Manual Number: MCWXCA01
Edition (ECN): 2024295A

Installation, Parts, and Service

42026 & 42032 X7R

PELLERIN MILNOR CORPORATION Post Office Box 400, Kenner, Louisiana 70063–0400, U.S.A.

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1 General Service and Safety-Related Components

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PELLERIN MILNOR CORPORATION
LIMITED STANDARD WARRANTY

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

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

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

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

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

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

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1.1 How to Get the Necessary Repair Components

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

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

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

To write to the Milnor® factory:

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

Telephone: 504-712-7775
Fax: 504-469-9777
Email: parts@milnor.com

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1.2 Trademarks

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

Table 1. Trademarks

AutoSpot™	GreenFlex™	MilMetrix®	PulseFlow®
CBW®	GearTrace™	MilTouch™	RAM Command™
Drynet™	GreenTurn™	MilTouch-EX™	Recirc*ONE*®
E-P Express®	Hydro-cushion™	MilRAIL®	RinSave®
E-P OneTouch®	Mentor®	Miltrac™	SmoothCoil™

Table 1 Trademarks (cont'd.)

E-P Plus®	Mildata®	MilVision™	Staph Guard®
Gear Guardian®	Milnor®	PBW™	

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1.3 Safety — Suspended Washer Extractors

BNWSUS08.C01 0000348932 A.2 C.2 5/26/21, 11:48 AM Released

1.3.1 Safety Alert Messages—Internal Electrical and Mechanical Hazards

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

WARNING: 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: 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.

1.3.2 Safety Alert Messages—Cylinder and Processing Hazards

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

DANGER: 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: 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: 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: 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.

1.3.3 Safety Alert Messages—Unsafe Conditions

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1.3.3.1 Damage and Malfunction Hazards

BNWSUS04.C02 0000235001 A.2 A.3 C.2 12/10/20, 4:36 PM Released

1.3.3.1.1 Hazards Resulting from Inoperative Safety Devices

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DANGER: 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: 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: 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: 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.

1.3.3.1.2 Hazards Resulting from Damaged Mechanical Devices

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WARNING: 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: 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: 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

1.3.3.2 Careless Use Hazards

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

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WARNING: 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.

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

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WARNING: 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: 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: 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.

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1.4 Installation Tag Guidelines

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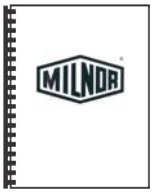
30022X8R	36026X8R
42026X7R	42032X7R

NOTICE: This information may apply to models in addition to those listed above. It applies to paper tags. It does not apply to the vinyl or metal safety placards, which must remain permanently affixed to the machine and replaced if no longer readable.

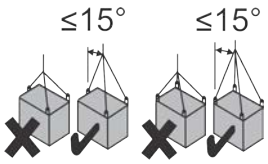
Paper tags on the machine provide installation guidelines and precautions. The tags can be tie-on or adhesive. You can remove tie-on tags and white, adhesive tags after installation. Yellow adhesive tags must remain on the machine.

The following entries explain the installation tags. Each entry includes: 1) the tag illustration, 2) the tag part number at the bottom of the tag, and 3) the meaning of the tag.

Symbol	Explanation
	Read the manuals before proceeding. This symbol appears on most tags. The machine ships with safety, operator, and routine maintenance guides for customer use. Milnor dealer manuals for installing, commissioning, and servicing the machine are also available from the Milnor Parts department.

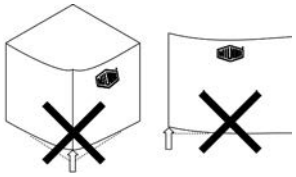
B2TAG88005: This carefully built product was tested and inspected to meet Milnor performance and quality standards by (identification mark of tester).

B2TAG94078: Do not forklift here; do not jack here; do not step here—whichever applies.



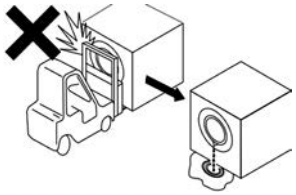
B2TAG94079: Rig for crane lifting (either 3-point or 4-point, depending on the number of lifting eyes provided) using a steep angle on the chains (closer to vertical than horizontal).

B2TAG94081: Motor must rotate in this direction. On single motor washer-extractors and centrifugal extractors, the drive motor must turn in this direction during draining and extraction. This tag is usually wrapped around a motor housing. If the motor turns in the opposite direction when the machine is first tested, the electrical hookup is incorrect and must be reversed as explained in the schematic manual.

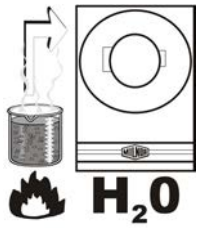


B2TAG94084: Do not lift from one corner of the machine, as this can cause the frame to rack, damaging it.

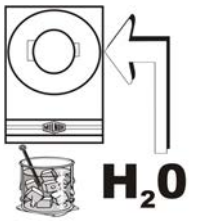
B2TAG94097: The cylinder must rotate **counterclockwise** during draining and extraction (spin) when viewed from here (rear of machine). Otherwise, reverse the electric power connections, as explained in the schematic manual.



B2TAG94099: Do not strike the shell door when fork-lifting. This can cause the door to leak.

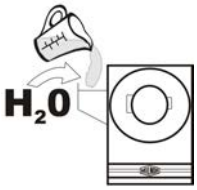


B2T2001013: Hot water connection.

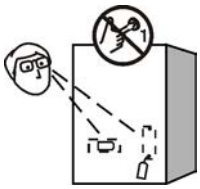


B2T2001014: Cold water connection.

B2T2001015: Reuse (third) water connection. (Optional)

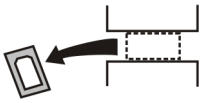


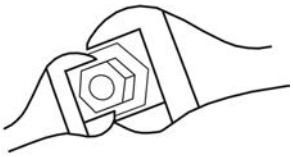
B2T2001016: Flushing water connection. This is the water that goes into the supply compartment or pumped chemical manifold to flush chemicals into the machine.



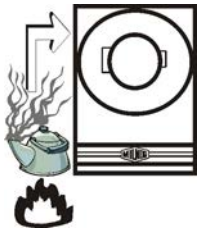
B2T2001028: Look for tags inside the machine. These tags may identify shipping restraints to be removed or components to be installed. Do not start the machine until these actions are completed.

B2T2002013: Do not start the machine until shipping restraints are removed. This tag will appear on the outside of the machine to alert you to the presence of internal shipping restraints. A tag will also appear on the restraint to help identify it. Most, but not all shipping restraints display the color red. Some shipping restraints are also safety stands. Do not discard these.





B2T2003001: Hold the side of the connection stationary with a wrench as you tighten the connection with another wrench. Otherwise, you may twist components, such as valves, damaging them.



B2T2004027: Steam connection. (Optional)

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Safety Placards and Locations

2 Sheets

30022X8R, 36026X8R, 42026X7R, 42032X7R

NOTE: Replace placard immediately, if removed or unreadable. Approximate locations of placards are shown. If aluminum placard, mounting holes are provided on machine. Use #8 self-tapping screws.

Figure 1. 30022X8R

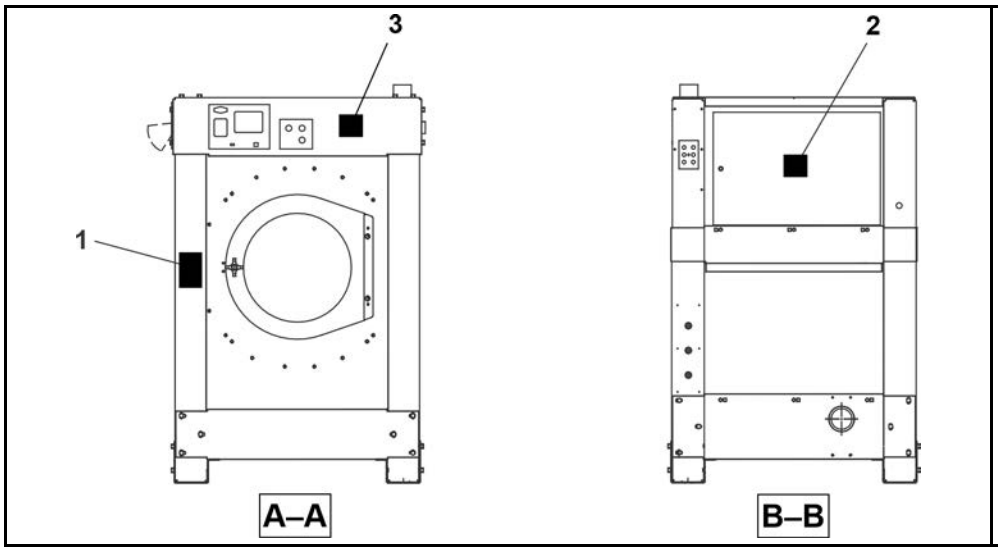
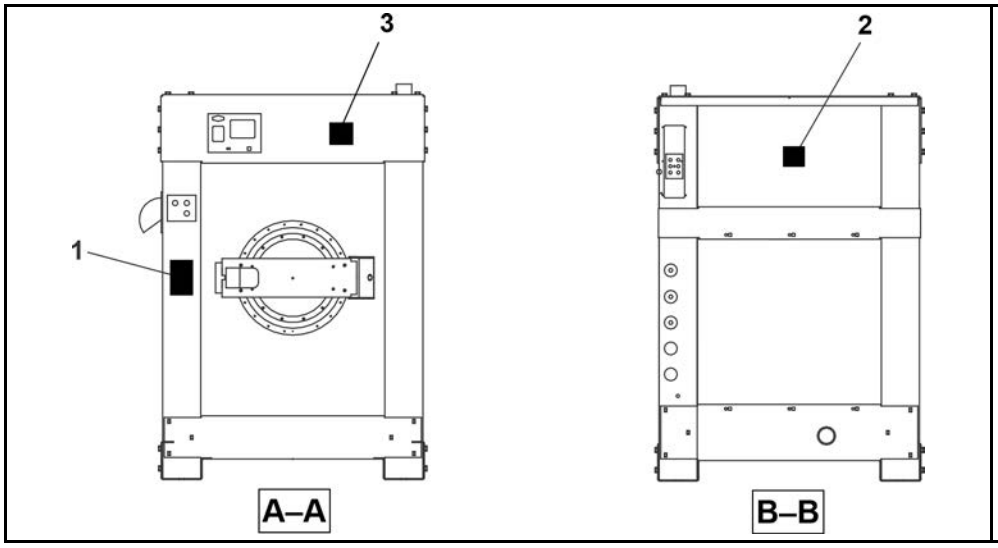


Figure 2. 36026X8R



Safety Placards and Locations

2 Sheets

30022X8R, 36026X8R, 42026X7R, 42032X7R

Figure 3. 42024X7R and 42032X7R

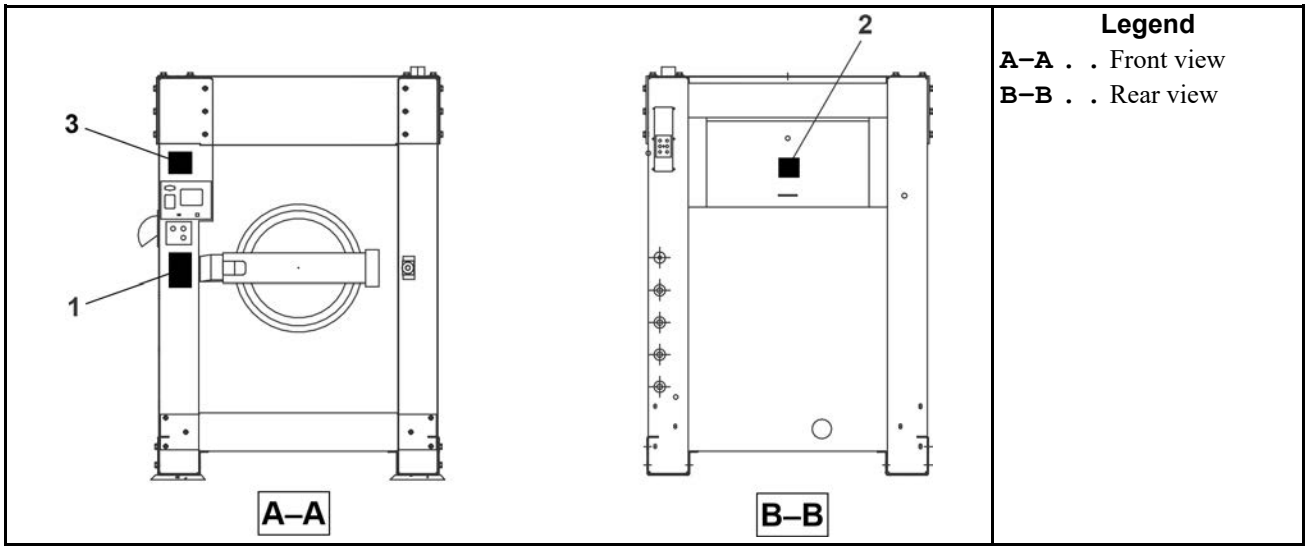


Table 2. Parts List—Safety Placards and Locations

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	**Item**	**Part Number**	**Description/Nomenclature**	**Comments**
Components				
all	1	01 10631A	NPLT:SHELL FRT WARN NOTILT-TCA	
all	2	01 10377A	NPLT:ELEC HAZARD LG-TCATA	
all	3	01 10699A	NPLT:SERV HZRD-PLYEST-TCATA	

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Safety Placards and Locations – ISO

2 Sheets

30022X8R, 36026X8R, 42026X7R, 42032X7R

NOTE: This document is for placards that agree with ISO. Replace placard immediately, if removed or unreadable. Approximate locations of placards are shown. If aluminum placard, mounting holes are provided on the machine. Use #8 self-tapping screws.

Figure 4. 30022X8R

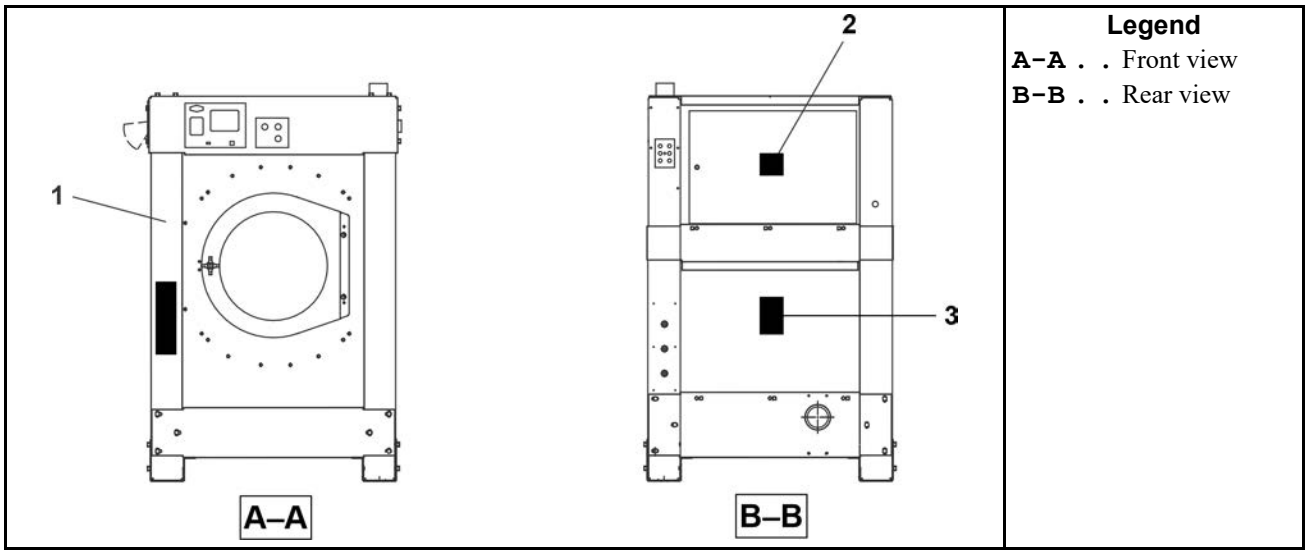
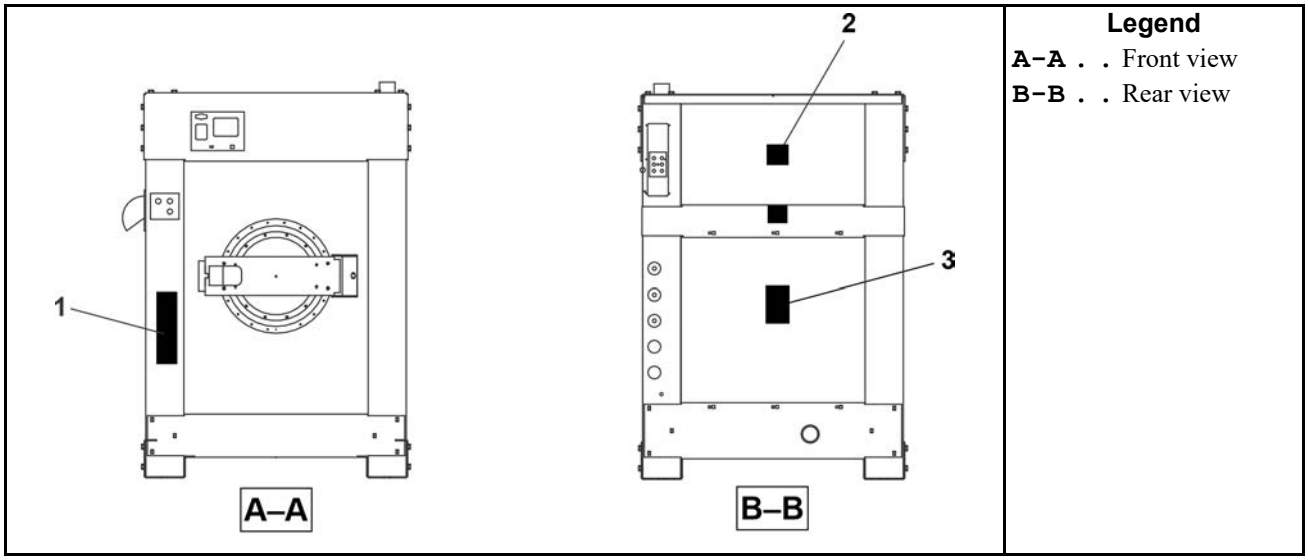


Figure 5. 36026X8R



Safety Placards and Locations – ISO

2 Sheets

30022X8R, 36026X8R, 42026X7R, 42032X7R

Figure 6. 42024X7R and 42032X7R

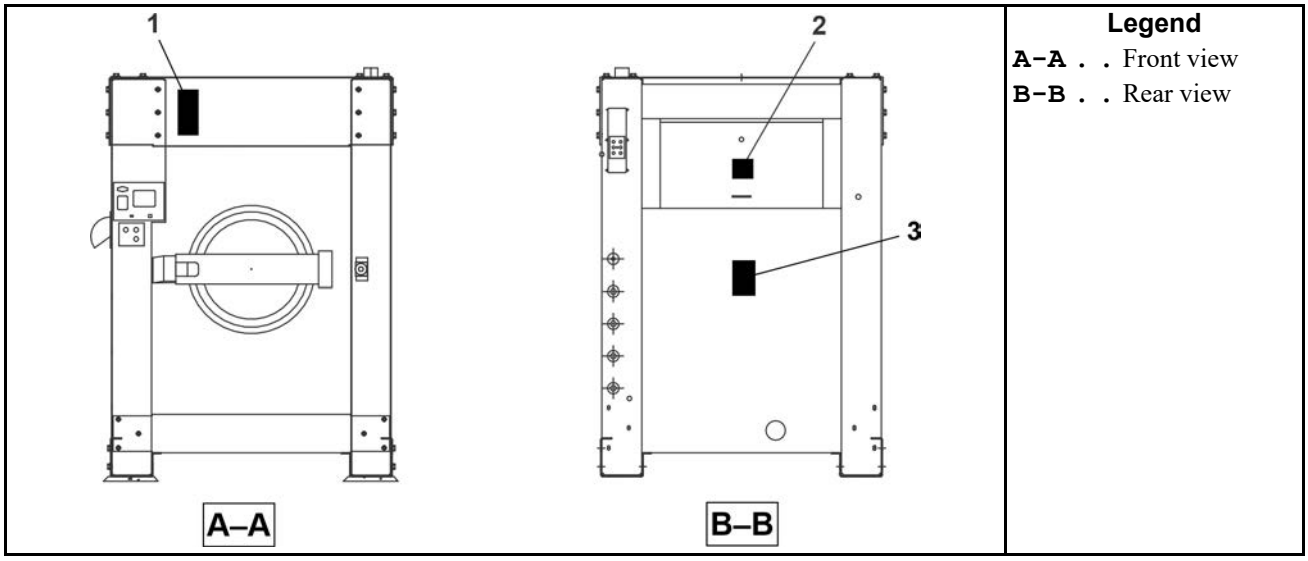


Table 3. Parts List—Safety Placards and Locations – ISO

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**
none				
Components				
A	1	01 10631X	NPLT:WE1-NONTILT WARNINGS FRT	3022X8R,3626X8R
B	1	01 10631Y	NPLT:SHELL FRT WARN NOTILT-ISO	4226X7R,4232X7R
all	2	01 10377	NPLTE:"WARNING" 4X4	
all	3	01 10628X	NPLT:NONTILT W/E WARNING SIDE	

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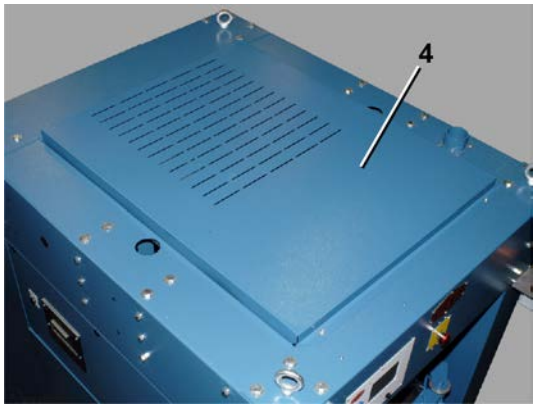
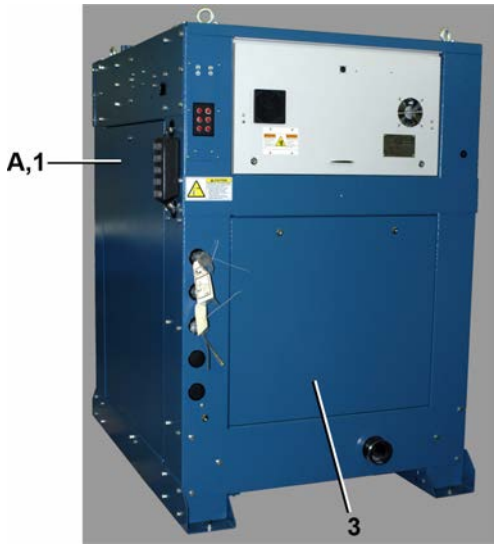
Panels & Covers

2 sheets

36026X8R, 42026X7R, 42032X7R





Legend

A . . . 2 panels used on 42026X7R & 42032X7R

Panels & Covers

2 sheets

36026X8R, 42026X7R, 42032X7R

Table 4. Parts List—Panels & 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**
Reference Assemblies				
	A	GGS3626XA	3626X COVER ASSY W/MILTOUCH	36026X8R
	B	GGS4226XA	4226X COVER ASSY W/MILTOUCH	42026X7R
	C	GGS4232XA	4232X COVER ASSY W/MILTOUCH	42032X7R
Components				
A	1	AGC36001	ASSY=RIGHT SIDE DOOR 3626X	
B	1	AGC42004	ASSY=RIGHT SIDE DOOR 4226X	
C	1	AGC42001	ASSY=RIGHT SIDE DOOR 4232X	
A	2	AGC36002	ASSY=LEFT SIDE DOOR 3626X	
B	2	AGC42005	ASSY=LEFT SIDE DOOR 4226X	
C	2	AGC42002	ASSY=LEFT SIDE DOOR 4232X	
A	3	AGC36003	ASSY=REAR DOOR 36X	
B,C	3	AGC42003	ASSY=REAR DOOR 42X	
A	4	02 13532	COSM TOP COVER 3626X	
B	4	02 23532	COSM=TOP COVER 4226X	
C	4	02 24532	COSM TOP COVER 4232X	

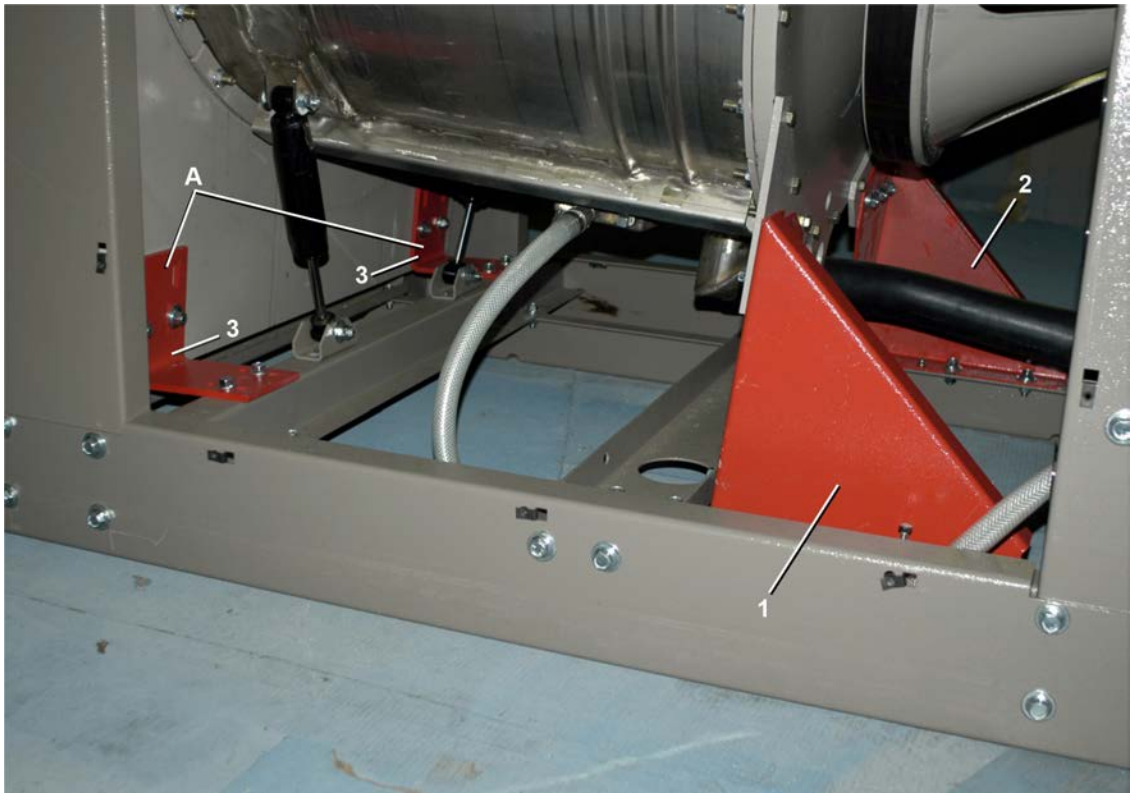
BPWXBK01 / 2021153 BPWXBK01.1 0000339078 C.2 A.4 4/6/21, 10:46 AM Released

Shipping Brackets

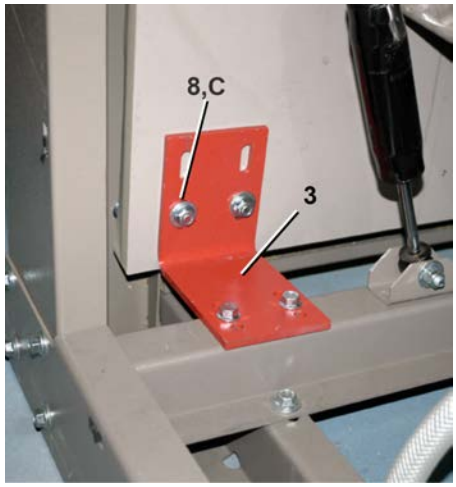
3 sheets

3626X8J,X8W,X8R 4226X7J,X7W,X7R 4232X7J,X7W,X7R

NOTE: The shipping brackets must be used to move the machine. Before operating the machine, remove all shipping brackets (painted red). For further instructions, see BNWUUI03.



Detail A: Lower Front



Detail B: Upper Front

Legend

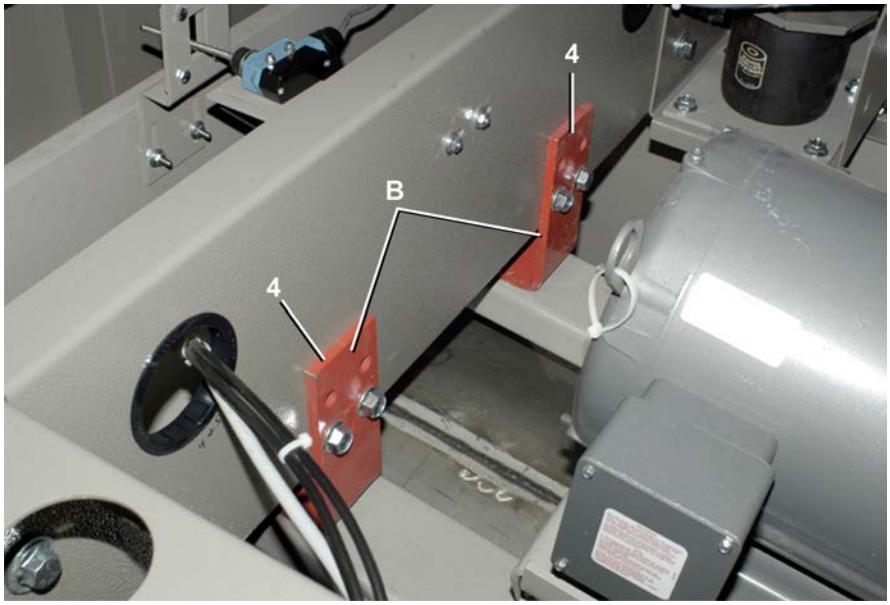
A . . . Detail view, lower front
B . . . Detail view, upper front
C . . . Typical

Shipping Brackets

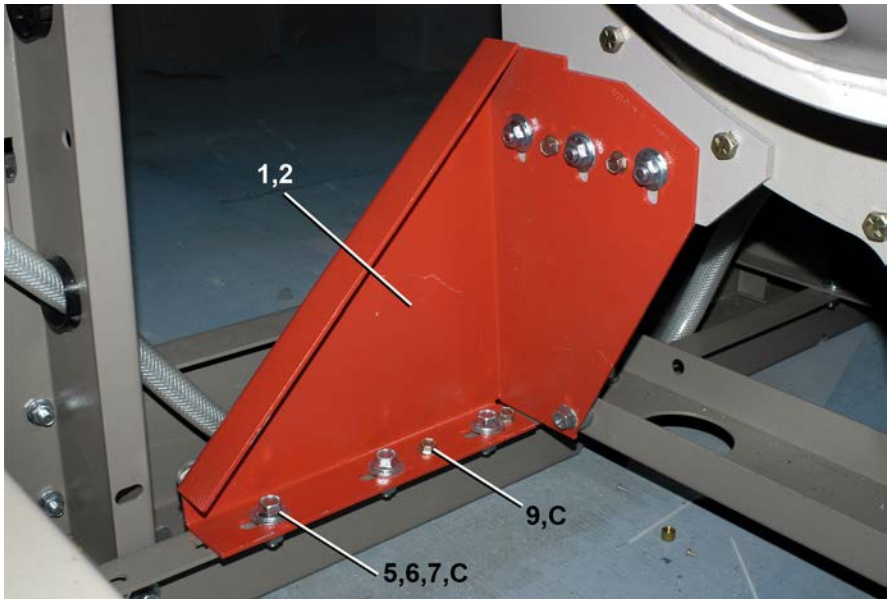
3 sheets

3626X8J,X8W,X8R 4226X7J,X7W,X7R 4232X7J,X7W,X7R

Upper Front



Rear Shipping Bracket



Legend

B . . . Detail view, upper front
C . . . Typical

Shipping Brackets

3 sheets

3626X8J,X8W,X8R 4226X7J,X7W,X7R 4232X7J,X7W,X7R

Table 5. Parts List—Shipping Brackets

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**
Reference Assemblies				
	A	REFERENCE		36026X8J,X8W,X8R
	B	REFERENCE		42026X7J,X7W,X7R 42032X7J,X7W,X7R
Components				
A	1	02 13595	BRKT=SHIP REAR RT 36X	
B	1	02 23596	BRKT=SHIP REAR RT 42X	
A	2	02 13595A	BRKT=SHIP REAR LEFT 36X	
B	2	02 23596A	BRKT=SHIP REAR LFT 42X	
all	3	02 23543	BRKT=SHIP LOWER FRNT	
all	4	02 23544	BRKT=SHIP 42/36X UPPER FRNT	
all	5	15K129	HEXFLGSCR 1/2-13X1-1/4ZN. GR 5	
all	6	15G222B	HEXFLGNUT 1/2-13 ZINC	
all	7	15U280	FL+WASHER(USS STD)1/2 ZNC PL+D	
all	8	15K154G	INDHEXFLGSCR 1/2-13X1+3/4GR5 Z	
all	9	15P200	TRDCUT-F HXWASHD 3/8-16X3/4NIK	

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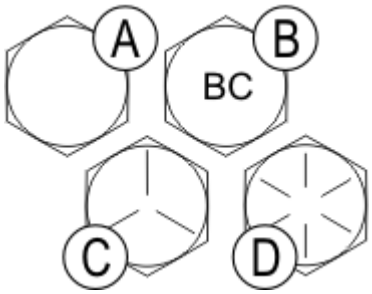
1.5 Torque Requirements for Fasteners

BNUUUN02.C01 0000222451 A.3 C.2 B.3 1/2/20, 2:14 PM Released

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

Figure 7. The Bolts in Milnor® Equipment

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

1.5.1 Torque Values

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

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

1.5.1.1 Fasteners Made of Carbon Steel

BNUUUN02.C03 0000222448 A.3 C.2 B.3 1/2/20, 2:14 PM Released

1.5.1.1.1 Without a Threadlocker

BNUUUN02.C04 0000222447 A.3 C.2 B.3 1/2/20, 2:14 PM Released

Table 6. Torque Values for Standard Fasteners with Maximum 5/16-inch Diameters and No Lubricant

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

Table 7. Torque Values for Standard Fasteners Larger Than 5/16-inch Diameters and No Lubricant

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

Table 8. Torque Values for Plated Fasteners with Maximum 5/16-inch Diameters and No Lubricant

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

Table 9. Torque Values for Plated Fasteners Larger Than 5/16-inch Diameters and No Lubricant

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m
3/8 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	–	–

1.5.1.1.2 With a Threadlocker

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Table 10. Threadlocker by the Diameter of the Bolt (see below Note)

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

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

Table 11. Torque Values if You Apply LocTite 222

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

Table 12. Torque Values if You Apply LocTite 242

	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
Dimension	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m
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 13. Torque Values if You Apply LocTite 262

	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
Dimension	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m
3/4 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 14. Torque Values if You Apply LocTite 272 (High-Temperature)

	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
Dimension	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m
1 x 8	350	475	901	1222	1272	1725	1114	1510
1 x 12	383	519	986	1337	1392	1887	–	–

Table 14 Torque Values if You Apply LocTite 272 (High-Temperature) (cont'd.)

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m
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 15. Torque Values if You Apply LocTite 277

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m
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	–	–

1.5.1.2 Stainless Steel Fasteners

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

Dimension	316 Stainless		18-8 Stainless		18-8 Stainless with Loctite 767	
	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 17. Torque Values for Stainless Steel Fasteners Larger Than 5/16-inch

Dimension	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

1.5.2 Preparation

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

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

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

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

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

1.5.3 How to Apply a Threadlocker

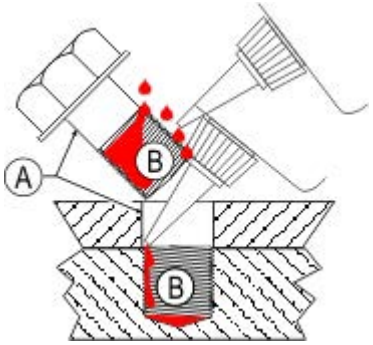
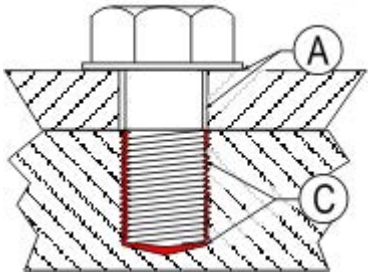
BNUUUN02.T02 0000222508 B.2 C.2 B.3 4/20/23, 9:09 AM Released

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

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

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

Figure 8. Apply Threadlocker in a Blind Hole

Application	Coverage
	

Legend

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

1.5.3.1 Blind Holes

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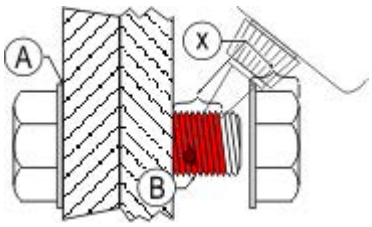
1. Apply the threadlocker down the threads to the bottom of the hole.
2. Apply the threadlocker to the bolt.
3. Tighten the bolt to the value shown in the correct table (Table 10: Threadlocker by the Diameter of the Bolt (see below Note), page 29 to Table 16: Torque Values for Stainless Steel Fasteners 5/16-inch and Smaller, page 31).

1.5.3.2 Through Holes

BNUUUN02.T04 0000222506 A.3 C.2 B.3 11/26/19, 2:51 PM Released

1. Put the bolt through the assembly.
2. Apply the threadlocker only to the bolt thread area that will engage the nut.
3. Tighten the bolt to the value shown in the correct table (Table 10: Threadlocker by the Diameter of the Bolt (see below Note), page 29 to Table 16: Torque Values for Stainless Steel Fasteners 5/16-inch and Smaller, page 31).

Figure 9. Apply Threadlocker in a Through Hole

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

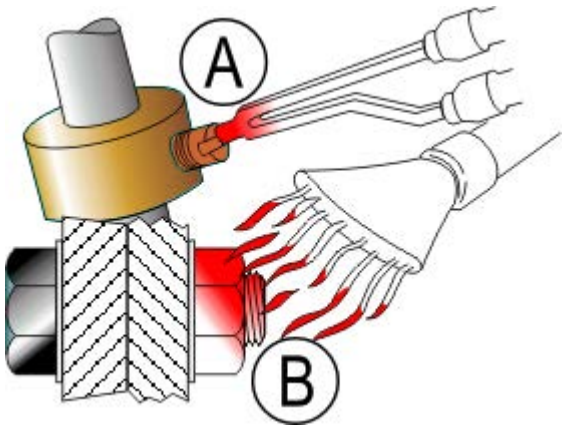
1.5.3.3 Disassembly

BNUUUN02.C07 0000222444 A.3 C.2 B.3 11/26/19, 2:59 PM Released

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

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

Figure 10. Use heat for disassembly of fasteners with threadlocker.

Apply Heat to a Small Area	Legend
	**A . . .** How to apply heat to a small fastener **B . . .** How to apply heat to a large fastener

2 Important Installation Precautions

BFUUUF01 / 2023174 BNUUUF01 0000109243 D.2 4/26/23, 10:44 AM Released

2.1 External Fuse/Breaker, Wiring, and Disconnect Requirements

BNUUUF01.C01 0000109242 C.2 A.4 D.2 1/2/20, 2:14 PM Released

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

2.1.1 Fuse or Circuit Breaker Size

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Refer to the “External Fuse and Wire Sizes...” document for your machine model. This document will be found in the machine's installation manual, available from the parts department. Choose the fuse or circuit breaker from the appropriate column of the table provided, as follows:

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

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

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

2.1.2 Wire Size

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

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

2.1.3 Ground

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

2.1.4 Disconnect Switch for Lockout/Tagout

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

2.1.5 Using GFCI (Ground Fault Circuit Interrupter) Device

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The AC Drive will most likely cause the GFCI protection device to trip. The reason the AC Drive will cause this tripping of the GFCI is the Common Mode Current or Common Mode Noise (CM Noise) that the VFD is producing.

Use a GFCI with a higher trip level.

NOTE: Choose a GFCI designed specifically for an AC drive. The operation time should be at least 0.1 s with sensitivity amperage of at least 200 mA per drive. The output waveform of the drive may cause an increase in leakage current. This may in turn cause the leakage breaker to malfunction. Increase the sensitivity amperage or lower the carrier frequency to correct the problem.

Use a type B GFCI according to IEC/EN 60755.

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2.2 Vital Information About the Forces Imparted to Supporting Structures by Laundering Machines

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This document replaces Milnor® document BIWUUI02.

All laundering machines impart static and dynamic forces to the supporting structures (foundation and soil, floor, and building). Static forces include the machine weight plus the weight of the goods and water. Dynamic forces are those imparted by various machine movements as explained in Section 2.2.2 : Major Design Considerations, page 37. The dynamic forces imparted to supporting structures can cause vibration and noise outside of the laundry room if supporting structures are inadequate.

2.2.1 Disclaimer of Responsibility

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Pellerin Milnor Corporation accepts no responsibility for damage or loss as a result of:

- inadequate supporting structures
- interference with the use of the facility caused by machine operation

The facility owner/operator is solely responsible to ensure that:

- supporting structures are strong enough, with a reasonable safety factor, to safely support the operating machine or group of machines
- supporting structures are rigid enough to isolate vibrations and noise to the laundry room

If the owner/operator does not possess the necessary expertise to ensure that the facility can safely and functionally accommodate the equipment, it will be necessary to consult the appropriate expert(s), such as a structural engineer, soils engineer, and/or architect.

2.2.2 Major Design Considerations

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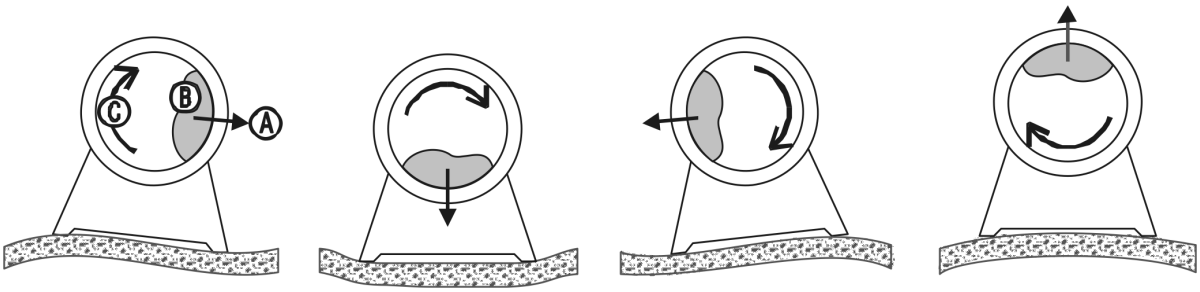
- Vibration and/or noise can be felt or heard outside of the laundry room as a result of the following, if supporting structures are not sufficiently rigid:
  - Extraction (the spinning cylinder) in washer-extractors and centrifugal extractors, imparts sinusoidal forces to supporting structures as shown in Figure 11: How Rotating Forces Act On the Foundation, page 38 . In rigid washer-extractors, these forces are up to 30 times that of suspended washer-extractors of the same capacity.
  - Extraction forces can be magnified many times if the rotation frequency matches the resonant frequency of supporting structures. To avoid this, supporting structures must have a natural resonant frequency many times greater than any possible rotation speed of the machine or combination of rotation speeds of all machines.
  - Each time goods fall in the rotating cylinder of a washer, washer-extractor, centrifugal extractor, or dryer, this can impart a force to the supporting structures.
  - The intermittent start and stop actions of large components inside the machine, particularly in a tilting washer-extractor, press-extractor, or centrifugal extractor, can impart intermittent forces to the supporting structures.
- The possibility of adverse consequences is significantly greater for upper floor installations than for installations at grade. Always consult a structural engineer for such an installation.
- The possibility of adverse consequences is significantly greater for installations at grade if subsidence causes a void between the foundation and the soil or if the soil itself does not provide adequate strength and rigidity. Some possible remedies are the addition of pilings or a deeper foundation, installed as to be monolithic with the existing foundation.
- Machine forces can cause damage to the machine or the floor without the correct anchorage.
- Applicable building codes, even when met, do not guarantee sufficient structural support and isolation of machine forces to the laundry room.

Figure 11. How Rotating Forces Act On the Foundation

Typical Washer-extractor (see note below)



Legend

A . . . Direction of force
B . . . Load
C . . . Rotation (frequency = RPM / 60)

NOTE: This figure applies to both rigid and suspended washer-extractors and to both at-grade and upper floor installations.

2.2.3 Primary Information Sources

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Milnor® provides, or can provide the following information of use to engineers and architects, for the given machine model:

- The machine dimensional drawing, found in the installation manual, specifies the machine's required anchorage.
- The Milnor® Service Department can provide static and dynamic load values and frequency (extract speed) values on request.

NOTICE: All data is subject to change without notice and may have changed since last printed. It is the responsibility of the potential owner/operator to obtain written confirmation that any data furnished by Milnor® applies for the model number(s) and serial number(s) of the purchased machine(s).

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2.3 Prevent Damage from Chemical Supplies and Chemical Systems

BNUUUR02.C01 0000160549 C.2 B.3 E.3 1/2/20, 2:14 PM Released

All Milnor® washer-extractors and CBW® tunnel washers use stainless steel with the ANSI 304 specification. This material gives good performance when chemical supplies are correctly applied. If chemical supplies are incorrectly applied, this material can be damaged. The damage can be very bad and it can occur quickly.

Chemical supply companies usually:

- supply chemical pump systems that put the supplies in the machine,

- connect the chemical pump system to the machine,
- write wash formulas that control the chemical concentrations.

The company that does these procedures must make sure that these procedures do not cause damage. **Pellerin Milnor Corporation accepts no responsibility for chemical damage to the machines it makes or to the goods in a machine.**

2.3.1 How Chemical Supplies Can Cause Damage

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Dangerous Chemical Supplies and Wash Formulas — Some examples that can cause damage are:

- a very high concentration of chlorine bleach,
- a mixture of acid sour and hypo chlorite,
- chemical supplies (examples: chlorine bleach, hydrofluosilicic acid) that stay on the stainless steel because they are not quickly flushed with water.

The book “Textile Laundering Technology” by Charles L. Riggs gives data about correct chemical supplies and formulas.

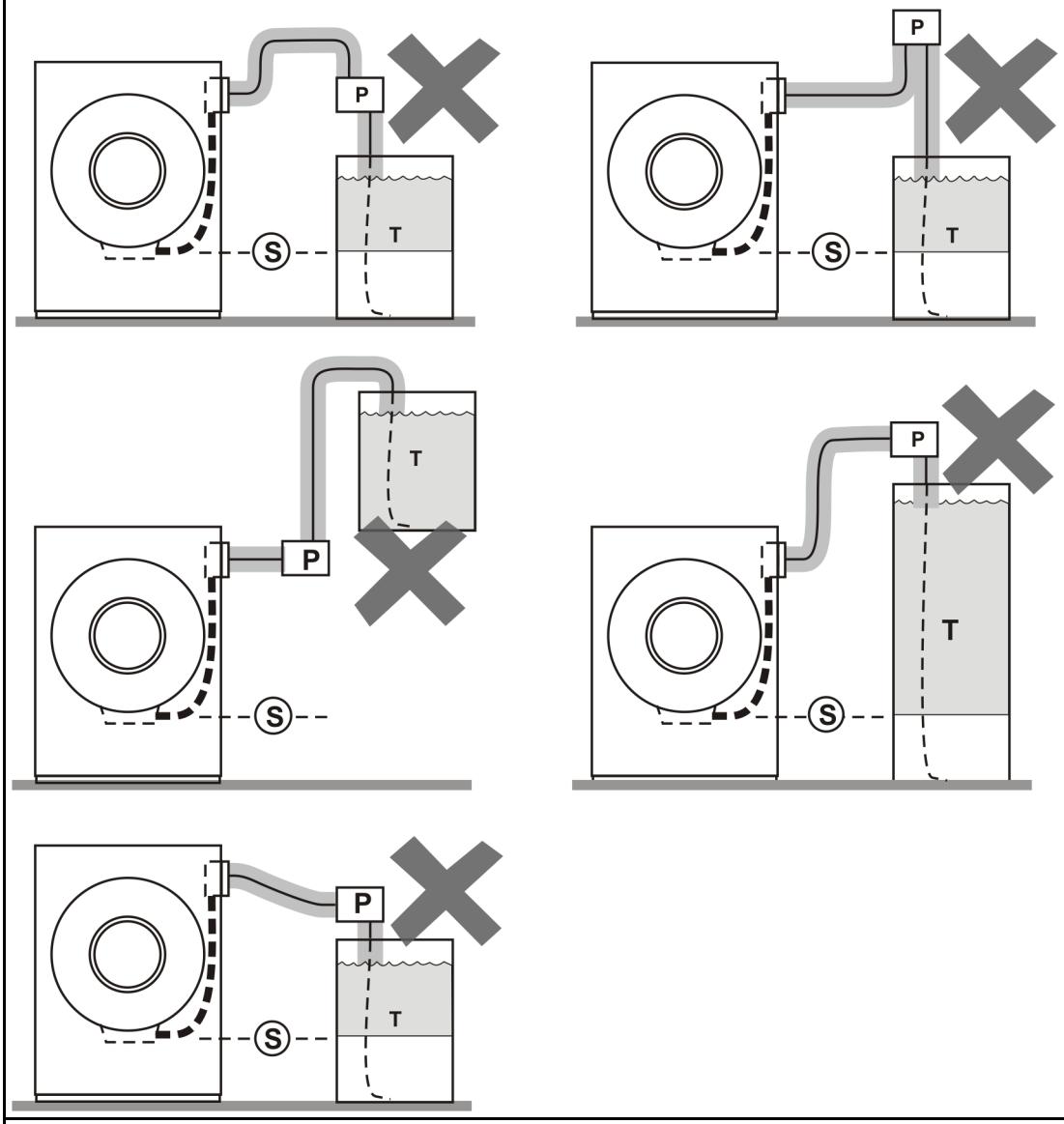
Incorrect Configuration or Connection of Equipment — Many chemical systems:

- do not prevent a vacuum in the chemical tube (for example, with a vacuum breaker) when the pump is off,
- do not prevent flow (for example, with a valve) where the chemical tube goes in the machine.

Damage will occur if a chemical supply can go in the machine when the chemical system is off. Some configurations of components can let the chemical supplies go in the machine by a siphon (Figure 12, page 40). Some can let chemical supplies go in the machine by gravity (Figure 13, page 41).

Figure 12. Incorrect Configurations That Let the Chemical Supply Go In the Machine by a Siphon

Schematic Views

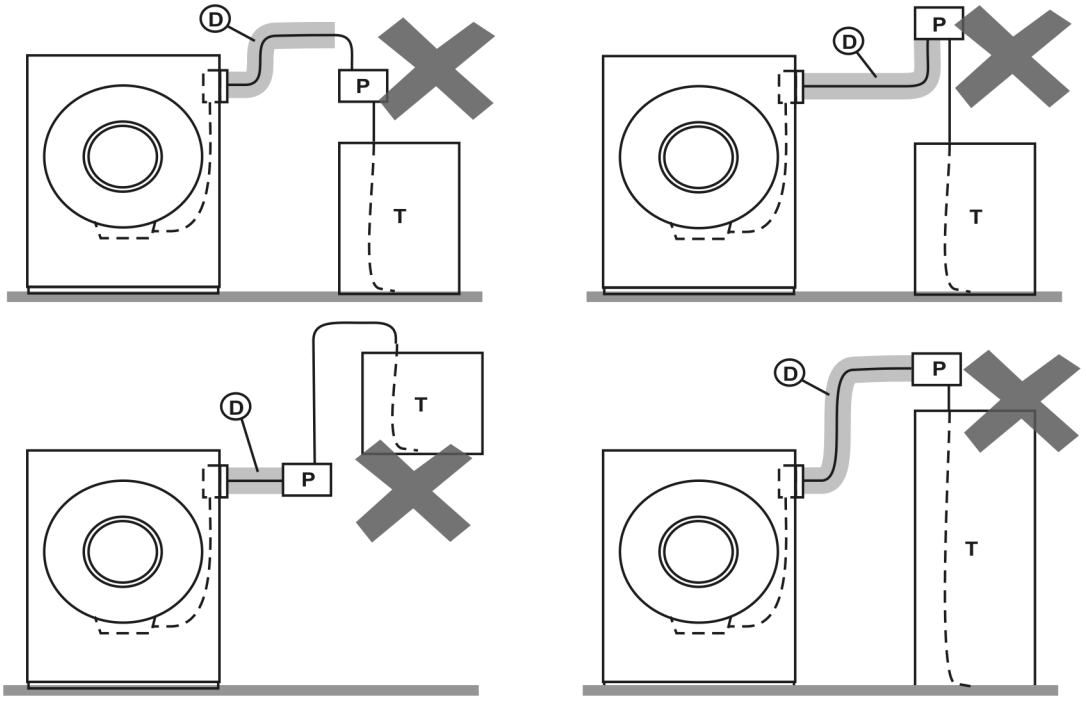


Legend

P . . . Pump
T . . . Chemical tank
S . . . The siphon occurs above here. Liquid in the gray parts of the chemical tube and tank can go in the machine.

Figure 13. Incorrect Configurations That Let the Chemical Supply Go In the Machine by Gravity

Schematic Views



Legend

P . . . Pump
T . . . Chemical tank
D . . . Chemical tube. Liquid in the gray areas can go in the machine.

2.3.2 Equipment and Procedures That Can Prevent Damage

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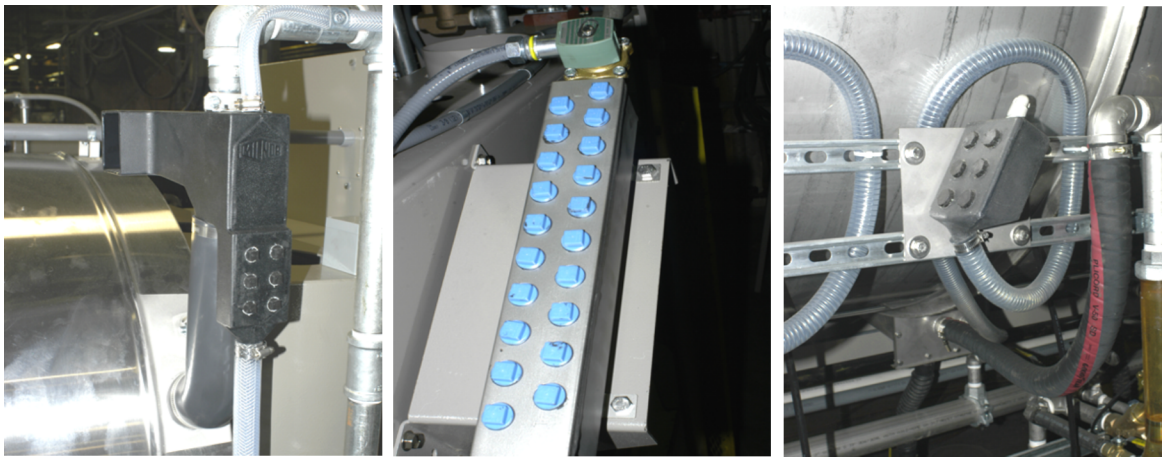
Use the chemical manifold supplied. — There is a manifold on the machine to attach chemical tubes from a chemical pump system. The manifold has a source of water to flush the chemical supplies with water.

Figure 14. Examples of Manifolds for Chemical Tubes. Your equipment can look different.



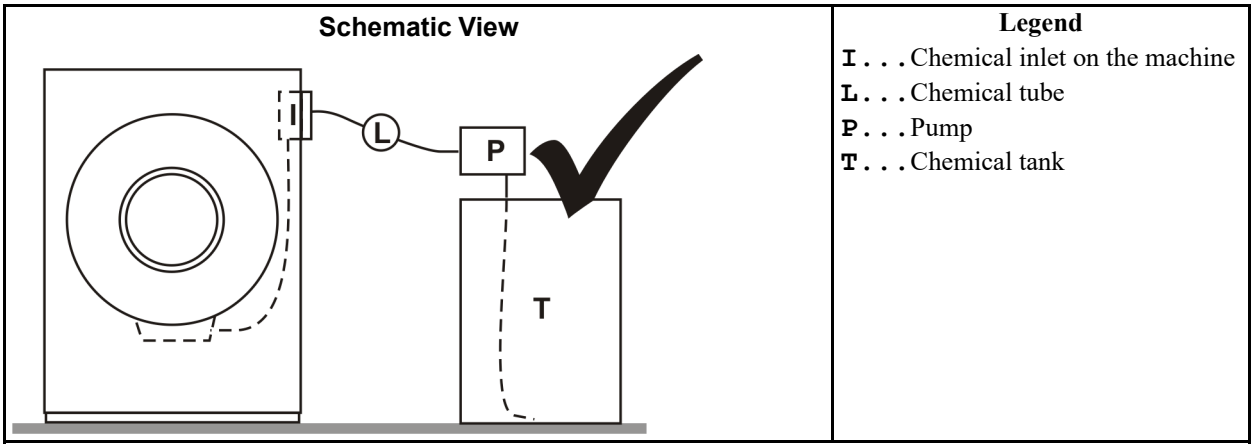
Close the line. — If the pump does not always close the line when it is off, use a shutoff valve to do this.

Do not let a vacuum occur. — Supply a vacuum breaker in the chemical line that is higher than the full level of the tank.

Flush the chemical tube with water. — If the liquid that stays in the tube between the pump and the machine can flow in the machine, flush the tube with water after the pump stops.

Put the chemical tube fully below the inlet. — It is also necessary that there is no pressure in the chemical tube or tank when the system is off.

Figure 15. A Configuration that Prevents Flow in the Machine When the Pump is Off (if the chemical tube and tank have no pressure)



Prevent leaks. — When you do maintenance on the chemical pump system:

- Use the correct components.
- Make sure that all connections are the correct fit.
- Make sure that all connections are tight.

3 Installation Procedures

3.1 Handling a Washer-extractor from Delivery to Final Location

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This document supersedes documents BIIFLI01, BIRUUI01, MSIN0206AE, and MSIN0301AE as of October 1, 2019. It applies to all Milnor® washer-extractor models in production as of October 1, 2019.

owner/management the purchaser of the machine or their representative. Usually the consignee.

transportation company the person(s) or contractor(s) who transports the machine to the facility where it will be installed. The carrier.

rigger the person(s) or contractor(s) responsible to off-load the machine from the delivery vehicle, move it to its final location, and anchor it to the foundation. This can be the dealer but is often another company hired by the dealer.

technician a person trained in servicing Milnor® products and responsible to remove shipping restraints. This is usually a dealer employee.

3.1.1 Notices

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Qualified Personnel Only — Do not attempt to move, anchor, or remove restraints from the machine unless you are a rigger or technician, as defined above.

Disclaimer — **Pellerin Milnor Corporation is not responsible for damage to the machine after it leaves the factory.** Pellerin Milnor Corporation strongly recommends that the consignee (usually the owner/management) carefully inspect the machine in its protective wrapping before off-loading and inspect the uncovered machine after off-loading. If damage occurred in transit, ensure that the transportation company acknowledges the damage in writing. Submit a damage claim as soon as possible.

Other Tasks — This document addresses common tasks that the rigger and technician will perform. Other tasks, not explained here, can be needed. Information about other tasks is usually provided by the dealer, the Milnor® Applications Engineering department, or the Milnor® Service department. Examples are:

- Placement of the machine on a platform, such as for laundry cart clearance or to accommodate unusual drain conditions.
- Partial disassembly and reassembly, possible on some models, for movement through small spaces.

3.1.2 Facility Prerequisites

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Required Condition	Supporting Information
structural support	See document BNUUUI01 “Vital Information About the Forces Imparted to Supporting Structures by Laundering Machines” which can be found in the installation manual and also at https://milnor.sharefile.com/d-s8408ba617d244d98.
protected storage	If the machine must be stored temporarily, it must be protected from dampness and excessive temperatures.
access to the final location	See the machine dimensional drawing, which can be found at the end of the installation manual, for overall dimensions. Partial disassembly is sometimes possible. Contact the Milnor® Service department.
clearances for machine movement and maintenance	See the dimensional drawing.
operational clearances	Adequate clearance around controls and for movement of laundry equipment such as carts. See the dimensional drawing.
available utilities	See the dimensional drawing and the external fuse and wire document.
available drain(s)	See the dimensional drawing. The drain valve(s) must have unrestricted access to a drain trough of sufficient capacity in the foundation.
laundry room ventilation	The machine will contribute heat and vapors to the laundry room, which must provide adequate ventilation.

3.1.3 Rigger Precautions

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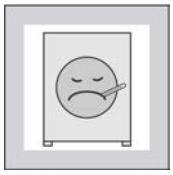
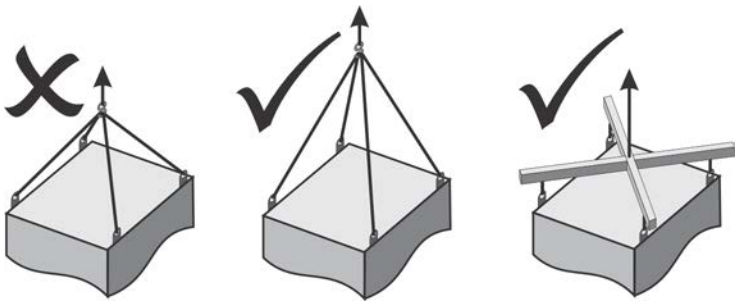
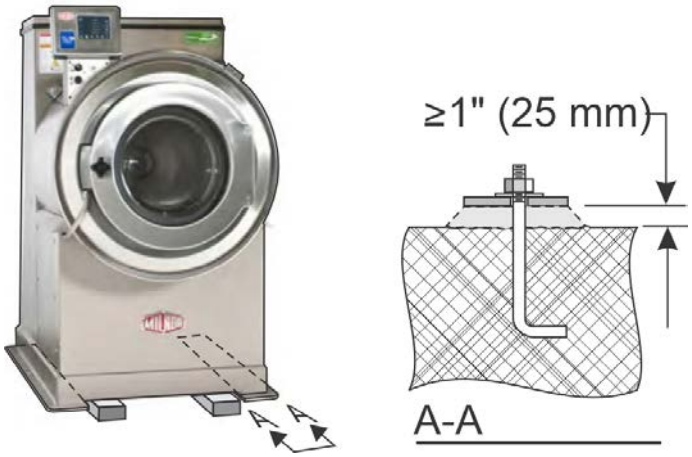


CAUTION: Incorrect rigging — can cause mishaps and costly machine damage.

- Know and accommodate the machine shipping weight.
- Use only lifting eyes for crane lifting.
- Use long cables or a spreader bar for crane lifting.
- Leave the machine skidded as long as possible.
- Protect fragile or sensitive machine components.
- Prepare the foundation and install anchor bolts correctly.
- Set the machine at the correct height and level.
- Apply machinery grout evenly so that support is distributed.
- Tighten anchors alternately so that the hold-down force is distributed.

Precaution	Explanation
Know and accommodate the machine shipping weight.	Use lifting and moving equipment appropriate for the machine shipping weight, as shown on the Bill of Lading. To obtain the shipping weight in advance, contact the Milnor® Transportation department.
Use only lifting eyes for crane lifting.	Machines designed for crane lifting are provided with lifting eyes either on the structural frame or on the shell, hidden behind cosmetic panels.
Use long cables or a spreader bar for crane lifting.	
Leave the machine skidded as long as possible.	If the machine is skidded, leave the machine on the skids until the machine is as close as possible to its final location. Use care to avoid contact between the fork lift forks and fragile machine components on the un-skidded machine.
Protect fragile or sensitive machine components.	After the machine is uncovered, carefully find and read all tags on the outside of the machine. White and manila paper tags are installation precautions. See the Installation Tag Guidelines in the installation manual for additional information.
Prepare the foundation and install anchor bolts correctly.	Anchor bolt sizes and locations are shown on the dimensional drawing in the back of the installation manual. However, Milnor® recommends to use the actual machine as a template to accurately locate where the anchor bolts are to be installed in the foundation. See the anchor bolt detail on the dimensional drawing. It is not permissible to omit anchor bolts.

Precaution	Explanation
Set the machine at the correct height and level.	Use blocking to get the machine base level and the base pads a minimum of 1” (25 mm) above the floor. Example: 
Apply machinery grout evenly so that support is distributed.	Fill all voids between the foundation and each base pad with industrial strength, non-shrinking grout. Allow the grout to fully cure per the grout instructions.
Tighten anchors alternately so that the hold-down force is distributed.	Raise the machine slightly and remove the wood blocking. Install a flat washer and nut on each anchor bolt and tighten incrementally in an alternating pattern. After tightening, check each anchor at least twice.

3.1.4 Technician Precautions

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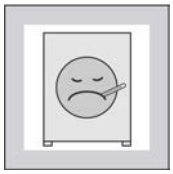
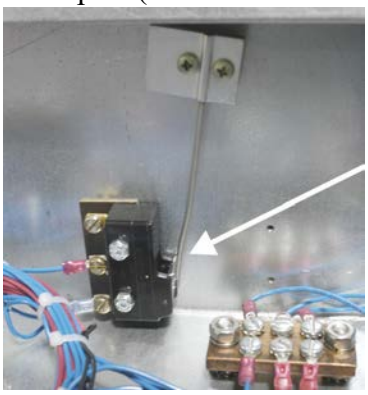
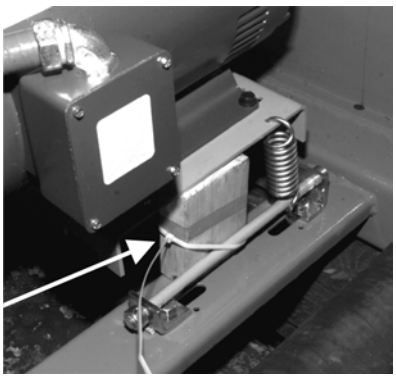
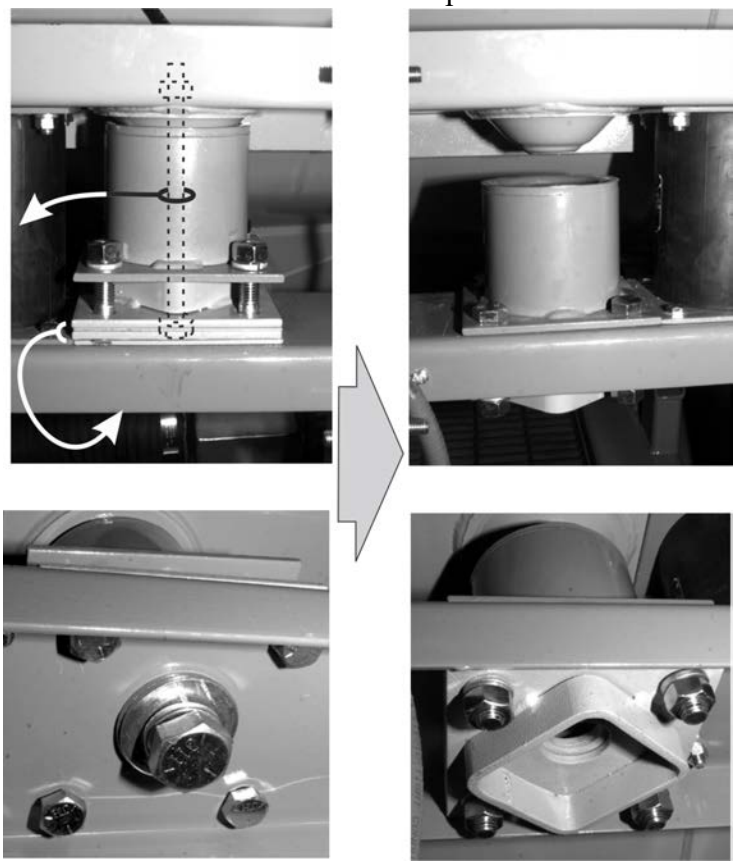


CAUTION: Overlooked or mishandled shipping restraints — can cause costly machine damage.

- Leave all internal shipping restraints in place until the machine is anchored.
- Check for and remove shipping tie wraps.
- Check for and remove suspension hold-down hardware, if applicable.
- Check for and remove red shipping brackets, if applicable.
- See the “Cylinder inspection” warning and inspect the cylinder for smoothness.

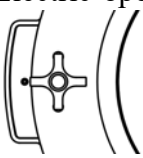
Precaution	Explanation
Leave all internal shipping restraints in place until the machine is anchored.	The machine can have one or more internal shipping restraints to help protect components from damage until the machine is anchored. These are located inside the housing or inside electric cabinets.
Check for and remove shipping tie wraps.	Examples (varies with machine model):  
Check for and remove suspension hold-down hardware, if applicable.	See also the service manual. Example: 
Check for and remove red shipping brackets, if applicable.	Shipping brackets are painted red. See the shipping brackets parts document in the service manual.

Precaution	Explanation
See the "Cylinder inspection" warning and inspect the cylinder for smoothness.	Inspect the cylinder and perforations for smoothness. **Pellerin Milnor Corporation cannot accept cylinder finish damage claims after the machine has been placed in service.** Machines are shipped with the shell door(s) closed. See the section below for information on how to open the shell door(s).

WARNING: Cylinder inspection — can trap you in the cylinder or seriously injure you.

- Never enter, or place body parts in the cylinder when power is supplied to the machine.
- If the machine is connected to power, lockout/tag-out power at the external disconnect switch.
- mechanically restrain the cylinder from turning.
- Have an assistant present in case of emergency.

Can the Door(s) Be Opened Before Utilities are Connected? — The shell doors on all Milnor® washer-extractors in current production, except for the side-loading, barrier models, have one of two types of door latch: electric-operated or air operated.

Door Type	How To Open
Electric-operated: 	The machine leaves the factory with the door latched closed but not locked. Turn the door knob to open the door even when the machine does not have power. If the door will not open, the door lock mechanism moved to the locked position due to shaking in transit. In this event, wait until the machine is connected to electric power and use the controls to open the door.
Air-operated: 	The machine leaves the factory with the door(s) closed and locked (with the door plunger extended). It is possible to temporarily replace the air line that retracts the door plunger with a source of compressed air to open the door when no other utilities are connected. Otherwise, wait until utilities are connected to the machine and use the controls to open the door.

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3.2 Connection Precautions for Washer-extractors

BNWUUI04.C01 0000255071 B.2 C.2 8/2/21, 10:05 AM Released

This document supersedes documents BNWBUI01, BNWBUI02, BNWBUI03, BNWBUI04, BIRQVI01, BIMUUI02, and BIIFUI01. It applies to all Milnor® washer-extractor models in production as of October 1, 2019.

plumber the person(s) or contractor licensed or otherwise accepted by the local jurisdiction to perform the plumbing work described herein, and qualified to do so.

electrician the person(s) or contractor licensed or otherwise accepted by the local jurisdiction to perform the electrical work described herein, and qualified to do so.

chemical supplier the person(s) or contractor with detailed knowledge of 1) the machine controller configuration and operation, and 2) the pumped chemical delivery system, if such a system is to be used.

3.2.1 Notices

BNWUUI04.R03 0000255231 C.2 A.7 1/2/20, 2:19 PM Released

Qualified Personnel Only — Do not attempt to connect utilities to the machine unless you are a plumber, electrician, or chemical supplier, as defined above.

Machine Must Be Anchored — Utility connections are to be made only after the machine has been anchored. See BNWUUI03 "Handling a Washer-extractor from Delivery to Final Location."

Other Tasks — This document and the documents it references address common tasks that the plumber, electrician, and chemical supplier will perform. Other tasks, not explained here, can be needed. Information about these tasks is usually provided by the dealer, the Milnor® Applications Engineering department, or the Milnor® Service department An example is electrical interfacing with a remote Mildata® data collection system.

3.2.2 Utility Requirements and Related Information

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Type of Information	Value or Where to Find
equipment list showing model and options purchased	For the dealer, see the order acknowledgement.
plumbing connection fitting types, sizes, and locations	See the standard and options dimensional drawings for your model located at the back of the installation manual.
water pressure range	10 – 75 psi (69 – 531 kPa) required
Cv value	See the specification sheet for your model available online at: https://www.milnor.com/specification-sheets/. The Cv value assists the piping designer in determining flow rates and pressures.
steam pressure range	30 – 115 psi (207 – 793 kPa) required, if applicable
compressed air pressure range	85 – 110 psi (586 – 758 kPa) required, if applicable
specified voltage	See the machine nameplate or the order acknowledgement.

Type of Information	Value or Where to Find
available voltages for this model	See the specification sheet for your model available online at: https://www.milnor.com/specification-sheets/.
multi-machine conditions that can interrupt utility service to a given machine	See dealer publication B22SL94011 “Sizing and Planning a Laundry” found online at:https://www.milnor.com/wp-content/uploads/2016/01/Sizing-and-Planning-a-Laundry_18323.pdf
approved plumbing materials	Plumbing materials must comply with applicable codes. The Milnor® factory makes no recommendations for inlet connection materials due to the many variables such as water conditions, materials cost and availability, and ongoing advances in materials technology. When drains must be piped, as apposed to a simple air drop to a sump, rubber hose and PVC are often used.

3.2.3 Plumber Precautions

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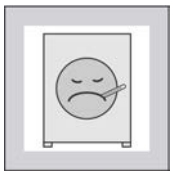

CAUTION: Machine damage and code violations — can occur as a result of incorrect plumbing.

- Confirm the reliability of the piped utilities.
- Maintain connection point diameter.
- Flush fluid lines.
- Do not twist valve bodies.
- Never interchange water valve electrical connections.
- Install any vacuum breaker(s) provided or required.
- Install any water strainer(s) provided or required.
- Install a union and a shutoff valve at each hard piped connection.
- Connect a dry supply injector flush inlet to hot water and regulate it.

Precaution	Explanation
Confirm the reliability of the piped utilities.	Water and any other piped fluids (steam, compressed air) needed by the machine must be within the specified pressure range and not prone to frequent interruptions when the machine operates. See Section 3.2.2 : Utility Requirements and Related Information, page 49.
Maintain connection point diameter.	The piping between the utility tap and the fitting on the machine must be as large or larger than the fitting. Drain piping or tubing, if any, must provide an unrestricted flow to the sump.
Flush fluid lines.	Foreign material such as debris in air lines, trapped air in water lines, and condensate in steam lines can damage machine components.
Do not twist valve bodies.	Hold a wrench on the valve side of a pipe connection to prevent the valve from twisting when you tighten the connection.

Precaution	Explanation
Never interchange water valve electrical connections.	On machines with air-operated water valves, it is permissible to exchange the pneumatic control lines, if the cold and hot connections were accidently plumbed in reverse.
Install any vacuum breaker(s) provided or required.	If vacuum (siphon) breaker(s) are provided for fresh water connection (s), but not already installed, install them as shown on the options dimensional drawing. If vacuum breakers are required by code, but not provided, obtain and install the required hardware.
Install any water strainers provided or required.	If water strainer(s) are provided for fresh water connections, install them between the machine and incoming water. For machines with garden hose type water inlets, use 40-mesh strainers.
Install a union and a shutoff valve at each hard-piped connection.	Obtain and install the necessary hardware to permit hard-piped connections to be shut off and disconnected at the machine for maintenance. For the valve, use a ball valve, not, for example, a globe valve.
Connect a dry supply injector flush inlet to hot water and regulate it.	If the machine has a dry supply injector with an external flush water connection and hot water is available, provide hot water to this inlet. The machine will be supplied with a pressure regulator. Install this hardware at the flush water connection and confirm that the regulator is set to 28 psi (193 kPa). Steam in the hot water line will cause the supply injector to malfunction.

3.2.4 Electrician Precautions

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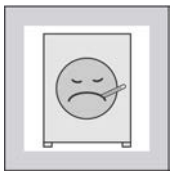

CAUTION: Machine damage, machine malfunctions, and code violations — can occur as a result of incorrect electrical connections.

- Know the machine electrical specifications.
- Comply with the published external fuse and wire requirements.
- Confirm the reliability of the electric service.
- Confirm the machine is phased in correctly.
- Confirm the correct line voltage setting on a selectable 240/208 volt machine.
- Attach the stinger leg, if any, only to L3.

Precaution	Explanation
Know the machine electrical specifications.	Refer to the nameplate affixed to the machine.
Comply with the published external fuse and wire requirements.	These requirements are given in document BGUUUF01 “External Fuse/Breaker, Wiring, and Disconnect Requirements” and the external fuse and wire document for your machine. These documents are found at the back of the installation manual. BGUUUF01 is also available at: https://milnor.sharefile.com/d-s5e1bad2885a447e8
Confirm the reliability of the electric service.	Voltage fluctuations of more than 10% above or below the specified voltage can damage electrical components, especially motors. The Milnor® factory strongly recommends that unreliable electric service is improved before the machine is put in use.
Confirm the machine is phased in correctly.	An installation tag on the machine shows the correct cylinder rotation at distribution (drain) or extract speed. If the cylinder turns in the wrong direction, reverse the wires connected to L1 and L2. Never move L3. Individual motors were phased in at the factory. Never reconnect individual motors or motor control devices.
Confirm the correct line voltage setting on a selectable 240/208 volt machine.	This precaution applies only if the nameplate voltage says 208/240V. It does not, for example, apply if the nameplate says 208V **or** 240V. The switch is near the incoming power transformer and must be in the position that matches the service voltage: 240 VAC or 208 VAC.
Attach the stinger leg, if any, only to terminal L3.	Never attach a stinger leg to terminal L1 or terminal L2.

3.2.5 Chemical Supplier Precautions

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Injury and severe machine damagecan occur as a result of incorrect chemical system installation.

- Understand and comply with the published connection precautions.
- Understand the machine controller.

Precaution	Explanation
Understand and comply with the published connection precautions.	The connection precautions are given in document BIWUUI03 “Prevent Damage from Chemical Supplies and Chemical Systems” in the installation manual. BIWUUI03 is also available at: https://milnor.sharefile.com/d-s79f12e8f11f42a9b
Understand the machine controller.	The machine controller is explained in detail in the reference manual for your machine, which is available from the Milnor® Parts department.

4 Drive Assemblies

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4.1 Drive Pulley and Belt Maintenance

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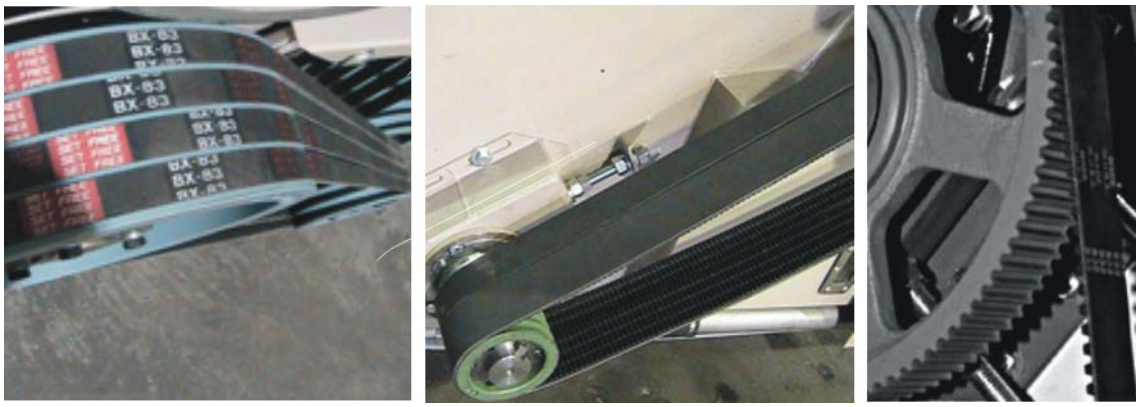
Figure 16. Examples of drives this instruction applies to: one or more V-belts, attached V-belts and tooth belts



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

WARNING: Risk of Injury or death — A machine in operation without safety guards is dangerous. Drive belts can pull in your body or clothing.

- Remove power from the machine when you do work on the mechanisms.
- Stay out of the machine frame when you do a test on the machine.
- Replace all covers before you put the machine into operation.

TIP: Read these documents from the Gates Corporation (`www.gates.com`) to know more about pulley and belt maintenance: "Belt Drive Preventive Maintenance & Safety Manual" and "Preserve your investment - Check Engine Belts Often."

4.1.1 Pulley Requirements

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- Keep pulleys free of dirt, oil and other contamination.
- Replace pulleys with groove damage.
- Align pulleys and shafts.

- Keep run-out in tolerance.

4.1.1.1 Condition of Grooves on Pulleys

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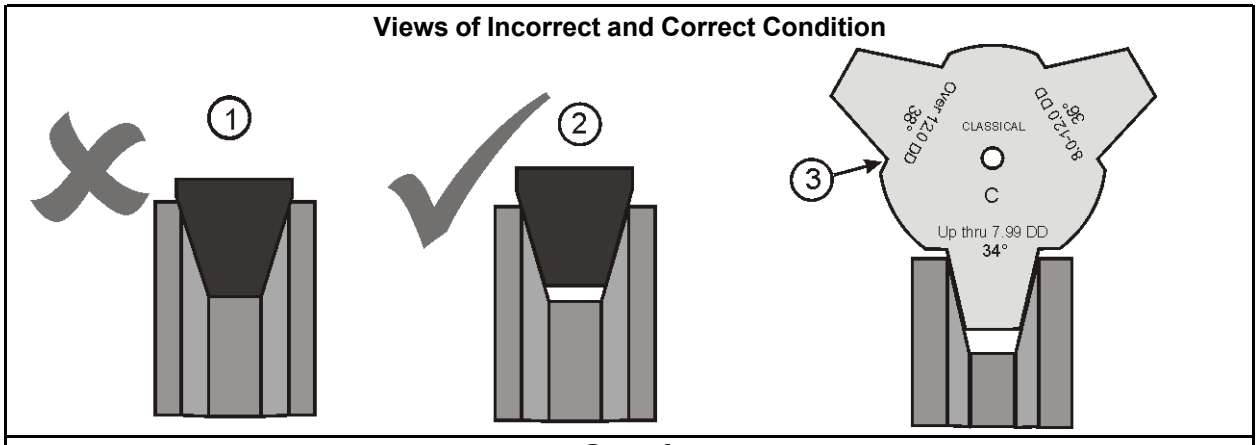
Replace a pulley if:

- the grooves have burrs, cracks, or worn areas that can cause damage to the belts.
- the belts touch the bottom of the groove at any point (Figure 17, page 54).

Figure 17. Pulley Groove Condition



Legend

1. Incorrect: Too much pulley wear. The belt touches the bottom of the groove.
2. Correct: The belt does not touch the bottom of the groove.
3. Use a sheave (pulley) gage to see if grooves are worn.

4.1.1.2 Pulley and Shaft Position

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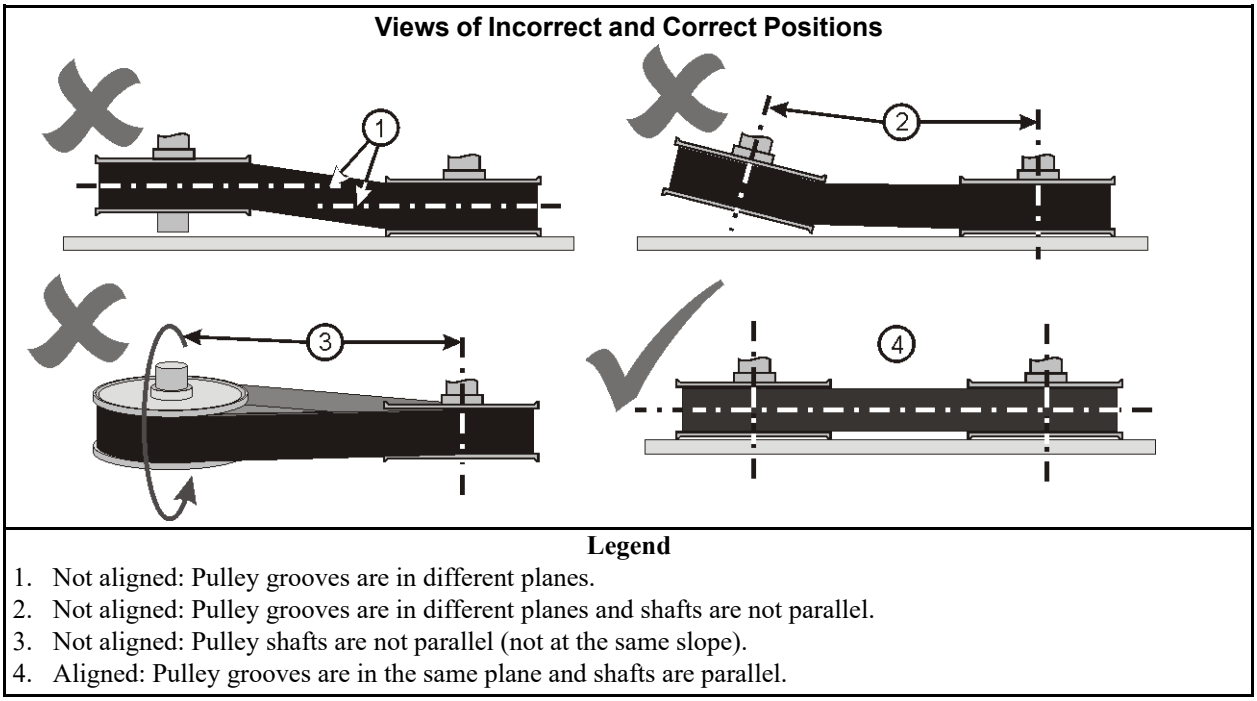
Align To adjust parts until they are in a correct position to other parts.

- Always align components when you replace a motor, bearing housing, pulley, or belt.
- The belts must not twist or make unusual noises or show vibration.

Figure 18. Pulley and Shaft Position



Legend

1. Not aligned: Pulley grooves are in different planes.
2. Not aligned: Pulley grooves are in different planes and shafts are not parallel.
3. Not aligned: Pulley shafts are not parallel (not at the same slope).
4. Aligned: Pulley grooves are in the same plane and shafts are parallel.

4.1.1.3 Keep Run-Out in Tolerance

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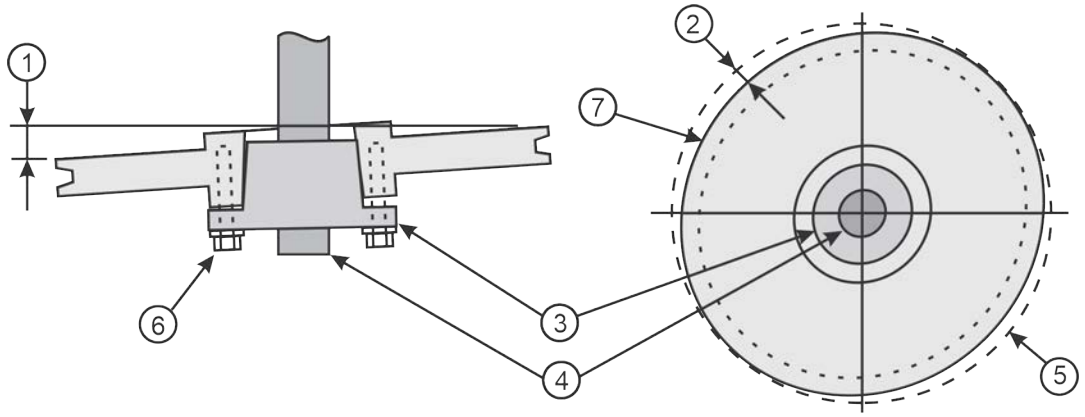
Axial run-out The difference between the minimum and maximum distance between the face of a pulley and a plane perpendicular to the pulley shaft (Figure 19, page 56, item 1). Incorrect installation or damage can cause a pulley to be not at a 90 degree angle to the shaft.

Radial run-out The difference between the minimum and maximum diameter in one turn (Figure 19, page 56, item 2). If a force causes damage to a pulley, it can bend. It will not have a circular shape.

Figure 19. Run-out

Views of Axial and Radial Run-out

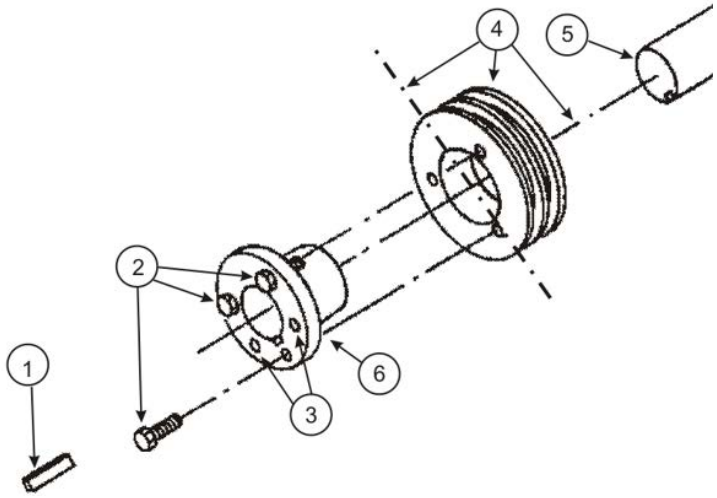


Legend

1. Axial run-out. This pulley is bent or not perpendicular to the shaft. This condition must not be more than 1 mil for each inch (0.1 mm for each dm) of the pulley diameter.
2. Radial run-out. This pulley is not circular. This condition must be less than 10 mils (0.25 mm).
3. Bushing
4. Shaft
5. A circle
6. Bushing bolts
7. Sheave

Figure 20. Typical Pulley Assembly

View of Pulley Components



Legend

1. Key
2. Bushing bolts. Tighten bolts in a pattern that gives the same torque. This will give minimum axial run-out.
3. Push-off holes
4. Pulley. Measure the radial run-out of the pulley after you assemble. Make sure that the center of the pulley is the same as the center of the shaft.
5. Shaft. Make sure that the shaft is not bent.
6. Bushing

4.1.2 Belt Requirements

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- Replace damaged belts.
- The pulleys must stay aligned when you adjust the belt tension.
- Do not use belts made from cut belts.

- For a drive with more than one belt:
  - Replace all of the belts together.
  - Do not mix new and used belts.
  - Do not mix belts from more than one manufacturer.

CAUTION: Risk of damage — A screwdriver or metal tool can cause damage to the belt.

▶ Do not push the belt on with a tool.

4.1.2.1 Condition of Belts

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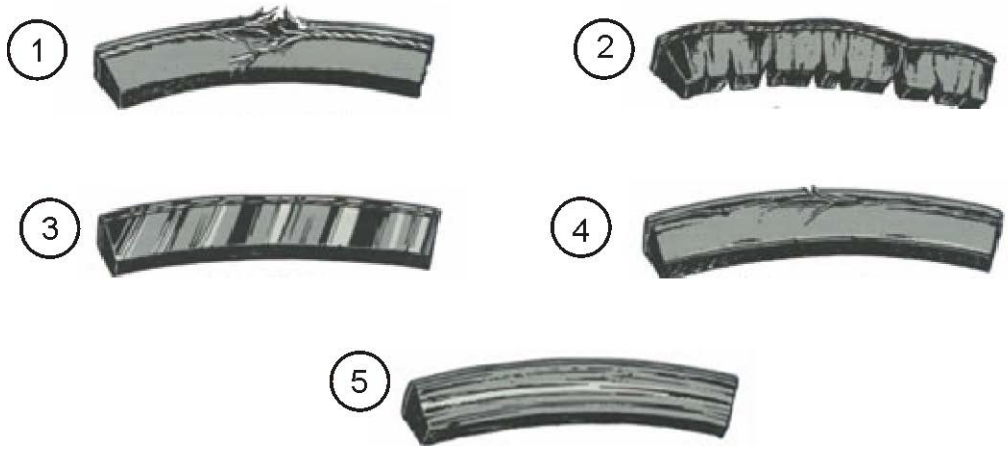
Slippage when the pulley turns more quickly than the belt can move

Slippage occurs if belts are not aligned (see Section 4.1.1.2 , page 54) or by incorrect tension explained in Section 4.1.1.2 , page 54. Slippage can cause belts to become too hot. Belts must not have a temperature more than than 140F (60° C).

TIP: The belt storage area must be cool and dry with no sun light.

TIP: New and used belts can look the same. These belts will have different strength properties and a small difference in length.

Figure 21. Types of Belt Damage



Legend

1. Broken cord—The belt was pushed across the groove with a metal tool.
2. Cracks—The belt is too large for the pulley.
3. Shiny sidewalls—slippage, oil, grease.
4. The belt layers disconnect—oil, grease.
5. Bands on sidewalls—rough surface or particles in the pulley groove.

4.1.2.2 Tension of Belts

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This data does not apply to belts where a spring holds the correct belt tension. Manual tension adjustment is not necessary for this type of drive.

The correct belt tension is the lowest tension that prevents belt slippage with a full load condition. If the belt is too tight, this can cause damage to the belt, the pulleys, bearings, and other drive components. If the belt is too loose, this can cause belt slippage. Incorrect belt tension or belt slippage can cause components to make an unusual noise.

When you install a new belt, use these rules to get the correct belt tension:

- Set the tension of the belt when you replace a motor, bearing housing, pulley, or belt.
- Replace all belts on a pair of pulleys when you replace one of them.
- After adjustment, operate the machine in all of its standard conditions to make sure that the belt operates correctly. For example, operate a washer-extractor in its full speed range with a full load of wet goods.
- Adjust the tension when you first install a belt. Do the adjustment again after 24 and 48 hours of operation. All belts will become longer after a short time. A V-belt will move down in the grooves of the pulleys. These conditions will cause the tension to decrease.

When you do scheduled maintenance, examine the belts for correct tension. With operation, belts become longer.

4.1.3 The pulleys must stay aligned when you adjust the belt tension

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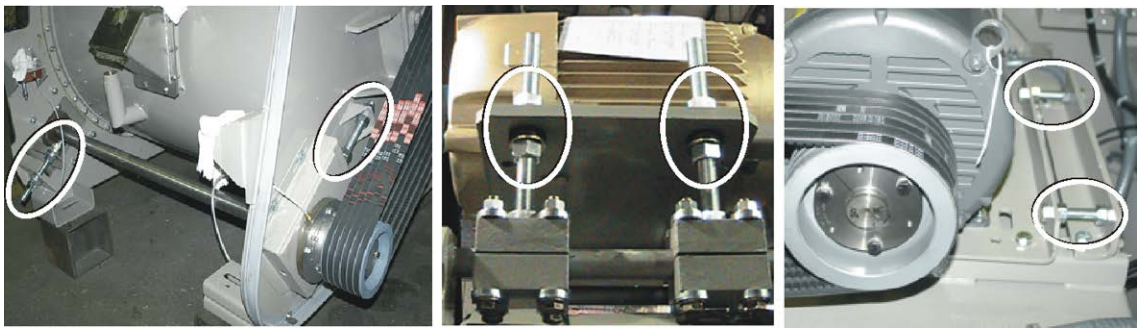
Some tension mechanisms do not have an effect on pulley and shaft requirements. Pulleys will stay aligned when you adjust them. Figure 22, page 59 is an example of these. Where tension mechanisms are a pair of threaded rods, you must adjust the nut, on each rod carefully. If not, the pulleys will not stay aligned. Examples of this type are shown in Figure 23, page 59.

Figure 22. A Tension Mechanism that will not Change the Angle of the Pulleys

Figure 23. Some Pairs of Tension Mechanisms that Can Change the Angle of the Pulleys



4.1.4 How to Do Maintenance on Pulleys and Belts

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Table 18. Typical Tools for Pulley and Belt Maintenance

Tool	Function	Related Data
Torque wrench	Make the bushing bolts the same torque to get the minimum axial run-out.	Figure 20, page 56, item 2
Laser, straight edge, or string	Align pulleys	Tools are listed in order of preference. Section 4.1.1.2 , page 54 and Figure 24, page 61
Bubble level	Align shafts	Section 4.1.1.2 , page 54 and Figure 25, page 62
Dial indicator	Measure run-out	Section 4.1.1.3 , page 55 and Figure 26, page 62

Table 18 Typical Tools for Pulley and Belt Maintenance (cont'd.)

Tool	Function	Related Data
Sheave (pulley) gage	Examine pulley wear	Figure 17, page 54.
Infrared thermometer	Examine belt temperature	Section 4.1.2.1 , page 57.

4.1.4.1 Typical Steps to Replace Pulleys and Belts

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Preparation Remove power from the machine.

Belt removal Use the belt tension mechanism to decrease the distance between the pulleys until you have sufficient clearance. Figure 22, page 59 and Figure 23, page 59 show typical belt tension mechanisms.

Pulley removal On the typical type of pulley and bushing shown in Figure 20, page 56, use the push-off holes to remove the pulley easily. On special types of pulleys (example: large drive pulley and cone), look at the parts document in the maintenance manual for more data. Some pulleys are too heavy for only one person to hold.

Pulley installation Figure 20, page 56 shows the typical pulley and bushing components. Make sure that you keep run-out tolerances when you assemble and tighten the components.

Belt installation Decrease the distance between the pulleys to put the belt on easily. Assemble the components carefully. Make sure that the components are aligned. Adjust the belt tension so the belt is tight.

Test Before you connect power again, make sure that you remove all tools. Operate the machine with a full load. If the belts slip, increase belt tension with the machine shut down and power removed. Then test again. Make sure that the machine is safe before you put it into regular operation.

4.1.4.2 Examples of Procedures Used at the Milnor® Factory to Align Pulleys

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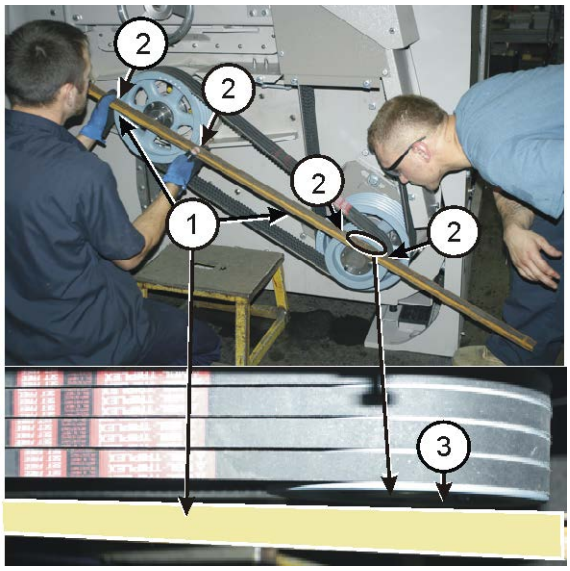
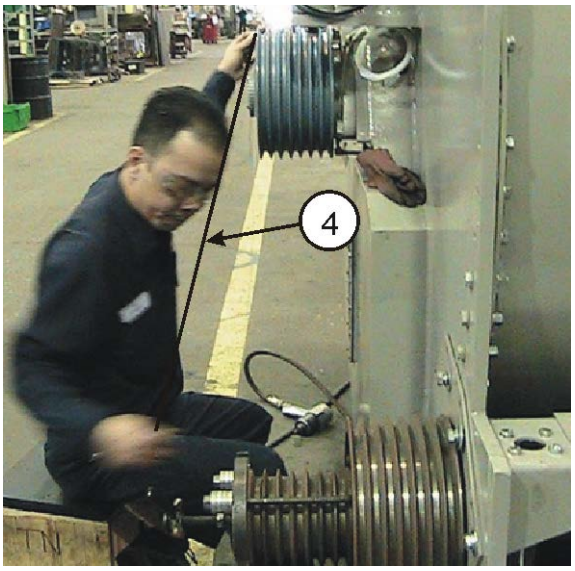
Figure 24. Use a straight edge, a string, or a laser to make sure that all pulleys are in the same plane.

Straight edge



String



Legend

1. Straight edge.
2. Four points where the straight edge must touch the pulleys.
3. Space between the straight edge and the pulley. This shows that the pulleys are not in the same plane.
4. You can use a string as a straight edge if you hold it tight.
5. Magnet-mounted laser
6. Three targets to point the laser at.

Laser

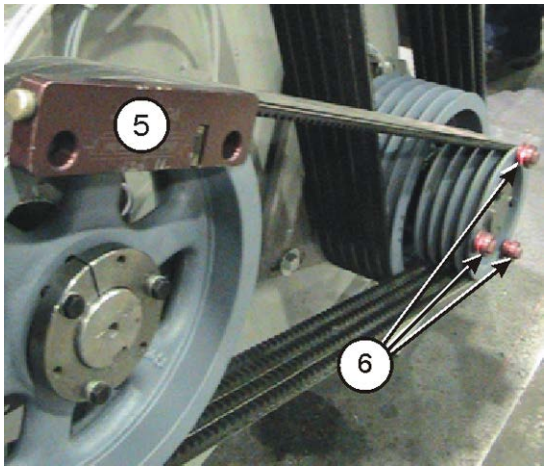
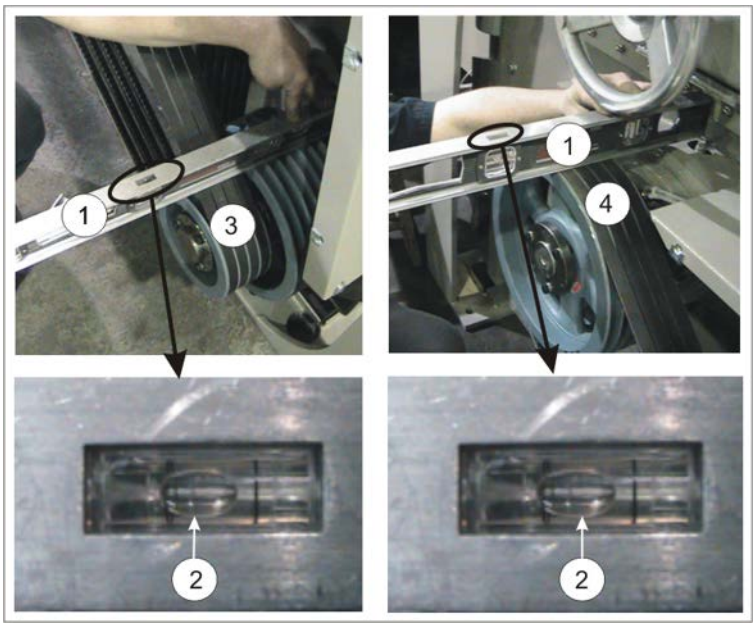


Figure 25. Use a level to make sure that the pulleys are at the same slope.

A level on the top of two pulleys

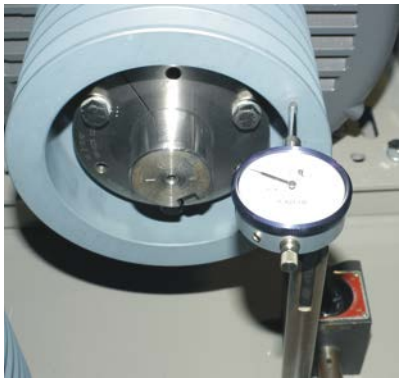


Legend

1. Bubble level: Use this tool to make sure that the slopes of pulleys are equal. This is to make sure that you do not have the condition in Figure 18, page 55, item 3. Mechanisms shown in Figure 23, page 59 can change the pulley slopes.
2. If the slopes of the pulleys are equal, the bubble will be in the same position for each pulley. The bubbles do not have to be in the center of the level.
3. A pulley
4. A second pulley on the same drive

Figure 26. Dial indicator used to find the axial and radial run-out of a pulley.

Axial Run-out (1)



Radial Run-out (2)

Legend

1. Dial indicator in position to measure axial run-out
2. Dial indicator in position to measure radial run-out

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4.2 Disk Brake Maintenance

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NOTICE: "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 4.2.6 : Operation of Brake Systems, page 74 tells how to operate the disk brakes. You can use it in some of the types of maintenance in this procedure.

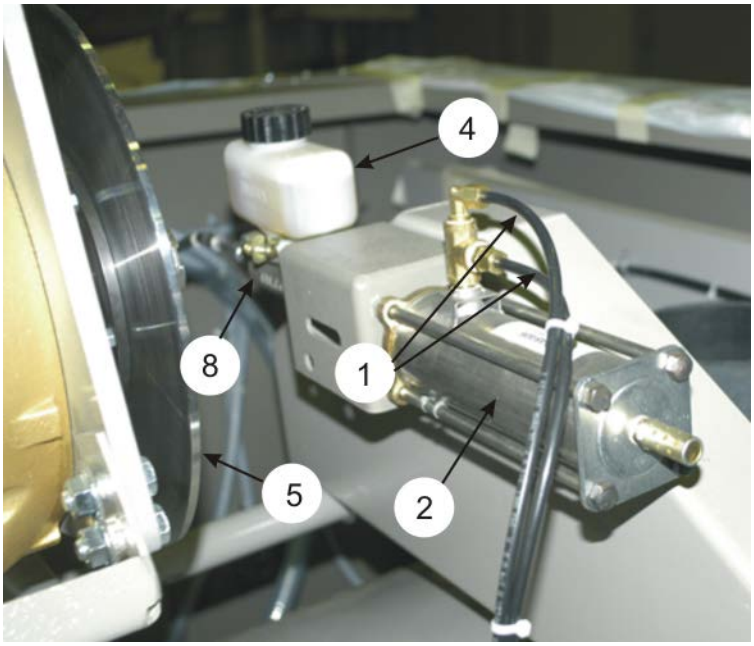
WARNING: Risk of injury or death — A machine in operation without safety guards is dangerous.

- 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 27. A typical hydraulic brake system

The air cylinder

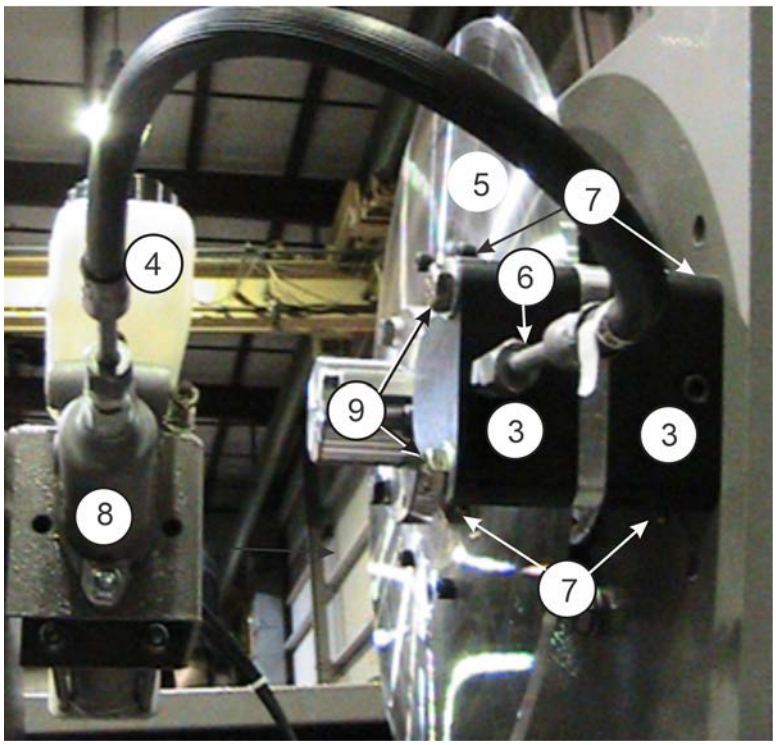


Legend

1. Tubing for air
2. Air cylinder
3. Caliper body halves (Figure 28, page 67, 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 28, page 67, item 1)

A typical hydraulic brake system (cont'd.)

The hydraulic cylinder and the caliper



4.2.1 The Inspection of the Brake

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

NOTE: 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. Examine the fluid in the reservoir. Change the hydraulic fluid if it smells, has contamination, or has an unusual color. See Section 4.2.4 : How to Change Hydraulic Fluid and Remove (Bleed) Air from the Brake Circuit , page 68.

   NOTE: 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.

2. Examine the rotor disk surface (Figure 27: A typical hydraulic brake system, page 63 , item 5). Replace the disk if it is worn or if it is not flat.
3. Examine the brake pads (Figure 28: The Caliper Components, page 67 , item 4). To do this, you will remove/replace the calipers and bleed the hydraulic system. See Section 4.2.3 : How

to Do a Caliper Overhaul, page 67 and Section 4.2.4 : How to Change Hydraulic Fluid and Remove (Bleed) Air from the Brake Circuit , page 68.

a. **Remove power from the machine (see above notice).**
b. Remove the bolts (Figure 27, page 63, item 9) that attach the caliper halves (Figure 27, page 63, item 7).
c. Remove the caliper halves.
d. Replace the pads as told in Section 4.2.2 : How to Do a Friction Pad Replacement, page 65 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 28, page 67, item 14) above the mounting screw (Figure 28, page 67, item 3). Always replace the two brake pads at the same time.
e. Put the caliper halves in their positions on the brake assembly. Tighten the mounting bolts to 30 foot-pounds (41 Newton-meters).
f. Bleed the hydraulic systems as told in Section 4.2.4 : How to Change Hydraulic Fluid and Remove (Bleed) Air from the Brake Circuit , page 68.
g. Supply electrical power to the machine.

4. Examine the condition of all of the brake system.
   a. Make sure that brake mounting components are tightly installed.
   b. Make sure that fittings are tight. Make sure that there are no leaks.

4.2.2 How to Do a Friction Pad Replacement

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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 above notice).**
2. Remove the used fluid. See Section 4.2.4 : How to Change Hydraulic Fluid and Remove (Bleed) Air from the Brake Circuit , page 68.
3. Remove the two bolts that attach the caliper (Figure 27, page 63, item 9) and the two caliper halves (Figure 27, page 63, item 3) to get access to the friction pads. Do not disconnect the hydraulic line (Figure 27, page 63, item 6).
4. If there are leaks, see Section 4.2.3 : How to Do a Caliper Overhaul, page 67 before you continue.
5. Replace each friction pad:
   a. Remove the brass screw (Figure 28, page 67, 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 28, page 67, 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 4.2.4 : How to Change Hydraulic Fluid and Remove (Bleed) Air from the Brake Circuit , page 68.
9. Supply electrical power to the machine.

4.2.3 How to Do a Caliper Overhaul

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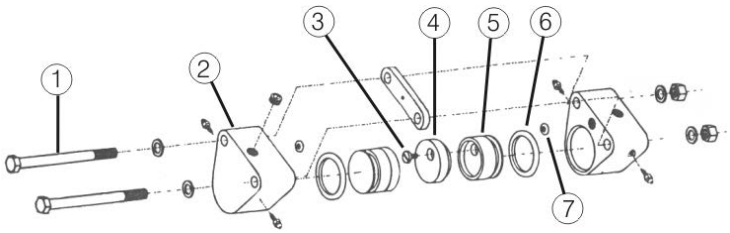
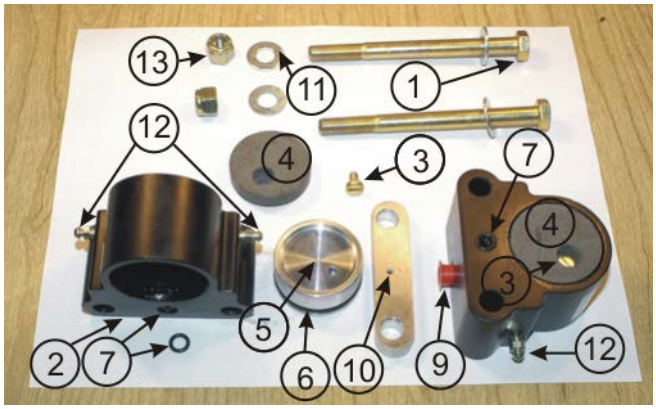
Figure 28. The Caliper Components

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



The Caliper and the Pad



Legend

1. The bolts to attach the caliper (Figure 27, page 63, item 9)
2. Caliper body halves (Figure 27, page 63, 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 28, page 67, item 7) and the hole in the spacer (Figure 28, page 67, 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 above notice).**
2. Get access to the caliper halves (see Section 4.2.2 : How to Do a Friction Pad Replacement, page 65).
3. Do an overhaul on each caliper:
   a. Remove and discard the connection O-rings (Figure 28, page 67, item 7) on the caliper bodies.
   b. Apply compressed air to the fitting for the hydraulic inlets (see Figure 28, page 67, item 8) to push the pistons out.
   c. Replace the piston O-rings (Figure 28, page 67, 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 28, page 67, item 7)
   f. Replace the friction pads (see Section 4.2.2 : How to Do a Friction Pad Replacement, page 65).
4. Replace the caliper halves as specified in Section 4.2.2 : How to Do a Friction Pad Replacement, page 65.
5. Bleed the brake circuit (see Section 4.2.4 : How to Change Hydraulic Fluid and Remove (Bleed) Air from the Brake Circuit , page 68).
6. Supply electrical power to the machine.

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

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Risks and Precautions

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

- Stay away from operating mechanisms.

CAUTION: 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: 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.

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 29: Pumps Used to Remove Hydraulic Fluid Quickly, page 70)
  - with pressure in the hydraulic cylinder and gravity (see Figure 30: Typical Tools to Remove Air (Bleed) Brakes and Used Hydraulic Fluid, page 70)

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 29, page 70, follow the manufacturer's instructions.
- If you use the tools as shown in Figure 30, page 70, follow the instructions in Section 4.2.4 : How to Change Hydraulic Fluid and Remove (Bleed) Air from the Brake Circuit , page 68.

Figure 29. Pumps Used to Remove Hydraulic Fluid Quickly

Alternative Pumps for Suction of Hydraulic Fluid

1

2

Legend

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

Figure 30. 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 28, page 67, item 12)
4. a suction device to remove brake fluid from the reservoir

1. Use the tools in Figure 30: Typical Tools to Remove Air (Bleed) Brakes and Used Hydraulic Fluid, page 70 to remove the used hydraulic fluid and clean the line. Do these steps:
   a. Use a suction tool (Figure 30, page 70, item 4) to remove the used fluid from the reservoir. Clean the contamination.
   b. Connect the tubing (Figure 30, page 70, item 2) and container (Figure 30, page 70, item 1) to the valve on the caliper (Figure 27, page 63, item 7).
   c. Open the valve.
   d. Add new fluid to flush out the lines.
   e. Apply/release the brake (see Section 4.2.6 : Operation of Brake Systems, page 74) approximately 5 to 15 times. This will flush the used fluid out of the lines.
   f. Close the valve.

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

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

   NOTE: This procedure uses pressure in the hydraulic cylinder and the tools in Figure 30: Typical Tools to Remove Air (Bleed) Brakes and Used Hydraulic Fluid, page 70 .

   a. 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
   b. Apply electrical power to the machine. Release the brake.
   c. See the part of the machine reference manual that tells how to operate the outputs manually.
   d. Put a small quantity of new brake fluid (approximately inches (50 mm)) in the 12 ounce container (Figure 30, page 70, item 1).
   e. Do these steps for each bleed valve (Figure 27, page 63, item 1) . Two technicians are necessary. This will move the fluid in one direction and push air out of the line:
      - Attach a clean tube to the valve. Put the other end in the container (Figure 30, page 70, item 1) below the fluid.
      - Make sure that the reservoir is full of fluid.
      - Apply the brake (See Section 4.2.6 : Operation of Brake Systems, page 74).
      - Open the bleed valve. (Figure 28, page 67, item 12)
      - Look for air bubbles in the container when you push the air and fluid out through the tube.
      - Close the valve.
      - Release the brake.
      - Continue the steps above until no more air comes out of the line.

f. Add fluid to the top of the reservoir. Replace the cap.

g. Operate the brake many times. Make sure that it operates correctly.

4.2.5 How to Adjust the Connection between the Brake Cylinder and the Air Cylinder

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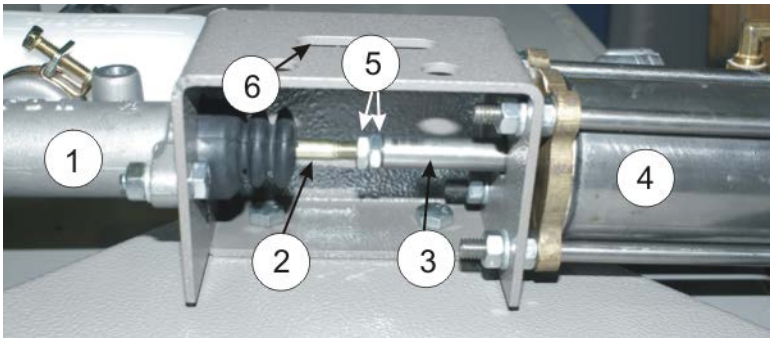
If you removed the brake cylinder or the air cylinder, you must adjust this connection.

Figure 31. The Connection between the Brake Cylinder and the Air Cylinder

A view of the brake rod and related components

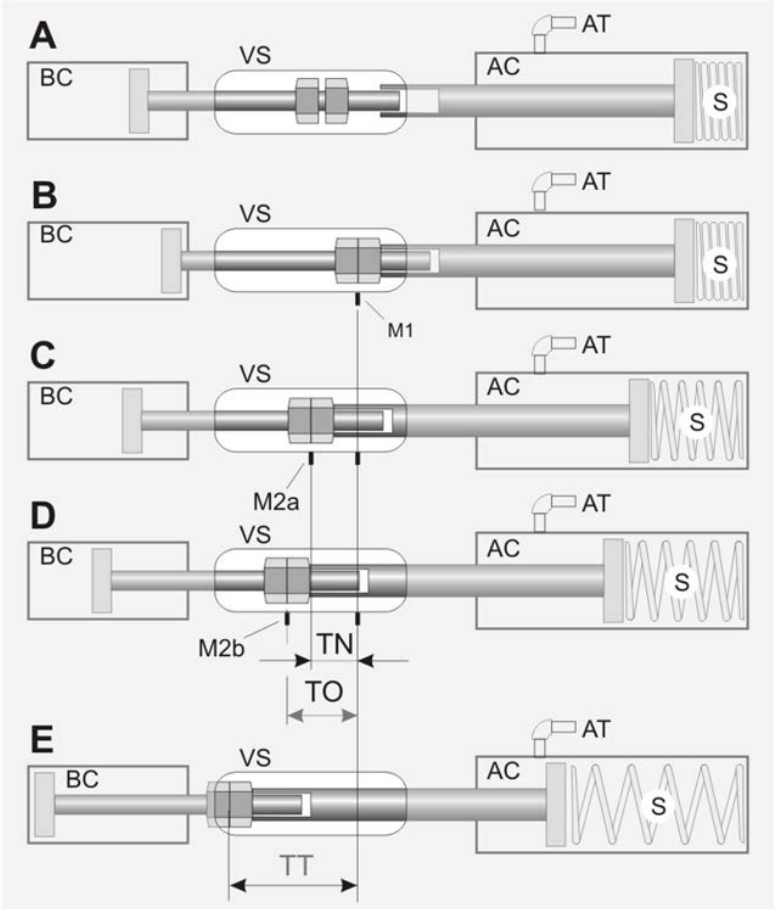


Legend

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 32. The Adjustment between the Brake Rod and the Air Cylinder

Schematic Views of Different Conditions



Legend

AC . . Air cylinder (Figure 31, page 72, item 4)
BC . . Brake cylinder (Figure 31, page 72, item 1)
VS . . Slot to see the nuts (Figure 31, page 72, item 6)
A . . . Before travel adjustment—Rods not locked by nuts (Figure 31, page 72, item 5)
B . . . After travel adjustment—the brake released (See Section 4.2.6.2 : How to Release the Brake for Machines with a "Brake Release" Output, page 75)
C . . . Brake applied—NEW pads (See Section 4.2.6.1 : How to Apply the Brake for Machines with a "Break Release" Output, page 74)
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 27: A typical hydraulic brake system, page 63 , item1). Air releases the brake.
S . . . Spring applies the brake

1. Adjust for maximum rod travel.
   a. Operate the master switch to energize control power.
   b. Make sure that the air pressure that releases the brake (Figure 33: A Typical First and Second Brake on a Divided Cylinder Machine, page 75 , item 1) is 85 -100 PSI (5.95 - 07.0 kg/cm-cm).
   c. Make sure that the nuts that lock the rods together (Figure 31, page 72, item 5) are loose.
   d. Release the brake (see Section 4.2.6 : Operation of Brake Systems, page 74). Let the air cylinder rod fully retract into the air cylinder as shown in Figure 32, page 73, item A.
   e. Turn the brake rod into the air cylinder rod until the brake rod comes out of the brake cylinder fully. See Figure 32, page 73, item B.
   f. Lock the brake rod (Figure 31, page 72, item 2) to the air cylinder rod (Figure 31, page 72, item 3) with two nuts (Figure 31, page 72, item 5).
2. Make sure that the brake will continue to operate while the pads wear.
   a. Release the brake. On the view slot, put a mark at the position of the lock nuts. (Figure 32, page 73, item M1).
   b. Apply the brake. See Section 4.2.6 : Operation of Brake Systems, page 74.
   c. 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.
   d. 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 32, page 73, item E (dimension TT).

4.2.6 Operation of Brake Systems

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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.

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

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1. Turn the "brake release" control output off to de-energize the air valve to remove air pressure to the air cylinder (Figure 27: A typical hydraulic brake system, page 63 , item 1).
2. With no air pressure, a spring in the air cylinder will apply force to the hydraulic cylinder (Figure 27: A typical hydraulic brake system, page 63 , item 8). This will apply pressure to the brake pads (Figure 28: The Caliper Components, page 67 , item 4) against the rotor disk (Figure 27: A typical hydraulic brake system, page 63 , item 5). (Figure 32: The Adjustment between the Brake Rod and the Air Cylinder, page 73 , item C,D)

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

4.2.6.2 How to Release the Brake for Machines with a "Brake Release" Output

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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 32: The Adjustment between the Brake Rod and the Air Cylinder, page 73 , item B)

4.2.6.3 How to Apply and then Release the Brake Quickly

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There are two air tubes at (Figure 27: A typical hydraulic brake system, page 63 , 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 27: A typical hydraulic brake system, page 63 , item 1).
2. Turn the "brake release" output on. The air valve will supply compressed air to one of the tubes. (Figure 27: A typical hydraulic brake system, page 63 , item 1).
3. Quickly move one of the compressed air tubes (Figure 27: A typical hydraulic brake system, page 63 , item 1) on and off the air cylinder.
4. After you complete this procedure, connect the air tubing.

4.2.6.4 How the Brake Operates on Divided Cylinder Machines

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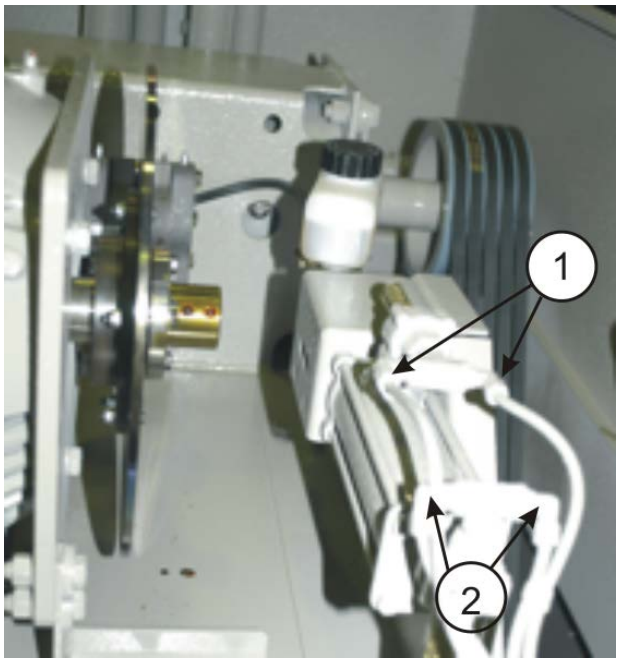
Figure 33. A Typical First and Second Brake on a Divided Cylinder Machine

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 33: A Typical First and Second Brake on a Divided Cylinder Machine, page 75 , 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 33: A Typical First and Second Brake on a Divided Cylinder Machine, page 75 , item 2 and the spring apply the brake.

4.2.6.5 The Second Brake

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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 33: A Typical First and Second Brake on a Divided Cylinder Machine, page 75 , item 2) to 10 – 12 PSI (0.7-0.84 kg/cm-cm).

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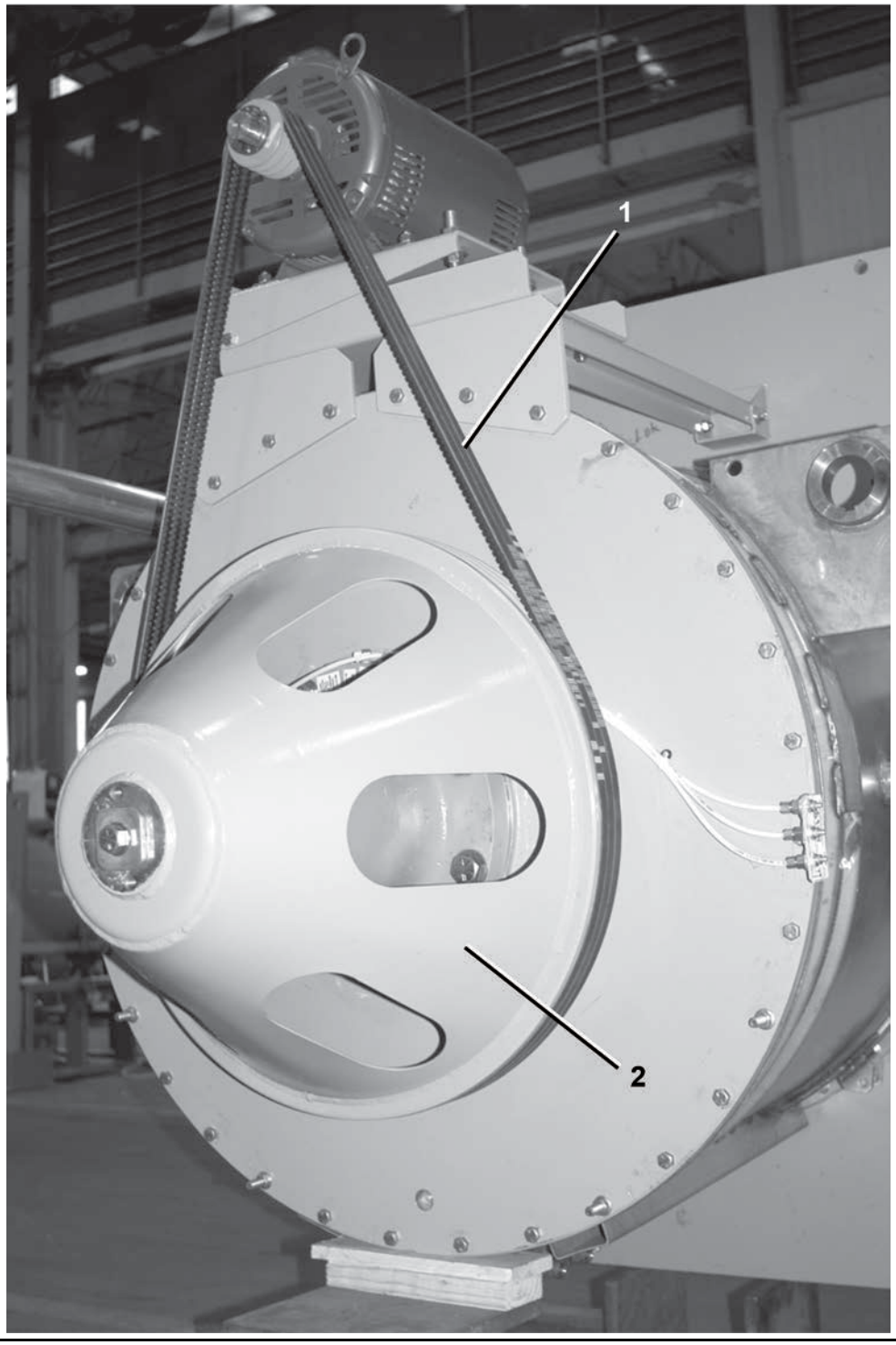
Drive Components Identification

2 Sheets

Figure 34. General View



Drive Components Identification

2 Sheets

Figure 35. Detailed Views

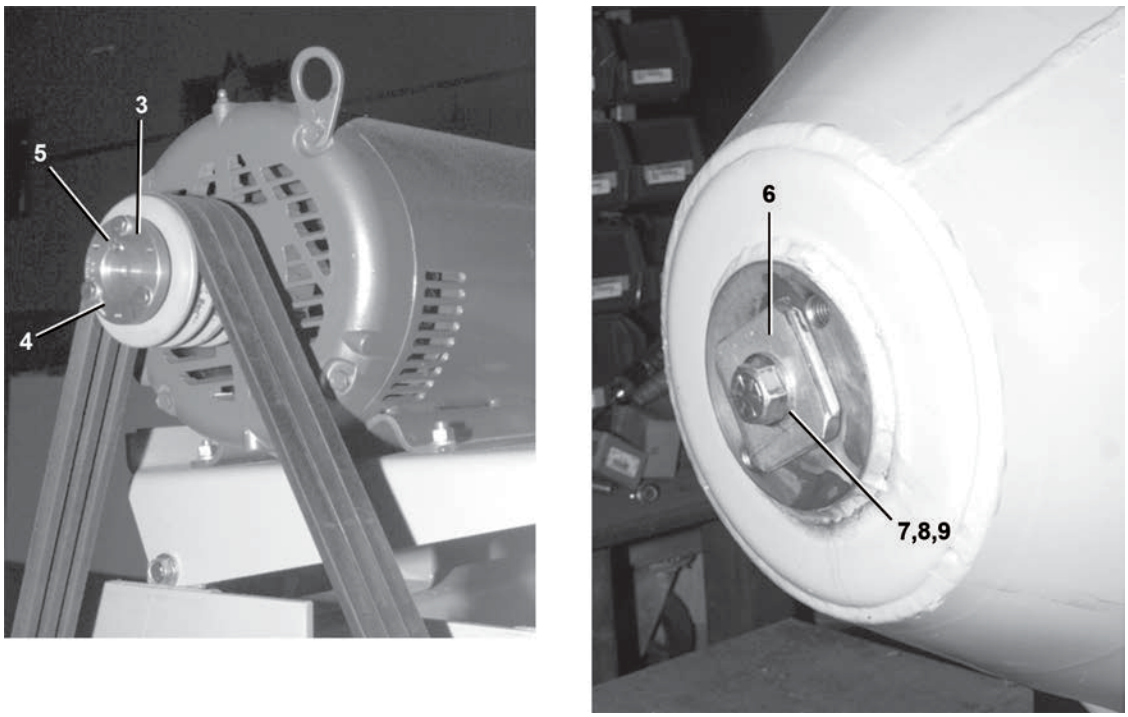


Table 19. Parts List—Drive Components Identification

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**
Reference Assemblies				
	A	D17 00550	DRIVECHART 3626X 50/60CYL	36026X8J,X8R
	B	D17 00650	DRIVECHART 4226/32X 50/60CYC	42026X7J,X7W,X7R 42032X7J,X7W,X7R
Components				
A	1	56VB122XM3	3/BX122 VBELT MATSET=3;EA=1SET	
B	1	56VB131XB3	GOLD RIBBON COG3STRANDBX131	
all	2	X2 21931	MACH=PULLEY, FAB, 3630F	
all	3	56034B3SH	VPUL 3B3.4/A3.0 (SH) TYPE QD	
A	4	56Q1GSH	1+3/8" BUSH VPUL QD TYPE SH	
B	4	56Q1MSH	1+5/8" BUSH VPUL QD TYPE SH	
all	5	15E230	STRMACHKEY 3/8SQX2+1/2 TOL.+0	
all	6	02 14359A	SHAFT RETNR SPACER 2+3/4" SQ	
all	7	15U321H	FLTWASH 3/4 HARD ASTM F436	

Drive Components Identification

2 Sheets

Table 19 Parts List—Drive Components Identification (cont'd.)

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	8	15K232A	HEXCAPSCR 3/4-10X2 GR8 ZINC	
all	9	20C008C	THDLKSEAL LCT24241 RMUBL250CC	

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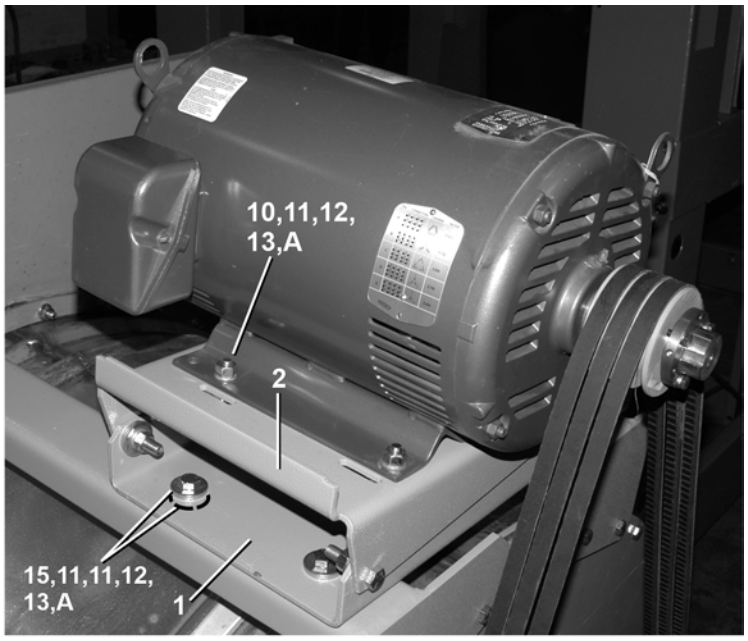
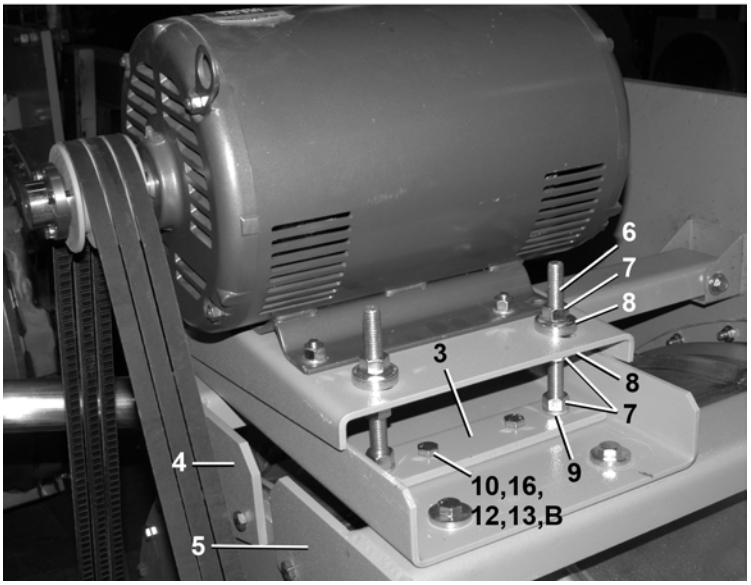
Drive Motor Installation

3 Sheets



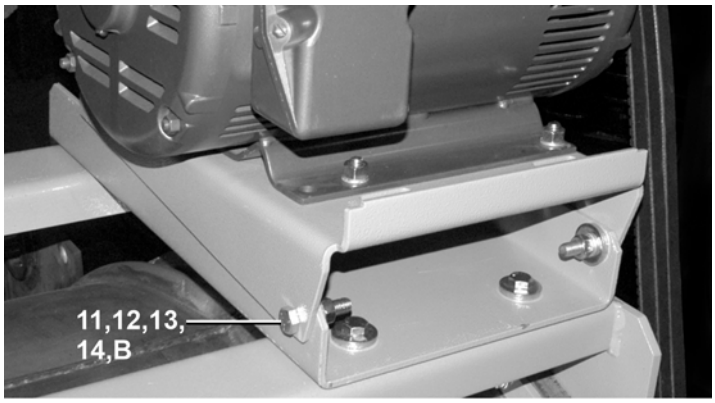


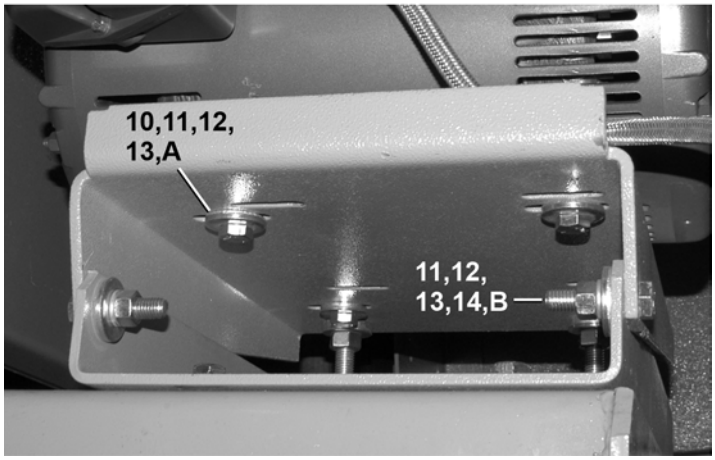
Legend

A . . . 4 instances
B . . . 2 instances

Drive Motor Installation

3 Sheets





Legend

A . . . 4 instances
B . . . 2 instances

Table 20. 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**
Reference Assemblies				
	A	ADB3626X7	ASSY=DRIVEBASE 3626X7	3626X8J,X8W,X8R
	B	ADB4226X	ASSY=DRIVEBASE 4226X, 4232X	4226X7J,X7W,X7R 4232X7J,X7W,X7R
Components				
all	1	02 21061B	BRKT=MOTOR MOUNT 4226/32	
all	2	02 21061	BASE=4232F MOTOR MOUNT PLATE	
all	3	02 21062	MOTOR MNT ADJ BOLT BAR,4232F	

Drive Motor Installation

3 Sheets

Table 20 Parts List—Drive Motor Installation (cont'd.)

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	4	W2 13504	MOTOR RAIL MOUNT WELD RT (CS)	
all	4	W2 23504	MOTOR MT WELDMENT BKT 4226X (CS)	
A	5	W2 13504A	MOTOR RAIL MOUNT LF (CS)	
B	5	W2 23504A	MOTOR MT WELDMENT LF 4226X (CS)	
all	6	15B186	HEXTAPBLT FLT 5/8-11UNCX7	
all	7	15G238	HXNUT 5/8-11UNC2B SAE ZINC GR2	
all	8	17W030	SPHERICAL WASHER SET 5/8 M/F	
all	9	15U315	LOKWASHER MEDIUM 5/8 ZINCPL	
all	10	15K162	HXCAPSCR 1/2-13UNC2AX1.5 GR5 P	
all	11	15U490	FLTWASH 1+1/2X17/32X1/4 ZINC	
all	12	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	
all	13	15G230	HXNUT 1/2-13UNC2B SAE ZINC GR2	
all	14	15K180	HXCAPSCR 1/2-13UNCAX2 GR5 ZINC	
all	15	15K173A	HXCAPSCR 1/2-13UNC2AX1.75 GR5	
all	16	15U280	FL+WASHER(USS STD)1/2 ZNC PL+D	

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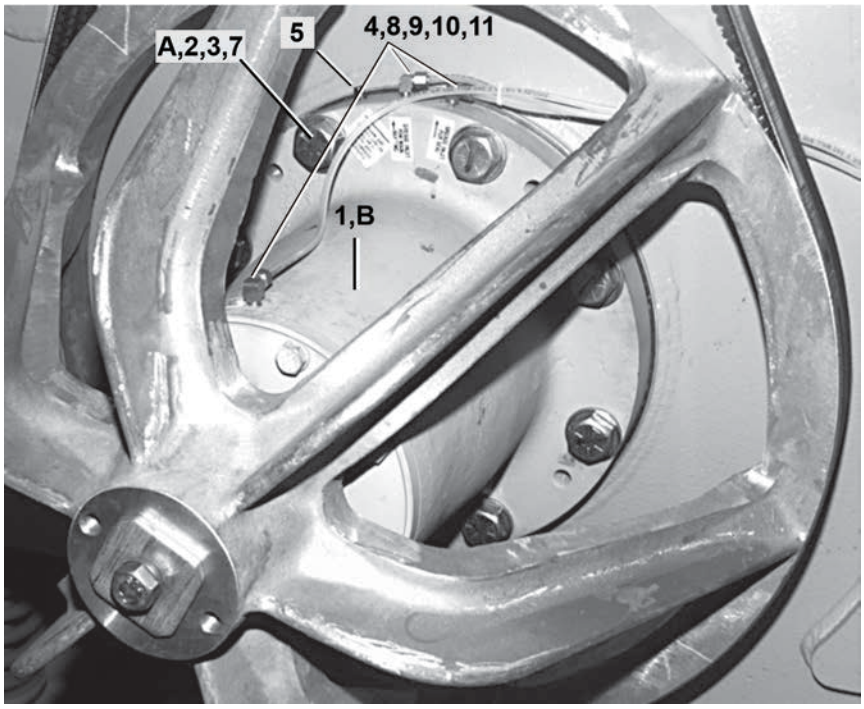
Main Bearing Installation

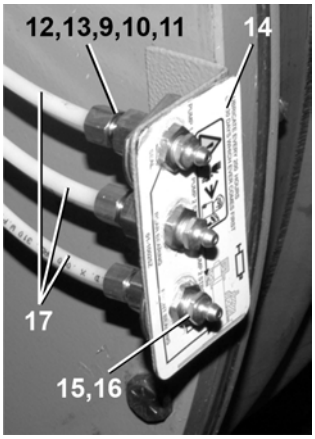
2 Sheets

36026X8R, 42026X7R, 42032X7R

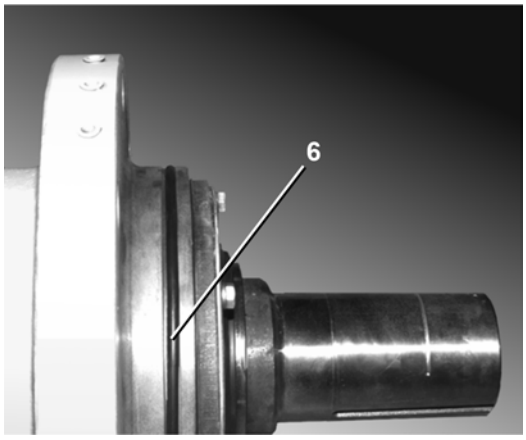
Bearing Housing Installation



Lubricant



O-ring



Legend

A . . . 8 instances
B . . . 42032F7J shown

Main Bearing Installation

2 Sheets

36026X8R, 42026X7R, 42032X7R

Table 21. Parts List—Main Bearing 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**
Reference Assemblies				
	A	GBM4226X7	INSTALL-MAIN BEARING 42X	42026X7R, 42032X7R
	B	GBM3626X7	INSTALL=MAIN BEARING 3626X7	36026X8R
Components				
A	1	ABM42001	MAIN BEARING ASSY=4232F7	
B	1	ABM35001	MAIN BEARING ASSY=3630F8	
all	2	15K235K	HEXCAPSCR 1-14X3 GR 8 ZINC	
all	3	15U393	FLTWASH 1" HARD ASTM F436	
all	4	54M021	GRSFIT 1/8PIPE X 1/4STR 1607-B	
all	5	5SP0CFESSV	NPTPLUG1/8SQSLDBLKSTL LVENT125	
A	6	60C176	ORING 10 IDX1/4"CS BUNA-N#449	
B	6	60C170	ORING 8"IDX3/16CS BUNA70 #369	
all	7	20C007G	THDLOCKSEAL LCT24231 RMUBL50CC	
all	8	53A031B	BODY-EL90MALE.25X1/8 #269C-42B	
all	9	53A059A	NUT 1/4"BR.HOLYOKE AND #61A-4	
all	10	53A500	SLEEVE DELRIN 1/4"OD#60PT-4	
all	11	53A501	TUBE INSERT .163"OD #63PT-4-40	
all	12	53A007B	BODYFEMCON.25X.25COMP#B66A-4B	
all	13	15U281A	WASHER=CLIPPED 1/2 ID .06THK	
all	14	01 10025Z	NPLT:BEARING&SEAL LUB-42"& 36"	
all	15	5SB0E0CBEO	NPTHEXBUSH 1/4X1/8 BRASS 125#	
all	16	54M015	GREASEFIT 60X36/60X44 1610BL	
all	17	60E004TC	TUBING NYL(NAT)1/4"ODX.17ID	

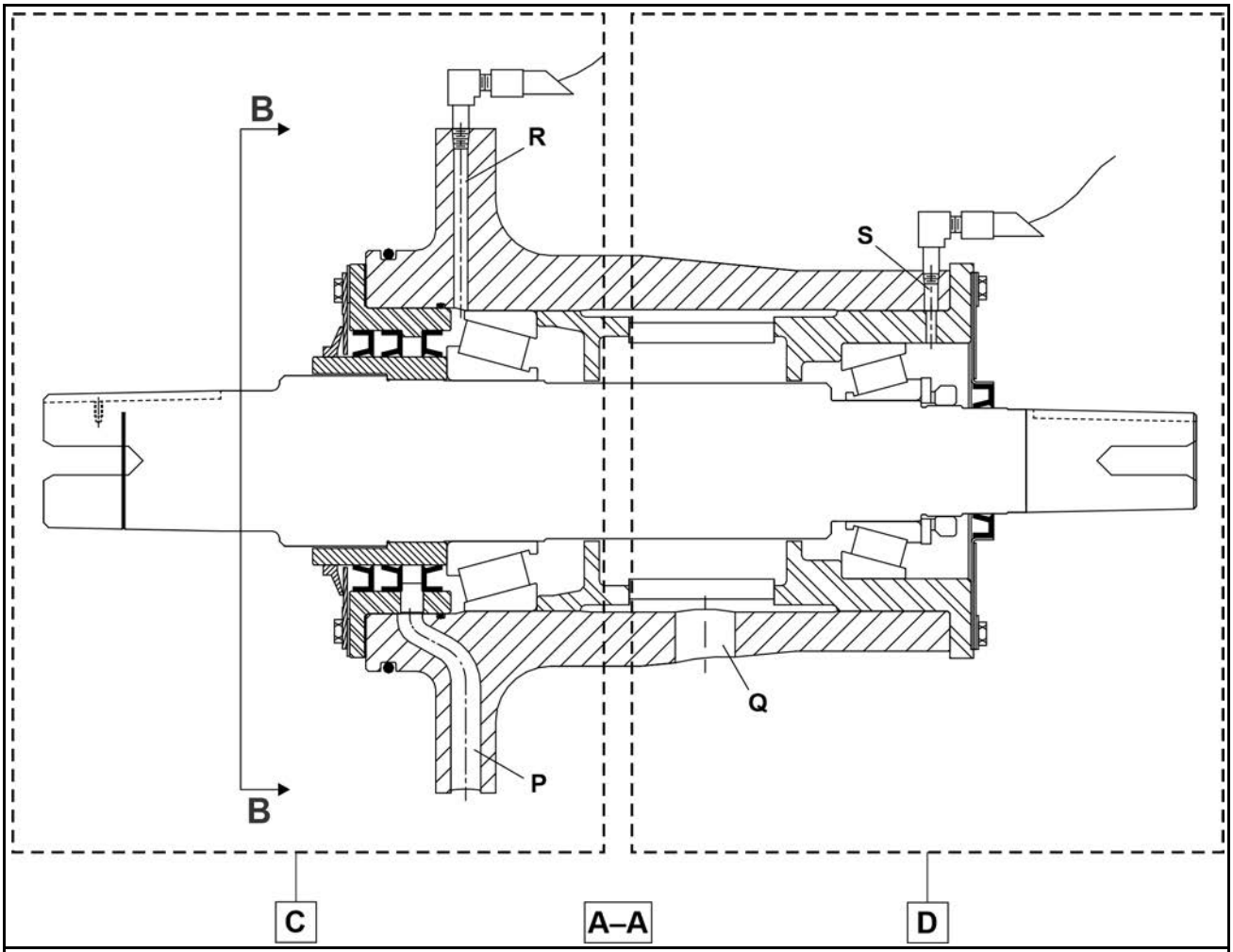
BPWXCB01 / 2021194 BPWXCB01.1 0000344534 C.2 A.5 5/6/21, 7:16 AM Released

Bearing Housing Components

6 Sheets

4226X7J,X7W,X7R; 4232X7J,X7W,X7R; 4232F7R,F7S

Figure 36. Cross Section Bearing Housing



Legend

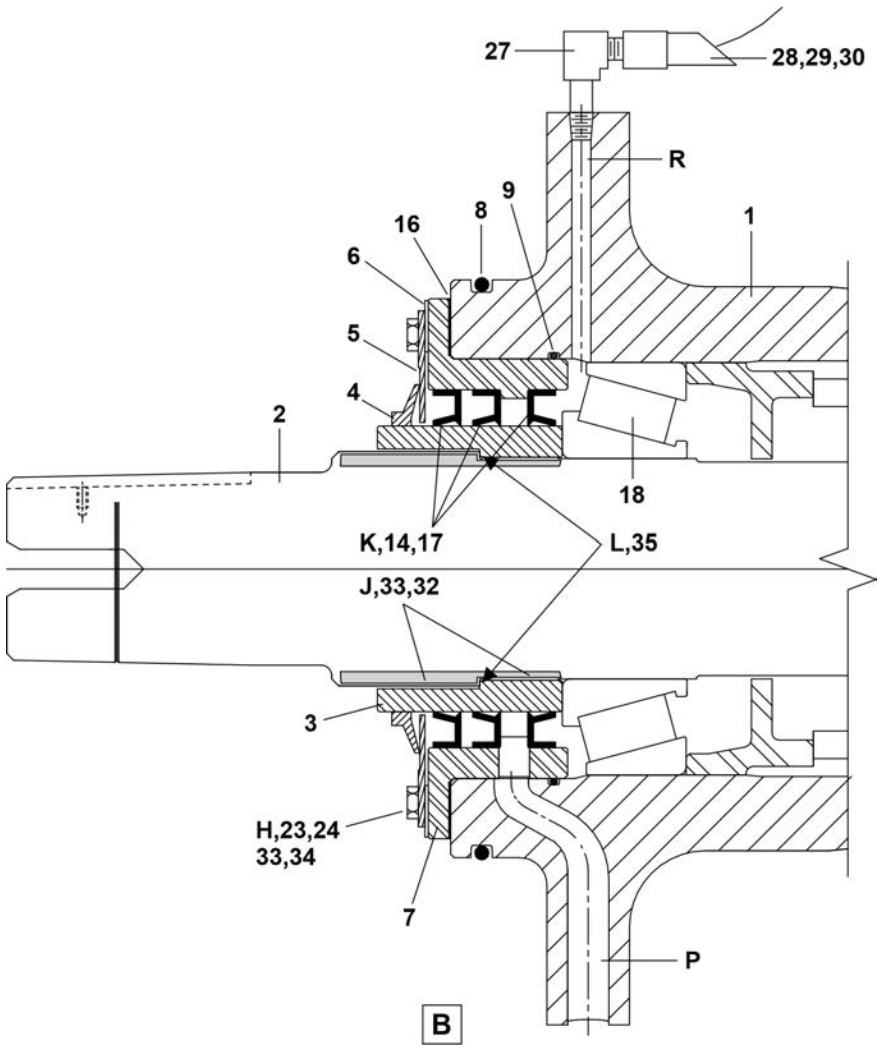
A–A . . Cross section
C . . . Detail view, bearing housing front
D . . . Detail view, bearing housing rear
P . . . Water outlet
Q . . . Vent
R . . . Grease inlet, front bearing
S . . . Grease inlet, rear bearing

Bearing Housing Components

6 Sheets

4226X7J,X7W,X7R; 4232X7J,X7W,X7R; 4232F7R,F7S

Figure 37. Front Bearing Housing



Legend

C . . . Detail view, bearing housing front

H . . . Apply primer and anti-seize compound to bolt.

J . . . Clean the shaft and the inner sleeve. Make sure they are clean and free from oil. Apply adhesive, then the sleeve. Make sure of a bond on a minimum of 75% of the surface.

K . . . Apply adhesive to outer circumference of seals. Let adhesive dry for 24 hours. Make sure that all applicable surfaces are clean and free from oils before assembling.

L . . . Apply a bead of high-temperature silicone around this surface of the shaft before you push on the sleeve.

P . . . Water outlet

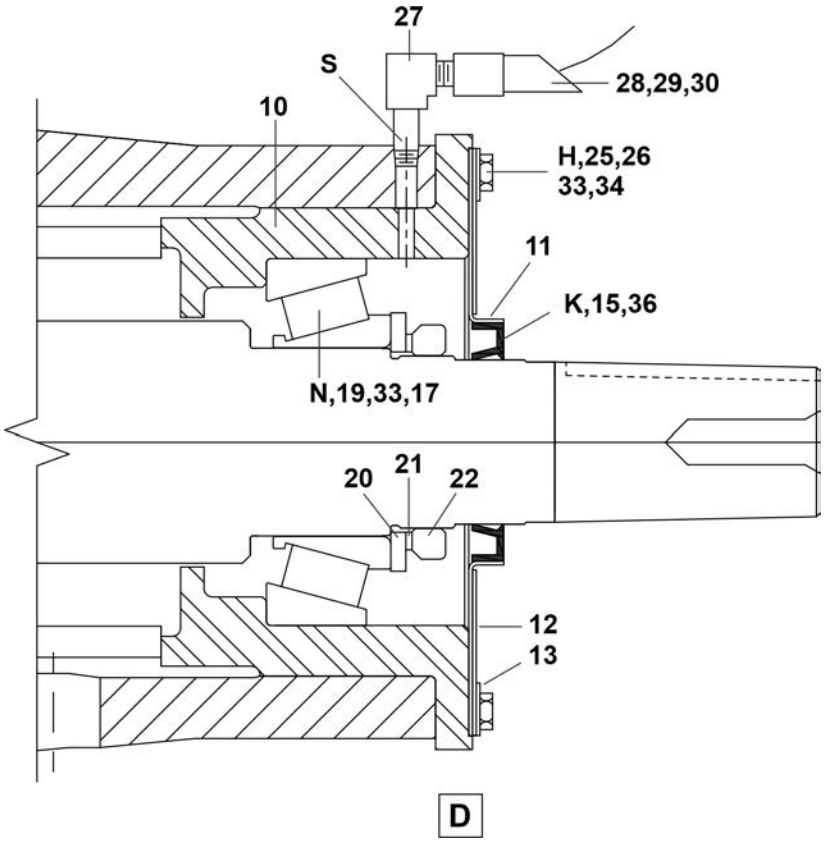
R . . . Grease inlet, front bearing

Bearing Housing Components

6 Sheets

4226X7J,X7W,X7R; 4232X7J,X7W,X7R; 4232F7R,F7S

Figure 38. Rear Bearing Housing



Legend

D . . . Detail view, bearing housing rear

H . . . Apply primer and anti-seize compound to bolt

K . . . Apply adhesive to the outer circumference of seals. Let adhesive dry for 24 hours. Make sure all applicable surfaces are clean and free from oils before assembling.

M . . . Seal holders must be fully down before you tighten the fasteners.

N . . . Apply primer and adhesive to rear bearing cup and holder housing

Q . . . Vent

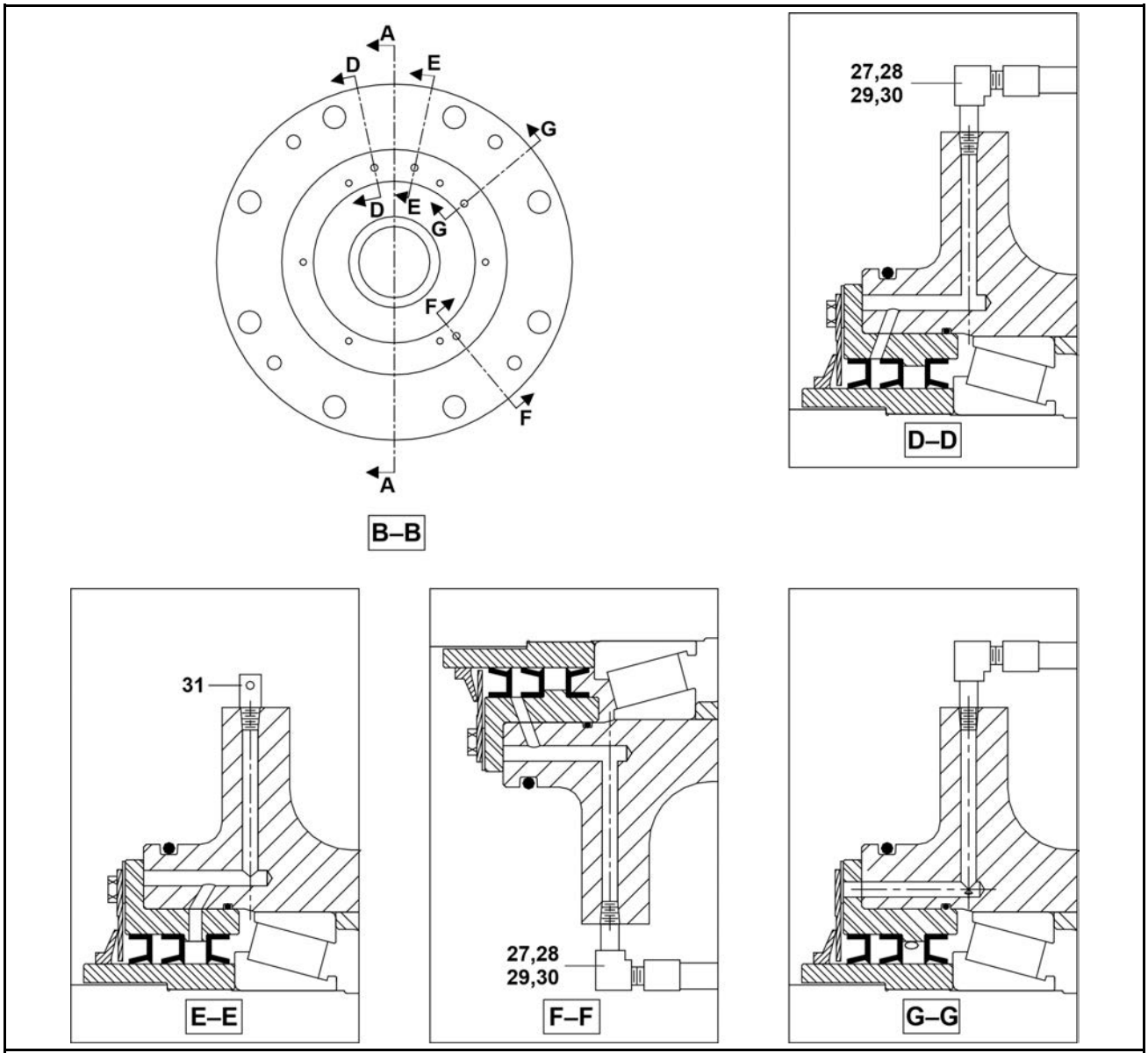
S . . . Grease inlet for rear bearing

Bearing Housing Components

6 Sheets

4226X7J,X7W,X7R; 4232X7J,X7W,X7R; 4232F7R,F7S

Figure 39. Figure 4: Detail Views Bearing Ports



Legend

B–B . . Front view
D–D . . Grease inlet for seals
E–E . . Fluid inlet to flush space between seals
F–F . . Grease outlets for seals
G–G . . Compressed air for outer seal, air injection (optional)

Bearing Housing Components

6 Sheets

4226X7J,X7W,X7R; 4232X7J,X7W,X7R; 4232F7R,F7S

Table 22. Parts List—Bearing Housing 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
			Reference Assemblies	
	A	ABN42001	ASSY= FRNTBNG 4232F7 STD	4232F7R,F7S 4226X7J,X7W,X7R 4232X7J,X7W,X7R
	B	ABM42001	MAIN BEARING ASSY=4232F7	4232F7R,F7S 4226X7J,X7W,X7R 4232X7J,X7W,X7R
			Components	
all	1	X2 21040	MACH=BEARING HOUSING, 4232	
all	2	X2 21043	MACH=MAIN SHAFT 4232F BRG	
all	3	02 21044	SEAL SLEEVE=4232F BRG ASSY	
all	4	24S137	SEAL5.188X6.75X.5#051819356SSW	
all	5	02 21049	COVER=EXCLUDER SEAL 4232F	
all	6	02 21048	GASKET=EXCLUDR SEAL 4232F	
all	7	X2 21041	MACH=FRONT SEAL HOLDER 4232F	
all	8	60C176	ORING 10 IDX1/4"CS BUNA-N#449	
all	9	60C169	ORING 7+3/4ID1/8 BUNA70 #265	
all	10	X2 21042	MACH=REAR BEARING CARRIER	
all	11	02 21045	REAR SEAL HOLDER 4232F7	
all	12	02 21046	SPACER=4232F REAR SEAL HOLDR	
all	13	02 21045A	CLAMP SHOE=REAR SEAL HOLDER	
all	14	24S135	SEAL5.188X6.5X.5 #05187336LPDN	
all	15	24S053	SEAL 2.625X3.625X.437#10051L5	
all	16	02 21047	GASKET=FRNT SEAL HOLDR 4232F	
all	17	20C011C	RETAINCMPD PRESSFIT LOC#60941	
all	18	54AT101190	TIMK HH221449/HH221410=4"BORE	
all	19	54A050S	TIMKEN CONE 6461/CUP 6420 SET (3"ID)	
all	20	56ATW14	TONGUE WASH TIM K91514 FOR N14	
all	21	56AHW114	TW114 BEARING LOCWASHER	
all	22	56AHN14	N14 BEARING LOCKNUT	
all	23	15K112	HXCAPSCR 3/8-16X1+1/2 SS18-8	
all	24	15U260	LOCKWASHER MEDIUM 3/8 SS18-8	
all	25	15K176A	S0KCAPSCR 1/2-13X1.75 ZN GR8+	
all	26	15U317B	FLWASH,1.062ODX.531IDX.115 TH	
all	27	53A031B	NPT NIP 1/8X1.5 TBE GALSTL S40	
all	28	53A500	SLEEVE DELRIN 1/4"OD#60PT-4	

Bearing Housing Components

6 Sheets

4226X7J,X7W,X7R; 4232X7J,X7W,X7R; 4232F7R,F7S

Table 22 Parts List—Bearing Housing Components (cont'd.)

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	29	53A501	TUBE INSERT.163"OD #63PT-4-40	
all	30	53A059A	NUT 1/4"BR.HOLYOKE AND #61A-4	
all	31	5SP0CFESSV	NPTPLUG1/8SQSLDBLKSTL LVENT125	
all	32	20C012D	RETAINCMPD ADH LCT#1835205 10CC	
all	33	20C006P	PRIMER-N #7649 LCT#21348-4	
all	34	20C007H	THDLK REMVBL-#24221	
all	35	20C041	SUPRFLXSIL ADH SEAL RED 10.2OZ	
all	36	20C009	THRDLKSEAL LCT#27731 50CC	

5 Suspension

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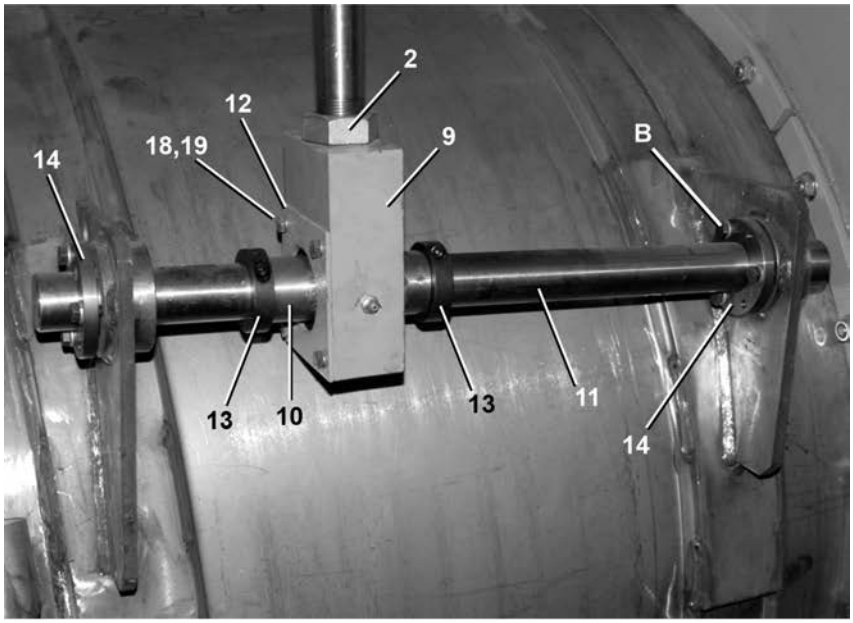
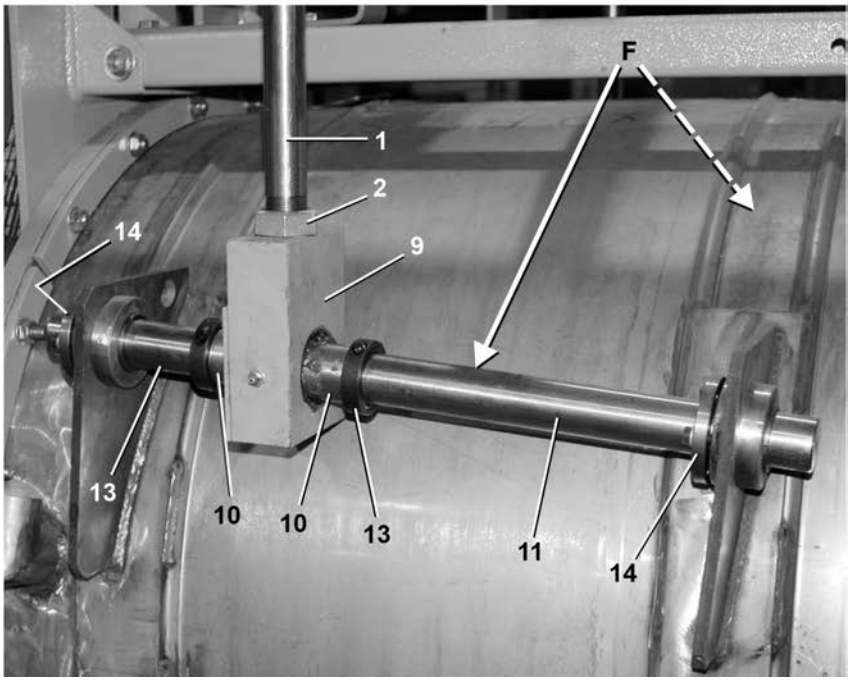
Suspension Components and Installation

4 Sheets

Figure 40. General Views





Legend

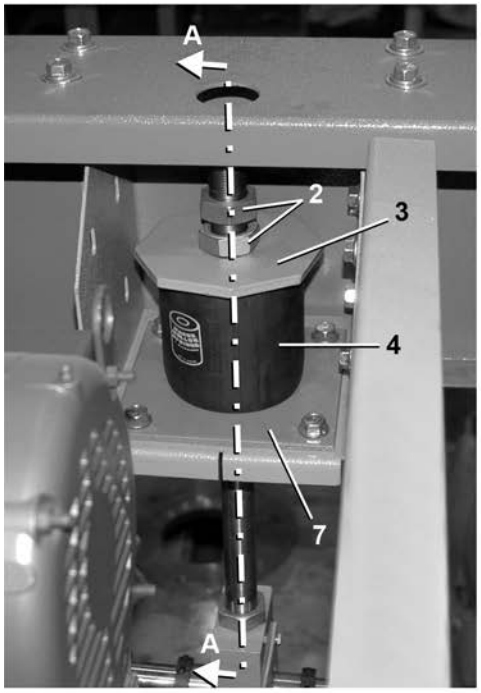
B . . . Torque to 30 Ft. Lbs.

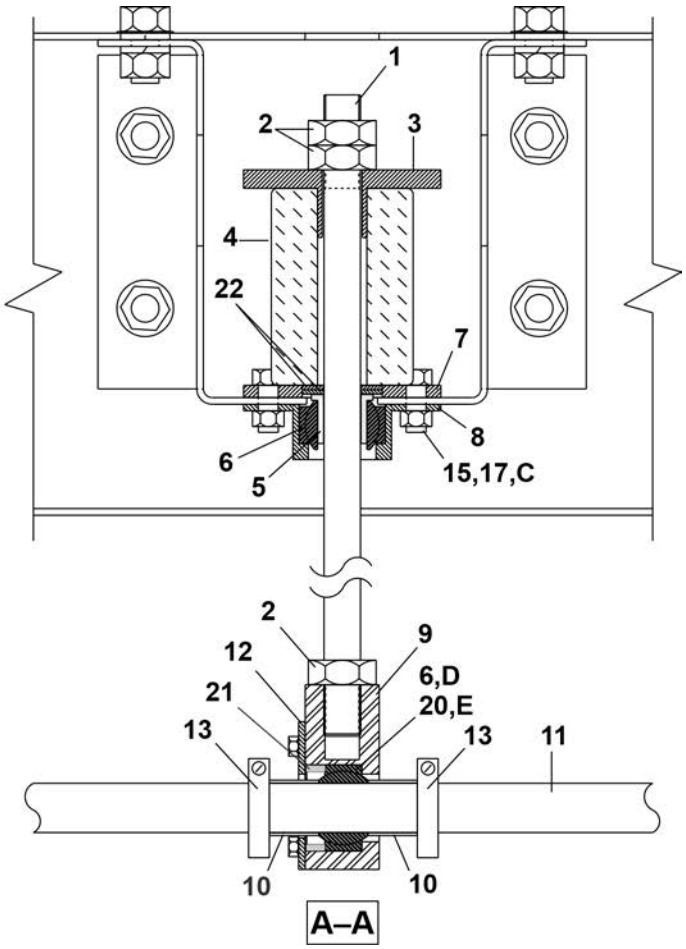
F . . . The two sides use the same suspension.

Suspension Components and Installation

4 Sheets

Figure 41. Detailed Views





Legend

A–A . . Cross section
C . . . 4 instances
D . . . Models: 3626X
E . . . Models: 42226X, 4232X

Suspension Components and Installation

4 Sheets

Figure 42. Bottom View

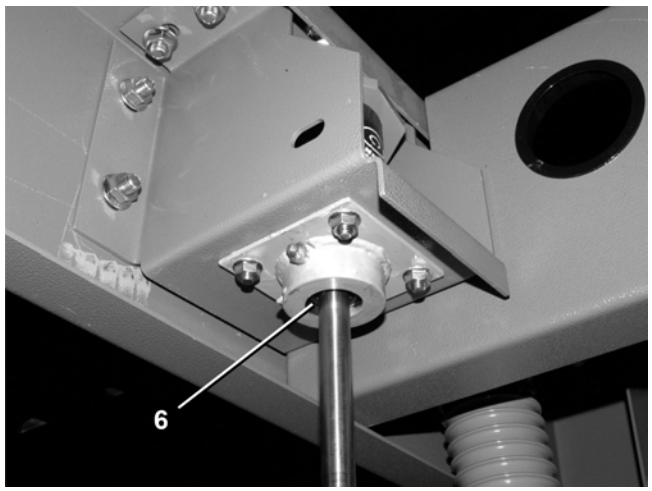


Table 23. Parts List—Suspension Components and Installation

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**
Reference Assemblies				
	A	GMS3626X7	INSTAL SUPENSION	3626X8J,X8W,X8R
	B	GMS4226X	INSTALL SUPENSION 4226X	4226X7J,X7W,X7R
	C	GMS4232X	INSTALL SUPENSION 4232X	4232X7J,X7W,X7R
Components				
A	1	02 13521	ROD=SUPENSION 3626X	
BC	1	02 23521	ROD=SUPENSION 4226/32X	
all	2	15G264A	HEXJAMNUT 1+1/4-12UNF 2B ZINC	
A	3	W2 13524	WASHER SUPENSION MT TOP 3626X (CS)	
BC	3	W2 23524	WASHER=SUPENSION MT 42X (CS	
A	4	60B136	MM SPRG 4.5X2X6 F#W223580178	
BC	4	60B141	MM SPRG 6.5X2X8 F#W223580190	
all	5	54E024DRF	FLGBRG 1.25X1.5X2.0 BJ4F202416	
all	6	54A724	BALL BEAR 1.5" AURORA HCOM-24	
A	7	02 13523	PLATE=SUPENSION MT 3626X	
BC	7	02 23523	PLATE=SUPENSION MT 42X	
A	8	W2 13522	WELDMENT=BALLBUSH MT 3626X (CS)	
BC	8	W2 23522	WELD=BALLBUSH MT 4226/32X (CS)	
A	9	X2 13521E	LOWER BALL BUSH MT 3626X	
BC	9	X2 23521E	LOWER BALL BUSH MT 4226/32X	

Suspension Components and Installation

4 Sheets

Table 23 Parts List—Suspension Components and Installation (cont'd.)

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
A	10	02 13524D	SPACER BALL BUSHING 3626X	
BC	10	02 23524D	SPACE BALL BUSHING 4226/32X	
A	11	02 13521F	ROD=SHELL SUPEN MT 3626X	
B	11	02 23521F	ROD=SHELL SUPEN MT 4226X	
C	11	02 24521F	ROD=SHELL SUPEN 4232X	
A	12	02 13521E	PLATE=SUPEN MT 3626X	
BC	12	02 23521E	PLATE=SUPEN MT 4226/32X	
A	13	54JH11500A	SHAFTCOLLAR 1.5" CPL CFG#24S	
BC	13	54JH22000C	SHFTCOLL 2"ID DBLSPLT CARSTL	
A	14	56Q1KP1	1+1/2" BUSH VPUL BROWNING P1	
BC	14	56Q2AQ1S	2.0 SPLIT BUSH BROWNING #Q1	
A	15	15K129	HEXFLGSCR 1/2-13X1-1/4ZN. GR 5	
BC	15	15K154G	INDHEXFLGSCR 1/2-13X1+3/4GR5 Z	
all	17	15G222B	HEXFLGNUT 1/2-13 ZINC SERRATED	
all	18	15K041	HXCAPSCR 1/4-2OUNC2AX1 GR 5 ZI	
all	19	15U180	LOCKWASHER MEDIUM 1/4 ZINCPL	
BC	20	54A732	BALLBUSH 2" AURORA # HCOM 32	
A	21	02 13521J	SPACER=BALL BUSH	
BC	21	02 23521J	SPACER=BALL BUSH	
all	22	15U349A	1.275X 2.275X.120 F/W NYLON	

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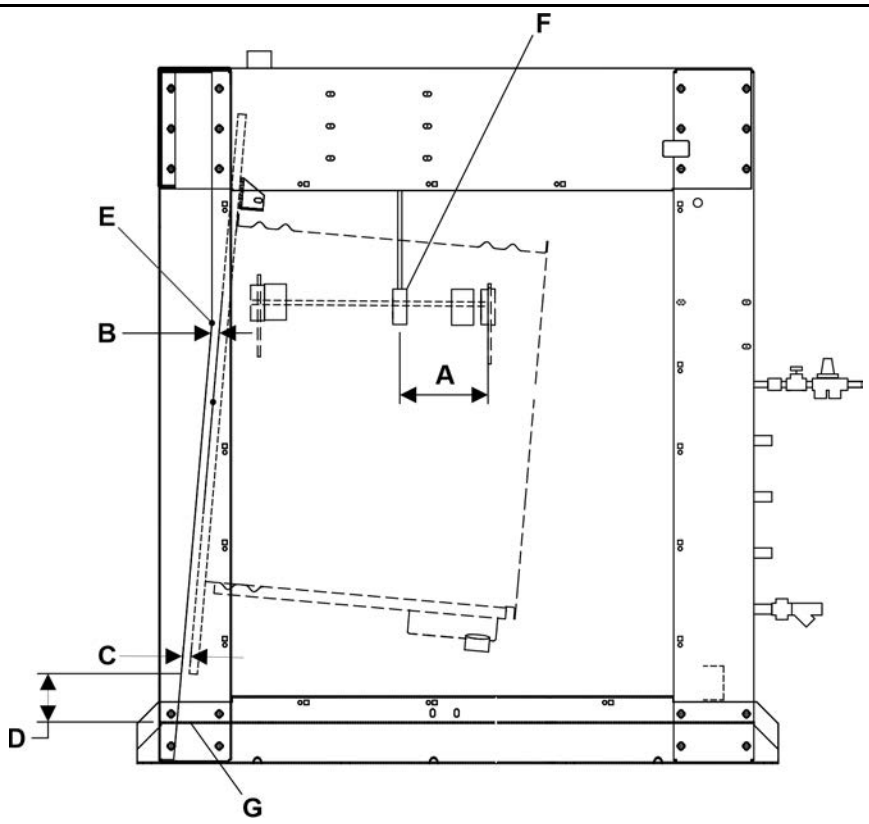
Suspension Settings

2 Sheets

3022X_, 3626X8_, 4226X7_, 4232X7_



Legend

A . . . Initially set the lower ball bushing [A] 11” [279] from the shell mounting bracket.

B . . . The space between the shell front and the point on the front corner posts where the angle changes should be [B] 1.50” +/- .125”.

C . . . The space between the lower shell front and the angle on the corner posts should be [C] 1.25” +/- .125”.

D . . . The height from the bottom of the shell front to the top of the inside base channel should be [D] 6” +/- .5”

E . . . The point on the front corner posts where the angle changes

F . . . Lower ball bushing

G . . . The top of the inside base channel

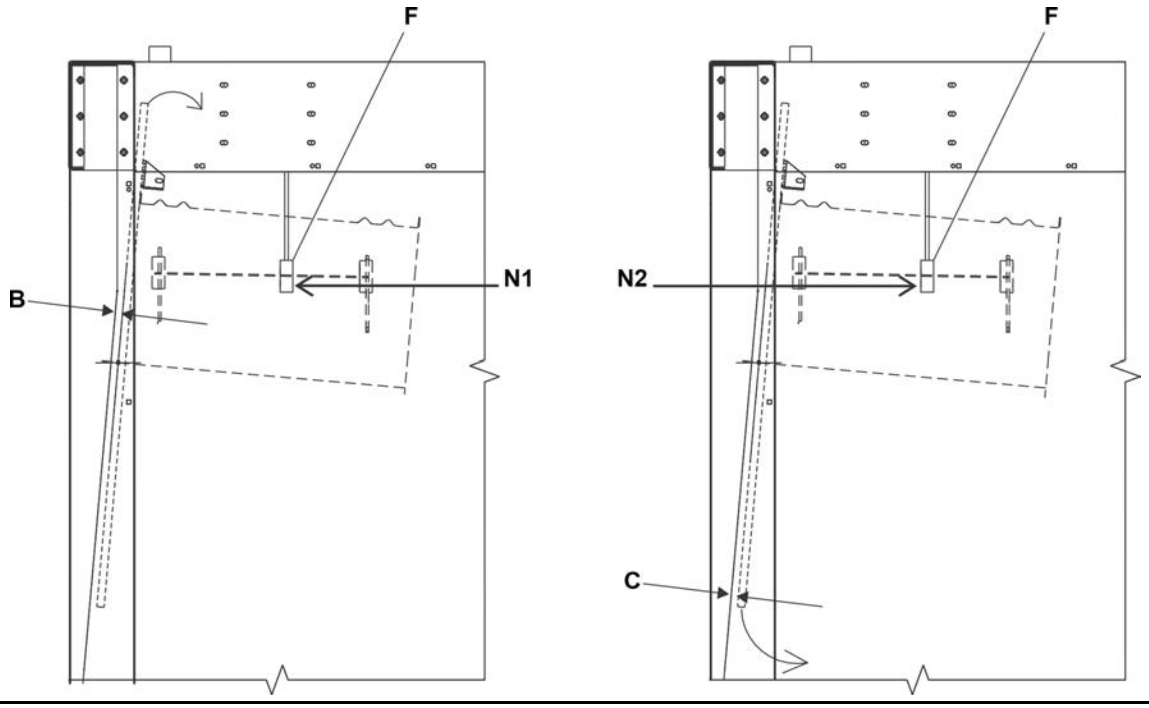
MODELS:	[A]
3022X_	4-1/2”[114]
3626X_	6-1/2”[165]
4226X_	8”[203]
4232X7_	11”[279]

Suspension Settings

2 Sheets

3022X_, 3626X8_, 4226X7_, 4232X7_

Adjusting the Shell Front Position



Legend

B . . . The space between the shell front and the point on the front corner posts where the angle changes should be [B] 1.50” +/- .125”.

C . . . The space between the lower shell front and the angle on the corner posts should be [C] 1.25” +/- .125”.

F . . . Lower ball bushing

N1 . . Tapping the ball bushing forward increases the space [B], between the upper shell front and the angle of the corner posts.

N2 . . Tapping the ball bushing rearward increases the space [C], between the lower shell front and the angle of the corner posts.

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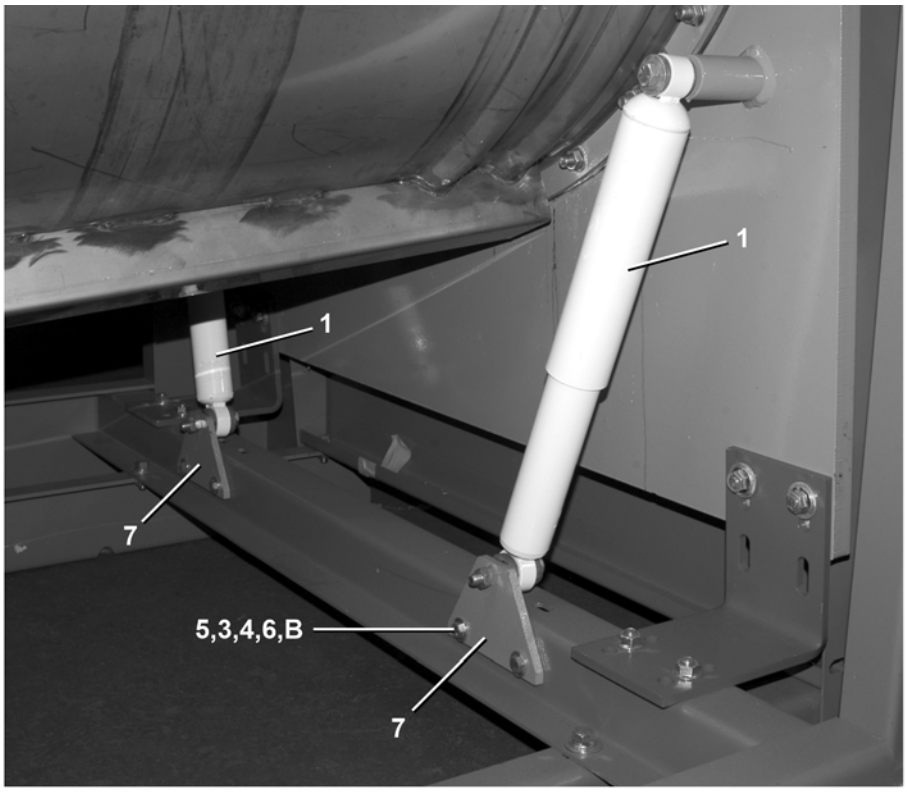
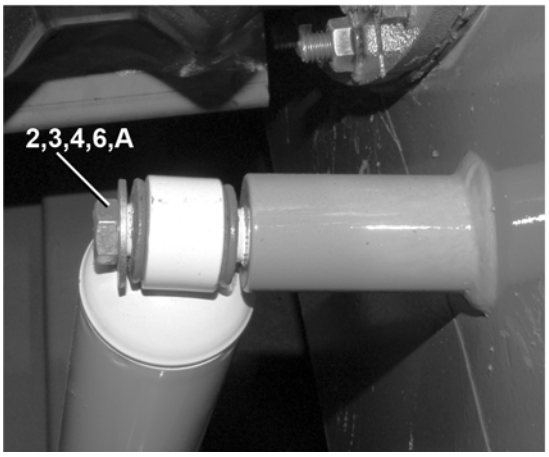
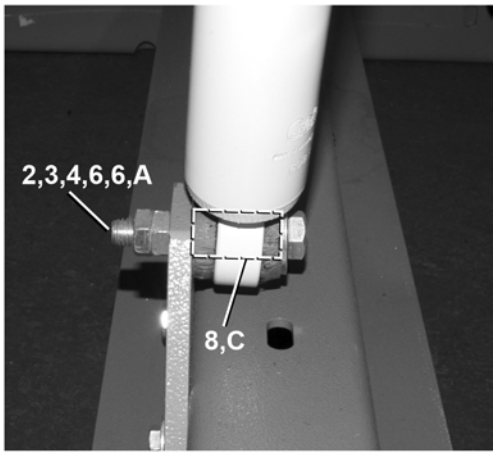
Shock Absorbers

2 Sheets

Installed Views







Legend

A . . . 2 instances
B . . . 4 instances
C . . . Models: 4226X7J,X7W,X7R; 4232X7J,X7W,X7R

Shock Absorbers

2 Sheets

Table 24. Parts List—Shock Absorbers

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**
Reference Assemblies				
	A	GIC3626X7	INSTALL SHOCK ABSORBER 3626X7	3626X8J,X8W,X8R
	B	GIC4226X	INSTALL SHOCK ABSORBER 4226/32	4226X7J,X7W,X7R 4232X7J,X7W,X7R
Components				
A	1	60BS6838	SHOCK ABSORBER = ARVIN #65907340E	
B	1	60BS6832	SHOCK ABSORBR GABRIEL #65488440X	
all	2	15K198	HEXCAPSCR 1/2-13UNC2AX3 GR5 ZI	
all	3	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	
all	4	15U280	FL+WASHER(USS STD)1/2 ZNC PL+D	
all	5	15K173A	HXCAPSCR 1/2-13UNC2AX1.75 GR5	
all	6	15G230	HXNUT 1/2-13UNC2B SAE ZINC GR2	
all	7	02 23501C	LOWER SHOCK MT BKT	
B	8	05 20187B	MOUNT STUD=SHOCK INSTALL	

6 Door Assemblies

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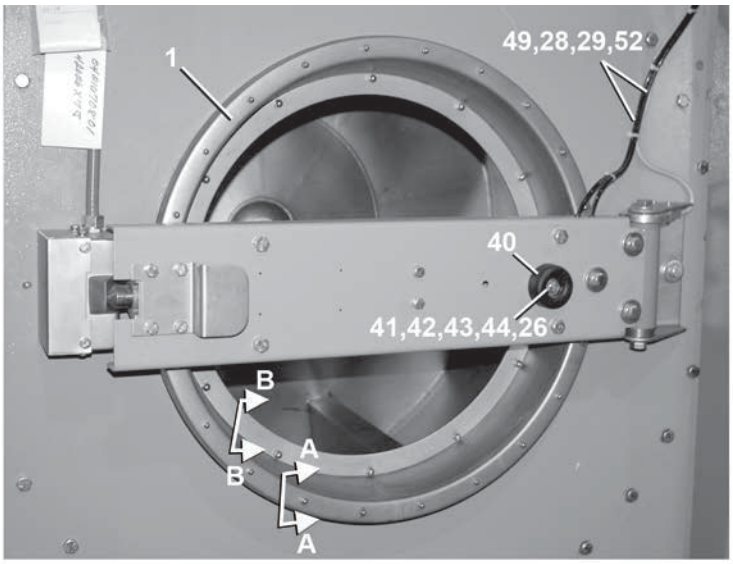
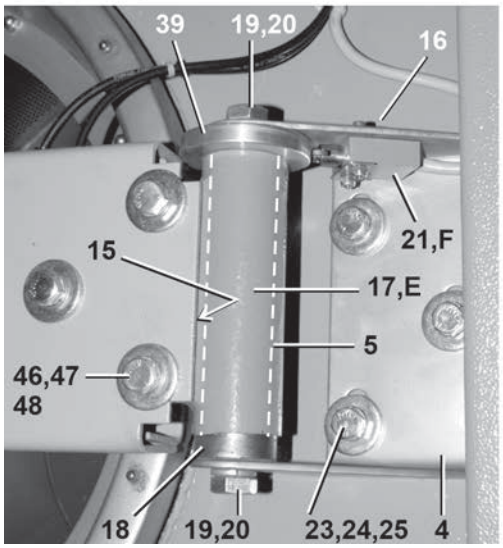
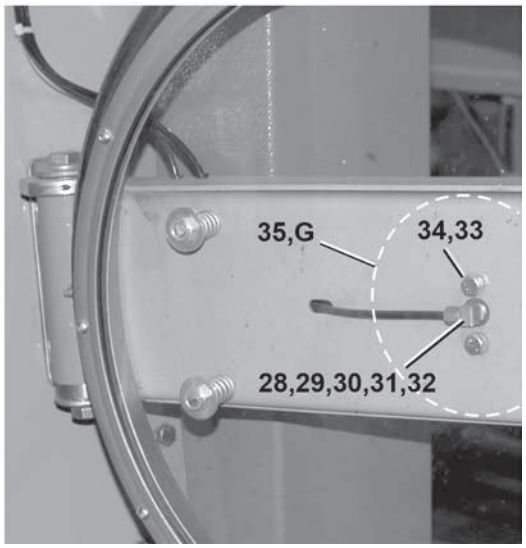
Shell Door Components

6 Sheets





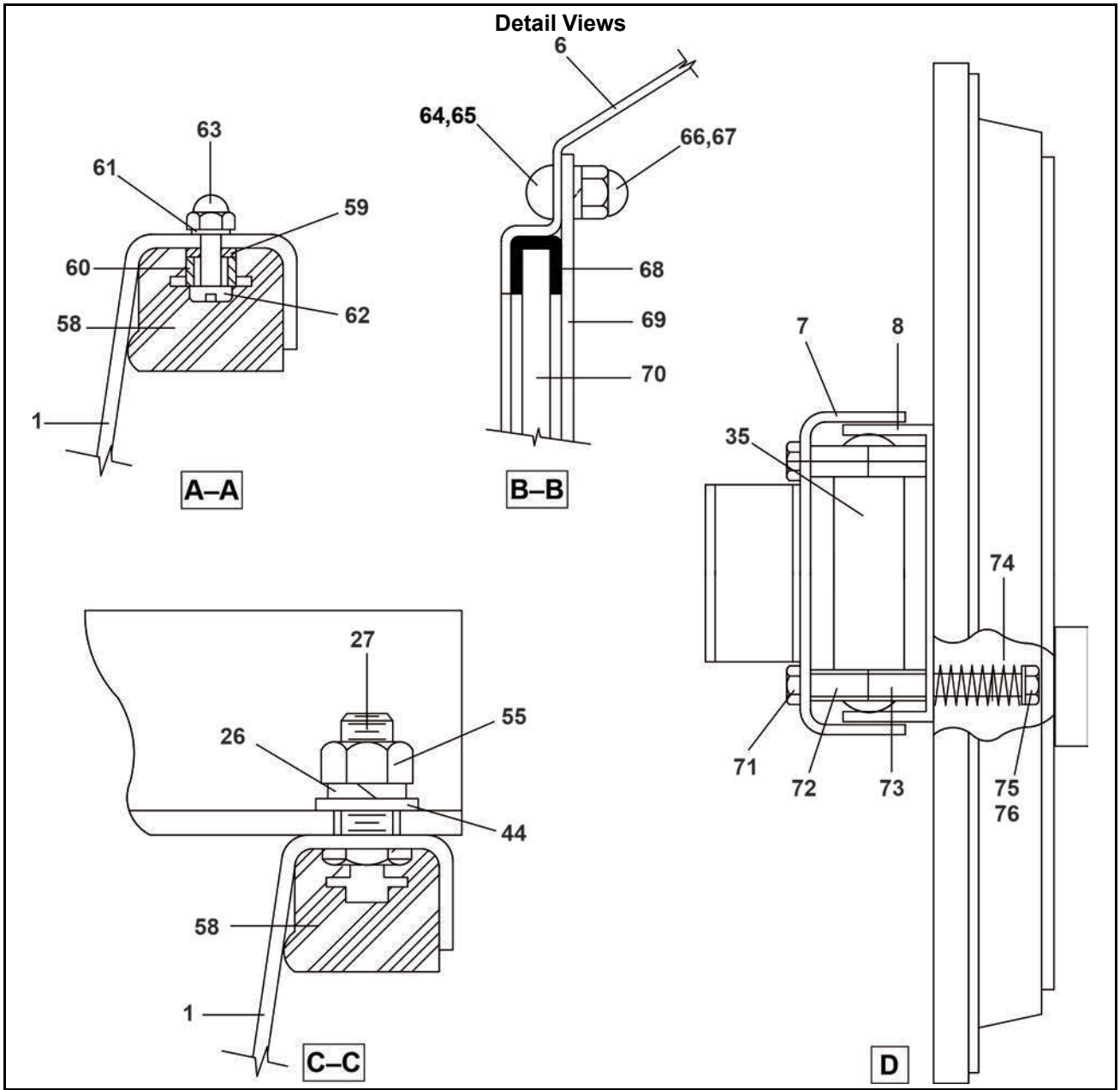


Legend

E . . . Hinge
F . . . Second door switch
G . . . Door seal

Shell Door Components

6 Sheets



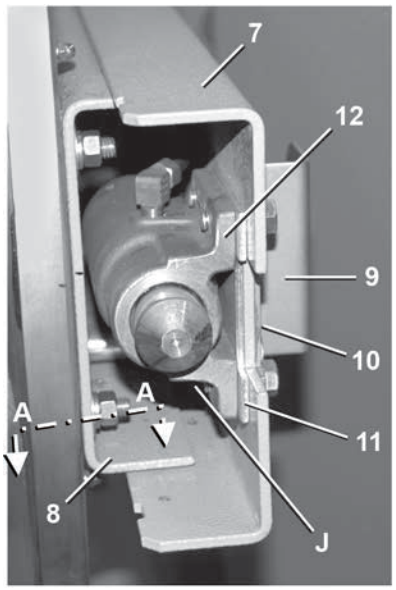
Legend

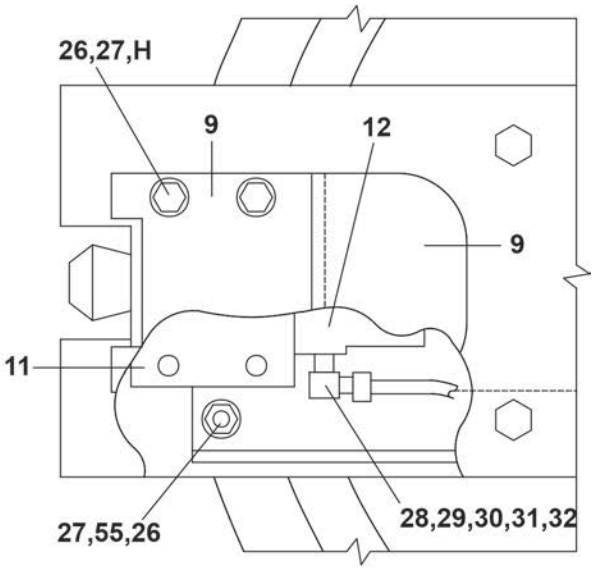
A–A . . Cross section, door frame and gasket
B–B . . Cross section, door glass and gasket
C–C . . Cross section, door channel and door frame
D . . . Right side view, shell door

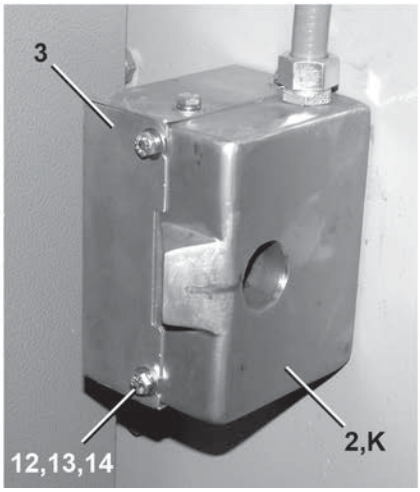
Shell Door Components

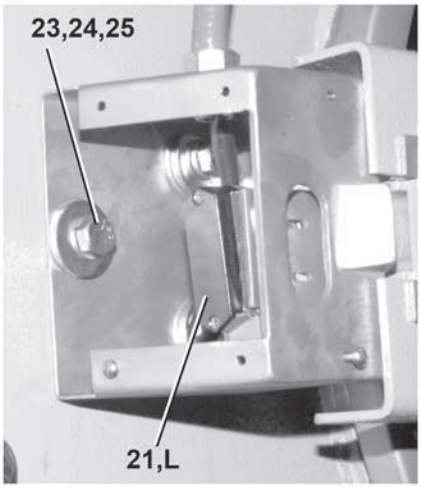
6 Sheets

Door Latch, Striker









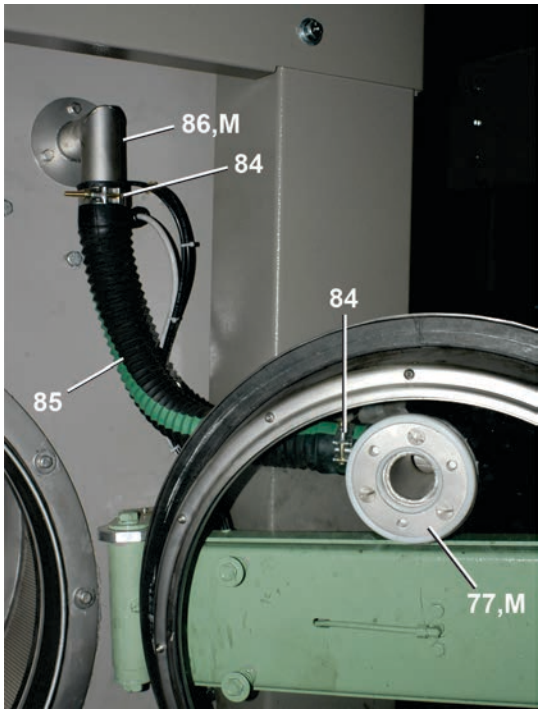
Legend

H . . . 4 instances
J . . . Door latch, see the document BPWG4D02
K . . . Striker
L . . . Door lock switch (door interlock)

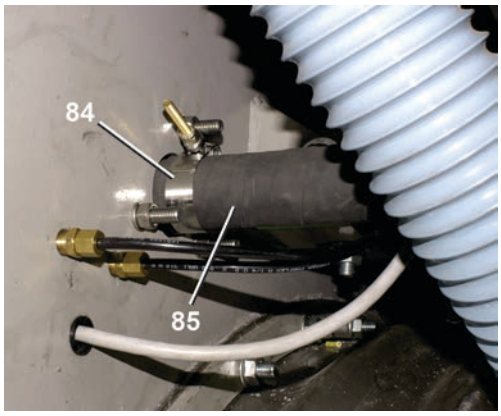
Shell Door Components

6 Sheets

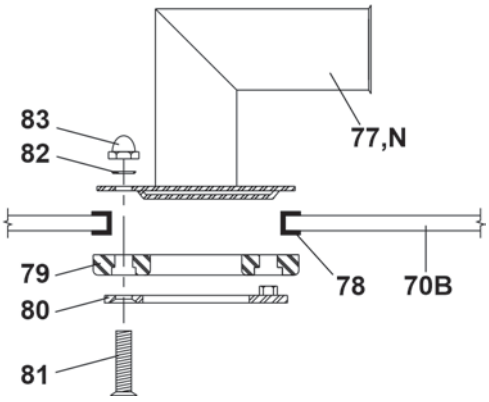
Figure 43. Recirculation from Reuse Tank to Door



Inside View



Detail View



Legend

M . . . Recirculation elbow to shellfront

N . . . Recirculation nozzle into door glass

Table 25. Parts List—Shell Door 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
			Reference Assemblies	
	A	GSD4226X	INSTAL=SHELL DOOR 4226X	42026X7J,X7W,X7R
				42032X7J,X7W,X7R
	B	GSD42001R	INST=SHELLDOOR 42X W/RECIRC	RECIRCULATION PIPING
	C	GVW42009	INST=OUTERWEAR PUMP+PIPING 42X	
			Components	
all	1	ASD48006	ASSY 26" DOOR X-MACHINES	
all	2	W2 23507A	DOOR STRICKER 42X	
all	3	02 23507E	COVER STRICKER 42X	
all	4	02 21181A	BRACKET=DOOR HINGE 42X	
all	5	02 11162B	HINGE PIN=20" DOOR-INTNLTHDS	

Shell Door Components

6 Sheets

Table 25 Parts List—Shell Door Components (cont'd.)

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	6	03 48048A	DRAWN SECTION=26"DOOR 4832	
all	7	03 48060	CHANNEL=DOOR OUTER 4832BWE	
all	8	03 48061	CHANNEL=DOOR INNER 4832BWE	
all	9	02 15633A	DOOR LATCH HANDLE 42Q	
A	10	02 15633	ADJPLATE=DOORLATCH CAD	
B	10	02 15633B	ADJPLATE=DOORLATCH 16GA	
all	11	02 15633S	ADJPLATE=DOORLATCH SS	
all	12	SA 15 028	* DOOR LATCH ASSY-DIVCYLS	
all	13	15N117	RDMACSCR 10-24UNC2X3/8SS18-8	
all	14	15U160	LOCKWASHER MEDIUM #10 SS18-8	
all	15	02 15016	SHIM=DOOR CHANNEL HINGE 4226	
all	16	02 10391A	COVER STRIP=MICRO SW #10	
all	17	X2 15016A	DOOR HINGE MACHINED 7.499 LG	
all	18	15U349	FLTWASH 101NYLON 1.93ODX1.25ID	
all	19	15K221	HEXCAPSCR 5/8-11 UNC2X2GR5 ZIN	
all	20	15U315	LOKWASHER MEDIUM 5/8 ZINCPL	
all	21	09RM01212S	CAPSW 12' 180DEG ROLLER SILVER	
all	23	15K145	HXCAPSCR 1/2-13UNC2AX3/4 GR5 P	
all	24	15U310	LOKWASHER REGULAR 1/2 SS18-8	
all	25	15U285	FLATWASHER 1/2 STD COMM SS18-8	
all	26	15U260	LOCKWASHER MEDIUM 3/8 SS18-8	
all	27	15K096A	HXCPSCR.3/8-16X1SS18-8.123HD.H	
all	28	53A500	SLEEVE DELRIN 1/4"OD#60PT-4	
all	29	53A501	TUBE INSERT .163"OD #63PT-4-40	
all	30	53A059A	NUT 1/4"BR.HOLYOKE AND #61A-4	
all	31	53A005B	BODYMALCON1/4X1/8COMP #B68A-4A	
all	32	53A031B	BODY-EL90MALE.25X1/8 #269C-42B	
all	33	15K095	HXCPSCR 3/8-16UNC2AX1 GR5 ZINC	
all	34	15U255	LOCKWASHER MEDIUM 3/8 ZINCPL	
all	35	60B090	AIRMT S-131 1CONV.F#W013587731	
all	39	54JH13125C	DOOR HINGE COL SPLIT3.12ALUM	
all	40	60C075	TRUCK BUMPER 2+1/2ODW3/8HO.613	
all	41	15G206	HEXNUT 3/8-16 UNC2 SS 18-8	
all	42	15K100	HEXCAPSCR 3/8-16X1+1/4 SS18-8	

Shell Door Components

6 Sheets

Table 25 Parts List—Shell Door Components (cont'd.)

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	43	15U243S	FLTWASHER 7/8ODX33/64IDX16GA 1	
all	44	15U245	FLTWASH 3/8 STD COMM 18-8 SS	
all	46	15K151	HXCAPSCR 1/2-13UNC2AX1.25 GR5	
all	47	15U490	FLTWASH 1+1/2X17/32X1/4 ZINC	
all	48	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	
all	49	60E004TE	1/4"OD X.170"ID NYL(BLK)TUBING	
all	52	53A509	TUBE INSERT 5/16"OD X .53"LG.	
all	55	15G205	HXNUT 3/8-16UNC2B ZINC GR2	
all	58	03 48152	DOOR GASKET RING 26" DOOR	
all	59	03 48157	RETAINER=DOOR GASKET RING	
all	60	27B260156S	SPCRSLD.26ID.375OD.156L 316SS	
all	61	15U120B	LOCKWASHER MEDIUM #8 SS18-8	
all	62	15N091	PANHDMACHSCR 8/32UNC2X1/2 S/S	
all	63	15G095	HXCPNUT 8-32 UNC2 BRASS NKL PL	
all	64	15K033	BUTSOKCAPSCR 1/4-20X5/8 SS18-8	
all	65	24G020N	ROLLED WASH.252ID NYLTITE 25W	
all	66	15U181	LOCKWASHER MEDIUM 1/4 SS18-8	
all	67	15G140	HXCAPNT 1/4-20 #C250=20 NKLPLT	
all	68	03 48052	GASKET=DR GLASS 26"OPENING48	
all	69	03 48049	RING=DR GLASS RETAINING 4832	
A	70	03 48050	DR GLASS=26"DOOR OPENING 48	
B	70	03 48050A	DOOR GLASS=26"DOOR W/HOLE	
all	71	15K202T	HEXCAPSCR 1/2-13 X 4.75 SS	
all	72	27B2400K0N	SPCRROLL.5ID.687L.062T STLZNC	
all	73	27B2400K1P	SPCRROLL.5ID1.75L.062T STLZNC	
all	74	02 18187	SPRING=OUTER DOOR 60 WEHU	
all	75	15G234	LOKNUT 1/2-13NC CAD FLXLOC#21F	
all	76	15U280	FL+WASHER(USS STD)1/2 ZNC PL+D	
B	77	W2 10583M	WLD=RECIRC NOZZLE-5238	
B	78	02 10204	GASKET-SPRAYNOZ GTR52-5220-5	
B	79	02 03127	WOOLWASHING REUSE RECIRC RNG	
B	80	W2 03128	*WELD=REUSE RECIRC PLT	
B	81	15N223A	FLATMACHSCR 3/8-16X1+1/2 SS SL	
B	82	24G030N	ROLLED WASH.379ID NYLTITE 37W	

Shell Door Components

6 Sheets

Table 25 Parts List—Shell Door Components (cont'd.)

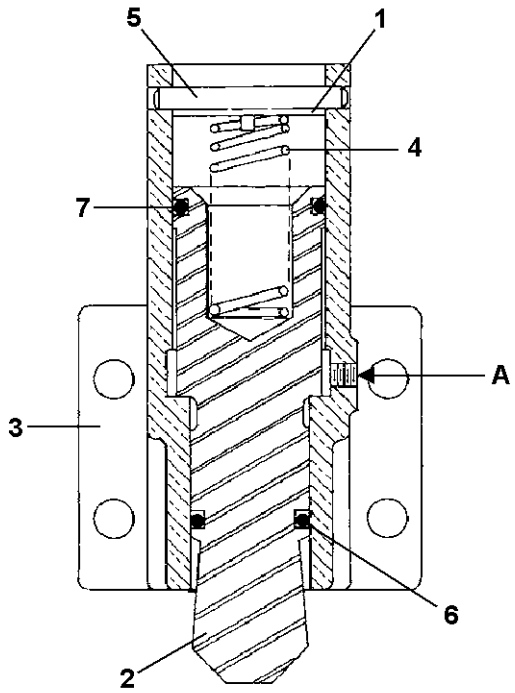
Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	**Item**	**Part Number**	**Description/Nomenclature**	**Comments**
B	83	15G200	HXCPNUT 3/8-16 UNC2A 5/8X1/2	
B	84	27A066A	T-BOLT HOSECLAMP 1.66-1.97"	
B	85	60E098	HOSE 1.5" WATER SUCTION HOSE	
B	86	W2 14675W	ELBOW-RECIRC 36X7W FRAME	

BPWG4D02 / 2020034 BPWG4D02.1 0000267678 A.2 C.2 1/15/20, 9:51 AM Released

Door Latch

1 Sheet

Cross Section



Legend

A . . . Compressed air

Table 26. Parts List—Door Latch

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
Reference Assemblies				
	A	SA 15 028	Assembly, Door latch	
Components				
all	1	02 15105	RETAINER RING	
all	2	02 15297	STRIKER	
all	3	02 15298	CYLINDER	
all	4	02 15836	SPRING	
all	5	15H090	PIN	
all	6	60C122	O-RING, 1”X1/8	
all	7	60C128	O-RING, 1+3/8X1/8	

7 Chemical Supply Devices

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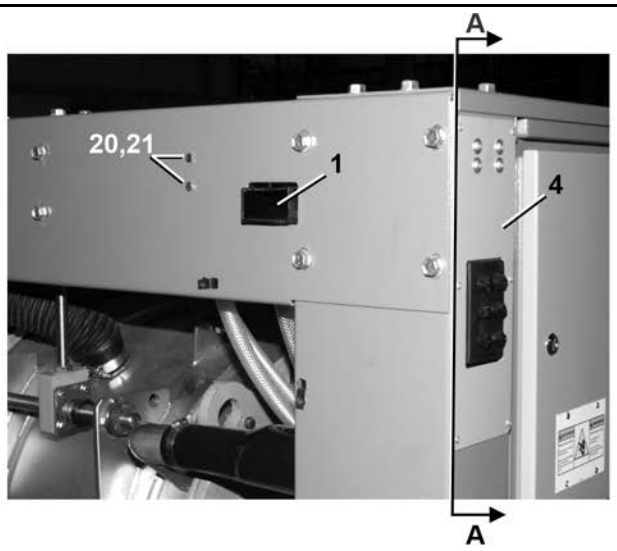
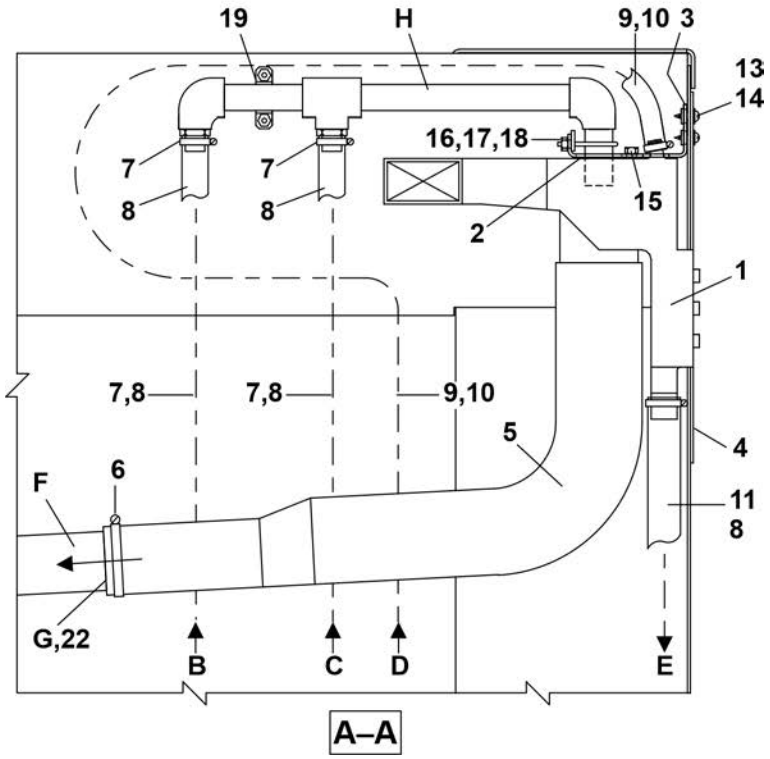
Inlet for Peristaltic Chemical Supplies and Water

2 Sheets





Legend

A–A . . Cross section
B . . . Cold water line
C . . . Hot water line
D . . . Water to the five compartments for dry chemical supplies
E . . . Water and chemicals to the drain trough
F . . . Water and chemical supplies to the shell
G . . . Apply adhesive to the surfaces that connect. Then, tighten the clamp.
H . . . See documents BPWXBW02 and BPWXCW01

Inlet for Peristaltic Chemical Supplies and Water

2 Sheets

Table 27. Parts List—Inlet for Peristaltic Chemical Supplies and Water

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**
Reference Assemblies				
	A			36026X8J,X8W,X8R
	B			42026X7J,X7W,X7R
Components				
all	1	02 03588M	PERISTALTIC/WATER INLET 3022H	
all	2	02 03588K	36V PERISTALTIC BOX TOP COVER	
all	3	02 03195A	PERISTL BOX MOUNT 4226/32X	
all	4	02 02930	PLATE MT PARESTALTIC	
all	5	02 03588X	WATER INLET/PERISTALTIC HOSE	
all	6	27A074	HOSECLAMP 2+1/16-3"CADSC#62040	
A	7	60E008A	TUBINGNYLREINF.75"IDX1.025"OD	
B	7	60E014R	TUBING NYLOBRAID 1.25X1.75	
all	8	27A090	HOSECLAMP 13/16-1.5"CADSC#HS16	
all	9	60E006C	PVC TUBING NYL.REINF.5IDX.75OD	
all	10	27A040	HOSECLAMP 7/16-25/32SS W/SCREW	
all	11	60E010	TUBINGPOLYBRAID 1"X1.312	
all	13	15N110H	RDWASHHD TORXBOLT M6-1X25MM ZN	
all	14	15G004HB	EXTRUNUT M6-1 GRIP 0.8-4MM	
all	15	15K031	BUTSOKCAPSCR 1/4-20X1/2 SS18-8	
all	16	27A031C	UBOLT 1.25PIPE 5/16-18 ZINC	
all	17	15G196	HXFLGNUT 5/16-18 ZINC	
all	18	02 10539	SPACER FOR PIPE ZINC PLATED	
all	19	12K108	1+1/4"STRAP CONDUIT 2-HOLE	
all	20	15K041	HXCAPSCR 1/4-2OUNC2AX1 GR 5 ZI	
all	21	15G178	1/4"-20 HEXFLANGE NUT ZINC	
all	22	20C009CA	LOCTITE 3032 ADHESIVE	

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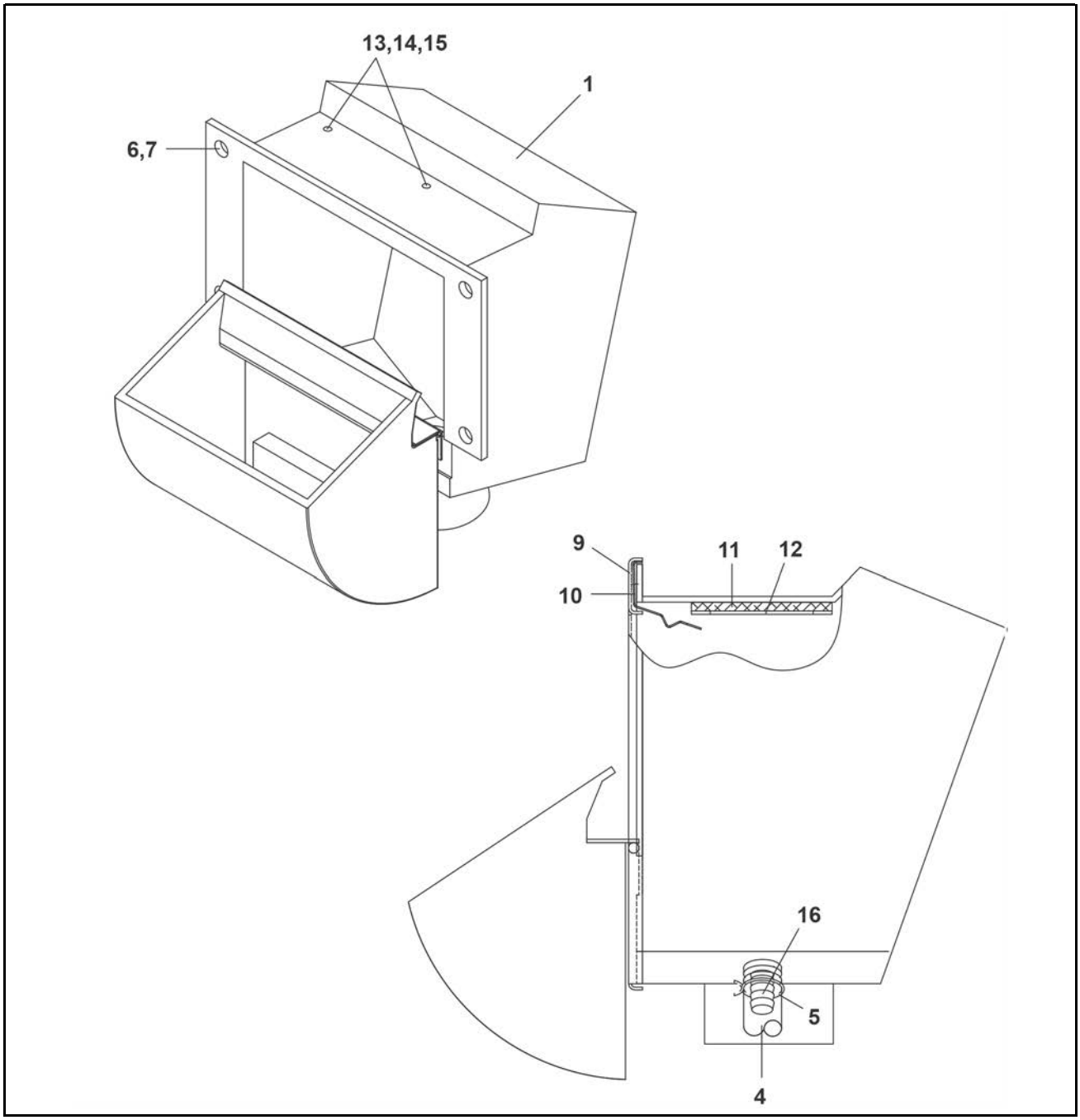
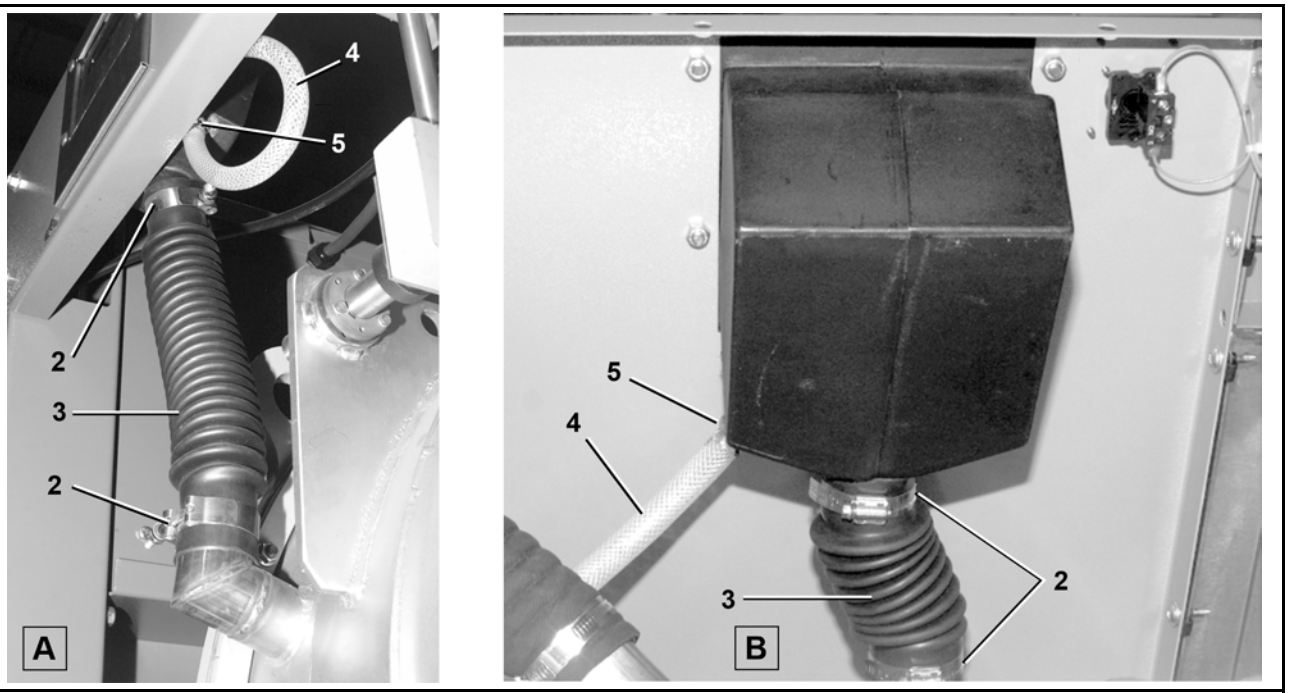
Soap Chute Components and Installation

3 Sheets



Soap Chute Components and Installation

3 Sheets



Legend

A . . . Shown 3022X8J
B . . . Shown 3022H8J

Table 28. 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
			Reference Assemblies	
	A	GWS3022X8	INST=SOAP CHUTE ASSY 3022X8J	3022X8J
	B	GWS3022H8	INSTL=SOAP CHUTE LC, 3022H8	3022H8J
	C	GWS3626X7	INST=SOAP CHUTE ASSY 3626X	36026X8J,X8W,X8R
	D	GWS4226X	INST=SOAP CHUTE ASSY 4226X	4206X7J,X7W,X7R
	E	GWS4232X	INST=SOAP CHUTE ASSY 4232X	42032X7J,X7W,X7R
	F	GWS35001C	INST=PLS SOAPCHUTE 3630SG RT	3630F8R,F8S
	G	GWS42001C	INST=PLASTIC SOAP CHUTE RT LD	4232F7R,F7S
			Components	
all	1	AWS30211A	PLASTIC SOAP ASSY	
all	2	27A070	T-BOLT HOSECLAMP 1.94"-2.25"	
ACF	3	02 03870D	FLEXTUBE=2"ID X 14"LG W/CUFFS	
B	3	02 03870C	FLEXTUBE=2"ID X 8"LG.W/CUFFS	
DEG	3	02 03870	FLEXTUBE=SOAPCHUTE 2"IDX24LG	

Soap Chute Components and Installation

3 Sheets

Table 28 Parts List—Soap Chute Components and Installation (cont'd.)

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	4	60E006C	PVC TUBING NYL.REINF.5IDX.75OD	
all	5	27A045	HOSECLAMP .750"DIA SPRINGTYPE	
all	6	15K053	BUTSOKCAPSCR 5/16-18X3/4 SS18-	
all	7	15G188	HEXLOKNUT 5/16-18 BRASS	
all	9	02 04215	PLASTIC SOAP CHUTE BEZEL	
all	10	02 04217	PLASTIC SOAP CHUTE LATCH	
all	11	02 04216	SOAP CHUTE SPLASH GUARD	
all	12	98A002AT	PAD 6"X9"REG.DUTY,TURCO#A90551	
all	13	15G105	HEXMACSCRNUT 8-32UNC2 SS18-8	
all	14	15N095	RDMACSCR 8-32UNC2X3/4 SS18-8	
all	15	15U120B	LOCKWASHER MEDIUM #8 SS18-8	
all	16	51BB0KN00B	BULKHD FITT 1/2"BARBED,POLYPRO	

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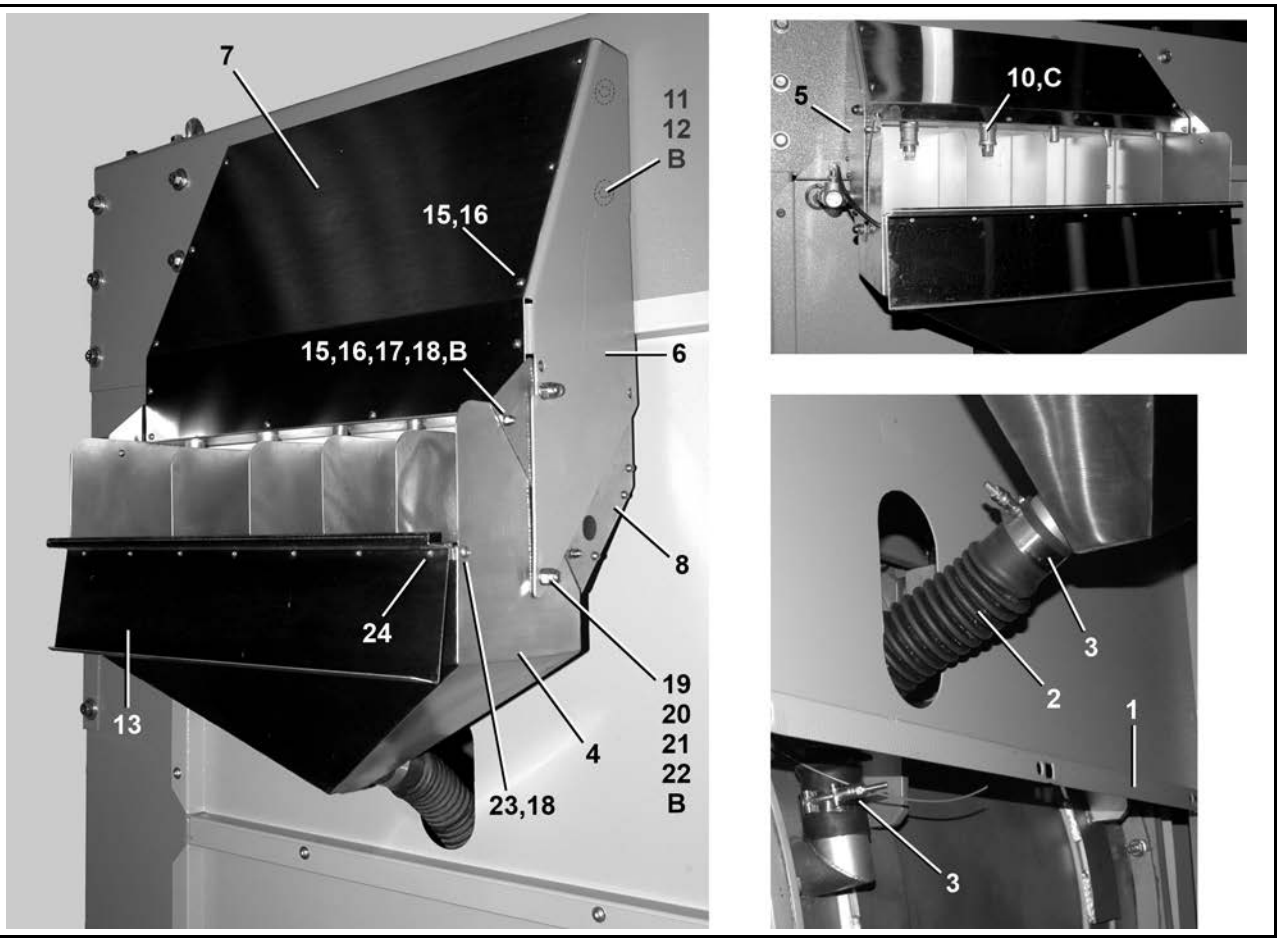
Five Compartment for Dry Chemical Supplies

4 Sheets



Legend

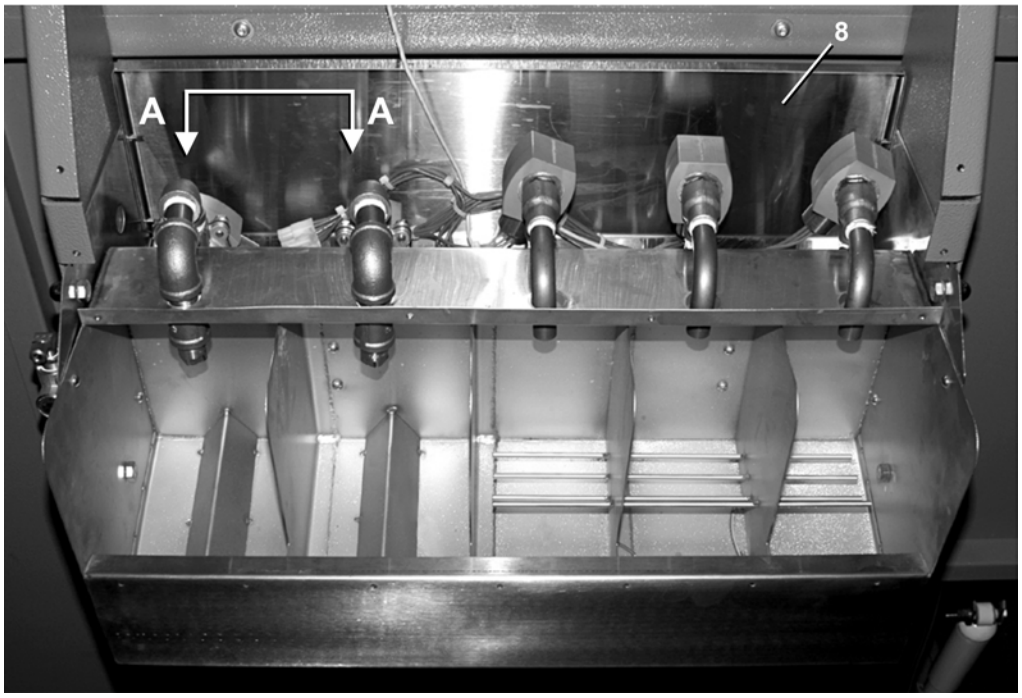
B . . . 4 instances

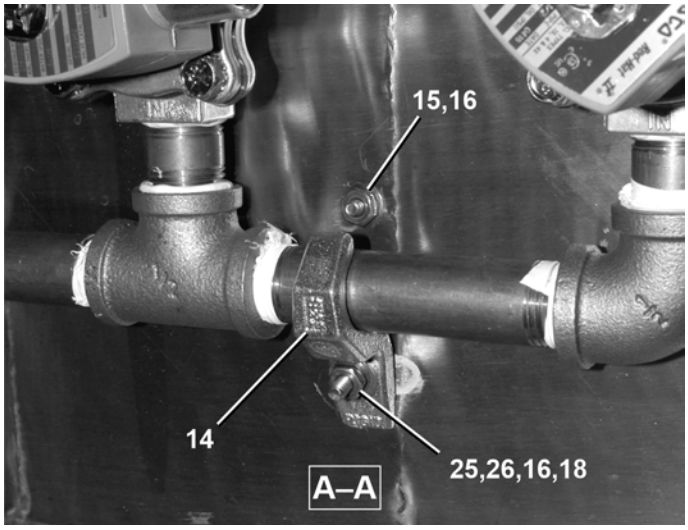
C . . . Valve manifold, see document BPWXBC04.

Five Compartment for Dry Chemical Supplies

4 Sheets

Figure 44. Chemical Flushing, Valve Manifolds





Legend

A–A . . Inside view of mounting bracket

Five Compartment for Dry Chemical Supplies

4 Sheets

Figure 45. Hot Water to Flush the Chemical Supplies

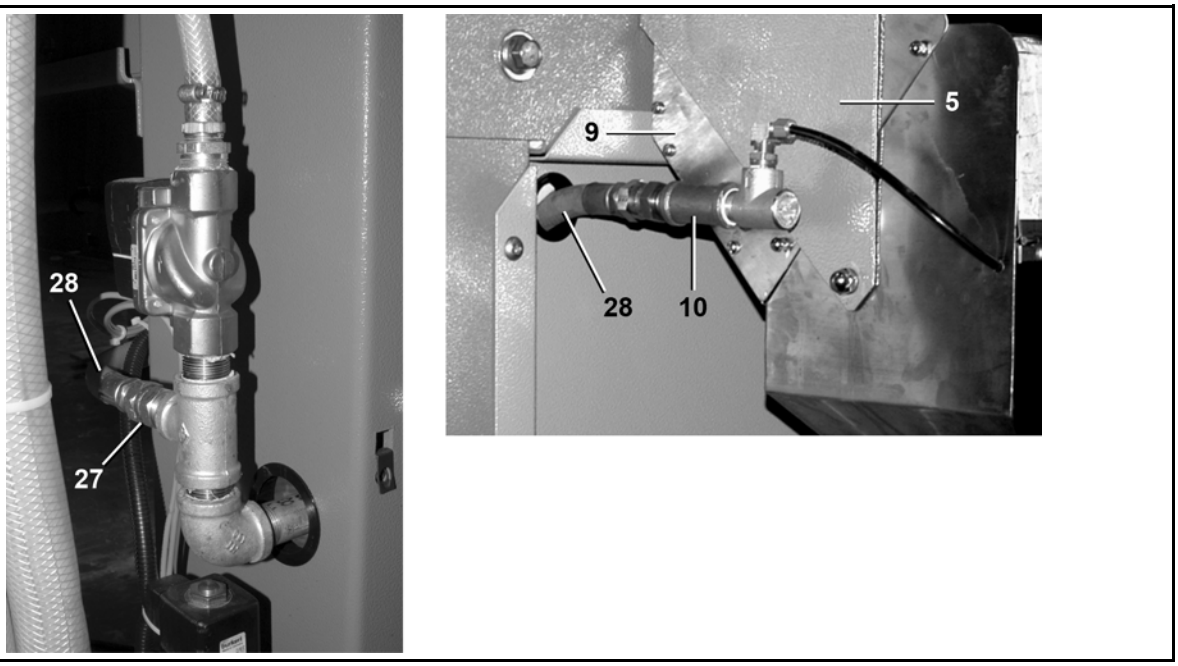


Table 29. Parts List—Five Compartment for Dry Chemical Supplies

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**
Reference Assemblies				
	A	GWS3626X5	INST=5-COMP 3626X	36026X8J,X8W,X8R
	B	GWS4226X5	INST=5 COMP SUPPLY 4226X	42026X7J,X7W,X7R
	C	GWS4232X5	INST=5 COMP SUPPLY 42X	42032X7J,X7W,X7R
	D	AWS3626X5	ASSY=5-COMP 3626X	36026X8J,X8W,X8R
	E	AWS4226X5	ASSY=5 COMP SUPPLY 42X	42026X7J,X7W,X7R 42032X7J, X7W,X7R
Components				
A	1	02 13585B	COVER=5-COMP SUPPLY	
B	1	02 23585B	COVER=5COMP SUPPLY MNT	
C	1	02 24525C	COVER=5 COMP SUPPLY 4232X	
all	2	02 03870D	FLEXTUBE=2"ID X 14"LG W/CUFFS	
all	2	02 03870	FLEXTUBE=SOAPCHUTE 2"IDX24LG	
all	3	27A070	T-BOLT HOSECLAMP 1.94"-2.25"	
all	4	W2 21162B	WLMT=SUPPLY 36/42X (SS)	
A	5	02 13590	BRKT=5-COMP SUPPLY FRNT-36X	
BC	5	02 23590	BRKT=5-COMP SUPPLY FRNT-42X	

Five Compartment for Dry Chemical Supplies

4 Sheets

Table 29 Parts List—Five Compartment for Dry Chemical Supplies (cont'd.)

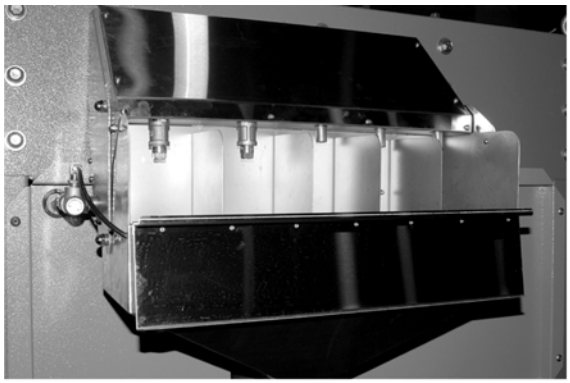
Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.

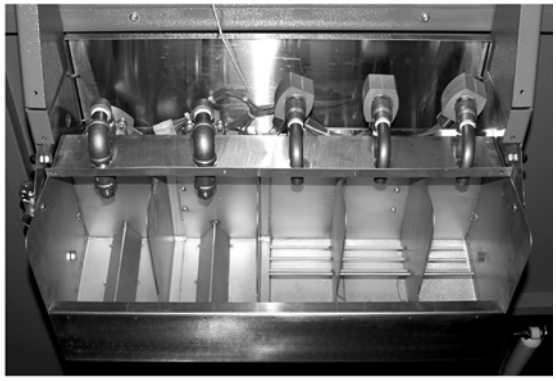
Used In	Item	Part Number	Description/Nomenclature	Comments
A	6	02 13590A	BRKT=5-COMP SUPPLY REAR-36X	
BC	6	02 23590A	BRKT=5-COMP SUPPLY REAR42X	
A	7	02 13591	COVER=5 COMP FRONT/36X	
BC	7	02 23591	COVER=5-COMP FRNT-42X	
A	8	02 13592	COVER=SUPPLY REAR 36X	
BC	8	02 23592	COVER=5-COMP REAR 42X	
all	9	02 09100	FRT VALVE ENCLOSURE	
all	10	SA 16 034C	VALVASSY 5 FLUSH=42/32X	
all	11	15K095	HXCPSCR 3/8-16UNC2AX1 GR5 ZINC	
all	12	15G198	HXFLGNUT 3/8-16 ZINC	
all	13	SA 09 047	COVER=SUPPLY INJECTOR	
all	14	27A017	PIPESTRAP 1/2" 1-HOLE RIG COND	
all	15	15N117	RDMACSCR 10-24UNC2X3/8SS18-8	
all	16	15U160	LOCKWASHER MEDIUM #10 SS18-8	
all	17	24G018N	ROLLED WASH.194ID NYLTITE 10W	
all	18	15G130	HEXMACHSCRNUT 10-24UNC2 SS18-8	
all	19	15K086	HXCAPSCR 3/8-16NCX3/4 SS18-8	
all	20	15U260	LOCKWASHER MEDIUM 3/8 SS18-8	
all	21	24G030N	ROLLED WASH.379ID NYLTITE 37W	
all	22	15G200SS	HEXCAPNUT HIGH-CR 3/8-16 SS 1	
all	23	15K017	BUTSOKCAPSCR 10-24X1/2 SS	
all	24	15P100	#8 X 3/8 PHILPANHD TYPE B SMS	
all	25	15N146	RDMACHSCR 10-24UNC2X1 SS18-8	
all	26	15U135	FLATWASH#10 .4370DX.203IDX.04T	
all	27	51X017	UNIONSTRADT 1/2"#1404-8-8	
all	28	60E085C75A	HOSE ASSY=1/2"X75"LG+ENDS	

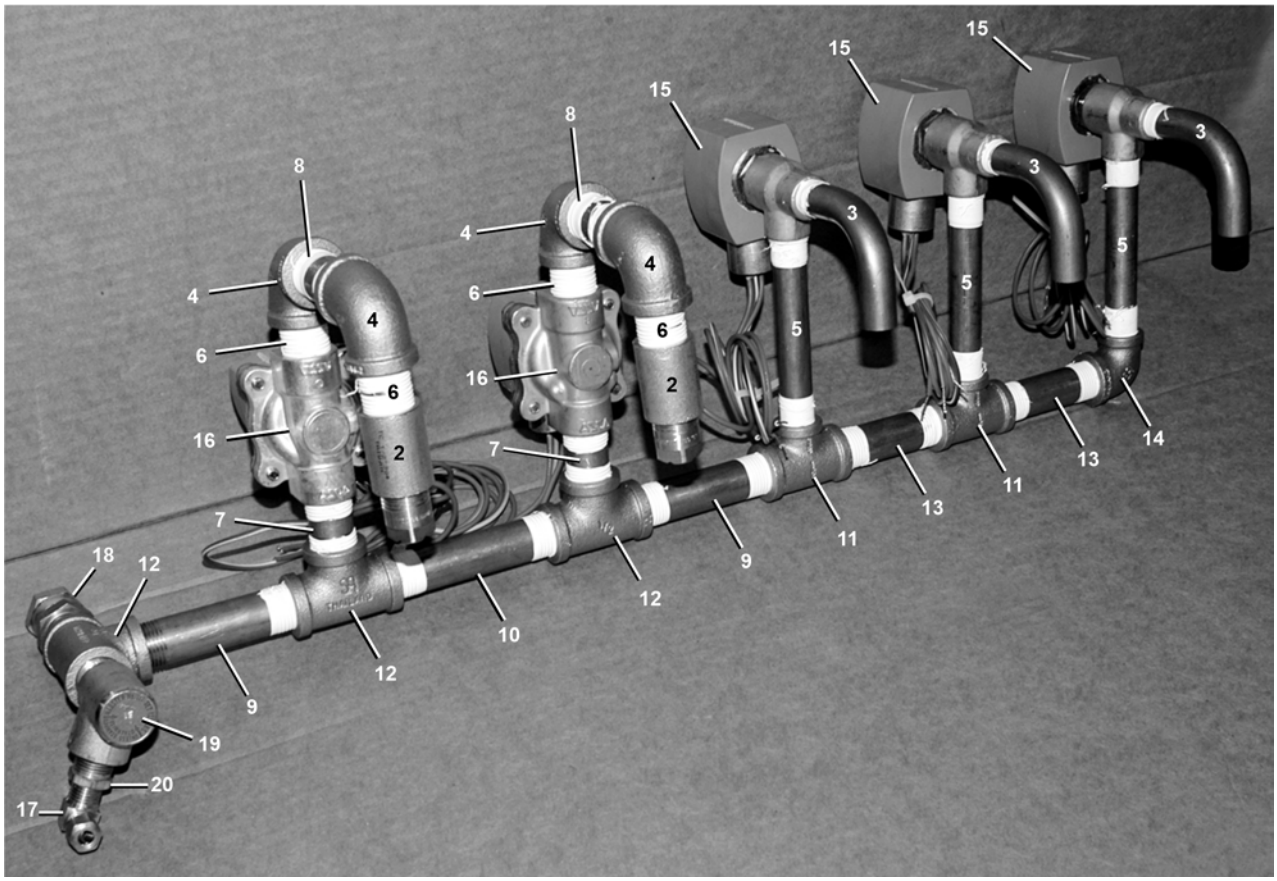
BPWXBC04 / 2021192 BPWXBC04.1 0000343998 B.2 C.2 9/14/21, 8:58 AM Released

Valve Manifold for Five Compartments for Dry Chemical Supplies

2 Sheets







Valve Manifold for Five Compartments for Dry Chemical Supplies

2 Sheets

Table 30. Parts List—Valve Manifold for Five Compartments for Dry Chemical Supplies

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**
Reference Assemblies				
	A	SA 16 034C	VALVASSY 5 FLUSH=42/32X	
Components				
all	1	27A001	NOZZLE BRASS 1/2" SPRAYSYSTEMS	
all	2	5SCC0KSF1	NPTCOUP 1/2"SS304 150#BARSTOCK	
all	3	02 09237	PIPE FORMED 90DEG BRS SUPINJ	
all	4	5SL0KBEA	NPTELB 90DEG 1/2 BRASS 125#	
all	5	5N0G04KBE2	NPT NIP 3/8X4.5 TBE BRASS STD	
all	6	5N0KCLSBE2	NPT NIP 1/2XCLS TBE BRASS STD	
all	7	5N0K01KBE2	NPT NIP 1/2X1.5TBE BRASS STD	
all	8	5N0K02ABE2	NPT NIP 1/2X2 TBE BRASS STD	
all	9	5N0K03KB42	NPT NIP 1/2X3.5 TBE BRASS STD	
all	10	5N0K04ABE2	NPT NIP 1/2X4 TBE BRASS STD	
all	11	5S0KBEA0G	NPT TEE 1/2X1/2X3/8 BRASS 125#	
all	12	5S0KBEA	NPT TEE 1/2" BRASS 125#	
all	13	5N0K03ABE2	NPT NIP 1/2X3 TBE BRASS STD	
all	14	5SL0KBEA0G	NPTELB 90DEG 1/2X3/8 BRASS 125	
all	15	96TCC2AA71	3/8" N/C 2WAY 240V50/60C VALVE	
all	16	96TDC2AA71	1/2"N/C2WY240V50/60C VLV(DRYVC) ASCO X8210G002 15461	
all	17	53A031XB	BODY-EL90MALE.25X25 #269C-4-4B	
all	18	51X017	UNIONSTRADT 1/2"#1404-8-8	
all	19	96M001	1/2X3/8" RELIEF VALVE SET31#	
all	20	5SB0G0EDEO	NPTHEXBUSH 3/8X1/4 GALCI 125#	

8 Water and Steam

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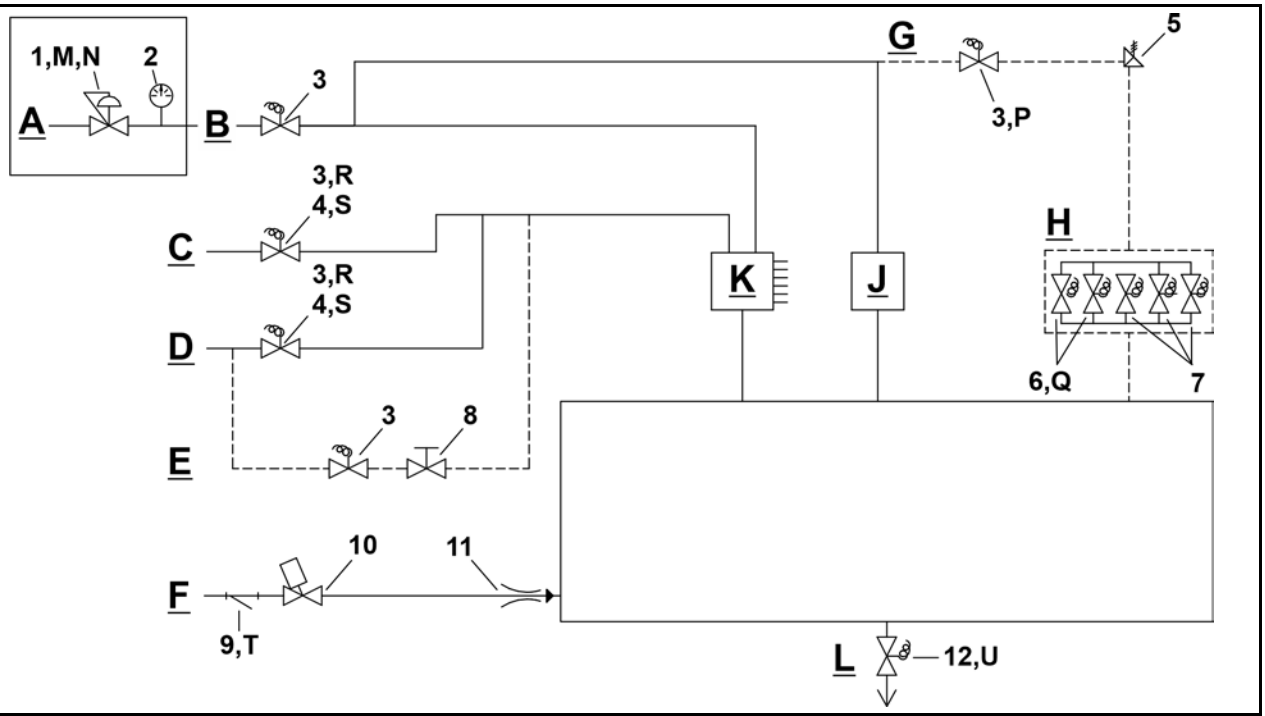
BPWXBW01 / 2021172 BPWXBW01.1 0000339542 C.2 A.4 4/19/21, 1:18 PM Released

Water and Steam Schematic

2 Sheets

36026X8R, 42026X7R, 42032X7R



Legend

A . . . Pressure regulator assembly
B . . . Hot water to flush the chemical supplies
C . . . Hot water line
D . . . Cold water line
E . . . Cooldown water line (optional)
F . . . Steam line (optional)
G . . . Water to the five compartments for dry chemical supplies
H . . . Five compartments for dry chemical supplies (optional)
J . . . Soap chute
K . . . Six inlets for peristaltic liquid chemical systems (optional)
L . . . Drain valve
M . . . Pressure regulator
N . . . Keep this component set to the correct pressure, 28 PSI (1.9 ATU)
P . . . Secondary location
Q . . . See document, BPWXBC04
R . . . Model: 36026X8R
S . . . Models: 42026X7R, 42032X7R
T . . . Keep this component clean
U . . . See document, BPWXBW05

Water and Steam Schematic

2 Sheets

36026X8R, 42026X7R, 42032X7R

Table 31. Parts List—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**
Components				
all	1	96J031D	3/4"PRESSREG SET 28# FEMXUN=WATTS#LF25AUB-ZB	
all	2	30N100	PRESSGAUGE 1/8"BACKCN.0-30PSI	
all	3	96P056B71	3/4"NC 230V50/60 W/LEADS BURKERT	
all	4	96P152A71	1+1/4"NC 240V W/LEADS BURKERT	
all	5	96M001	1/2X3/8" RELIEF VALVE SET31#	
all	6	96TDC2AA71	1/2"N/C2WY240V50/60C VLV	
all	7	96TCC2AA71	3/8" N/C 2WAY 240V50/60C VALVE	
all	8	96D050A	3/4"BALLVALVE BRZ BONOMI 171N	
all	9	51T030	Y-STRAINER 3/4" CAST IRON	
all	10	96P040A71	3/4"STEAMVAL240V50/60C 150PSI	
all	11	W2 02555A	WELD X-MACH PIPE NOZZLE 3/8D	
all	12	96D250A71	DRINVAL 2"N/O MTRDR240V 50/60C	

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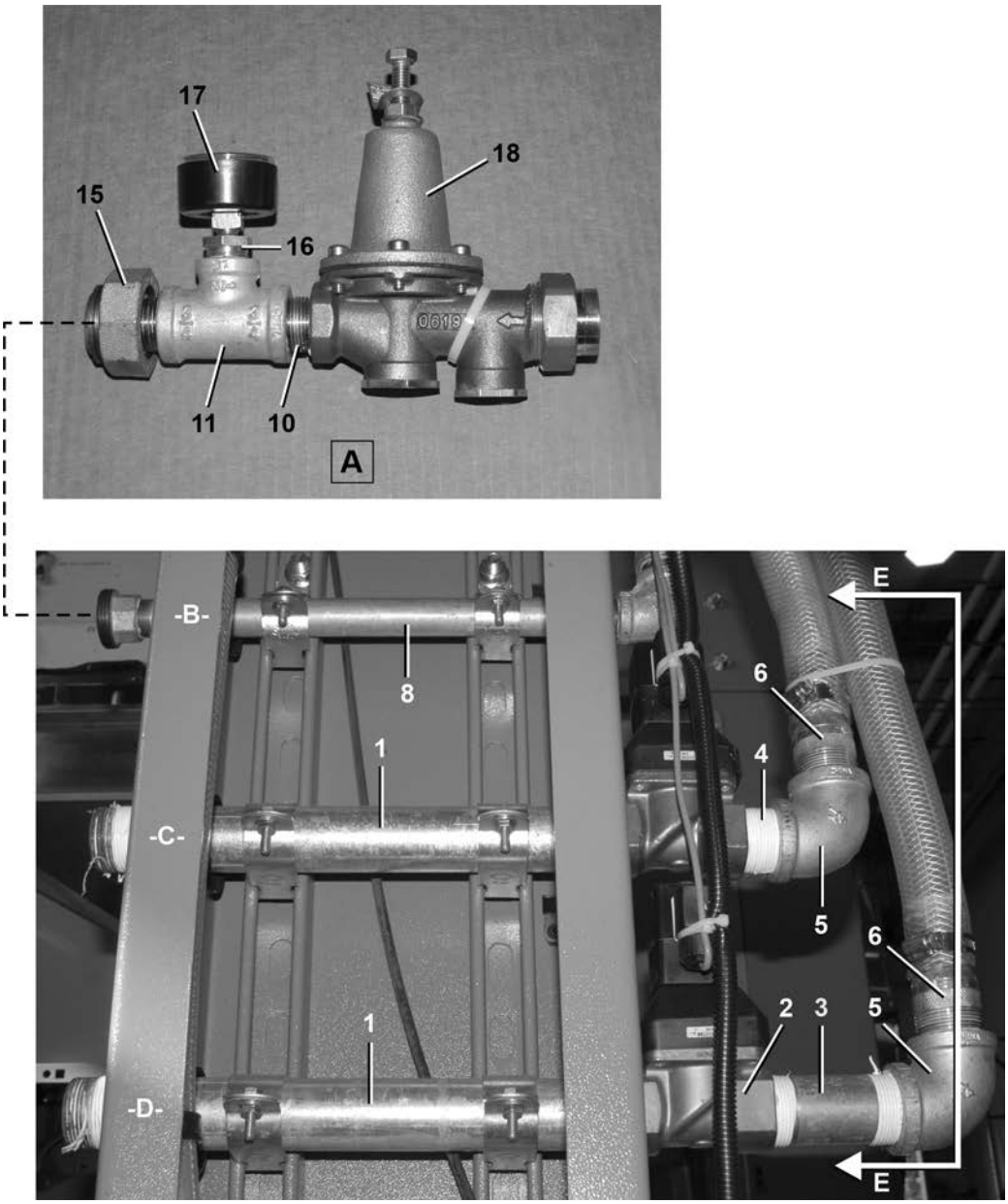
Water Inlet Components and Installation

3 Sheets

42026X7R, 42032X7R



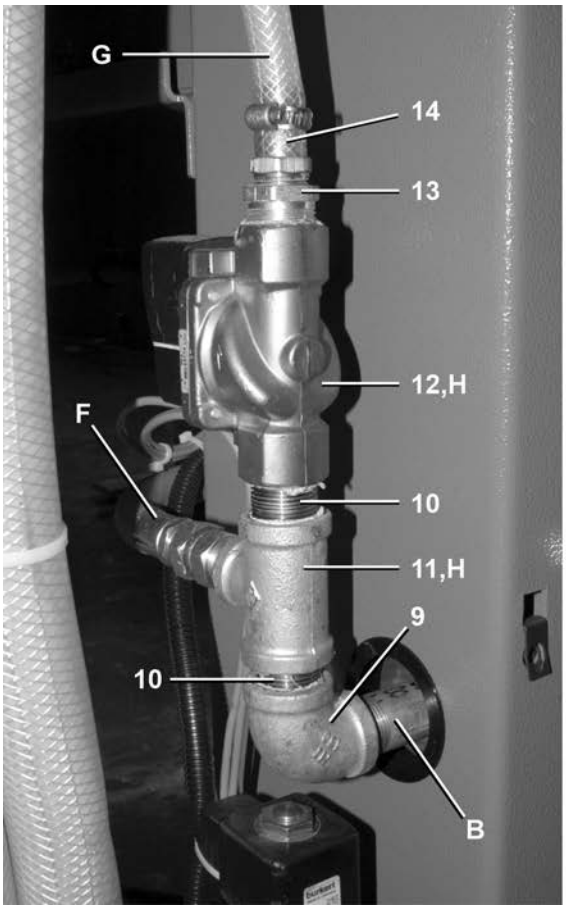
Legend

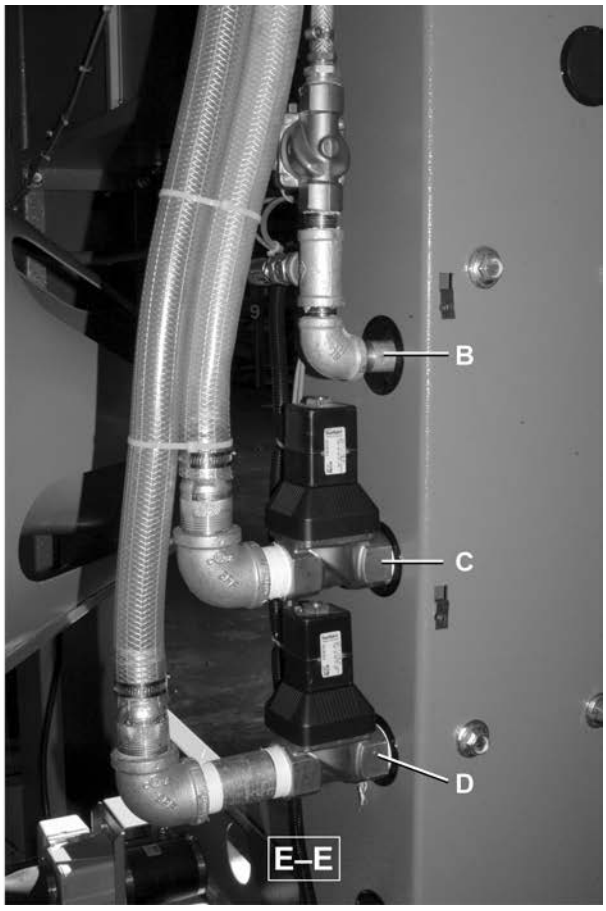
A . . . Pressure regulator assembly
B . . . Hot water to flush chemical supplies
C . . . Hot water line
D . . . Cold water line
E–E . . Inside view

Water Inlet Components and Installation

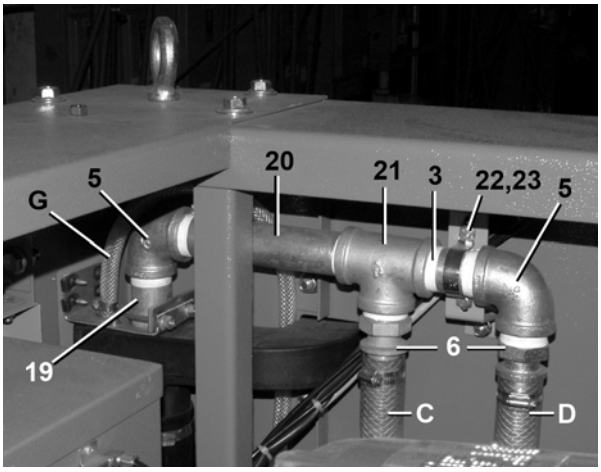
3 Sheets

42026X7R, 42032X7R





Inlet Manifold



Legend

B . . . Hot water to flush chemical supplies

C . . . Hot water line

D . . . Cold water line

E-E . . Inside view

F . . . Water to the five compartments for dry chemical supplies

G . . . Water to the peristaltic water inlet manifold

H . . . The electrical valve and the tee are opposite when there is no five compartments for dry chemical supplies.

Water Inlet Components and Installation

3 Sheets

42026X7R, 42032X7R

Table 32. 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**
			Reference Assemblies	
	A	AVW11916	1.25ELECT H2O COLD VAL ASSY	
	B	AVW11917	1.25ELECT H2O HOTVAL ASSY	
	C	AVW42006	FLUSH VALVE INLET 42X	
	D	AVW42007	MANIFOLD H20 INLET 42X	
			Components	
all	1	5N1E13AG42	NPT NIP 1.25X13 TBE GALSTL SK4	
all	2	96P152A71	1+1/4"NC 240V W/LEADS BURK	
all	3	5N1E03AG42	NPT NIP 1.25X3 TBE GALSTL SK40	
all	4	5N1ECLSG42	NPT NIP 1.25XCLS TBE GALSTLS40	
all	5	5SL1ENFA	NPT ELB 90DEG 1.25 GALMAL 150#	
all	6	51E099STC	DIXON 1.25KINGNIP NPTEND#STC15	
all	8	5N0P14AG42	NPT NIPPLE 3/4X14 TBE GALSTL	
all	9	5SL0PNFA	NPTELB 90DEG 3/4 GALMAL 150#	
all	10	5N0PCLSG42	NPT NIP 3/4XCLS TBE GALSTL S40	
all	11	5SL0PNFA0K	NPTELB 90DEG 3/4X1/2 GALMAL 15	
all	12	96P056B71	3/4"NC 230V50/60 W/LEADS BURKERT #5281	
all	13	5SB0P0KBEO	NPTHEXBUSH 3/4X1/2 BRASS 125#	
all	14	51E509	HOSESTEM BRASS 1/2MPX1/2HOSEID	
all	15	5SU0PNF	NPT UNION 3/4" GALMAL 150#	
all	16	5SB0K0CDEO	NPTHEXBUSH 1/2X1/8 GALCI 125#	
all	17	30N100	PRESSGAUGE 1/8"BACKCN.0-30PSI	
all	18	96J031D	3/4"PRESSREG SET 28#	
all	19	5N1E02KG41	NPT NIP 1.25X2.5 TOE GALSTL S4	
all	20	5N1E08AG42	NPT NIP 1.25X8 TBE GALSTL SK40	
all	21	5S1ENFA	NPT TEE 1.25" GALMAL 150#	
all	22	02 175012	BRACKET PIPE MTG=2"PIPE	
all	23	27A020	PIPESTRP 1+1/4" 2-HOLE STP GAL	

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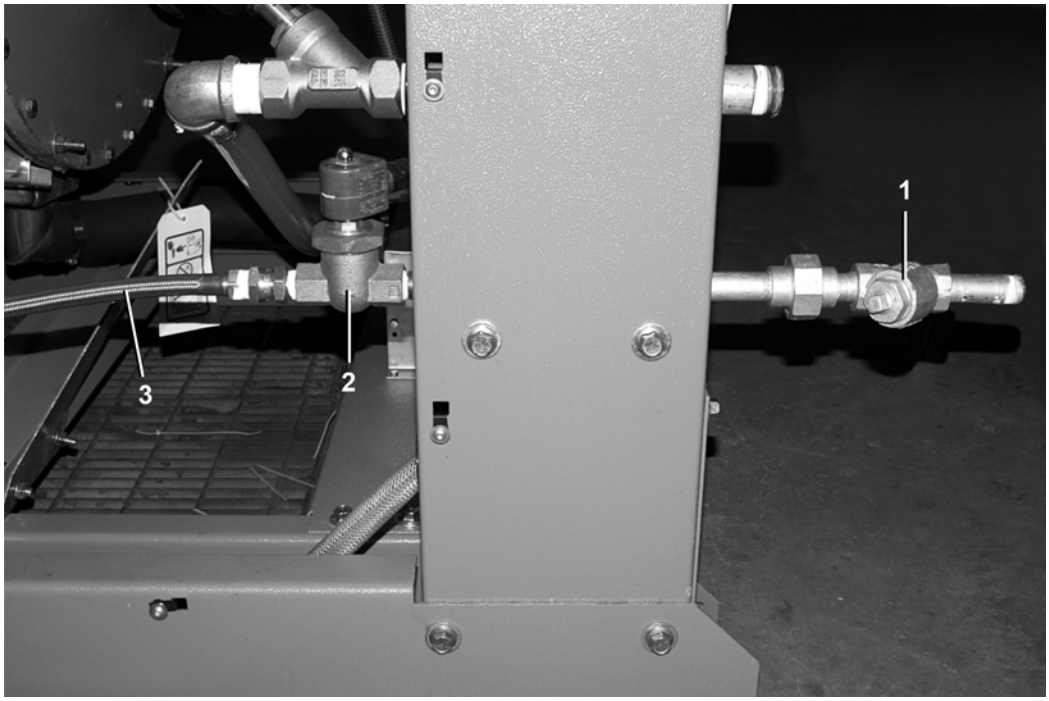
Steam Inlet

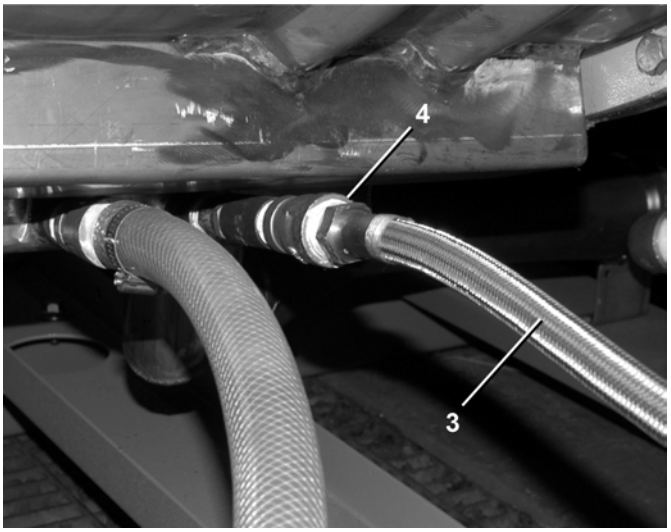
2 Sheets

36026X8R, 42026X7R, 42032X7R

Steam Line



Steam Nozzle



Steam Inlet

2 Sheets

36026X8R, 42026X7R, 42032X7R

Table 33. Parts List—Steam Inlet

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**
Reference Assemblies				
	A	AVS3626001	STEAM ASSY 3626X8J	
Components				
all	1	51T040	Y STRAINER 1" CAST IRON 20 MESH	
all	2	96P040A71	3/4"STEAMVAL240V50/60C 150PSI	
all	3	60E512C28	STEAMHOSE S/S BRAID 3/4+2ENDS	
all	4	W2 02555A	WELD X-MACH PIPE NOZZLE 3/8D	

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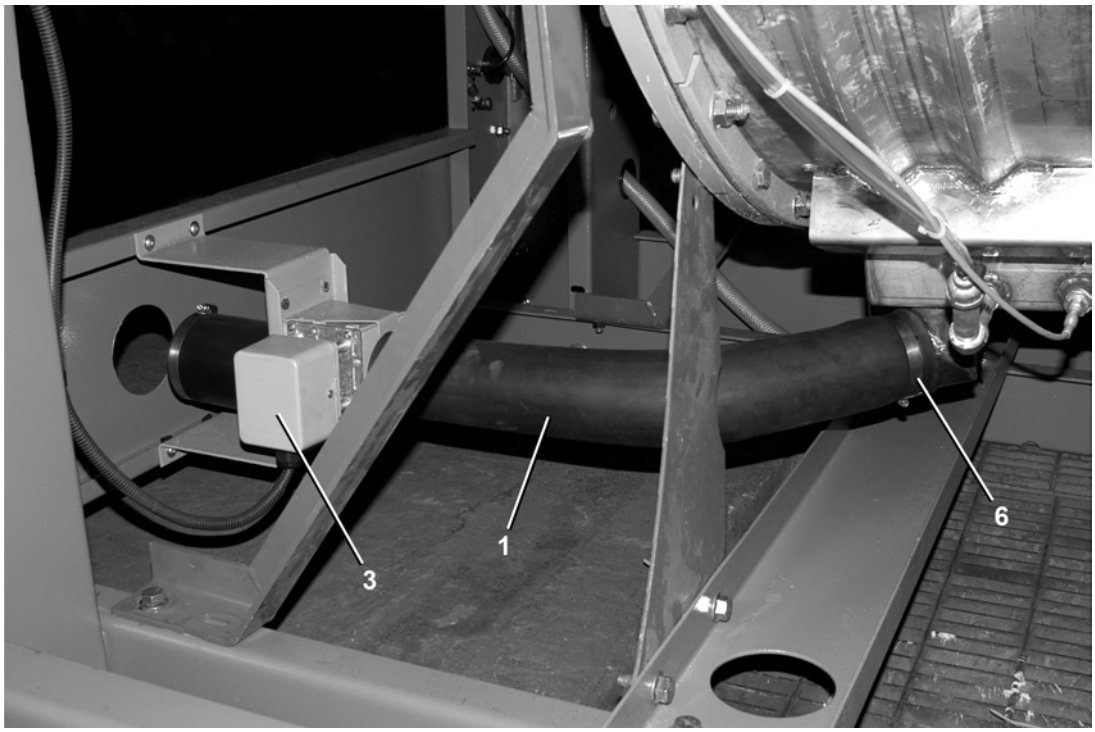
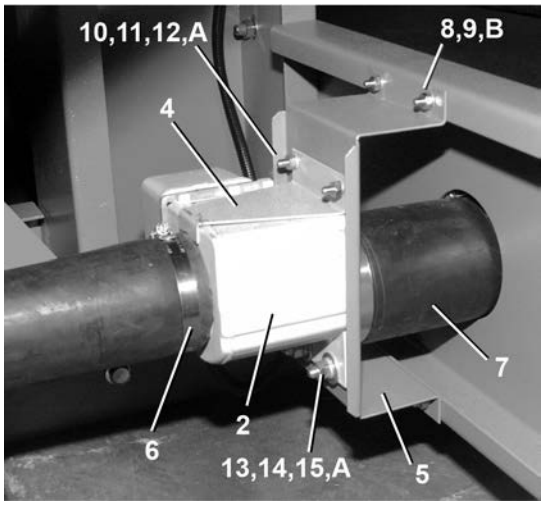
Drain Valve Installation

2 Sheets





Legend

A . . . 2 instances
B . . . 4 instances

Table 34. Parts List—Drain Valve 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**
Reference Assemblies				
	A	GVD3626X7	INST=DRAINVAL ASSY 3626X	36026X8J,X8W,X8R

Drain Valve Installation

2 Sheets

Table 34 Parts List—Drain Valve Installation (cont'd.)

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**
	B	GVD4226X	INST=DRAINVAL 4226X	42026X7J,X7W,X7R,42032X7J, X7W,X7R
Components				
all	1	02 03245	MOLDED DRAIN HOSE, 3022H	
all	2	96D350A71	DRINVAL 3"N/O MTRDR240V 50/60C W/COVER DEPENDO	
all	3	96D35C0V	MTRCOVER 2-PCFOR 3"DRAINVAL-DEPENDO #90016105	
all	4	02 02934A	DUMPVAL BKT TOP	
A	5	02 13534	BKT=DUMPVAL MT 3626X	
B	5	02 23534	BKT=DUNPVAL MT 4226/32	
all	6	27A088S	HOSECLAMP 3+1/16-4"SSSCR#HSS56	
all	7	60B075	DFW56-33PMSP RUBB CONN.	
all	8	15N110H	RDWASHHD TORXBOLT M6-1X25MM ZN	
all	9	15G004HC	EXTRUNUT M6-1 GRIP 3.5-6.5MM	
all	10	15K039	HXCAPSCR 1/4-20UNC2AX3/4 GR5 Z	
all	11	15U185	FLATWASHER(USS STD) 1/4" ZNC P	
all	12	15G178	1/4"-20 HEXFLANGE NUT ZINC	
all	13	15K095	HXCPSCR 3/8-16UNC2AX1 GR5 ZINC	
all	14	15U240	FLATWASHER(USS STD) 3/8" ZNC P	
all	15	15G198	HXFLGNUT 3/8-16 ZINC	

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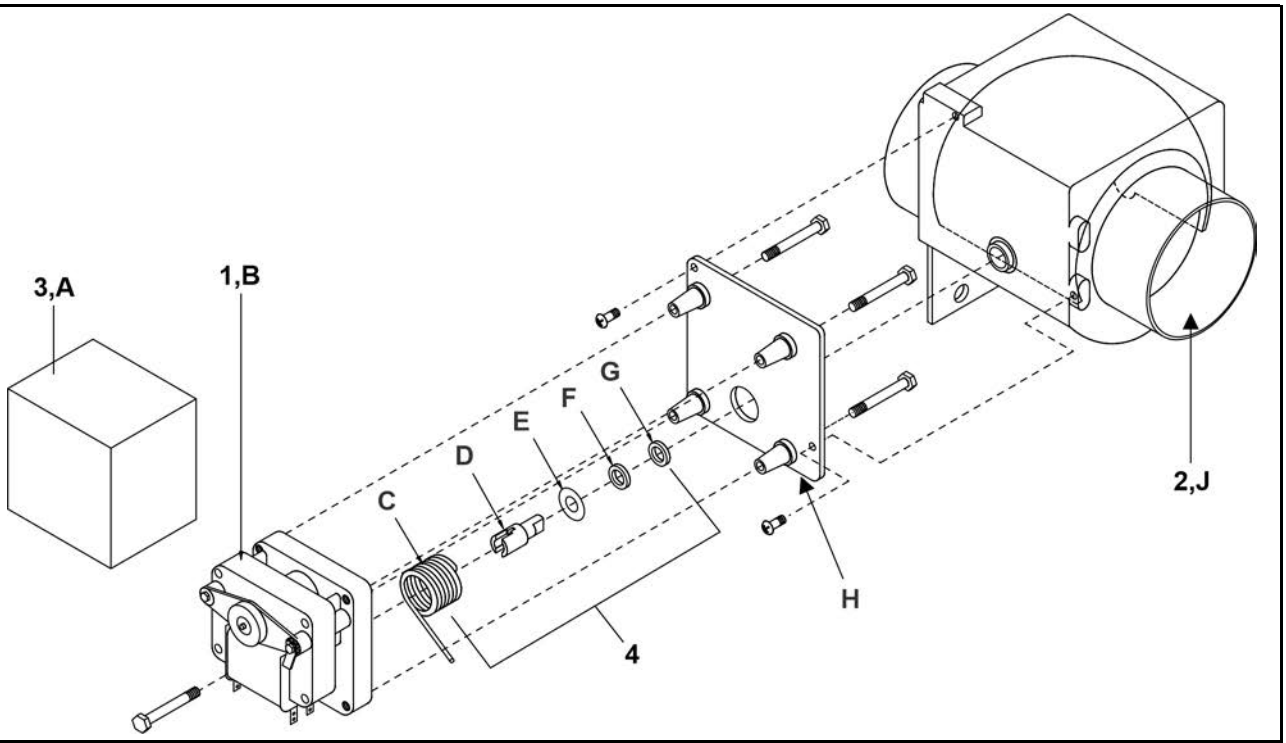
3 Inch Electrical Drain Valve

2 Sheets



Legend

A . . . Cover
B . . . Motor
C . . . Spring
D . . . Drive pin
E . . . Washer
F . . . Bearing
G . . . Seal
H . . . Mounting plate
J . . . Valve body

3 Inch Electrical Drain Valve

2 Sheets

Table 35. Parts List—3 Inch Electrical 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**
Reference Assemblies				
	A	96D350A37C	DRNVAL 3"N/O 120V50/60C W/COVER (WT=4LBS)	
	B	96D350A37	DRINVAL 3"N/O MTRDR120V 50/60C NO COV/DEPENDO	
	C	96D350A71	DRINVAL 3"N/O MTRDR240V 50/60C W/COVER DEPENDO	
	D	96D350B71	DRINVAL 3"N/C MTRDR240V 50/60 W/COVER	
Components				
AB	1	96D35MTR37	120V 50/60CMTR FOR 3"DRAINVAL	
CD	1	96D35MTR71	240V 50/60CMTR FOR 3"DRAINVAL	
B	2	96D35B0D	B0DY & BALL FOR 3" DRAIN VALVE (VLV HOUSING ONLY)	
all	3	96D35C0V	MTRCOVER 2-PCFOR 3"DRAINVAL-DEPENDO #90016105	
all	4	96D35PIN	DRIVE PIN KIT FOR 3" DRAIN VAL	

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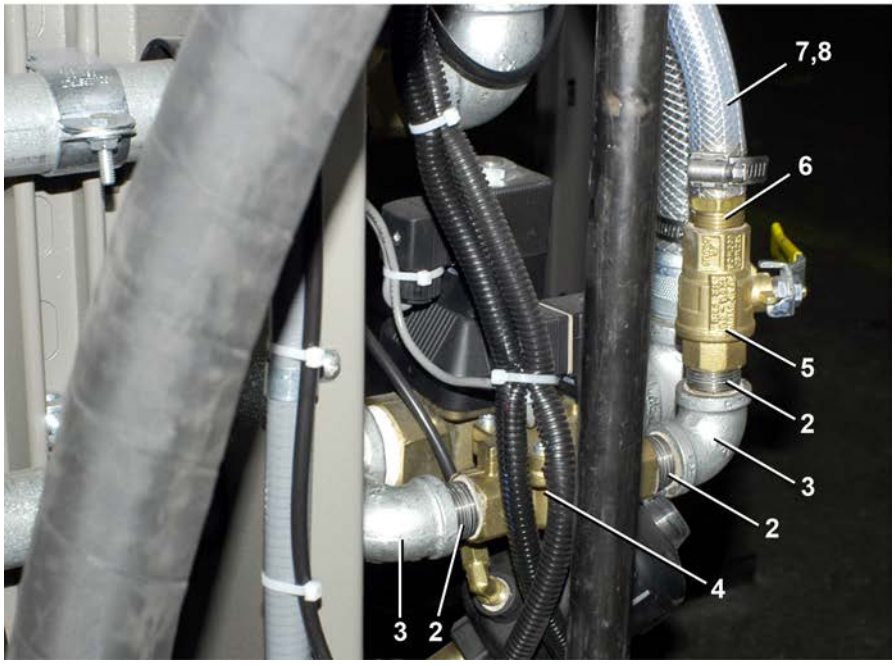
Cooldown Components and Installation

2 Sheets



Cooldown Components and Installation

2 Sheets

Table 36. Parts List—Cooldown 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**
Reference Assemblies				
	A	AVC42X001	42X COOLDOWN H20 VAL ASSY	
Components				
all	1	5S1ENFA0P	NPTTEE 1.25X3/4X3/4 GALMAL150#	
all	2	5N0PCLSG42	NPT NIP 3/4XCLS TBE GALSTL S40	
all	3	5SL0PNFA	NPTELB 90DEG 3/4 GALMAL 150#	
all	4	96P056B71	3/4"NC 230V50/60 W/LEADS BURKERT	
all	5	96D050A	3/4"BALLVALVE BRZ = BONOMI 171N	
all	6	51E511	HOSESTEM BRASS 3/4MP X HOSEID	
all	7	60E010	TUBINGPOLYBRAID 1"X1.312	
all	8	27A090	HOSECLAMP 13/16-1.5"CADSC#HS16	

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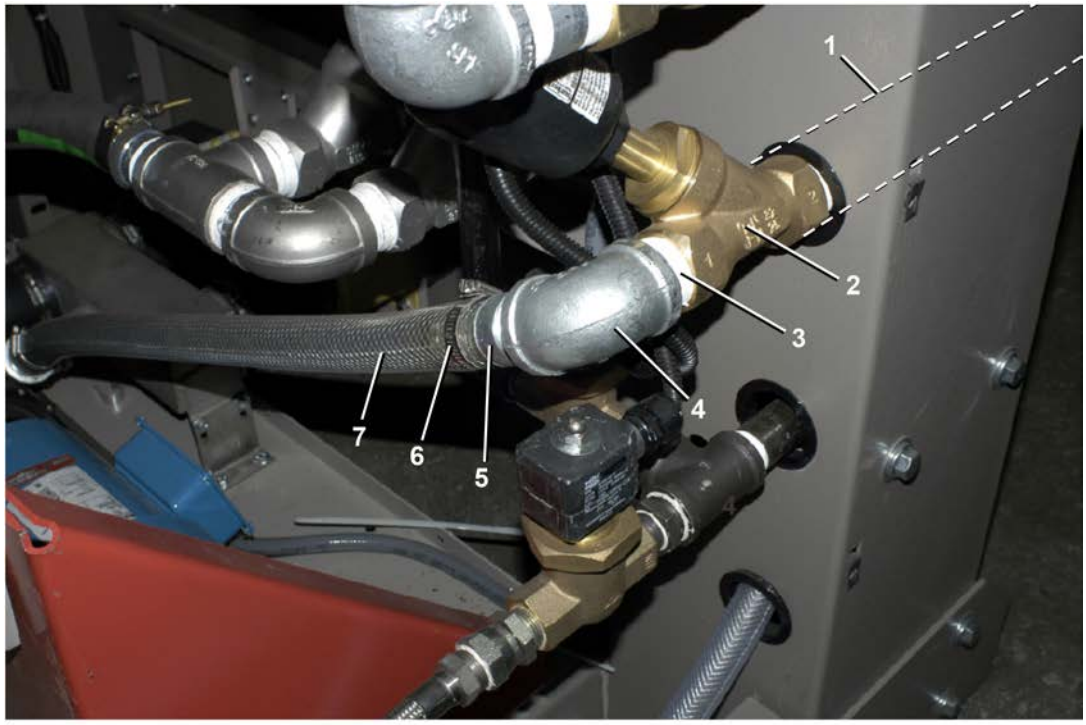
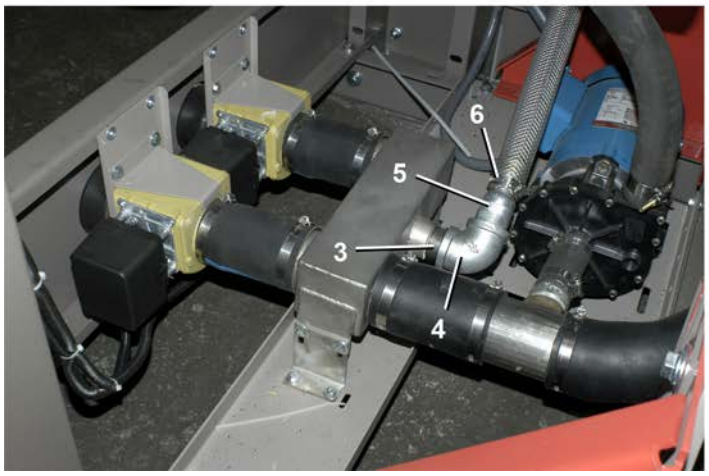
Reuse Water Lines

2 Sheets





Reuse Water Lines

2 Sheets

Table 37. Parts List—Reuse Water Lines

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**
Reference Assemblies				
	A	AVW42008	ASSY=42X AIR OP REUSE	
Components				
all	1	5N1E13AG42	NPT NIP 1.25X13 TBE GALSTL SK4	
all	2	96D086WE	ANGBODVLV 1.25"NC H20 BRZ	
all	3	5N1ECLSG42	NPT NIP 1.25XCLS TBE GALSTLS40	
all	4	5SL1ENFA	NPT ELB 90DEG 1.25 GALMAL 150#	
all	5	51E099STC	DIXON 1.25KINGNIP NPTEND#STC15	
all	6	27A090S	HOSECLAMP 13/16-1.5"SS#64016B	
all	7	60E014R	TUBING NYLOBRAID 1.25X1.75	

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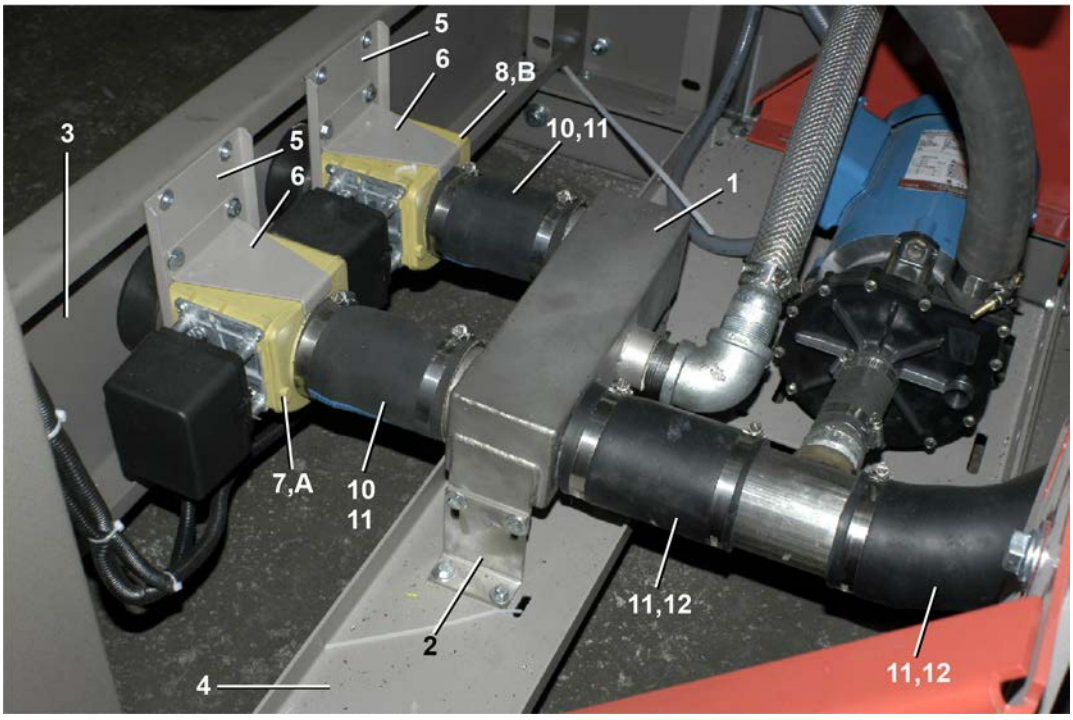
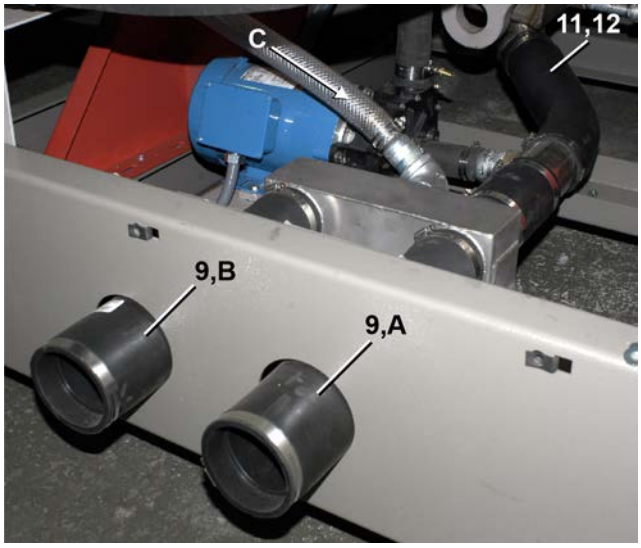
Dual Drains to the Sewer and Reuse Water

2 Sheets





Legend

A . . . Drain valve to the sewer, usually open
B . . . Drain valve to reuse water, usually closed
C . . . Reuse water inlet

Dual Drains to the Sewer and Reuse Water

2 Sheets

Table 38. Parts List—Dual Drains to the Sewer and Reuse Water

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**
Reference Assemblies				
	A	GVD3626X7A	INST=DUAL DRAIN 3626X	36026X8J,X8W,X8R
	B	GVD4226XA	INST=4226/32 DUAL DRAIN	42026X7J,X7W,X7R 42032X7J,X7W,X7R
Components				
all	1	W2 03412A	WLMT=DIVERTER BOX DUAL DRAIN	
all	2	02 03412Q	BRKT=DIVERTER BOX MNT 3626X	
A	3	02 13513A	X-BRACE DUAL DRAIN 3626X	
B	3	02 23513A	X-BRACE DUAL DRAIN 4226/32X	
A	4	02 02934D	DIVERTER MNT 3626X DUAL DRN	
B	4	02 03412P	DIVERTER MNT DUAL DRN 4226/36X	
all	5	02 02934B	DRAIN VAL MNT 3626X	
all	6	02 02934A	DUMPVAL BKT TOP	
all	7	96D350A71	DRINVAL 3"N/O MTRDR240V 50/60C W/COVER DEPENDO	
all	8	96D350B71	DRINVAL 3"N/C MTRDR240V 50/60 W/COVER	
all	9	60B075	DFW56-33PMSP RUBB CONN.	
all	10	60E303A05A	HOSE=3"ID X 5"LG	
all	11	27A082S	HOSECLAMP 2+9/16-3.5SS305SCR	
all	12	02 03245	MOLDED DRAIN HOSE, 3022H	
all	13	W2 13546	TUBE WELD RECIRC 36X8W	

9 Control and Sensing

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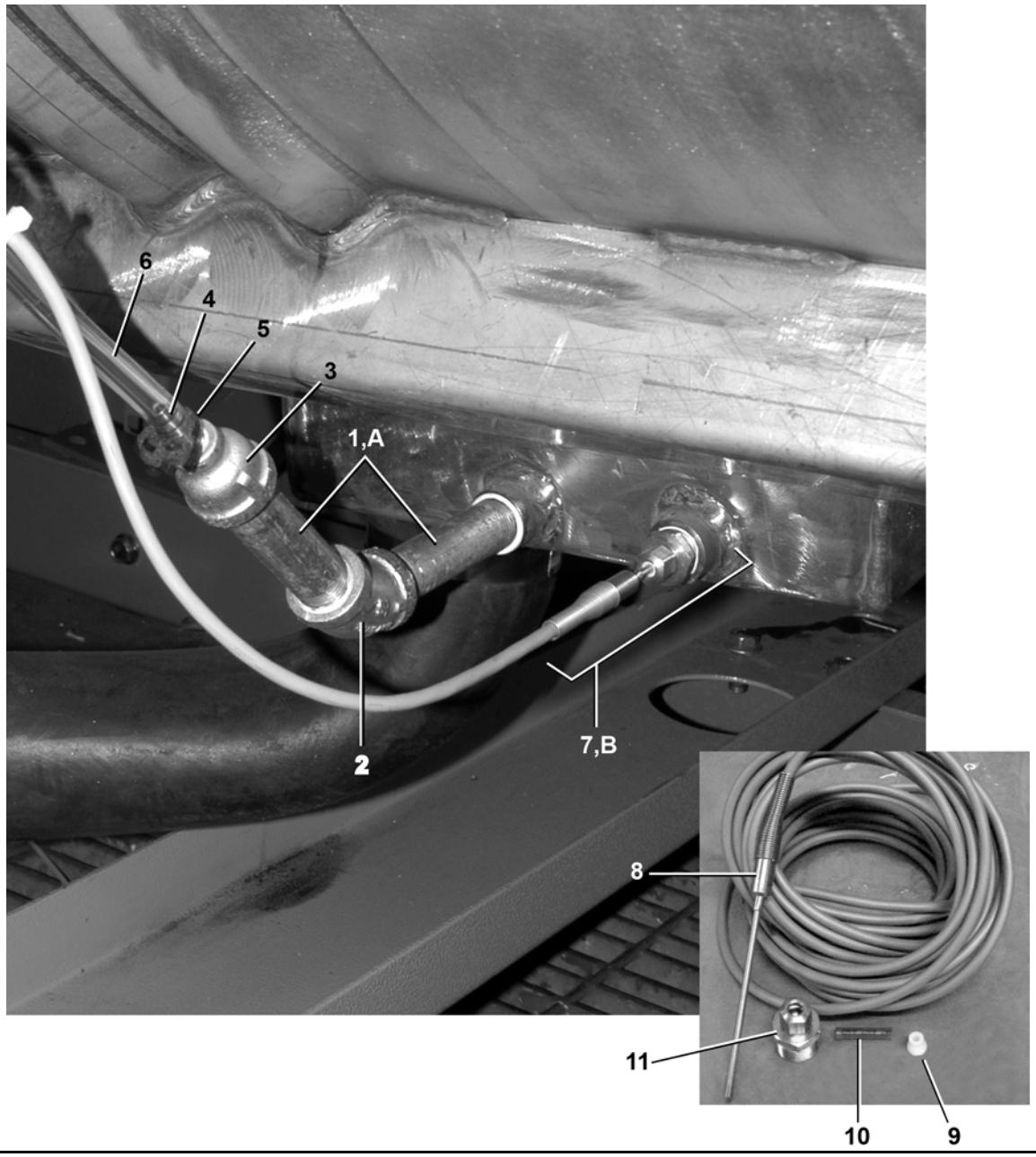
Water Level Switch and Temperature Sensor

2 Sheets



Legend

A . . . Air chamber for the pressure switch
B . . . Temperature sensor

Water Level Switch and Temperature Sensor

2 Sheets

Table 39. Parts List—Water Level Switch and Temperature Sensor

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**
Reference Assemblies				
	A	ALL30211	ASSY=3022H7J AIR CHAMBER	
Components				
all	1	5N0K04AG42	NPT NIP 1/2X4 TBE GALSTL SK40	
all	2	5SL0KNFK	NPTELB 45DEG 1/2 GALMAL 150#	
all	3	5SR0K0ENF	NPT RED 1/2X1/4 GALMAL 150#	
all	4	51E502A	HOSESTEM BRASS 1/8MPT X3/16	
all	5	27A047	HOSECLMP 1/8HOSEID CLIP#5000-2	
all	6	60E004NT	TUBING (NYL.)CLR.1/4"ODX1/8"	
all	7	30R0043PB	TEMPERATURE PROBE ASSY=BRASS	
all	8	30R0043P	TEMP PROBE:THERMISTOR 30K OHMS	
all	9	30R0043PF	FERRULE=TEMP PROB.25COMPFIT	
all	10	09B067	BUTTSPLICE(INS) RED 16-22GA.	
all	11	51A026E	FLUID CONNECTOR 1/4TUBEX1/2MPT	

BPWXBZ02 / 2021191A BPWXBZ02.1 0000344036 B.2 C.2 8/30/23, 11:52 AM Released

Excursion Switch (Unwanted Movement Switch) Components and Installation

2 Sheets

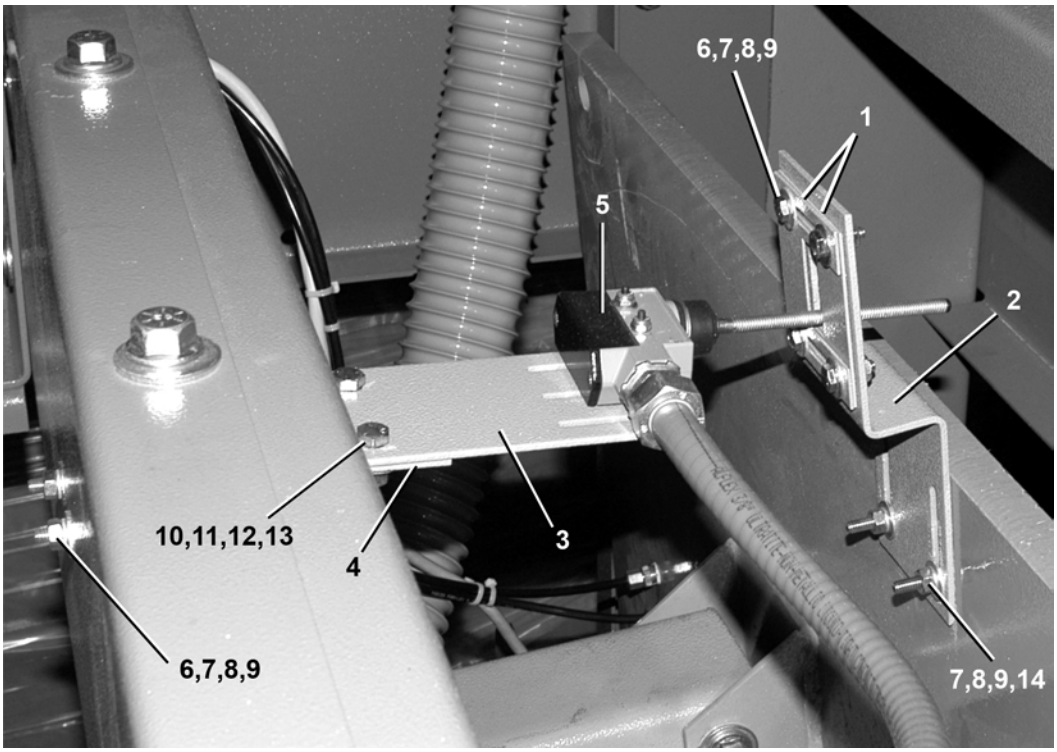


Table 40. Parts List—Excursion Switch (Unwanted Movement Switch) Components and Installation

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**
Reference Assemblies				
	A	GES36261	INST-EXCURSION SW 3626X	36026X8J,X8W,X8R
	B	GES4226X	INSTALL=EXCURSION SW 4226/32 X	42026X7J,X7W,X7R 42032X7J,X7W,X7R
Components				
all	1	02 02938B	BKT EXCURSION ADJ	
all	2	02 02938	BRKT EXCURSION SWITCH SHELL	
all	3	02 13539B	BKT=EXCURSION SWT ADJ PLATE	
all	4	02 13539A	BRKT=EXCURSION SWT MNT 3626	
all	5	09R008ASTD	* 09R008A+MOUNTING HDWRE+INST	
all	6	15K039	HXCAPSCR 1/4-20UNC2AX3/4 GR5 Z	
all	7	15U185	FLATWASHER(USS STD) 1/4" ZNC P	
all	8	15G177	HXNUT 1/4-28UNF2B SAE ZINC GR2	
all	9	15U180	LOCKWASHER MEDIUM 1/4 ZINCPL	
all	10	15G205	HXNUT 3/8-16UNC2B ZINC GR2	

Excursion Switch (Unwanted Movement Switch) Components and Installation

2 Sheets

Table 40 Parts List—Excursion Switch (Unwanted Movement Switch) Components and Installation (cont'd.)

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	11	15U255	LOCKWASHER MEDIUM 3/8 ZINCPL	
all	12	15U240	FLATWASHER(USS STD) 3/8" ZNC P	
all	13	15K085	HEXCAPSCR 3/8-16UNC2AX3/4 GR5	
all	14	15K046	HXCAPSCR 1/4-20 UNC2A X 2"GR5	

10 Recirculation

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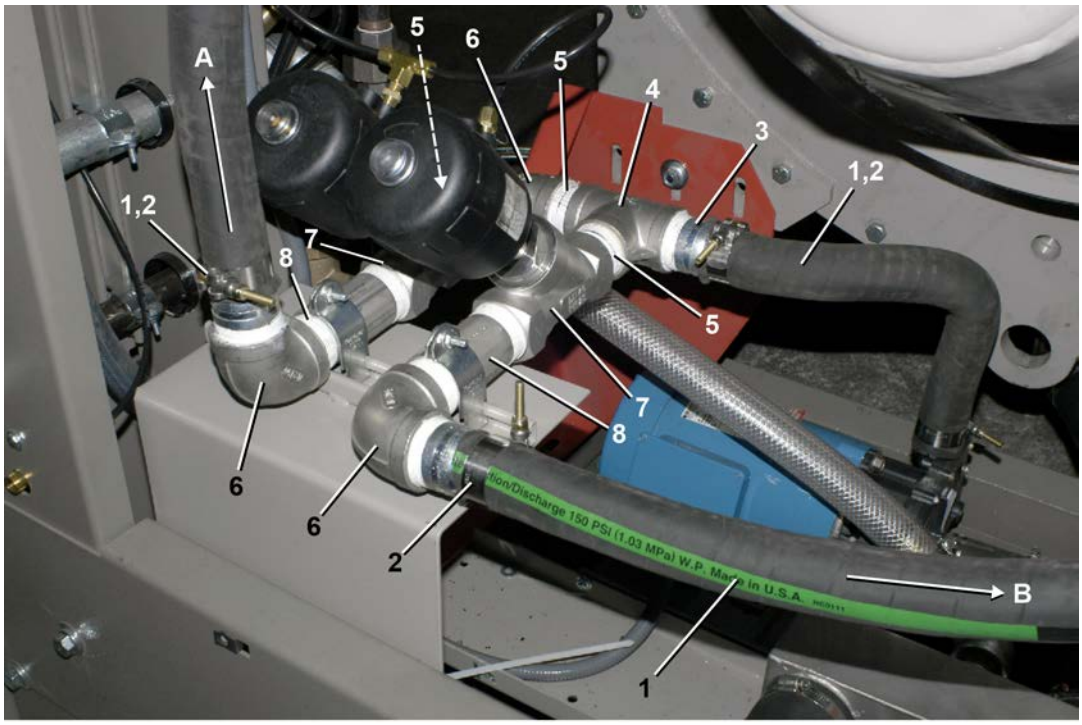
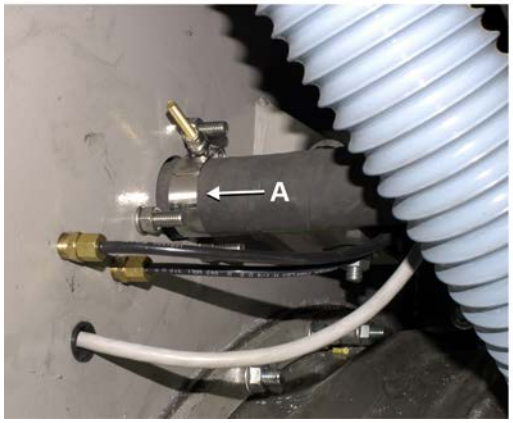
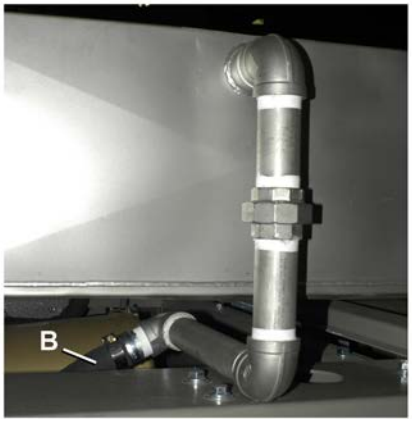
Recirculation Piping

2 Sheets







Legend

A . . . Reuse water through the recirculation pump to the door
B . . . Reuse water through the recirculation pump to the tank

Recirculation Piping

2 Sheets

Table 41. Parts List—Recirculation Piping

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**
Reference Assemblies				
	A	AVW30209	42X7W RECIRC TO TANK/DOOR VALVEASSY	
Components				
all	1	60E098	HOSE 1.5" WATER SUCTION HOSE	
all	2	27A066A	T-BOLT HOSECLAMP 1.66-1.97"	
all	3	510E98	KINGCOMNIP 1.5" IDXNPT #STC20	
all	4	5S1KSFA	NPT TEE 1.5" 304SS 150#	
all	5	5N1KCLSS42	NPT NIP 1.5XCLS TBE 304SS SK40	
all	6	5SL1KSFA	NPT ELB 90DEG 1.5 304SS 150#	
all	7	96D087WESS	ANGBODVLV 1.5"N/C H20 BURK SS	
all	8	5N1K05AS42	NPT NIP 1.5X5 TBE 304SS SK40	

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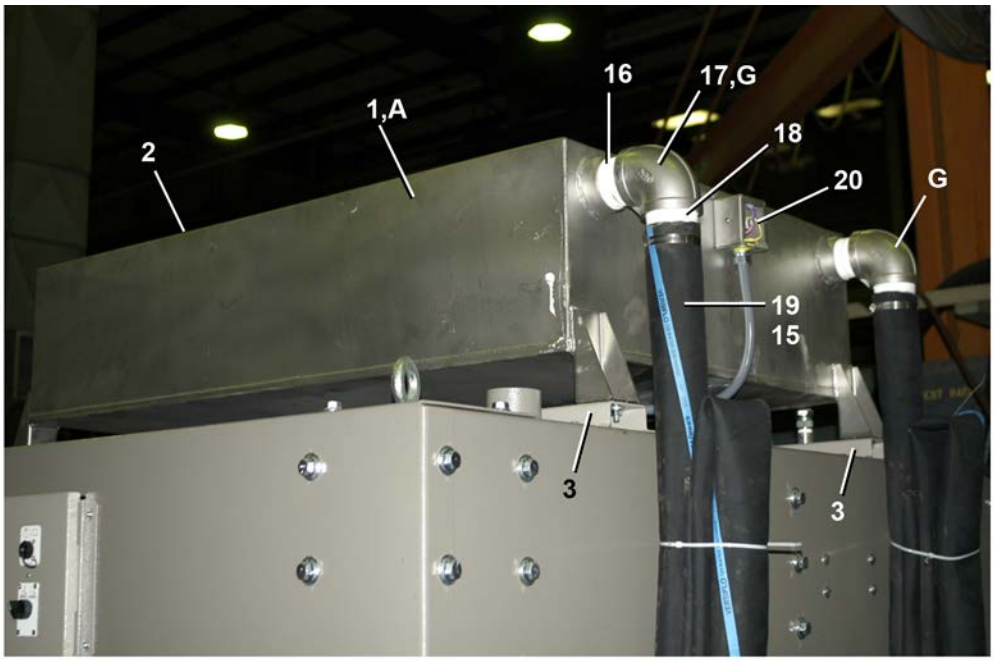
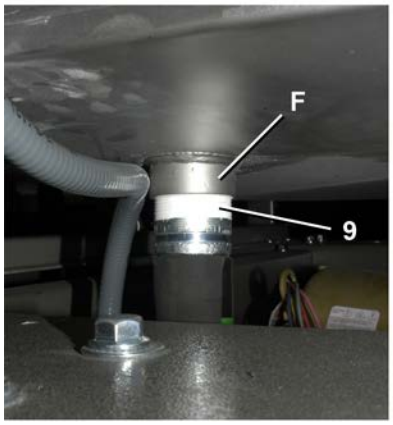
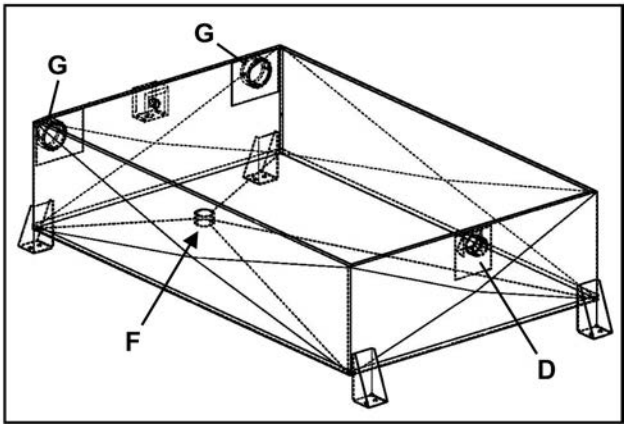
Reuse Tank Components and Installation

3 Sheets





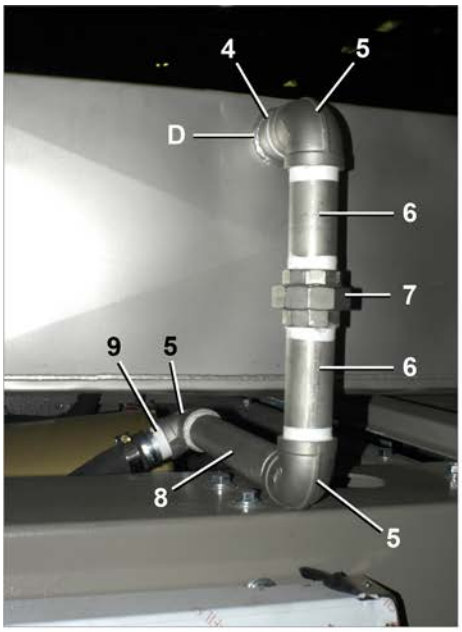


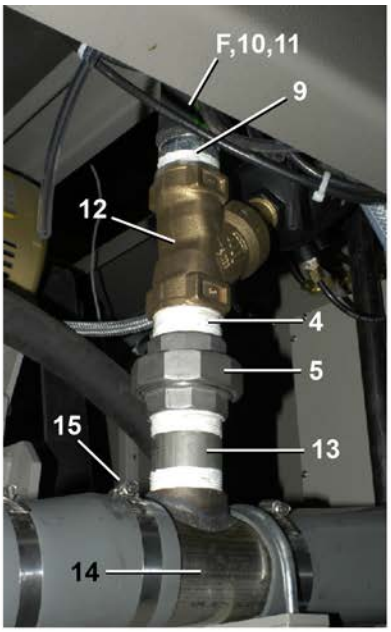
Legend

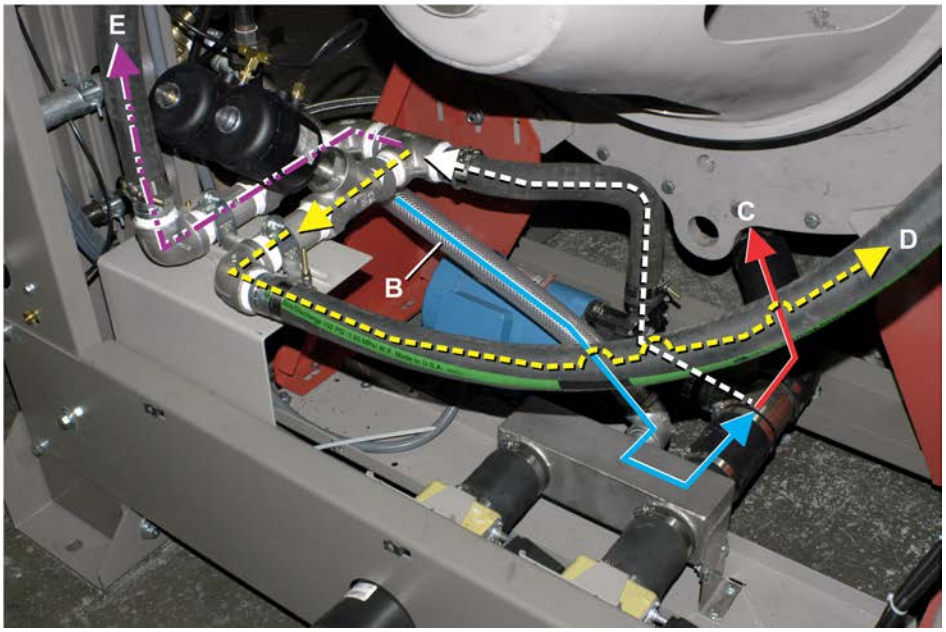
A . . . Reuse tank
D . . . Reuse water through the recirculation pump to the tank
F . . . Reuse water from the tank to the shell through the fill hose
G . . . Overflow from the tank to the sewer

Reuse Tank Components and Installation

3 Sheets







Legend

B . . . Reuse inlet water to the diverter box
C . . . Reuse water to the bottom of the shell
D . . . Reuse water through the recirculation pump to the tank
E . . . Reuse water through the recirculation pump to the door
F . . . Reuse water from the tank to the shell through the fill hose

Reuse Tank Components and Installation

3 Sheets

Table 42. 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**
Reference Assemblies				
	A	GVW42004	INST=OUTERWEAR REUSE TANK 42	
Components				
all	1	W2 21225	*WLMT=OUTERWEAR REUSE TANK 42	
all	2	W2 21229	*WLMT=OUTERWEAR REUSE TNKLID	
all	3	02 21238	OUTERWEAR TANK SUPPORT	
all	4	5N1KCLSS42	NPT NIP 1.5XCLS TBE 304SS SK40	
all	5	5SL1KSFA	NPT ELB 90DEG 1.5 304SS 150#	
all	6	5N1K05AS42	NPT NIP 1.5X5 TBE 304SS SK40	
all	7	5SU1KSF	NPT UNION 1.5" 304SS 150#	
all	8	5N1K13AS42	NPT NIPPLE 1.5X13 TBE 304SS SK	
all	9	51E098	KINGCOMNIP 1.5" IDXNPT #STC20	
all	10	60E098	HOSE 1.5" WATER SUCTION HOSE	
all	11	27A066A	T-BOLT HOSECLAMP 1.66-1.97"	
all	12	96D087WE	ANGBODVLV 1.5"N/C H2O BURK BRZ	
all	13	5N1K03AS42	NPT NIP 1.5X3 TBE 304SS SK40	
all	14	W2 13546	TUBE WELD RECIRC 36X8W	
all	15	27A082S	HOSECLAMP 2+9/16-3.5SS305SCR	
all	16	5N2KCLSS42	NPT NIP 2.5XCLS TBE 304SS SK40	
all	17	5SL2KSFA	NPT ELBOW 90DEG 2.5 304SS 150#	
all	18	5N2K04AS41	NPT NIP 2.5X4 TOE 304SS SK40	
all	19	60E303W	HOSE 3"ID DRAIN-PLICORD 125	
all	20	09RL001	LIQUID LEVEL SW. SIDE MOUNT	

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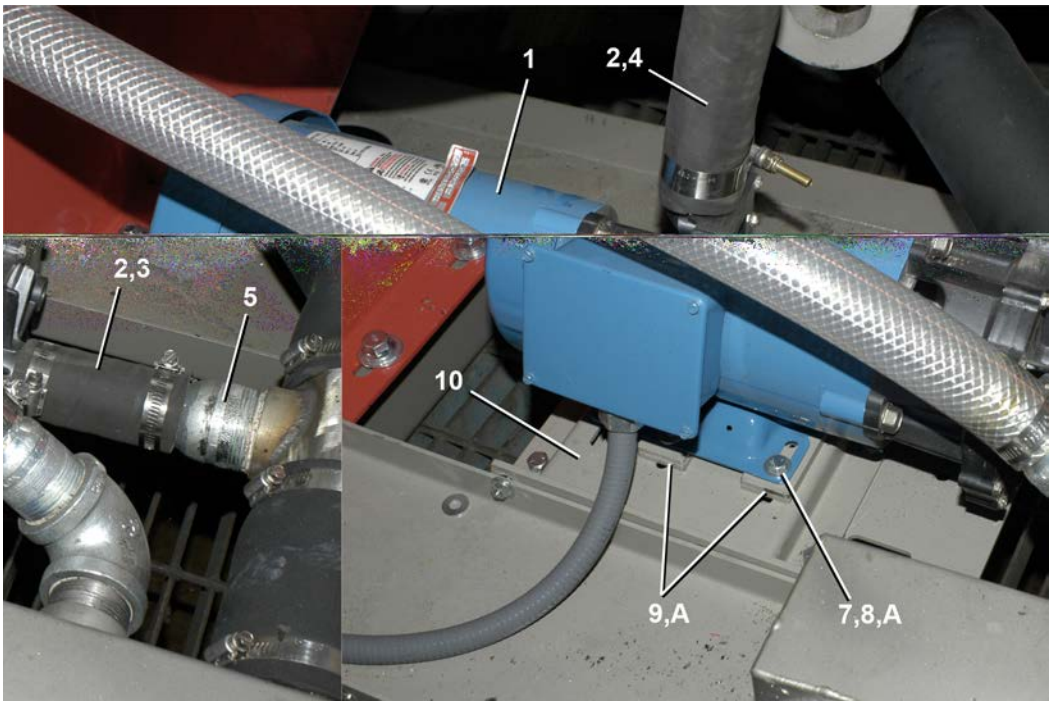
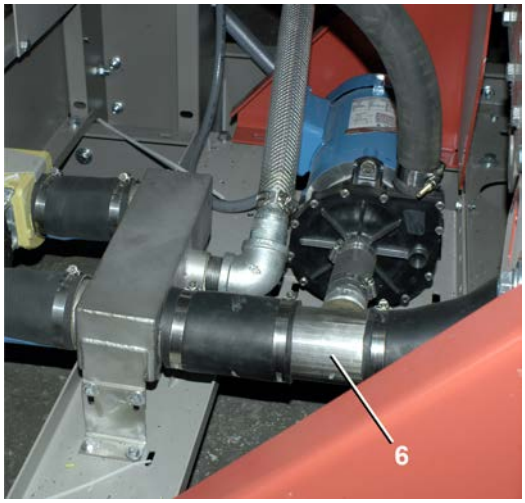
Recirculation Pump

2 Sheets





Legend

A . . . 4 instances

Recirculation Pump

2 Sheets

Table 43. Parts List—Recirculation Pump

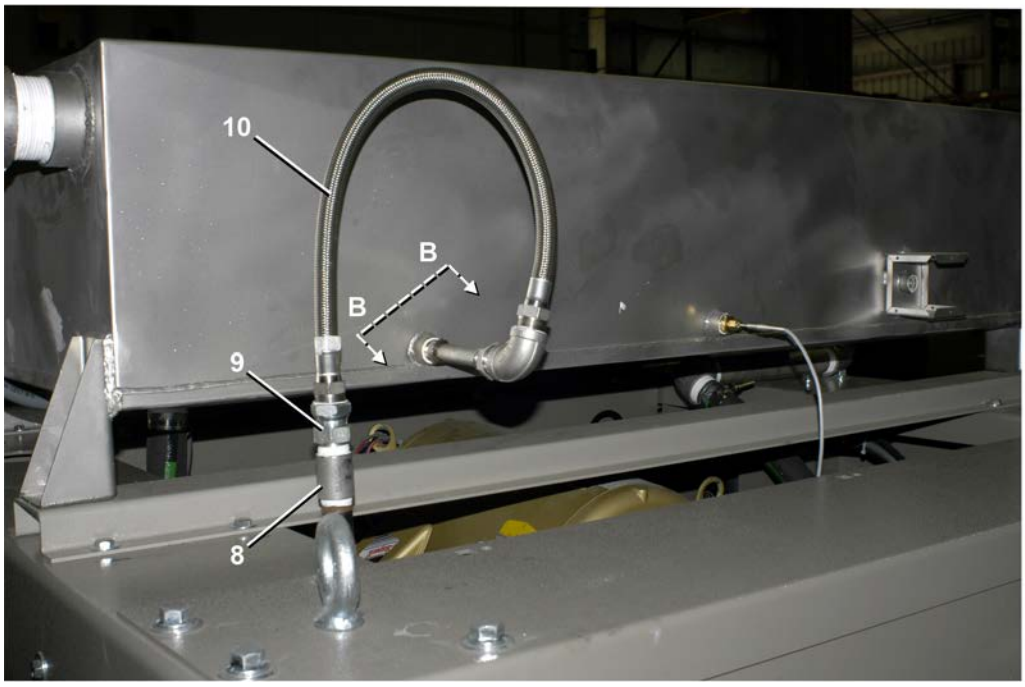
Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	**Item**	**Part Number**	**Description/Nomenclature**	**Comments**
Reference Assemblies				
	A	GVW42009	INST=OUTERWEAR PUMP+PIPING 42X	
Components				
all	1	27E955M96	3/4HP 3P PMP 240/420/480 5/6C	
all	2	60E098	HOSE 1.5" WATER SUCTION HOSE	
all	3	27A065S	HOSECLAMP 1.56"-2.5"SSSCR#32	
all	4	27A066A	T-BOLT HOSECLAMP 1.66-1.97"	
all	5	51E098	KINGCOMNIP 1.5" IDXNPT #STC20	
all	6	W2 13546	TUBE WELD RECIRC 36X8W	
all	7	15K095	HXCPSCR 3/8-16UNC2AX1 GR5 ZINC	
all	8	15G198	HXFLGNUT 3/8-16 ZINC	
all	9	02 03839B	PLATE=MTR MNT REINFORCEMENT	
all	10	02 19285	MTRPLATE 184/215T BEND@PRINT	

BPWXCW07 / 2021203 BPWXCW07.1 0000345768 A.3 C.2 5/11/21, 4:32 PM Released

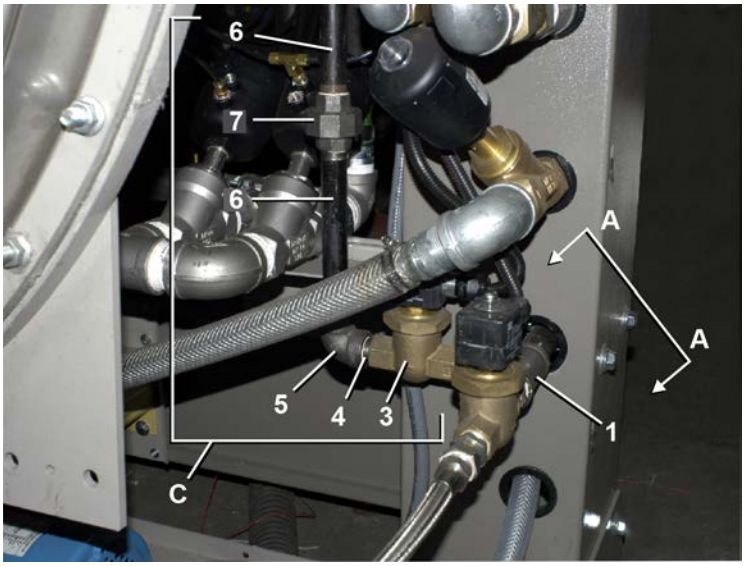
Steam Option to the Reuse Tank

2 Sheets

Steam to Reuse Tank



Steam Inlet

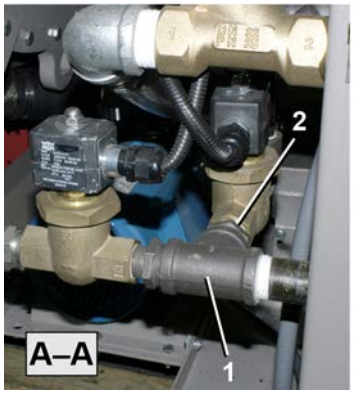


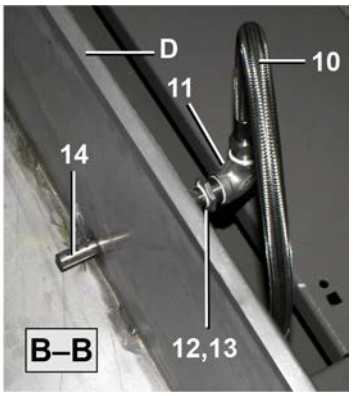
Legend

C . . . Steam option to the reuse tank

Steam Option to the Reuse Tank

2 Sheets





Legend

A–A . . Detailed view
B–B . . Detailed view, nozzle
D . . . Tank

Table 44. Parts List—Steam Option to the Reuse Tank

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.

Used In	Item	Part Number	Description/Nomenclature	Comments
			Components	
all	1	5S1AMFA	NPT TEE 1" BLKMAL 150#	
all	2	5SB1A0PMFO	NPTHEXBUSH 1X3/4 BLKMAL 150#	
all	3	96P040A71	3/4"STEAMVAL240V50/60C 150PSI	
all	4	5N1ACLSF42	NPT NIP 1X CLS TBE BLKSTL SK40	
all	5	5SL0PMFA	NPTELB 90DEG 3/4 BLKMAL 150#	
all	6	5P0PF4WN	3/4" SCH 40 BLK PIPE PE *	
all	7	51X020FS	UNION 3/4 FORGSTL BLK 3000#	
all	8	5SCC0PSF	NPTCOUP 3/4" 304S150#SPECIAL	
all	9	51X019	UNIONSTRADT 3/4"#0107-12-12	
all	10	60E512C28	STEAMHOSE S/S BRAID 3/4+2ENDS	
all	11	5SL0PSFA	NPTELB 90DEG 3/4 304SS 150#	
all	12	5SR0P0KSF	NPT RED 3/4X1/2 SS304 150#	
all	13	5SB0K0GSFO	HEXREDBSH 1/2X3/8X5/8 304 150#	
all	14	W2 02555A	WELD X-MACH PIPE NOZZLE 3/8D	

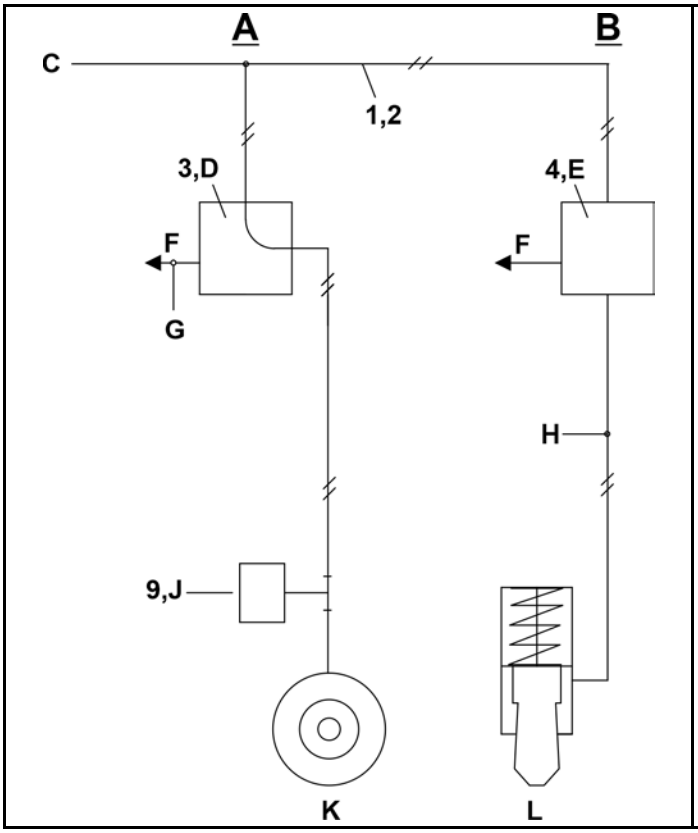
11 Pneumatic Assemblies

BPWXBP01 / 2021192A BPWXBP01.1 0000344072 B.2 C.2 8/30/23, 11:57 AM Released

Pneumatic Schematic

1 Sheet

36026X8R, 42026X7R, 42032X7R



Legend

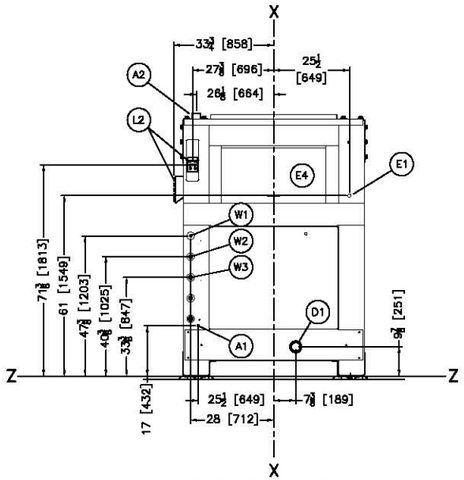
A . . . Door seal
B . . . Door latch
C . . . Compressed air, 85-125 PSI (5.8-8.5 ATU)
D . . . Usually open
E . . . Usually closed
F . . . Exhaust
G . . . The door seals are deflated when the pilot valve is energized.
H . . . The spring locks the door closed latch. The door closed latch is opened when the pilot valve is energized.
J . . . Pressure switch. Close at 62 lbs.
K . . . Pneumatic bellows actuator
L . . . Door latch

Table 45. Parts List—Pneumatic Schematic

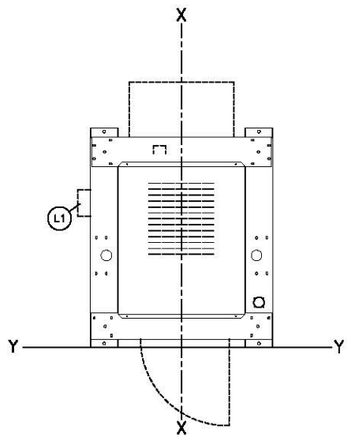
Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.

Used In	Item	Part Number	Description/Nomenclature	Comments
Reference Assemblies				
	A	AVA75X7J	36/42 VALVE SET X7/8J	
Components				
all	1	X3 01507D	MANIFOLD BLOCK MACH 6 PORTS	
all	2	03 LF1X5K	LOCK BAR=VALVE SET 10 STAT	
all	3	96R302B71	1/8" AIRPILOT 3W NO 240V50/60	
all	4	96R301B71	1/8" AIRPILOT 3W NC 240V50/60	
all	5	09N082A	PRESSW NASON CLOSE @ 62 LB.	

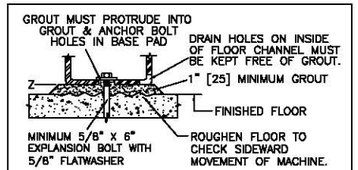
12 Dimensional Drawings



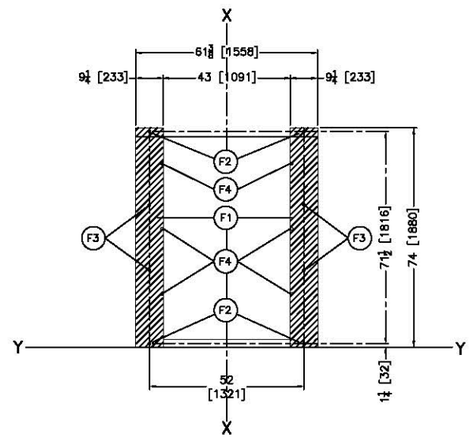
REAR VIEW



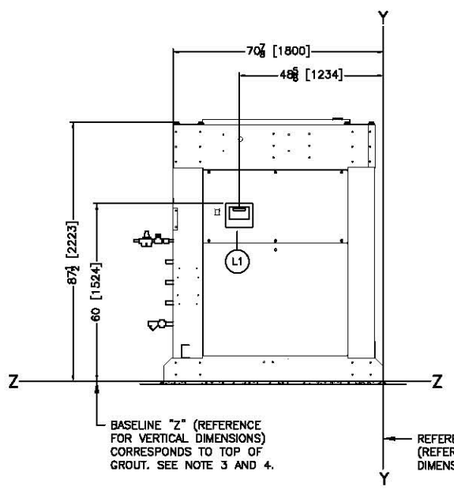
PLAN VIEW



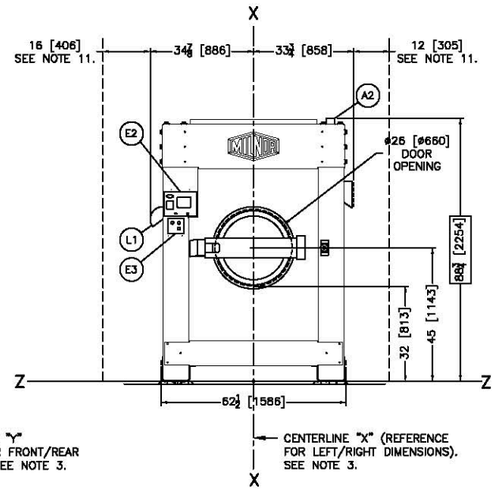
INSTALLATION DETAIL



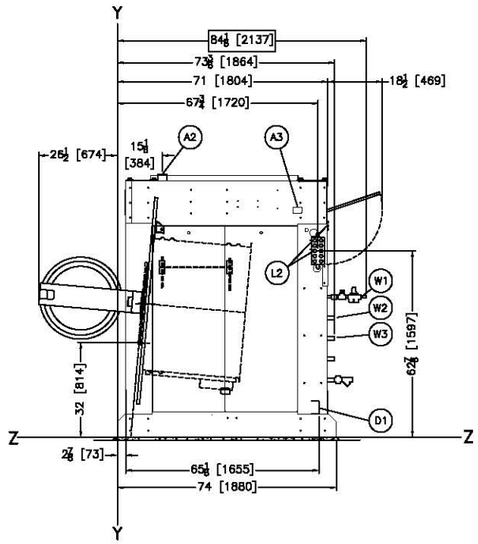
FOUNDATION PLAN



LEFT VIEW



FRONT VIEW



RIGHT VIEW

ITEM	LEGEND
A1	MAIN AIR, 1/4" NPT CONNECTION
A2	VENT, 3" O.D. DIAMETER
A3	VENT FOR PERISTALTIC
D1	ELECTRIC DRAIN TO REAR, 3" PIPE SOCKET JOINT
E1	MAIN ELECTRICAL CONNECTION
E2	MillTouch–EX™ TOUCH SCREEN CONTROLLER
E3	HIGH VOLTAGE CONTROL PANEL
E4	MAIN ELECTRICAL CONTROL BOX
F1	BASEPADS, SEE NOTE 8.
F2	(4) 1–1/16" DIAMETER ANCHOR BOLT HOLES, USE 5/8" X 6" BOLTS MINIMUM.
F3	GROUT HOLES
F4	DRAIN HOLES
L1	STANDARD SOAP CHUTE
L2	STANDARD LIQUID SUPPLY WITH 15 LIQUID CHEMICAL SIGNALS USES 6 PORT & 10 PORT MANIFOLDS. SEE NOTE 10.
W1	HOT WATER FOR FLUSHING, 3/4" NPT CONNECTION, ELECTRICALLY OPERATED. PRESSURE REGULATOR ASSEMBLY REMOVED FOR SHIPMENT, MUST BE ADDED AT INSTALLATION.
W2	HOT WATER INLET, ELECTRIC, 1–1/4" NPT CONNECTION
W3	COLD WATER INLET, ELECTRIC, 1–1/4" NPT CONNECTION

NOTES

11 12"[305] MINIMUM CLEARANCE IS RECOMMENDED FOR SERVICE TO MACHINE ON SIDES NOT REQUIRING OPERATOR ACCESS. 16"[406] MINIMUM IS RECOMMENDED FOR OPERATOR ACCESS TO SOAP SUPPLY. SEE LOCAL ELECTRIC CODES FOR REQUIRED CLEARANCES.

10 LIQUID SUPPLY MANIFOLDS COME WITH THREE SETS FITTINGS: ONE SET OF 3/8" FITTINGS, ONE SET OF 1/2" FITTINGS, AND ONE SET OF PLUGS WHICH ARE SHIPPED ON MACHINE.

9 SHIM TO LEVEL THE MACHINE AND ALLOW FOR 1" [25] MINIMUM GROUT. ANCHOR ALL LABELED ANCHOR BOLT HOLES, USE 5/8" X 6" BOLTS, MINIMUM. SEE INSTALLATION MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS.

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

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 FLOR 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

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42026X7R

DWG BD4226X7CE 2020336D

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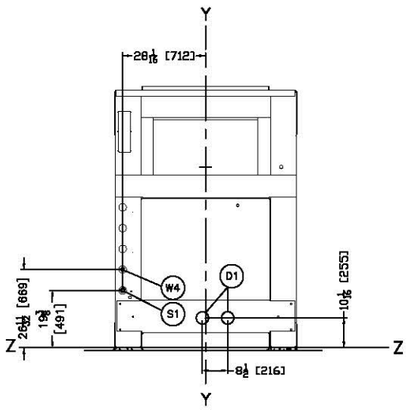
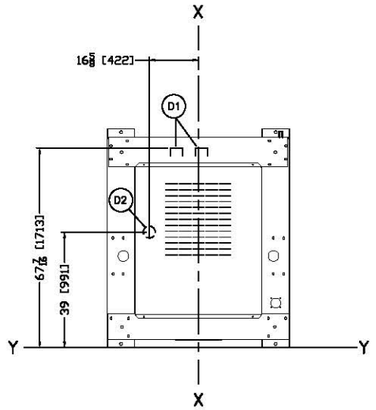
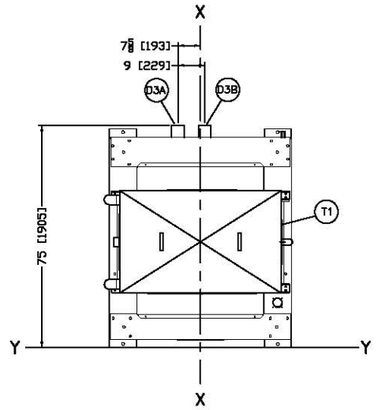
FAX 504/468–3094, Email: milnorinfo@milnor.com



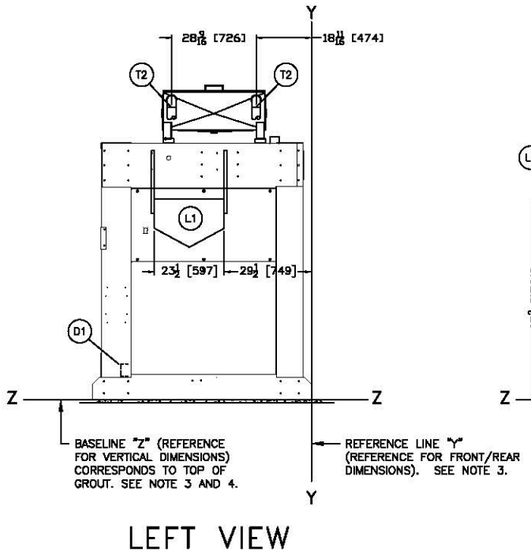
REAR VIEW



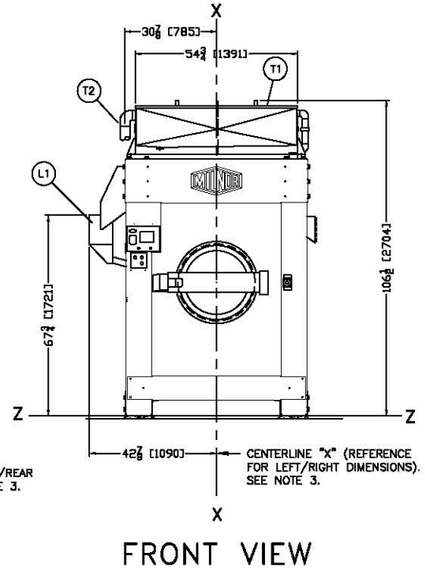
PLAN VIEW



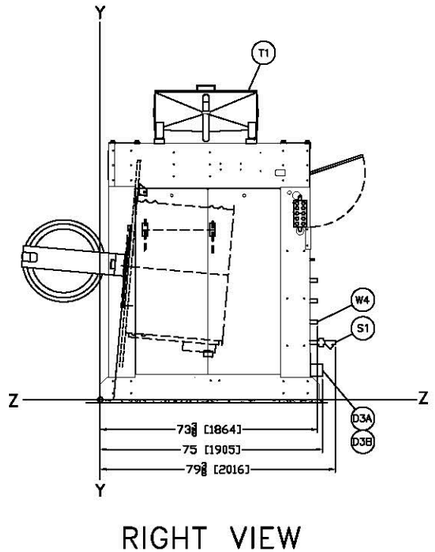
PLAN VIEW
RECIRCULATION



LEFT VIEW



FRONT VIEW



RIGHT VIEW

ITEM	LEGEND
W4	THIRD (OR REUSE) WATER INLET, ELECTRICALLY OPERATED, 1-1/4" NPT CONNECTION
T2	REUSE TANK OVERFLOW TO SEWER, 3"ID HOSE TO SEWER PROVIDED
T1	OPTIONAL REUSE TANK
S1	OPTIONAL AIR-OPERATED STEAM INLET, Y-STRAINER REMOVED REMOVED FOR SHIPPING MUST BE ADDED AT INSTALLATION, 1"NPT CONNECTION
L4	5 COMPARTMENT SUPPLY
D3B	DUAL DRAINS FOR RECIRCULATION, DRAIN TO REUSE, 3" PIPE SOCKET JOINT
D3A	DUAL DRAINS FOR RECIRCULATION, DRAIN TO SEWER, 3" PIPE SOCKET JOINT
D2	OPTIONAL SINGLE DRAIN DOWN, 3" PIPE SOCKET JOINT CONNECTION
D1	OPTIONAL DUAL DRAIN, 3" PIPE SOCKET JOINT CONNECTIONS

NOTES

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

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

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42026X7R OPTIONS

DM 0 0.5M
INCHES 0 12 24

DWG# BD4226X7CB
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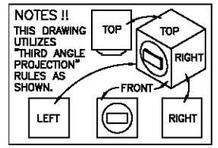
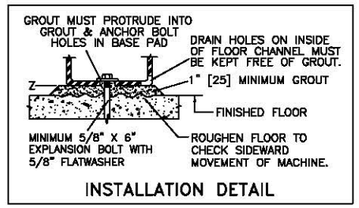
NOTES !!
THIS DRAWING UTILIZES "THIRD ANGLE PROJECTION" RULES AS SHOWN.





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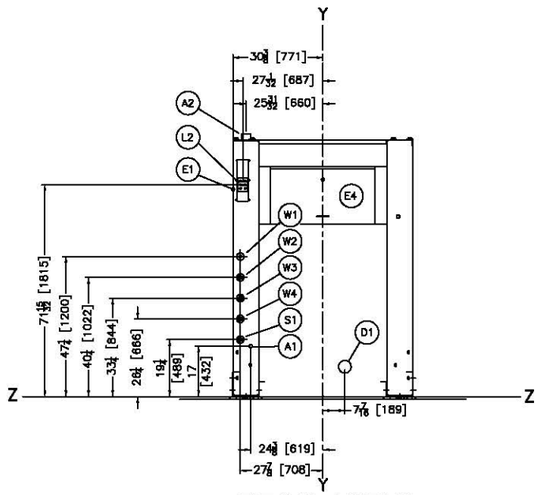
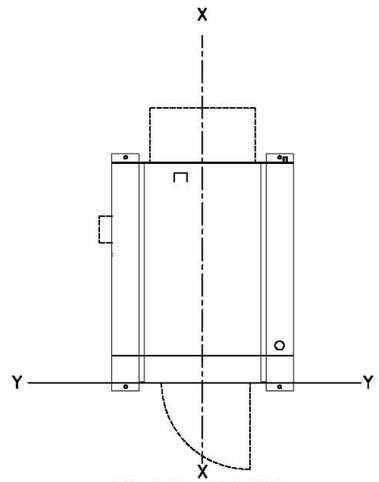
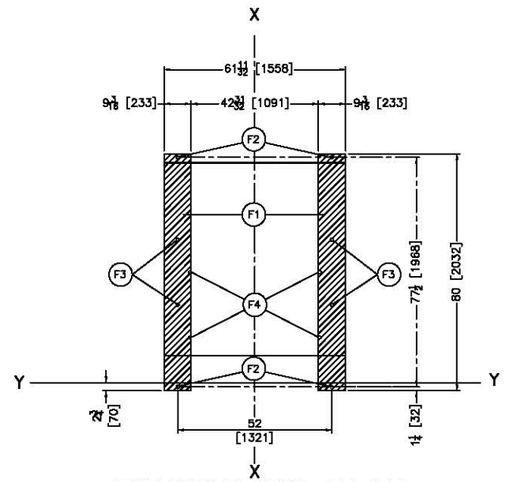


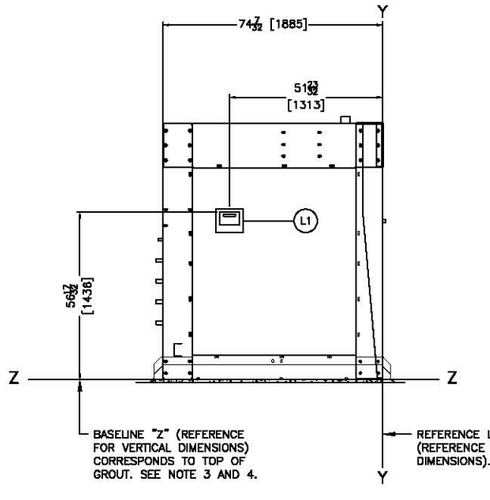
REAR VIEW



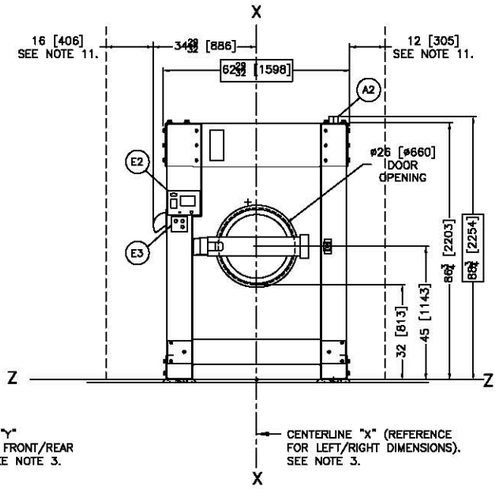
PLAN VIEW



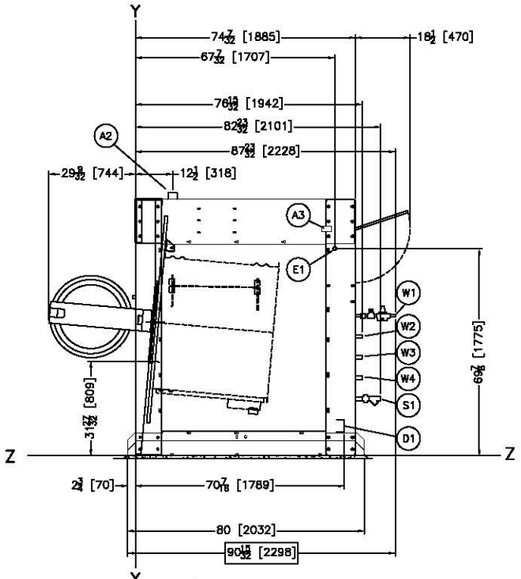
FOUNDATION PLAN



LEFT VIEW



FRONT VIEW



RIGHT VIEW

ITEM	LEGEND
W4	OPTIONAL THIRD (REUSE) WATER INLET, 1-1/4" NPT
	CONNECTION
W3	COLD WATER INLET, 1-1/4" NPT CONNECTION
W2	HOT WATER INLET, 1-1/4" NPT CONNECTION
W1	HOT WATER FOR SUPPLY, 3/4" NPT CONNECTION, PRESSURE
	REGULATOR ASSEMBLY, REMOVED FOR SHIPPING, MUST BE
	ADDED AT INSTALLATION.
S1	OPTIONAL STEAM INLET, 3/4" NPT CONNECTION. Y-STRAINER,
	REMOVED FOR SHIPPING, MUST BE ADDED AT INSTALLATION.
L2	STANDARD LIQUID SUPPLY INLETS, SEE NOTE 10.
L1	STANDARD SOAP CHUTE
F4	DRAIN HOLES
F3	GROUT HOLES
F2	(4) 1-1/16" DIAMETER ANCHOR BOLT HOLES, USE
	5/8" X 6" BOLTS MINIMUM.
F1	BASEPADS, SEE NOTE 8.
E4	MAIN ELECTRICAL CONTROL BOX
E3	HIGH VOLTAGE CONTROL PANEL
E2	MilTouch-EX™ TOUCH SCREEN CONTROLLER
E1	MAIN ELECTRICAL CONNECTION
D1	ELECTRIC DRAIN TO REAR, 3" PIPE SOCKET JOINT
A3	CHEMICAL SUPPLY VENT
A2	VENT, 3" O.D. DIAMETER
A1	MAIN AIR, 1/4" NPT CONNECTION

NOTES

11 12"[305] MINIMUM CLEARANCE IS RECOMMENDED FOR SERVICE TO MACHINE ON SIDES NOT REQUIRING OPERATOR ACCESS. 16"[405] MINIMUM IS RECOMMENDED FOR OPERATOR ACCESS TO SOAP SUPPLY. SEE LOCAL ELECTRIC CODES FOR REQUIRED CLEARANCES.

10 STANDARD LIQUID SUPPLY INLETS COMES WITH THREE SETS OF FIVE FITTINGS. ONE SET OF 3/8" FITTINGS, ONE SET OF 1/2" FITTINGS, AND ONE SET OF PLUGS WHICH ARE SHIPPED ON MACHINE.

9 SHIM TO LEVEL THE MACHINE AND ALLOW FOR 1" [25] MINIMUM GROUT. ANCHOR ALL LABELED ANCHOR BOLT HOLES. USE 5/8" X 6" BOLTS, MINIMUM. SEE INSTALLATION MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS.

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

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

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DM 0 0.5M 1M
INCHES 0 12 24 36

DWG# BD4232X7CE
2014133D

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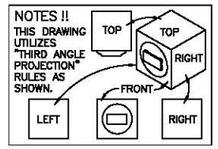
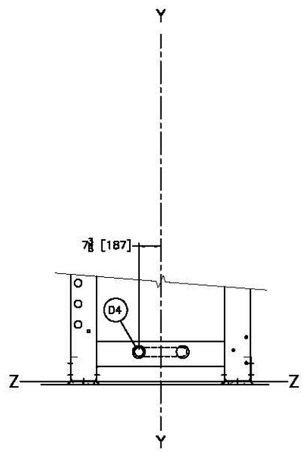
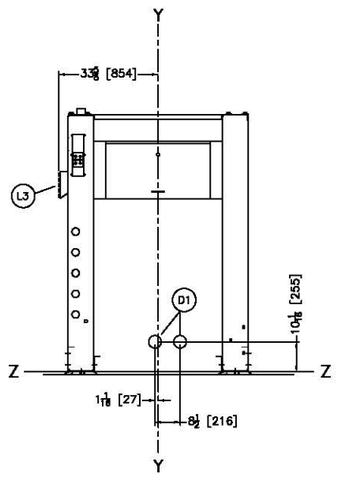
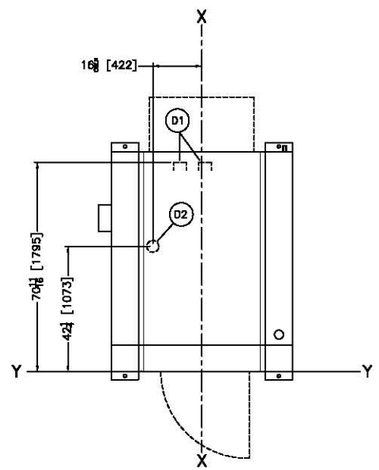




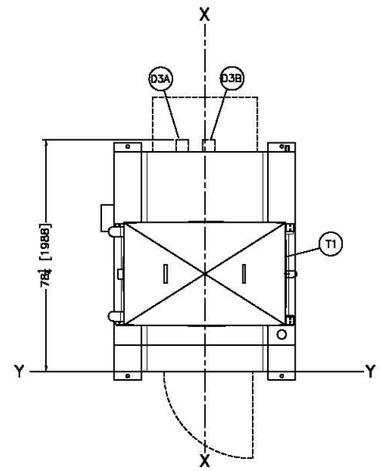
PARTIAL
REAR VIEW



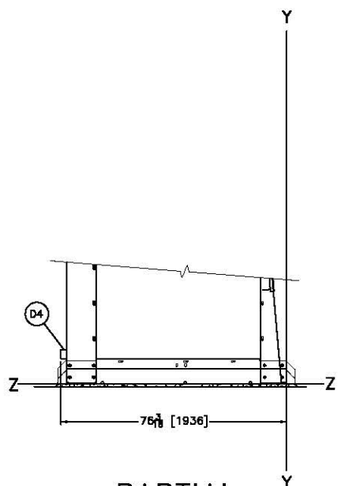
REAR VIEW



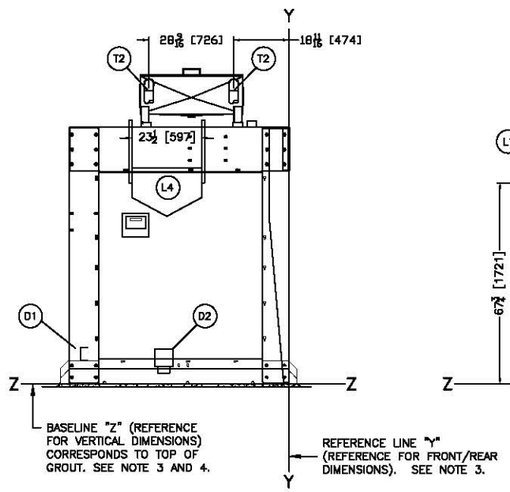
PLAN VIEW



PLAN VIEW
RECIRCULATION



PARTIAL
LEFT VIEW



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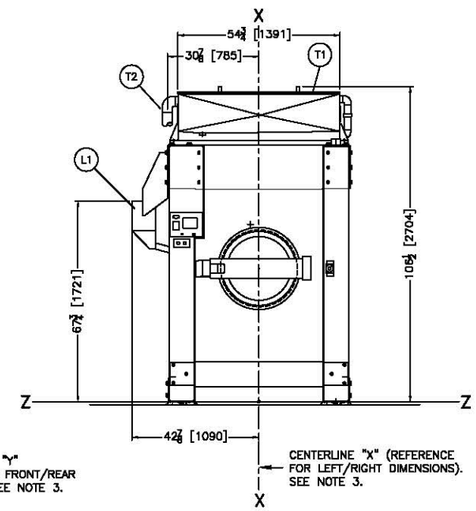
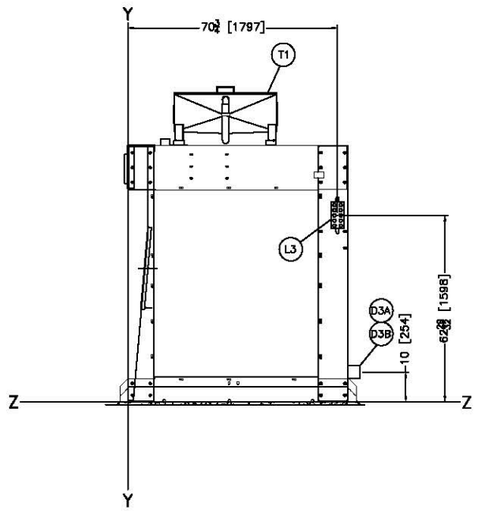


FRONT VIEW



RIGHT VIEW

ITEM	LEGEND
T2	REUSE TANK OVERFLOW TO SEWER, 3"ID HOSE TO SEWER PROVIDED
T1	OPTIONAL REUSE TANK
L4	5 COMPARTMENT SUPPLY
L3	ADDITIONAL LIQUID SUPPLY INLETS FOR 15 PORT PERISTALTIC
D4	OPTIONAL SINGLE AIR-OPERATED DRAIN, 3" PIPE SOCKET JOINT CONNECTION
D3B	DUAL DRAINS FOR RECIRCULATION, DRAIN TO REUSE, 3" PIPE SOCKET JOINT
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INCHES 0 12 24 36

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13 Dimensional Drawings: Pedestals

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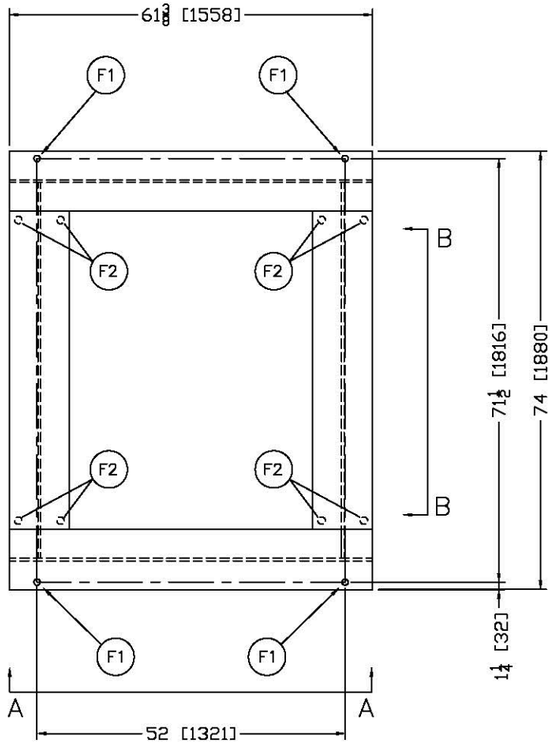
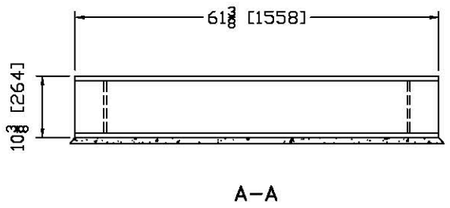
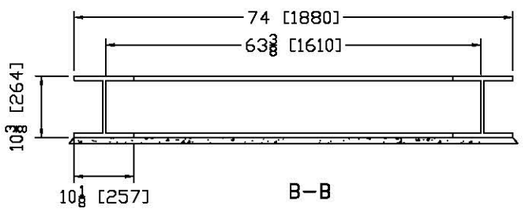
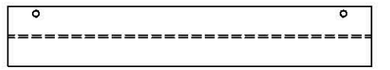
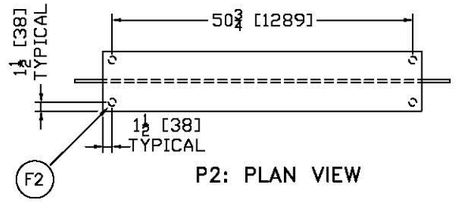






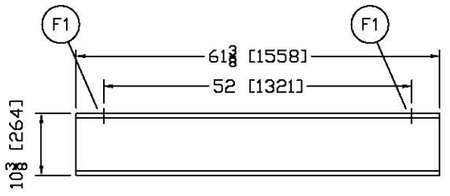


P1: PLAN VIEW

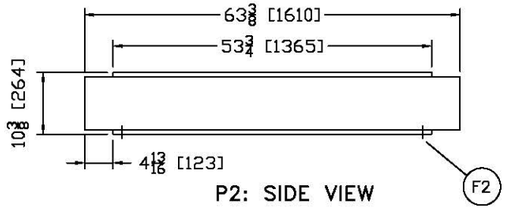


P2: PLAN VIEW

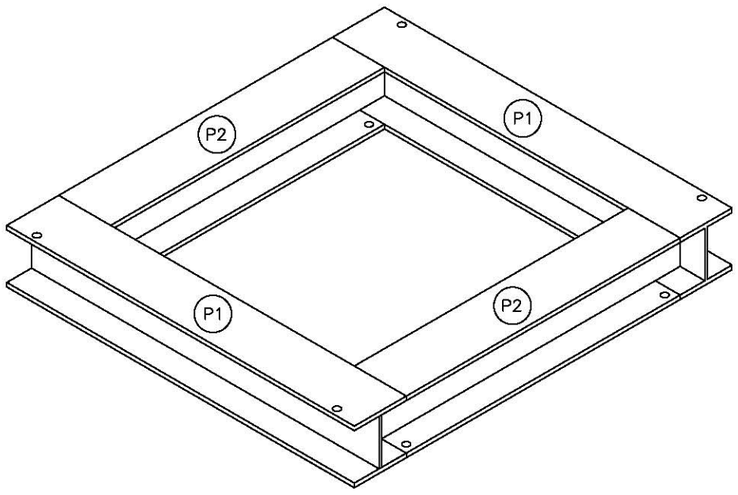
(HOLES IN P2 BOTTOM FLANGE ONLY)



P1: SIDE VIEW



P2: SIDE VIEW



W10x68
RECOMMENDED

ITEM	LEGEND
F2	1 1/4" [32] GROUT HOLES, PEDESTAL BOTTOM FLANGE TO TOP OF GROUT
F1	1 1/4"[32] ANCHOR BOLT HOLES, PEDESTAL TOP FLANGE TO MACHINE

NOTES

5 THIS DRAWING SHOWS THE PEDESTAL DESIGN FOR MILNOR 42032F7J/F7P, F7W MACHINES. THIS BASE MAY BE USED WHENEVER LOCAL CONDITIONS ARE SUCH THAT MACHINE OPERATION WOULD BE ENHANCED BY RAISING THE MACHINE SETTING TO 3/8" [264] 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 FRAME.

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 DISTORATION 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.

1 NUMBERS IN BRACKETS [ ] DENOTE DIMENSIONS IN MILLIMETERS.

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.

PEDESTAL BASE 42026X7R

SCALE: 1" = 1'–0"

DWG# BD4226XBASBE 2014077D

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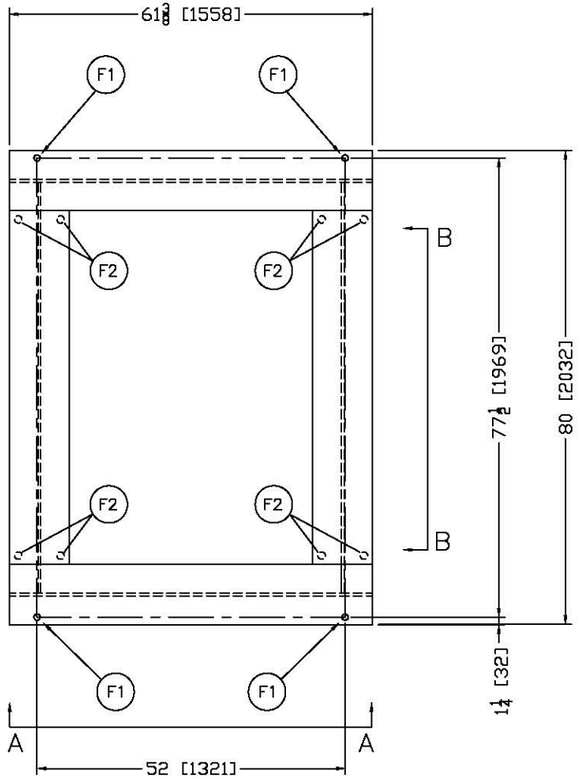
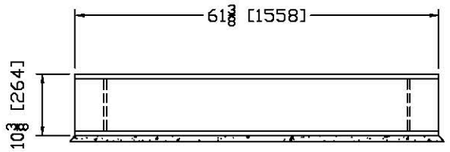
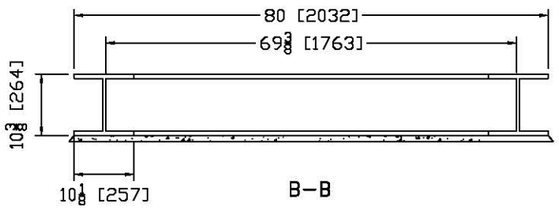
FAX 504/469-1849, Email: milnorinfo@milnor.com

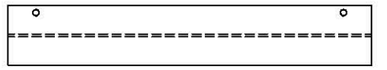




A–A

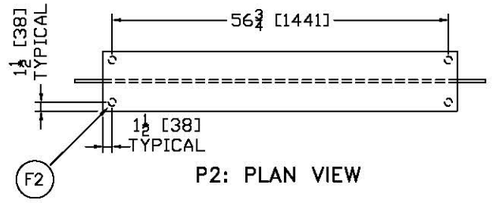


B–B



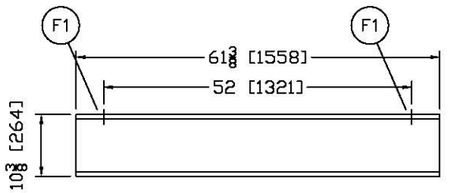
(FOR HOLES IN P1, SEE ASSEMBLED PLAN)

P1: PLAN VIEW

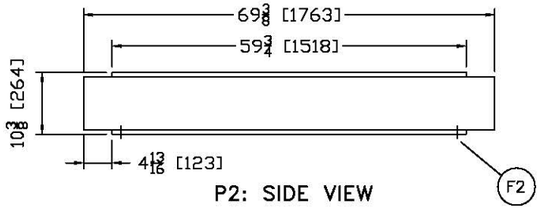


P2: PLAN VIEW

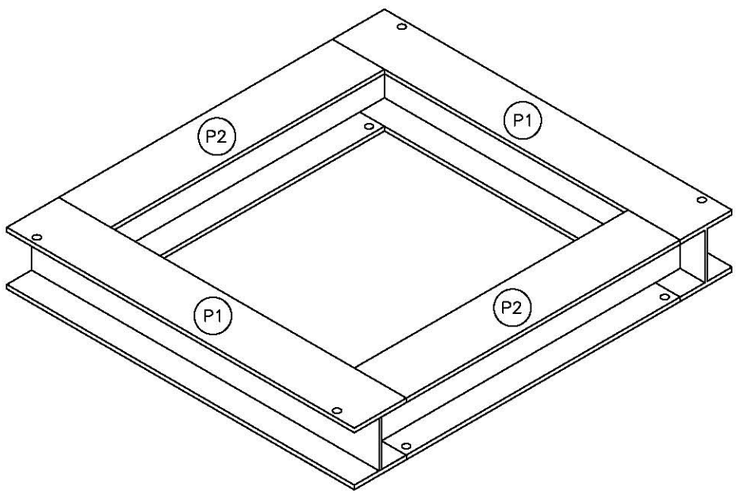
(HOLES IN P2 BOTTOM FLANGE ONLY)



P1: SIDE VIEW



P2: SIDE VIEW



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PEDESTAL BASE 42032X7R

SCALE: 1" = 1'–0"

DWG# BD4232XBASBE 2014077D

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