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Mechanical Parts

MP1504 (W/96DH462A)

Effective 5/2/2023

Single Manifold with Single Pump



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



Table of Contents

MAPMPX40DE2/24393A

| Page | Description | Document |
|-----------|---|--------------------|
| 1 | Limited Standard Warranty | BMP720097/2019036 |
| 2 | How to Get the Necessary Repair Components | BIUUUD19/20081231 |
| 3 | Trademarks | BNUUUU02/2023296A |
| 4 | Installation Tag Guidelines - Single Stage Press | BNP1UI05/2020162A |
| 8 | Safety Placard Use and Placement - MP15xx, MPL5xx, MP16xx, MPL6xx, MP1Axx | BMP040036/2020275B |
| 10 | Safety Placard Use and Placement ISO - MP15xx, MPL5xx, MP16xx, MPL6xx, MP1Axx | BMP040037/2020275B |
| 12 | Torque Requirements for Fasteners | BNUUUN02/2019125A |
| 19 | 1. Housing Assemblies | |
| 20 | Guards, Covers, & Cosmetics | BMP110001/2021055B |
| 23 | Use the Red Safety Supports for Maintenance —MP1540_, MPL5_, MPL6_, MP1A_ | BNP1UH02/2021344 |
| 25 | Can Safety Stands and Diaphragm Bar | BPP1UK01/2021385A |
| 28 | Unload Safety Light Screen | BMP180009/2022566A |
| 31 | Ship With | BMP110004/2022484A |
| 33 | Safety Unload Door | BMP110005/2020275A |
| 36 | Frame Assembly | BMP110006/2020275B |
| 38 | Foot Assembly | BMP110007/2020275B |
| 39 | Reuse Tank | BMP110008/2020275B |
| 41 | 2. Hydraulic Piping and Assemblies | |
| 42 | Hydraulic Schematic MP1540 - 96DH462A | BMP240009/2024393A |
| 44 | Manifold and Valves MP1540 - 96DH462A No Booster Modifactions 5/3/2023 | BMP240010/2024393A |
| 48 | Hydraulic Hoses - Single Manifold Presses with Single Pump | BMP200015/2022484A |
| 53 | Larger Bypass Valve and Retrofit | BMP190012/2021055A |
| 55 | Pressure Gauges | BMP160039/2020275A |
| 56 | Hydraulic Tank | BMP190010/2023084A |
| 61 | Hydraulic Oil Add | BNP1PI01/2021023A |
| 67 | Hydraulic Main Pump: MP1540 (Single Manifold and Skidded Hydraulics, Produced after 08/2020) | BPP1JH02/2020385A |
| 69 | Pre-fill Pipe & Valve | BMP200010/2022484A |
| 72 | Oil Cooler - Air Cooled | BMP110033/2021055A |
| 74 | Oil Cooler - Water Cooled | BMP110032/2021055A |
| 78 | Hydraulic Schematic - Ram Command™ (Delicate Goods) Option | BMP140002/2022142A |
| 81 | RAM Command™ Option Adjustment | BNP1UA01/2022132 |
| 88 | Delicate Goods Option (Ram Command™ Ram Control) | BPP1UH01/2021402A |
| 91 | Hydraulic Ram and Diaphragm | BMP220005/2022483A |

Table of Contents, continued

MAPMPX40DE2/24393A

| Page | Description | Document |
|-------------|---|--------------------|
| 99 | Load Chute Scupper with Adjustable Seal | BMP160024/2020275A |
| 104 | Receiving Chute and Can | BMP110040/2022484A |
| 111 | Counterbalance Valves and Tubing | BMP200017/2021055A |
| 115 | 3. Pneumatic Piping and Assemblies | |
| 116 | Pneumatic Schematic | BMP110042/2020275B |
| 119 | 4. Conveyor Assemblies | |
| 120 | Conveyor Bed | BMP110018/2020275B |
| 122 | Conveyor Unload End Assemblies | BMP110010/2020275B |
| 130 | Load End Rollers & Belt Tracking | BMP110011/2020275B |

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.

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BMP720097/19036

How to Get the Necessary Repair Components



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

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

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

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

To write to the Milnor factory:

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

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

— End of BIUUUD19 —

Trademarks

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

Table 1. Trademarks

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

End of document: BNUUUU02

Installation Tag Guidelines

BNP1UI05.R01 0000286959 A.2 4/13/20 3:55 PM Released

| | | | |
|----------|----------|---------|---------|
| MP1540CL | MP1540CR | MP1540L | MP1540R |
| MPL556CL | MPL556CR | MPL556L | MPL556R |
| MPL640CL | MPL640CR | MPL640L | MPL640R |
| MP1650CL | MP1650CR | MP1650L | MP1650R |
| MPL656CL | MPL656CR | MPL656L | MPL656R |
| MP1A50CL | MP1A50CR | MP1A50L | MP1A50R |



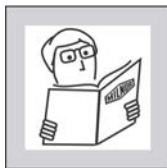
NOTICE: This information may apply to models in addition to those listed above. It applies to paper tags. It does not apply to the vinyl or metal safety placards, which must remain permanently affixed to the machine and replaced if no longer readable.

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.

Display or Action

Explanation



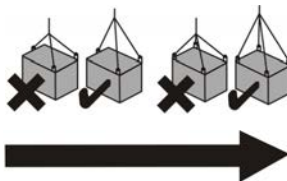
Read the manuals before proceeding. This symbol appears on most tags. The machine ships with safety, operator, and routine maintenance guides for customer use. Milnor dealer manuals for installing, commissioning, and servicing the machine are also available from the Milnor Parts department.



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



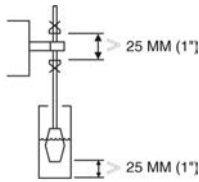
B2TAG94078: Do not forklift here; do not jack here; do not step here—whichever applies.



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).

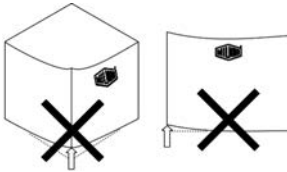


B2TAG94081: Motor must rotate in this direction. On single motor washer-extractors and centrifugal extractors, the drive motor must turn in this direction during draining and extraction. This tag is usually wrapped around a motor housing. If the motor turns in the opposite direction when the machine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

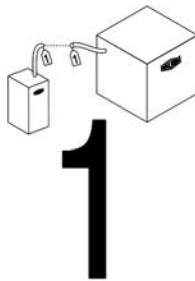


electrical hookup is incorrect and must be reversed as explained in the schematic manual.

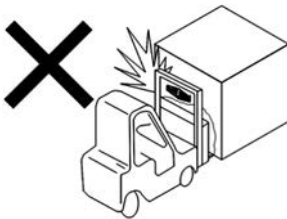
B2TAG94082: Maintain a 25 millimeter (1") minimum clearance between level float clips. Set low level so that the bottom of the float is always at least 25 millimeters (1") above the bottom of the float tube.



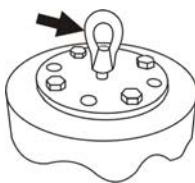
B2TAG94084: Do not lift from one corner of the machine, as this can cause the frame to rack, damaging it.



B2TAG94102 shown—others similar: Match up the components with this number. These tags are used to pair up electrical or hose connections between major components of a machine shipped disassembled.



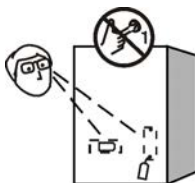
B2TAG94118: Do not strike shipping container during fork-lifting. Fragile components inside.



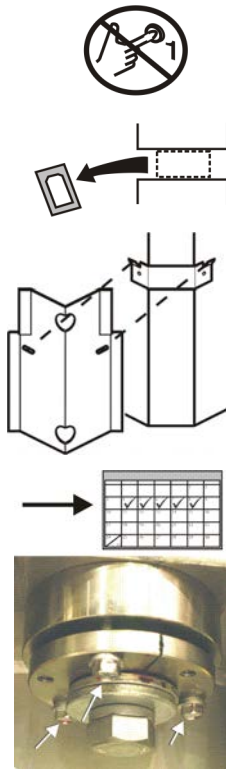
B2TAG98037: Read the installation instructions. Do not attempt to lift the machine with this component. Do not remove this component unless the ram cylinder is mounted to the top plate, the ram is raised fully **and the platen safety bars are installed**. Use this component to raise the ram cylinder for mounting, during installation.

35 - 40 psi
241316 - 275790 Pa (N/m²)

B2TAG98039: Verify that discharge door pressure is within the range shown.

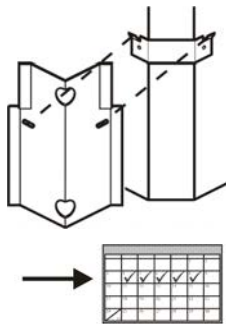


B2T2001028: Look for tags inside the machine. These tags may identify shipping restraints to be removed or components to be installed. Do not start the machine until these actions are completed.



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.

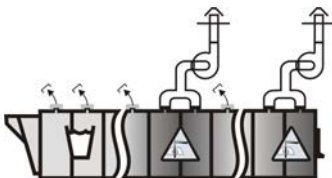
B2T2002016: Store safety stands as shown when not in use.



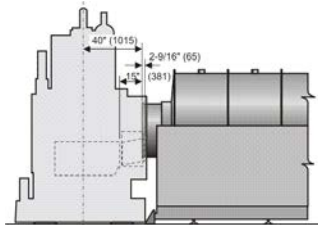
B2T2004028: Read the service instructions. Retighten the can bushing bolts to the torque shown after each of the first five days of operation following installation.



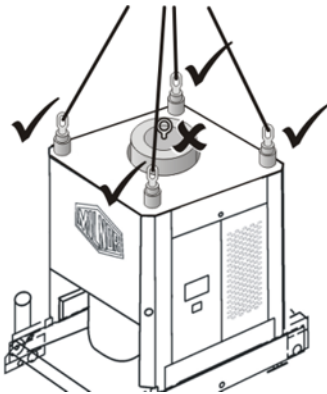
B2T2007017: Read the installation instructions. When mounting the ram, use Loctite moly paste on mounting surfaces. Torque the bolts three times as shown.



B2T2008001: Read the installation instructions. Remove temporary vent covers. Install a powered vent unit on the oxidation zone modules and a separate powered vent unit on the finish zone module and adjacent press, if there is one.



B2T2008006: When installing a G3 CBW tunnel washer behind a 1-stage press, maintain the dimensions shown.



B2T2009017: Lift the press frame from the eye bolts on the four columns. Never attempt to lift the press from the eye bolt on top of the ram cylinder. This eye bolt is used to raise the ram into position.

ATTENTION INSTALLERS! 

PRESS MUST BE HIGH ENOUGH
If you set the press at a low area of the floor, you may not have sufficient clearance for the press height.

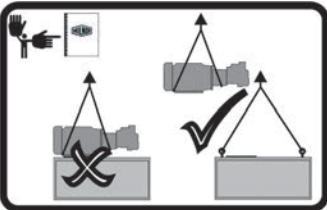
- Establish the System Zero Line on Z.
- Refer to the dimensional drawings of the various machines for required heights.

B2T2010023: Set the press frame in accordance with this instruction and the installation manual.



See document:
BMP160039,
or BMP160040
in your service
manual for
instructions.

B2T2016041: Find pressure gauge instructions here.



B2T2019003: Do not attempt to lift the pump and support weldment as one piece. Lift these components separately and perform all attachment and mounting on top of the press.



10µm



01 10771X: Oil added to the hydraulic tank must pass through a 10 micron filter, otherwise, the ram cylinder can be damaged.

End of document: BNP1UI05

Safety Placard Use and Placement

MP15xx, MP16xx, MP1Axx, MPL5xx, MPL6xx, MP1Axx

BMP040036/2020275B
(Sheet 1 of 2)

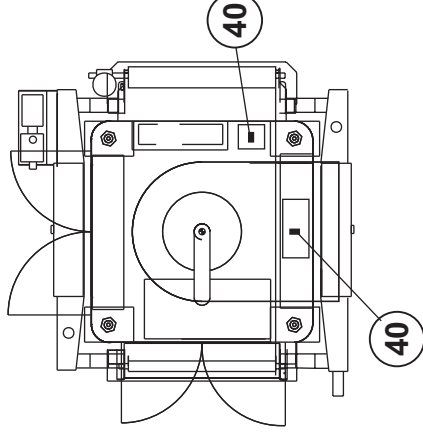
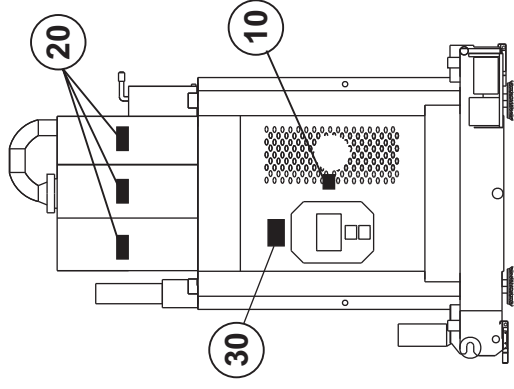


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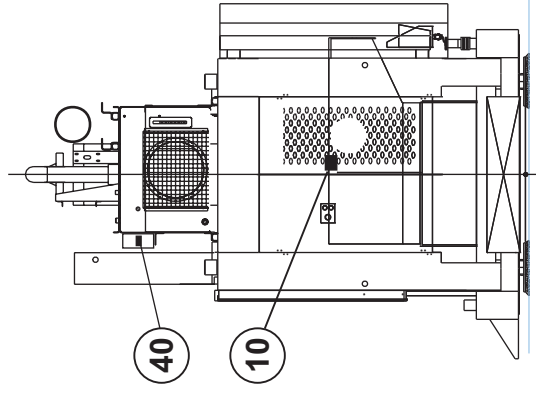
Notes:

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

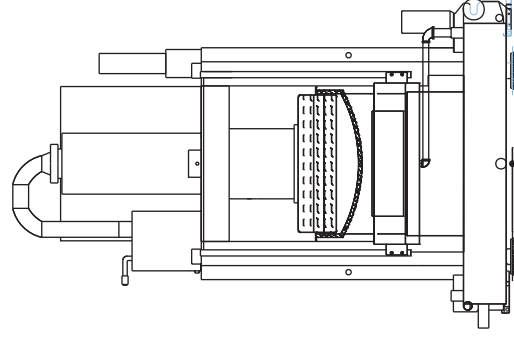


REAR VIEW

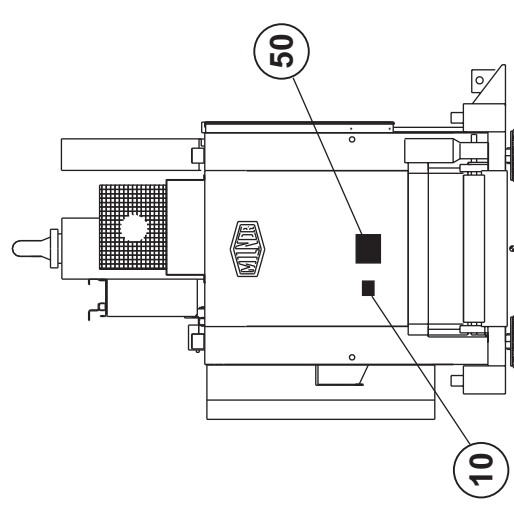
PLAN VIEW



LEFT VIEW



FRONT VIEW



RIGHT VIEW

Safety Placard Use and Placement

MP15xx, MP16xx, MP1Axx, MP5xx, MP6xx, MP1Axx

BMP040036/2020275B
(Sheet 2 of 2)



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Parts List—Safety Placard Placement

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

| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|------------------------------|----------|
| | | | -----COMPONENTS----- | |
| all | 10 | 01 10668A | NPLT:PRESS DOOR HAZARD-TCATA | |
| all | 20 | 01 10377A | NPLT:ELEC HAZARD LG-TCATA | |
| all | 30 | 01 10699A | NPLT:SERV HZRD-PLYEST-TCATA | |
| all | 40 | 01 10375B | NPLT:ELEC HAZARD SMALL-TCATA | |
| all | 50 | 01 10634A | NPLT:CONVEYOR HAZARDS-TCATA | |

Safety Placard Use and Placement ISO

MP15xx, MP16xx, MPL5xx, MPL6xx, MP1Axx

BMP040037/2020275B
(Sheet 1 of 2)



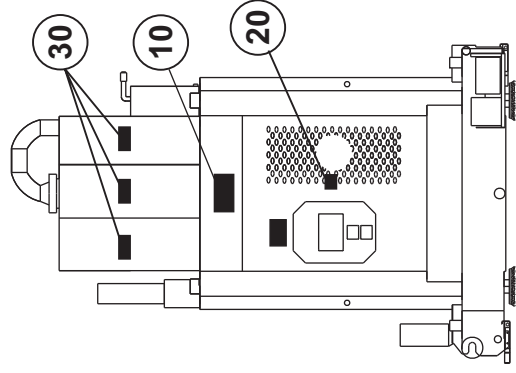
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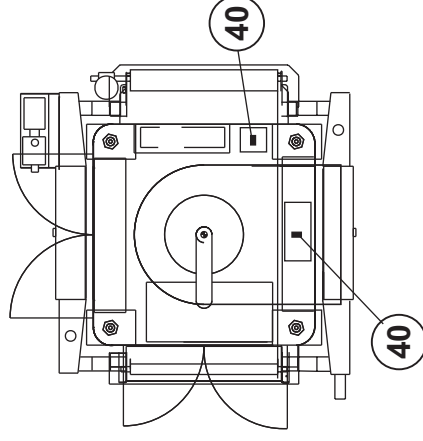
ISO Placards shown on this page

Notes:

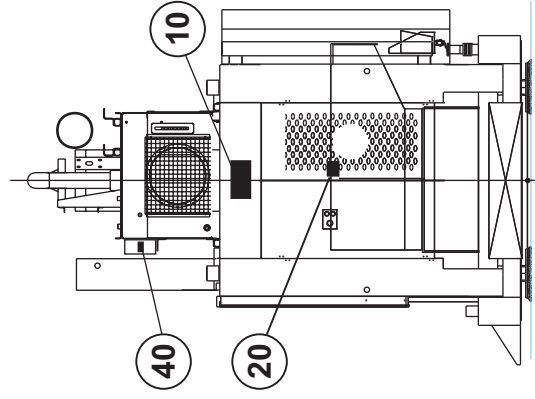
1. Replace placard immediately, if removed or unreadable.
2. Approximate locations of placards are shown. Mounting holes are provided on machine. If aluminum placard use #8 self-tapping screws.



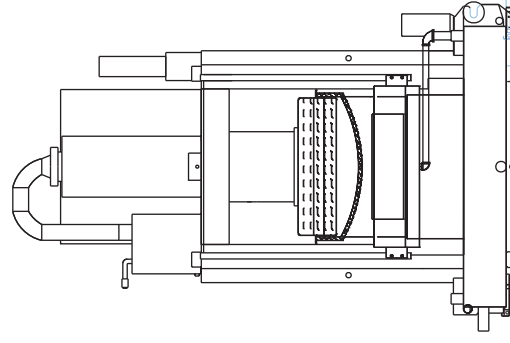
REAR VIEW



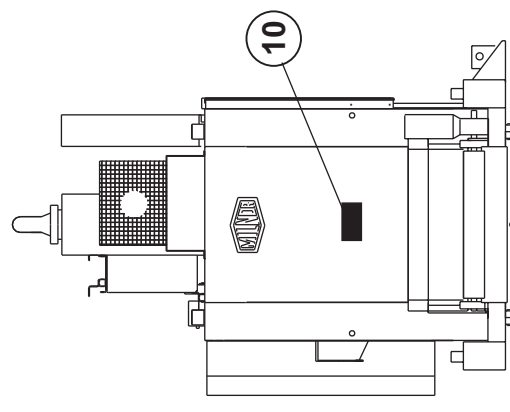
PLAN VIEW



LEFT VIEW



FRONT VIEW



RIGHT VIEW

Safety Placard Use and Placement ISO

BMP040037/2020275B
(Sheet 2 of 2)



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Parts List—Safety Placard Placement

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

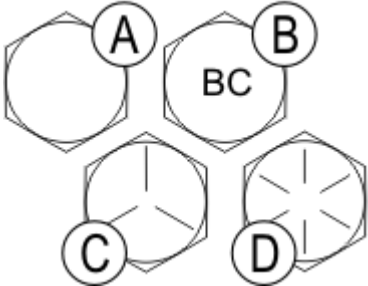
| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|------------------------------|----------|
| | | | -----COMPONENTS----- | |
| all | 10 | 01 10668X | NPLT:S.PRESS WARNINGS-ISO | |
| all | 20 | 01 10577X | NPLT:PRESS WRNG CRUSHING-ISO | |
| all | 30 | 01 10377 | NPLTE:"WARNING" 4X4 | |
| all | 40 | 01 10375 | NPLTE:"WARNING" 2X2 | |

Torque Requirements for Fasteners

BNUUUN02.C01 0000222451 A.3 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 1. The Bolts in Milnor® Equipment

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

1. Torque Values

BNUUUN02.C02 0000222449 A.3 B.3 1/2/20 2:14 PM Released

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).

1.1. Fasteners Made of Carbon Steel

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

1.1.1. Without a Threadlocker

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

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

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

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

| 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 | 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 | – | – |

Torque Values for Standard Fasteners Larger Than 5/16-inch Diameters and No Lubricant (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 |
| 9/16 x 12 | 70 | 95 | 109 | 148 | 154 | 209 | 134 | 182 |
| 9/16 x 18 | 78 | 106 | 121 | 164 | 171 | 232 | – | – |
| 5/8 x 11 | 97 | 131 | 150 | 203 | 212 | 287 | 186 | 252 |
| 5/8 x 18 | 110 | 149 | 170 | 231 | 240 | 325 | – | – |
| 3/4 x 10 | 172 | 233 | 266 | 361 | 376 | 510 | 329 | 446 |
| 3/14 x 16 | 192 | 261 | 297 | 403 | 420 | 569 | – | – |
| 7/8 x 9 | 167 | 226 | 429 | 582 | 606 | 821 | 531 | 719 |
| 7/8 x 14 | 184 | 249 | 473 | 641 | 668 | 906 | – | – |
| 1 x 8 | 250 | 339 | 644 | 873 | 909 | 1232 | 796 | 1079 |
| 1 x 12 | 274 | 371 | 704 | 954 | 994 | 1348 | – | – |
| 1 x 14 | 281 | 381 | 723 | 980 | 1020 | 1383 | – | – |
| 1 1/8 x 7 | 354 | 480 | 794 | 1077 | 1287 | 1745 | 1126 | 1527 |
| 1 1/8 x 12 | 397 | 538 | 891 | 1208 | 1444 | 1958 | – | – |
| 1 1/4 x 7 | 500 | 678 | 1120 | 1519 | 1817 | 2464 | 1590 | 2155 |
| 1 1/4 x 12 | 553 | 750 | 1241 | 1682 | 2012 | 2728 | – | – |
| 1 3/8 x 6 | 655 | 888 | 1469 | 1992 | 2382 | 3230 | 2085 | 2827 |
| 1 3/8 x 12 | 746 | 1011 | 1672 | 2267 | 2712 | 3677 | – | – |
| 1 1/2 x 6 | 869 | 1178 | 1949 | 2642 | 3161 | 4286 | 2767 | 3751 |
| 1 1/2 x 12 | 979 | 1327 | 2194 | 2974 | 3557 | 4822 | – | – |

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

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

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

| 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 |

Torque Values for Plated Fasteners Larger Than 5/16-inch Diameters and No Lubricant (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 12 | 205 | 274 | 528 | 716 | 746 | 995 | – | – |
| 1 x 14 | 210 | 280 | 542 | 735 | 765 | 1037 | – | – |
| 1 1/8 x 7 | 266 | 354 | 595 | 807 | 966 | 1288 | 845 | 1126 |
| 1 1/8 x 12 | 298 | 404 | 668 | 890 | 1083 | 1444 | – | – |
| 1 1/4 x 7 | 375 | 500 | 840 | 1120 | 1363 | 1817 | 1192 | 1590 |
| 1 1/4 x 12 | 415 | 553 | 930 | 1261 | 1509 | 2013 | – | – |
| 1 3/8 x 6 | 491 | 655 | 1102 | 1470 | 1787 | 2382 | 1564 | 2085 |
| 1 3/8 x 12 | 559 | 758 | 1254 | 1672 | 2034 | 2712 | – | – |
| 1 1/2 x 6 | 652 | 870 | 1462 | 1982 | 2371 | 3161 | 2075 | 2767 |
| 1 1/2 x 12 | 733 | 994 | 1645 | 2194 | 2668 | 3557 | – | – |

1.1.2. With a Threadlocker

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Table 5. 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 6. Torque Values if You Apply LocTite 222

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

Table 7. Torque Values if You Apply LocTite 242

| Dimension | The Grade of the Bolt | | | | | | | |
|-----------|-----------------------|-----|------------|-----|------------|-----|------------|-----|
| | Grade 2 | | Grade 5 | | Grade 8 | | Grade BC | |
| | Pound-Feet | N-m | Pound-Feet | N-m | Pound-Feet | N-m | Pound-Feet | N-m |
| 5/16 x 18 | 11 | 15 | 17 | 23 | 25 | 34 | 22 | 30 |
| 5/16 x 24 | 13 | 18 | 19 | 26 | 27 | 37 | 27 | 37 |
| 3/8 x 16 | 20 | 27 | 31 | 42 | 44 | 60 | 38 | 52 |
| 3/8 x 24 | 23 | 31 | 35 | 47 | 50 | 68 | – | – |
| 7/16 x 14 | 32 | 43 | 49 | 66 | 70 | 95 | 61 | 83 |
| 7/16 x 20 | 36 | 49 | 55 | 75 | 78 | 106 | – | – |
| 1/2 x 13 | 49 | 66 | 75 | 102 | 107 | 145 | 93 | 126 |

Torque Values if You Apply LocTite 242 (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 |
| 1/2 x 20 | 55 | 75 | 85 | 115 | 120 | 163 | – | – |
| 9/16 x 12 | 70 | 95 | 109 | 148 | 154 | 209 | 134 | 182 |
| 9/16 x 18 | 78 | 106 | 121 | 164 | 171 | 232 | – | – |
| 5/8 x 11 | 97 | 132 | 150 | 203 | 212 | 287 | 186 | 252 |
| 5/8 x 18 | 110 | 149 | 170 | 230 | 240 | 325 | – | – |

Table 8. Torque Values if You Apply LocTite 262

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

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

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

Table 10. Torque Values if You Apply LocTite 277

| 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 | – | – |

1.2. Stainless Steel Fasteners

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Table 11. 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 12. 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 |

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.

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

3. How to Apply a Threadlocker

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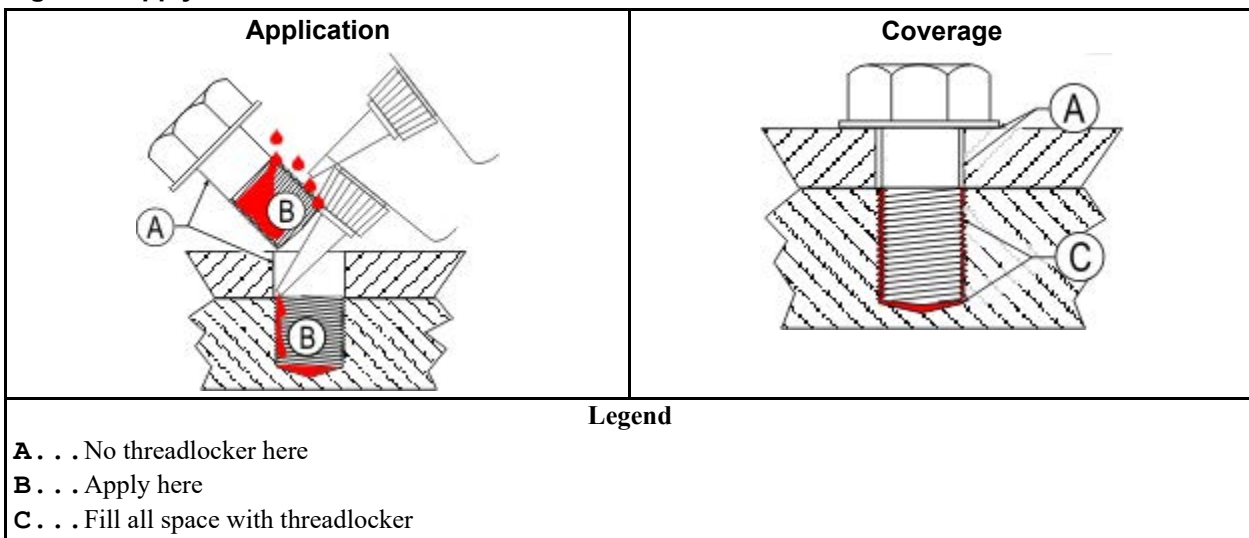


CAUTION: Malfunction Hazard — Heat, vibration, or mechanical shocks can let the fasteners loosen if you do not apply the threadlocker correctly. Loose fasteners can cause malfunctions of the equipment.

- ▶ 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 2. Apply Threadlocker in a Blind Hole



3.1. Blind Holes

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- Apply the threadlocker down the threads to the bottom of the hole.
- Apply the threadlocker to the bolt.
- Tighten the bolt to the value shown in the correct table ([Threadlocker by the Diameter of the Bolt](#) (see below Note) This topic can be found in Milnor document elsewhere to [Torque Values for Stainless Steel Fasteners 5/16-inch and Smaller](#) This topic can be found in Milnor document elsewhere).

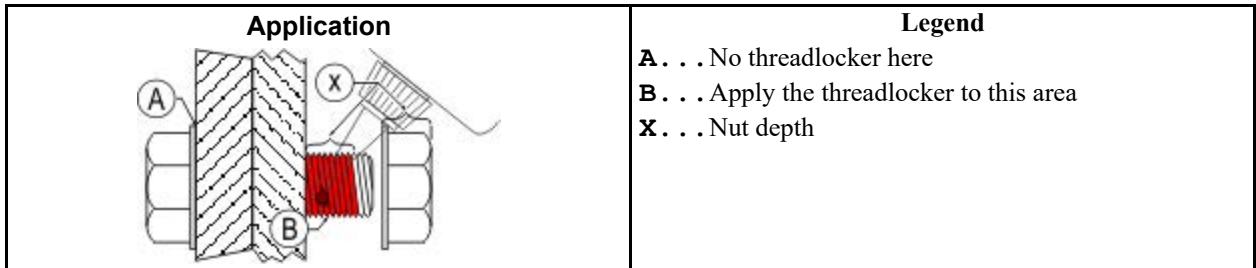
3.2. Through Holes

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- Put the bolt through the assembly.
- Apply the threadlocker only to the bolt thread area that will engage the nut.

- Tighten the bolt to the value shown in the correct table ([Threadlocker by the Diameter of the Bolt](#) (see below Note) This topic can be found in Milnor document elsewhere to [Torque Values for Stainless Steel Fasteners 5/16-inch and Smaller](#) This topic can be found in Milnor document elsewhere).

Figure 3. Apply Threadlocker in a Through Hole



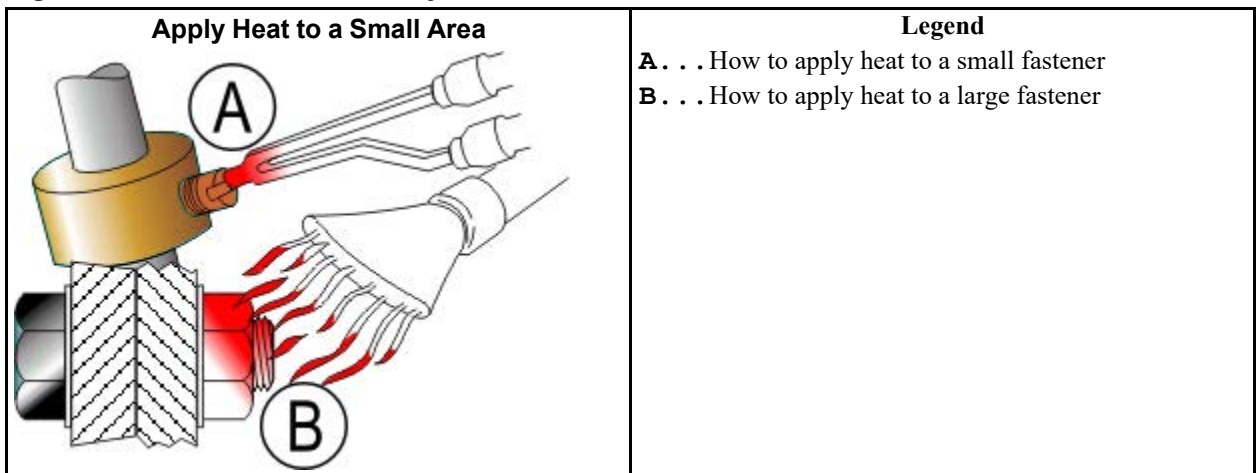
3.3. Disassembly

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

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

Figure 4. Use heat for disassembly of fasteners with threadlocker.



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Housing Assemblies

1

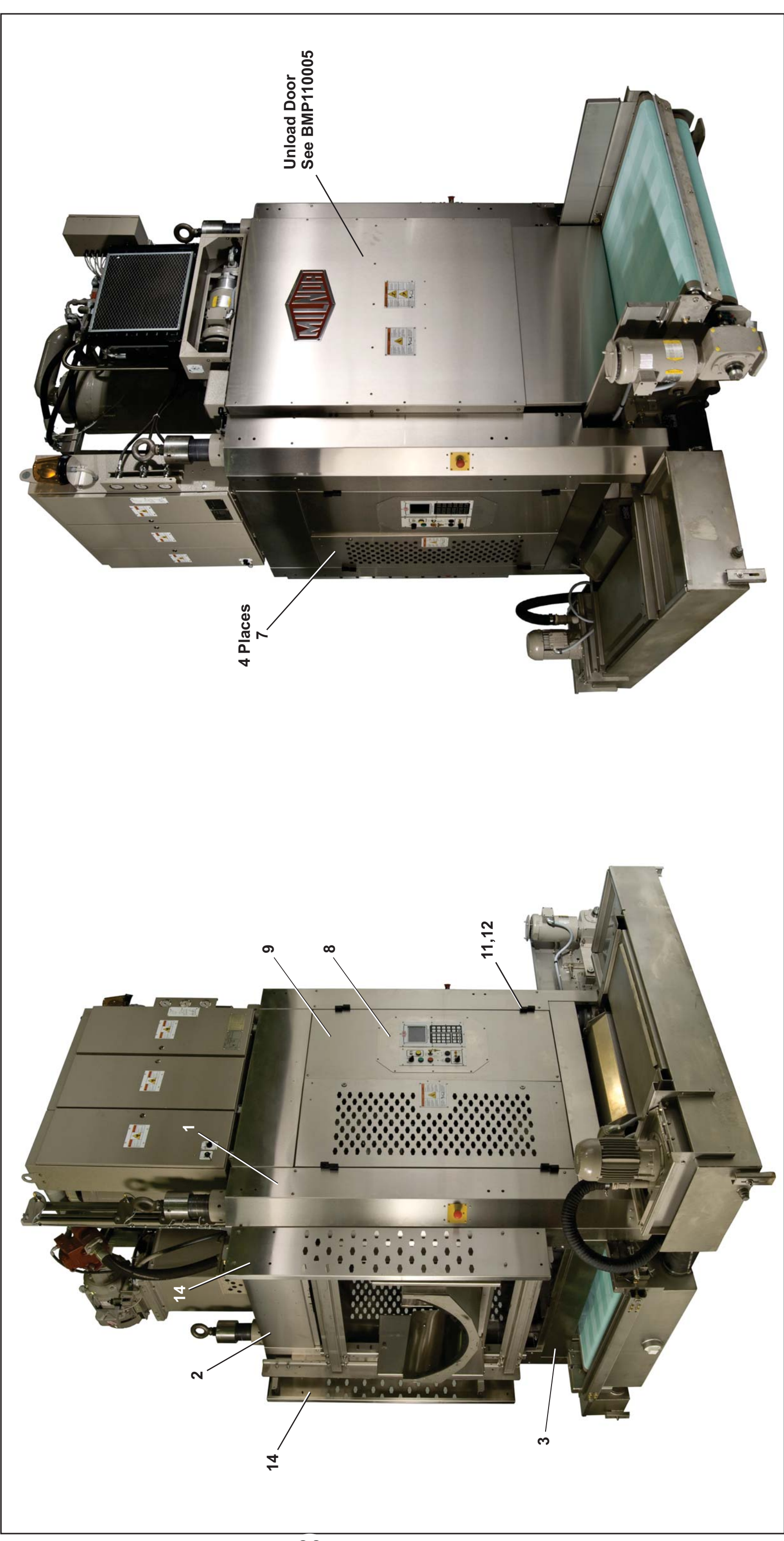
Guards, Covers, & Cosmetics
MP1540, MP1556, MP1640, MP1650, MP1656
MPL550, MPL556, MPL640, MPL650, MPL656

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(1/3)



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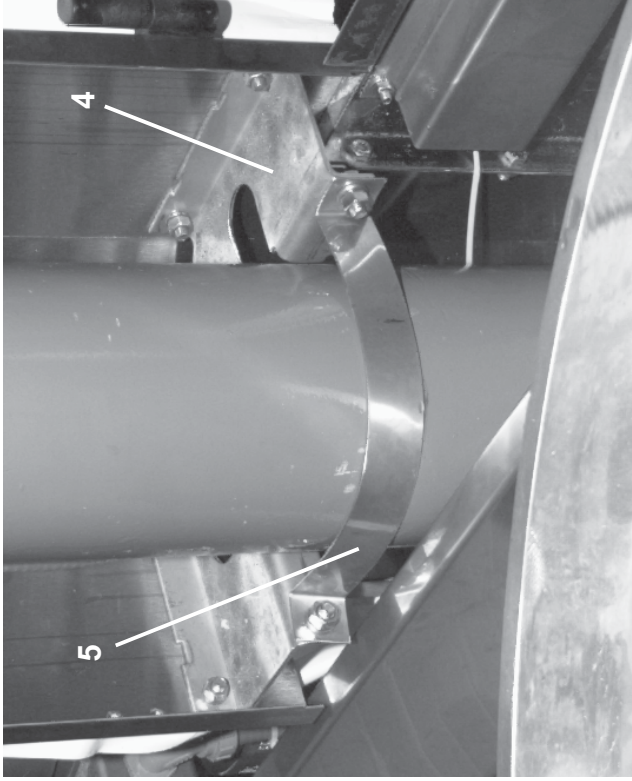
Litho in U.S.A.



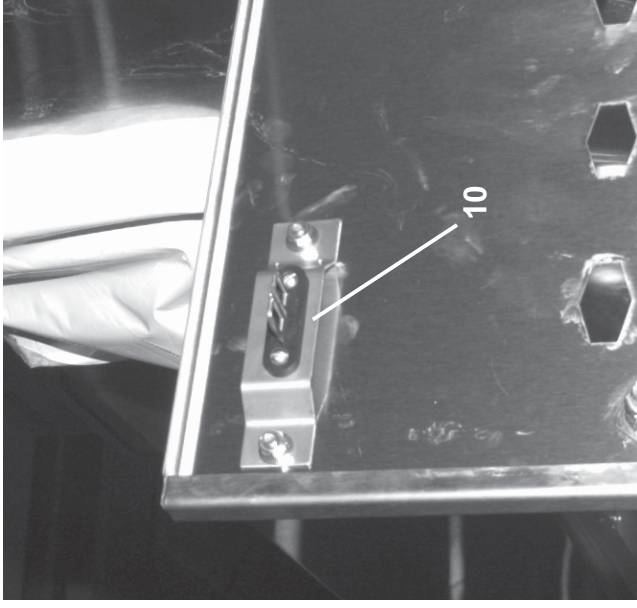
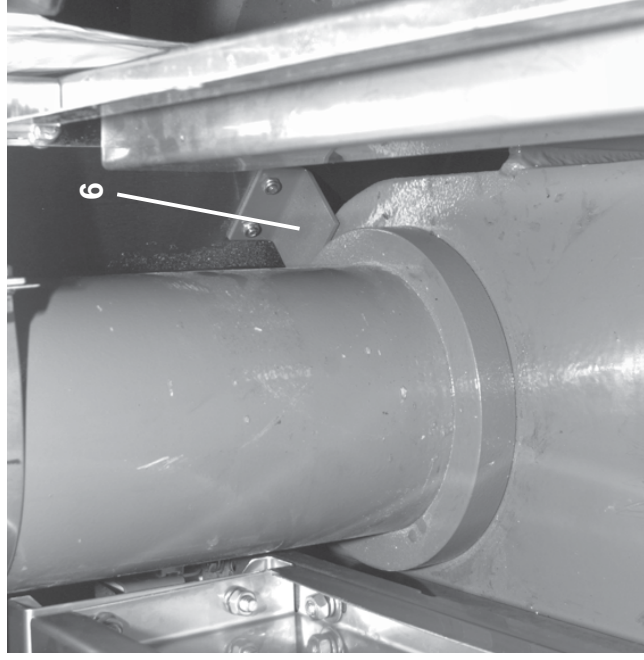


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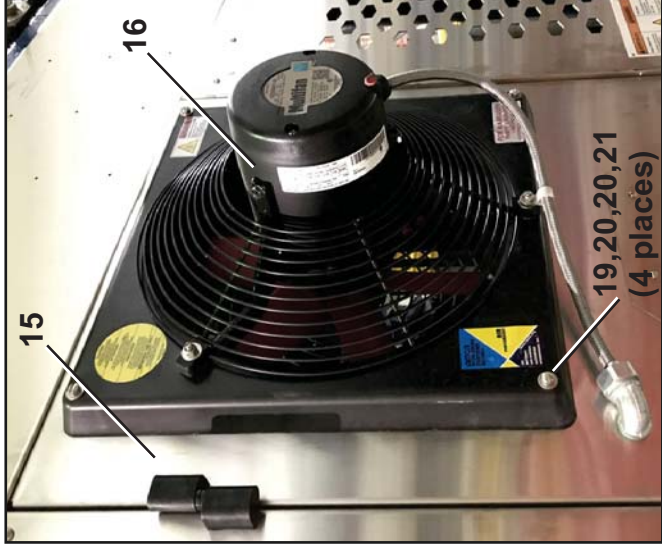
Typical Cosmetic to Frame Connections



Typical Door Striker Mounting



Safety Stand Storage Bracket
 (Safety Stands, See BMP110003)



Door with Fan

Guards, Covers, & Cosmetics
MP1540, MP1556, MP1640, MP1650, MP1656
MPL550, MPL556, MPL640, MPL650, MPL656

BMP110001/2021055B
 (3 / 3)



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| Used In | | Item | Part Number | Description | Comments |
|--|----|------------|------------------------------------|-------------|--|
| <p>Parts List—Guards, Covers, & Cosmetics Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.</p> | | | | | |
| | A | ACS10000 | SSPRESS COSMETIC ASSY | ASSEMBLIES | MP1540,MP1640,MP1650 MPL640, MPL650 |
| | B | ACS10000A | COSMETIC ASSY W/ BOOSTER PUMP | | MP1556,MP1656 MPL556, MPL656 |
| | C | ACS10019A | DOOR W/FAN ON LF SIDE-MP15/16 R,CR | | All |
| -----COMPONENTS----- | | | | | |
| all | 1 | 07 10200 | COSMETIC COVER CORNER | | |
| all | 2 | 07 10210 | COSM TOP DOOR FRAME | | |
| all | 3 | 07 10284 | COSM CONV LOADEND FRAME | | |
| all | 4 | 07 10205 | COSM CORNER ATTACH BRKT | | |
| all | 5 | 07 10206 | COSMETIC CORNER STRAP | | |
| all | 6 | 07 10200B | COSMETIC CORNER SUPPORT BRKT | | |
| all | 7 | 07 10246 | SSPRESS DOOR PANEL | | |
| all | 8 | 07 10255A | SPRESSSS FLT REC SWPNL | | |
| all | 9 | 07 10256 | SSPRESS DOOR-CTRL PANNEL | | |
| all | 10 | 07 10363 | DOOR STRIKER MTG BRKT | | |
| all | 11 | 27A115 | OFFSET HINGE RGTHD FREESWING | | |
| all | 12 | 27A116 | OFFSET HINGE LFTHD FREESWING | | |
| all | 13 | 07 10204 | SAFETY STAND HANGER-SSPRESS | | |
| all | 14 | 07 10018 | LOADCHUTE GUARD 7632 | | |
| all | 15 | 07 10616 | SSPRESS DOOR-CNTRL PANEL-FAN-RT | | |
| all | 15 | 07 10616A | SSPRESS DOOR-CNTRL PANEL-FAN-LFT | | |
| all | 16 | 13AF210071 | FAN 2100 CFM 240V 60HZ | | |
| all | 17 | 07 10680 | FAN GUARD SS PRESS | | |
| all | 18 | 07 10619 | PRESS FAN GUARD MNT | | |
| all | 19 | 15N200 | FILMACSCR 1/4-20UNCX2 SS18-8 S | | |
| all | 20 | 15U185 | FLATWASHER(USS STD) 1/4" ZNC P | | |
| all | 21 | 15G164NE | HEXLOKNIUT NYL 1/4-20 UNC2A SS. | | |
| all | 22 | 15K031 | BUTSOKCAPSCR 1/4-20X1/2 SS18-8 | | |

Use the Red Safety Supports for Maintenance — MP1540_, MPL5_, MPL6_, MP1A_

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1. What Safety Supports are Provided and Why

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These machines are provided with two safety stands and two ram safety bars. After the ram is raised, the safety bars are connected between the platen and the press top plate. After the can is raised, the stands are placed under the can (but not under the ram). The safety supports provide protection against the drifting down of the vertically moving portion of the machine during maintenance in the event of a leak in the hydraulic system. They are not intended to restrain the machine from coming down under power. Use the safety support(s) whenever the maintenance to be performed requires you to place any part of your body in or near the path of the vertically moving portion of the machine.



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



- ▶ Never work near the path of the vertically moving portion of the machine unless the safety supports are deployed and power is removed from the machine.
- ▶ Do not use power to close a small gap between the machine and the safety supports. Use care not to lower the machine with the safety supports

deployed.

- ▶ Where a pair of safety supports is provided, always use both supports.
- ▶ Maintain the safety support(s) in good condition.
- ▶ When not in use, stow the safety support(s) in the location(s) provided on the machine or in a convenient, designated location.

2. How to Deploy the Ram Safety Bars

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1. Use the Manual mode to lower the can, if it is up.
2. Use the Manual mode to raise the ram.
3. See the figure at right. Install the safety bars. The safety bars attach between two eye bolts—one on the platen and one on the press top plate.
4. Remove electric power from the machine.

Figure 1. Safety Bars Deployed



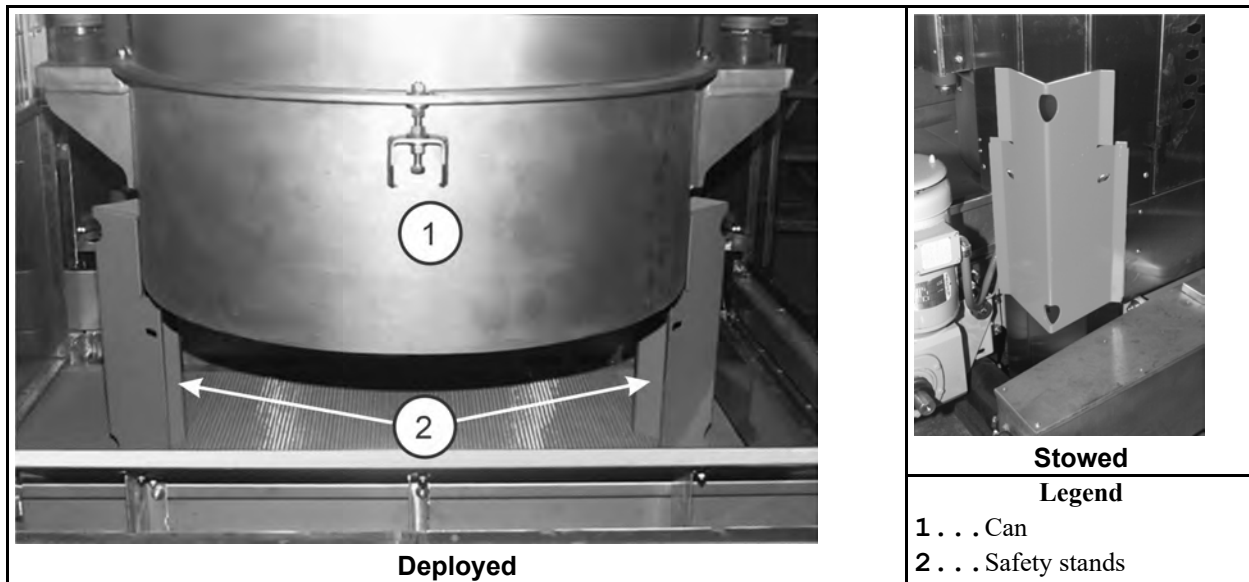
3. How To Deploy the Safety Stands

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The ram must be up and secured with the safety bars.

1. Use the Manual mode to raise the can.
2. See the figure below. Install the stands through the nearest door. Do not reach across the bed. Put the stands on opposite sides of the can (180 degrees apart).

Figure 2. Safety Stands



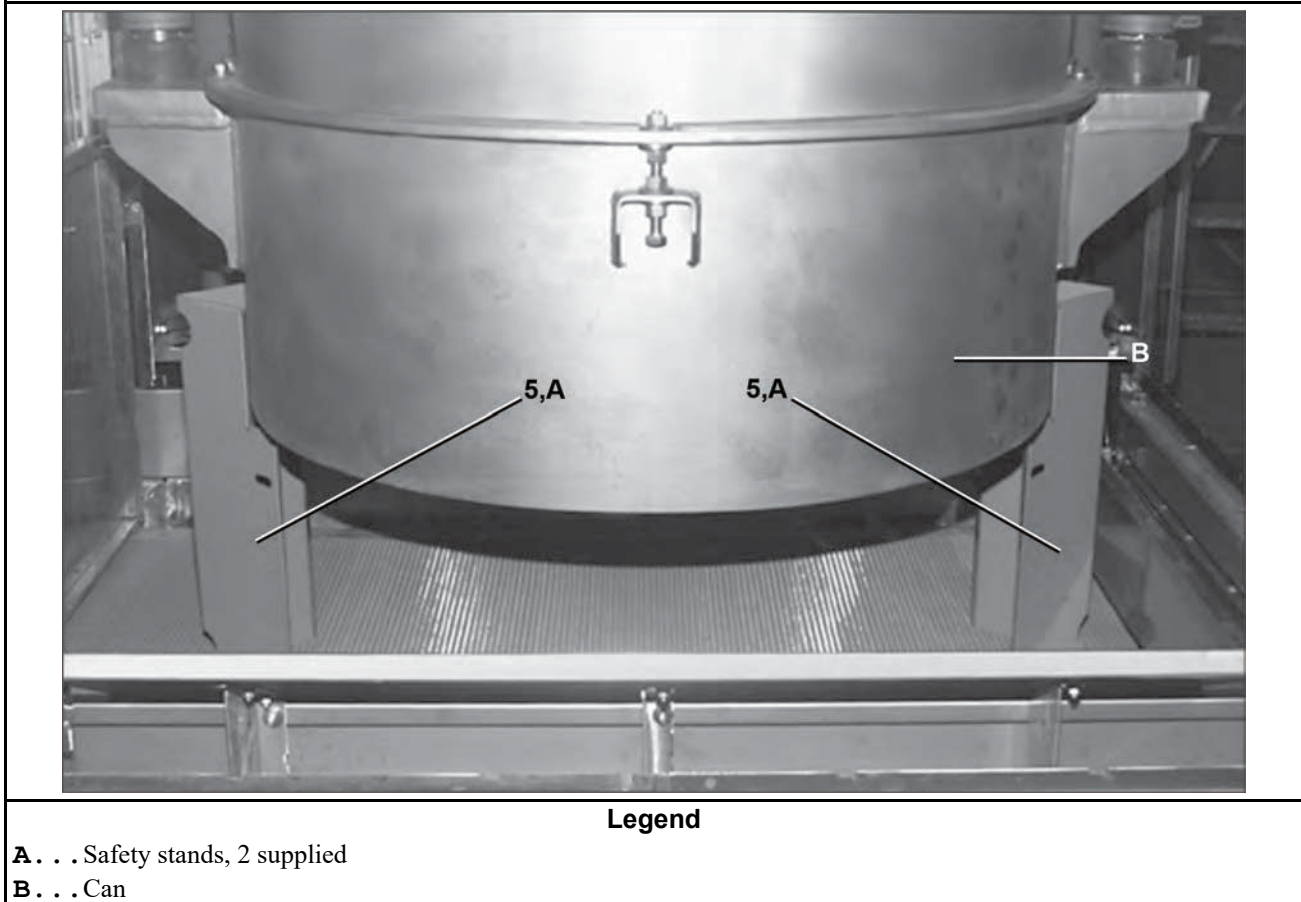
3. Remove electric power from the machine.

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Can Safety Stands and Diaphragm Bar

MP1540xx, MP1556xx, MP1640xx, MP1650xx, MP1656xx, MP1A50xx MPL556xx, MPL640xx, MPL650xx, MPL656xx

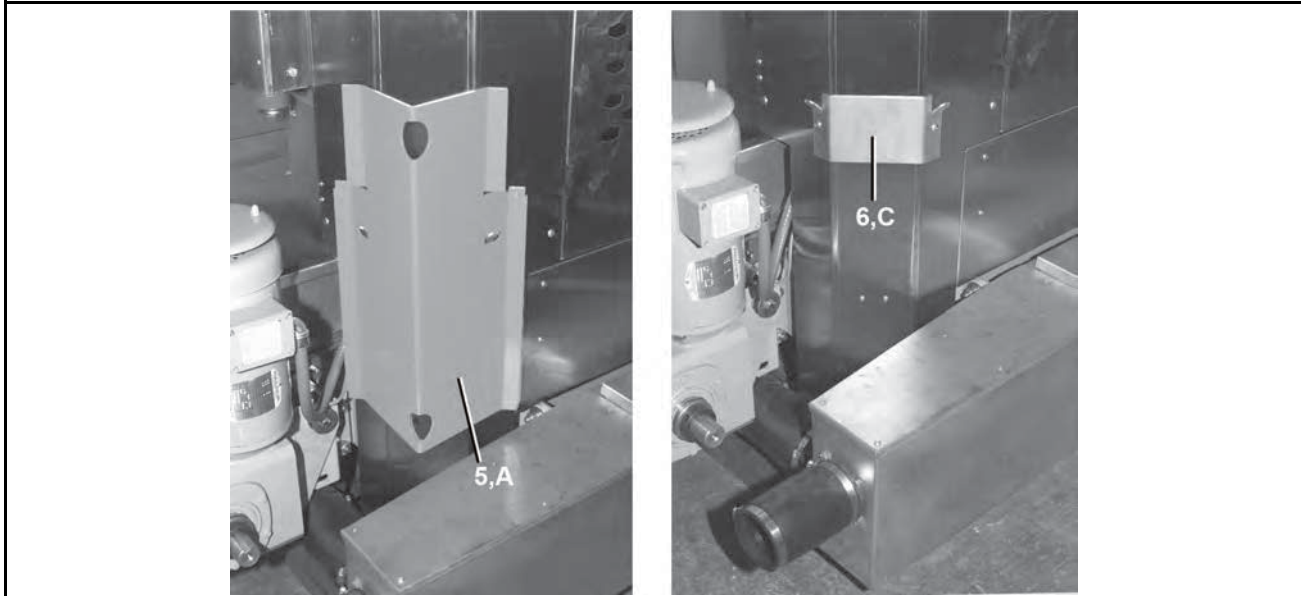
Figure 1. Can Safety Stands Deployed



Can Safety Stands and Diaphragm Bar

MP1540xx, MP1556xx, MP1640xx, MP1650xx, MP1656xx, MP1A50xx MPL556xx, MPL640xx, MPL650xx, MPL656xx

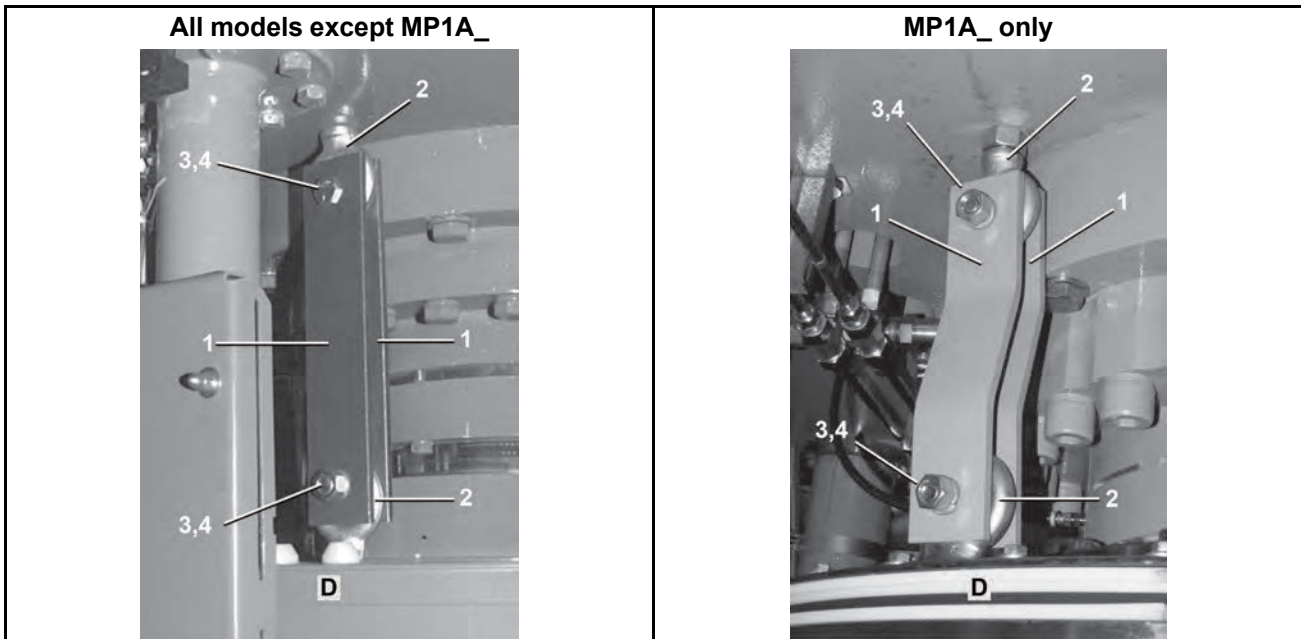
Figure 2. Safety and Storage



Legend

- A . . . Safety stands, 2 supplied
- C . . . Storage bracket, 2 instances

Figure 3. Diaphragm Safety Bar Deployed



Legend

- D . . . Platen

Can Safety Stands and Diaphragm Bar

MP1540xx, MP1556xx, MP1640xx, MP1650xx, MP1656xx, MP1A50xx MPL556xx, MPL640xx, MPL650xx, MPL656xx

Table 1. Parts List—Can Safety Stands and Diaphragm Bar

| 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 | AHT10031A | SHIP WITH MACHINE-SSPRESS | MP1540, MP1556, MP1640, MPL556, MPL640 |
| | B | AHT10031 | SHIP WITH MACHINE-MP1656 | MP1650, MP1656, MPL650, MPL656 |
| | C | AHT10036 | SHIP WITH MACHINE-MP1A03 | MP1A50 |
| | D | AHT10030 | MEMBRANE SAFETY BAR-MP1603 | MP1540, MP1556, MP1640, MPL556, MPL640 |
| | E | AHT10030A | MEMBRANE SAFETY BAR-MP1604 | MP1650, MP1656, MPL650, MPL656 |
| | F | AHT10030B | DIAPHM SAFETY BAR ASSY-MP1A03 | MP1A50 |
| Components | | | | |
| D | 1 | 07 10262 | DIAPHRAM SAFETY BAR | |
| E | 1 | 07 10262B | DIAPHRAM SAFETY BAR-16"LG | |
| F | 1 | 07 10282 | MEMBRANE SAFETY BAR-47BAR | |
| all | 2 | 17A054 | EYEBOLT 1-8 UNC ZINC PLATED | |
| all | 3 | 15K235AB | HXCAPSCR 3/4-10UNC2AX3"GR8 ZIN | |
| all | 4 | 15G240 | HXNUT 3/4-10UNC2B SAE ZINC GR2 | |
| AB | 5 | 07 30093 | SAFETY SUPPORT-BELL TF60 | |
| C | 5 | 07 10385 | SAFETY STAND-48"CAN MP1A03 | |
| all | 6 | 07 10204 | SAFETY STAND HANGER-SSPRESS | |
| all | 7 | X7 10059 | PLUG-PLATEN LIFTING EYE BOLT | |
| all | 8 | 60C112 | ORING 5/8"IDX3/32CS BUNA70 #114 | |

Unload Safety Light Screen

MP1540, MP1556, MP1640, MP1656

Figure 1: Emitter and Receiver Installation

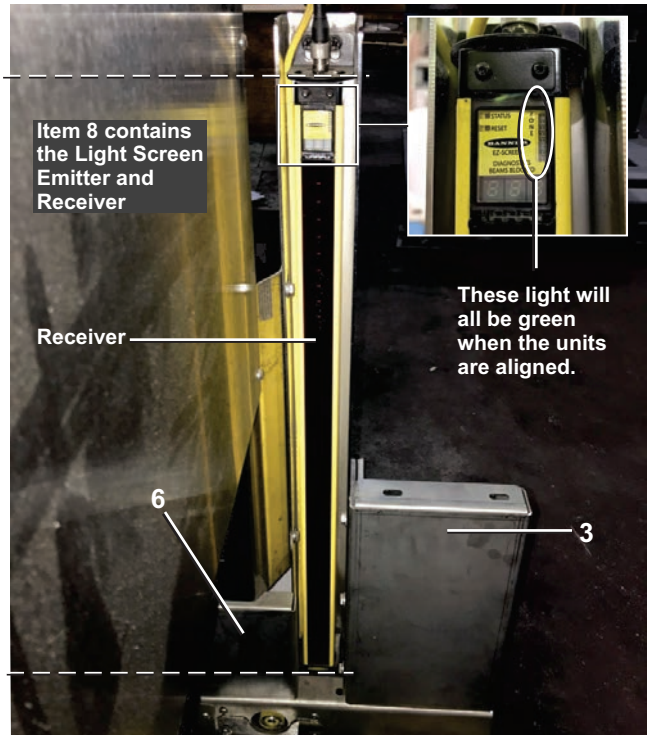
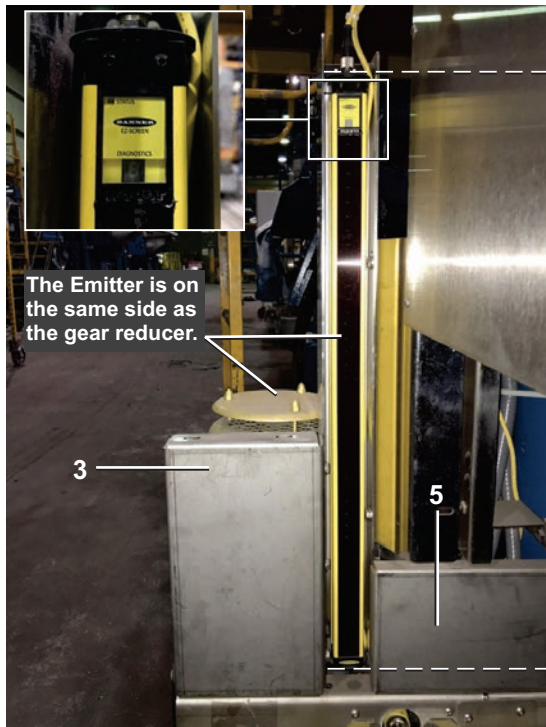


Installation of Emitter and Receiver Repair Parts

(See the light screen instruction manual supplied with the part.)

Install the replacement the emitter and receiver into the mounting channels. The units are to be exactly parallel to each other and truly vertical. Initially, mount the units at their lowest position. The slotted mounting bracket supplied with the replacement units allow for vertical and radial adjustments, see Top View and Bottom View.

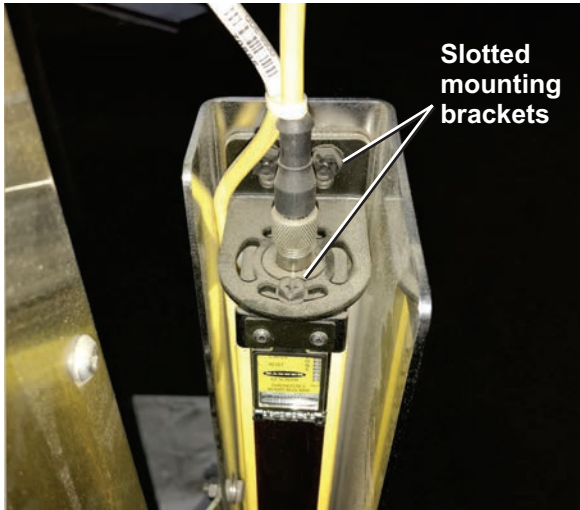
The units are in alignment when the row of lights on the receiver (shown circled below) are all green.



Unload Safety Light Screen

MP1540, MP1556, MP1640, MP1656

Figure 2: Emitter and Receiver Installation



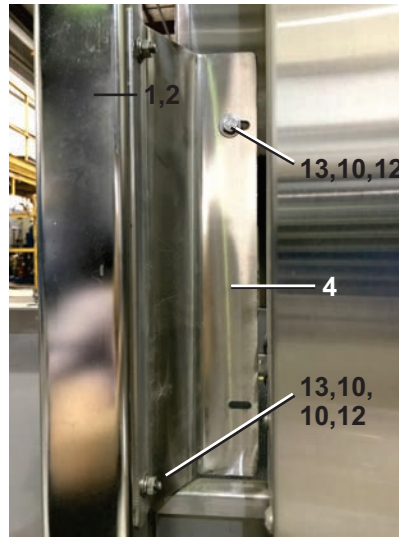
Top View



Bottom View

The slotted mounting brackets allow for vertical and radial adjustment of the Emitter and receiver units. Mounting brackets and hardware come with the Emitter and Receiver.

Side member and channel hardware



Unload Safety Light Screen

MP1540, MP1556, MP1640, MP1656

| Parts List | | | | |
|--|------|-------------|---|----------|
| Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration. | | | | |
| Used In | Item | Part Number | Description | Comments |
| -----ASSEMBLIES----- | | | | |
| | A | ACS10022 | UNLOAD LIGHT SCREEN-STD CONV MP15/16 | |
| -----COMPONENTS----- | | | | |
| all | 1 | 07 10729A | LIGHT SCREEN CHANNEL-RT | |
| all | 2 | 07 10729 | LIGHT SCREEN CHANNEL-LF | |
| all | 3 | 07 10724 | CONV SIDE UNLOADEND-STD | |
| all | 4 | 07 10730 | LIGHT SCREEN MTG BRACE-MP15/16 | |
| all | 5 | 07 10732 | LIGHT SCREEN SIDE ADP MP15/16-RT | |
| all | 6 | 07 10732A | LIGHT SCREEN SIDE ADP MP15/16-LF | |
| all | 7 | 09RPE018LBB | LITE BEAM CORDSET 15.3 METER | |
| all | 8 | 09RPE018LBA | LITE BEAM EMITTER/RECEIVER 600MM BANNER | |
| all | 9 | 15N174 | HXCAPSCR 1/4-20UNC X5/8SS18-8 | |
| all | 10 | 15U188 | FLTWASH 1/4 STD COMM SS18-8 | |
| all | 11 | 15U181 | LOCKWASHER MEDIUM 1/4 SS18-8 | |
| all | 12 | 15G170 | HEXNUT 1/4-20UNC2 SS18-8 | |
| all | 13 | 15N186 | HXCAPSCR 1/4-20X3/4 SS18-8 | |

Ship With

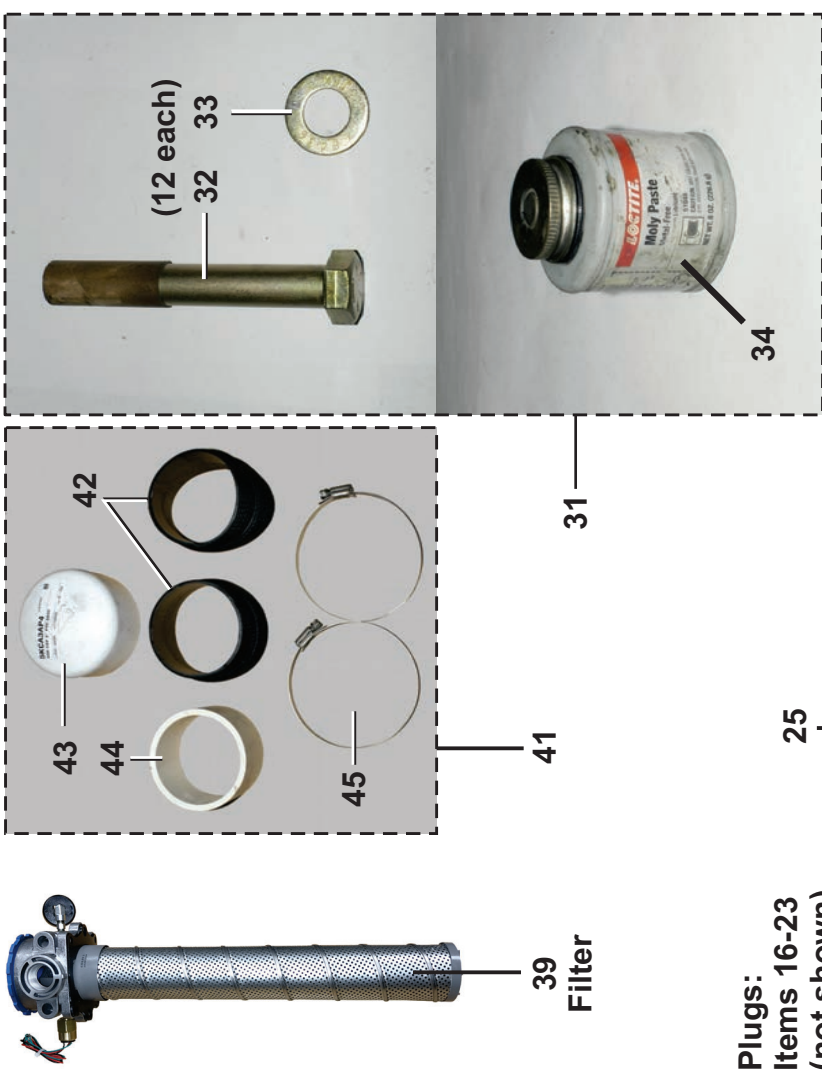
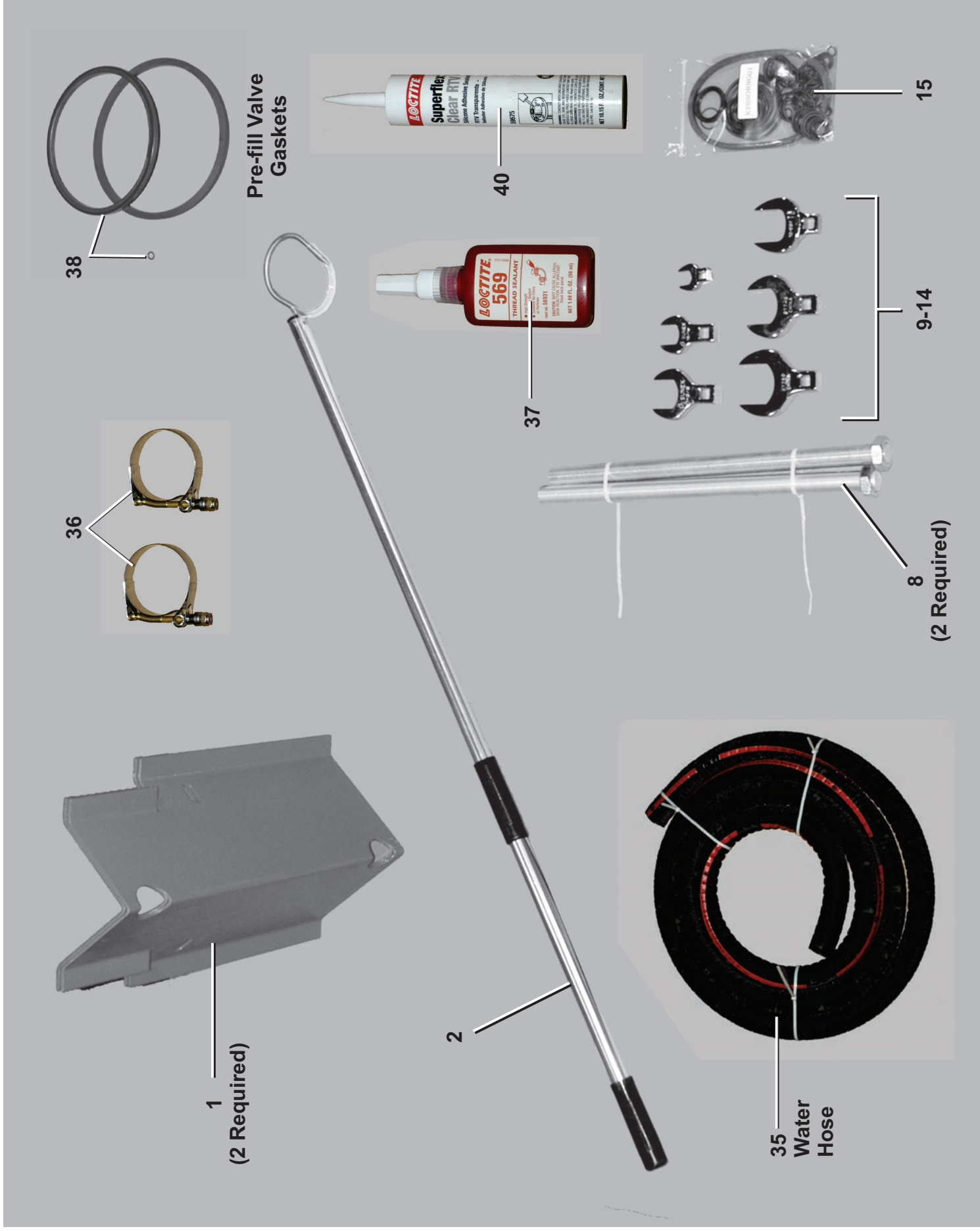
MP1540, MP1556, MP1640, MP1650, MP1656, MP1A50
 MPL556, MPL640, MPL650, MPL656

BMP110004/2022484B
 (1/2)

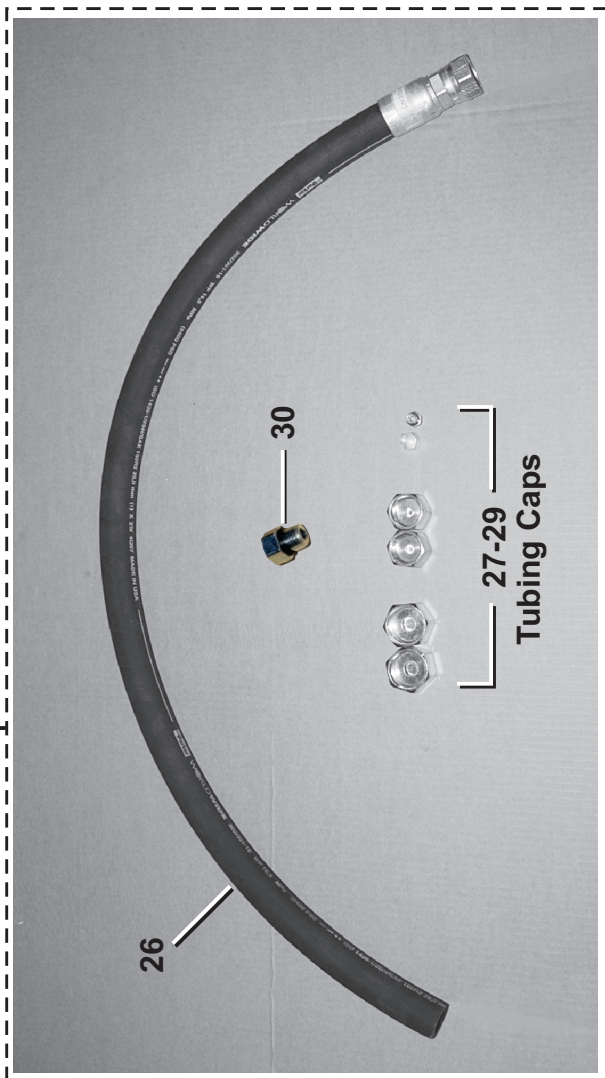


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Plugs:
 Items 16-23
 (not shown)
 See parts list.



Ship With

MP1540, MP1556, MP1640, MP1650, MP1656, MP1A50
MPL556, MPL640, MPL650, MPL656

BMP110004/2020275B
(2 / 2)



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| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|------------------------------------|--|
| | A | AHT10031A | SHIP WITH MACHINE-MP1540,1556,1640 | MP1540 MP1550, MP1640 MPL550, MPL640 |
| | B | AHT10031 | SHIP WITH MACHINE-MP1656,1650 | MP1656, MP1650 MPL656, MPL650 |
| | C | AHT10036 | SHIP WITH MACHINE-MP1A50 | MP1A50 |
| | | | -----REFERENCE ASSEMBLIES----- | |
| | | | -----COMPONENTS----- | |
| AB | 1 | 07 30093 | CAN SAFETY STAND-MP15/16XX | |
| C | 1 | 07 10385 | CAN SAFETY STAND-MP1A50 | |
| all | 2 | 27A900 | ALUM. GAFF 5/16"DIAX48"L W/3" | |
| all | 8 | 17R036A18A | THRD ROD 1-14X18" ZINC | |
| all | 9 | 97G006C | 11/16" X 3/8" DR CROWSFOOT | |
| all | 10 | 97G010C | 15/16" X 1/2" DR CROWSFOOT | |
| all | 11 | 97G014C | 1+3/8" X 1/2" DR CROWSFOOT | |
| all | 12 | 97G021A | 1+1/2" X 1/2" DR CROWSFOOT | |
| all | 13 | 97G022C | 1+5/8" X 1/2" DR CROWSFOOT | |
| all | 14 | 97G023C | 1+7/8" X 1/2" DR CROWSFOOT | |
| all | 15 | KYSSORNG01 | SS PRESS HYD ORING ASST KIT | |
| all | 16 | 51P081 | PLUG TAPERED 5.7"CAPLUG#T1092 | |
| all | 17 | 51P082 | PLUGCAPNOTHD 1.437"CAPLUG#EC23 | |
| all | 18 | 51P083 | PLUGCAPNOTHD 1.187"CAPLUG#EC19 | |
| all | 19 | 51P084 | PLUGTHD.3/4"O.R.CAPLUG#PDF-120 | |
| all | 20 | 51P085 | PLUGTHD.1/4"JIC CAPLUG#PD40 | |
| all | 21 | 51P086 | PLUGTHD.1"O.R.CAPLUG#PDF160 | |
| all | 22 | 51P087 | PLUGTHD.1"JIC CAPLUG#PD-160 | |
| all | 23 | 51P088 | PLUGCAPSLV 13/16 #SC-13/16 | |
| all | 25 | AHT10037 | TROUBLE SHOOTING KIT-SSPRESS | |
| all | 26 | 60EH80C48B | ASSY=HYDHOSE+ONE END 1"X48"LG | (PART OF ITEM 25) |
| all | 27 | 52ZN1AS003 | TUBEFIT NUT+CAP #16-FNL-S | (PART OF ITEM 25) |

| Parts List, cont.— Ship With | | | | |
|------------------------------|------|-------------|--|-------------------|
| Used In | Item | Part Number | Description | Comments |
| all | 28 | 52ZN0PS003 | TUBEFIT NUT+CAP 3/4" 12 FNL-S | (PART OF ITEM 25) |
| all | 29 | 52ZP0ES001 | TUBEFITPLUG 1/4" #4-PNLO-S | |
| all | 30 | 52PY0LR001 | HEXPLUG 1/4"ORING#4-P50N-S | |
| AB | 31 | AHT10038 | RAM INSTL BOLTS/LUBE-MP1603 | |
| C | 31 | AHT10039 | RAM INSTL BOLTS/LUBE-MP1604 | |
| AB | 32 | X7 10504 | RAM BOLT 1-14X5"CHASED THREAD | (PART OF ITEM 31) |
| C | 32 | X7 10505 | RAM BOLT 1-14X7"CHASED THREAD | (PART OF ITEM 31) |
| all | 33 | 15U393 | FLTWASH 1" HARD ASTM F436 | (PART OF ITEM 31) |
| all | 34 | 20C510 | LOCTITE MOLYPASTE#51048 | (PART OF ITEM 31) |
| all | 35 | 60E255 | HOSE 2" ID X 2.45" OD WATER CORRUGATED 50 FEET | |
| all | 36 | 27A072 | T-BOLT HOSECLAMP2.16-2.47CADSC | |
| all | 37 | 20C002BA | HYD SEALANT 50CC LCT#569-31 | |
| all | 38 | 96RH712FOR | ORING KIT FOR 96RH712F | |
| all | 39 | 27E7112E | FILTER 5 MIC 19"LG DONALDSON EB1254 | |
| all | 40 | 20C040B | SUPERFLEX CLR RTV SIL 10.1OZ | (PART OF ITEM 41) |
| all | 41 | ALC420217 | UNLOAD DRAIN CONN.ADP | (PART OF ITEM 41) |
| all | 42 | 02 03429 | TUBE REDUCER 3.13 ID X 3.50 ID | (PART OF ITEM 41) |
| all | 43 | 5KCA3AP4 | SOK CAP 3" PVC Sk40 | (PART OF ITEM 41) |
| all | 44 | 04 21059 | PIPE 3"PVC SK40X2.5"L SQ.ENDS | (PART OF ITEM 41) |
| all | 45 | 27A084S | HOSECLAMP 3+9/16-4.5" SS SCR H | (PART OF ITEM 41) |

Safety Unload Door

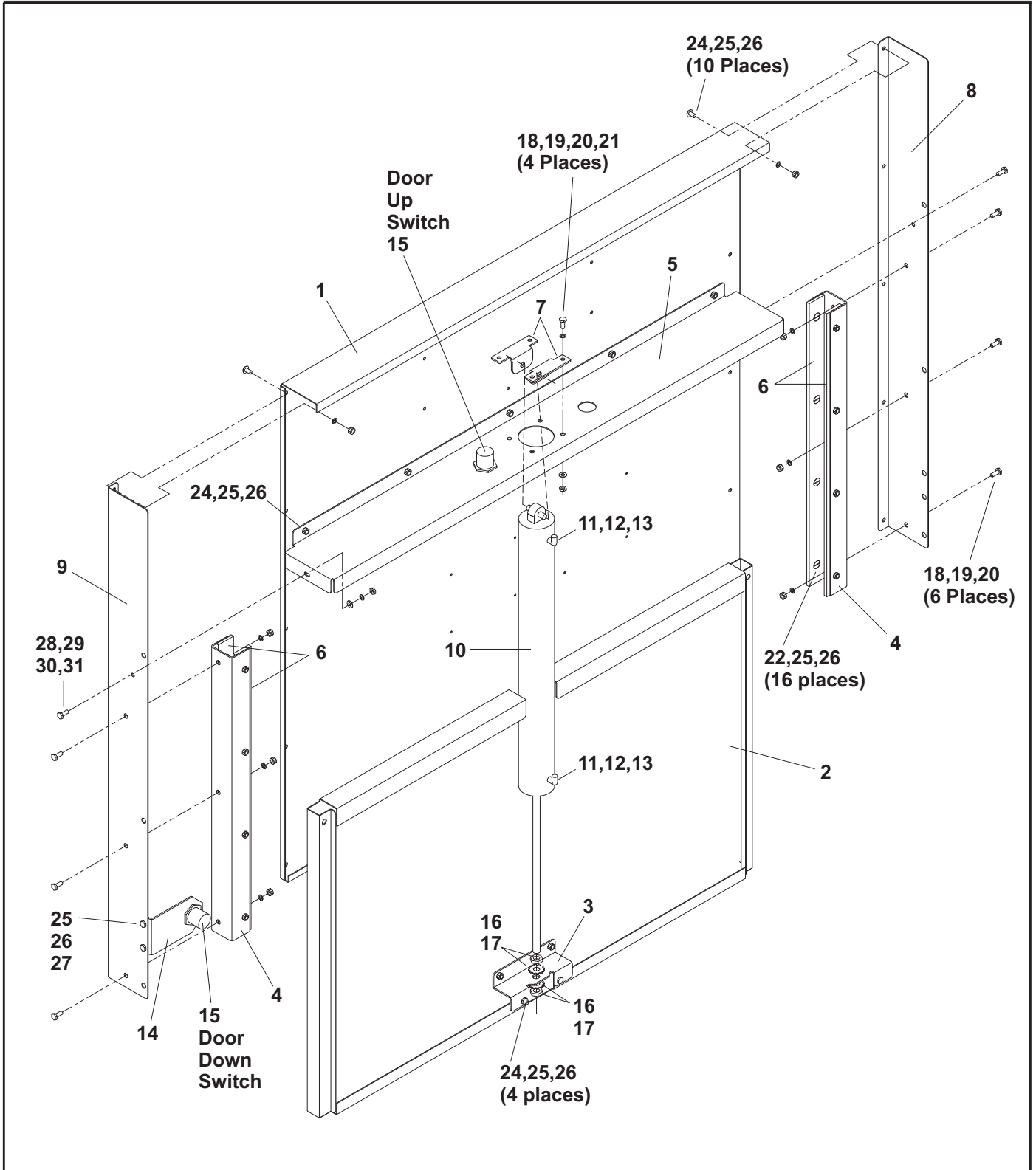
MP1540, MP1556, MP1640, MP1650, MP1656, MP1A50
 MPL556, MPL640, MPL650, MPL656

BMP110005/2020275A
 (1 / 3)



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Safety Unload Door

**MP1540, MP1556, MP1640, MP1650, MP1656, MP1A50
MPL556, MPL640, MPL650, MPL656**

BMP110005/2020275A
(2 / 3)



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Parts List—Unload Door

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

| Used In | Item | Part Number | Description | Comments |
|----------------------|------|-------------|--------------------------------|--|
| -----ASSEMBLIES----- | | | | |
| | A | ACS10001A | UNLOAD DOOR ASSY-SSPRESS | MP1540, MP1556, MPL556 MP1640, MP1650, MP1656 MPL640, MPL650, MPL656 |
| | B | ACS10004A | CONV UNLOAD DOOR ASSY-MP1A56 | MP1A50 |
| -----COMPONENTS----- | | | | |
| A | 1 | 07 10633 | CONV UNLOAD PANNEL | |
| B | 1 | 07 10653 | CONV UNLOAD PANNEL-MP1A56 | |
| A | 2 | 07 10632 | CONV UNLOAD DOOR-SSPRESS | |
| B | 2 | 07 10654 | CONV UNLOAD DOOR | |
| A | 3 | 07 10217 | UNLOAD DOOR LIFTING BRKT | |
| B | 3 | 07 10217A | DOOR LIFTING BRKT-MP1A56 | |
| all | 4 | 07 10218 | DOOR TRACK-INSIDE | |
| A | 5 | 07 10631 | AIR CYL MTG CHANNEL | |
| B | 5 | 07 10651 | AIRCYL MTG CHANNEL-MP1A56 | |
| all | 6 | 07 10220 | DOOR TRACK UHMW LINER | |
| all | 7 | 07 10634 | AIRCYL MTG BRKT-UNLOAD DOOR | |
| A | 8 | 07 10630 | UNLOAD DOOR MTG ANGLE-RT | |
| B | 8 | 07 10652 | UNLOAD DOOR MTG ANGLE-RT | |
| A | 9 | 07 10630A | UNLOAD DOOR MTG ANGLE-LF | |
| B | 9 | 07 10652A | UNLOAD DOOR MTG ANGLE-LF | |
| A | 10 | 27C120 | AIRCYL 1.5"BORE X 20"STROKE | |
| B | 10 | 27C124 | AIRCYL 1.5"BORE X 24"STROKE | |
| all | 11 | 53A031B | BODY-EL90MALE.25X1/8 #269C-42B | |
| all | 12 | 53A500 | SLEEVE DELRIN 1/4"OD#60PT-4 | |
| all | 13 | 53A501 | TUBE INSERT .163"OD #63PT-4-40 | |
| all | 14 | 07 10263 | PROX.SW BKT-DISC DOOR DOWN | |
| all | 15 | 09RPS30ADS | PROX SW QK CONN 30M NO-DC SHLD | |
| all | 16 | 15G222A | HXFINJAMNUT 7/16-20UNF2B SS | |
| all | 17 | 15U271 | LOKWASH INTOOTH 7/16ZN | |
| all | 18 | 15K052 | HXCAPSCR 5/16-18UNC2AX3/4 SS18 | |
| all | 19 | 15U200S | FLATWASHER US STD 5/16 SS18-8 | |
| all | 20 | 15U205 | LOCKWASHER MEDIUM 5/16" 18-8SS | |
| all | 21 | 15G186 | HEXNUT 5/16-18UNC2 SS18-8 | |

Safety Unload Door

**MP1540, MP1556, MP1640, MP1650, MP1656, MP1A50
MPL556, MPL640, MPL650, MPL656**

BMP110005/2020275A
(3 / 3)



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Parts List, cont.

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

| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|--------------------------------|----------|
| all | 22 | 15N173 | FLATMACSCR 1/4-20NCX5/8SS18-8 | |
| all | 23 | 15G164 | HX THIN LOCKNUT NYL1/4-20 SS | |
| all | 24 | 15K033 | BUTSOKCAPSCR 1/4-20X5/8 SS18-8 | |
| all | 25 | 15U181 | LOCKWASHER MEDIUM 1/4 SS18-8 | |
| all | 26 | 15G170 | HEXNUT 1/4-20UNC2 SS18-8 | |
| all | 27 | 15N186 | HXCAPSCR 1/4-20X3/4 SS18-8 | |
| all | 28 | 15K136 | HEXCAPSCR 3/8-16UNCX3+1/2 GR5 | |
| all | 29 | 15U260 | LOCKWASHER MEDIUM 3/8 SS18-8 | |
| all | 30 | 15G206 | HEXNUT 3/8-16 UNC2 SS 18-8 | |
| all | 31 | 15U245 | FLTWASH 3/8 STD COMM 18-8 SS | |

Frame Assembly

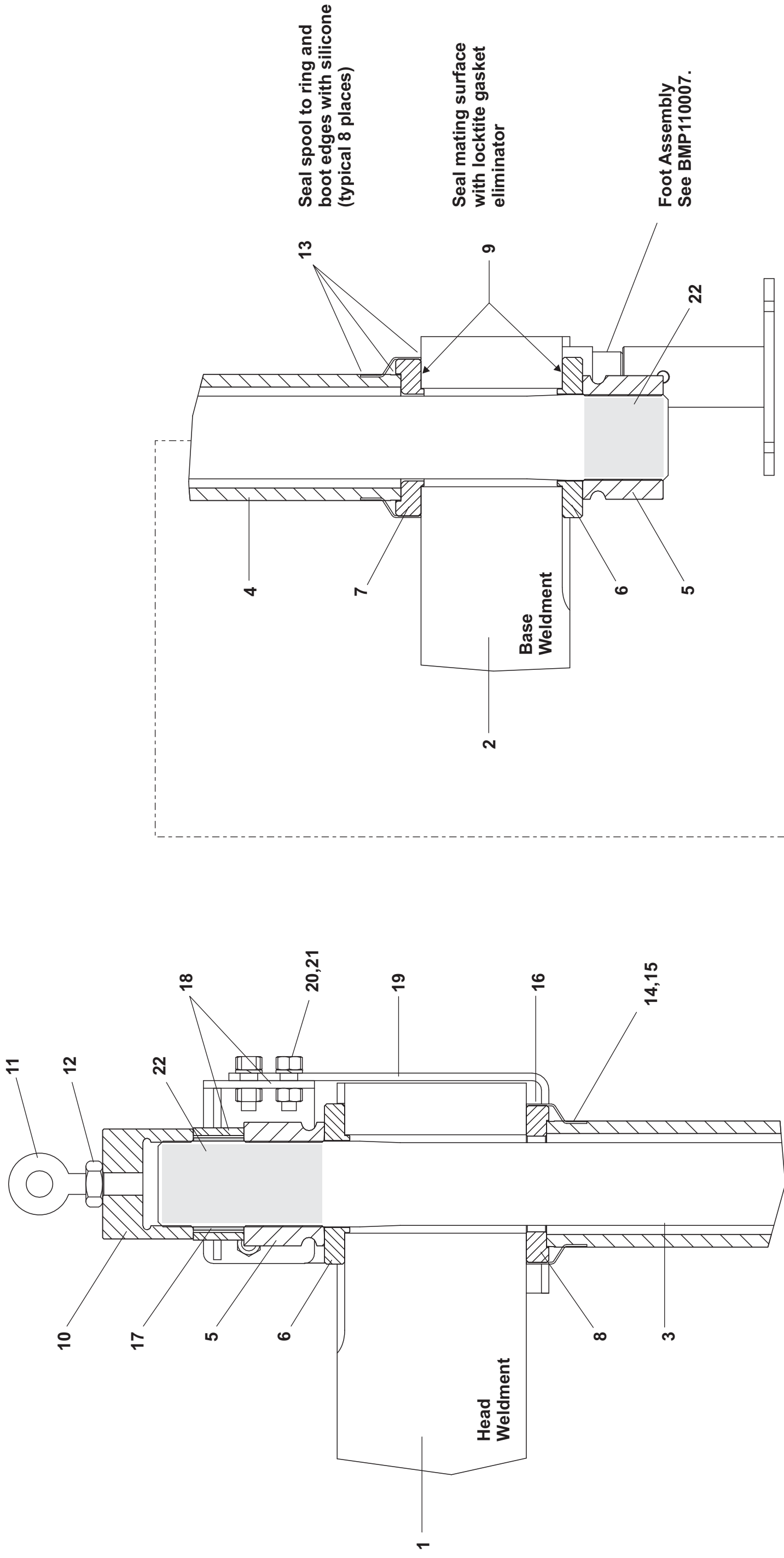
MP1540xx, MP1556xx, MP1640xx, MP1650xx, MP1656xx, MP1A50xx
MPL556xx, MPL640xx, MPL650xx, MPL656xx

BMP110006/2020275B
(1/2)



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Frame Assembly

MP1540xx, MP1556xx, MP1640xx, MP1650xx, MP1656xx, MP1A50xx
MPL556xx, MPL640xx, MPL650xx, MPL656xx

BMP110006/2020275B
 (2 / 2)



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| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|----------------------------------|----------------|
| | | | -----ASSEMBLIES----- | |
| A | | GHG10005 | SSPRESS FRAME ASSY-MP1603 | MP1540 |
| B | | GHG10011 | SSPRESS FRAME ASSY-MP1556 | MP1556, MPL556 |
| C | | GHG10012 | SSPRESS FRAME ASSY-MP1640 | MP1640, MPL640 |
| D | | GHG10010 | SSPRESS FRAME ASSY-MP1656 | MP1656, MP1650 |
| E | | GHG10007A | SSPRESS FRAME ASSY-MP1A56 | MPL656, MPL650 |
| F | | G80TD002 | TIEROD HOLD DOWN INST-7.50 HEAD | MP1A50 |
| G | | G80TD001 | TIEROD HOLD DOWN INST-9.50 HEAD | MP1556, MP1640 |
| | | | | MPL556, MPL640 |
| | | | | MP1656, MP1650 |
| | | | | MPL656, MPL650 |
| | | | | MP1A50 |
| H | | G80TD003 | TIEROD HOLD DOWN INST-11.50 HEAD | |
| | | | -----COMPONENTS----- | |
| A | 1 | W7 10060 | PRESS HEAD WELDMENT-35BAR | |
| B | 1 | W7 10076 | PRESS HEAD WELDMENT-14"RAM | |
| C | 1 | W7 10641 | PRESS HEAD WELDMENT-MP1640 | |
| D | 1 | W7 10627 | PRESS HEAD WELDMENT-MP1656 | |
| E | 1 | W7 10120 | PRESS HEAD WELDMENT-MP1AXX | |
| A | 2 | W7 10008 | PRESS BASE WELDMENT | |
| BC | 2 | W7 10010 | SSPRESS BASE WELDMENT-45BAR | |
| D | 2 | W7 10626 | SSPRESS BASE WELDMENT-MP1656 | |
| E | 2 | W7 10121 | BASE WELDMENT-MP1AXX | |
| A | 3 | X7 10600A | TENSIONING ROD-MP1540/50/1603 | |
| BC | 3 | X7 10642 | TENSIONING ROD-MP1556/1640 | |
| D | 3 | X7 10625 | TENSIONING ROD-16"RAM MP1656 | |
| E | 3 | X7 10122 | TENSIONING ROD-MP1AXX | |
| ABC | 4 | X7 10546 | TIE ROD SPOOL-64.75LG | |
| D | 4 | X7 10536 | TIE ROD SPOOL-66.25LG | |
| E | 4 | X7 10544A | TIE ROD SPOOL 80.00 LG | |
| all | 5 | X7 10584 | ROD TENSIONING NUT-SSPRESS | |
| all | 6 | X7 10548 | PRELOAD RING-TENSION ROD | |
| all | 7 | X7 10541 | SPOOL RING-BASE 4.82 PILOT | |
| all | 8 | X7 10542 | SPOOL RING-HEAD | |
| all | 9 | 20C013B | GASKET ELIMINATOR LOC.#51580 | |
| all | 10 | X7 10587 | LIFTING EYE ADAPTER-SSPRESS | |
| all | 11 | 17A054A | EYEBOLT W/SHOULDER 1.25-7X3 ST | |
| all | 12 | 15G260 | HXNIUT 1+1/4-7UNC2B BLK GR2 | |

| Parts List, cont.—Frame Assembly | | | | |
|----------------------------------|------|-------------|----------------------------------|----------|
| Used In | Item | Part Number | Description | Comments |
| all | 15 | 27A083S | HOSECLAMP 5+1/8-7"SSSSCR#HSS104 | |
| all | 16 | 27A089 | HOSECLAMP S.S.SCREW 6+5/8-8.5 | |
| all | 17 | 12P061 | MED-WALL SLEEVE 25' PER ROLL | |
| all | 18 | W7 10590 | TIEROD HOLD DOWN WLMT | |
| F | 19 | 07 10594A | TIEROD HOLD DOWN BRKT-MP1603 | |
| G | 19 | 07 10594 | TIEROD HOLD DOWN BRKT | |
| H | 19 | 07 10594B | TIEROD HOLD DOWN BRKT-11.50 HEAD | |
| all | 20 | 15K232A | HEXCAPSCR 3/4-10X2 GR8 ZINC | |
| all | 21 | 15U340 | LOCKWASH MEDIUM 3/4 ZINCPL | |
| all | 22 | 20C510 | LOCTITE MOLYPASTE#51048 | |

Foot Assembly

MP1540xx, MP1556xx, MP1640xx, MP1650xx, MP1656xx, MP1656xx, MP1A50xx
 MPL556xx, MPL640xx, MPL650xx, MPL656xx

BMP110007/2020275B
 (1/1)



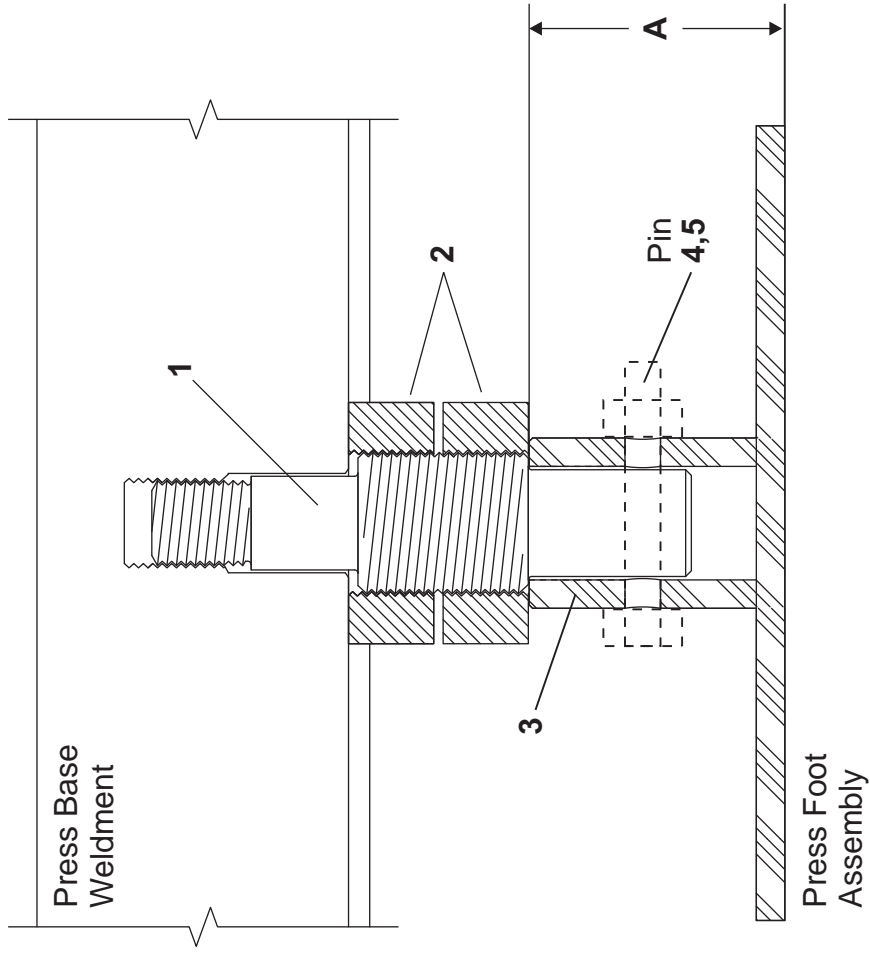
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| Used In | | Item | Part Number | Description | Comments |
|---------|--|------|-------------|--------------------------------|------------|
| all | | 1 | X7 10585A | COMPONENTS | |
| all | | 2 | X7 10563 | PRESS SUPPORT ROD 1-1/2"-6UNC | |
| all | | 3A | W7 10606C | PRESS FOOT MTG NUT-MACHINED | 3" FOOT |
| all | | 3B | W7 10606 | SSPRESS FOOT WELDMENT-3.0" | 4.5" FOOT |
| all | | 3C | W7 10606B | SSPRESS FOOT WELDMENT-4.5" | 5.5" FOOT |
| all | | 3D | W7 10606A | SSPRESS FOOT WELDMENT-5.5" | 7.5" FOOT |
| all | | 3E | W7 10606D | SSPRESS FOOT WELDMENT-11.5" | 11.5" FOOT |
| All | | 4 | 15K210A | HXCAPSCR 1/2"-13X4" GRD 8 ZINC | |
| All | | 5 | 15G234N | HXLOCKNUT NYL 1/2-13UNC2 STL/Z | |

Parts List—Foot Assembly

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



| Foot | A |
|-----------|-------|
| W7 10606C | 3.0" |
| W7 10606 | 4.5" |
| W7 10606B | 5.5" |
| W7 10606A | 7.5" |
| W7 10606D | 11.5" |

Reuse Tank

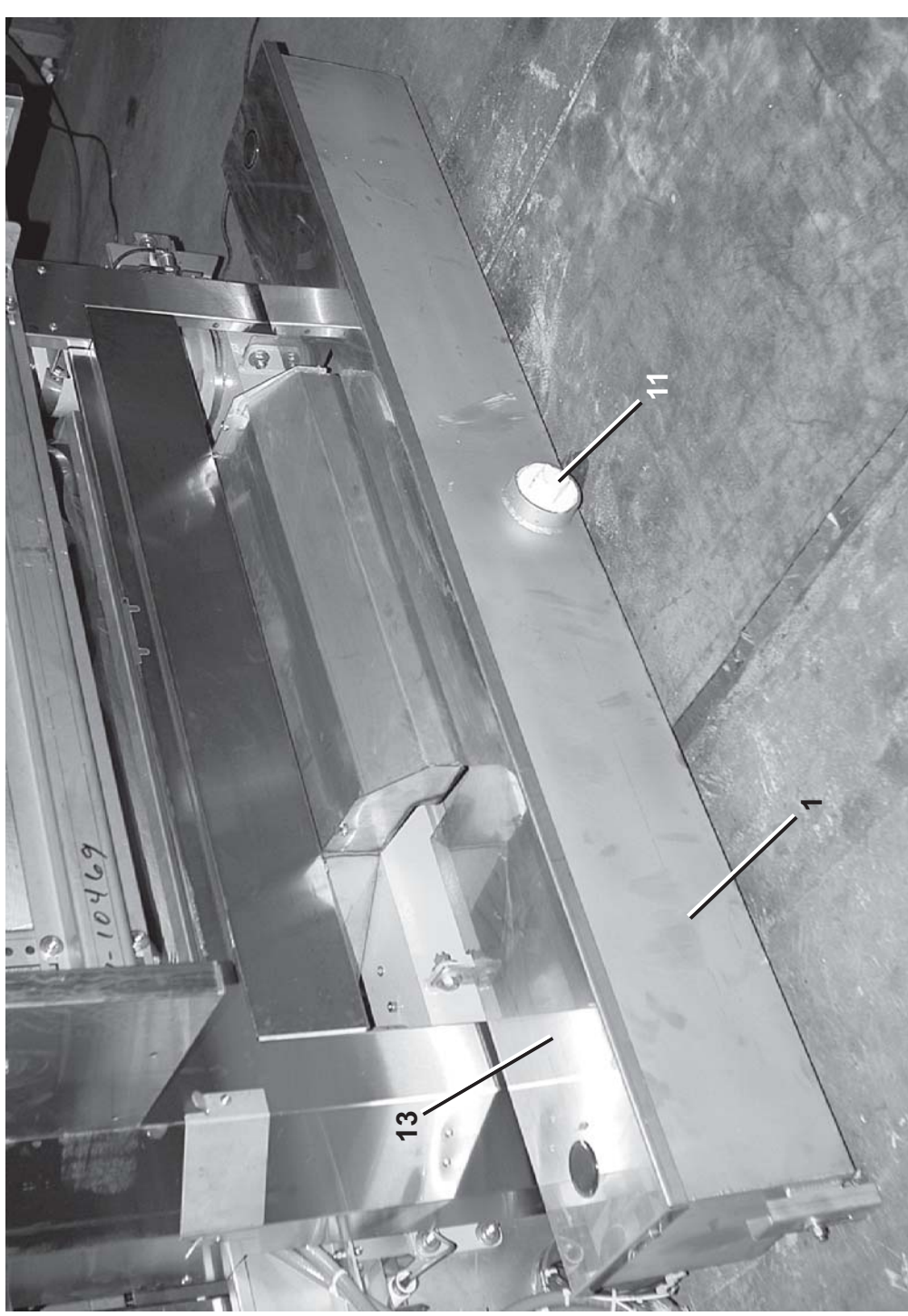
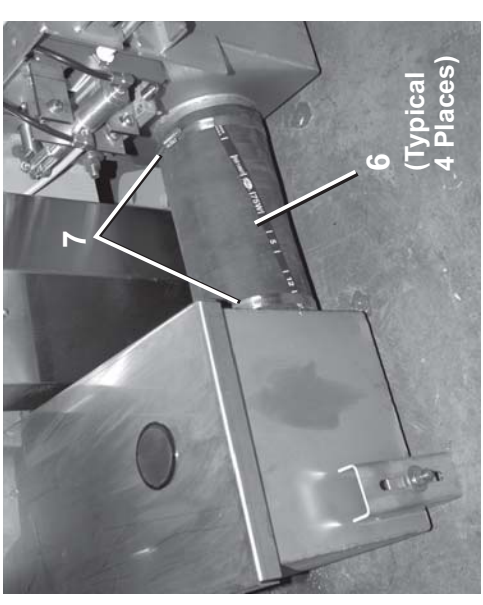
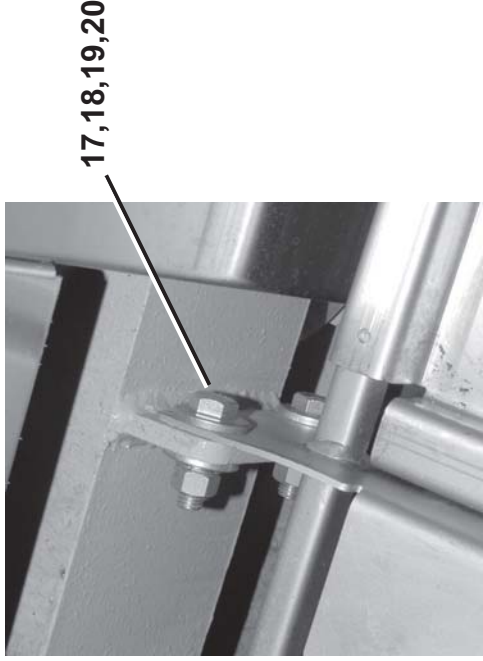
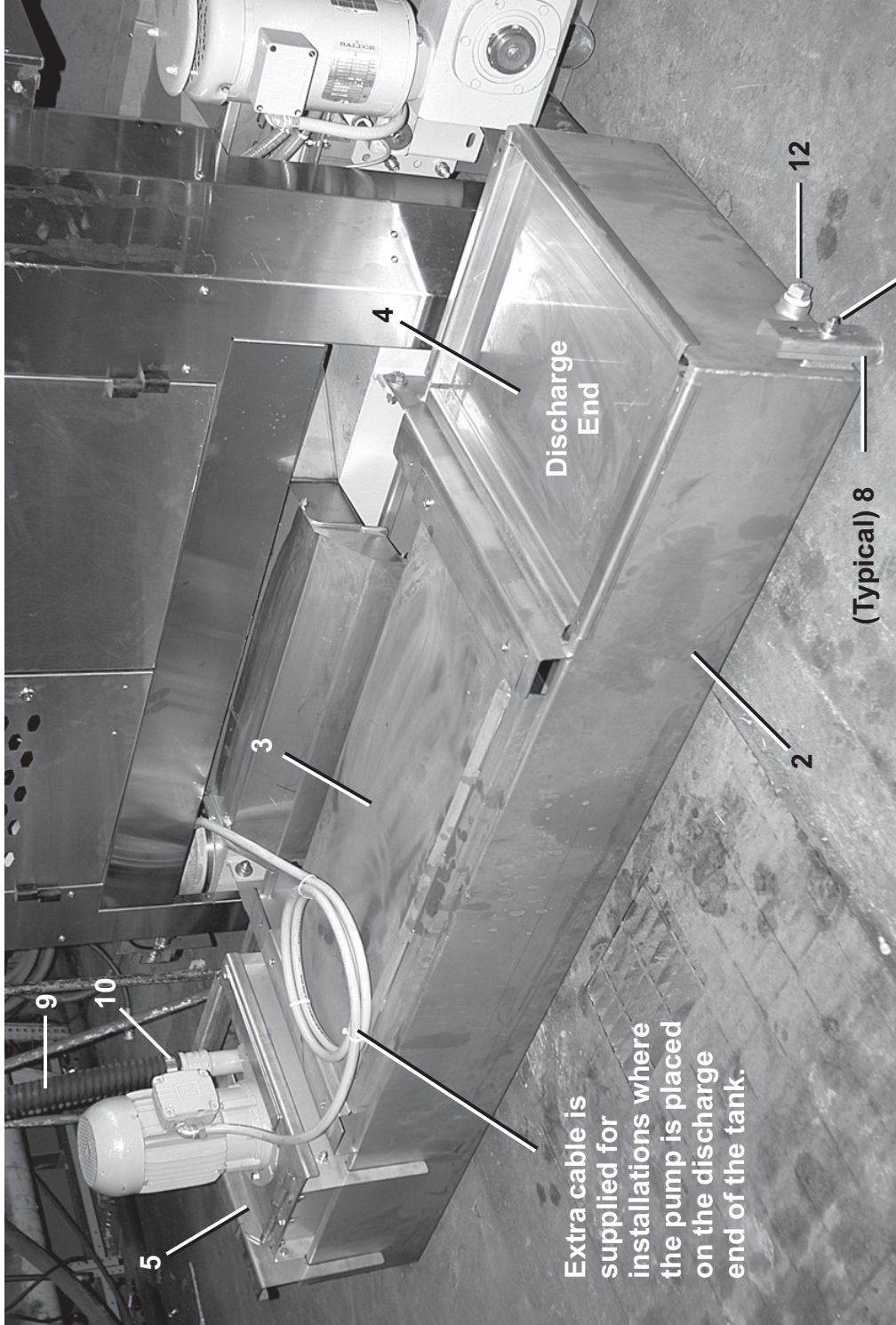
MP1540xx, MP1556xx, MP1640xx, MP1650xx, MP1656xx, MP1A50xx
 MPL556xx, MPL640xx, MPL650xx, MPL656xx

BMP110008/2020275B
 (1/2)



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

Litho in U.S.A.



MP1540, MP1556, MP1640, MP1650, MP1656 reuse tanks are shown.
 MP1A50 reuse tank is similar. See parts list.

Reuse Tank

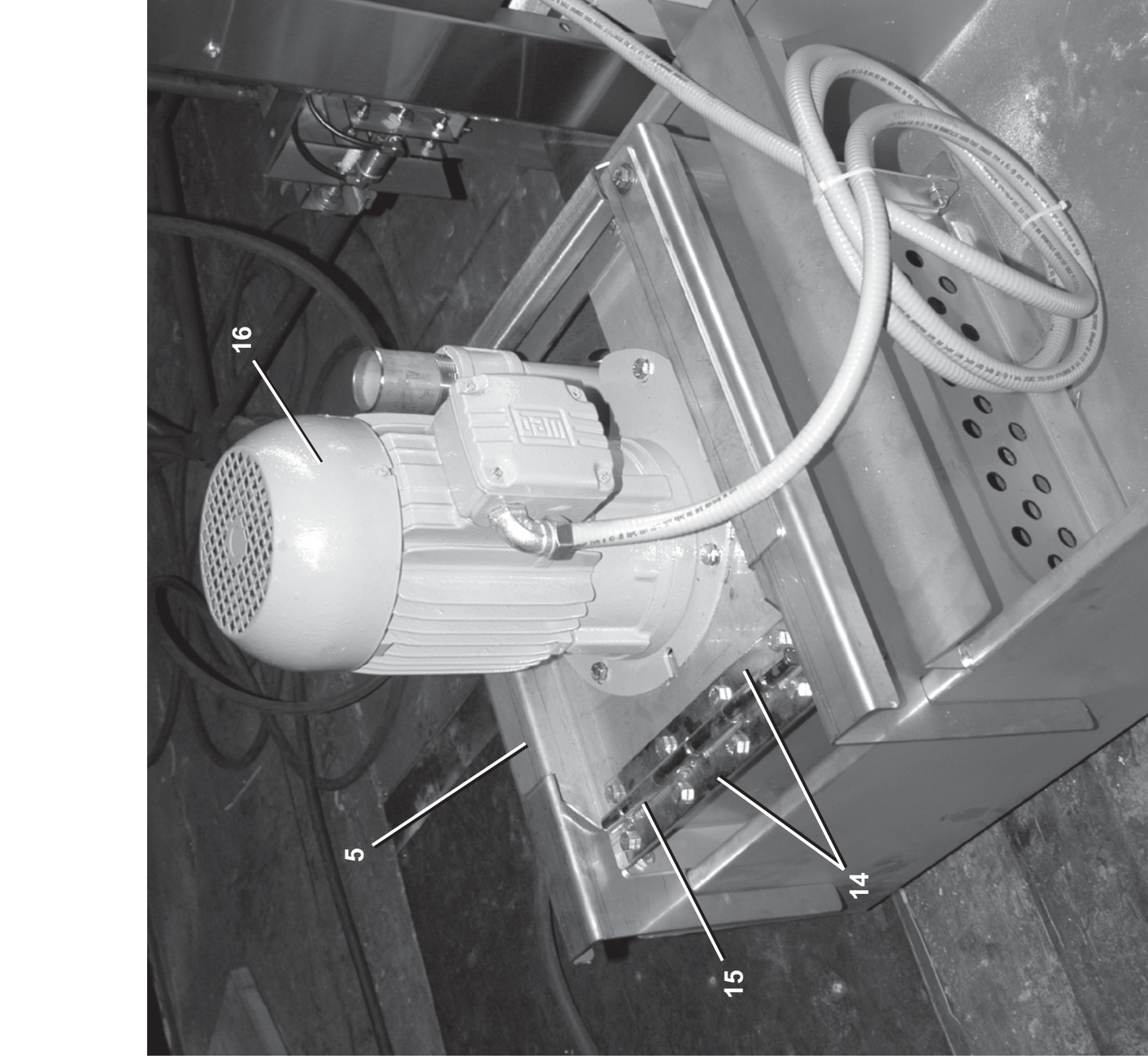
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**BMP110008/2020275B
(2 / 2)**



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

Litho in U.S.A.



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

| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|--------------------------------|----------------------------------|
| | | | -----ASSEMBLIES----- | |
| A | | ALC420175 | SIDE TANK+PUMP LAYT-MP1603 | MP1540, MP1556 |
| B | | ALC420172 | SIDE TANK+PUMP LAYT-MP1A03 | MP1640, MP1656, MP1650 MP1A50 |
| | | | -----COMPONENTS----- | |
| A | 1 | W4 23593 | SIDE TANK NARROW | |
| B | 1 | W4 23638 | MP1A03 SIDE TANK NARROW | |
| A | 2 | W4 23594 | SIDE TANK WIDE WLDMNT | |
| B | 2 | W4 23640 | MP1A03 SIDE TANK WIDE WLDMNT | |
| A | 3 | W4 23548 | SIDE TANK COVER WLDMT | |
| B | 3 | W4 23643 | MP1A03 SIDE TANK COVER WLDMT | |
| | 4 | 07 10495 | BLANK PUMP STAND COVER | |
| A | 5 | ALC420171 | REUSE PUMP STAND ASSEMBLY | |
| B | 5 | ALC420219 | REUSE PUMP STAND ASSEMBLY | |
| | 6 | 60E312A11A | HOSE 5"ID X 11"LG GATES 75W | |
| | 7 | 27A086 | HOSECLAMP 3+1/8-6"CADSCR#HS-88 | |
| | 8 | 04 23474 | CLEANOUT TANK LEG 4840M | |
| | 9 | 60E201 | HOSE 2"ID W/S GATES#4686-0200 | |
| | 10 | 27A072 | T-BOLT HOSECLAMP2.16-2.47CADSC | |
| | 11 | 5SP3AP4SC | NPT PLUG 3" SQ SK40 PVC | |
| | 12 | 5SP1ADESC | NPT PLUG 1" SQ CORED GAL CI | |
| A | 13 | 04 23629 | SMALL SIDE TANK COVER | |
| B | 13 | 04 23650 | MP1A03 SMALL SIDE TANK COVER | |
| | 14 | W4 23539 | WLMT=HINGE PRESS TANK | |
| | 15 | 04 23540B | PIN=HINGEPUMP MOUNT | |
| | 16 | 27E940A96 | 2X1-6.35PUMP W/3HP TEFC MOTOR | |
| | 17 | 15K171 | HEXCAPSCR 1/2-13UNC2X1+3/4 SS1 | |
| | 18 | 15U310S | FLATWASH-SS .53 X 1.37 .187T | |
| | 19 | 15U310 | LOKWASHER REGULAR 1/2 SS18-8 | |
| | 20 | 15G231S | HXFINJAMNUT 1/2-13UNC2B SS18-8 | |
| | 21 | 15A020S | CARBOLT 3/8-16X1" SS18-8 | |
| | 22 | 15U245 | FLTWASH 3/8 STD COMM 18-8 SS | |
| | 23 | 15U260 | LOCKWASHER MEDIUM 3/8 SS18-8 | |
| | 24 | 15G206 | HEXNUT 3/8-16 UNC2 SS 18-8 | |

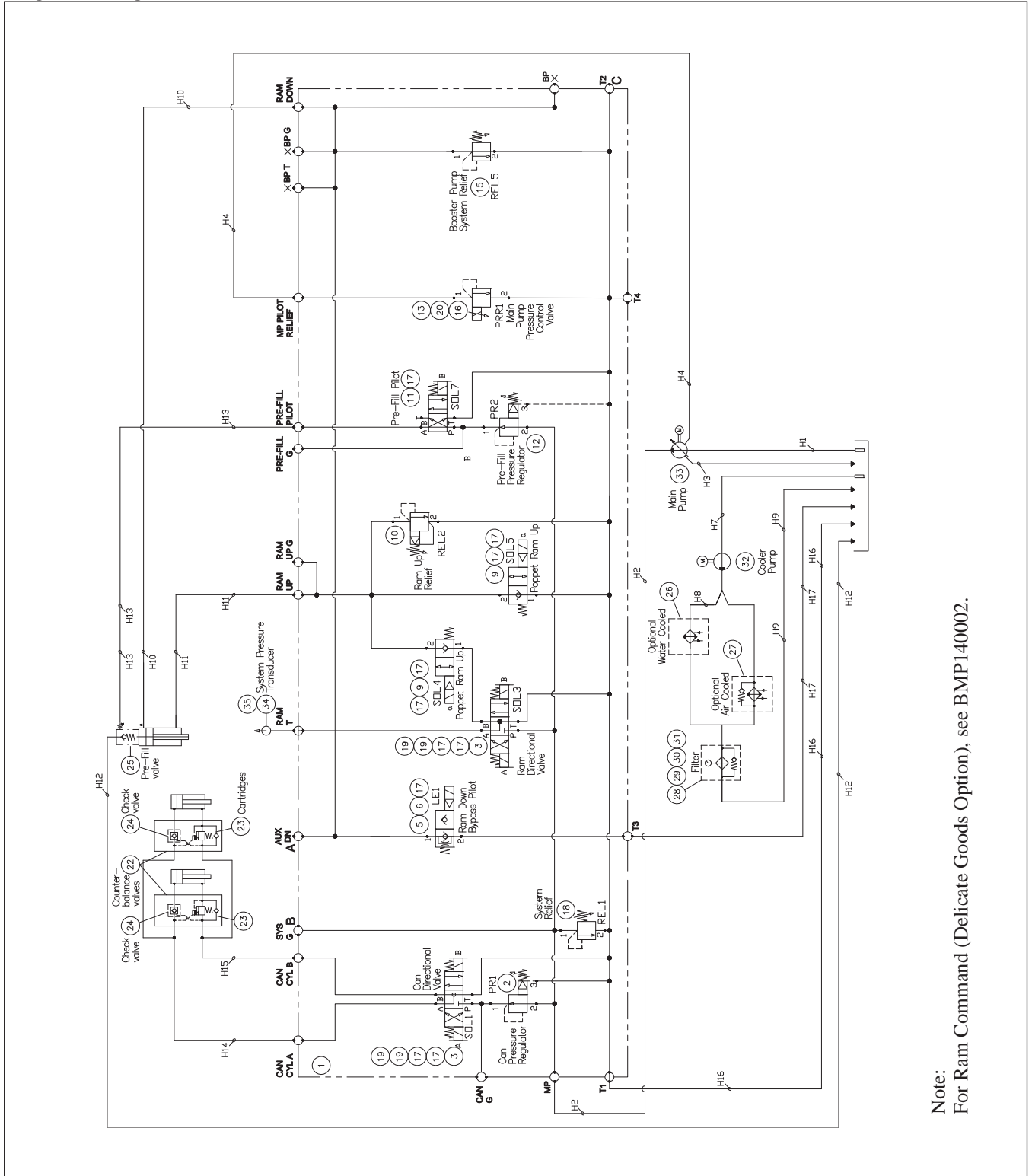
Hydraulic Piping and Assemblies

2

Hydraulic Schematic

MP1540 (96DH462A No Booster Modifications Effective 5/3/2023)

Figure 1: Diagram



Note:
For Ram Command (Delicate Goods Option), see BMP140002.

Hydraulic Schematic

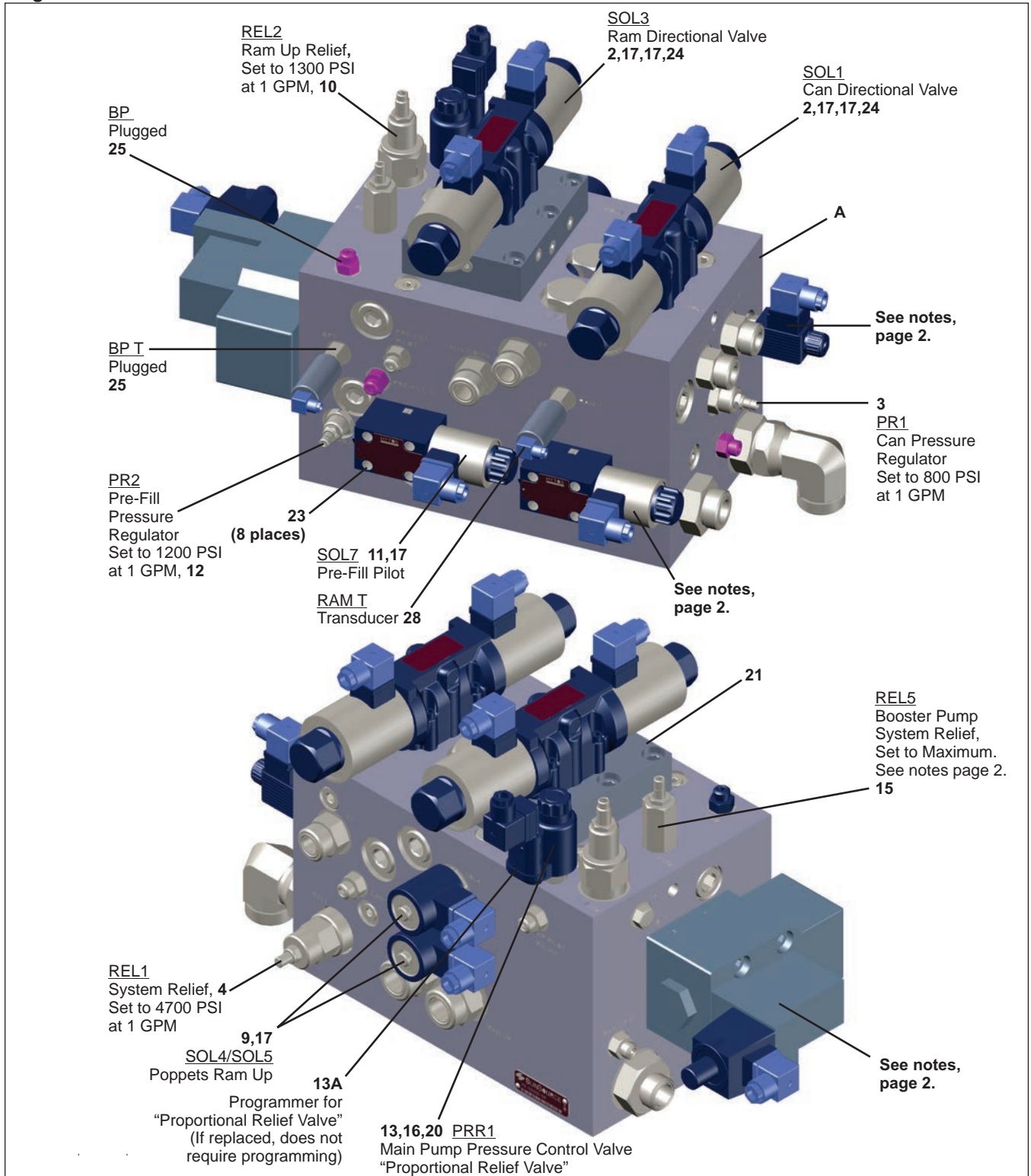
MP1540 (96DH462A No Booster Modifications Effective 5/3/2023)

| Parts List—Hydraulic Schematic | | | | |
|--|------|--------------|---|-----------------------------|
| Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration. | | | | |
| Used In | Item | Part Number | Description | Comments |
| -----REFERENCE ASSEMBLIES----- | | | | |
| | A | AHT10053F | MANIFOLD 96DH462A-NO BOOSTER MOD | Assembly MP1540 |
| | B | 96DH462A | MANIFOLD/VALVES ASSY SUN#FV-11357-V1 REV D | Contains items 2-20 |
| | C | REFERENCE | | Hydraulic System Components |
| -----COMPONENTS----- | | | | |
| A | 1 | 96DH462A | MANIFOLD/VALVES ASSY SUN#FV-11357-V1 REV D | |
| B | 2 | 96DH475A | CARTRIDGE,PRESS.REDUCING VALVE SUN#PBFB-LWN | |
| B | 3 | 96RH709E37 | DIRECT.VALVE CENTER OP 24VDC D05 | |
| B | 5 | 96RH713S01V | PARKER 2-WAY VALVE NO: DSH161N | |
| B | 6 | 96RH713S01C1 | COIL: PARKER 24VDC #CAP024D | |
| B | 9 | 96DH452A01 | POPPET=COIL + CARTRIDGE | |
| B | 10 | 96DH452A04 | RELIEFVAL 300-3000PSI PARKER#RAH161S30 | |
| B | 11 | 96RH712A02 | DIRECTIONAL PILOT VALVE+SOL 24VDC | |
| B | 12 | 96DH430C | CARTRIDGE, SUN #PBDB-LAN | |
| B | 13 | 96RH708E39 | PROPORTIONAL VALVE SUN #RBAP-XWN | |
| B | 15 | 96DH450D | RELIEF VALVE STERLING #A04B2PZN | |
| B | 16 | 12M4240V9F | SOLE.CONN. 240VAC/DC 5M 4 WIRE | |
| B | 17 | 12M348V3F | SOLE.CONN.24VDC/VAC 2M | |
| B | 18 | 96DH440S | RELIEFVAL CARTRIDGE RDHA-LCN | |
| B | 19 | 96RH709E3 | HYTOS 24VDC COIL C31A-02400E1-13.9FB | |
| B | 20 | 96RH713R03 | COIL 24VDC SUN 790-2B24V | |
| C | 22 | 96DH471 | COUNTERBALANCE VALVE-SUN BODY #YEJ | |
| C | 23 | 96DH471A | CARTRIDGE-COUNTERBAL.SUN #CBCA-LHN | |
| C | 24 | 96DH410 | CART., SUN CHECKVALVE CKCB-XCN | |
| C | 25 | 96RH712F | PREFILL VALVE HAWE #F100-45 | |
| C | 26 | 27H11205 | SSPRESS HEAT EXCHANGER THERMAL TRANSFER BPS-24-12X5 | |
| C | 27 | 27HS091AAU | OIL COOLER 8HP@15GPM 50/60 | |
| C | 27 | 27HS091A98 | OIL COOLER 8HP@15GPM 575V | |
| C | 28 | 27E7112 | INTANK RETURN FILTER DONALDSON | |
| C | 29 | 27E7112B | FILTER 11 MIC 8.27"LG DONALDSON P171846 | |
| C | 30 | 27E7112A | FILTER GAUGE-DONALDSON#P171956 | |
| C | 31 | 27E7112C | ELEC.INDICAT-DONALDSON#P171966 | |
| C | 32 | 27E5506 | GEAR PUMP 5/8"SHAFT-HONOR MODEL#2GG1U22R | |
| C | 33 | 27E550466 | PISTON PUMP 45CC | |
| all | 34 | 09N700BA | TRANSDUCER WIKA A-10 0-5000 PSI 0-5VDC | |
| all | 35 | 12M350V6G | CONN.CABLE SOCKET W/MLD LEADS A10 (2 METER CABLE) | |

Manifold and Valves - 96DH462A

MP1540 (96DH462A No Booster Modifications, Effective 5/3/2023)

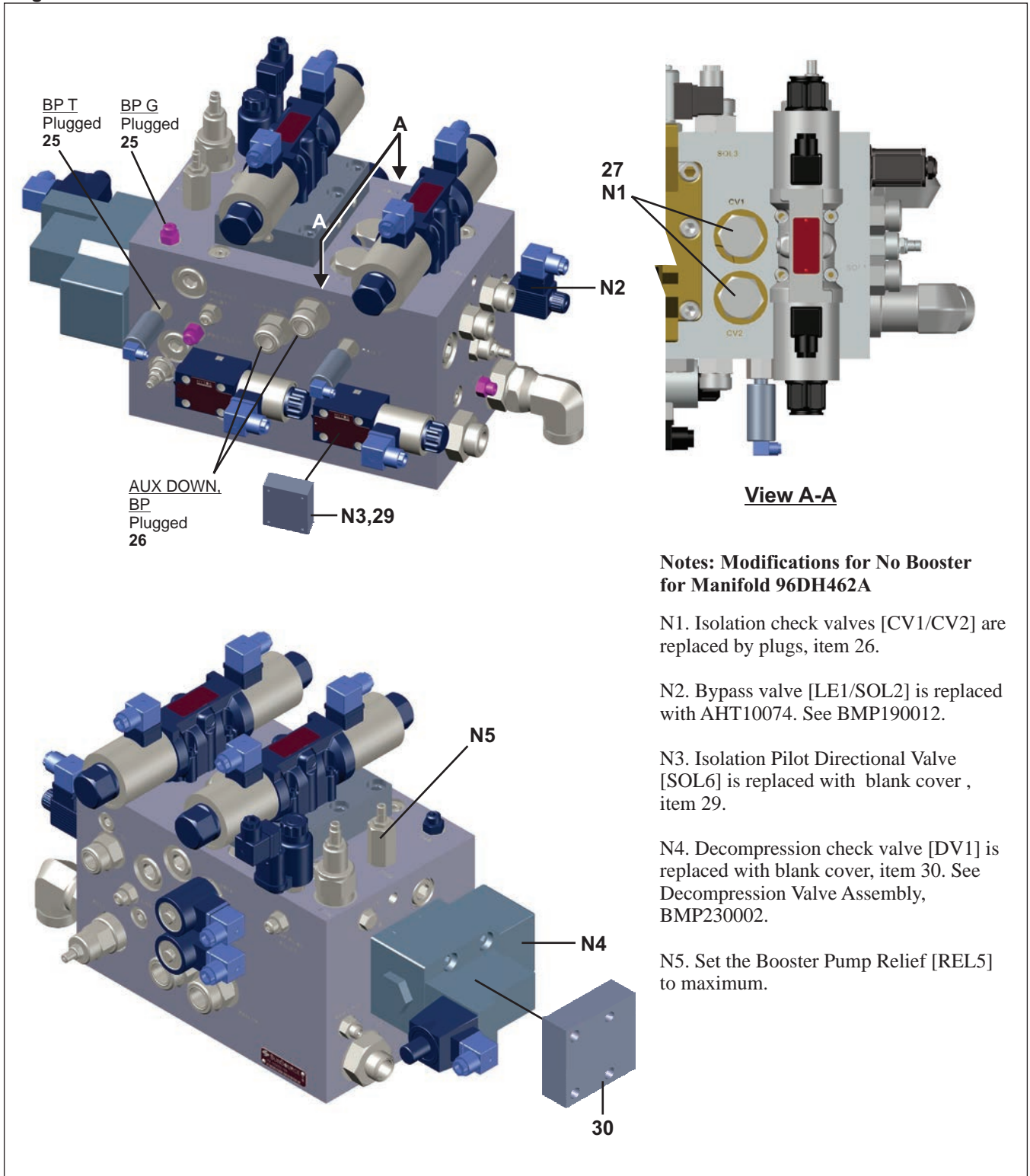
Figure 1: Valves included in Manifold - 96DH462A



Manifold and Valves - 96DH462A

MP1540 (96DH462A No Booster Modifications, Effective 5/3/2023)

Figure 2: Modifications to 96DH462A for No Booster



Notes: Modifications for No Booster for Manifold 96DH462A

N1. Isolation check valves [CV1/CV2] are replaced by plugs, item 26.

N2. Bypass valve [LE1/SOL2] is replaced with AHT10074. See BMP190012.

N3. Isolation Pilot Directional Valve [SOL6] is replaced with blank cover, item 29.

N4. Decompression check valve [DV1] is replaced with blank cover, item 30. See Decompression Valve Assembly, BMP230002.

N5. Set the Booster Pump Relief [REL5] to maximum.

Manifold and Valves - 96DH462A

MP1540 (96DH462A No Booster Modifications, Effective 5/3/2023)

Figure 3: Manifold Hoses

H1-H17 identify hoses. For all hydraulic hoses and part numbers, see BMP170005.

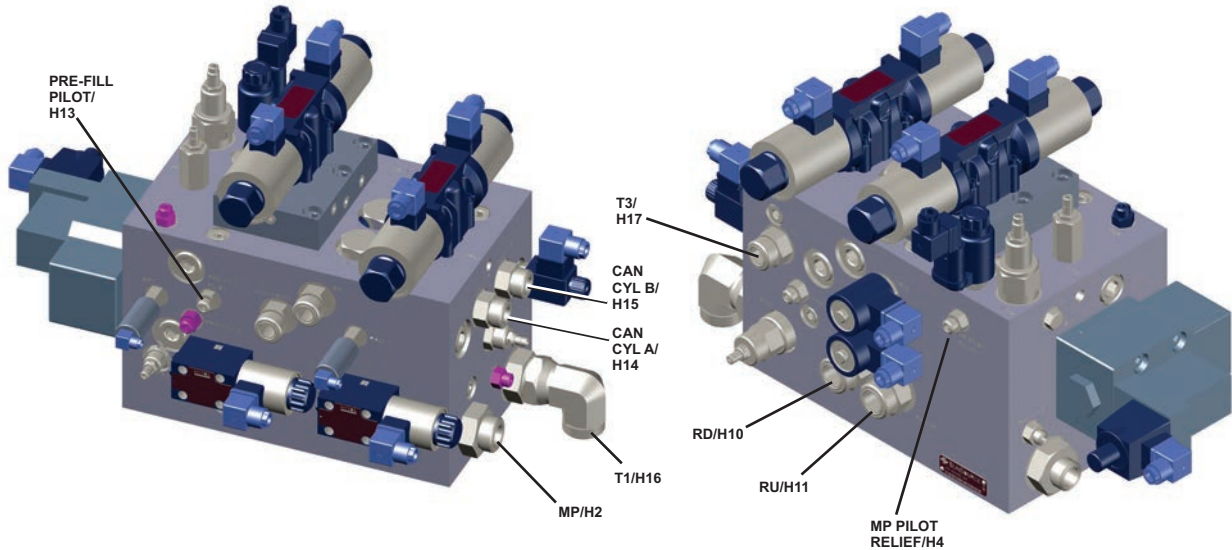
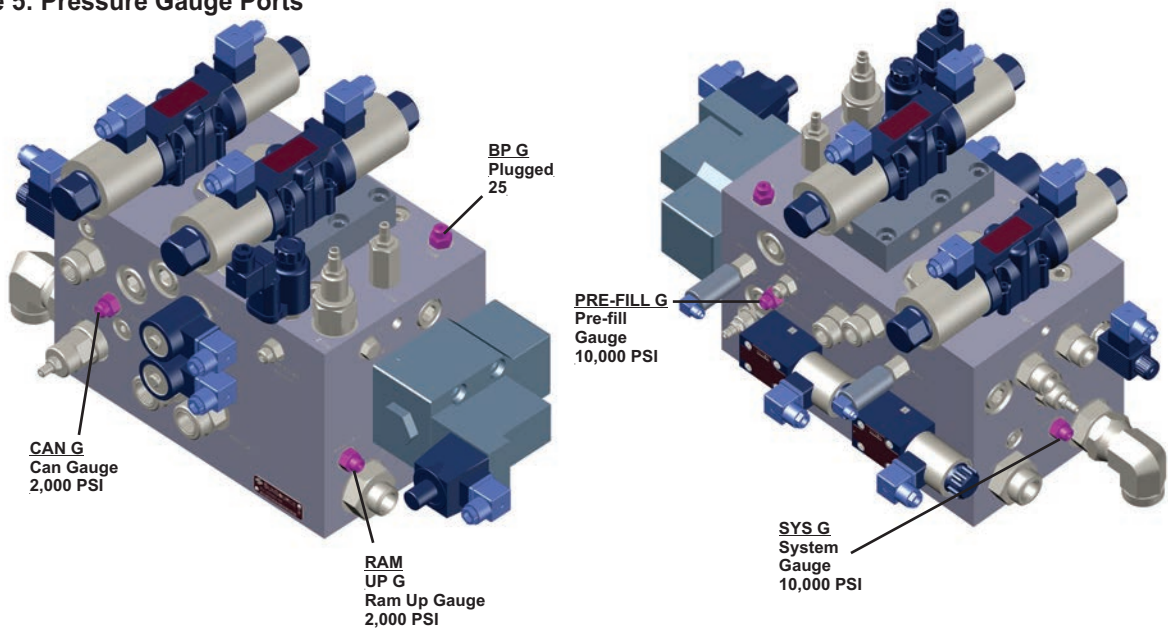


Figure 5: Pressure Gauge Ports



See BMP160039 and BMP160040 for pressure gage assemblies.

Manifold and Valves - 96DH462A

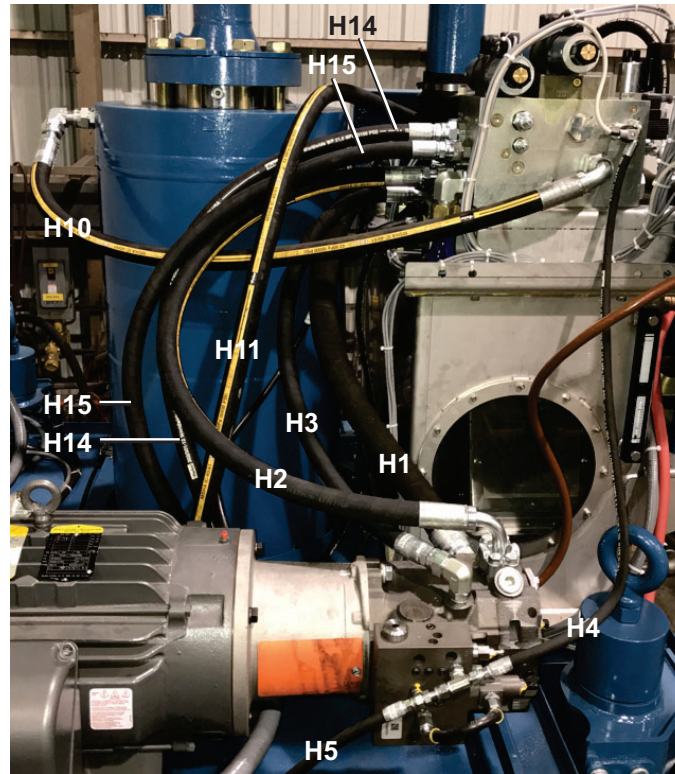
MP1540 (96DH462A No Booster Modifications, Effective 5/3/2023)

| Parts List— Manifold 96DH462A No Booster Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration. | | | | |
|---|------|-------------|---|--|
| Used In | Item | Part Number | Description | Comments |
| | | | -----MANIFOLD ASSEMBLIES----- | |
| | A | 96DH462A | MANIFOLD/VALVES ASSY SUN#FV-11357-V1 REV D | MP1540 (Effective 5/3/23) Contains Items 2-20 |
| | | | -----COMPONENTS----- | |
| A | 2 | 96RH709E37 | DIRECT.VALVE CENTER OP 24VDC D05 | |
| A | 3 | 96DH475A | CARTRIDGE,PRESS.REDUCING VALVE | |
| A | 5 | 96RH713A01 | SUN CARTRIDGE#L0DA-8DN | |
| A | 6 | 96RH713A02 | SPOOL SOL. VALVE 2POS 2WAY-DAAA-MHN | |
| A | 8 | 96RH720 | DIRECT.CONT.VLV.ATOS (D08) | |
| A | 9 | 96DH452A01 | POPPET=COIL + CARTRIDGE | |
| A | 10 | 96DH452A04 | RELIEFVAL 300-3000PSI PARKER#RAH161S30 | |
| A | 11 | 96RH712A02 | DIRECTIONAL PILOT VALVE+SOL 24VDC | |
| A | 12 | 96DH430C | CARTRIDGE, SUN #PBDB-LAN | |
| A | 13 | 96RH708E39 | PROPORTIONAL VALVE SUN #RBAP-XWN | |
| A | 13A | 96RH708E39P | PROGRAMMER-SUN FOR 96RH708E39 | |
| A | 14 | 96RH721 | DECOMPRESS VAL DYNEX#VHD-10S2-EO-24HDDM-20 | |
| A | 15 | 96DH450D | RELIEF VALVE STERLING #A04B2PZN | |
| A | 16 | 12M4240V9F | SOLE.CONN. 240VAC/DC 5M 4 WIRE | |
| A | 17 | 12M348V3F | SOLE.CONN. 24VDC/VAC 2M | |
| A | 18 | 96DH423A | CKVAL PILOT PISTON PARKER STERLING #717910N | |
| A | 19 | 12M324V9F | SOLENOID 24VDC SUN 760-224 | |
| A | 20 | 96RH713R03 | COIL 24VDC SUN 790-2B24V | |
| all | 21 | 96DH485A | DAMAN ADAPTOR #DD05D08VAAB | |
| all | 22 | 15K195 | SOKCAPSCR 1/2-13X3 BLK | |
| all | 23 | 15K022C | SOKCPSCR 10-24UNC X 1-3/4" BLK | |
| all | 24 | 15K043K | SKCPSCR 1/4-20X1.5"BLK | |
| all | 25 | 52PY0GR002 | HEXPLUG 3/8"XOR#6-P50N-SS | |
| all | 26 | 52PY0PR002 | HEXPLUG 3/4"OR #6408-12-0 | |
| all | 27 | 52PY1AR001 | HEX PLUG 1"OR #6408-16-0 | |
| all | 28 | 09N700BA | TRANSDUCER WIKA A-10 0-5000 PSI 0-5VDC | |
| all | 29 | 96RH712A06 | D03 COVER PLATE-DAMAN #AD03CPP | |
| all | 30 | X7 10883 | BLANK COVER PLATE FOR 96RH721 | |

Hydraulic Hoses - Single Manifold Presses with Single Pump

MP1540, MPL556, MPL640, MPL650, MPL656

Figure 1: Hoses Overview



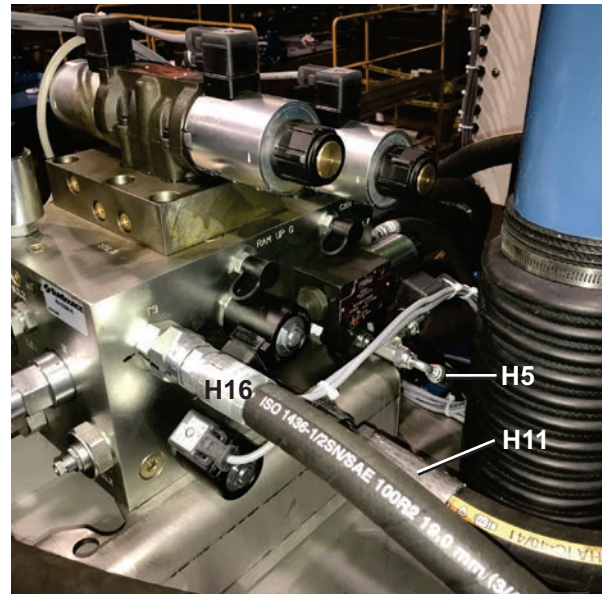
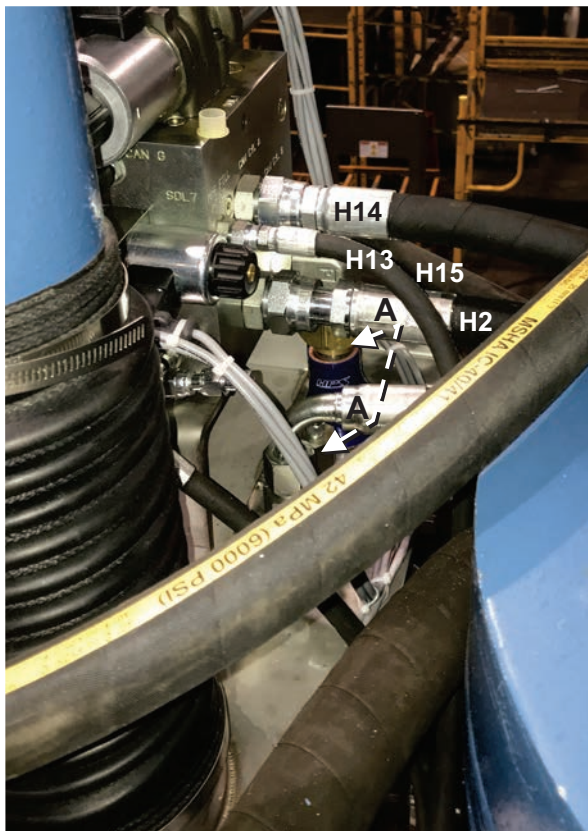
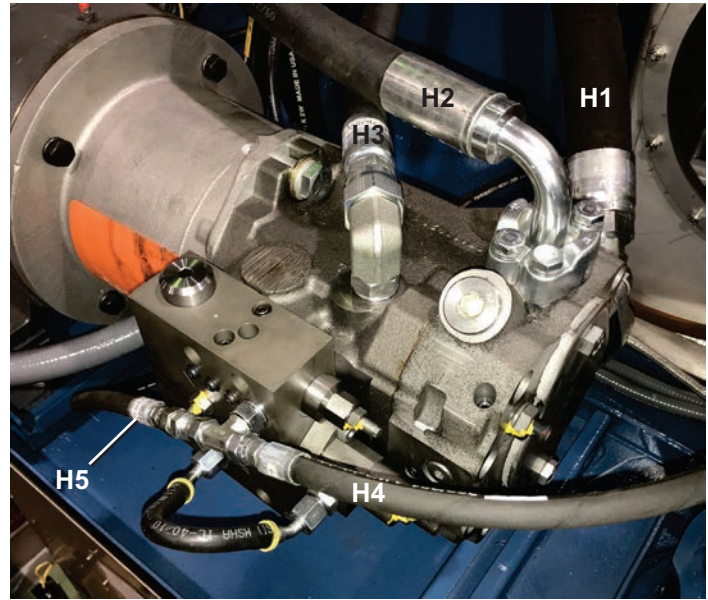
| Function: | Hose # | Models | | | |
|--------------------------------|--------|-------------|--|------------|--|
| | | MP1540CL/CR | MPL556CL/CR MPL640CL/CR MPL650CL/CR MPL656CL/CR | MP1540L/R | MPL556L/R MPL640L/R MPL650L/R MPL656L/R |
| Main Pump Suction | H1 | 60EH86C50A | 60EH86C46B | 60EH86C70A | 60EH86C66A |
| Main Pump Outlet | H2 | 60EH82C60A | 60EH82C46A | 60EH82C60A | 60EH82C46A |
| Main Pump Case Drain | H3 | 60EH50C46A | 60EH50C36B | 60EH50C54A | 60EH50C50A |
| LS Proportional Valve Pressure | H4 | 60EH21C40A | 60EH21C80A | 60EH21C65A | 60EH21C80A |
| LS System Pressure | H5 | N/A | 60EH21C40A | N/A | 60EH21C80A |
| Recirculation Pump Suction | H7 | 60EH81C66A | 60EH81C66A | 60EH81C66A | 60EH81C66A |
| Recirculation Pump Outlet | H8 | 60EH50C48D | 60EH50C48D | 60EH50C48D | 60EH50C48D |
| Cooler Return | H9 | 60EH50C22B | 60EH50C22B | 60EH50C22B | 60EH50C22B |
| Ram Down | H10 | 60EH82C48A | 60EH82C48A | 60EH82C48A | 60EH82C48A |
| Ram Up | H11 | 60EH82C87A | 60EH82C87A | 60EH82C87A | 60EH82C87A |
| Ram Seal Drain | H12 | 60E076B078 | 60E076B078 | 60E076B078 | 60E076B078 |
| Prefill Valve Pilot | H13 | 60EH21C40A | 60EH21C40A | 60EH21C40A | 60EH21C40A |
| Can Up | H14 | 60EH50C66A | 60EH50C66A | 60EH50C66A | 60EH50C66A |
| Can Down | H15 | 60EH50C66A | 60EH50C66A | 60EH50C66A | 60EH50C66A |
| ByPass Drain | H16 | 60EH50C20A | 60EH50C20A | 60EH50C20A | 60EH50C20A |

For Hose Descriptions, See Parts List , Page 5.

Hydraulic Hoses - Single Manifold Presses with Single Pump

MP1540, MPL556, MPL640, MPL650, MPL656

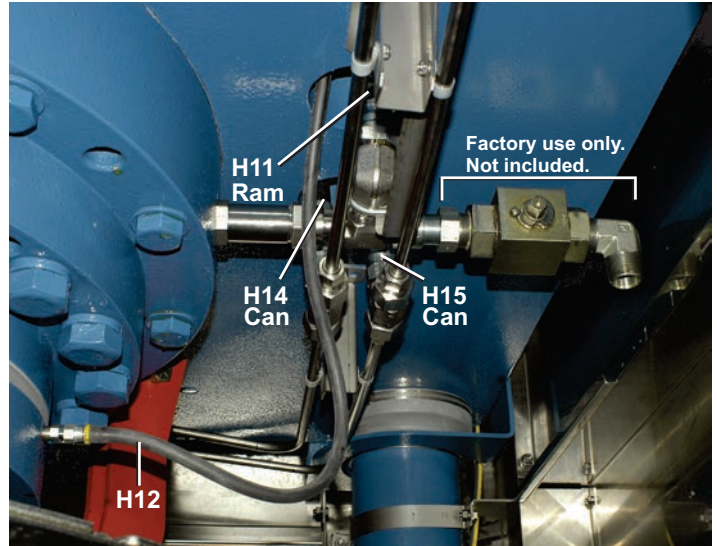
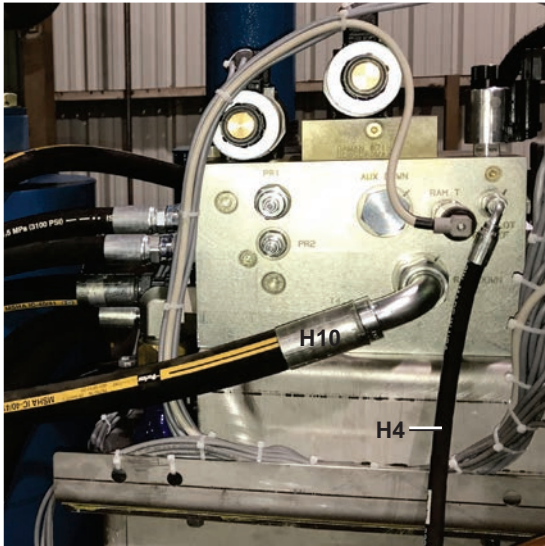
Figure 2: Pump, Manifold, and Tank Hoses



Hydraulic Hoses - Single Manifold Presses with Single Pump

MP1540, MPL556, MPL640, MPL650, MPL656

Figure 3: Manifold, Tank, and Ram Hoses



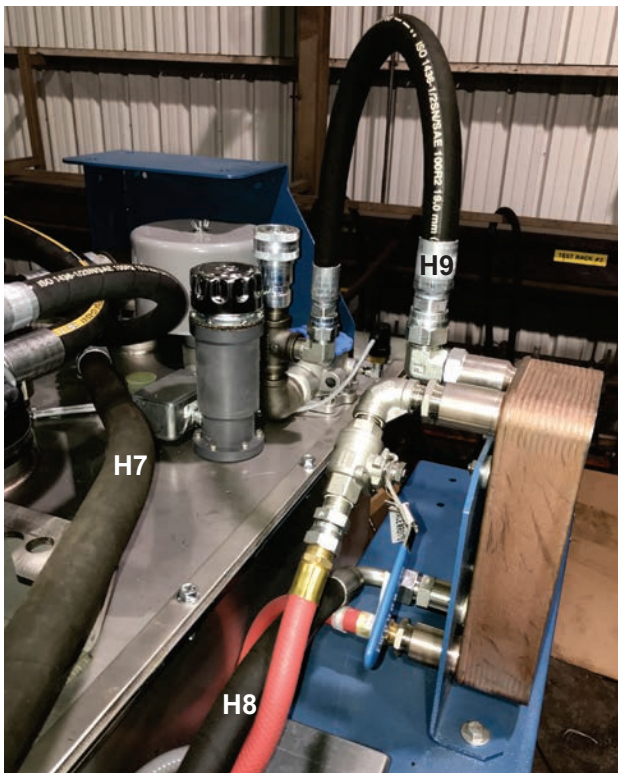
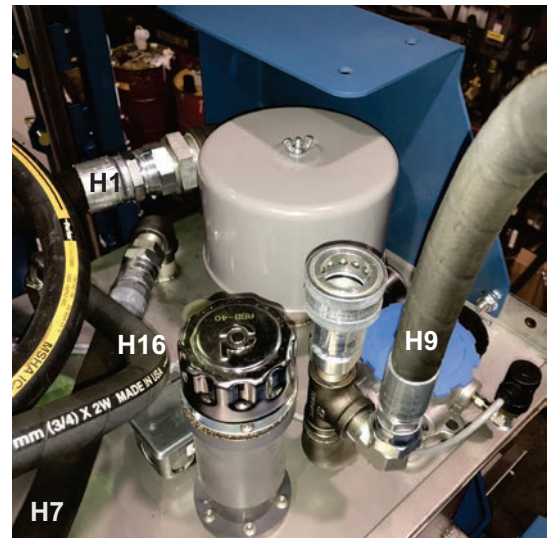
Hydraulic Hoses - Single Manifold Presses with Single Pump

MP1540, MPL556, MPL640, MPL650, MPL656

Figure 4: Manifold, Tank, Ram, and Cooler Hoses



View A-A:



Hydraulic Hoses - Single Manifold Presses with Single Pump

MP1540, MPL556, MPL640, MPL650, MPL656

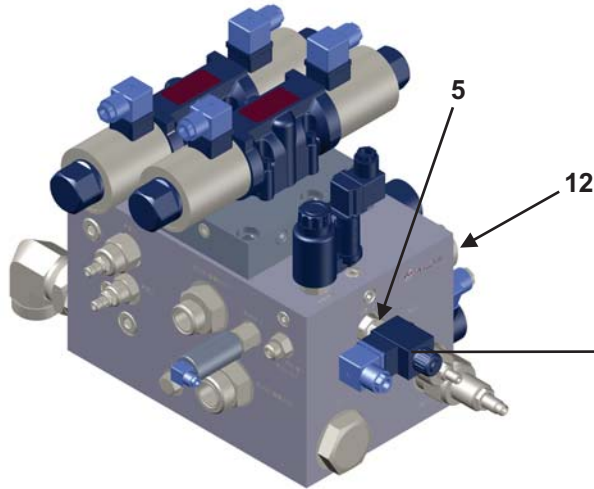
Parts List—Hydraulic Hoses

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

| Used In | Item | Part Number | Description | Comments |
|---|------|-------------|--|----------|
| -----REFERENCE ASSEMBLIES----- | | | | |
| | A | AHT10032F | HYD TANK ASSY-MP1540 | |
| | B | AHT10032K | HYD TANK ASSY-MPL550/640/650 | |
| | C | AHT10032L | HYD TANK ASSY-MPL556/656 | |
| -----HOSES ALPHABETICALLY WITH DESCRIPTIONS, SEE CHART PAGE 1.----- | | | | |
| | | 60E076B078 | HOSE ASSY 1/4"X78"LG+ENDS | |
| | | 60EH21C40A | ASSY=HYDRAULIC HOSE 1/4 X40LG | |
| | | 60EH21C65A | HYDHOSE 1/4"STRFEMORSWX90FEMORSW=65" | |
| | | 60EH21C80A | ASSY=HYDRAULIC HOSE 1/4"X80"LG | |
| | | 60EH50C20A | HYDHOSE 3/4" 90FJIC+STRFOR=20" | |
| | | 60EH50C22B | HYD HOSE 2-STRFEMSW 3/4"X22"LG | |
| | | 60EH50C36B | HYD HOSE 3/4"90FJICXSTRFOR=36" | |
| | | 60EH50C46A | HYDHOSE 3/4"90FJICSWXSTRFEMORSW=46" | |
| | | 60EH50C48D | HYD HOSE 90+STR.FMORSW 3/4"X48"LG | |
| | | 60EH50C50A | HYDHOSE 3/4"90FJICSWXSTRFEMORSW=50" | |
| | | 60EH50C54A | HYDHOSE 3/4"90FJICSWXSTRFEMORSW=54" | |
| | | 60EH50C66A | HYD HOSE 2-STRFEMSW 3/4"X66"LG | |
| | | 60EH81C66A | HYD FLEX HOSE 2-STRFEMSW 1"X66"LG | |
| | | 60EH82C46A | HYDHOSE 1"FMSWX3/4"90CODE62-46"LG | |
| | | 60EH82C48A | HYDHOSE 1"FMSWX1"90FMSW-48"LG | |
| | | 60EH82C60A | HYDHOSE 1"FMSWX1"90FMSW-60"LG | |
| | | 60EH82C87A | HYDHOSE 1" 2-STRFOR=87"LG | |
| | | 60EH86C46B | HYDHOSE 1-1/2"X46" STRFEMSWJICX45CD61 | |
| | | 60EH86C50A | ASSY=HYDRALIC HOSE 1-1/2"X50" | |
| | | 60EH86C66A | HYDHOSE 1-1/2"X66" STRFEMSWJICXSTRCD61 | |
| | | 60EH86C70A | ASSY=HYDRALIC HOSE 1-1/2"X70" | |

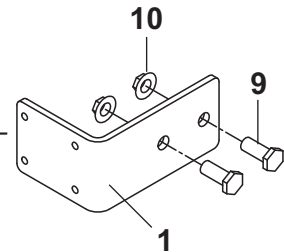
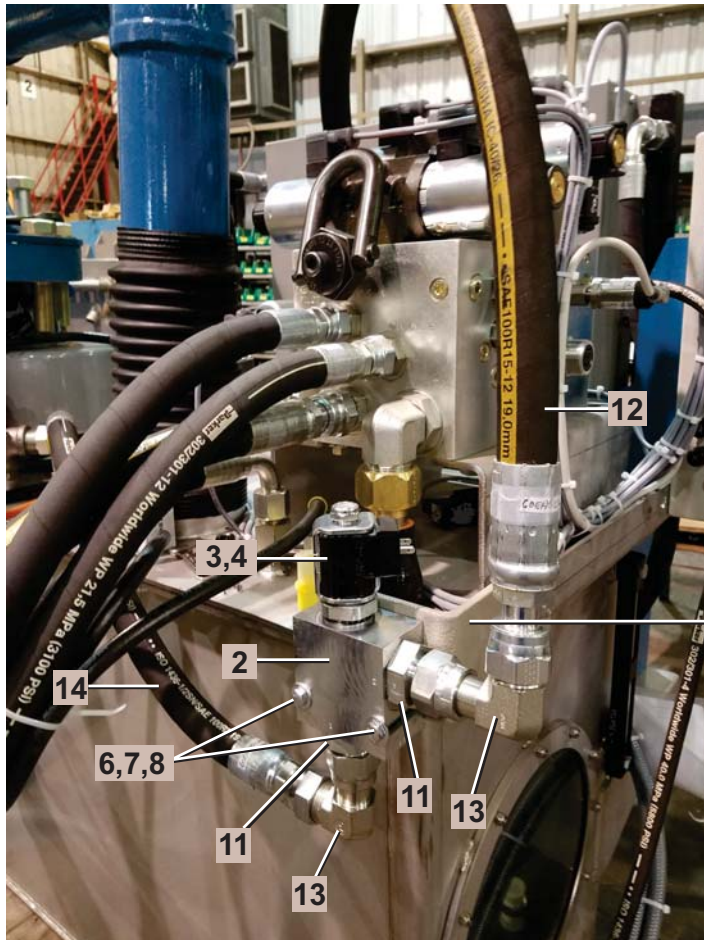
Larger Bypass Valve and Retrofit

MP1540, MP1556, MP1640, MP1650, MP1656, MP1A50
MPL550, MPL556, MPL640, MPL650, MPL656



(For Presses produced between 11/2020 and 1/30/2021)

SOL2
Ram Down Bypass Pilot & Solenoid
(Remove valve and replace with plug.
Add larger bypass valve as shown below.)



SOL2 Larger Ram Down Bypass Valve Assembly and Retrofit

Larger Bypass Valve and Retrofit

**MP1540, MP1556, MP1640, MP1650, MP1656, MP1A50
MPL550, MPL556, MPL640, MPL650, MPL656**

Parts List

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

| Used In | Item | Part Number | Description | Comments |
|----------------------|------|-------------|---|---|
| -----ASSEMBLIES----- | | | | |
| | A | AHT10074 | BYPASS 2-WAY VALVE-24VDC ASSY | 24VDC |
| | B | AHT10074A | BYPASS 2-WAY VALVE-115VAC ASSY | 115VAC |
| | C | 96DH463 | MAIN MANIFOLD NON-BOOSTER SUN#FV-11338-V1 | THIS BYPASS IS FOR SINGLE PUMP PRESSES BUILT BETWEEN 11/2020 & 1/31/21, USING THIS MANIFOLD |
| -----COMPONENTS----- | | | | |
| | all | 1 | 07 10853 | BYPASS MANIFOLD BRKT |
| | all | 2 | 96RH713S01B | BODY: B16-2-16T |
| | all | 3 | 96RH713S01V | PARKER 2 WAY VALVE : DSH161N |
| | A | 4 | 96RH713S01C1 | COIL: CAP024D 24VDC |
| | B | 4 | 96RH713S01C2 | COIL: 115VAC #CAP115D |
| | all | 5 | 96RH713S01P | SUN CAVITY PLUG: XEOAXXN |
| | all | 6 | 15K047 | HXCAPSCR 1/4-20UNCX2+1/2 ZINC |
| | all | 7 | 15U185 | FLATWASHER(USS STD) 1/4" ZNC P |
| | all | 8 | 15G178 | 1/4"-20 HEXFLANGE NUT ZINC |
| | all | 9 | 15K151 | HXCAPSCR 1/2-13UNC2AX1.25 GR5 |
| | all | 10 | 15G222B | HEXFLGNUT 1/2-13 ZINC SERRATED |
| | all | 11 | 52ZC00S004 | TUBESTRCON3/4X1"OR#12-16 F5OLO-S |
| | all | 12 | 60EH51C36A | ASSY=HI-PRESSURE HOSE 3/4"X36"LG |
| | all | 13 | 52ZJ00S006 | TUBEFIT90EL3/4"#12 C6LO-S |
| | all | 14 | 60EH50C20A | 3/4"90FJICSWXSTRFEMORSW=20" |

Pressure Gauges

MP1540, MP1556, MP1640, MP1650, MP1656
 MPL556, MPL640, MPL650, MPL656



CAUTION: Damage hazard — High pressure will destroy the low pressure gauge.
 • Do not connect the 2,000 PSI (138 Bar) gauge to a 10,000 PSI (689 Bar) port.

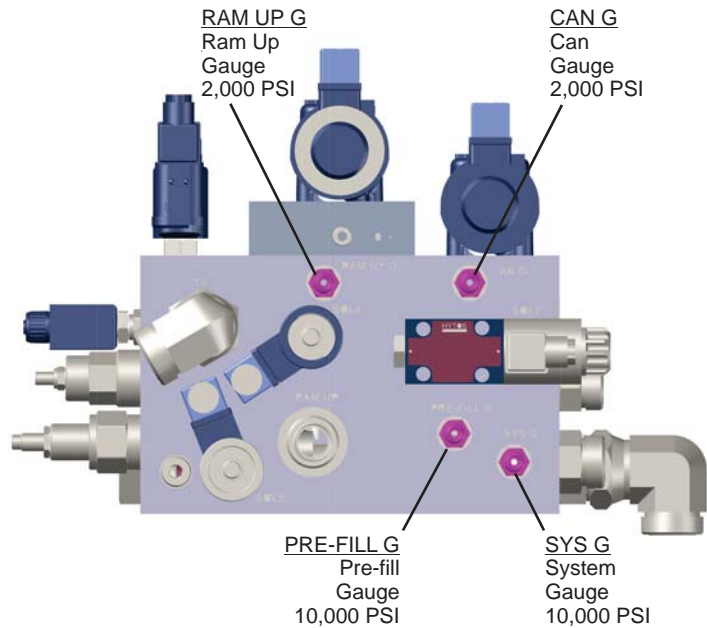
Pressure gauge assemblies:

Pressure gauges are not mounted on the machine. The gauges are shipped with the machine for use in servicing as needed. Each gauge assembly includes: gauge, hose, fittings, oring, and quick disconnect. Both 2,000 PSI & 10,000 PSI gauges are required to service the machine.



1
2,000 PSI

2
10,000 PSI



Parts List—Pressure Gauges

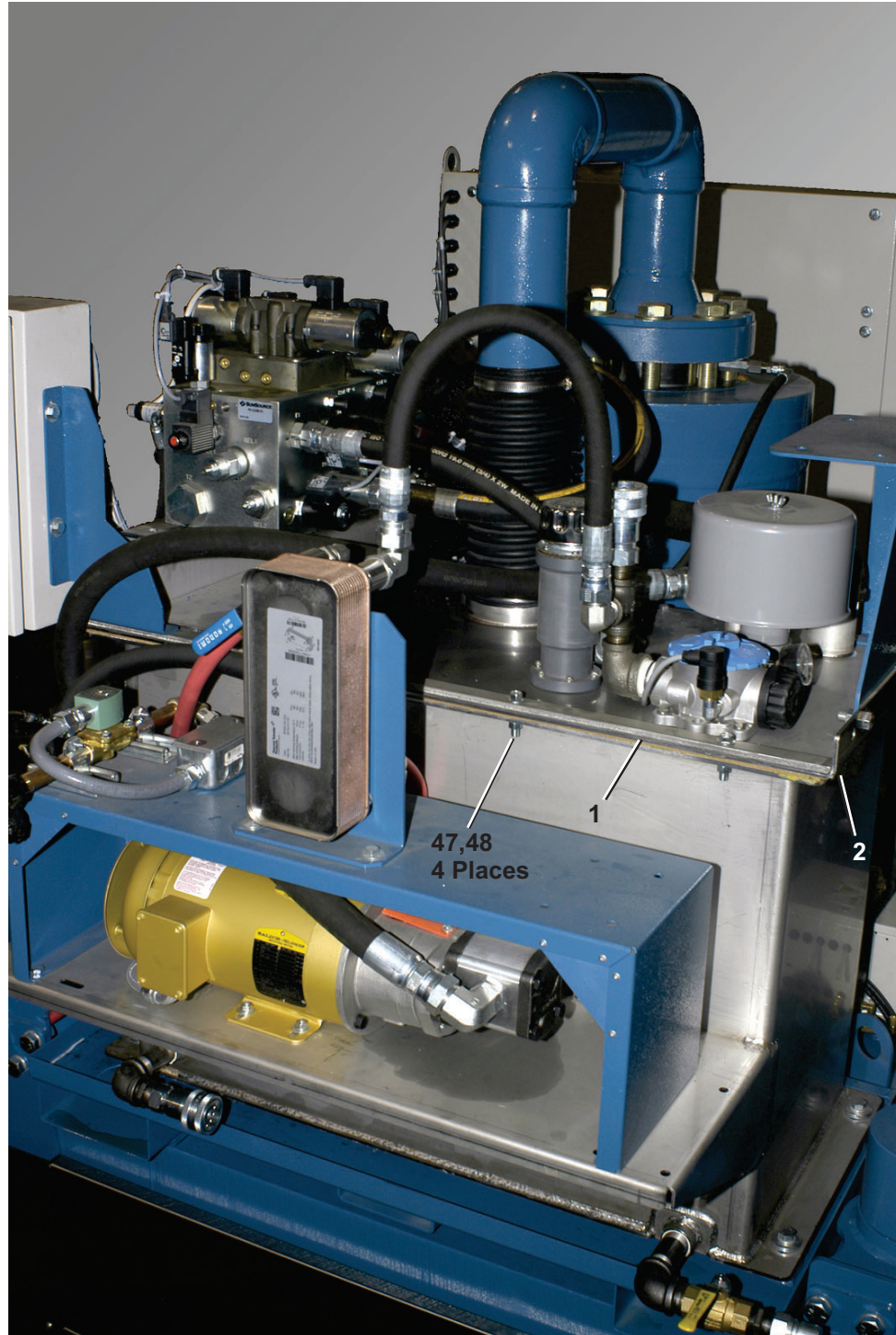
Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

| Used In | Item | Part Number | Description | Comments |
|----------------------|------|-------------|--|-----------|
| | A | AHT10053D | MAIN MANIFOLD ASSY/NON BOOSTER-96DH463 | REFERENCE |
| -----COMPONENTS----- | | | | |
| all | 1 | AHT10053B | PRESS-2,000PSI TEST GAUGE | |
| all | 2 | AHT10053C | PRESS-10,000PSI TEST GAUGE | |

Hydraulic Tank

MP1540, MPL556, MPL640, MPL650, MPL656 — Single Manifold, Single Pump Presses

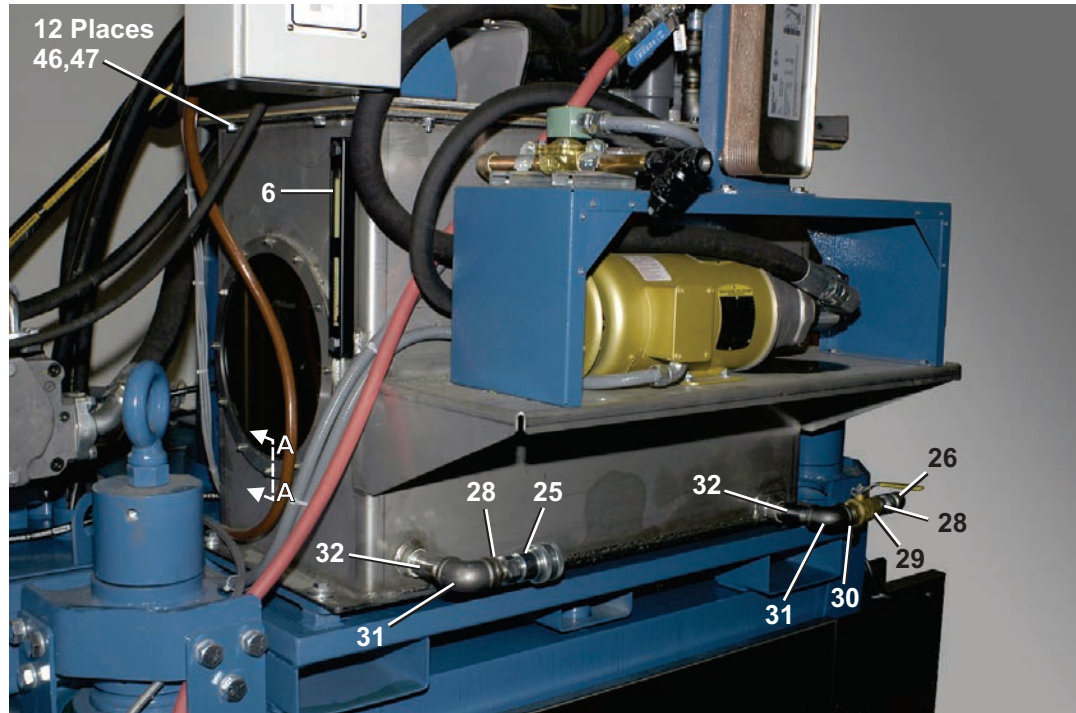
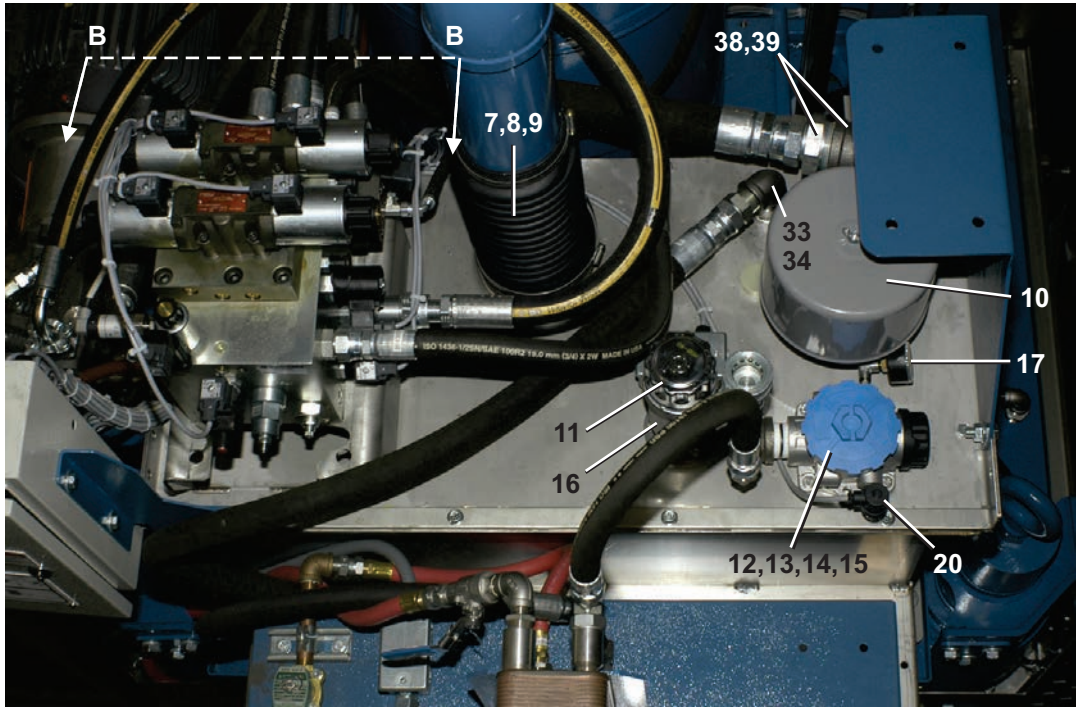
Figure 1: Hydraulic Tank Overview



Hydraulic Tank

MP1540, MPL556, MPL640, MPL650, MPL656 — Single Manifold, Single Pump Presses

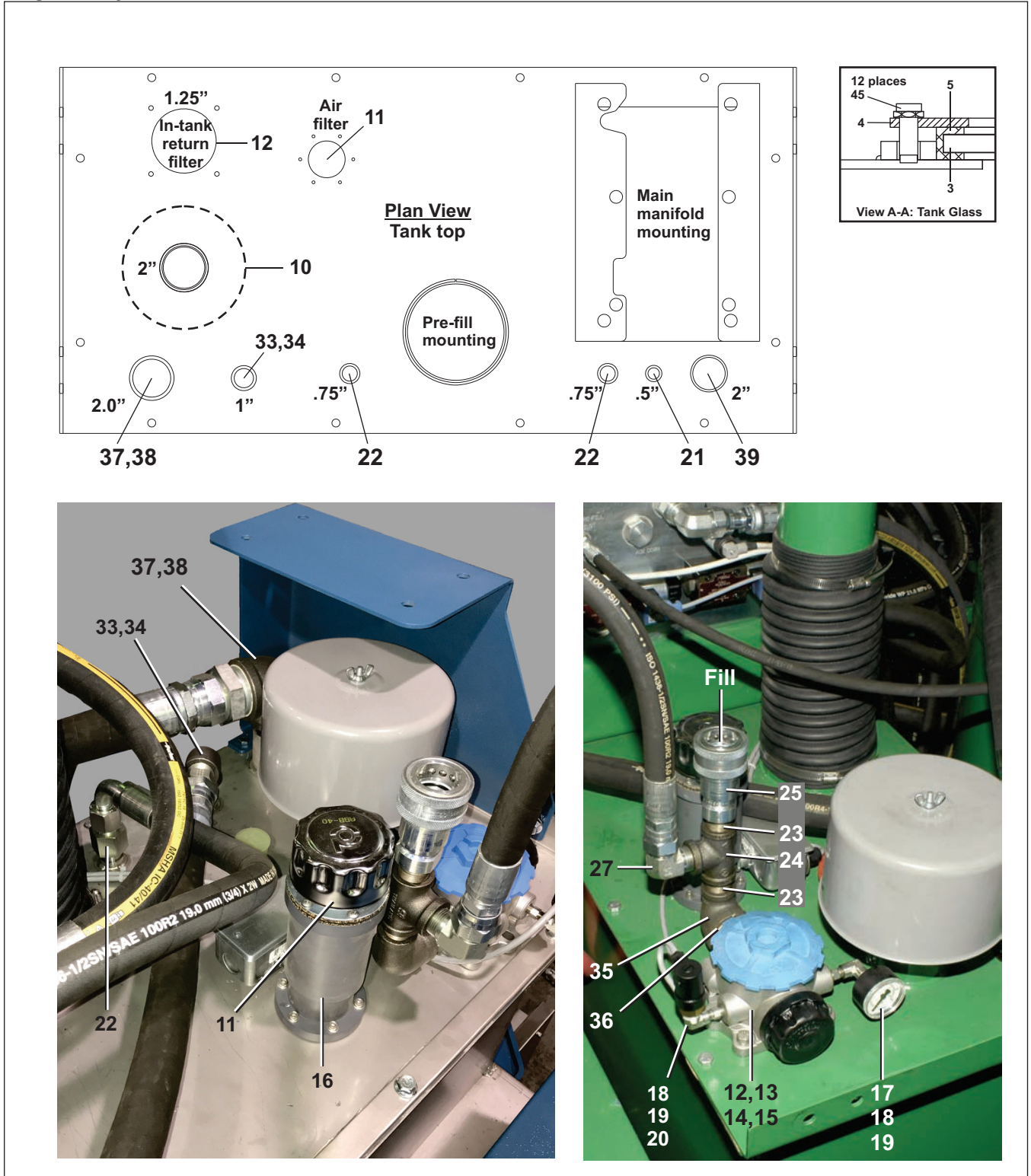
Figure 2: Hydraulic Tank Overview



Hydraulic Tank

MP1540, MPL556, MPL640, MPL650, MPL656 — Single Manifold, Single Pump Presses

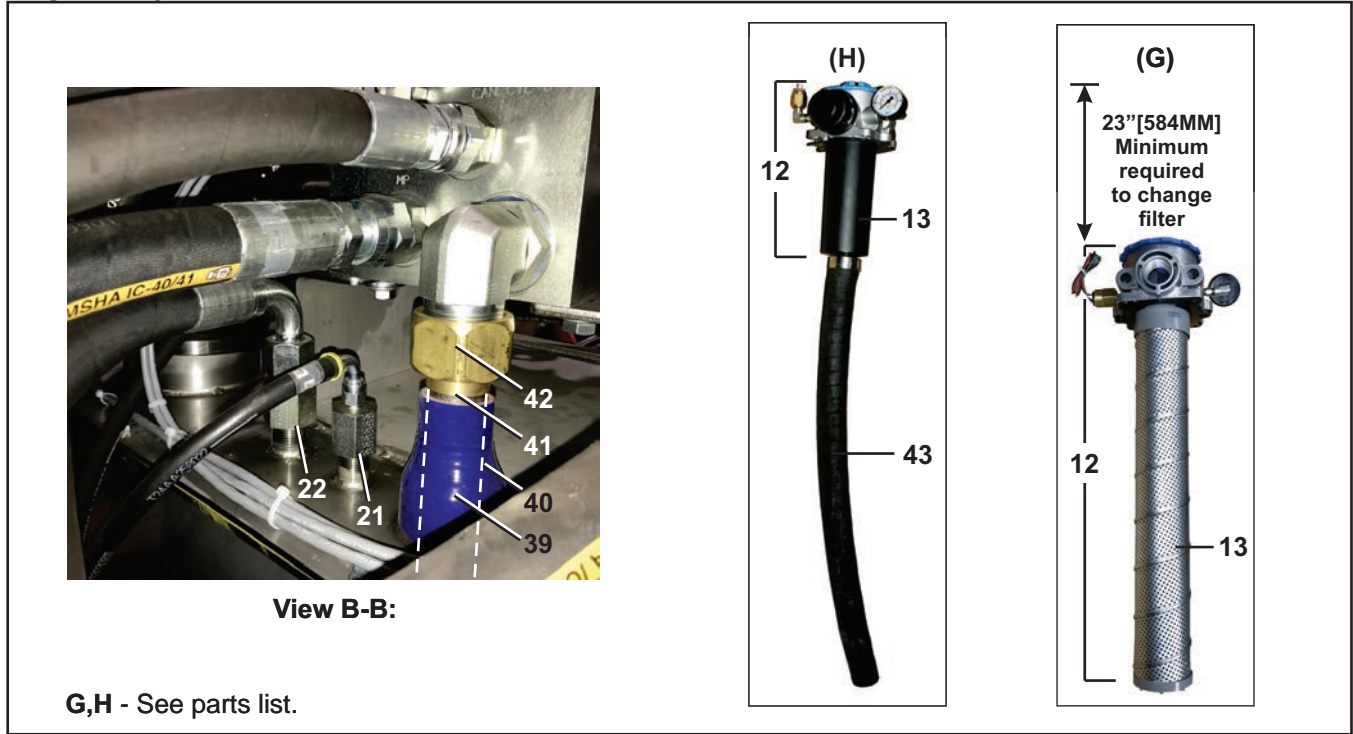
Figure 3: Hydraulic Tank Overview



Hydraulic Tank

MP1540, MPL556, MPL640, MPL650, MPL656 — Single Manifold, Single Pump Presses

Figure 4: Hydraulic Tank Details



G,H - See parts list.

Parts List—Hydraulic Tank

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

| Used In | Item | Part Number | Description | Comments |
|--------------------------------|------|-------------|--|---|
| -----REFERENCE ASSEMBLIES----- | | | | |
| | A | AHT10032F | HYD TANK ASSY-MP1540 | MP1540 |
| | B | AHT10032K | HYD TANK ASSY-MPL550/640/650 | MPL550/640/650 |
| | C | AHT10032L | HYD TANK ASSY-MPL556/656 | MPL556/656 |
| -----ASSEMBLIES----- | | | | |
| ABC | D | AHT10052B | PRESS HYD TANK/TOP ASSY | Tank Assembly (This drawing) |
| | E | AHT10051B | PRESS HYD TANK ASSY-MP15/16XX | Part of D |
| | F | AHT10070 | MP15/16XX HYD TANK TOP ASSY | Part of D |
| | G | AHT10066A | INTANK RETURN FILTER ASSEMBLY | Used on F Models Produced After 01/2021 |
| | H | AHT10066 | INTANK FILTER+3/4FEM QUICKCONN | Models Produced Before 01/2021 |
| -----COMPONENTS----- | | | | |
| all | 1 | 07 10530 | HYDTANK TOP GASKET-LONG SIDE | |
| all | 2 | 07 10530A | HYDTANK TOP GASKET-SHORT SIDE | |
| all | 3 | 02 09215 | DRGLASS 12 3/8DIA SS STAMPED | |
| all | 4 | 07 10392 | RING=DOOR GLASS PRESSURE-SSPRESS | |
| all | 5 | 02 02366C | DOORGLASS GASKET 11"OD-NITRILE BLK | |
| all | 6 | 27E7303 | LEVEL INDICATOR W/THERM-STAUFF | |
| all | 7 | 60E095 | 4.5"/5.75" X 12"LG.#45A450575 | |
| all | 8 | 27A086 | HOSECLAMP 3+1/8-6"CADSCR#HS-88 | |
| all | 9 | 27A087 | HOSECLAMP 4+1/16-5"CADSCR#HS72 | |
| all | 10 | 27E7116 | BREATHER 5 MCRN 135CFM LDI#AB-E31P-200 | |

Hydraulic Tank

MP1540, MPL556, MPL640, MPL650, MPL656 — Single Manifold, Single Pump Presses

Parts List—Hydraulic Tank

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

| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|--|----------|
| all | 11 | 27E7201 | FILLER-BREATH-FILT.LHA#ABB-40N DONALDSON P562603 | |
| H | 12 | 27E7112 | INTANK RETURN FILTER DONALDSON | |
| G | 12 | 27E7120 | INTANK FILTER 5MCR 19"LG+35PSI SW | |
| H | 13 | 27E7112B | FILTER 11 MIC 8.27"LG DONALDSON P171846 | |
| G | 13 | 27E7112E | FILTER FOR 27E7120-DONALDSON Eb1254 | |
| all | 14 | 27E7112A | FILTER GAUGE-DONALDSON#P171956 | |
| H | 15 | 27E7112C | ELEC.INDICAT-DONALDSON#P171966 | |
| G | 15 | 27E7112F | PRES.SW FOR 27E7120-DONALDSON #G50E | |
| all | 16 | AHT10067 | LEVEL/TEMP INDICATOR SW-MP15/16XX | |
| all | 17 | 27E7112A | FILTER GAUGE-DONALDSON#P171956 | |
| all | 18 | 52JY0CR001 | ELBOW 1/8"FEM.#5504-02-02 | |
| all | 19 | 52LY0CR001 | HEXPIPNIP 1/8"XCLOSE#5404-2-2 | |
| all | 20 | 27E7106C | EPS-1 - SWITCH=27E7106 STAUFF | |
| all | 21 | 52AY0ER009 | STR.1/4"MJICX1/2MP#2404-4-8 | |
| all | 22 | 52XY0KR037 | 3/4"FNPT X 12 MJIC #12 GTX-S | |
| all | 23 | 5N0PCLSF42 | NPT NIP 3/4XCLS TBE BLKSTLSK40 | |
| all | 24 | 5S0PMFA | NPT TEE 3/4" BLKMAL 150# | |
| all | 25 | 52XY0BP00X | 3/4"QUICK DISCONN.FEM #H6-62 | |
| all | 26 | 52XY0BP00Y | 3/4"QUICK DISCONN.MALE#H6-63 | |
| all | 27 | 52ZJ00S007 | TUBEFIT90ELFCSL3/4"#12 CLO-S | |
| all | 28 | 5SB1A0PFEO | NPTHEXBUSH 1X3/4 BLKSTL 125# | |
| all | 29 | 96D084 | BALL VALVE BRZ 1"=BONOMI 171N | |
| all | 30 | 5N1ACLSF42 | NPT NIP 1X CLS TBE BLKSTL Sk40 | |
| all | 31 | 5SL1AMFA | NPT ELBOW 90DEG 1" BLKMAL 150# | |
| all | 32 | 5N1A03KF42 | NPT NIP 1X3.5 TBE BLK STL SK40 | |
| all | 33 | 52JY1AR003 | ELB.90 1"MJXFJCSW #6500-16-16 | |
| all | 34 | 27E7111 | SUCT.STRAINER=EZYFLO#S-15-100 | |
| all | 35 | 5SL1EFFA0P | NPTELB 90DEG 1.25X3/4BLKMAL150 | |
| all | 36 | 5N1ECLSF42 | NPT NIP 1.25XCLS TBE BLKSTLS40 | |
| all | 37 | 52XY1AP014 | STRADAPT 1 1/2"MJICX2"MNPT/#24-32 FTX-S | |
| all | 38 | 5SL2AMFA | NPT ELB 90DEG 2" BLKMAL 150# | |
| all | 39 | 60E022 | HOSE REDUCER 2"X1.25" 5-PLY SILICONE | |
| all | 40 | 07 10600 | MANIFOLD DRAIN 37JIC-FLARE 1-1/4"X28"LG | |
| all | 41 | 52ZX00S008 | TUBEFIT-BRASS SLV.1.25"#20 TX-B | |
| all | 42 | 52ZX00S007 | TUBEFIT-BRASSNUT 1.25"#20 BTX-B | |
| all | 43 | 60E098 | HOSE 1.5" WATER SUCTION HOSE | |
| all | 44 | 27A060S | HOSECLAMP1+5/16-2.25SSSC#HSS28 | |
| all | 45 | 15G240 | HXNUT 3/4-10UNC2B SAE ZINC GR2 | |
| all | 46 | 15K095 | HXCPSCR 3/8-16UNC2AX1 GR5 ZINC | |
| all | 47 | 15G198 | HXFLGNUT 3/8-16 ZINC | |
| all | 48 | 15K110 | HEXCAPSCR 3/8-16UNC2AX1.5 GR5- | |

Hydraulic Oil Add

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This dealer instruction applies to all Milnor 1–stage presses—the newer, single-manifold models, the older multi-manifold models, and all sizes, up to and including the MP1A_ models. However, the procedures vary somewhat, across models. Where this occurs, the differences are explained. This instruction explains:

- how to add oil at installation or after major hydraulic component replacement
- how to replace oil that has become unserviceable

The procedure to top off the hydraulic oil when it falls below full is routine maintenance that can be performed by the customer, and is explained in the maintenance guide.

Whenever hydraulic oil is added to the 1–station press, it is always necessary to pass the oil through a clean filter of the correct mesh size. Even new oil, as it comes in the container, is not sufficiently clean. A very serious consequence of failure to pass the oil through a filter is ram scoring. If this occurs, it will become necessary to replace this costly component.



CAUTION: **Insufficient or bad lubricant** — will decrease the life of components.



- ▶ Add lubricant as specified in this instruction.
- ▶ Make sure that all equipment and fittings used to apply lubricants are clean.
- ▶ Use only the given lubricants or lubricants that have the same specifications.

The filter through which oil added to the press is passed can be internal (a press component) or external (typically on an oil filter cart). There are several locations on the press tank where oil can be added, but only one of these puts the oil through a filter. If an external filter is not available, it is necessary to add oil through the internally filtered inlet.

The press internal filter can perform any of three possible functions at different times: oil add, flush, and recirculation. Single-manifold machines use the same filter size to perform all functions. Older, multi-manifold machines, can require a different filter size for each function. Hence, it can be necessary to put a different filter cartridge in the filter receptacle depending on the function to be performed.

1. Internal Filter Functions and Cartridges Used in 1–Station Presses

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Filter Functions

oil add filtering required whenever oil is added to the press, whether filling the empty tank or topping off the tank to the full mark. Always use a cartridge of the size specified in the table below.

flush filtering required at installation and after replacement of major hydraulic components, such as the ram. Before production starts, run the press for eight (8) hours to remove contaminants that may have entered when tank openings, ram opening, or hose connections were exposed.

recirculation filtering that occurs continuously while the press is in operation. Depending on the model, this can require a coarser filter so that oil flow is not impeded.

Required Cartridge

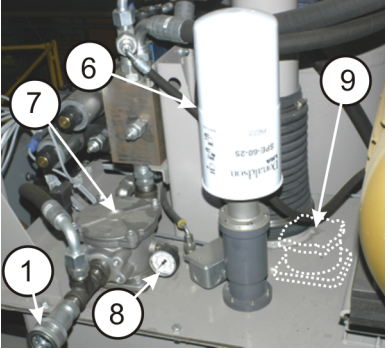
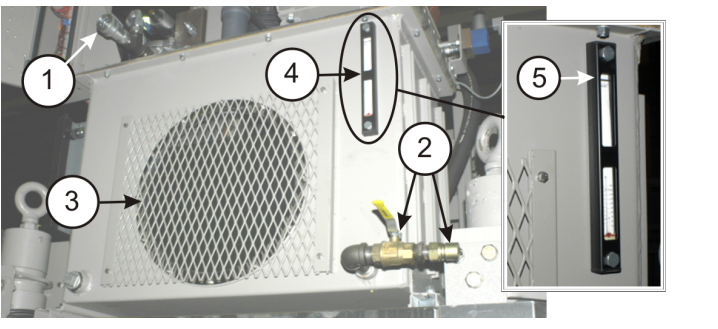
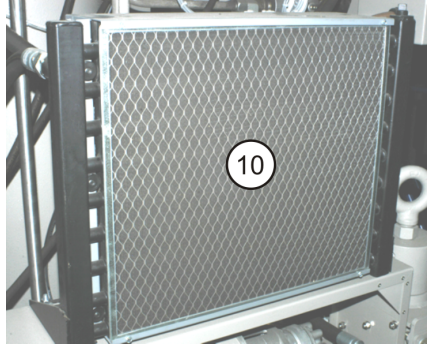
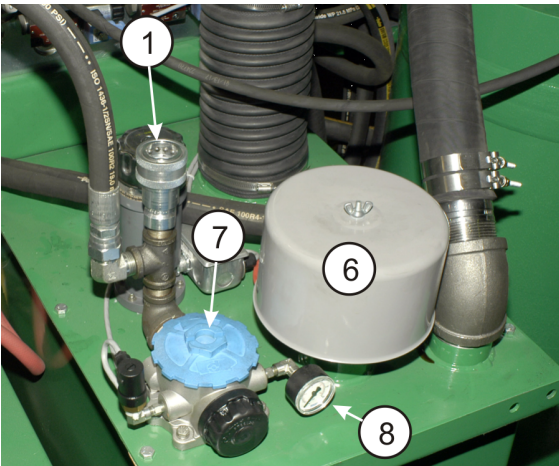
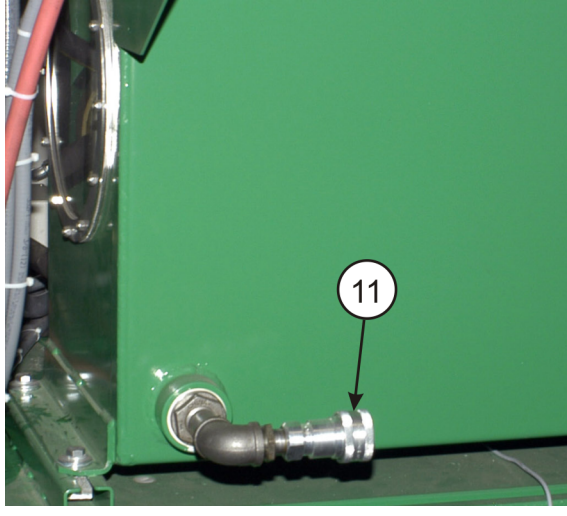
| Model | Number of internal filters | Filter Function | Cartridge Mesh Size (microns) | Milnor P/N |
|---|----------------------------|-----------------|-------------------------------|------------|
| All single-manifold models and sizes manufactured after December 2020 | 1 | any | 5 | 27E112E |
| All single-manifold models and sizes manufactured through December 2020 | 1 | any | 11 | 27E7112B |
| All older multi-manifold models except MP1A | 1 | oil add | 23 to 25 | 27E7106A |
| | | flush | 4 | 27E7106E |
| | | recirculation | 23 to 25 | 27E7106A |
| Older MP1A_ multi-manifold models | 2 | • oil add | 23 to 25 | 27E7106A |
| | | • flush | 4 | 27E7106E |
| | | • recirculation | 11 | 27E7112B |

2. Hydraulic Oil Maintenance Components, Capacities, and Specification

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Maintenance Components and Oil Capacities

Figure 1. Maintenance Components and oil capacities

| Typical Multi-manifold Machine | Legend |
|---|--|
|  | <ol style="list-style-type: none"> 1. Filtered inlet. Add oil here. System capacity: MP15_ and MP16_ models = 70 gallons (265 liters). MP1A_ models = 115 gallons (435 liters) 2. Remove oil here. 3. View port 4. Level and temperature gauges 5. Tank is full when the level is here. See caution statement. 6. Breather and moisture filter 7. Housing with oil filter 8. Oil filter pressure gauge 9. Housing with recirculation oil filter on older MP1A_ models 10. Air filter on oil cooler 11. Unfiltered inlet — newer single-manifold machines only |
|  |  |
| <p>Typical Single-manifold machine</p>  |  |

Specification — The hydraulic system in all Milnor 1–station press models uses Shell Tellus 68 or equivalent oil.

3. Add Oil at Installation or After Major Hydraulic Component Replacement — Flush Required

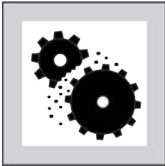
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Before proceeding, make sure:

- the machine is fully assembled
- all hydraulic connections are tight
- the ram is in the up position and held up by the safety bars
- power is removed at the external disconnect box



CAUTION: Adding oil with the ram in the wrong position — Will cause a large quantity of oil to spill the first time the machine is operated.



- ▶ Add oil only with the ram up and secured.

1. Determine if an external filter will be used.
 - If the oil will be passed through an external filter, it is acceptable to add oil at any convenient, unfiltered port on the tank.
 - If no external filter is available, it is necessary to add oil through the quick disconnect inlet on top of the tank (Item 1 in [Figure 1: Maintenance Components and oil capacities, page 3](#)).
2. Examine the filter cartridge to confirm that it is the mesh size specified in : [Required Cartridge, page 2](#) and it is clean. If this procedure is due to major hydraulic component replacement, replace the used oil filter cartridge with a new one.



NOTE: New 1–station presses are shipped from the Milnor factory with a 5 micron internal oil filter installed. This filter was used to test system at the factory, but is still serviceable. It can be used to add oil and flush the system on site.

3. Add new oil (Shell Tellus 68 or equivalent) until the fill gauge on the hydraulic tank indicates the system is full. This will require approximately the volume of oil given in [Figure 1: Maintenance Components and oil capacities, page 3](#) for your model.

Before the machine can be put into service, it is necessary to flush the hydraulic system. This is an eight (8) hour process and must be performed when the machine is off line.

4. Flush the hydraulic system, as follows:
 - a. Ensure that the cartridge currently installed in the machine is the correct size to flush the system.
 - b. Restore external power to the machine.
 - c. Apply control power (⏻).

- d. Start the machine (①).
- e. Let the machine run for eight (8) hours.
- f. Shut down the machine and remove power at the external disconnect box.
- g. Remove and discard the oil filter that was used to flush the system.
- h. Add a new filter cartridge of the mesh size given in : [Required Cartridge, page 2](#) for your model and for the recirculation function.

4. Replace Unserviceable Oil — Flush Not Required

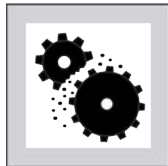
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Before proceeding, make sure:

- the ram is in the up position and held up by the safety bars
- power is removed at the external disconnect box



CAUTION: Adding oil with the ram in the wrong position — Will cause a large quantity of oil to spill the first time the machine is operated.



- ▶ Add oil only with the ram up and secured.

1. Make sure that the manual valve on the tank drain port (item 2 in Figure [Figure 1: Maintenance Components and oil capacities, page 3](#)) is closed.
2. Connect the drain hose between the drain port on the tank and the container you will use to collect the used oil.



NOTE: The drain port has a quick disconnect fitting. It will be necessary to use a hose with a mating fitting or remove the quick disconnect fitting from the drain port.

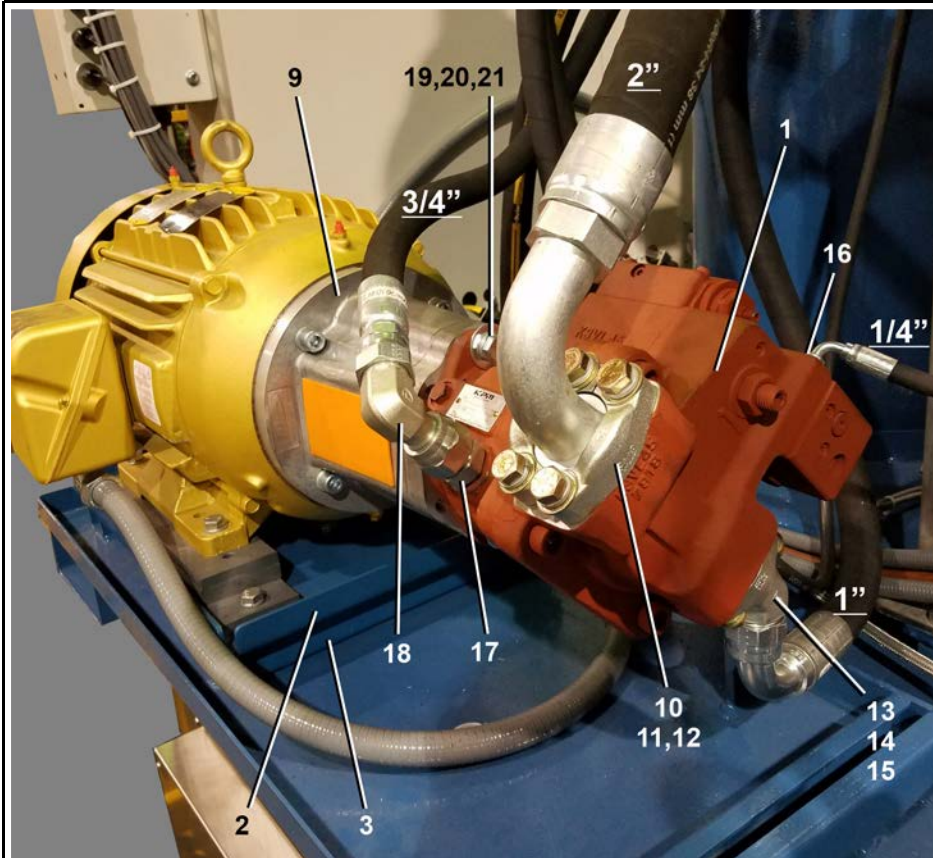
3. Operate the manual valve to allow oil to flow. Close the valve when the tank is empty.
4. Remove the drain hose. If you removed the quick disconnect fitting, either replace it or put a cap on the drain pipe.
5. Determine if an external filter will be used.
 - If the oil will be passed through an external filter, it is acceptable to add oil at any convenient, unfiltered port on the tank.
 - If no external filter is available, it is necessary to add oil through the quick disconnect inlet on top of the tank (Item 1 in Figure [Figure 1: Maintenance Components and oil capacities, page 3](#)).
6. Replace the used oil filter cartridge with a new one. Make sure the new cartridge is the mesh size specified in : [Required Cartridge, page 2](#) .
7. Add new oil (Shell Tellus 68 or equivalent) until the fill gauge on the hydraulic tank indicates the system is full. This will require approximately the volume of oil given in Figure [Figure 1: Maintenance Components and oil capacities, page 3](#) for your model.

Hydraulic Oil Add

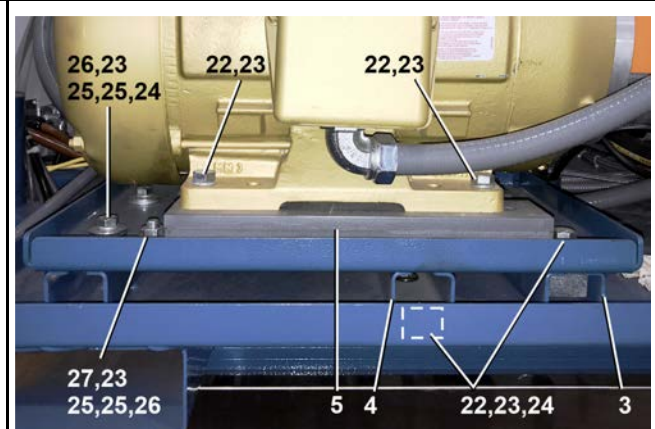
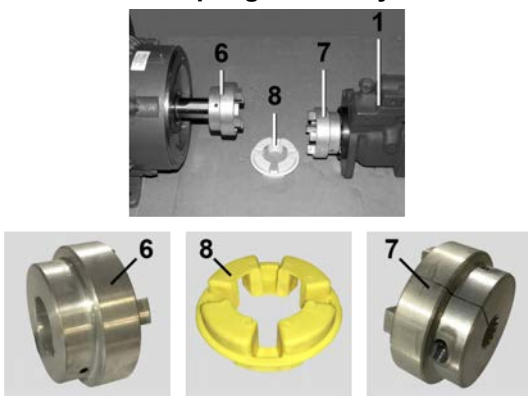
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Hydraulic Main Pump

MP1540_ with Single Manifold and Skidded Hydraulics (Produced after 08/2020.)



Coupling Assembly



Hydraulic Main Pump

MP1540_ with Single Manifold and Skidded Hydraulics (Produced after 08/2020.)

Table 1. Parts List—

| Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations. | | | | |
|---|------|-------------|--|-----------|
| Used In | Item | Part Number | Description/Nomenclature | Comments |
| Assemblies | | | | |
| | A | GHC10024 | MOTOR 254TC/45CC PUMP INSTL | REFERENCE |
| Components | | | | |
| all | 1 | 27E550466 | PISTON PUMP 45CC | PUMP |
| all | 2 | 07 10753 | MAIN PUMP 75CC MTG PLATE | |
| all | 3 | 07 10531F | MOUNTING RAIL 14"LG | |
| all | 4 | 07 10531 | RAIL=MOTOR MOUNT 8"LG | |
| all | 5 | 60BS6841 | DAMPENING ROD #HC-286TC-W (EACH = 1 BAR) | |
| all | 6 | 27E5510 | COUP.ASSY.=1+5/8"BOREX3/8"KEYWAY | |
| all | 7 | 27E5504E | COUP.ASSY.1"BX1/4KW #M30010008 | |
| all | 8 | 27E5510B | HYTREL INSERT-MAGNA#M370H5 | |
| all | 9 | 27E5504D | PUMP-TO-MOTOR MT. | |
| all | 10 | 27E5504A | SUCTION PORT-1-1/2"SPLIT FLANGE | |
| all | 11 | 27E5504AB | O-RING FOR (27E5504A) | |
| all | 12 | 5SL2AMFA1K | NPT ELB 90DEG 2X1.5 BLKMAL150# | |
| all | 13 | 27E5504B | PRESSURE PORT-1"SPLITFLANGE | |
| all | 14 | 27E5504BA | O-RING FOR (27E5504B) | |
| all | 15 | 52JY1AR014 | EL45COD61FLGSEALOK1"#16-LOVQ1S | |
| all | 16 | 52ZC0ES003 | TUBEFITSTR1/4X3/8#4-6 F5OLO-S | |
| all | 17 | 52ZCF50L0S | TUBEFITSTR3/4X1/2"#12-8 F5OLO-S | |
| all | 18 | 52ZJ00S006 | TUBEFIT90EL3/4"#12 C6LO-S | |
| all | 19 | 15K222B | HEXCAPSCR 5/8-11 UNCX1+3/4 GR5 | |
| all | 20 | 15U316 | FLTWASH 5/8 HARD ASTM F436 | |
| all | 21 | 15U315 | LOKWASHER MEDIUM 5/8 ZINCPL | |
| all | 22 | 15K182 | HEXTAPSCR 1/2-13X2ZINC GR5 FUL | |
| all | 23 | 15U300 | LOKWASHER REGULAR 1/2 ZINC PLT | |
| all | 24 | 02 19283 | NUT=1/2-13UNCX1+1/2SQ SPEC | |
| all | 25 | 15U280 | FL+WASHER(USS STD)1/2 ZNC PL+D | |
| all | 26 | 15K162 | HXCAPSCR 1/2-13UNC2AX1.5 GR5 P | |
| all | 27 | 15G230 | HXNUT 1/2-13UNC2B SAE ZINC GR2 | |

Pre-fill Pipe & Valve

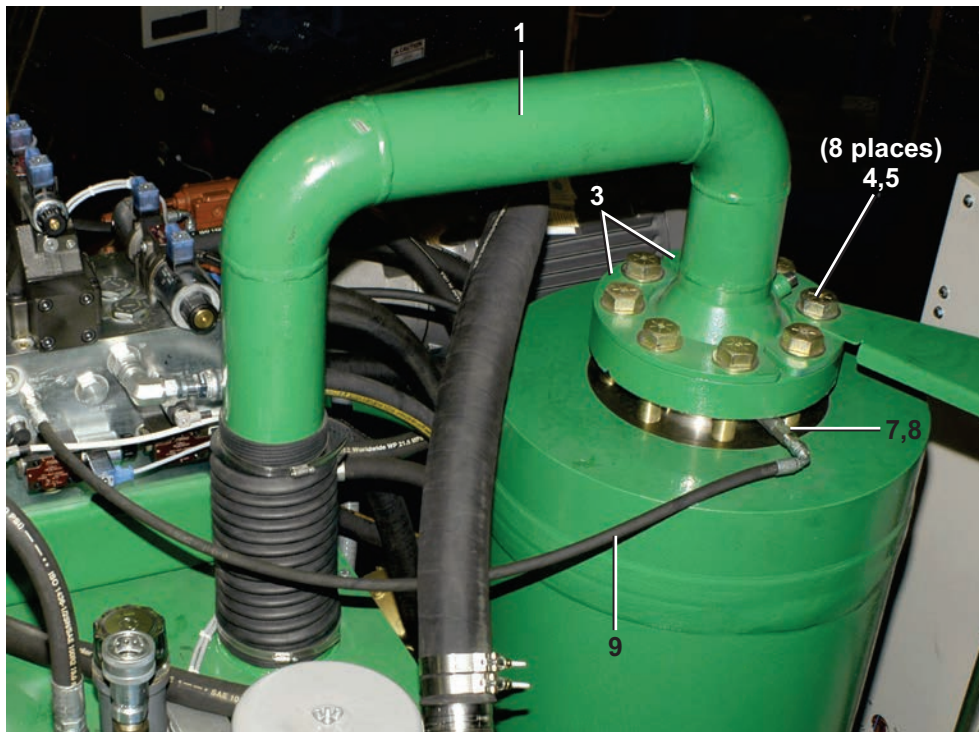
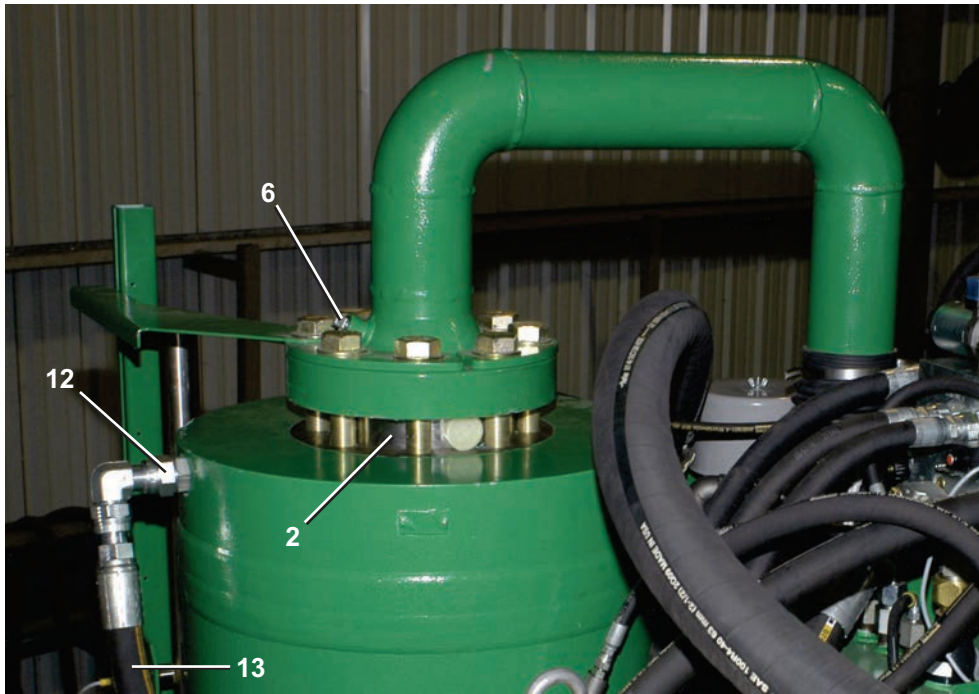
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MPL556, MPL640, MPL650, MPL656

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

Litho in U.S.A.



Pre-fill Pipe & Valve

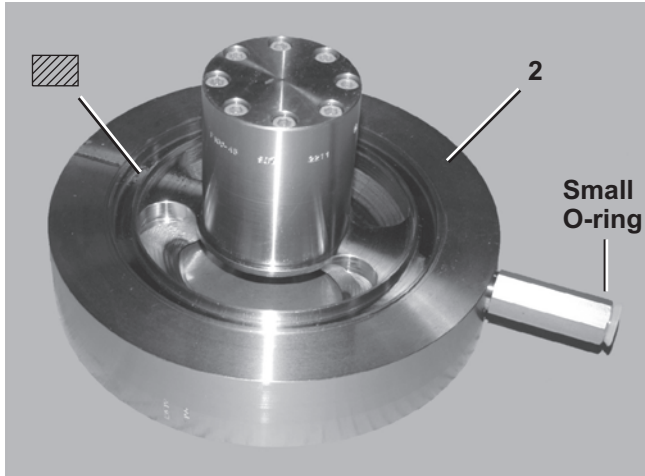
**MP1540, MP1556, MP1640, MP1656, MP1A50
MPL556, MPL640, MPL650, MPL656**

BMP200010/2022484A
(2 / 3)

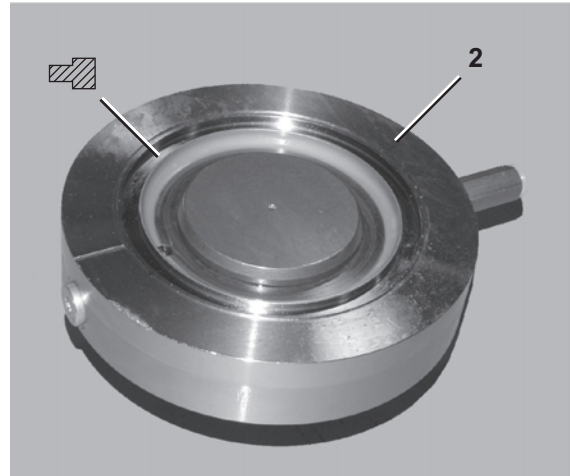


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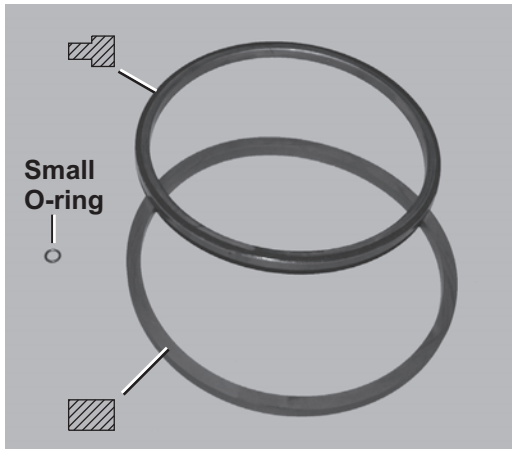
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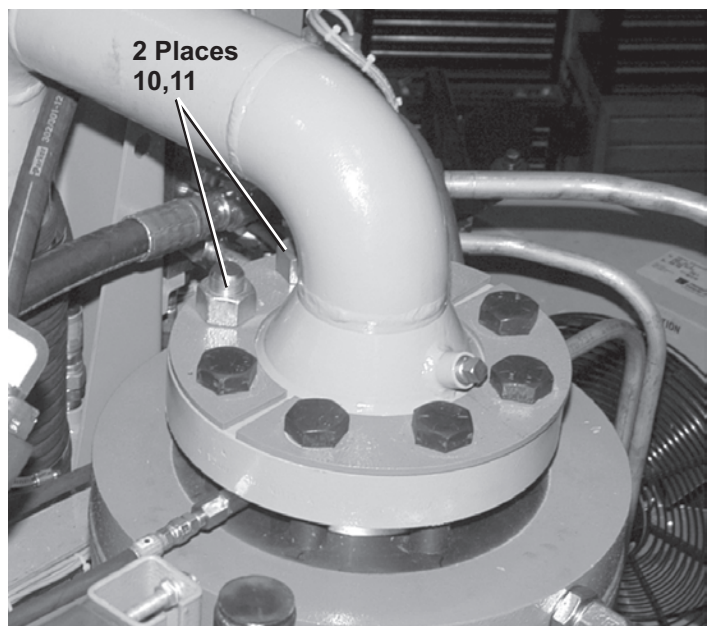
Prefill Valve



Bottom View: Prefill Valve



O-ring Kit for Prefill Valve (14)



Detail: Hardware, Short Pre-fill Pipe (11.13")

Pre-fill Pipe & Valve

**MP1540, MP1556, MP1640, MP1656, MP1A50
MPL556, MPL640, MPL650, MPL656**

**BMP200010/2022484A
(3 / 3)**



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Parts List—Pre-fill Pipe & Valve

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

| Used In | Item | Part Number | Description | Comments |
|--------------------------------|------|-------------|-----------------------------------|-------------------------------------|
| -----REFERENCE ASSEMBLIES----- | | | | |
| | A | | REM TOP PREFILL PIPE-SHORT | MP15x/16x, MPL640,650 MPL556,656 |
| | B | | REM TOP PREFILL PIPE-TALL | MP15x/16x, MPL640,650 MPL556,656 |
| | C | | REM TOP PREFILL PIPE-SHORT MP1A | MP1A50 |
| | D | | REM TOP PREFILL PIPE-TALL-MP1A | MP1A50 |
| -----COMPONENTS----- | | | | |
| A | 1 | W7 10240 | SHORT PREFILL PIPE-REM TOP | |
| B | 1 | W7 10240A | TALL PREFILL PIPE-REM TOP | |
| C | 1 | W7 10290 | MP1A50 SHORT PREFILL PIPE-REM TOP | |
| D | 1 | W7 10290A | MP1A50 TALL PREFILL PIPE-REM TOP | |
| all | 2 | X7 10416B | PREFILL VALVE HAWE-MACHINED | |
| all | 3 | X7 10267 | PREFILL PIPE FLANGE WASHER | |
| all | 4 | 15K307 | HEXCAPSCR 1+1/8-12X5+1/2" GR8 | |
| all | 5 | 15U441 | FLTWASH 1-1/8" HARD ASTM F436 | |
| all | 6 | 51P031 | PLUG PIPE SQ 1/2-14 NPT HD PLA | |
| all | 7 | 52AY0ER013 | CONV.ADAPT.BRIT.1/4X1/4F40HG-SS | |
| all | 8 | 52ZC0ES001 | TUBEFIT 1/4"STR.#4-4 FLO-S | |
| AB | 9 | 60EH21C42A | ASSY=HYDRAULIC HOSE 1/4 X42LG | |
| CD | 9 | 60EH21C40A | ASSY=HYDRAULIC HOSE 1/4 X40LG | |
| all | 10 | 17R113A07K | STUD 1 1/8-12UNFX7+1/2 B7 ZINC | |
| all | 11 | 15G258 | HXNUT 1+1/8-12UNF2B ZINC GR2 | |

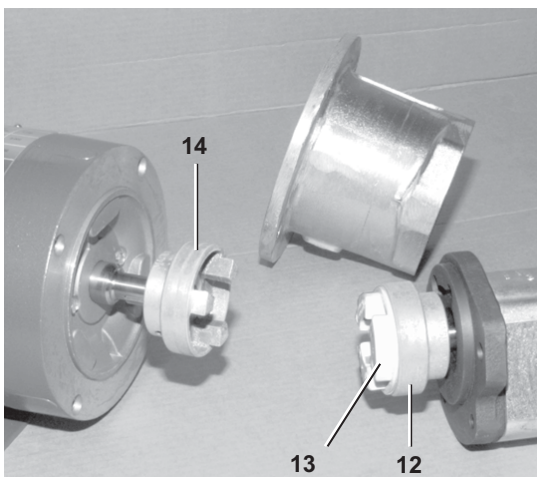
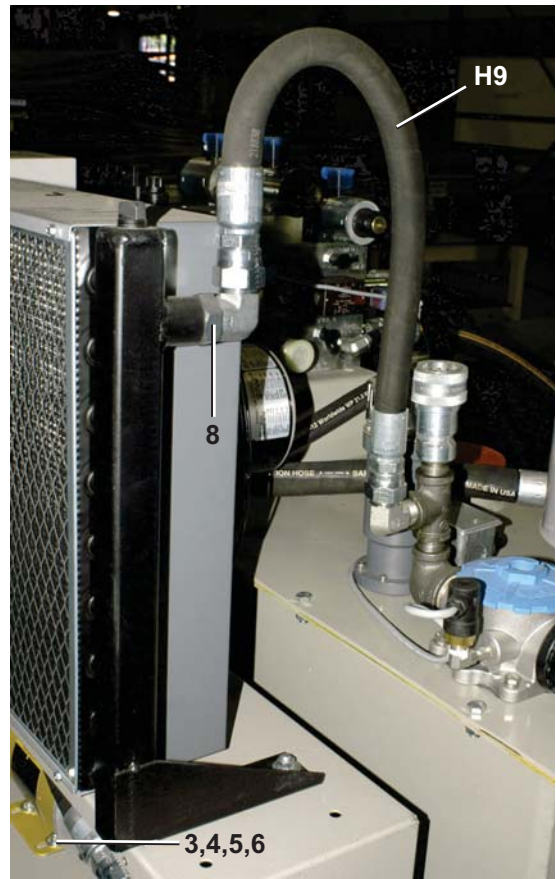
Oil Cooler - Air Cooled

MP1540, MP1556, MP1640, MP1650, MP1656, MP1A50
 MPL556, MPL640, MPL650, MPL656

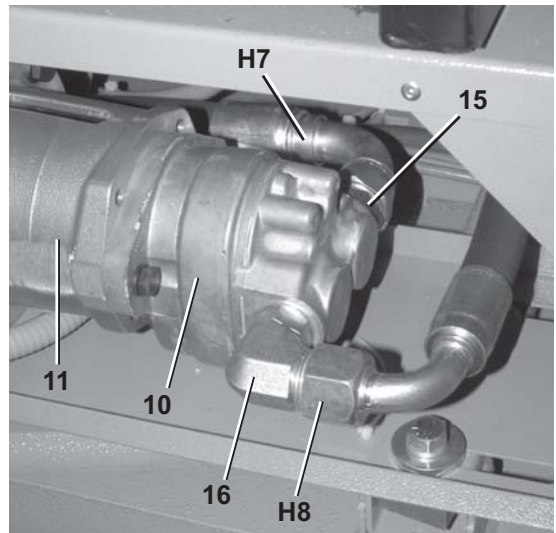
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Cooler Pump Coupling Assembly



Oil Cooler - Air Cooled

**MP1540, MP1556, MP1640, MP1650, MP1656, MP1A50
MPL556, MPL640, MPL650, MPL656**

**BMP110033/2021055A
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Parts List—Oil Cooler - Air Cooled

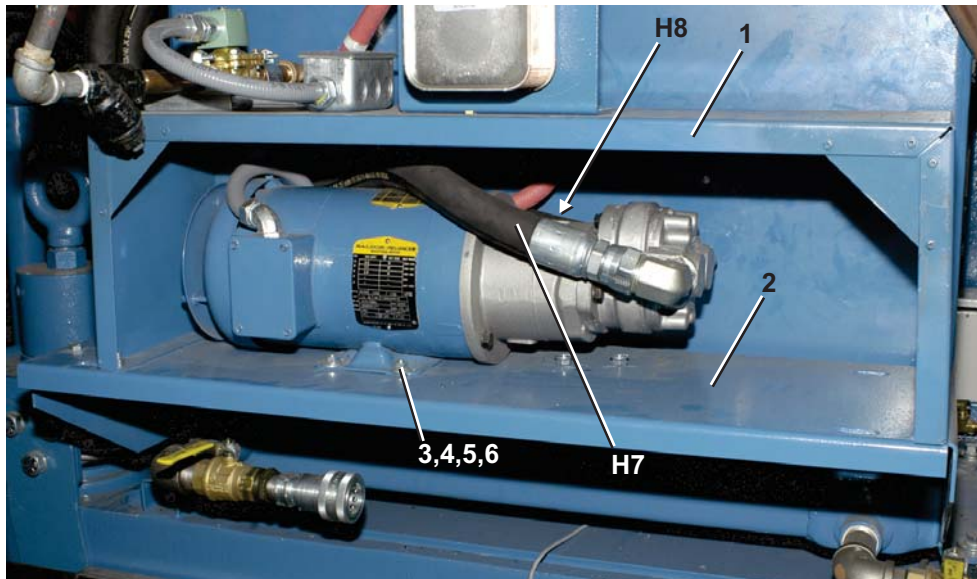
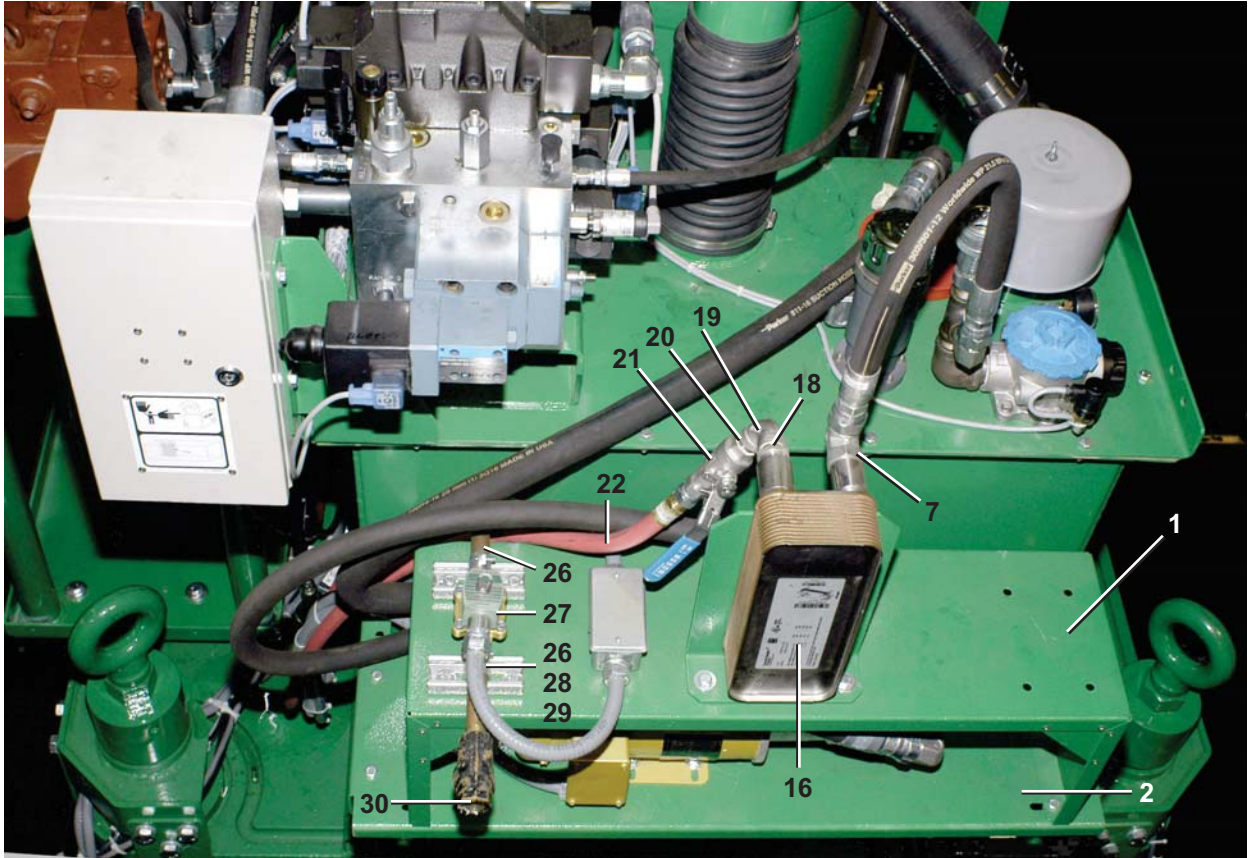
Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

| Used In | Item | Part Number | Description | Comments |
|----------------------|-------|-------------|-----------------------------------|--|
| -----ASSEMBLIES----- | | | | |
| | A | G80CT001A | COOLING TOWER- 96DH462A & 96DH463 | MP15X, MP16X MPL640,650 MPL556,656 |
| | B | G80CT001B | COOLING TOWER ASSY-96DH464 | MP1A50 |
| -----COMPONENTS----- | | | | |
| A | 1 | 07 10308 | RECIRC PUMP HOUSING-TOP | |
| B | 1 | 07 10308B | RECIRC PUMP HOUSING-TOP | |
| A | 2 | 07 10796 | RECIRC HOUSING BOTTOM | |
| B | 2 | 07 10798 | RECIR HOUSING BOTTOM-MP1AXX | |
| all | 3 | 15K095 | HXCPSCR 3/8-16UNC2AX1 GR5 ZINC | |
| all | 4 | 15G205 | HXNUT 3/8-16UNC2B ZINC GR2 | |
| all | 5 | 15U255 | LOCKWASHER MEDIUM 3/8 ZINCPL | |
| all | 6 | 15U240 | FLATWASHER(USS STD) 3/8" ZNC P | |
| all | 7 | 15K085 | HEXCAPSCR 3/8-16UNC2AX3/4 GR5 | |
| all | 8 | 52ZJ00S009 | TUBEFIT90EL3/4X5/8"FACESEAL OR | |
| all | 9 | 52ZC00S003 | TUBEFIT STRTHDCN3/4"#12F5OLO-S | |
| all | 10 | 27E5506 | GEAR PUMP-RECIRC.PUMP-EATON | |
| all | 11 | 27E5506A | PUMP TO MOTOR MOUNT | |
| all | 12 | 27E5506G | COUP ASSY=5/8" BORE X 5/32" KW | |
| all | 13 | 27E5506D | URETHANE INSERT FOR COUP.ASSY. | |
| all | 14 | 27E5506B | COUP.ASSY=5/8"BORE X 3/16"KW | |
| all | 15 | 52XY0KR050 | STRDPT 3/4MX1"MJ#6400-16-12-0 | |
| all | 16 | 52ZJ00S007 | TUBEFIT90ELFCSL3/4"#12CLO-S | |
| all | 17 | 27HS091AAU | OIL COOLER 8HP@15GPM 50/60 | |
| all | 17 | 27HS092AAU | OIL COOLER 20HP@10GPM 50/60 | |
| all | 17 | 27HS091A98 | OIL COOLER 8HP@15GPM 575V | |
| all | 17 | 27HS092A98 | OIL COOLER 20HP@10GPM 575V | |
| all | H7-H9 | | FOR HOSES, SEE BMP200015. | |

Oil Cooler - Water Cooled

MP1540, MP1640, MP1556, MP1656, MP1A50
MPL550, MPL556, MPL640, MPL650, MPL656

Figure 1

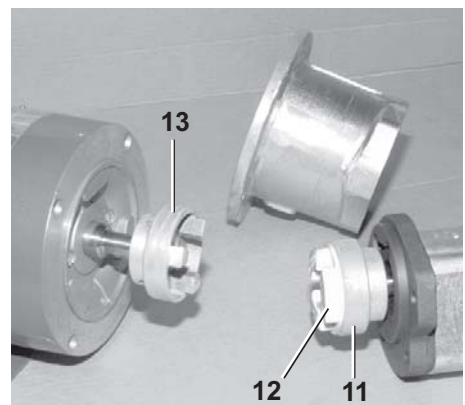
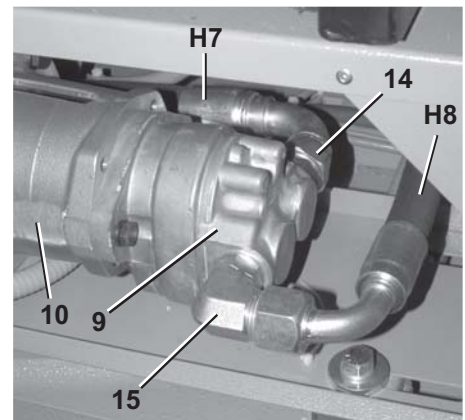
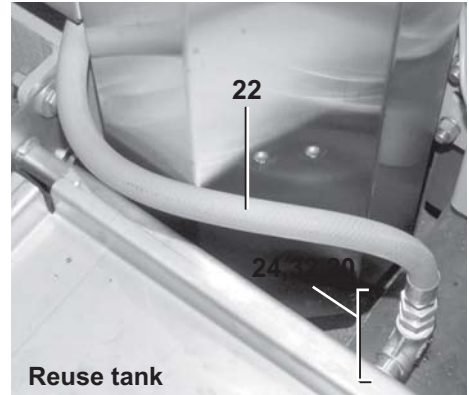
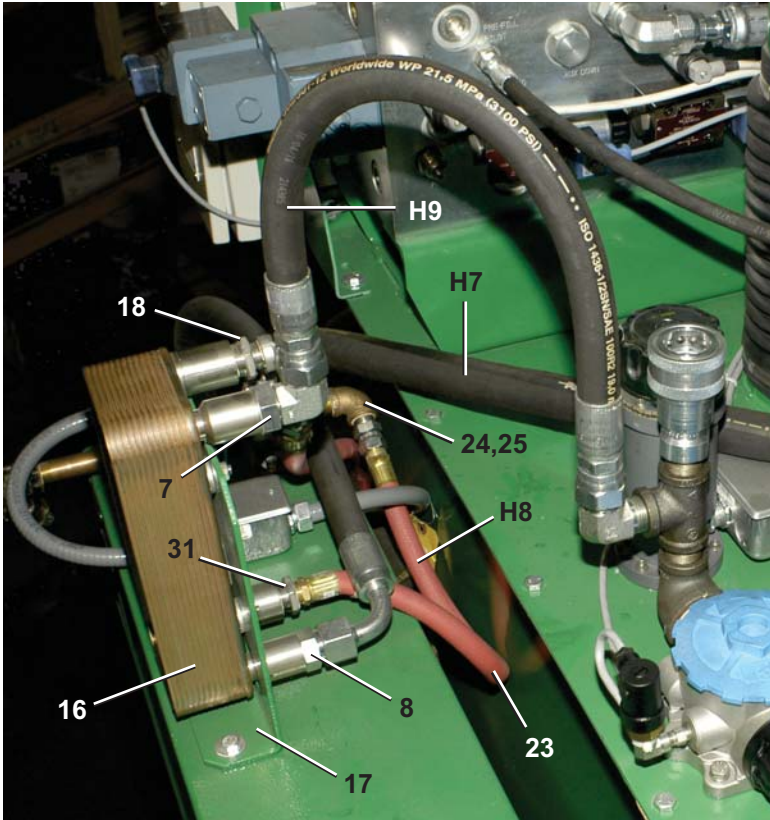


Alternate Cooler Pump Mounting 04/2016

Oil Cooler - Water Cooled

MP1540, MP1640, MP1556, MP1656, MP1A50
MPL550, MPL556, MPL640, MPL650, MPL656

Figure 2



Cooler Pump Coupling Assembly

Oil Cooler - Water Cooled

**MP1540, MP1640, MP1556, MP1656, MP1A50
MPL550, MPL556, MPL640, MPL650, MPL656**

| Parts List—Oil Cooler - Water Cooled | | | | |
|--|------|-------------|--|-----------------------|
| Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration. | | | | |
| Used In | Item | Part Number | Description | Comments |
| -----ASSEMBLIES----- | | | | |
| | A | AHT10045 | WATER COOLED COOLER-SSPRESS | REFERENCE |
| | B | G80CT001 | GEN ASSY COOLING TOWER | used prior to 04/2016 |
| | C | G80CT001A | GEN ASSY COOLING TOWER | used after 04/2016 |
| -----COMPONENTS----- | | | | |
| all | 1 | 07 10308B | RECIRC PUMP HOUSING-TOP | |
| B | 2 | 07 10796 | RECIRC HOUSING BOTTOM | MP15xx, MP16xx |
| C | 2 | 07 10798 | RECIR HOUSING BOTTOM-MP1AXX | MP1A50 |
| all | 3 | 15K095 | HXCPSCR 3/8-16UNC2AX1 GR5 ZINC | |
| all | 4 | 15G205 | HXNUT 3/8-16UNC2B ZINC GR2 | |
| all | 5 | 15U255 | LOCKWASHER MEDIUM 3/8 ZINCPL | |
| all | 6 | 15U240 | FLATWASHER(USS STD) 3/8" ZNC P | |
| all | 7 | 52ZJ00S009 | TUBEFIT90EL3/4X5/8"FCSLO#12-10 C5OLO-S | |
| all | 8 | 52ZC00S003 | TUBEFIT STRTHDCN3/4"#12F5OLO-S | |
| all | 9 | 27E5506 | GEAR PUMP-RECIRC.PUMP-EATON | |
| all | 10 | 27E5506A | PUMP TO MOTOR MOUNT | |
| all | 11 | 27E5506G | COUP ASSY=5/8" BORE X 5/32" KW | |
| all | 12 | 27E5506D | URETHANE INSERT FOR COUP.ASSY. | |
| all | 13 | 27E5506B | COUP.ASSY=5/8"BORE X 3/16"KW | |
| all | 14 | 52XY0KR050 | STRDPT 3/4MX1"MJ#6400-16-12-0 | |
| all | 15 | 52ZC00S005 | TUBEFIT 3/4"X5/8"#12-10F50L0S | |
| all | 15 | 52ZJ00S007 | TUBEFIT90ELFCSL3/4"#12CLO-S | |
| | 16 | 27H11205 | SSPRESS HEAT EXCHANGER | before 5/2014 |
| | 16 | 27H11206 | HEAT EXCHANGER THERMAL | after 5/2014 |
| B | 17 | 07 10310 | HEAT EXCHG MTG BRKT | used prior to 04/2016 |
| C | 17 | 07 10310A | HEAT EXCHG BRKT=27H11206 | used after 5/2014 |
| all | 18 | 5N0PCLSS42 | NPT NIP 3/4XCLS TBE 304SS SK40 | |
| all | 19 | 5SL0PBEA0K | NPTELB 90DEG 3/4X1/2 BRASS150# | |
| all | 20 | 5N0KCLSS42 | NPT NIP 1/2XCLS TBE 304SS SK40 | |
| all | 21 | 96D040FSLH | 1/2" BALVAL S/S LL/HDL | |
| all | 22 | 60E085C264 | HOSE ASSY=1/2"X264"LG+ENDS | |
| all | 23 | 60E085C20A | HOSE ASSY=1/2" X 20"LG | |

Oil Cooler - Water Cooled

MP1540, MP1640, MP1556, MP1656, MP1A50
 MPL550, MPL556, MPL640, MPL650, MPL656

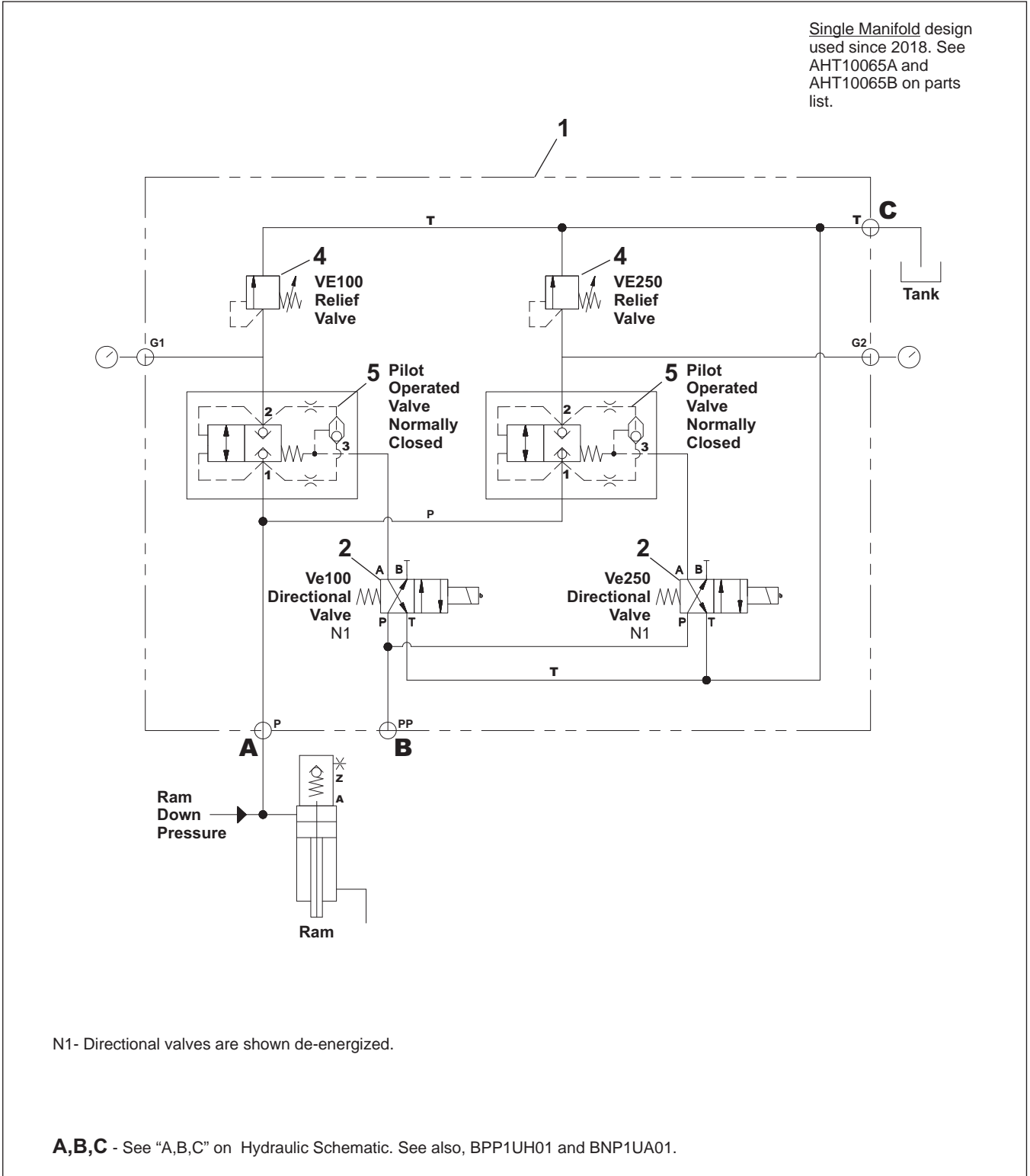
Parts List—Oil Cooler - Water Cooled

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

| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|-----------------------------------|----------|
| all | 24 | 51X017 | UNIONSTRADT 1/2"#1404-8-8 | |
| all | 25 | 5SL0KSFA | NPTEL B 90DEG 1/2 304SS 150# | |
| all | 26 | 5N0K02AG42 | NPT NIP 1/2X2 TBE GALSTL SK40 | |
| all | 27 | 96TDC2AA37 | 1/2"N/C2WY120V50/60C VLV(DRYVC) | |
| all | 28 | 02 04302 | UNISTRUT, 13/16 X 4" | |
| all | 29 | 27A0100 | CLP-RGDSTL PS#1100-1 | |
| all | 30 | 51T025 | Y-STRAINER 1/2" CAST IRON | |
| all | 31 | 5SB0P0KSFO | NPTHEXBUSH 3/4X1/2 SS304 150# | |
| all | 32 | 5SL0KBEA | NPTEL B 90DEG 1/2 BRASS 125# | |
| all | H7 | 60EH81C66A | HYD FLEX HOSE 2-STRFEMSW 1"X66"LG | |
| all | H8 | 60EH50C48D | HYD HOSE 90+STR.FMORSW 3/4"X48"LG | |
| all | H9 | 60EH50C22B | HYD HOSE 2-STRFEMSW 3/4"X22"LG | |

Hydraulic Schematic - Ram Command™ (Delicate Goods) Option

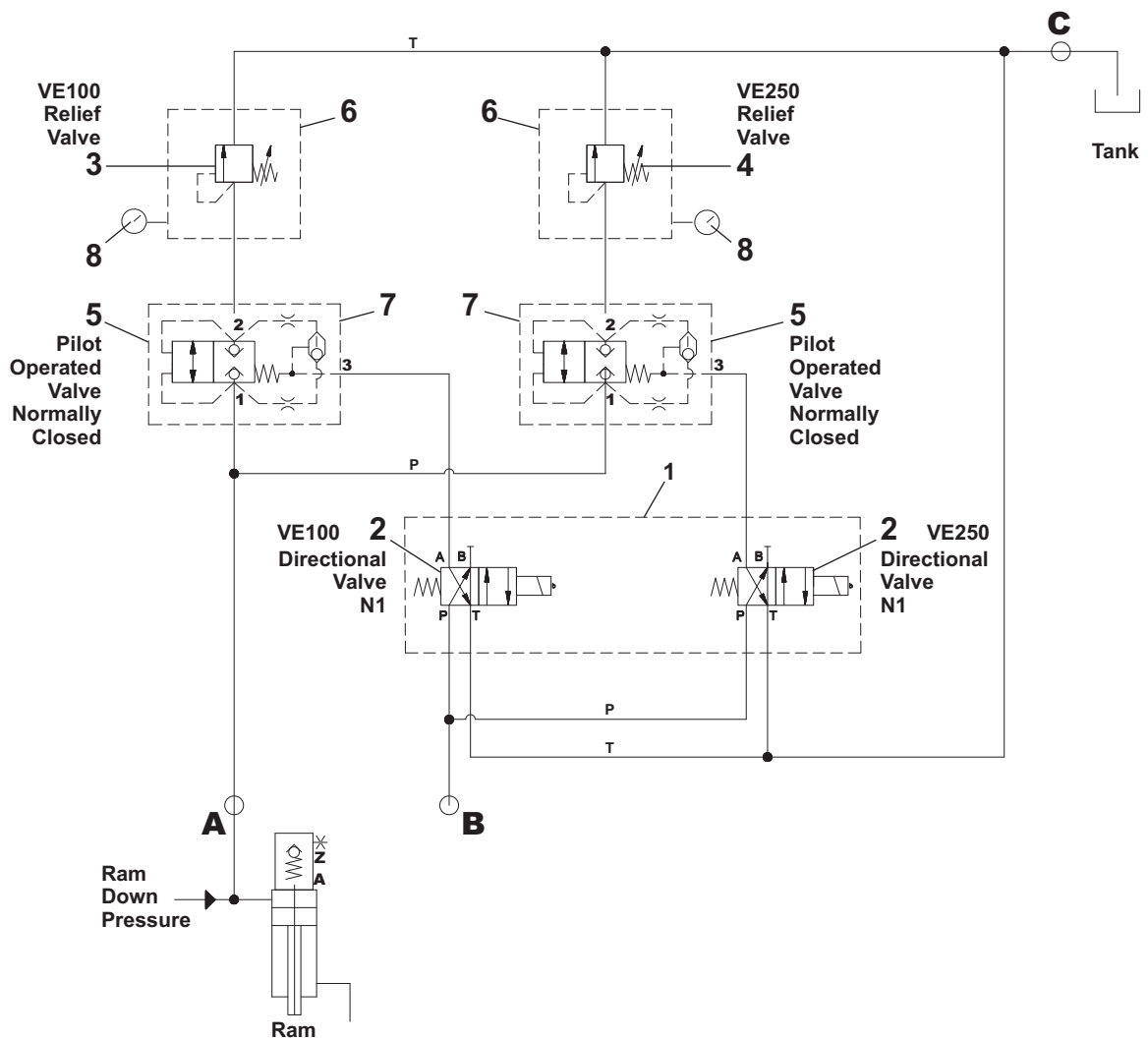
Single Manifold - Ram Command™ (current)



Hydraulic Schematic - Ram Command™ (Delicate Goods) Option

Multi-Manifold - Ram Command™ (obsolete)

Multi-Manifold design used till 2018. See AHT100065 on parts list.



N1- Directional valves are shown de-energized.

A,B,C - See "A,B,C" on Hydraulic Schematic. See also, BPP1UH01 and BNP1UA01.

Hydraulic Schematic - Ram Command™ (Delicate Goods) Option

Parts List—Hydraulic Schematic Delicate Goods

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

| Used In | Item | Part Number | Description | Comments |
|--------------------------------|------|-------------|---|---|
| -----REFERENCE ASSEMBLIES----- | | | | |
| | A | AHT10065 | DELICATE GOODS RELIEF VALVES ASSY | MP15_, MP16_, MP1A_ BEFORE 2018 |
| | B | AHT10065A | DELICATE GOODS ASSY FOR 96DH463 MANF | MP15_, MP16_, MPL550, MPL650, MPL656 SINCE 2018 |
| | C | AHT10065B | DELICATE GOODS ASSY 96DH462A 96DH464 | MP1A50 SINCE 2018 |
| -----COMPONENTS----- | | | | |
| A | 1 | 96DH486 | MANIFOLD DAMAN DD03P022S | |
| B,C | 1 | 96DH481 | MANIFOLD DELICATE GOODS SUN # FV 12455 V1 PPP | |
| ABC | 2 | 96RH712A02 | DIRECTIONAL PILOT VALVE+SOL 24VDC | |
| A | 3 | 96DH497 | VALVE DIRECT RELIEF RDFA-LSN | |
| A,B,C | 4 | 96DH496 | VALVE DIRECT RELIEF RDFA-LEN | |
| A,B,C | 5 | 96DH498 | VALVE CARTRIDGE SUN #LOFD XDN | |
| A | 6 | 96DH493 | BODY, SUN BCLS | |
| A | 7 | 96DH495 | BODY, STEEL SUN CAM/S | |
| A | 8 | 30N125W | WIKA GAGE 7/16-20SAE 2000PSI/B | |

RAM Command™ Option Adjustment

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This document applies to all 1-station press models available with the RAM Command™ option (also called the delicate goods option and formerly called *soft squeeze*). It applies to current production presses with the single manifold hydraulic piping design as well as to older presses with the multi-manifold design.

The document addresses two on-site activities that can be needed:

- Set RAM Command™ pressures either to use different pressures than those set at the factory or because components were replaced.
- Disable the RAM Command™ option to make it easier to troubleshoot the hydraulic system.



NOTICE: Understand the press servicing hazards. Do this procedure only if you understand and work with hydraulic systems. Review the press safety guide and the safety information in the parts and service manual.

1. Concept of Operation

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In summary, the RAM Command™ system applies a very gradual build-up of pressure, which gives sensitive goods time to release water without damage. This system pressurizes the ram in a timed sequence of low, but increasing pressure steps. The factory-set pressures can be reset by the customer. The step durations are specified in programmable press codes.



NOTE: Refer to document BMP1400021 “Hydraulic Schematic - RAM Command™...” in the service manual to assist in understanding this information.

The system uses two electrically operated valves, each with an associated pilot operated valve and an adjustable relief valve.

When a RAM Command™ press code is not in effect, valve VE100 and valve VE250 are de-energized, both pilot operated valves are closed, blocking ram pressure to relief valves. The press will operate at standard pressure.

When a RAM Command™ press code is in effect, the RAM Command™ system builds up ram down pressure in a four step sequence, as follow:

1. Valve VE100 is energized, the associated pilot operated valves open allowing flow to the relief valve. Ram down pressure will be at this relief valve setting. Valve VE100 remains open for the Timer A duration then closes.
2. Valve VE250 is energized, the associated pilot operated valves open, allowing flow to the relief valve. Ram down pressure will be at this relief valve setting. Valve VE250 remains open for the Timer B duration then closes.
3. The ram down pressure increases to standby pressure for the Timer C duration..
4. The RAM Command™ sequence ends and standard pressures take effect.



NOTE: On machines with the RAM Command™ option, the standard ram up relief pressure is permanently set to 950 psi. This pressure is set to 1500 psi on machines without the option. Although this setting is determined by whether or not the machine has the RAM Command™ option, it is otherwise, independent of the RAM Command™ system.

2. How RAM Command™ Press Codes Work

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When you apply the RAM Command™ function to a press code, the pressing cycle begins with a sequence of three low, but increasing pressure steps. The press code controls the length of time that each pressure will occur, but not the pressures themselves. The times appear on the press code screen as Timers A, B and C, shown at the bottom left of the figure below. You can specify up to 99 seconds for each timer. A value of 00 for any timer causes the machine to skip that pressure step and proceed to the next pressure.

Figure 1. Enter time values in the fields for Timers A, B, and C at the bottom left of the screen.

| | S-01 | S-02 | S-03 |
|------|------|------|------|
| BAR | 18 | | |
| Secs | 020 | | |
| Temp | 0 | | |
| Max | 025 | | |
| End | 1 | | |

P06
POLYSHIRTS

HELP

Timer C

Duration of ON time for the FLOW CONTROL output.

Range is 00-99 seconds.
00 = Disabled

Timer A 99
Timer B 99
Timer C 99

3. Pressure Adjustment Preparations

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When To Adjust Pressures — If you replace pressure components, it can be necessary to re-establish all hydraulic pressures, including the RAM Command™ pressures on site. If you wish to use pressure values different from the factory settings, you can change the Timer A and Timer B pressures without affecting the standard pressures.

Pressure Adjustment Rules

- Timer A pressure must be lower than Timer B pressure.
- The Timer A and Timer B pressures must not exceed standby pressure (400 or 500 psi, depending on model).

Requirements

Tools Each relief valve has a locknut and an adjustment screw. Provide a 9/16" wrench for the locknut and a 5/32" Allen wrench for the adjustment screw. Also provide a safe platform to work at the location of the valves. On newer press models, the pressure gauges are not permanently attached; however, the necessary pressure gauges are provided with the machine. Make sure these gauges are on hand.

Two personnel One person (referred to herein as the **operator**) starts and stops the press code at the operator controls. The other person (referred to herein as the **technician**) makes the adjustments at the valves. The personnel must be able to clearly communicate with each other. Review this instruction to understand the necessary coordination between the operator and the technician.

Adjustment press code Create a dedicated press code or temporarily modify an existing press code that you will use to make the adjustments. **You must do these pressure adjustments with goods in the machine** and a press code running in automatic, and you must do each adjustment during the programmed time that the valve is energized. For this reason, temporarily set the Timer A and Timer B durations to the maximum value (99 seconds). The only important part of this press code is the Timer A and Timer B values. See the 1-station press reference manual for general programming information.

Press loaded If you cannot do these procedures with an actual load of goods while production is paused, load and wet down a batch of goods in the press by any safe means.



TIP: Electrical schematics W6PM1SSQ and W6PM1SVSB in the 1-Station press schematic manual and parts document BPP1UH01 “Delicate Goods Option (RAM Command™ Ram Control)” in the parts and service manual can assist with troubleshooting the Ram Command system.

RAM Command™ Factory Specifications

Table 1. Factory Specifications

| Model Family | MP1540 | 1550 | 1556 | 1640 | 1650 | 1656 | 1A50 |
|-----------------------|--------|------|------|------|------|------|------|
| Bar Rating | 40 | 50 | 56 | 40 | 50 | 56 | 50 |
| Ram Bore (inch) | 14 | 14 | 14 | 14 | 16 | 16 | 17 |
| Settings (PSI) | | | | | | | |

Factory Specifications (cont'd.)

| Model Family | MP1540 | 1550 | 1556 | 1640 | 1650 | 1656 | 1A50 |
|------------------------------|--------|------|------|------|------|------|------|
| Standby* (Timer C) | 500 | 500 | 500 | 500 | 400 | 400 | 525 |
| Ram Up Relief | 950 | 950 | 950 | 950 | 950 | 950 | 950 |
| Valve A (VE100) (Timer A) | 220 | 220 | 220 | 250 | 200 | 200 | 275 |
| Valve B (VE250) (Timer B) | 320 | 320 | 320 | 375 | 300 | 300 | 390 |

* Standby pressure is also referred to as idle pressure or ram down relief pressure.

4. Pressure Adjustment Operator Procedure

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This is a brief explanation. Review the 1-station press reference manual if necessary.

1. When a suitable batch is in the press, put the tunnel in hold to suspend production.
2. Set the press to Manual mode then return it to Automatic mode to initiate the sequence of operator prompts. Respond to the prompts as appropriate. In particular:
 - a. Answer yes to "Does press have a cake?"
 - b. At the Cake Data screen, leave all data as displayed except for the press code. Take note of the press code assigned to this batch then change it to the adjustment press code that you prepared.
 - c. When the technician is ready, answer no to "Discharge cake in can?" The machine will operate and permit the technician to do the adjustments explained in [Section 5 : Pressure Adjustment Technician Procedure, page 4](#).
3. When valve VE250 de-energizes (which ends the available adjustment time) and before the press code is complete, set the machine to Manual mode then return it to Automatic mode. If the adjustments are not complete, respond to the prompts the same way as before to restart the adjustment press code. Otherwise, respond as appropriate to resume production and permit this batch to process according to its actual press code.

5. Pressure Adjustment Technician Procedure

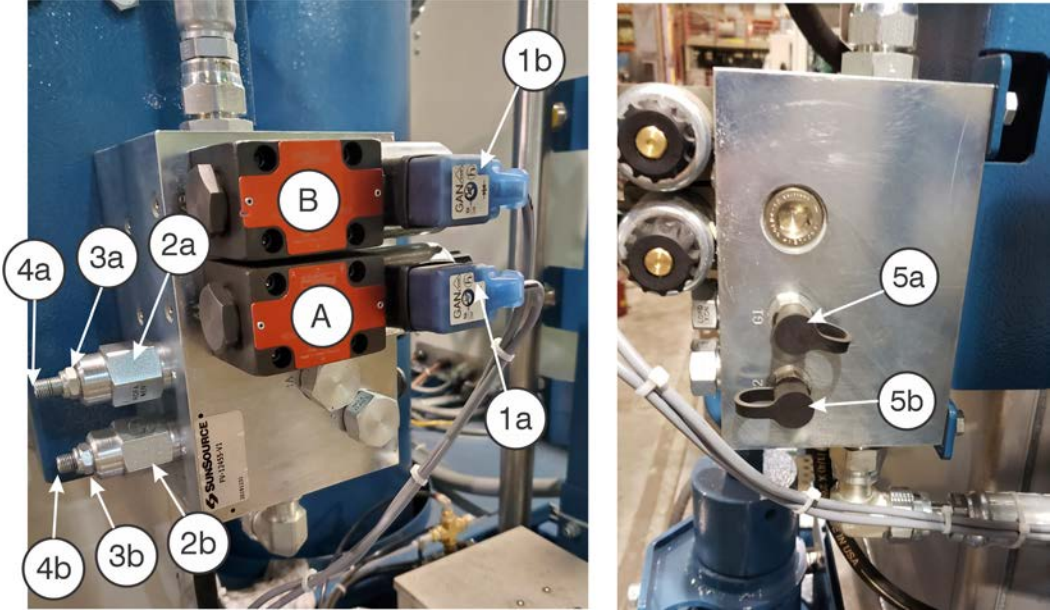
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This instruction tells how to set the first two pressures (for Timers A and B). The third pressure (for Timer C) is idle (standby) pressure, which is a standard pressure. The procedure to set idle pressure is explained in document BIPPMT02 “Set Standard and Booster Pump Pressures–1-station Press”.

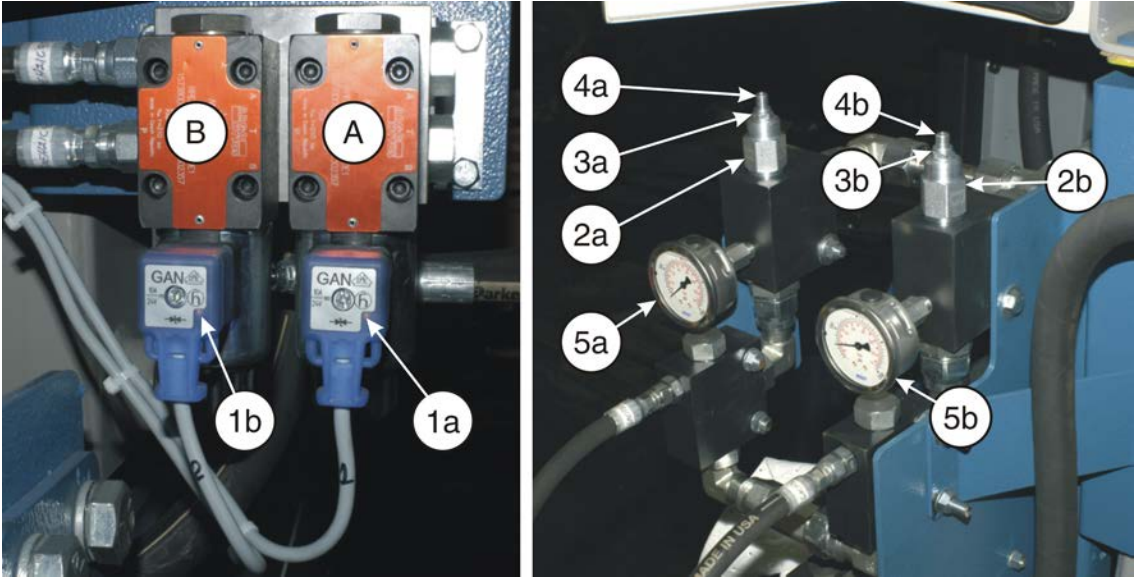
You adjust the pressures for Timers A and B on the relief valves associated with the electrically operated hydraulic valves VE100 and VE250 (see the figure below).

Figure 2. RAM Command™ System Hydraulic Adjustment Components

Views of Adjustment Components on Single-manifold Presses (assembly AHT10065A)



Views of Adjustment Components on Multi-manifold Presses (assembly AHT10065)



Legend

- A** Valve VE100 (electrically operated hydraulic valve for Timer A pressure).
- B** Valve VE250 (electrically operated hydraulic valve for Timer B pressure).
- 1a,1b** Light on electric connector. **Light on=**valve energized. **Light off=**valve de-energized. All "_a" items are for the Timer A pressure adjustment. All "_b" items are for the Timer B pressure adjustment.
- 2a,2b** Relief valve that must be adjusted for the factory pressure specified in [RAM Command™ Factory Specifications](#) or the customer-defined pressure.
- 3a,3b** Lock nut (9/16" hex)
- 4a,4b** Adjustment screw (5/32" Allen)
- 5a,5b** Pressure gauge connection point or pressure gauge. Read the pressure here during adjustment.



NOTICE: These adjustments are done with the machine in automatic operation.

- Do not use the maintenance key to set the machine to Maintenance mode.

Refer to [Figure 2, page 5](#). The lowest pressure adjustment is the relief pressure for valve A (VE100). This is the Timer A pressure. The adjustment components are those with "_a" item numbers in [Figure 2, page 5](#). Adjust as follows:

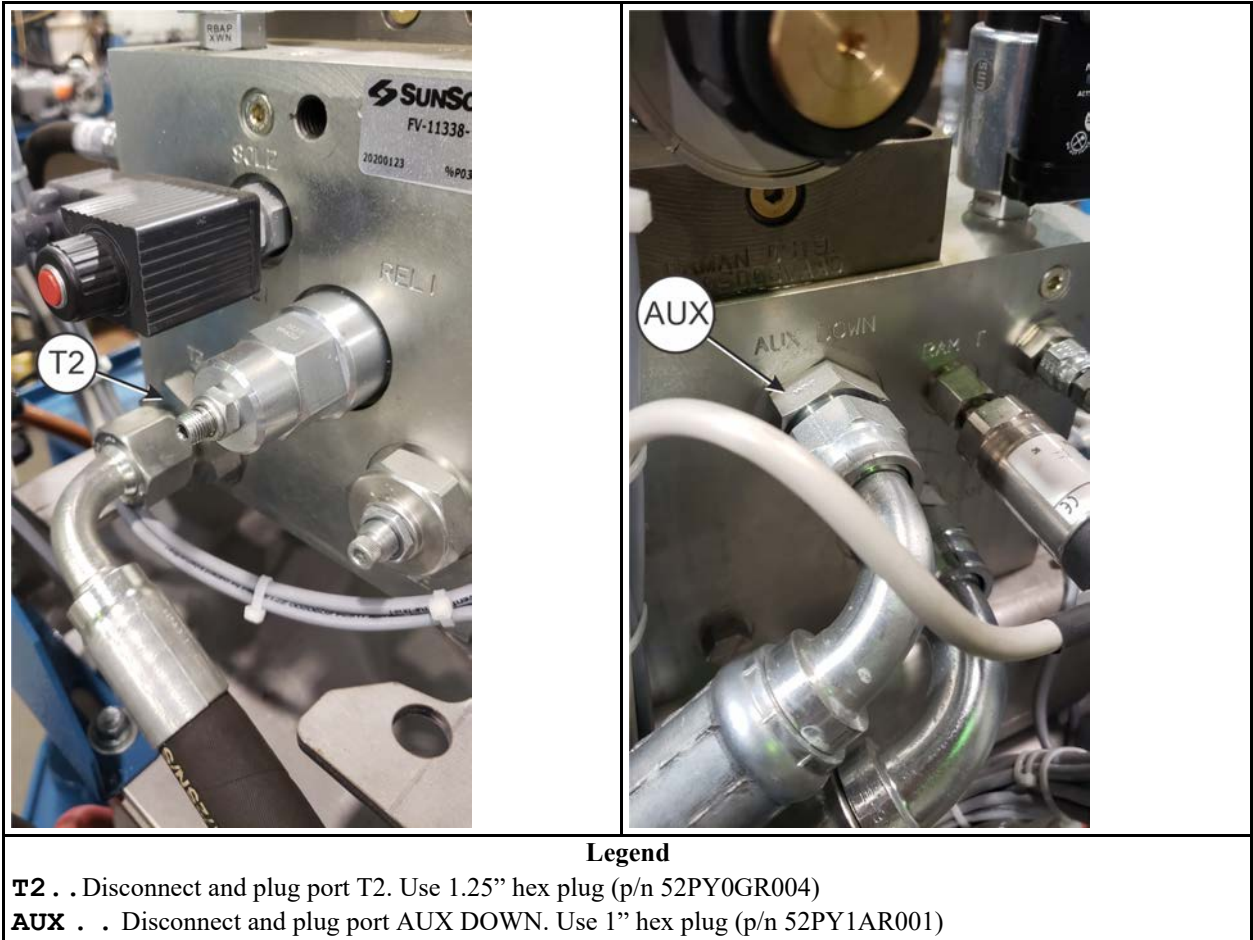
1. When the operator starts the adjustment press code, observe light 1a. Wait for the light to illuminate to indicate that valve VE100 is energized. This will occur when the descending ram clears the PXSM proximity switch (ram in container).
2. Loosen locknut 3a. Observe pressure gauge 5a and turn adjustment screw 4a until the gauge displays the pressure that you previously determined. If you cannot complete the adjustment in the 99 seconds that valve VE100 is de-energized (that the light is off), have the operator repeat the adjustment press code.
3. When the relief valve is correctly adjusted, tighten locknut 3a. The second lowest pressure adjustment is the relief pressure for valve B (VE250). This is the Timer B pressure. Adjust this pressure the same way as above. The adjustment components are those with "_b" item numbers in [Figure 2, page 5](#).

6. Disconnect the RAM Command™ System for Ease of Troubleshooting

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If it is necessary to troubleshoot the press hydraulic system, it can help to isolate the RAM Command™ manifold from the rest of the system. This is done by installing plugs at two hydraulic line connection points on the main manifold. The plugs are available from the Milnor® Parts department. The plug locations and part numbers are given in the figure below.

Figure 3. Plug Locations on the Main Manifold

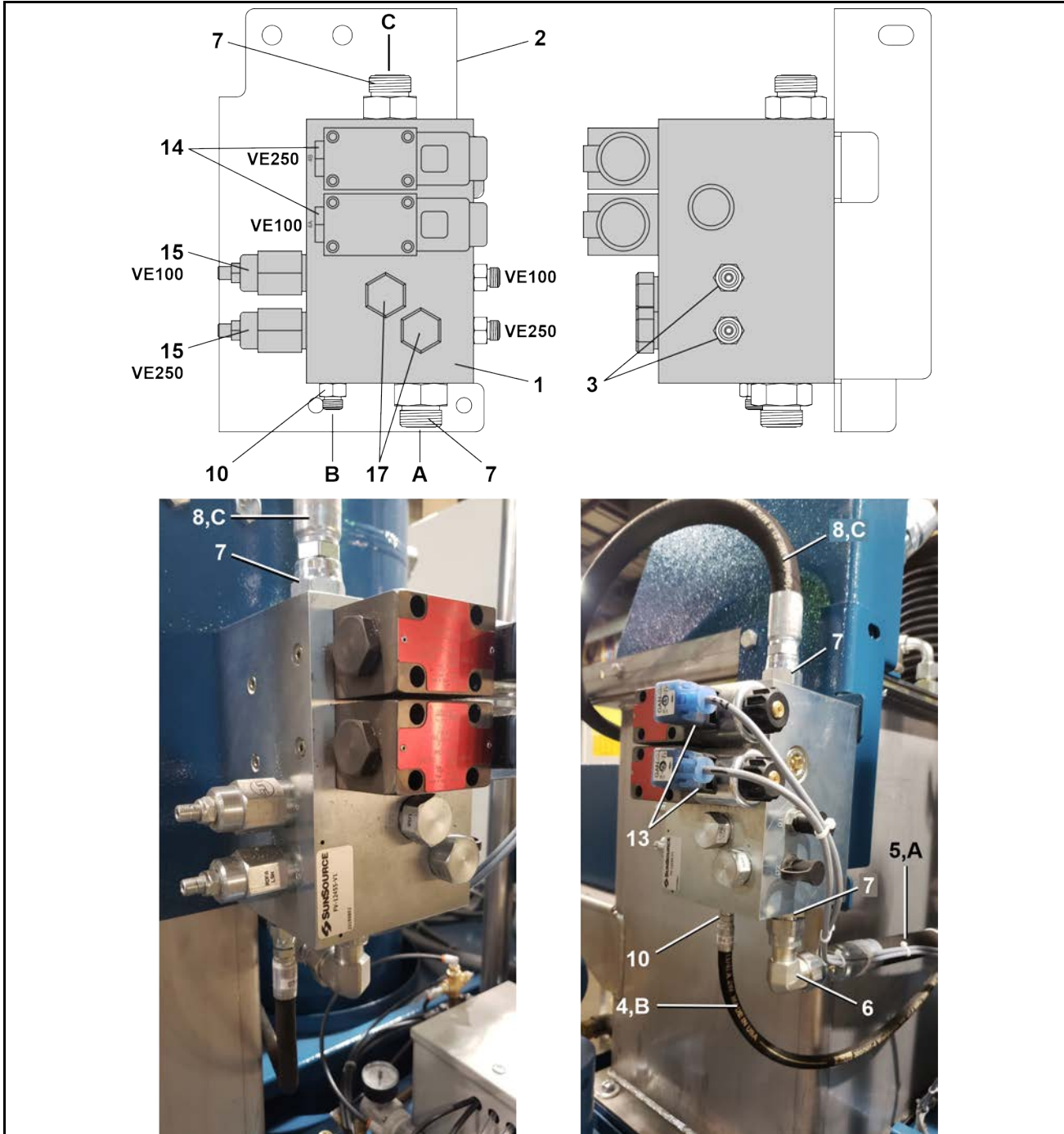


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Delicate Goods Option (Ram Command™ Ram Control)

MP1540, MPL640, MP1650, MPL556, MPL656, MP1A50

Figure 1. Delicate Goods Manifold



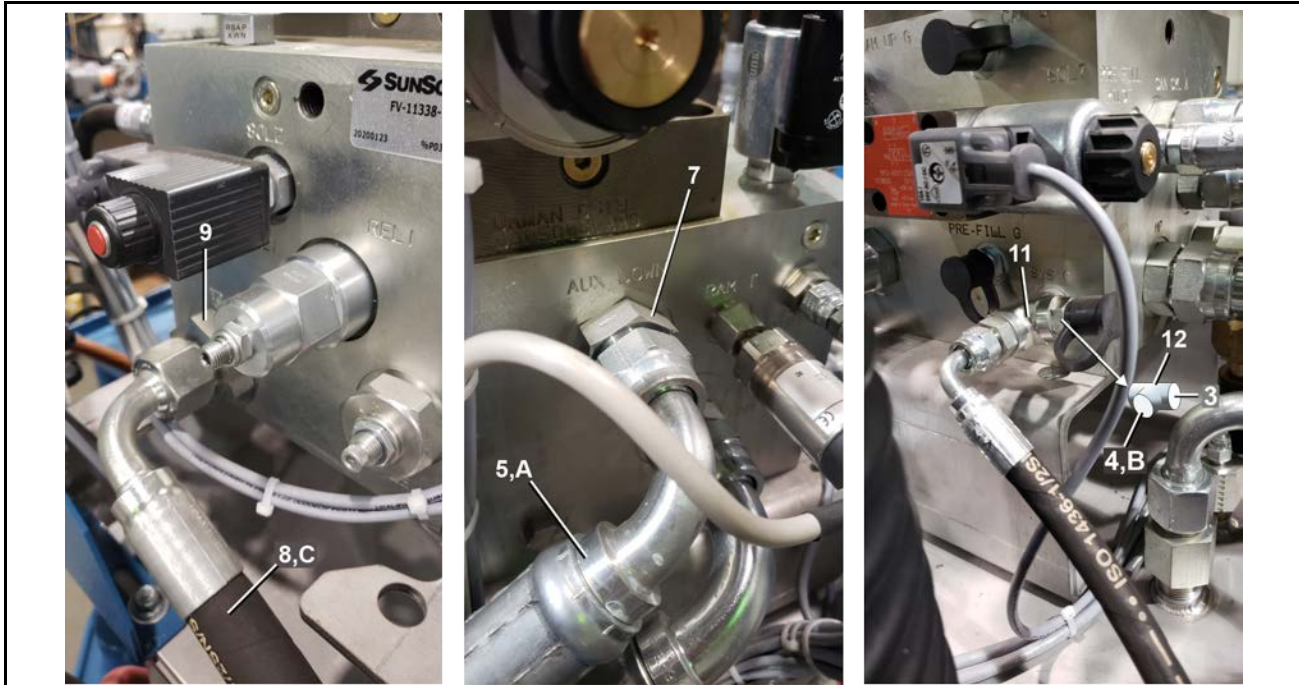
Legend

- A. . .** To AUX DOWN (Auxiliary Ram Down) on main manifold
- B. . .** System Pressure
- C. . .** To T2 (Drain)

Delicate Goods Option (Ram Command™ Ram Control)

MP1540, MPL640, MP1650, MPL556, MPL656, MP1A50

Figure 2. Main Manifold Connections



Legend

- A . . . To AUX DOWN (Auxiliary Ram Down) on main manifold
- B . . . System Pressure
- C . . . To T2 (Drain)

Table 1. Parts List—Delicate Goods Option (Ram Command™ Ram Control)

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 | AHT10065A | DELICATE GOODS ASSY FOR 96DH463 MANIFOLD | MP1540, MP1640 MP1650 |
| | B | AHT10065B | DELICATE GOODS ASSY 96DH462A 96DH464 | MPL556, MPL656, MP1A50 |
| Components | | | | |
| A,B | 1 | 96DH481 | MANIFOLD DELICATE GOODS SUN # FV 12455 V1 PPP | |
| all | 2 | 07 10801 | MANIFOLD BRKT | |
| all | 3 | 52XY0KP001 | TESTPORT QUICKCONN-MALE #PD361 | |
| all | 4 | 60EH21C48A | ASSY=HYDRAULIC HOSE 1/4"X48"LG | |
| all | 5 | 60EH51C57B | HYDHOSE 3/4"STRFEMORSWX3/4"90FEMORSW=57" | |
| all | 6 | 52ZJ00S006 | TUBEFIT90EL3/4"#12 C6LO-S | |
| all | 7 | 52ZC00S004 | TUBESTRCON3/4X1"OR#12-16 F5OLO-S | |
| all | 8 | 60EH50C60A | HYD.HOSE 3/4"+90FSWXFORSW=60" | |
| all | 9 | 52ZC1ES004 | TUBEFITSTRTHD 3/4"X1.25" #12-20 F5OLO-S | |
| all | 10 | 52ZC0ES003 | TUBEFITSTR1/4X3/8#4-6 F5OLO-S | |

Delicate Goods Option (Ram Command™ Ram Control)

3 of 3

MP1540, MPL640, MP1650, MPL556, MPL656, MP1A50

Parts List—Delicate Goods Option (Ram Command™ Ram Control) (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 | 12 | 52ZT00S005 | TUBEFIT TEE 1/4" PARKER #4 R6LO-S | |
| all | 13 | 12M348V9F | SOLE.CONN.6-48VDC/VAC 5M | |
| all | 14 | 96RH712A02 | DIRECTIONAL PILOT VALVE+SOL 24VDC | Part of item 1 |
| all | 15 | 96DH496 | VALVE DIRECT RELIEF RDFA-LEN | Part of item 1 |
| all | 17 | 96DH498 | VALVE CARTRIDGE SUN #LOFD XDN | Part of item 1 |

Hydraulic Ram and Diaphragm

MP1540, MP1556, MP1640, MP1656, MP1A56
MPL556, MPL640, MPL656

BMP220005/2022483A
(1 / 8)



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Note: Install Diaphragm Safety Bar before servicing. See BIUUUS27 - "Safety for Service Personnel".

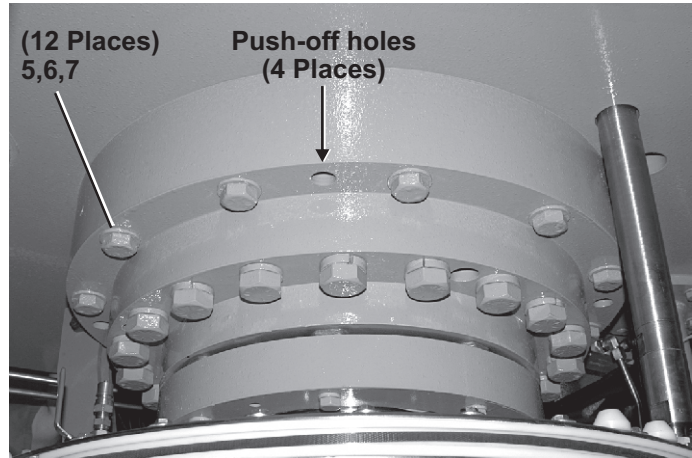
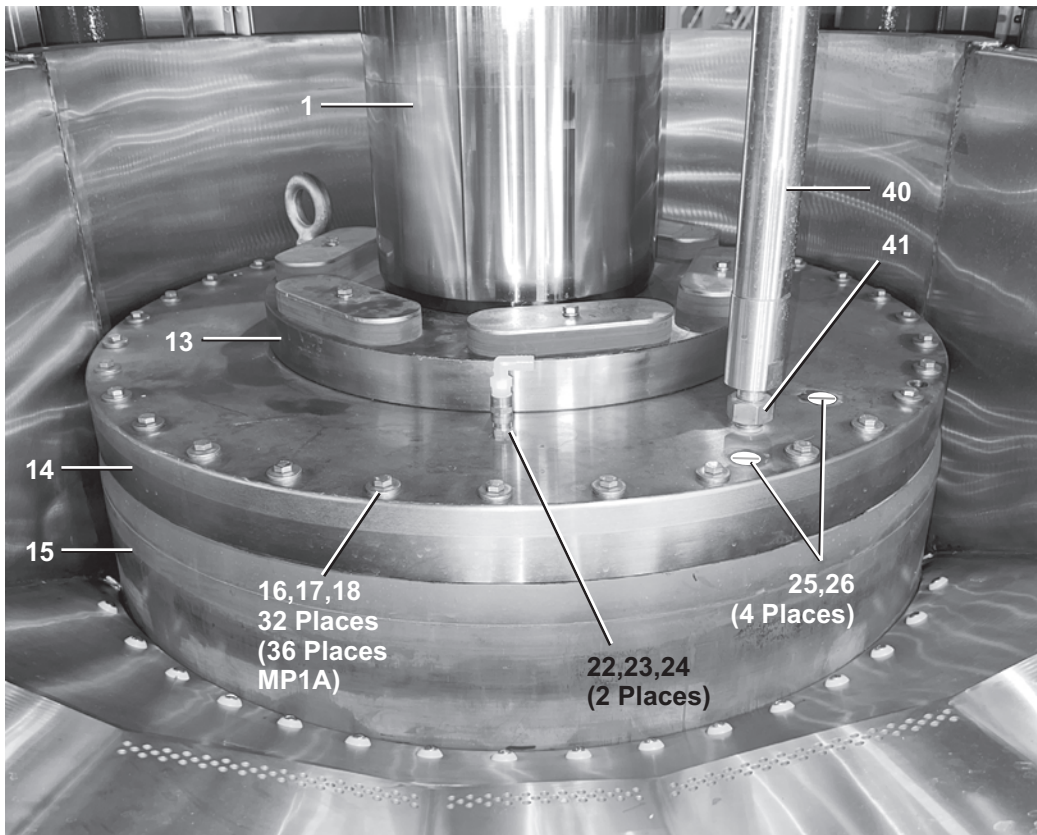


Figure 1: Hydraulic Ram to Upper Press Weldment (See Detail A.)



Hydraulic Ram and Diaphragm

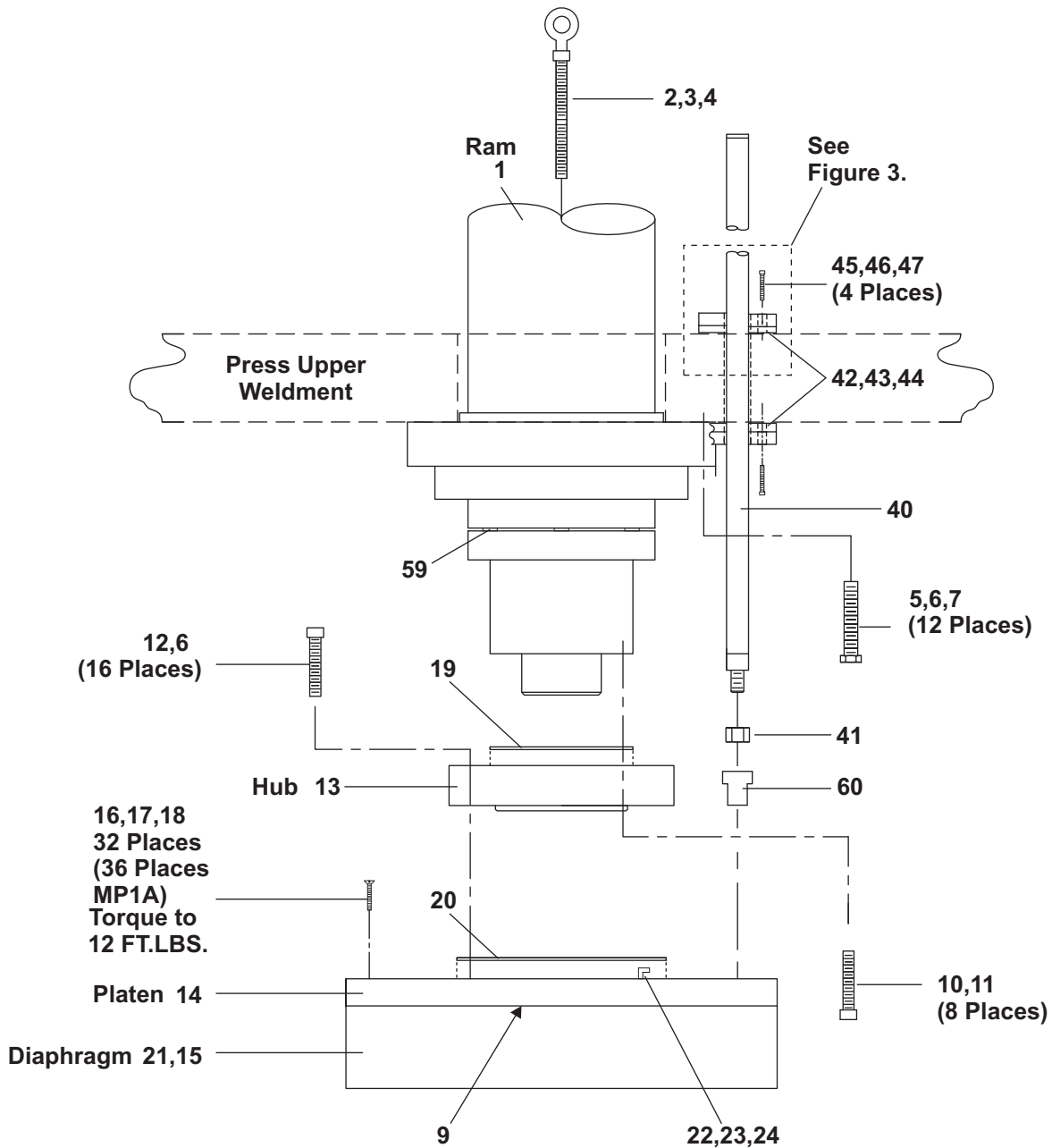
MP1540, MP1556, MP1640, MP1656, MP1A56
MPL556, MPL640, MPL656

BMP220005/2022483A
(2 / 8)



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Apply Loctite Gasket Eliminator to the metal ring of the diaphragm that touches the platen, before mating these components.

Detail A

Hydraulic Ram and Diaphragm

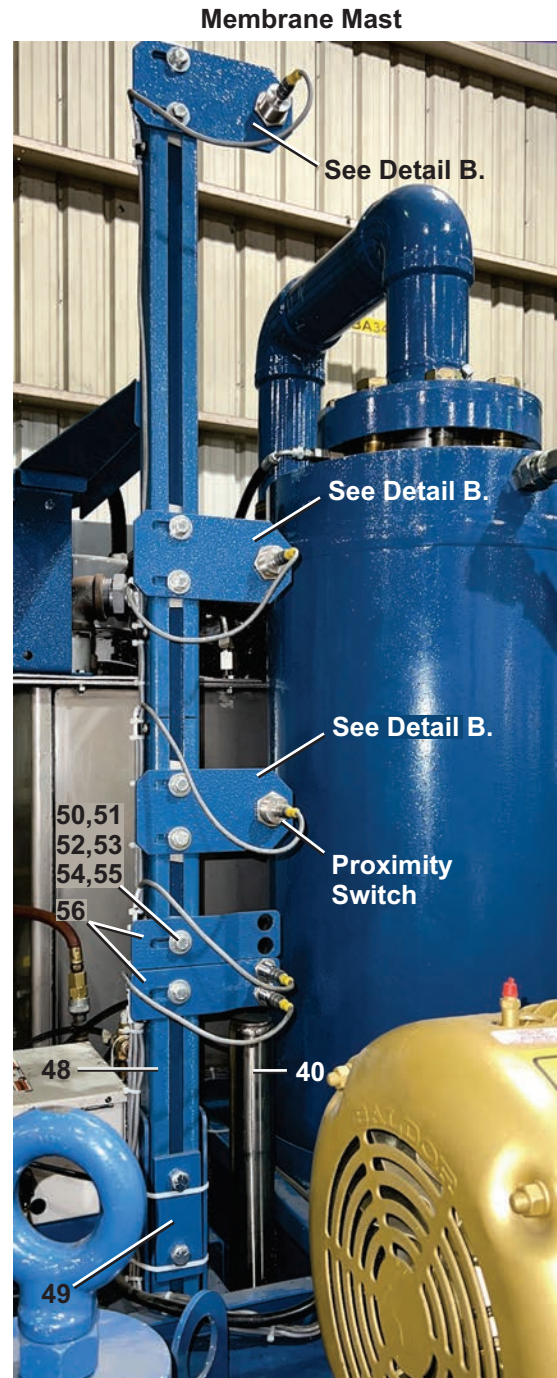
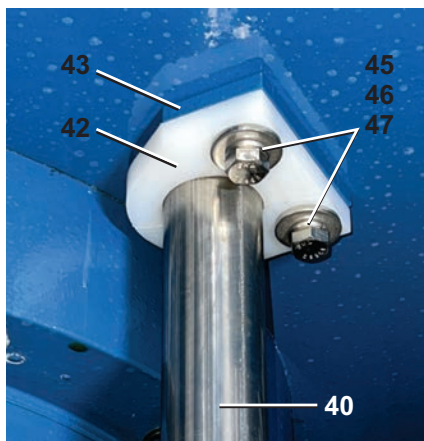
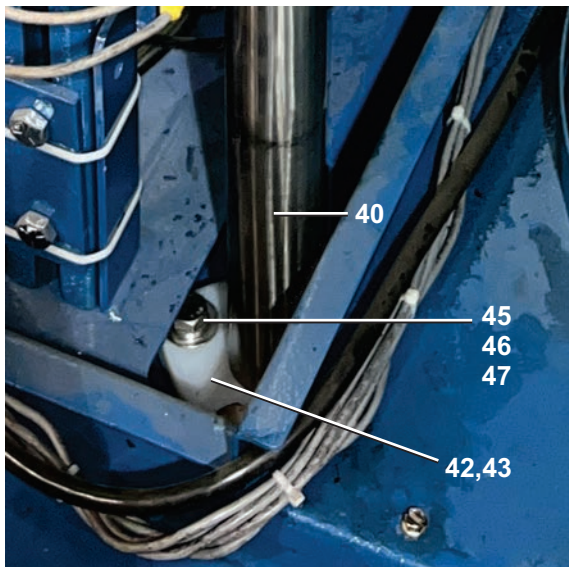
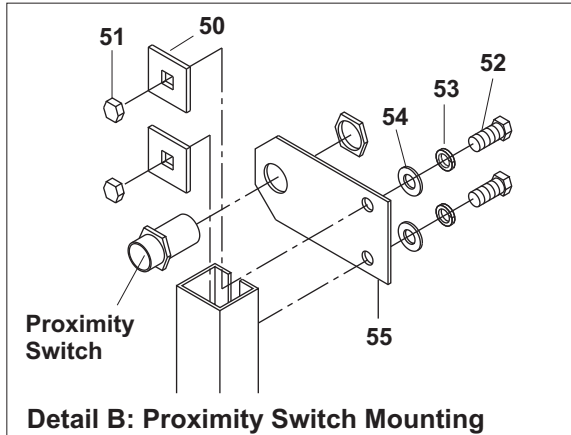
MP1540, MP1556, MP1640, MP1656, MP1A56
MPL556, MPL640, MPL656

BMP220005/2022483A
(3 / 8)



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Hydraulic Ram and Diaphragm

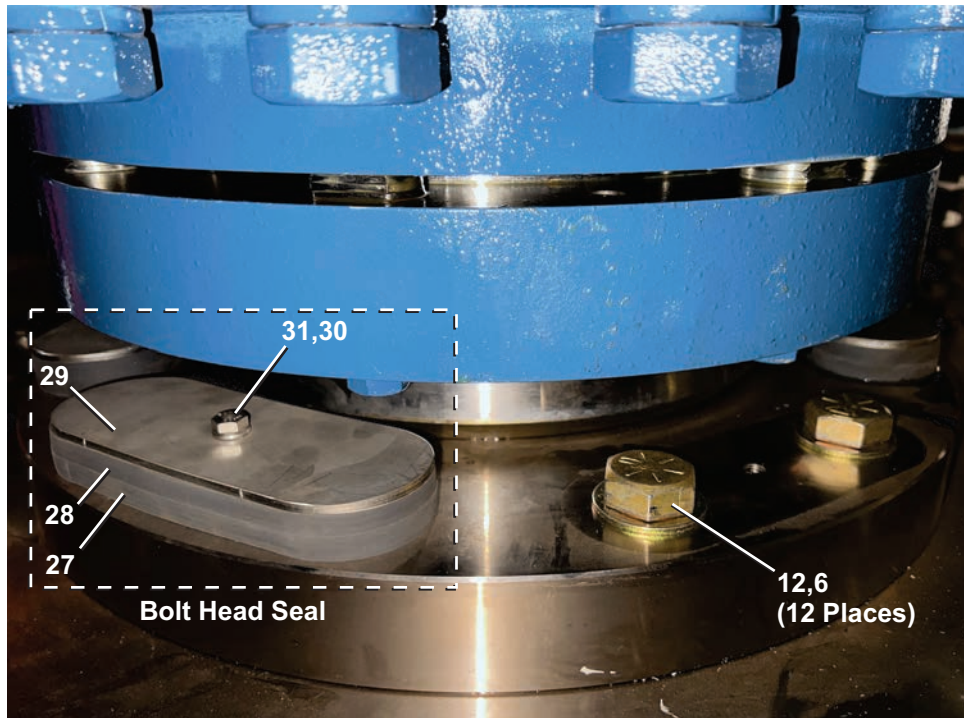
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MPL556, MPL640, MPL656

BMP220005/2022483A
(4 / 8)



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Hydraulic Ram and Diaphragm

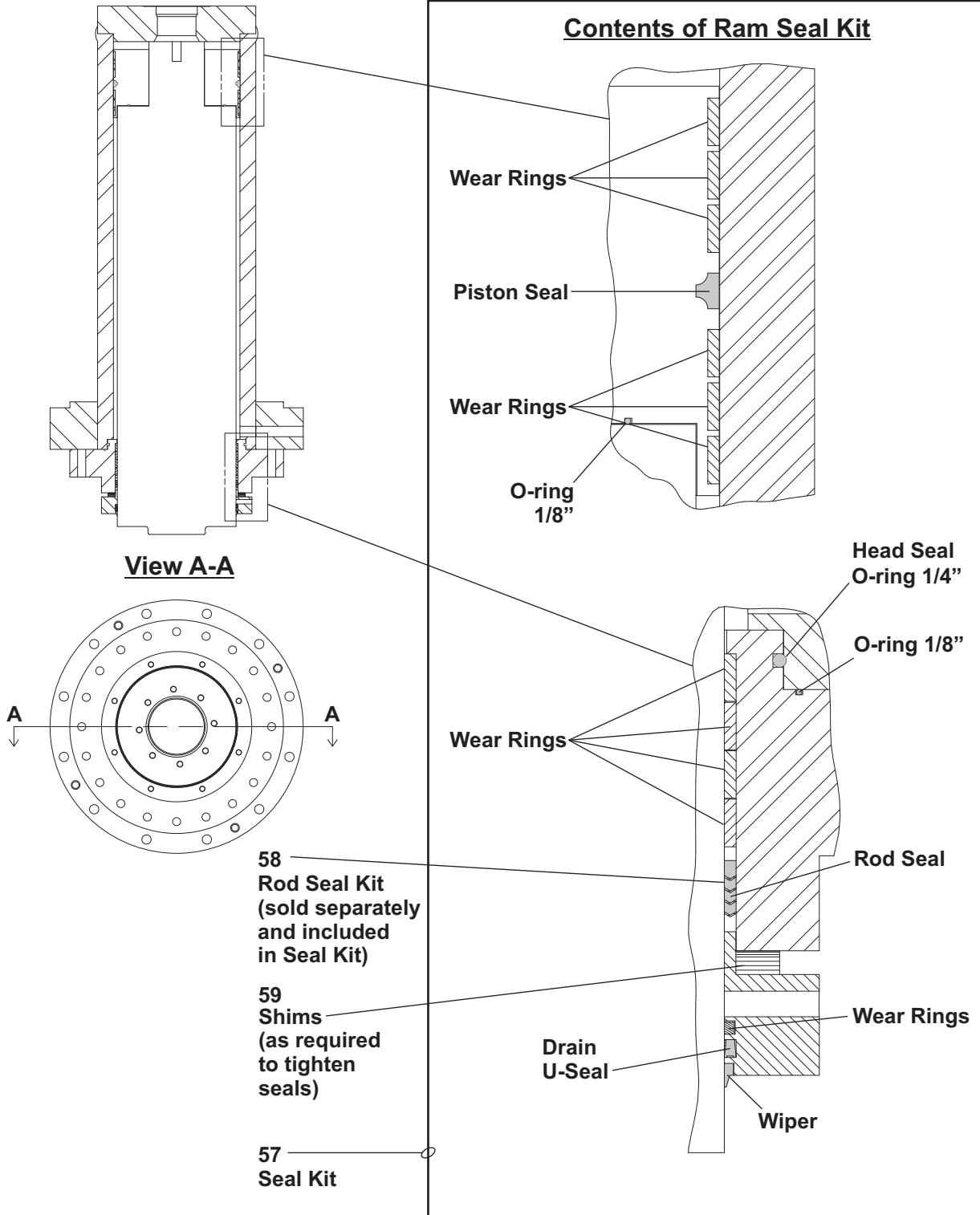
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MPL556, MPL640, MPL656

BMP220005/2022483A
(5 / 8)



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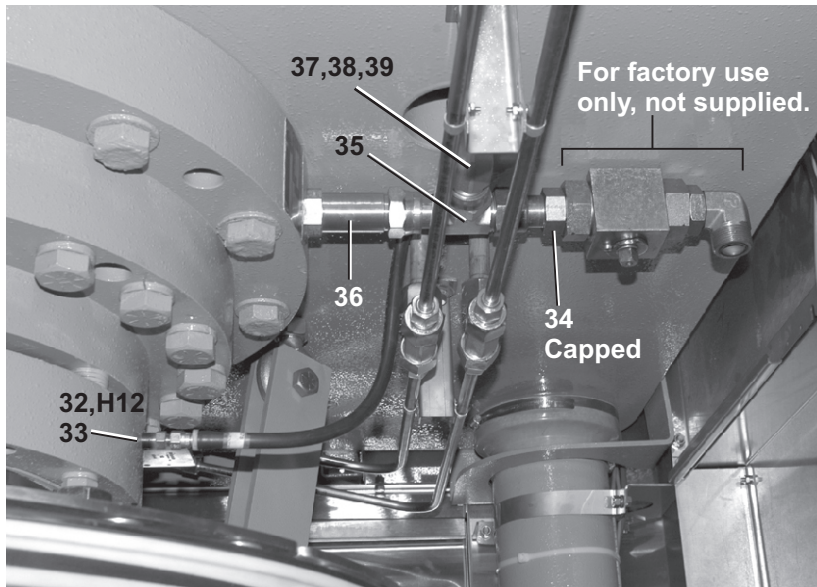
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Hydraulic Ram and Diaphragm

**MP1540, MP1556, MP1640, MP1656, MP1A56
MPL556, MPL640, MPL656**

**BMP220005/2022483A
(6 / 8)**



Parts List

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

| Used In | Item | Part Number | Description | Comments |
|-------------------------------|------|-------------|----------------------------------|-----------------------------------|
| -----MODEL REFERENCES----- | | | | |
| | A | MP1540B | MP1540 40 BAR PRESS BASE MODEL | MP1540, Mp1550 |
| | B | MP1556B | MP1556 56 BAR PRESS BASE MODULE | MP1550, Mp1556 MPL556 |
| | C | MP1640B | MP1640 40 BAR PRESS BASE MODULE | MP1640, MPL640 |
| | D | MP1656B | MP1656 56 BAR PRESS BASE MODEL | MP1650, Mp1656, MPL650, MPL656 |
| | E | MP1A56B | MP1A56 56BAR BASE MODULE | MP1A50, MP1A56 |
| -----ASSEMBLY REFERENCES----- | | | | |
| | | GHC10004 | DIAPHRAGM/PLATEN INST-MP1556 | USED IN A,B |
| | | GHC10002 | DIAPHRAGM/PLATEN INST-MP16XX | USED IN C,D |
| | | GHC10003 | DIAPHRAGM/PLATEN INST-MP1AXXE | USED IN E |
| | F | A80RP002 | MEMBRANE MAST 1-8UN BASE | USED IN ABCD |
| | G | A80RP002A | DIAPHRAGM PROX.SW ASSY MP15/16 | USED IN ABCD |
| | H | A80RP003 | MEMBRANE MAST-MPIA | USED IN E |
| -----COMPONENTS----- | | | | |
| ABC | 1 | 27E161439A | RAM 14"BORE X 39"STK W/SIDEPORT | |
| D | 1 | 27E161639A | RAM 16"BORE X 39"STK W/SIDEPORT | |
| E | 1 | 27E161849A | RAM 18.50"BOREX49"STK W/SIDEPORT | |
| all | 2 | 17A122 | EYE NUT 1.25-7 GAL. STEEL | |

Hydraulic Ram and Diaphragm

**MP1540, MP1556, MP1640, MP1656, MP1A56
MPL556, MPL640, MPL656**

**BMP220005/2022483A
(7 / 8)**

Parts List

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

| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|-----------------------------------|----------|
| all | 3 | 17R125A14K | 1-1/4-7X14 STUD B7 BLK. | |
| all | 4 | 15G260 | HXNUT 1+1/4-7UNC2B BLK GR2 | |
| ABC | 5 | X7 10504 | RAM BOLT 1-14X5"CHASED THREAD | |
| DE | 5 | X7 10505 | RAM BOLT 1-14X7"CHASED THREAD | |
| all | 6 | 15U393 | FLTWASH 1" HARD ASTM F436 | |
| all | 7 | 20C510 | LOCTITE MOLYPASTE#51048 | |
| all | 8 | 15Q125A | GRUB SCREW NYLON 1-8X5/8 | |
| all | 9 | 20C013B | GASKET ELIMINATOR LOC.#51580 | |
| ABCD | 10 | 15K234B | HXCAPSCR 3/4-16UNFX3+1/2" Gr8 | |
| E | 10 | 15K234C | HXCAPSCR 3/4-16UNFX5+1/2" GR8 | |
| all | 11 | 15U321H | FLTWASH 3/4 HARD ASTM F436 | |
| ABCD | 12 | 15K303 | HEXCAPSCR 1-14X4 GR8 ZINC | |
| E | 12 | 15K300A | HEXCAPSCR 1-14X5.5 GR8 ZINC 14TPI | |
| ABCD | 13 | X7 10040C | PLATEN HUB MACHINED-47BAR | |
| E | 13 | X7 10034 | PLATEN HUB MACHINE-48"MEMBRANE | |
| AB | 14 | X7 10068 | MEMBRANE PLATEN 900MM | |
| CD | 14 | X7 10052 | MEMBRANE PLATEN SSPRESS | |
| E | 14 | X7 10035 | PLATEN SSPRESS-48" MEMBRANE | |
| AB | 15 | ACW10012A | GUM RUBBER 11PCS SET-36MEM | |
| CD | 15 | ACW10010A | GUM RUBBER 11PCS SET-40MEM | |
| E | 15 | ACW10011A | GUM RUBBER 11PCS SET-48MEM | |
| ABCD | 16 | 15K136S | HEXCAPSCR 3/8-16 X 3.5 SS18-8 | |
| E | 16 | 15K140T | HEXCAPSCR 3/8-16 X 4.75 SS 18- | |
| all | 17 | 15U243S | FLTWASHER 7/8ODX33/64IDX16GA 1 | |
| all | 18 | 20C007G | THDLOCKSEAL LCT24231 RMUBL50CC | |
| all | 19 | 60C180V | ORING 11"IDX1/8CS V70D#276 | |
| ABCD | 20 | 60C193A | ORING 22"ID 1/4CS BUNA70-471 | |
| E | 20 | 60C193B | ORING 26"ID 1/4CS BUNA70-475 | |
| AB | 21 | ACW10003R | MEMBRANE/RING ASSY 900MM SBR | |
| CD | 21 | ACW10001R | MEMBRANE/RING ASSY 40" SBR | |
| E | 21 | ACW10002 | MEMBRANE/RING ASSY 48" | |
| all | 22 | 52AY0GR007 | MPADPT.3/8"XOR#6-3/8F50F-SS316 | |
| all | 23 | 5SCC0GBE | NPT COUP 3/8 BRASS 125# 103A-C | |
| all | 24 | 51E509NA | ELB90 HOSEADPT 1/2HX3/8T NYL | |
| all | 25 | X7 10059 | PLUG-PLATEN LIFTING EYE BOLT | |
| all | 26 | 60C112 | ORING 5/8IDX3/32CS BUNA70 #114 | |
| ABCD | 27 | 07 10041 | HUB BOLT HEAD SEAL-.50 THK | |
| E | 27 | 07 10041B | MP1AXX HUB BOLT HEAD SEAL-.50 THK | |
| ABCD | 28 | 07 10041A | HUB BOLT HEAD SEAL-.38 THK | |
| E | 28 | 07 10041C | MP1AXX HUB BOLT HEAD SEAL-.38 THK | |
| ABCD | 29 | 07 10042 | PLATEN/HUB BOLT HEAD SEAL PLATE | |

Hydraulic Ram and Diaphragm

**MP1540, MP1556, MP1640, MP1656, MP1A56
MPL556, MPL640, MPL656**

**BMP220005/2022483A
(8 / 8)**

Parts List

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

| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|---|----------|
| E | 29 | 07 10042A | MP1AXX PLATEN/HUB BOLT HEAD SEAL PLATE | |
| all | 30 | 15K112 | HXCAPSCR 3/8-16X1+1/2 SS18-8 | |
| all | 31 | 15U260 | LOCKWASHER MEDIUM 3/8 SS18-8 | |
| ABCD | 32 | 60E076B078 | HOSE ASSY 1/4"X78"LG+ENDS | |
| E | 32 | 60E076B108 | HOSE ASSY 1/4"X108"LG+ENDS | |
| all | 33 | 52AY0ER008 | STR.1/4"MJIC X MP #2404-4-4 | |
| all | 34 | 52ZN1AS006 | TUBEFIT NUT+CAP #16 FNL-SS | |
| all | 35 | 52ZT1AS005 | TUBEFIT TEE 1" PARKER#16 R6LO-SS | |
| all | 36 | 52ZC1AS003 | TUBEFITLGSTRTHDCON 1"#16 FF5OLO-SS | |
| all | 37 | 52ZJ1AS004 | TUBEFIT90ELSWNT1" #16 C6LO-SS | |
| all | 38 | 87Z1X095 | TUBE 1"ODX.095WL 304SMLS * | |
| all | 39 | 52ZN1AS001 | TUBEFIT 1"NUT #16-BL-S | |
| FG | 40 | X7 10254A | DIAPH ROD 77"LG MACHINED | |
| H | 40 | X7 10383A | MP1A50 DIAPH GUIDE ROD 92.38"LG WLMT | |
| all | 41 | 15G250B | HEXNUT 1-8UNC2B BRASS | |
| all | 42 | X7 10843 | DIAPHRAGM ROD UHMW BUSHING | |
| all | 43 | 07 10844 | ROD BUSHING BASE PLATE | |
| all | 44 | 27B34010SS | SPACERROLL .51ID.625L.062T SS | |
| all | 45 | 15K162 | HXCAPSCR 1/2-13UNC2AX1.5 GR5 P | |
| all | 46 | 15U285 | FLATWASHER 1/2 STD COMM SS18-8 | |
| all | 47 | 15U300 | LOKWASHER REGULAR 1/2 ZINC PLT | |
| all | 48 | 07 10258A | DIAPHRAGM PROX.SW POST-MP1A03 | |
| all | 49 | 07 10264 | DIAPH POST MTG PLATE | |
| all | 50 | 07 10265G | NUT RETAINER-PROX.SW PLATE | |
| all | 51 | 17N070AP | RETAIN NUT#S10222-27 | |
| all | 52 | 15K095 | HXCPSCR 3/8-16UNC2AX1 GR5 ZINC | |
| all | 53 | 15U255 | LOCKWASHER MEDIUM 3/8 ZINCPL | |
| all | 54 | 15U240 | FLATWASHER(USS STD) 3/8" ZNC P | |
| all | 55 | 07 10265 | DIAPHRAGM PROX.SW PLATE | |
| all | 56 | 07 10265A | DIAPHRAGM PROX.SW PL 2"W | |
| ABC | 57 | 27E161439C | CRC SEAL KIT #SK-2140 | |
| D | 57 | 27E161639C | CRC SEAL KIT FOR REBUILT HSI 27E161639 | |
| E | 57 | 27E161749C | CRC SEAL KIT #SK-2305 | |
| ABC | 58 | 27E167022A | FAB VEE PACK 13 INCH ID X.5 INCH FOR 27E161439 | |
| D | 58 | 27E167032A | FAB VEE PACK 15 INCH ID X .5 INCH FOR 27E161639 | |
| E | 58 | 27E167736A | FAB VEE PACK 15.5 INCH ID X .5 INCH FOR 27E161749 | |
| all | 59 | 07 10237 | SHIM=RAM SEAL-.050 | |
| BCD | 60 | X7 10274 | DIAPHRAGM ROD END ADAPTER | |

Load Chute Scupper with Adjustable Seal

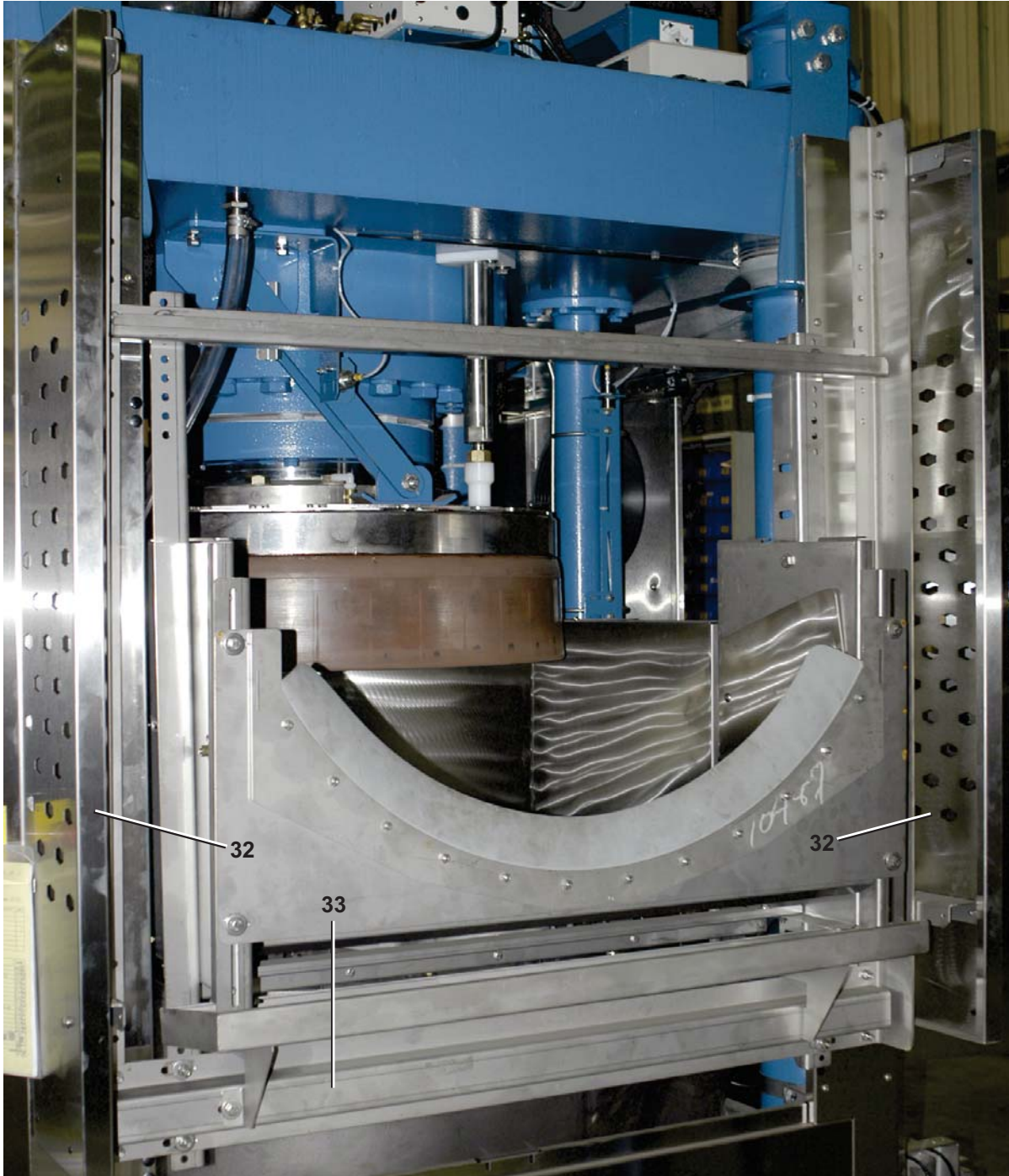
MP1540, MP1556, MP1640, MP1656, MP1A50
MPL556, MPL640, MPL656

BMP160024/2020275A
(1 / 5)



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Load Chute Scupper with Adjustable Seal

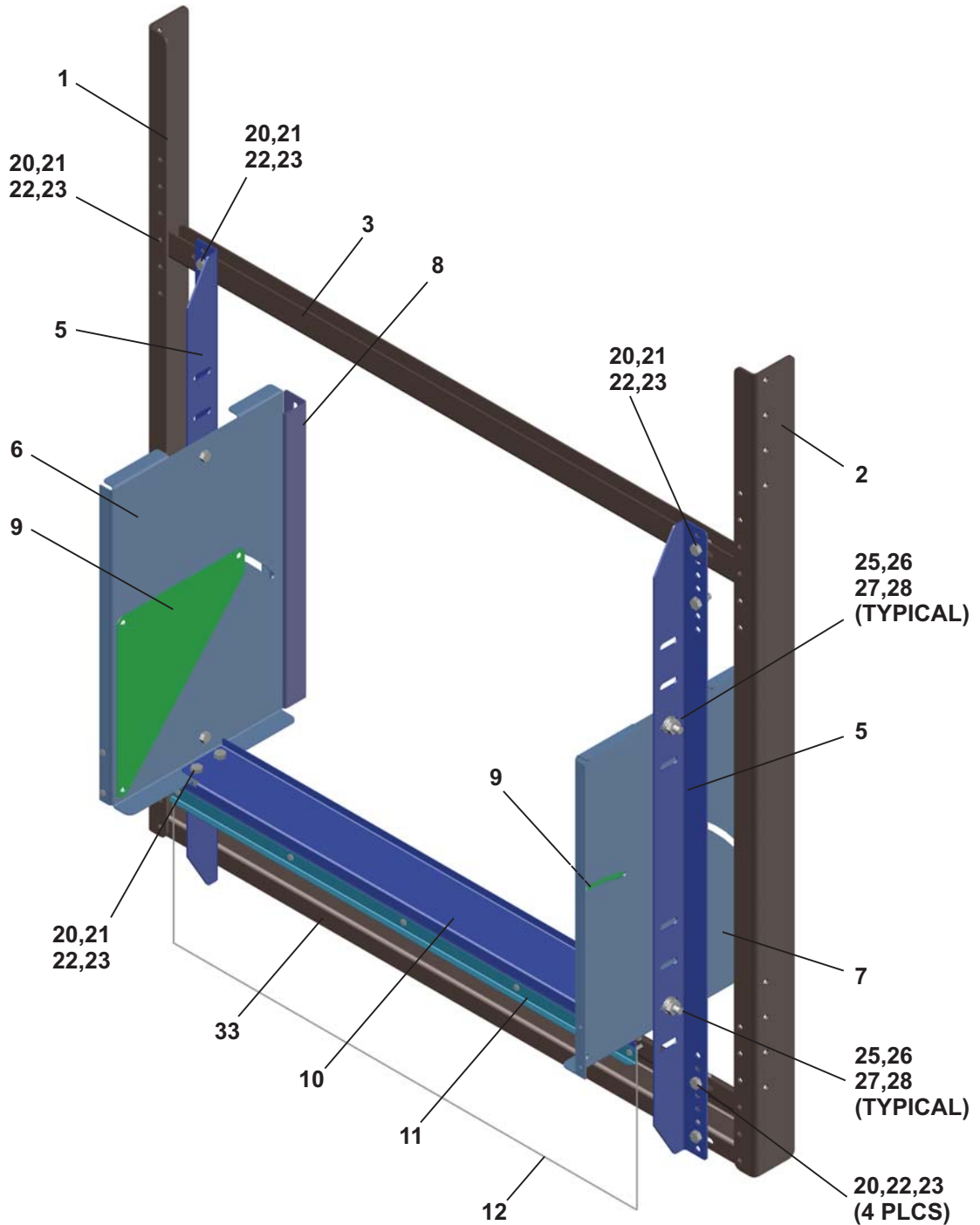
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BMP160024/2020275A
(2 / 5)



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Load Chute Scupper Frame

Load Chute Scupper with Adjustable Seal

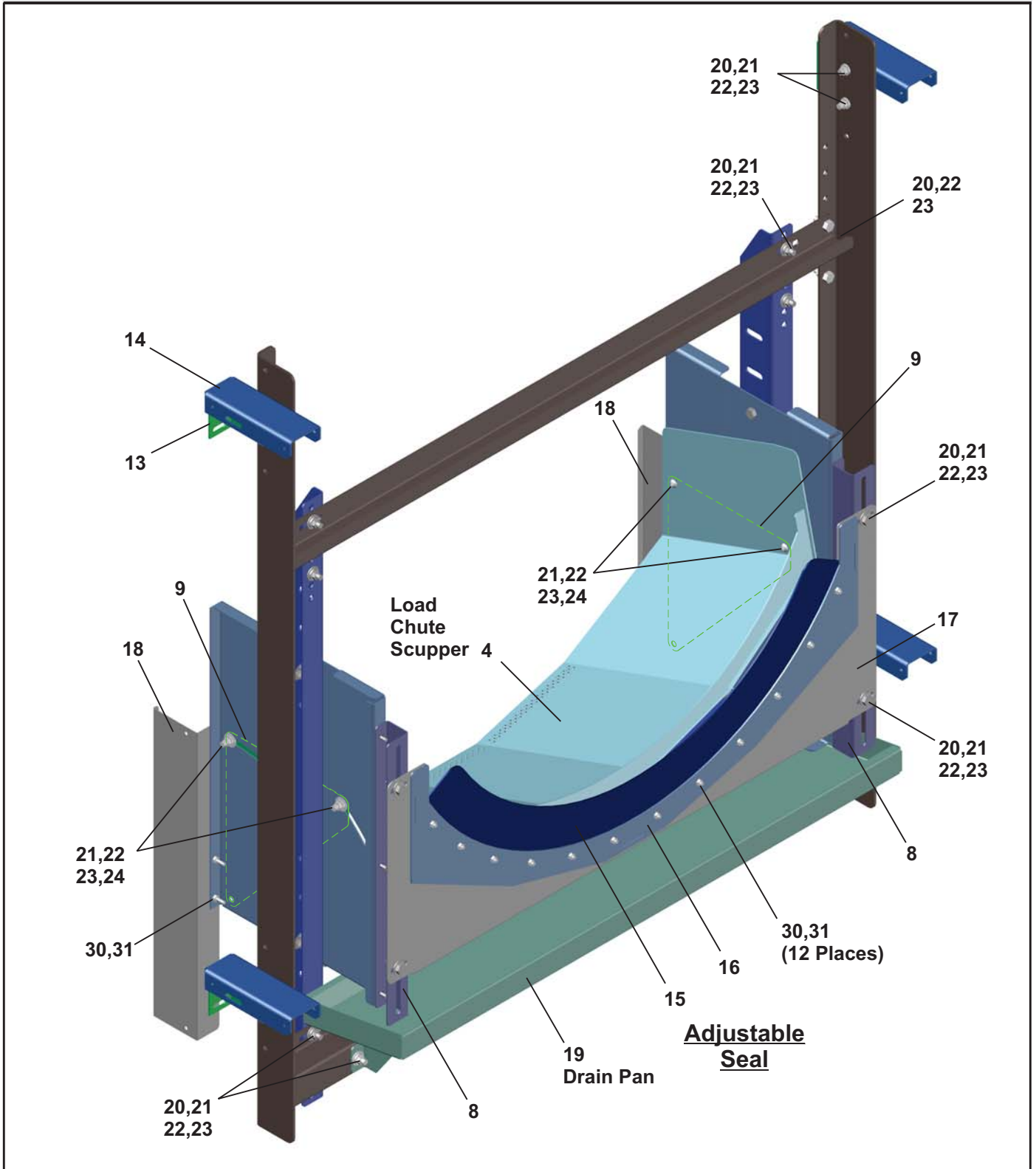
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MPL556, MPL640, MPL656

BMP160024/2020275A
(3 / 5)



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Load Chute Scupper with Adjustable Seal

**MP1540, MP1556, MP1640, MP1656, MP1A50
MPL556, MPL640, MPL656**

**BMP160024/2020275A
(4 / 5)**

Parts List—Scupper Load Chute

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

| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|--------------------------------------|----------|
| | | | -----ASSEMBLIES----- | |
| | A | ACS10009A | ENTRY CHUTE W/ADJUSTABLE SEAL-MP16XX | |
| | | | -----COMPONENTS----- | |
| all | 1 | 07 10328 | CHUTE DRAIN FRAME-RIGHT | |
| all | 2 | 07 10328A | CHUTE DRAIN FRAME-LEFT | |
| all | 3 | 07 10478 | ENTRY CHUTE 40W TOP CHAN | |
| all | 4 | W7 10703 | OUTSIDE LOADCHUTE WLMT-40W | |
| all | 5 | 07 10498 | ENTRY CHUTE MTG ANGLE-MP16XX | |
| all | 6 | 07 10458 | ENTRY CHUTE MTG BRKT-RT | |
| all | 7 | 07 10458A | ENTRY CHUTE MTG BRKT-LF | |
| all | 8 | 07 10708 | LOADCHUTE SEAL MTG BRKT | |
| all | 9 | 07 10460 | CHUTE ANGLE ADJ PLATE | |
| all | 10 | 07 10489 | PLASTIC SHEET MTG ANGLE-40W | |
| all | 11 | 07 10332 | PLASTIC SHEET MTG STRIP | |
| all | 12 | 54C241CP | PLASTIC SHT .080X24" EA.=1FT | |
| all | 13 | 07 10015 | LDCHUTE MOUNTING BRKT-SSPRESS | |
| all | 14 | 07 10017 | LOADCHUTE GUARD MTG BRKT | |
| all | 15 | 07 10486 | LOADCHUTE SPLASH GUARD | |
| all | 16 | 07 10487 | ENTRY CHUTE 40W END PLATE | |
| all | 17 | 07 10707 | LOADCHUTE SEAL MTG PANEL | |
| all | 18 | 07 10684 | LOAD CHUTE SIDE PANNEL | |
| all | 19 | W7 10706 | LDCHUTE DRAIN PAN WLMT | |
| all | 20 | 15K086 | HXCAPSCR 3/8-16NCX3/4 SS18-8 | |
| all | 21 | 15U245A | FLTWASH 25/64IDX1.25ODX3/32 S/ | |
| all | 22 | 15U260 | LOCKWASHER MEDIUM 3/8 SS18-8 | |
| all | 23 | 15G206 | HEXNUT 3/8-16 UNC2 SS 18-8 | |
| all | 24 | 15K083V | BUTSOKCAPSCR 3/8-16X3/4 SS18-8 | |
| all | 25 | 15K153 | HXCAPSCR 1/2 -13 X 1 +1/4 SS | |
| all | 26 | 15U310S | FLATWASH-SS .53 X 1.37 .187T | |
| all | 27 | 15U310 | LOKWASHER REGULAR 1/2 SS18-8 | |
| all | 28 | 15G234B | HEXNUT 1/2-13UNC2B BRASS | |

Load Chute Scupper with Adjustable Seal

MP1540, MP1556, MP1640, MP1656, MP1A50
MPL556, MPL640, MPL656

BMP160024/2020275A
(5 / 5)

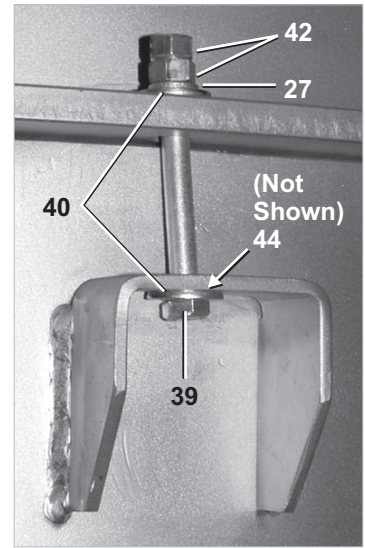
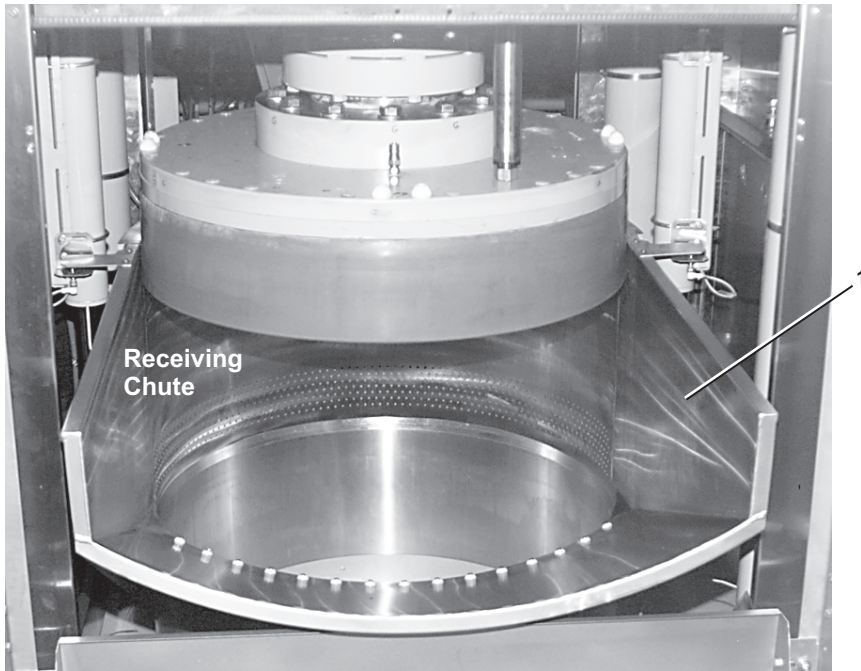
Parts List—Scupper Load Chute

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

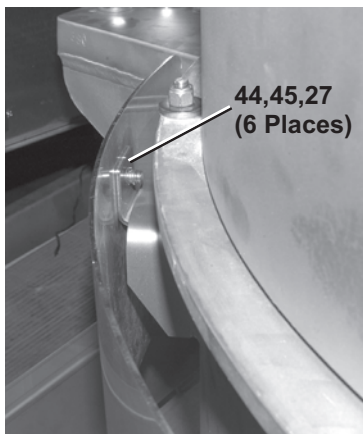
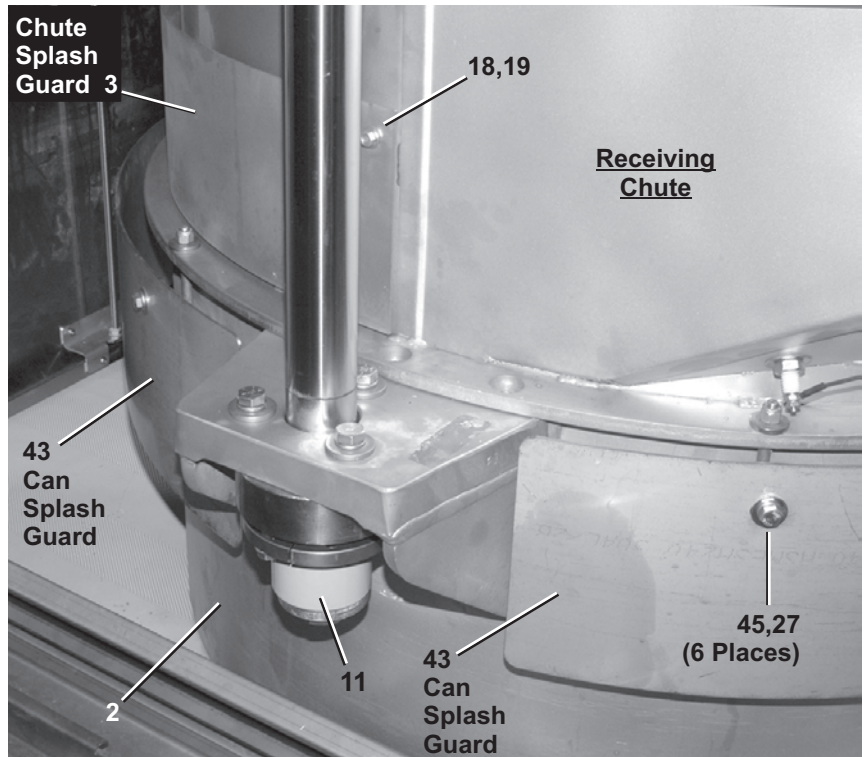
| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|--------------------------------|----------|
| all | 29 | 15U285 | FLATWASHER 1/2 STD COMM SS18-8 | |
| all | 30 | 15K041S | HEXCAPSCR 1/4-20UNC2AX1 SS18-8 | |
| all | 31 | 15G164NE | HEXLOKNUT NYL 1/4-20 UNC2A SS | |
| all | 32 | 07 10018 | LOADCHUTE GUARD 7632 | |
| all | 33 | 07 10469 | ENTRY CHUTE 40W SUPPORT CHAN | |

Receiving Chute and Can

MP1540, MP1566, MP1640, MP1656, MP1A50
MPL566, MPL640, MPL656

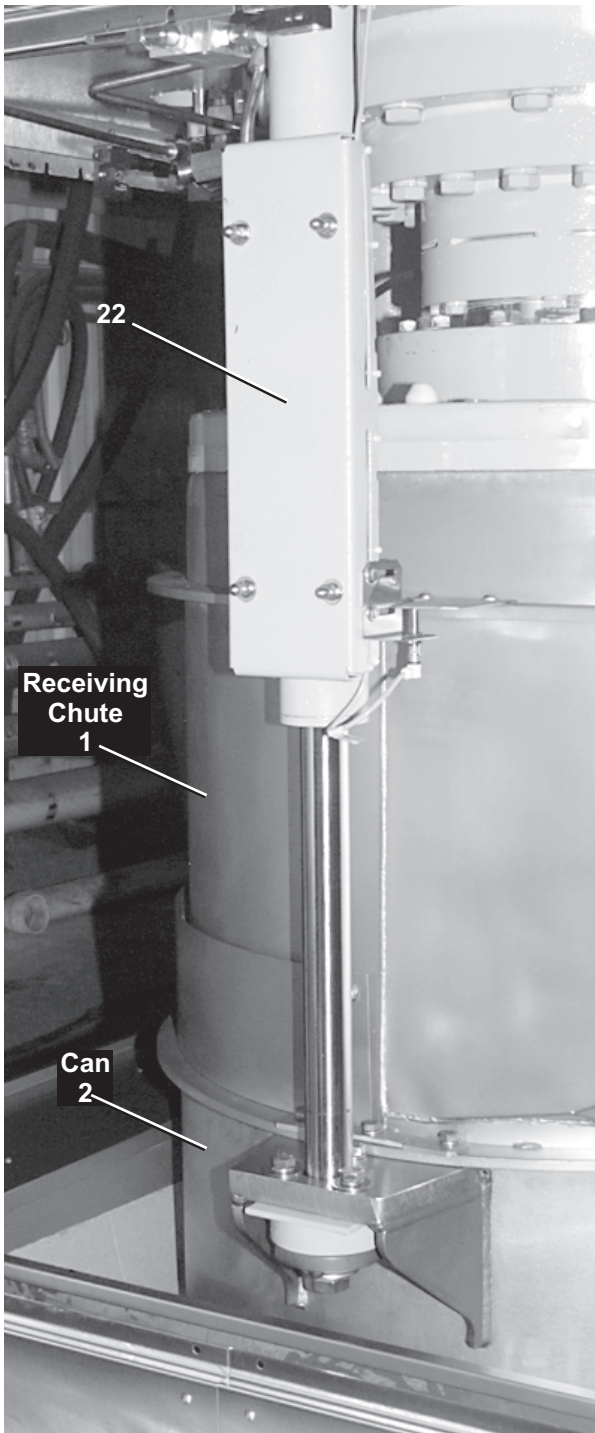


Typical 6 Places

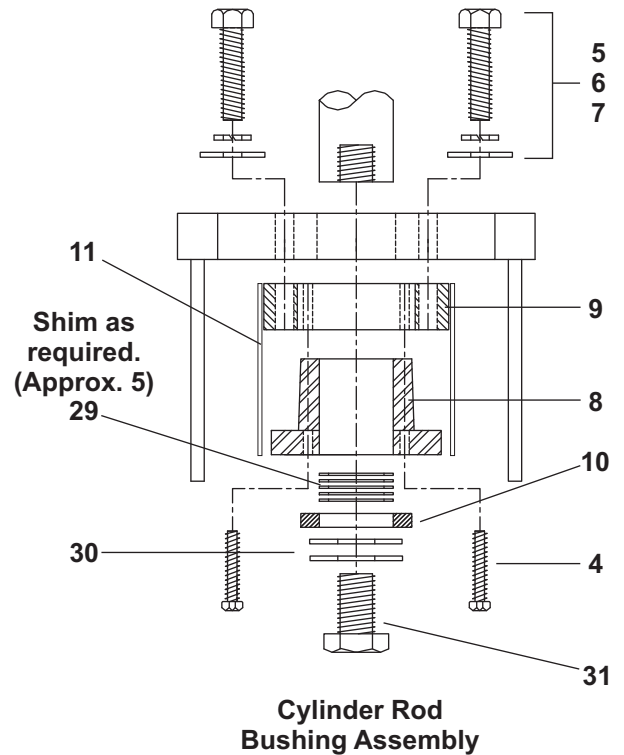


Receiving Chute and Can

MP1540, MP1566, MP1640, MP1656, MP1A50
MPL566, MPL640, MPL656

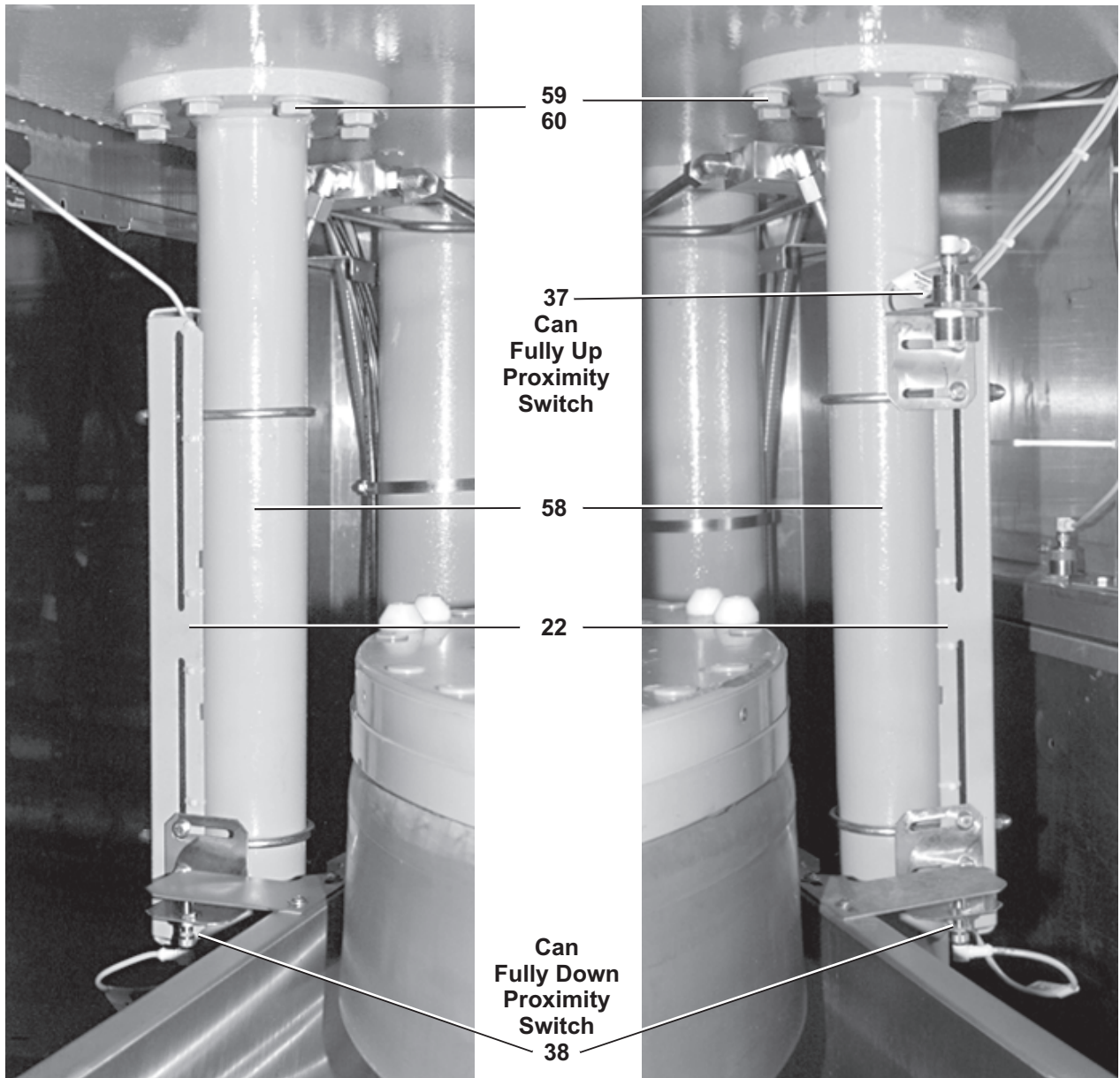


Note: Install Diaphragm Safety Bar before servicing. See BIUUUS27 - "Safety for Service Personnel".



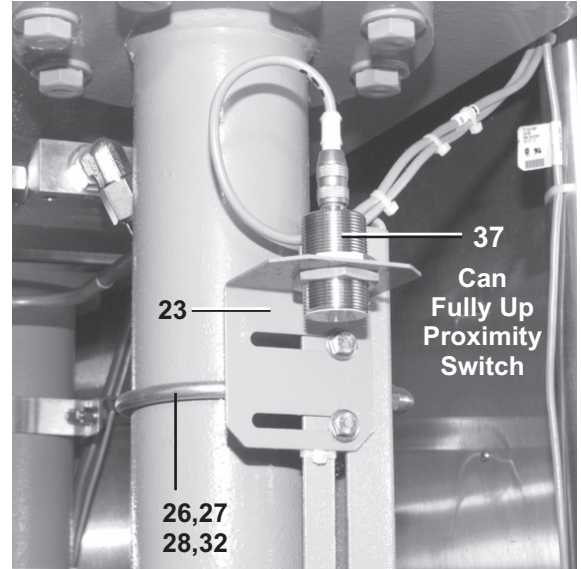
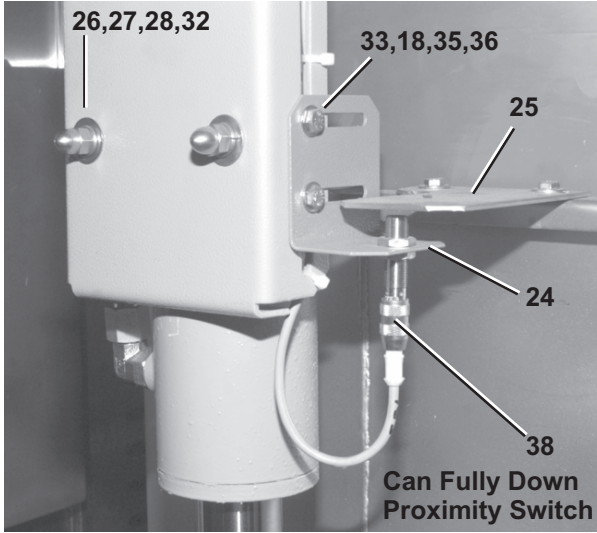
Receiving Chute and Can

MP1540, MP1566, MP1640, MP1656, MP1A50
MPL566, MPL640, MPL656



Receiving Chute and Can

MP1540, MP1566, MP1640, MP1656, MP1A50
MPL566, MPL640, MPL656

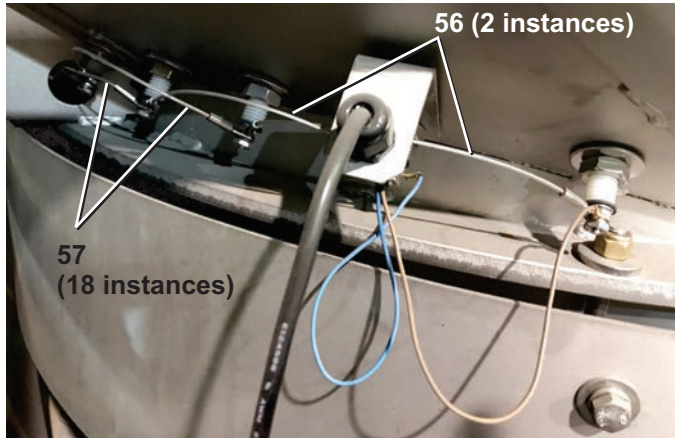


Incomplete Transfer Chute Sensors:

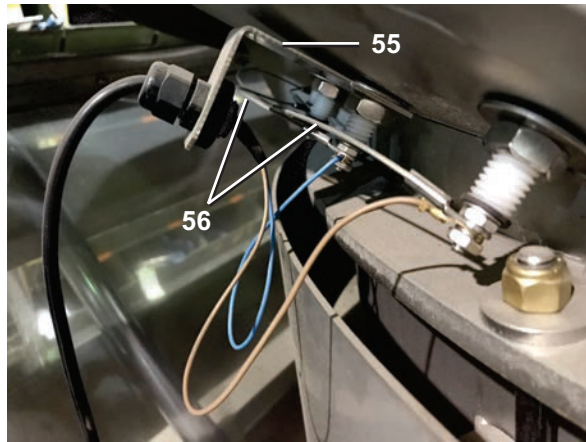
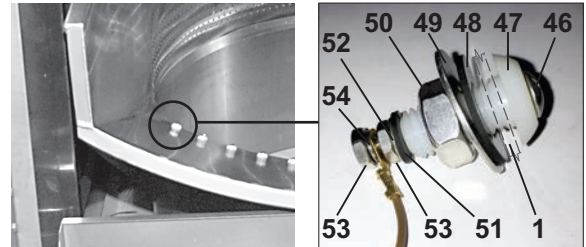


Receiving Chute and Can

MP1540, MP1566, MP1640, MP1656, MP1A50
 MPL566, MPL640, MPL656



View A-A



View B-B

Note: Incomplete Transfer Chute Sensors
 Make a closed circuit. Connect every other sensor with nine inch and six inch wires (items 56 and 57) to the furthest point out, as shown. Connect skipped sensors to return to the harness. Make electrical control connections.

Parts List

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

| Used In | Item | Part Number | Description | Comments |
|--------------------------------|------|-------------|----------------------------------|----------------|
| -----REFERENCE ASSEMBLIES----- | | | | |
| | A | MP1540B | 40 BAR PRESS BASE MODULE | Mp1540 |
| | B | MP1556B | MP1556B 56 BAR PRESS BASE MODULE | MP1556, MPL556 |
| | C | MP1640B | MP1640B 40 BAR PRESS BASE MODULE | MP1640, MPL640 |
| | D | MP1656B | MP1656B 56 BAR PRESS BASE MODULE | MP1656, MPL656 |
| | E | MP1A56B | MP1A56 56BAR BASE MODULE | MP1A50 |
| | F | A80CS002 | CHUTE SENSOR ASSY-MP1A03 | ALL |
| | G | ECA9B083S | ASSEMBLY FOR SENSOR PRESS | ALL |
| ABC | H | A80CC003 | CAN CYL ROD BUSHING-MP1603 | |
| DE | J | A80CC004 | CAN CYL ROD BUSHING-MP1604 | |
| -----COMPONENTS----- | | | | |
| AB | 1 | W7 10518 | SSPRESS CHUTE 36"X30DEG WLMT | |
| CD | 1 | W7 10468 | SSPRESS CHUTE 40WX30DEG WLMT | |
| E | 1 | W7 10510 | SSPRESS CHUTE 48"X35DEG WLMT | |
| AB | 2 | Y7 10064 | PRESS 900MMX18.5H CAN-MACHINED | |
| CD | 2 | Y7 10026 | SSPRESS 18.5H CAN-MACHINED | |
| E | 2 | Y7 10032 | SSPRESS 48DX22.5H CAN-MACHINED | |
| AB | 3 | 07 10519 | SPLASH GUARD 36DIA CHUTE-ROLLED | |

Receiving Chute and Can

MP1540, MP1566, MP1640, MP1656, MP1A50
MPL566, MPL640, MPL656

Parts List

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

| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|---|----------|
| CD | 3 | 07 10306 | CHUTE SPLASH GUARD-ROLLED | |
| E | 3 | 07 10373 | SPLASH GUARD 48"CHUTE-ROLLED | |
| all | 4 | 15K116 | HEXFLGSCR 3/8-16X1.75 GR8 ZINC | |
| all | 5 | 15K191C | HEXCAPSCR 1/2-13X2.5 GR8CHROME | |
| all | 6 | 15U310 | LOKWASHER REGULAR 1/2 SS18-8 | |
| all | 7 | 15U310S | FLATWASH-SS .53 X 1.37 .187T | |
| all | 8 | 56Q2ASFNIP | 2"BUSHING QD TYPE"SF" + PLTG. | |
| all | 9 | X7 10111 | QD HUB 1.50LG BUSHING | |
| ABC | 10 | X7 10051 | CAN CYL ROD END SPACER-31BAR | |
| DE | 10 | X7 10046 | CAN CYL ROD END SPACER-50BAR | |
| J | 11 | 07 10077 | CAN BUSHING CAP 5"DX6"LX1/8"WALL 50DURO | |
| all | 18 | 15U188 | FLTWASH 1/4 STD COMM SS18-8 | |
| all | 19 | 15G180 | HEXNUT 1/4-20 BRASS | |
| ABCD | 22 | 07 10360 | RECEIVE CHUTE SW CHANNEL | |
| E | 22 | 07 10384 | LOADCHUTE PROX.SW BRKT | |
| all | 23 | 07 10337 | RECEIVING CHUTE SW MTG BRKT | |
| all | 24 | 07 10337A | CHUTE PROX.SW BRKT-12MM | |
| AB | 25 | 07 10338A | CHUTE TARGET-900MM MEMBRANE | |
| CDE | 25 | 07 10338 | SSPRESS CHUTE TARGET | |
| all | 26 | 15U245 | FLTWASH 3/8 STD COMM 18-8 SS | |
| all | 27 | 15U260 | LOCKWASHER MEDIUM 3/8 SS18-8 | |
| all | 28 | 27A035 | UBOLT 3/8-16 3.625"BETWEN LEGS | |
| all | 29 | 15U404C | 16 GA ADJWASH =BRGHOUS ZINC | |
| all | 30 | 02 15630 | FLATWASH 2.75 X .25 304 S/S | |
| all | 31 | 15K255A | HEXCAPSCR 1-8X1.75 316SS | |
| all | 32 | 15G221 | HEXCASTLENUT 3/8-16UNC2 SS18-8 | |
| all | 33 | 15N174 | HXCAPSCR 1/4-20UNC X5/8SS18-8 | |
| all | 35 | 15U181 | LOCKWASHER MEDIUM 1/4 SS18-8 | |
| all | 36 | 15G170 | HEXNUT 1/4-20UNC2 SS18-8 | |
| all | 37 | 09RPS30ADS | PROX SW QK CONN 30M NO-DC SHLD EUROFAST | |
| AB | 38 | 09RPSDC010 | CONN.STR FEMALE DC 3A 300V 10M RK4T-10 - EUROFAST | |
| CDE | 38 | 09RPSDC095 | CON.90DEG FEMALE DC 3A300V 5M WK4T-6 EUROFAST | |
| all | 39 | 15K227T | HXCAPSCW 3/8-16X3 1/2 TFL S/S | |
| all | 40 | 15U245A | FLTWASH 25/64IDX1.25ODX3/32 S/ | |
| all | 42 | 15G206 | HEXNUT 3/8-16 UNC2 SS 18-8 | |
| AB | 43 | 07 10075 | CAN SPLASH GUARD Mp1550 | |
| CD | 43 | 07 10072 | CAN SPLASH GUARD MP16XX | |

Receiving Chute and Can

MP1540, MP1566, MP1640, MP1656, MP1A50
MPL566, MPL640, MPL656

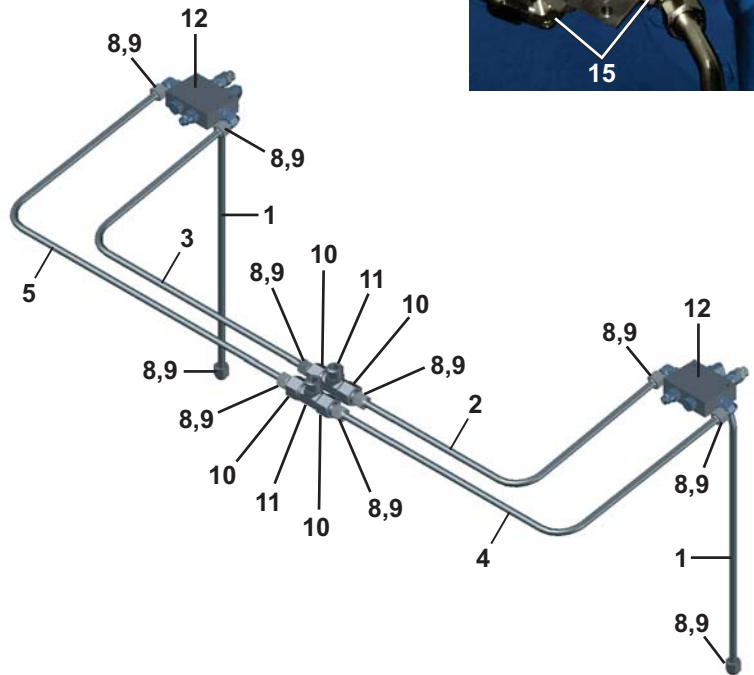
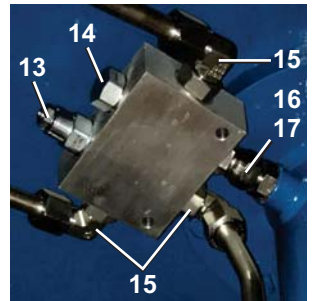
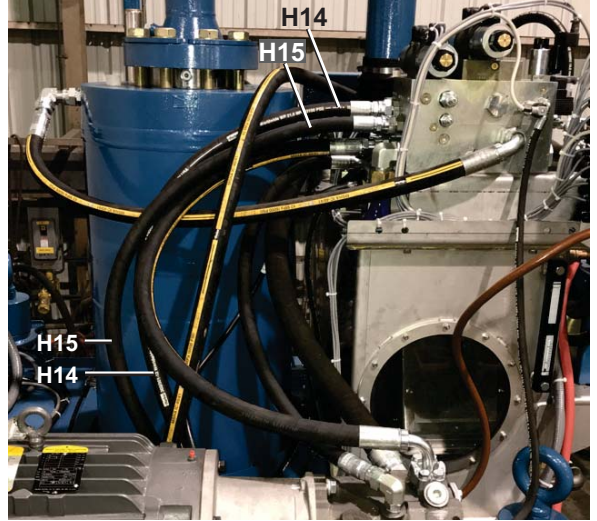
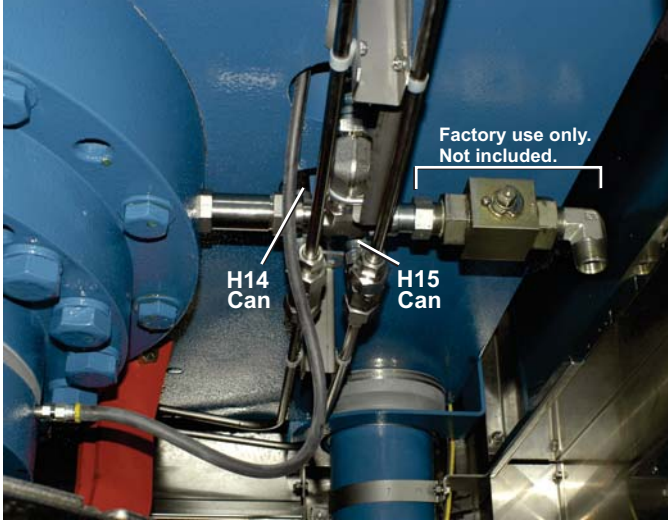
Parts List

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

| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|--|----------|
| E | 43 | 07 10074 | CAN SPLASH GUARD MP1A03 | |
| all | 44 | 07 10073 | CAN SPLASH GUARD BRKT | |
| all | 45 | 15K086 | HXCAPSCR 3/8-16NCX3/4 SS18-8 | |
| all | 46 | 15N153A | TRUSLTMACCHSCR10-24X1.75 18-8S | |
| F | 47 | X7 10322 | CHUTE SENSOR NYLON BOLT | |
| G | 48 | 15U173 | FLATWASHER 1/2 VITON - PK = 5 EACH | |
| F | 49 | 15U285 | FLATWASHER 1/2 STD COMM SS18-8 | |
| F | 50 | 15G231S | HXFJNUT 1/2-13UNC2B SS18-8 | |
| G | 51 | 15U132 | FLATWASH #10 VITON - PK = 25 EACH | |
| F | 52 | 15U135 | FLATWASH#10 .4370DX.203IDX.04T | |
| F | 53 | 15G130 | HEXMACHSCRNUT 10-24UNC2 SS18-8 | |
| F | 54 | 15U160 | LOCKWASHER MEDIUM #10 SS18-8 | |
| F | 55 | 07 10339 | SENSOR WIRE CONN BRKT | |
| G | 56 | 10Y9B083S | HARNESS FOR SENSOR PRESS (REPLACED BY ECA9B083S) | |
| F | 57 | 09V300SS09 | 9" OR 10" SS WIRE - RING TO RING - COATED | |
| F | 58 | 09V300SS06 | 6" SS WIRE - RING TO RING - COATED | |
| ABC | 59 | 27E163A17A | HYD.CYL 3.25"BORE X 16.25"STK | |
| DE | 59 | 27E163A20A | HYD.CYL.3.25"BORE X 20.25"STK. | |
| ABCD | 60 | 15K221S | HEXCAPSCR 5/8-11X2 S/S 18-8 | |
| E | 60 | 15K226N | HEXCAPSCW 5/8-11X3.5 18-8 SS | |
| ABCD | 61 | 15U314S | FLTWASH 5/8 STDCOMM SS18-8 | |
| E | 61 | 15U316 | FLTWASH 5/8 HARD ASTM F436 | |

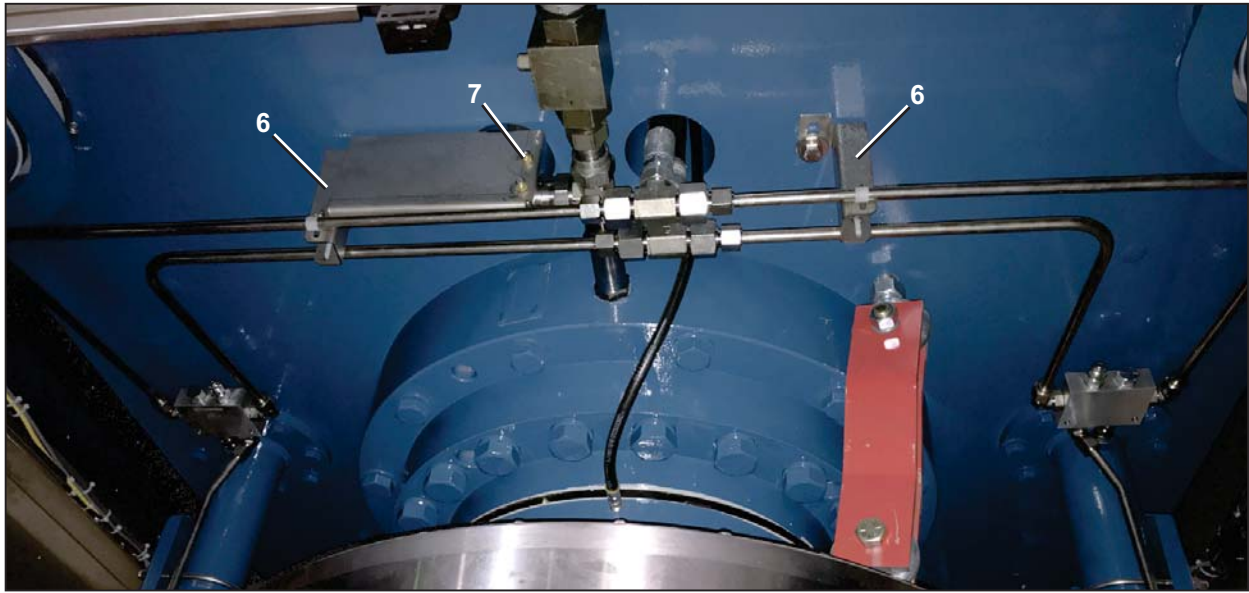
Counterbalance Valves and Tubing

MP1540, MP1556, MP1640, MP1656, MP1A50
MPL556, MPL640, MPL656



Counterbalance Valves and Tubing

MP1540, MP1556, MP1640, MP1656, MP1A50
 MPL556, MPL640, MPL656



Parts List—Counterbalance Valves and Tubing

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

| Used In | Item | Part Number | Description | Comments |
|--------------------------------|------|-------------|--|--------------------|
| -----REFERENCE ASSEMBLIES----- | | | | |
| | A | AHT10018 | CANCYL TUBING-1540,1550,1556,1603,1640 | MP1540, MPL550/556 |
| | B | AHT10018A | CANCYL TUBING-MP1604,1650,1656 | MPL650/656 |
| | C | AHT10018B | CAN CYL TUBING-MP1A03/MP1A50 | MP1A50 |
| | D | A80CC001 | CAN CYL-COUNTERBAL ASSY | REFERENCE ASSEMBLY |
| -----COMPONENTS----- | | | | |
| AB | 1 | AHT10056 | TUBING 1/2 CAN CBALANCE-MP15/MP16 | |
| C | 1 | AHT10056A | TUBING 1/2 CAN CBALANCE-MP1A50 | |
| A | 2 | AHT10064 | TUBING CAN UP 14"RAM-LEFT | |
| B | 2 | AHT10064D | TUBING CAN UP 16"RAM-LEFT | |
| C | 2 | AHT10064H | TUBING CAN UP 17"RAM-LEFT | |
| A | 3 | AHT10064A | TUBING CAN UP 14"RAM-RIGHT | |
| B | 3 | AHT10064E | TUBING CAN UP 16"RAM-RIGHT | |
| C | 3 | AHT10064J | TUBING CAN UP 17"RAM-RIGHT | |
| A | 4 | AHT10064B | TUBING CAN DOWN 14"RAM-LEFT | |
| B | 4 | AHT10064F | TUBING CAN DOWN 16"RAM-LEFT | |
| C | 4 | AHT10064K | TUBING CAN DOWN 17"RAM-LEFT | |
| A | 5 | AHT10064C | TUBING CAN DOWN 14"RAM-RIGHT | |
| B | 5 | AHT10064G | TUBING CAN DOWN 16"RAM-RIGHT | |
| C | 5 | AHT10064L | TUBING CAN DOWN 17"RAM-RIGHT | |

Counterbalance Valves and Tubing

MP1540, MP1556, MP1640, MP1656, MP1A50
 MPL556, MPL640, MPL656

Parts List—Counterbalance Valves and Tubing

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

| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|------------------------------------|----------|
| all | 6 | 07 10414 | CAN CYLINDER TUBING SUPPORT | |
| all | 7 | 27A031 | UBOLT 1"PIPE 5/16-18X2+3/16LG | |
| all | 8 | 52ZN00S006 | TUBEFIT 1/2"NUT FC SL #8 BL-SS | |
| all | 9 | 52ZN00S005 | TUBEFIT 1/2"PARF.SLEEVE#8TPL-SS | |
| D | 10 | 52ZT00S004 | TUBEFIT TEE 3/4" PARKER#12 JLO-SS | |
| D | 11 | 52ZL00S009 | TUBEFITRED3/4X1/2 #12-8 TR LON-SS | |
| D | 12 | 96DH471 | COUNTERBALANCE VALVE-SUN BODY #YEJ | |
| D | 13 | 96DH471A | CARTRIDGE-COUNTERBAL.SUN #CBCA-LHN | |
| D | 14 | 96DH410 | CART., SUN CHECKVALVE CKCB-XCN | |
| D | 15 | 52ZJ00S023 | TUBEFIT1/2"90ELFC #8 C5OLO-SS | |
| D | 16 | 52XY0KR066 | STRADPT 1/2MJICX0R #8 F5OX-SS | |
| D | 17 | 52XY0KR067 | STRADPT 1/2FJICX0R #8 F65OX-SS | |

Pneumatic Piping and Assemblies

3

Pneumatic Schematic

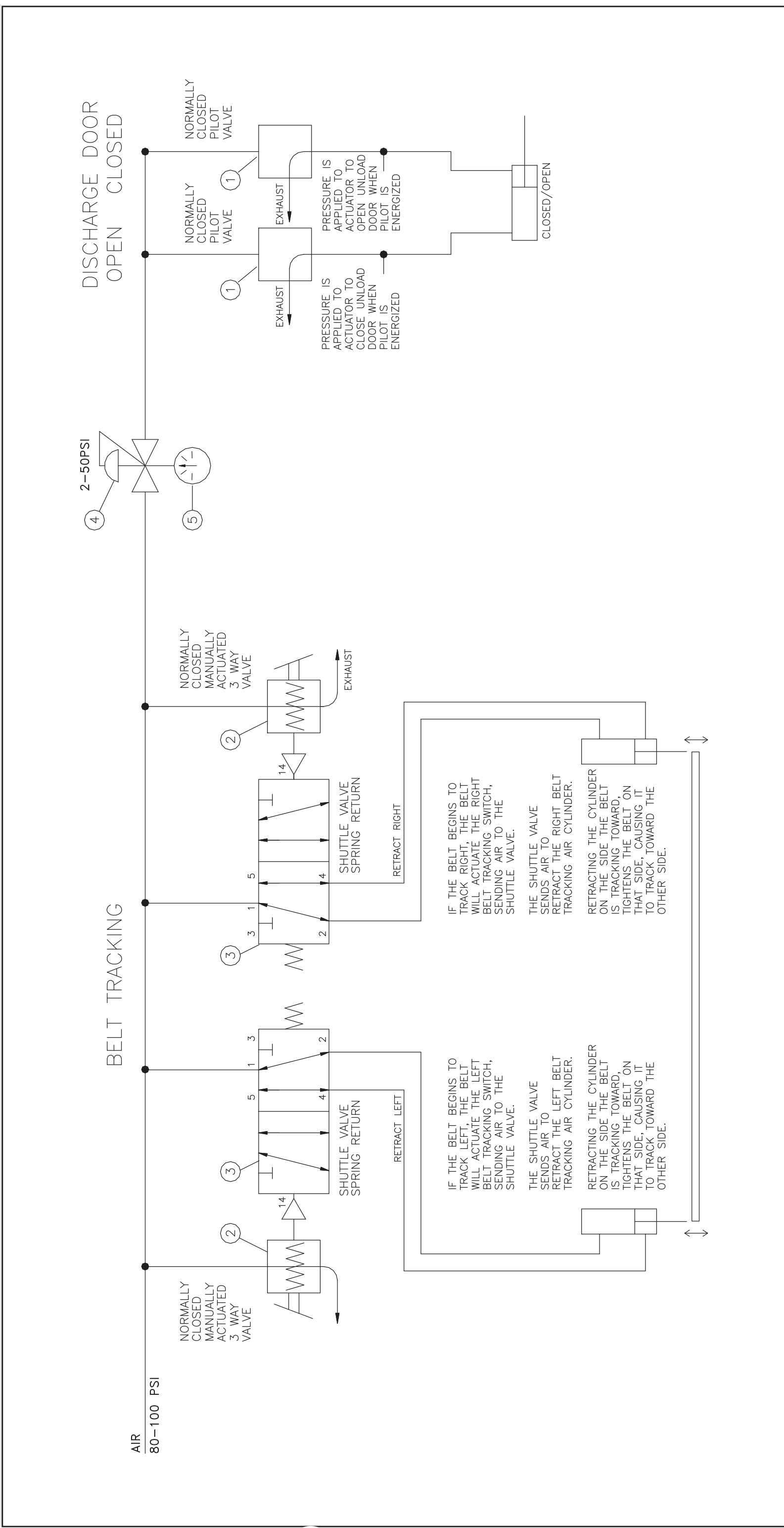
MP1540, MP1556, MP1640, MP1656, MP1A50 MPL550/556, MPL640/650/656

BMP110042/2020275B
(1/2)



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Litho in U.S.A.



Pneumatic Schematic
MP1540, MP1556, MP1640, MP1656, MP1A50
MPL550/556, MPL640/650/656

BMP110042/2020275B
 (2 / 2)



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Litho in U.S.A.

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

| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|--------------------------------|----------|
| | | | -----COMPONENTS----- | |
| all | 1 | 96R301B37 | 1/8" AIRPILOT 3W NC 120V50/60 | |
| all | 2 | 96N005 | 3WAY AIROP CONT.VLV.CLIPP#MJV3 | |
| all | 3 | 96N0011H | SHUTLVLV 1/4" 4WAY MECHSPRING | |
| all | 4 | 96J019E | 1/4"PRESSREG2-50P R07-200-RNEA | |
| all | 5 | 30N101 | PRESSGAUGE 1/8"BACKCN.0-60PSI | |

Conveyor Assemblies

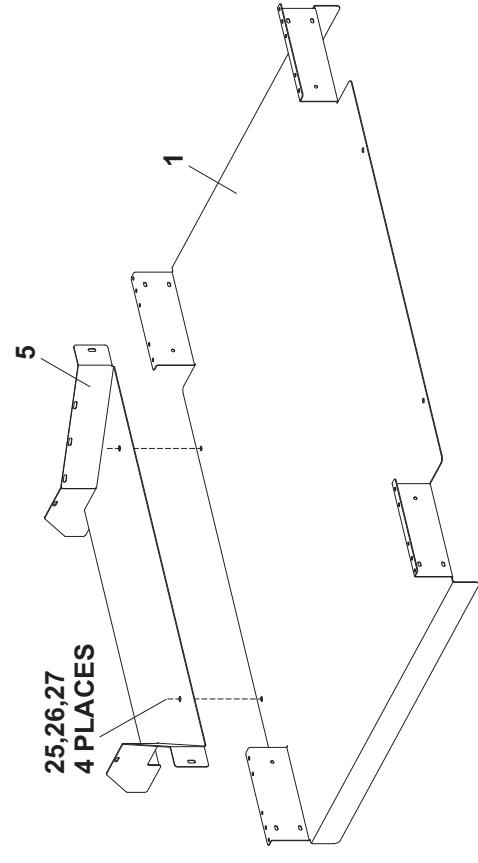
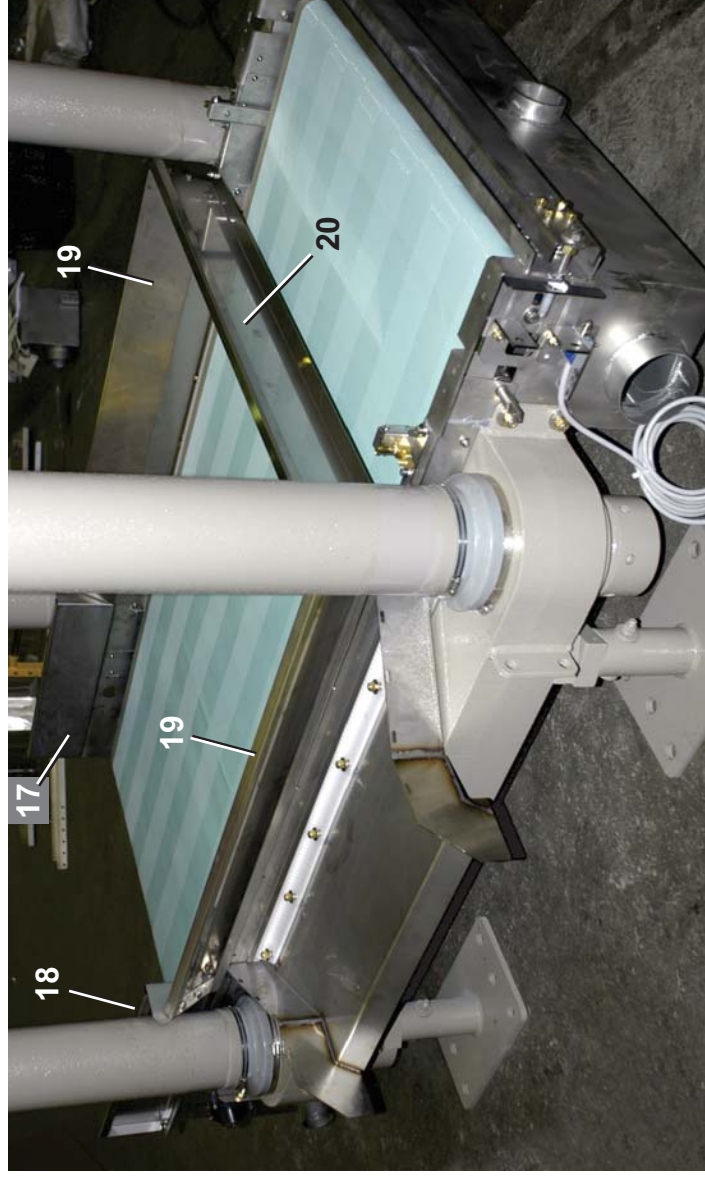
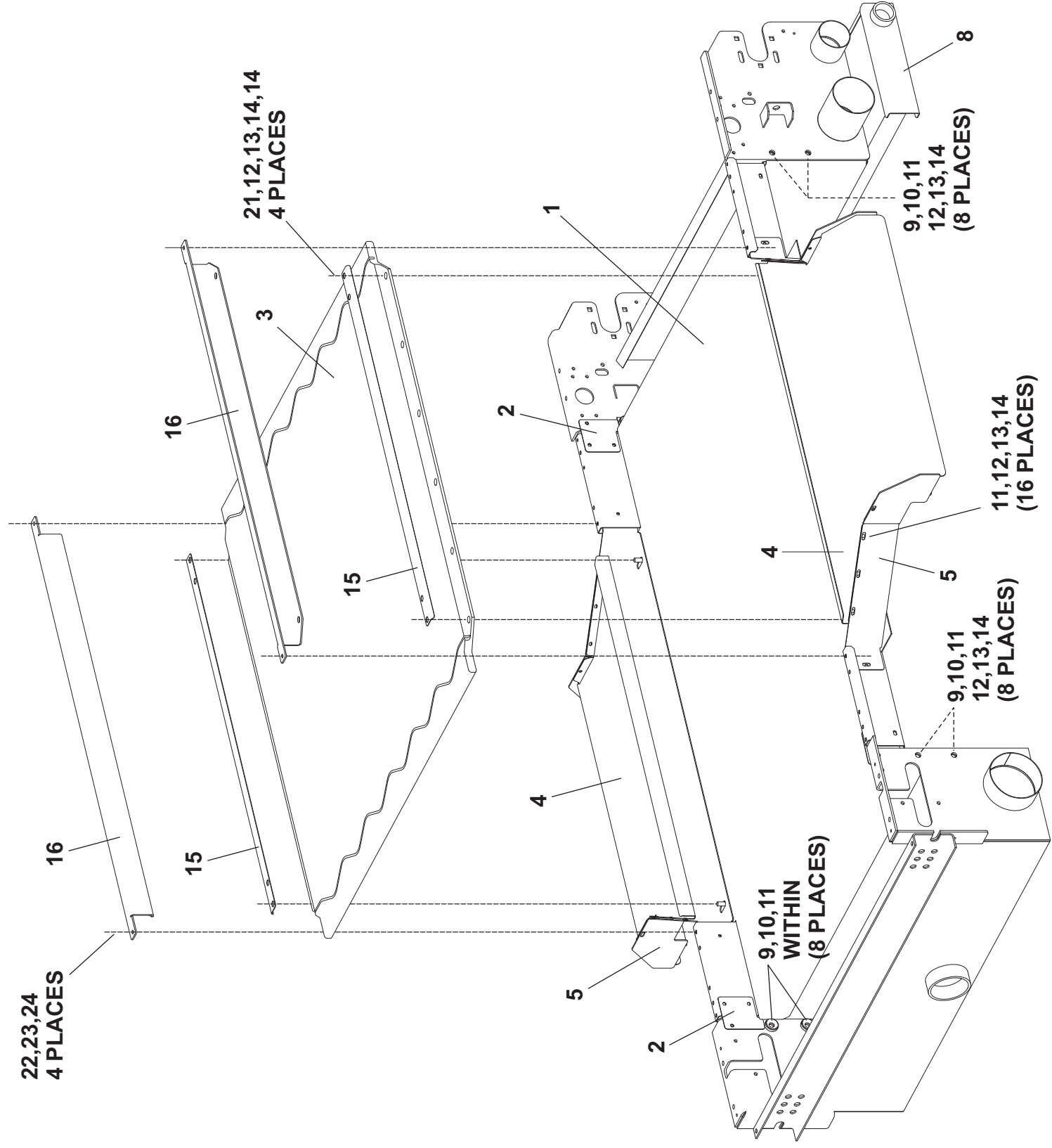
4

Conveyor Bed
MP1540, MP1556, MP1640, MP1656, MP1A50, MP1556, MPL640, MPL656

MILNOR
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BMP110018/2020275B
 (1/2)

Litho in U.S.A.



Detail: Bed liner and extension

Conveyor Bed
MP1540, MP1556, MP1640, MP1656, MP1A50, MPL556, MPL640, MPL656

BMP110018/2020275B
 (2 / 2)



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Litho in U.S.A.

Parts List—Conveyor Bed

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

| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|----------------------------------|----------|
| | A | ALC420164 | CONV SIDE ASSY-MP16XX | |
| | | | -----ASSEMBLIES----- | |
| | | | -----COMPONENTS----- | |
| all | 1 | W4 24091 | CONV BED 42W WLMT-MP16XX | |
| all | 2 | 04 23508 | BED END SEAL PLATE | |
| all | 3 | 03 80010F | PRESS BED Z-GRV R/L DRAIN-MP16XX | |
| all | 4 | 04 23620 | BED EXT. SPLASH GUARD | |
| all | 5 | W4 23536A | CONV BED LINER EXTENSION WLMT | |
| all | 6 | 04 21460 | BELT HOLD DOWN BRKT-RT | |
| all | 7 | 04 21460A | BELT HOLD DOWN BRKT-LF | |
| all | 8 | ALC420114 | DRIP TRAY UNLOADEND-31BAR | |
| all | 9 | 07 20607N | MK2 "O"RING RET PRE-PRESS | |
| all | 10 | 60C108 | ORING 1/2IDX3/16CS BUNA70#310 | |
| all | 11 | 15K180S | HXCAPSCR 1/2-13UNCAX2 18-8SS | |
| all | 12 | 15U310S | FLATWASH-SS .53 X 1.37 .187T | |
| all | 13 | 15U310 | LOKWASHER REGULAR 1/2 SS18-8 | |
| all | 14 | 15G234B | HEXNUT 1/2-13UNC2B BRASS | |
| all | 15 | 04 24213 | PLASTIC BED HOLD DOWN STRIP | |
| all | 16 | 04 24215 | PLASTIC BED HOLD DOWN CHANNEL | |
| all | 17 | 04 23505 | SIDE UNLOAD END SSPRESS-RT | |
| all | 18 | 04 23505A | SIDE UNLOAD END SSPRESS-LF | |
| all | 19 | 04 23512 | BED SIDE MIDDLE SECTION | |
| all | 20 | 04 23513 | CONV ENDGATE-MP16XX | |
| all | 21 | 15K171 | HEXCAPSCR 1/2-13UNC2X1+3/4 SS1 | |
| all | 22 | 15K052 | HXCAPSCR 5/16-18UNC2AX3/4 SS18 | |
| all | 23 | 15U205 | LOKWASHER MEDIUM 5/16" 18-8SS | |
| all | 24 | 15G186 | HEXNUT 5/16-18UNC2 SS18-8 | |
| all | 25 | 15K086 | HXCAPSCR 3/8-16NCX3/4 SS18-8 | |
| all | 26 | 24G030N | ROLLED WASH.379ID NYLTITE 37W | |
| all | 27 | 15U245A | FLTWASH 25/64IDX1.25ODX3/32 S/ | |



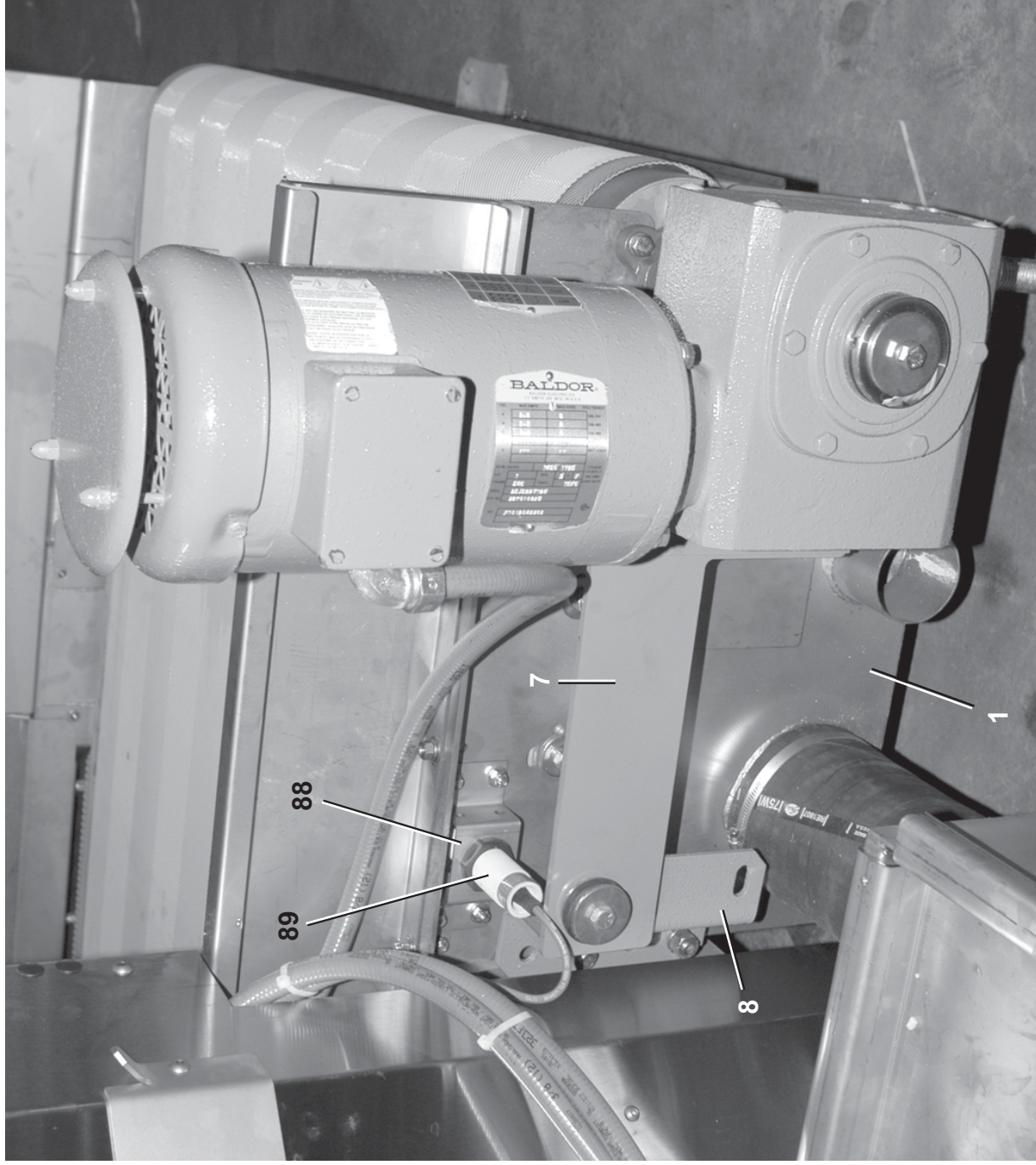
Conveyor Unload End Assemblies
MP1540, MP1556, MP1640, MP1656, MP1A50, MPL556, MPL640, MPL656

BMP110010/2020275B
 (1 / 8)

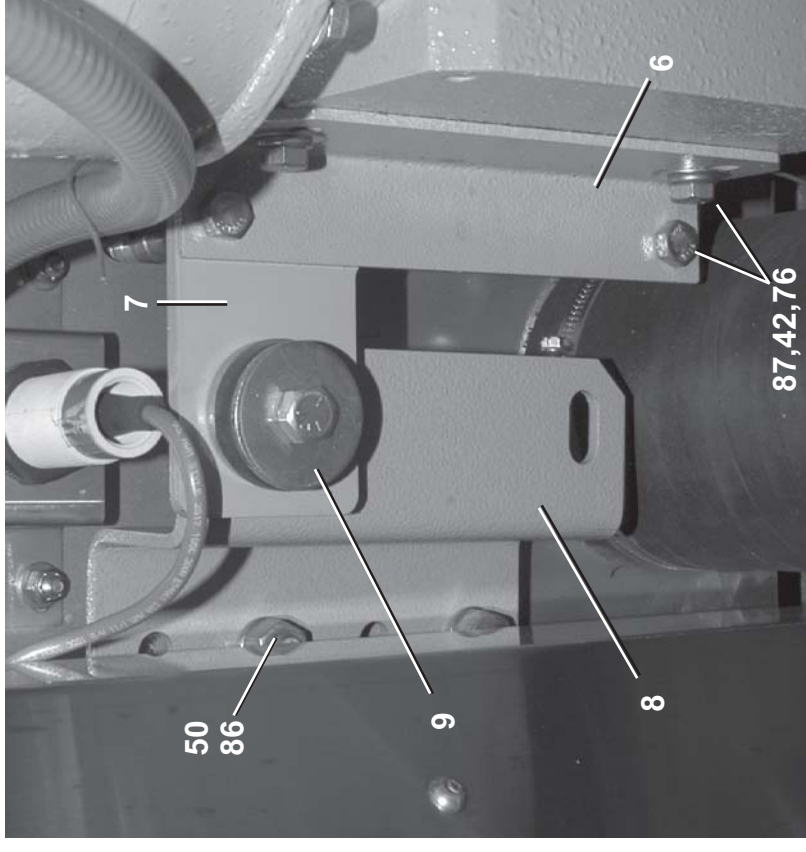


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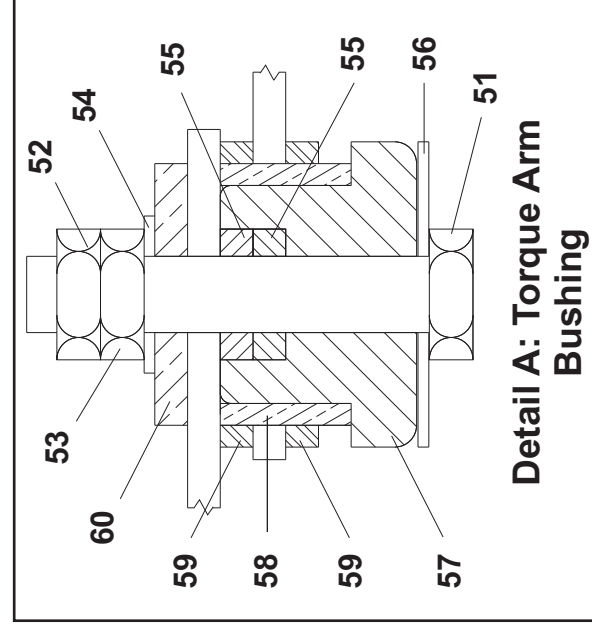
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**Conveyor Unload End - 0" Bed Extension
 (00A, 00B)**



Torque Arm



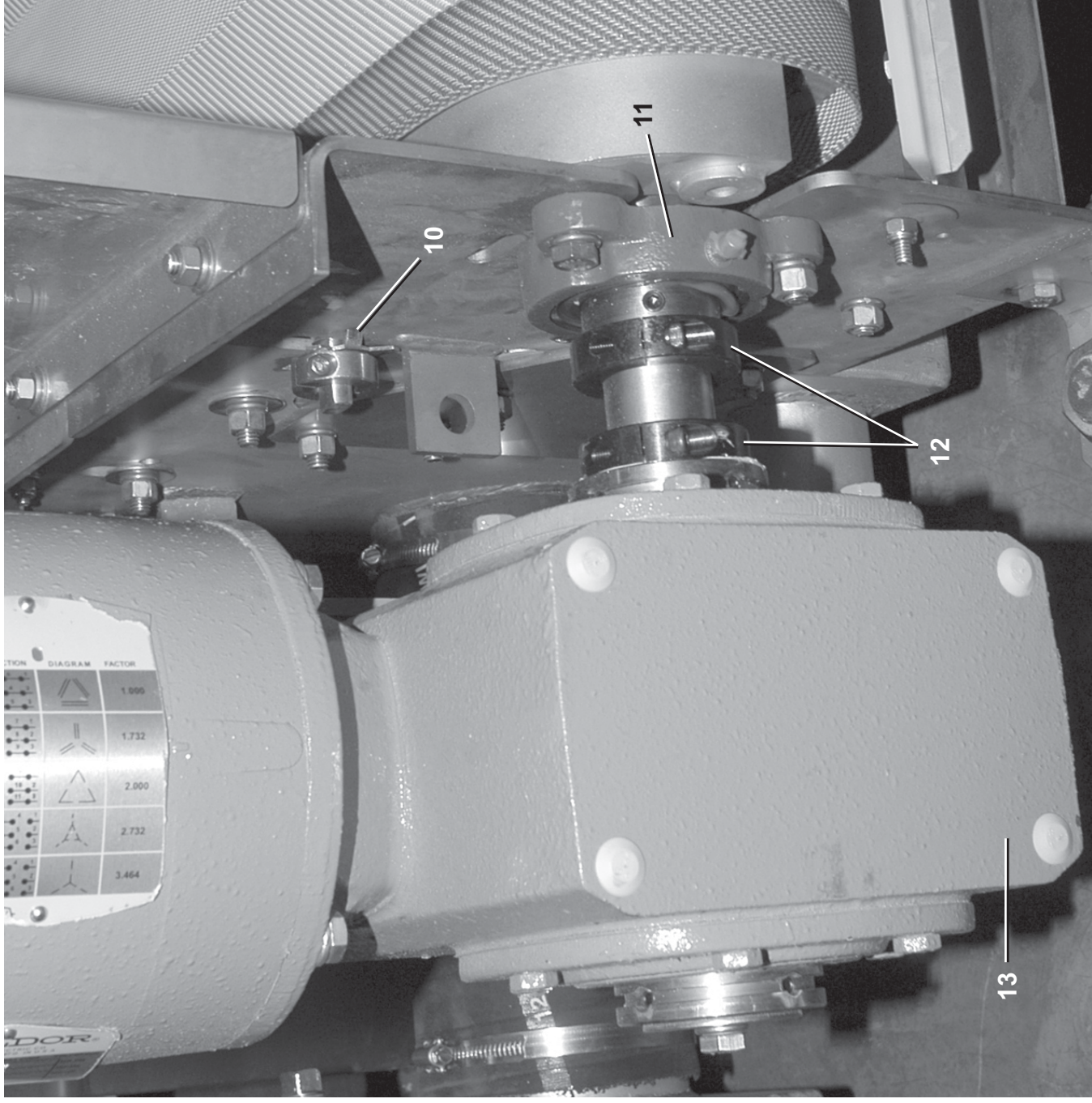
**Detail A: Torque Arm
 Bushing**

Conveyor Unload End Assemblies
MP1540, MP1556, MP1640, MP1656, MP1A50, MPL556, MPL640, MPL656

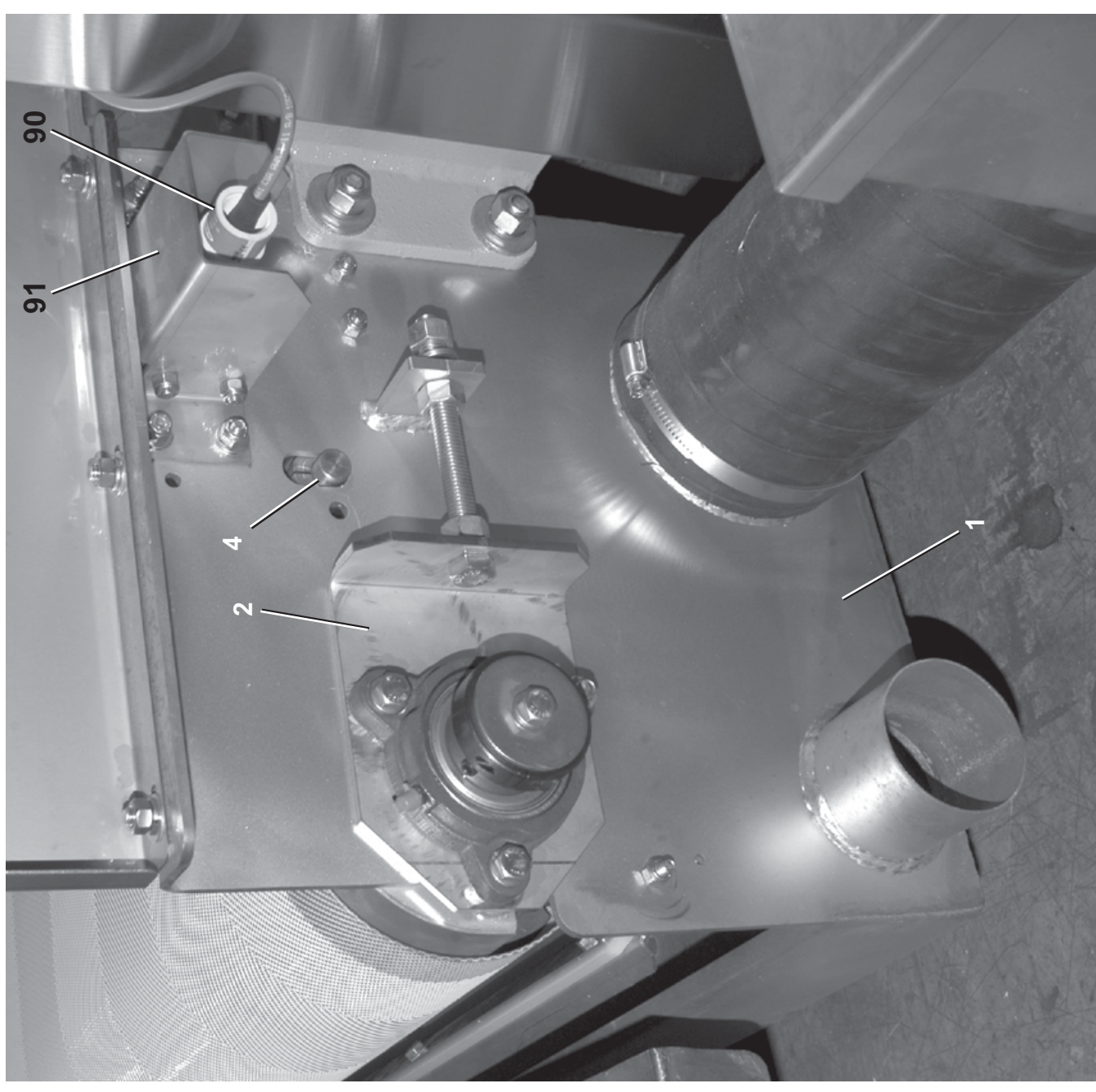
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 (2 / 8)

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Conveyor Unload End Drive



**Conveyor Unload End - 0" Bed Extension
 (00A, 00B)**

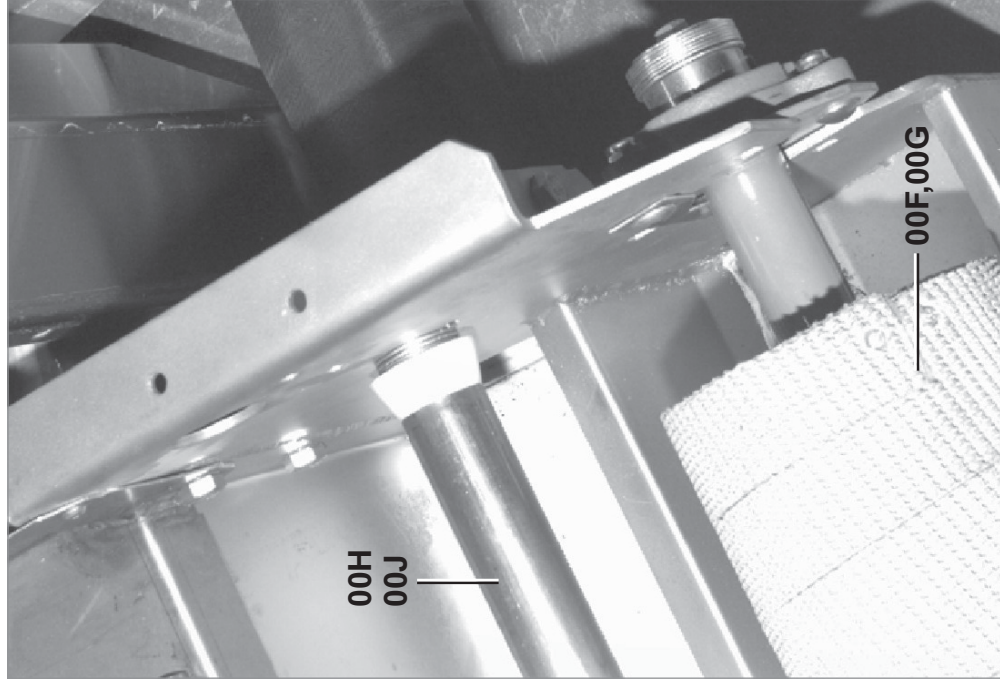
Conveyor Unload End Assemblies
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BMP110010/2020275B
 (3 / 8)

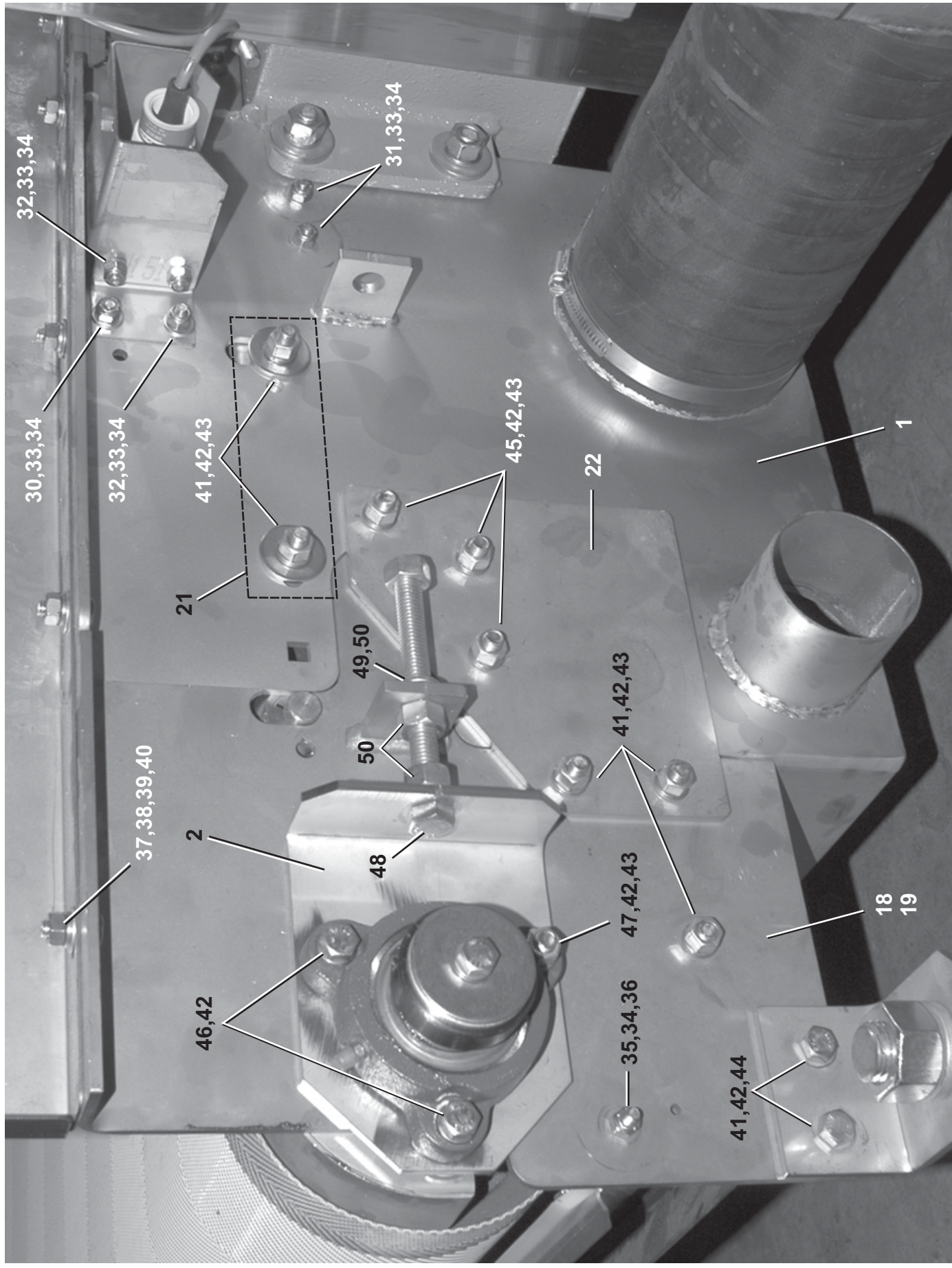


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**Top view: Drive Roller and
 Tension "Snubber" Roller**



**Conveyor Unload End: Typical hardware connections
 (00C shown)**

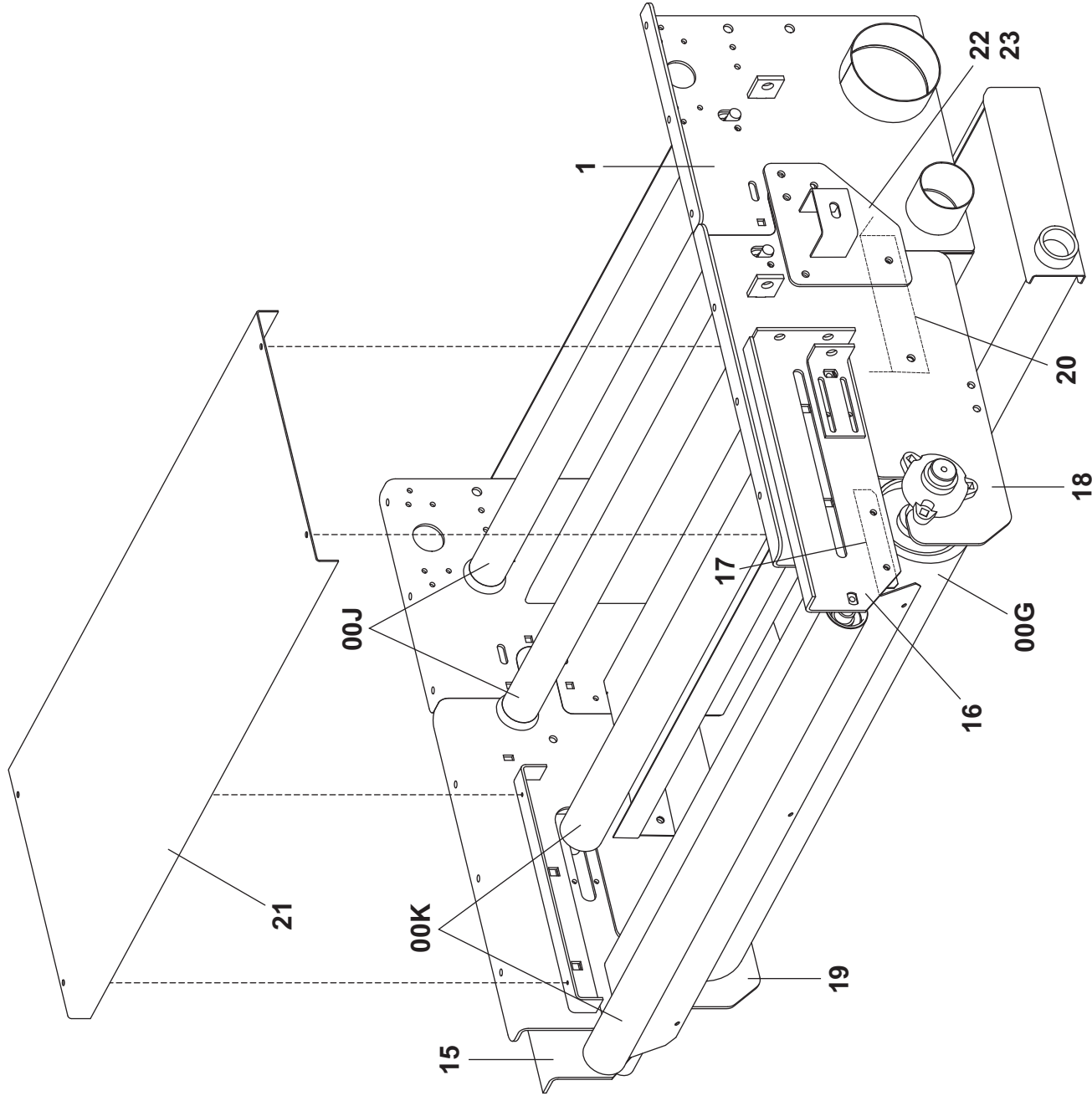
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BMP110010/2020275B
 (4 / 8)

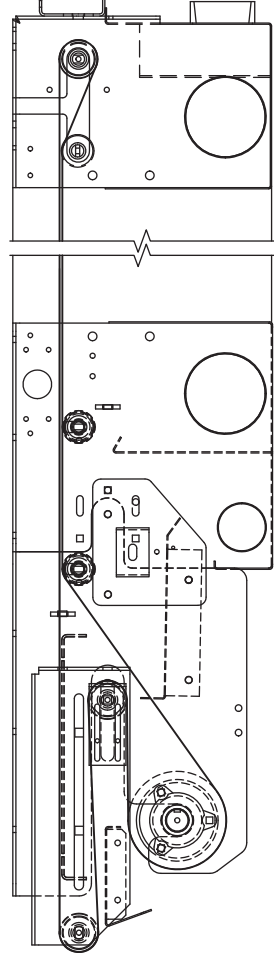


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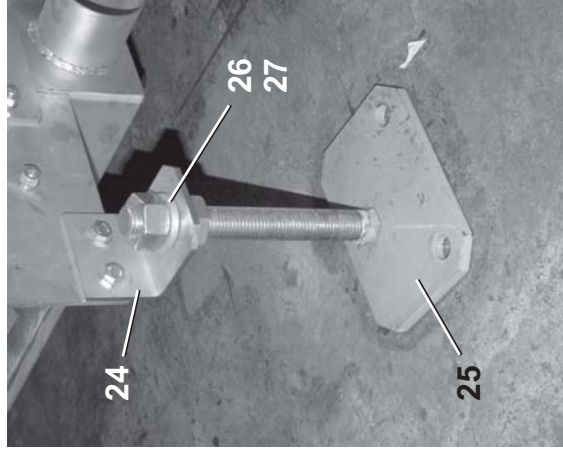
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**Conveyor Unload End : 12"-24" Bed Extension
 (00D)**



**Belt Path for 12"-24" Bed Extension
 (00D)**



**Support Leg for Bed Extensions
 (00C, 00D, 00E)**

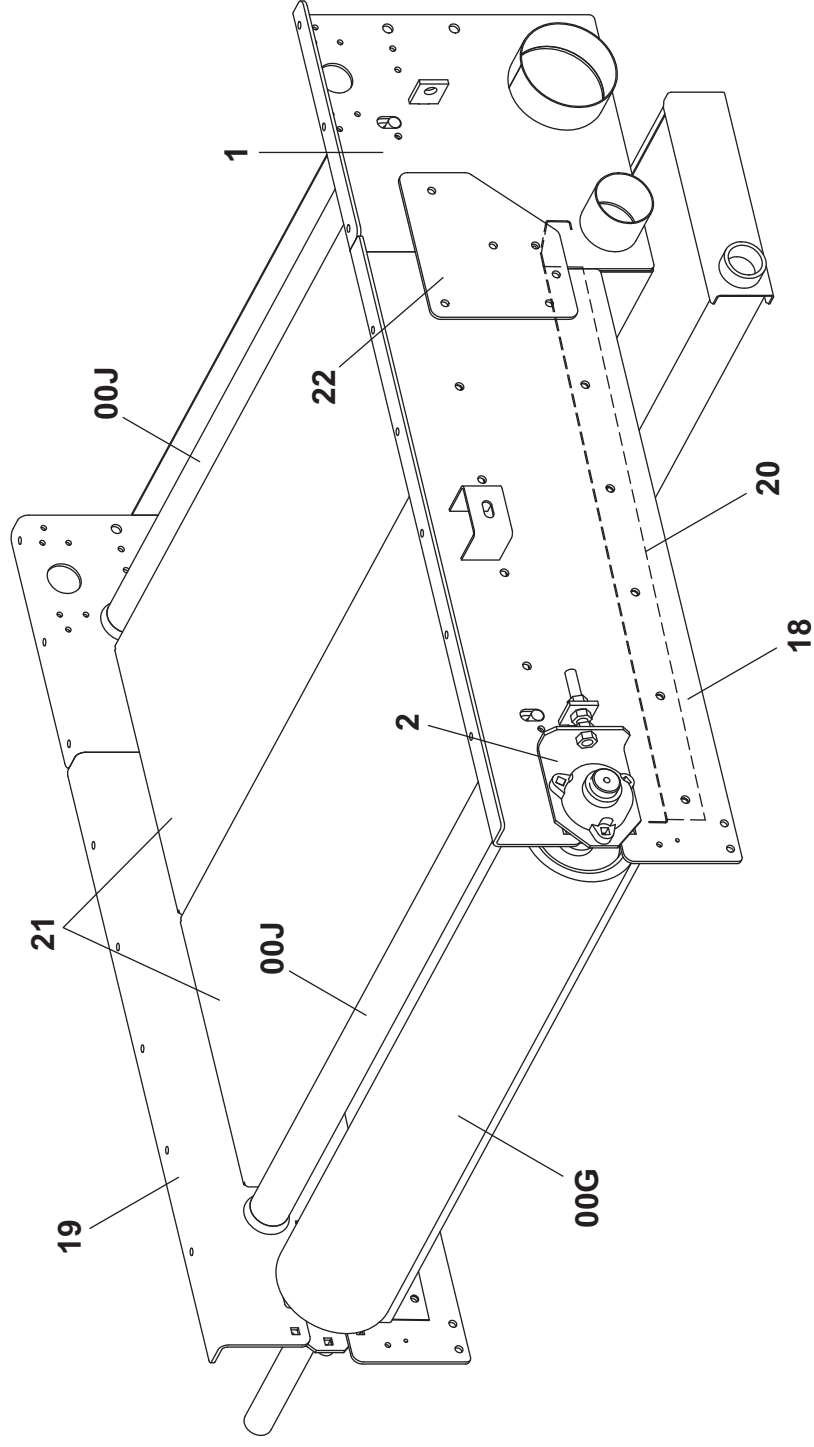
Conveyor Unload End Assemblies
MP1540, MP1556, MP1640, MP1656, MP1A50, MPL556, MPL640, MPL656

BMP110010/2020275B
 (5 / 8)

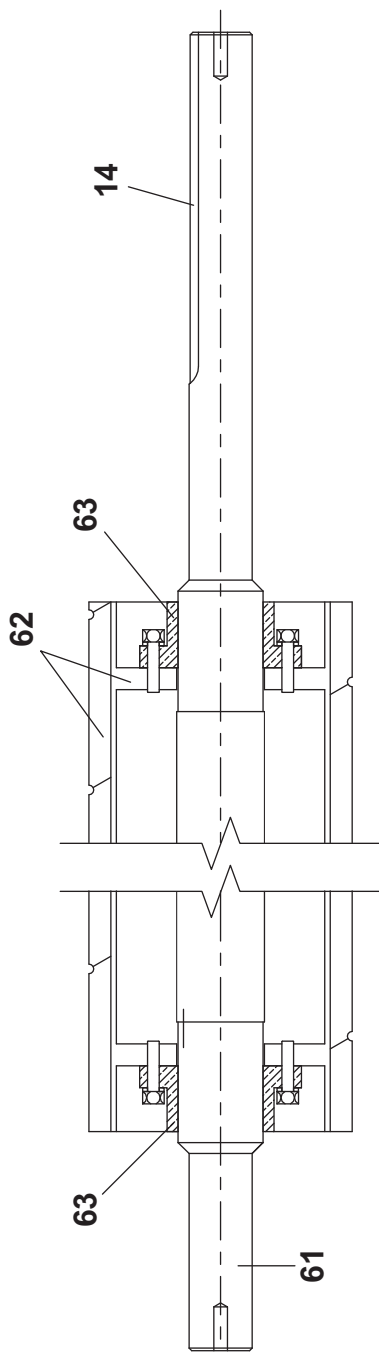


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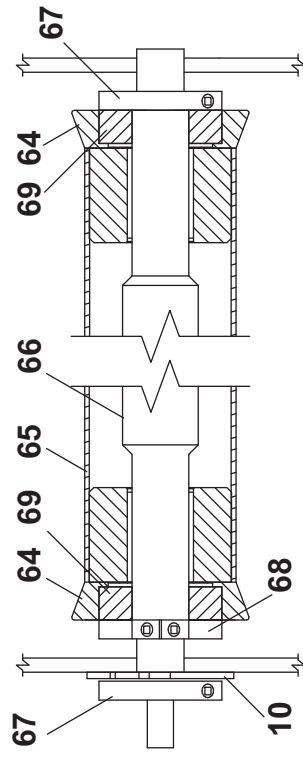
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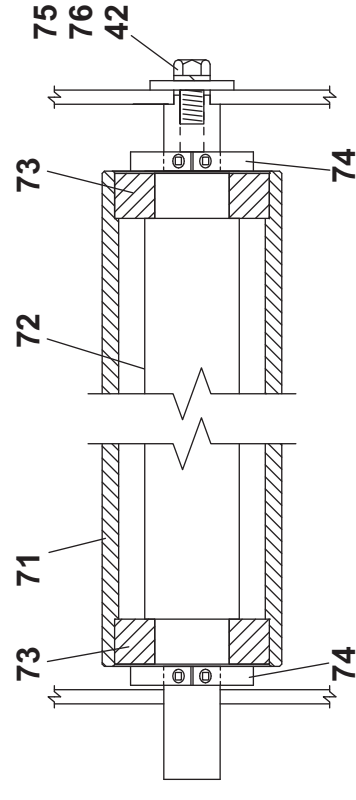
**Conveyor Unload End : 35" Bed Extension
 (00E)**



Detail A: Drive Roller (00F, 00G)



Detail B: Tension Roller "Snubber" (00H,00J)



Detail C: Tension Roller (00K)

Conveyor Unload End Assemblies

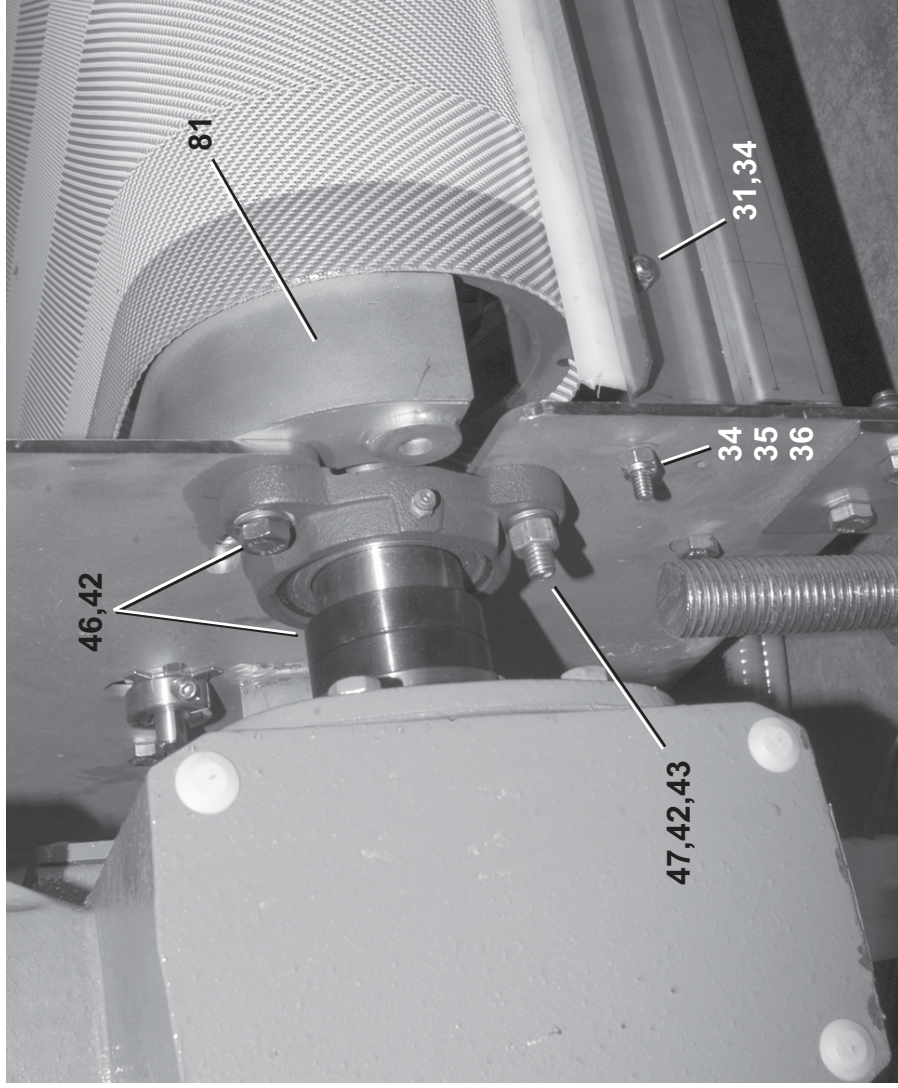
MP1540, MP1556, MP1640, MP1656, MP1A50, MPL556, MPL640, MPL656

BMP110010/2020275B
(6 / 8)



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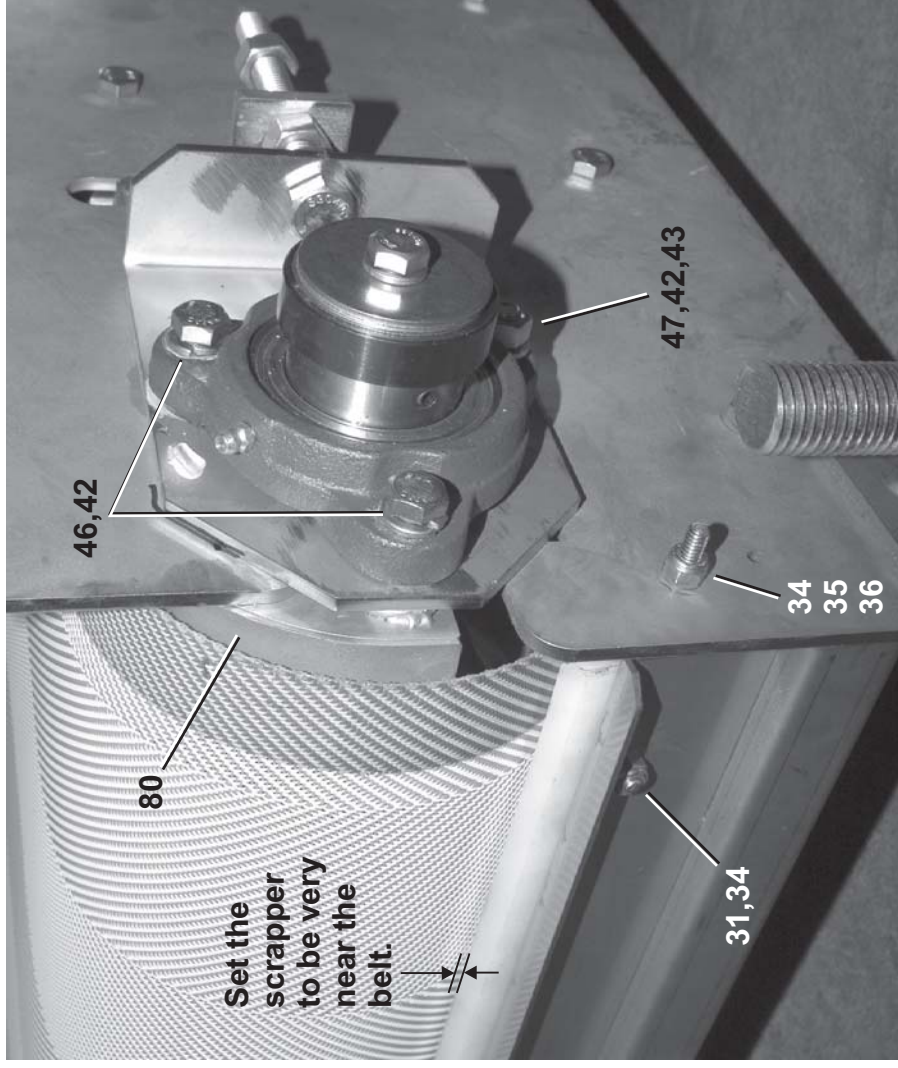
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Installing Fenders

To install fenders to the discharge roller, remove the idler end roller to release tension on the belt. Move the belt to find the bolts of the flange bearings. Remove these bolts. Put in the fenders. Install the bolts through the fender, the bearing mounting holes, and the flange bearings.

Install the Roll Wiper Assembly.

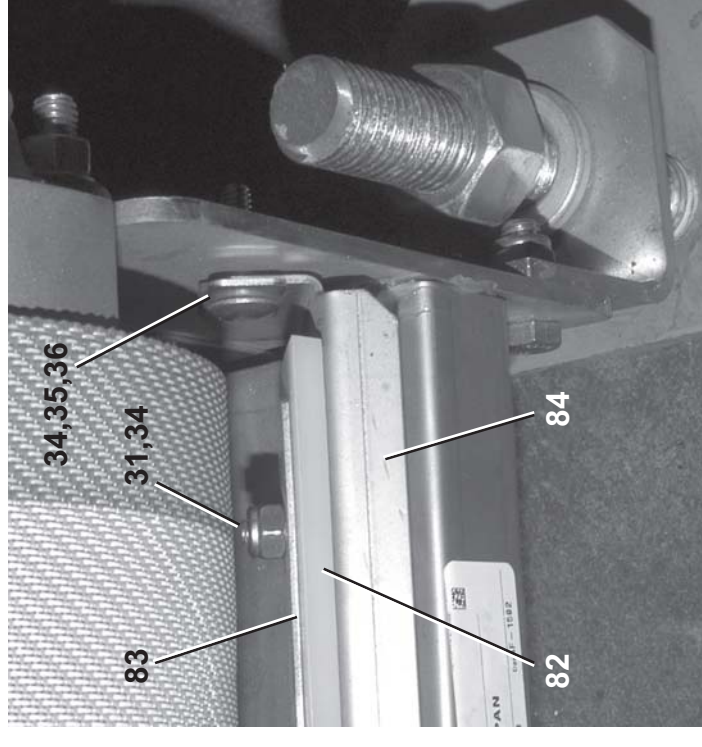


Set the scraper to be very near the belt.

Roll Wiper Assembly

Parts are available to add the Roll Wiper Assembly to the conveyor. See the parts list.

The picture shows the installed roll wiper assembly. The bolt and the nut (items 34,35) are a pivot point for the Roll Wiper Assembly adjustment. Set the scraper to be very near the belt. Tighten the bolt to lock the position of the scraper.



Conveyor Unload End Assemblies

MP1540, MP1556, MP1640, MP1656, MP1A50, MP1A56, MP1A50, MPL556, MPL640, MPL656



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BMP110010/2020275B
(7 / 8)

| Used In | Item | Part Number | Description | Comments |
|--|------|-------------|--------------------------------|--|
| <p>Parts List—Conveyor Unload End Assemblies Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.</p> | | | | |
| | | | ASSEMBLIES | |
| A | | ALC420174 | UNLOADEND DRIVE 51W ASSEMBLY | MP1Axx, 0" EXTENSION AVAILABLE ONLY |
| B | | ALC420177 | UNLOAD END DRIVE ASSEMBLY | MP15xx, MP16xx MLP15xx, MLP16xx 0" EXTENSION |
| C | | ALC420180 | UNLOAD END DRIVE ASSM 8" EXT | MP15xx, Mp16xx MPL5xx, MPL16xx 8" EXTENSION |
| D | | ALC420182 | UNLOAD END DRIVE ASSM 24" EXT | MP15xx, Mp16xx MPL15xx, MPL16xx 12-24" EXTENSION |
| E | | ALC420184 | UNLOAD END DRIVE ASSM 35" EXT | MP15xx, MPL15xx MP16xx, MPL16xx 35" EXTENSION |
| F | | APC50005 | 51W DRIVE LAGGED 1.437 INPUT | MP1Axx |
| G | | APC42005 | 42W DRIVE LAGGED 1.44-SSPRESS | MP15xx, Mp16xx MPL5xx, MPL6xx |
| H | | ALC50120 | DRIVE SNUBBER ROLLER 51W | MP1Axx |
| J | | ALC50059 | DRIVE SNUBBER ROLLER-SSPRESS | MP15xx, Mp16xx MPL5xx, MPL6xx |
| K | | ALC50060A | TENSION ROLLER 42W SS-BRNG | MP15xx, Mp16xx MPL5xx, MP16xx |
| L | | ALC420130 | UNLOADEND ROLLER WIPER ASSY | MP15xx, Mp16xx MPL5xx, MPL6xx |
| M | | ALC420130A | UNLOADEND ROLL WIPER 51W ASSY | MP1Axx |
| <p>COMPONENTS</p> | | | | |
| A | 1 | W4 23626 | MP1A03 UNLOAD END WLMT-SSPRESS | |
| BCDE | 1 | W4 23602 | UNLOAD END WLMT-SSPRESS | |
| ABCE | 2 | 04 23204 | DRIVE ROLLER ADJ BRKT | |
| all | 6 | 04 22999 | TORQARM MTG ANGLE | |
| B | 7 | 04 23534 | TORQARM-SSPRESS CONV | |
| ACDE | 7 | 04 23578 | TORQARM +8-SSPRESS CONV | |
| ABCD | 8 | 04 22997 | TORQUEARM MTG BRKT-SSPRESS | |
| all | 9 | ALC420063 | TORQUE ARM BUSHING ASSEMBLY | |
| ABCDE | 10 | 06 20070 | LOCKING WASHER ROLLER SHAFT | |

| Parts List, cont.—Conveyor Unload End Assemblies | | | | |
|--|------|-------------|--------------------------------|----------|
| Used In | Item | Part Number | Description | Comments |
| D | 17 | 04 20366 | ROLLER BLOW PIPE MTG BRKT | |
| C | 18 | W4 23587 | BRNG SUPP 8" EXT-LEFT WLDMT | |
| D | 18 | W4 23583 | BRNG SUPP 24" EXT-LEFT WLDMT | |
| E | 18 | W4 23554 | BRNG SUPP 35" EXT-LEFT WLDMT | |
| C | 19 | W4 23587A | BRNG SUPP 8" EXT-RT WLDMT | |
| D | 19 | W4 23583A | BRNG SUPP 24" EXT-RT WLDMT | |
| E | 19 | W4 23554A | BRNG SUPP 35" EXT-RT WLDMT | |
| C | 20 | 04 23588 | 8" ENTEND DRIP PAN | |
| D | 20 | 04 23584 | 24" ENTEND DRIP PAN | |
| E | 20 | 04 23556 | 35" ENTEND DRIP PAN | |
| C | 21 | 04 23585 | UNLOADEND BELT SUPP-8"EXT | |
| D | 21 | 04 20365 | CAKE SUPPORT BED | |
| E | 21 | 04 23555 | BELT SUPPORT 35" EXTENSION | |
| C | 22 | 04 23589 | 8" PRESS EXT. DOUBLER PLATE | |
| D | 22 | W4 23586 | 24" EXT DBL PLATE WLDMT-LEFT | |
| E | 22 | 04 23557 | PRESS EXTENSION DOUBLER PLATE | |
| D | 23 | W4 23586A | 24" EXT DBL PLATE WLDMT-RT | |
| ACDE | 24 | 04 20356 | UNLOADEND LEG-SSPRESS CONV+35L | |
| ACDE | 25 | W4 20358 | FOOTPAD WLMT-UNLOADEND SSPRESS | |
| ACDE | 26 | 15U400 | LOCKWASHER MEDIUM 1" ZINCPL | |
| ACDE | 27 | 15G250 | HXNUT 1-8UNC2B SAE ZNC GR2 | |
| all | 30 | 15K033 | BUTSOKCAPSCR 1/4-20X5/8 SS18-8 | |
| all | 31 | 15N186 | HXCAPSCR 1/4-20X3/4 SS18-8 | |
| all | 32 | 15K041S | HEXCAPSCR 1/4-20UNC2AX1 SS18-8 | |
| all | 33 | 15U188 | FLTWASH 1/4 STD COMM SS18-8 | |
| all | 34 | 15G164NE | HEXLOKNUT NYL 1/4-20 UNC2A SS. | |
| all | 35 | 15A008 | CARBOLT 1/4"-20UNC2X1" SS18-8 | |
| all | 36 | 04 20616 | CONLO.BELT WASHER | |
| all | 37 | 15K052 | HXCAPSCR 5/16-18UNC2AX3/4 SS18 | |
| all | 38 | 15U200S | FLATWASHER US STD 5/16 SS18-8 | |
| all | 39 | 15U205 | LOCKWASHER MEDIUM 5/16" 18-8SS | |
| all | 40 | 15G186 | HEXNUT 5/16-18UNC2 SS18-8 | |
| all | 41 | 15K096 | HEXCAPSCR 3/8-16UNC2X1SS18-8 | |
| all | 42 | 15U260 | LOCKWASHER MEDIUM 3/8 SS18-8 | |
| all | 43 | 15G206B | HEXNUT 3/8-16UNC2 BRASS | |
| all | 44 | 15G201 | HXLOKNUT 3/8-16 NYL/SS TYPE NE | |

Conveyor Unload End Assemblies

MP1540, MP1556, MP1640, MP1656, MP1A50, MP1556, MPL640, MPL656

BMP110010/2020275B
(8 / 8)



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| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|--------------------------------|----------|
| all | 45 | 15A010 | CARRSCR 3/8-16UNC2X1 SPECIAL | |
| all | 46 | 15K112 | HXCAPSCR 3/8-16X1+1/2 SS18-8 | |
| all | 47 | 15A021S | CARBOLT 3/8-16X1.5 SS18-8 | |
| all | 48 | 15K203S | HEXTAPSCR 1/2-13UNC2AX5 SS18-8 | |
| all | 49 | 15U300 | LOKWASHER REGULAR 1/2 ZINC PLT | |
| all | 50 | 15G234B | HEXNUT 1/2-13UNC2B BRASS | |
| all | 51 | 15K144C | HEXCAPSCR 7/16-14UNC X 2.5 GR | |
| all | 52 | 15G222 | HXFJNUT 7/16-14UNC2B ZINC | |
| all | 53 | 15G222C | HEXNUT 7/16-14UNC2B ZINC GR2 | |
| all | 54 | 15U271 | LOKWASH INTOOTH 7/16ZN | |
| all | 55 | 15U312 | HARD FWASH 3/4ODX33/64IDX.115 | |
| all | 56 | 15U202 | FLATWSHR.50ID1.75OD11GA ZNC | |
| all | 57 | 60B065 | RUBBER MNT CTR BONDED 40 DURO | |
| all | 58 | 04 20796 | SLEEVE=TORQUE ARM BUSHING | |
| all | 59 | 02 18571A | PISTON ROD WASHER-.25"TK | |
| all | 60 | 15U490 | FLTWASH 1+1/2X17/32X1/4 ZINC | |
| G | 61 | X4 23224 | CONV ROLLER SHAFT-1.44DRIVE | |
| F | 61 | X4 21090 | DRIVE ROLLER SHAFT-51W BED | |
| G | 62 | 54C006 | VGORPXTLAGDRMPULLY#D5S40XT20 | |
| F | 62 | 54C006A | VGORPXTLAGDRMPULLY#T5S48XT20 | |
| GF | 63 | 54C006XTB | VGORP XT BUSH 1 15/16 B#XTB20X | |
| JH | 64 | X4 23126 | TRACKING ROLLER BUSHING S/S | |
| J | 65 | X4 23126A | TUBING 2" OD X 42.00 LG 304 SS | |
| H | 65 | X4 21093 | TUBING 2"OD X 51.00LG 304SS | |
| J | 66 | X4 23109 | IDLER SHAFT .75DX45.50LG | |
| H | 66 | X4 21091 | IDLER SHAFT.75DX54.50LG | |
| JH | 67 | 54JH10625S | SHFTCOL 5/8X1+5/16X.437 SS C-T | |
| JH | 68 | 54J10625S2 | SHFCOL 5/8X1+5/16X.437 2PC SS | |
| JH | 69 | 54AB75001 | BALBRG.75X1.625X.437#SSR122RS | |
| K | 71 | X4 23433 | TENSION ROLLER 2.50D-ER14 BRNG | |
| K | 72 | X4 23434 | TENSION ROLLER SHAFT-SS BRNG | |
| K | 73 | 54AB25001 | BALBRG 25X52X15MM-#SS62052RS | |

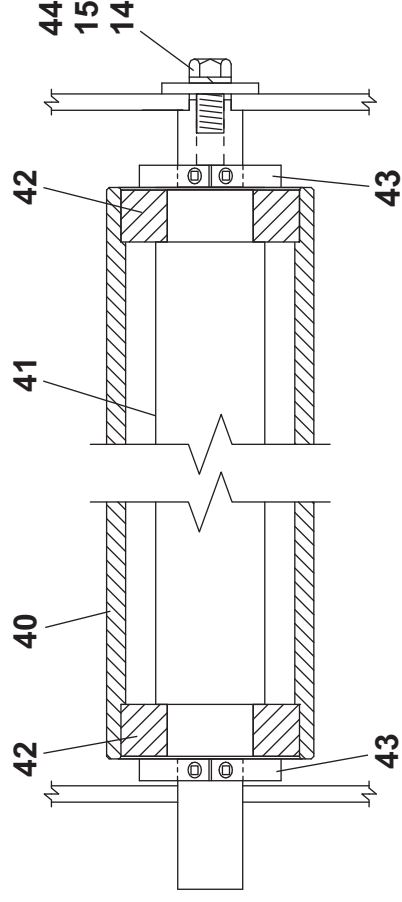
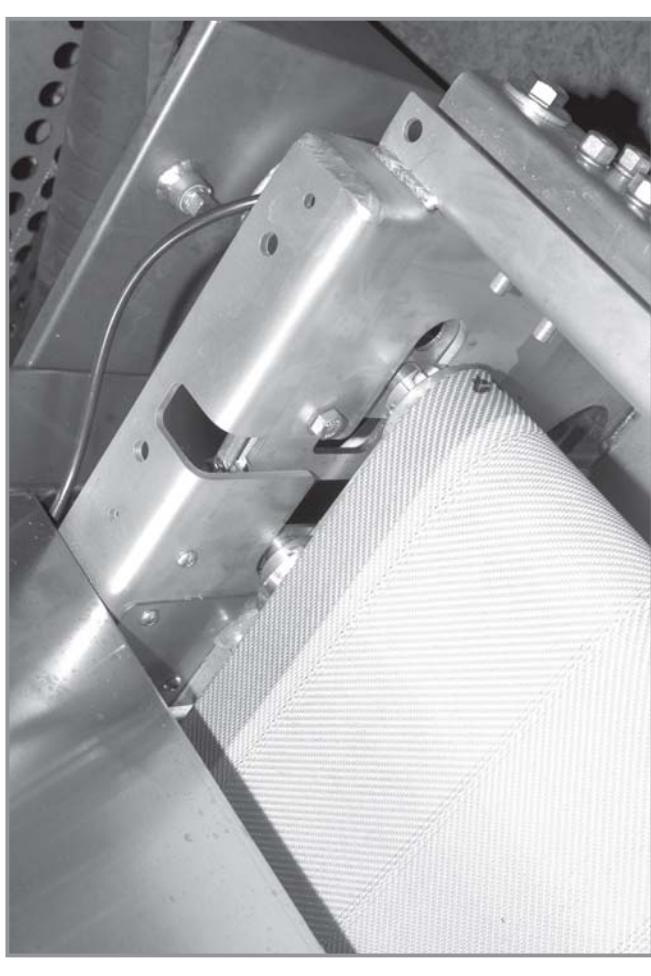
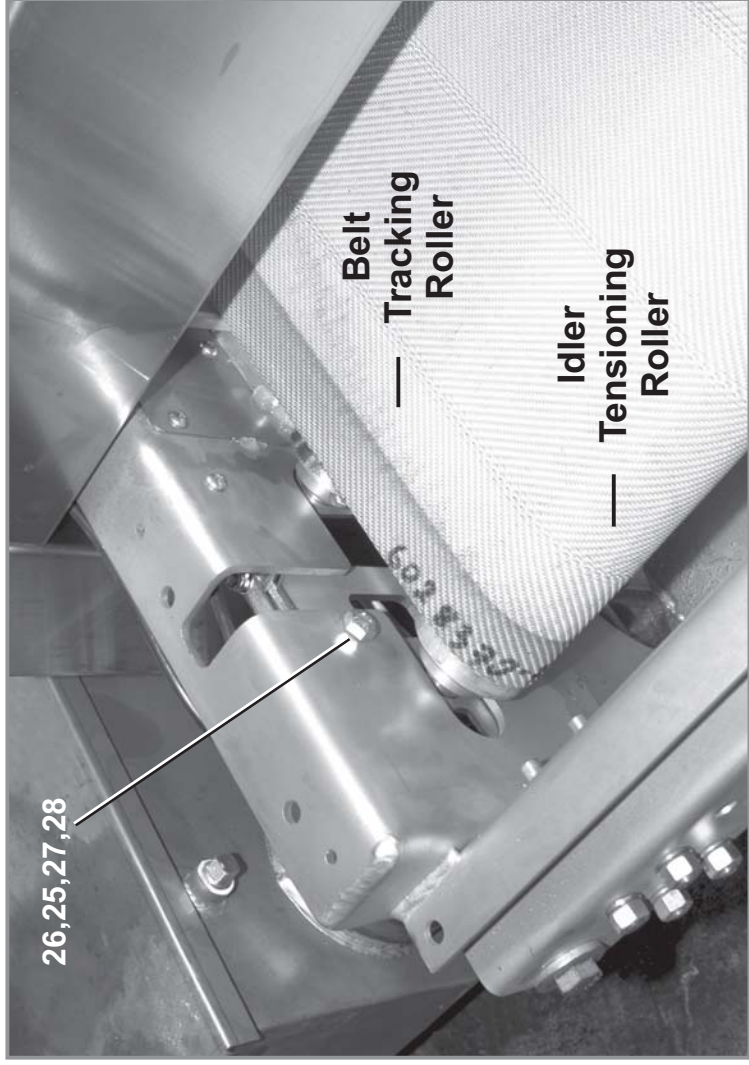
| Parts List, cont.—Conveyor Unload End Assemblies | | | | |
|--|------|-------------|-------------------------------|----------|
| Used In | Item | Part Number | Description | Comments |
| K | 74 | 54JH10750S | SHFTCOL 3/4X1+1/2X.5 SS C-T | |
| K | 75 | 15K083S | HXCAPSCR 3/8-16NCX1/2 SS18-8 | |
| K | 76 | 15U245 | FLTWASH 3/8 STD COMM 18-8 SS | |
| all | 77 | W2 21162A | SUPPLY 5COMP WLMT=4232 LF MNT | |
| all | 78 | W2 21162 | *SUPPLY 5COMP WLMT=4232F | |
| all | 80 | W4 21162 | ROLLER SIDE GUARD WLMT-RT | |
| all | 81 | W4 21162A | ROLLER SIDE GUARD WLMT-LF | |
| L | 82 | 04 21118 | UHMW ROLLER WIPER 42W | |
| M | 82 | 04 21167 | ROLLER WIPER BRKT-51W | |
| L | 83 | 04 21119 | ROLLER WIPER STRAP-42W | |
| M | 83 | 04 21168 | UHMW ROLLER WIPER 51W | |
| L | 84 | 04 21120 | ROLLER WIPER BRKT-42W | |
| M | 84 | 04 21169 | ROLLER WIPER STRAP-51W | |
| all | 86 | 15U310 | LOKWASHER REGULAR 1/2 SS18-8 | |
| all | 87 | 15K086 | HXCAPSCR 3/8-16NCX3/4 SS18-8 | |
| all | 88 | 03 BC2X3P | BRKT=1STG PRESS PHOTOEYE+CVR | |
| all | 89 | 09RPE010E | P.E. EMITTER AC #SM303E W/30' | |
| all | 90 | 03 BZ0204 | BRKT=PHOTOEYE SSPRESS CONV | |
| all | 91 | 09RPE010R | PHOTOEYE RECEIVER AC | |

Load End Rollers & Belt Tracking
MP1540, MP1556, MP1640, MP1656, MP1A50, MP1556, MPL640, MPL656

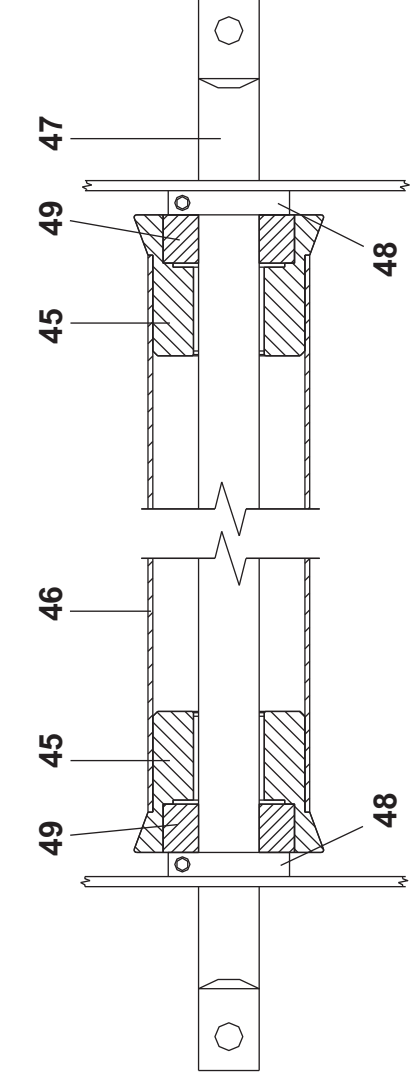
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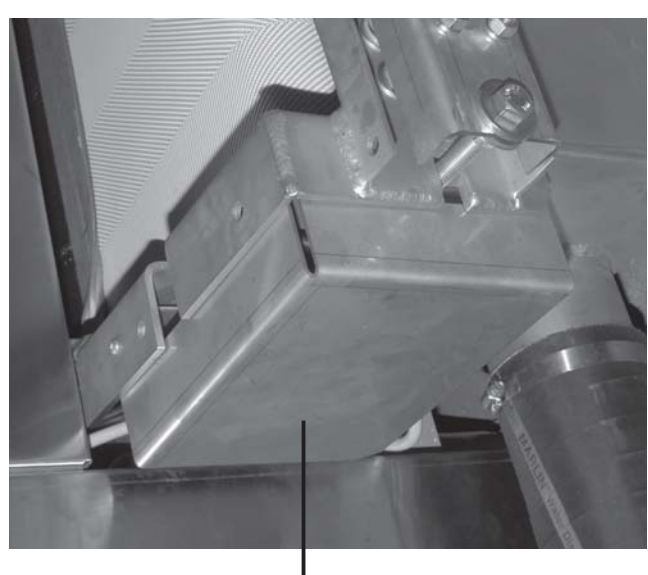
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Detail A: Idler (Tensioning) Roller
 (00C,00D)



Detail B: Belt Tracking Roller
 (00E,00F)



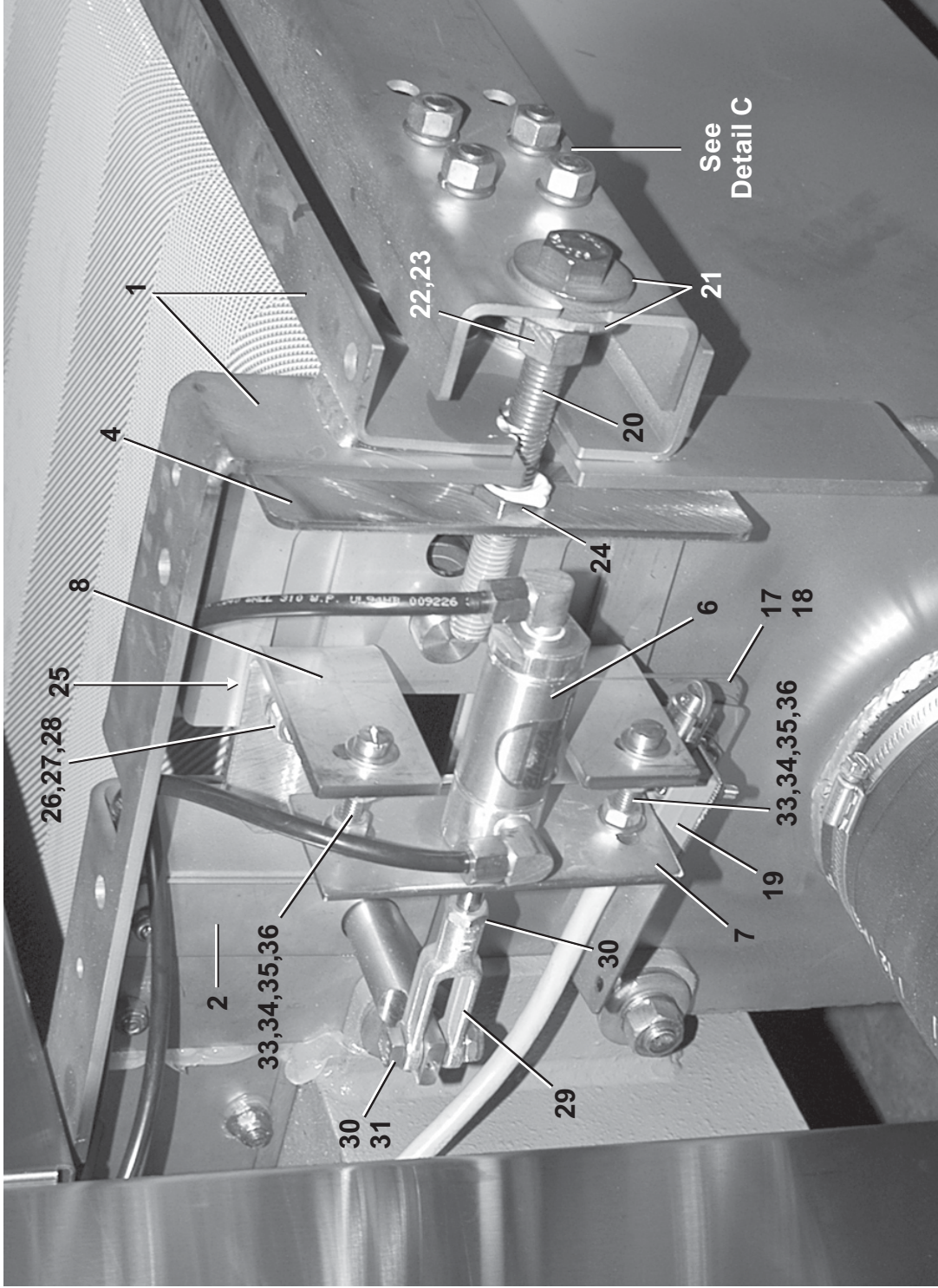
Load End Rollers & Belt Tracking
MP1540, MP1556, MP1640, MP1656, MP1A50, MP1556, MPL640, MPL656

BMP110011/2020275B
 (2 / 4)

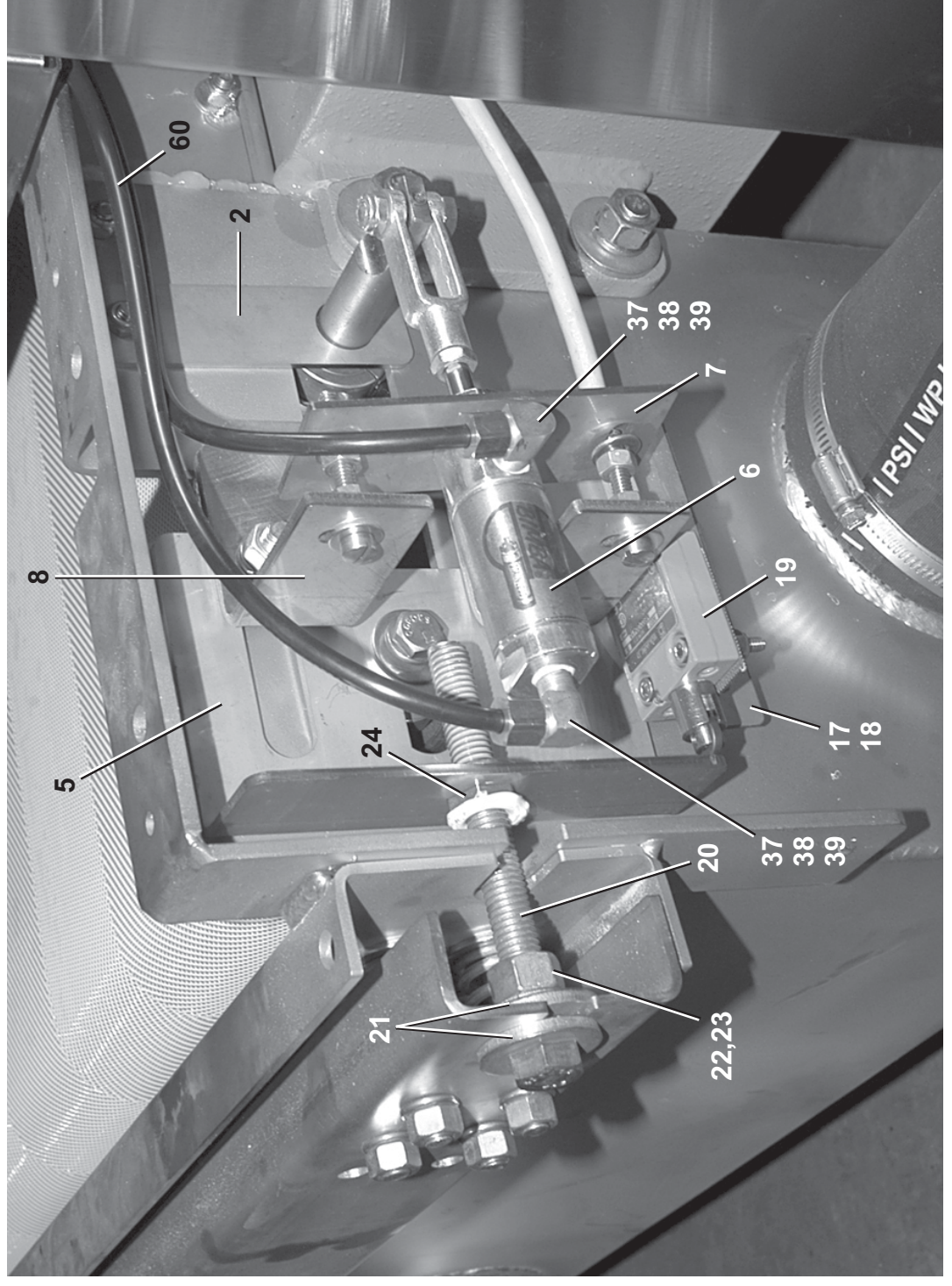


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**Load End Rollers
 & Belt Tracking**



Load End Rollers & Belt Tracking

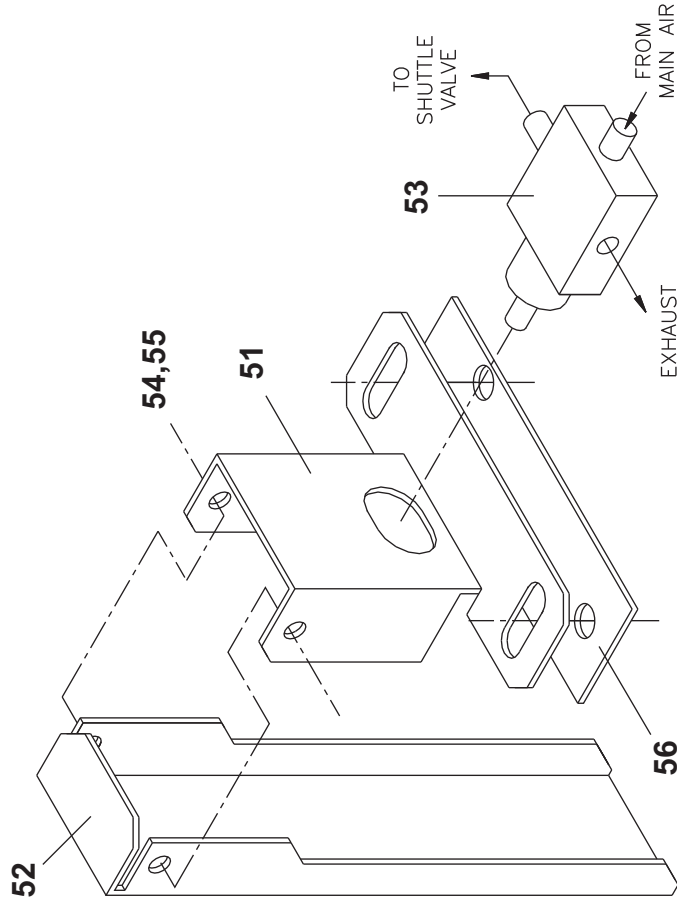
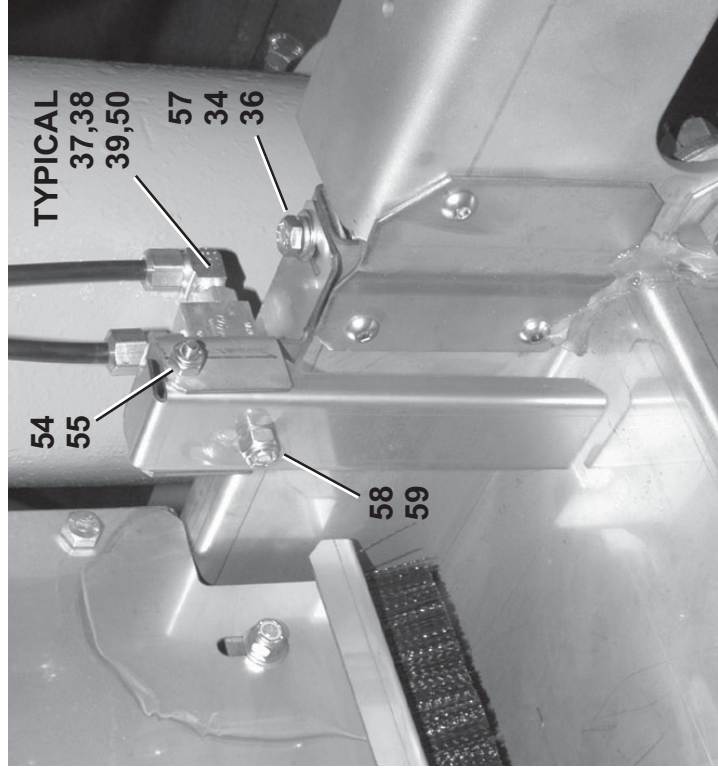
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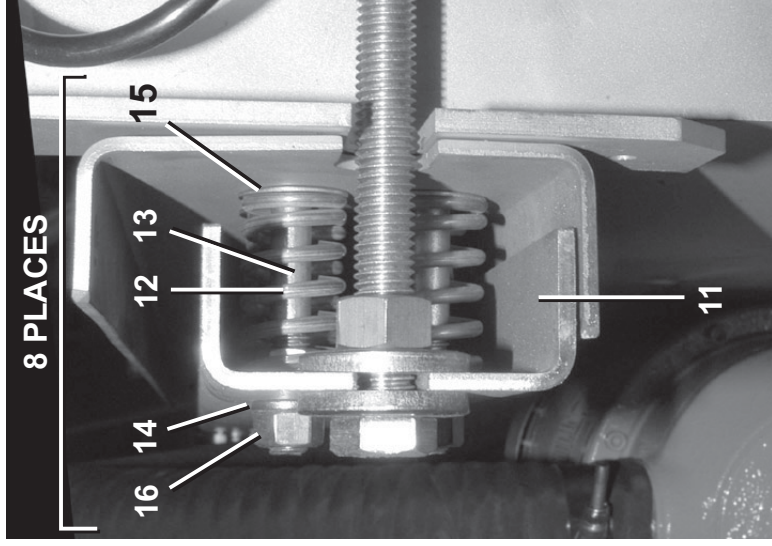
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BMP110011/2020275B
(3 / 4)

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DETAIL D: BELT TRACKING SWITCH



DETAIL C: TENSION BAR



Detail D: Photo Eye

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

| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|-------------------------------|----------------------------------|
| | | | -----ASSEMBLIES----- | |
| | A | ALC420178 | LOADEND IDLER ASSEMBLY | MP15xx, MP16xx MPL5xx, MPL6xx |
| | B | ALC420185 | LOADEND IDLER 51W ASSEMBLY | MP1Axx |
| | C | ALC50060A | TENSION ROLLER 42W SS-BRNG | MP15xx, MP16xx MPL5xx, MPL5xx |
| | D | ALC50122 | TENSION ROLLER 51W-SS BRNG | MP1Axx |
| | E | ALC50065 | BELT TRACKING ROLLER-SSPRESS | MP15xx, MP16xx MPL5xx, MPL6xx |
| | F | ALC50121 | BELT TRACKING ROLLER-51W | MP1Axx |
| | G | ALC420100 | BELT TRACKING SWITCH ASSY | |
| | | | -----COMPONENTS----- | |
| A | 1 | W4 23615 | LOAD END WLMT-SSPRESS | |
| B | 1 | W4 23624 | MP1A03 LOAD END WLMT-SSPRESS | |
| all | 2 | 04 23205B | TRACK ROLLER SUPPORT PLATE | |
| A | 3 | 04 23203 | LOADEND CROSS BRACE | |
| B | 3 | 04 21088 | LOADEND CROSS BRACE-51W BED | |
| all | 4 | 04 20568 | TENSION ROLLER ADJ BRKT-LF | |
| all | 5 | 04 20568A | TENSION ROLLER ADJ BRKT-RT | |
| all | 6 | 27C211 | AIRCYL1+1/16BOREX1/2"STK DBL | |
| all | 7 | 04 23214 | BELT TRACKING CYL MTG BRKT | |
| all | 8 | 04 23215 | BELT TRACKING BRKT | |
| all | 9 | 04 23232 | BELT TRACKING COVER-RT | |
| all | 10 | 04 23232A | BELT TRACKING COVER-LEFT | |
| A | 11 | 04 20570 | BELT TENSIONING BAR | |
| B | 11 | 04 21089 | BELT TENSION BAR-51W BED | |
| all | 12 | 02 18187 | SPRING=OUTER DOOR 60 WEHU | |
| all | 13 | 04 20571 | STUD 3/8-16UN X 3.25LG | |
| all | 14 | 15U260 | LOCKWASHER MEDIUM 3/8 SS18-8 | |
| all | 15 | 15U245 | FLTWASH 3/8 STD COMM 18-8 SS | |
| all | 16 | 15G206B | HEXNUT 3/8-16UNC2 BRASS | |
| all | 17 | 04 20596 | BELT STOP SW.MTG BRKT-SSPRESS | |
| all | 18 | 04 20597 | BELT STOP SW MTG PLATE | |

Load End Rollers & Belt Tracking

MP1540, MP1556, MP1640, MP1656, MP1A50, MPL556, MPL640, MPL656

BMP110011/2020275B
(4 / 4)



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

Litho in U.S.A.

| Used In | Item | Part Number | Description | Comments |
|---------|------|-------------|--------------------------------|----------|
| all | 21 | 15U310S | FLATWASH-SS .53 X 1.37 .187T | |
| all | 22 | 15U310 | LOKWASHER REGULAR 1/2 SS18-8 | |
| all | 23 | 15G234B | HEXNUT 1/2-13UNC2B BRASS | |
| all | 24 | 15G225H | HEXFLGNUT 1/2-13 SERRATED 18-8 | |
| all | 25 | 15G214SS | HXJAMNUT 3/8-16UNC 18-8 SS | |
| all | 26 | 15K100 | HEXCAPSCR 3/8-16X1+1/4 SS18-8 | |
| all | 29 | 17A007 | ADJ YOKE END-CAD 5/16-24NF #27 | |
| all | 30 | 15G191 | HXFINJAMNUT 5/16-24UNC2 ZINC G | |
| all | 31 | 15K062 | HEXCAPSCR 5/16-18X1 18-8SS | |
| all | 32 | 15G193 | HEXLOKNUT 5/16-18UNC2A NYL STL | |
| all | 33 | 15N200 | FILMACSCR 1/4-20UNCX2 SS18-8 S | |
| all | 34 | 15U188 | FLTWASH 1/4 STD COMM SS18-8 | |
| all | 35 | 15U181 | LOKWASHER MEDIUM 1/4 SS18-8 | |
| all | 36 | 15G164NE | HEXLOKNUT NYL 1/4-20 UNC2A SS. | |
| all | 37 | 53A031B | BODY-EL90MALE.25X1/8 #269C-42B | |
| all | 38 | 53A500 | SLEEVE DELRIN 1/4"OD#60PT-4 | |
| all | 39 | 53A501 | TUBE INSERT .163"OD #63PT-4-40 | |
| A | 40 | X4 23433 | TENSION ROLLER 2.50D-ER14 BRNG | |
| B | 40 | X4 21094 | TENSION ROLLER 2.38DX51.75LG | |
| A | 41 | X4 23434 | TENSION ROLLER SHAFT-SS BRNG | |
| B | 41 | X4 21095 | TENSION ROLL SHAFT 1"0DX55"LG | |
| all | 42 | 54AB25001 | BALBRG 25X52X15MM-#SS62052RS | |
| all | 43 | 54JH10750S | SHFTCOL 3/4X1+1/2X.5 SS C-T | |
| all | 44 | 15K083S | HXCAPSCR 3/8-16NCX1/2 SS18-8 | |
| all | 45 | X4 23126 | TRACKING ROLLER BUSHING S/S | |
| all | 46 | X4 23126A | TUBING 2" OD X 42.00 LG 304 SS | |
| all | 46 | X4 21093 | TUBING 2"OD X 51.00LG 304SS | |
| A | 47 | X4 23109B | TRACKING SHAFT .75DX50.25LG | |
| B | 47 | X4 21092 | TRACKING SHAFT .75DX59.25LG | |
| all | 49 | 54AB75001 | BALBRG.75X1.625X.437#SSR122RS | |
| all | 50 | 53A059A | NUT 1/4"BR.HOLYOKE AND #61A-4 | |

| Parts List, cont.—Load End Rollers & Belt Tracking | | | | |
|--|------|-------------|--------------------------------|----------|
| Used In | Item | Part Number | Description | Comments |
| all | 51 | 04 23217 | BELT TRACKING SWITCH BRKT | |
| all | 52 | 04 23219 | BELT TRACKING ACTUATOR | |
| all | 53 | 96N005 | 3WAY AIROP CONT.VLV.CLIPP#MJV3 | |
| all | 54 | 15N154A | PHILPSHDMACHSCR 10-24 X2" 18-8 | |
| all | 55 | 15G126 | HXLOCKNUT NYLON 10-24 UNC SS N | |
| all | 56 | X4 23218 | BELT TRACKING TAP STRIP | |
| all | 57 | 15K033 | BUTSOKCAPSCR 1/4-20X5/8 SS18-8 | |
| all | 58 | 15N174 | HXCAPSCR 1/4-20UNC2X5/8SS18-8 | |
| all | 59 | 15U342 | FLTWASH .255/.260IDX.750DX.125 | |
| all | 60 | 60E004TE | 1/4"OD X.170"ID NYL(BLK)TUBING | |
| all | 61 | 09RPE010E | P.E. EMITTER AC #SM303E W/30' | |
| all | 62 | 09RPE010R | PHOTOEYE RECEIVER AC | |