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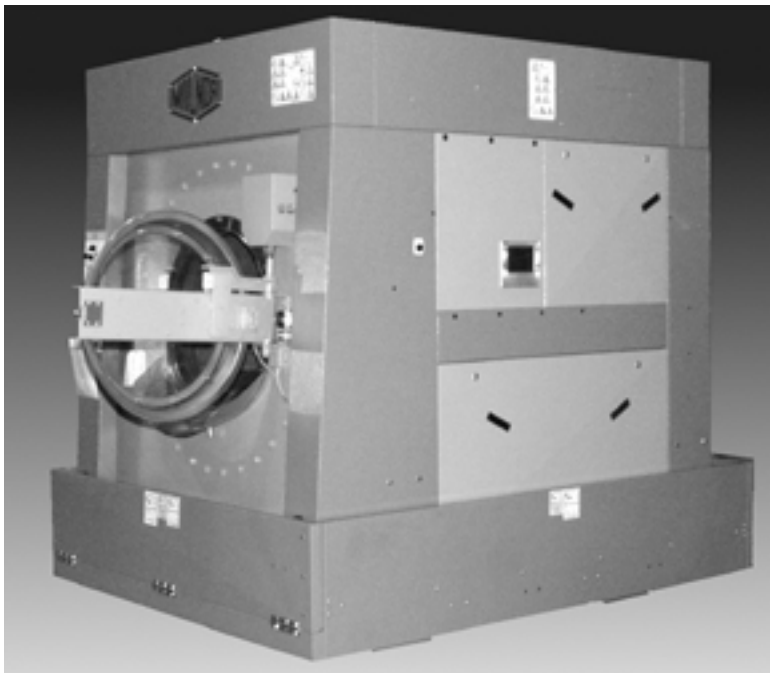
Installation and Service

48040F7x



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

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

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BIUUUD14 (Published) Book specs- Dates: 20140821 / 20140821 / 20140821 Lang: ENG01 Applic: UUU

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E-P Express®	GreenTurn™	Mildata®	MultiTrac™	SmoothCoil™
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— End of BIUUUD14 —

Installation 1

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

Safety—Tilting Washer-Extractors

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

WARNING 3: Crush Hazards—Tilting machines only—The machine housing will crush your body or limbs if it descends or falls while you are under it. Housing can descend with power off or on. Manual operation of tilting valves overrides safety interlocks. Improper operation of manual tilting valves may cause the housing to descend.

- Do not remove guards, covers, or panels.
- Do not reach into the machine housing or frame.

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: Strike and Crush Hazards—Machines with power operated door—The moving door can strike you or crush or pinch your limbs if caught between the door and machine. Some doors move automatically.

- Keep yourself and others clear of movement areas and paths.
- Keep both hands on the controls while operating.
- Do not operate the machine with malfunctioning two-hand manual controls.

WARNING 5: Crush Hazards—Tilting machines only—The machine can crush your body or limbs if you are caught between the tilting housing and a stationary object. Some machines tilt automatically.

- Keep yourself and others clear of movement areas and paths.
- Keep both hands on the controls while operating.
- Do not operate the machine with malfunctioning two-hand manual controls.

WARNING 6: Crush Hazards—Suspended machines only—Spaces between the shell and housing can close and crush or pinch your limbs. The shell moves within the housing during operation.

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

4. Safety Alert Messages—Cylinder and Processing Hazards

[Document BIUUUS13]

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

DANGER 7: Entangle and Sever Hazards—Contact with goods being processed can cause the goods to wrap around your body or limbs and dismember you. The goods are normally isolated by the locked cylinder door.

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

WARNING 8: Crush Hazards—Contact with the turning cylinder can crush your limbs. The cylinder will repel any object you try to stop it with, possibly causing the object to strike or stab you. The turning cylinder is normally isolated by the locked cylinder door.

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

WARNING 9: Confined Space Hazards—Confinement in the cylinder can kill or injure you. Hazards include but are not limited to panic, burns, poisoning, suffocation, heat prostration, biological contamination, electrocution, and crushing.

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

WARNING 10: Explosion and Fire Hazards—Flammable substances can explode or ignite in the cylinder, drain trough, or sewer. The machine is designed for washing with water, not any other solvent. Processing can cause solvent-containing goods to give off flammable vapors.

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

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

5.1. Damage and Malfunction Hazards

5.1.1. Hazards Resulting from Inoperative Safety Devices

DANGER 11: Entangle and Sever Hazards—Cylinder door interlock—Operating the machine with a malfunctioning door interlock can permit opening the door when the cylinder is turning and/or starting the cycle with the door open, exposing the turning cylinder.

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

WARNING 12: 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 13: 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 14: 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.

WARNING 15: Crush Hazards—Down limit switches (machines with front and rear tilt cylinders)—Failure of both front or both rear limit switches allows the seated tilt wheels on a tilted machine to lift from their cradles. The housing will fall and lunge forward or rearward.

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

5.1.2. Hazards Resulting from Damaged Mechanical Devices

WARNING 16: Multiple Hazards—Operating a damaged machine can kill or injure personnel, further damage or destroy the machine, damage property, and/or void the warranty.

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

WARNING 17: Explosion Hazards—Cylinder—A damaged cylinder can rip apart during extraction, puncturing the shell and discharging metal fragments at high speed.

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

WARNING 18: Explosion Hazards—Clutch and speed switch (multiple motor machines)—A damaged clutch or speed switch can permit the low speed motor to engage during extract. This will over-speed the motor and pulleys and can cause them to rip apart, discharging metal fragments at high speed.

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

5.2. Careless Use Hazards

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

WARNING 19: Multiple Hazards—Careless operator actions can kill or injure personnel, damage or destroy the machine, damage property, and/or void the warranty.

- Do not tamper with or disable any safety device or operate the machine with a malfunctioning safety device. Request authorized service.
- Do not operate a damaged or malfunctioning machine. Request authorized service.
- Do not attempt unauthorized servicing, repairs, or modification.

- Do not use the machine in any manner contrary to the factory instructions.
- Use the machine only for its customary and intended purpose.
- Understand the consequences of operating manually.

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

WARNING 20: 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 21: 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 22: Crush Hazards—Tilting machines only—The machine housing will crush your body or limbs if it descends or falls while you are under it. Housing can descend with power off or on. Manual operation of tilting valves overrides safety interlocks. Improper operation of manual tilting valves may cause the housing to descend.

- Secure both red safety supports in accordance with the instructions furnished, then lock out and tag out power at the main machine disconnect before working under the tilted machine.
- Do not operate the manual tilt valves with anyone under the machine.
- Do not operate the tilt controls with anyone under the machine.

WARNING 23: Crush Hazards—Tilting machines with front and rear tilt cylinders—The housing will fall and lunge forward or rearward if the tilt wheels on the non-tilted end lift out of their cradles, even with safety supports in place.

- Understand the consequences of operating manually.

WARNING 24: Confined Space Hazards—Confinement in the cylinder can kill or injure you. Hazards include but are not limited to panic, burns, poisoning, suffocation, heat prostration, biological contamination, electrocution, and crushing.

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

— End of BIUUUS27 —

Safety Supports: 48040F_ Air-tilt Washer-extractors

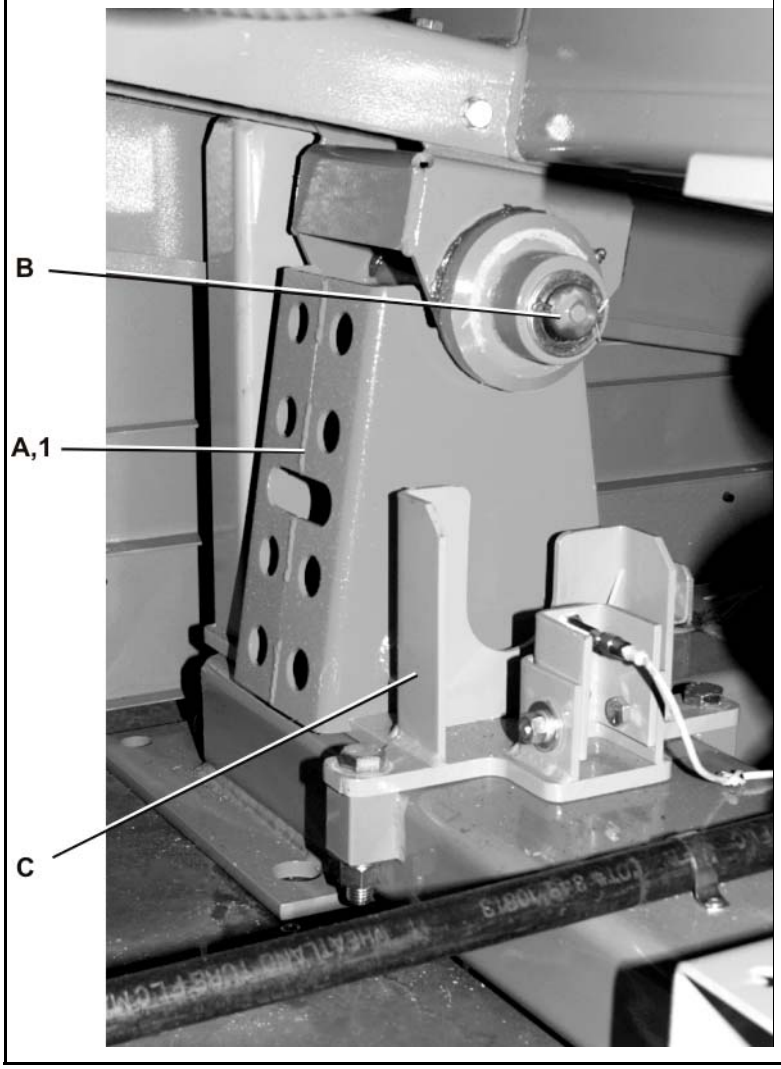
This document uses Simplified Technical English.
Learn more at http://www.asd-ste100.org.

Milnor supplies safety supports with this machine.This document shows the safety supports, identifies the safety support components, and tells how to install them.

1. Safety Support Component Identification

Figure 1: Safety Supports: 48040F_ Air-tilt Washer-extractors

Detailed view



Legend

A. Safety Stand. Used in two front locations or two rear locations.
B. Wheel. Used in four locations.
C. Cradle. Used in four locations.

Table 1: Parts List—Safety Supports: 48040F_ Air-tilt Washer-extractors

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**
Assemblies				
none				
Components				
all	1	W2 21822	Weldment, Safety stand, 4840F	

2. How to Use the Safety Supports

Safety supports have a red color. **You must keep and use safety supports for maintenance as told in this document.**

WARNING 2: Crush Hazard—The mechanism can fall if there is a mechanical problem.

- Always install the safety supports and remove power from the machine before you do maintenance in the machine.
- Do not hit the safety supports while you do maintenance.
- Replace damaged safety supports.
- Stow the safety supports properly.

Install the safety supports as follows:

1. Operate the Manual controls to lift the mechanism sufficiently to put the safety supports in their positions.
2. Put each support in its position from the nearest side of the machine. Do not go across the machine. Install the supports as shown in the figure. Use all supports.
3. Carefully operate the Manual controls to lower the mechanism until it touches the safety supports. **Immediately release the controls when the components touch.**
4. Remove electrical power from the machine.

— End of BIIFLM18 —

Glossary of Tag Illustrations— Suspended Washer-Extractors

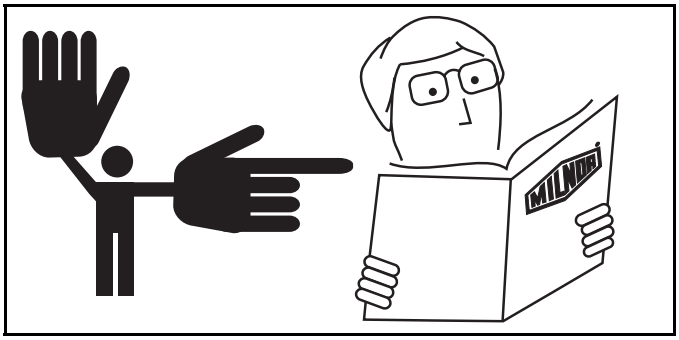
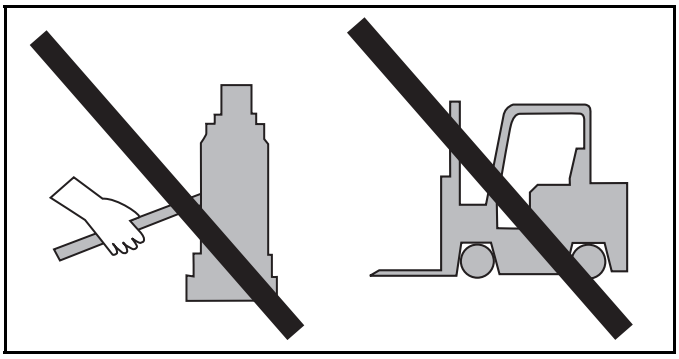
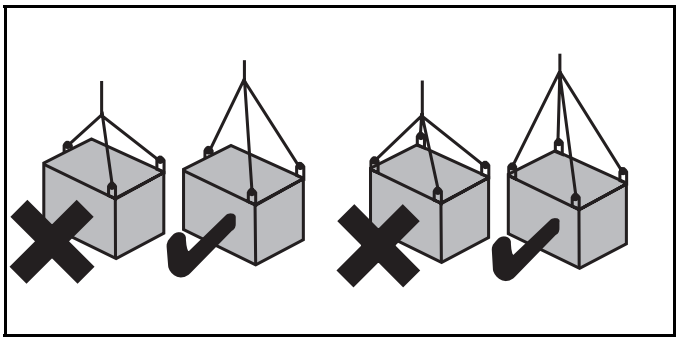
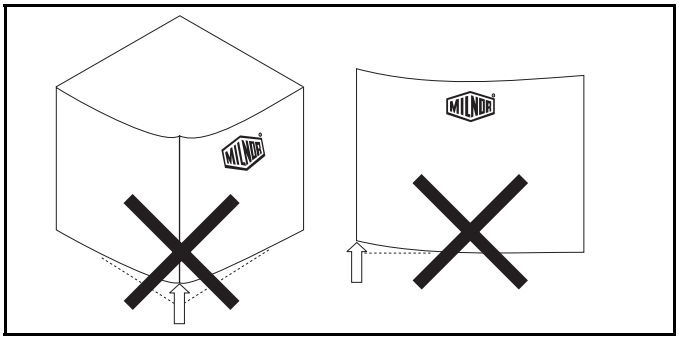
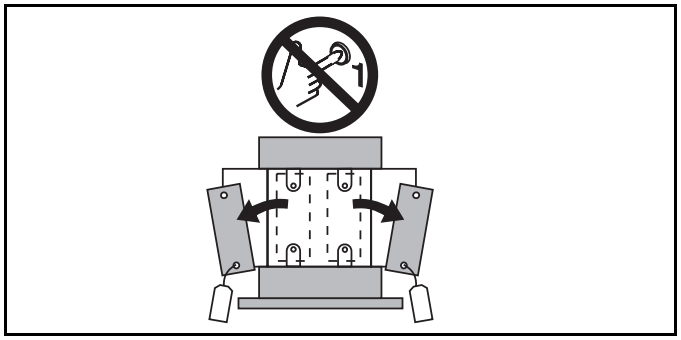
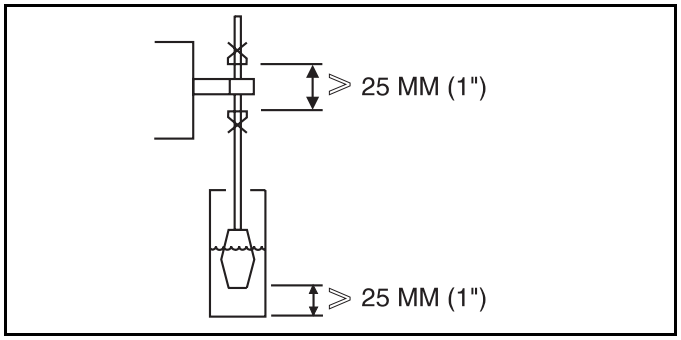
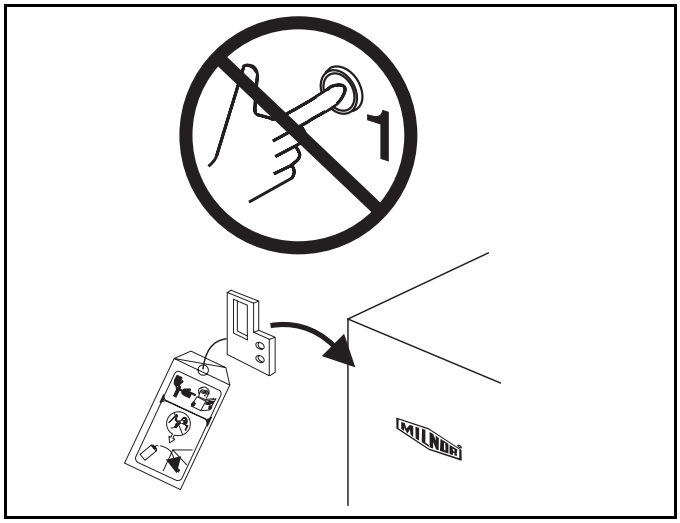
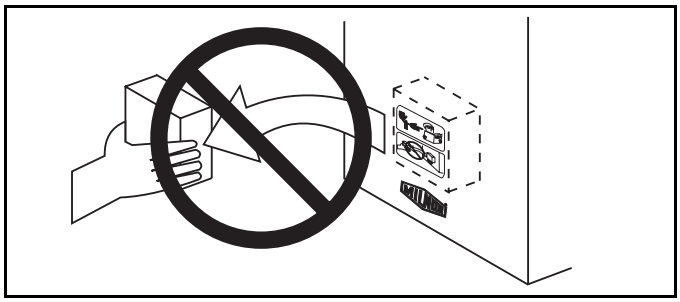
Illustration	Explanation
	Stop! Read the manual first for complete instructions before continuing.
	Do not jack the machine here. Do not lift the machine here.
	Use three point or four point lifting as determined by the lifting eyes furnished. Rig the load using lifting cables of sufficient size and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

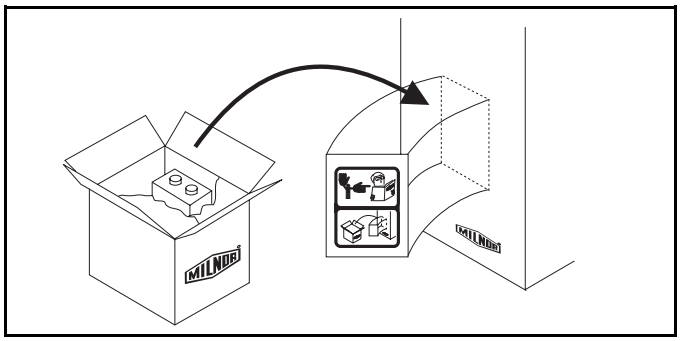
Illustration	Explanation
	Do not start this machine until the packing materials, lifting brackets, etc. with this tag attached or behind this panel are removed. These materials are painted red. Safety stands or brackets (also painted red) may be provided with this machine. Do not discard safety stands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



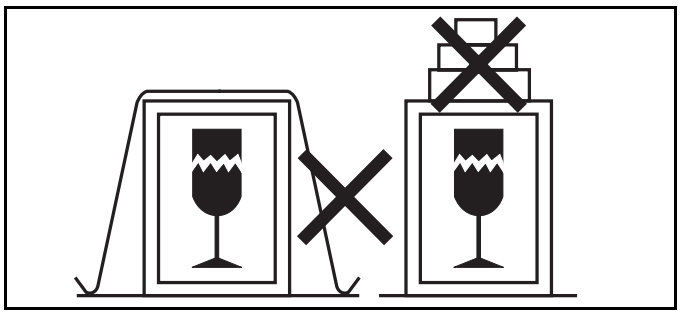
Do not start this machine until the part with this tag is installed on the machine.



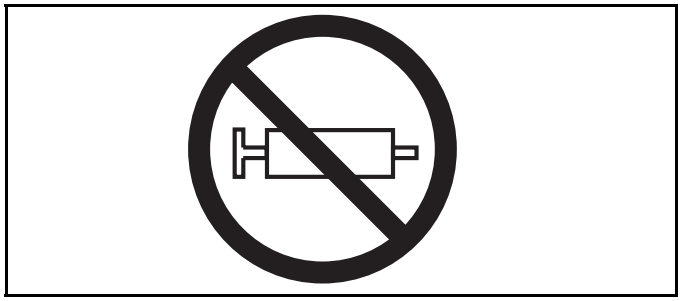
Do not remove this component from the machine.



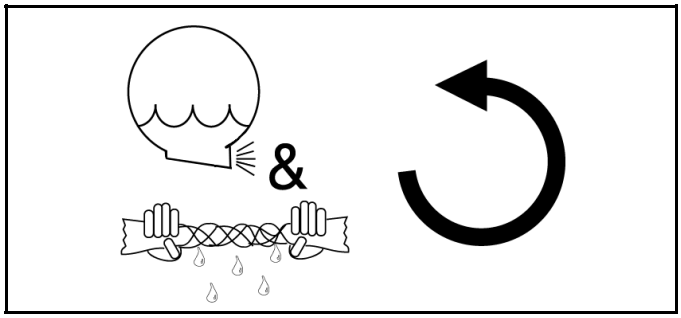
Install the appropriate part here before operating the machine.



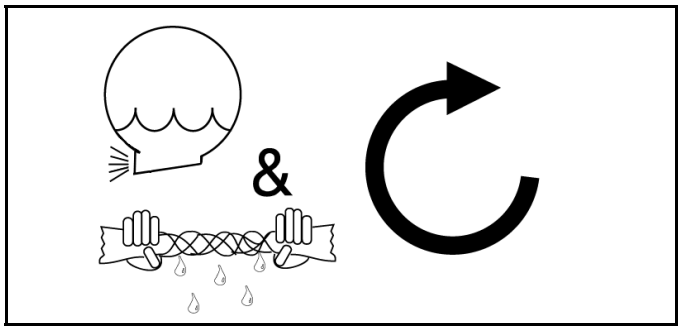
Do not strap or chain over box



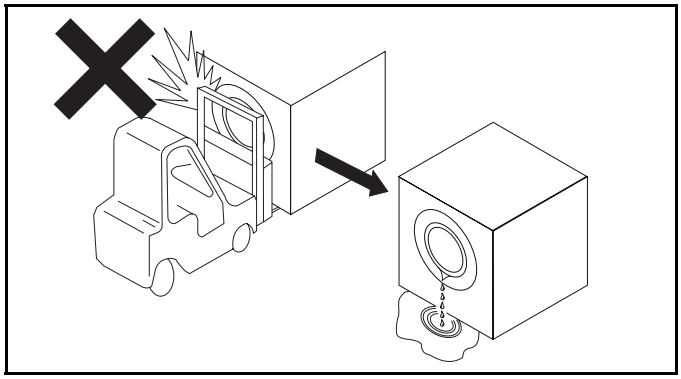
Do not pump grease here.



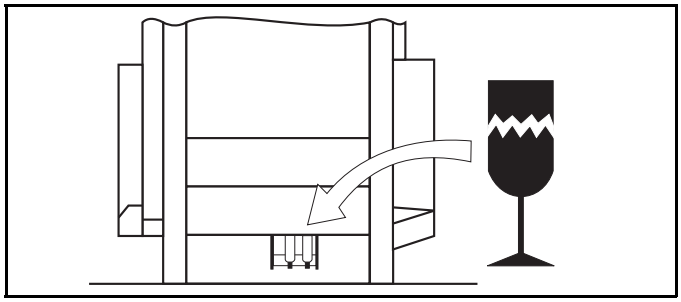
During drain and extract, the cylinder must rotate counterclockwise when viewed from here (rear of machine).



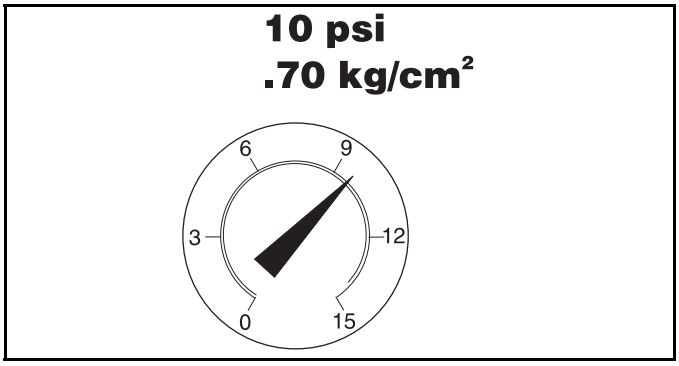
During drain and extract, the cylinder must rotate clockwise when viewed from here (front of machine).



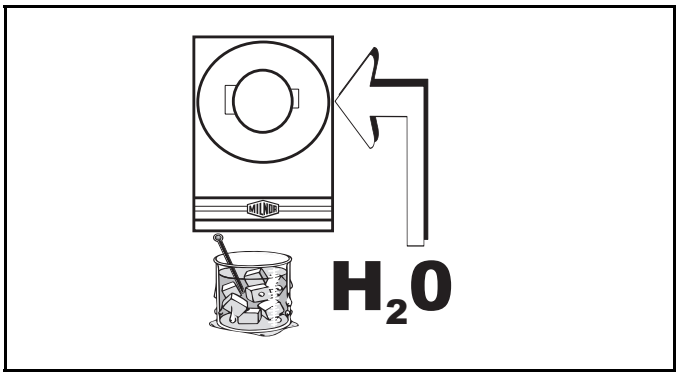
Do not strike shell front of washer-extractors during fork lifting. Striking shell front will cause door to leak.



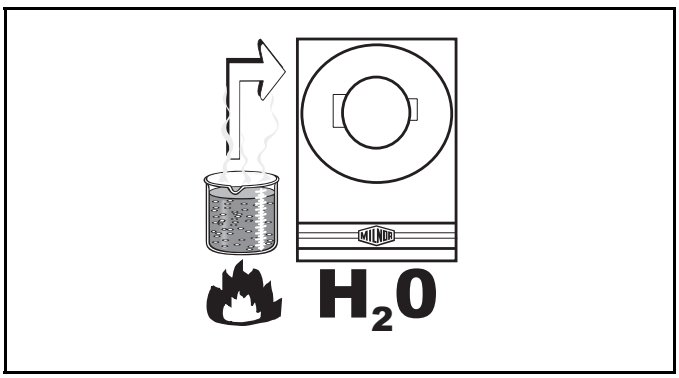
Brake assembly under machine is fragile. Forklift blades should only be placed under main structural beams



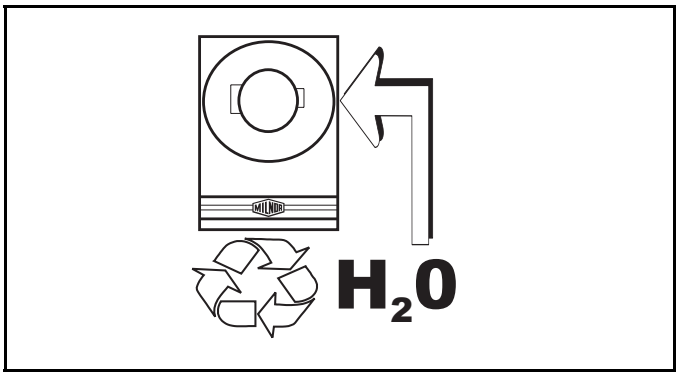
Set main bearing air pad gauge at 10 psi (.70 kg/cm^2), 64" and 72" ExN and JxN models only.
Set disc brake air gauge at 10 psi (.70 kg/cm^2), 64" and 72" ExN and JxN models only.



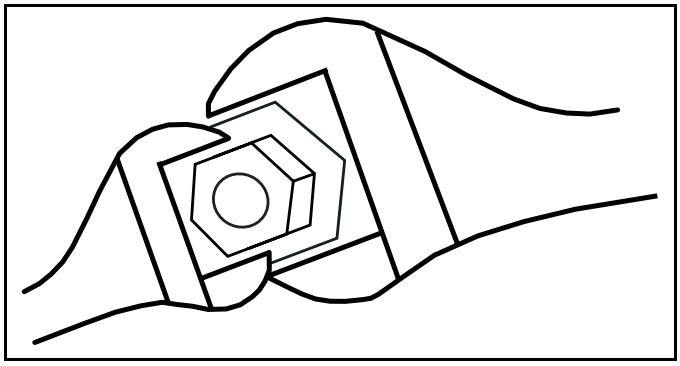
Make cold water connection here.



Make hot water connection here.



Make third (reuse) water connection here.



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

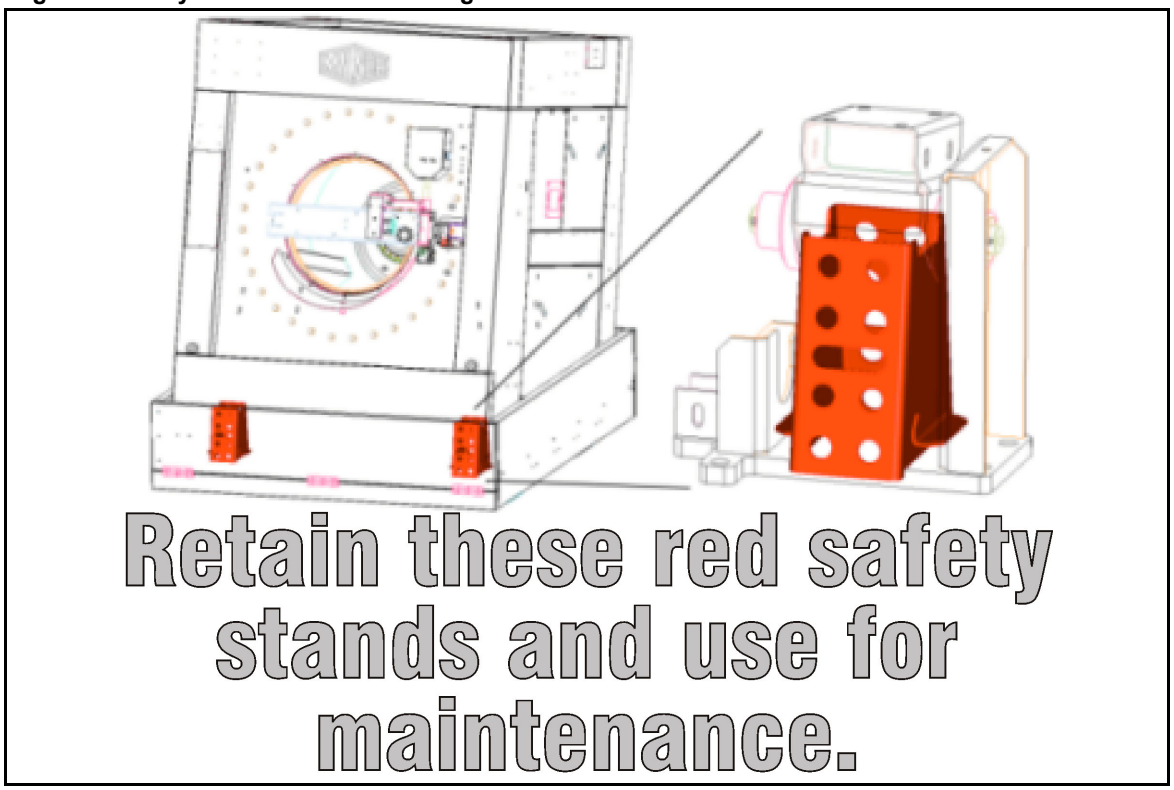
How To Use the Safety Stands on 48" Air-tilting Washer-extractors

These machines are provided with two safety stands (painted red) for maintenance. After the housing is tilted up, the stands are placed under the raised tilt wheels (front or rear). Use the safety stands to perform maintenance on the machine while it is tilted.

WARNING 1: Crush Hazard—The safety stands provide protection against the un-powered descent of the housing during maintenance in the event of a leak in the pneumatic system. **Such a condition can cause the housing to fall quickly.**

- Never work **under** the raised housing unless both safety stands are installed and power is locked out/tagged out. Do not work **near** the raised housing with power on unless both safety stands are installed.
- Install these safety components using the procedure prescribed in this document.
- Maintain these safety components in good condition.
- Designate a convenient, secure area to stow these safety components when not in use.

Figure 1: Safety Stands for 48" Air-tilting Washer-extractors



Install the safety stands as follows:

1. At the controls, tilt the machine as in normal operation. Tilt up only as far as needed to insert the stands securely.
2. Referring to the figure, place the safety stands under the tilt wheels. Always use both stands.
3. At the controls, carefully lower the housing just until it is resting on the stands.
4. Lock out/tag out power to the machine.

— End of BIUUUS06 —

BIIFLM01 (Published) Book specs- Dates: 20090304 / 20090917 / 20090917 Lang: ENG01 Applic: IFL

Panels and Covers

Figure 1: General Views

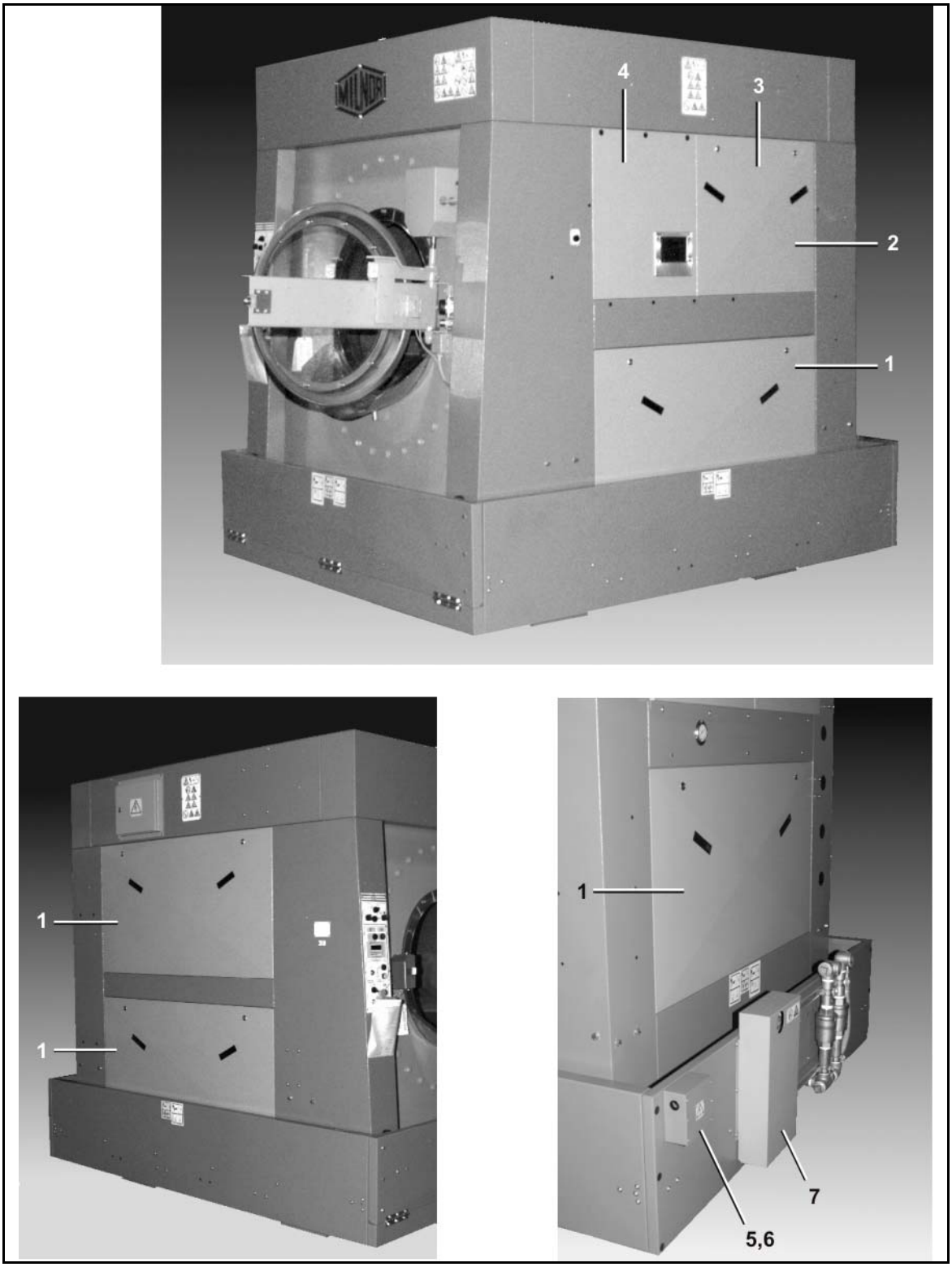
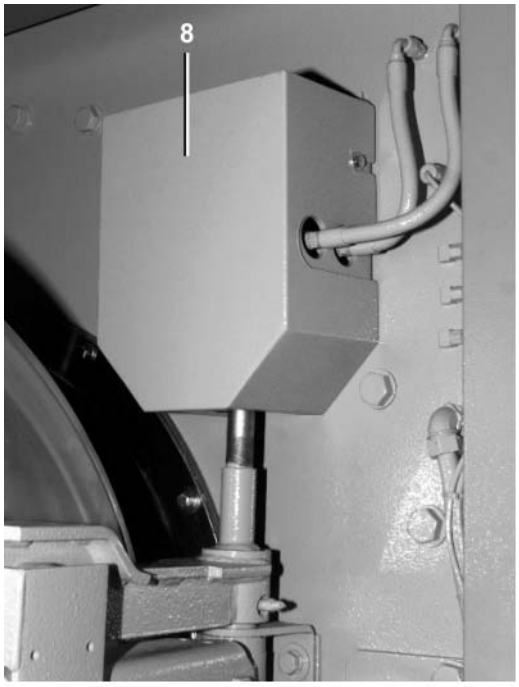
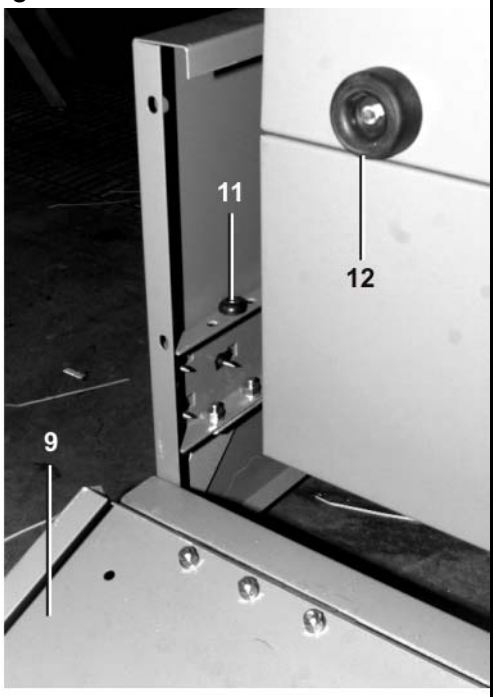


Figure 2: Detailed views

Hydraulic door, Foot guard





Legend

9. The foot guard is used on tilt-type machines.
10. Hinge. 3 instances.

Table 1: Parts List—Panels and Covers

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
			Assemblies	
	A	GHG48001	Assembly, House, 48040F_	
	B	GHG48002	Assembly, Foot guard, 48040F_	
			Components	
all	1	A48 22110	Assembly, Panel # A, 48040F_	
all	2	A48 22110B	Assembly, Panel # B, 48040F_	
all	3	A48 22110C	Assembly, Panel # C, 48040F_	
all	4	02 22115A	Panel, Soap chute	
all	5	W3 E0606S	Weldment, Soap chute	
all	6	03 E0606W	Cover, Electric power inlet	
all	7	02 21821	Cover, Steam valve, 48040F_	
all	8	02 21968	Cover, Hydraulic door linkage, 48040F_Assembly	
all	9	A48 22124	Assembly, Panel, Foot guard, Front, 48040F_	
all	10	W4 30330A	Weldment, Hinge, Panel, Foot guard, Front	
all	11	60C075	Rubber bumper, Foot guard, Front	
all	12	60C001	Bumper, Rubber	Rubber bumper

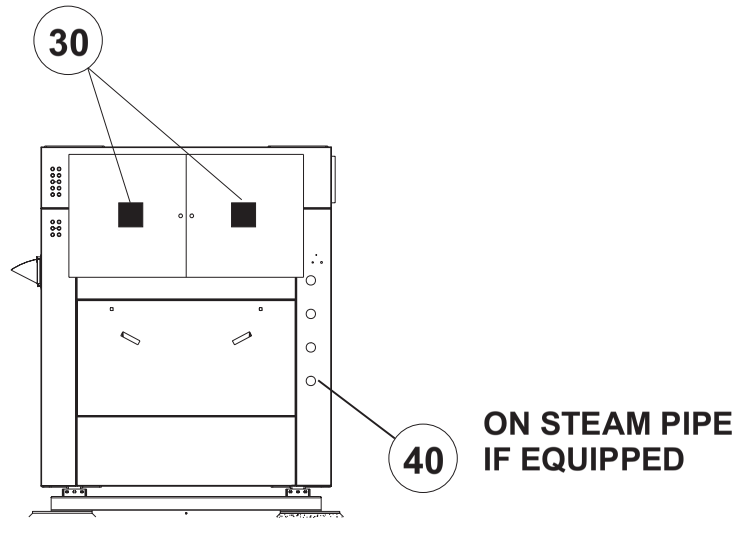
— End of BIIFLM01 —

Safety Placard Use and Placement

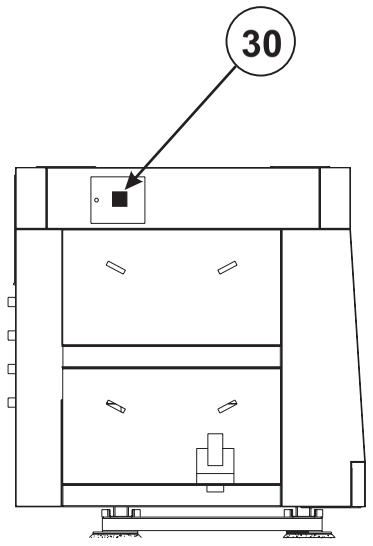
48040F7J, F7W 6836F5J,F5W

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

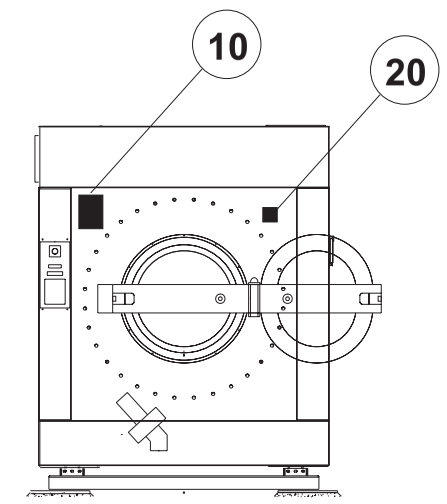
Notes:
1. **Replace placard immediately, if removed or unreadable.**
2. **Approximate locations of placards are shown. Mounting holes are provided on machine. Use #8 self-tapping screws.**



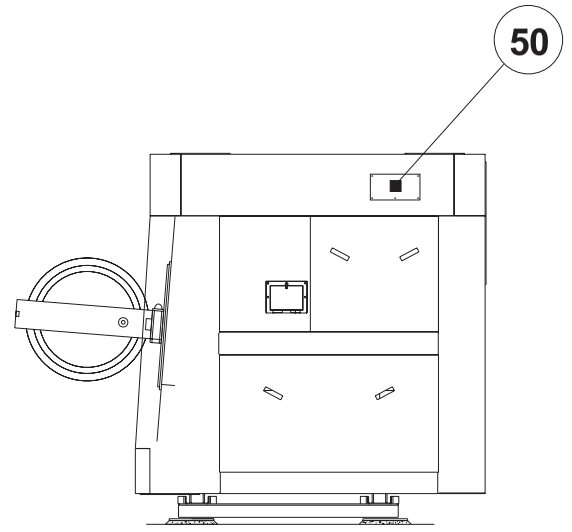
REAR VIEW



LEFT VIEW



FRONT VIEW



RIGHT VIEW

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

Litho in U.S.A.

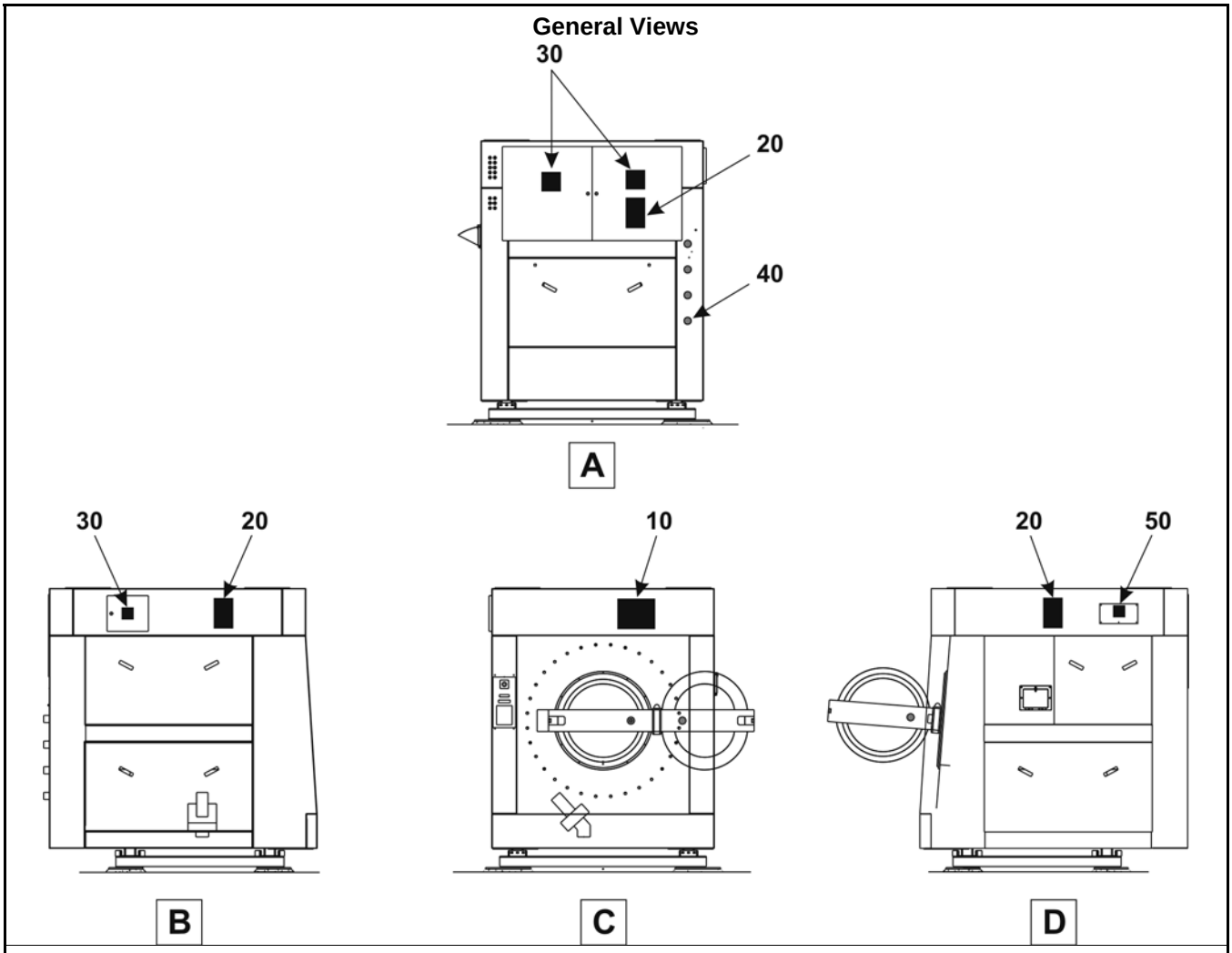
Parts List—Safety Placard Placement

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 10631A	NPLT:SHELL FRT WARN NOTILT-TCATA	
All	20	01 10699A	NPLT:SERV HZRD-PLYEST-TCATA	
All	30	01 10377A	NPLT:ELEC HAZARD LG-TCATA	
All	40	01 10685A	NPLT:BURN HAZARD WARN-TCATA	STEAM INLET ONLY
All	50	01 10375B	NPLT:ELEC HAZARD SMALL-TCATA	

Safety Placards and Locations—ISO—48040F7J, 48040F7W

Figure 1: Safety Placards and Locations—ISO—48040F7J, 48040F7W



Legend

A. Rear view
B. Left side view
C. Front view
D. Right side view

- This document is for placards that agree with: ISO
- If the placard is removed or you cannot read it, replace the placard immediately.
- If the placard is aluminum, the mounting holes are on the machine. Use #8 self-tapping screws. If the placard is vinyl, put the placard in the approximate location shown.

Table 1: Parts List—Safety Placards and Locations—ISO

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
Assemblies				
none				
Components				
all	10	01 10631X	Dataplate, Hazard	
all	20	01 10628X	Dataplate, Hazard	
all	30	01 10377	Dataplate, Hazard	
all	40	01 10649X	Dataplate, Hazard	
all	50	01 10375	Dataplate, Hazard	

— End of BIIFLM02 —

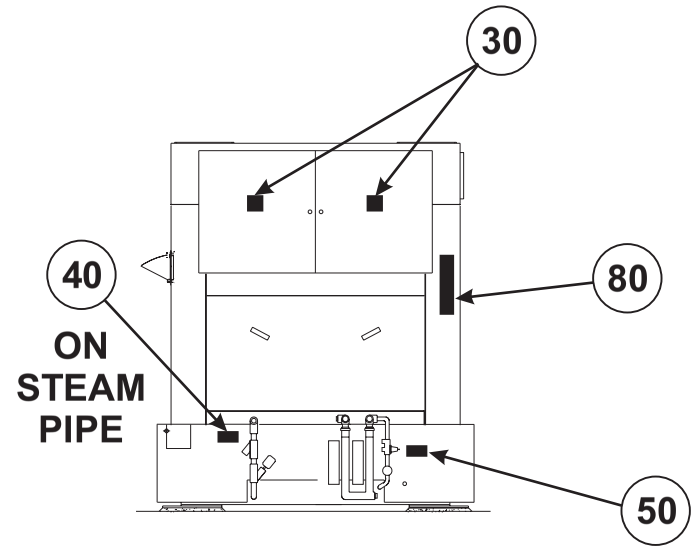
Safety Placard Use and Placement

48040F7B, F7N 6836F5N

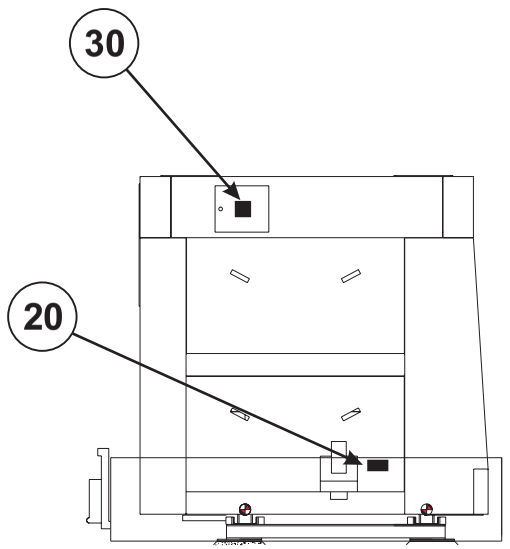
Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400

Litho in U.S.A.

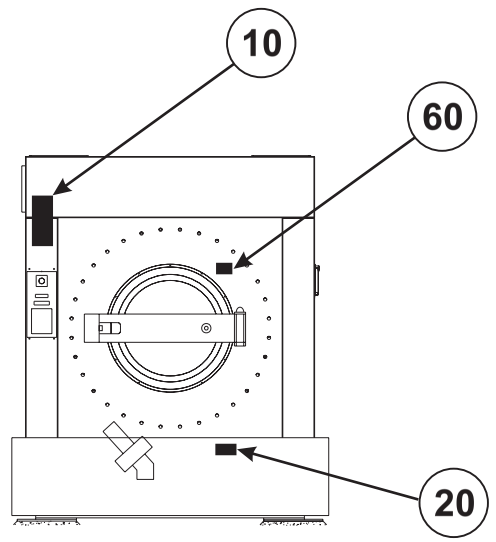
Notes:
1. **Replace placard immediately, if removed or unreadable.**
2. **Approximate locations of placards are shown. Mounting holes are provided on machine. Use #8 self-tapping screws.**



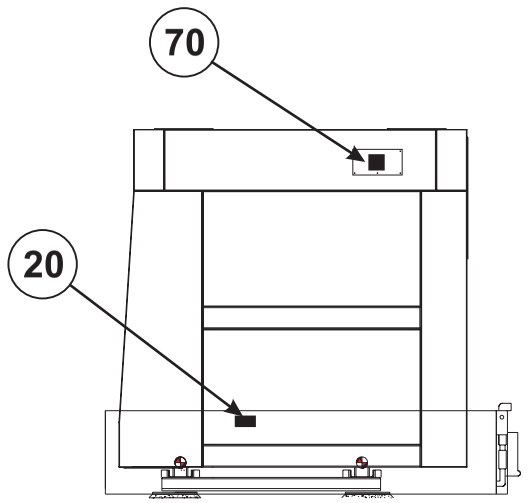
REAR VIEW



LEFT VIEW



FRONT VIEW



RIGHT VIEW

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

Litho in U.S.A.

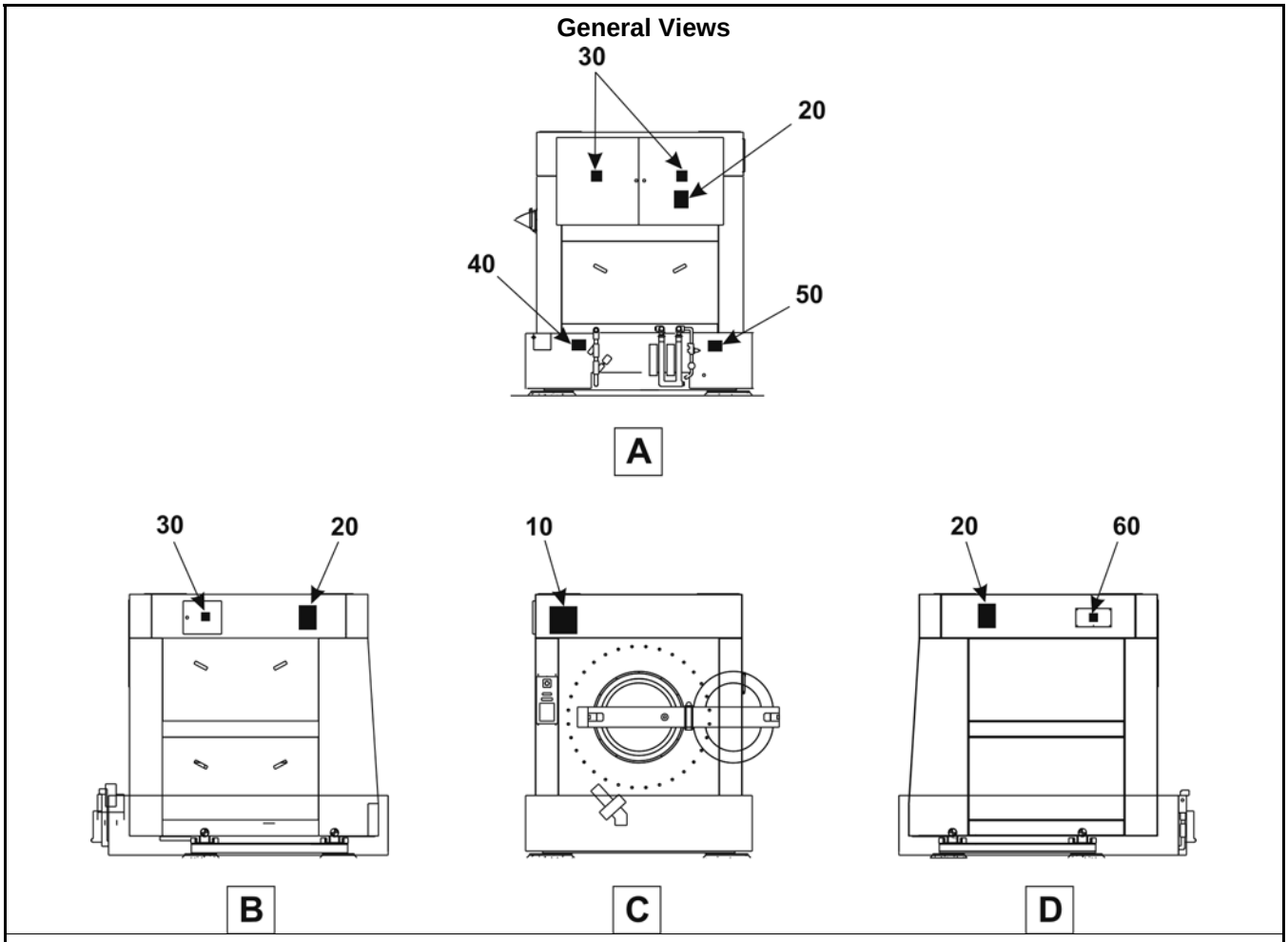
Parts List—Safety Placard Placement

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 10583A	NPLT:64/72 W/E WARN FRT-TCATA	
All	20	01 10630A	NPLT:TILT CRUSH HAZARD-TCATA	
All	30	01 10377A	NPLT:ELEC HAZARD LG-TCATA	
All	40	01 10685A	NPLT:BURN HAZARD WARN-TCATA	STEAM INLET ONLY
All	50	01 10648A	NPLT:GEAR HAZARD-TCATA	
All	60	01 10699A	NPLT:SERV HZRD-PLYEST-TCATA	
All	70	01 10375B	NPLT:ELEC HAZARD SMALL-TCATA	
All	80	01 10684A	NPLT:W/E TILT WARNG REAR - TCATA	

Safety Placards and Locations—ISO—48040F7B, 48040F7N

Figure 1: Safety Placards and Locations—ISO—48040F7B, 48040F7N



Legend

A. Rear view
B. Left side view
C. Front view
D. Right side view

- This document is for placards that agree with:ISO
- If the placard is removed or you cannot read it, replace the placard immediately.
- If the placard is aluminum, the mounting holes are on the machine. Use #8 self-tapping screws. If the placard is vinyl, put the placard in the approximate location shown.

Table 1: Parts List—Safety Placards and Locations—ISO

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**
Assemblies				
none				
Components				
all	10	01 10629Y	Dataplate, Hazard	
all	20	01 10630X	Dataplate, Hazard	
all	30	01 10377	Dataplate, Hazard	
all	40	01 10649X	Dataplate, Hazard	
all	50	01 10648X	Dataplate, Hazard	
all	60	01 10375	Dataplate, Hazard	

— End of BIIFLM03 —

BIIFLM04 (Published) Book specs- Dates: 20090421 / 20090917 / 20090917 Lang: ENG01 Applic: IFL

Foot Guard Assembly

Figure 1: Foot Guard Assembly

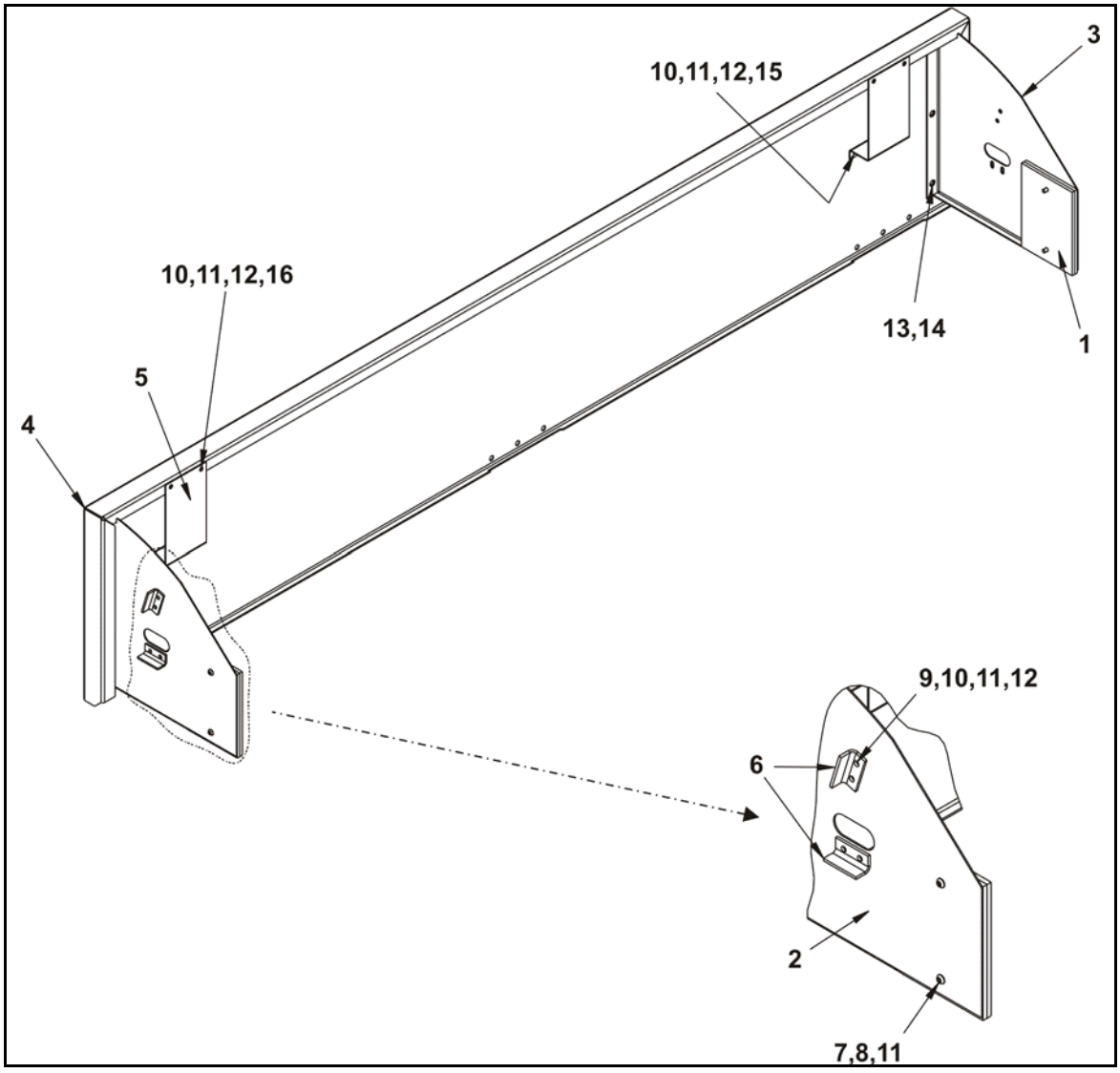


Table 1: Parts List—Foot Guard Assembly

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
Assemblies				
none				
Components				
all	1	02 22122	Counterweight	
all	2	02 22123A	Foot guard, Right side	
all	3	02 22123B	Foot guard, Left side	
all	4	02 22124	Foot guard, Panel, Front	
all	5	02 11481	Bumper strip	
all	6	02 11540A	Stop bracket	
all	7	15K039A	Bolt; Socket head button	
all	8	15G166A	Nut; Nylon lock	
all	9	15K039	Bolt; Hex	
all	10	15U180	Washer; Lock	
all	11	15U185	Washer; Flat	
all	12	15G165	Nut; Hex	
all	13	15G004HB	Nut;Jam	
all	14	15N110H	Bolt; Torx flange head	
all	15	15K030	Bolt; Hex	
all	16	15K037	Bolt; Hex	

— End of BIIFLM04 —

48040F_, 48040H_ & 68036H_ Washer Extractor Installation

1. Handling

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

1. Remove the protective coverings (leaving the machine on shipping skids) and examine carefully for possible shipping damage. If the machine is damaged, notify the transportation company immediately.
2. Locate the lift points as shown in Figure 1.
3. Attach chains as shown in Figure 2.

Figure 1: Where To Lift

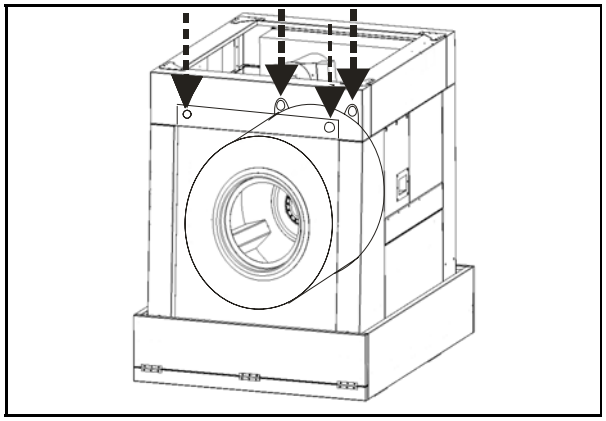
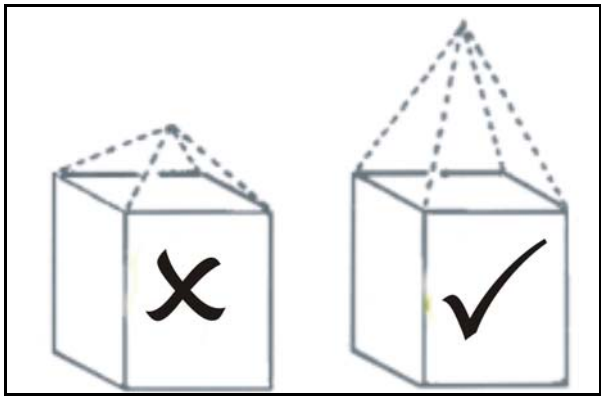


Figure 2: Rigger liable for damages



CAUTION 1: Machine damage hazard—Improper placement of pickup chains can cause direct or indirect damage to machine.

- Use a 4 point pickup (as shown in Figure 2)
- Use long pickup chains to prevent racking and/or twisting machine frame

2. Moving the Machine into Place

1. Use skids for fork lifting. If possible, leave the machine on shipping skids until it is near its final position. Once skids are removed, carefully place forks under base. Do not allow the forks to come in contact with valves, piping, motors, etc., located under the machine. Do not push or hit the shell front when uncrating or installing the machine as it may cause the door to leak.
2. Never push, pull, lift, jack, or exert pressure on any components that protrude from the machine frame (shell front, door, electric boxes, controls, guards, conduits, conveyors, piping, valves, drains, vents, tilt frames, etc.).
3. Do not pull on door conduit to help move the machine as the door switch may require readjustment.

3. Site Requirements

3.1. Space Requirement

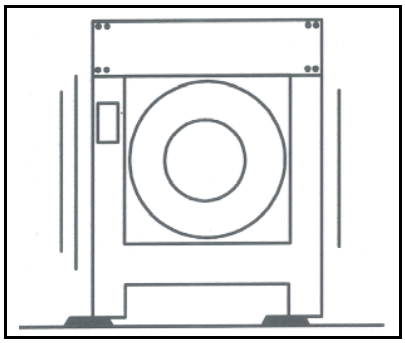
1. All openings and corridors through which equipment must pass during installation must be large enough to accommodate the width and the height of the machine as shown on the dimensional drawings. It is occasionally possible to reduce the overall dimensions by removing piping or other special modifications.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

3.2. Operational Requirements

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

3.3. Foundation Requirement—The floor and/or all other support components must have sufficient strength and rigidity with due consideration for the natural or resonant frequency thereof to withstand the fully loaded weight of the machine, including the wet goods and any repeated sinusoidal (rotating) forces generated during its operation. Determining the suitability of floors, foundations, and other supporting structures normally requires analysis by a qualified structural engineer.

Figure 3: Vibration warning



CAUTION 2: Machine damage hazard—Improperly installed suspension type machines can "walk" out of position during extract (Figure 3), endangering personnel and damaging equipment.

- Roughen floor. Install anchor bolts and grout under all base pads to prevent "teeter-totter" and sideways movement.
- Remove shipping restraints after machine is in place. Failure to remove all restraints (usually painted red) will cause malfunctions and damage. Restraints may be located behind access covers. These include, but are not limited to:
- Cylinder hold-down bolts, brackets, straps and/or blocking. Replace all fasteners which are part of the machine structure.
- Vibration safety switch restraint.

4. Setting Procedures

To protect against lateral creeping of the machine during operation (due to vibration), roughen the area of the floor where the grout will be applied. Anchor bolts are required.

1. With the machine near the final location, unbolt the shipping skids. Observing all precautions, lift the machine off its skids and lower the machine onto blocking. Shim the blocking until the machine is level and approximately l" (25) clearance exists under each base pad. Install anchor bolts as shown on the dimensional drawing, but do not tighten bolts until grout is completely dry.
2. Apply grout between the existing foundation floor and the base pads, observing the following considerations:
   - Use only industrial strength non-shrinking grout. Pack or trowel by hand.
   - If the grout after mixing is too thin (causing it to flow from under the base pads) install temporary cardboard framing around pads to retain the grout until it cures.

CAUTION 3: Vibration and Malfunction Hazard—Voids under the base pads can magnify vibration and cause unsatisfactory operation.

- Grout must displace total clearance between base pads and existing foundation floor.
- Voids must not exist.

3. Tighten anchor bolts evenly using only one-quarter turn on each bolt before moving to the next one. While tightening, frequently skip from front to back and right to left to insure uniform tension. After tightening all bolts, check each bolt at least twice during the first week of operation.

5. Before Running Machine

CAUTION 4: Machine Damage Hazard—Machine can be damaged if shipping restraints are improperly utilized. These include various bolts, brackets, weldments and safety stands (painted red), and the vibration safety switch (tie wrapped).

- DO NOT remove shipping restraints until installation is complete.
- DO remove all shipping restraints before operating machine.

All machines are shipped with the shell locked to the mid frame by four hold down ring weldments (two per side). Each weldment consists of a cone and cup arrangement. When shipped, the shell mounted cone and the mid-frame mounted cup are locked together using a center bolt and shims inserted under the weldment cup (Figure 4). Remove the center bolt and shims before placing machine in service. Re-install the weldment as shown in Figure 4 and store the shims underneath the mid frame as shown in Figure 5. Retain center bolts in the event that the machine is moved.

Figure 4: The hold down weldment

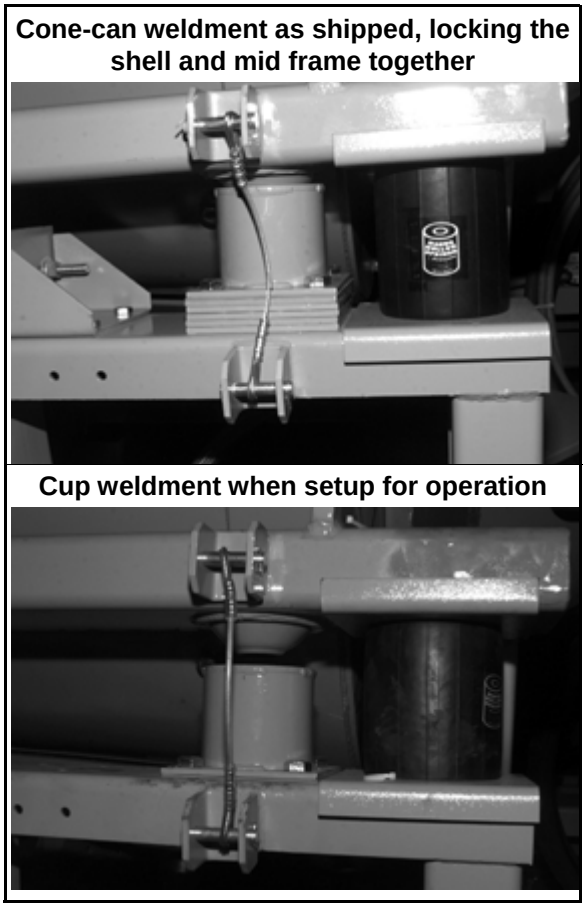
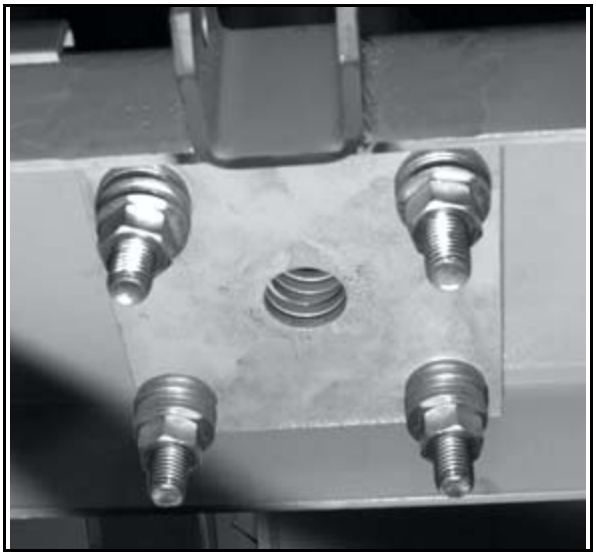


Figure 5: Shims stored under the mid frame



6. Before Tilting Machine

WARNING 5: Crush/Sever hazard—Tilting mechanisms can crush or sever parts of your body caught in them.

- Install safety stands before performing maintenance under a tilted machine.
- NEVER test or operate (manually or automatically) any machine function with any portion of a person's body under the tilted machine - even if the safety stands are installed.

WARNING 6: Crush/Sever hazard—Tilt machines with tilt wheels/cradles may lunge forward or rearward and even fall over if the non-tilted ends are raised out of their cradles - killing/injuring personnel and/or damaging property.

- NEVER manually tilt (lift) both ends of the machine at the same time. One end must always be seated in its cradle.
- ALWAYS visually inspect the tilt wheels to be sure they are all fully seated in their cradles before each manual tilt up.
- Pneumatic valve manual operation must be done by trained competent maintenance personnel who thoroughly understand the system and all the consequences of manual operations.
- ALWAYS understand beforehand all the consequences of manually operating pneumatic valves.
- NEVER permit operation with malfunctioning tilt limit switches

Tilting machines leave the factory with 4 hold-down bolts (two per side) locking the tilting mid-frame to the floor frame (Figure 7). Remove these bolts after machine is anchored and grouted, service connections are complete and all other installation steps are complete.

Figure 6: Safety stand in place

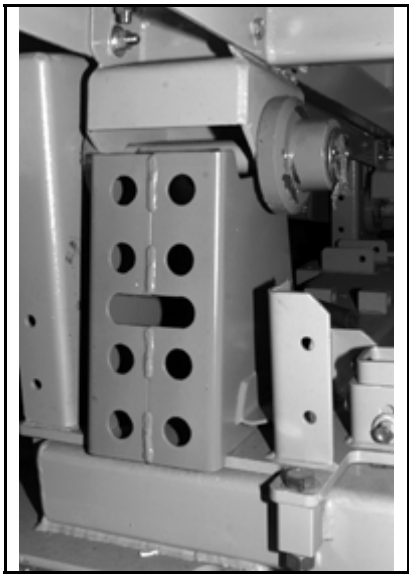
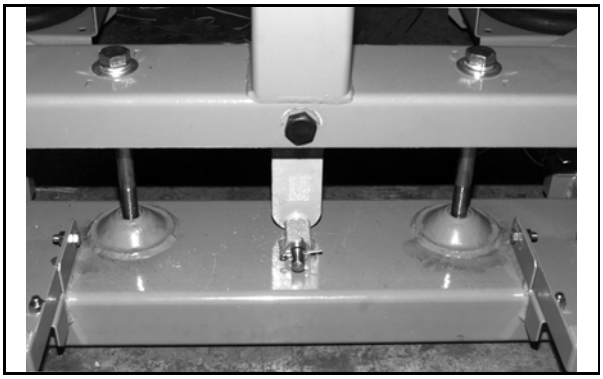


Figure 7: Tilting Mid Frame to Floor Locking Bolts



— End of BIIFLI01 —

Shipping Bolts and Brackets

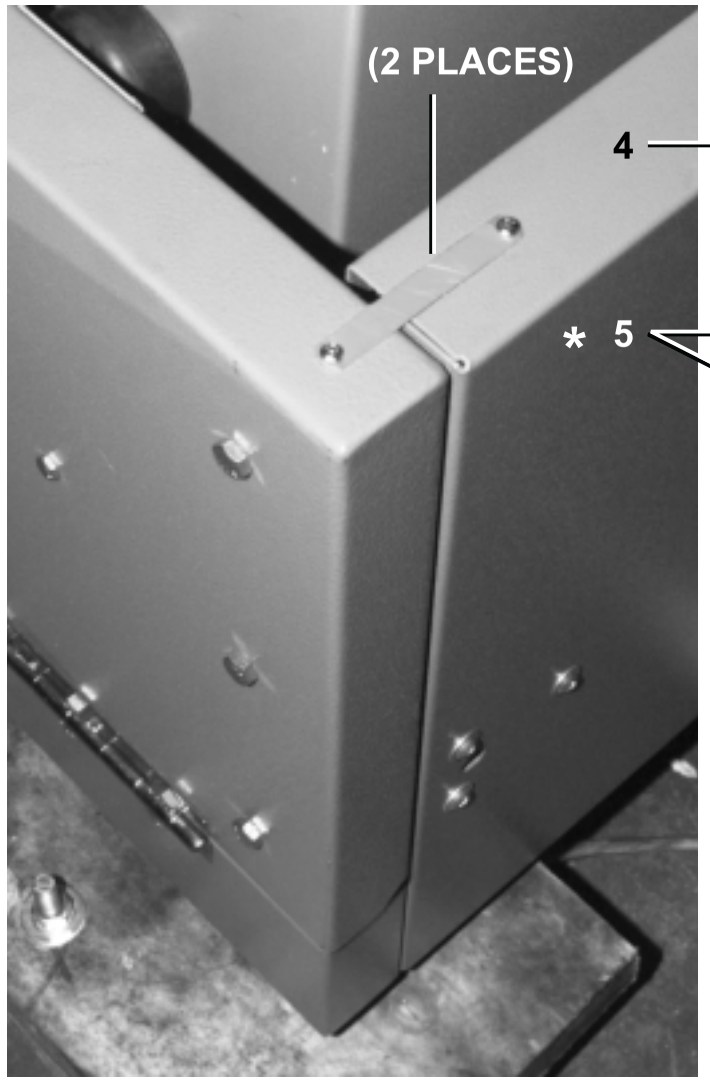
48040F7J,F7N,F7B,F7W

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

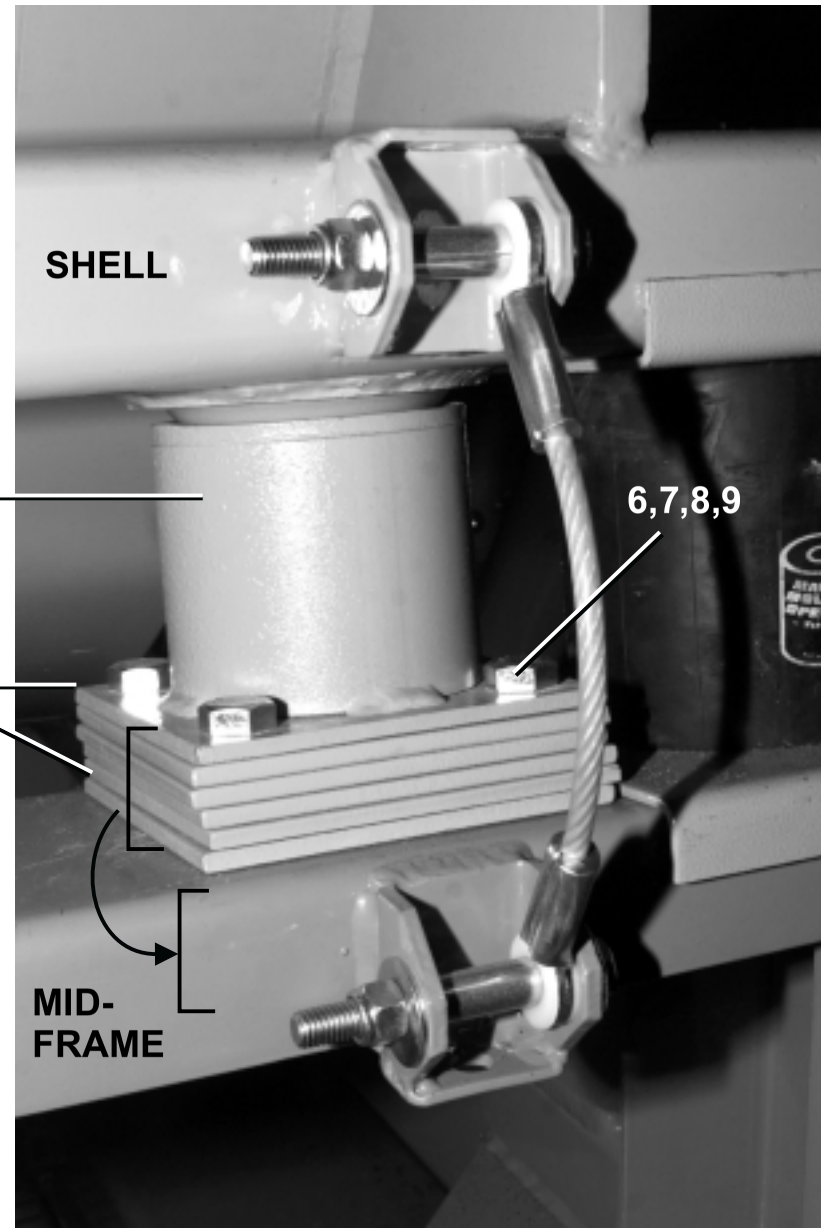
Litho in U.S.A.

Remove all shipping restraints before operating machine. See BIIFLI01.

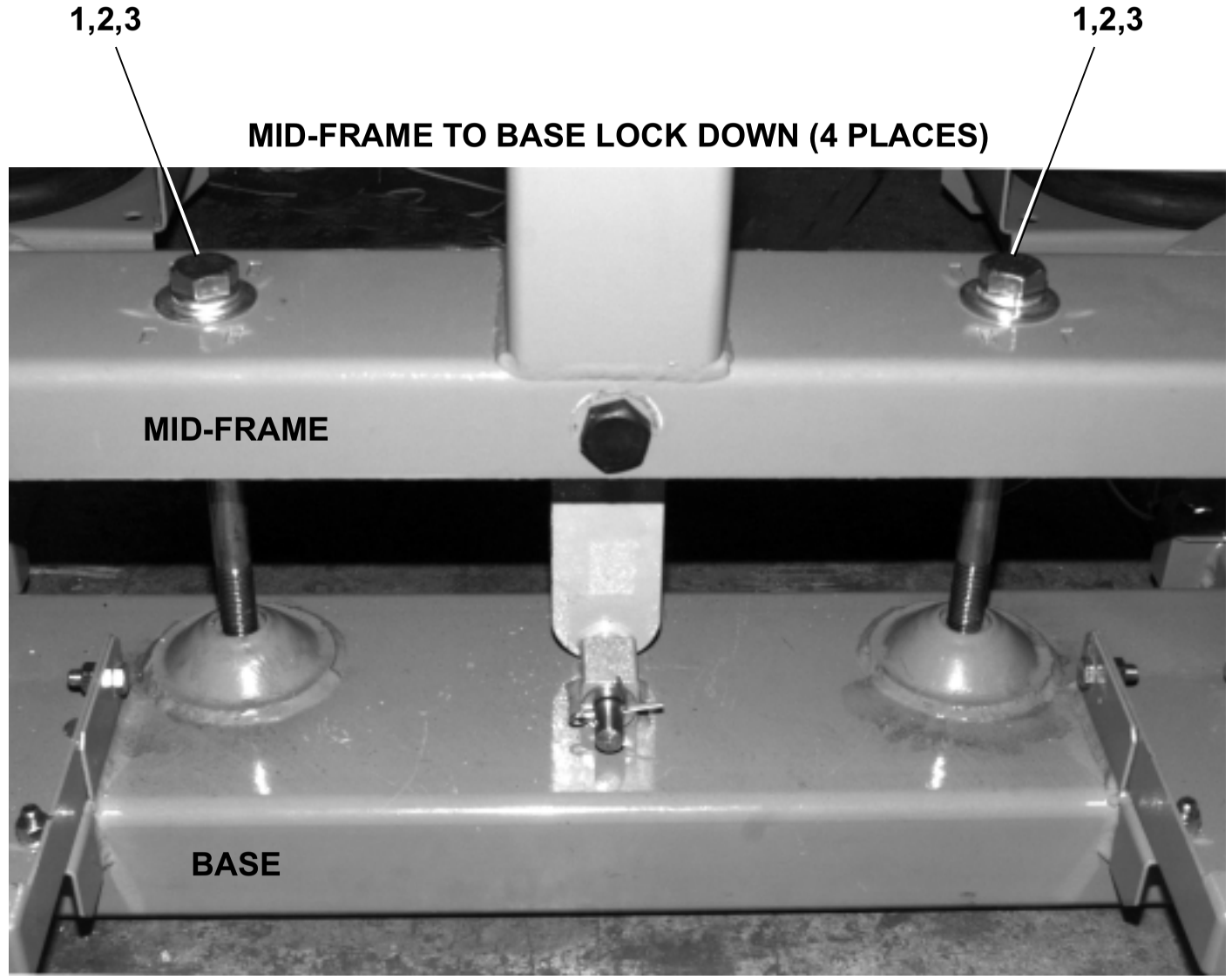
*** Item 5 shown in shipping position. Remove and bolt plates under channel to store.**



TILT FOOTGUARD STRAP
(2 PLACES)



SHELL TO MID-FRAME BOLT DOWN
(4 PLACES)



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

Parts List—Shipping Bolts and Brackets

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

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	GSB48002	INST=SHIP BRKT-TILT, 4840F	
			----------COMPONENTS----------	
all	1	15K302A	HXCAPSCR 1-8X11" GR5 ZCPLT	
all	2	15U390P	FLATWASHER(USS STD) 1" ZNC P	
all	3	15U400	LOCKWASHER MEDIUM 1" ZINCPL	
all	4	W3 25161A	*PLATE=HOLD DOWN RING WLMT	
all	5	03 06406C	PLATE-HOLD DOWN RING-TOP	
all	6	15K226F	HXCAPSCR 5/8-11UNC2AX3 GR5 ZIN	
all	7	15U314	FLATWASHER(USS STD) 5/8" ZNC P	
all	8	15U315	LOKWASHER MEDIUM 5/8 ZINCPL	
all	9	15G238	HXNUT 5/8-11UNC2B SAE ZINC GR2	

Avoiding Damage From Allied Remote Chemical Delivery Systems

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

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

Figure 1: Pumped Chemical Inlets on CBW Batch Washer

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

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

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

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

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

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

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

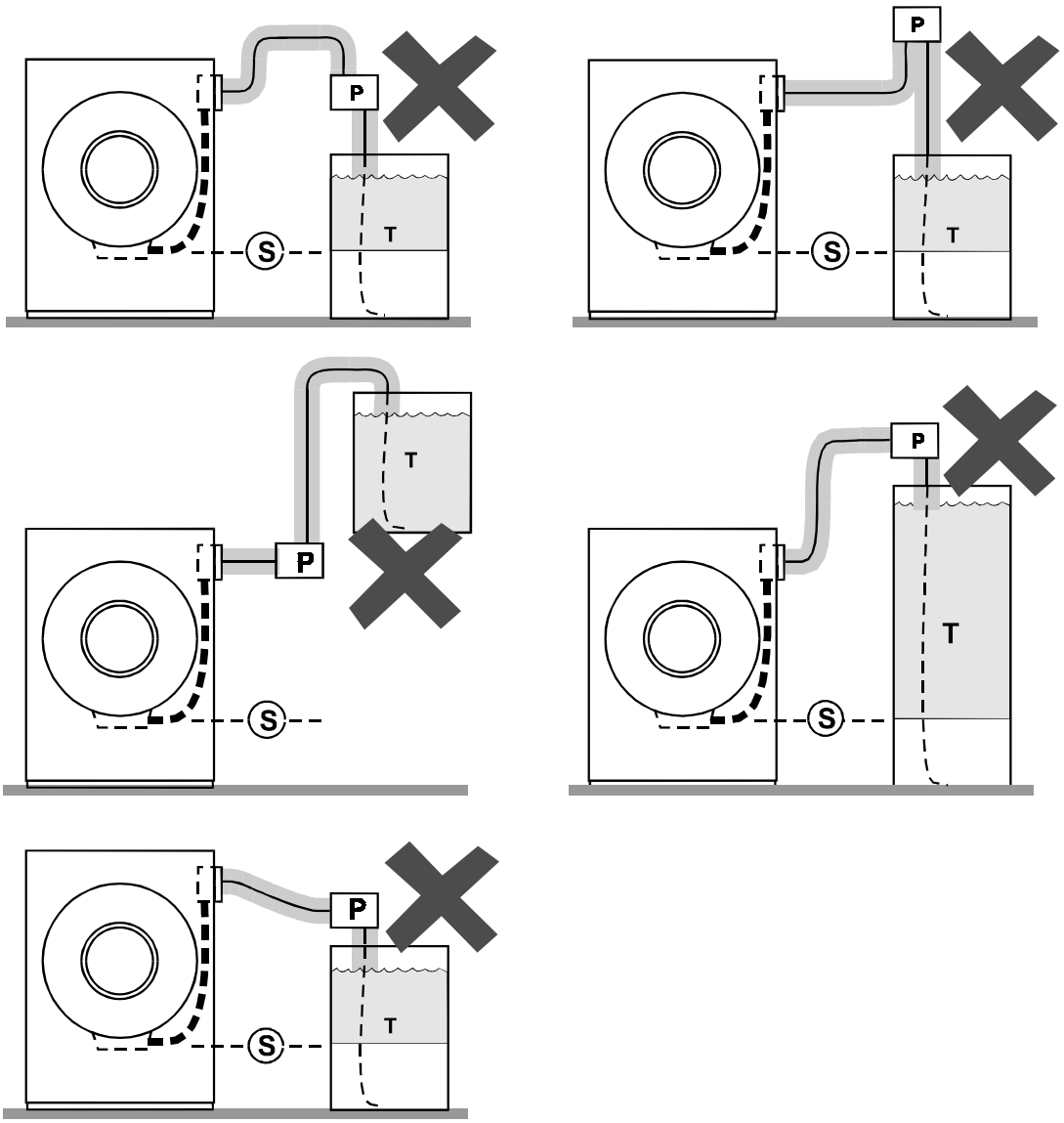
2. Requirements for Chemical Systems Used With Milnor Machines

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

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

Figure 2: Siphoning From the Chemical Tank into the Machine

Examples

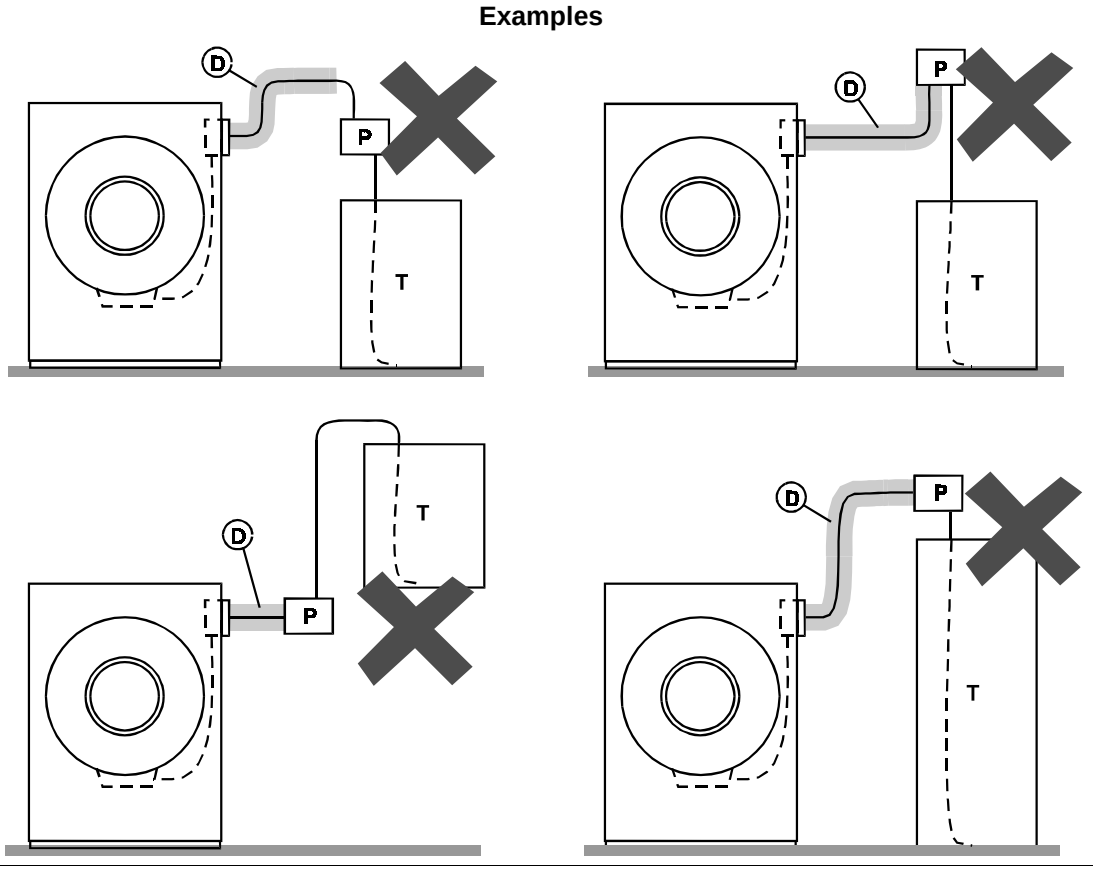


Legend

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

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

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



Legend

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

3. Design and Installation Recommendations

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

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

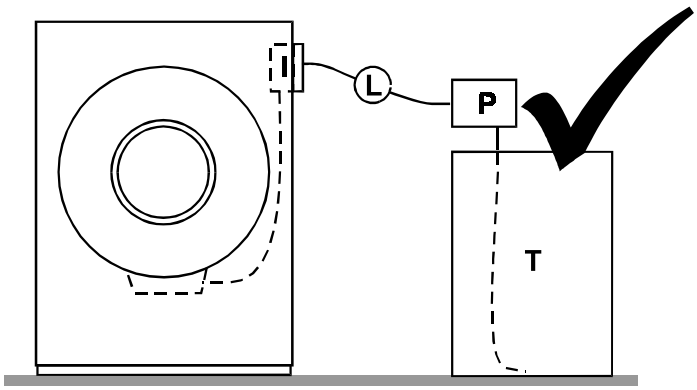
3.2. Siphoning: Break the siphon.—Provide an air gap or vacuum breaker in the chemical delivery line. This must be located above the "full" line of the tank.

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

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

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

Example of Correct Placement



Legend

I. Chemical inlet on machine
L. Chemical delivery line
P. Pump with positive closure when system is off
T. Chemical tank

4. Guarding Against Leaks

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

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

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

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

— End of BIWUUI03 —

About the Forces Transmitted by Milnor® Washer-extractors

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

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

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

1. Rigid Machines

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

2. Flexibly-mounted Machines

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

3. How Strong and Rigid?

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

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

Figure 1: How Rotating Forces Act on the Foundation

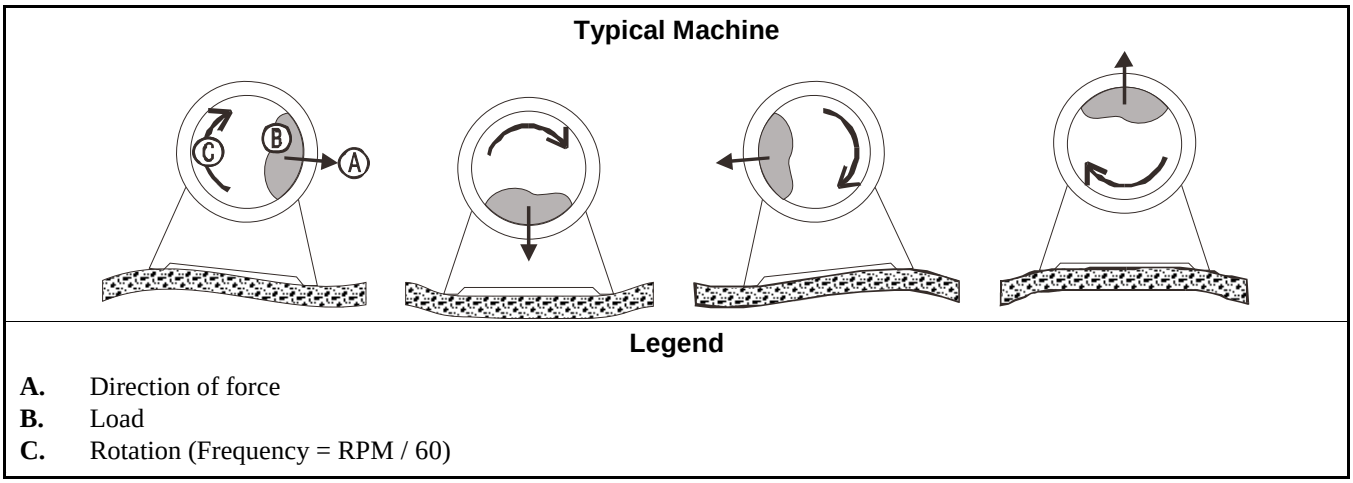


Figure 1 above is intended to depict both on-grade and above-grade installations and is equally applicable to flexibly-mounted washer-extractors, as well as to rigid models installed either directly on a floor slab or on a foundation poured integrally with the slab. Current machine data is available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

— End of BIWUUI02 —

Service and Maintenance 2

BIIFUI01 (Published) Book specs- Dates: 20091215 / 20091215 / 20091215 Lang: ENG01 Applic: IFL

Service Connections

Required service connections (depending on the machine model and optional equipment) are as follows:

1. Piped inlets and outlets are as listed in the "Table of Piped Inlets" and "Table of Piped Outlets." The sizes and locations of piped inlets and outlets are shown on the dimensional drawings for the machine.
2. Electric power connections.

1. Requirements for Piped Connections

1. Inlet pressures must be within the minimum/maximum range specified. Pressures outside of the specified range may cause the machine to operate inefficiently or malfunction, and may damage machine components.

CAUTION 1: Machine Damage—Valve bodies will be ruined if twisted and distorted.

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

2. When connecting water and steam inlets, always install unions and shut-off valves at the point of connection to permit removal of the machine components for servicing, if necessary.
3. If available, use hot water for the supply injector connection. Hot water supply must be 10 PSI minimum (0.70 kilogram/centimeter) and must not contain steam. After making the connection, set the pressure regulator for a maximum of 28 PSI (1.96 kilograms/centimeter), when there is no water flow.
4. If valve is accidentally piped to the wrong water line, merely interchange the air tube (if valve is air operated). Never interchange any electrical connections.
5. Some of the water inlet and/or steam valves on machines may be of the "ball valve" construction. The flow rate of a ball valve is far greater than that of an equal size globe valve. Do not use globe type shut-off valves in front of ball valves unless the globe valve is selected in accordance with the following table.

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

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

Table 1: Valve sizes and their equivalents

Ball valve size	Equivalent globe valve size
1-1/4" normal flow	2-1/2"
1-1/2" normal flow	2-1/2"
2" normal flow	3"

2. Piped Inlet Specification

Piped inlet requirements are as follows (see dimension drawings for sizes and locations of connection points):

Table 2: Table of Piped Inlets

Description of Connections	Source Requirements	Piping Specifications, Comments
Cold water inlet	1-1/2" NPT 10 - 75 PSI (0.7 -5.27 kgs.sq. cm.)	Pipe material per plumbing code
Hot water inlet		
Steam inlet	1 - 1/4" NPT 30 - 115 PSI (2.10 - 8.08 kgs. sq. cm.)	Pipe material per plumbing code
Compressed air--air tilting models	1" NPT 85 - 110 PSI (5.97 - 7.73 kg.sq. cm.)	
Compressed air--hydraulic tilting, and non-tilt models	1/4" NPT, 85 - 110 PSI (5.97 - 7.73 kg.sq. cm.)	

2.1. Piped Outlet Specification—Piped outlet requirements are as follows (see dimensional drawings for sizes and locations of connection points):

Table 3: Table of Piped Outlets

Description of Connections	Destination Requirements or Description	Piping Specifications
Drain	4 1/2" OD (not tilted)	Rubber hose, PVC, or other approved material per plumbing code
Vent	4" Diameter	

2.2. Precautions for Electrical Connections

WARNING 3: Electrocution Hazard—Contact with high voltage can kill or seriously injure you.

- All electrical connections must be made by a competent electrician.

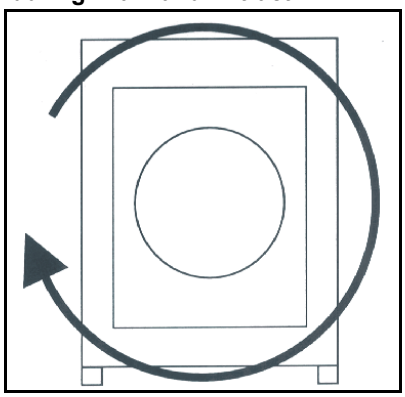
1. Connections must be made by a competent electrician.
2. See the fuse and wire sizing information in the schematic manual and on the machine nameplate.
3. “Stinger leg” if any, must be connected to terminal L3, never to terminals L1 or L2.
4. Only use BUSSMAN FUSETRON FRN (up to 250V), FRS (up to 600V), or similar lag fuses. The nameplate fuse sizes must not be applied to standard fuses.
5. See nameplate for fuse and wire size. For wire runs more than 50 feet (15.24 meters), increase by one wire size per each additional 50 feet.
6. Make the power and liquid supply electrical connections within junction box on the rear of the machine.
7. Verify all motor rotation as shown in FIGURE 1 (See the operating and troubleshooting manual for more information). If the cylinder turns in the wrong direction, see note below.

Note 1: Before shipping, all motors are properly phased for correct rotation. It is possible to reverse the direction of rotation in a three-phase machine by interchanging the incoming power leads. Therefore, the rotation of a three-phase machine must be observed and corrected when the machine is first installed. If it is necessary to reverse the rotation, simply swap the incoming power lines to the machine (never move L3 if L3 is a stinger leg). Never attempt to reconnect motors or the motor control devices.

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

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

Figure 1: Rotation Direction during Drain and Extract



2.3. Electric Power Connections—The customer must furnish a remotely mounted switch with lag type fuses, circuit breakers and wiring between the electrical service box and the junction box on the machine. The sizes of these fuses and wires, along with the motor fuses supplied with the machine, depend on the machine voltage. See the fuse and wire sizing information in the schematic manual and on the machine nameplate.

— End of BIIFUI01 —

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

Preventive Maintenance

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

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

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

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

- NEVER place fingers in gap between shell and frame.

1. Lubrication Precautions [Document BIUUUM01]

CAUTION 3: Machine Damage Hazard—Improper lubrication can damage machine components and cause the machine to malfunction.

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

WARNING 4: Entangle and Crush Hazards—Contact with moving components normally isolated by guards, covers, and panels, can entangle and crush your limbs. These components move automatically.

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

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

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

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

2. Main Bearing Housing Preventive Maintenance

WARNING 5: Entangle and Crush Hazards—Guards, covers, and panels—Operating the machine with any guard, cover, or panel removed exposes moving components.

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

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

3. Preventive Maintenance

Table 1: Preventive Maintenance Checklist

Components		Action	Frequency	Specifications/References/Figures
Main Bearing Housing	Bearings	Slowly grease: 5 strokes - 0.30 ounces (8.85 grams) at two locations	Monthly	Shell Alvania EP (or equivalent). See "48040Fxx Bearing Housing Maintenance Points"
	Seals	Slowly grease, 2 strokes - 0.12 ounces (3.54 grams) at one location		
	Air pad gauge	Verify 10 psi (0.7 kg. sq. cm.)		
Drive Train	Drive belts/pulleys	Check belts for tension and wear. Check pulleys for wear.	Weekly	See "Drive Belt Service" and "Service Notes" in this section.
	Inverter fans and vents	Verify fan operation and vacuum out vents.		See "48040Fxx Inverter Maintenance Points"
Suspension	Rubber springs	Check for cracks and deterioration.	Annually	See "48040Fxx Springs"
	Shocks	Check for leaks.		
Door	Hinge	Slowly grease, one stroke - 0.06 ounces (1.77 grams) at one location.	Monthly	Shell Alvania EP, See "48040Fxx Door Hinge Grease Point"
Foundation	Bolts	Check for loose bolts and damaged grout. Tighten and/or repair as necessary.	Monthly	Dimensional drawings
Steam	Steam strainer	Inspect and clean strainer as required.	Monthly	See "Steam Strainer Location"
Disc Brake	Reservoir	Check reservoir fluid level	Monthly	DOT3 brake fluid, See "Servicing Disc Brakes...BIEUUM01"
	Brake pads	Check for wear	Monthly	
Tilting Machine	System air pressure	Verify 50 psi (6.9 kg. sq. cm.)	Monthly	See "Tilting Machine Components"
	Tilt wheels	Slowly grease: one stroke - 0.06 ounces (1.77 grams) at eight locations		

4. Drive Belt Service

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

- **After 24 hours operation (three eight-hour shifts).**
- **After 80 hours operation (ten eight-hour shifts).**
- **After 160 hours operation (twenty eight-hour shifts).**
- If the belt is new, accurately measure the outer diameter of the belt. This measurement is L1. Find L1 in the “Banded Belt Initial Tension” section of the “Final Drive Belt Tension” table, then locate the “Tensioned Length” corresponding to L1. Tie a string to this length and install the belt, then:

  - » Fit string to the outer diameter of both pulleys and slowly raise motor platform until string is tight.
  - » After 24 hours of operation, remove tension from the belt and measure the outer diameter again, then see L2 in the “Banded Belt Final Tension” section of the Final Drive Belt Tension table. Find the corresponding “Tensioned Length.” Tie a string to this length. Once again, fit string to the outer diameter of both pulleys, then slowly raise motor platform until string is tight.
- If tightening an existing belt, see step above.

Table 2: 48040Fxx Final Drive Tension

Banded belt initial tension				Banded belt final tension		
L1 (inches)	**Multiplier**	**Tensioned length (inches)**		**L2 (inches)**	**Multiplier**	**Tensioned length (inches)**
149	1.003	149.4		149	1.005	149.7
149.2		149.6		149.2		149.9
149.4		149.8		149.4		150.1
149.6		150		149.6		150.3
149.8		150.2		149.8		150.5
150		150.5		150		150.8
150.2		150.7		150.2		151
150.4		150.9		150.4		151.2
150.6		151.1		150.6		151.4
150.8		151.3		150.8		151.6
151		151.5		151		151.8
151.2		151.7		151.2		152
151.4		151.9		151.4		152.2
151.6		152.1		151.6		152.4
151.8		152.3		151.8		152.6
152		152.5		152		152.8
152.2		152.7		152.2		153
152.4		152.9		152.4		153.2
152.6		153.1		152.6		153.4
152.8		153.3		152.8		153.6
153		153.5		153		153.8
153.2		153.7		153.2		154
153.4		153.9		153.4		154.2
153.6		154.1		153.6		154.4
153.8		154.3		153.8		154.6
154		154.5		154		154.8
154.2		154.7		154.2		155
154.4		154.9		154.4		155.2
154.6		155.1		154.6		155.4
154.8		155.3		154.8		155.6

5. Service Notes

Note 1: All V-belts are not alike. So-called “Super” or “High Capacity” belts frequently have considerably higher capacities than “Standard” belts. Sometimes a particular manufacturer's V-belts will be more suitable for a certain application and another manufacturer's V-belts may be suitable for a different application. This may occur in spite of the fact that both manufacturer's V-belts are reputedly “interchangeable.” Because of this, it is always best to purchase replacement belts from the original

manufacturer of the equipment. If you do not wish to do this, we suggest that when you replace the belts, you purchase the exact style and type belts with which the machine was originally equipped. This is the best way to achieve belt life on your replacement belts equal to the life of the original set. If you are not satisfied with the life of the original set, you should ask our factory if a better belt has been developed for the specific application.

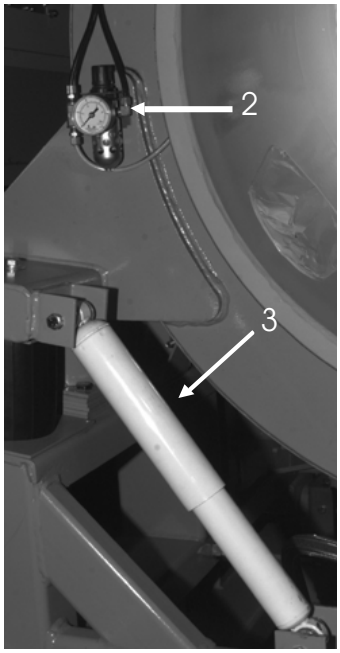
Note 2: Dry bleaches may cause the inside of the supply injector to show evidence of mild rusting. If this occurs, carefully clean away rusting at least once a week. Always inject dry bleach from the cup or scoop. Never allow dry bleach to come into direct contact with the stainless steel components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

6. Service Points

Figure 1: 48040Fxx Bearing Housing Maintenance Points

Bearing and Water Seal Grease Points

Main Bearing Air Pad Gauge



Legend

1. Grease fittings plate
2. Air pad gauge 10 psi (0.7 kg. per sq. cm.)
3. Shocks

Figure 2: 48040Fxx Door Hinge Grease Point

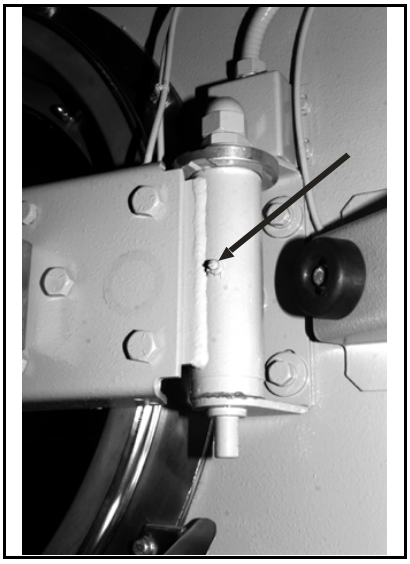


Figure 3: Staph-Guard Isolator Fastener

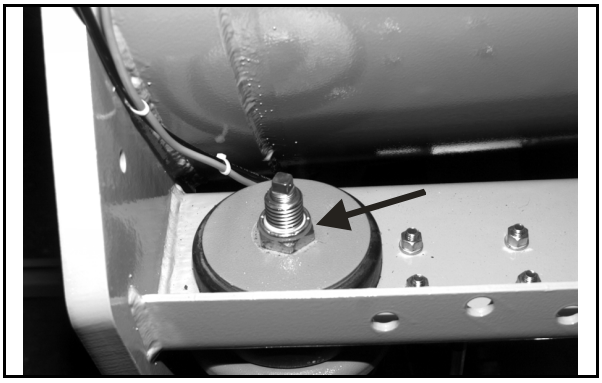


Figure 4: 48040Fxx Springs

Figure 5: 48040Fxx Steam Strainer Location (Tilt machine shown)

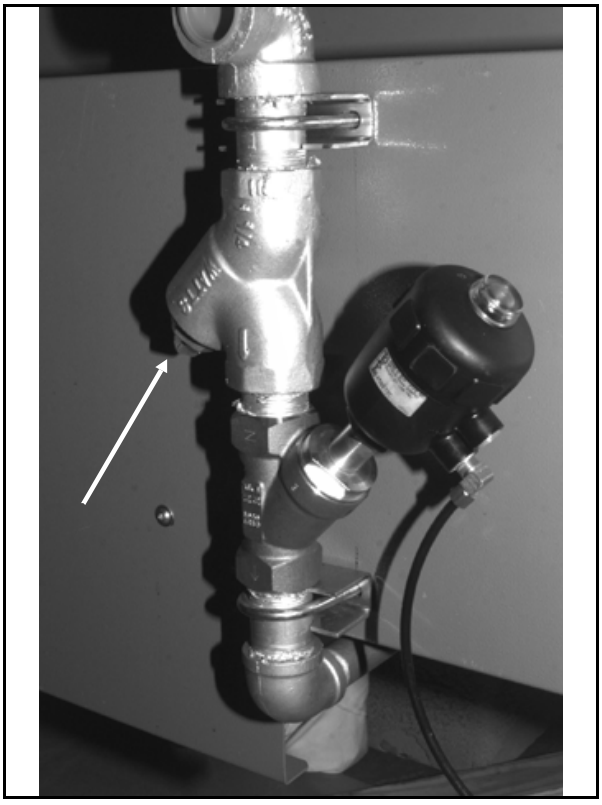
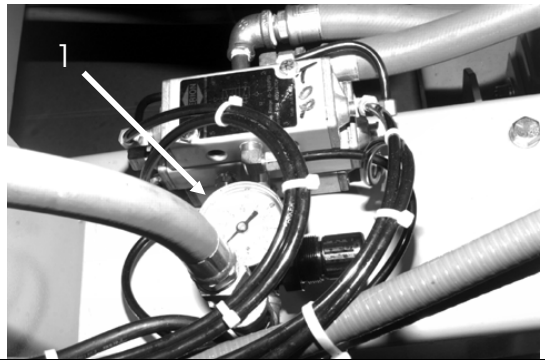


Figure 6: Tilting Machine Components

Tilting system air pressure



Legend

1. 50 psi (6.9 kg. sq. cm.)
2. Tilt wheel grease points (8 locations)

Tilt wheel grease fittings (8 locations)

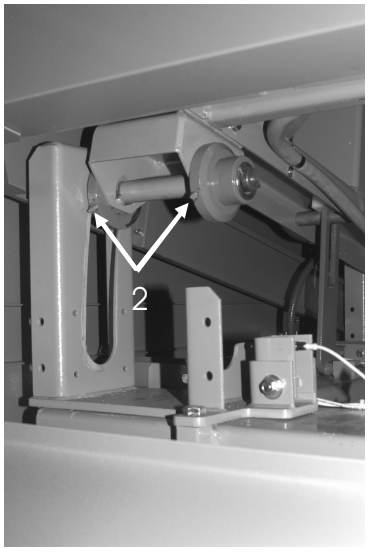


Figure 7: 48040Fxx Inverter Maintenance Points

48040Fxx Inverter

Legend

1. Vents
2. Fans

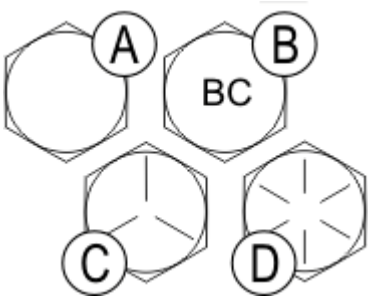
— End of BIIFUM01 —

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

Fastener Torque Requirements

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

Figure 1: Common Bolts Used in Milnor Equipment

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

1. Torque Values

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

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

1.1. Carbon Steel Fasteners

1.1.1. Without Threadlocking Compound

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

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

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

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

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

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

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

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

1.1.2. With Threadlocking Compound

Table 5: Threadlocking Compound Selection by Bolt Size

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

Table 6: Torque Values for Applications of LocTite 222

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

Table 7: Torque Values for Applications of LocTite 242

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

Table 8: Torque Values for Applications of LocTite 262

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

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

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

Table 10: Torque Values for Applications of LocTite 277

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

1.2. Stainless Steel Fasteners

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

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

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

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

2. Preparation

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

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

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

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

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

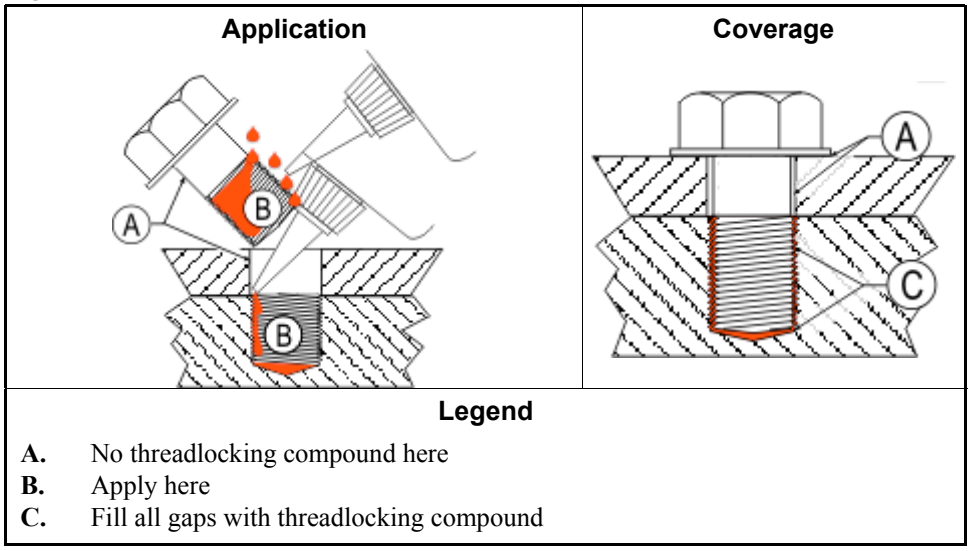
3. Application of Threadlocking Compound

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

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

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

Figure 2: Blind Hole



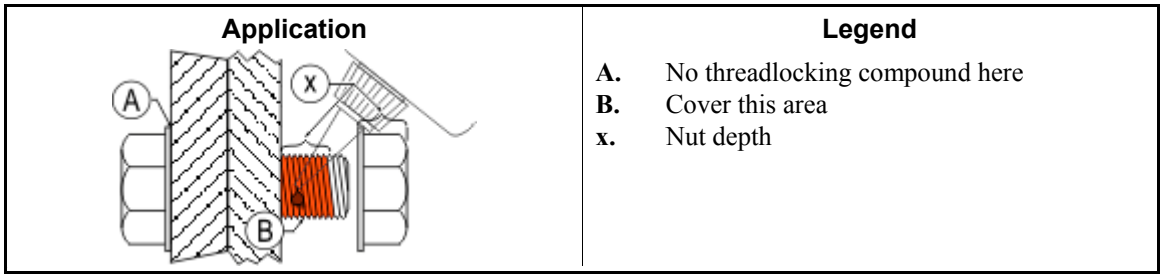
3.1. Blind Holes

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

3.2. Through Holes

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

Figure 3: Through Hole

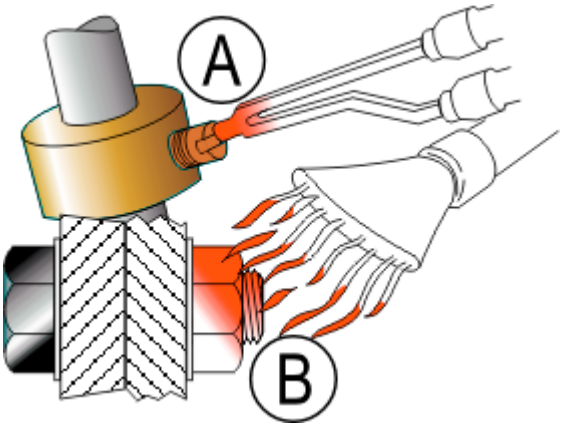


3.3. Disassembly—For low-strength and medium-strength products, disassemble with hand tools.

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

Figure 4: Disassembly

Use Localized Heat



Legend

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

— End of BIUUUM04 —

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

Disk Brake Maintenance

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

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

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

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

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

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

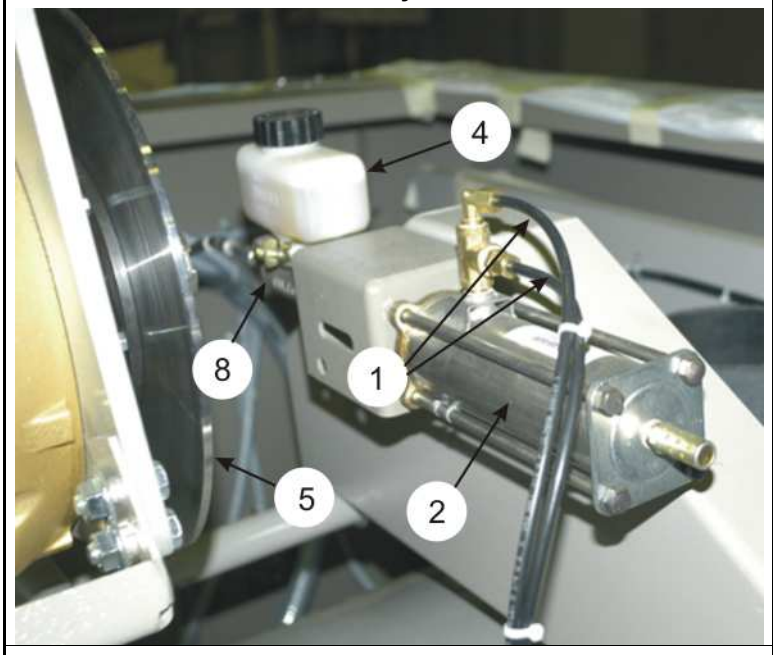
WARNING 2: Risk of injury or death —A machine in operation without safety guards is dangerous.

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

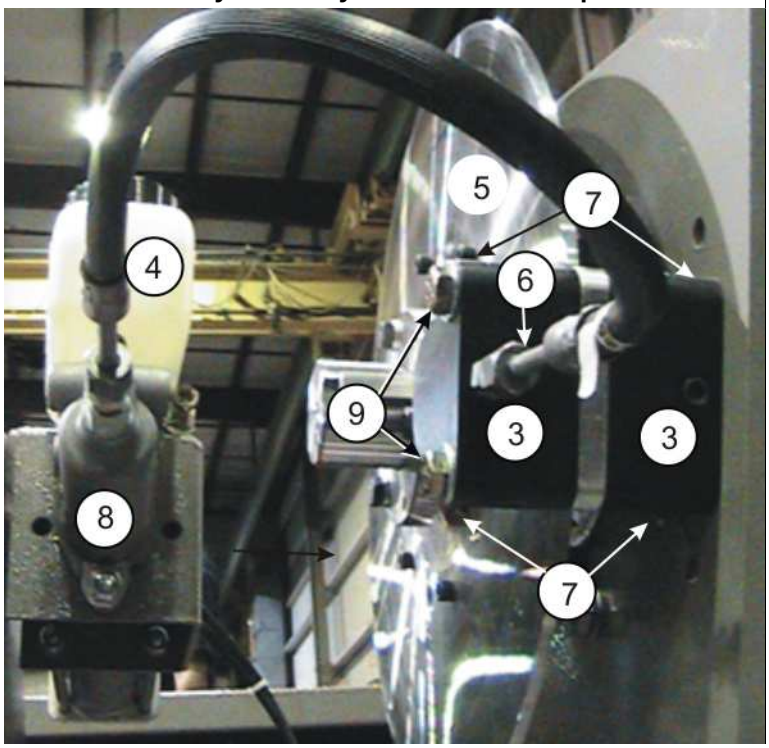
Tip: During parts of this procedure when you open up the calipers or hydraulic lines, put a cloth under the calipers to catch hydraulic fluid and parts that will fall. For safety, fully remove spilled hydraulic fluid after brake maintenance. This will help you easily identify leaks.

Figure 1: A typical hydraulic brake system

The air cylinder



The hydraulic cylinder and the caliper



Legend

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

1. The Inspection of the Brake

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

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

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

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

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

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

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

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

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

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

2. How to Do a Friction Pad Replacement

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

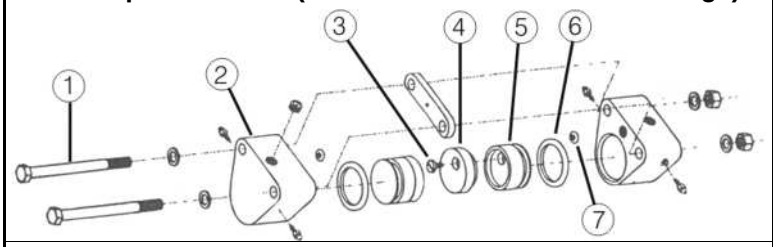
1. **Remove power from the machine (see Notice P1).**
2. Remove the used fluid. See Section 4.3.
3. Remove the two bolts that attach the caliper (Figure 1, item 9) and the two caliper halves (Figure 1, item 3) to get access to the friction pads. Do not disconnect the hydraulic line (Figure 1, item 6).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

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

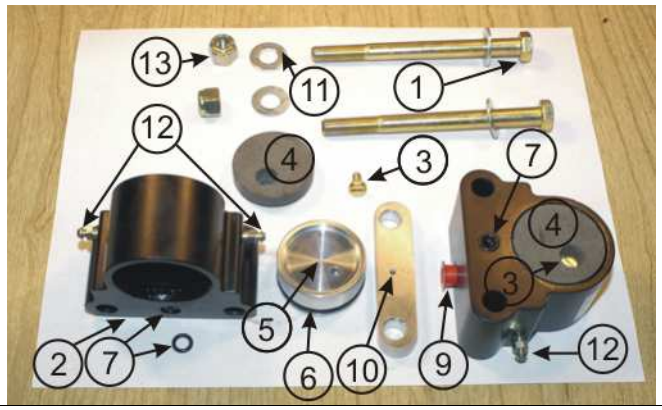
3. How to Do a Caliper Overhaul

Figure 2: The Caliper Components

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



The Caliper and the Pad



Legend

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

Fittings for the Hydraulic Inlet

Look at the pad thickness above the top of the screw

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

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

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

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

4.1. Risks and Precautions

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

- Stay away from operating mechanisms.

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

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

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

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

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

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

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

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

Figure 3: Pumps Used to Remove Hydraulic Fluid Quickly

Alternative Pumps for Suction of Hydraulic Fluid

Legend

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

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

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

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

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

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

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

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

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

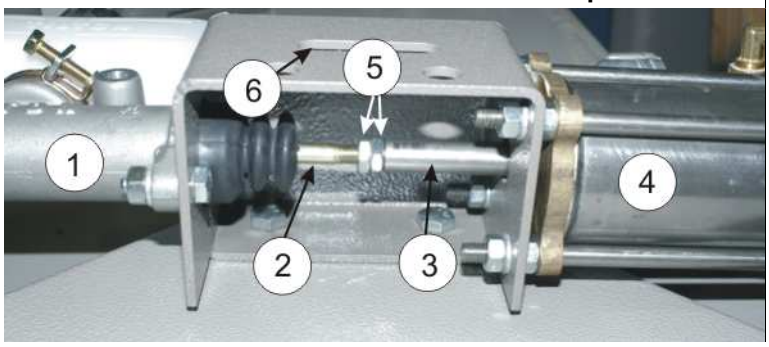
4. Put a small quantity of new brake fluid (approximately inches (50 mm)) in the 12 ounce container (Figure 4, item 1).
5. Do these steps for each bleed valve (Figure 1, item 1) . Two technicians are necessary. This will move the fluid in one direction and push air out of the line:
   a. Attach a clean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

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

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

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

A view of the brake rod and related components

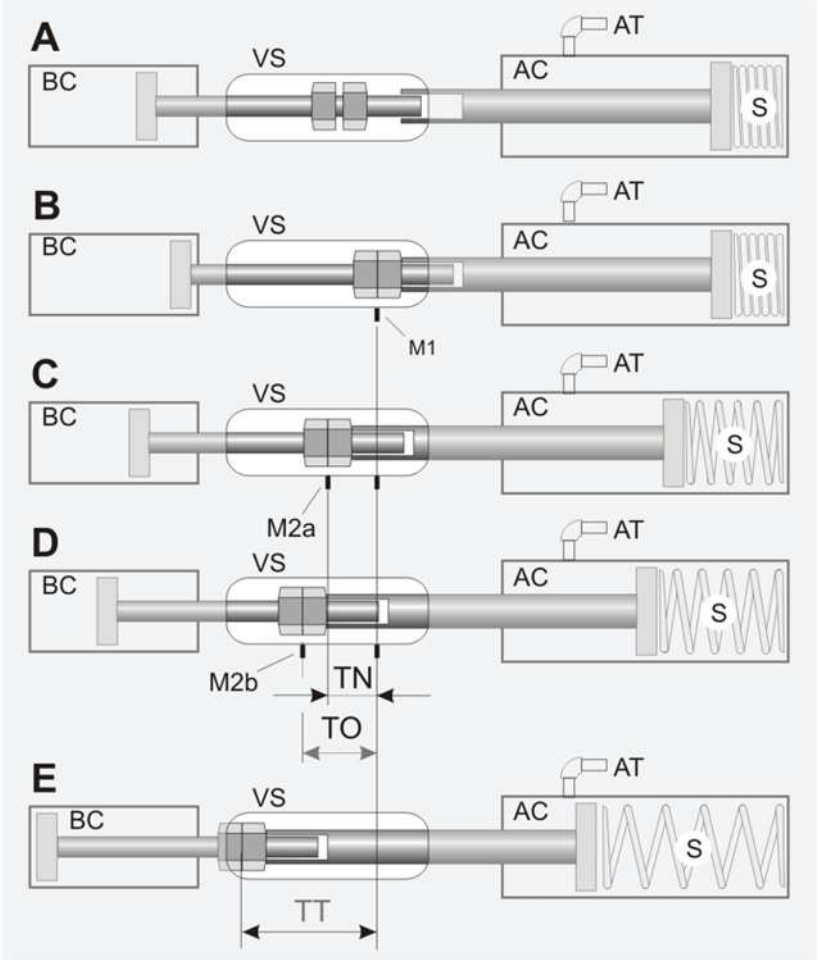


Legend

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

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

Schematic Views of Different Conditions



Legend

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

5.1. Adjust for maximum rod travel.

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

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

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

6. Operation of Brake Systems

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

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

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

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

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

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

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

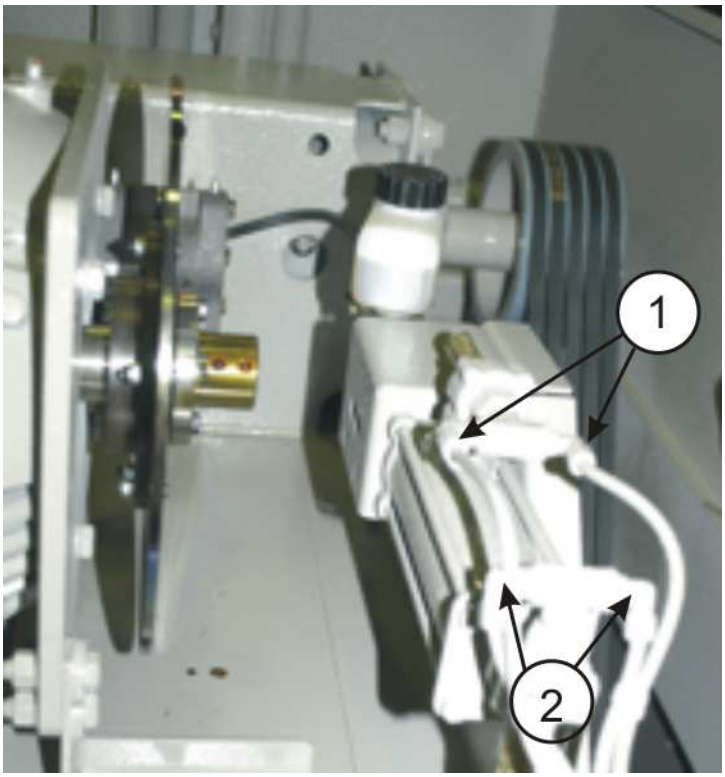
1. Disconnect the air tubing (Figure 1, item 1).

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

6.4. How the Brake Operates on Divided Cylinder Machines

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

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



Legend

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

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

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

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

— End of BIEUUM01 —

2 Drive Assemblies 2.1

BIIFLM05 (Published) Book specs- Dates: 20140320 / 20140320 / 20140320 Lang: ENG01 Applic: IFL IH4

Drive Components and Belt Installation

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

1. Drive Components Identification

Figure 1: General View: 4840H7N, 4840H7W, 4840H7R, 4840H7K

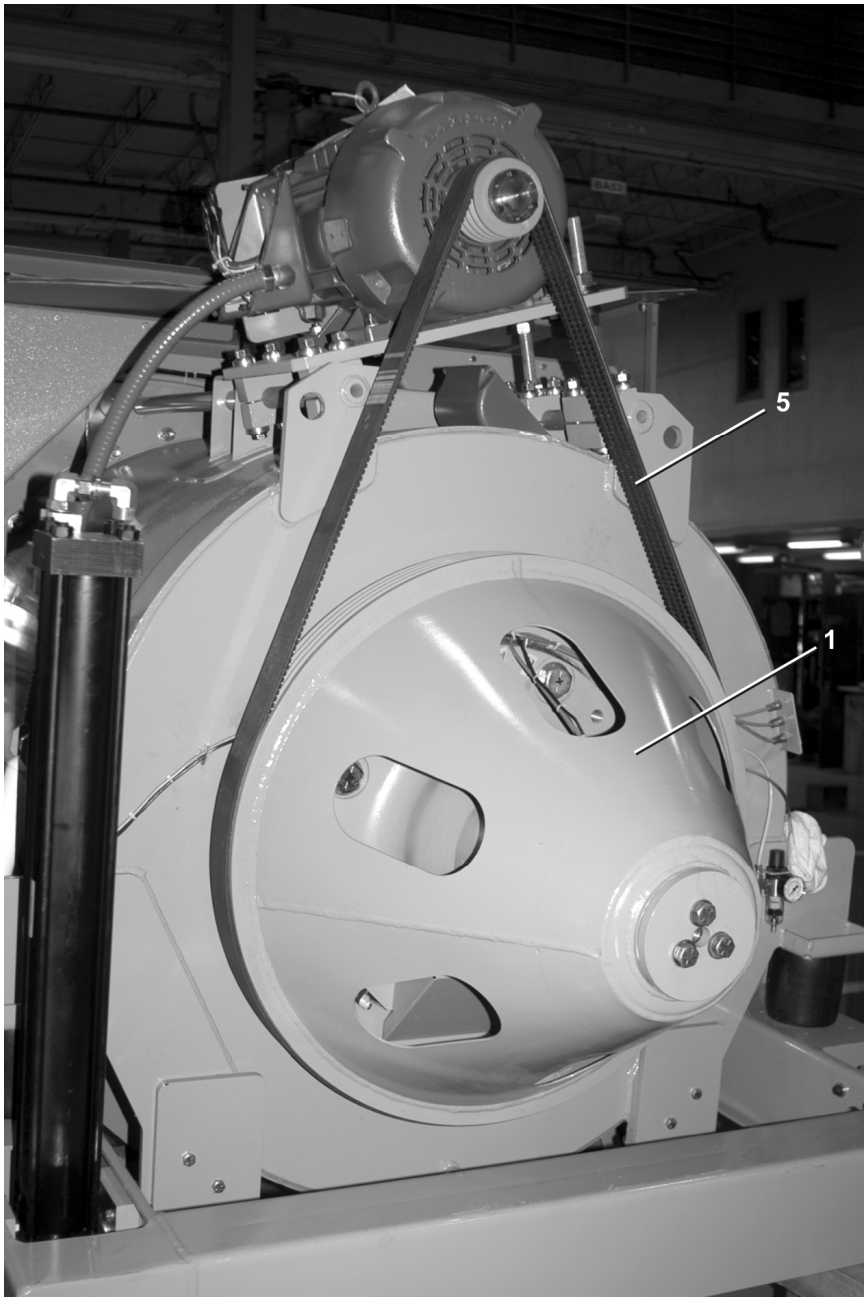


Figure 2: Detailed views

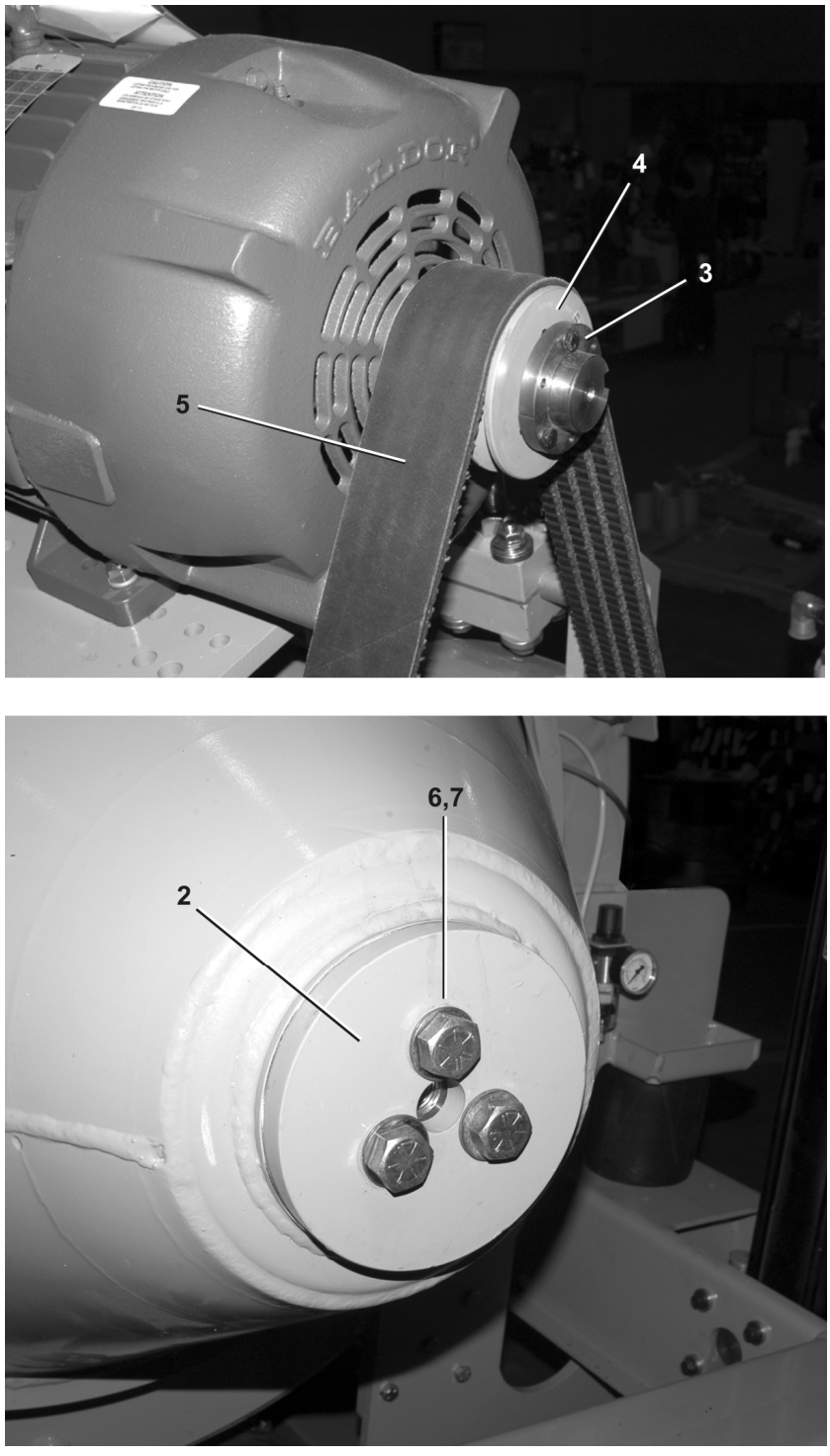


Table 1: Parts List—Drive Components and Belt Installation

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**
Assemblies				
	A	GDB48002	Installation Group; Drive chart; 4840H7N, 4840H7W	4840H7W, 4840H7N, 4840H7R, 4840H7K
Components				
all	1	X2 21925	Pulley; Cylinder	
all	2	X2 21923	Pull-up plate	
all	3	56Q1RSD	Bushing; 1+7/8"	
all	4	56044B4SD	V-pulley	
all	5	56VB147XB4	V-belt	
all	6	15K232A	Bolt; Hex head; 3/4-10X2	
all	7	15U321H	Washer; Flat; 3/4	

2. Belt Installation and Tension Procedure

When you install a new drive belt, the belt will increase in length when it first operates. Do this procedure again after 24, 80, and 160 hours of operation to get the correct tension.

1. Remove electrical power from the machine. Refer to applicable safety codes.
2. Install the belt loose on the pulleys, or make the belt loose, if it is tight.
3. Measure the outer diameter of the belt accurately. If this is not the first time that you did this procedure, the belt will be longer this time.
4. Calculate the correct length of the belt when it is tight, as follows:
   - If you installed a new belt this day, multiply the length by 1.003. This gives the necessary length when you make a new belt tight.

Example: 152 inches (3861 millimeters) X 1.003 = 152.46 inches (3872 millimeters)

   - If the belt is not new (operated), multiply the length by 1.005. This gives the necessary length when you make an operated belt tight.

Example: 152.2 inches (3866 millimeters) X 1.005 = 152.96 inches (3885 millimeters)

5. Make a loop of the correct length with flexible wire. Attach the ends together tightly.
6. Put the wire loop around the belt.
7. Make the belt tight until there is no play in the wire loop.

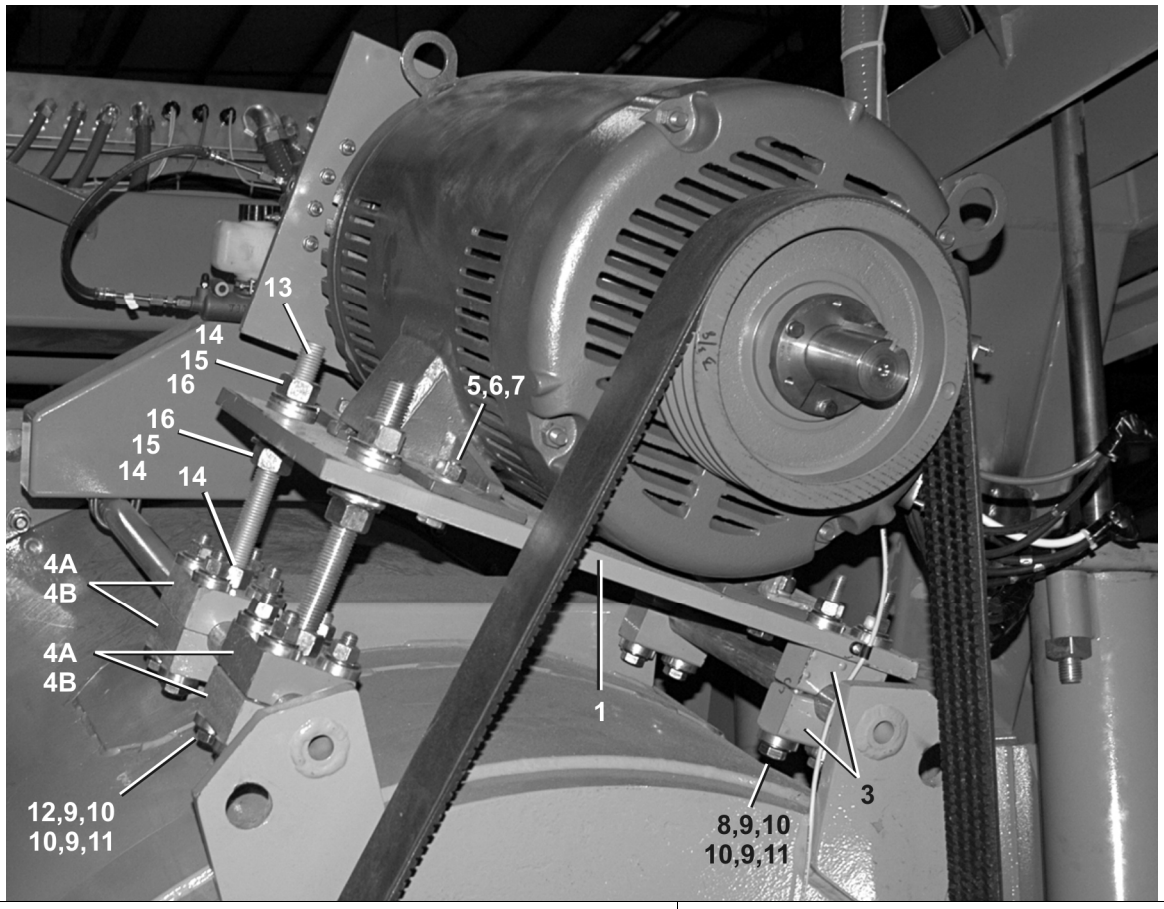
— End of BIIFLM05 —

BIIFLM06 (Published) Book specs- Dates: 20140320 / 20140320 / 20140320 Lang: ENG01 Applic: IFL IFG IFT IH4

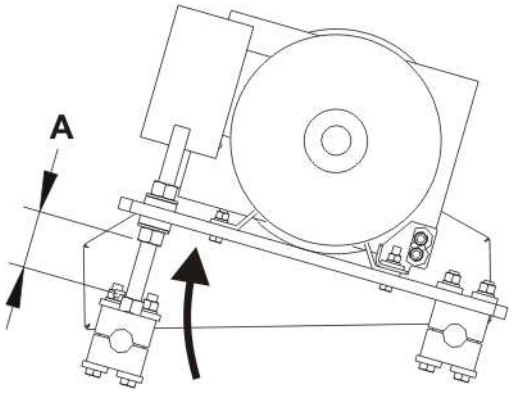
Drive Motor Installation

Figure 1: Drive Motor Installation: 48040F7_, 48040H7_, M7V48036_, M7V48040_, M9V4840_,6836F5_, 6836H5_

General View



Adjust the bolts to put the necessary tension on the belts.



Legend

A. The necessary dimension for a new belt.
A. (M9V4840_) = 3" (76)
A. (48040F7_,H7_) = 3 1/2" (89)
A. (68036F5N, 68036H5N) = 2 3/4" (70)

Figure 2: Drive Motor Installation: 48040H7N (shown)

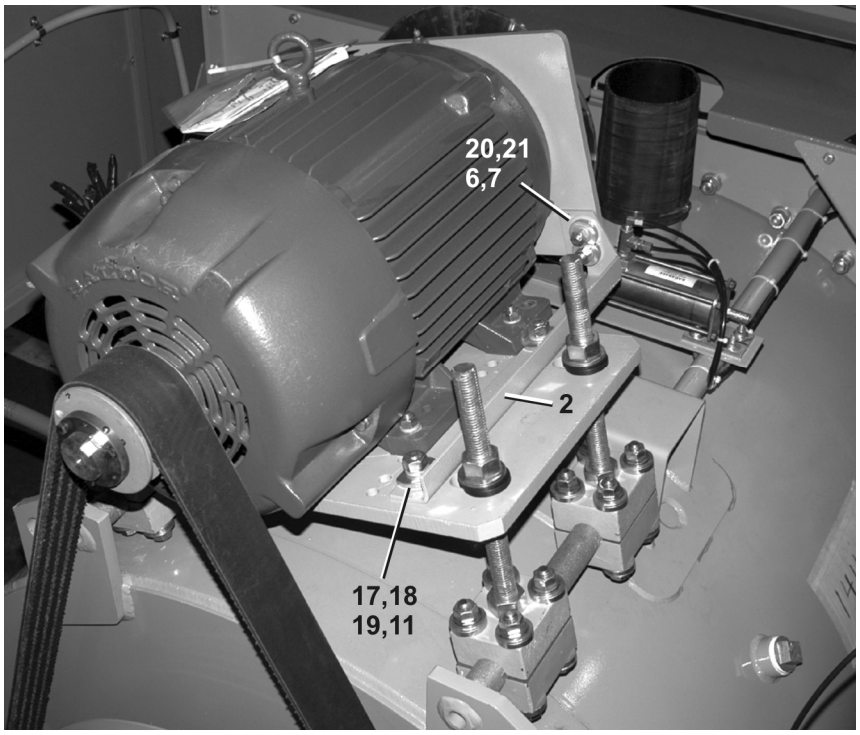


Figure 3: Drive Motor Installation: 68036F5N

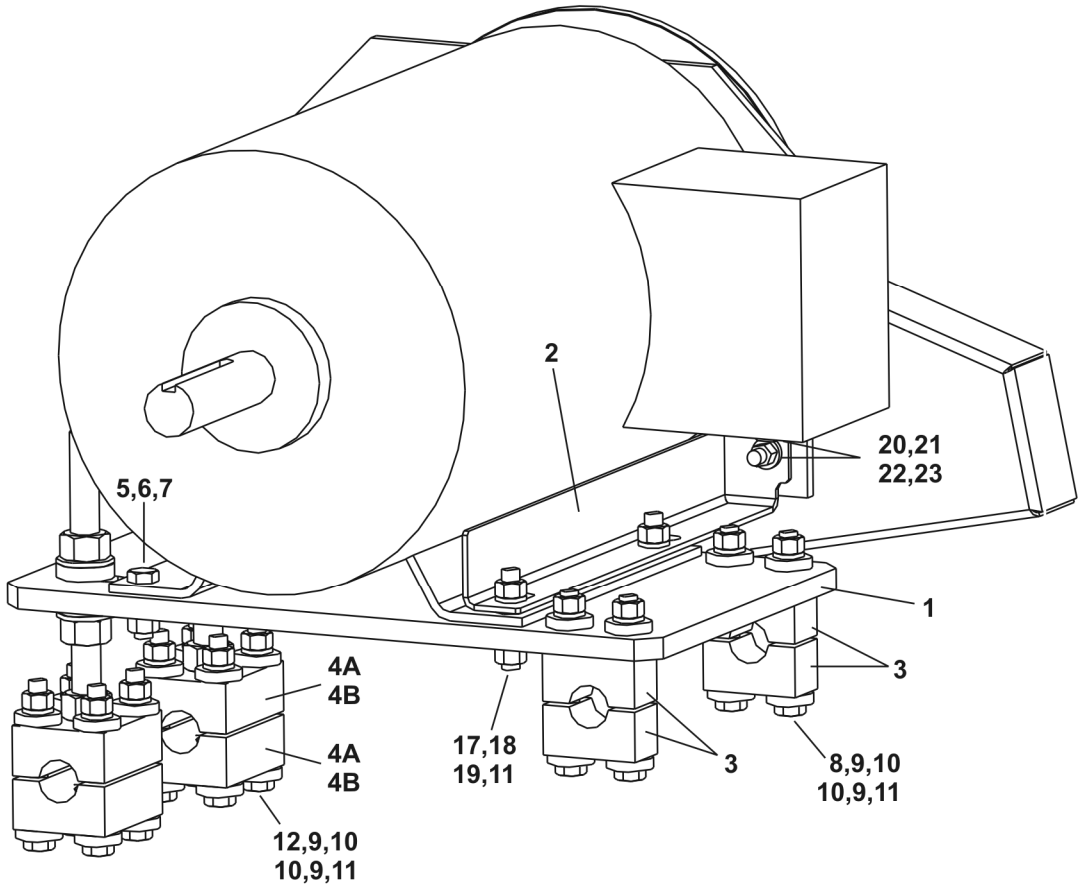


Table 1: Parts List—Drive Motor Installation

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**
Assemblies				
	A	GBD4840M	Installation Group; Drive motor support	M7V4836_, M7V4840_, M9V4840_
	B	ADB4840F2	Installation Group; Drive motor support	4840H7_
	C	GDB6836E	Installation Group; Drive motor support,	6836F_, 6836H5_
Components				
all	1	03 17130	Motor plate	
B	2	02 21859C	Torque arm	
A	2	W3 17131	Torque arm	
C	2	W3 17131B	Torque arm	
all	3	02 11311B	Pivot clamp	
all	4A	X2 11311P	Jack bolt clamp	
all	4B	C2 11311C	Jack bolt clamp	
all	5	15K191A	Bolt; Hex head; 1/2-13X2.5	
all	6	15U300	Washer; Lock; 1/2	
all	7	15G230	Nut; Hex; 1/2-13	
all	8	15K227D	Bolt; Hex head; 5/8-11X6	
all	9	15U316	Washer; Flat; 5/8	
all	10	17W030	Washer; Spherical; 5/8	
all	11	15G238	Nut; Hex; 5/8-11	
all	12	15K227B	Bolt; Hex head; 5/8-11X5.5	
all	13	17R031A13A	Threaded rod; 1-8 X 13"	
all	14	15G250	Nut; Hex; 1-8	
all	15	15U393	Washer; Flat; 1"	
all	16	17W060	Washer; Spherical; 1"	
all	17	15K226L	Bolt; Hex head; 5/8-11X3.5	
all	18	02 11603A	Washer; Clipped; 5/8	
all	19	15U315	Washer; Lock; 5/8	
all	20	15K171B	Bolt; Hex head; 1/2-13X1+3/4	
all	21	02 11603C	Washer; Clipped; 1/2	

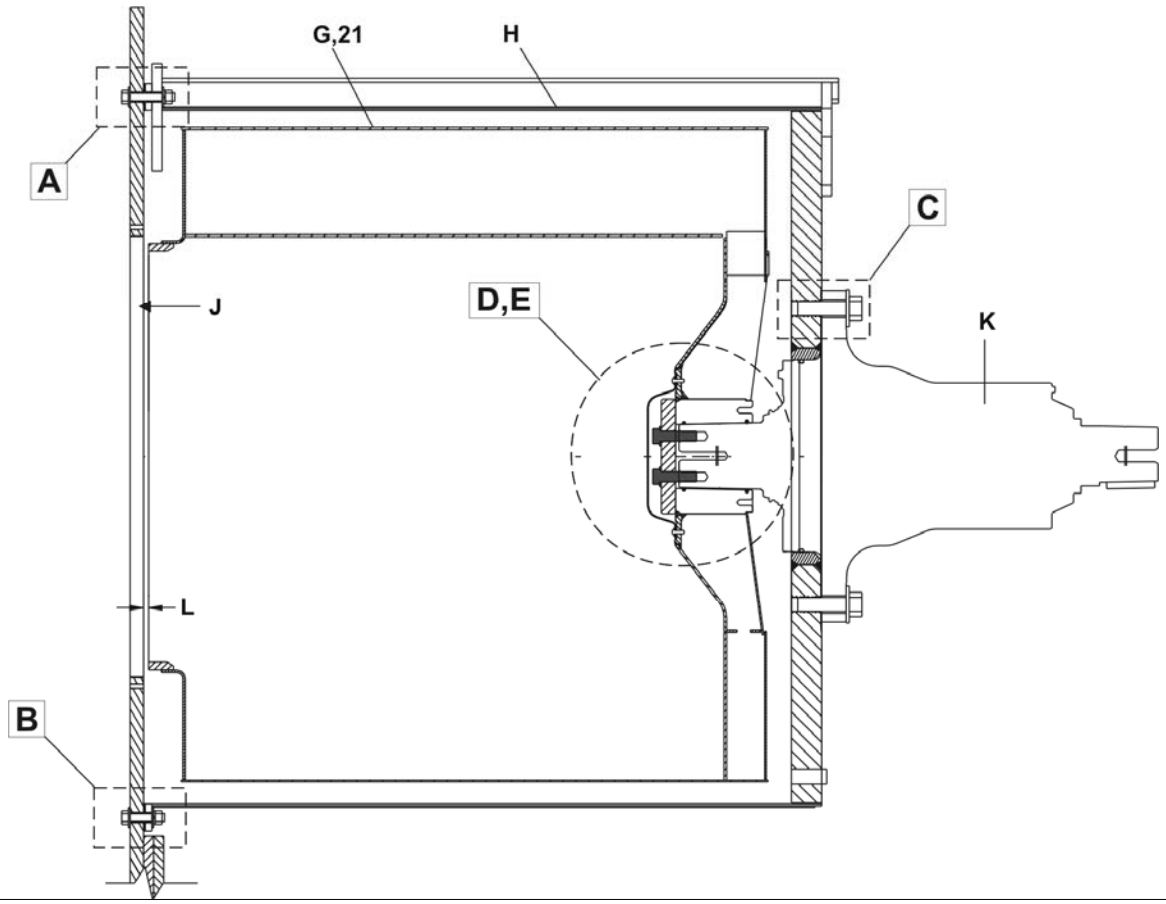
— End of BIIFLM06 —

BIIFLM07 (Published) Book specs- Dates: 20120502 / 20120502 / 20120502 Lang: ENG01 Applic: IFL

Cylinder Installation

Figure 1: Shell and Cylinder

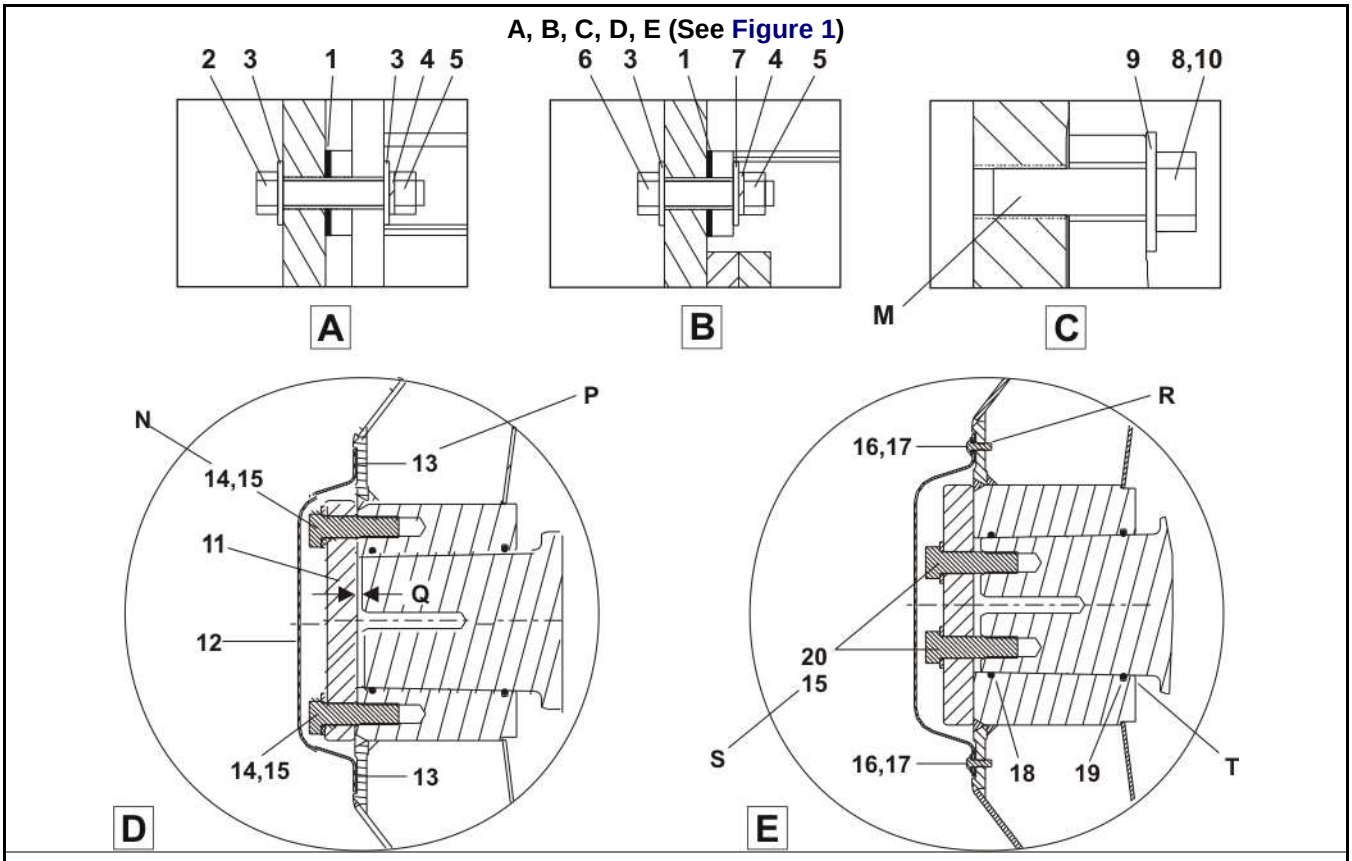
Cross Section



Legend

A. Detailed view—Top connection between the shell front and the shell side sheet
B. Detailed view—Bottom connection between the shell front and the shell side sheet
C. Detailed view—Connection between the shell rear and the bearing housing
D. Detailed view—Connection between the Pull-up plate and the Hub (outer bolts)
E. Detailed view—Connection between the Pull-up plate and the Shaft (inner bolts)
G. Cylinder
H. Shell
J. Shell front
K. Bearing housing
L. This dimension must be in this range: 0.3125 inches [8mm] — 0.375 inches [9.5mm].

Figure 2: Detailed views

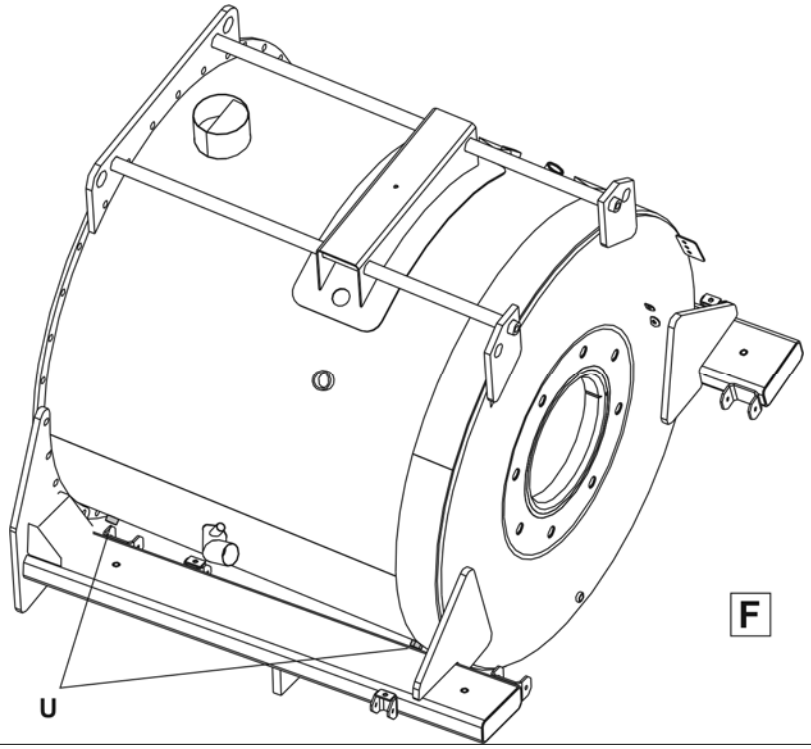


Legend

A. Top connection between the shell front and the shell side sheet
B. Bottom connection between the shell front and the shell side sheet
C. Connection between the shell rear and the bearing housing
D. Connection between the Pull-up plate and the Hub (outer bolts)
E. Connection between the Pull-up plate and the Shaft (inner bolts)
M. Use thread lock compound Locktite 242. If Item 8 has coarse threads, tighten to 1817 FT.LBS. If item 8 has fine threads, tighten to 2012 FT. LBS. (See Table 1)
N. Use thread lock compound Locktite 242. Tighten items 14 and 15 to 376 FT. LBS. (4 instances).
P. Apply silicone to the hub side of the gasket.
Q. 0.25 inches [6.3mm].
R. Use thread lock compound Locktite 242. Tighten items 16 and 17 to 36 IN. LBS. (18 instances).
S. Use thread lock compound Locktite 242. Torque items 20 and 15 to 376FT. LBS. (4 instances).
T. Apply oil to the o-rings before you assemble.

Figure 3: Shell

General View



Legend

U. There are four plugs in the shell. There are two on each side of the shell. For maintenance, replace the plugs with the bolts that hold the cylinder.

Table 1: Parts List—Cylinder Installation

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.

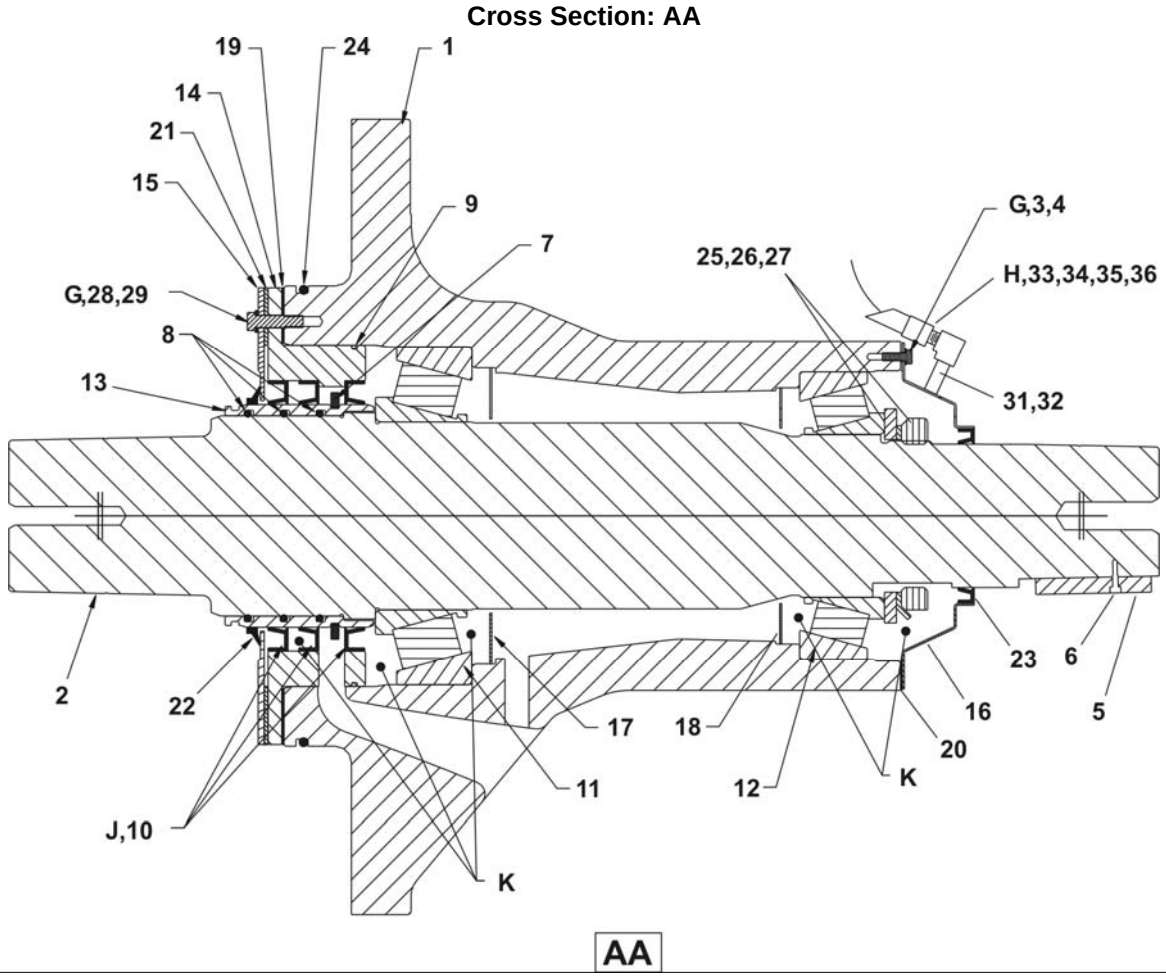
Used In	Item	Part Number	Description/Nomenclature	Comments
			Assemblies	
	A	GSF4840F	Installation Group; Shell front; 48040F_, 48040H_	
	B	GCA4840F	Installation Group; Cylinder; 48040F_, 48040H_	
			Components	
all	1	03 48053B	Gasket; 48040F_; 1/8	
all	2	15K240	Bolt; Hex head; 3/4-10UNC	
all	3	15U492	Washer; Flat	
all	4	15U340	Washer; Lock	
all	5	15G240	NutHex; 3/4-10UNC	
all	6	15K250	Bolt; Hex head; 3/4-10UNC	
all	7	15U494	Washer; Flat	
all	8	15K310	Bolt; Hex head; 1+1/4-12X4	Coarse thread. This part applies to machines made after 05, 2008.
all	8	15K309	Bolt; Hex head; 1.25-7UNC X 4.0	Fine thread. This part applies to machines made through 05, 2008.
all	9	15U600	Washer; Flat	
all	10	20C007G	Thread lock compound; Loctite 242	
all	11	X2 21916	Pull-up plate; Cylinder	
all	12	X2 21917	Cover; Cylinder hub	
all	13	02 21918	Gasket; Cover; Cylinder hub	
all	14	15K235AA	Bolt; Hex head; 3/4-10X2.75	
all	14	15K234CA	Bolt; Hex head; 3/4-10X2.25	
all	15	15U321H	Washer; Flat	
all	16	15U188	Washer; Flat	
all	17	15K040T	Bolt; Torx button head; 1/4-20X3/4	
all	18	60C155V	O-Ring; Viton; 4.75ID; 3/16CS	
all	19	60C157V	O-Ring; Viton; 4+7/8ID; 3/16CS	
all	20	15K235AA	Bolt; Hex head; 3/4-10X2.75	
all	21	ACA4840F7	Cylinder	Standard Cylinder
all	21	ACA4840F7P	Cylinder	Pickfree Cylinder

— End of BIIFLM07 —

BIIFLM08 (Published) Book specs- Dates: 20120502 / 20120502 / 20120502 Lang: ENG01 Applic: IFL

Bearing Housing Components and Installation

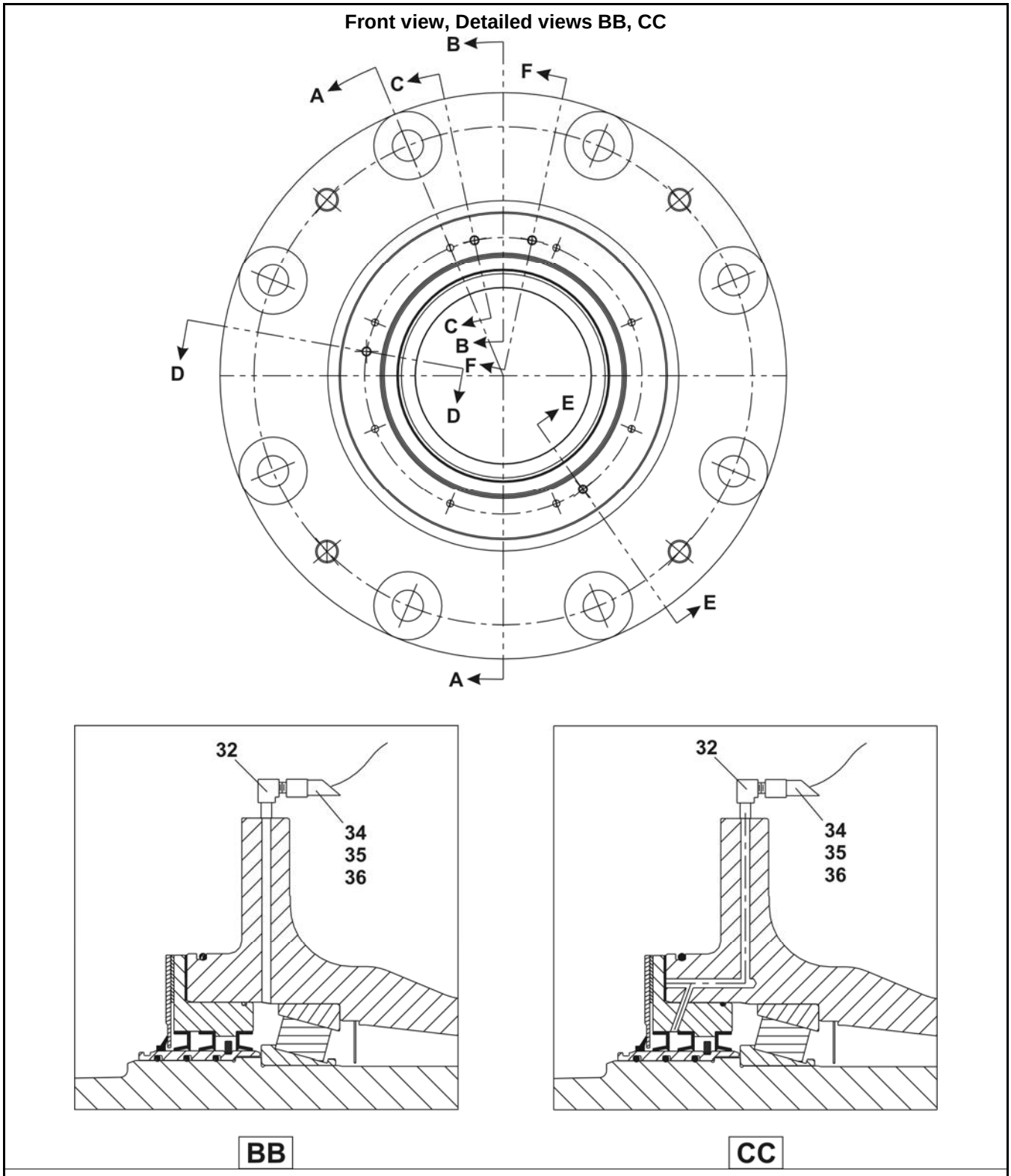
Figure 1: Bearing housing



Legend

G. Use Locktite 242.
H. Grease inlet for the rear bearing
J. When you install new seals, make sure that they point in the directions shown. The installation sequence: Install one seal into the rear of the seal holder. Install the seal holder. Install the two remaining seals.
K. Fill this space with grease.

Figure 2: Bearing housing

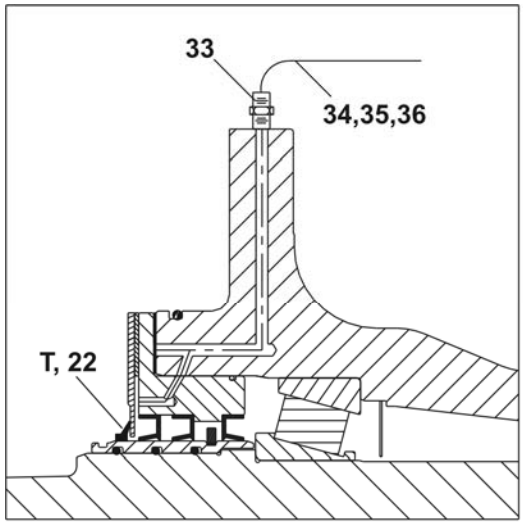


Legend

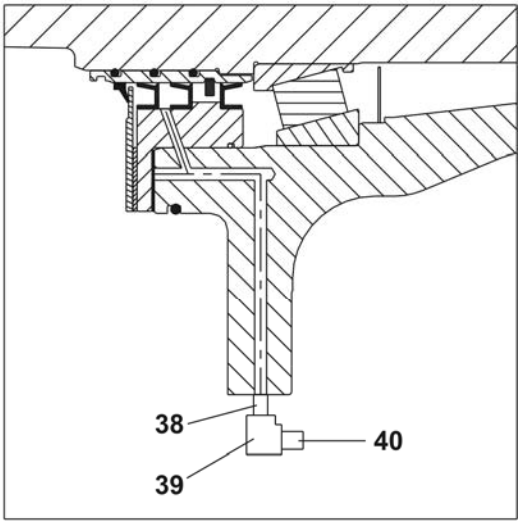
BB. Grease inlet for the front bearing
CC. Grease inlet for the seals

Figure 3: Bearing housing

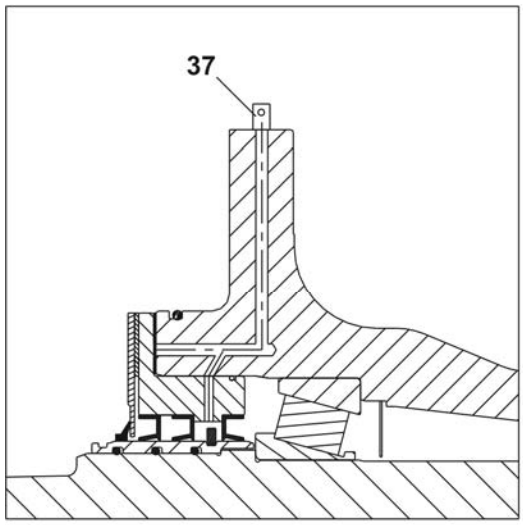
Detailed views DD, EE, FF (See Figure 3)



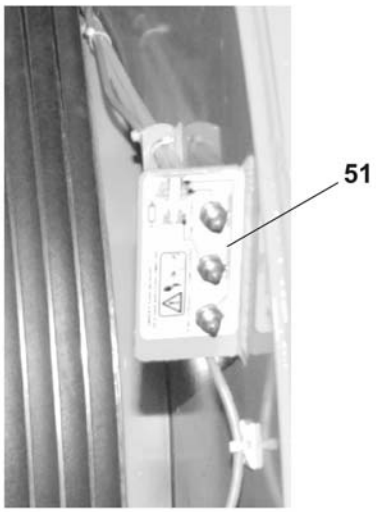
DD



EE



FF

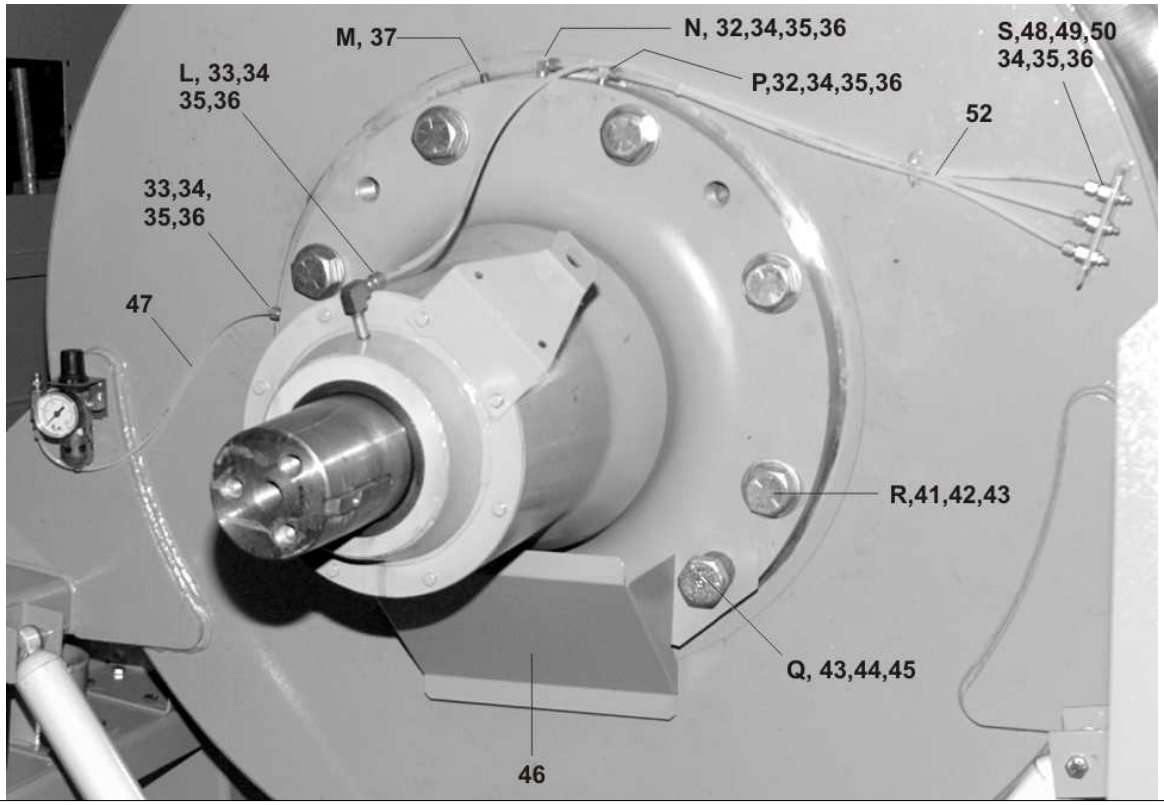


Legend

DD. Compressed air inlet for the outer seal
EE. Grease outlet for the seals
FF. Fluid inlet to flush the space between the seals

Figure 4: Bearing housing

Rear view



Legend

L. Grease inlet for the rear bearing
M. Fluid inlet to flush the space between the seals
N. Grease inlet for the front bearing
P. Grease inlet for the seals
Q. 2 instances
R. 8 instances
S. 3 instances
T. Outer seal

Table 1: Parts List— Bearing Housing Installation

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**
Assemblies				
	A	ABM4840F	Assembly; Bearing housing; 48040F_, 48040H7_	
	B	ABM4840FV	Assembly; Bearing housing; Fluoroelastic polymer (Viton) ; 48040F_, 48040H_	
	C	ABN4840F	Tested part; Bearing housing; 48040F_, 48040H_	
	D	ABN4840FV	Tested part; Bearing housing; Fluoroelastic polymer (Viton); 48040F_, 48048H_	
	E	GBM4840F	Installation Group; Bearing housing; 48040F_, 48040H_	
Components				
none	1	X2 21800	Machined part; Bearing housing	
all	2	X2 21801	Machined part; Shaft	
all	3	15K039	Bolt; Hex head; 1/4-20 UNC	
all	4	15U180	WasherLock	
all	5	X2 21816	Machined part; Pulley key	
all	6	15N091	Bolt; Phillip pan head; 8/32UNC	
all	7	02 21817	Water ring	
AC	8	60C160DB	O-Ring; Buna-N	
BD	8	60C160DV	O-Ring; Viton	
AC	9	60C275	O-Ring; Buna-N	
BD	9	60C275V	O-Ring; Viton	
AC	10	24S148	Seal; Shaft; Nitrile	
BD	10	24S148V	Seal; Shaft; Viton	
all	11	54A986	Bearing; Taper roller; SKF	
all	12	54A987	Bearing; Taper roller; SKF	
all	13	X2 21802	Seal sleeve	
all	14	X2 21803	Machined part; Seal holder; Front	
all	15	X2 21804	Plate; Seal; Front	
all	16	02 21805	Seal holder; Rear	
all	17	02 21806	Grease shield; Front	
all	18	02 21807	Grease shield;Front	
all	19	02 21810	Gasket; Seal holder;Front	
all	20	02 21811	Gasket; Seal holder; Rear	
all	21	02 21812	Gasket; Seal	
AC	22	24S146	Seal; Shaft; Nitrile	
BD	22	24S146V	Seal; Shaft; Viton	
AC	23	24S114	Seal; Shaft; Nitrile	
BD	23	24S114V	Seal; Shaft; Viton	
AC	24	60C190	O-Ring; Buna-N	
BD	24	60C190D	O-Ring; Viton	
all	25	56AHN24	Bearing locknut	

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
all	26	56AHW124	Bearing lockwasher	
all	27	56ATW24	Bearing tongue washer	
all	28	15K112	Bolt; Hex head; 3/8-16X1+1/2	
all	29	15U260	Washer; Lock	
all	30	20C003A	Adhesive; L# 380; Black; Bonding; High strength	
all	31	53A031B	Hydraulic fitting; Compression fitting; 90 elbow; 1/4	
all	32	5N0C01KG42	Pipe; 1/8; 1.5; Galvanized steel; Threads, two ends	
all	33	53A005B	Hydraulic fitting; Connector; 1/4; male; 1/8; Compression fitting	
all	34	53A500	Hydraulic fitting; Sleeve; Delrin; 1/4	
all	35	53A501	Hydraulic fitting; Insert; Brass; 1/4	
all	36	53A059A	Hydraulic fitting; Tube-fitting nut; Brass; 1/4	
all	37	5SP0CFESSV	Pipe Fitting; Plug; Square head with vent; 1/8	
all	38	5SL0CBEA	Pipe Fitting; Elbow; 90 degree; Brass; 1/8	
all	39	5N0CCLSB42	Pipe; Close (threads only); Brass; 1/8	
all	40	54M029	Relief fitting; Alemite	
all	41	15K310	Bolt; Hex head; 1+1/4-12X4	Coarse thread. This part applies to machines made after 05/30/2008.
all	41	15K309	Bolt; Hex head; 1.25-7UNC X 4.0	Fine thread. This part applies to machines made through 05/30/2008.
all	42	15U600	Washer; Flat	
all	43	20C007G	Thread lock compound; Loctite 242	
all	44	15K255ZN	Bolt; Hex head; 8UNCX1.5	
all	45	15U393	Washer; Flat	
all	46	02 21818	Drip shield	
all	47	AIR58003	Air injection; Bearing housing	
all	48	53A007B	Hydraulic fitting; Connector; 1/4; female; 1/4; Compression fitting	
all	49	5SB0E0CBEO	Pipe Fitting; Hex Bushing Reducer; Brass; 1/4X1/8	
all	50	54M015	Grease fitting	
all	51	01 10025Y	Dataplate; Grease	
all	52	60E004TC	Tubing; Nylon; 1/4"	

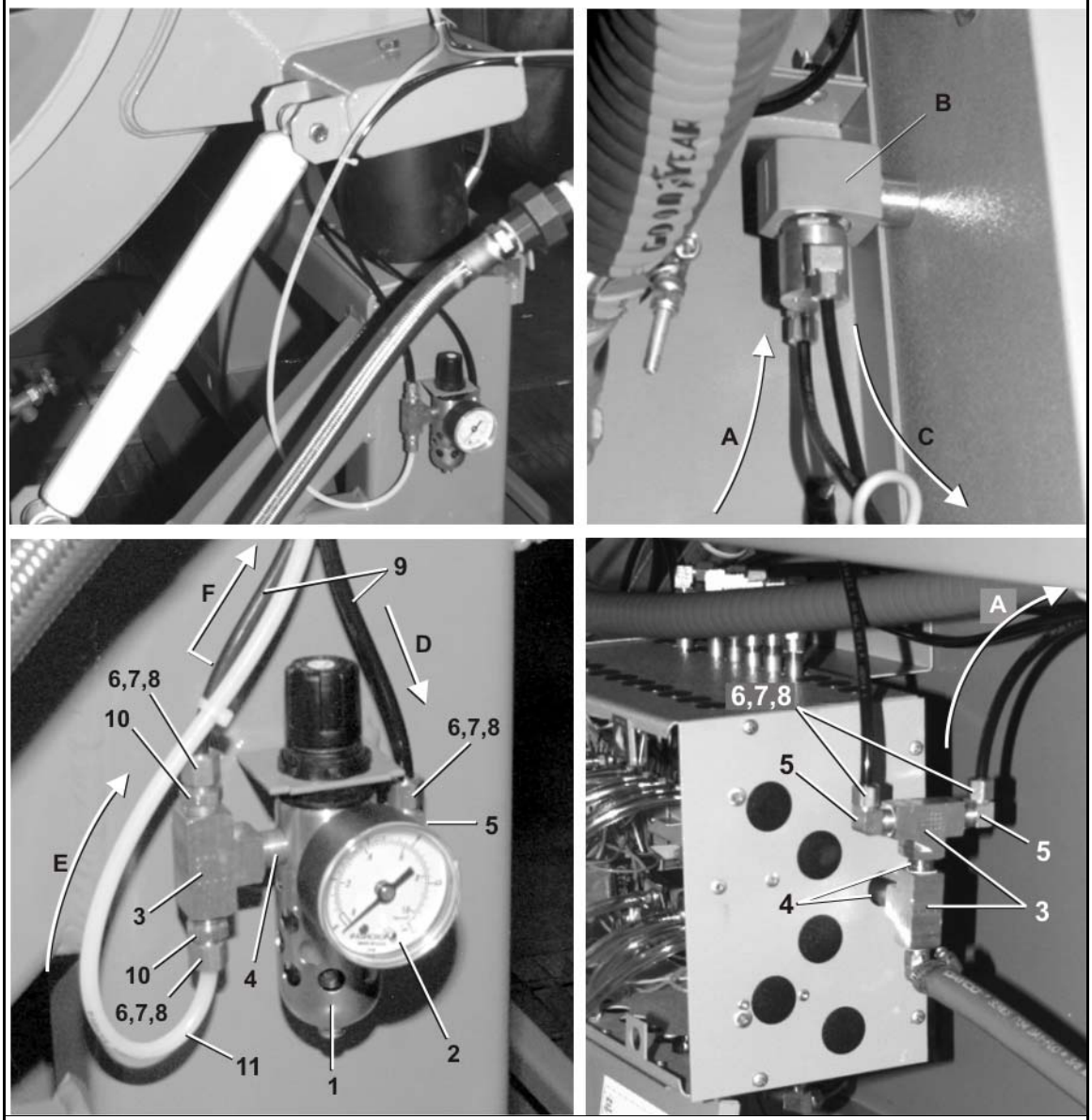
— End of BIIFLM08 —

BIIFLM09 (Published) Book specs- Dates: 20090428 / 20090428 / 20091217 Lang: ENG01 Applic: IFL

Air Injection Components

Figure 1: Air Injection Components

Detailed views



Legend

- **A.** Compressed air to the bearing seal coil
- **B.** Bearing seal coil
- **C.** Compressed air to the pressure regulator
- **D.** Compressed air from the bearing seal coil
- **E.** Compressed air to the bearing
- **F.** Compressed air to the bearing pressure switch

Figure 2: Air Flow in the Bearing Housing

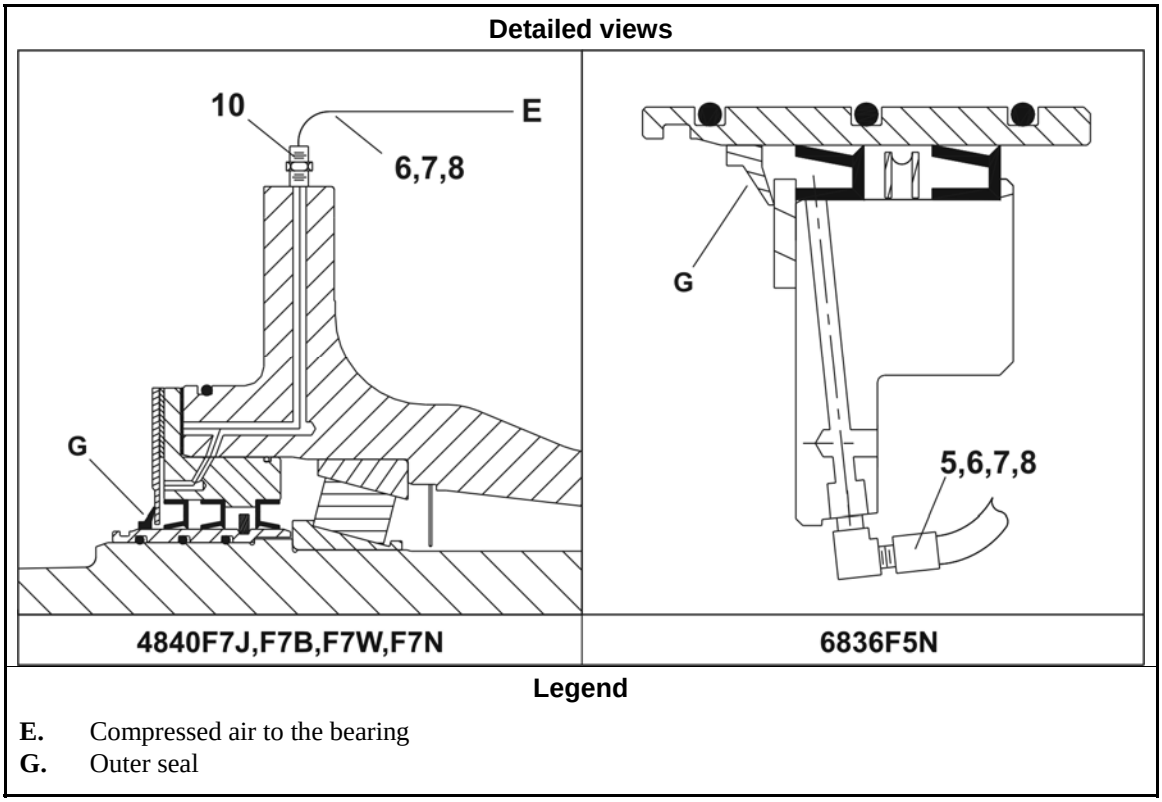


Table 1: Parts List—Air Injection Components

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
Assemblies				
	A	AIR58003	Assembly; Air injection	
Components				
all	1	96J019G	Filter Regulator; 1/4"; 0-60PSI	
all	2	30N095	Pressure Gauge; 1/8"; 0-15PSI	
all	3	51V015	Pipe Fitting; Tee; 1/4 ; Brass	
all	4	5N0ECLSBE2	Pipe; 1/4; Close (threads only); Brass	
all	5	53A031B	Hydraulic fitting; Elbow 90 degrees; 1/4; 1/8	
all	6	53A059A	Hydraulic fitting; Tube fitting nut; 1/4	
all	7	53A500	Hydraulic fitting; Sleeve; 1/4; Brass	
all	8	53A501	Hydraulic fitting; Insert; 1/4; Brass	
all	9	60E004TE	Tubing; Round; 0.25; NYLON	
all	10	53A005B	Hydraulic fitting; Hose end straight connector; 1/4	
all	11	60E004TC	Tubing; Round; 0.25; NYLON	

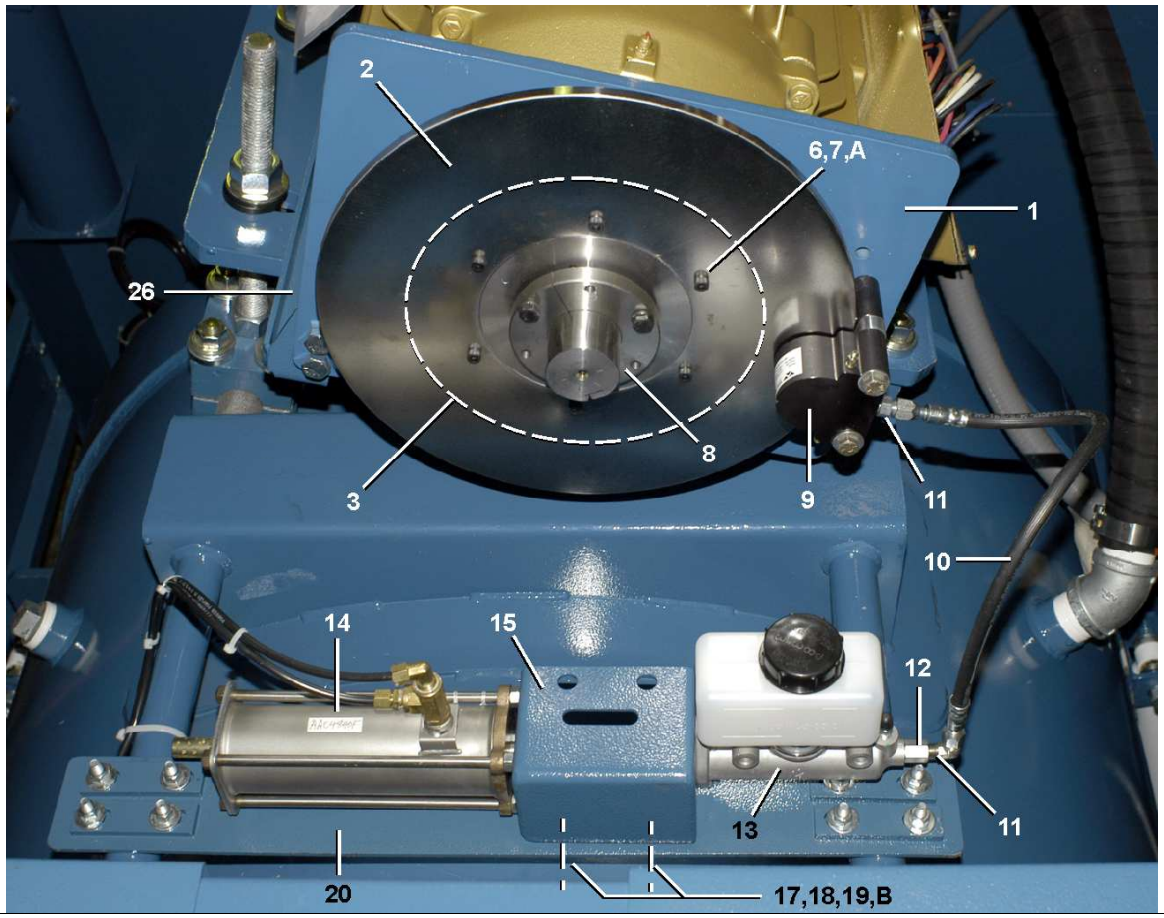
— End of BIIFLM09 —

BIIFLM10 (Published) Book specs- Dates: 20130815 / 20130815 / 20130815 Lang: ENG01 Applic: IFL IH4

Brake Components and Installation

Figure 1: Brake Components

General View: 48040F7_, 48040H7_, MXS4232_

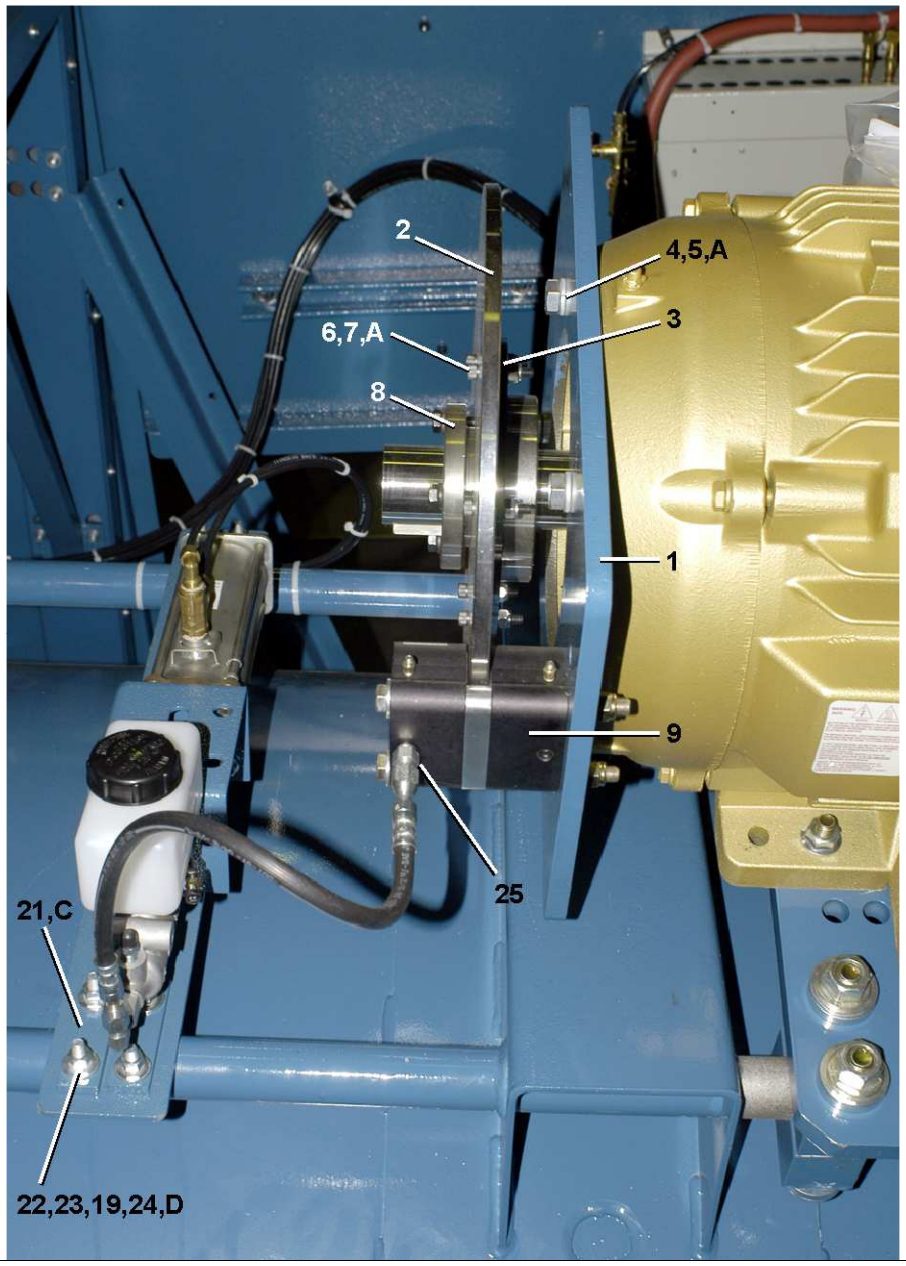


Legend

A. 6 instances
B. 2 instances

Figure 2: Brake Components

General View



Legend

A. 6 instances
C. 4 instances
D. 8 instances

Table 1: Parts List—Brake Components

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**
Assemblies				
	A	ABR4840F	Installation Group; Disk brake	
Components				
all	1	X2 21858	Mounting plate	
all	2	X2 21866	Disk	
all	3	X2 21867	Hub	
all	4	15K151	Bolt; Hex head; 1/2-13UNC24X1.25	
all	5	15U300	Washer; Lock; 1/2	
all	6	15K041B	Bolt; Socket; 1/4-20X1"	
all	7	15G166A	Nut; Nylon lock; 1/4	
all	8	56Q1RSK	Bushing	
all	9	54KC7974	Caliper	
all	10	54KC7961BG	Brake hose; 1/8" x 18"	
all	11	52AY0ER003	Hydraulic fitting; Adapters; 1/4"MJICX1/8"	
all	12	52XY0ER004	Hydraulic fitting; Adapters; 3/16MJX1/8FP	
all	13	54KMC1125U	Master cylinder	
all	14	AAC4840F	Air cylinder	
all	15	W3 65238	Mounting bracket	
all	16	02 21943	Spacer	
all	17	15K095	Bolt; Hex head; 3/8-16UNC2AX1	
all	18	15U255	Washer; Lock; 3/8	
all	19	15G205	Nut; Hex; 3/8	
all	20	02 22417	Mounting plate	
all	21	02 10539	Spacer	
all	22	27A031C	U-bolt; 5/16-18X1.25	
all	23	15U240	Washer; Flat; 3/8"	
all	24	15U260	Washer; Lock; 3/8	
all	25	54KC7961BSEAL	Seal	
all	26	02 21859C	Torque arm	

— End of BIIFLM10 —

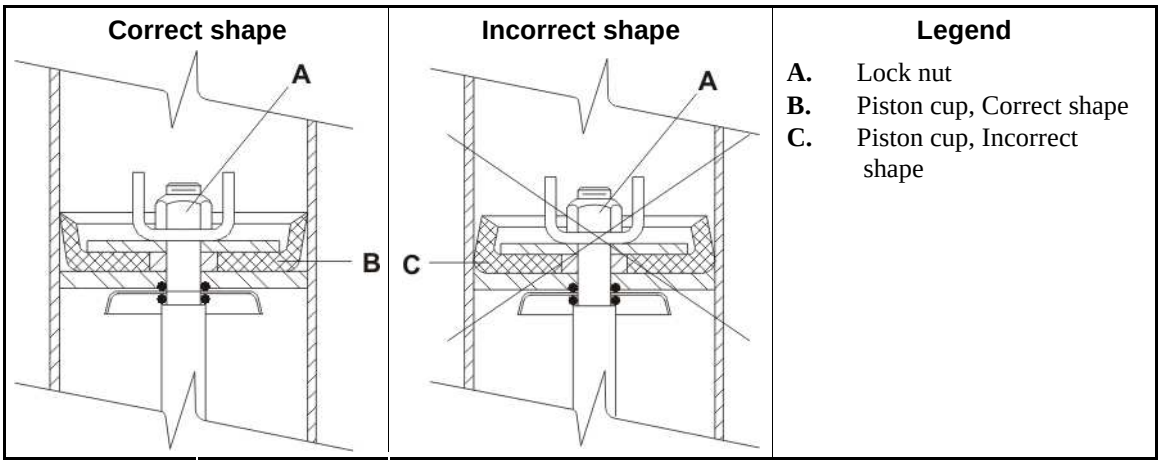
BIIFLM11 (Published) Book specs- Dates: 20140324 / 20140324 / 20140324 Lang: ENG01 Applic: IFL IH4

Air Cylinder Components and Installation

1. How To Get the Correct Piston Cup Shape

The figure that follows shows the correct shape and the incorrect shape of the piston cup. Tighten the locknut only until you can turn the piston cup and the washer on the stem with some resistance. If you tighten the locknut too much, this will cause the incorrect shape. This can stop air cylinder movement.

Figure 1: Compare Piston Cup Shapes



2. Air Cylinder Components

Figure 2: Air cylinder

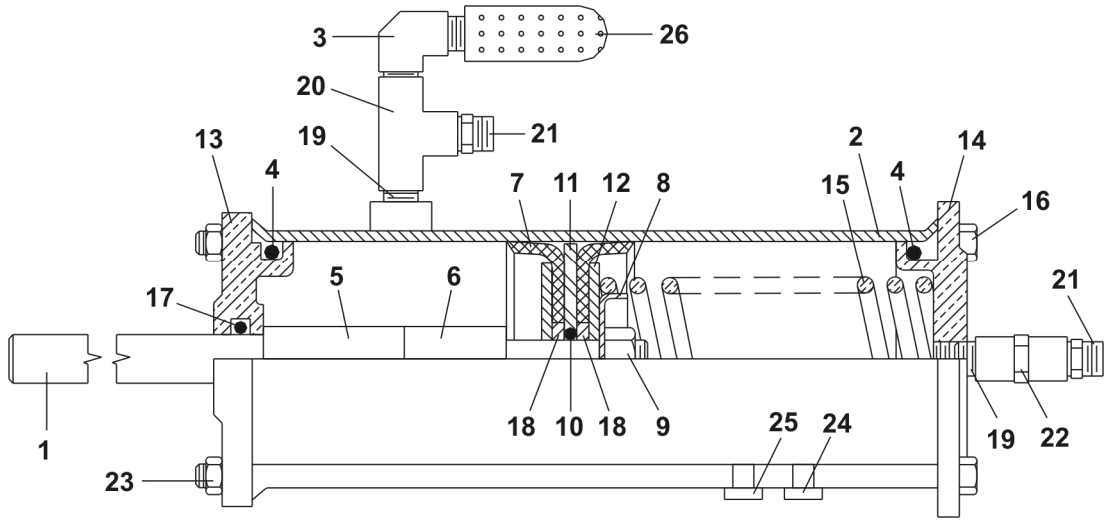


Table 1: Parts List—Air Cylinder Components

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
			Assemblies	
	A	AAC4840F	Assembly; Air cylinder; Two direction operation; Brake;	4840F_, 4840H_ 68036H_
			Components	
all	1	02 18650B	Stem; Air cylinder; Two direction operation; Brake; 7.88L	
all	2	W2 18646	Air cylinder; Two direction operation; Brake	
all	3	53A031XB	Hydraulic fitting; Elbow 90 degrees; 1/4	
all	4	60C132	O-Ring; #329; 2"; 3/16"; Buna-N; 70	
all	5	27B250	Spacer; Rolled; 0.5; .521; 0.636 X 1.5	
all	6	27B34010SS	Spacer; Rolled; 0.5; 0.51; 0.625; 0.062	
all	7	02 02194	Piston cup; Air cylinder; 2+3/8"	
all	8	02 18651	Washer; Flat; 3/8; 1.63 X 0.14	
all	9	15G220	Nut; Nylon insert lock; 8; 24	
all	10	60C106	O-Ring; #011;5/16"; 1/16"; Buna-N; 70	
all	11	02 02105B	Washer; Piston cup; Brass; 2.38"	
all	12	02 02085	Washer; Back-up; Piston cup; 2"OD	
all	13	06 20702E	Cylinder head; Stem side	
all	14	02 02101	Cylinder head; Spring side	
all	15	02 21865	Spring; Air cylinder; Two direction operation; Brake	
all	16	W6 20702F	Rod; Air cylinder; Two direction operation; Brake	
all	17	60C110	O-Ring; #011; 1/2"; 3/32"; Buna-N; 70	
all	18	02 02185	Washer; Flat; 3/8; 0.75 X 0.12	
all	19	5N0ECLSBE2	Pipe; 1/4; Close (threads only); Brass	
all	20	51V015	Pipe Fitting; Tee; 1/4	
all	21	53A008B	Hydraulic fitting; Hose end straight connector; 1/4	
all	22	5SCC0EBE	Pipe FittingCoupling; 1/4;	
all	23	15G185	Nut; Hex; 5/16; 18	
all	24	20L601F	Identification tag; "F"	
all	25	20L601X	Identification tag; "X"	
all	26	27A005A	Muffler; 1/4"	

— End of BIIFLM11 —

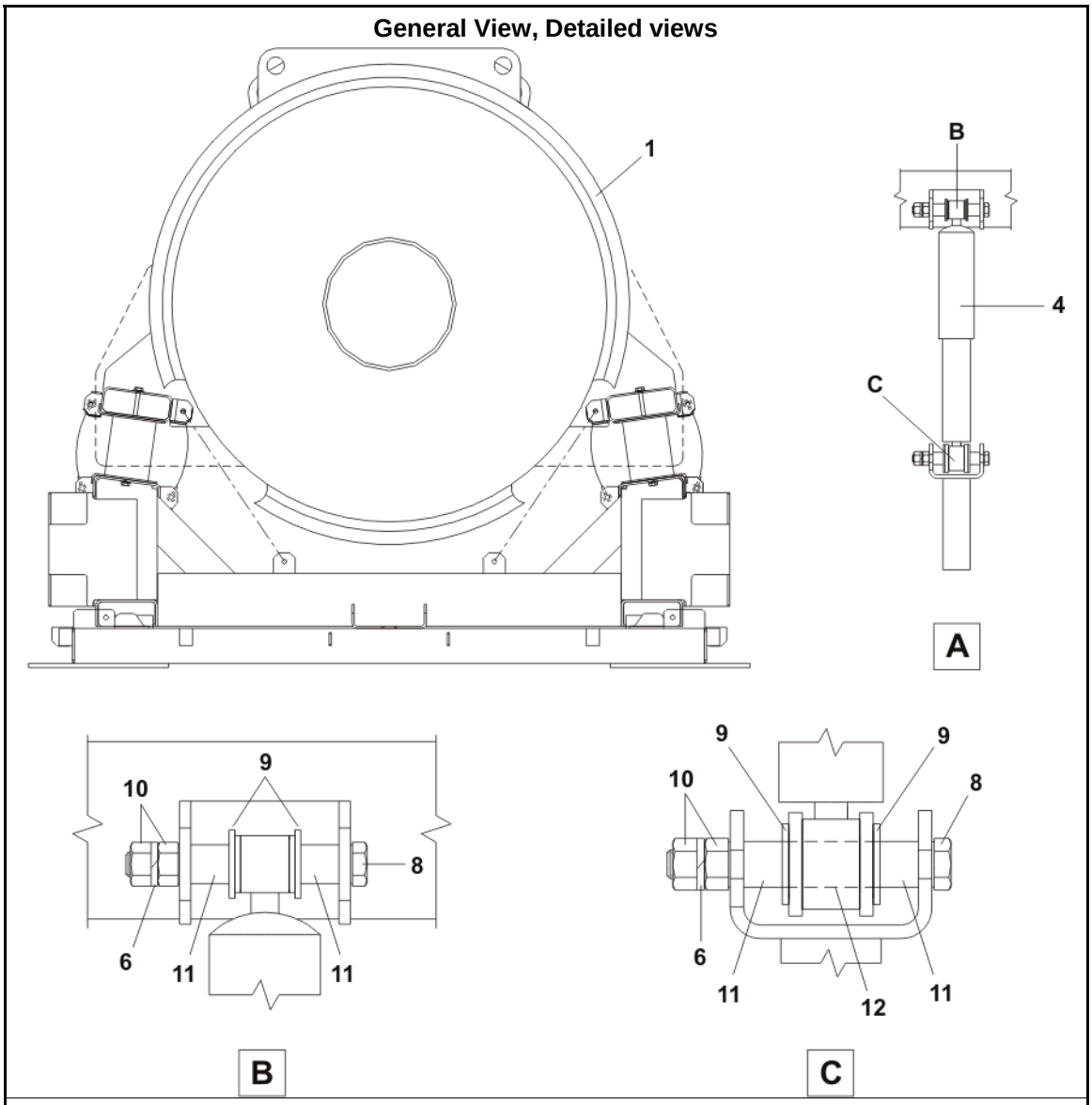
2

Suspension 2.2

BIIFLM12 (Published) Book specs- Dates: 20090319 / 20090917 / 20090917 Lang: ENG01 Applic: IFL

Suspension Components and Installation

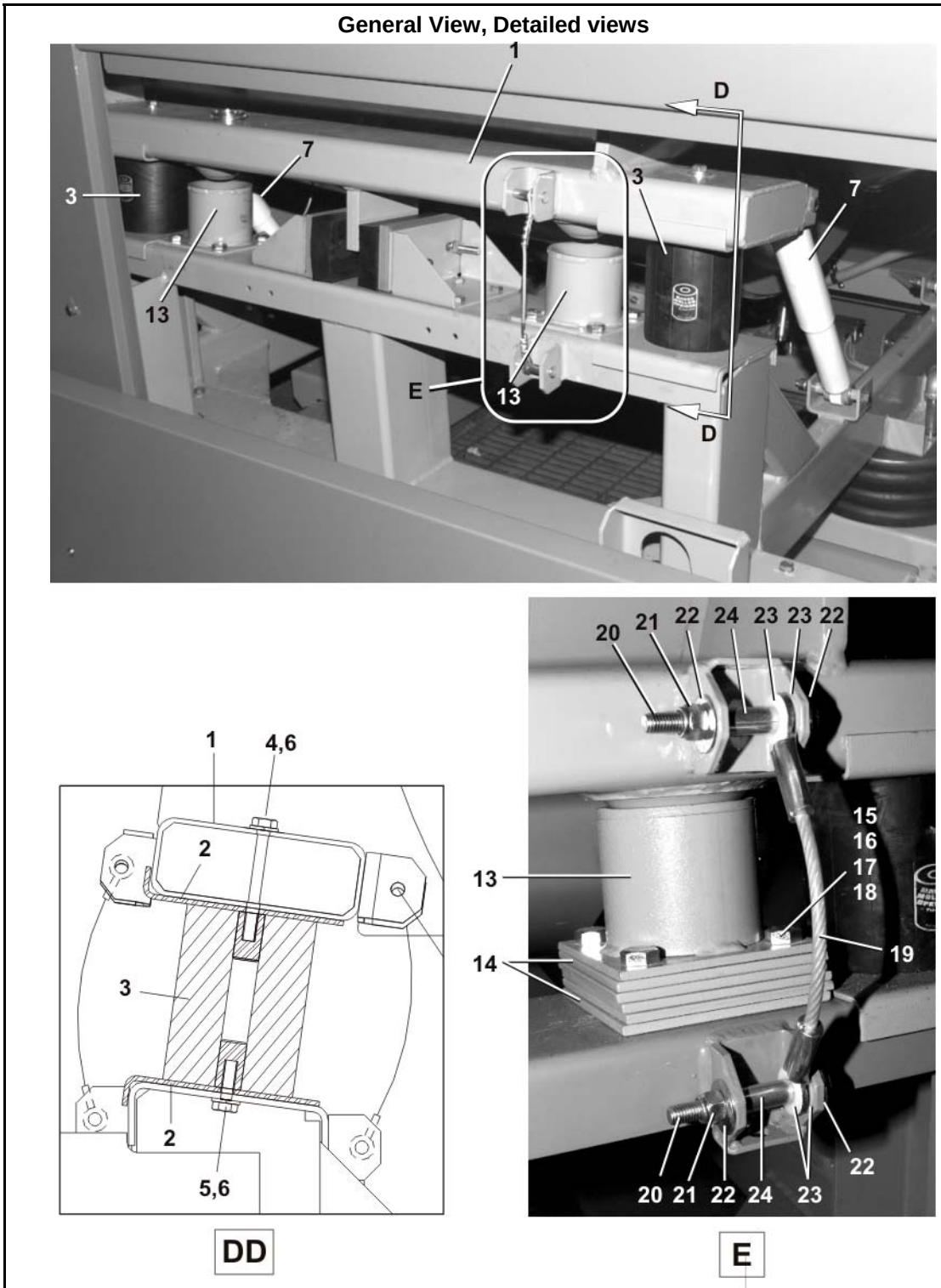
Figure 1: Shock Absorbers



Legend

A. Shock absorber, 4 instances
B. Connection between the shock absorber and the shell
C. Connection between the shock absorber and the bottom frame

Figure 2: Rubber Springs, Holddown Rings, and Cables



Legend

DD. Cross Section View, Rubber spring, 4 instances
E. Holddown ring, Cable assembly, 4 instances

Table 1: Parts List—Suspension Components and Installation

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**
Assemblies				
	A	GSS4840F	Installation Group; Shell and suspension; 48040F_	
Components				
all	1	W2 21825	Weldment; Shell; 48040F_	
all	2	W2 21941	Weldment; Mounting plate; Rubber spring; 48040F_	
all	3	60B133	Rubber spring; 5X1X7	
all	4	15K201A	Bolt; Hex head; 1/2"-13X4"	
all	5	15K154A	Bolt; Hex head; 1/2-13X1.5	
all	6	15U300	Washer; Lock; 1/2	
all	7	60BS6832	Shock absorber	
all	8	15K202	Bolt; Hex head; 1/2-13	
all	9	15U280	Washer; Flat; 1/2	
all	10	15G230	Nut; Hex; 1/2-13	
all	11	05 20190	Mounting spacer; Shock absorber	
all	12	05 20187A	Mounting stud; Shock absorber	
all	13	W3 25161A	Weldment; Plate; Holddown ring	
all	14	03 06406C	Plate; Holddown ring	
all	15	15K226F	Bolt; Hex head; 5/8-11	
all	16	15U314	Washer; Flat; 5/8"	
all	17	15U315	Washer; Lock; 5/8	
all	18	15G238	Nut; Hex; 5/8-11	
all	19	27A969	Cable assembly	
all	20	15K201A	Bolt; Hex head; 1/2"-13X4"	
all	21	15G234N	Nut; Nylon lock; 1/2-13	
all	22	15U280	Washer; Flat; 1/2	
all	23	15U348A	Washer; Flat; 1+1/4"	
all	24	27B250	Spacer; Rolled; 0.5 .521; 0.636 X 1.5	

— End of BIIFLM12 —

Excursion Switch (Unwanted Movement Switch) Components and Installation

Figure 1: Excursion Switch (Unwanted Movement Switch) Components and Installation

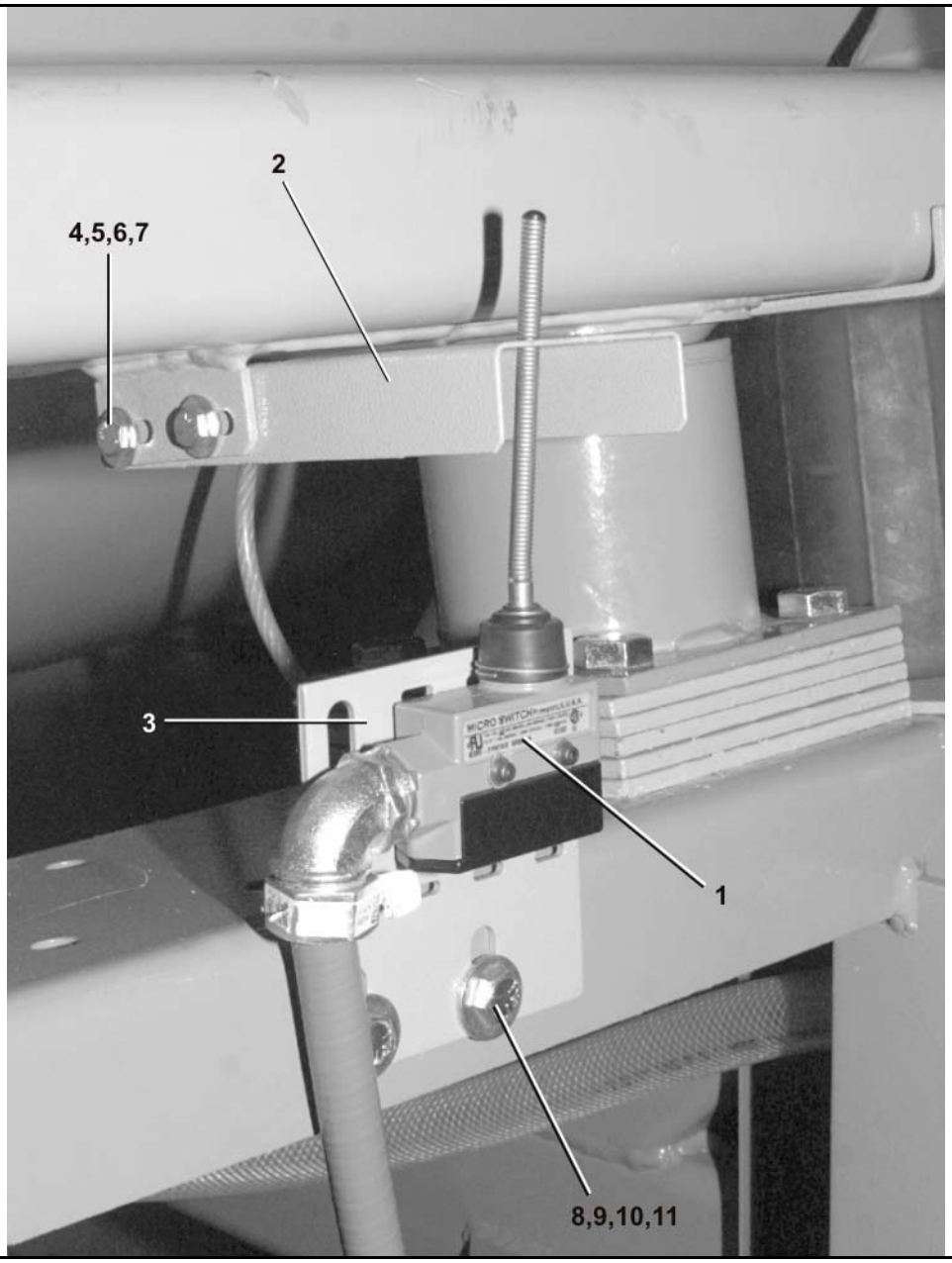


Table 1: Parts List—Excursion Switch (Unwanted Movement Switch) Components and Installation

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
			Assemblies	
	A	GES48001	Installation Group; Excursion switch; 48040F_	
			Components	
all	1	09R008ASTD	Excursion switch and Mounting components	
all	2	02 15783A	Mounting plate; Excursion switch	
all	3	02 21869	Target plate; Excursion switch; 48040F_	
all	4	15K030	Bolt; Hex head; 1/4-20	
all	5	15U185	Washer; Flat; 1/4"	
all	6	15G177	Nut; Hex; 1/4-28	
all	7	15U180	Washer; Lock; 1/4	
all	8	15K085	Bolt; Hex head; 3/8-16	
all	9	15G205	Nut; Hex; 3/8-16	
all	10	15U240	Washer; Flat; 3/8"	
all	11	15U255	Washer; Lock; 3/8	

— End of BIIFLM13 —

2

Tilt Assemblies 2.3

Installation Frame & Pivots

48040F7N,F7B

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

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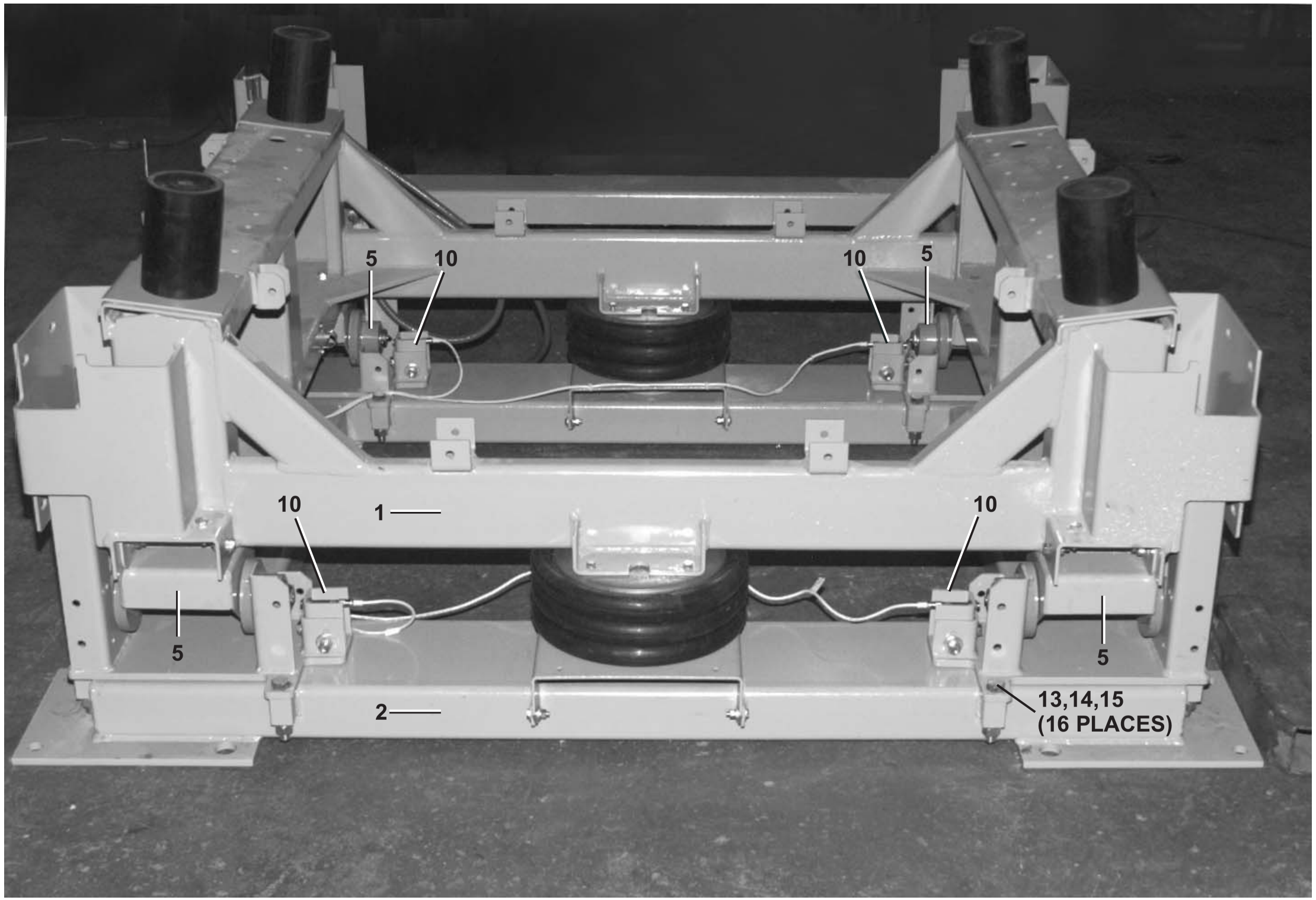
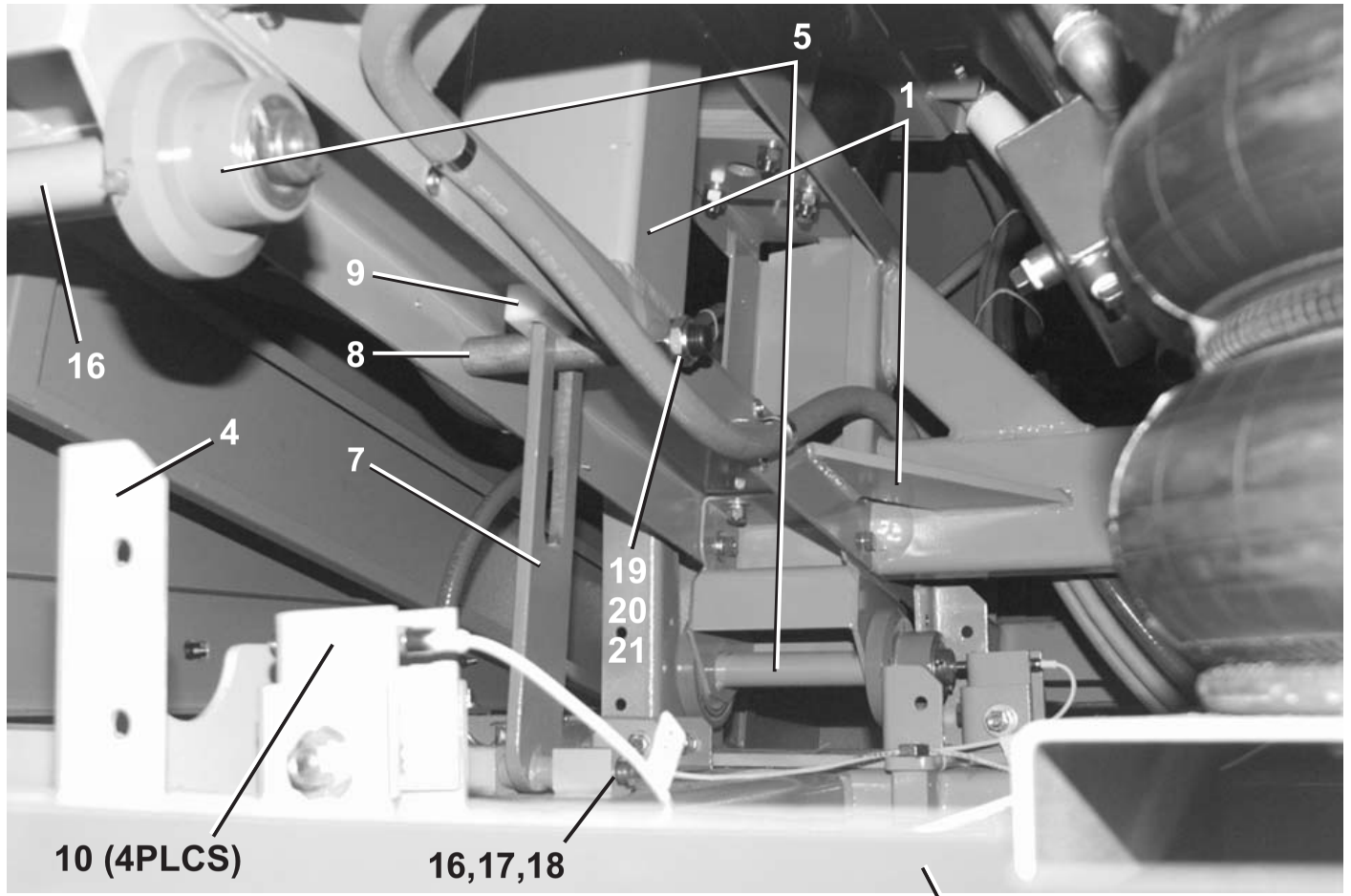


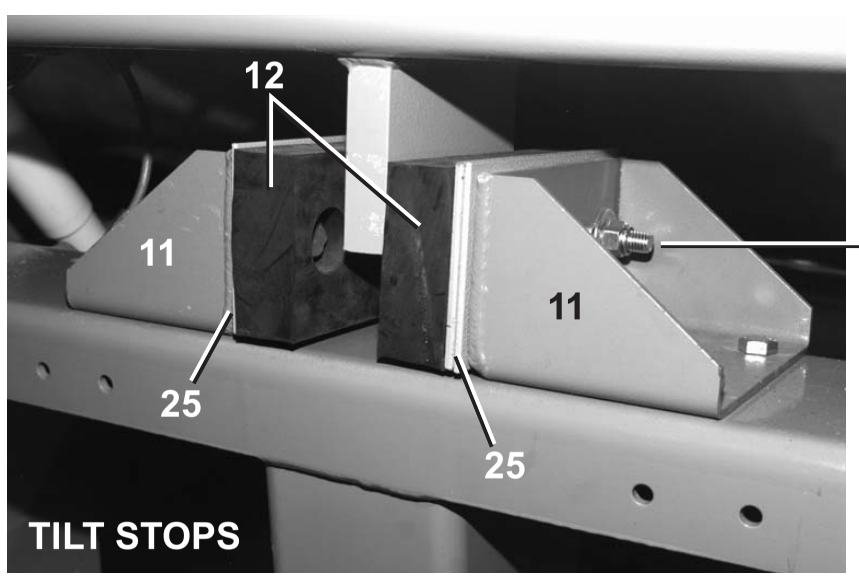
Installation Frame & Pivots

48040F7N,F7B

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

Litho in U.S.A.

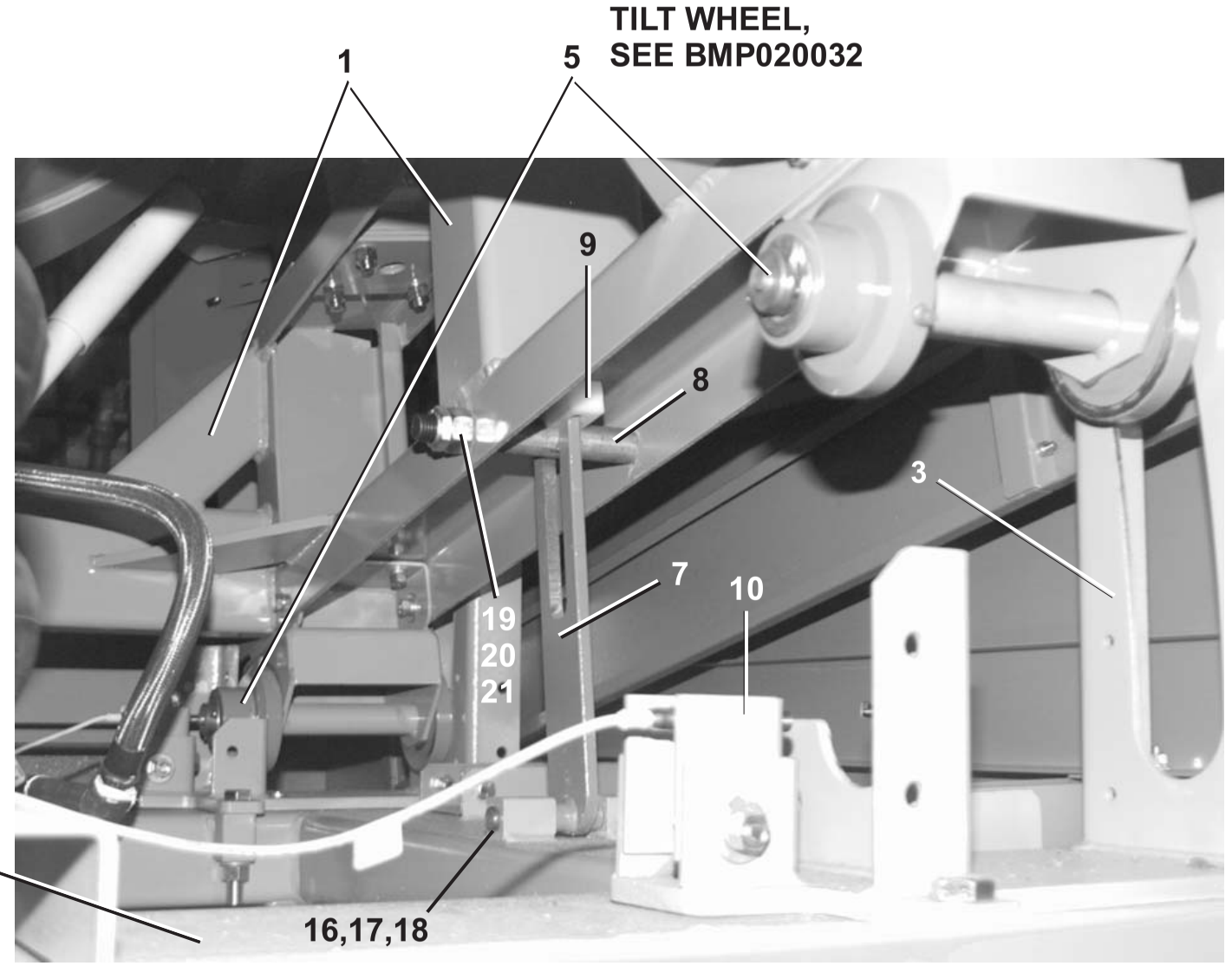




22
23
24
(8 PLACES)

2

TILT WHEEL,
SEE BMP020032



111

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

Parts List—Frame & Pivots

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	GHF48002	INSTL=FRMS+PIVOTS 2-WAY,4840F	
			----------COMPONENTS----------	
all	1	W2 21935	WLMT=MID FRAME, 4840F	
all	2	W2 22000A	WLMT=BASE FRAME, 4840F	
all	3	W2 21955L	WLMT=TILT CRADLE-L, 4840F	
all	4	W2 21955R	WLMT=TILT CRADLE-R, 4840F	
all	5	A48 21944	TILT WHEEL ASSEMBLY, 4840F	
all	7	W2 22025	WLMT=TILT STOP 12 DEG, 4840F	
all	8	02 22027	PIPE=TILT STOP PIN, 4840F	
all	9	X2 22028	MACH=TLT GUIDE STP BLCK,4840F	
all	10	02 21943	BRKT=ADJUST PROX SWT, 4840F	
all	11	02 21947	REST PAD MOUNT BRKT, 4840F7	
all	12	03 64681	RESTPAD=SHELL STOP FRONT64TN	
all	13	15K250	HXCAPSCR 3/4-10UNC2AX4 GR5 ZIN	
all	14	15U340	LOCKWASH MEDIUM 3/4 ZINCPL	
all	15	15G240	HXNUT 3/4-10UNC2B SAE ZINC GR2	
all	16	X2 22029	MACH=TLT GUIDE PIVOT, 4840F	
all	17	17B062	EXTRETRING S/S INDUST#3100-75-	
all	18	15H060	STDCOTTERPIN 3/16X2 ZINCPL	
all	19	15K301	HXCAPSCR 1-8 X 9 GRADE 5	
all	20	15G250	HXNUT 1-8UNC2B SAE ZNC GR2	
all	21	15G248A	HXTHINJAMLOCKNUT 1-8UNC CS ZNC	
all	22	15K162	HXCAPSCR 1/2-13UNC2AX1.5 GR5 P	
all	23	15G234	LOKNUT 1/2-13NC CAD FLXLOC#21F	
All	24	15U280	FL+WASHER(USS STD)1/2 ZNC PL+D	
all	25A	03 64681A	REST PAD:10GA SPACER	
all	25B	03 64681B	REST PAD :7GA SPACER	
all	25C	03 64681C	REST PAD :1/4"SPACER	
all	25D	03 64681D	REST PAD :3/8"SPACER	
all	25E	03 64681E	REST PAD :½"SPACER	

Air Tilt

48040F7N,F7B

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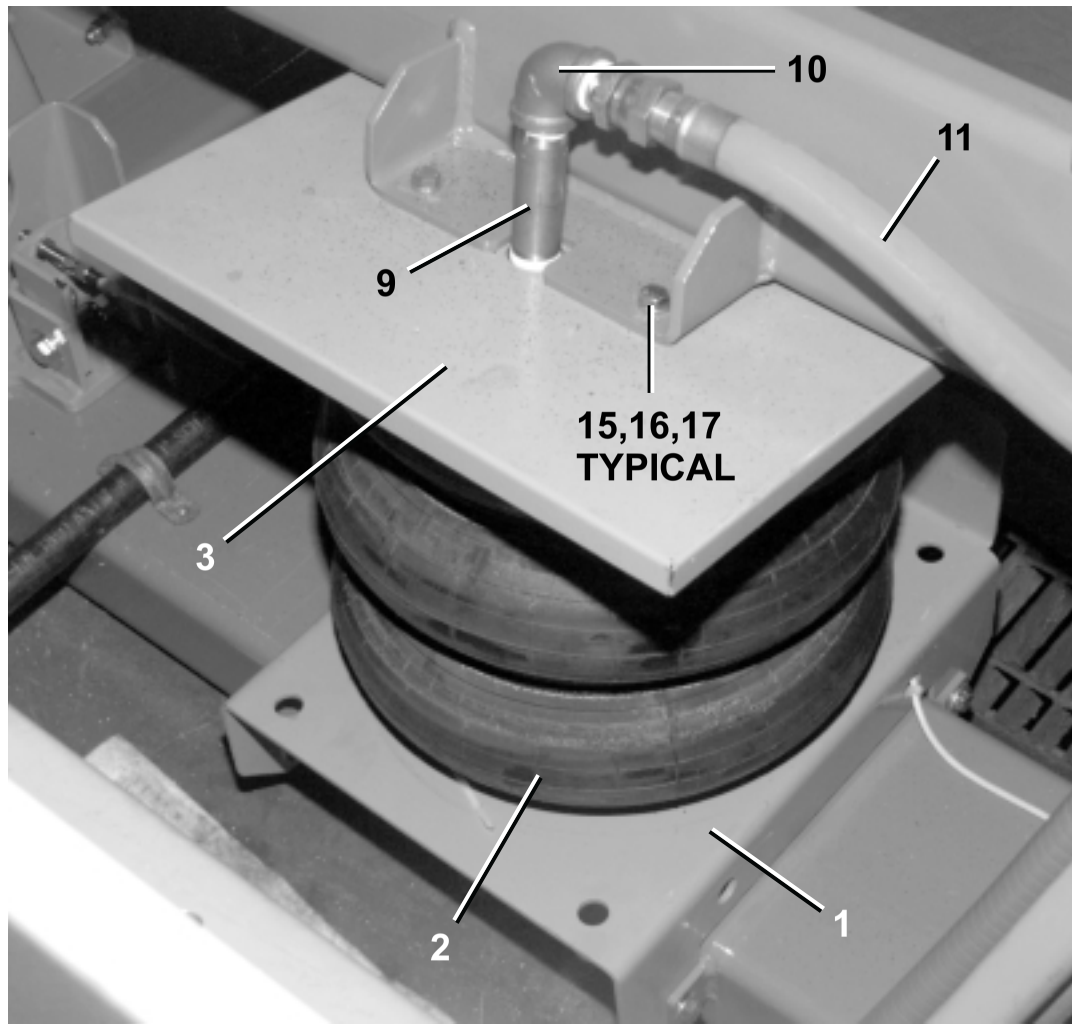
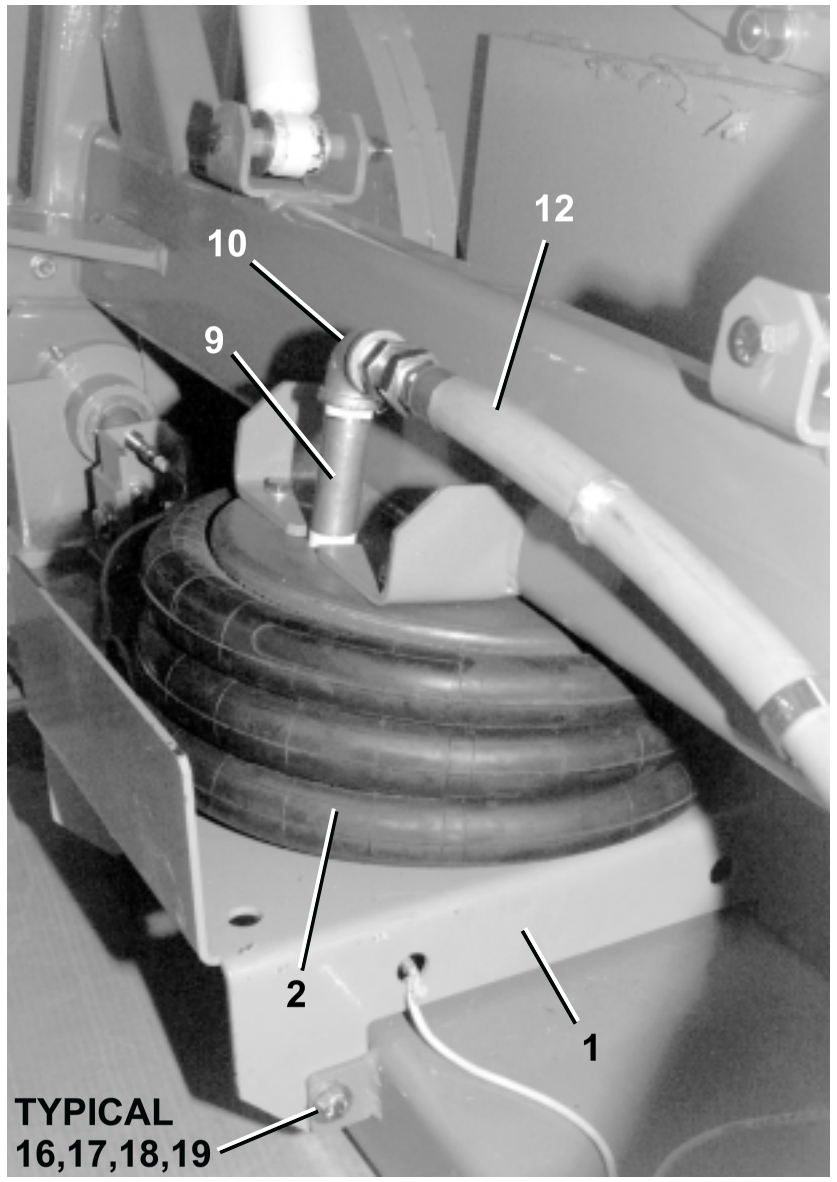
TILT FORWARD AIRBAG





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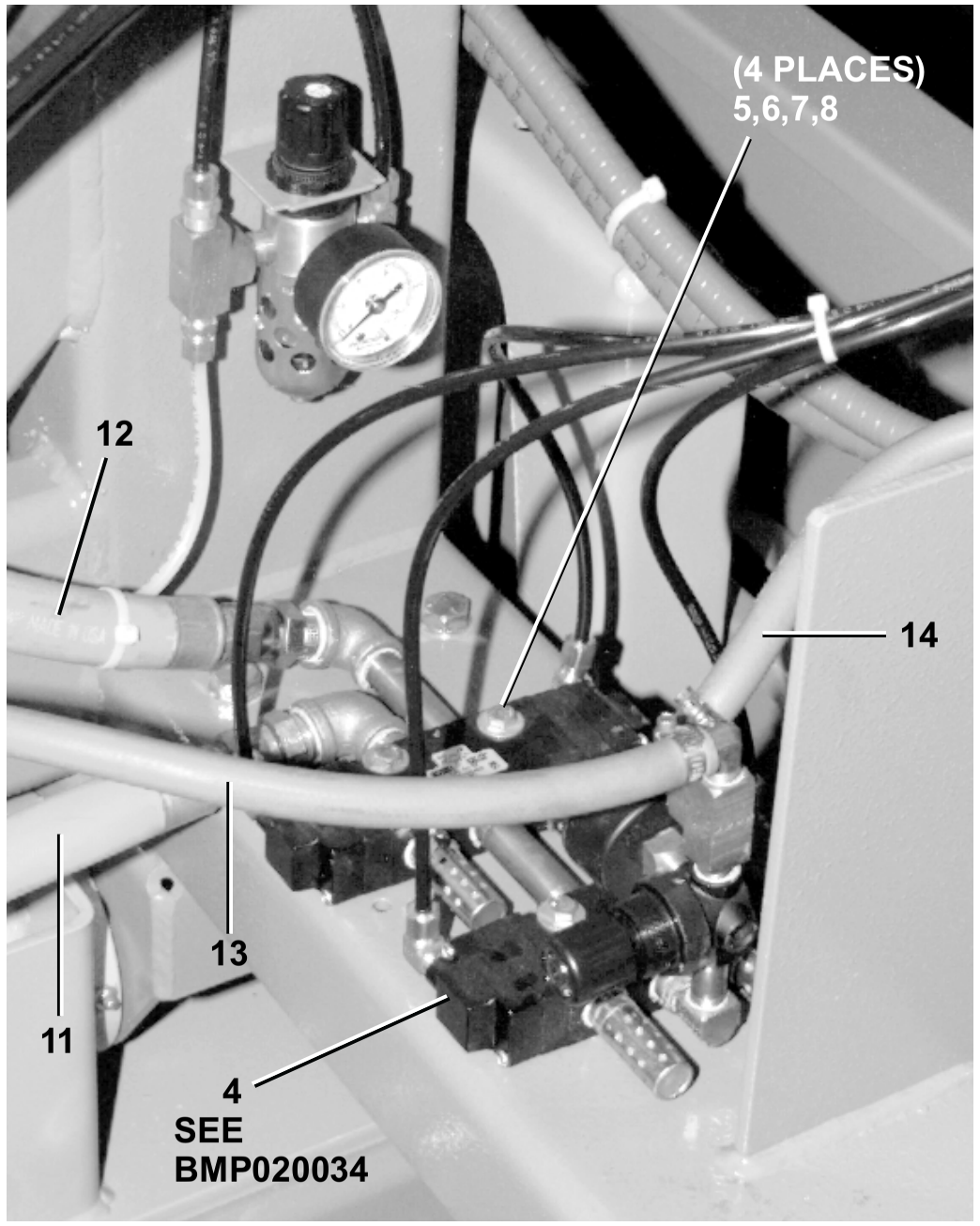

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Parts List—Air Tilt

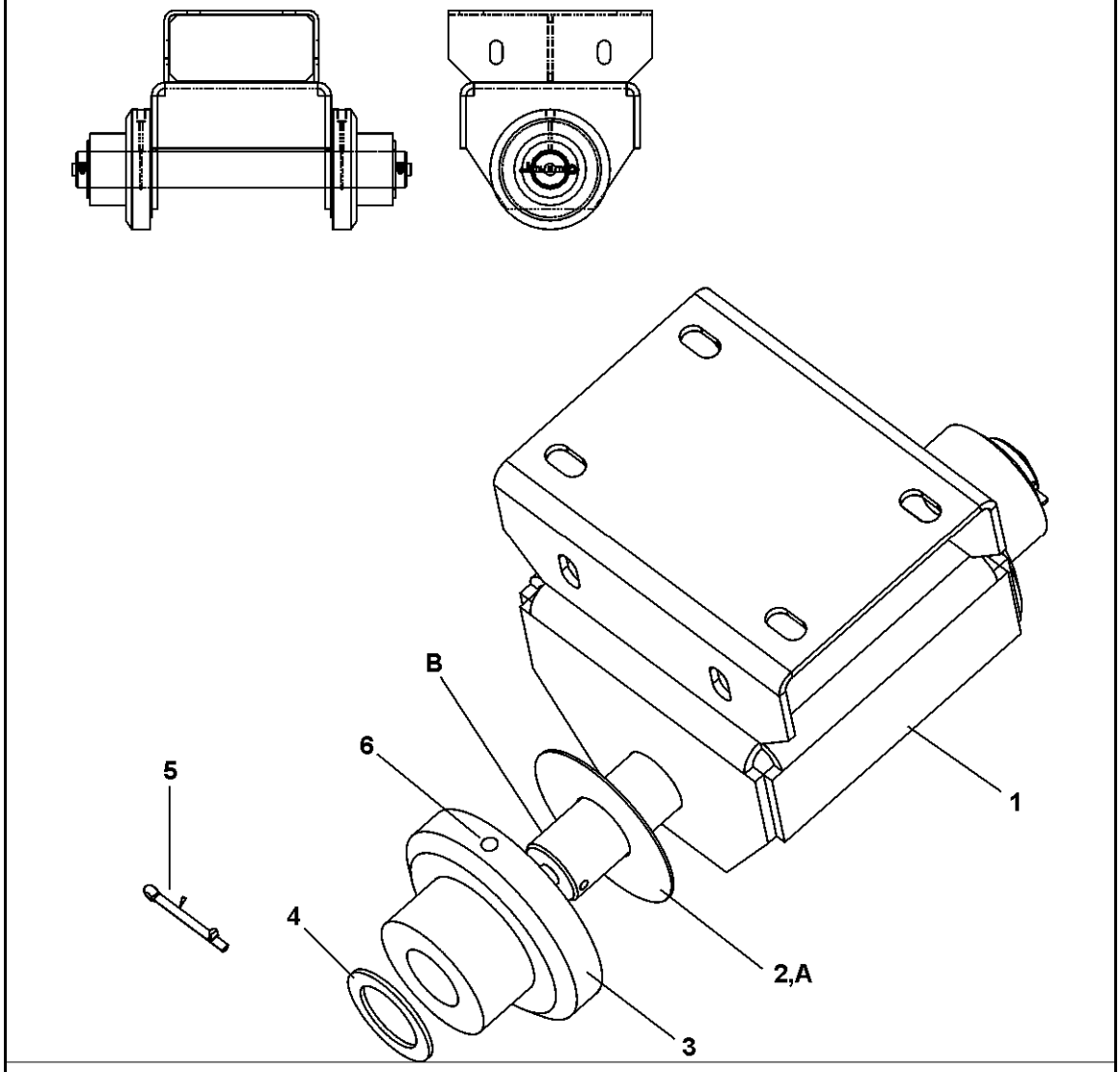
Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	GAT4840F	INSTL=AIR TILT, 2-WAY, 4840F	
			----------COMPONENTS----------	
all	1	W2 21962	WLMT=ACTUATOR MNT, 4840F	
all	2	60B132	AIRMT S-333 3CONV F#W013587842	
all	3	02 21964	AIRBAG GREASE SHLD, 4840F	
all	4	AVA4840B	ASSY=AIR VLVS C-BLK TLT,4840F	
all	5	15K046	HXCAPSCR 1/4-20 UNC2A X 2"GR5	
all	6	15U185	FLATWASHER(USS STD) 1/4" ZNC P	
all	7	15U180	LOCKWASHER MEDIUM 1/4 ZINCPL	
all	8	15G165	HXNUT 1/4-20UNC2BSAE ZC GR2	
all	9	5N0P04AB42	NPT NIPPLE 3/4X4 TBE BRASS STD	
all	10	5SL0PBEA	NPTELB 90DEG 3/4 BRASS 125#	
all	11	60E086E24K	HOSE ASSY=3/4X24.5L END3/4X1/2	
all	12	60E086E80A	HOSE ASSY=3/4"X80"LG+1/2X3/4	
all	13	60E077A064	HOSE ASSY=3/8"X64"LG+1END	
all	14	60E077	HOSE AIR-WATER 3/8"#7134-381	
all	15	15K095	HXCPSCR 3/8-16UNC2AX1 GR5 ZINC	
all	16	15K250	HXCAPSCR 3/4-10UNC2AX4 GR5 ZIN	
all	17	15G205	HXNUT 3/8-16UNC2B ZINC GR2	
all	18	15K110	HEXCAPSCR 3/8-16UNC2AX1.5 GR5-	
all	19	15U240	FLATWASHER(USS STD) 3/8" ZNC P	

BIIFGM13 (Published) Book specs- Dates: 20100701 / 20100701 / 20100806 Lang: ENG01 Applic: IFG

Tilt Wheel Assembly

Figure 1: Tilt wheel assembly



Legend

A. Use the number necessary.
B. Before you install the wheel, apply grease to the shaft.

Table 1: Parts List—Tilt Wheel Assembly

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
Assemblies				
	A	A48 21944	Tilt wheel assembly	
Components				
all	1	W2 21944	Bracket	
all	2	03 64519	Shim	
all	3	X3 64513	Tilt wheel	
all	4	15U520	Washer, Flat, 2+3/8X1+41/64X12GA	
all	5	15H060	Pin	
all	6	54M021	Grease fitting	

— End of BIIFGM13 —

2

Door Assemblies 2.4

Hydraulic Schematic

48040F7J,F7N,F7B,F7W

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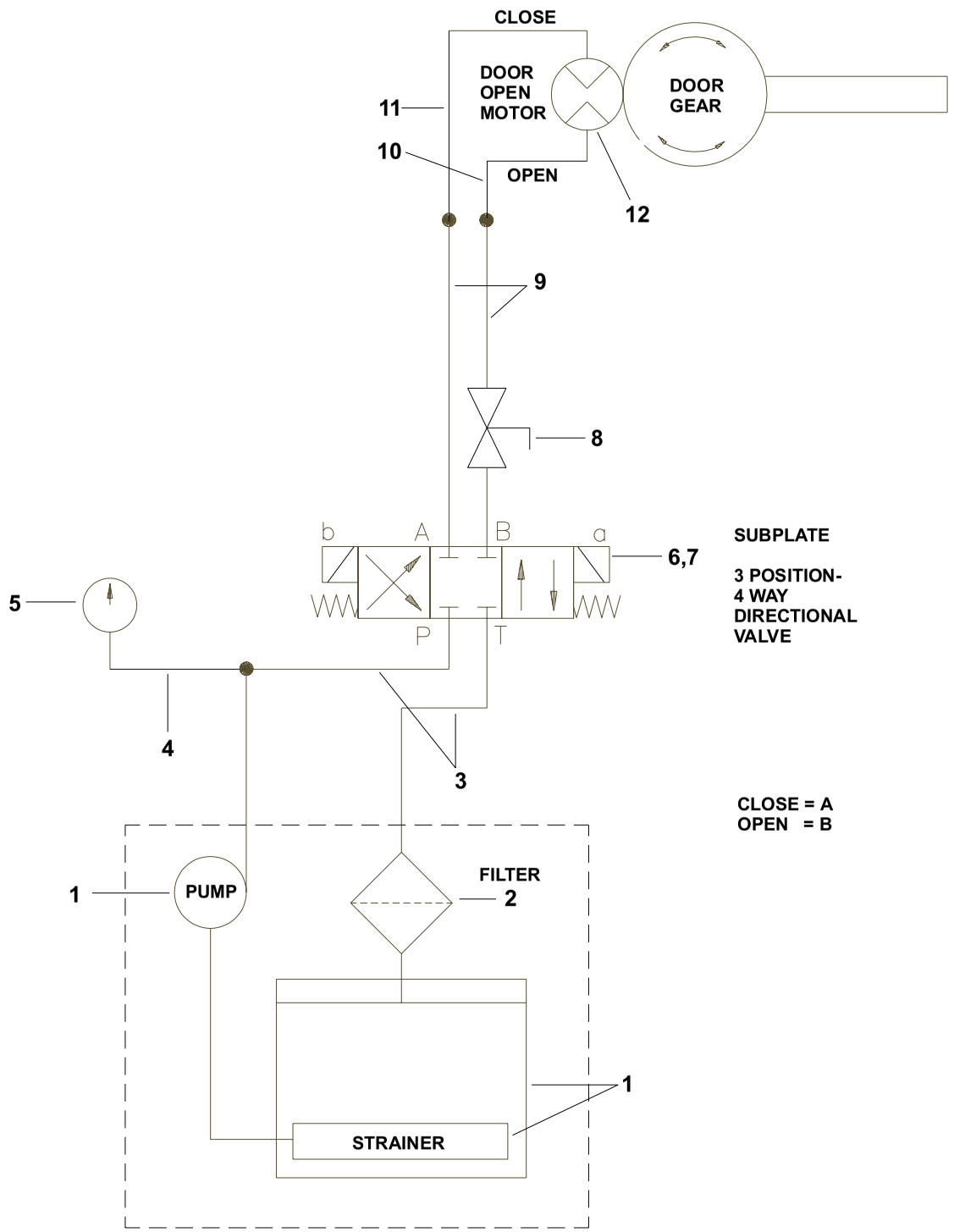

Parts List—Hydraulic Schematic

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

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
			none	
			----------COMPONENTS----------	
all	1	27E5400A74	HYPWRUNT3GPM@900P200/480V3P60	
all	2	27E7110	HYD IN-LINE FILTER ARROW #9053	
all	3	60EH15C30A	HYD HOSE 3/16"+ENDS=30" LG	
all	4	60EH15C91A	*HYD HOSE 3/16"+ENDS=91"	
all	5	30N125G	GAUGE 0-2000PSI\BAR 1\4 BACK	
all	6	96RH706A01	PARKER SUBPLATE#SPD23N35	
all	7	96RH706E71	VLVPARKER 220V50/240V60 7GPM	
all	8	96JH200	NEEDLE VLV.1/4"DELTROL#NMF20SK	
all	9	60EH15C187	*HYD HOSE 3/16"+ENDS=187"	
all	10	60EH21C08S	ASSY=HYD HOSE 1/4"X8" SHORT	
all	11	60EH21C10L	ASSY=HYD HOSE 1/4"X10" LONG	
all	12	27E320025	TDRQMOTOR- HYRAULIC	

Hydraulic Door Installation

48040F7J,F7B,F7W,F7N 4840H7N,H7W

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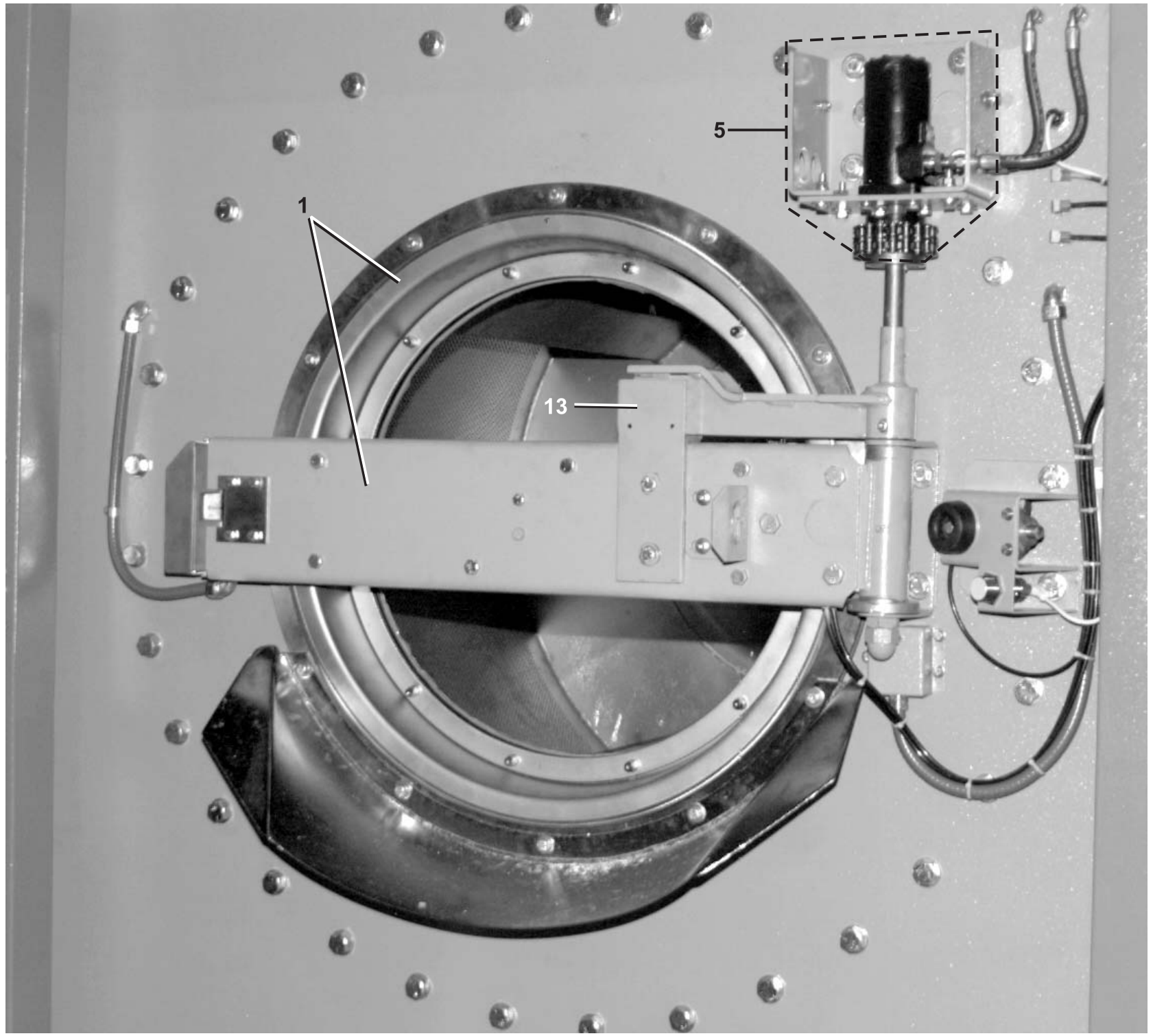

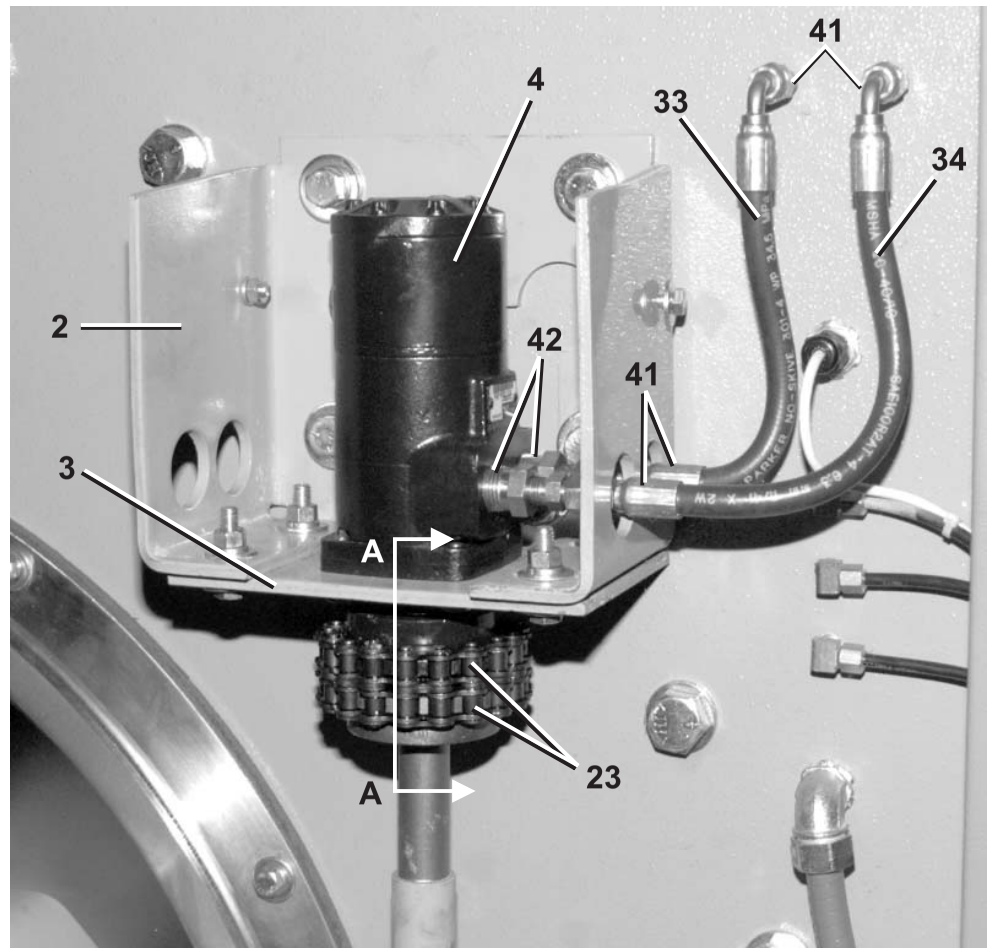

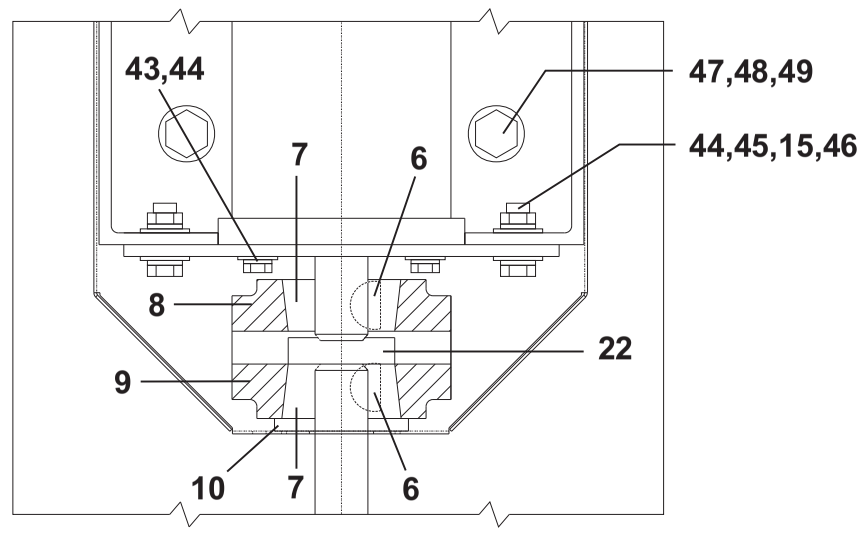

VIEW A-A

Hydraulic Door Installation

48040F7J,F7B,F7W,F7N 4840H7N,H7W

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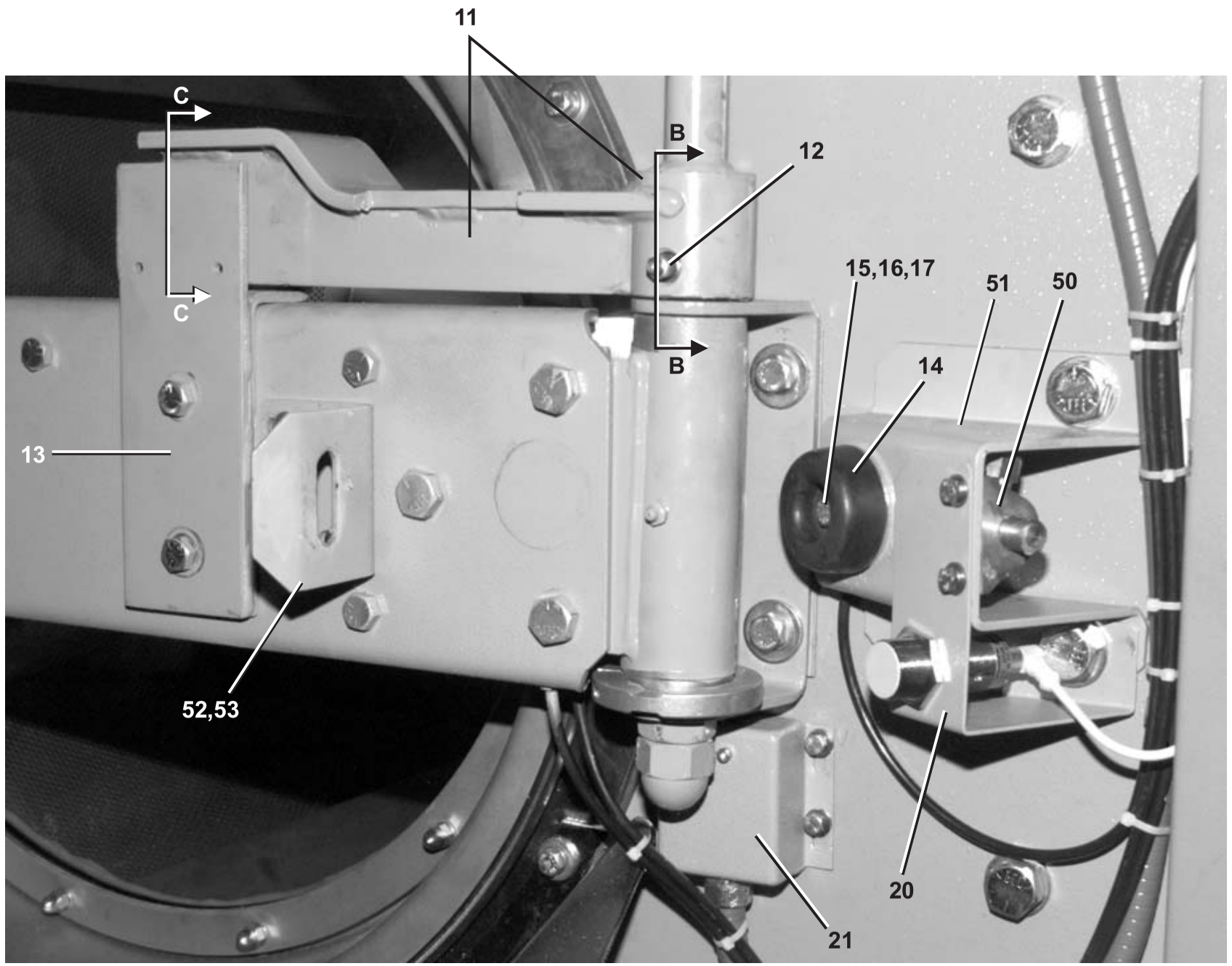
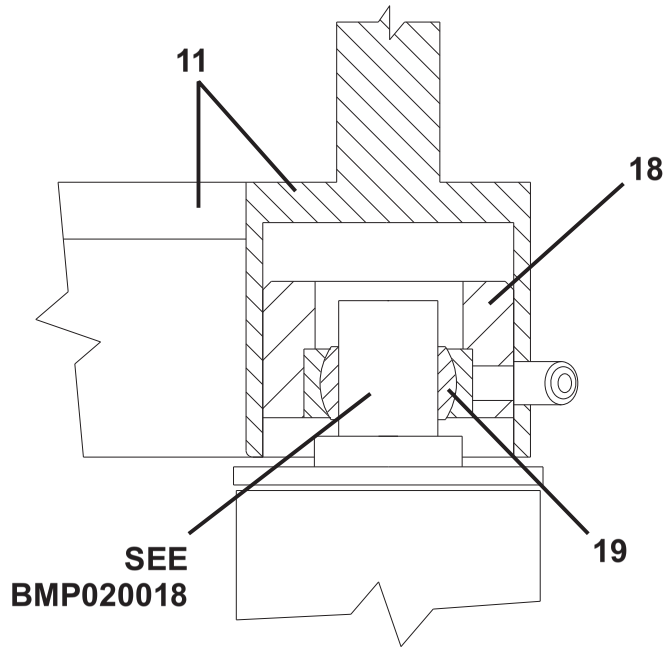
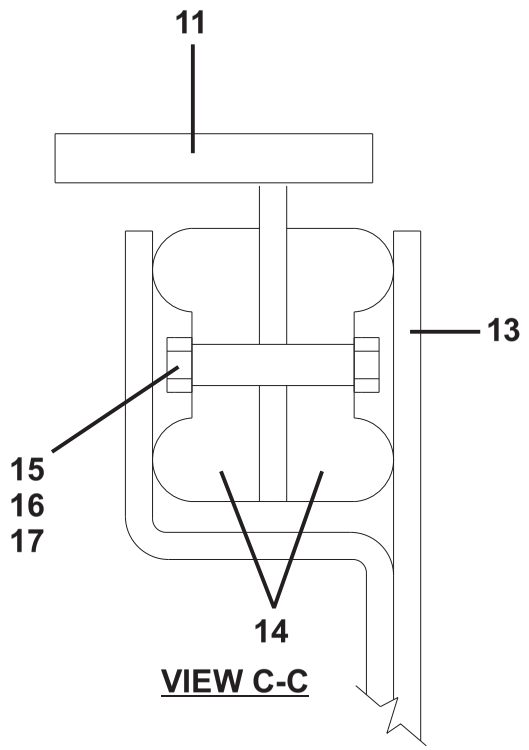




VIEW B-B



VIEW C-C

Hydraulic Door Installation

48040F7J,F7B,F7W,F7N 4840H7N,H7W

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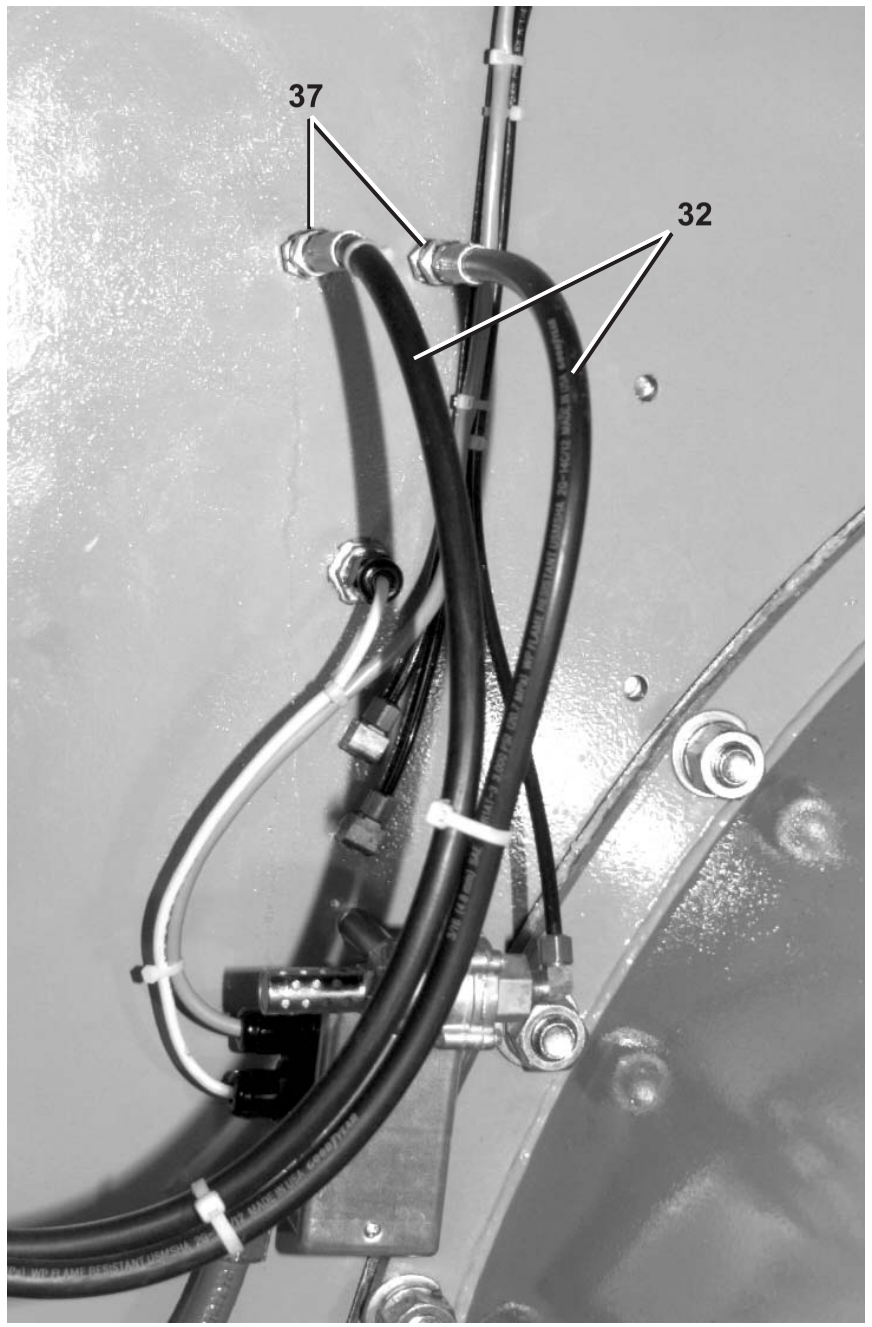

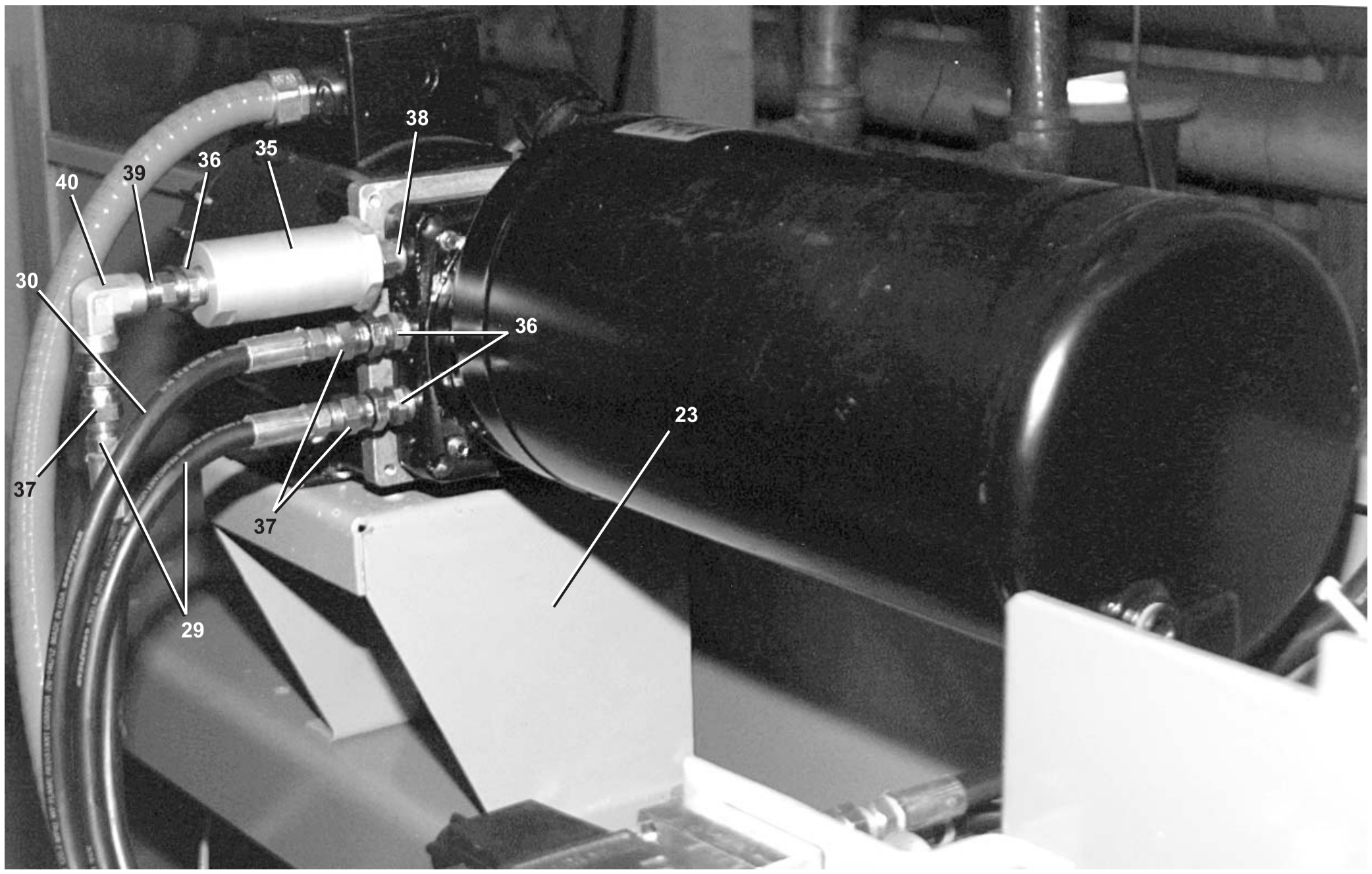

Hydraulic Door Installation

48040F7J,F7B,F7W,F7N 4840H7N,H7W

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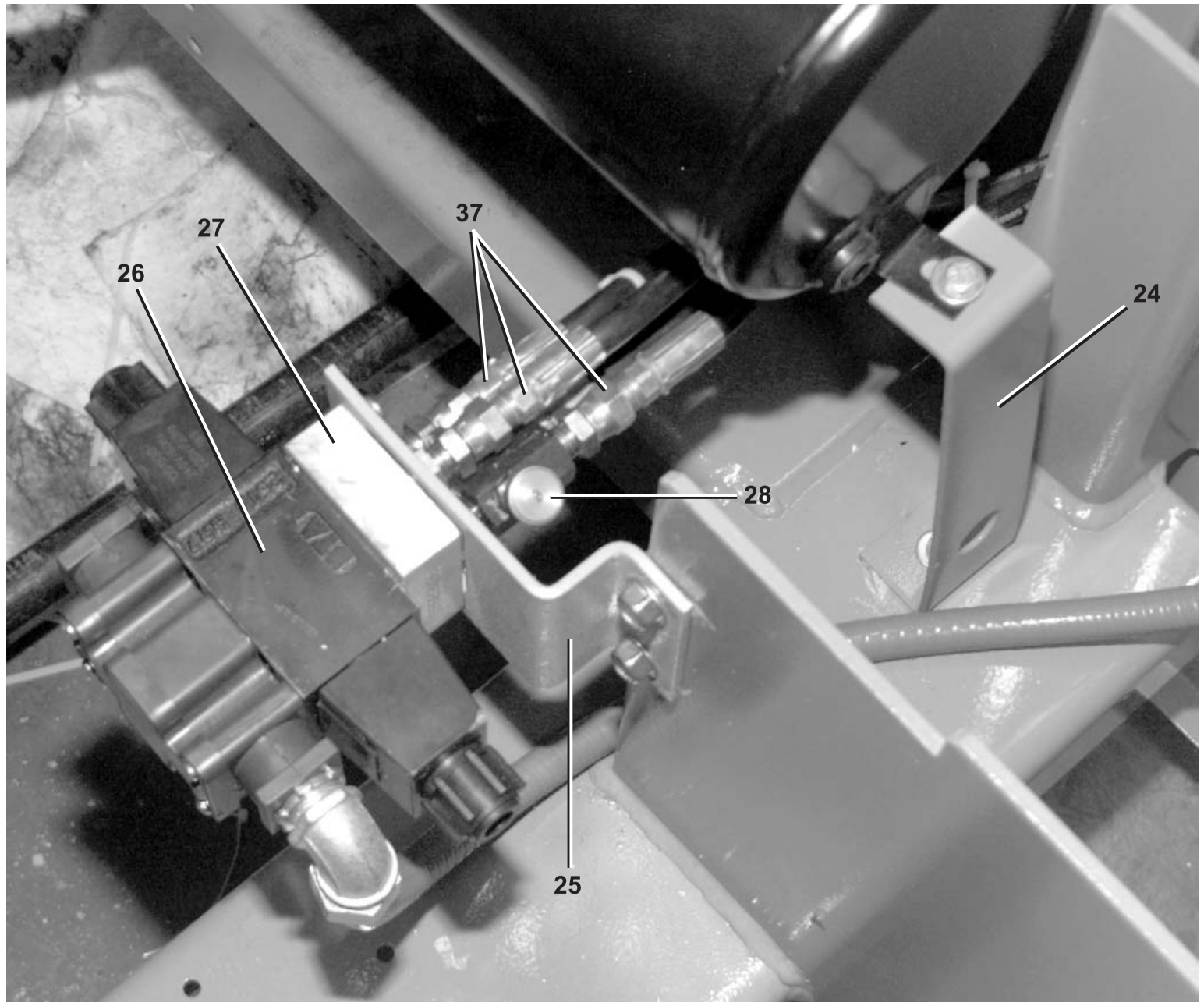
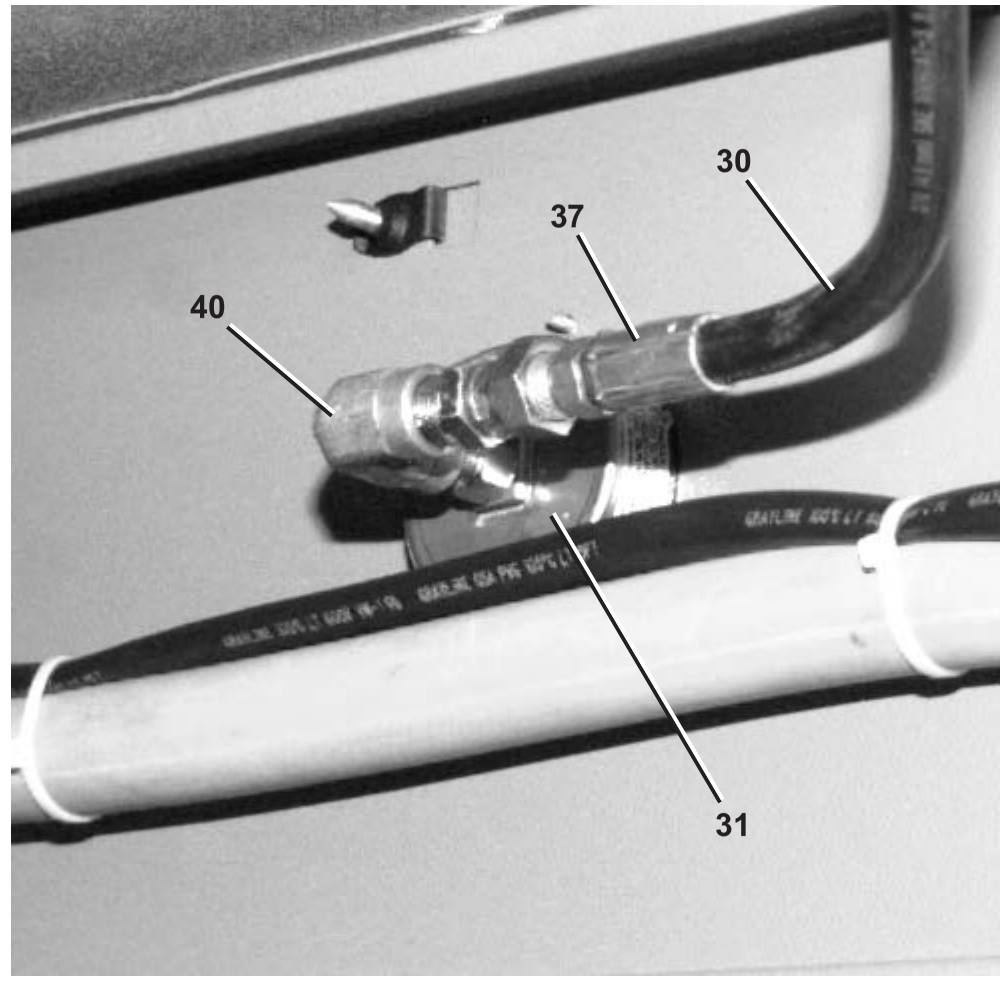
Litho in U.S.A.





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Parts List—Hydraulic Door Installation

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

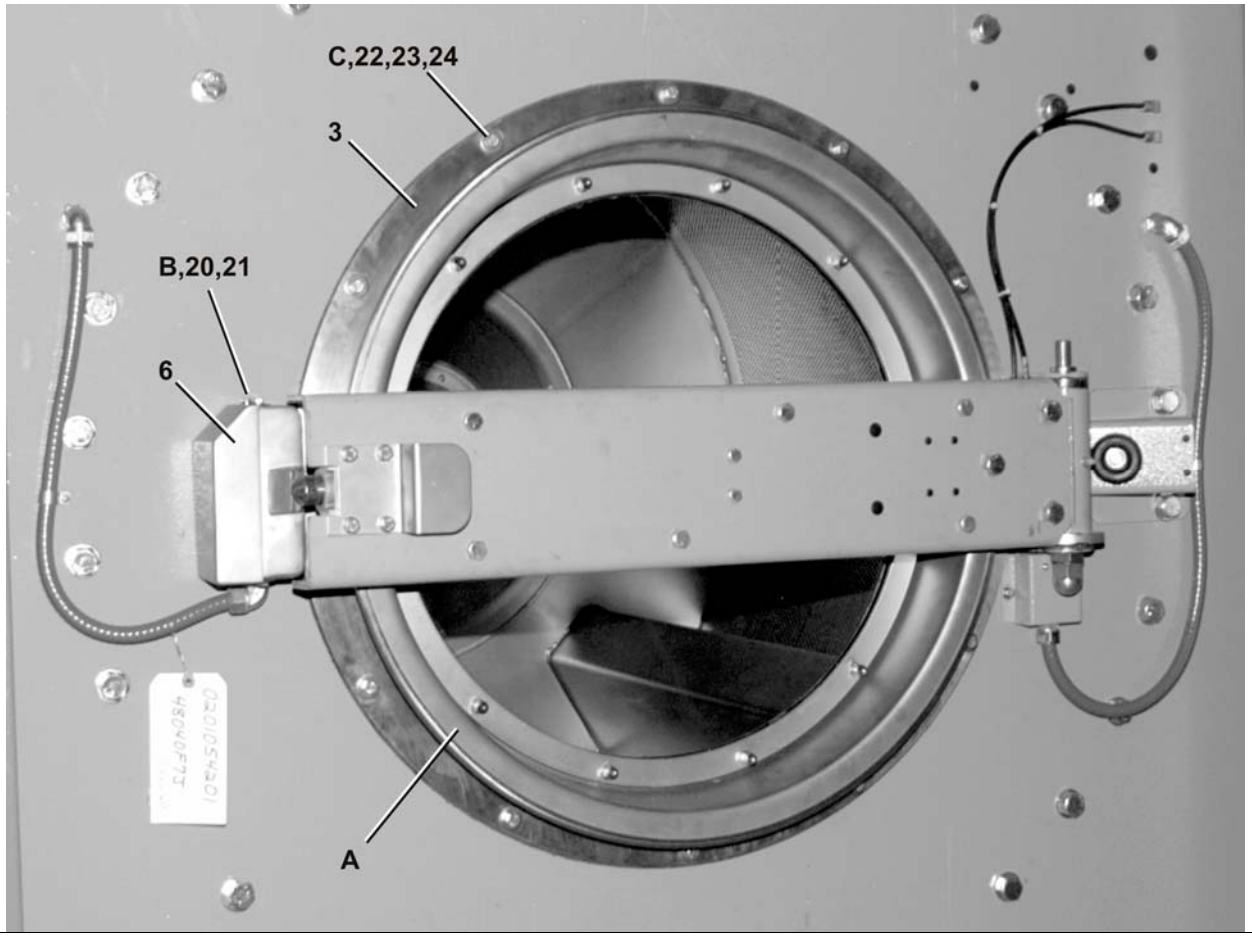
Used In	Item	Part Number	Description	Comments
----------ASSEMBLIES----------				
	A	GMI48002	INSTL=TILT MISC ITEMS, 4840F	
	B	GHT48401	INST=HYDRAUL AUTODOOR, 4840F	
----------COMPONENTS----------				
all	1	A25 00100B	* SHELLDOR+30"X4" 52WE1+TILTS	
all	2	03 25278	BRKT=MOTOR MOUNT AUTO DOOR	
all	3	03 25285	PLATE=MOTOR MOUNT AUTO DOOR	
all	4	27E320025	TDRQMOTOR- HYRAULIC	
all	5	02 21968	COVER=CHAIN COUPLING, 4840F	
all	6	15E008	KEY#15 WOODRUF 1/4X1 NIC ALLOY	
all	7	56Q1A1610	1.0" BUSH VPUL TPRLOCK1610TLXN	
all	8	54J220	DRCCOUPHALF TY-H5018TLB SPRKET	
all	9	54J221	DRCCOUPHALF C-5018 X 1610 TBF	
all	10	02 09109	DISC=3"DUMP VALVE RIGID SEAT	
all	11	W3 25300F	WLMT=TORQUE ARM AUTODR,4840F	
all	12	54M021	GRSFIT 1/8PIPE X 1/4STR 1607-B	
all	13	W3 25301A	*BKT WELD=DR ACTUATOR LH OPT.	
all	14	60C075	TRUCK BUMPER 2+1/2ODW3/8HO.613	
all	15	15G205	HXNUT 3/8-16UNC2B ZINC GR2	
all	16	15K110	HEXCAPSCR 3/8-16UNC2AX1.5 GR5-	
all	17	15U238	LOKWAS INTOOTH 3/8" (US STD) 4	
all	18	03 25604	ADAPTER FOR B12-L BUSHING	
all	19	54AA00PBB	BUSH BALL 3/4 RBC-B12L	
all	20	02 21967	BRKT=AUTODOOR PROX, 4840F	
all	21	W3 25078A	WELD=BRKT 2ND DRSWTCH, 4840F	
all	22	02 175048	DRIPSHIELD=3"INLET VALVE	
all	23	02 21966	BRKT=HYDRAUL POWR UNIT, 4840F	
all	24	03 48186	MT=ISOLATOR RESERVOIR 42T	
all	25	07 10279	SUBPLATE MTG BRKT	
all	26	96RH706E71	VLVPARKER 220V50/240V60 7GPM	
all	27	96RH706A01	PARKER SUBPLATE#SPD23N35	
all	28	96JH200	NEEDLE VLV.1/4"DELTROL#NMF20SK	
all	29	60EH15C30A	HYD HOSE 3/16"+ENDS=30" LG	
all	30	60EH15C91A	*HYD HOSE 3/16"+ENDS=91"	
all	31	30N125G	GAUGE 0-2000PSI\BAR 1\4 BACK	
all	32	60EH15C187	*HYD HOSE 3/16"+ENDS=187"	
all	33	60EH21C08S	ASSY=HYD HOSE 1/4"X8" SHORT	
all	34	60EH21C10L	ASSY=HYD HOSE 1/4"X10" LONG	
all	35	27E7110	HYD IN-LINE FILTER ARROW #9053	
all	36	52AY0GR004	HEXPTPEBUSH 3/8MX1/4F#5406-6-4	
all	37	52XY0ER008	STRADAPT 1/4" #1404-4-4	
all	38	52LY0GR002	HEXPIPNIP 3/8X3/8 #5404-6-6	
all	39	52LY0ER001	HEXPIPNIP 1/4X1/4 #5404-4-4	
all	40	52JY0ER003	ELB90 1/4"FEM.#5504-4-4	
all	41	52ZC0ES001	TUBEFIT 1/4"STR.#4-FLO-S	
all	42	52AY0KR004	HEXPTPEBUSH 1/2MX1/4F#0102-8-4	
all	43	15K088	HEXCAPSCR 3/8-16NCX7/8 GR 5 ZI	
all	44	15U255	LOCKWASHER MEDIUM 3/8 ZINCPL	
all	45	15U240	FLATWASHER(USS STD) 3/8" ZNC P	
all	46	15K105	HXCAPSCR 3/8-16UNC2A1.25 GR5 P	
all	47	15U280	FL+WASHER(USS STD)1/2 ZNC PL+D	
all	48	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	
all	49	15K151	HXCAPSCR ½-13UNC24X1.25 GR5	
all	50	SA 10 020	DOORLATCH ASSY-SMALL	
all	51	02 21874	DOOR OPEN STOP, 4840F	
all	52	02 21873	DOOR OPEN STRIKER, 4840F	
all	53	15K084	TRUSS HXSOK 3/8-16 X 23/32SS	

BIIFLM14 (Published) Book specs- Dates: 20090323 / 20090917 / 20090917 Lang: ENG01 Applic: IFL

Installation, Manual Door

Figure 1: Installation, Manual Door

General View

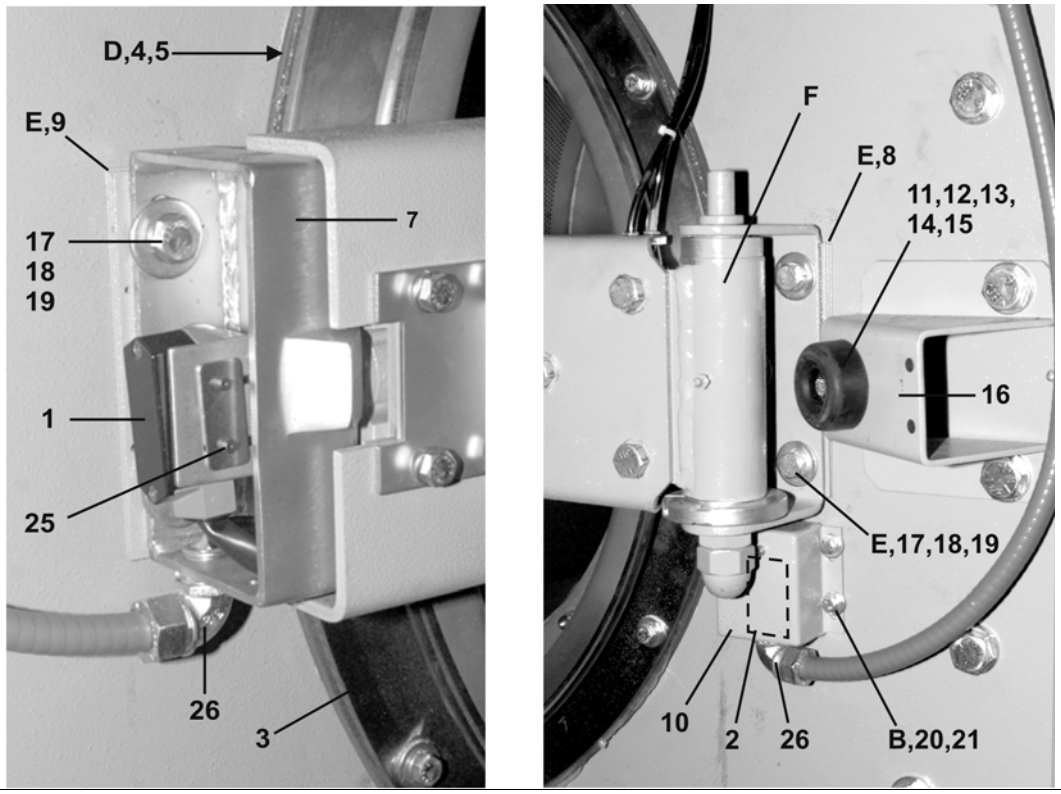


Legend

A. Refer to the related section in document BIIFLM15
B. 4 instances
C. 12 instances

Figure 2: Installation, Manual Door

Detailed views



Legend

D. Put the gasket segments together, end to end, to make the full, circular gasket.
E. 3 instances
F. Refer to the related section in document BIIFLM16

Table 1: Parts List—The Standard Door Installation

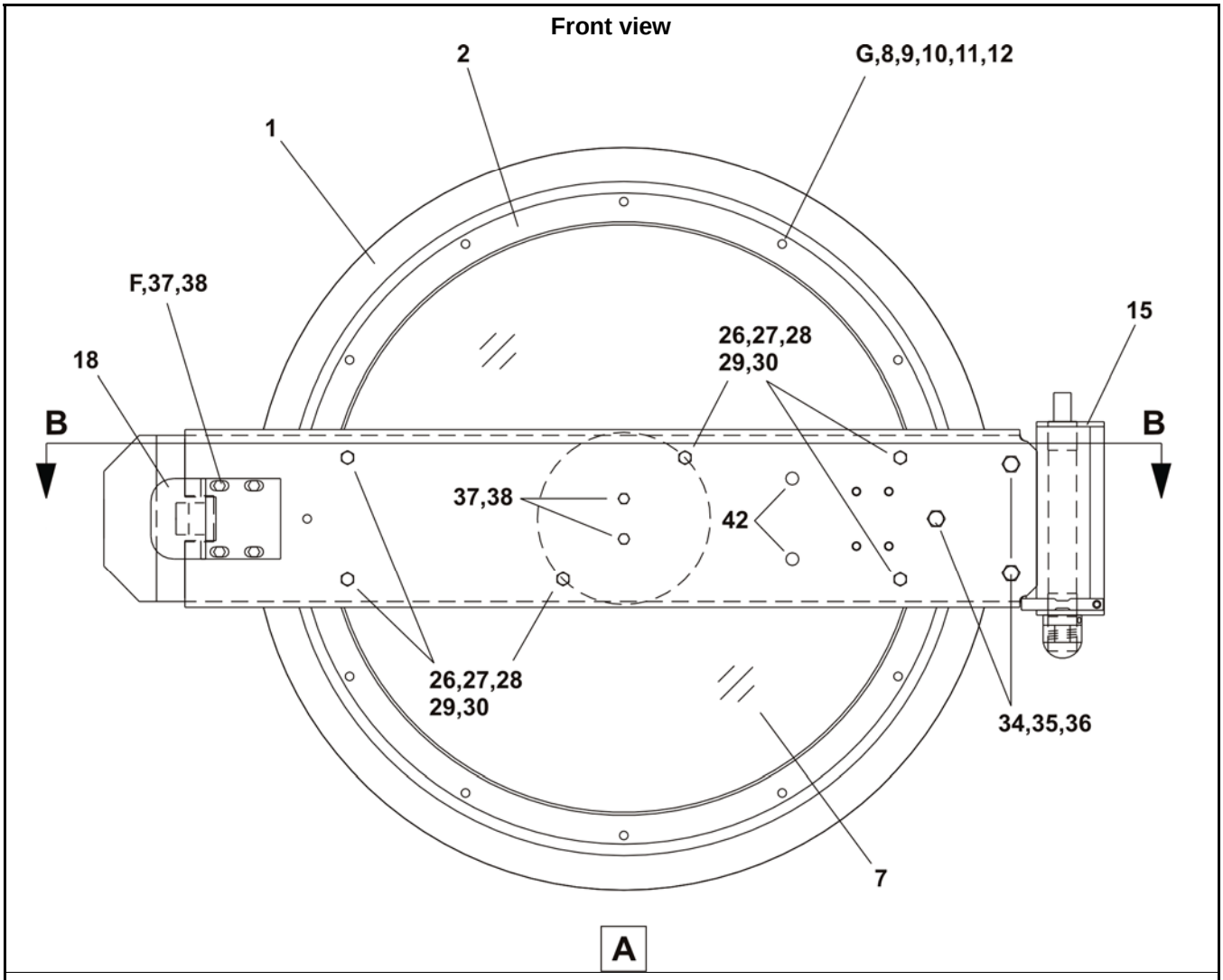
Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	**Item**	**Part Number**	**Description/Nomenclature**	**Comments**
Assemblies				
	A	GSD4840F	Installation Group; Shell door; 48040F_	
Components				
all	1	E25 00100	Assembly; Switch; Door interlock	
all	2	09RM01212S	Switch; Door open	
all	3	Y3 25084C	Machined part; Door ring; 34.125BC	
all	4	03 25026D	Gasket; Door ring; 1/16"	
all	5	03 25026E	Gasket; Door ring; 1/8"	
all	6	W3 25180	Cover; Interlock switch, Striker	
all	7	W3 25159S	Weldment; Striker; Door latch	
all	8	03 25170A	Shim; Bracket;	
all	9	03 25159W	Shim; Striker;Door latch	
all	10	W3 25078A	Weldment; Bracket; Switch; Door open; 48040F_	
all	11	60C075	Rubber bumper; 2+1/2	
all	12	15K105	Bolt; Hex head; 3/8-16	
all	13	15G205	Nut; Hex; 3/8-16	
all	14	15U238	Washer; Lock, internal tooth; 3/8"	
all	15	15U240	Washer; Flat; 3/8"	
all	16	02 21874	Stop; Door open; 48040F_	
all	17	15K151	Bolt; Hex head; 1/2-13	
all	18	15U300	Washer; Lock; 1/2	
all	19	15U490	Washer; Flat; 1+1/2X17/32X1/4	
all	20	15K031	Bolt; Socket head button; 1/4-20X1/2	
all	21	15U181	Washer; Lock; 1/4	
all	22	15K100	Bolt; Hex head; 3/8-16X1+1/4	
all	23	15U260	Washer; Lock; 3/8	
all	24	15U246	Washer; Flat; 1"	
all	25	15K022	Bolt; Socket; 10-24	

— End of BIIFLM14 —

BIIFLM15 (Published) Book specs- Dates: 20090324 / 20090917 / 20090917 Lang: ENG01 Applic: IFL

Components, Manual Door

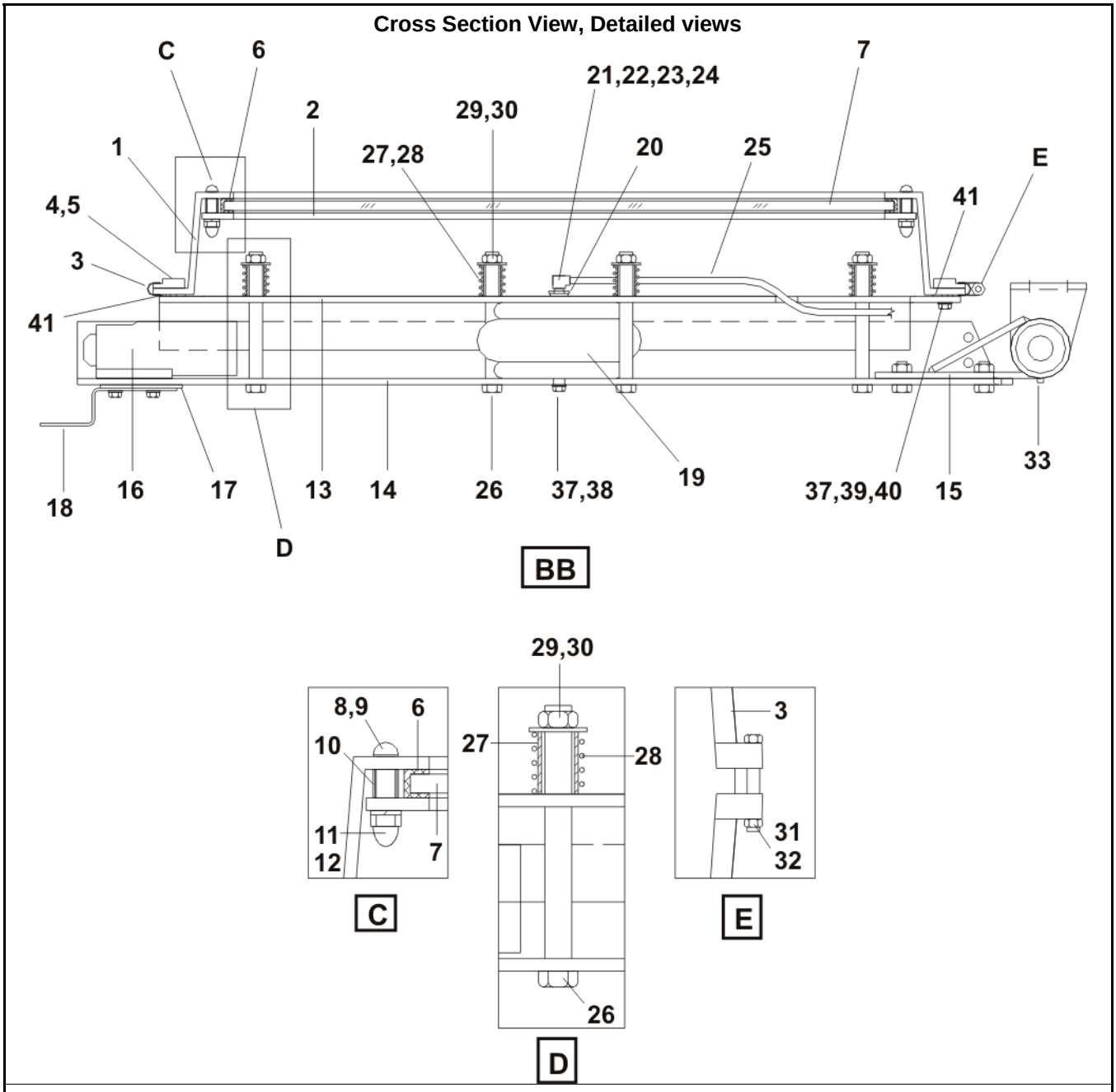
Figure 1: Components, Manual Door



Legend

A. Front view
BB. Cross Section View. Refer to Figure 2
F. 4 instances
G. 12 instances

Figure 2: Components, Manual Door



Legend

C. Door glass and gasket
D. Door channel bolts
E. Retainer ring

Table 1: Parts List—Components, Manual Door

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
			Assemblies	
	A	A25 00100B	Assembly; Shell door; 30"X4"	
			Components	
all	1	Y3 25060A	Tapered side; 30"	
all	2	X3 25058A	Machined part; Retainer ring; Door glass and gasket	
all	3	W3 25085C	Weldment; Retainer ring; Gasket; Door	
all	4	03 25085A	Gasket; 3/8	
all	5	20C047	Adhesive; 3M #1099	
all	6	03 25083	Gasket; Door glass; 26.5/26.4	
all	7	03 25013A	Door glass; 26.5/26.4	
all	8	15K106B	Bolt; Socket head button; 3/8-16	
all	9	24G030N	Washer; Nylon; .379ID	
all	10	27B2400K0L	Spacer; Rolled; 0.375	
all	11	15G200	Nut; Hex; 3/8-16	
all	12	15U260	Washer; Lock; 3/8	
all	13	03 25061	Door inner channel	
all	14	03 25089	Door outer channel	
all	15	A25 04500	Assembly; Bearing and Hinge pin	
all	16	SA 15 028	Assembly; Door latch	
all	17	02 15633	Adjustment plate; Door latch	
all	18	02 15633A	Door handle	
all	19	60B090	Pneumatic bellows actuator	
all	20	5SB0E0CBEO	Hex Bushing Reducer; Brass; 1/4X1/8	
all	21	53A031B	Hydraulic fitting; Elbow 90 degrees; 1/4; 1/8	
all	22	53A059A	Hydraulic fitting; Elbow 90 degrees; 5/16; 1/8	
all	23	53A500	Hydraulic fittingSleeve; 1/4	
all	24	53A501	Hydraulic fitting; Tube; 1/4Brass	
all	25	60E004TE	Tubing; Round; 0.25; Nylon	
all	26	15K203	Bolt; Hex head; 1/2;13	
all	27	27B2750L0T	Spacer; Rolled.562ID.937L.048T	
all	28	02 18187S	Spring; Door; Stainless steel	
all	29	15U280	Washer; Flat; 1/2	
all	30	15G234	Nut; Nylon lock; 1/2-13	
all	31	15N200	BoltPhillip button head; 1/4;20	
all	32	15G170	Nut; Hex; 1/4-20	
all	33	54M015	Grease fitting	
all	34	15K214E	Bolt Hex head; 5/8-11	
all	35	15G238	Nut; Hex; 5/8-11	
all	36	15U315	Washer; Lock; 5/8	
all	37	15U255	Washer; Lock; 3/8	
all	38	15K085	Bolt Hex head; 3/8-16	

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
all	39	15G205	Nut; Hex3/8-16	
all	40	15N223	Bolt; Counter sink; 3/8;16	
all	41	15U245B	Washer; Flat;	
all	42	12P1ALHP	Hole plug; Nylon; 9/16"	

— End of BIIFLM15 —

BIIFLM16 (Published) Book specs- Dates: 20090326 / 20090917 / 20090917 Lang: ENG01 Applic: IFL

Door Hinge Components and Installation

Figure 1: Door Hinge Components and Installation

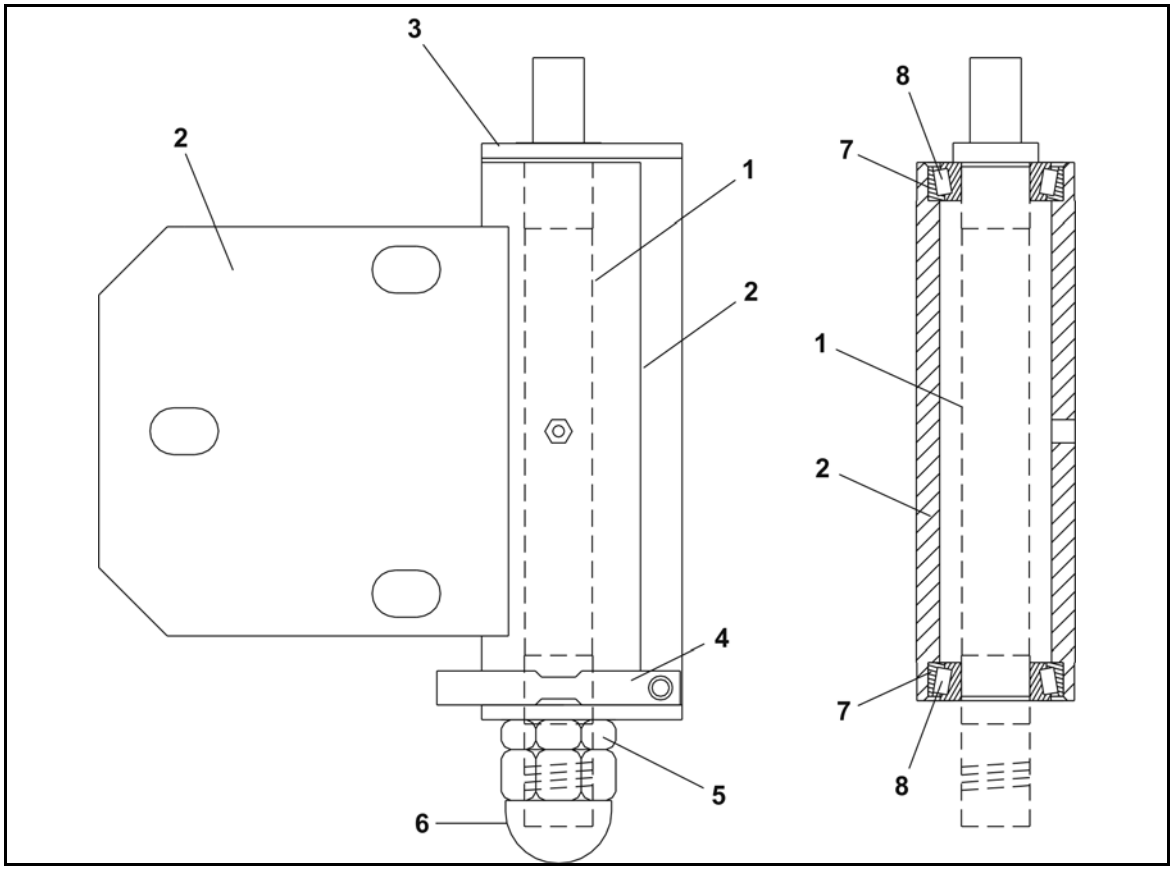


Table 1: Parts List—Door Hinge Components and Installation

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
Assemblies				
	A	A25 04500	Assembly; Bearing and Pin	
Components				
all	1	03 25302	Hinge pin	
all	2	W3 25071	Weldment; Door hinge; 30"	
all	3	03 25170	Bracket; Door hinge	
all	4	54JH13562B	Shaft collar; Split; 3+9/16	
all	5	15G248	Nut; Jam; 14	
all	6	15G249	NutCap (acorn); 1-14	
all	7	54A976	Bearing; Cup; The Timken Company; L44610	
all	8	54A977	Bearing; Cone; The Timken Company; L44643	

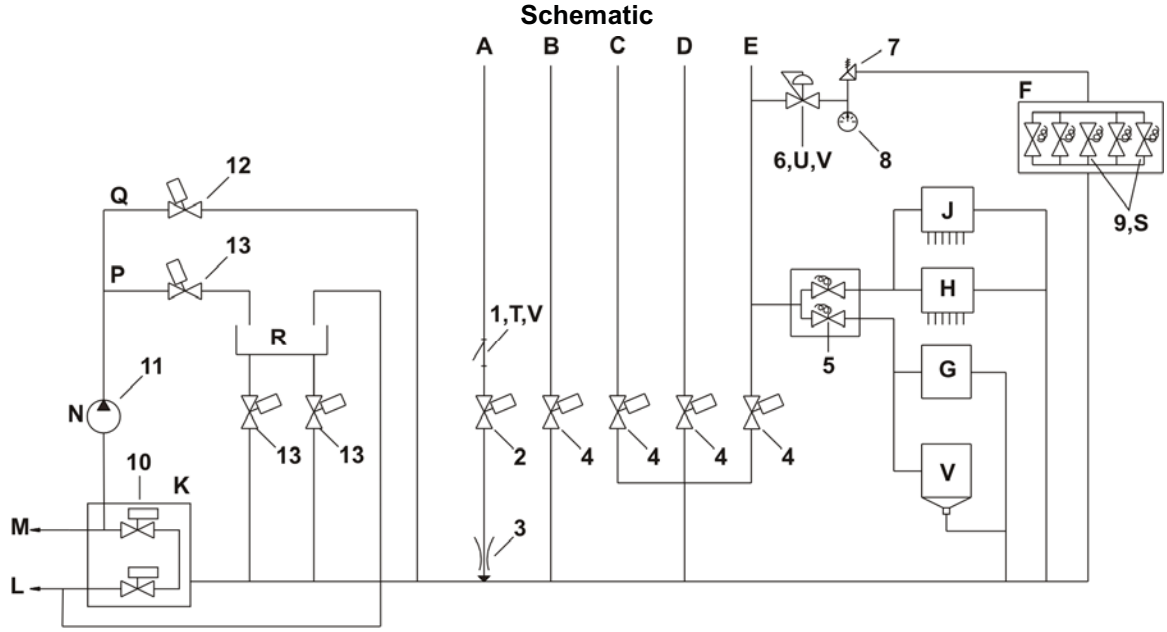
— End of BIIFLM16 —

2

Water, Steam & Drain 2.5

Water and Steam Schematic and Primary Components: 48040F_, 48040H_

Figure 1: Water and Steam Schematic and Primary Components



Legend

- **A.** Steam inlet
- **B.** Reuse water inlet (optional)
- **C.** Cold water inlet
- **D.** Third water inlet (optional)
- **E.** Hot water inlet
- **F.** Five compartments to flush in chemical supplies (optional)
- **G.** Soap chute
- **H.** 10 inlets for peristaltic liquid chemical systems
- **J.** Six inlets for peristaltic liquid chemical systems (optional)
- **K.** Drain valve body with one valve (standard). Drain valve body with two valves (optional).
- **L.** Dirty water outlet to the sewer
- **M.** Reuse water outlet to the reuse tank
- **N.** Recirculation pump (optional)
- **P.** Recirculation water to the reuse tank (optional)
- **Q.** Recirculation water to the shell door (optional)
- **R.** Reuse tank (optional)
- **S.** Five instances
- **T.** Keep this component clean. Refer to the related section in document BIIFUM02
- **U.** Keep this component set to the correct pressure. Refer to the related section in document BIIFUM02
- **V.** Optional 10 gallon tank for chemical supplies

Table 1: Parts List—The Water and Steam Schematic

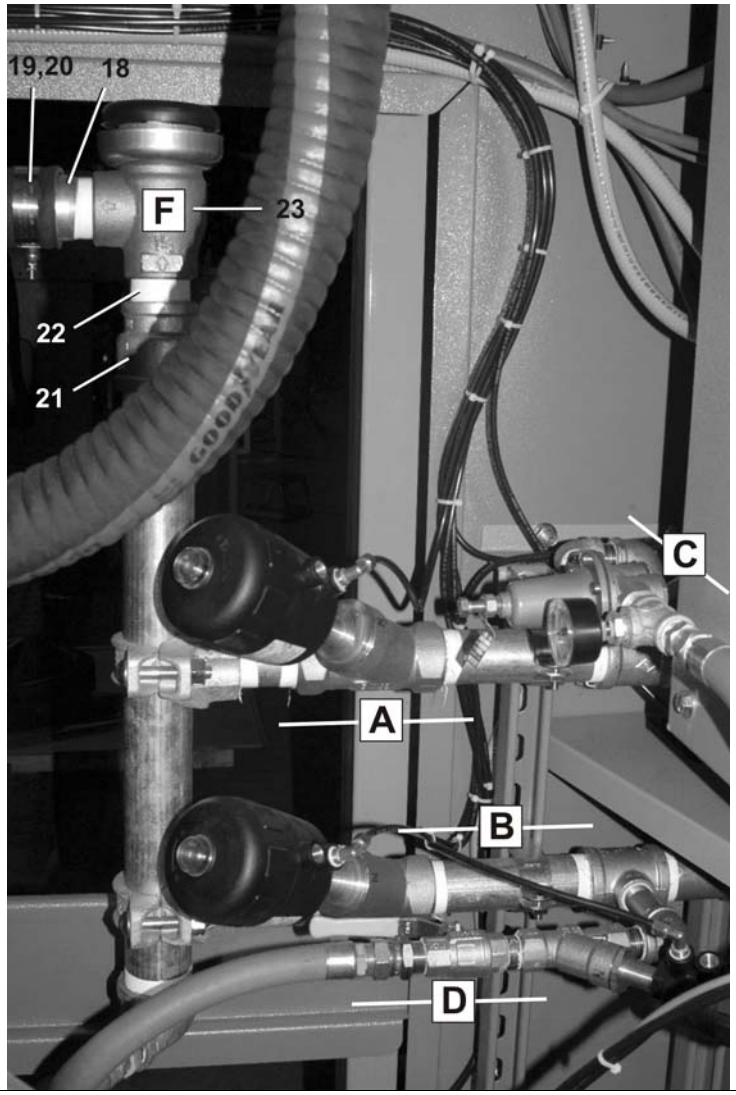
Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	**Item**	**Part Number**	**Description/Nomenclature**	**Comments**
Assemblies				
none				
Components				
all	1	51T060	Steam strainer; 1+1/4"	
all	2	96D0011E	Steam valve; usually closed; air operated; 1.25"NPT	
all	3	X6 20247A	Machined part; Steam nozzle; 3/4" NPT	
all	4	96D087WE	Water valve; usually closed; air operated; 1.5"	
all	5	96P053D71	Water valve; electric operated 3/4"	
all	6	96J030D	Pressure regulator; 1/2"	
all	7	96M001	Pressure relief valve; 1/2X3/8"	
all	8	30N100	Pressure gauge; 1/8"	
all	9	96TCC2AA71	Water valve; usually closed; two way;electric operated; 3/8"	
A	10	GVD48400	Installation Group; Drain valve body with one valve	
B	10	GVD48402	Installation Group; Drain valve body with two valves	
all	11	27E956K82	Water pump, standard flow; 2.0HP50C	
all	12	96D087WEST	Water valve; usually open; air operated; 1.5"	
all	13	96D087WESS	Water valve; usually closed; air operated; 1.5"	

— End of BIIFLM17 —

Water Inlet Components and Installation: 4840F7N and 4840F7W

Figure 1: Water Inlet Components and Installation

General View

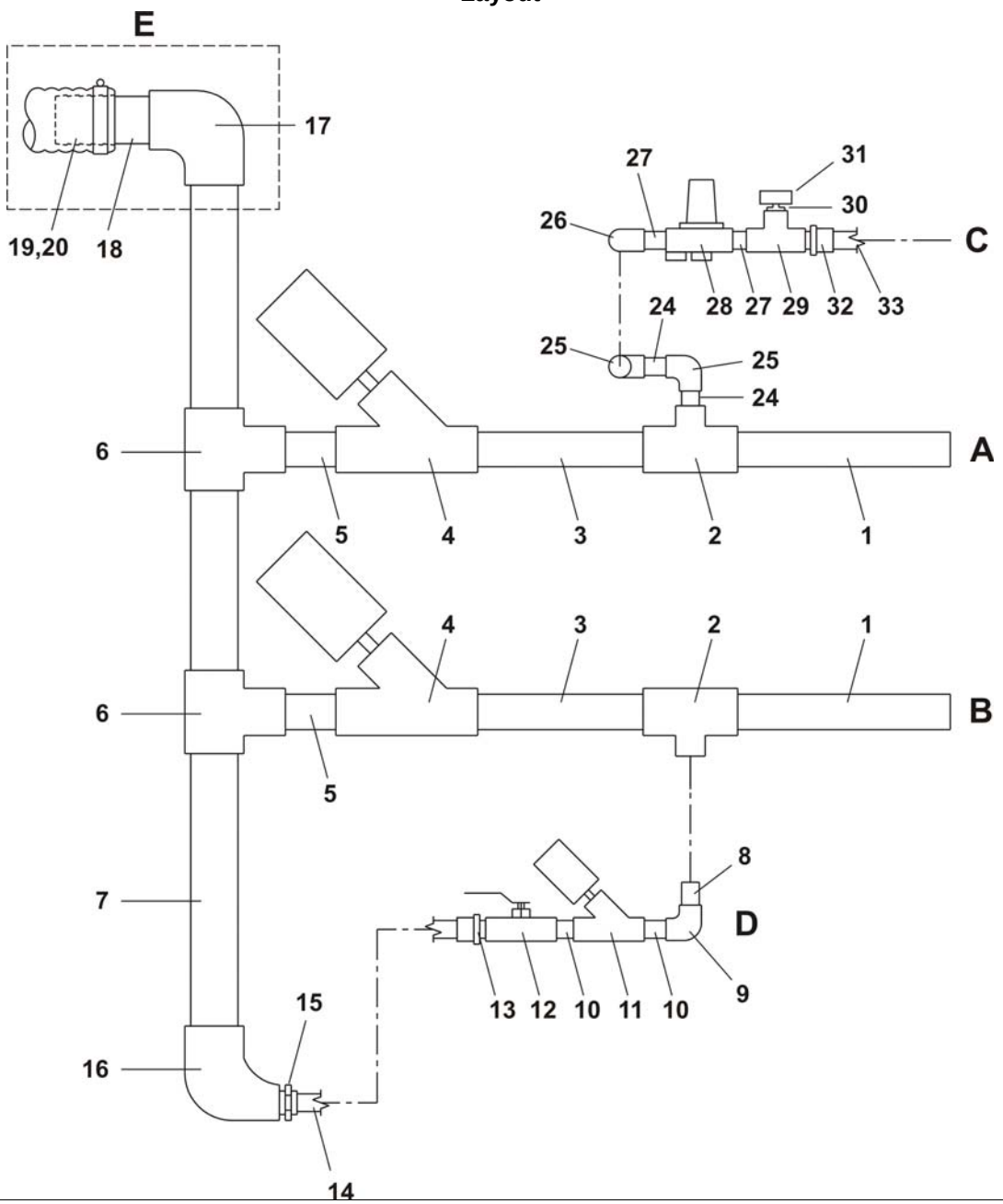


Legend

A. Hot water line
B. Cold water line
C. Hot water line for the 5 chemical supply compartments
D. Cooldown water line
F. The vacuum breaker and related components (optional)

Figure 2: Water Inlet Components and Installation

Layout



Legend

A. Hot water line
B. Cold water line
C. Hot water line for the 5 chemical supply compartments
D. Cooldown water line
E. The components used with no vacuum breaker

Table 1: Parts List—Water Inlet Components and Installation

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
			Assemblies	
	A	AVW48400	Assembly; Water inlets for stationary-type machines—no vacuum breaker; 48040F_	
	B	AVW48401	Assembly; Water inlets for stationary-type machines—vacuum breaker; 48040F_	
			Components	
all	1	5N1K09AG42	Pipe; Galvanized steel; 1-1/2	
all	2	5S1KMGA0P	Pipe Fitting; Tee; Galvanized steel; 1-1/2X1-1/2X3/4	
all	3	5N1K07AG42	Pipe; Galvanized steel; 1-1/2	
all	4	96D087WE	Water valve; air operated; usually closed; 1.5"	
all	5	5N1K03AG42	Pipe; Galvanized steel; 1-1/2	
all	6	51V302	Machined part; Pipe Fitting; Tee; Galvanized steel; 2X1.5	
all	7	02 21219	Machined part; Pipe; two holes for tee	
all	8	5N0P03AG42	Pipe; Galvanized steel; 1-1/2	
all	9	5SL0PNFA	Pipe; Galvanized steel; 1-1/2	
all	10	5N0PCLSG42	Pipe; Galvanized steel; 3/4	
all	11	96D0009E	Steam valve; air operated; usually closed; 3/4"	
all	12	96D050A	Water valve; hand operated; usually closed; 3/4"	
all	13	51X019	Pipe Fitting; Union; 3/4"	
all	14	60E086C14P	Assembly; Hose; 3/4"X14.75"	
all	15	5SB1A0PNFO	Pipe Fitting; Hex Bushing Reducer;Galvanized steel; 1X3/4	
all	16	5SL2ANFA1A	Pipe Fitting; ElbowGalvanized steel; 2X1; 90	
A	17	5SL2ANFA1K	Pipe Fitting; ElbowGalvanized steel; 2X1-1/2; 90	
A, B	18	51E098AP	Pipe; Threads, one end; 2"	
A, B	19	60E255	Water hose; 2	
A, B	20	27A072	Hoseclamp;T-bolt; 2	
B	21	5SR2A1KNF	Pipe Fitting; Reducer Bushing; Galvanized steel; 2X1-1/2	
B	22	5N1KCLSG42	Pipe; Galvanized steel; 1-1/2	
B	23	SA 03 009	Assembly; Vacuum breaker and scupper; 1.5"	
all	24	5N0PCLSG42	Pipe; Galvanized steel; 3/4	
all	25	5SL0PNFA	Pipe Fitting; Elbow; 3/4; 90	
all	26	5SL0PNFA0K	Pipe Fitting; Elbow; 3/4X1/2; 90	
all	27	5N0KCLSG42	Pipe; Galvanized steel; 1/2	
all	28	96J030D	Pressure regulator; 1/2"	
all	29	5S0KBEA0G	Pipe Fitting; Tee; Brass; 1/2X1/2X3/8	
all	30	5SB0G0CBEO	Pipe Fitting; Hex Bushing ReducerBrass; 3/8X1/8	
all	31	30N100	Pressure gauge; 1/8"	

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
all	32	51X017	Pipe Fitting; Union; 1/2"	
all	33	60E086K91A	Water hose; 3/4X91	

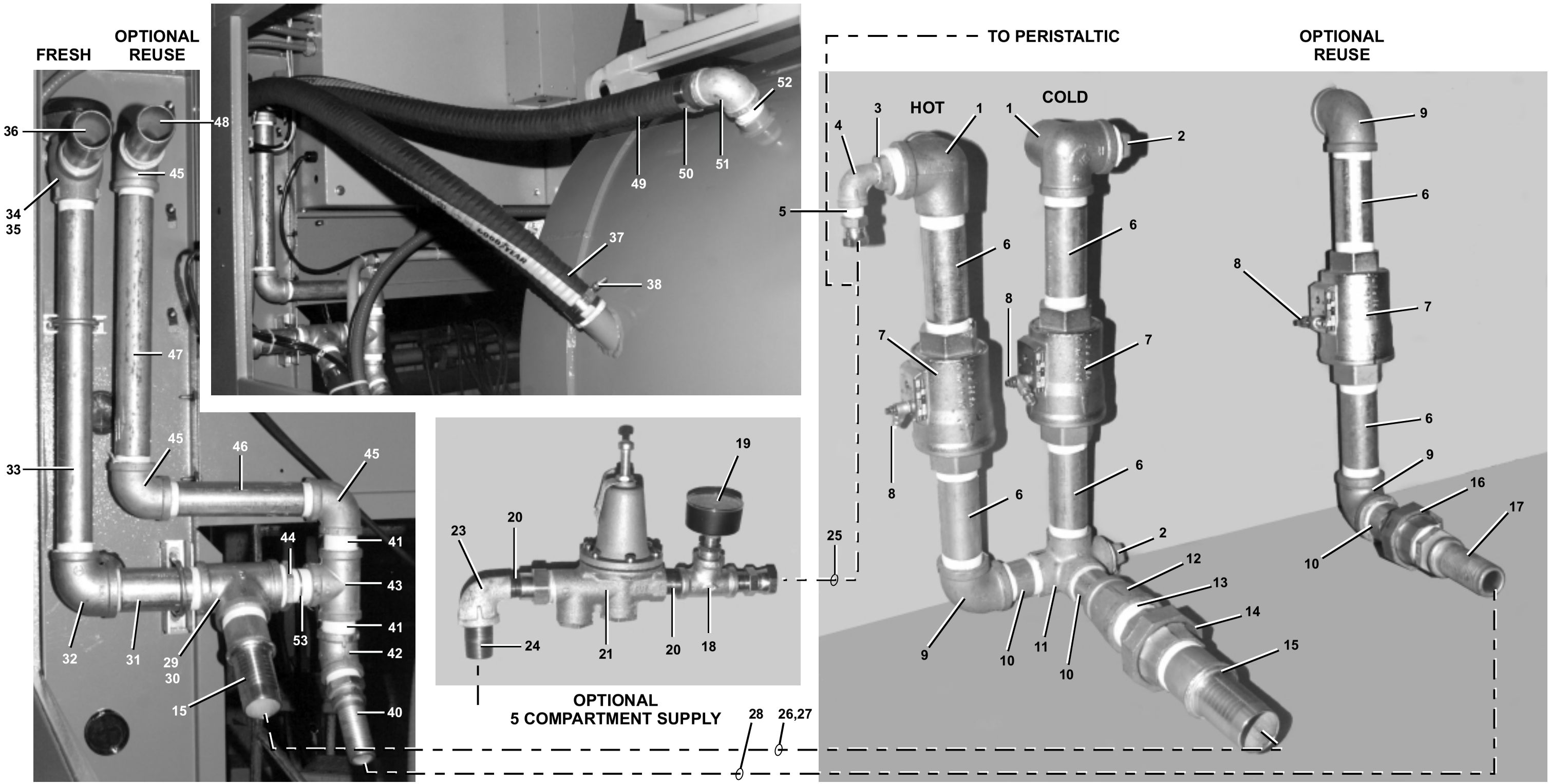
— End of BIIFLM19 —

Water Inlets - Tilt

48040F7N,F7B

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

Litho in U.S.A.



Water Inlets - Tilt

48040F7N,F7B

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

Litho in U.S.A.

Parts List—Water Inlets -Tilt

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	AVW48407	ASSY=COLD H2O VLV-TILT, 4840F	
	B	AVW48408	ASSY=HOT H2O VLV-TILT, 4840F	
	C	AVW48404	ASSY=H/C H2O VLVS TLT, 4840F	
	D	AVW48409	ASSY=H2O PIPE-TILT, 4840F	
	E	GVW48409	INST=H2O PIPING-TILT, 4840F	
	F	AVW48410	ASSY=H2O PIPE W/VB-TLT,4840F	
	G	AVW48411	ASSY=H2O VLV REUSE TILT,4840F	
	H	AVW48412	ASSY=REUSE PIPE TILT, 4840F	
	J	GVW48411	INST=H2O REUSE TILT, 4840F	
			----------COMPONENTS----------	
all	1	5SL1KNFB	NPT ELL 90D SIDEOUT 1.5" GALV	
all	2	51P055	NPTPLUG 1.5 SQCORED GALCI 125#	
all	3	5SB1K0PDEO	NPTHEXBUSH 1.5X3/4 GALCI 125#	
all	4	5SL0PBEA0K	NPTELB 90DEG 3/4X1/2 BRASS150#	
all	5	5N0KCLSG42	NPT NIP 1/2XCLS TBE GALSTLSK40	
all	6	5N1K06AG42	NPT NIP 1.5X6 TBE GALSTL SK40	
all	7	96D087WEA	STRBODY 1.5" N/C BRASS ASSURED	
all	8	96JH100	NEEDLE VLV.ELB.1/8"#NAS2200N01	
all	9	5SL1KNFA	NPT ELBOW 90DEG 1.5" GALMAL 15	
all	10	5N1K03AG42	NPT NIP 1.5X3 TBE GALSTL SK40	
all	11	5S1KNFB	NPT SIDEOUT TEE 1.5" GALMAL	
all	12	5SR2A1KNF	NPT RED 2X1.5 GALMAL 150#	
all	13	5N2ACLSG42	NPT NIP 2XCLS TBE GALSTL SK40	
all	14	5SU2ANF	NPT UNION 2" GALMAL 150#	
all	15	51E098M	MALESTEM 2"IDXNPT DIXON #TM-32	
all	16	5SU1KNF	NPT UNION 1.5" GALMAL 150#	
all	17	51E097MS	MALESTEM 1.5IDXNPT DIXON#TMR24	
all	18	5S0KBEA	NPT TEE 1/2" BRASS 125#	
all	19	30N100	PRESSGAUGE 1/8"BACKCN.0-30PSI	
all	20	5N0KCLSG42	NPT NIP 1/2XCLS TBE GALSTLSK40	
all	21	96J030D	1/2"PRESSREG SET28# FEMXUN	
all	23	5SL0PBEA0K	NPTELB 90DEG 3/4X1/2 BRASS150#	
all	24	5N0PCLSG42	NPT NIP 3/4XCLS TBE GALSTL S40	
all	25	60E086K196	3/4 X 196 WATER HOSE 1/2 ENDS	
all	26	60E201	HOSE 2"ID W/S DAY#7257-200150	
all	27	27A070	T-BOLT HOSECLAMP 1.94"-2.25"	
all	28	60E098	HOSE 1.5"W/S DAY#7257-150150	
all	29	5S2ANFA	NPT TEE 2" GALMAL 150#	
all	30	51P060	PLUG PIPE SQ 2"GALCORED CI 125	
all	31	5N2A06AG42	NPT NIP 2X6 TBE GALSTL SK40	
all	32	5SL2ANFA1K	NPTELB 90DEG 2X1.5 GALMAL 150#	
all	33	5N1K20AG42	NPT NIP 1.5X20 TBE GALSTL SK40	
all	34	5SL1KNFA	NPT ELBOW 90DEG 1.5" GALMAL 15	
all	35	SA 03 009	1.5"SIPHONBRKR+SCUPPER ASSY	
all	36	51E098AP	KINGREDNIP2"IDX1.5MPT #STC2520	
all	37	60E255	HOSE 2" WATER CORRUGATED(V50)	
all	38	27A070	T-BOLT HOSECLAMP 1.94"-2.25"	
all	40	51E097MS	MALESTEM 1.5IDXNPT DIXON#TMR24	
all	41	5N1KCLSG42	NPT NIP 1.5XCLS TBE GALSTLSK40	
all	42	5SL1KNFK	NPT ELB 45DEG 1.5 GALMAL 150#	
all	43	5S1KNFA	NPT TEE 1.5" GALMAL 150#	
all	44	5SB2K1ADEO	NPTHEXBUSH 2.5X1 GALCI 125#	
all	45	5SL1KNFA	NPT ELBOW 90DEG 1.5" GALMAL 15	
all	46	5N1K09AG42	NPT NIP 1.5X9 TBE GALSTL SK40	
all	47	5N1K16AG42	NPT NIP 1.5X16 TBE GALSTL SK40	
all	48	51E098AP	KINGREDNIP2"IDX1.5MPT #STC2520	
all	49	60E255	HOSE 2" WATER CORRUGATED(V50)	
all	50	27A070	T-BOLT HOSECLAMP 1.94"-2.25"	
all	51	5SL1KNFA	NPT ELBOW 90DEG 1.5" GALMAL 15	
all	52	5N1KCLSG42	NPT NIP 1.5XCLS TBE GALSTLSK40	
all	53	X2 11441A	SOLID NIPPLE PLUG 1.50"NPT	

Steam Inlet Components and Installation: 4840F7N and 4840F7B

Figure 1: Component configuration (The steam pipe cover is not shown.)

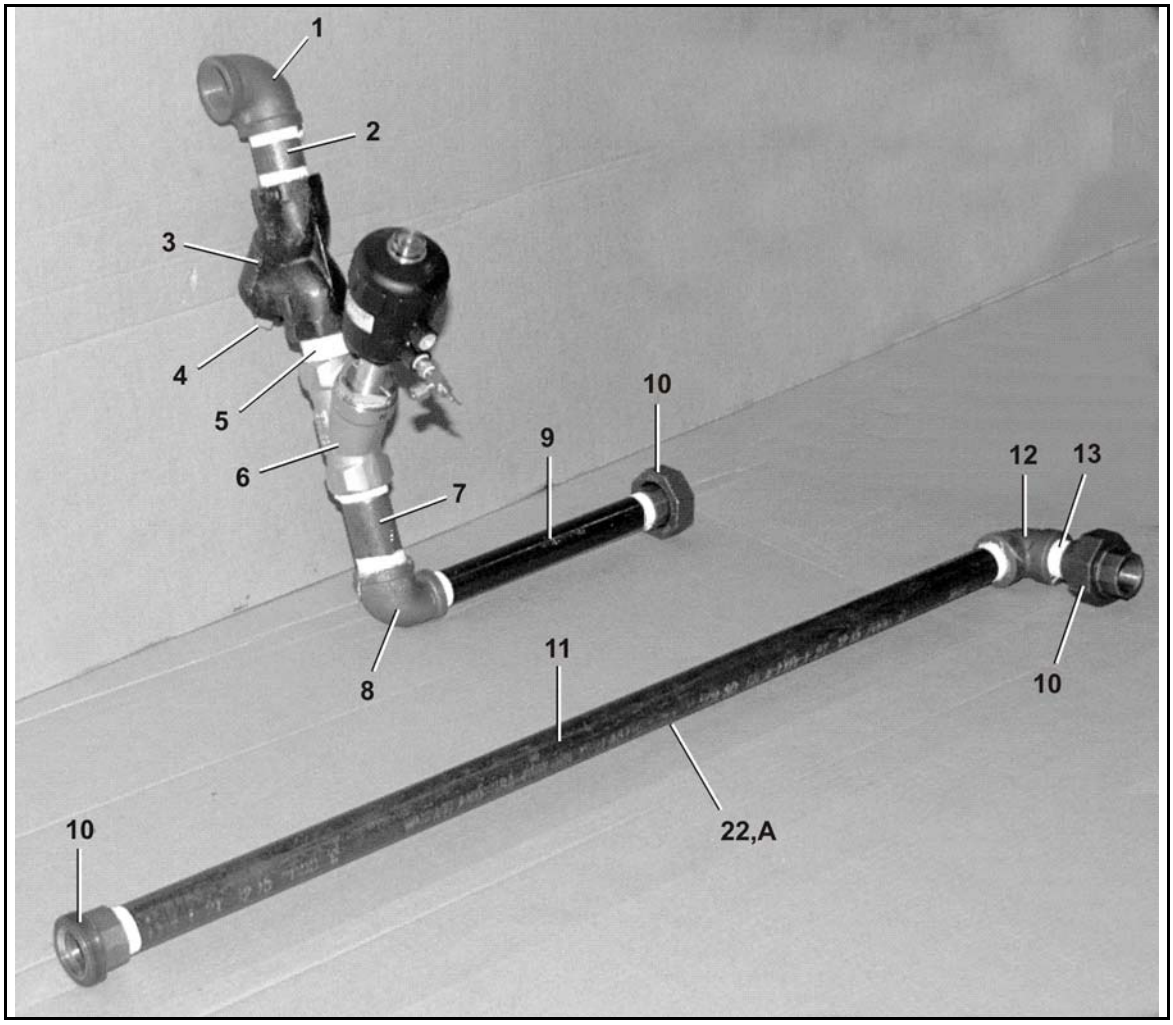


Figure 2: Installed view

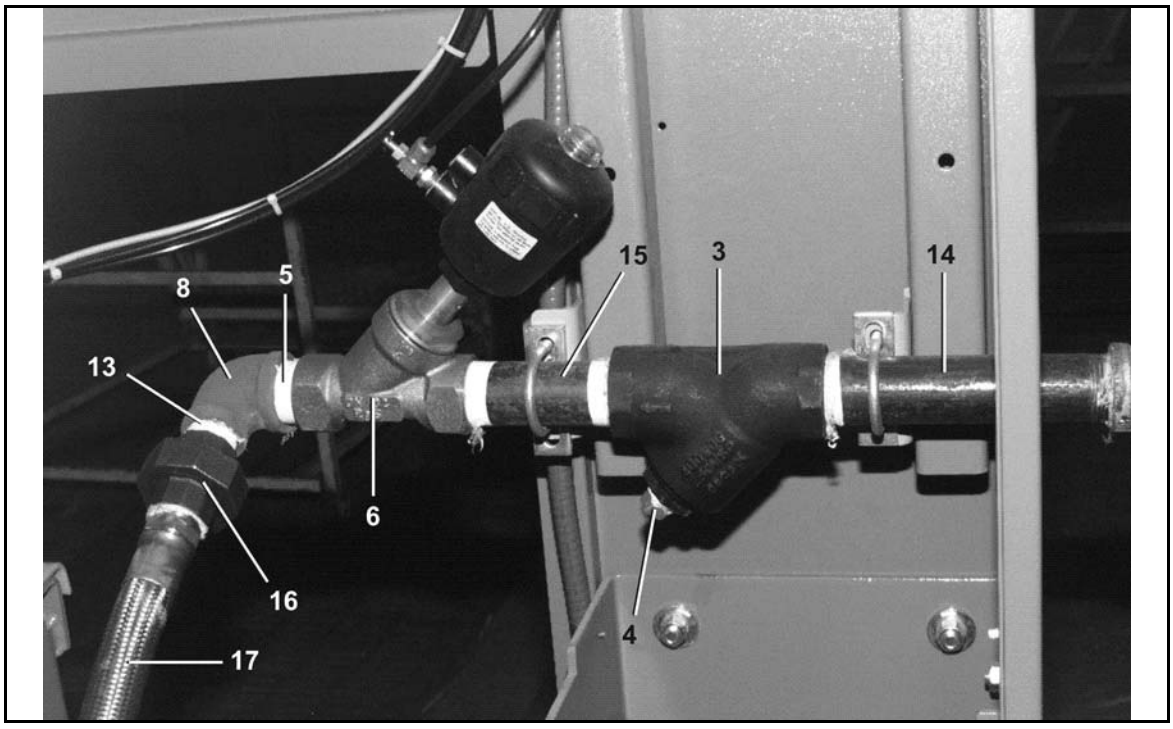


Figure 3: Detailed view: Steam nozzle

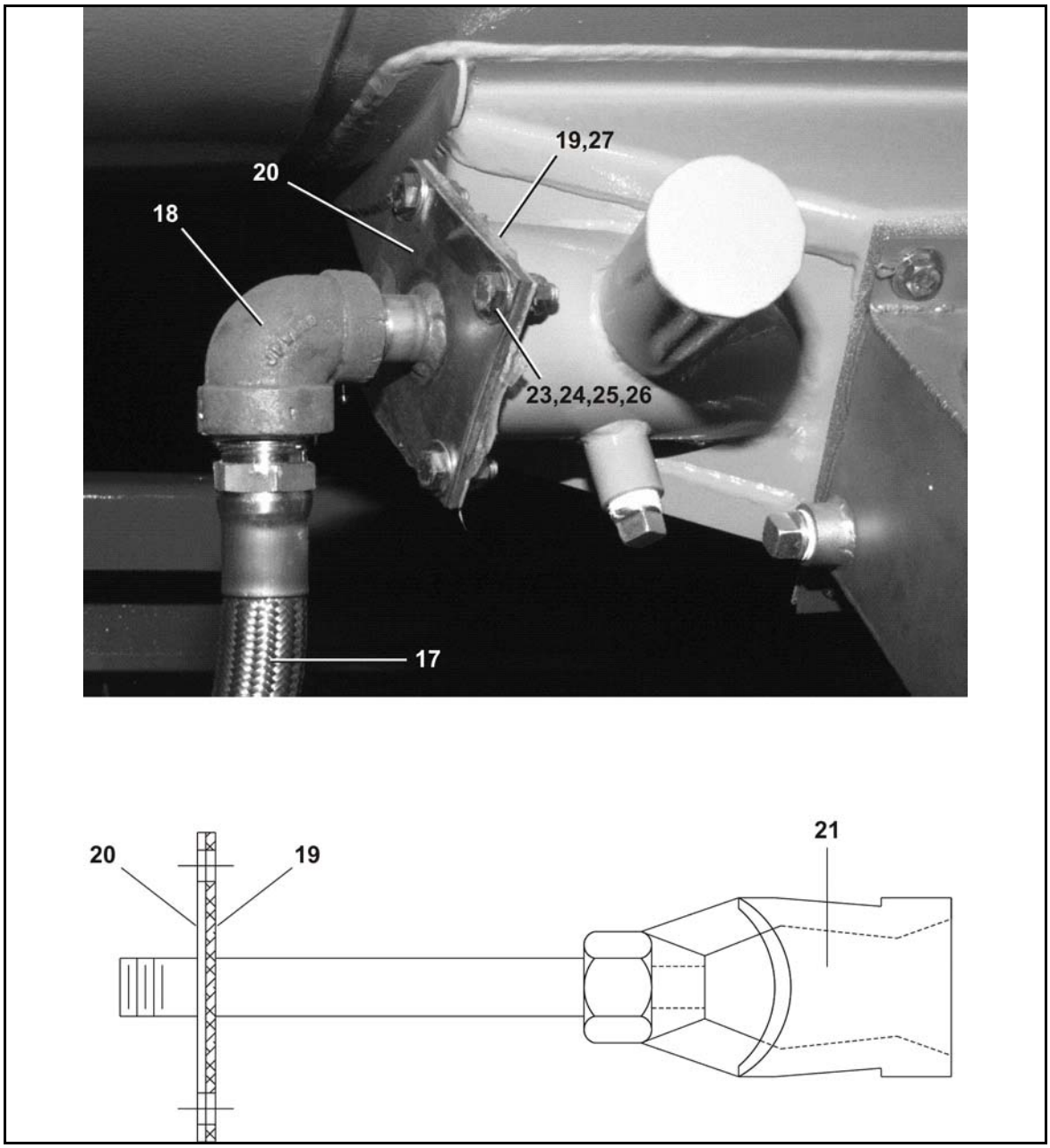


Table 1: Parts List—Steam Inlet Components and Installation

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**
Assemblies				
	A	GVS48401	Installation Group; Steam inlet for stationary-type machines; 48040F_	
	B	GVS48402	Installation Group; Steam inlet for tilt-type machines; 48040F_	
	C	AVS48401	Assembly; Steam inlet for stationary-type machines; 48040F_	
	D	AVS48402	Assembly; Steam inlet for tilt-type machines; 48040F_	
	E	AVS48400	Assembly; Steam pipe and nozzle; 48040F_	
Components				
all	1	5SL1EMFA	Pipe Fitting; Elbow; 90 degree; 1-1/4	
all	2	5N1E03AF42	Pipe; Black steel; 1-1/4	
all	3	51T060	Steam strainer; 1+1/4"	
all	4	5SP0PHFSS	Pipe Fitting; Plug; 3/4	
all	5	5N1ECLSF42	Pipe; Close (threads only); Black steel; 1-1/4	
all	6	96D0011E	Steam valve; usually closed; 1.25"	
all	7	5N1E04AF42	Pipe; Black steel; 1-1/4	
all	8	5SL1EMFA1A	Pipe Fitting; Elbow90 degree; Black steel; 1-1/4X1	
all	9	5N1A11AF42	Pipe; Black steel; 1; 11	
all	10	5SU1AMI	Pipe Fitting; Union; Black steel; 1	
all	11	5N1A38AF82	Pipe; Black steel; 1; 38	
all	12	5SL1AMIA	Pipe Fitting; Elbow; 90 degree; Black steel; 1	
all	13	5N1ACLSF42	Pipe; Close (threads only); Black steel; 1;	
all	14	5N1E08AF42	Pipe; Black steel; 1-1/4; 8	
all	15	5N1E05AF42	Pipe; Black steel; 1-1/4; 5	
all	16	51X031	Pipe Fitting; Union; 1"	
all	17	60E518C52A	Steam hose; 1"	
all	17	60E518C35A	Steam hose; 1"	
all	18	5SL1AMIA0P	Pipe Fitting; 90 degree; 1X3/4	
all	19	02 11369D	Gasket; Steam pipe and flange	
all	20	W2 11365	Weldment; Steam pipe and flange	
all	21	X6 20247A	Machined part; Steam nozzle; 3/4"	
all	22	98P499	Pipe cover; 1.25"X 1"X 3'	
all	23	15K096	Bolt; Hex head; 3/8-16	
all	24	15U245	Washer; Flat; 3/8	
all	25	15U260	Washer; Lock; 3/8	
all	26	15G206	Nut; Hex; 3/8-16	
all	27	20C040B	Adhesive; L-SUPERFLEX RTV; Clear; GasketNon-corrosive	

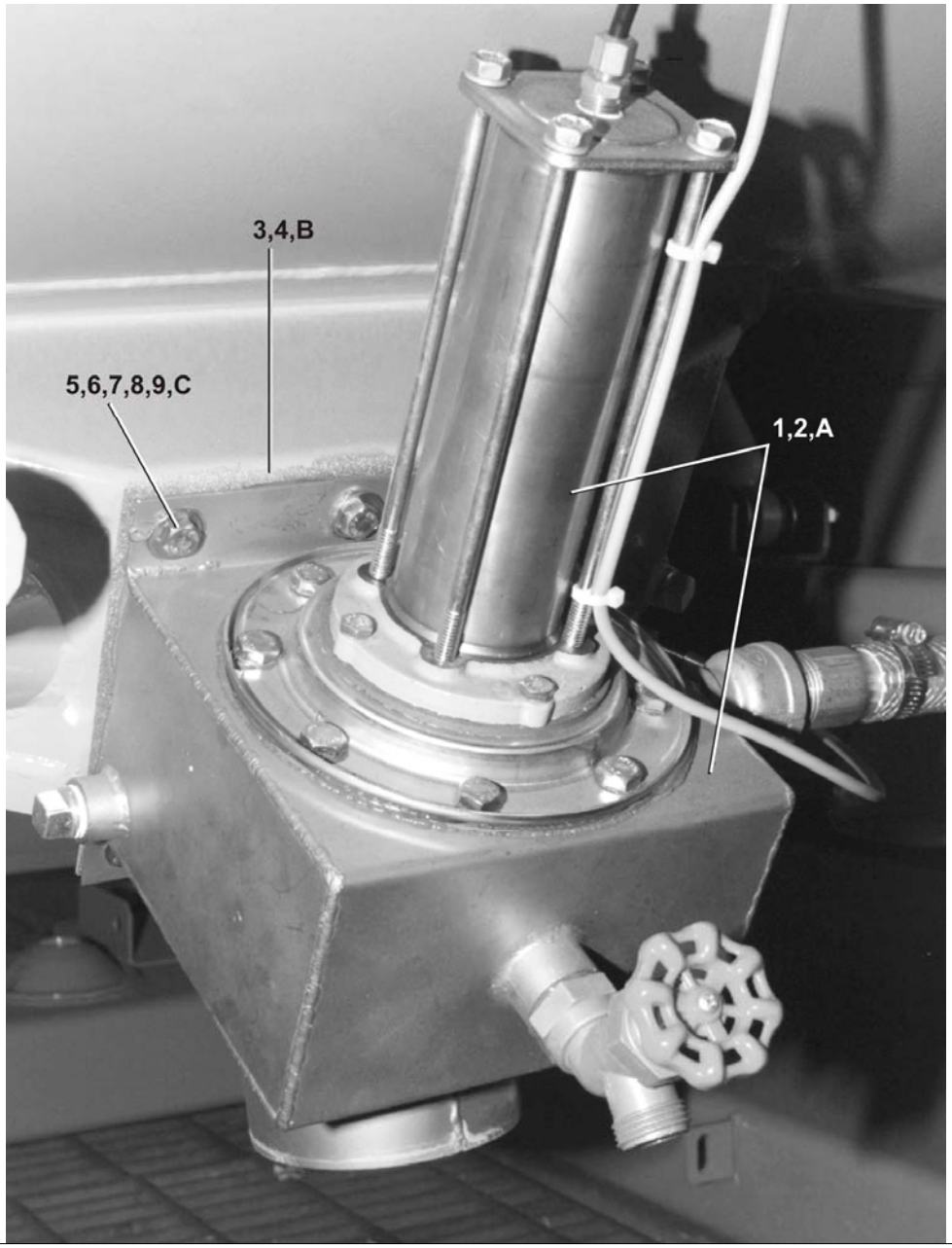
— End of BIIFLM20 —

BIIFLM21 (Published) Book specs- Dates: 20120503 / 20120503 / 20120503 Lang: ENG01 Applic: IFL

Installation, Drain Valve Body With One Valve

Figure 1: Installation, Drain Valve Body With One Valve

Installed view



Legend

A. Refer to the related section in document BIIFLM22
B. Place two gaskets together.
C. 6 instances

Table 1: Parts List—Installation Drain Valve Body with One Valve

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
			Assemblies	
	A	GVD48400	Installation Group, Drain valve body with one valve, 4840F_, 4840H_	
			Components	
all	1	A14 06400	Assembly*, Bonnet and air cylinder, 4"	
all	2	A14 06500B	Assembly, Drain valve 4"	
all	3	02 15026	Gasket, Drain valve	
all	4	20C040B	Silicone	
all	5	15K096	Bolt 3/8-16UNC2X1SS18-8	
all	6	15U201	Washer, Flat, 3/8"	
all	7	24G030N	Washer, Rolled, Nylon, 3/8"	
all	8	15U260	Washer,Lock, 3/8"	
all	9	15G206	Nut, Hex, 3/8"	

— End of BIIFLM21 —

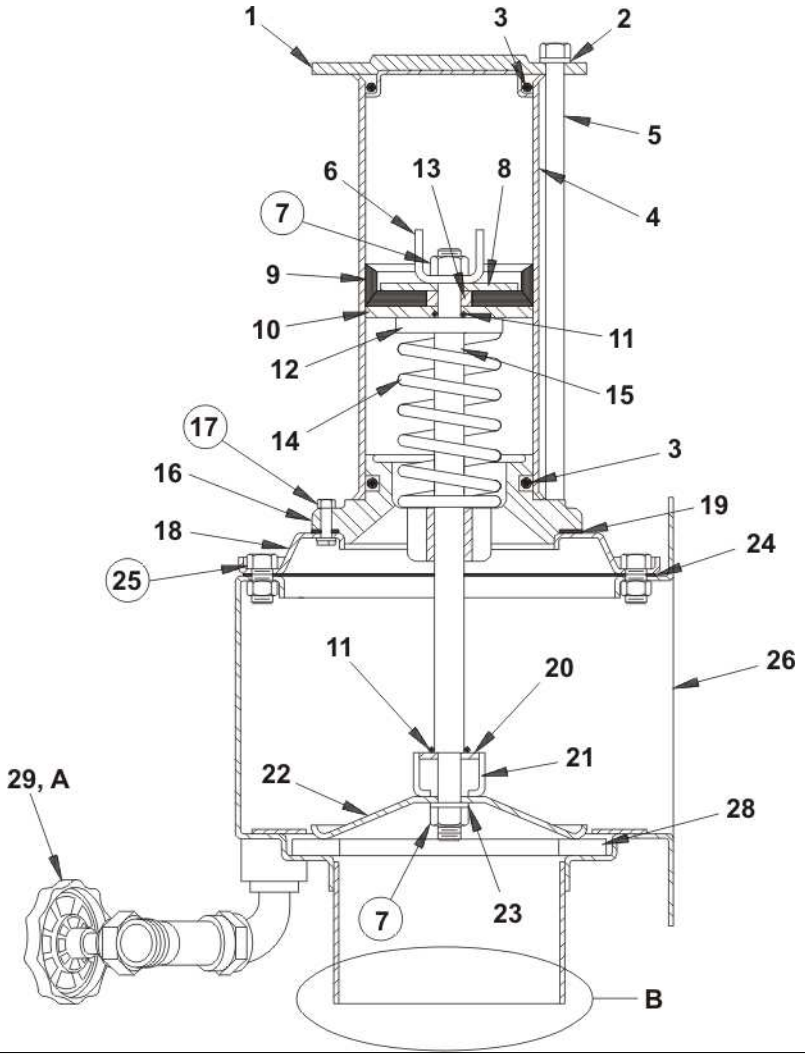
BIIFLM22 (Published) Book specs- Dates: 20120503 / 20120503 / 20120503 Lang: ENG01 Applic: MXA

Components, Drain Valve

WARNING 1: Risk of severe injury—The air cylinder can come apart with strong force when you remove components.

- Look at the illustration carefully to know which components are in spring tension.

Figure 1: Components, Drain Valve



Legend

A. Some machine models do not use this component.
B. The outlet shape changes with the machine model.

Table 1: Parts List—Components, Drain Valve

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
			Assemblies	
	N	W2 15997	Weldment; Drain valve body; 4"	CBW Reuse tank
	P	AVD14003	Assembly; Drain valve; 4"	36021Q_, 36026Q_
	Q	AVD14001A	Assembly; Drain valve; 4"	42026Q_
	R	AVD14001	Assembly; Drain valve; 4"	36021F8P
	S	A14 06500B	Assembly; Drain valve; 4"	48040F7_, 4840H7_, 48036QHP,QTL/N, 42026QHP, 48036BHP,BTL/N
	T	A15 15100	Assembly; Drain valve; 4"	42031WP2,WP3, 42032F7J,P,W, 36030F8J,P,W
	U	A14 06500	Assembly; Drain valve; 4"	36021NSP
	V	A14 06500A	Assembly; Drain valve; 4"	42026DA1
	W	A14 06500F	Assembly; Drain valve; 4"	42026DP1,DYP
	X	SA 09 013A	Assembly; Drain valve; 4"	30016NSP
	Y	A14 06400	Assembly; Bonnet and air cylinder; 4"	Used in N through T and includes 1 through 23
	Z	A14 06400A	Assembly; Bonnet and air cylinder; 4"	Used in U through X and includes 1 through 23
			Components	
all	1	02 02101	Cylinder head	
Y	2	15U210	WasherLock; Zinc plated; 5/16	
Z	2	15U205	WasherLock; Stainless Steel; 5/16	
Y	3	60C132	O-Ring; Buna-N; 2"; 3/16"	
Z	3	60C132V	O-Ring; Viton; 2"; 3/16"	
all	4	02 02068	Air cylinder; Drain valve	
Y	5	02 10585D	Bolt; 5/16-18 X 7.875	
Z	5	02 10585	Bolt; Stainless steel; 5/16-18 X 7.875	
all	6	03 01313	Stop; Air cylinder	
all	7	15G220	Nut;Nylon lock; 3/8; 24	
all	8	02 02085	Washer; Back-up; Piston cup; 2" OD	
all	9	02 02194	Piston cup; Drain valve; 2+3/8"	
all	10	02 02105B	Washer; Piston cup; Brass; 2.38"	
Y	11	60C106	O-Ring; Buna-N; 5/16"; 1/16"	
Z	11	60C106V	O-Ring; Viton; 5/16"; 1/16"	
all	12	02 18651	Washer; Two direction operation; Air cylinder; Brake	
all	13	02 02185	Washer; Compression limit; Piston cup	
all	14	02 17023	Spring; Drain valve; Stainless steel; 1.5 OD	
all	15	02 16021I	Stem; Drain valve; Stainless steel; 4" and 8"	
Y	16	X2 02743	Bonnet; Drain valve; 2"	
Z	16	X2 02743S	Bonnet; Drain valve; Stainless steel; 2"	
all	17A	15G168	Nut; Square; Stainless steel; 1/4; 20	
all	17B	24G020N	Washer; Rolled; 0.252 ID	

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
all	17C	15K041S	Bolt; Hex headStainless steel; 1/4"	
all	17D	15U181	Washer; Lock; Stainless steel; 1/4	
all	18	02 14447	Bonnet; Drain valve; Stainless steel; 4"	
Y	19	02 18931F	Gasket; Drain valve	
Z	19	02 18932B	Gasket; Drain valve 1/8"	
Y	20	02 16021E	Washer; Drain valve; 3/8ID X 1.25 0D	
Z	20	02 18651A	Washer; Drain valve; Disk	
Y	21	02 16021C	Bumper and retainer; Bonnet; Drain valve	
Y	21	02 16021D	Bumper and retainer; Bonnet; Drain valve	
Z	21	02 16021S	Bumper and retainer; Bonnet; Drain valve	
all	22	02 14446	Disk; Drain valve; Stainless steel; 4"	
all	23	15U245	Washer; FlatStainless Steel; 3/8	
P-V,X	24	02 14443	Gasket; Bonnet; Drain valve; Stainless steel; 4"	
W	24	02 14443	Gasket; Bonnet; Drain valve; Stainless steel; 4"	
all	25A	15K086	Bolt; Hex head; Stainless steel; 3/8-16	
all	25B	24G030N	Washer; Rolled; 0.379ID	
P-T	25C	15U200	Washer; FlatStainless Steel; Zinc plated; 5/16	
R	26	W2 14740	Weldment; Drain valve body; 36021F8P	
S	26	W2 11304	Weldment; Drain valve body; 42026_	
N,T	26	W2 15997	Weldment; Drain valve body; 4"; 4231WE+SG	
U	26	W2 14445S	Weldment; Drain valve body; 4" NPT	
V	26	W2 14445	Weldment; Drain valve body; 4"; 36_BWE, QTS	
W	26	W2 14445F	Weldment; Drain valve body; 42026DYP	
X	26	W2 14445J	Weldment; Drain valve body; 3" NPT	
Q	26	W2 14740A	Weldment; Drain valve body; 42_S6P	
P	26	W2 11943	Weldment; Drain valve body; Drain to rear; 36_Q_	
Q-T	27	5SP0KGFSS	Pipe Fitting; Plug; Square head; 1/2	
U-X	27	5SP0KSFHC	Pipe Fitting; Plug; Hex head; 1/2	
all	28	02 14166	Seat; 4" Drain valve; [deprecated]	
all	29	96DB0PNA	Hose bibb; 3/4"	

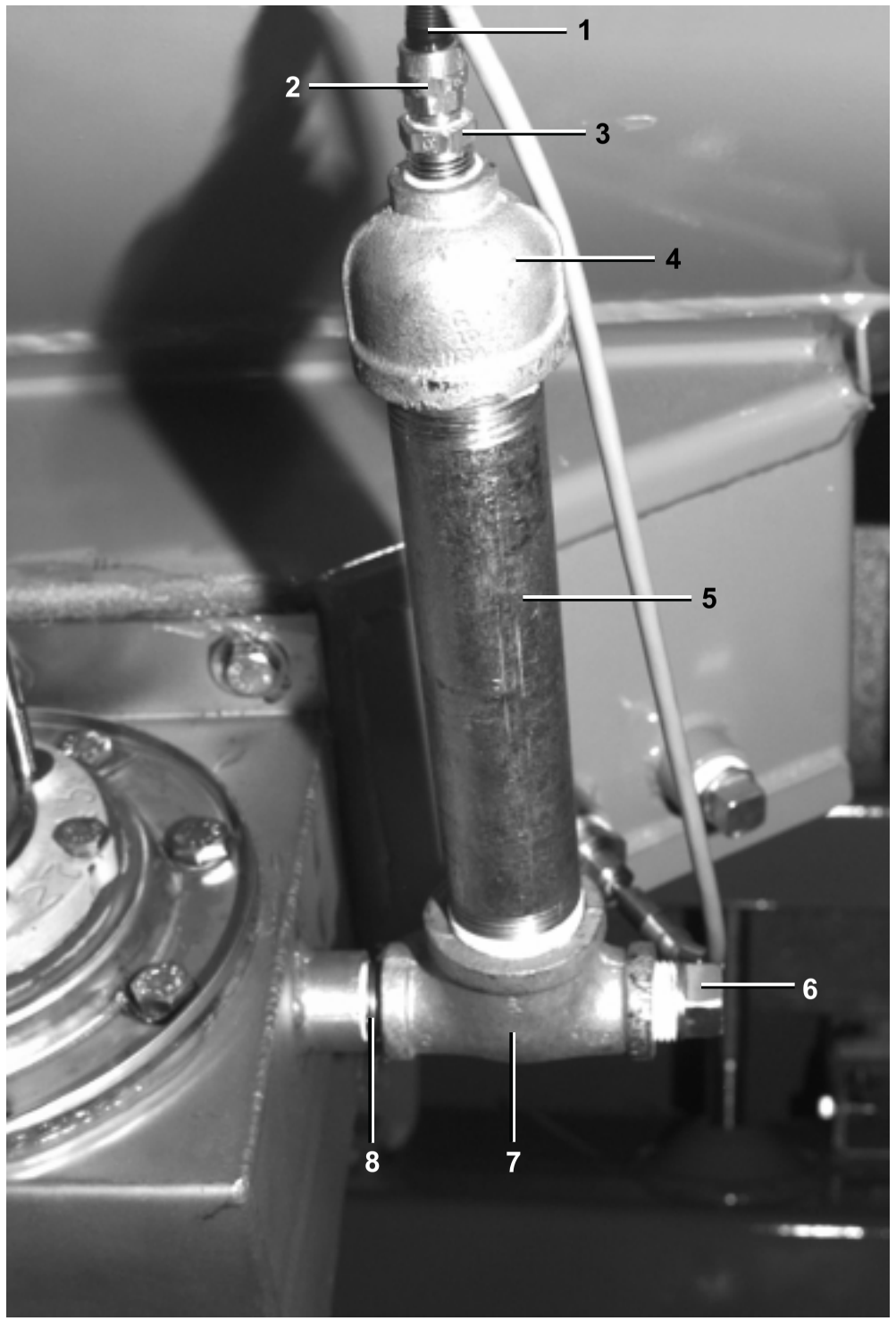
— End of BIIFLM22 —

Air Chamber Pressure Switch

48040F7N,F7W

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

Litho in U.S.A.



Parts List—Air Chamber Pressure Switch

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

Used In	Item	Part Number	Description	Comments
----------ASSEMBLIES----------				
	A	AD 15 090K	INSTALL=AIR CHAMBER PRESS/SW	
----------COMPONENTS----------				
all	1	60E004AT	5/16 OD X .188ID POLYPEN L3HS	
all	2	53A047H	MALCON 5/16X1/8POLY PH#68P-5-2	
all	3	5SB0E0CBEO	NPTHEXBUSH 1/4X1/8 BRASS 125#	
all	4	5SR1A0ENF	NPT RED 1X1/4 GALMAL 150#	
all	5	5N1A07AG42	NPT NIP 1X7 TBE GALSTL SK40	
all	6	5SP0KGFSS	NPT PLUG 1/2 SOSOLID GALSTL	
all	7	5S0KNFA1A	NPT TEE 1/2X1/2X1" GALMAL 150#	
all	8	5N0KCLSG42	NPT NIP 1/2XCLS TBE GALSTLSK40	

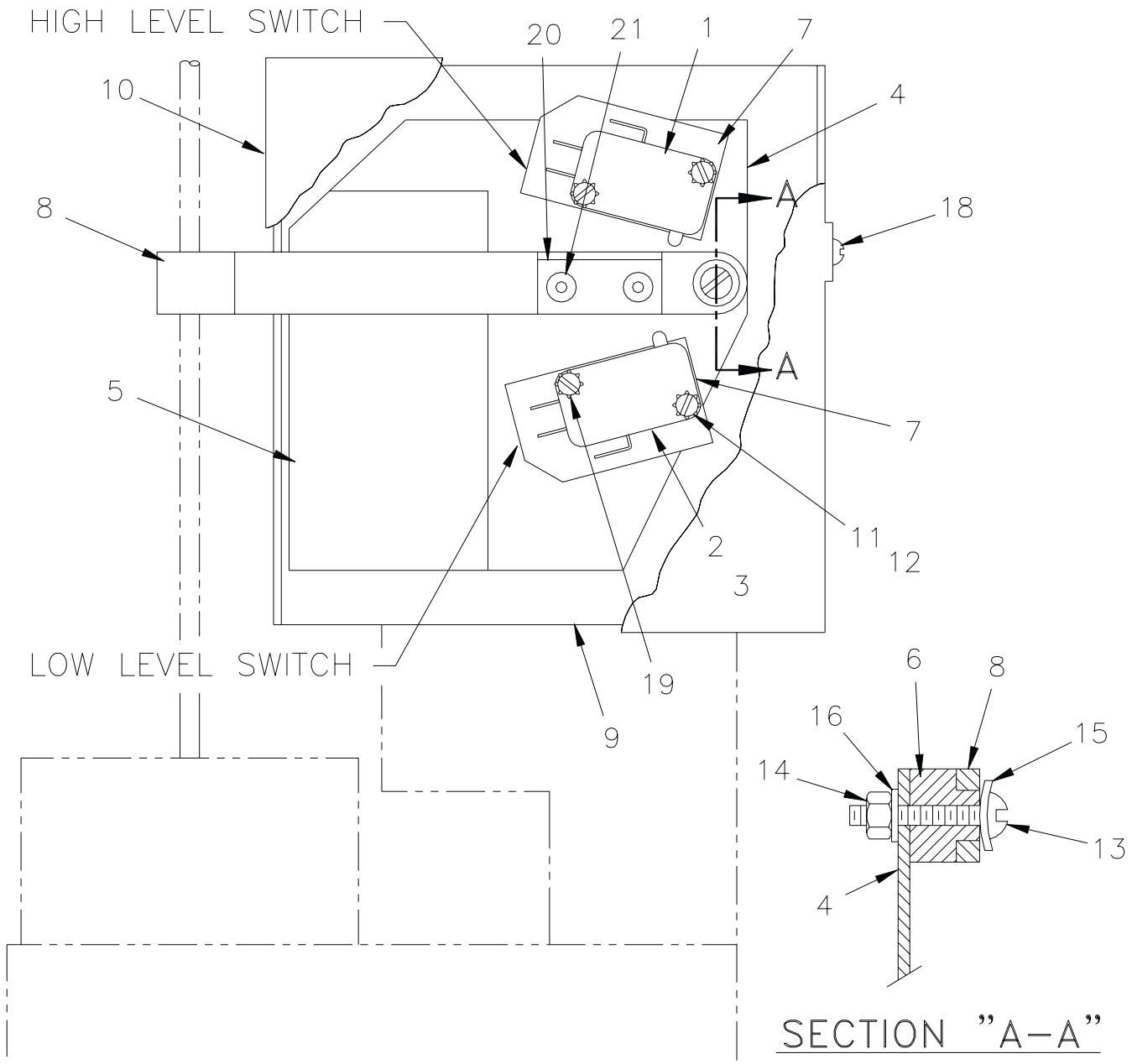
Water Level Switch Assembly

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

Litho in U.S.A.

Notes:

1. Disconnect power at main switch before operating this enclosure.
2. Wiring must not interfere with movement of item 8.
3. To order complete water level switch assembly, see items A-G.
4. When item 20 is used in assembly G, flange will be on top (shown). When item 20 is used in assembly F, flange will be on bottom.



Parts List—Water Level Switch Assembly

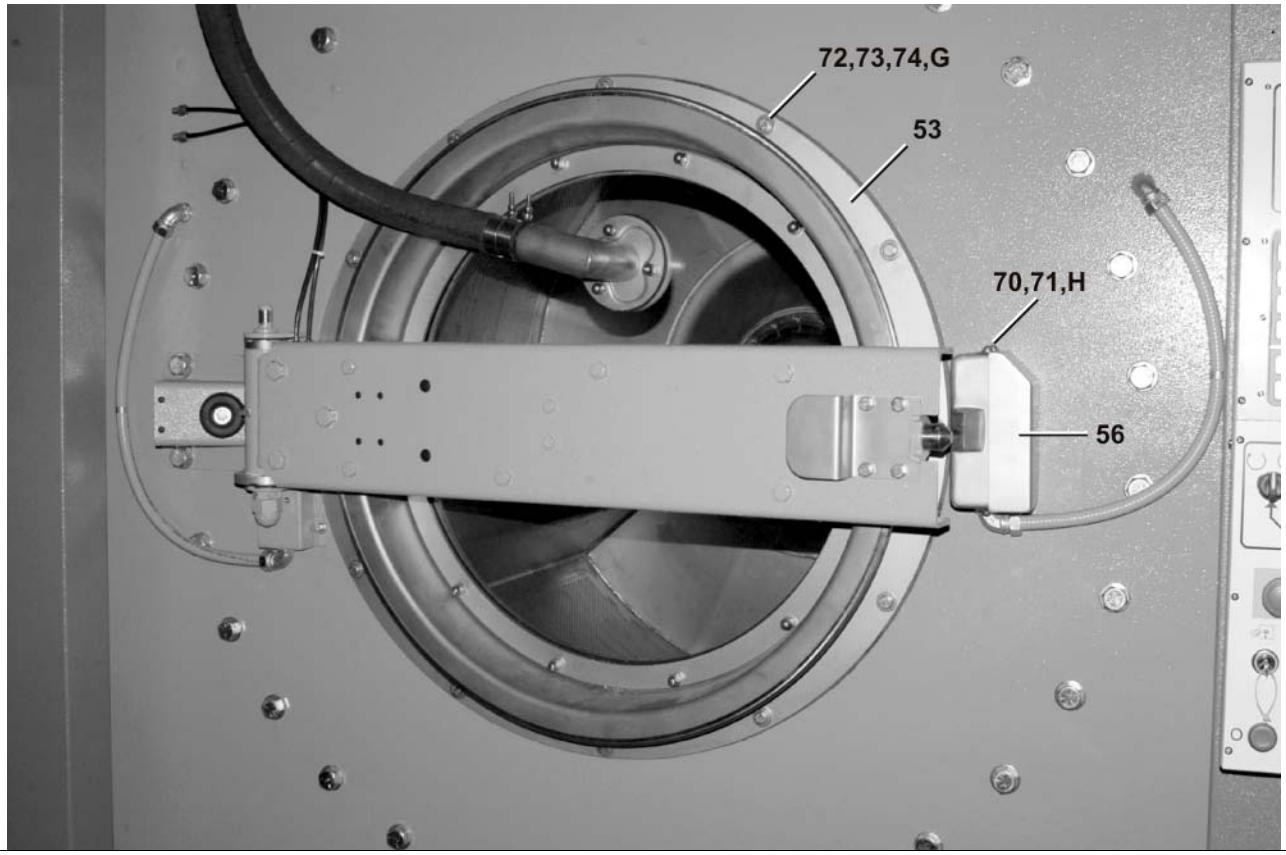
Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			ASSEMBLIES	
	A	ELL000MK1	*LIQUOR LEVEL SW ASSY CBW	1 UP + 0 LO
	B	ELL000MK2	*WATER LEV SW ASSY: 1 UP+ 1LO	1 UP + 1 LO
	C	ELL000MK2A	*CONVEYOR E-STOP ASSY 1UP-1DN	1 UP + 1 LO
	D	ELL000MK2S	*MK2 WATER LEVE SWITCH ASSYSS	1 UP + 1 LO SS
	E	ELL000MK3	WATER LEV SW ASSY:0 UP +1 LO	0 UP + 1 LO
	F	ELL000MK4	*WATER LEV SW ASSY:1 UP +2 LO	1 UP +2 LO
	G	ELL000MK5	$WATER LEV SW:2UP +1LO	2 UP + 1 LO
			COMPONENTS	
A-D,F-G	1	09R014A	MINI-SW SPDT STAKON #V15G1C26K	
B-G	2	09R014A	MINI-SW SPDT STAKON #V15G1C26K	
F-G	3	09R014WS	MICROSW SPDT STAKON V3-2101-D8	
004-C,E-G	4	02 02150M	SW MOUNTPLATE=LEVCONT ZINCPL	
D only	4	02 02150S	PLATE=SWITCH MNT LEVEL S/S	
all	5	01 10227	LABEL=WATER LEVEL SWITCH ASMB	
all	6	02 02152	BUSHING=FLOAT LEVER	
all	7	02 02164	INSULATION=V3-1 MICROSWITCH	
all	8	02 02190	FLOATLEVER=LEVEL SW	
A-C-E-G	9	02 02553	BASE=LEVEL CONTROL	
D only	9	02 02553S	BASE=LEVEL CONTROL ENCL S/S	
A-B-E-G	10	02 02554	COVER=LEVEL CONTROL-PLTD	
C only	10	02 02554A	COVER=CONVEYOR E-STOP-PLATED	
D only	10	02 02554S	WATER LEVEL CONTROL ENCL S/S	
all	11	15N019	RDMACSCR 4-40UNC2AX5/8 ZINC GR	
all	12	15U021	LOKWASH EXTOOTH #4 (US STD) ZI	
A-C,E-G	13	15N055	RDMACHSCR 6-32UNC2AX5/8 ZINC G	
A-C,E-G	14	15G070	HXMACHSCRNUT 6-32UNC2B ZINC GR	
D	14	15G075	HEX MACH SCREW NUT 6-32UNC2 S	
all	15	15U060	FLAT WASHER#6 ANSI TYPEB BRASS	
A-C,E-G	16	15U100	LOKWASHER MEDIUM #6 ZINCPL	
D only	16	15U102	LOCKWASHER MEDIUM #6 SS18-8	
A-C,E-G	17	15P105	TRDCUT-F PANHD 8-32X5/8 NIKSTL	
D only	17	15P103	TRDCUT-F RDHDSLOT 8-32UNCX1/2	
all	18	15P100	#8 X 3/8 PHILPANHD TYPE B SMS	
F-G only	19	15N021	RDMACSCR 4-40 UNC2X1 ZINC PLT	
F-G only	20	03 01462C	ANGLE=H20 LEVEL ACTUATOR	
F-G only	21	15J051	POPRIVET 1/8DIAX.265 LONG S/S	

Recirculation Door Components and Installation (Left hand configuration)

Figure 1: Recirculation Door Installation

Front view

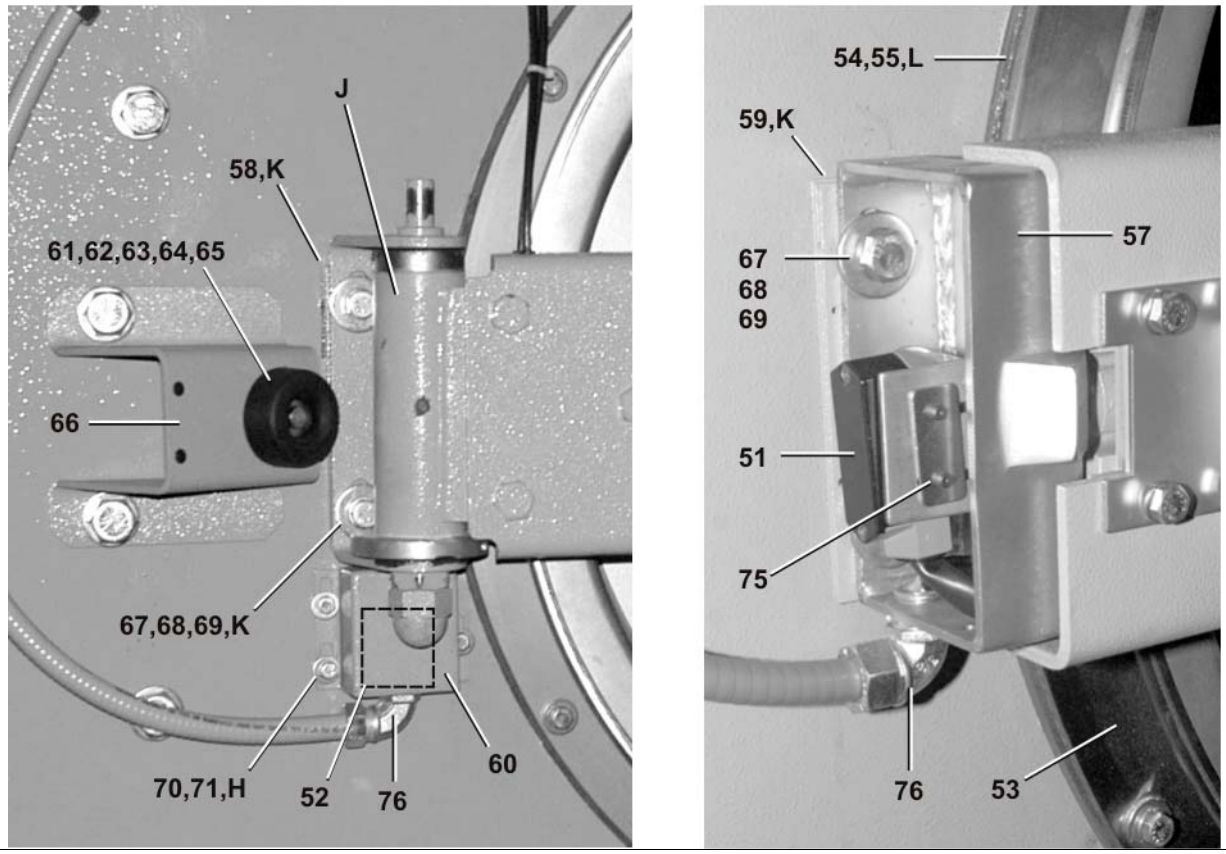


Legend

G. 12 instances
H. 4 instances

Figure 2: Recirculation Door Installation

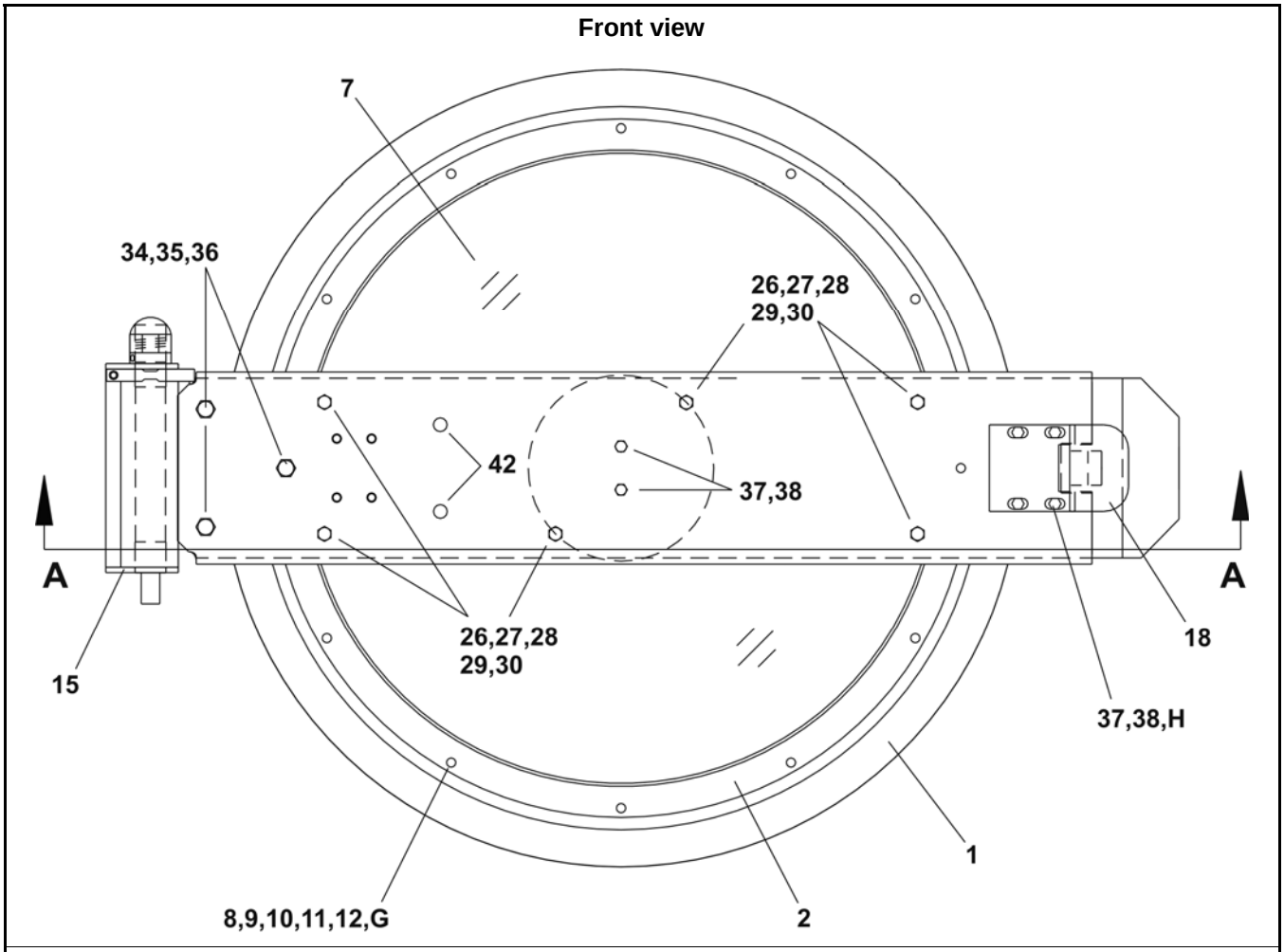
Detailed views



Legend

H. 4 instances
J. Refer to the document the related section in document BIIFLM16
K. 3 instances
L. Put the gasket segments together, end to end, to make the full, circular gasket.

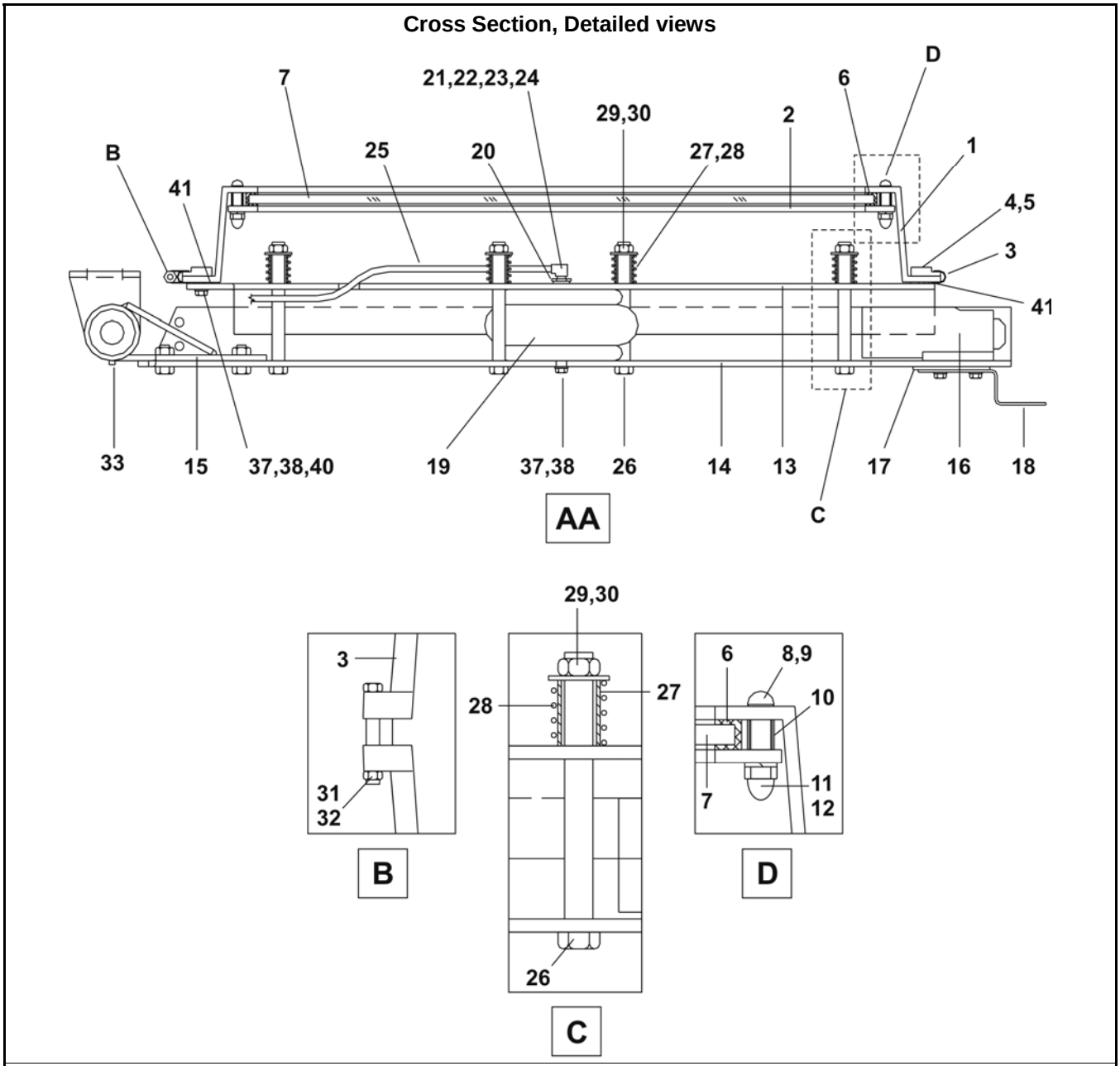
Figure 3: Recirculation Door Components



Legend

AA. Cross Section, Refer to Figure 4
G. 12 instances
H. 4 instances

Figure 4: Recirculation Door Components

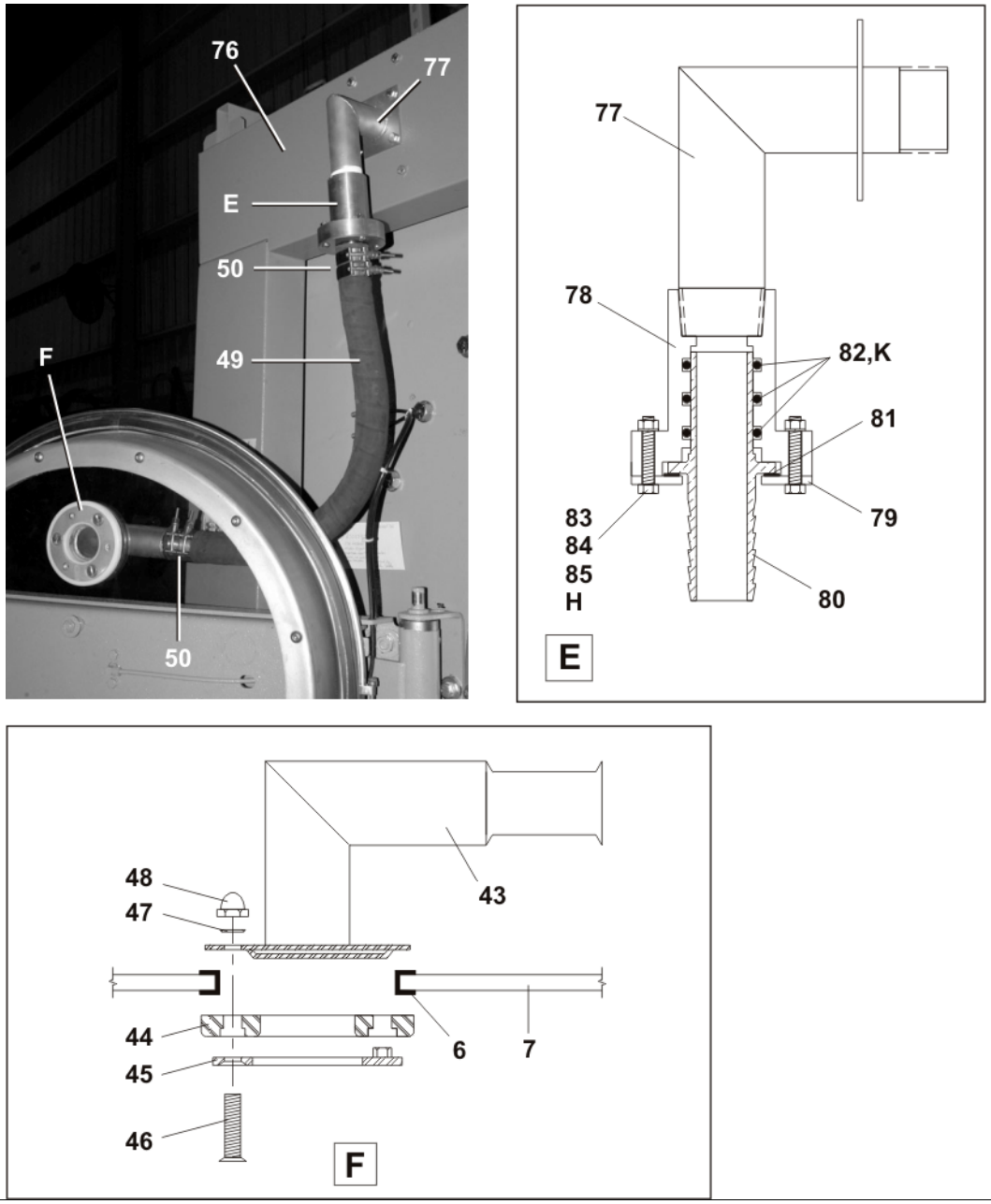


Legend

AA. Cross Section
B. Retainer ring
C. Door channel bolts
D. Door glass and gasket

Figure 5: Components, Recirculation door

Detailed views of Rotary coupling and Recirculation nozzle



Legend

E. Rotary coupling
F. Recirculation nozzle
H. 4 instances
K. 3 instances

Table 1: Parts List—Recirculation Door Components and Installation

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**
Assemblies				
	A	A25 00100H	Assembly: Recirculation door, 30"	
	B	GSD4840F	Installation Group; Recirculation door, 30"	
Components				
all	1	Y3 25060A	Tapered side; 30"	
all	2	X3 25058A	Retainer ring; Door glass	
all	3	W3 25085C	Retainer ring; Gasket	
all	4	03 25085A	Gasket,; 3/8	
all	5	20C047	Adhesive; 1 Quart	
all	6	03 25083	Gasket; Door glass	
all	7	03 25013B	Door glass	
all	8	15K106B	Bolt;Socket head button; Stainless steel; 3/8	
all	9	24G030N	Washer; Nylon; .379	
all	10	27B2400K0L	Spacer; Rolled; Stainless steel; 0.375 X 0.562	
all	11	15G200	Nut;Cap; 3/8; 16	
all	12	15U260	Washer; Lock; Stainless Steel; 3/8	
all	13	03 25061	Door inner channel	
all	14	03 25089	Door outer channel	
all	15	A25 04500	Assembly; Bearing and Hinge pin	
all	16	SA 15 028	Assembly; Door latch	
all	17	02 15633S	Adjustment plate; Door latch	
all	18	02 15633A	Door handle	
all	19	60B090	Pneumatic bellows actuator	
all	20	5SB0E0CBEO	Hex adapter bushings; Brass; 1/4X1/8	
all	21	53A031B	Hydraulic fitting; Elbow 90 degrees; 1/4; 1/8	
all	22	53A059A	Hydraulic fitting;Tube fitting nutBrass; 1/4	
all	23	53A500	Hydraulic fitting;Sleeve; 1/4	
all	24	53A501	Hydraulic fitting; Tube; Brass; 1/4	
all	25	60E004TE	Tubing; Round; Nylon; 0.25	
all	26	15K203	Bolt; Hex head; Zinc plated; 1/2	
all	27	27B2750L0T	Spacer; Rolled; Zinc plated; 0.5625	
all	28	02 18187S	Spring; Stainless steel; 0.985	
all	29	15U280	Washer; Flat; Zinc plated; 1/2	
all	30	15G234	Nut;Lock; Cadmium plated; 1/2	
all	31	15N200	Bolt; Phillip button head; Stainless steel; 1/4	
all	32	15G170	Nut;Hex; Stainless steel; 1/4	
all	33	54M015	Grease fitting	
all	34	15K214E	Bolt;Hex head; Zinc plated; 5/8	
all	35	15G238	Nut; Hex; Zinc Plated; 5/8	
all	36	15U315	Washer; Lock; Zinc plated; 5/8	
all	37	15U255	Washer; Lock; Zinc plated; 3/8	
all	38	15K085	Bolt;Hex head; Unplated; 3/8	

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
all	39	15G205	Nut;Hex; Zinc Plated; 3/8	
all	40	15N223	Bolt;Counter sink; Unplated; 3/8	
all	41	15U245B	Washer;Flat; Clipped ; .39	
all	42	12P1ALHP	Hole plug; 9/16	
all	43	W2 10583M	Recirculation nozzle	
all	44	02 03127	Mounting ring; Recirculation nozzle; UHMW	
all	45	W2 03128	Mounting plate; Recirculation nozzle	
all	46	15N223A	Bolt;Counter sink; Stainless steel; 3/8	
all	47	24G030N	Washer; Rolled; Nylon; .379	
all	48	15G200	Nut; Cap; Unplated; 3/8	
all	49	60E098	Hose; Water; 1 1/2	
all	50	27A066A	Hoseclamp; T-bolt; 1-3/4	
all	51	E25 00100	Switch; Door interlock	
all	52	09RM01212S	Switch; Door open	
all	53	Y3 25084C	Machined part; Door ring	
all	54	03 25026D	Gasket; Door ring; 1/32	
all	55	03 25026E	Gasket; Door ring; 1/8	
all	56	W3 25180	Cover; Interlock switch and Striker	
all	57	W3 25159S	Door; Striker	
all	58	03 25170A	Shim; Hinge	
all	59	03 25159W	Shim; Striker	
all	60	W3 25078A	Bracket; Switch; Door open	
all	61	60C075	Rubber bumper; 2+1/2	
all	62	15K105	Bolt; Hex head; 3/8	
all	63	15G205	Nut; Hex; Zinc Plated; 3/8	
all	64	15U238	Washer; Lock; Stainless Steel; 3/8	
all	65	15U240	Washer; Flat; Zinc plated; 3/8	
all	66	02 21874	Stop; Door open	
all	67	15K151	Bolt; Hex head; 1/2	
all	68	15U300	Washer; Lock; Zinc plated; 1/2	
all	69	15U490	Washer; Flat; Zinc plated; 1/2	
all	70	15K031	Bolt;Socket head button; Stainless steel; 1/4	
all	71	15U181	Washer; Lock; Stainless Steel; 1/4	
all	72	15K100	Bolt;Hex head; Stainless steel; 3/8	
all	73	15U260	Washer; Lock; Stainless Steel; 3/8	
all	74	15U246	Washer; Flat; Stainless Steel; 3/8	
all	75	15K022	Bolt; Socket head button; Stainless steel; 10	
all	76	W2 22040	Elbow pipe and flange	
all	77	02 22101E	Upper front panel; Recirculation door	
all	78	X5 20203	Outer sleeve; Rotary coupling	
all	79	05 20202	End cap; Rotary coupling	
all	80	X5 20201	Inner sleeve; Rotary coupling	
all	81	05 20206	Thrust washer; Rotary coupling	

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
all	82	60C127T	O-Ring; 1-3/8	
all	83	15K043	Bolt; Hex head; Zinc plated; 1/4	
all	84	15U180	Washer; Lock; Zinc plated; 1/4	
all	85	15G165	Nut;Hex; Zinc Plated; 1/4	

— End of BIIFLM25 —

BIIFLM26 (Published) Book specs- Dates: 20090411 / 20090917 / 20090917 Lang: ENG01 Applic: IFL

Reuse Tank Components and Installation

Figure 1: Reuse Tank Components and Installation

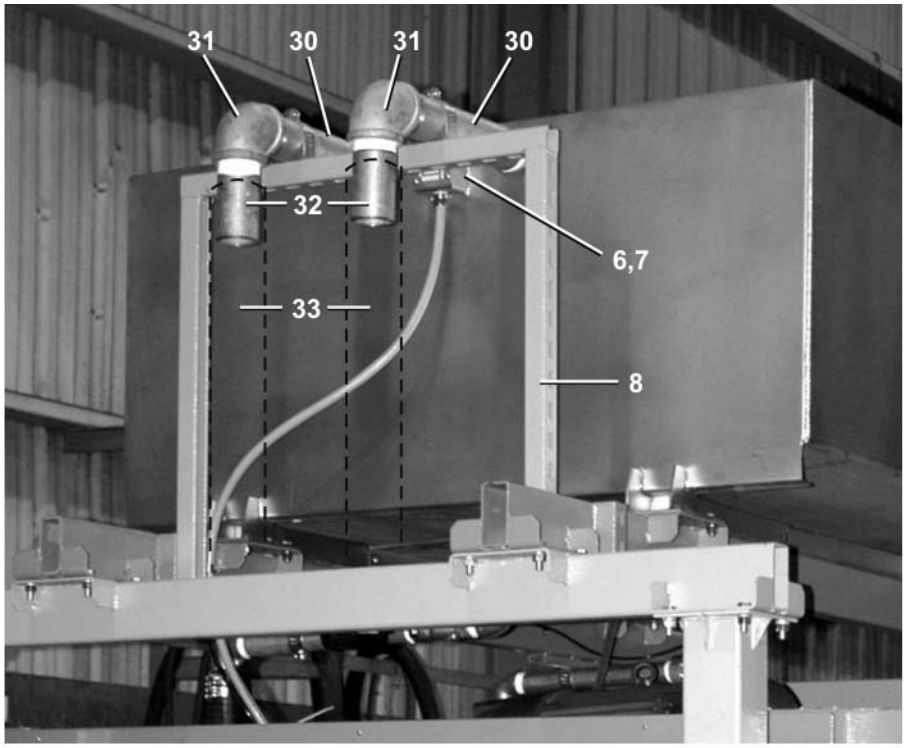
Installed view

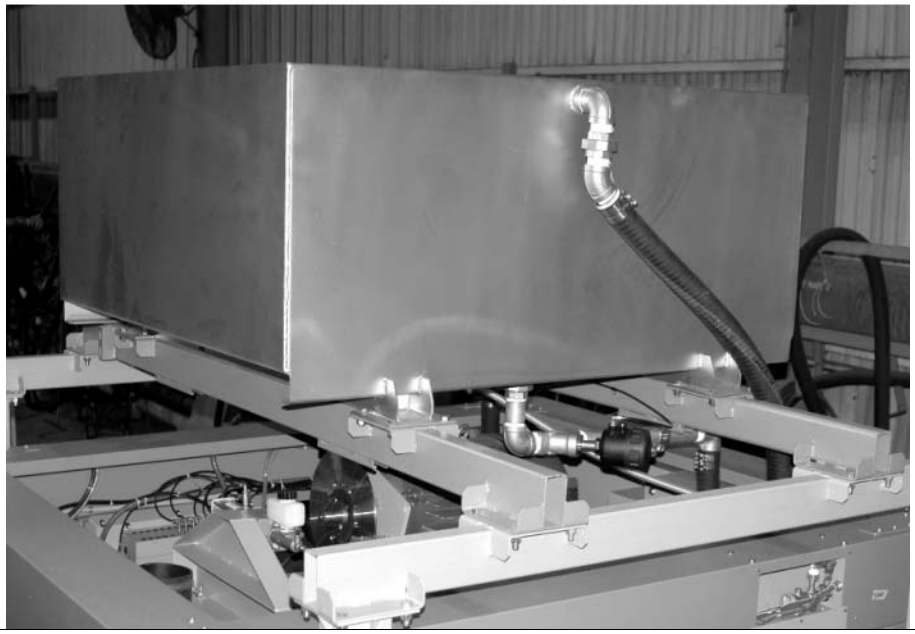
Legend

J. 2 instances
K. This component is shown without the cover.
L. 4 instances

Figure 2: Fill and Overflow Lines

Installed views



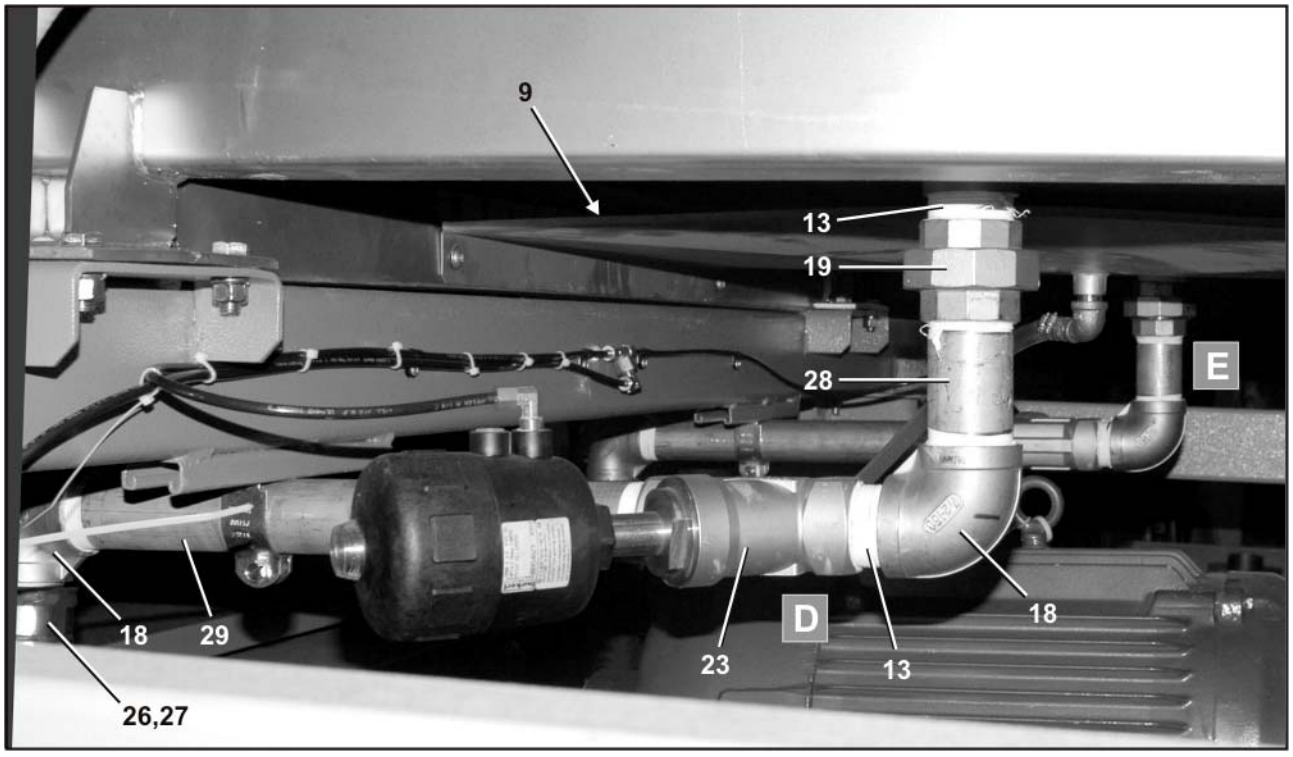


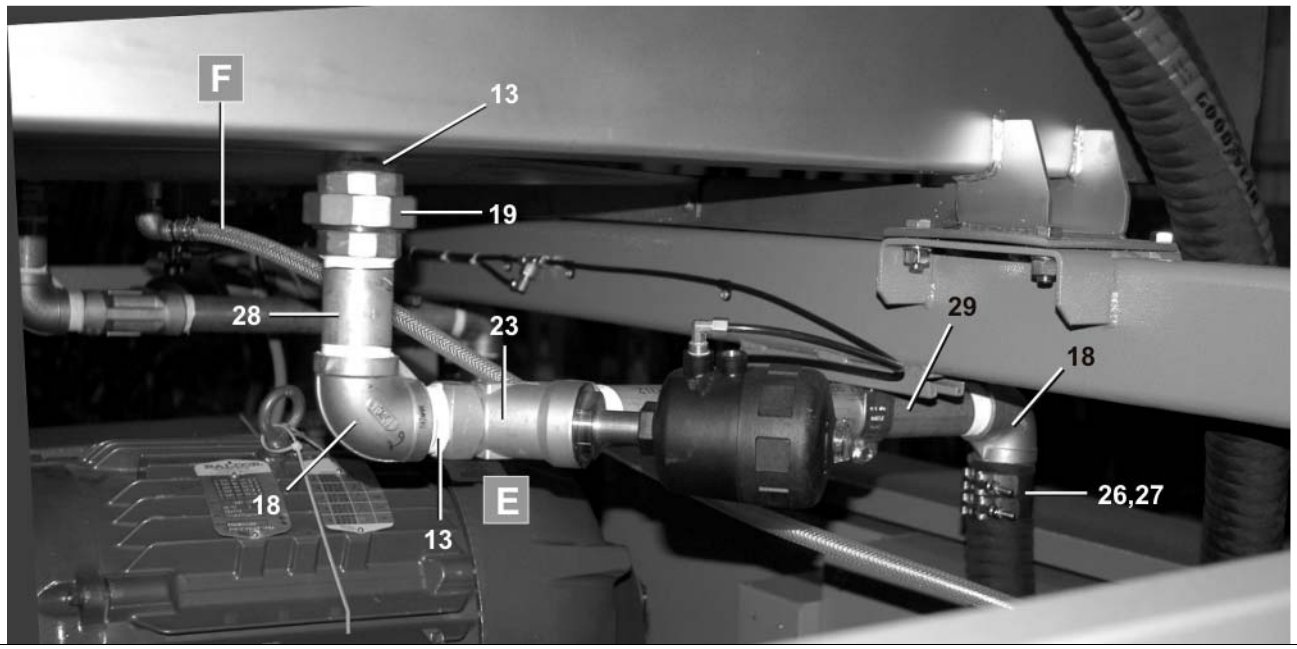
Legend

C. Water flow from the shell to the reuse tank
G. Overflow outlet to the sewer

Figure 3: Drain Lines

Installed views



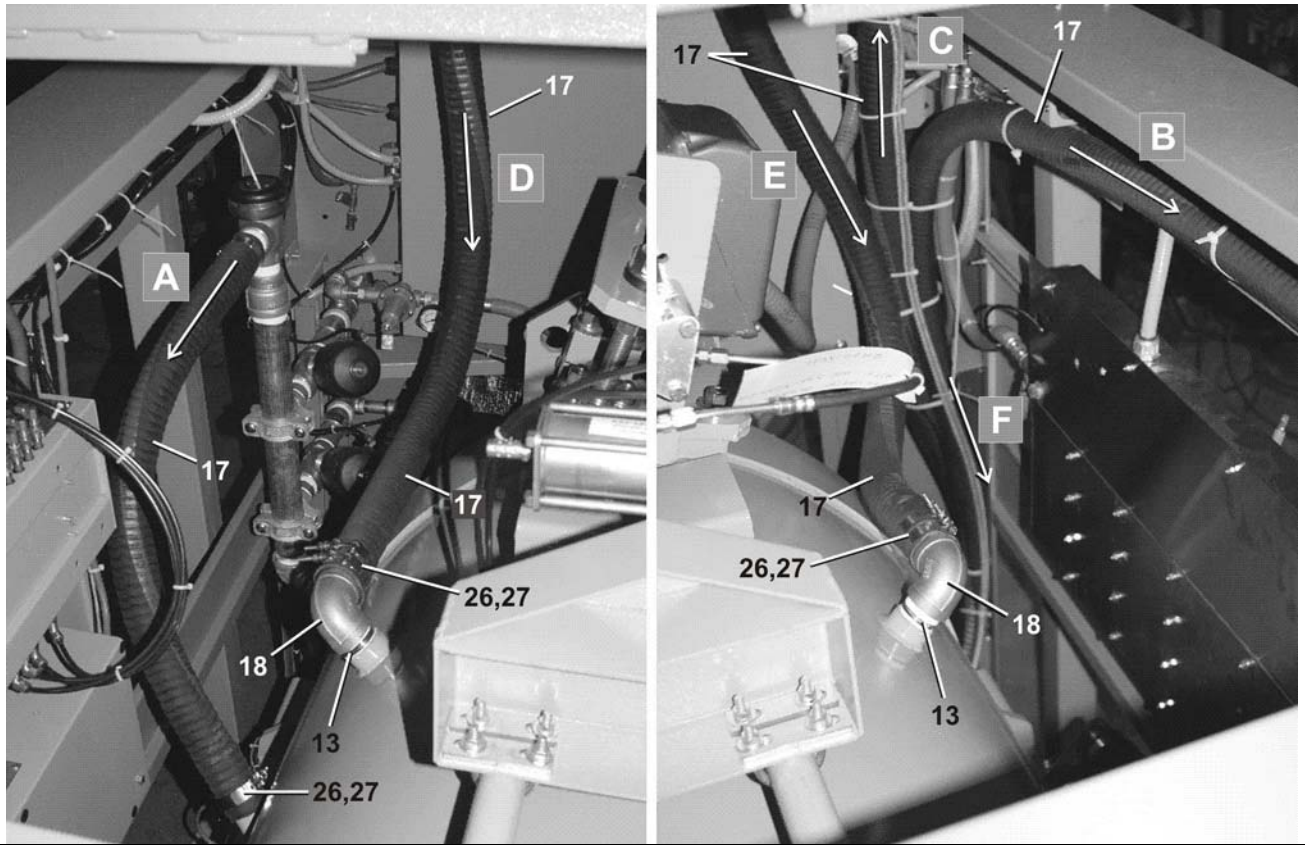


Legend

D. Water flow from the reuse tank to the shell
E. Water flow from the reuse tank to the shell
F. Drain line from the drip pan below the tank to the sewer

Figure 4: Reuse Water Lines

Installed views

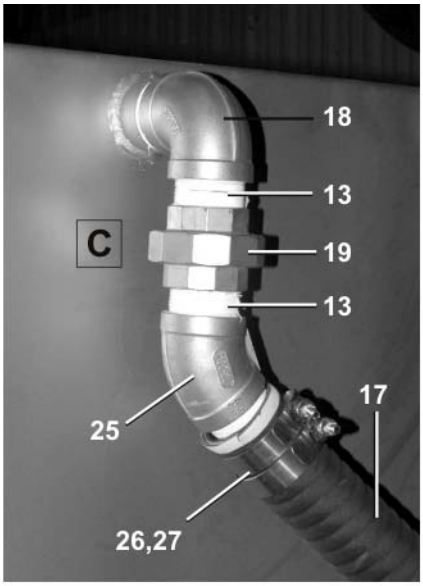


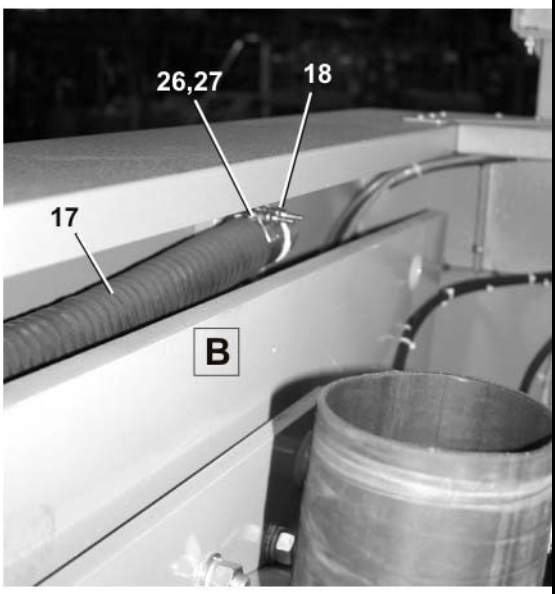
Legend

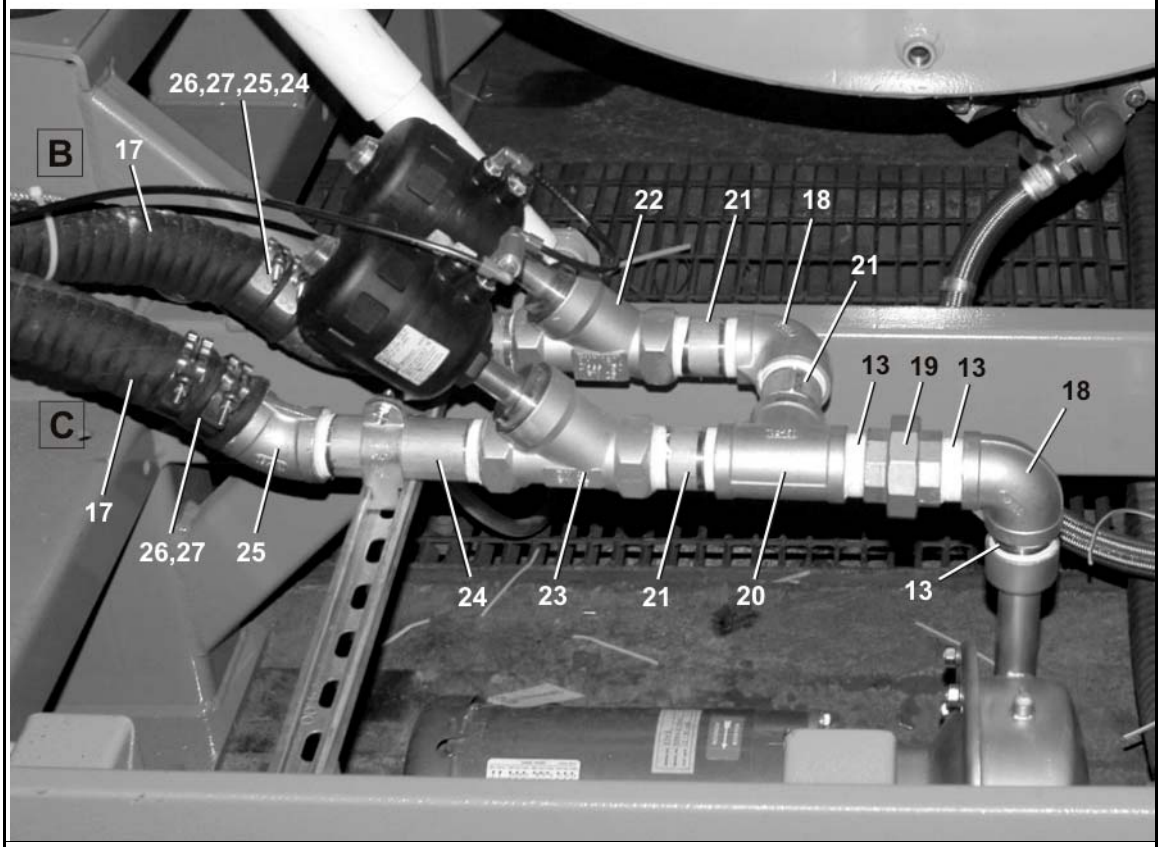
A. New water to the shell
B. Water flow from the reuse tank to the door
C. Water flow from the shell to the reuse tank
D. Water flow from the reuse tank to the shell
E. Water flow from the reuse tank to the shell
F. Drain line from the drip pan below the tank to the sewer

Figure 5: Reuse Water Lines

Detailed views





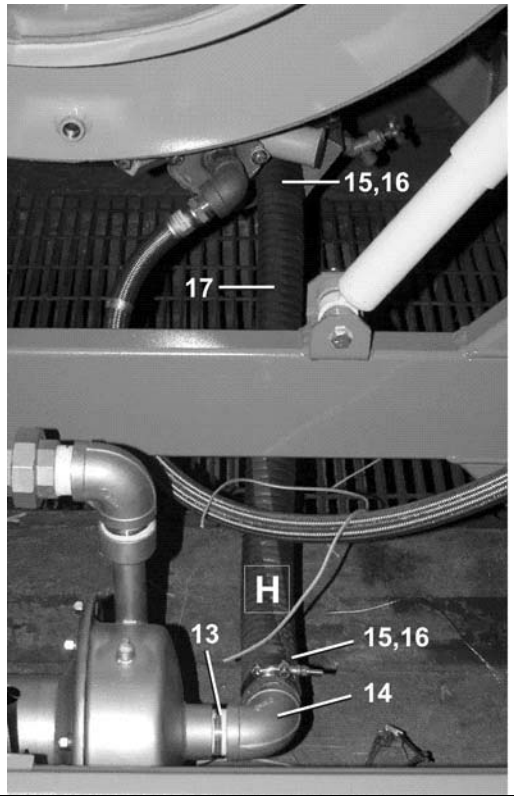


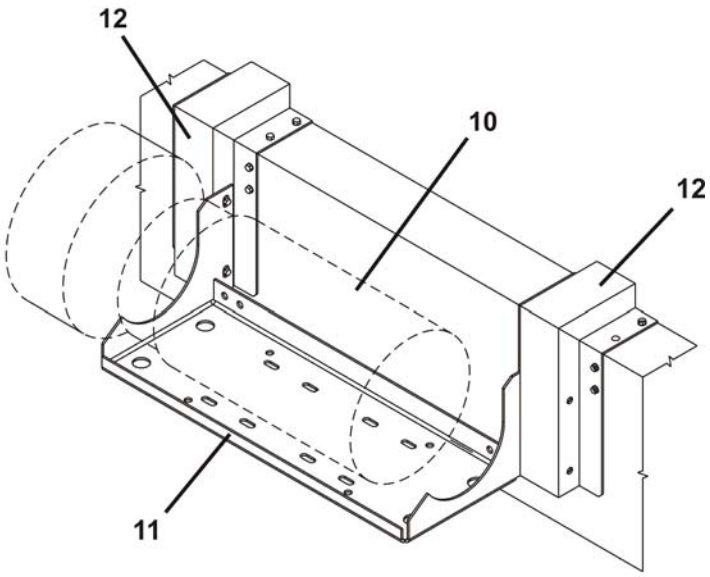
Legend

B. Water flow from the reuse tank to the door
C. Water flow from the shell to the reuse tank

Figure 6: Recrculation Pump

Installed view and Component configuration





Legend

H. Water line from the shell to the recirculation pump

Table 1: Parts List—Reuse Tank Components and Installation

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
			Assemblies	
	A	GVR48400	Installation Group; Recirculation pump; 48040F_	
	B	AVW48405	Assembly; Reuse-recirculation valve; 48040F_	
	C	AVW48406	Assembly; Drain valve; Reuse tank; 48040F_	
			Components	
all	1	W2 22030	Weldment; Reuse tank; 48040F_	
all	2	W2 22039	Weldment; Cover; Reuse tank; 48040F_	
all	3	W2 22041W	Weldment; Column; Reuse tank; 48040F_	
all	4	W2 22045	Weldment; Side joist; Reuse tank; 48040F_	
all	5	W2 22047	Weldment; Top joist; Reuse tank	
all	6	09RL001	Level switch; Side configuration	
all	7	03 E32BP	Enclosure; Level switch	
all	8	W2 22037	Weldment; Support; Overflow pipes; Reuse tank; 48040F_	
all	9	02 22048	Drain pan; Reuse tank; 48040F_	
all	10	27E956K82	Pump; Standard flow; 316SS; 2.0HP50C	
all	11	06 20402F	Mounting bracket; Recirculation pump; 48040F_	
all	12	06 20402N	Connection bracket; Recirculation pump; 48040F_	
all	13	5N1KCLSS42	PIPE;1-1/2;CLS;304SS;TBE;SK40	
all	14	5SL1KNFA	Pipe Fitting; Elbow; 90 degree; Galvanized steel; 1-1/2	
all	15	5N1K03AS41	Pipe; 304 stainless steel; 1-1/2; 3	
all	16	27A072	Hoseclamp; T-bolt	
all	17	60E255	Hose; Water; 2"	
all	18	5SL1KSFA	Pipe Fitting; Elbow; 90 degree; 304 stainless steel; 1-1/2	
all	19	5SU1KSF	Pipe Fitting; Union; 304 stainless steel; 1-1/2	
all	20	5S1KSFA	Pipe Fitting; Tee; 304 stainless steel; 1-1/2	
all	21	5N1K03AG42	Pipe; Galvanized steel; 1-1/2; 3	
all	22	96D087WEST	Valve; Angle body; Water; Usually open; 1.5"	
all	23	96D087WESS	Valve; Angle body; Water; Usually closed; 1.5"	
all	24	5N1K06AS42	Pipe; 304 Stainless steel; 1-1/2; 6	
all	25	5SL1KSFK	Pipe Fitting; Elbow; 45 degree; 304 stainless steel	
all	26	5N1K03AS41	Pipe; 304 Stainless steel; 1-1/2; 3	
all	27	27A072	Hoseclamp; T-bolt	
all	28	5N1K05KS42	Pipe304 Stainless steel; 1-1/2; 5.5	
all	29	5N1K17AS42	Pipe304 Stainless steel; 1-1/2; 17	
all	30	5N2K14PG42	PipeGalvanized steel; 2-1/2; 14.75	

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
all	31	5SL2KNFA	Pipe Fitting; Elbow; 90 degree; 2-1/2	
all	32	5N2K04PF41	PipeGalvanized steel; 2-1/2; 4.75	
all	33	60E303W	Hose; 3" ID	

— End of BIIFLM26 —

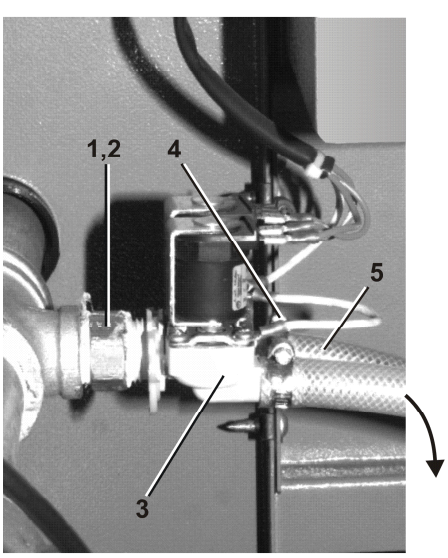
2

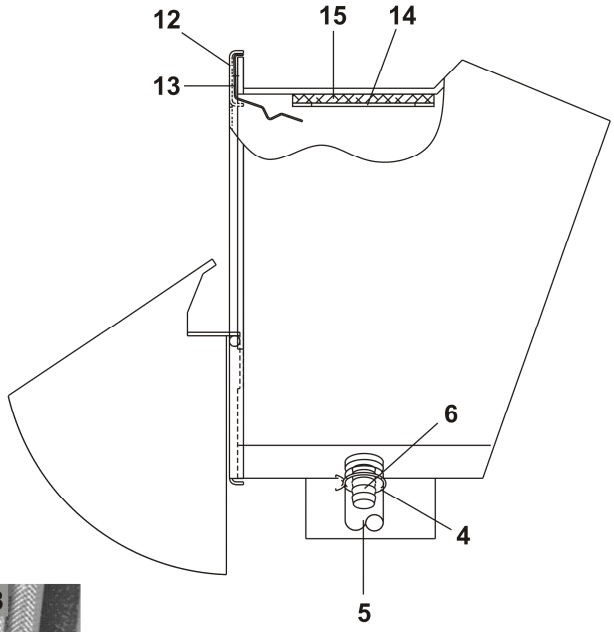
Chemical Supply Assemblies 2.6

BIIFLM27 (Published) Book specs- Dates: 20140321 / 20140321 / 20140321 Lang: ENG01 Applic: IFL IH4

Soap Chute Components and Installation

Figure 1: Soap Chute Components and Installation





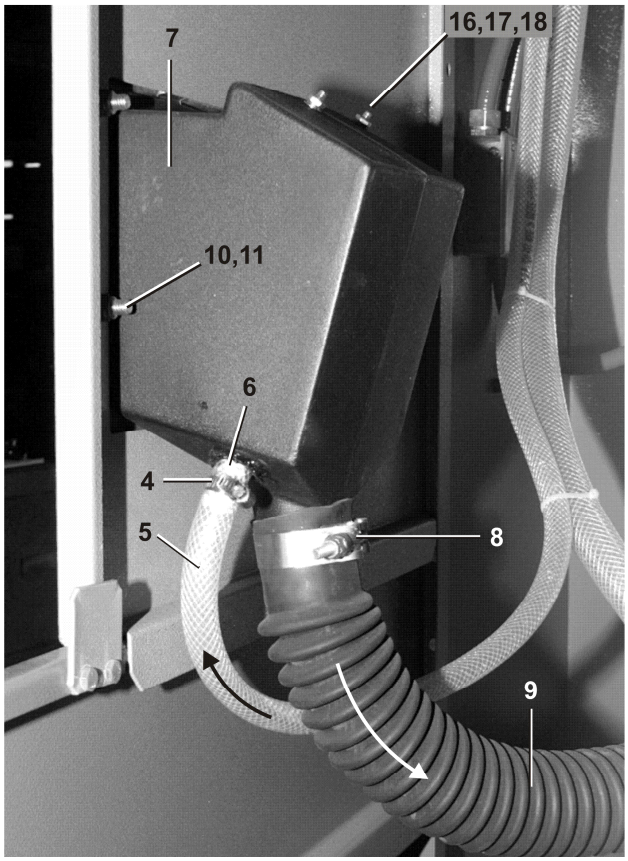


Table 1: Parts List—Soap Chute Components and Installation

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
			Assemblies	
	A	GWS48010A	Installation Group; Soap chute; 48040F_	48040F_
	B	GWS48020A	Installation Group; Soap chute; 48040H_	48040H_
			Components	
all	1	51E513FG	Pipe Fitting; Hose adapter; 3/4"	
all	2	53A060HA	Washer; Hose adapter; 3/4"	
all	3	96P053D71	Valve; Solenoid, duo; 1/2"; Water; Electric	
all	4	27A040	Hoseclamp; Worm; 5/8	
all	5	60E006C	Tubing; Round; PVC; 0.75	
all	6	51BB0KN00B	Pipe Fitting; Barbed; Polypropylene; 1/2"	
all	7	AWS30211A	Assembly; Soap chute	
all	8	27A070	Hoseclamp; T-bolt	
all	9	02 03870A	Tubing; Flexible; Rubber2.5" X 18"	
all	10	15K053	Bolt; Socket head button 5/16	
all	11	15G188	Nut; Hex; 5/16	
all	12	02 04215	Bezel; Soap chute	
all	13	02 04217	Latch; Soap chute	
all	14	02 04216	Chemical guard; Soap chute	
all	15	98A002AT	Abrasive pad; 6" X 9"	
all	16	15G105	Nut; Hex; 8; 32	
all	17	15N095	Bolt; Slot head button; 8; 32	
all	18	15U120B	Washer; Lock; 8	

— End of BIIFLM27 —

BIIFLM28 (Published) Book specs- Dates: 20090416 / 20090917 / 20090917 Lang: ENG01 Applic: IFL

Chemical Supply Inlets

Figure 1: Water Valves for the Liquid Chemical Inlets and the Soap Chute

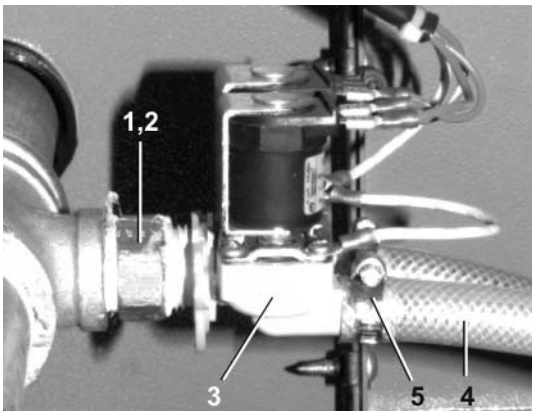
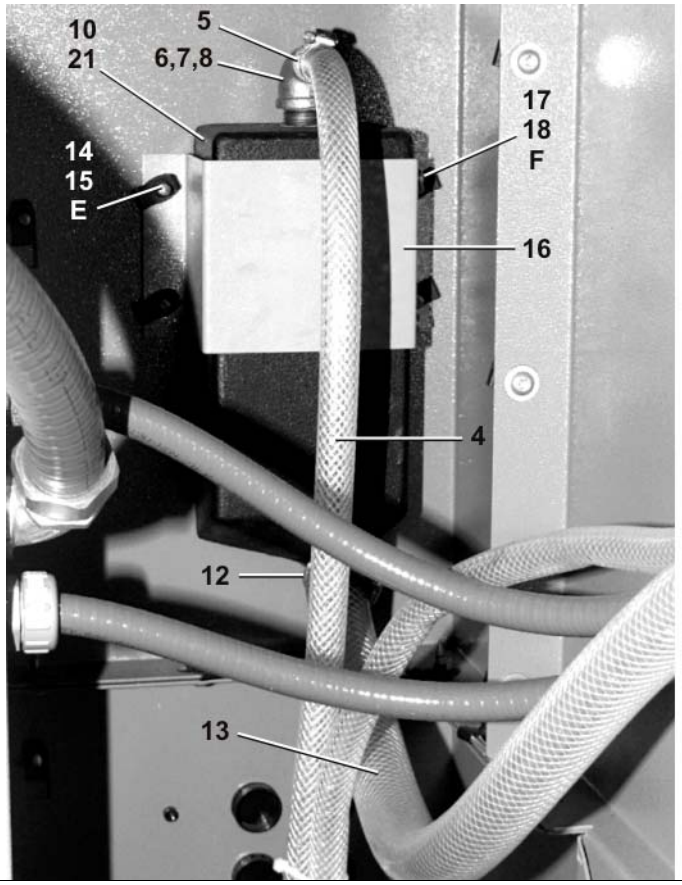
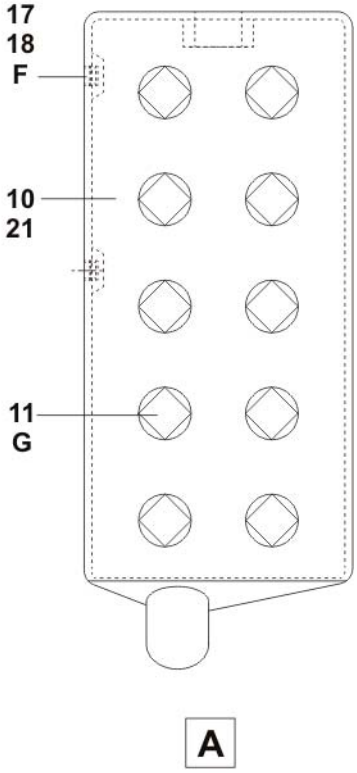


Figure 2: Manifold, 10-Port (standard)

Installed view and Component configuration



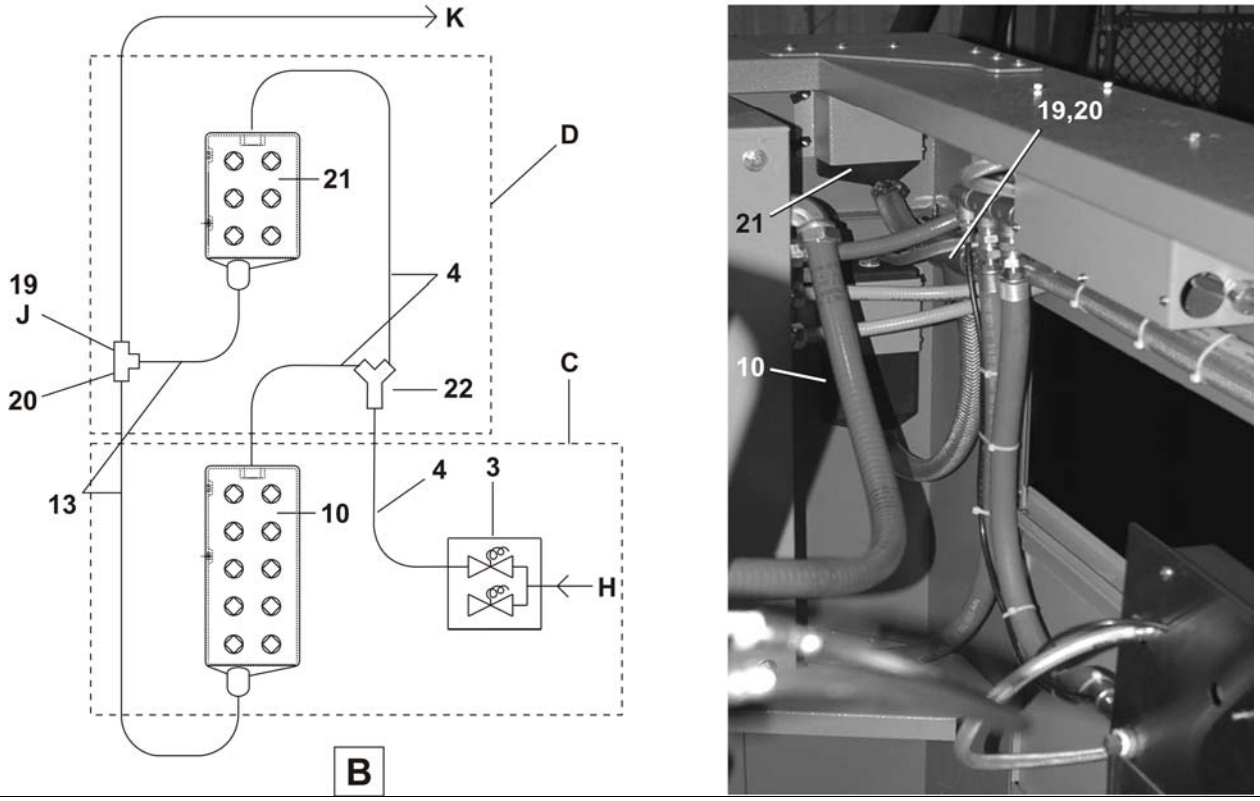


Legend

A. 10-port (standard)
E. 4 instances
F. 2 instances
G. 10 instances

Figure 3: Water Valves for the Liquid Chemical Inlets and the Soap Chute

Schematic and Installed view



Legend

B. Schematic
C. 10-port (standard)
D. 6-port (optional)
H. Hot water to flush the chemical supply manifolds
J. 3 instances
K. Water and chemical supplies to the shell

Table 1: Parts List—Water Valves for the Liquid Chemical Inlets and the Soap Chute

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
			Assemblies	
	A	GWL4840F	Installation Group; Manifold; Peristaltic inlet; 10-port; 48040F_	
	B	GWS48010A	Installation Group; Soap chute; 48040F_	
	C	GWL4840W	Installation Group; Manifold; Peristaltic inlet; 6-port; 48040F_	
			Components	
all	1	51E513FG	Pipe Fitting; Hose adapter; 3/4"	
all	2	53A060HA	Washer; Hose adapter; 3/4"	
all	3	96P053D71	Valve; Solenoid, duo; 1/2" Water; Electric	
all	4	60E006C	Tubing; RoundPolyvinyl chloride; 0.75	
all	5	27A040	Hoseclamp; Worm; 5/8	
all	6	5N0KCLSF42	Pipe; Close (threads only); Black steel; 1/2	
all	7	5SL0KBEA0E	Pipe Fitting; Elbow; 90 degree; Brass; 1/2 X 1/4	
all	8	51E504EB	Pipe Fitting; Elbow; Hose adapter; Brass; 3/8 X 1/4	
all	10	02 03589O	Manifold; Peristaltic inlet; 10-port	
all	11	5SP0KXFHS	Pipe Fitting; Plug; Hex head; Polypropylene; 1/2	
all	12	27A090	Hoseclamp; Worm; 1	
all	13	60E010	Tubing; Round; Polyvinyl chloride; 1.312	
all	14	15N110H	Bolt; Torx flange head; Zinc plated; 1	
all	15	15G004HB	Nut; Speed / clipUnplated steel; 1	
all	16	02 03276	Mounting bracket; Manifold; Peristaltic inlet	
all	17	15K032	Bolt; Socket head button; Stainless steel; 1/4	
all	18	15U181	Washer; Lock; 1/4	
all	19	51ET1AE01	Pipe Fitting; Hose adapter; Polyvinyl chloride; 1"	
all	20	5S1AP8A	Pipe Fitting; Tee; Polyvinyl chloride; 1	
all	21	02 03589L	Soap chute	
all	22	51E509Y	Pipe Fitting; Y-Branch; Brass; .875	

— End of BIIFLM28 —

2

Pneumatic Assemblies 2.7

Pneumatic Schematic

48040F7J,F7N,F7B,F7W

BMP020015/2007093B
(Sheet 1 of 2)

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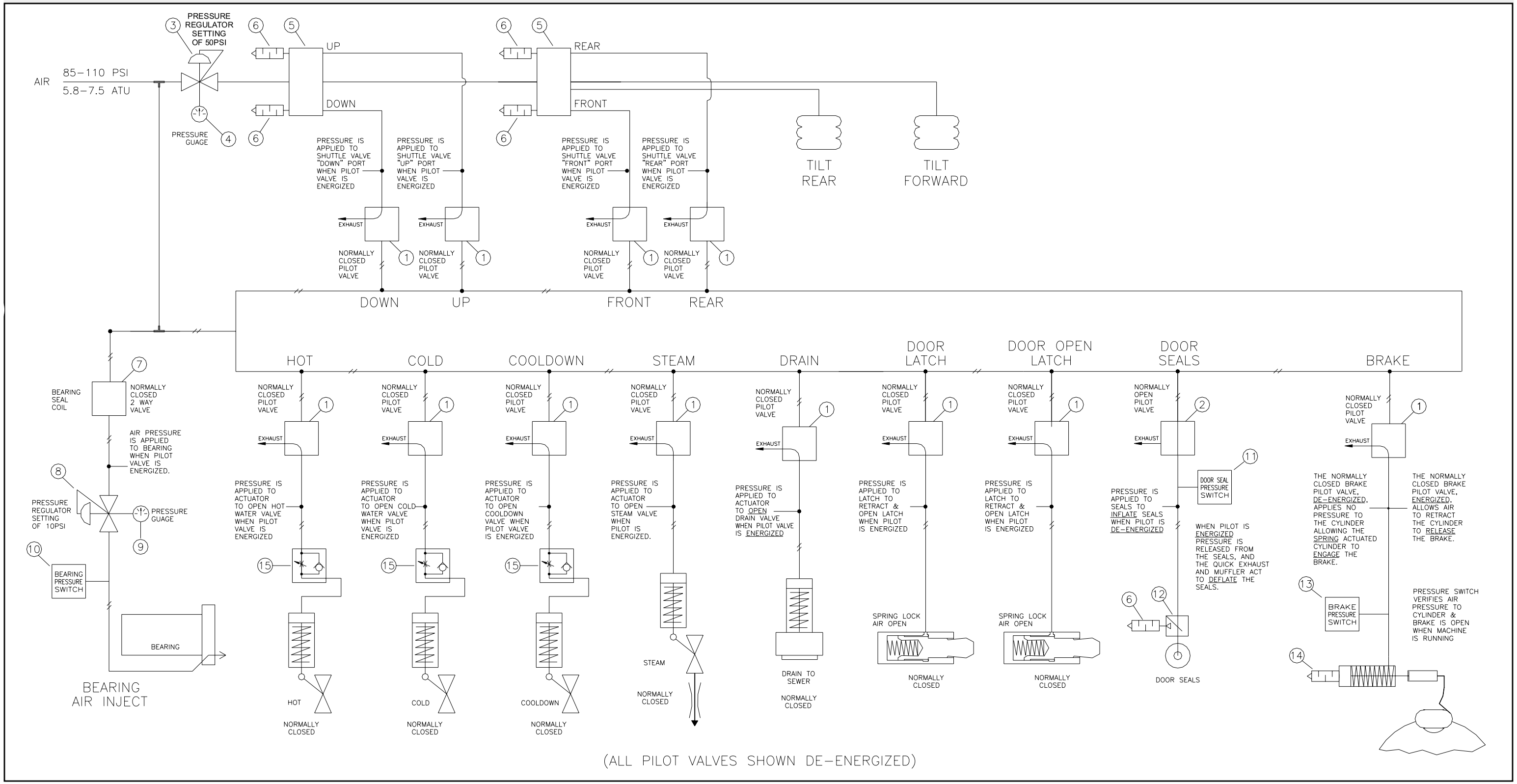
Litho in U.S.A.



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Litho in U.S.A.

Parts List—Pneumatic Schematic

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

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
			none	
			----------COMPONENTS----------	
all	1	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	
all	2	96R302A71	1/8" AIRPILOT 3W NO 240V50/60	
all	3	96J019E	1/4"PRESSREG2-50P R07-200-RNEA	
all	4	30N101	PRESSGAUGE 1/8"BACKCN.0-60PSI	
all	5	96N0012P	DBL.REM.VLV.3/8"4-WAY=CTR.OFF	
all	6	27A005	MUFFLER 3/8" BANTAM B38	
all	7	96TBC2BA37	1/4" N/C 2WAY 120V50/60C VALVE	
all	8	96J019G	1/4"FILTERREG 0-60PSI	
all	9	30N095	PRESSGAUGE 1/8"BACKCN.0-15PSI	
all	10	09N082B05	PRESSW NASON CLOSE @ 5 LB	
all	11	09N082B10	PRESSW NASON CLOSE @ 10 LB	
all	12	96M055	DELTROL QUICK EXHAUST VLV.1/4"	
all	13	09N082A	PRESSW NASON CLOSE @ 62 LB.	
all	14	27A005A	MUFF 1/4" ALLIED B-28 BANTAM	
all	15	96JH100	NEEDLE VLV.ELB.1/8"#NAS2200N01	

Vent

48040F7J,F7B,F7N,F7W

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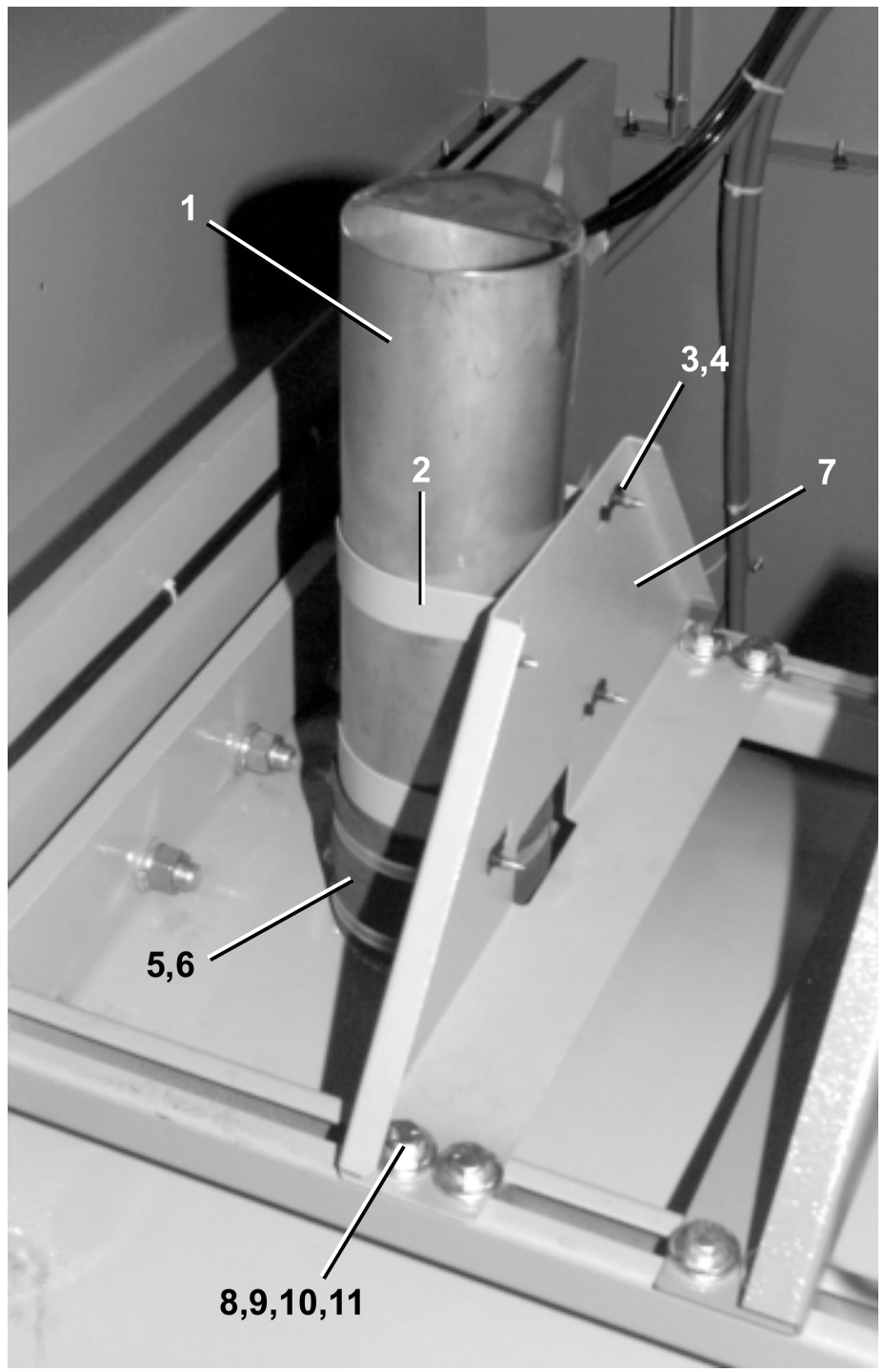
P. O. Box 400, Kenner, LA 70063-0400

Litho in U.S.A.

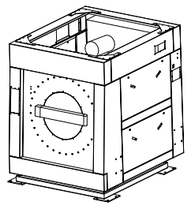


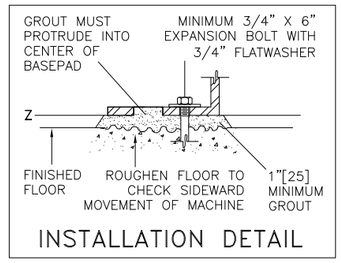
Parts List—Vent

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.

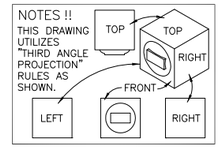
Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	GSV4840F	SHELL VENT 4840	
			----------COMPONENTS----------	
all	1	W2 21876	WLMT=VENT EXT, 4840F	
all	2	02 21872	CLAMP=5" VENT PIPE, 4840F	
all	3	15G004HB	EXTRUNUT M6-1 GRIP 0.8-4MM	
all	4	15N110H	RDWASHHD TORXBOLT M6-1X25MM ZN	
all	5	60E312A35	HOSE=5"ID X 3.5"LG GATES 75W;4	
all	6	27A969	CABLE ASSY SAVA#	
all	7	02 21875	BRKT=VENT EXTENSION, 4840F	
all	8	02 19283	NUT=1/2-13UNCX1+1/2SQ SPEC	
all	9	15K171B	HEXCAPSCR 1/2-13X1+3/4 GR8 ZIN	
all	10	15U490	FLAWASH 1+1/2X17/32X1/4ZINC	
all	11	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	

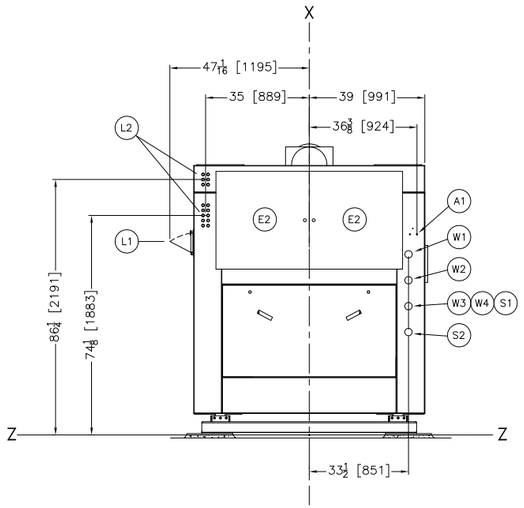
Dimensional Drawings 3



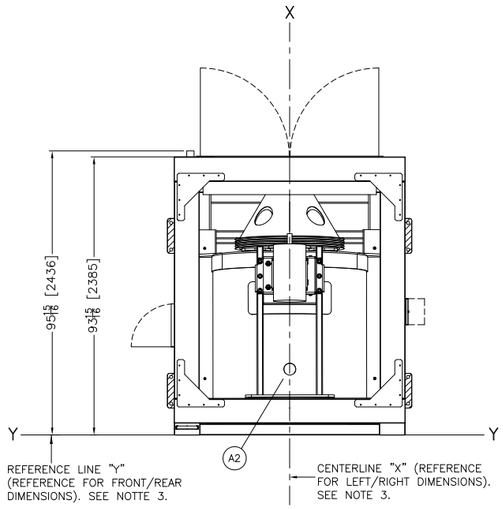


INSTALLATION DETAIL

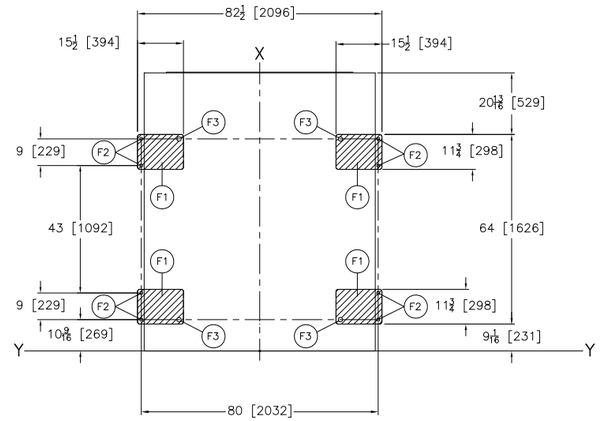




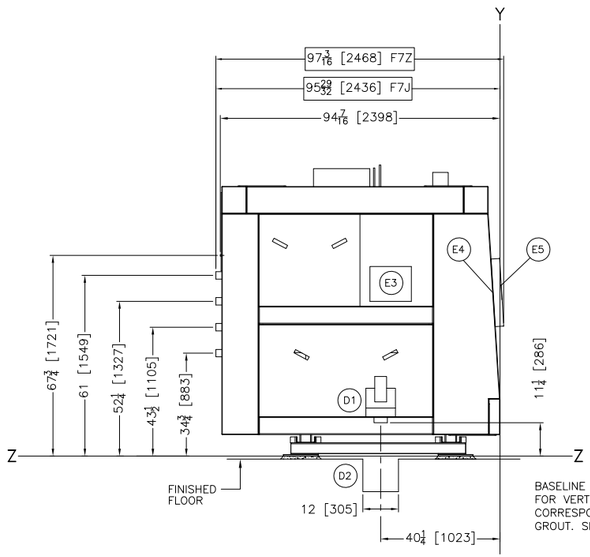
REAR VIEW



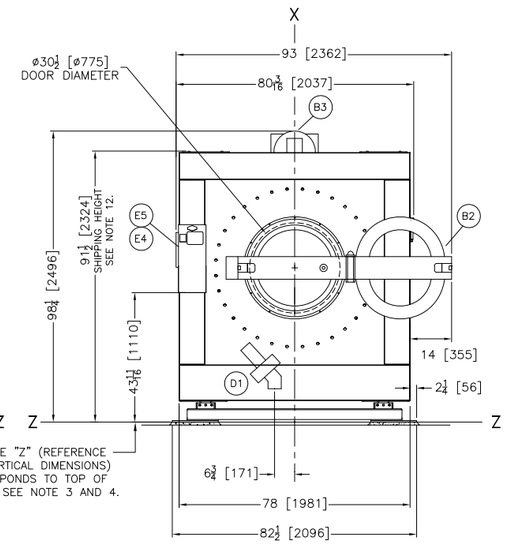
PLAN VIEW



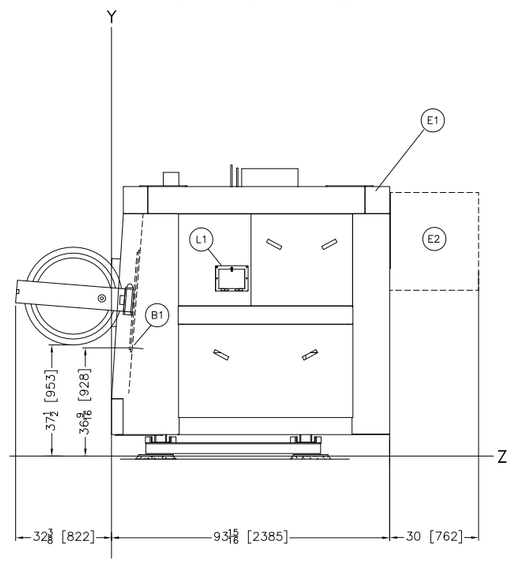
FOUNDATION VIEW



LEFT VIEW



FRONT VIEW



RIGHT VIEW

ITEM	LEGEND
W4	OPTIONAL REUSE WATER CONNECTION, 1-1/2" NPT
W3	OPTIONAL THIRD WATER CONNECTION, 1-1/2" NPT
W2	COLD WATER CONNECTION, 1-1/2" NPT
W1	HOT WATER CONNECTION, 1-1/2" NPT
S2	STEAM INLET, 1-1/4" NPT, IF ALSO THIRD WATER
S1	STEAM INLET, 1-1/4" NPT, IF NO THIRD WATER
L2	16 PORT LIQUID SUPPLY INLETS
L1	SOAP CHUTE
F3	GROUT HOLES
F2	(8) 1-1/16" DIAMETER ANCHOR BOLT HOLES, USE 3/4" X 6" BOLTS MINIMUM. (1) BOLT PER PAD MINIMUM.
F1	BASEPADS, SEE NOTE 8.
E5	MilTouch™ TOUCH SCREEN CONTROLLER, F7Z
E4	MICROPROCESS CONTROLS, F7J, FLUSH MOUNT
E3	MICROPROCESSOR CONTROL BOX
E2	MAIN ELECTRICAL CONTROL BOXES
E1	MAIN ELECTRICAL CONNECTION
D2	DRAIN TROUGH
D1	DRAIN TO SUMP, 4 1/2" OD
B3	TOP OF DISC BRAKE
B2	DOOR FULL OPEN
B1	LOAD HEIGHT
A2	VENT, 4" DIAMETER
A1	MAIN AIR CONNECTION, 1/4" NPT

NOTES

14 DIMENSIONS ARE VALID FOR AZ MODEL.

13 SHIM TO LEVEL THE MACHINE AND ALLOW FOR 1" [25] MINIMUM GROUT. ANCHOR WITH ONE ANCHOR BOLT PER PAD, MINIMUM. USE 3/4" X 6" BOLTS, MINIMUM. SEE INSTALLATION MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS.

12 FOR OVERSEAS SHIPMENTS, TO REDUCE THE OVERALL HEIGHT, THE MOTOR MOUNT ASSEMBLY AND VENT PIPE MAY BE REMOVED AND SHIPPED SEPARATELY.

11 MODEL NUMBERS: 48040F7J=NON-TILT EP+; 48040F7Z=NON-TILT MILTOUCH™

10 DRAIN VALVE MAY MOVE ± 1" [25] IN ANY DIRECTION DURING OPERATION AND MUST NOT BE RIGIDLY CONNECTED TO DRAIN.

9 DUE TO VARYING WEIGHT OF MACHINE ON SPRINGS TOLERANCE IS ± 1/2 [13]. SEE DIMENSIONS WITH ASTERISK [*] ATTACHED.

8 SHADED AREA DENOTES BASE PADS WHICH MUST BE CONTINUOUSLY SUPPORTED.

7 DO NOT PRE-PIPE ANY CLOSER THAN 60 [1524].

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

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

4 BASELINE "Z" IS THE SAME FOR ALL MILNOR MACHINES AND IS SHOWN ON ALL DIMENSIONAL DRAWINGS. THE DISTANCE BETWEEN BASELINE "Z" AND THE FINISHED FLOOR MAY VARY (WITH CHANGES IN FLOOR HEIGHT) AS REQUIRED TO INSURE THAT BASELINE "Z" IS HORIZONTAL AND ALL COMPONENTS REQUIRING GROUT ARE SET ON A MINIMUM 1" [25] THICK GROUT BED.

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

2 NUMBERS IN BRACKETS [] DENOTE DIMENSIONS IN MILLIMETERS.

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

ATTENTION

MOST REGULATORY AUTHORITIES (INCLUDING OSHA IN THE USA) HOLD THE OWNER/USER ULTIMATELY RESPONSIBLE TO MAINTAIN A SAFE WORKING ENVIRONMENT. ACCORDINGLY, THE OWNER/USER MUST RECOGNIZE ALL FORESEEABLE SAFETY HAZARDS, FURNISH SAFETY INSTRUCTIONS AND GUIDANCE TO ALL PERSONNEL WHO MAY COME IN CONTACT WITH THE INSTALLATION, AND PROVIDE ALL NECESSARY ADDITIONAL SAFETY GUARDS, FENCES, RESTRAINTS, DEVICES, ETC., NOT FURNISHED BY THE EQUIPMENT MANUFACTURER OR VENDOR.

ATTENTION

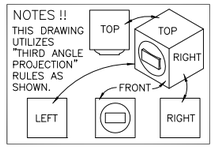
THE FLOOR AND/OR OTHER SUPPORT COMPONENTS MUST HAVE SUFFICIENT STRENGTH (AND RIGIDITY WITH DUE CONSIDERATION FOR NATURAL OR RESONANT FREQUENCY THEREOF) TO WITHSTAND THE FULLY LOADED WEIGHT OF THE MACHINE INCLUDING THE GOODS, THE WATER, AND ANY REPEATED SINUSOIDAL (ROTATING) FORCES GENERATED DURING ITS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

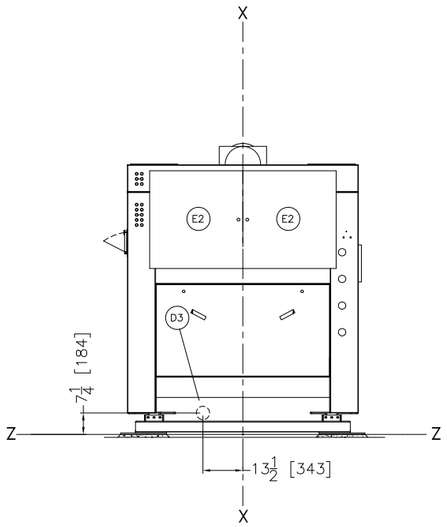
48040F7J, 48040F7Z

DM 0 0.5M 1M
INCHES 0 12 24 36

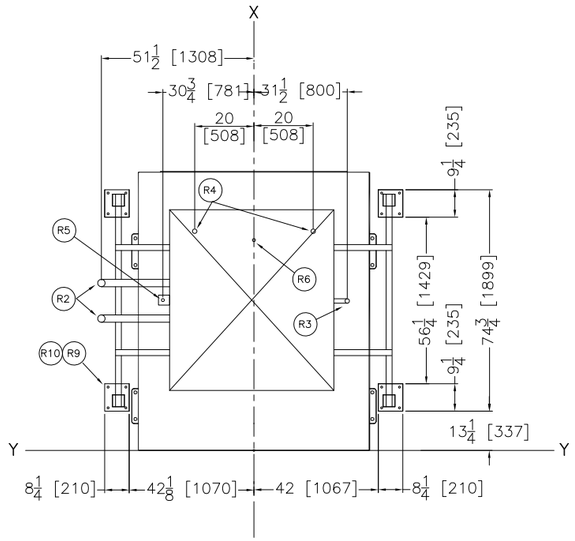
DWG# BD4840F7DE 2014502D

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

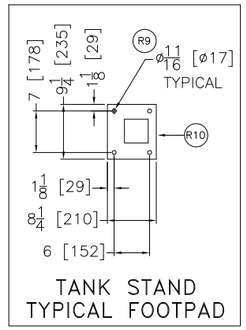




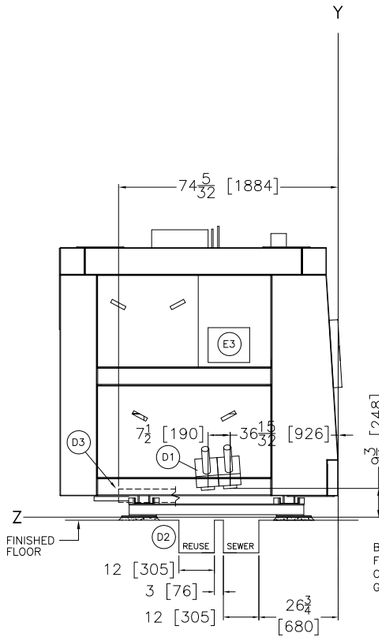
REAR VIEW



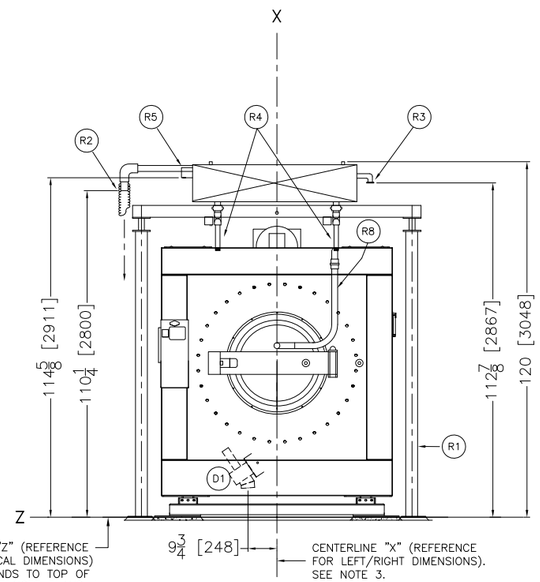
FOUNDATION VIEW



TANK STAND
TYPICAL FOOTPAD



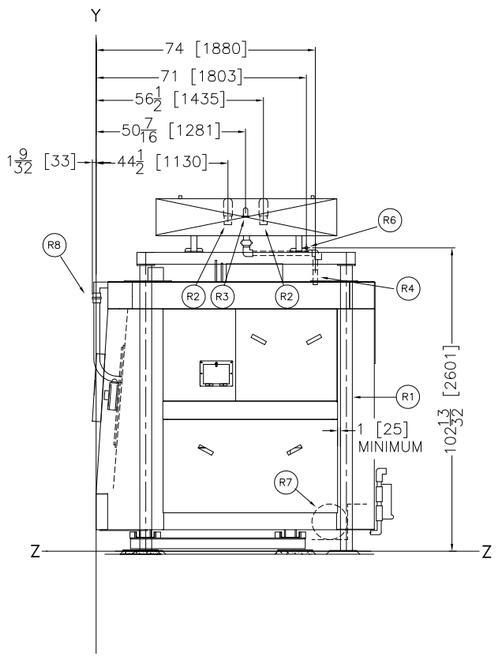
LEFT VIEW



BASELINE "Z" (REFERENCE FOR VERTICAL DIMENSIONS) CORRESPONDS TO TOP OF GROUT. SEE NOTE 3 AND 4.

CENTERLINE "X" (REFERENCE FOR LEFT/RIGHT DIMENSIONS). SEE NOTE 3.

FRONT VIEW



RIGHT VIEW

ITEM	LEGEND
R10	TYPICAL TANK STAND FOOTPAD
R9	ANCHOR BOLT HOLES, 11/16" DIA.
R8	FRONT FILL
R7	RECIRCULATION PUMP, TO FAST FILL TANK & FRONT FILL
R6	1/4" NPT AIR FROM VALVE BOX, FAST FILL DRAINS
R5	ELECTRICAL CONNECTION FOR LIQUID LEVEL SWITCH
R4	FAST FILL DRAINS TO SHELL, 1-1/2"NPT
R3	TANK FILL FROM RECIRCULATION PUMP, 1-1/2" NPT
R2	OVERFLOW TO DRAIN TROUGH, 3" ID HOSE CONNECTION
R1	REUSE TANK STAND
D3	SINGLE DRAIN TO REAR, 4' NPT CONNECTION
D2	DUAL DRAIN TROUGH
D1	DUAL DRAINS, (2) 4-1/2" OD HOSE CONNECTIONS

NOTES

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CHECK LOCAL ELECTRIC CODES FOR FURTHER RESTRICTIONS.

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4 BASELINE "Z" IS THE SAME FOR ALL MILNOR MACHINES AND IS SHOWN ON ALL DIMENSIONAL DRAWINGS. THE DISTANCE BETWEEN BASELINE "Z" AND THE FINISHED FLOOR MAY VARY (WITH CHANGES IN FLOOR HEIGHT) AS REQUIRED TO INSURE THAT BASELINE "Z" IS HORIZONTAL AND ALL COMPONENTS REQUIRING GROUT ARE SET ON A MINIMUM 1" [25] THICK GROUT BED.

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OPTIONS 48040F7J, 48040F7Z

DM 0 0.5M 1M
INCHES 0 12 24 36
DWG# BD4840F7DB
2014184D

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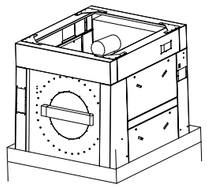
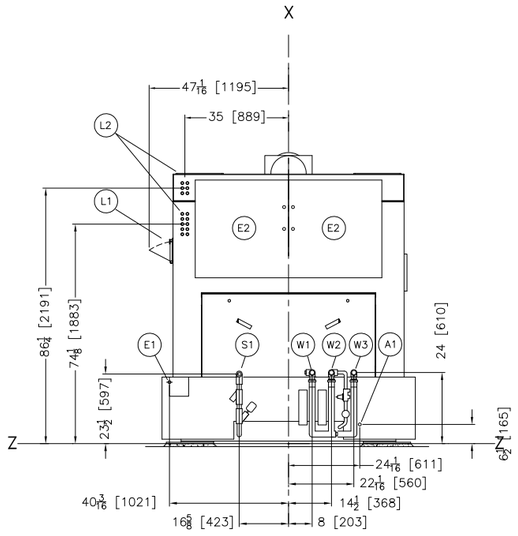
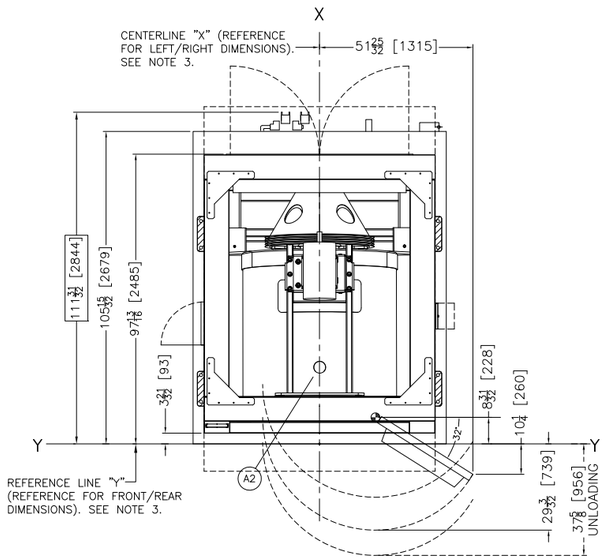
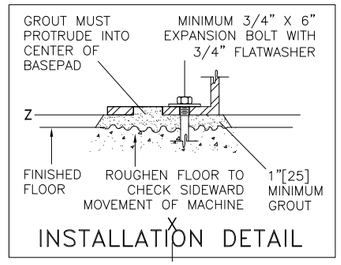




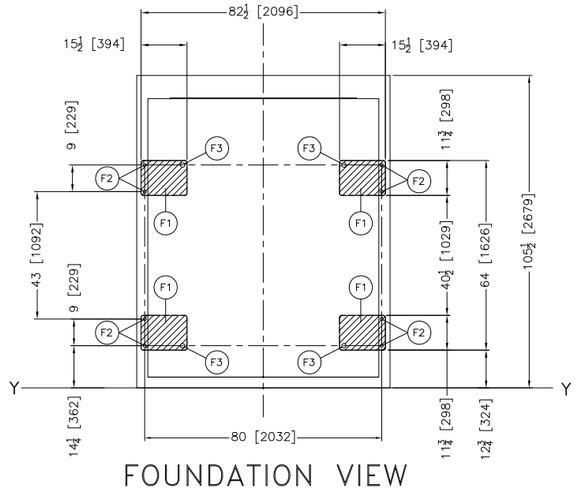
REAR VIEW



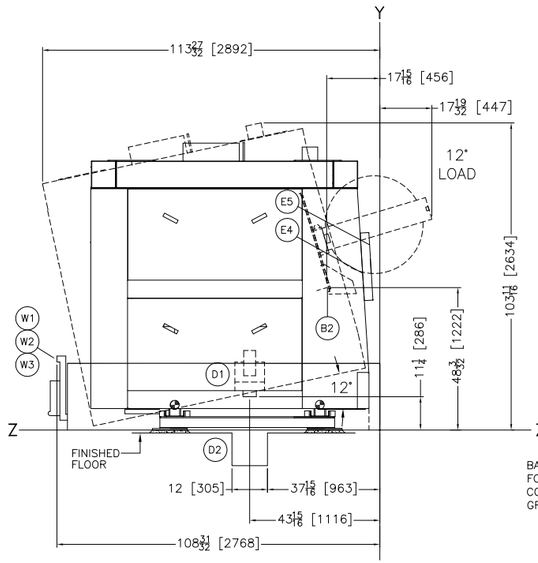
PLAN VIEW



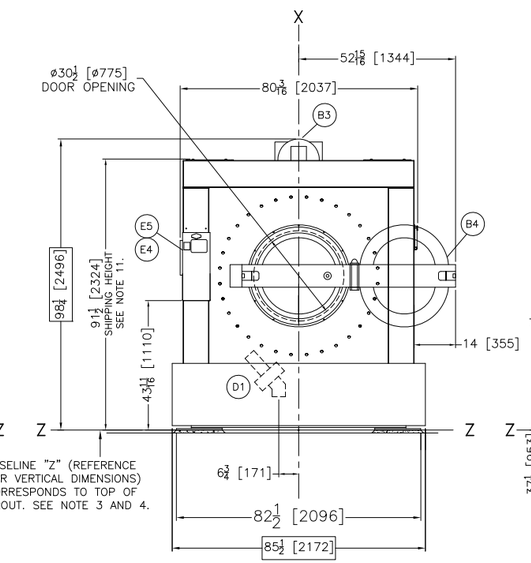
INSTALLATION DETAIL



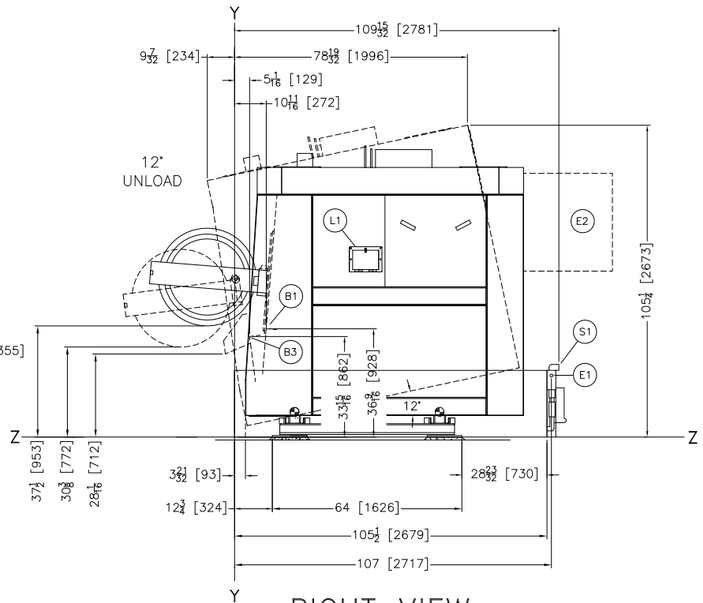
FOUNDATION VIEW



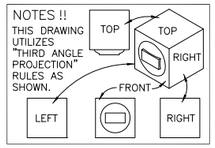
LEFT VIEW



FRONT VIEW



RIGHT VIEW



ITEM	LEGEND
W3	OPTIONAL REUSE OR THIRD WATER, 1–1/2" NPT
W2	HOT WATER CONNECTION, 1–1/2" NPT
W1	COLD WATER CONNECTION, 1–1/2" NPT
S1	STEAM INLET, 1–1/4" NPT
L2	STANDARD LIQUID SUPPLY INLETS
L1	SOAP CHUTE
F3	GROUT HOLES
F2	(8) 1–1/16" DIAMETER ANCHOR BOLT HOLES, USE 3/4" X 6" BOLTS MINIMUM. (1) BOLT PER PAD MINIMUM.
F1	BASEPADS, SEE NOTE 8.
E5	MilTouch™ TOUCH SCREEN CONTROLLER, F7D
E4	MICROPROCESSOR CONTROLS, F7B, FLUSH MOUNT
E3	MICROPROCESSOR CONTROL BOX
E2	MAIN ELECTRICAL CONTROL BOXES
E1	MAIN ELECTRICAL CONNECTION
D2	DRAIN TROUGH
D1	DRAIN TO SUMP, 4 1/2" OD, NOT TILTED
B4	DOOR FULLY OPENED
B3	UNLOAD HEIGHT, 12" TILT FORWARD
B2	LOAD HEIGHT, 12" TILT REAR
B1	LOAD HEIGHT, NOT TILTED
A2	VENT, 4" DIAMETER
A1	MAIN AIR CONNECTION, 3/4" NPT

NOTES

13 DIMENSIONS ARE VALID FOR AZ MODEL.

12 SHIM TO LEVEL THE MACHINE AND ALLOW FOR 1" [25] MINIMUM GROUT. ANCHOR WITH ONE ANCHOR BOLT PER PAD, MINIMUM. USE 3/4" X 6" BOLTS, MINIMUM. SEE INSTALLATION MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS.

11 FOR OVERSEAS SHIPMENTS, TO REDUCE THE OVERALL HEIGHT, THE MOTOR MOUNT ASSEMBLY AND VENT PIPE MAY BE REMOVED AND SHIPPED SEPARATELY.

10 DRAIN VALVE MAY MOVE ± 1" [25] IN ANY DIRECTION DURING OPERATION AND MUST NOT BE RIGIDLY CONNECTED TO DRAIN.

9 DUE TO VARYING WEIGHT OF MACHINE ON SPRINGS TOLERANCE IS ± 1/2 [13]. SEE DIMENSIONS WITH ASTERISK [*] ATTACHED.

8 SHADED AREA DENOTES BASE PADS WHICH MUST BE CONTINUOUSLY SUPPORTED.

7 DO NOT PRE–PIPE ANY CLOSER THAN 60 [1524].

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48040F7B/F7D TILT WASHER EXTR

DM 0 0.5M 1M
INCHES 0 12 24 36

DWG# BD4840FTDE 2014502D

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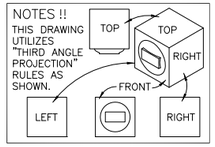
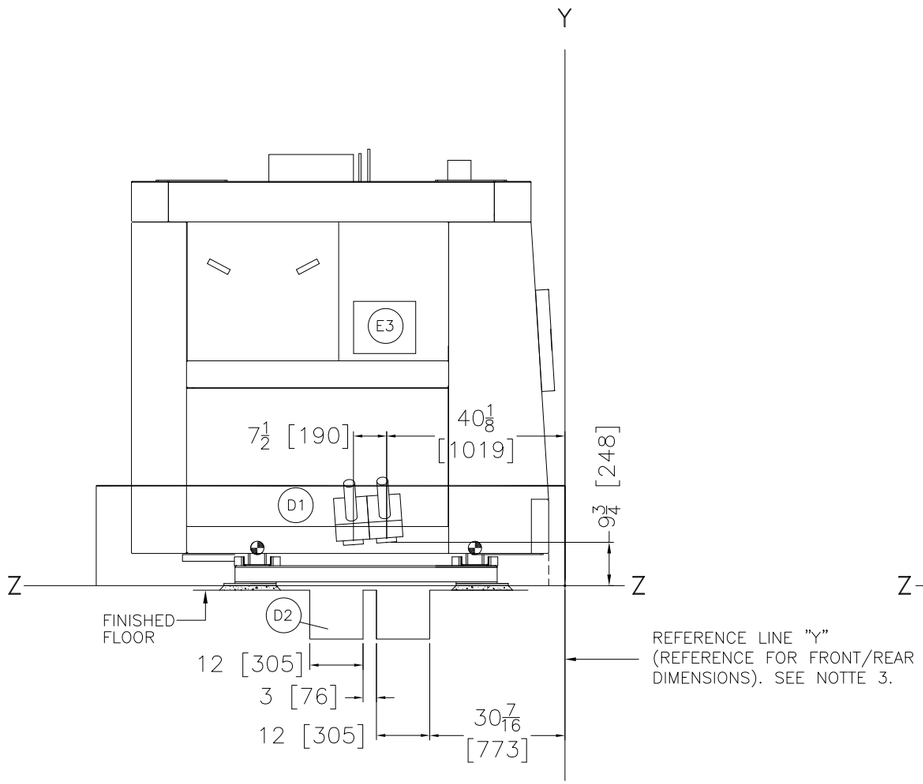
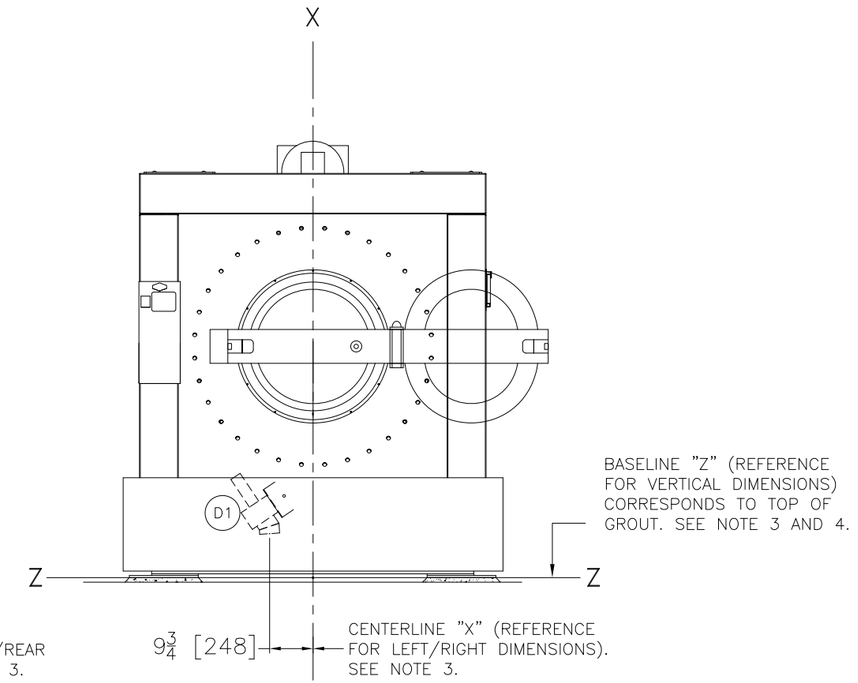
FAX 504/469–1849, Email: milnorinfo@milnor.com

NOTES !!
THIS DRAWING UTILIZES "THIRD ANGLE PROJECTION" RULES AS SHOWN.





LEFT VIEW



FRONT VIEW

ITEM	LEGEND
D2	DUAL DRAIN TROUGH
D1	DUAL DRAINS, 2 – 4-1/2" OD HOSE CONNECTIONS

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OPTIONS 48040F7B/F7D TILT

DM 0 0.5M 1M
INCHES 0 12 24 36

DWG# BD4840FTDB
2014184D

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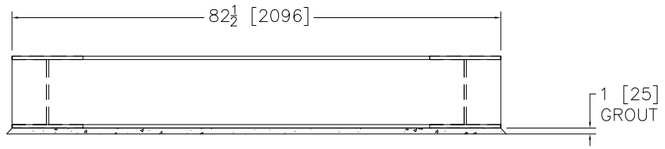
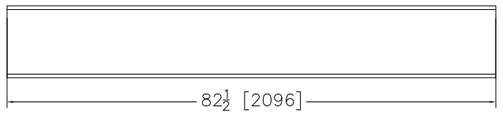


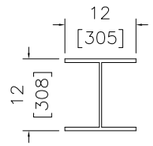
A–A

B–B

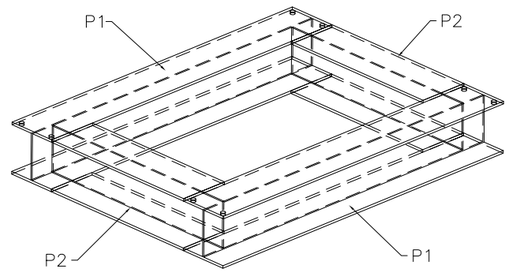
P1: PLAN

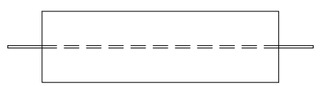


P1: ELEVATION

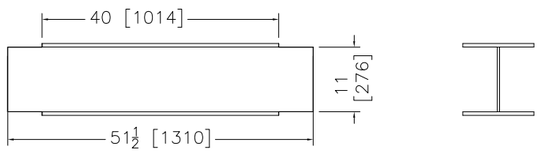


12 WF 65 BEAM TYP

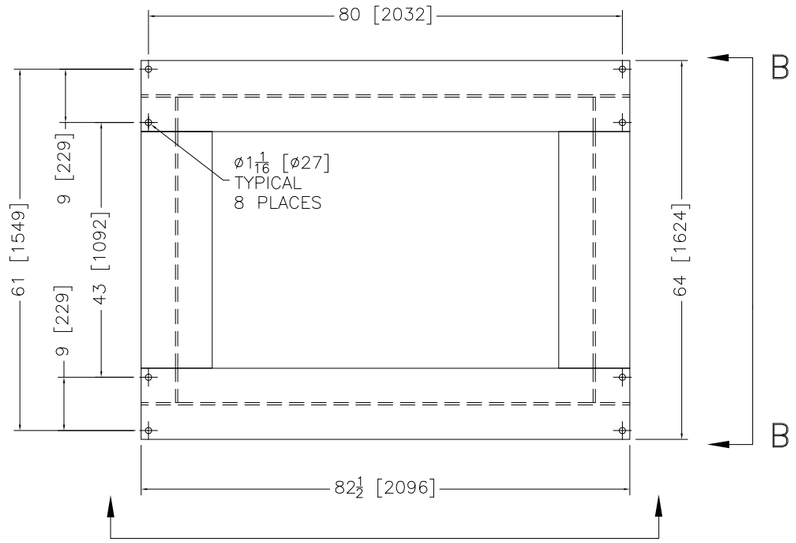




P2: PLAN



P2: ELEVATION



PLAN: TOP FLANGE
TO MACHINE

NOTES

5 THIS DRAWING SHOWS THE PEDESTAL DESIGN FOR MILNOR 4840F7J/F7W NON–TILT & 4840F7B/F7N AIR TILTING MACHINES. THIS BASE MAY BE USED WHENEVER LOCAL CONDITIONS ARE SUCH THAT MACHINE OPERATION WOULD BE ENHANCED BY RAISING THE MACHINE SETTING 12 [305] INCHES.

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

3 WHEN INSTALLING MACHINE AND PEDESTAL BASE, IT IS RECOMMENDED TO LAY THE PEDESTAL ON A MINIMUM 1 [25] THICK GROUT BED AND BOLT THE MACHINE TO IT. ALTERNATELY, THE MACHINE MAY BE WELDED TO THE BASE, PROVIDED IT IS SHIMMED AS REQUIRED TO INSURE THERE IS NO DISTORTION OF THE MACHINE BASE PLATES OR FRAME.

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

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

PEDESTAL BASE 4840F7J/F7W,F7B/F7N

DM 0 0.5M
INCHES 0 12 24

DWG# BD4840BSAE
2011354D

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