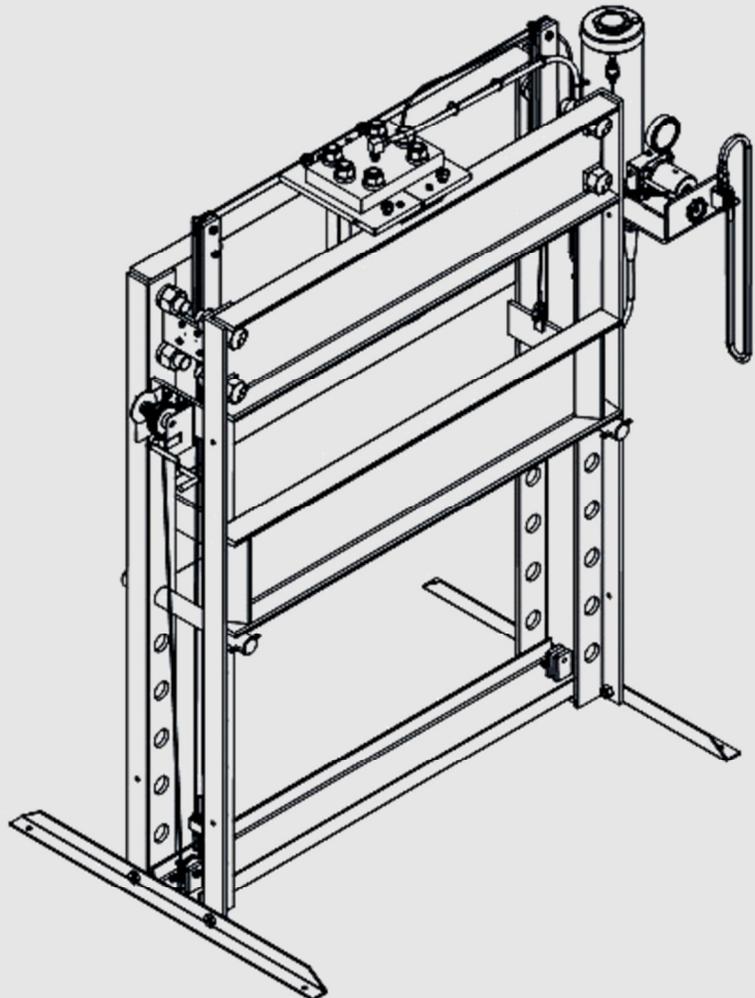


MAHLE CSP-75 / CSP-75A

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**

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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 press. 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 75 tons (150,000 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. Prior to use, cables shall have slack in them to ensure that the bolster rests completely on 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
DANGER	Immediate impending danger	Death or severe injury.
WARNING	Possible impending danger	Death or severe injury
CAUTION	Possible dangerous situation	Minor injury
NOTICE	Possible damage to property	Possible property damage

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-75 & CSP-75A

CSP-75/CSP-75A model	US units	Metric units
Maximum capacity	150,000 lb	68,181.8 kg
Maximum stroke	8.75 in	22.2 cm
Width	78 in	198.1 cm
Depth	24 in	61.0 cm
Height	85 in	215.9 cm
Inside clearance – side to side	50 in	127.0 cm
Throat minimum – bottom of ram to top of bolster	9.5 in	24.1 cm
Throat maximum – bottom of ram to top of bolster	39.5 in	100.5 cm
Side to side ram adjustment (from center)	16 in	40.6 cm
Weight	1287 lb	585.0 kg
Minimum air pressure required at rated capacity	120 psi	8.2 bar
Maximum air pressure	200 psi	13.8 bar

6. Product Description

6.1 Component identification

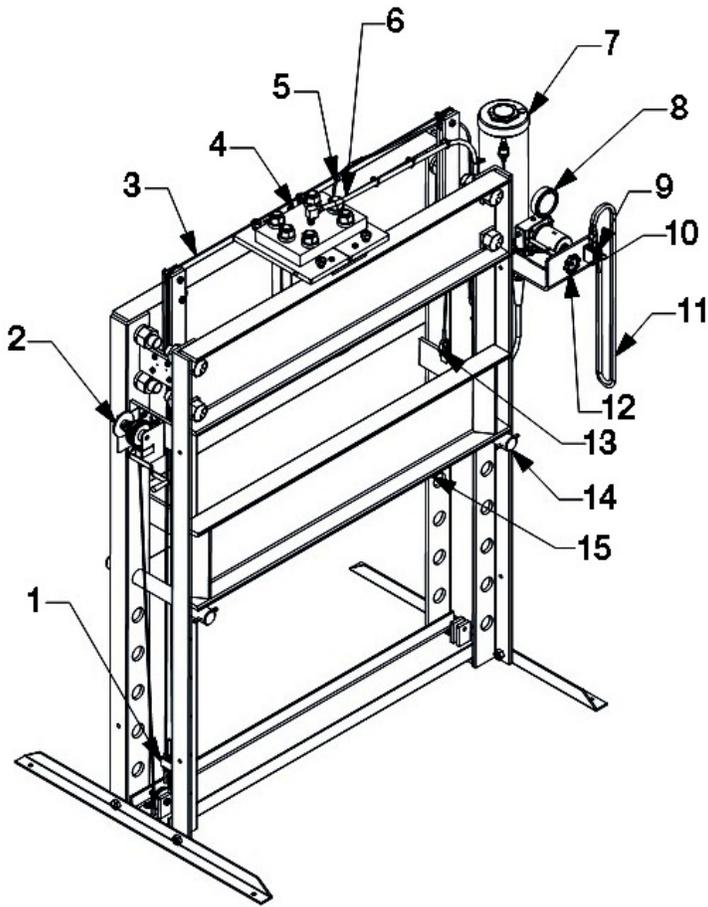


Fig. 1: CSP-75 model component identification

- 1 Cable coupler
- 2 Winch
- 3 Cables
- 4 Ram
- 5 Air hose
- 6 Hydraulic hose
- 7 Power unit
- 8 Pressure gauge
- 9 Dual air valve
- 10 Quick release
- 11 Dual air hose
- 12 Control knob
- 13 Clevis pins
- 14 Bolster pins
- 15 Lower bolster

7. Assembly Instructions

7.1 Foot installation

1. Remove the press from the shipping pallet and stand upright on the floor.
2. Attach one of the angle feet to each side and fasten them with the supplied $\frac{3}{4}$ " bolts and nuts (Fig. 2 **Error! Reference source not found.**).

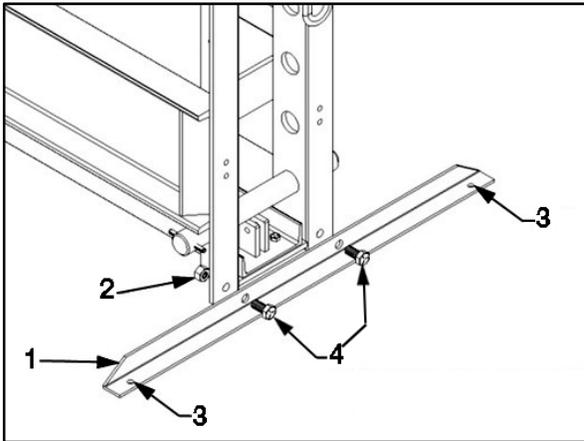


Fig. 2: Foot installation

- 1 Angle foot
- 2 3/4-10UNC nut
- 3 Anchor bolt location
- 4 3/4-10UNC x 1.5" L cap screw

3. The press shall be anchored to the floor to prevent tipping prior to use.

⚠ 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.

⚠ 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.

7.2 Winch and power unit installation

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

1. Attach the winch handle.
2. The power unit is shipped loose. Assemble the power unit on the opposite side of the press from the winch using four $\frac{3}{8}$ "-16UNC x $1\frac{1}{2}$ " long bolts and nuts provided (Fig. 3). Tighten securely.

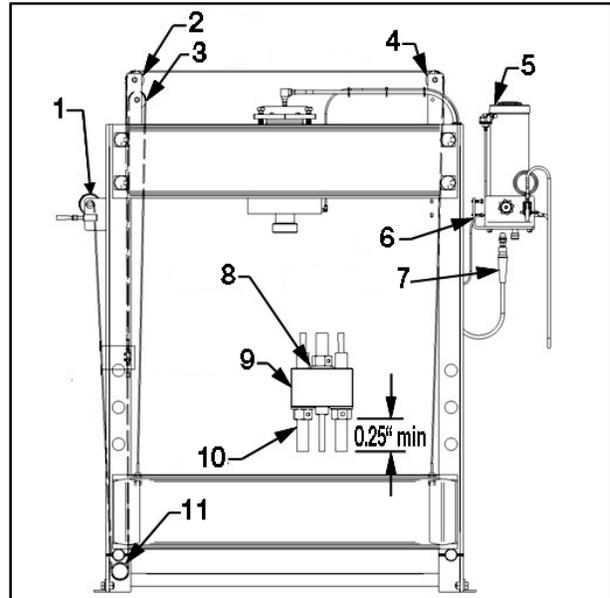


Fig. 3: Winch and power unit installation

- 1 Winch
- 2 Pulley #2
- 3 Pulley #3
- 4 Pulley #1
- 5 Power unit
- 6 Air hose
- 7 Hydraulic hose
- 8 Washers
- 9 Cable coupler
- 10 Cable ends
- 11 Pulley #4

3. Attach the hydraulic hose to the power unit (Fig. 4).

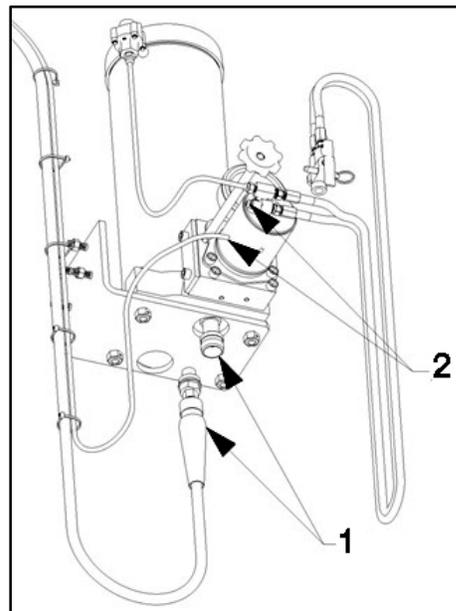


Fig. 4: Connect hoses

- 1 Hydraulic hose
- 2 Air hose

4. Attach the $\frac{1}{4}$ " air hose to the power unit (Fig. 4).
5. Install $\frac{1}{4}$ " NPT air quick-disconnect coupling (not included) to the dual air valve.

7.3 Winch and power unit reposition (optional)

If you need to swap the winch and power unit positions, use the following instructions:

1. Ensure the lower bolster is in the lowest position and the bolster pins are installed properly.
2. Make sure the cables are slack and the lower bolster is fully resting on both pins.
3. Remove the four bolts and nuts from the winch and rest the winch on the floor.
4. Disconnect the air and hydraulic hoses from the power unit and ram.
5. Remove the power unit and install in the opposite location.
6. Remove the self-locking nuts and washers from the cable coupler.
7. Remove pulley #3 (Fig. 3) and fasten to the opposite location. Pulleys must rotate freely.
8. Remove the cables that attach to the lower bolster and install on the opposite sides.
9. Remove pulley #4 (Fig. 3).
10. Install the winch on the opposite side.
11. Install pulley #4 in the opposite location. Pulleys must rotate freely.
12. Re-route all cables shown in Fig. 3 and install cable coupler. There must be at least ¼" of the cable end threads past the nut
13. Loosen the bolts (A) shown in Fig. 5 until they are not in contact with the upper bolsters. Loosen, DO NOT REMOVE, the bolts (C) shown in Fig. 5. Rotate the ram 180 degrees and fasten bolts (A) and bolts (C).

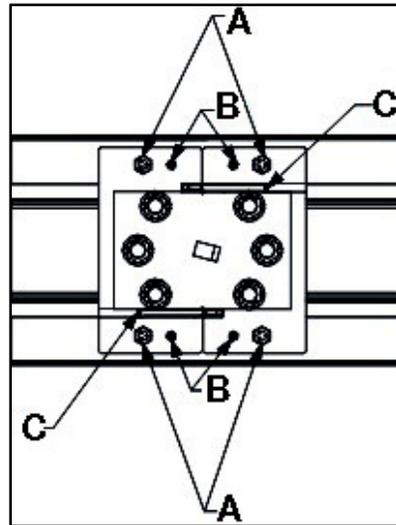


Fig. 5: Repositioning the winch

⚠ DANGER! DO NOT LOOSEN the bolts (B) shown in Fig. 5. If this warning is not heeded, it may result in death or serious injury.

14. If you need to turn the power unit the opposite direction. Raise the power unit and rotate it by 180 degrees as shown in Fig. 6.

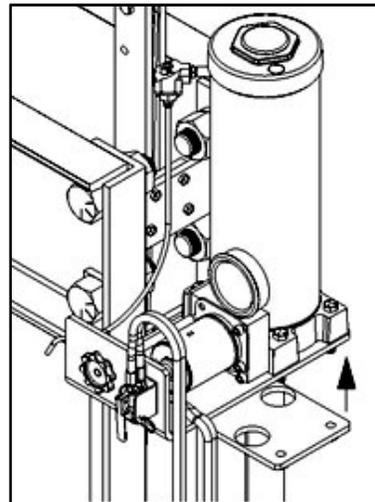


Fig. 6: Moving power unit

7.4 Accessory kit installation

1. Loosen the two 3/8-16 set screws in Fig. 7 until the cap comes off. Set this cap aside for future use.

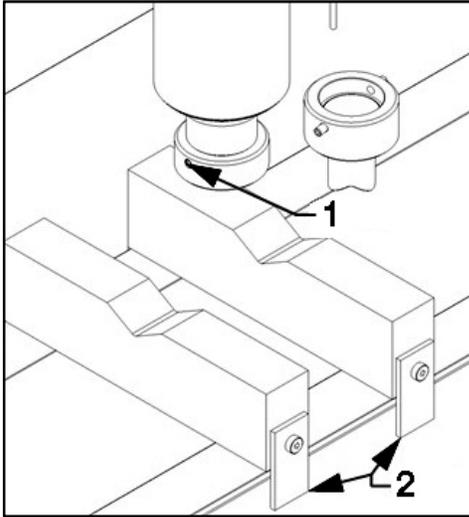


Fig. 7: Installing ram adapter

- 1 3/8-16 set screws
- 2 Rotating stops

2. Insert $\varnothing 2$ " ram adapter or $\varnothing 2$ " v-ram adapter into the accessory adapter.
3. Align the set screws with ram and fully tighten both set screws on each side to lock the adapter on to the ram.
4. The V-blocks are set up to be positioned flat or on end to suit the job at hand. The rotating stops on each end of the V-blocks are to keep them on the bolster while placing your work piece in position. They should always be aligned on the bolster to allow them to hang down freely to ensure they do not slip off the bolster.

⚠ WARNING! Do NOT remove the rotating stops from the ends of the V-blocks. This could cause personal injury from the V-blocks falling off the bolster on to feet or other body parts.

7.5 Optional guard installation

1. Remove the guards from the shipping pallet.
2. Place the guard in front of the press and rest the frame tube on each foot of the press.
3. Align the holes of the press and guard, and fasten with the four supplied 1/2-13 x 3/4" long bolts shown in Fig. 10. One bolt is used on the top and bottom of each side.
4. Repeat the procedure for the rear of the press, if you have guards for front and rear.

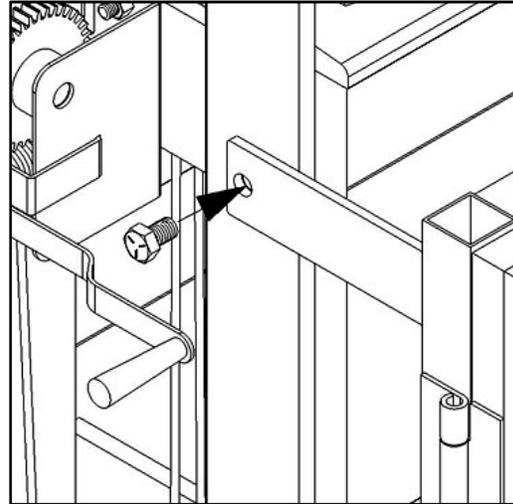


Fig. 8: Guard installation

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

❗ 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 bolster height

❗ 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. Inspect all cables for signs of wear or damage. See the “Inspecting the press” section for details.

3. Raise the lower bolster by turning the winch handle clockwise until the bolster pins are free of contact with the lower bolster.

4. Remove the bolster pins by twisting and pulling them out of their holes.

5. Raise or lower the bolster by cranking the winch handle clockwise or counter-clockwise until above the desired position.

⚠ **WARNING!** Make sure that the cable coupler does not come into contact with the lower bolster or any other objects. If so, release the tension of the cables and pull the cable towards you so that the cable coupler can move freely. Never overload the cables this can cause the cables to break.

6. Insert both bolster pins at the desired position on both sides. Always engage pins fully and remove your hand after the pins are in place.

7. Lower the lower bolster until the cable is slack and the lower bolster is resting on the bolster pins. The bolster must always be level after lowering 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 ram, lock it in place and position workpiece

ⓘ This press has a feature that allows the ram to be moved from the center position. The center position is highly recommended for normal use. If needed, the ram can be repositioned to fit your application. You must follow the instructions shown below.

⚠ **WARNING!** Always check the bolts (A) in Fig. 9 before each use. They must be fully tightened to prevent the work pieces from slipping. Failure to tighten the bolts can result in possible serious injury and/or property damage or death.

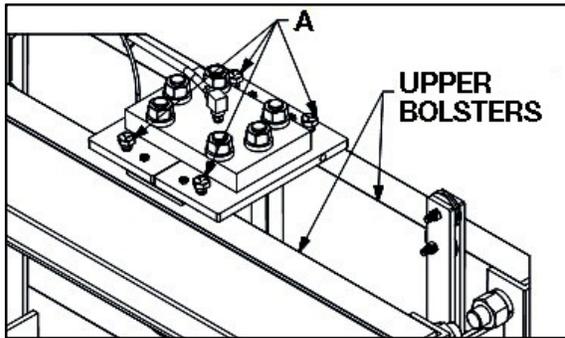


Fig. 9: Positioning the ram

1. Loosen **ONLY** the bolts (A) in Fig. 9 until they do not contact of the upper bolsters.

⚠ **DANGER!** Do not loosen any bolts other than bolts (A) shown in the Fig. 9. If this warning is not heeded, it may result in death or serious injury.

2. Slide the ram to the desired position by pulling the lowest portion of the ram.

⚠ **CAUTION!** Keep hands clear of the top and bottom surfaces of the upper bolsters.

3. When the ram is in the desired position, tighten the bolts (A) in diagonal order.

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

⚠ Always install some type of guarding prior to pressing the workpiece.

⚠ Never allow hands, feet, or any other body part to pass between the lower bolster and the work piece at any time.

⚠ The operator should always wear 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 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.

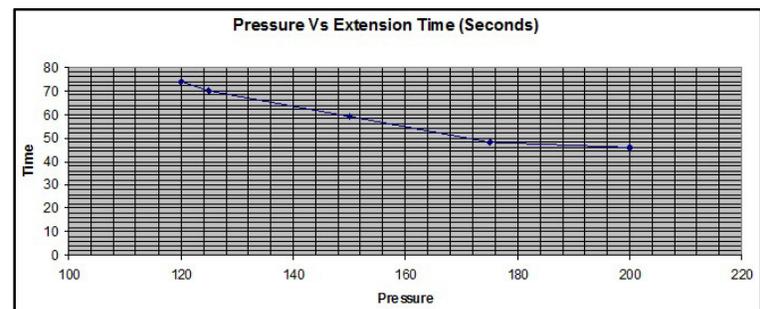
8.5 Operating the power unit

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.

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.

8.6 Performance chart



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

12. Notes

MAHLE

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