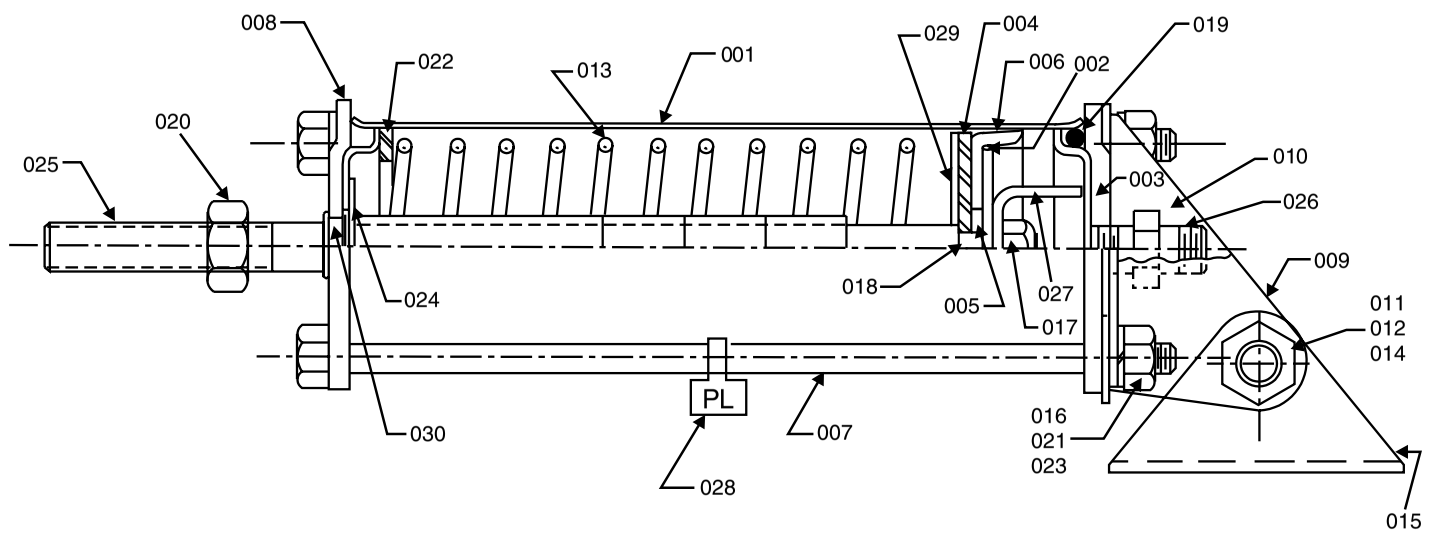
WHEN INSTALLING PISTON CUPS, TIGHTEN NUT UNTIL IT IS JUST BARELY POSSIBLE TO TURN THE PISTON CUP AND WASHER ASSEMBLY. AFTER TIGHTENING, PISTON CUP SHOULD APPEAR AS SHOWN IN DETAIL "A".



TIGHTENING THE NUT TOO TIGHT CAUSES THE PISTON CUP TO EXTRUDE TO THE SHAPE SHOWN IN DETAIL "B", AND MAY CAUSE PISTON TO BIND IN CYLINDER.

NOTE: NUT IS SELF-LOCKING AND DOES NOT NEED TO BE DRAWN TIGHT TO LOCK ON A





Parts List—Air Cylinder - Dome Up Latch Press

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	A72AC001	89463Y*AIR CYL.-DOME UP LATCH PRESS	
			----------COMPONENTS----------	
all	1	02 02068	94266A AIRCYL-STAINLESS=DUMPVALVE	
all	2	02 02085	75161A UP WASHER=2"OD=PISTONCUP	
all	3	02 02101	71334A CYLHEAD W/TAPPED HOLE	
all	4	02 02105B	92253B 2.38"ACYL BRASS PISCUP WASHR	
all	5	02 02185	79237A WASHER=PISTON CUP COMP LIMIT	
all	6	02 02194	93217B PISTONCUP=DUMPVALVE 2+3/8"	
all	7	02 10585E	91142# TIE BOLT=5/16-18X8.25LG PLTD	
all	8	02 02546	CYLHEAD=SLIDESTEM	
all	9	02 02547	LT BRACKET=AIRCYL CAD	
all	10	02 02550	72053A BRKT=AIRCYL-RIGHT ZINC/CAD	
all	11	15K206	HEXCAPSCR 9/16-12UNC2AX2+1/2 GR5 ZN	
all	12	15G235F	HXFNJAMNUT 9/16-12UNC2B ZINC GR2	
all	13	02 15881	96471# SPRING=BRAKE2.1OD11FL15.5#/"	
all	14	27B2750L0T	01ZSPCRROLL.562ID.937L.048T ZNC	
all	15	02 02556	SUPPORT=AIRCYL CADSTL	
all	16	15G185	HXNUT 5/16-18UNC2B SAE ZINC GR2	
all	17	15G220	02Z LTHX THIN LOKNUT 3/8-24 SSNTE	
all	18	60C106	ORING 5/16ID 1/16CS BN 70 DURO #011	
all	19	60C132	ORING 2"ID 3/16CS BUNA 70 DURO #329	
all	20	15G231	HXFINJAMNUT 1/2-13UNC2B ZINC GR2	
all	21	15U210	LOKWASHER MEDIUM 5/16 ZINCPL	
all	22	15U520	FLAT WASHER 2+3/8X1+41/64X12GA ZINC	
all	23	15U185	FLATWASHER(USS STD) 1/4" ZNC PLT	
all	24	15U243	FLAWASHER 7/8ODX33/64IDX16GA ZINCPL	
all	25	02 18650A	96417B STEM-AIRCYL.UPLOCK PRESS	
all	26	53A008B	BODYMALECON.25X.25COMP#B68A-4B	
all	27	03 01313	70219A STOP=AIR CYL W/2+11/16STROKE	
all	28	20L601PL	TAG NATL #1614 ALUM EMB "PL"	
all	29	02 18651	73171A WASHER=2WAY BRAKECYL	
all	30	54E220	NYLNR 8L2FF BUSH 1/2X9/16X.140	

4

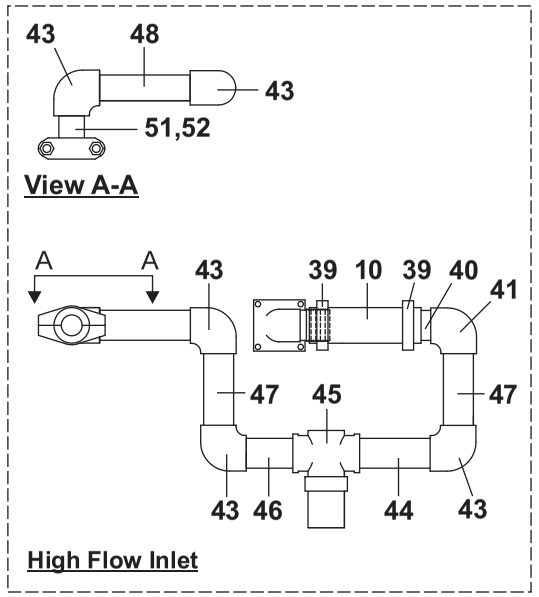
4.5 Hydraulic Tank and Piping Assemblies

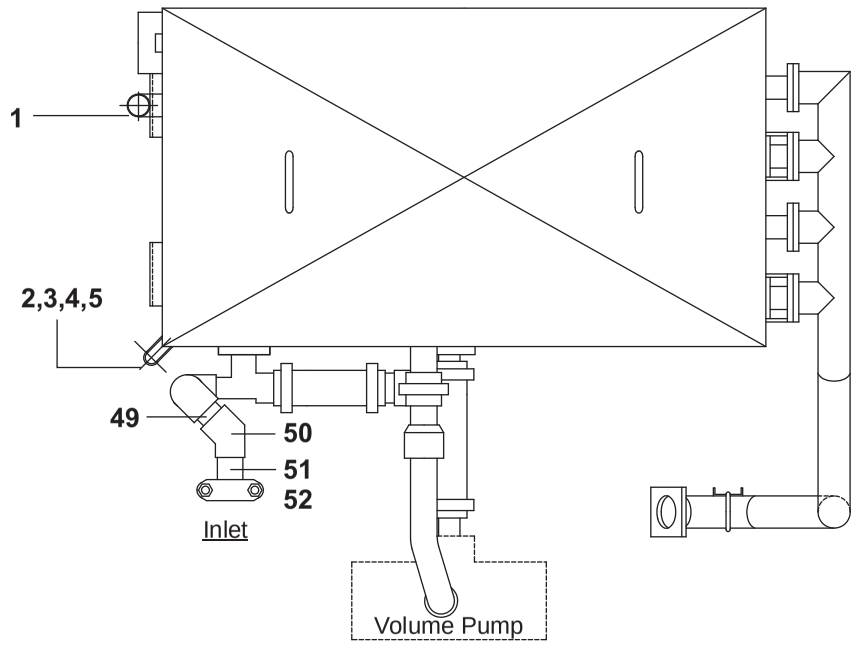
Press Tank External Hose Connections

MP2501, MP2601, MP2606

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

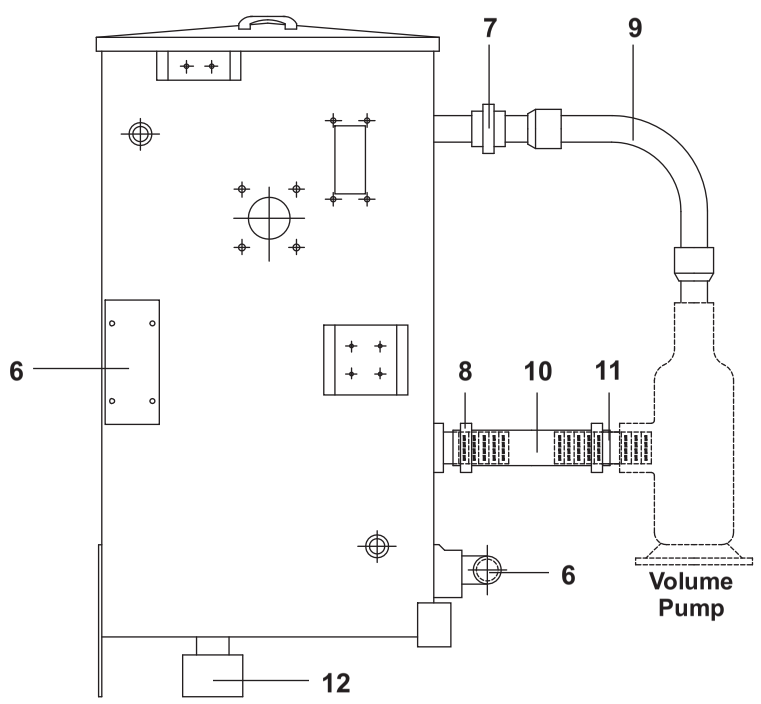
Litho in U.S.A.

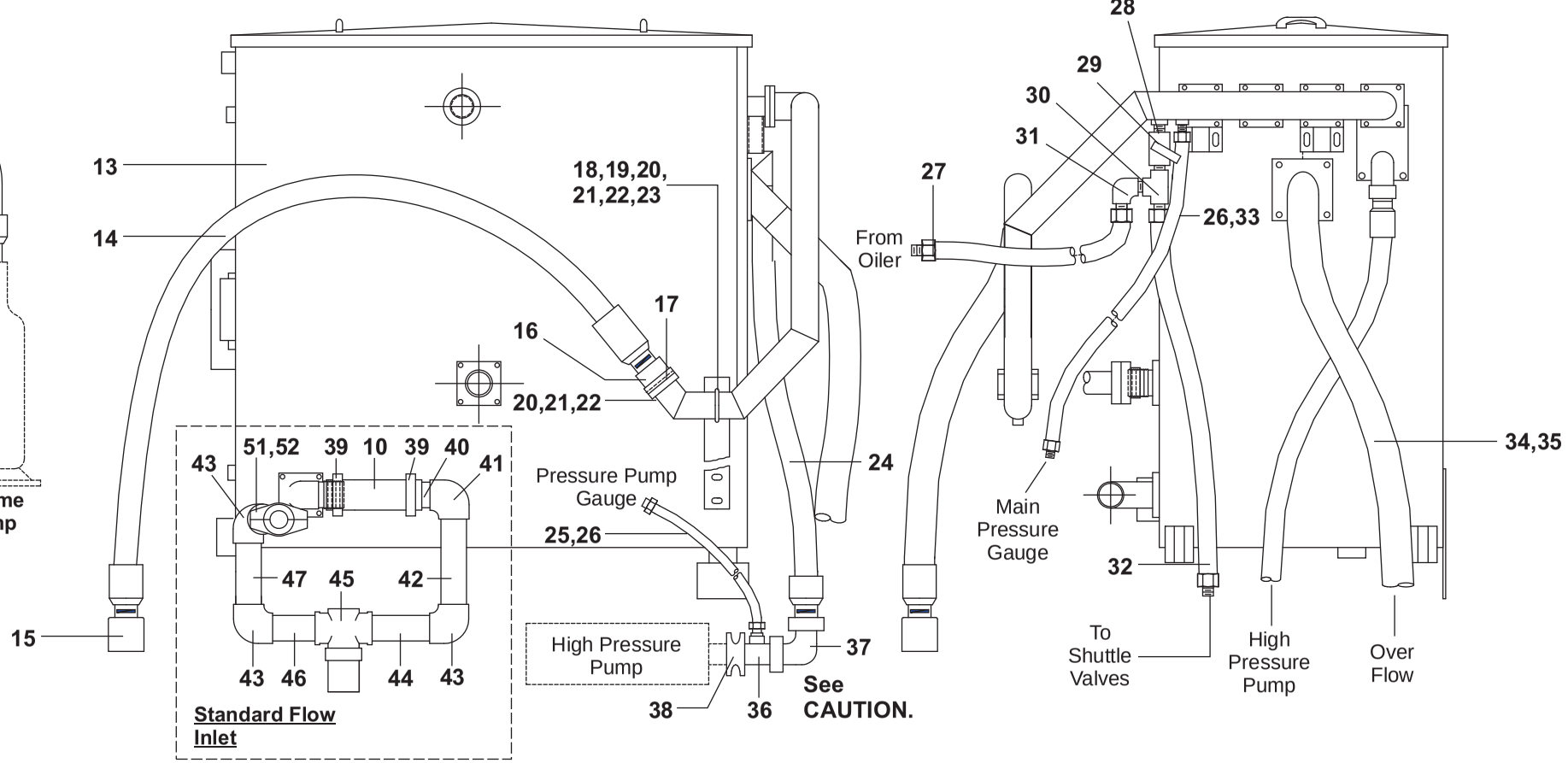




CAUTION: Incorrect maintenance can easily damage the pressure pump.

- Never operate the pump without the flow restrictor orifice (item 36).
- Use the specified elbow (item 37).
- Do not use any tool that can distort the pump tube. Use a strap type wrench.





Press Tank External Hose Connections

MP2501, MP2601, MP2606

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

Litho in U.S.A.

Parts List—Press Tank External Hose Connections

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	G72PA001	H20 TANK PIPING INSTALL.	
	B	A72PA003A	STD FLOW-INLET PUMPPIPE ASSY	STANDARD FLOW
	C	A72PA003	INLET HI-PRESS PUMPPIPE ASSY	HIGH FLOW
----------COMPONENTS----------				
all	1	A72WS001	*UPTANK H2O INVALVE + PIPING	
all	2	15K201C	HEXCAPSCR 1/2-13UNC2AX 4.5 GR5	
all	3	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	
all	4	15U243	FLTWASHER 7/8ODX33/64IDX16GA Z	
all	5	15G230	HXNUT 1/2-13UNC2B SAE ZINC GR2	
all	6	15P100	#8 X 3/8 PHILPANHD TYPE B SMS	
all	7	5SU1KNF	NPT UNION 1.5" GALMAL 150#	
all	8	27A075	T-BOLT HOSECLAMP 2.78-3.09"	
all	9	60E06119A	HOSE ASSY=1+1/2"MNPT CPLG	
all	10	60E301A12A	HOSE= *2.5"ID PE X12"	
all	11	Y7 20593G	2.5"OD TUBE TO 2"NPT VOLPUMP	
all	12	96D130	1+1/2" GATE VALVE BRONZE	
all	13	A72PA001B	PRESSTANK HRZ PIPING ASSY	
all	14	60E062089	HOSE ASSY 2",89"LG MNPT CPLG	
all	15	5SCC2AFS	NPT COUP 2" FORGED STEEL 3000#	
all	16	Y7 20891F	3.5"SQ.FLG+ORING 2"DIA CPLG	
all	17	60C136	ORING 2+5/8ID1/8CS BUNA70 #231	
all	18	07 21004	H20 MANIFOLD SUPPORT BRKT	
all	19	27A032M	UBOLT 2"PIPE 3/8-16 ZNC3.5" LG	
all	20	15K122	HEXCAPSCR 3/8-16UNCX2 SS18-8	
all	21	15U260	LOCKWASHER MEDIUM 3/8 SS18-8	
all	22	15G206	HEXNUT 3/8-16 UNC2 SS 18-8	
all	23	15U245	FLTWASH 3/8 STD COMM 18-8 SS	
all	24	60E06048A	HOSE ASSY 1+1/4"MNPT CPLGS	
all	25	60EH15C53A	HYD HOSE 3/16"+ENDS=53"	
all	26	52XY0ER010	FEMPIPESWIV 1/4" #1405-4-4	

Parts List, cont.—Press Tank External Hose Connections

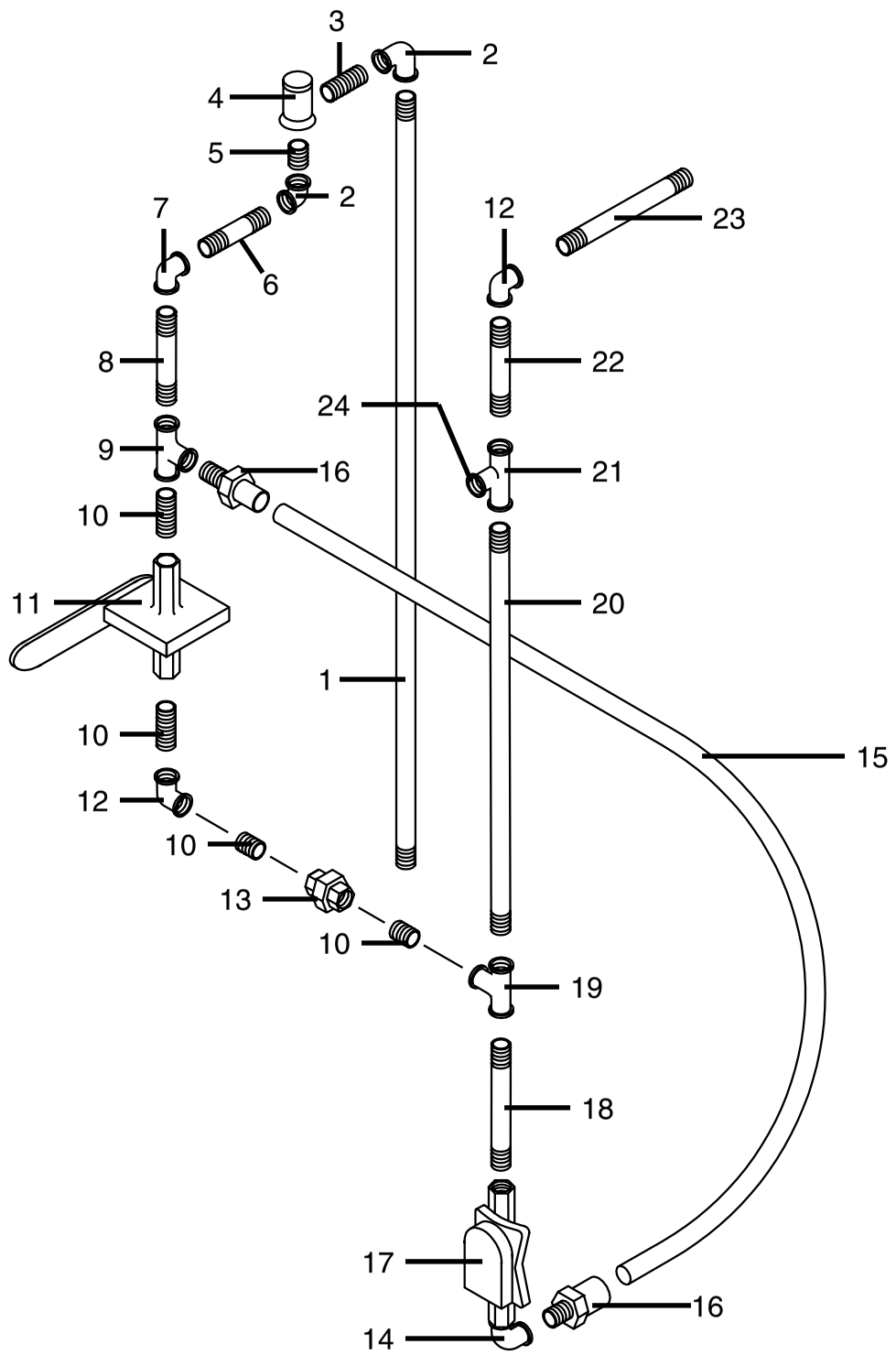
Used In	Item	Part Number	Description	Comments
all	27	60E086K60A	3/4X60 WATER HOSE + 1/2 ENDS	
all	28	5N0KCLSG42	NPT NIP 1/2XCLS TBE GALSTLSK40	
all	29	96D034	BALLVALVE 1/2" WATTS #6400-SS	
all	30	5S0KNFA	NPT TEE 1/2" GALMAL 150#	
all	31	5SL0KNFA	NPTELB 90DEG 1/2 GALMAL 150#	
all	32	60E086K96A	3/4X96 WATER HOSE + 1/2 ENDS	
all	33	60EH15C63A	HYD HOSE 3/16"+ENDS=63"	
all	34	6.00E+303	HOSE 2.5"ID PVC=DAYCOFLEX	
all	35	02 15642S	CLAMP=3"FLOAT CHAMBER DAS	
all	36	07 20807A	FLOTROC 35GPM@300PSI VICTEND	
all	36	07 20807B	FLOTROC 17GPM@300PSI VICTEND	
all	37	5SL1KSSA	NPT ELB 90DEG 1.25 304SS 3000#	
all	39	27A072	T-BOLT HOSECLAMP2.16-2.47CADSC	
all	40	07 20981	2"HOSE FITTING 3-7/8"LONG	
all	41	5SL1KNFA1E	NPTELB 90D 1.5X1.25GALMAL 150#	
all	42	5N1E07AG42	NPT NIP 1.25X7 TBE GALSTL SK40	
all	43	5SL1ENFA	NPT ELB 90DEG 1.25 GALMAL 150#	
all	44	5N1E05AG42	NPT NIP 1.25X5 TBE GALSTL SK40	
all	45	51T065	INLINE STRAINER 1+1/4 FNPT	
all	46	5N1E03AG42	NPT NIP 1.25X3 TBE GALSTL SK40	
all	47	5N1E08AG42	NPT NIP 1.25X8 TBE GALSTL SK40	
all	48	5N1E06AG42	NPT NIP 1.25X6 TBE GALSTL SK40	
all	49	5N1E02AG42	NPT NIP 1.25X2 TBE GALSTL SK40	
all	50	5SL1ENFK	NPT ELB 45DEG 1.25 GALMAL 150#	
all	51	27E971	VICTAULIC CLAMP 1+1/4#77GALV.	
all	52	27E971A	VICT ADPTR #40 GALV 1.25X4"	

Uptank Water Inlet & Piping Assy

MP2501, MP2601, MP2606

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

Litho in U.S.A.



Parts List—Uptank Water Inlet & Piping Assy

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	A72WS001	87127T*UPTANK H2O INVALVE + PIPING	FOR REFERENCE ONLY
	B	A72WS002	86000Z UPTANK H20 INLET+BREAKER	FOR REFERENCE ONLY
			----------COMPONENTS----------	
all	1	07 20923	86014B WATER INLET PIPE PRESS TANK	
all	2	5SL0PBEA	NPTELB 90DEG 3/4 BRASS 150#	
all	3	5N0PCLSB42	NPT NIP 3/4XCLS TBE BRASS STD	
all	4	96M022	3/4"VACBREAK	
all	5	5N0P02KB42	NPT NIP 3/4X2.5 TBE BRASS STD	
all	6	5N0PCLSG42	NPT NIP 3/4XCLS TBE GALSTL S40	
all	7	5SL0PNFA0K	NPTELB 90DEG 3/4X1/2 GALMAL 150	
all	8	5N0K03KG42	NPT NIP 1/2X3.5 TBE GALSTL S40	
all	9	5S0KNFA0E	NPT TEE 1/2X1/2X1/4" GALMAL 125#	
all	10	5N0KCLSG42	NPT NIP 1/2XCLS TBE GALSTLSK40	
all	11	96D034	04Z BALLVALVE 1/2" WATTS #6400-SS	
all	12	5SL0KNFA	NPTELB 90DEG 1/2 GALMAL 150#	
all	13	5SU0KNF	NPT UNION 1/2" GALMAL 150#	
all	14	53AEM9KKB	ASSY MALE EL.5TX .5MP BRASS 69A-8D	
all	15	60E005F	01ZTUBING NYL.BLK.1/2"ODX.375ID *	
all	16	53ACM0KEB	ASSY MALECON.5TX.25MP BRASS 68A-8B	
all	17	96TDC2AA24	04Z 1/2" N/C 2WAY 24V50/60C VALVE	
all	18	5N0K02AG42	NPT NIP 1/2X2 TBE GALSTL SK40	
all	19	5S0KNFA	NPT TEE 1/2" GALMAL 150#	
all	20	5N0K11AG42	NPT NIP 1/2X11 TBE GALSTL SK40	
all	21	51T025	01Z Y-STRAINER 1/2" CAST IRON	
all	22	5N0K04AG42	NPT NIP 1/2X4 TBE GALSTL SK40	
all	23	5N0K06AG42	NPT NIP 1/2X6 TBE GALSTL SK40	
all	24	51PE0GG	PLUGSQPIPE 3/8 GAL CI SOLID	

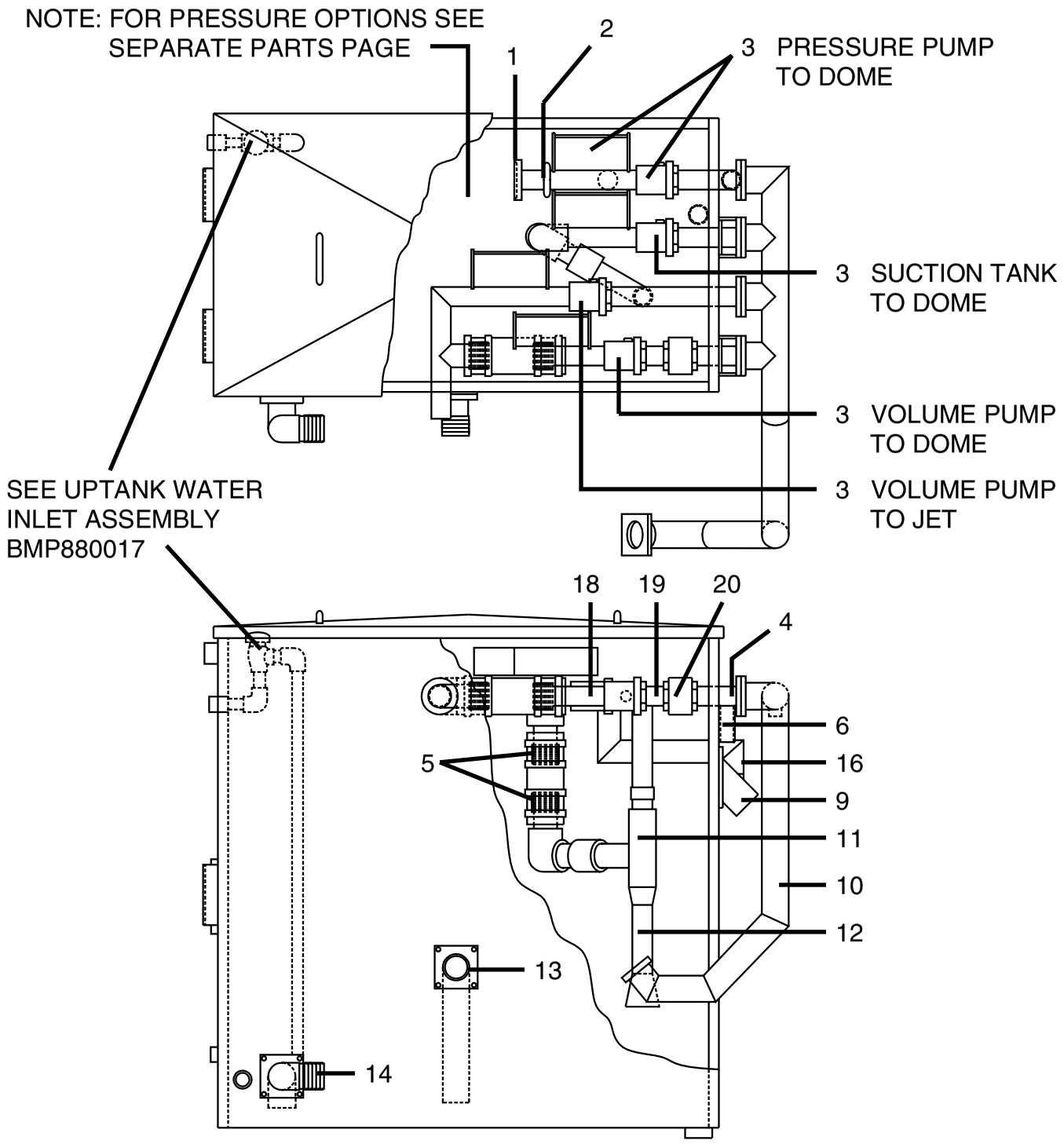
Press Tank Horizontal Piping Assy.

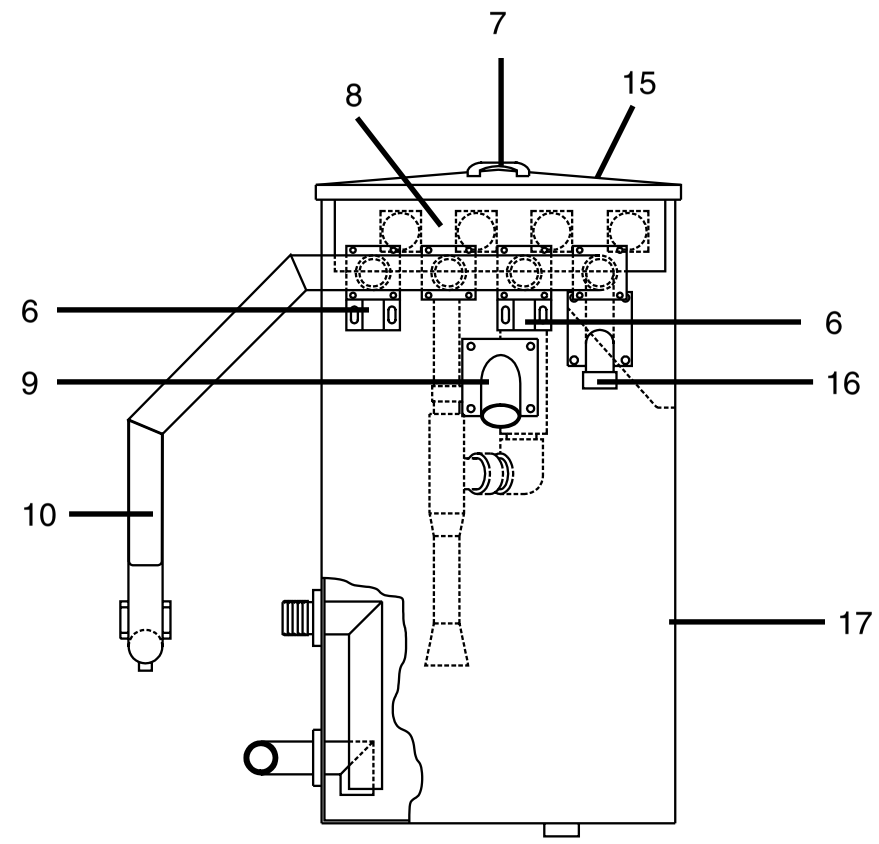
MP2501, MP2601, MP2606

BMP880019/97445V
(Sheet 1 of 2)

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

Litho in U.S.A.





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

Litho in U.S.A.

Parts List—Press Tank Horizontal Piping Assy.

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	A72PA001B	92457E PRESSTANK HRZ PIPING ASSY	REFERENCE ONLY
	B	A72PA001C	894035 HORIZONTAL PIPING ASSY	REFERENCE ONLY
----------COMPONENTS----------				
all	1	60C136	ORING 2+5/8ID 1/8CS BN 70 DURO #231	
all	2	27A032B	UBOLT1.5PIPE3/8-16X3+1/8LG18-8	
all	3	A72AN002C	89361D WATTS 1.5VALVE + STR MT ACTR	
all	4	Y7 20976A	93361# PIPE+FLG 1-1/2"NOM-3-11/16LG	
all	5	07 20981	86257B 2"HOSE FITTING 3-7/8"LONG	
all	6	27A066S	T-BOLT HOSECLAMP SS 2.35-2.66	
all	7	27A010	DRWPULL W/O SCRS #P62000-CHR-	
all	8	07 20985	90096C PRESSTANK END TOP HRZ PIPING	
all	9A	W7 20899	93413#*TANK OVERFLOW WLMT	
all	9B	07 20841A	86016B 5"SQ. OVERFLOW GASKET (TANK)	
all	10	W7 20983	93413D*PRESSTANK HRZ PIP.MANIFOLD	
all	11	W7 20979	93362C*PRESSTANK HRZ PIPING RETURN	
all	12	W7 20960	92751D*VENTURI PUMP PRESS	
all	13A	W7 20723A	93361C*TK.-VOLPUMP 2"TUBE- 2.5"HOSE	
all	13B	07 20841	97127B 3.5SQ.STANDARD MANIFOLD GASK	
all	14	W7 20706A	93362C*TK./PRESS.PUMP= 1.5NPT-2HOSE	
all	15	07 21000	86466D PRESS HOLDING TANK COVER	
all	16	W7 20982	94266C*PRESSTANK HRZ PIP.HI-PRES.	
all	17	W7 20992	97216D*TANK FOR HRZ PIPING WLMT	
all	18	07 20977	89392B 2"HOSE FITT.VOL.LINE PRESTNK	
all	19	5N1K03AS42	NPT NIP 1.5X3 TBE 304SS SK40	
all	20	96D087BCK	05Z CK VAL 1.5" #600-Z3 W/S/S DISH	

Parts List, cont.—Press Tank Horizontal Piping Assy.

Used In	Item	Part Number	Description	Comments

Tank Piping Assembly Options

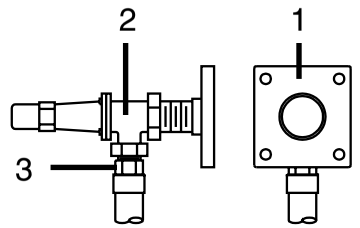
MP2501, MP2601, MP2606

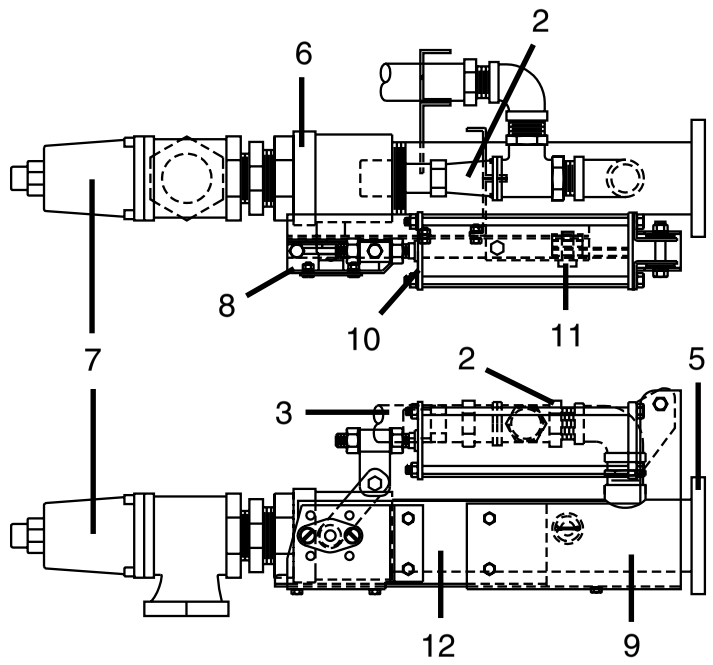
Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400

BMP880021/97445V (1 of 1)

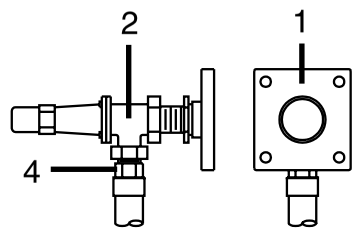
Litho in U.S.A.

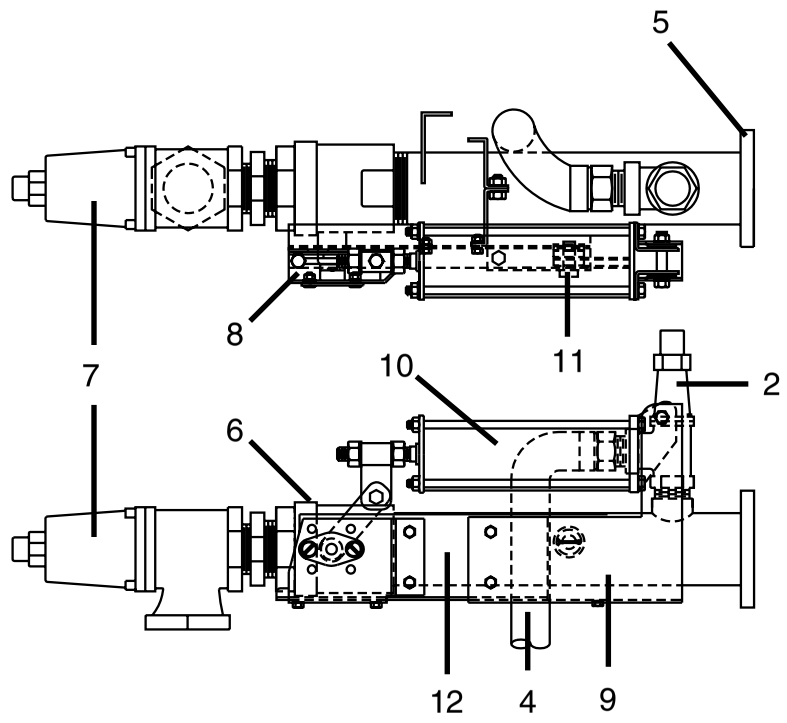
HI-FLOW OPTIONS





STANDARD FLOW OPTIONS





Parts List—Tank Piping Assembly Options

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	A72AN003B	92423M 2 PRESSURE ASSY, 1 EXTRA PRE	REFERENCE ONLY
	B	A72AN006A	89361D PRESSURE HI FLO 2 PRESSURES	REFERENCE ONLY
	C	A72AN004	91466B 1 PRESSURE ASSY	REFERENCE ONLY
	D	A72AN005	86057B PRESSURE HI FLO 1 PRESSURE	REFERENCE ONLY
			----------COMPONENTS----------	
all	1	Y7 20881A	85517# 3.5"SQ.FLG NO ORING 3/4"COUP	
all	2	A72WS003	90012C*20 RELIEF VAL 375/500PSI	
all	3	60E086B42	86027N HOSE ASSY.=3/4"X42"LG.+1 END	
all	4	60E077B42	86027N HOSE ASSY.=3/8"X42"LG.+1 END	
all	5	W7 20900B	93347C*HI VOL LO PRES PIPE WELDMENT	
all	6	96D087WEXS	11ZBALVAL 1.5BRZ #B6400SSZ1070SP	
all	7	A72WS004	90012#*20 RELIEF VAL 100/350PSI	
all	8A	07 20770	88243B ACTUATOR SUPPORT BKT 1+1/2	
all	8B	07 20702A	88512C ACTUATOR BEARING SUPPORT	
all	9	07 20704	88381B TOP CLEVIS SUPPORT	
all	10	SA 10 056G	92000Z*AIRCYL=2.38ODX2.70STX20.5#SS	
all	11	17A040S	CLEVISPIN 1/2"X1+3/8"DRILLED S.S.	
all	12	07 20700	88512D ACTUATOR ZEE SUPPORT	

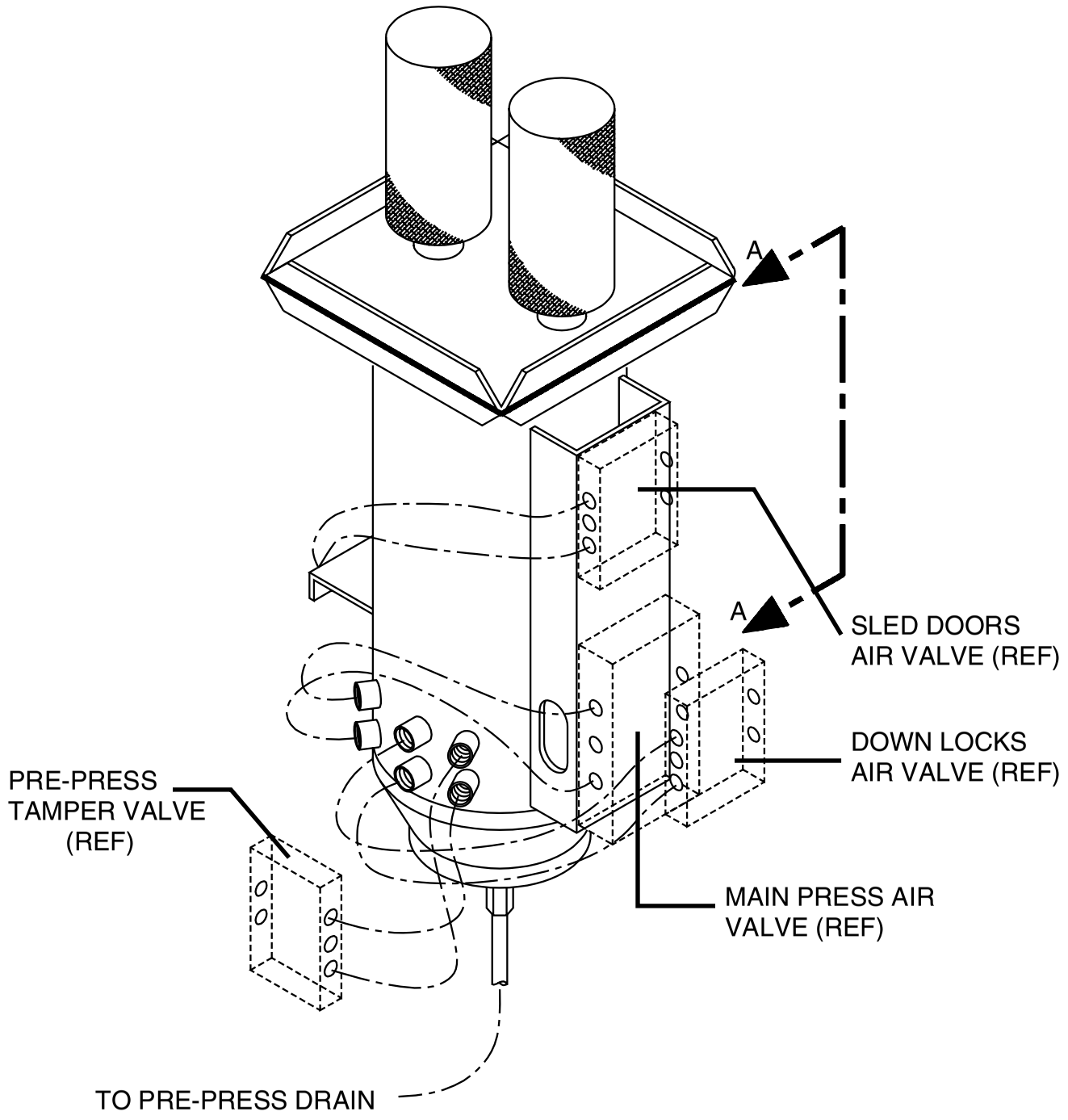
Oil Collector Assembly

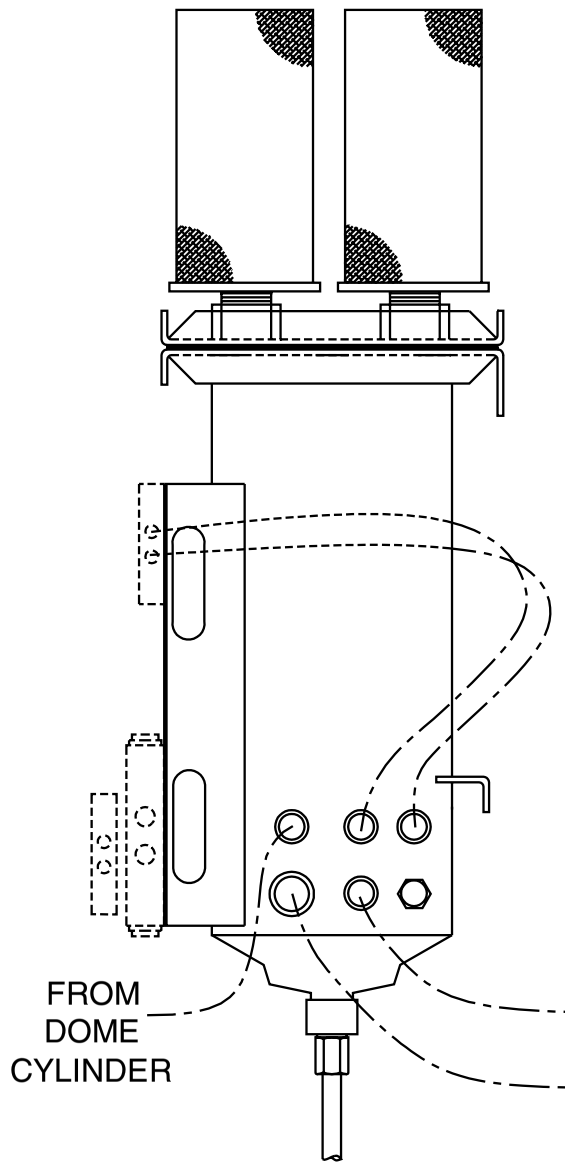
MP2501, MP2601, MP2606

BMP890060/97381V
(Sheet 1 of 2)

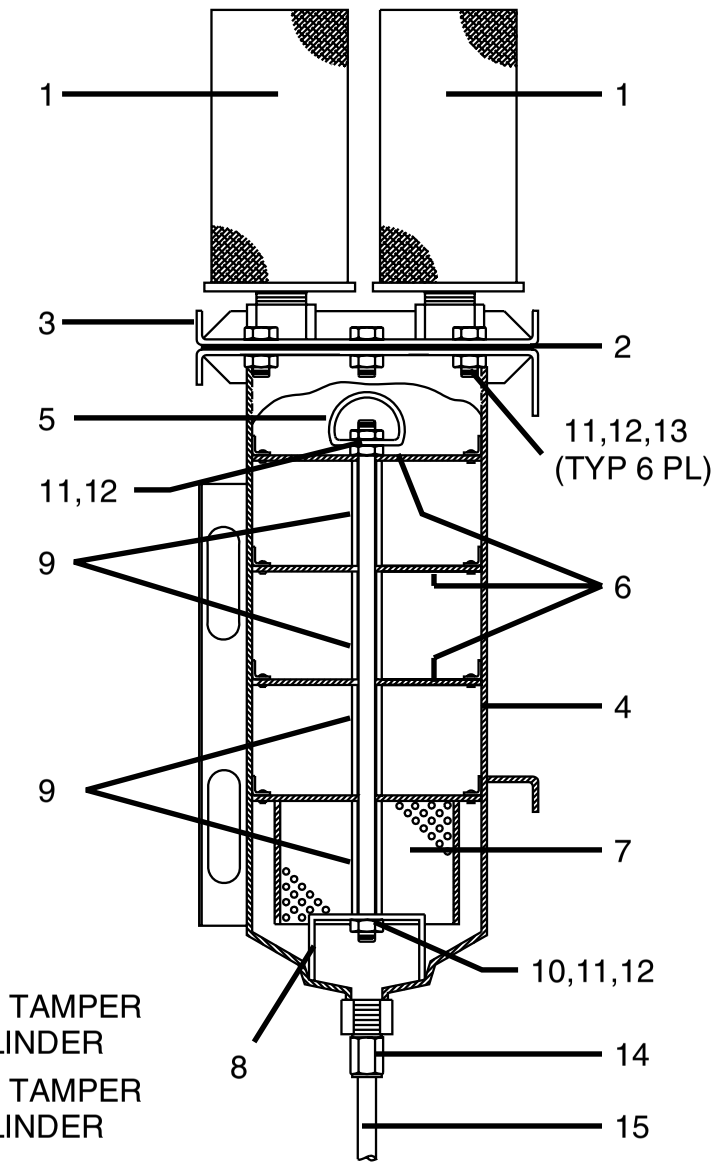
Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400

Litho in U.S.A.





VIEW A-A



SECTIONAL VIEW

Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400
Litho in U.S.A.

Parts List—Oil Collector Assembly

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

Used In	Item	Part Number	Description	Comments
----------	----------	----------	----------ASSEMBLIES----------	----------
	A	A72AV002	89182C CENT. OIL COLLECTOR ASSY.	FOR REFERENCE ONLY
----------	----------	----------	----------COMPONENTS----------	----------
all	1	27A005L	MUFFLER 3/4" ALLIED	
all	2	07 21041	89227C GASKET FOR OIL COLLECTOR=TOP	
all	3	W7 21042	89182#*COLLECTOR TOP-WELDMENT	
all	4	W7 21043	89462T*OIL COLLECTOR WELDMENT	
all	5	07 21048	90503B HANDLE FOR OIL COLLECT=CLEAN	
all	6	A72AV003	89182C HORZ. BAFFEL PLATE ASSY.	
all	7	A72AV004	89182C HORZ-VERT AIR INLET ASSY.	
all	8	07 21050	89182B BAFFEL PLATE STANDOFF	
all	9	07 21051	89257B SPACER FOR HOR.BAFFLE PLATES	
all	10	07 21040	89233B THREADED ROD .375 X 15.38	
all	11	15U260	LOCKWASHER MEDIUM 3/8 SS18-8	
all	12	15G206	HEXNUT 3/8-16 UNC2 SS 18-8	
all	13	15K096	HEXCAPSCR 3/8-16UNC2X1SS18-8	
all	14	53ACM0KPB	ASSY MALECON.5TX.75MP BRASS 68A-8E	
all	15	60E007	01ZTUBING BLK.VNYL.5/8"IDX.687OD *	

PARKER OIL FILTER

BMP870009
87112A

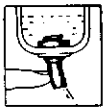
PARKER OIL FILTER COMPONENT PARTS ARE IDENTIFIED IN ORDER TO SHOW HOW THE FILTER WORKS.

INSTALLATION

1. The equipment to which the filter is attached should be internally cleaned to remove all traces of accumulated oil and dirt. Also, new pipe or hose should be installed between the filter and equipment being protected.
2. Blow all upstream pipe work clear of accumulated dirt and liquids.
3. Select a filter location as close as possible to the equipment being protected and upstream of any pressure regulator.
4. Install filter so that air flows in the direction of arrow on cover.
5. Install filter vertically with the bowl drain mechanism at the bottom. Both free moisture and solids will thus drain into the sump (quiet zone) at the bottom of the bowl (automatic drain models are recommended as standard equipment.).

OPERATION & SERVICE

1. Both free moisture and solids are removed automatically by the filter. There are no moving parts.
2. Manual drain filters must be drained regularly before the separated moisture and oil reaches the bottom of the lower baffle. Automatic drain models will collect and dump liquids automatically.



3. The filter element should be removed and replaced when the pressure differential across the filter unit is excessive.
4. **To service the filter element; SHUT OFF AIR SUPPLY and depressurize the unit.**
   a. Unscrew threaded bowl.
   b. Unscrew lower baffle and remove filter element and gaskets (2).
   c. Clean all internal parts, bowl and element before reassembling. See polycarbonate bowl cleaning section.
   d. Install element and gaskets (2).
   e. Attach lower baffle and tighten firmly.
   f. Replace bowl seal; lubricate seal to assist in retaining it in position. Use only mineral base oils or grease. Do NOT use synthetic oils such as esters, and do NOT use silicones.
   g. Screw bowl into body.

CAUTION:

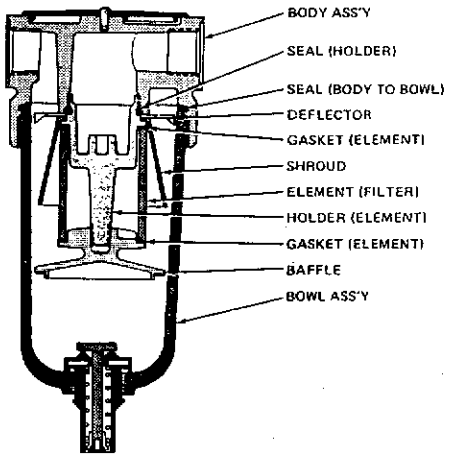
Polycarbonate bowls, being transparent and tough, are ideal for use with Filters and Lubricators. They are suitable for use in normal industrial environments, but should not be located in areas where they could be subjected to sunlight, an impact blow, nor temperatures outside of the rated range. As with most plastics, some chemicals can cause damage. Polycarbonate bowls should not be exposed to chlorinated hydro-carbons, ketones, esters and certain alcohols. They should not be used in air systems where compressors are lubricated with fire-resistant fluids such as phosphate ester and di-ester types.

Bowl guards are available for added protection of polycarbonate bowls where chemical attack may occasionally occur.

Metal bowls are recommended where ambient and/or media conditions are not compatible with polycarbonate bowls. Metal bowls resist the action of most such solvents but should not be used where strong acids or bases are present or in salt laden atmospheres. Consult the factory for specific recommendations where these conditions exist.

TO CLEAN POLYCARBONATE BOWLS USE MILD SOAP AND WATER ONLY! DO NOT use cleansing agents such as acetone, benzene, carbon tetrachloride, gasoline, toluene, etc., which are damaging to this plastic.

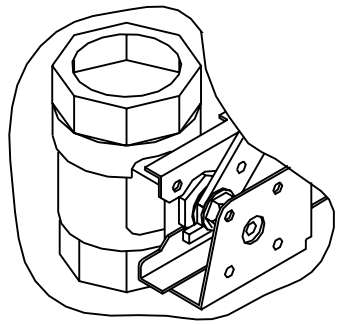
Bowl guards are recommended for use with polycarbonate bowls.



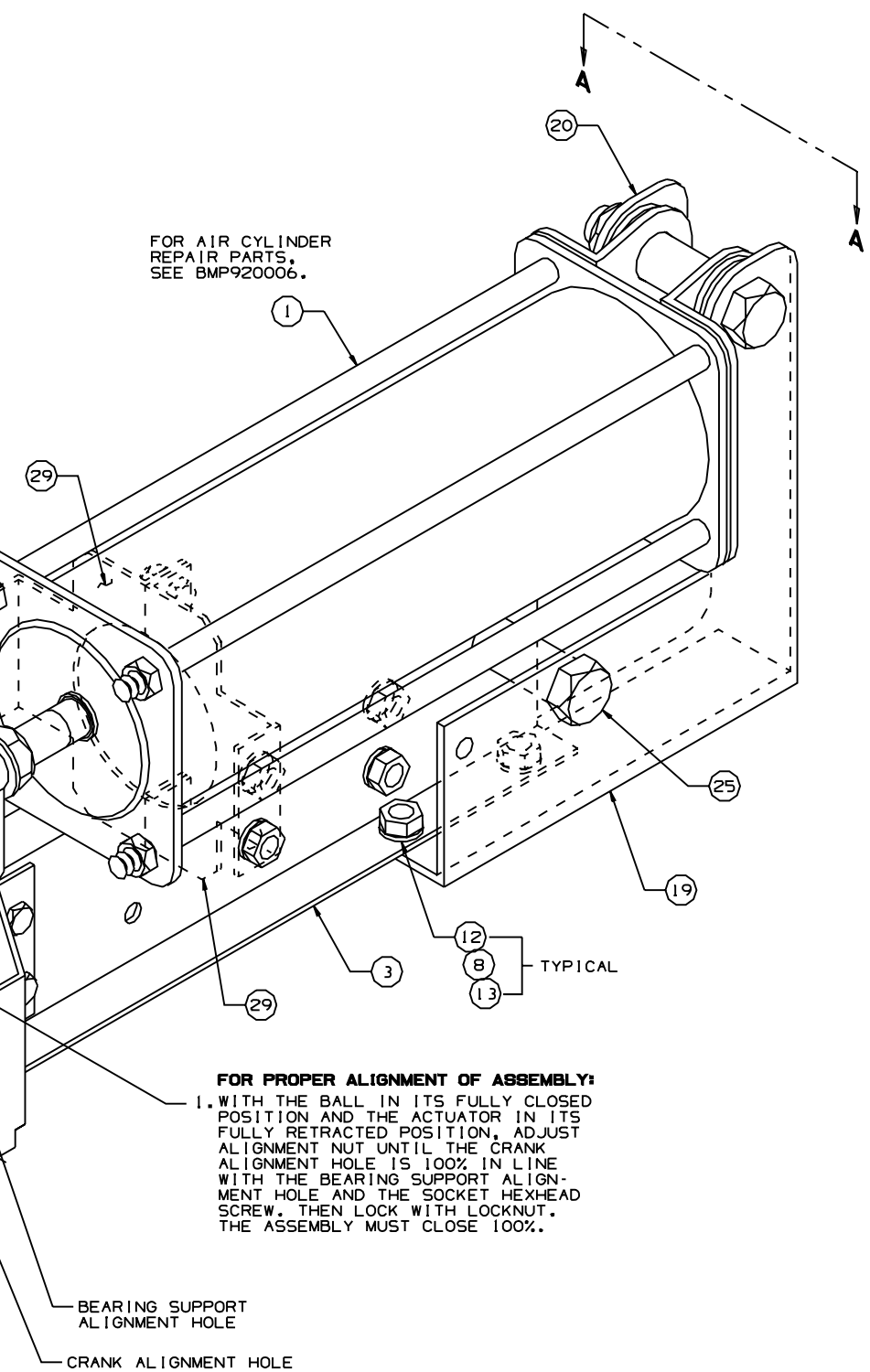
Universal Actuators & Mounting Hardware for Watts Ball Valves - New Pivot

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

Litho in U.S.A.

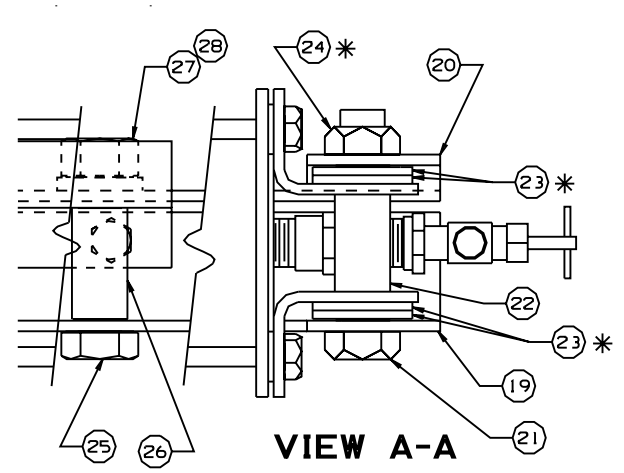


90° VALVE SET

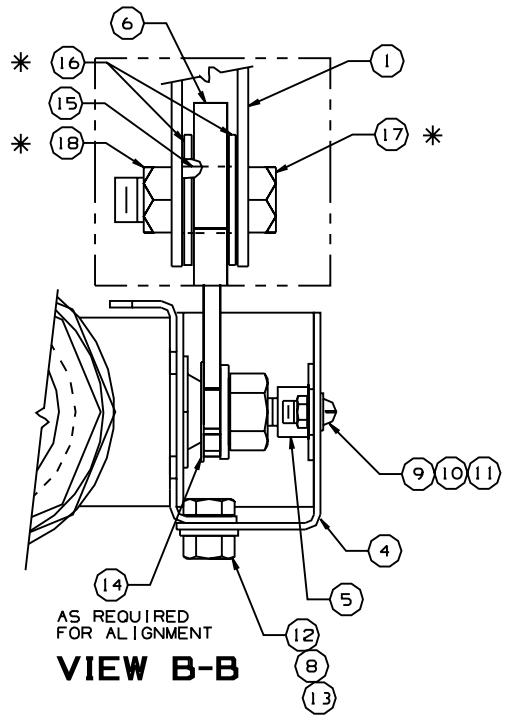


FOR PROPER ALIGNMENT OF ASSEMBLY:

1. WITH THE BALL IN ITS FULLY CLOSED POSITION AND THE ACTUATOR IN ITS FULLY RETRACTED POSITION, ADJUST ALIGNMENT NUT UNTIL THE CRANK ALIGNMENT HOLE IS 100% IN LINE WITH THE BEARING SUPPORT ALIGNMENT HOLE AND THE SOCKET HEXHEAD SCREW. THEN LOCK WITH LOCKNUT. THE ASSEMBLY MUST CLOSE 100%.

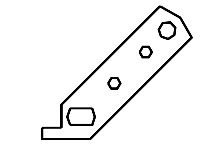


VIEW A-A

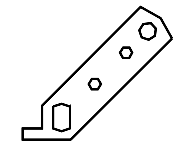


AS REQUIRED FOR ALIGNMENT

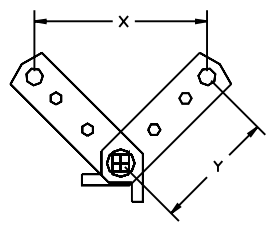
VIEW B-B



NORMALLY OPEN CRANK (ITEM 6)



NORMALLY CLOSED CRANK (ITEM 6)



STROKE DIMENSIONS

SIZE	X	Y
2" VALVES	3.89	2.75

NOTES:

1)RIGHT HAND ASSEMBLY IS SHOWN, LEFT HAND ASSEMBLY IS OPPOSITE.

2) FOR 90 DEGREE VALVE SET, VALVE IS ROTATED 90 DEGREES.

3) ASSEMBLE SO THAT THE LINKAGE IS FREE TO MOVE IN THE SPACER, THIS MEANS THAT THERE SHOULD BE DAYLIGHT BETWEEN THE CRANK AND EACH ADJACENT WASHER WITHOUT EXCESSIVE CLEARANCE.

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

Litho in U.S.A.

Parts List—Actuators & Mounting Hardware for Watts Ball Valves

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

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	AA	96D085BCSL	92000Z 1.00WAT BVAL+ACT/BR/NC/ST/LH	
	AB	96D085BCSR	93513S 1.00WAT BVAL+ACT/BR/NC/ST/RH	
	AC	96D085BOSL	93513S 1.00WAT BVAL+ACT/BR/NO/ST/LH	
	AD	96D085BOSR	93513S 1.00WAT BVAL+ACT/BR/NO/ST/RH	
	AE	96D085SOSR	92000Z 1.00WAT BVAL+ACT/SS/NO/ST/RH	
	AF	96D085SCSR	92000Z 1.00WAT BVAL+ACT/SS/NC/ST/RH	
	BA	96D086BCSL	93513S 1.25WAT BVAL+ACT/BR/NC/ST/LH	
	BB	96D086BCSR	93513S 1.25WAT BVAL+ACT/BR/NC/ST/RH	
	BC	96D086BOSL	93513S 1.25WAT BVAL+ACT/BR/NO/ST/LH	
	BD	96D086BOSR	93513S 1.25WAT BVAL+ACT/BR/NO/ST/RH	
	BE	96D086SCNR	92000Z 1.25WAT BVAL+ACT/SS/NC/90/RH	
	BF	96D086SCSL	92000Z 1.25WAT BVAL+ACT/SS/NC/ST/LH	
	BG	96D086SCSR	92000Z 1.25WAT BVAL+ACT/SS/NC/ST/RH	
	BH	96D086SOSL	92000Z 1.25WAT BVAL+ACT/SS/NO/ST/LH	
	BJ	96D086SOSR	92000Z 1.25WAT BVAL+ACT/SS/NO/ST/RH	
	CA	96D087BCSL	93513S 1.50WAT BVAL+ACT/BR/NC/ST/LH	
	CB	96D087BCSR	93513S 1.50WAT BVAL+ACT/BR/NC/ST/RH	
	CC	96D087BOSR	93513S 1.50WAT BVAL+ACT/BR/NO/ST/RH	
	CD	96D087SCNR	92000Z 1.50WAT BVAL+ACT/SS/NC/90/RH	
	CE	96D087SCSR	92000Z 1.50WAT BVAL+ACT/SS/NC/ST/RH	
	CF	96D087SOSR	92000Z 1.50WAT BVAL+ACT/SS/NO/ST/RH	
	DA	96D088BCSR	92177S 2.00WAT BVAL+ACT/BR/NC/ST/RH	
	DB	96D088BCNR	92177S 2.00WAT BVAL+ACT/BR/NC/90/RH	
	DC	96D088BCSL	92177S 2.00WAT BVAL+ACT/BR/NC/ST/LH	
	DD	96D088BOSR	92177S 2.00WAT BVAL+ACT/BR/NO/ST/RH	
	DE	96D088SCNR	92177S 2.00WAT BVAL+ACT/SS/NC/90/RH	
	DF	96D088SCSR	92177S 2.00WAT BVAL+ACT/SS/NC/ST/RH	
	DG	96D088SOSR	92177S 2.00WAT BVAL+ACT/SS/NO/ST/RH	
	DH	96D088BCNL	92177S 2.00WAT BVAL+ACT/BR/NC/90/LH	
	DJ	96D088BOSL	92177S 2.00WAT BVAL+ACT/BR/NO/ST/LH	
	DK	96D088SCSL	92177S 2.00WAT BVAL+ACT/SS/NC/ST/LH	
	DL	96D088SOSL	92177S 2.00WAT BVAL+ACT/SS/NO/ST/LH	
			----------COMPONENTS----------	
AA-AD, BA-BD, CA-CC	1	SA 10 056F	92000Z AIRCYL=2.38ODX2.70STX20.5#CD	
AE-AF, BE-BJ, CD-CF	1	SA 10 056G	92000Z*AIRCYL=2.38ODX2.70STX20.5#SS	
DA-DD, DH-DJ	1	SA 10 057C	95222D AIRCYL=3.0ODX3.89ST171/176CD	
DE-DG, DK-DL	1	SA 10 057D	95222# AIRCYL=3.0ODX3.89ST171/176SS	
AA-AE	2	96D085WEXS	07Z BALVAL 1" BRZ WATTS#B6400SSZ107	
AF	2	96D085WSS	07Z BALVAL 1" SS WATTS S8000-Z107	
BA-BD	2	96D086WEXS	08Z BAVAL 1+1/4BRZ WATS#B6400SSZ107	
BE-BJ	2	96D086WSS	08Z BAVAL 1+1/4"SS WATTS S8000-Z107	
CA-CC	2	96D087WEXS	09Z BAVAL 1+1/2BRZ WATS#B6400SSZ107	

Parts List, cont.—Actuators & Mounting Hardware for Watts Ball Valves

Used In	Item	Part Number	Description	Comments
CD-CF	2	96D087WSS	08Z BAVAL 1+1/2"SS WATTS S8000-Z107	
DA-DD, DH-DJ	2	96D088WEXS	09Z BALVAL 2" BRZ WATTS#B6400SSZ107	
DE-DG, DK-DL	2	96D088WSS	09Z BALVAL 2" SS WATTS S8000-Z107	
AA,AC	3	03 01634A	94053# ACTUATOR CHANNL SUPPORT-LEFT	
AB,AD,AE, AF	3	03 01634	94053C ACTUATOR CHANNL SUPPORT 1.0"	
BA,BC,BF, BH,CA	3	07 20700L	88512# ACTUATOR ZEE SUPPORT-LEFT	
BB,BD,BE, BG,BJ,CB, CC,CE, CF	3	07 20700	88512D ACTUATOR ZEE SUPPORT	
CD	3	03 01633	92651C ACTUATOR SUPPORT BRKT 1.0"	
DA,DB, DD-DG	3	03 01628	92126D ACTUATOR ZEE SUP 3"AIRCYL	
DC,DH-DL	3	03 01628L	92126# ACT ZEE SUP 3" AIRCYL-LEFT	
AA,AC	4	03 01632A	90507# ACTUATOR BEARING SUPPRT-LEFT	
AB,AD-AF, CD	4	03 01632	90507C ACTUATOR BEARING SUPPORT-1"	
BA,BC,BF, BH,CA	4	07 20702L	88512# ACTUATOR BEARING SUPPORT-LFT	
BB,BD,BE, BG,BJ,CB, CC,CE, CF	4	07 20702A	88512C ACTUATOR BEARING SUPPORT	
DA,DB, DD-DG	4	03 01629	92023C ACTUATOR BEARING SUPPORT 3	
DC,DH-DL	4	03 01629L	92023# ACT BEARING SUPPORT 3"-LEFT	
AA-AF,CD	5	54E001PABA	89281B ASSY=1/4"PRESSBEARING	
BA-BJ, CA-CC,CF, DA-DL	5	54E002PABA	89281B ASSY=5/16"PRESSBEARING	
AA,AB,AF, CD	6	03 01631	91507B+VALVE CRANK N.C.WATTS 1.0"	
AC-AE	6	03 01631A	88381B VALVE CRANK N.O.WATTS-1.0"	
BA,BB,BE, BF,BG,CA, CB,CE	6	07 20703A	91507B VALVE CRANK N.C.WATTS 1.5"	
BC,BD,BH, BJ	6	07 20703B	88153B VALVE CRANK N.O.WATTS 1.5"	
DA,DC,DF, DK	6	03 01624B	92061B CRANK=NC 2"BALVAL .626 STEM	
DB,DD,DE, DG,DH,DJ, DL	6	03 01624C	92061B CRANK=NO 2"BALVAL .626 STEM	
all except CC,CD	7	15K031	BUTSOKCAPSCR 1/4-20X1/2 SS18-8	
CC,CD	7	15N117	RDMACSCR 10-24UNC2X3/8SS18-8	
all	8	15U181	LOCKWASHER MEDIUM 1/4 SS18-8	
all	9	15N130	RDMACHSCR 10-24UNC2A X 1/2 SS18-8	
all	10	15U135	FLATWASH#10 .4370DX.203IDX.04TSS188	

Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400
Litho in U.S.A.

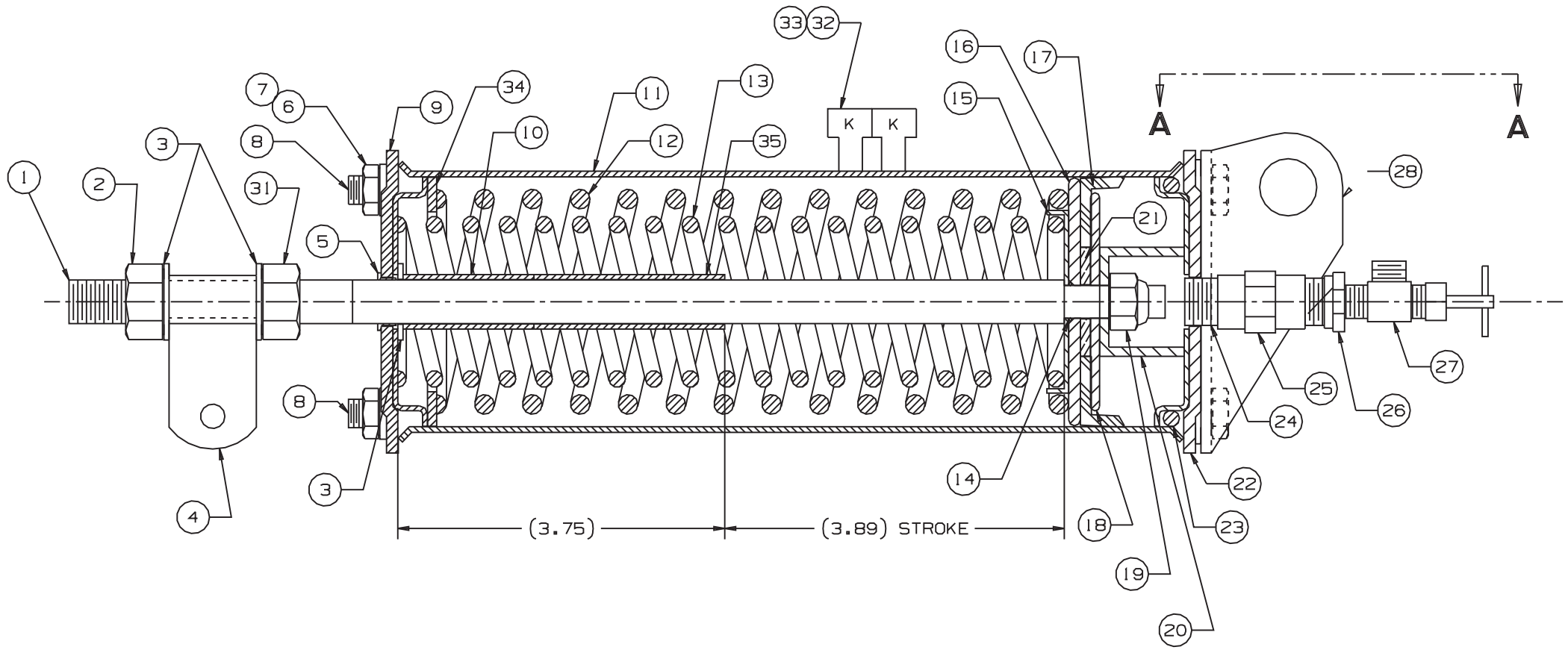
Parts List, cont.—Universal Actuators & Mounting Hardware for Watts Ball Valves

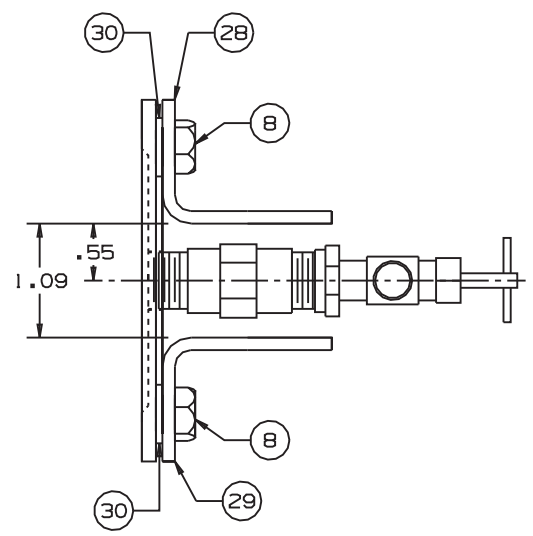
Used In	Item	Part Number	Description	Comments
all	11	15G126	01Z HXLOCKNUT NYLON 10-24 UNC SS NM	
all	12	15N159	HEXCAPSCR 1/4-2OUNC2AX7/16 18-8SS	
all	13	15G170	HEXNUT 1/4-20UNC2 SS18-8	
AA-AF,BE, CD,DA-DL	14	07 20703D	89354B WASHER=2.00"WATTS CRANK	
BA-BD, BF-BJ, CA-CC,CE, CF	14	07 20703C	89354B WASHER=1.25-1.50 WATTS CRANK	
all	15	02 15893	92683B SPACER=BALL VALVE CRANK STEM	
all	16	15U188	01Z FLTWASH 1/4 STD COMM SS18-8	
all	17	15N186	HXCAPSCR 1/4-20UNC2X3/4SS18-8	
all	18	15G164	01Z HX THIN LOCKNUT NYL1/4-20 SS	
BA,BB,BE, BJ,CE	19	03 01661A	92271B BRKT=RHT AIR CYL SUPT-S/S	
DA,DB, DD-DG	19	03 01625A	92271B 3" AIR-CYL SPT BRK R-SIDE RT	
DC,DH-DL	19	03 01625B	92271# 3" AIR-CYL SPT BRK R-SIDE LT	
BE,BG,BJ, CE-CF	20	03 01662A	92271B BRKT=LFT AIR CYL SUPT-S/S	
DA,DB, DD-DG	20	03 01625C	92271B 3" AIR-CYL SPT BRK L-SIDE RT	
DC,DH, DJ-DL	20	03 01625D	92271# RIGHT=3"AIR CYL SUPT BRKT	
all	21	15K190S	HXCAPSCR 1/2-13UNC2AX2.5 FLTHRD SS	
all	22	27B24S0K1P	SPACER ROLL.5ID1.75L.062T 304 SS	
all	23	15U318S	FLATWASH 1.12ODX.656IDX.09T 304 SS	
AB,DA-DL	24	15G234NS	HXLOCKNUT NYL 1/2-13UNC2 SS18-8	
all	25	15K180S	HXCAPSCR 1/2-13UNCAX2 18-8SS	
all	26	27B24SSK1F	SPACER ROLL.5ID1.25L.062T S/S	
all	27	15U310	LOKWASHER REGULAR 1/2 SS18-8	
all	28	15G231S	HXFINJAMNUT 1/2-13UNC2B SS18-8	
AA-AF	29	03 01633	92651C ACTUATOR SUPPORT BRKT 1.0"	
BA-BJ	29	07 20771	88407C ACTUATOR SUPPORT BRKT 1.25"	
CA-CF	29	07 20770	88243B ACTUATOR SUPPORT BKT 1+1/2	
DA-DL	29	03 01626	89473B ACTUATOR SUPPORT BRKT 2"VAL	

Air Cylinders for **1", 1.25", 1.5" & 2"** Watts Ball Valves

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

Litho in U.S.A.





VIEW A-A

NOTES:

1. LUBRICATE SPRINGS WITH A LAYER OF GREASE BUT NOT SO MUCH AS TO CAUSE EXCESS TO LEAK OUT.
2. DO NOT GREASE THE CUP, ITEM 17! DOING SO WOULD BLOCK THE AIR LINES.

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

Litho in U.S.A.

Parts List—Air Cylinders for 2" Watts Ball Valves

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

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	SA 10 057C	95222D AIRCYL=3.0ODX3.89ST171/176CD	FOR 2” BALLVALVES
	B	SA 10 057D	95222# AIRCYL=3.0ODX3.89ST171/176SS	FOR 2” STAINLESS BALLVALVES
	C	SA 10 056F	BRAKEAIRCYL=2.38ODX2.70STX20.5#CD	FOR 1,1.25,1.5 BALLVALVES
	D	SA 10 056G	*AIRCYL=2.38ODX2.70STX20.5#SS	FOR 1,1.25,1.5 STAINLESS BALLVALVES
			----------COMPONENTS----------	
A,B	1	03 01615	94191B PISTON STEM 3"AIRCYL	
C,D	1	02 18650	96461B STEM=2 WAY AIRCYLINDER	
all	2	15G234NS	HXLOCKNUT NYL 1/2-13UNC2 SS18-8	
all	3	15U243S	FLAWASHER 7/8ODX33/64IDX16GA 18-8SS	
all	4	03 01209A	92536B STEMCLIP H=1.313 BALVAL S/S	
all	5	54E220	NYLINER 8L2FF BUSHING 1/2X9/16X.140	
A	6	15G191	HXFINJAMNUT 5/16-24UNC2 ZINC GR2	
B,C,D	6	15G190	HEXFINJAMNUT 5/16-18NC2 SS18-8	
A	7	15U210	LOKWASHER MEDIUM 5/16 ZINCPL	
B,C	7	15U205	LOCKWASHER MEDIUM 5/16" 18-8SS	
D	7	15U200S	FLATWASHER US STD 5/16 SS18-8	
A	8	02 10585H	91142# TIE BOLT=5/16-18X10LNG PLTD	
B	8	02 10585G	91142# TIE BOLT=5/16-18X10LG (SS)	
C	8	02 10585E	91142# TIE BOLT=5/16-18X8.25LG PLTD	
D	8	02 10585A	91142# TIE ROD-5/16-18X8+1/4 (SS)	
A	9	03 01623	90351C CYLINDER HEAD 3"AIRCYLINDER	
Bl	9	03 01623A	90351# CYLHEAD 3"AIRCYLINDER-S/S	
C	9	02 02546	87341C CYLHEAD=SLIDESTEM	
D	9	02 02546S	87341# CYLINDER HEAD=SLIDE STEM SS	
all	10	27B32024SS	SPACER ROLL .51IDX.6250DX1.5L STN S	USES 2
A,B	11	03 01621	94266BTUBE 2+7/8 AIR CYLINDER 9"	
C,D	11	02 02068	94266A AIRCYL-STAINLESS=DUMPVALVE	
A,B	12	03 01617C	92133B SPRING=FL11.5SR23.5#MD2.368	
C	12	02 15881	96471# SPRING=BRAKE2.1OD11FL15.5#/”	
D	12	02 15881A	85504Z SPRING,02 -15881+HEAVY PAINT	
A,B	13	03 01616C	92133B SPRING=FL11.35SR20.5MD1.811	
C	13	02 15880	96471B SPRING=BRAKE1.5OD10.3FL17#/”	
D	13	02 15880A	85504Z SPRING,02-15880 +HEAVY PAINT	
all	14	60C106	ORING 5/16ID 1/16CS BN 70 DURO #011	
A,B	15	03 01620A	92133B 3"AIR CYL=SPRING RETAINER	

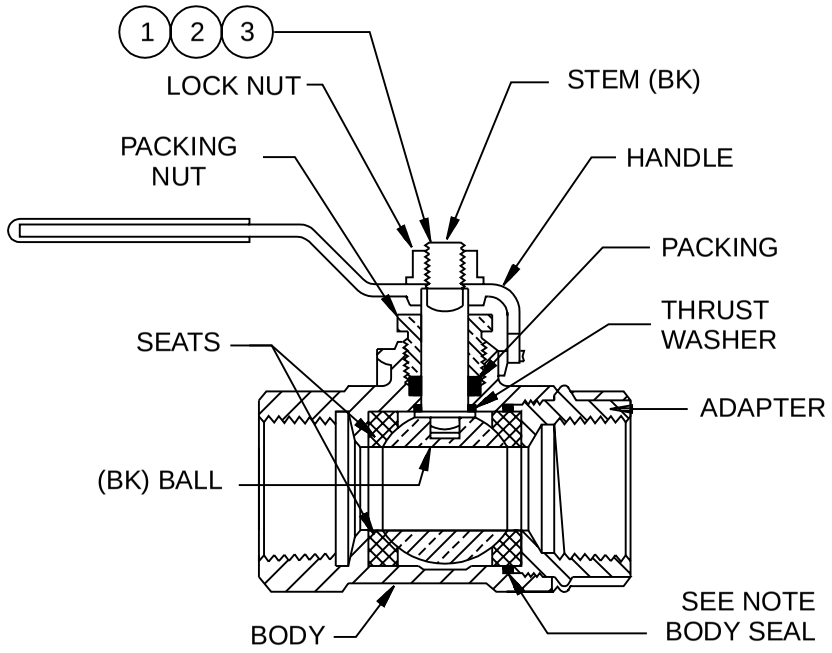
Parts List, cont.—Air Cylinders for 2" Watts Ball Valves

Used In	Item	Part Number	Description	Comments
C,D	15	02 18651	73171A WASHER=2 WAY BRAKE CYL	
A,B	16	X3 01619A	92066# MACH=3"ACYL BRASS PISCUP WSH	
C,D	16	02 02105B	92253B 2.38”ACYL BRASS PISCUP WASHR	
A,B	17	02 19302	93356B PISTON CUP 2+7/81D CYLINDER	
C,D	17	02 02194	93217B PISTONCUP=DUMPVALVE 2+3/8”	
A,B	18	03 01618	91522B PISTON CUP WASHER 3"AIRCYL	
C,D	18	02 02085	94092B UP WASHER=2”OD=PISTON CUP	
all	19	15G220	02Z LTHX THIN LOKNUT 3/8-24 SSNTE	
A,B,D	20	03 01313S	85506B+STOP=AIRCYL W/2+11/16STR.SS	
C	20	03 01313	70219A STOP=AIR CYL W/2+11/16STROKE	
A,B	21	03 01630	87506B 3"AIRCYL PSTN CUP COMPLMTWSH	
C,D	21	02 02185	79237A WASHER=PISTON CUP COMP LIMIT	
A	22	03 01622	88531# CYL HEAD TAPHOLE 3"AIRCYL SS	
B	22	03 01622A	88531# CYLHEAD TAPHOLE-3"ARCYL S/S	
C	22	02 02101	71334A CYLHEAD W/TAPPED HOLE	
D	22	02 02101S	88531B CYLINDER HEAD TAP HOLE (SS)	
A,Bl	23	60C134	ORING 2.5 ID 3/16CS BN 70 DURO #333	
C,D	23	60C132	ORING 2”IDX3/16CS BUNA70 #32	
all	24	5N0ECLSBE2	NPT NIPPLE 1/4XCLS TBE BRASS 125#	
all	25	5SCC0EBE	NPT COUP 1/4 BRASS 125# #103	
all	26	5SB0E0CBEO	HEXPIPBUSH 1/4 X 1/8 BRASS 125#	
all	27	96H018	NEEDLE VALVE	
A,B	28	03 01627B	92023# LEFT=3"AIR CYL MNTG BRKT	
C	28	03 01660C93231B	BRKT=AIR CYL MONUT LEFT	
D	28	03 01660A	92271B BRKT=AIR CYL MNT LFT-S/S	
A,B	29	03 01627A	92023B RIGHT=3"AIR CYL MNTG BRKT	
C	29	03 01660D	BRKT=AIR CYL MOUNT RIGHT	
D	29	03 01660B	92271# BRKT=AIR CYL MNT RHT-S/S	
all	30	15U200	FLATWASHER(USS STD) 5/16"ZNC PLT	
all	31	15G231S	HXFINJAMNUT 1/2-13UNC2B SS18-8	
A	32	20L601K	ID TAG NAT'L#1614 ALUM EMB "K"	USES 2
B	32	20L601E	ID TAG NAT'L#1614 ALUM EMB "E"	USES 2
CD	32	20L601G	ID TAG NAT'L#1614 ALUM EMB "G"	USES 2
C	33	20L601F	ID TAG NAT'L#1614 ALUM EMB "F"	USES 1
D	33	20L601V	ID TAG NAT'L#1614 ALUM EMB "V"	USES 1
all	34	03 01620E	92136B.WASHER=2.86ODX2.06IDX.105THK	
A,B	35	27B2400K0N	SPCRROLL.5ID.687L.062T SS	USES 1

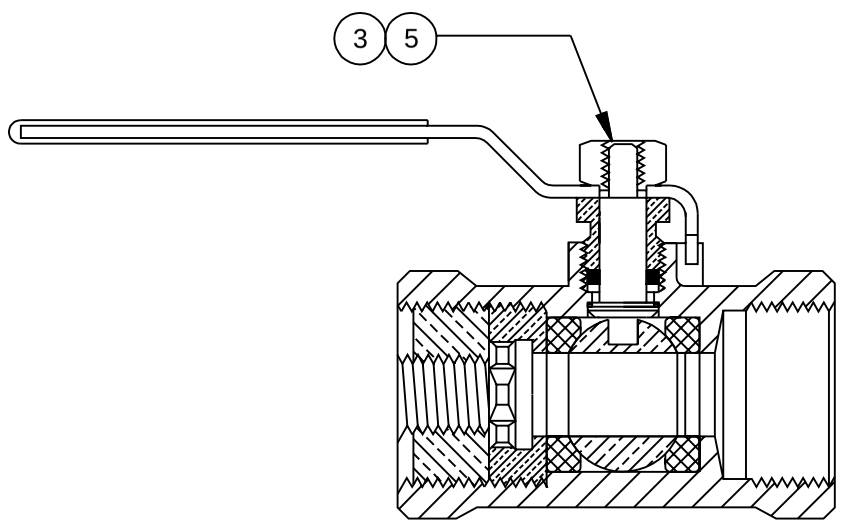
Watts Ball Valves and Repair Kits

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

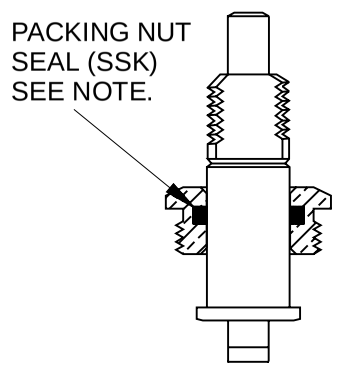
BALL VALVES WITHOUT ACTUATOR PADS FOR MANUAL OPERATION



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

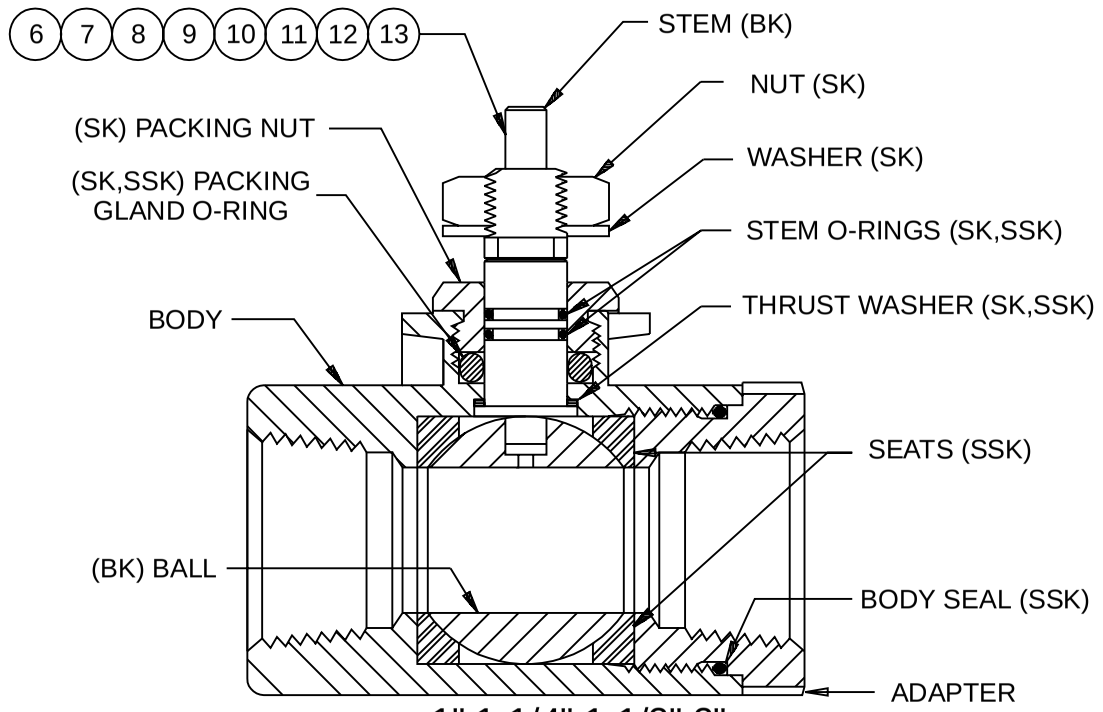


3/4",1"
BRONZE
NO REPAIR KITS



DETAIL
OLD STYLE STEM

AIR OPERATED BALL VALVES



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

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

HOW TO USE THIS DRAWING:

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

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

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

NOTE:

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

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

Litho in U.S.A.

Parts List—Watts Ball Valves and Repair Kits

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

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

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

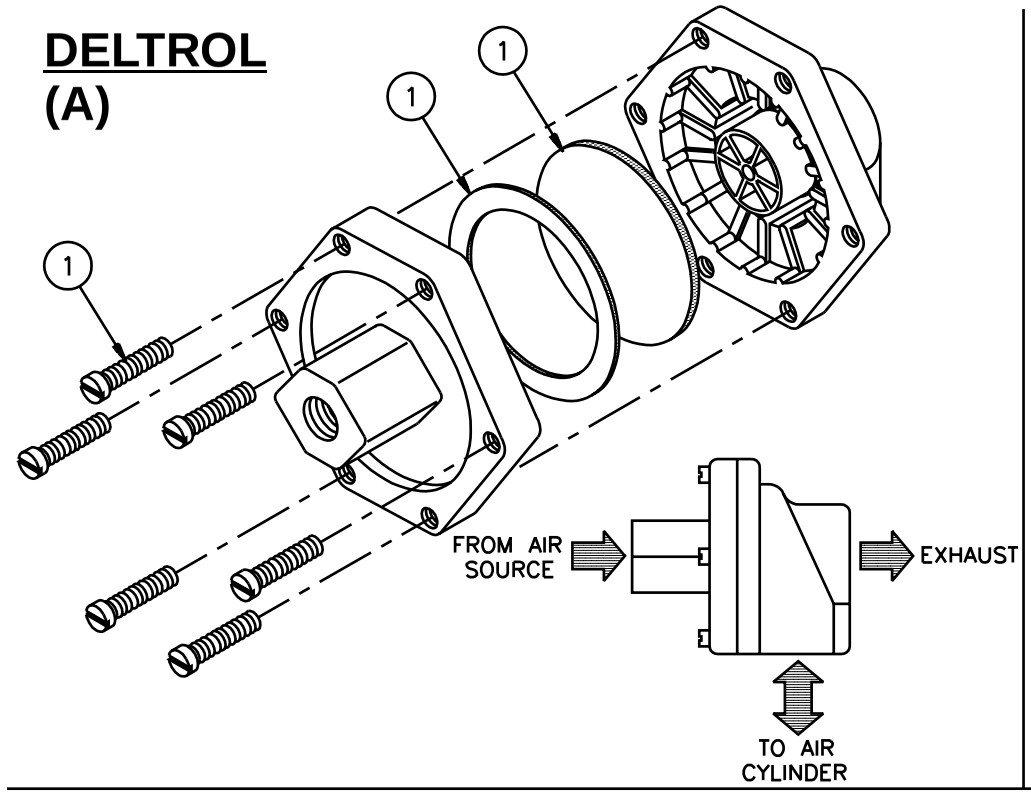
Used In	Item	Part Number	Description	Comments
all	008SSK	96V086SSK	02Z REPKIT 1.25BALVALSSK-02-RK-Z107	
all	9	96D086WSS	08Z BAVAL 1+1/4"SS WATTS S8000-Z107	1-1/4"STAINLESS-AIR OPER.
all	009BK	96V086BK	BALL KIT WATTS #1.25-BALL-RK-Z107	
all	009SK	96V086A7SK	02Z STEMKIT 1.25-1.5-ST-RK-Z107	
all	009SSK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

Quick Exhaust Valves

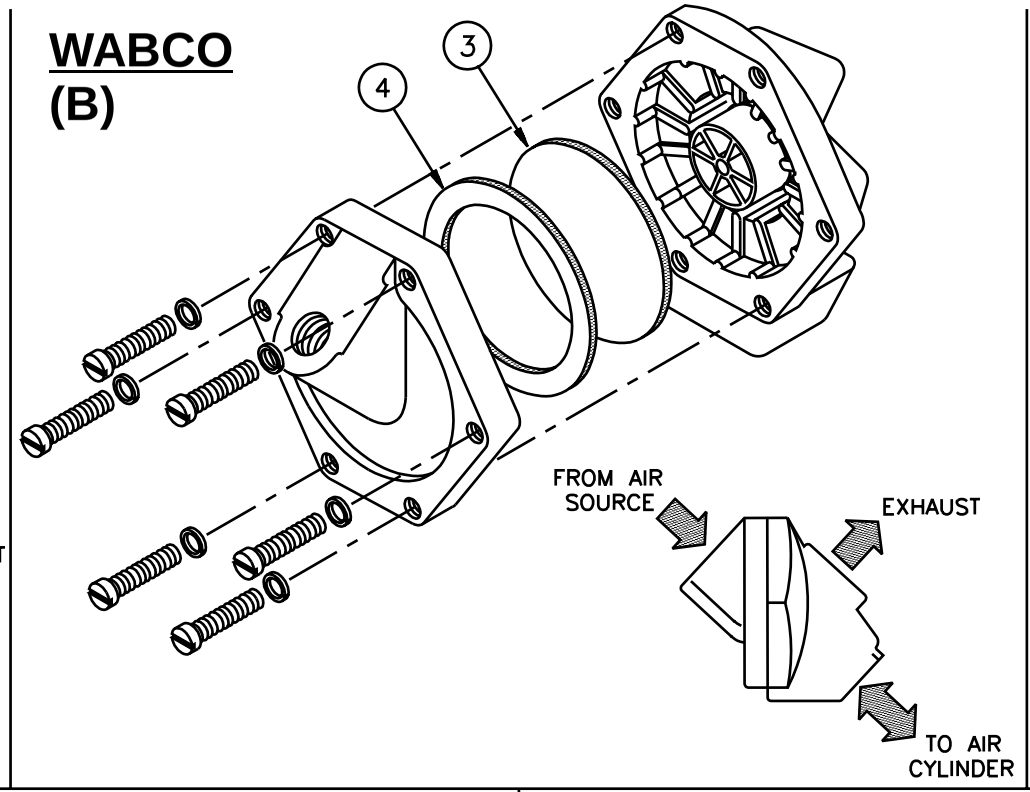
Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400

Litho in U.S.A.

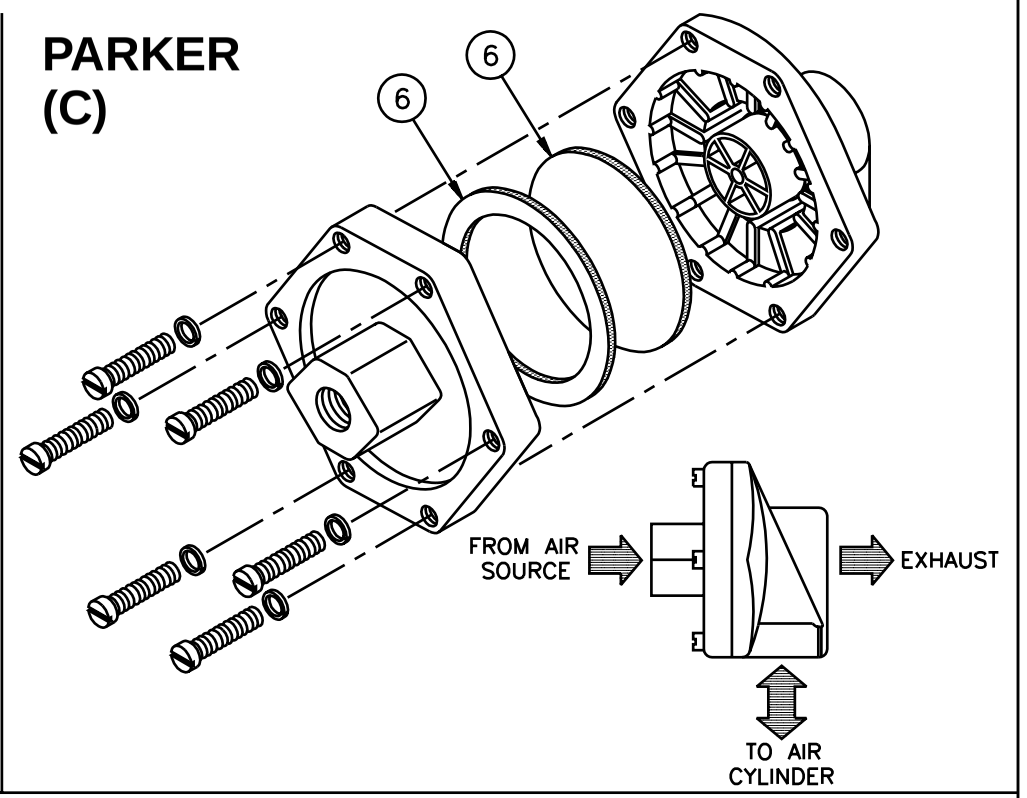
DELTROL
(A)



WABCO
(B)

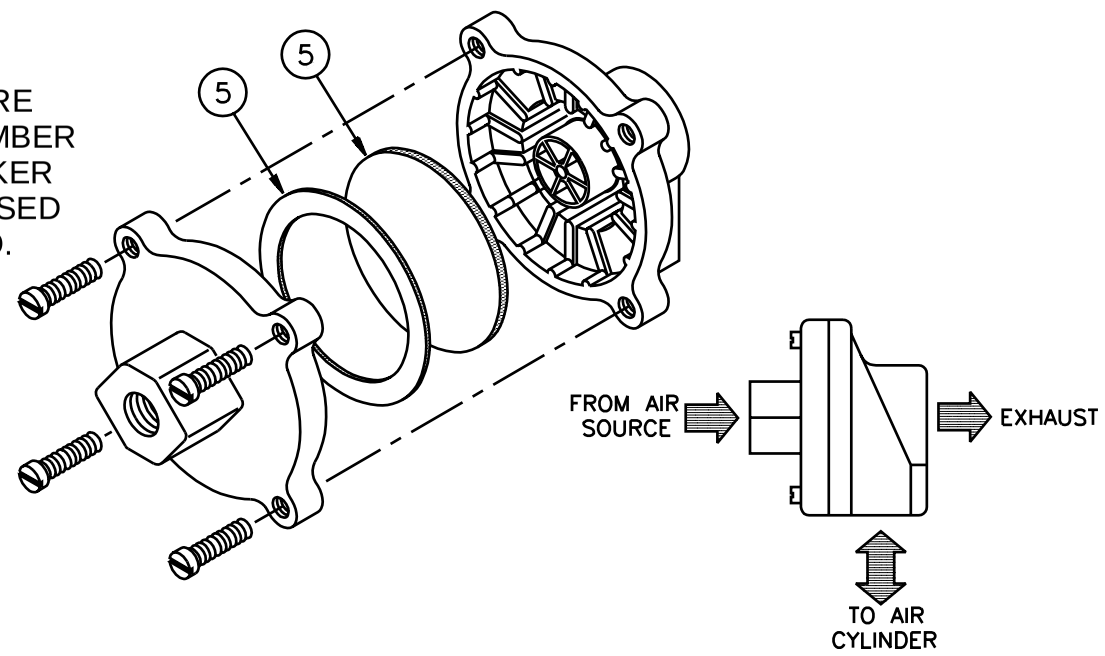


PARKER
(C)



ASCO
(D)

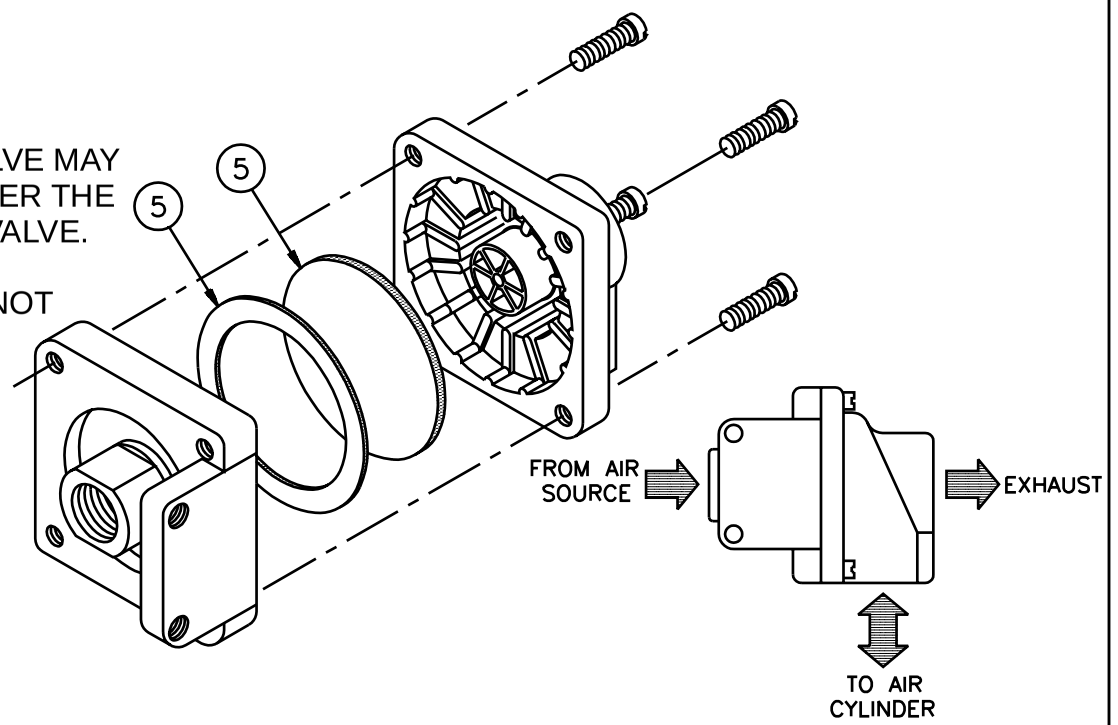
NOTE: ASCO VALVES ARE USED PRIOR TO NOVEMBER 1987. SINCE THEN PARKER VALVES HAVVE BEEN USED IN PLACE OF THE ASCO.



GOYEN
(E)

NOTE: THE GOYEN VALVE MAY BE REPLACES BY EITHER THE WABCO OR DELTROL VALVE.

THE GOYEN VALVE IS NOT TO BE USED IN PLACE OF THE WABCO OR DELTROL VALVE.



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

Litho in U.S.A.

Parts List—Quick Exhaust Valves

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

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	MESSAGE B2	REPAIR KITS ONLY <>	DELTROL
	B	96M051	USE KZK5B00100	WABCO
	C	96M054	QWIKEXHAUSTVLV 3/4"URETHANE	PARKER
	D	MESSAGE B1	PARTS NO LONGER SOLD	ASCO
	E	MESSAGE B2	REPAIR KITS ONLY <>	GOYEN
	F	96M055	QUICK EXHAUST VALVE 1/4”	DELTROL
			----------COMPONENTS----------	
all	1	96M053A	KIT,QWIKRELVLV EV20A#10091-18	DELTROL VALVE ONLY
all	3	96M051B	DIAPHRAM,QWIKREL WAB#PS112-12	WABCO VALVE ONLY
all	4	96M051A	GASKET,WABCO QUICK EXHAUST VLV	WABCO VALVE ONLY
all	5A	96M052A	REPKIT,QES#M1319 (FOR 96M052)	GOYEN VALVE ONLY
all	5B	96M055A	REPAIR KIT FOR 96M055# 10128-99	DELTROL VALVE ONLY
all	6	96M054K	REPKIT 3/4"QWIKEXHAUSTVLV	PARKER VALVE ONLY