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manual for the

SCOTCHMAN

PRESSPRO 110W

HYDRAULIC PRESS

Scotchman®

Metal Fabricating Solutions

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PRESSPRO 110W

HYDRAULIC

PRESS

S/N 3000 and higher

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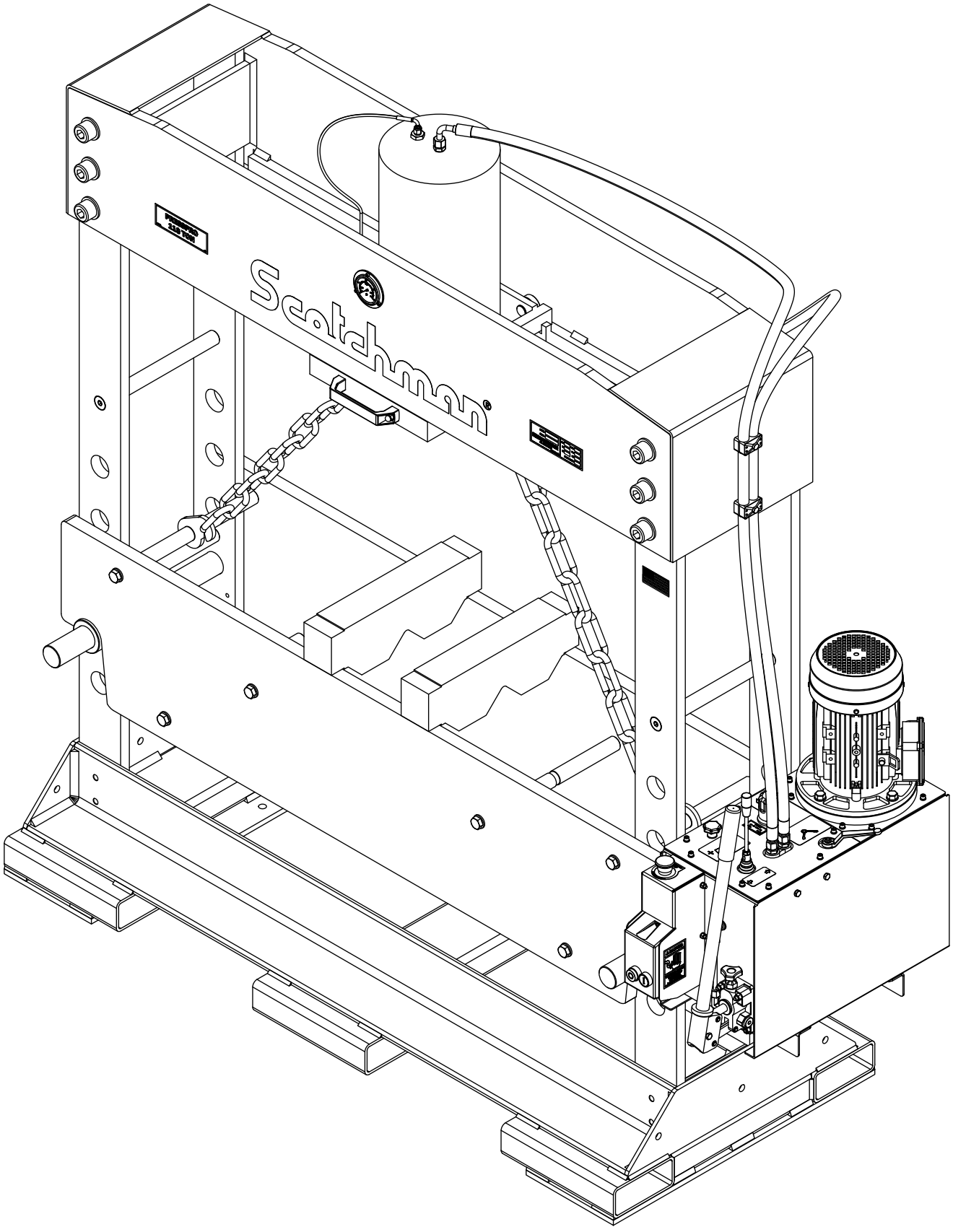
PRESSPRO 110W



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1.0 INTRODUCTION

This 110 ton hydraulic press has an extra wide working width (1500 mm) for handling larger materials. It is equipped with a movable cylinder (left-right) and an in-height adjustable working table. Equipped with pressure regulation, 2 speeds, joystick and a hand pump for precision pressing.

Smooth & precise, heavy-duty and versatile; This hydraulic press is industrial-grade and ideal for assembly, straightening, fabrication, quality control, maintenance, product testing, bending, & forming.

The open side frame design allows for material to pass through and provides flexibility to work on the longest work pieces. Built for the big jobs as well as the small ones; the adjustable H-frame bed height offers increased versatility with its ability to raise and lower the table for the best working distance possible

Meets CE Standards and comes with our 3-year warranty.

1.1 WARRANTY

Scotchman Industries Inc. will, within three years of date of purchase, replace F.O.B. the factory or refund the purchase price for any goods which are defective in materials or workmanship, provided that the buyer returns the warranty registration card within thirty days of the purchase date and, at the seller's option, returns the defective goods freight and delivery prepaid to the seller, which shall be the buyer's sole and exclusive remedy for defective goods.

Hydraulic and electrical components are subject to their respective manufacturer's warranties.

This warranty does not apply to machines and/or components which have been altered, changed or modified in any way or subjected to abusive and abnormal use, inadequate maintenance and lubrication or subjected to use beyond the seller's recommended capacities and specifications.

In no event shall seller be liable for labor cost expended on such goods or consequential damages.

The seller shall not be liable to purchaser or any other person for loss or damage directly or indirectly arising from the use of the goods or from any other cause.

No officer, employee or agent of the seller is authorized to make any oral representations or warranty of fitness or to waive any of the foregoing terms of sale and none shall be binding on the seller.

Any electrical changes made to the standard machine due to local electrical code variations must be paid by purchaser.

As we constantly strive to improve our products, we reserve the right to make changes without notification.

1.2 STANDARD FEATURES

- **Heavy duty all-steel construction**
- **Industrial grade hydraulic system**
- **Ram moves laterally for added versatility**
- **3 Ram speeds**
- **Joystick operation with hand pump option**
- **Removable ram cap to accept a variety of tooling**
- **Adjustable H-frame bed/table height offers increased versatility**
- **Open side-frame design allows for material to pass through**
- **Hydraulic-assist for table height adjustment to maximize operator safety**
- **Set of V-blocks to simplify your pressing jobs**
- **Pressure gauge to monitor force**
- **Meets CE standards**
- **Three year warranty**

2.0 SAFETY PRECAUTIONS

1. **The operator of this machine must be qualified and well trained in the operation of the machine. The operator must be aware of the capacities of the machine and its proper use. This manual is not intended to teach untrained personnel how to operate machinery.**

2. **All of the guards, adjustable restrictors and awareness barriers must be installed on the machine and kept in good working order. Promptly replace worn or damaged parts with authorized parts.**

3. **Never place any part of your body into or under any of the machine's moving parts.**

4. **Wear the appropriate personal protective equipment. Safety glasses are required at all times, whether operating, setting up or observing this machine in operation. Since heavy pieces of metal with sharp edges can be processed on this machine, the operator should also wear steel-toed shoes and leather gloves.**

5. **Strictly comply with all warning labels and decals on the machine. Never remove any of the labels and replace worn or damaged labels promptly.**

6. **Always disconnect and lock out the power when performing maintenance work or repairs. Follow the procedures outlined in the operator's manual.**

7. **Practice good housekeeping. Keep the area around the machine clear and well lit. Do not obstruct the operator's position by placing anything around the machine that would impede the operator's access to the machine.**

8. **Never modify this machine in any way without the written permission of the manufacturer.**

9. **Never leave this machine running unattended.**

10. **Do not use press when temperature is below 42°F (+5C) or above 122°F (+50C)**

11. **Set up a program of routine inspections and maintenance for this machine. Make all repairs and adjustments in accordance with the manufacturer's instructions.**

➲ **WARNING: ALWAYS RELEASE JOYSTICK BEFORE TURNING OFF THE PRESS AND JOYSTICK MUST BE IN MIDDLE POSITION WHEN STARTING THE PRESS.**

- **NEVER TURN OFF THE MACHINE WHEN PRESSING FORCE IS BEING APPLIED TO THE WORK PIECE.**
- **UNEXPECTED FORCE EXPANSION WHEN RESTARTING CAN DAMAGE THE MACHINE OR INJURE THE OPERATOR.**
- **THEREFORE ALWAYS RELEASE THE FORCE FROM THE OBJECT, MOVE THE PISTON UPWARDS AND THEN SAFELY TURN OFF THE PRESS.**

► **NOTE: MAXIMUM PRESSING FORCE CAN BE EXERTED FOR A SHORT TIME ONLY. DO NOT USE MAXIMUM FORCE WHEN THE PISTON IS EXTENDED FURTHER THAN 3/4 OF ITS LENGTH. THIS CAN DAMAGE THE PISTON - SEE SECTION 6.2**

► **NOTE: THE MACHINE MUST BE BOLTED TO THE FLOOR - SEE SECTION 3.5**

- **NEVER USE A MACHINE UNLESS IT'S BOLTED TO THE FLOOR.**
- **IT CAN TIP OVER IF HEAVY PARTS ARE LOADED ON THE TABLE.**
- **THIS CAN CAUSE SEVERE INJURY OR DEATH!!**
- **USE THE PRESS IN THE VERTICAL POSITION ONLY.**

► **NOTE: ANY WELDING OPERATIONS ON THE PRESS TABLE ARE PROHIBITED. THIS CAN DAMAGE THE MACHINE!!**

3.0 INSTALLATION AND SET UP

➲ **UPON DELIVERY, DO NOT SIGN FOR ANY MACHINE UNTIL YOU HAVE REMOVED THE PLASTIC AND INSPECTED EVERYTHING FOR DAMAGE!**

- **It is the customer's responsibility to inspect the arriving machine.**
- **Make sure to note any damages on the delivery ticket and then immediately contact Scotchman Inds. about the damage so we can assist you. Our toll free number is 1-800-843-884.**
- **If the driver will not wait for you to inspect the shipment, simply mark the shipment as "damaged" before signing.**
- **It is unlikely that we can recoup any costs from damages not noted on the delivery ticket.**

⌦ **CAUTION: THIS SECTION DISCUSSES INSTALLATION AND SET-UP PROCEDURES. PLEASE READ THOROUGHLY BEFORE OPERATING THIS MACHINE.**

The press is delivered in the following condition:

- **Table is in lowest position.**
- **Hydraulic unit mounted on the inside of the frame.**
- **Lifting chain packed in a separate box.**
- **Cylinder fixed in the middle of the press.**
- **Hydraulic unit without oil.**

3.1 PHYSICAL DIMENSIONS & TECHNICAL DATA

The following pages show the PressPro 110W physical dimensions, capacities, moving procedures, how to secure the press in it's final location, mounting the hydraulic unit and hoses, how to fill the hydraulic system, the electrical requirements and connections, and initial start up procedure. Following these instructions ensure the press is set up properly and will help to ensure the safe operation and long life of your new Scotchman PressPro 110W press.

PRESSPRO 110W SPECIFICATIONS

UNITS	INCHES	MM
A	84-3/4	2153
B	69-7/8	1775
C	30	762
D	59	1499
E	12-1/8	308
F	82-1/4	2089
G	5-3/8	137

UNITS	INCHES	MM
H	8-11/16	221
I	21-1/2	546
J	32-3/4	832
K	4-3/4	121
L	16-5/16	414
M	14-5/16	364
N	13-1/2	343
O	48	1219

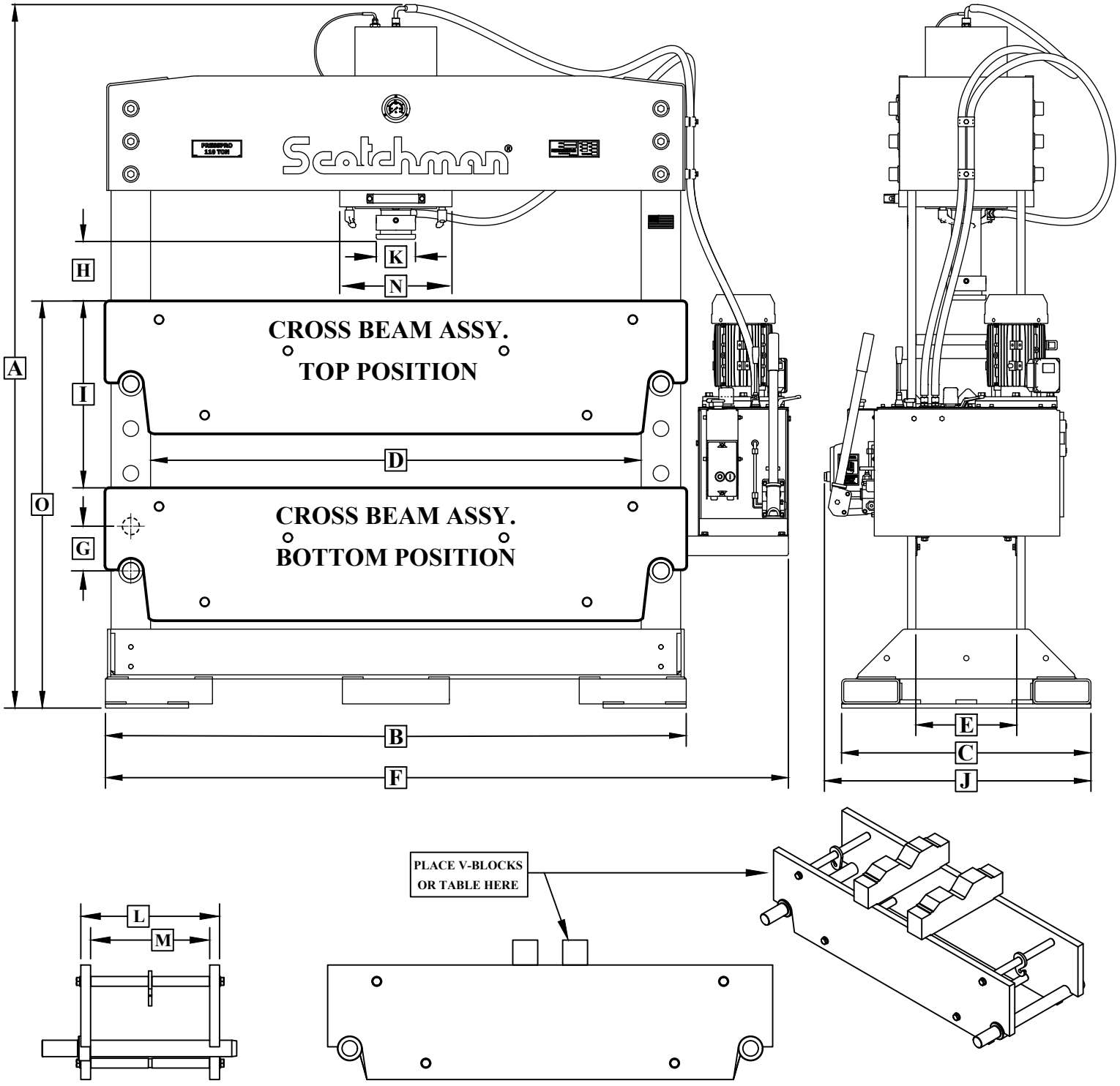


FIGURE 1

PRESSPRO 110W CAPACITIES				
Press Force	US tons	110	kN	981
Maximum Pressure	psi	3750	bar	260
Cylinder Stroke	in.	15	mm	380
Oil Flow (Approaching)	gal/min	4	ltr/min	15.4
Oil Flow (Press)	gal/min	1.4	ltr/min	5.3
Total Oil Capacity (Tank and Cylinder Capacity)	gallons	12.2	liters	46
Oil Type (See Pg. 13)	-	HL46	-	HL46
Approach Speed	in/sec	.265	mm/sec	6.74
Press Speed	in/sec	.091	mm/sec	2.32
Return Speed	in/sec	.319	mm/sec	8.09
Diameter Cylinder	in.	8.66	mm	220
Diameter Piston Rod	in.	3.54	mm	90
Diameter Piston Head	in.	4.72	mm	120
Weight	pounds	3450	Kg	1565

⌦ **CAUTION: MAXIMUM PRESSING FORCE CAN BE EXERTED FOR A SHORT TIME ONLY. DO NOT USE MAXIMUM FORCE WHEN THE PISTON IS EXTENDED FURTHER THAN 3/4 OF ITS LENGTH. THIS CAN DAMAGE THE PISTON.**

► **NOTE: THE GIVEN PARAMETERS OF THE PISTON MOVEMENTS ARE MAXIMUM VALUES AND CAN BE UP TO 25% LOWER.**
PARAMETERS ARE VALID WITH MINIMUM OIL TEMPERATURE OF 86°F (30°C).

PRESSPRO 110W VOLTAGE SPECIFICATIONS				
Motor	hp	3.5	kW	2.6
Voltage	V	230 3ph or 460 3ph All Models		
Frequency	Hz	60		
Revolutions Per Minute (60Hz)	rpm	1680		
Insulation Protection	IP	55		
Insulation Classification	IC	F		
Full Load Amps	FLA	230V - 10A	460V - 5A	

3.2 MACHINE MOVING PROCEDURES

The most common method of moving the PressPro 110W is with a pallet jack or a fork lift. The following section shows the correct way to safely move the press without damage or injury.

⌦ **CAUTION: Use extreme caution when moving press as it is TOP HEAVY. When moving the press with a pallet jack, it must be on a smooth level surface! Have more than one person help you. Watch the press at all times. Go slowly with smooth movements. Unexpected movements can make the press tip over and possibly cause serious injury or death.**

3.3 PALLET JACK

The PRESSPRO 110W weighs 3450 lbs. Make sure the pallet jack you use has enough capacity to safely lift the weight the press and follow the instructions below.

WHEN USING A PALLET JACK, ADHERE TO THE FOLLOWING PRECAUTIONS:

- **Place the table in its lowest position.**
- **Remove the hydraulic unit. (See Sect. 3.7 and 3.8)**
- **Fix the cylinder in the middle of the press.**
- **DO NOT USE A NARROW PALLET JACK**
- **For stability, Pallet Jack must be wide enough to just fit between rectangle tubes.**
- **See FIGURE 2 on the next page.**

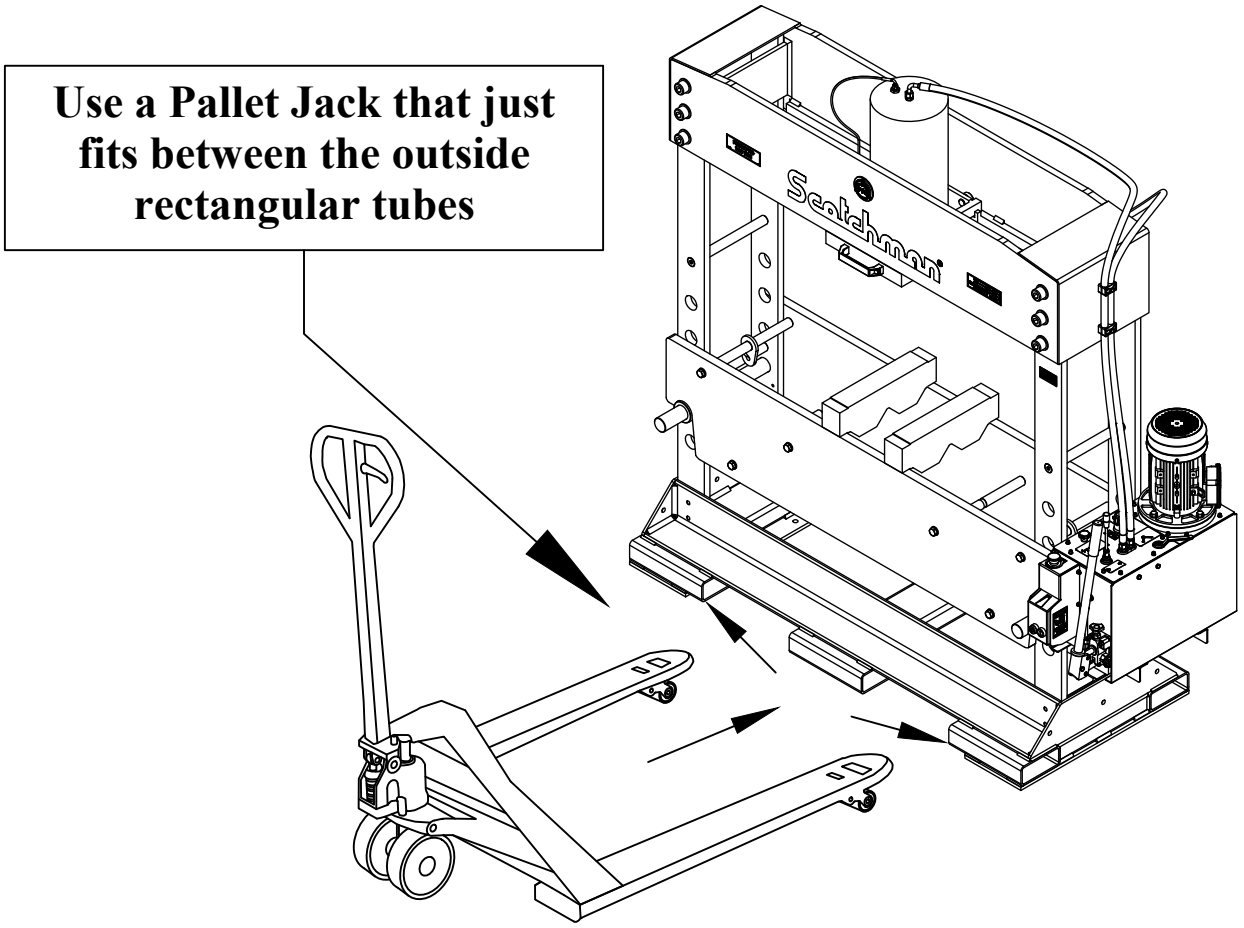


FIGURE 2

PRESS IS TOP HEAVY! Use Extreme Caution when moving!

3.4 FORKLIFT

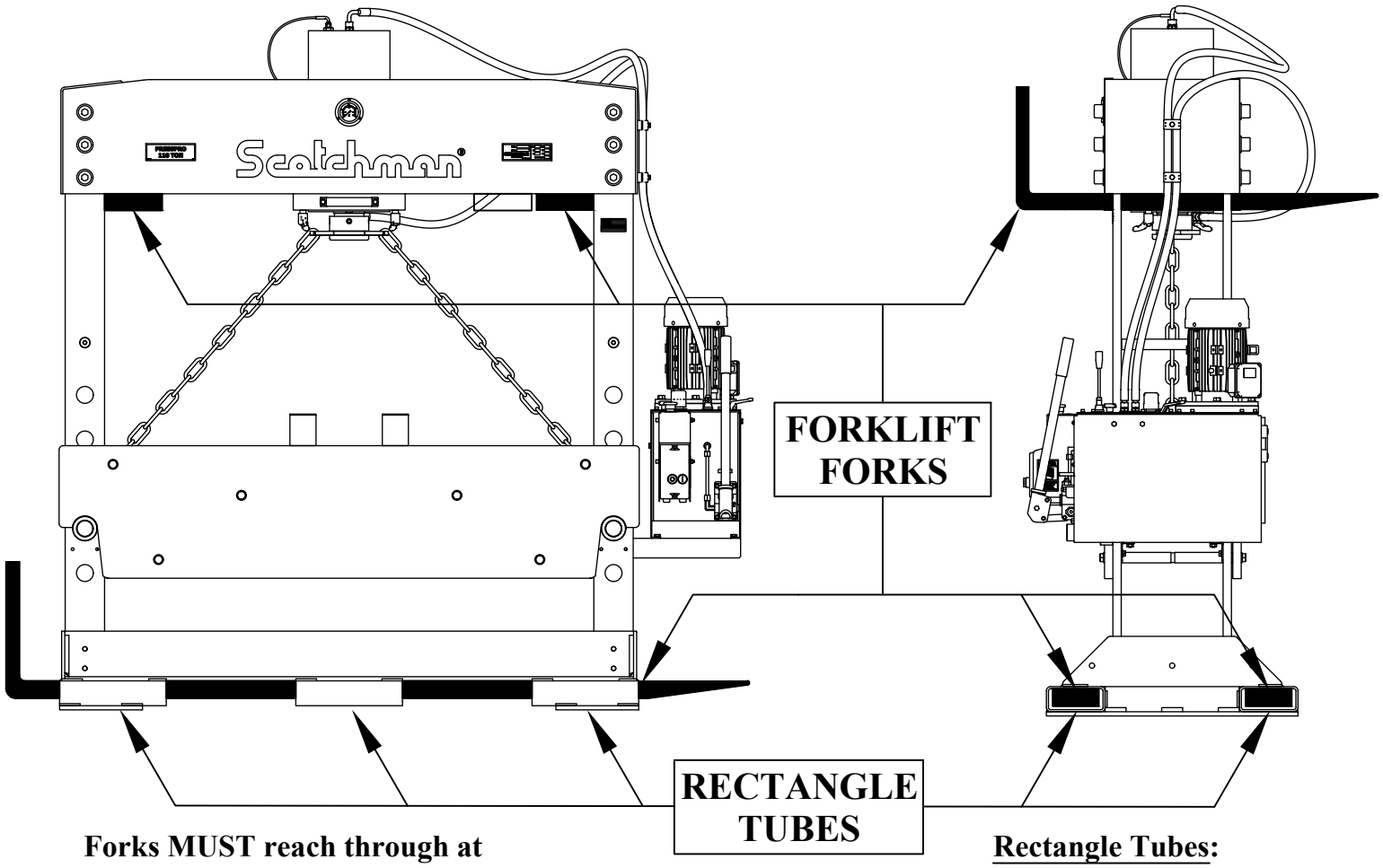
⌦ **CAUTION: PRESS IS VERY TOP-HEAVY!**

Refer to FIGURE 3 on the next page for the below.

UPPER SUPPORTS:

- **Place the table in its lowest position.**
- **Keep forks as wide as possible.**
- **Do not lift the press any higher than needed.**
- **Go slowly with smooth movements and only on level surface.**
- **Have another person watch for problems.**

Upper Supports: Keep forks as wide as possible as shown below.



Forks MUST reach through at least four of the six rectangle tubes to safely lift press

FIGURE 3

Rectangle Tubes: The safest and recommended way to move press

RECTANGLE TUBES:

- **Make sure the forklift forks are long enough to reach through at least four of the six rectangle tubes.**
- **Do not lift the press any higher than needed.**
- **Go slowly with smooth movements.**
- **Going straight up or down a slight incline is allowed ONLY if using rectangle tubes.**
- **Have another person watch for problems.**

➲ **PLACING THE FORKS THRU THE RECTANGLE TUBES PREVENTS PRESS FROM TIPPING OVER. THIS IS THE SAFEST AND RECOMMENDED WAY TO MOVE IT.**

3.5 SECURING THE PRESSPRO 110W

When the machine is positioned in the desired location, it should be bolted to a flat, smooth, level concrete floor using 10 mm (3/8") screws and plugs (not included). The PressPro 110W has has six holes available in the base for this, three on each side. FIGURE 4 below is a view of the underside of the machine showing the location of these holes. They are on the inside of the base of the press.

UNDERSIDE VIEW OF PRESSPRO 110W

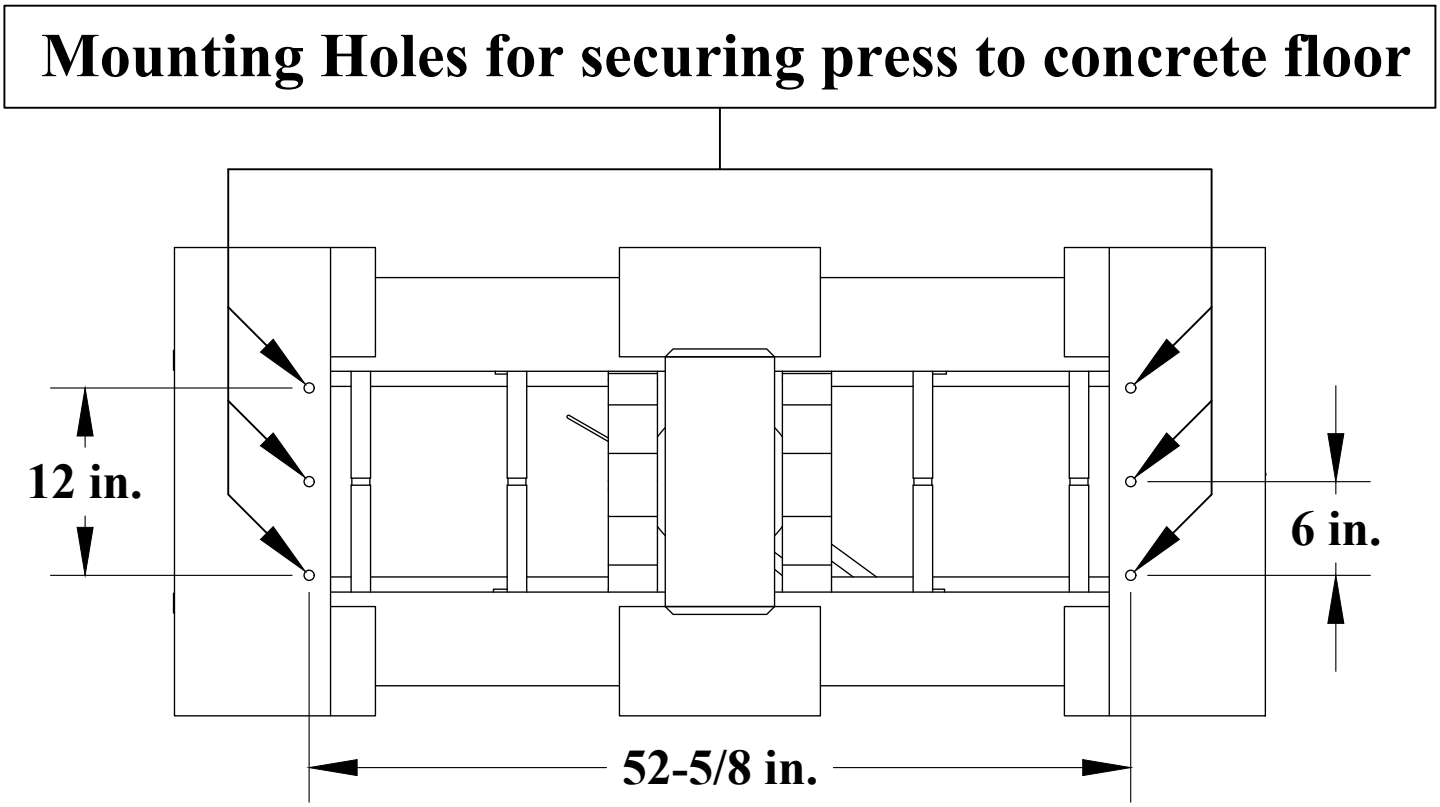


FIGURE 4

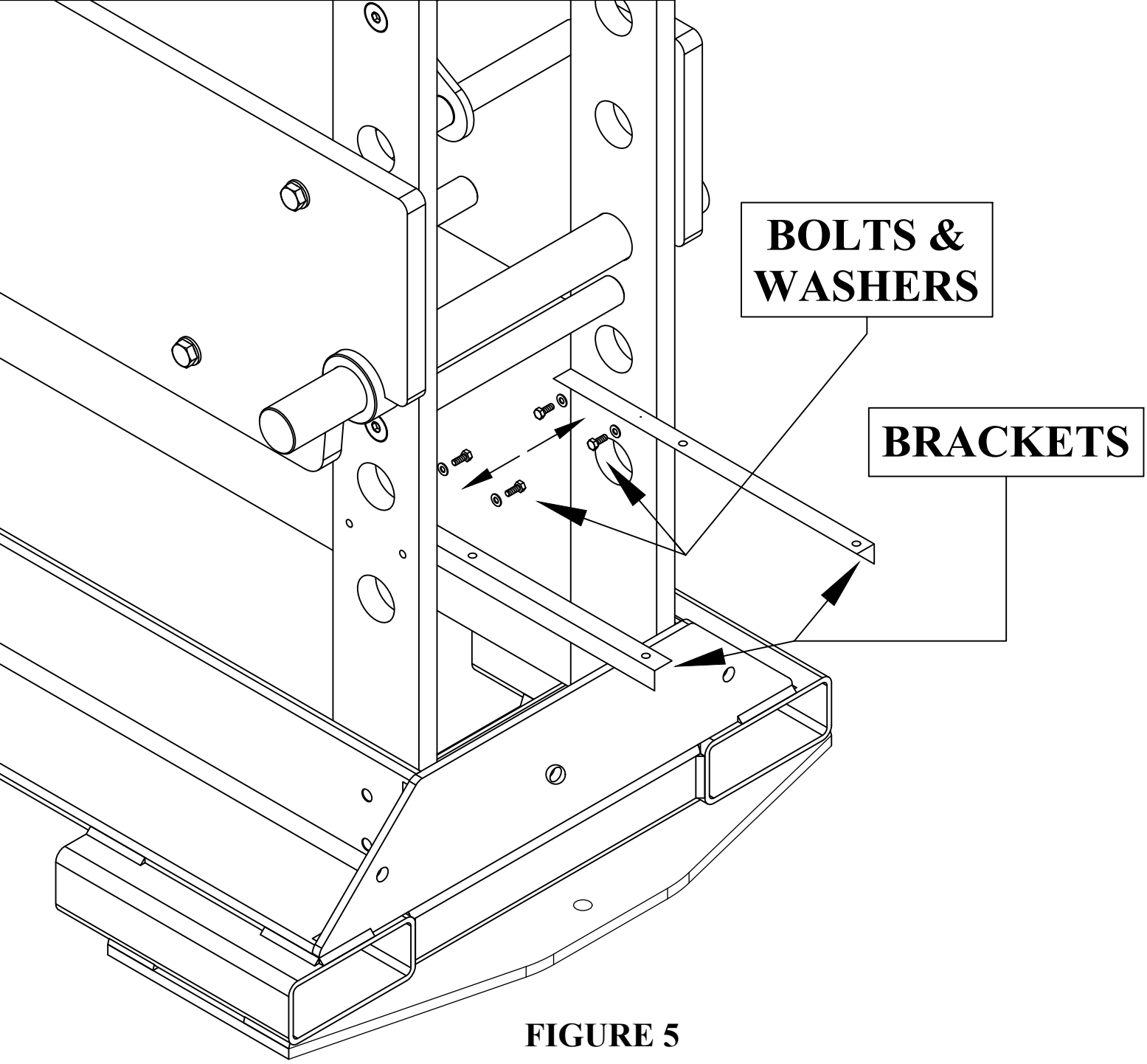


FIGURE 5

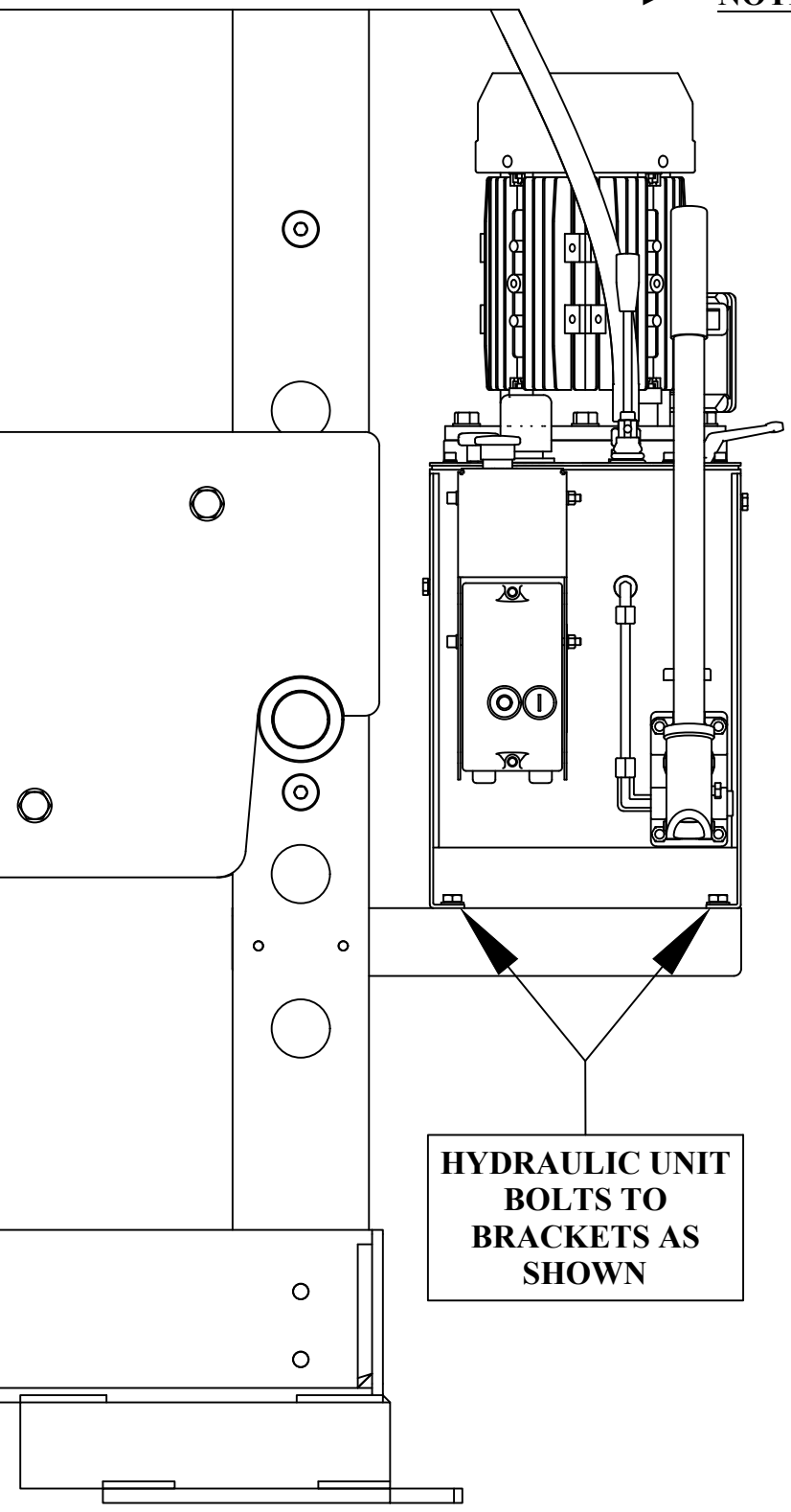
3.6 MOUNTING BRACKETS FOR HYDRAULIC UNIT

There are two brackets included that are used to mount the power unit on. They need to be installed so the longer part is pointing to the outside of the machine as shown on the next page in FIGURE 5. Each bracket should be bolted to a leg with two bolts and two washers.

3.7 INSTALLATION OF THE HYDRAULIC UNIT

The Hydraulic Power Unit mounts on top of the brackets (shown in the previous section) with four bolts, four nuts, and eight washers as shown below.

► **NOTE: THE HYDRAULIC UNIT WEIGHS 130 LBS. WHEN PLACING THE UNIT IN THE CORRECT POSITION, MAKE SURE TO USE ENOUGH MAN OR MACHINE POWER TO LIFT THE UNIT.**



HYDRAULIC UNIT BOLTS TO BRACKETS AS SHOWN

ISOMETRIC VIEW OF HYDRAULIC UNIT AND MOUNTING BRACKETS

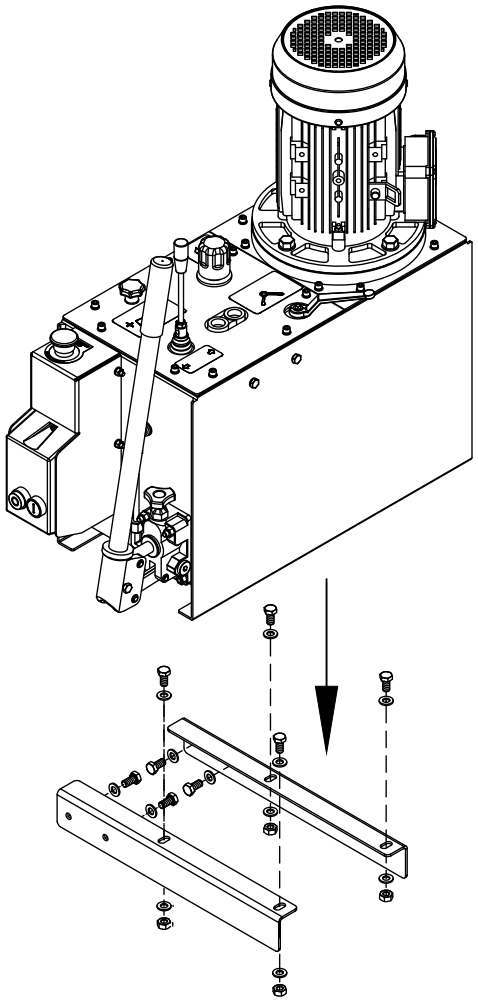


FIGURE 6

3.8 CONNECTING HYDRAULIC HOSES

Once the hydraulic unit is mounted, the hoses must be attached.

On top of the cylinder there are (2) threaded holes. The centered hole is for the large diameter (18mm) hose from the reservoir. The other hole is for the small diameter (5mm) pressure gauge hose.

Make sure there are no sharp bends in the hoses between the clamps and connections to the hydraulic unit as shown below.

➲ **MAKE SURE ALL HOSES ARE TIGHTENED SECURELY AND CONNECTED IN THE CORRECT LOCATION BEFORE FILLING RESERVOIR AND OPERATING THE PRESS**

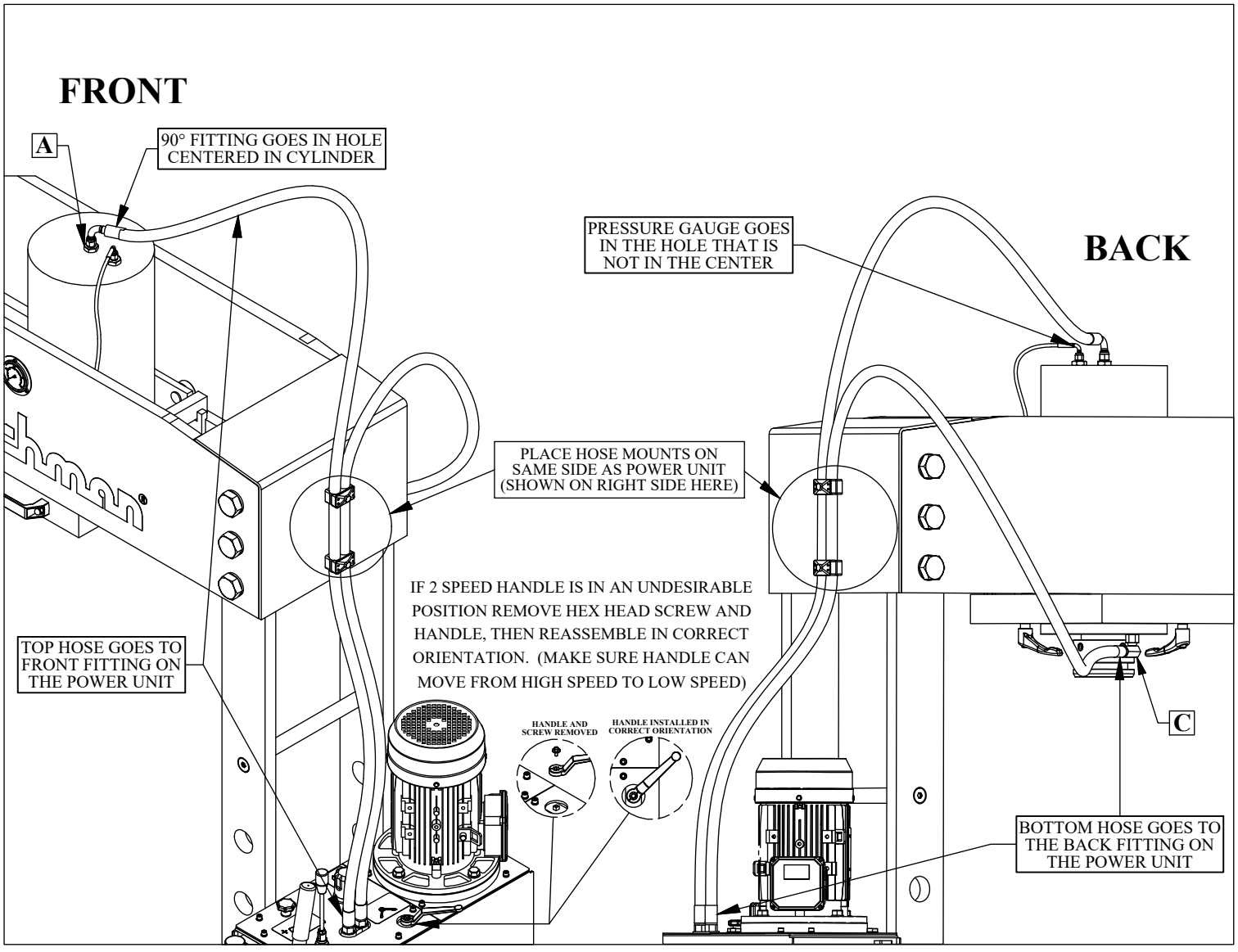


FIGURE 7

3.9 HYDRAULIC RESERVOIR

The press is delivered without oil. Before initial start up, the tank needs to be filled.

Mobile DTE 10 Excel 46 or Mobile DTE 25 or similar hydraulic oil is recommended.

To properly fill the oil tank remove the filler plug on top of the hydraulic unit.

Fill the tank with a sufficient amount of oil. See bottom of page for the capacities of this press.

- **The oil level is viewed in the sight glass located in the rear of the hydraulic unit.**
- **Replace the filler plug.**
- **Follow the instructions in SECT. 5.1 FIRST START UP to deaerate the hydraulics and prepare the press for use.**

Press Model	Oil Tank Capacity Gal. / Liter	Cylinder Capacity Gal. / Liter	Total Oil Capacity Gal. / Liter
PressPro 110W	8.5 / 32.2	3.7 / 14	12.2 / 46

⌦ **CAUTION: NEVER RUN THE PRESS WHEN ITS LOW ON OIL. THIS WILL DAMAGE THE HYDRAULIC UNIT AND CAUSE THE PRESS TO MALFUNCTION.**

3.10 ELECTRICAL REQUIREMENTS

⌦ **CAUTION: TO PREVENT DAMAGE TO THE MOTOR AND DANGER TO THE OPERATOR, ALL ELECTRICAL CONNECTIONS SHOULD BE MADE BY A LICENSED ELECTRICIAN.**

- **The machine must be connected to 220V 3ph or 440V 3ph power.**
- **To ensure satisfactory machine performance, the supply voltage should (+ or -) 10% of the motor voltage rating. Check the machine data tag for full load current requirements.**
- **For electrical supply lines ten feet (3m) or shorter, we recommend at least 12 gauge, and preferably, 10. For longer electrical supply lines, use at least 10 gauge, and preferably, 8.**
- **We do not recommend supply lines longer than twenty five feet (7.5m).**
- **The electric circuit must be protected by a fuse or circuit breaker with an adequate rating.**

► **NOTE: CHECK WHICH DIRECTION THE MOTOR IS TURNING. LOOKING AT THE MOTOR FROM ABOVE, MAKE SURE THE MOTOR IS TURNING THE DIRECTION INDICATED BY THE ARROW.**

- **The motor direction can be changed by swapping (2) of the incoming phases - See SECT. 3.11.**
- **The motor must be running in correct direction before the system can be de-aerated (SECT. 5.1)**

⌦ **CAUTION: IF THE MOTOR IS RUNNING IN THE WRONG DIRECTION, IT CAN DAMAGE THE MACHINE IN A VERY SHORT TIME!!**

3.11 ELECTRICAL SCHEMATIC

SCHEMATIC

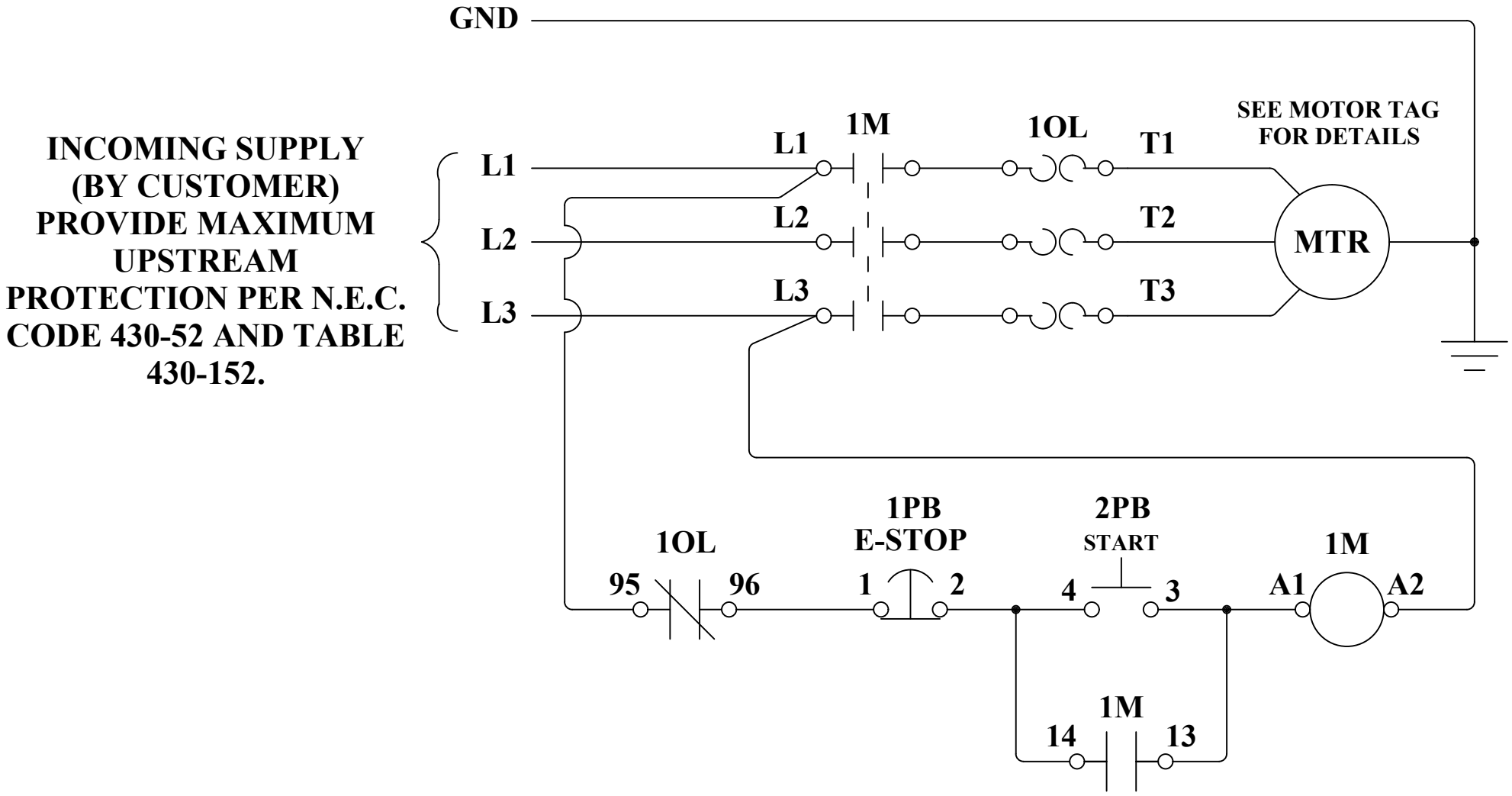


FIGURE 8

PHYSICAL

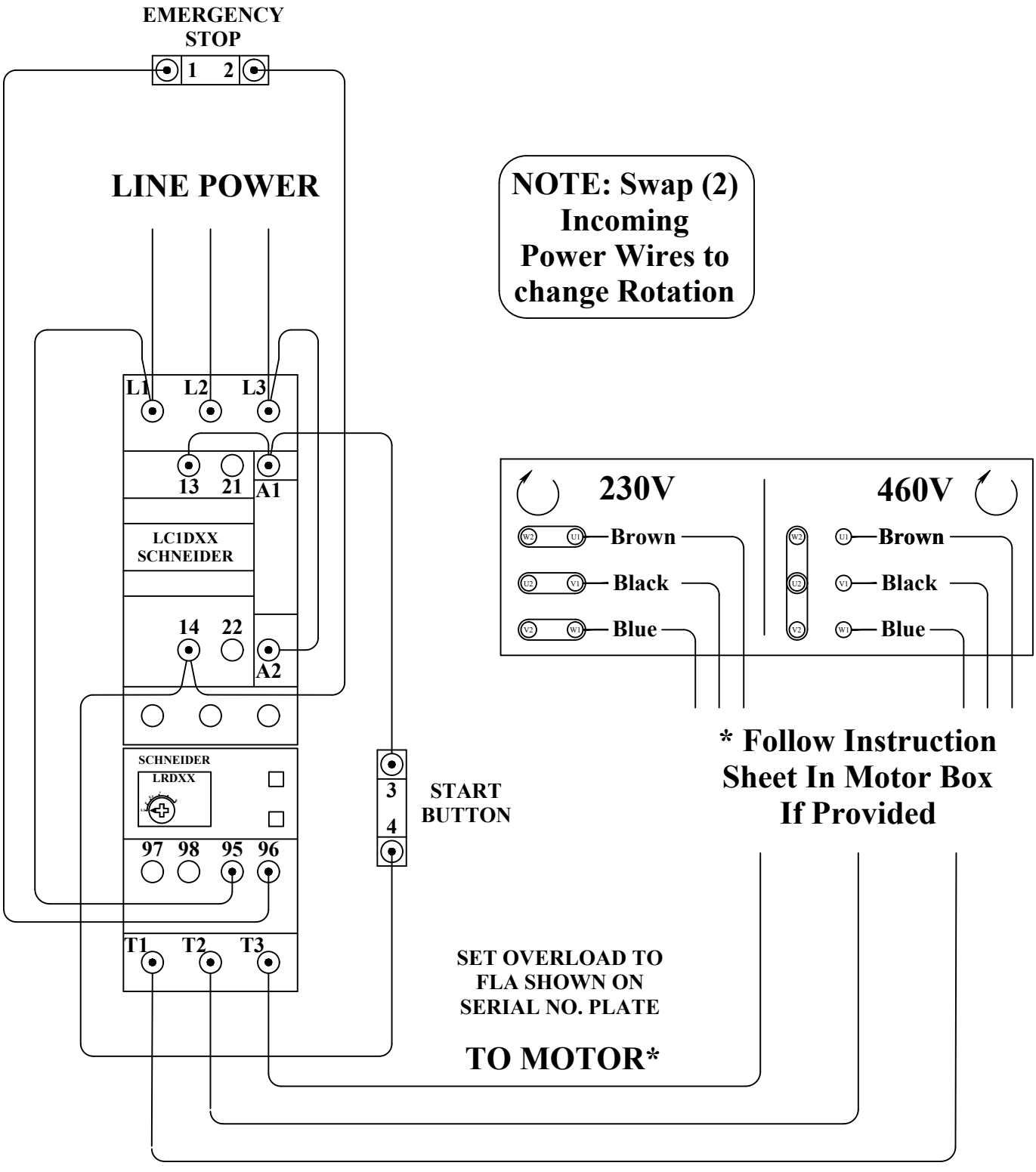


FIGURE 9

4.0 MACHINE CONTROLS

Below is a Top View of the Hydraulic Unit for the PressPro 110W where the control locations are shown.

TOP VIEW
HYDRAULIC UNIT

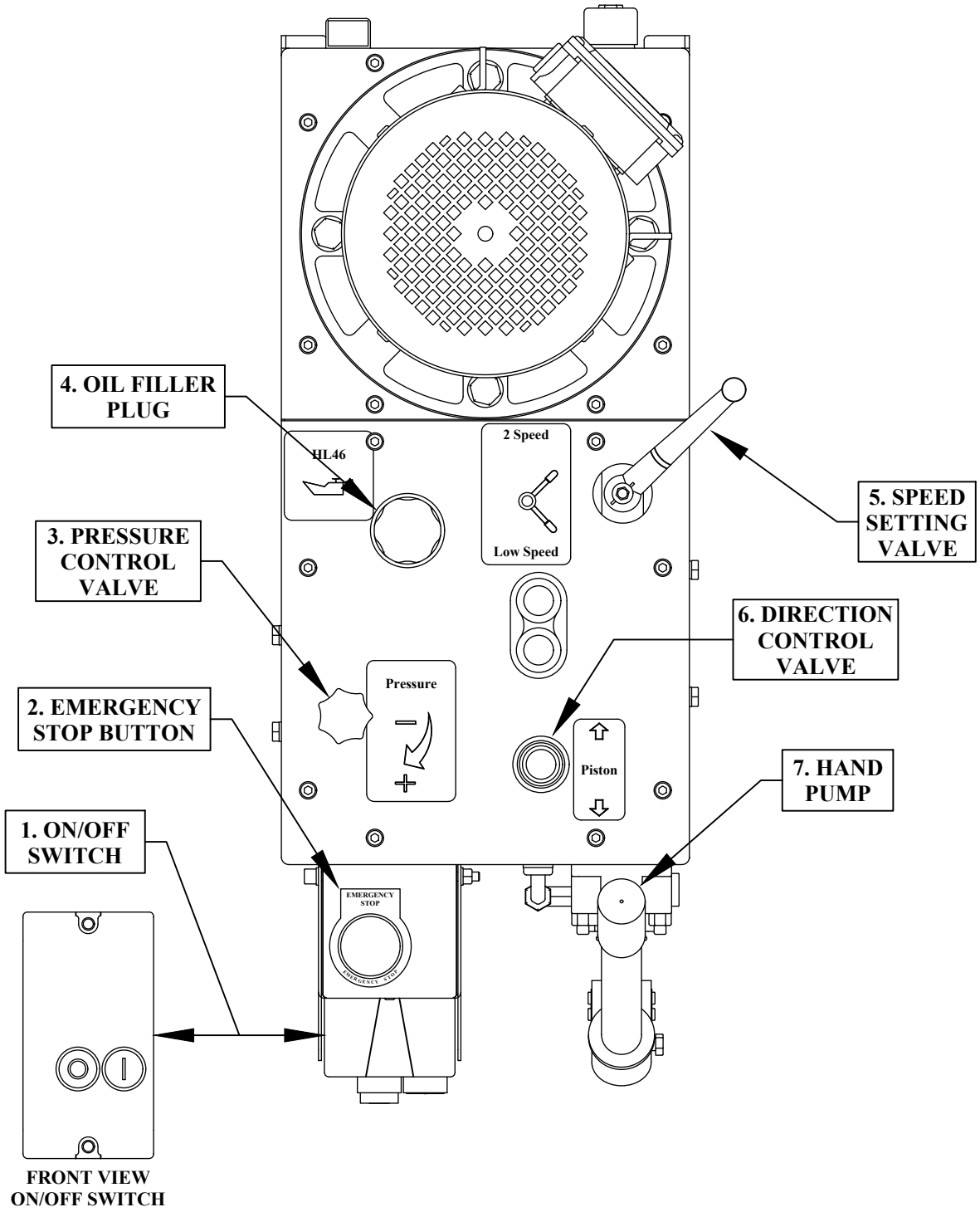
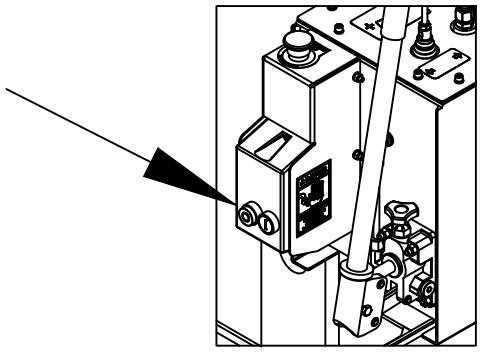


FIGURE 10

4.1 ON/OFF SWITCH



Refer to FIGURE 10 for the following:

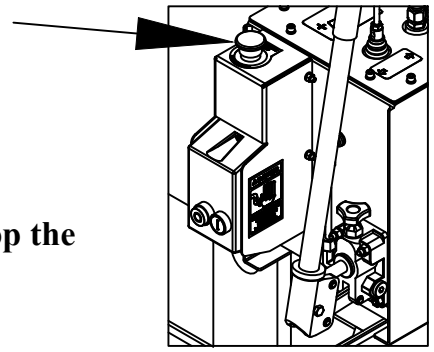
1. **The on / off switch is situated at the front of the hydraulic tank**

- **Pushing the green button will start the motor of the hydraulic unit. There will be no movement of any part after the motor starts running.**

- **Pushing the red button will stop the motor on the hydraulic unit immediately. All parts will stay in the position they are at that moment.**

➲ **WARNING: NEVER TURN OFF THE MACHINE WHEN PRESSING FORCE IS BEING APPLIED TO THE WORK PIECE. UNEXPECTED FORCE EXPANSION WHEN RESTARTING CAN DAMAGE THE MACHINE OR INJURE THE OPERATOR.**

4.2 EMERGENCY STOP BUTTON



2. **The emergency stop button is located on top of the on / off switch.**

- **Pushing the red emergency stop button in case of emergency will stop the electric motor on the hydraulic unit immediately.**
- **All other parts will stay in the same position they are at that moment.**

To restart the hydraulic unit after using emergency stop:

- **Make sure that the dangerous situation has been resolved.**
- **Reset the red emergency stop button by turning it clockwise, the button will pop-up again.**
- **Push the green button from the on / off switch again.**

4.3 PRESSURE CONTROL VALVE

3. **The pressure control valve is located on top of the hydraulic unit on the lower left.**

- **The amount of force can be raised or lowered with the pressure control valve.**
- **Turning the knob clockwise will raise the pressure and turning the knob counter clockwise will lower the pressure.**

Adjusting the pressure:

- **Start the hydraulic unit.**
- **Raise the ram so no force is applied**
- **Turn the knob on the pressure control valve counter clockwise to lower the pressure. Note that the knob can be unscrewed if it is turned too far.**
- **Lower the press ram to the work piece and keep force applied with the joystick.**
- **Slowly turn the knob on the pressure control valve clockwise & carefully raise the pressure to the desired setting while watching the pressure gauge.**

4.4 OIL FILLER PLUG

4. **The oil filler plug is located on top of the hydraulic unit on the upper left.**

- **This is where hydraulic oil can be added to the hydraulic unit.**
- **Press must be turned off before removing the filler plug.**
- **Mobile DTE 10 Excel 46 or Mobile DTE 25 or similar hydraulic oil is recommended.**
- **Cleanliness is important!! Make sure the area around the filler plug is clean before adding oil.**

4.5 SPEED SETTING VALVE

5. **The speed setting valve handle is located on top of the hydraulic unit on the upper right.**

- **The PressPro ram can move at two different speeds.**
- **The faster speed allows the press ram to be positioned quicker, saving the operator time.**
- **Once in position, the slower speed allows for a more precise movement of the press ram.**
- **The PressPro automatically shifts into the slower speed once force is applied to the work piece.**

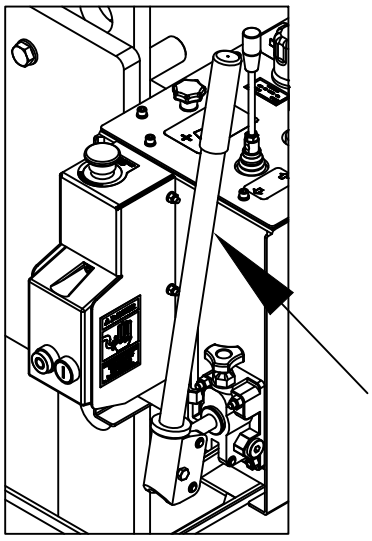
4.6 DIRECTION CONTROL VALVE

6. The direction control valve is located on top of the hydraulic unit on the lower right.

The direction control valve is a joy-stick that with 3 lever positions:

- **Middle position: This is the default position. When the lever is moved forward or back and then released, the valve will always return to this position. There is no movement of the press ram in the middle position.**
- **Upper position: If the lever is pushed forward, the press ram will move upwards. As long as the valve is pushed forward, the press ram will move. When the lever is released, the press ram will stop and stay in this position.**
- **Lower position: If the lever is pulled rearward, the press ram will move downwards. As long as the valve is pulled rearward, the press ram will move. When the lever is released, the press ram will stop and stay in this position. If the press ram reaches its lowest position (end of the cylinder stroke) the pressure of the cylinder will automatically drop to almost zero, to prevent damages to the press ram head.**

4.7 HAND PUMP



7. The press is equipped with a hand pump, located on the front panel of the hydraulic unit.

This pump can be used for manual pressing functions or when accurate force setting is necessary.

To use the hand pump:

- **Turn off the hydraulic unit by pushing the red button on the on / off switch.**
- **Hold the directional control valve (joystick) in the required position (up or downwards).**
- **Start pumping the hand pump with its lever.**

► **NOTE: THE HAND-PUMP SHUT OFF VALVE MUST BE CLOSED FOR THE PRESS TO OPERATE. IF THE VALVE IS OPENED, NEITHER HAND OR POWERED FUNCTION WILL WORK.**

5.0 MACHINE START UP AND OPERATION

Before starting the PressPro for the first time, make sure of the following:

- **The press is installed correctly as shown in SECTION 3.**
- **The hydraulic reservoir is filled with the proper amount of oil.**
- **The hydraulic hoses are tightened correctly to the cylinder and hydraulic unit.**
- **The machine is connected to the correct voltage and grounded according to local code.**

5.1 FIRST START UP

When starting the press for the first time or when maintenance of the hydraulic unit is performed, or if the hydraulic hoses have been disconnected from the hydraulic unit or cylinder, it may be necessary to de-aerate the system.

To do this:

- **Make sure there is no work piece on table.**
- **Press ram should be in it's upper position**
- **Start hydraulic unit.**
- **Using the directional control valve (joy-stick), move the ram down 3 - 4 inches, then bring the ram back to its upper position.**
- **Repeat this complete cycle until the ram has been fully extended to ensure that there is no air in the system.**
- **Return ram to upper position**
- **Turn off hydraulic unit and check hose connections for leaks.**
- **Check oil level and add hydraulic oil if necessary**

De-aerate the hand-pump.

To do this:

- **De-aerate the system first, as explained above.**
- **Make sure there is no work piece on table.**
- **Press ram should be in it's upper position**
- **Turn off the hydraulic unit by pushing the red button on the on / off switch.**
- **Hold the directional control valve (joy-stick) in the down direction.**
- **Start pumping the hand pump with its lever until the ram has traveled a few inches.**
- **Hold the directional control valve (joy-stick) in the up direction. (see next page)**

- **Start pumping the hand pump with its lever until the ram reaches the upper position.**
- **Repeat this complete cycle at least 3 times to ensure that there is no air in the hand-pump system.**

► **NOTE: INCORRECT DE-AERATING CAN CAUSE UNEXPECTED MOVEMENTS OF THE PISTON AND CAUSE THE PRESS TO MALFUNCTION.**

5.2 POSITIONING THE PRESS CYLINDER

All Scotchman presses are equipped with a movable cylinder which makes it possible to correctly align the press ram with the work piece. To move the cylinder side to side:

- **Turn the levers counter clockwise to loosen. Do not completely remove the levers!!**
- **Move the complete cylinder to the left or right by means of the bow grip (handle).**
- **When the cylinder is in the desired position, tighten the levers. Manual tightening is enough. Do not use a wrench - Do not over-tighten the levers.**
- **When your work with the press is finished, move the cylinder back in its center position.**

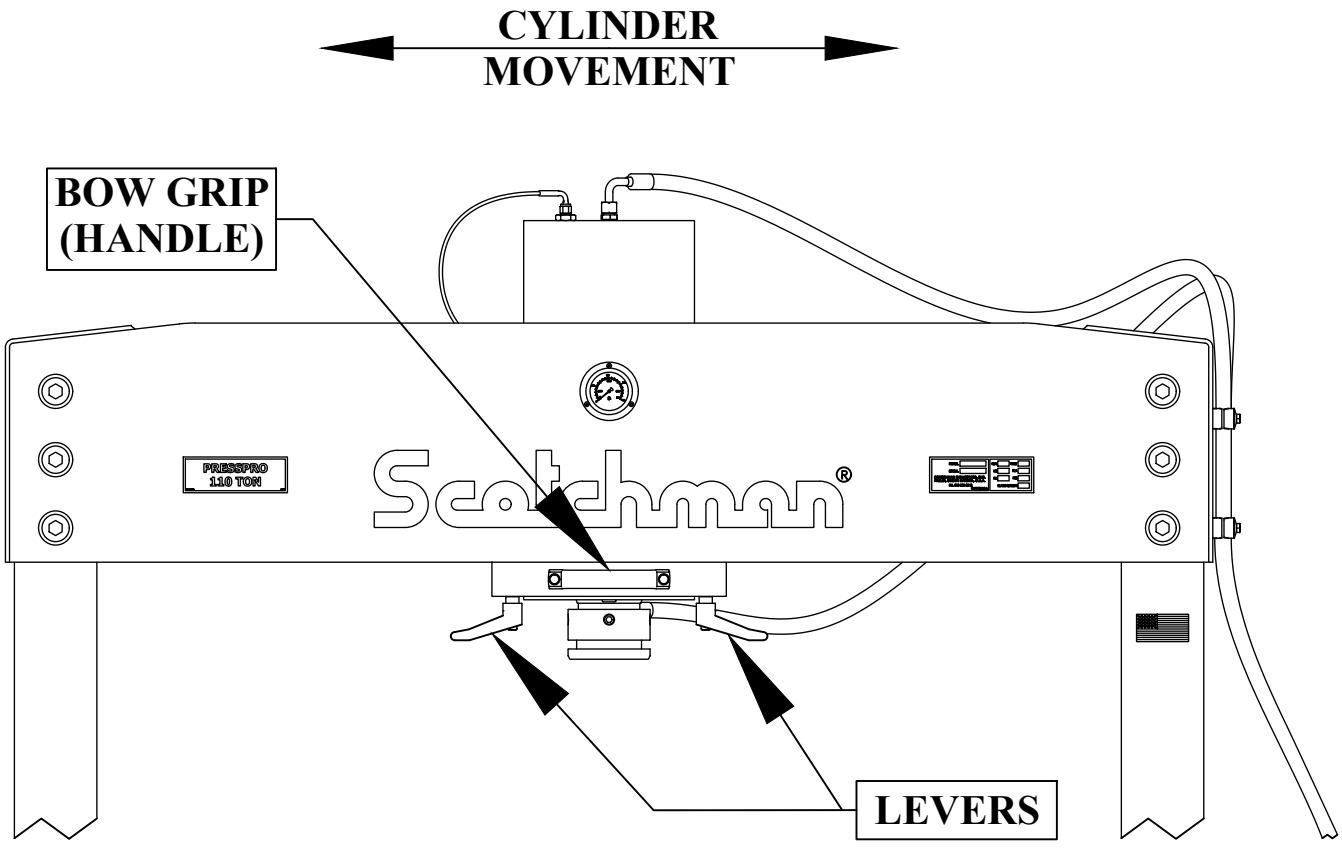


FIGURE 11

► **NOTE: CONSTANTLY WORKING AT NEAR MAXIMUM TONNAGE WITH THE CYLINDER IN THE FAR LEFT OR FAR RIGHT POSITION WILL DECREASE THE DURABILITY OF THE PRESS. WORKING IN THE CENTER OF THE PRESS IS PREFERABLE.**

5.3 POSITIONING THE TABLE

➲ **WARNING: NEVER TRY TO LIFT THE TABLE WITH A WORK PIECE LAYING ON THE TABLE. THE WORK PIECE CAN FALL OFF THE TABLE AND CAN DAMAGE THE MACHINE OR SERIOUSLY INJURE THE OPERATOR.**

► **NOTE: KEEP CYLINDER/PISTON CENTERED IN THE PRESS WHEN MOVING THE TABLE.**

It is recommended to use the hydraulic cylinder to lift the table. A lifting chain is provided with the press to do this. To move the table up or down:

- **Place the lifting yoke on the lift chain fully in the groove in the ram, as shown in FIGURE 12.**
- **Move the ram either up or down as needed in order to attach the lifting chains.**
- **There is a hook on the left and right side of the press. They are attached to the crossbars used in the table as shown in FIGURE 13. These shafts have a shallow groove machined in the center where the hooks are to be located when lifting the table.**
- **When attached to the hooks, make sure the lifting chain has an equal number of chain links on both sides.**
- **Make sure the lifting hooks are positioned in the grooves in the middle of the shaft. They are easy to move by hand.**
- **Double check to make sure the lifting yoke is all the way in the ram cap groove and that the yoke is in line with the chain.**
- **Move cylinder ram upwards in the "low speed" position of the speed setting valve. The table will be lifted up and off the blocking pins.**
- **TO LOWER THE TABLE: When table is lifted off the blocking pins, take out both blocking pins and place them firmly in the lower holes in the frame for the desired table height. Lower the table until it rests on the blocking pins and remove lifting chain.**
- **TO RAISE THE TABLE: Raise the table up until it is just above holes in the frame for the desired table height. Take out both blocking pins and place them firmly in these upper holes in the frame. Lower the table until it rests on the blocking pins and remove lifting chain.**
- **Note that it may be take more than one step to reach the desired table position.**

➲ **MAKE SURE THE BLOCKING PINS ARE POSITIONED CORRECTLY. THE RING ON THE PIN MUST BE AGAINST FRAME BEFORE LOWERING TABLE ON TO THE PINS.**

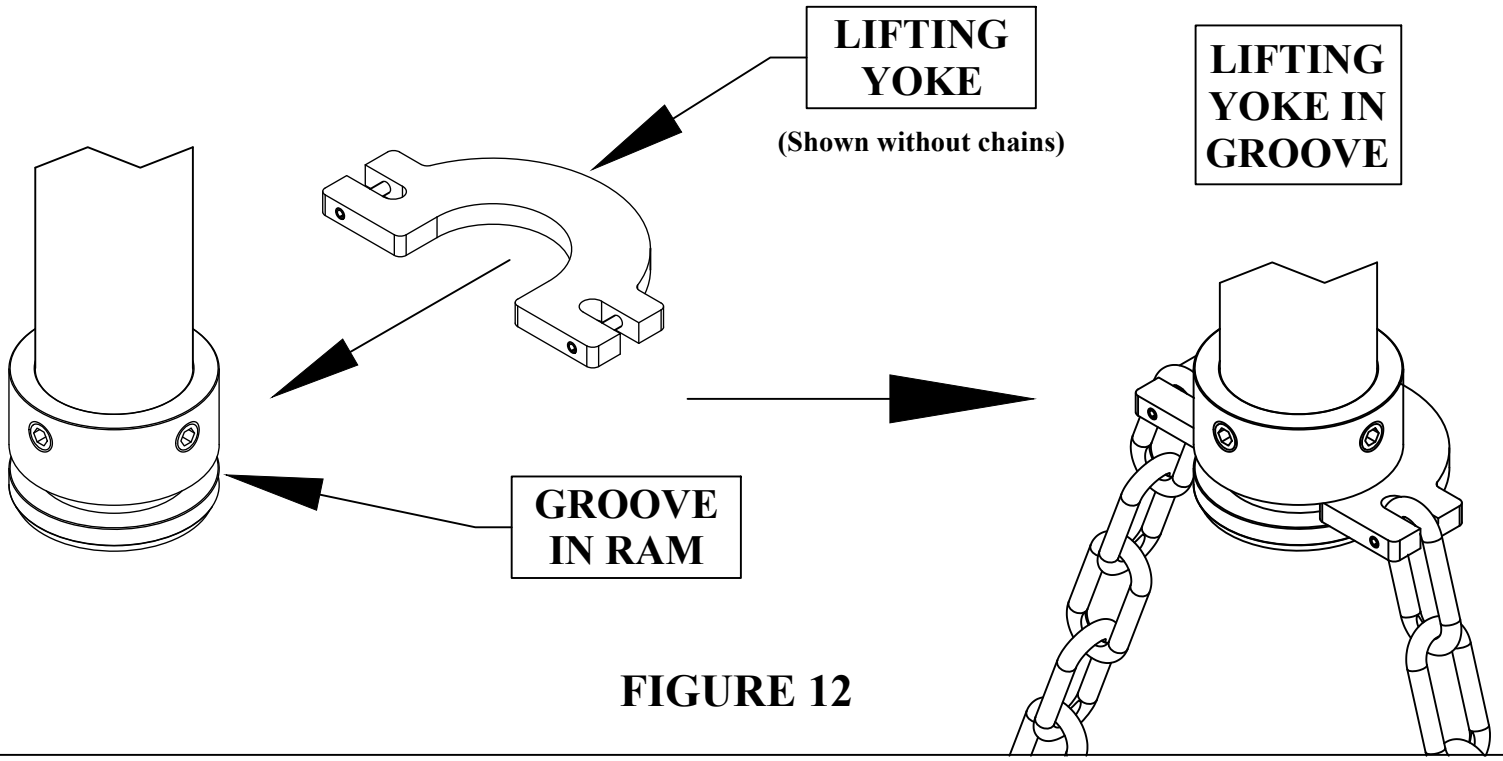
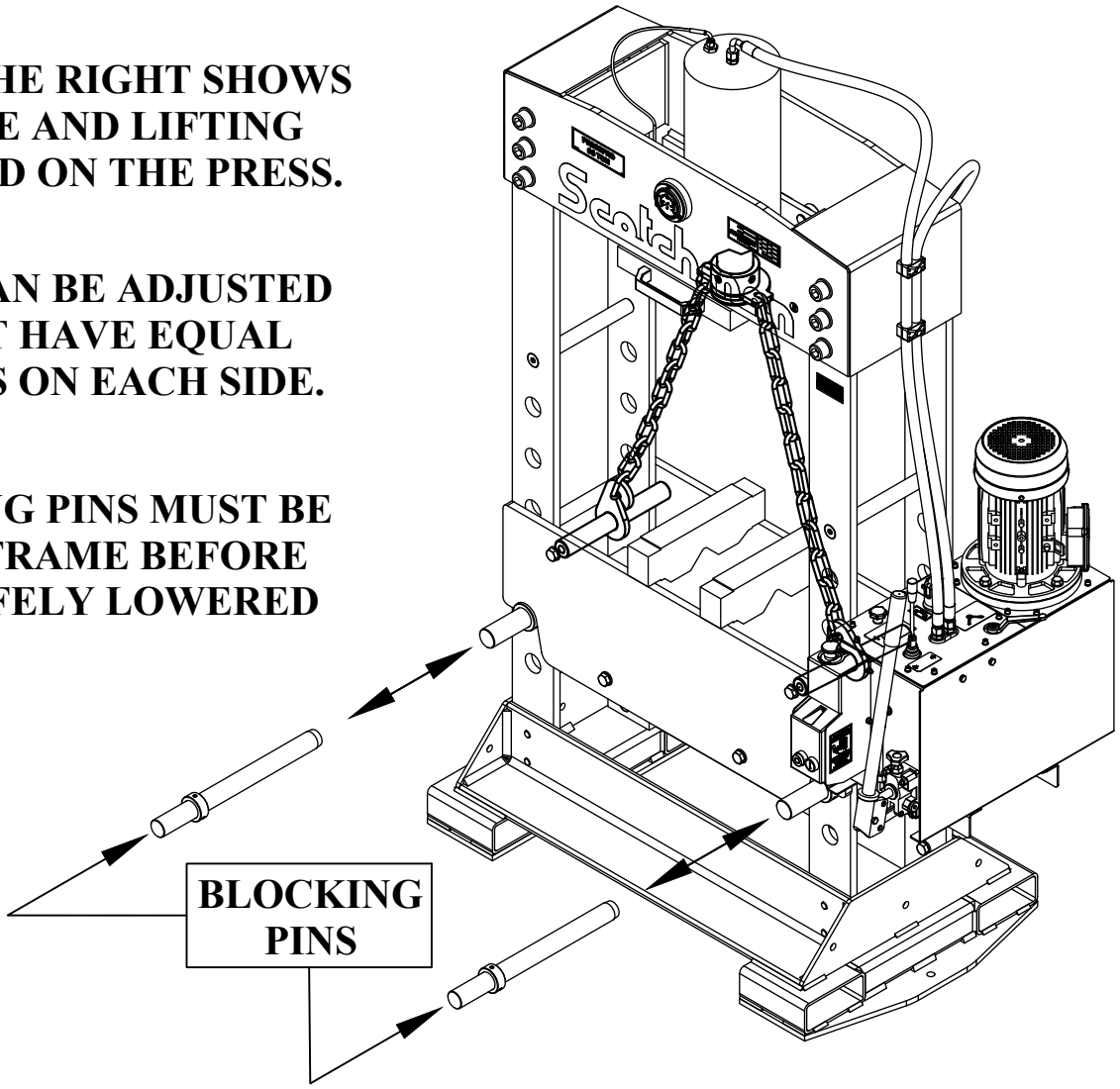


FIGURE 12

THE FIGURE ON THE RIGHT SHOWS THE LIFTING YOKE AND LIFTING CHAINS INSTALLED ON THE PRESS.

CHAIN LENGTH CAN BE ADJUSTED AND CHAINS MUST HAVE EQUAL NUMBER OF LINKS ON EACH SIDE.

RING ON BLOCKING PINS MUST BE UP AGAINST THE FRAME BEFORE TABLE CAN BE SAFELY LOWERED ON TO THEM.



BLOCKING PIN DETAIL

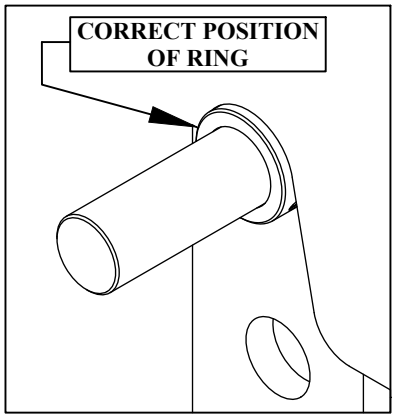


FIGURE 13

6.0 OPERATING THE PRESSPRO 110W

When operating the PressPro 110W it is best to have the cylinder located in the center of the press and then place the work piece on the table in alignment with the press ram. If this is not possible, reposition the cylinder to achieve the best alignment.

Use extreme caution when performing a press operation on parts that can possibly fly off, break (especially cast parts and hardened parts) or bounce up as a result of the force being applied. In this case, a proper guard must be installed around the work piece or the operator should stand at a safe distance. After correct placement of the work piece, pressing force can be applied.

⌦ **CAUTION: ALWAYS WEAR THE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT. THIS INCLUDES SAFETY GLASSES, SAFETY SHOES, AND EAR PROTECTION. AVOID LOOSE FITTING CLOTHING TO PREVENT INJURIES.**

► **NOTE: UPWARD MOVEMENT OF THE PISTON IS ONLY ALLOWED FOR ADJUSTMENT OF THE TABLE OR RETURNING THE RAM TO ITS START POSITION. ANY OTHER USE OF THE RETURN STROKE SUCH AS STRETCHING OR PULLING SOMETHING APART CAN CAUSE THE PRESS TO MALFUNCTION AND/OR CAUSE INJURY TO PERSONNEL. USING THE PRESS IN THIS MANNER IS STRICTLY PROHIBITED.**

When you are finished operating the press:

- **Return the piston back to its upper position.**
- **Position the cylinder back to the center of the machine.**
- **Turn off the hydraulic unit.**
- **Clean the machine and working area.**

6.1 V-BLOCK SET

A set of V-Blocks comes standard on all PressPro models and are designed for the table of the PressPro. They can be used in two ways:

1. **"V" FACING UP - This allows the work-piece to placed in the bottom of the "V".**
2. **"V" FACING DOWN - This way the flat side is on top.**
3. **There is a notch machined in in the ends of the blocks, both on the top and on the bottom, to help hold the V-Blocks in place on the press table. See FIGURE 14 below.**

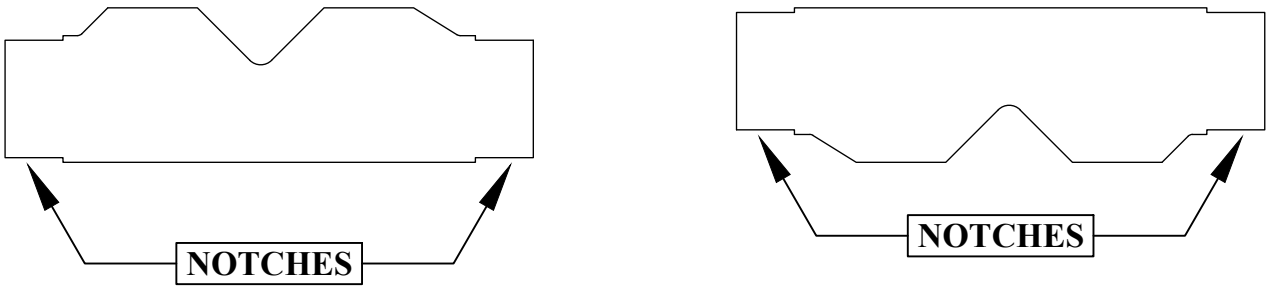


FIGURE 14

6.2 WORKING AT OR NEAR MAXIMUM CAPACITY

Do not use maximum force when the piston is extended further than 3/4 of its length.
THIS CAN DAMAGE THE PISTON.

The machine is NOT designed for continuous operation at its maximum capacity:

- **The press can be used at its maximum tonnage rating for a total of two (2) cycles per minute, for a maximum of 10 minutes.**
- **Then the press then should be allowed to cool down.**
- **Failure to observe the above limits will cause the press to overheat.**

⌦ **CAUTION: CONSTANTLY EXCEEDING THE ABOVE LIMITATIONS WILL RESULT IN OVERHEATING THE HYDRAULIC OIL AND OVERHEATING THE HYDRAULIC UNIT. THIS CAN DAMAGE THE MACHINE BY CAUSING SEALS TO FAIL AND CAN DEGRADE HYDRAULIC OIL. IN THE EXTREME, THE OPERATOR MAY SUFFER BURNS.**

7.0 PRESSPRO 110W MAINTENANCE

► **NOTE: REPLACING PARTS, ELECTRICAL, MECHANICAL OR HYDRAULIC, MUST BE DONE BY QUALIFIED PERSONNEL. SCOTCHMAN IND. CAN NOT BE HELD RESPONSIBLE FOR DAMAGES OR INJURIES CAUSED BY IMPROPER SERVICING.**

A program of scheduled maintenance should be set up and documented according to your application and the frequency you use this machine. The following is a list of important items that should be included in a scheduled maintenance program:

1. DAILY

- **Make sure press and area around press is clean and uncluttered.**
- **Inspect press for any visible damage or wear.**

2. EVERY WEEK

- **Check the hydraulic oil level via the sight glass on the rear of the hydraulic unit.**
- **Inspect electrical connections including power cord.**
- **Inspect lifting chains including the lifting yoke.**

3. EVERY SIX MONTHS

- **Inspect all hydraulic fittings and hoses for signs of wear or leaks and tighten any loose connections.**
- **Inspect all the bolts on the press and make sure all are tight.**

4. EVERY YEAR

- **Change the hydraulic oil.**

If any leaks, loose or damaged parts or bare electric cables are found; STOP USING THE PRESS.

Resume using press ONLY AFTER IT HAS BEEN REPAIRED.

► **NOTE: WHEN PERFORMING MAINTENANCE, ALWAYS FOLLOW OSHA LOCKOUT-TAGOUT PROCEDURES. MAKE SURE POWER IS OFF AND THERE IS NO HYDRAULIC PRESSURE IN THE SYSTEM. BOTH CAN RESULT IN INJURIES TO THE MAINTENANCE OPERATOR.**

7.1 CHANGING THE HYDRAULIC OIL

Change the hydraulic oil at least once a year.

Make sure the ram is all the way in the upper position before draining any oil.

The drain plug is located at the bottom of the oil tank, along the back edge under the motor on the hydraulic unit. The press holds nearly 12-1/2 gallons of oil so use a drain pan that has enough capacity. The reservoir holds 8.5 gallons. The rest is in the cylinder and hoses and needs to be drained by removing the hose and fitting from the bottom of the cylinder and allowing the oil to drain into a catch pan. Then remove the hoses from the power unit and allow them to drain into a catch can as well.

- **Inspect Drained Oil. Check the oil for color and contamination.**
- **If it is gray, that usually indicates there is moisture in the system.**
- **A very dark color can be caused by overheating the hydraulic unit.**
- **Metal particles visible in the oil can indicate worn out parts in the cylinder or the hydraulic unit.**
- **If contamination is found, the source of the contamination must be found and repairs made.**

The hydraulic system is sensitive to contamination and can be damaged.

- **If the inside of the tank is not clean, remove the top the oil tank and clean it thoroughly.**
- **See SECTION 3.9 on for information on how to fill the system with oil.**
- **Mobile DTE 10 Excel 46 or Mobil DTE 25 or similar hydraulic oil is recommended.**

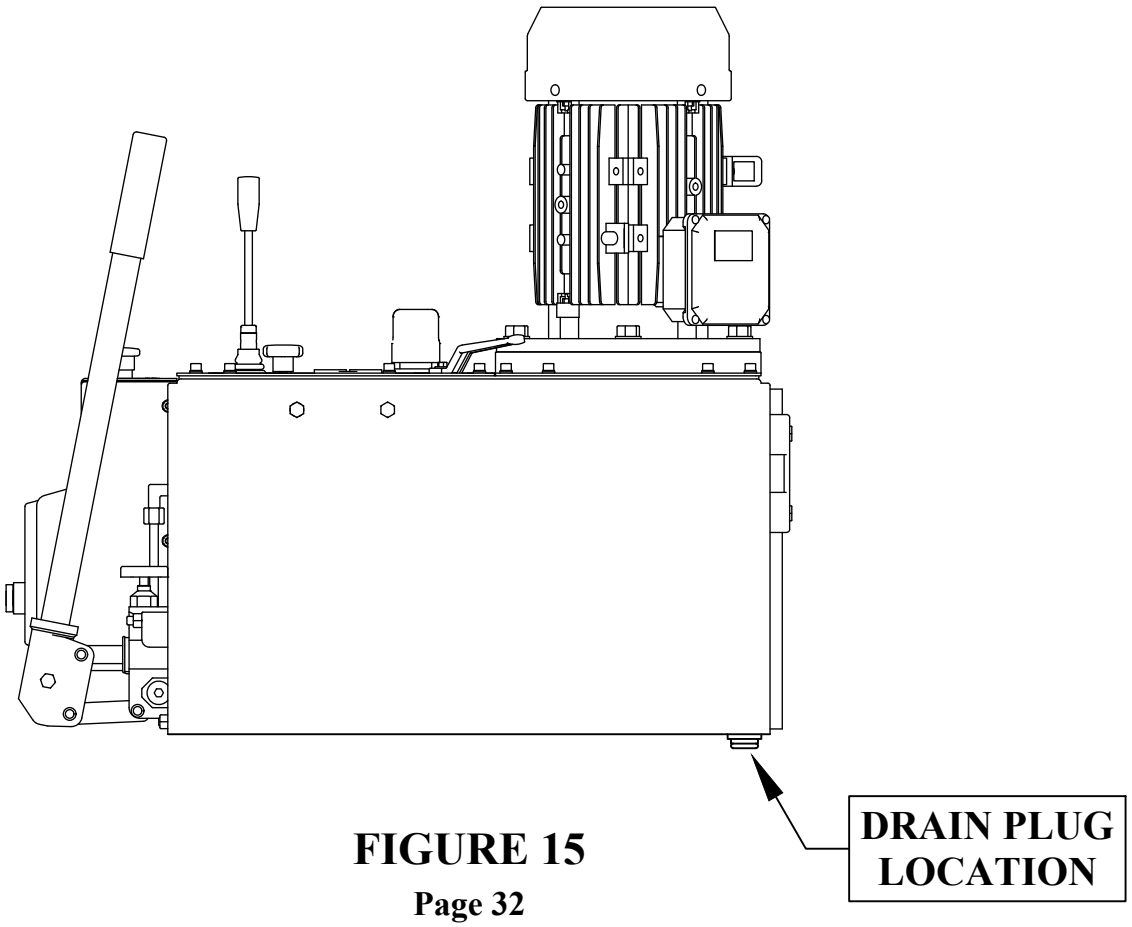


FIGURE 15

8.0 PRESSPRO HYDRAULIC SCHEMATIC

RATING TABLE	
US TONS	110
M MAX. HP (KW)	3.5 (2.6)
MOTOR RPM	1680

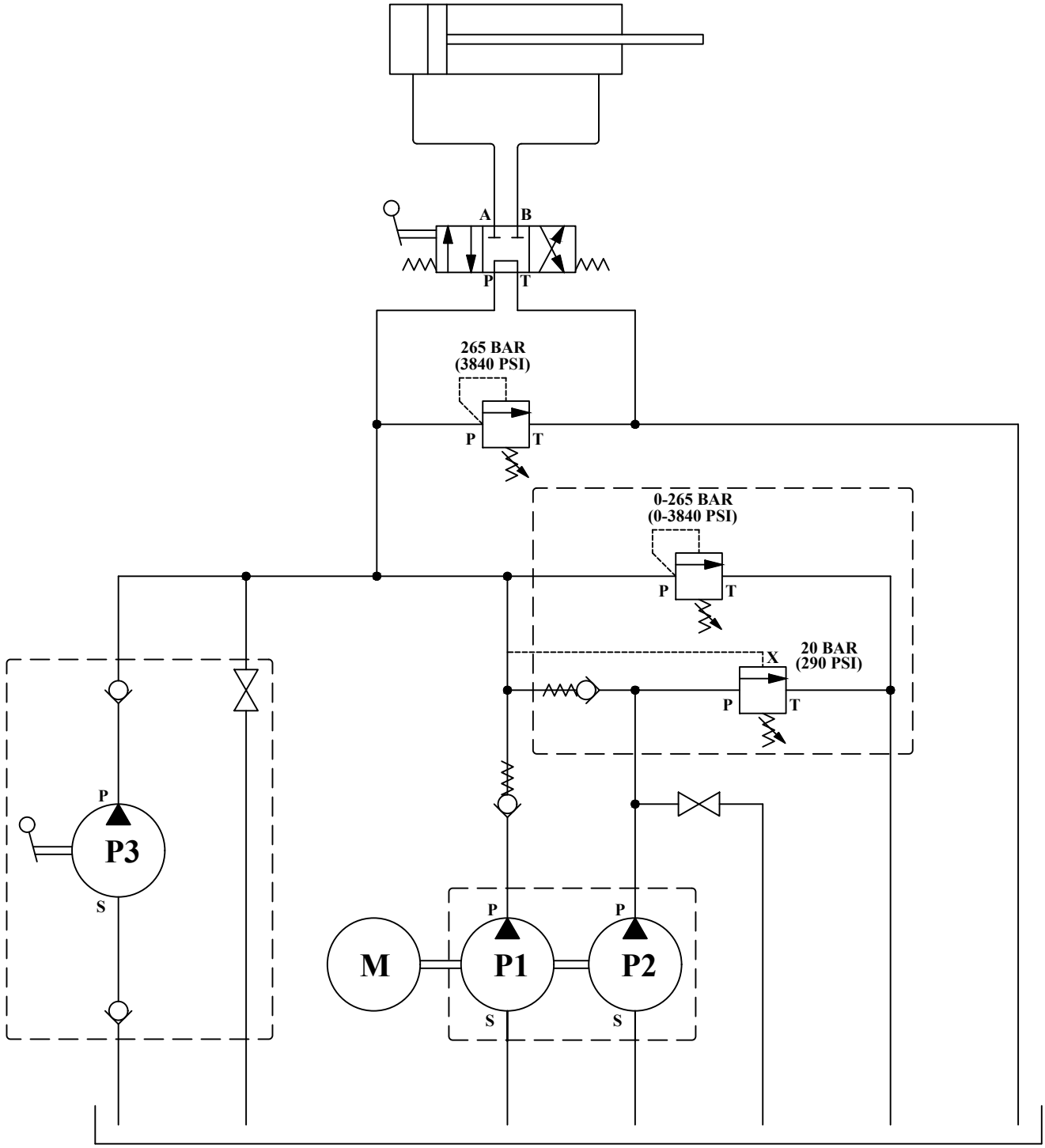


FIGURE 16

9.0 PRESSPRO 110W PARTS LIST

9.1 PISTON PARTS

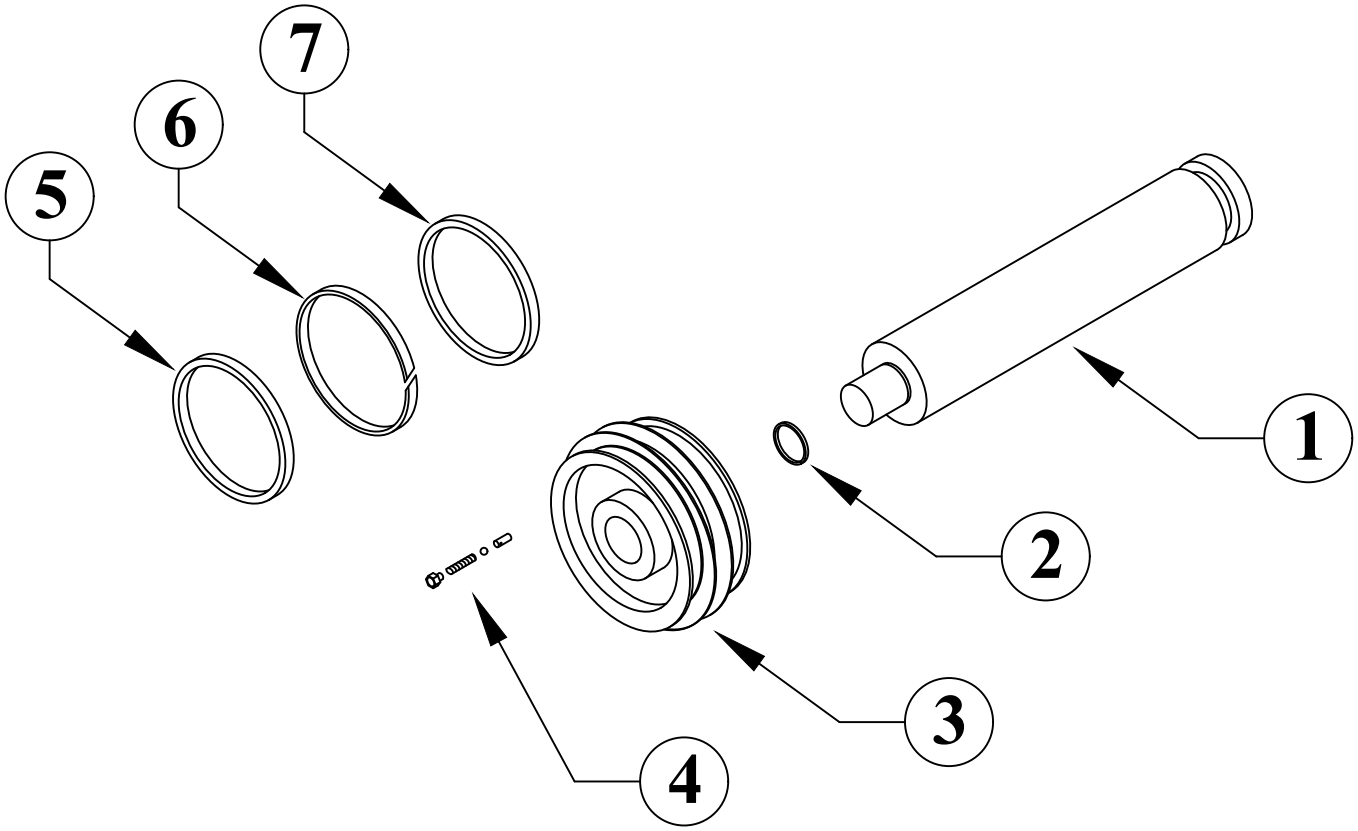


FIGURE 17

ITEM	QTY	DESCRIPTION	PART #
1	1	PISTON SHAFT	100-506
2	1	O-RING	62.2x3 NBR 90
3	1	PISTON	100-505
4	1	VALVE SET	Inc. Items 4.1 - 4.4
4.1	1	VALVE TIP	30-200-515
4.2	1	VALVE HOUSING	30-200-516
4.3	1	SPRING	30-200-D1970
4.4	1	BULLET	30-200-Ø12
5	1	U-MANCHET	200-220-15
6	1	RING	220-214-19.2
7	1	U-MANCHET	208-220-9

NOTE: Part numbers are for reference only. Call Scotchman Inds. if you need further assistance.

9.2 CYLINDER PARTS LIST

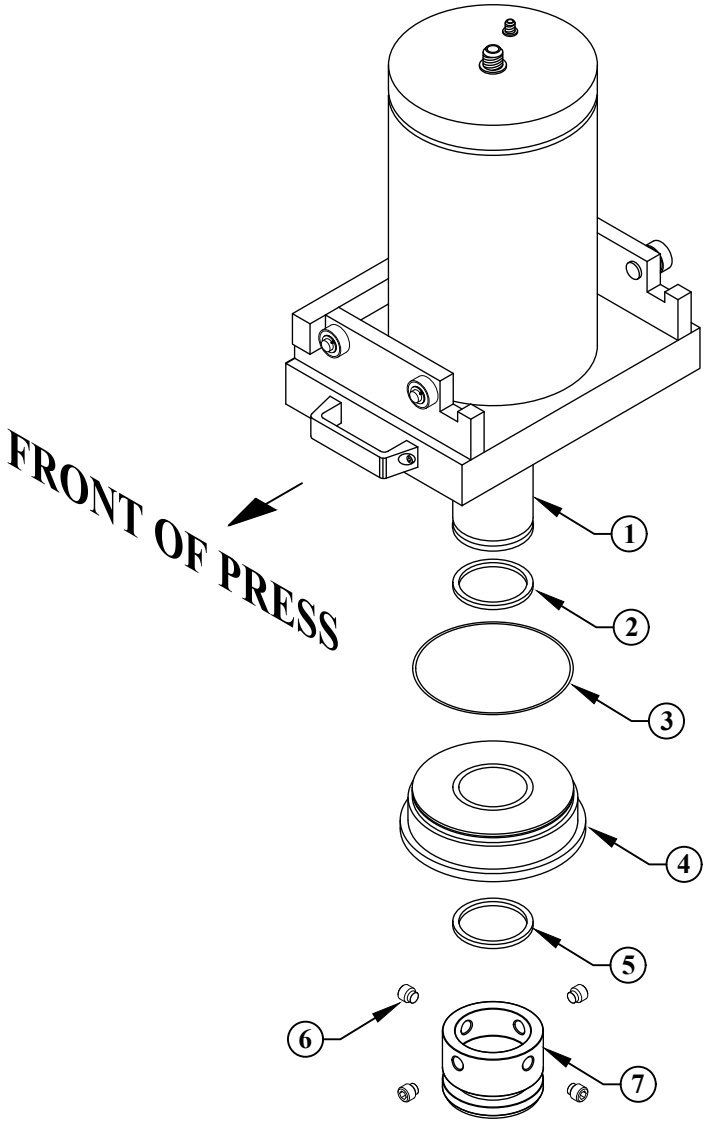


FIGURE 18

ITEM	QTY	DESCRIPTION	PART #
1	1	COMPLETE PISTON ASSY	100-508
2	1	U-SEAL	90-105-9
3	1	O-RING	210x5 NBR 70
4	1	CYLINDER HEAD	100-504
5	1	WIPER	90-102.2-7.1
6	4	M16 X 16 SET SCREW	30-200-M16X16
7	1	PISTON HEAD 110 TON PRESS	PLS003693

NOTE: Part numbers are for reference only. Call Scotchman Inds. if you need further assistance.

9.3 PRESSPRO 110W PARTS DIAGRAM

PRESSPRO 110W PARTS LIST							
ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #	DESCRIPTION
1	4	30-200-A17	ROLLER BEARING WASHER	23	2	800030	110/176 TON PIN COLLAR
2	4	30-200-M16X16	M16 X 16 SET SCREW	24	6	800031	110/110W TON TABLE CROSSBAR
3	4	60-200-6303	ROLLER BEARING H-PRESS	25	1	800040	110W TON BASIC ASSY
4	4	123011	1/8 X 2 HAIRPIN COTTER PIN	26	1	800042	110W TON CROSSBEAM FRONT
5	2	100-601	CYLINDER MOUNTING STRIP 110 TON PRESS	27	1	800043	110W TON CROSSBEAM BACK
6	4	600-200-514	ROLLER BEARING SHAFT	28	2	800049	66/110/176 TON CHAIN HOOK
7	1	003122	DANGER VOLTAGE STICKER (12-13)	29	1	800051	PRESS POWER UNIT MOUNT RS
8	3	003175	CAUTION CONTAMINATION	30	1	800052	PRESS POWER UNIT MOUNT LS
9	1	010117	27" SCOTCHMAN DECAL	31	1	810001	110 TON DECAL
10	1	019100	U.S. DATA PLATE	32	2	PL60-200	HANDLE AT BOTTOM OF CYLINDER
11	1	019102	DECAL"RESERVOIR CAPACITY"	33	1	PL60-200-06904-1160081	BOW GRIP NR. FOR MOVING CYL ALL MODELS
12	1	019121	230V STICKER	34	1	PL100-500	110 TON CYLINDER
13	1	019127	US FLAG DECAL	35	1	PL9859	TOP CYLINDER FITTING
14	12	165002	ISO/AW 46 HYDRAULIC FLUID	36	1	PL9945	BANJO FITTING BOTTOM OF CYLINDER
15	3	165003	S-19413 Closed Head Poly Pail - 5 Gallon, Natural	37	2	PL9986	CYLINDER HANDLE SPRING
16	8	201210	M10 X 20MM DIN933 HHCS	38	1	PL10003	HYDRAULIC HOSE SET 110 TON M/H-M/C-2 D=1500
17	12	201625	M16 X 65MM DIN931 HHCS	39	1	PL10010	MANOMETER SET 110 TON M/H-M/C-2 D=1500
18	4	208012	M10 DIN 934 HEX NUT	40	2	PL10435-10436-9903	HOSE RETAINER
19	12	214012	M10 DIN125 REGULAR WASHER	41	1	PLS003693	PISTON HEAD 110 TON WORKSHOP PRESS
20	12	214016	M16 DIN125 REGULAR WASHER	42	1	PLS004076	LIFTING YOKE INCL. CHAINS 110 TON M/H-M/C-2 D=1500
21	4	219040	M10 X 10MM DIN914 SET S.	43	1	PP100008	110 TON "V" BLOCK 2 PCS
22	2	800029	110/110W TON PIN	44	1	PTSC10016	HYDRAULIC UNIT 110 TON

PRESSPRO 110W

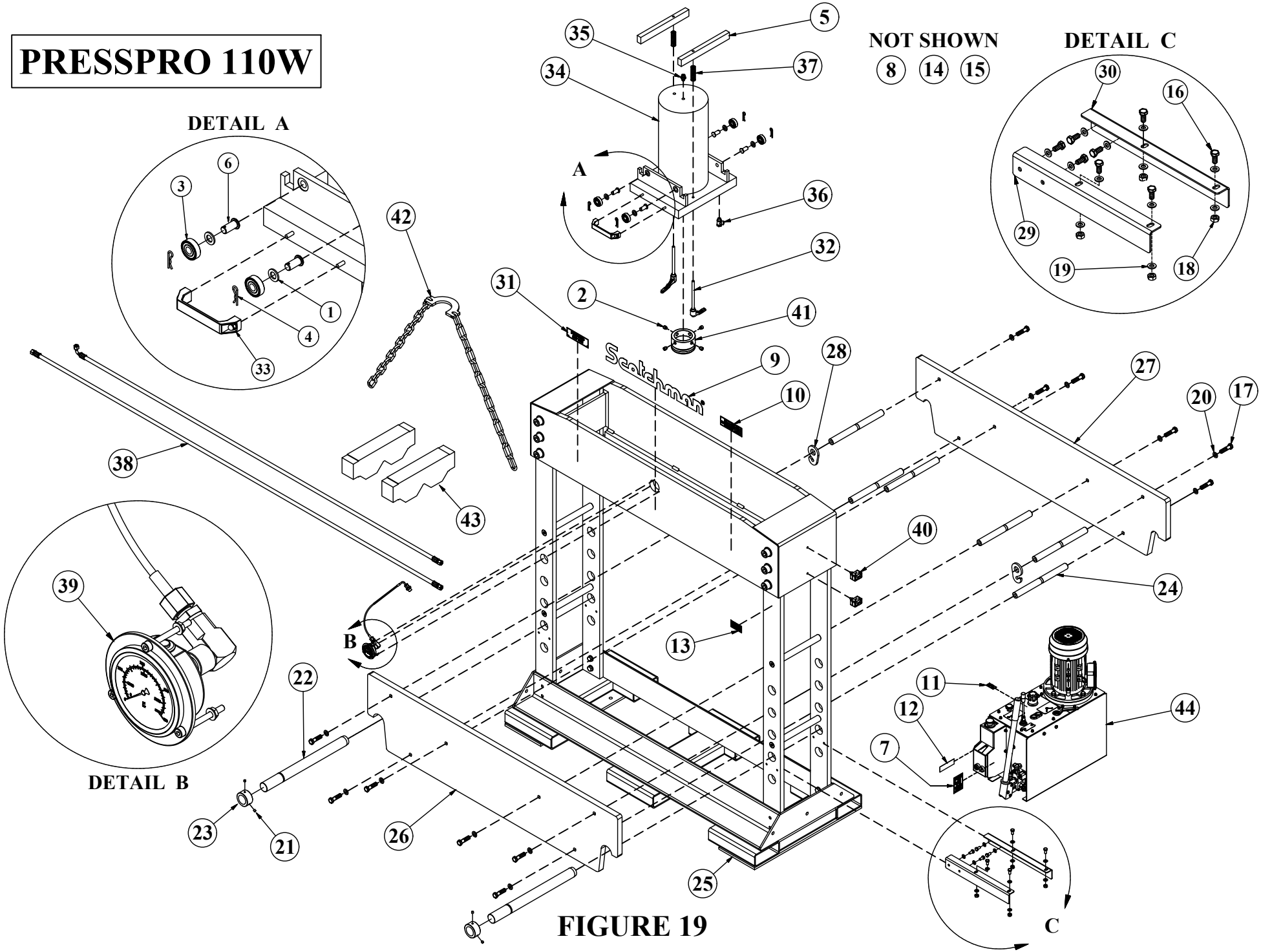


FIGURE 19

SCOTCHMAN INDS. - 180 E US HWY 14 - PO BOX 850 - PHILIP, SD 57567 Phone: 1-800-843-8844 www.scotchman.com