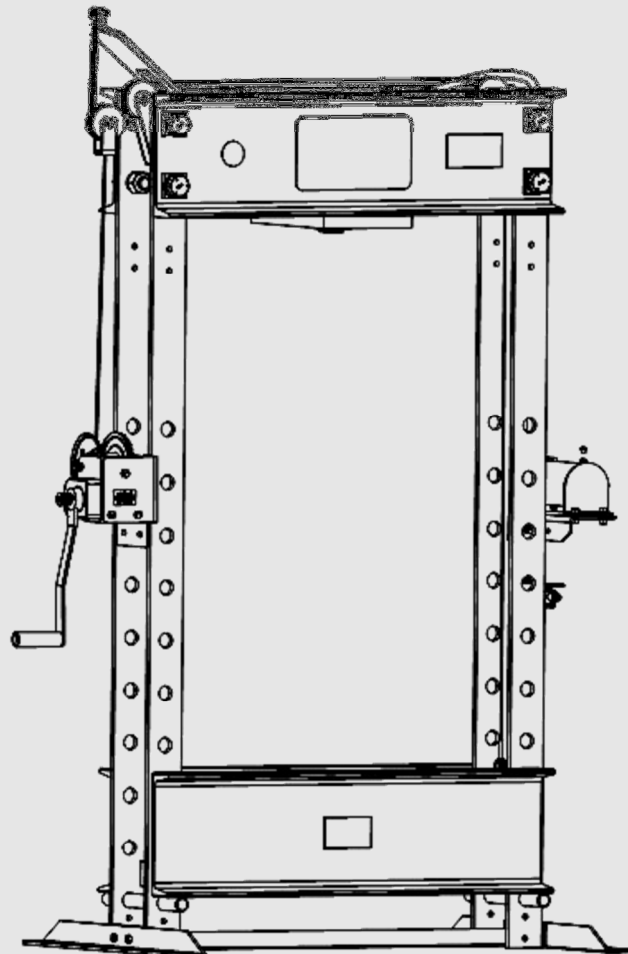


## MAHLE CSP-25 / CSP-25A

EN

Operation Manual  
Shop press





**EVERY PERSON WHO OPERATES THIS  
EQUIPMENT NEEDS TO KNOW AND  
UNDERSTAND ALL OF THE INFORMATION IN  
THIS MANUAL – FAILURE TO DO SO COULD  
RESULT IN SERIOUS INJURY OR DEATH.**

**READ THIS MANUAL  
CAREFULLY AND  
RETAIN FOR YOUR  
RECORDS**

# Contents

---

<b>1. Safety Regulations .....</b>	<b>4</b>
1.1 Warnings.....	4
<b>2. Foreword.....</b>	<b>5</b>
2.1 From the manufacturer .....	5
<b>3. Symbols Use .....</b>	<b>5</b>
3.1 Signal words .....	5
<b>4. Responsibilities .....</b>	<b>6</b>
4.1 Receiving inspection .....	6
4.2 Owner and/or operator responsibilities .....	6
<b>5. Specifications .....</b>	<b>6</b>
5.1 CSP-25 & CSP-25A .....	6
<b>6. Product Description .....</b>	<b>7</b>
6.1 Component identification .....	7
<b>7. Assembly Instructions.....</b>	<b>8</b>
7.1 Frame installation.....	8
7.2 Manual pump installation .....	12
7.3 Air pump installation .....	12
7.4 All models .....	12
7.5 Optional guard installation .....	13
<b>8. Operation .....</b>	<b>14</b>
8.1 Inspect the press for signs of damage or oil leakage.....	14
8.2 Adjustment of lower bolster height.....	14
8.3 Positioning the workpiece .....	14
8.4 Pressing the workpiece.....	14
<b>9. Maintenance and Inspection .....</b>	<b>16</b>
9.1 Inspection .....	16
Hydraulic component inspection .....	16
Air component inspection .....	16
Inspect bolster pins .....	16
Inspect bolster cables and winch.....	16
9.2 Maintenance instructions .....	17
<b>10. Troubleshooting .....</b>	<b>18</b>
<b>11. Maintenance Chart.....</b>	<b>19</b>
<b>12. Notes .....</b>	<b>21</b>

# 1. Safety Regulations

## 1.1 Warnings

- △ Failure to follow all of these safety instructions can lead to severe injury or death. Contact the manufacturer at the numbers or address printed on the back cover of this manual if you have any questions.
- △ **Anyone who operates this equipment must read and understand all the instructions and warnings provided with this product before being allowed to use it.** All operators must be careful, competent, trained, and qualified in the safe operation of the ramps. The owner (or other responsible individual) must ensure that any operator observes the proper safety procedures for using this press at all times. If the operator does not read well or is not fluent in English, the owner / manager must read and review the instructions and warnings in the manual with the operator in the operator's native language to be sure that the operator will use the press properly.
- △ **The owner / manager must keep this manual for future reference,** and make sure the warning labels on the product are legible and intact at all times. Replacement labels and manuals are available from the manufacturer. Call the manufacturer using the contact information on the back cover of this manual if you have any questions.
- △ **Proper safety equipment must be worn when using the press.** The proper safety equipment shall be worn at all times by the operator using the press. When in use, anyone in the area where there is a risk of injury shall be notified. You will also need to refer to OSHA standards for the proper personal protective equipment.
- △ **Never overload the press.** The maximum capacity of the press is 25 tons (50,000 lb) of pushing force. If you need more capacity than this, use a press that has a higher maximum capacity.
- △ **The owner of this press must ensure it is installed and operated according to federal (OSHA), state, and local safety standards.** The Free Standing Model shall be anchored prior to use.
- △ **Protect hands, feet and other body parts when using this press.** Do not allow hands, feet and all other body parts to pass underneath the lower bolster at any time during use of the press. If this warning is not heeded, accidental slipping may result in possible serious injury and/or death.
- △ **Keep hands, feet, and other body parts out of the work area while pressurizing the press.** Never align or hold the work pieces while pressurizing the press. The press has an extended air hose (if equipped with air pump) or pump handle (if equipped with manual pump) that allows the operator to stand away from the work piece during operation. Optional guards are available from the manufacturer.
- △ **Avoid off-center loads.** The work pieces must be in line and centered with the ram and secured so that they cannot become free and come out from underneath ram. Work pieces must be supported so that they cannot slip out during operation.
- △ **NEVER use press until lower bolster is fully engaged** and supported by the bolster pins.
- △ **Never use adapters for pushing that have a capacity rating that is lower than the press's tonnage rating.** Doing so can lead to breakage of the adaptor which can cause possible damage or injury from flying projectiles.
- △ **NEVER modify the product in any way.** No alterations shall be made to this product. Modifications may cause the press to perform improperly, resulting in injury or death. Any alterations to unit will void any warranty or liability of the manufacturer.
- △ **Never use aftermarket accessories on the press unless authorized by manufacturer.**
- △ **Failure to understand and obey this warning may result in personal injury or death.**

## 2. Foreword

---

### 2.1 From the manufacturer

Thank you for your purchase. To complement the offering of A/C, fluid and nitrogen service equipment, MAHLE Service Solutions has partnered with Gray Manufacturing to provide the highest quality hydraulic and pneumatic equipment available for the professional service technician. This equipment adheres to high standards promised in the MAHLE guarantee including the assurance of innovation and reliability that comes with the Gray Manufacturing name. Please contact MAHLE Service Solutions' customer service at (800) 468-2321 or tech.mss@us.mahle.com with any comments or questions.

## 3. Symbols Use

---

### 3.1 Signal words

Signal words call attention to a safety message or messages, or a property damage message or messages, and designate a degree or level of hazard seriousness. Signal words used in this manual include:

Keyword	Probability of occurrence	Severity of danger if instructions not observed
<b>DANGER</b>	<b>Immediate</b> impending <b>danger</b>	<b>Death</b> or <b>severe</b> injury.
<b>WARNING</b>	<b>Possible</b> impending <b>danger</b>	<b>Death</b> or <b>severe</b> injury
<b>CAUTION</b>	Possible <b>dangerous situation</b>	<b>Minor</b> injury
<b>NOTICE</b>	Possible <b>damage to property</b>	<b>Possible property damage</b>

## 4. Responsibilities

### 4.1 Receiving inspection

Before attempting to operate this equipment, thoroughly read and understand this manual. Completely remove all tape and packaging. Inspect the equipment immediately upon delivery. If shipping damage is evident, inform the delivering carrier immediately and contact the manufacturer using the contact information on the back cover of this manual.

### 4.2 Owner and/or operator responsibilities

The owner and / or user must have an understanding of the manufacturer's operating instructions and warnings before using this equipment. Personnel involved in the use and operation of equipment shall be careful, competent, trained, and qualified in the safe operation of the equipment and its proper use when servicing motor vehicles and their components. Warning information should be emphasized and understood.

The owner / manager must make this manual available to all personnel using this equipment at your direction. They must read and understand the contents of this manual. If the operator is not fluent in English, the manufacturer's instructions and warnings shall be read to and discussed with the operator in the operator's native language by the purchaser / owner, making sure that the operator comprehends its contents and observes the proper procedures for use of this equipment.

Owner and / or user must study and maintain for future reference the manufacturer's instructions. Owner and / or user are responsible for keeping all warning labels and instruction manuals legible and intact. Replacement labels and literature are available from the manufacturer.

## 5. Specifications

### 5.1 CSP-25 & CSP-25A

CSP-25/CSP-25A model	US units	Metric units
Maximum capacity	50,000 lb	22,727 kg
Maximum stroke	6 in	15.2 cm
Width	54 in	137.2 cm
Depth	28 in	71.1 cm
Height	76.25 in	193.7 cm
Inside clearance – side to side	30 in	76.2 cm
Throat minimum – bottom of ram to top of bolster	5.25 in	13.3 cm
Throat maximum – bottom of ram to top of bolster	43.5 in	110.5 cm
Weight	530 lb	240.9 kg
Minimum air pressure required at rated capacity*	95 psi	6.5 bar
Maximum air pressure*	200 psi	13.8 bar

\*Specification is only applicable if unit equipped with optional air pump

## 6. Product Description

### 6.1 Component identification

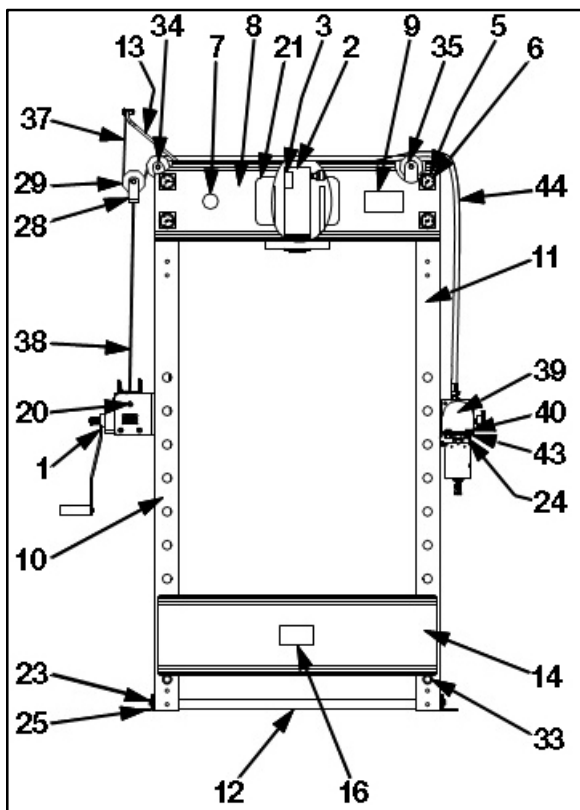


Fig. 1: Freestanding model component identification

Item	Qty	Part Number	Description
1	1	234-90005	Winch
2	1	353-45025	Cylinder
3	1	670-10500	Information Placard, Warning, Cylinder
4	8	204-11901	Washer, Lock, Split Type, 1", Med., Steel, Unplated
5	8	204-02307	Washer, Flat, 1", ASTM F436, Steel, Unplated
6	8	202-01906	Cap screw, Heavy Hex Structural, 1-8 UNC, ASTM A325, 3.25" L
7	2	670-10165	Info Placard, Made In USA
8	1	951-02001	Upper Bolster Weldment
9	2	670-10489	Information Placard, Warning, Protective Equipment
10	1	951-02002	Upright Frame Weldment, L.H.
11	1	951-02005	Upright Frame Weldment, R.H.
12	1	951-02004	Lower Frame Brace Weldment
13	1	951-04023	Cable Anchor Bracket
14	1	951-02003	Lower Bolster Weldment
15	2	202-20601	Drive Screw, Round Head, SS 18-8, #6 X .313"
16	2	670-10402	Warning Placard
17	1	670-20043	Capacity Tag

Item	Qty	Part Number	Description
19	2	232-10018	Clevis Pin with Hairpin, 1/4" X 1 1/4" Lg, Plated
20	7	200-31206	Cap screw, Hex Head, 3/8-16UNC, Steel, Gr 5, Plated, 1" L
21	2	Call for P/N	Identification Placard
22	12	204-01200	Washer, Flat, 3/8, Type B, Plated
23	7	200-31207	Cap screw, Hex Head, 3/8-16UNC, Gr 5, Plated, 1 1/4"L
24	18	203-01202	Nut, Hex, 3/8 - 16UNC, Steel, Plated, Self-Locking
25	2	943-04006	Foot Angle
26	6	230-11004	Retaining Ring, External, Heavy Duty, 1/2" Dia.
27	2	951-04021	Dual Sheave Pin
28	1	951-04020	Dual Sheave Formed Bracket
29	5	234-20003	1/4" Wire Rope Sheave 3" OD
30	8	203-21002	Nut, Heavy Hex, 1-8 UNC, ASTM A563 Grade C, Steel, Unplated
31	2	200-31208	Cap screw, Hex Head, 3/8-16UNC, Plated, Gr 5, 1 1/2"L
32	2	951-04013	Cable Attachment Bracket
33	2	951-04004	Bolster Pin
34	1	951-02008	Dual Sheaves Mount Weldment
35	1	951-02006	Single Sheave Mount Weldment
36	1	951-04022	Single Sheave Pin
37	1	234-12007	Bolster Cable
38	1	234-12008	Winch Cable Assembly
39	1	353-40117	Air Motor Pump Assembly
	1	353-40119	Hand Pump Assembly
40	2	202-01235	Cap screw, Hex head, Flange Lock, 3/8-16UNC, Plated, 3/4" Long
42	2	200-31104	Cap screw, Hex Head, 5/16 - 18UNC, Steel, Grade 5, Plated, 3/4" Long
43	1	943-04009	Pump Bracket
44	1	271-44003	Hose Assy, Multi Wire, Male 3/8 NPT, 48" Lg
45	2	N/A	Washer, lock, split type, 5/16", steel
46	1	N/A	Carriage bolt
47	1	N/A	Nut (For carriage bolt)
48	1	N/A	Cable restraining bracket
49	1	N/A	Protective cap
50	1	N/A	Cylinder mounting bracket
51	1	N/A	Winch handle

## 7. Assembly Instructions

### 7.1 Frame installation

1. With the Upper Bolster [item # 8] laying side down on blocks, install the Upright Frame Weldments [items #10 and # 11], as shown in Fig. 1, using (8) 1" X 3-1/4" A325 Cap screws [item #6], (8) 1" Washers [item #5], (8) 1" Lock Washers [item #4], and (8) 1" Nuts [item #30]. Do not fully tighten any of the Nuts [item #30] until instructed to do so in step 4. Make sure the Winch Bracket on the Left Hand Upright Frame Weldment [item #10] faces outward.

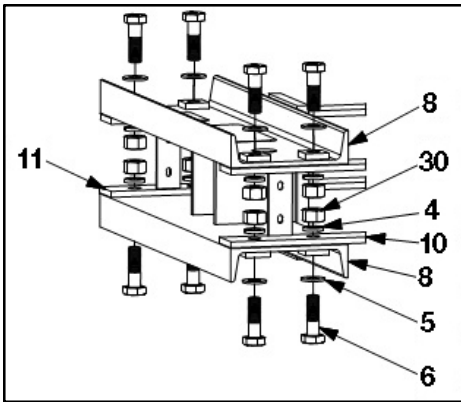


Fig. 2: Install upright frame weldments

2. After these parts are assembled, stand the assembly on the lower ends of the Upright Frame Weldments using a crane, forklift, or other adequate means to raise and hold the assembly in place.

**⚠ WARNING!** Caution must be taken when standing and holding the assembly. If not handled properly, the assembly can fall and may result in property damage, serious personal injury, and/or death. Ensure the assembly is stable and well supported during this and all steps of assembling the shop press.

3. Install the Lower Frame Brace Weldment [item #12] and the (2) Foot Angles [item #25] to the Upright Frame Weldments [items #10 and # 11], as shown in Fig. 2, using (4) 3/8" X 1 1/4" Grade 5 Cap screws [item #23], (4) 3/8" Washers [item #22], and (4) 3/8" Nuts [item #24].

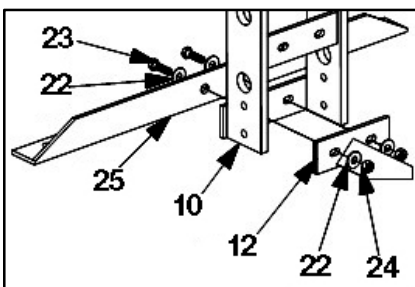


Fig. 3: Install lower frame weldment to left hand upright

4. Tighten the hardware installed in step 1 until the Lock Washers [item #4] are flattened and the Upright Frame Weldments [items #10 and #11] are pulled into firm contact with the Upper Bolster [item #8].

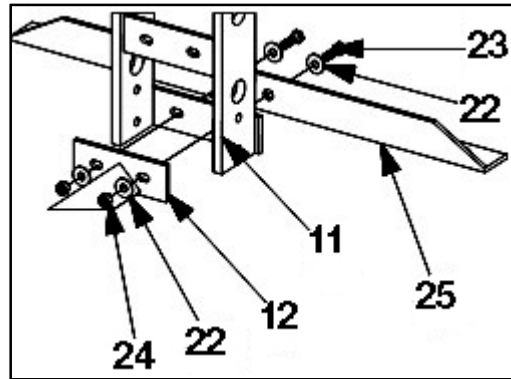


Fig. 4: Install lower frame weldment to right hand upright

5. After these parts are assembled, position the press with the crane, forklift, or other adequate means and anchor the shop press to the floor in a hard, level location.

**⚠ WARNING!** Failure to properly anchor the shop press can lead to instability and falling of the press and may cause property damage, serious personal injury, and/or death. The owner/manager is responsible for selecting an adequate location to anchor the press and for selecting the proper fasteners to secure the press to the floor.

6. Using a crane, forklift, or other adequate means, insert the Lower Bolster Weldment [item #14] into the frame assembly and rotate into place making sure the top points up as indicated by the placards being right side up. See Fig. 5. Allow the Lower Bolster Weldment [item #14] to sit on the Lower Frame Brace Weldment [item #12] or floor ensuring that the Upright Frame Weldments [items #10 and #11] stay inside the Lower Bolster Weldment [item #14].

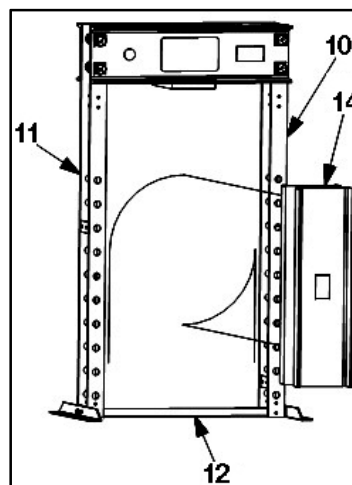


Fig. 5: Installing lower bolster weldment



**⚠ WARNING!** Care must be taken when handling the Lower Bolster Weldment due to its weight. Do not allow it to fall as this may cause property damage, serious personal injury, and/or death.

7. Install Pump Bracket [item #43] to Right Hand Upright Frame Weldment [item #11], as shown in Fig. 6, using (2) 3/8" X 1" Grade 5 Cap screws [item #20], (2) 3/8" Washers [item #22], and (2) 3/8" Nuts [item #24].

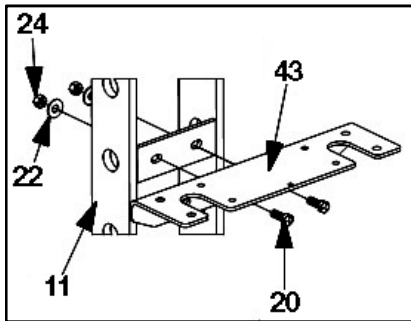


Fig. 6: Install pump bracket

8. Install the Winch [item #1] to the Left Hand Upright Frame Weldment [item #10], as shown in Fig. 7, using (3) 3/8" X 1" grade 5 Cap screws [item #20], (3) 3/8" Washers [item #22], and (3) 3/8" Nuts [item #24].

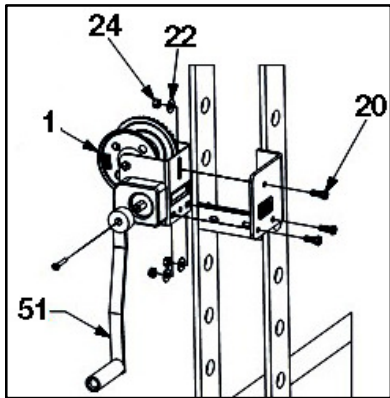


Fig. 7: Install winch

9. Attach the Handle to the Winch [item #1] following the instructions provided with the Winch [item #1].

10. Install Single Sheave Mount Weldment [item #35] onto upper cross piece of the Right Hand Upright Frame Weldment [item #11] using (2) 3/8" X 1 1/4" Grade 5 Cap screws [item #23], (2) 3/8" Washers [item #22], and (2) 3/8" Nuts [item #24] as shown in Fig. 8.

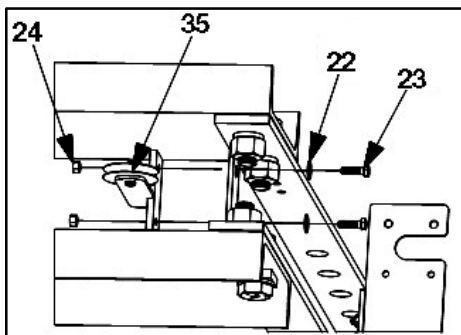


Fig. 8: Install single sheave mount weldment

11. Install the Dual Sheave Mount Weldment [item #34] and Cable Anchor Bracket [item #13] onto the upper cross piece of the Left Hand Upright Frame Weldment, [item #10] using (2) 3/8" X 1 1/2" Cap screws [item #31] and (2) 3/8" Nuts [item #24] as shown in Fig. 9.

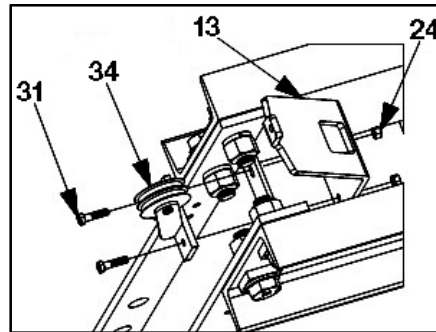


Fig. 9: Install dual sheave mount weldment

12. Loosely install the Cable Anchor Hardware [items #22, #23, and #24] on the Cable Anchor Bracket [item #13] as shown in Fig. 10. Do not tighten, as this will be used to attach the 1/8" cable and tightened in a later step.

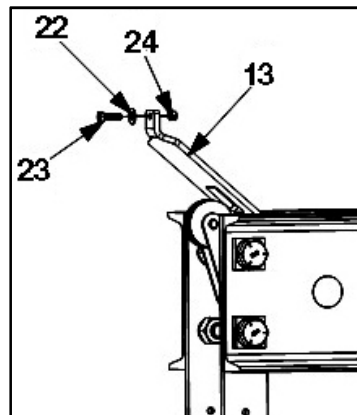


Fig. 10: Install cable mount hardware

13. Unthread the Protective Cap from the fitting on the Cylinder [item #2].

14. Thread the Cylinder [item #2] into the Cylinder Mounting Bracket portion of the Upper Bolster by turning it clockwise until the threads extend beyond the bottom surface of the Mounting Bracket.

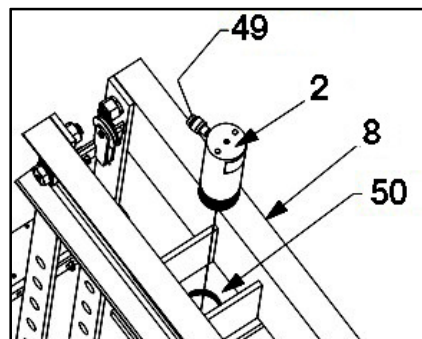


Fig. 11: Install cylinder

15. Ensure the threads of the Cylinder extend beyond the bottom surface of the Cylinder Mounting Bracket.

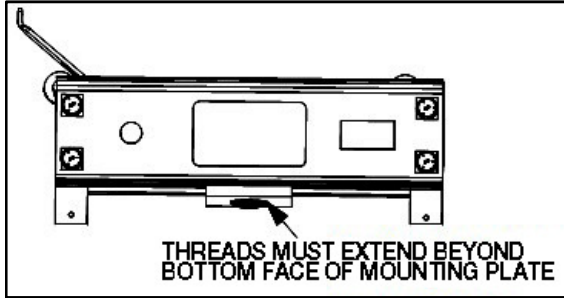


Fig. 12: Thread cylinder beyond bottom face of mounting plate

16. Attach the open end of the Winch Cable Assembly [item #38] to the Winch [item #1] by following the instructions provided with the winch. (Note that the hardware used for this step may not exactly match what is shown in **Error! Reference source not found.**Fig. 13.)

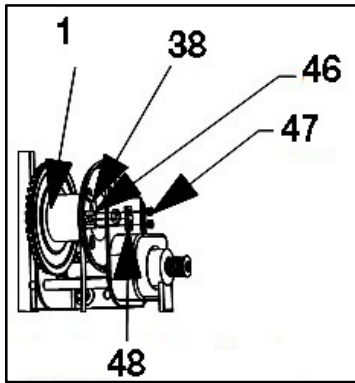


Fig. 13: Install winch cable assembly

17. Install a Cable Attachment Bracket [item #32] on each side of the Lower Bolster [item #14], as shown in Fig. 14, using (1) 3/8" X 1" Grade 5 Cap screw [item #20] and (1) 3/8" Nut [item #24] per Cable Attachment Bracket.

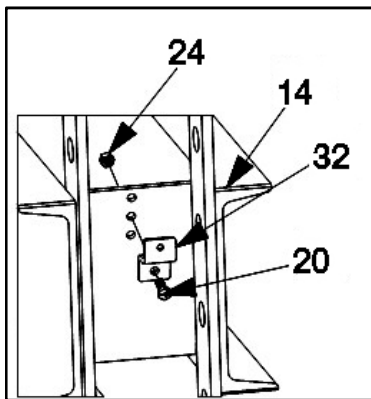


Fig. 14: Install cable attachment bracket

18. Wrap one end of the Bolster Cable [item #37] around the Single Sheave Mount Weldment [item #35] and attach the end to the Cable Attachment Bracket [item #32] using a Clevis Pin with Hairpin [item #19] as shown in Fig. 15 & 16.

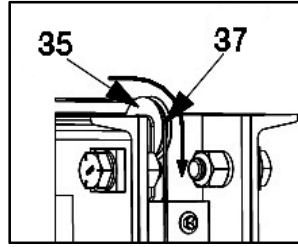


Fig. 15: Route bolster cable around single sheave mount

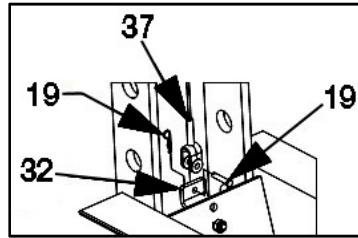


Fig. 16: Insert clevis and hairpin

19. Route the free end of the Bolster Cable [item #37] over the top of the press, through the cutout in the Cable Anchor Bracket [item #13] and over one of the pulleys on the Dual Sheave Mount Weldment [item #34] as shown in Fig. 17.

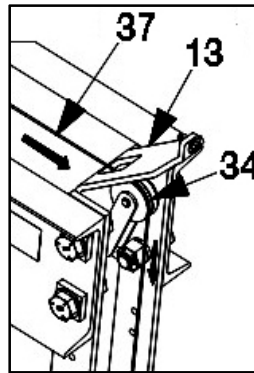


Fig. 17: Route bolster cable over top of press

20. Double up the Bolster Cable [item #37] and route it around the two pulleys on the Winch Cable Assembly [item #38] and over the Cable Anchor Hardware [items #22, #23, and #24] as shown in Fig. 18. Tighten the Cable Anchor Hardware [items #22, #23, and #24] until it does not hang loose in the Cable Anchor Bracket [item #13] but will allow the Bolster Cable [item #37] to slide such that it can be adjusted.

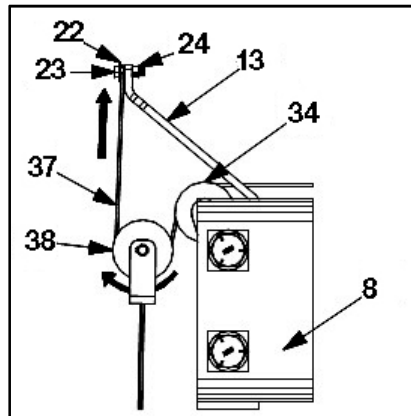
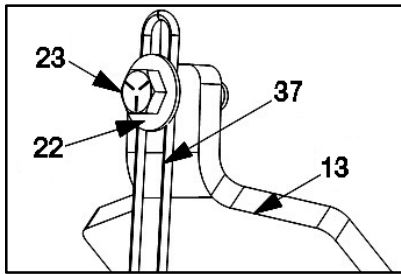
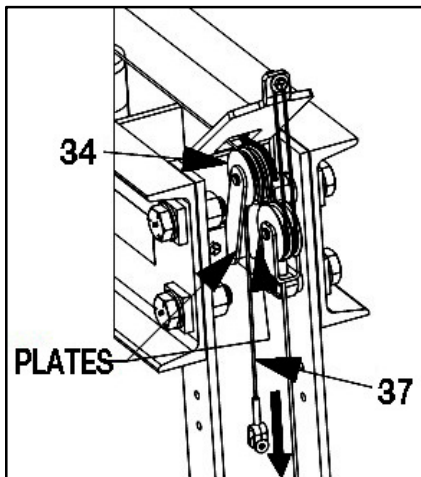


Fig. 18: Route bolster cable through pulleys



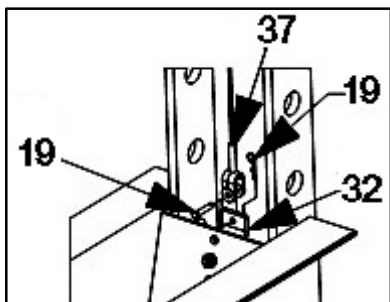
**Fig. 19: Tighten cable anchor hardware**

21. Route the free end of the Bolster Cable [item #37] over the second pulley on the Dual Sheave Mount Weldment [item #34], through the middle of the Plates, and down toward the bottom of the press as shown in Fig. 20.



**Fig. 20: Route bolster cable through second pulley**

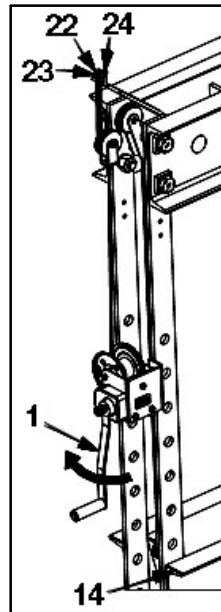
22. Attach the end of the Bolster Cable [item #37] to the Cable Attachment Bracket [item #32] using a Clevis Pin with Hairpin [item #19] as shown in Fig. 21.



**Fig. 21: Attach bolster cable to cable attachment bracket**

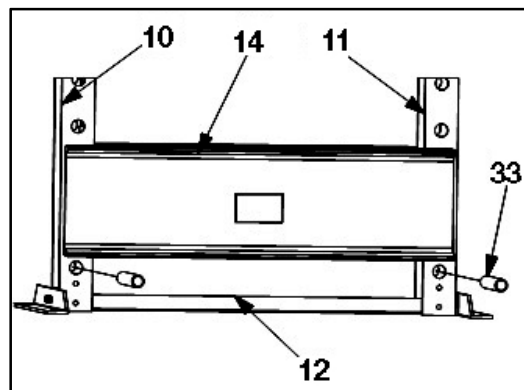
23. Use the Winch [item #1] to wind up the slack in the cables until the cables are supporting the weight of the Lower Bolster [item #14]. Level the Lower Bolster [item #14] by using a bubble level or by measuring the distance from the top surface of the Lower Bolster to a Bolster Pin hole on each side and adjusting until even.

24. Once the Lower Bolster [item #14] is level, tighten the Cable Anchor Hardware [items #22, #23, and #24] until the Bolster Cable [item #37] can no longer be moved when pulled by hand.



**Fig. 22: Use winch to tighten cables**

25. Using the winch [item #1], lift the Lower Bolster [item #14] until its bottom is above the lowest Bolster Pin Hole in the Upright Frame Weldments [items #10 and #11]. Insert a Bolster Pin [item #33] into the lowest Bolster Pin Hole in each of the Upright Frame Weldments, as shown in Fig. 22 & 23, ensure that the Bolster Pins are centered in the Upright Frame Weldments, and lower the Lower Bolster onto the Bolster Pins.



**Fig. 23: Install bolster pins**

## 7.2 Manual pump installation

(See steps 1-3 in next section for Air pump installation)

1. Attach the manual pump to the Pump Bracket [item #43] using (2) 3/8" X 1" Cap screws and (2) 3/8" X 3/4" Cap screws and (4) 3/8" Nuts as shown in Fig. 24.

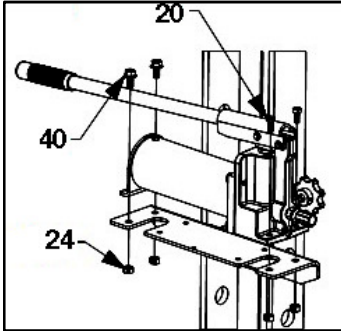


Fig. 24: Install manual pump

## 7.3 Air pump installation

1. Attach the air pump to the Pump Bracket [item #43] using (2) 3/8"X3/4" Cap screws, (2) 5/16" X 3/4" Cap screws, (2) 5/16" Lock Washers, and (2) 3/8" Nuts as shown in Fig. 25.

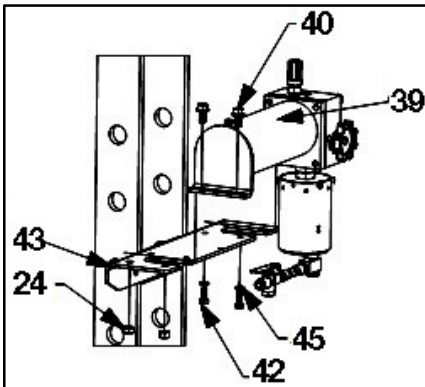


Fig. 25: Install air pump

2. Attach the S-hook to the hole in the Pump Bracket [item #43] as shown in Fig. 26.

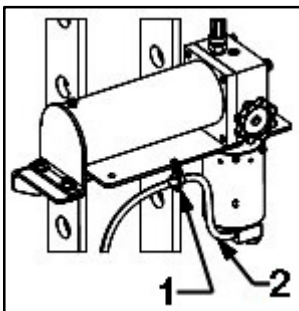


Fig. 26: Attach s-hook to hold air hose

- 1 S-hook
- 2 Air hose

3. Route the Air Hose through the S-hook. The S-hook can be closed around the Air Hose, if desired. Be careful not to pinch or cut the Air Hose when closing the S-hook. Otherwise, the S-hook can be left open so the Air Hose can be inserted or removed from the hook as desired. The purpose of the S-hook is to provide a location to hang the Air Hose to prevent hose damage.

## 7.4 All models

The following steps apply to both the manual pump and the air pump models:

1. If not already removed, remove protective cap and seal from the quick coupler fitting on the Hydraulic Cylinder [Fig. 27, Pos. 1]. These items are removed by loosening the collar of quick coupler and then removing cap and rubber seal. Insert the pump's Hydraulic Hose into the quick coupler as shown in Fig. 27 and thread the quick coupler's collar onto the hose until hand tight.

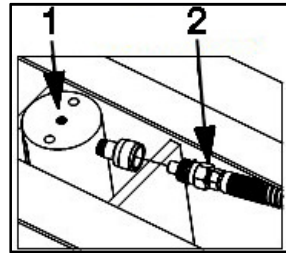


Fig. 27: Connect hydraulic hose

2. Check that the Hydraulic Hose [Fig. 27, Pos. 2] is not routed over any sharp edges and is located so it does not rub against any cables or other moving parts.
3. Use a Cable Tie to attach the Hydraulic Hose to the Upright Frame Weldment [item #11] through one of holes in the Upright Frame Weldment [item #11] as shown in Fig. 28. If guard panels will be installed on both sides of the press, wait until the panels have been installed and then use a Cable Tie to secure the Hydraulic Hose to the non-moving part of the guard panel. Make sure the Hydraulic Hose is routed so the Lower Bolster will not contact the hose when raised.

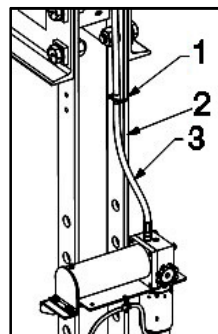
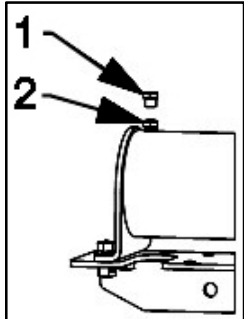


Fig. 28: Secure hydraulic hose to frame upright

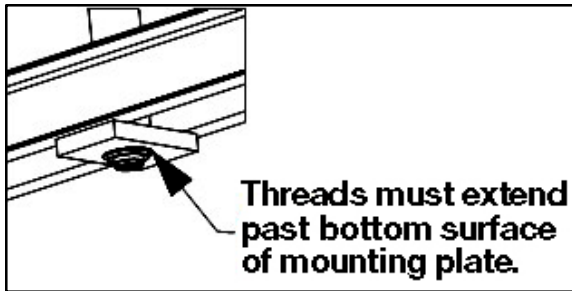
- 1 Cable tie
- 2 Upright frame weldment
- 3 Hydraulic hose

4. Remove the Reservoir Plug from the hydraulic pump's reservoir.
5. Check the oil level in the pump reservoir. The oil should be 1" to 1-1/4" from the bottom of the hole. If the oil level is low, add hydraulic fluid equivalent to Conoco MV22 until the level is 1" to 1-1/4" from the bottom of the hole.
6. Install the Vent Plug, provided with the press, in the pump reservoir in the same hole the Reservoir Plug was removed from in step 4 of this section.



**Fig. 29: Thread cylinder into mounting plate**

- 1 Vent plug
- 2 Reservoir plug

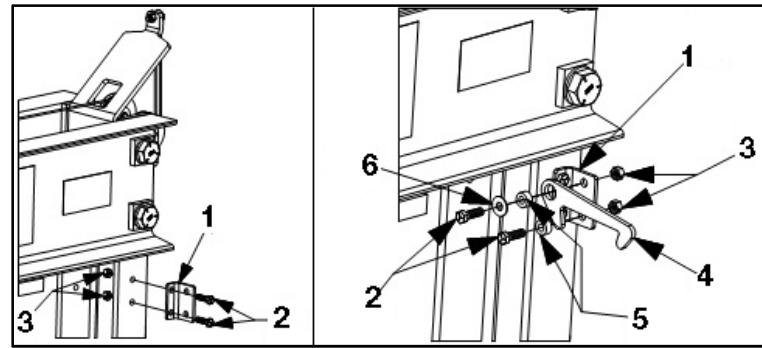


**Fig. 30: Installing hydraulic cylinder**

### 7.5 Optional guard installation

Guard panels for this press are available as an optional accessory from the press manufacturer. The instructions below are identical to those supplied with the guard panel. Guards can be installed on one or both sides of the press as desired.

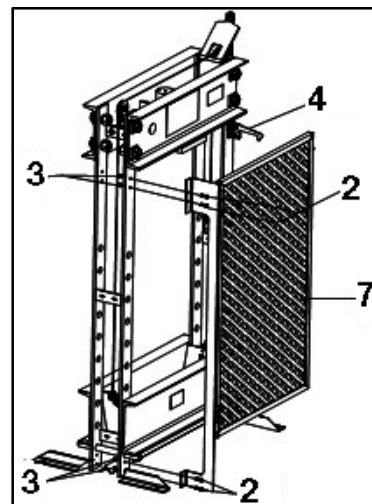
1. Determine which side of the press the Guard Panel [#7] will be installed on. All the remaining steps should be performed on the side of the press where the Guard Panel [#7] will be installed.
2. Attach the Latch Bracket [#1] to the press frame using Cap screws [#2] and Nuts [#3] as shown in Fig. 31.



**Fig. 31: Guard latch installation**

- 1 Latch bracket
- 2 Cap screws
- 3 Nut
- 4 Latch pawl
- 5 Spacer
- 6 Washer

3. Place a Spacer [#5] inside the bore of the Latch Pawl [#4] as shown in Fig. 31. Attach these two parts to the Latch Bracket [#1] using a Cap screw [#2], Washer [#6], and Nut [#3] as shown.
4. Swing the Latch Pawl [#4] upward so the tab is positioned approximately as shown in Fig. 31. Install the second Spacer [#5], which acts as a travel stop for the Latch Pawl [#4], using a Cap screw [#2] and Nut [#3].
5. The Guard Panel [#7] is installed as shown in Fig. 32 using four Cap screws [#2] and four Nuts [#3]. Before fully tightening the Nuts [#3], check the alignment of the pin on Guard Panel [#7] with the Latch Pawl [#4].



**Fig. 32: Install guard panel**

- 2 Cap screws
- 3 Nuts
- 4 Latch pawl
- 7 Guard panel

6. Tighten the Nuts [#3] and check that the Guard Panel [#7] opens and closes properly.

## 8. Operation

△ Failure to heed the following operating instructions could lead to serious injury or death—the operator and anyone in the vicinity of the shop press would be at risk.

---

### 8.1 Inspect the press for signs of damage or oil leakage

❶ Before each use, you should inspect the press for any visible signs of wear, damage, or oil leakage. See the “Inspecting the press” section for details about how to inspect the press.

△ **WARNING!** If you see any signs of damage, or if there is any indication that the press is not performing normally, immediately tag it “Out of Service” and call the manufacturer using the contact information on the back of this manual.

△ Never use a press that appears damaged in any way.

---

### 8.2 Adjustment of lower bolster height

❶ The operator must check that the bolster pins protrude equally from each side of the press and are in full contact with the lower bolster before each use. If you need to lower or raise the lower bolster, please follow the procedures shown below.

1. Remove the work piece and any other objects from the lower bolster.

△ **WARNING!** The lower bolster should never be adjusted with anything resting on the lower bolster. As the lower bolster is raised or lowered anything resting on the bolster can shift or fall off causing property damage and/or serious personal injury.

2. Slowly crank the winch until the lower bolster it is just above the bolster pin holes that correspond to the desired height of the lower bolster.

3. Remove the bolster pins by twisting and pulling them out of their holes and insert them into the bolster pin holes that correspond to the desired height of the lower bolster. Both bolster pins must be installed in the same hole position on the press frame so the lower bolster is approximately level. Always check that each bolster pin protrudes equally from each side of the press frame and remove your hand after the pins are in place.

4. Lower the lower bolster using the winch until the lower bolster is resting on the bolster pins. Check that all the weight of the lower bolster is being supported

by the bolster pins by making sure the bolster cables are slack. The bolster must always be level after being lowered onto the bolster pins.

△ **WARNING!** If the bolster pins show signs of damage, call the manufacturer for assistance. Never use damaged or aftermarket bolster pins.

△ Never allow hands, feet, or any other body parts to pass underneath the lower bolster at any time.

△ Never operate the press without checking that the lower bolster is only supported by the bolster pins and the bolster cables are slack.

---

### 8.3 Positioning the workpiece

❶ Take special care in positioning the workpiece. It should always be supported by the lower bolster and centered underneath the ram of the press. When placing the workpiece check for possible hazardous situations and potential slippage prior to pressing the work piece.

△ **WARNING!** Always install some type of guarding prior to pressing the workpiece. Never allow hands, feet, or any other body parts to pass between the lower bolster and the workpiece at any time.

❶ The operator should always wear their PPE when working around or using the press to perform work. A face shield is of primary importance and shall be worn at all times while using the press. Check OSHA regulations for the proper PPE.

---

### 8.4 Pressing the workpiece

△ It is necessary for the operator to inspect for any possible hazardous situations around the surrounding area in case of accidental slippage before pressurizing the press.

△ **WARNING!** The owner of the press or supervisor must provide the proper protective equipment and provide the safety procedures of using the press for each application. Optional guards are available from the manufacturer.

1. The work pieces must be in line with the ram and well supported so they cannot become free and come out from underneath the ram.

2. The operator should move to the side while operating the press.

3. The operator should stand in a position away from the immediate press working area in the most advantageous position for operator protection.

4. Always alert other personnel in the immediate area that you are getting ready to press the work piece so they are aware of what you are preparing to do for their protection and safety.

Use the following procedures to operate the power unit.

- ⚠ Inspect the power unit and ram for signs damage or oil leaks. See the “Inspecting the press” section for details.

### **Air Pump**

1. Close (turn clockwise) the release knob until finger tight.
2. Press and hold the actuation lever on the air valve so the ram starts to extend.
3. When the desired stroke is reached, release the actuation lever on the air valve.
4. Open (turn counter-clockwise) the release knob to retract the ram. The release knob can be closed to stop the ram from retracting, if desired.

### **Manual Pump**

1. Close (turn clockwise) the release knob until finger tight.
2. Quickly raise the pump handle full stroke to activate the high-speed pump circuit. You should feel the pump switch into the high-speed mode.
3. Work the pump handle up and down to extend the ram until it contacts the work piece. During pressing of the work piece the pump will automatically switch back to the low-speed mode. There may be a sudden change in the effort required to move the pump handle when the pump changes from the high-speed mode to the low-speed mode.
4. Continue working the pump handle until the desired stroke is reached.
5. Open (turn counter-clockwise) the release knob to retract the ram. The release knob can be closed to stop the ram from retracting, if desired.

## 9. Maintenance and Inspection

⚠ **WARNING** - The owner must inspect, or appoint a knowledgeable person to inspect the product. Visual inspection should be made before each use of fluid handler, checking for abnormal conditions. Regular inspections should be made weekly for daily use and monthly for intermittent use. In addition to the visual inspection, the inspector should also operate the press to assist in identifying any problems that may exist. Contact the manufacturer using the contact information printed on the back cover of this manual.

### 9.1 Inspection

Equipment must be removed from service and inspected for damage immediately if subjected to an abnormal shock or load. Failure to heed this warning may result in personal injury and / or property damage.

#### Hydraulic component inspection

- Inspect hydraulic hose and fittings for any signs of wear, damage, or oil leaks. Never use a damaged hose or fittings.
- ⚠ **WARNING!** Never bend the hydraulic hose through less than a 5 inch radius.
- ⚠ **DANGER!** Keep the hydraulic system away from flames and heat. Never impact the hydraulic system in any way.
- Make sure the release knob operates properly.
- Inspect the cylinder and ram for any signs of wear, damage, or oil leaks. The ram should be straight without any gouges, scratches, or marks. The cylinder must be free of dents, gouges, or other damage. Never use a cylinder that is damaged in any way.

#### Air component inspection

- ⚠ **WARNING!** This press is designed to operate with air pressure of 95 psi to 200 psi. Never exceed this rating.
- Make sure that the air valve is working properly. To prevent the risk of serious injury, the ram must stop immediately when the air valve is released.

#### Inspect bolster pins

- Inspect the bolster pins for any signs of damage. The pins must not be bent, cracked, corroded, or excessively worn.
- ⚠ **WARNING!** Never use bolster pins that show any sign of damage. Using damaged bolster pins can cause the pins to fail resulting in a sudden drop of the bolster and/or sudden release of the work piece causing personal injury and/or property damage.

#### Inspect bolster cables and winch

- Inspect all the bolster cables for any signs of kinking, fraying, or other damage.
- Check all cable connections to make sure they are securely fastened. These connections include the clamp on the winch drum, the cable forks on each end of the bolster cable, and the cable anchor hardware.
- Make sure all the cable pulleys turn freely and the pulley pivot pins are secured.
- Check the winch for any signs of wear or damage.
- Make sure the winch handle is securely fastened to the winch. The winch handle should turn smoothly and evenly throughout its entire range of rotation.
- Check the operation of the winch brake. The lower bolster must not move after the operator stops turning the winch handle.
- ⚠ If any irregularities or problems are detected during an inspection, the press must be removed from service immediately and repaired. Contact the manufacturer using the contact information on the back cover of this manual.



---

## 9.2 Maintenance instructions

⚠ **WARNING** - All inspection and maintenance procedures must be performed after the product has been removed from service. Failure to do this may result in personal injury and/or property damage.

All maintenance and lubrication procedures must be performed every 2 months. To properly maintain the press, perform the following procedures:

- Check support pins for rust. Keep support pins in good working order. If they are bent, have flat spots or are excessively rusted and pitted, replace. Use only support pins supplied by the manufacturer of the press. Lightly oil the pins to prevent them from corroding.
  - If equipped with the air pump, add a few drops of air tool oil to the air line and operate the pump. This will help lubricate the air piston and prevent moisture in the air line from corroding the inside of the air motor.
  - If the cable pulley pivot pins do not turn freely they can be removed and greased. Only remove the pivot pins when the weight of the lower bolster is supported by the bolster pins and not the bolster cables.
  - Inspect the condition of all decals on the press. They should be legible and easy to read. If they become hard to read, replace them immediately.
- ⚠ If the press is overloaded, take the press out of service immediately and inspect. Replace any damaged components by contacting the manufacturer using the contact information on the back cover of this manual. **ONLY** use repair parts supplied by the manufacturer to repair this press. **NEVER** use spare parts from other sources; they may not be designed to be used on this press or rated at the same capacity.

## 10. Troubleshooting

This section is a list of potential problems and solutions. If the solution listed fails to correct the problem, call the manufacturer at the numbers and address printed on the back cover of this manual. Please have the model number, and serial number of your unit available.

Problem	Cause/Solution
Air motor won't run (if equipped with air pump)	<ul style="list-style-type: none"> <li>• Airline leaks-locate and correct leaks.</li> <li>• Air piston sticking or stuck-add oil to air inlet to lubricate piston.</li> <li>• Inadequate air pressure-requires at least 95psi to generate rated load.</li> </ul>
Oil leaks	<ul style="list-style-type: none"> <li>• Reservoir fill plug loose-tighten fill plug</li> </ul>
Ram will not extend	<ul style="list-style-type: none"> <li>• Check level of oil in reservoir-if necessary, add a high-grade hydraulic fluid equivalent to Conoco MV22 Super Hydraulic Oil.</li> </ul>





## 12. Notes





# MAHLE

**MAHLE Aftermarket Inc.**

10 Innovation Drive  
York, PA 17402 U.S.A.

Phone: (800) 468-2321

Fax: (717) 755-8304

E-mail: [tech.mss@us.mahle.com](mailto:tech.mss@us.mahle.com)

[www.servicesolutions.mahle.com](http://www.servicesolutions.mahle.com)

670-90763