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manual for the

SCOTCHMAN

PRESSPRO 110W MT

HYDRAULIC PRESS



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PRESSPRO

MODEL 110W MT

MOVABLE TABLE



SERIAL # 6000PPWMT1125 - CURRENT

VERSION 1 - NOVEMBER 2025

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INTRODUCTION

This manual helps you to install, operate and maintain your press. Always read this manual before you start working with the machine. If you have any questions, please contact your supplier. The manual gives safety instructions where necessary to assure a safe use of the machine. These safety instructions are clearly marked with the following symbol:



Always follow the instructions mentioned with this symbol to prevent damages to the machine or injury to the operator. In case of doubt, please contact your local supplier.



The supplier of the press can not be held responsible for any damages or injuries when the machine is modified by a third party or when maintenance is done by unqualified persons.

If you want to contact your local supplier about your press, always mention its serial number on the machine label. This label is located on the right side of the head of the press. When you have questions about the hydraulic unit, also mention this serial number. The label is located on the back of the hydraulic tank.

1. General information and specifications

This hydraulic portal press is designed for:

- bending and straightening of large sheets, beams, profiles, pivots, shafts etc.
- (dis)assembly of bearings, bushings or pivots
- stamping, punching, forming of a wide range of materials

This machine can be used in repair shops, work shops, etc. To enable more options, the machine can be equipped with a flat lower table for example.



Warning: proper use of the machine is necessary at all times, to prevent damages to the machine and injury of the operator. Therefore operation of the press is only allowed by persons who have read, understood and follow this manual.

1.1 Technical data

USA STANDARD	TONS	110
Pressure force	US tons	110
Maximum pressure	psi	3750
Cylinder stroke	in.	15
(delivered with an extra cylinder extension to reach the table)		
Table size (L x W)	in.	68-1/2 x 53
Vertical Clearance	in.	23-1/2
Working Width	in.	43 5/16
Table height / Working height	in.	30
Oil delivery	gal/min	4
Total oil capacity (tank and cylinder capacity)	gallons	12.2
Oil type (See Pg. 13)		HL46
Press speed	in/sec	.091
Approach speed	in/sec	.265
Return speed	in/sec	.319
Motor	kW/hp	3.5hp
Voltage	V	230 or 460 Three Phase
Frequency	Hz	60
Revolutions per minute	rpm	1680
Insulation protection	IP	55
Insulation classification	-	F
Weight	pounds	5000
Diameter cylinder	in.	8.66
Diameter piston rod	in.	3.54
Diameter piston head	in.	4.72

M E T R I C	TONS	110
Pressure force	kN	1570
Maximum pressure	bar	260
Cylinder stroke	mm	380
(delivered with an extra cylinder extension to reach the table)		
Table size (L x W)	mm	1740 x 1346
Vertical Clearance	mm	603
Working Width	mm	1498
Table height / Working height	mm	762
Oil delivery	ltr/min	15.4
Total oil capacity (tank and cylinder capacity)	liter	46
Oil type	-	HL46
Press speed	mm/sec	2.32
Approach speed	mm/sec	6.74
Return speed	mm/sec	8.09
Motor	kW	2.6
Voltage	V	220 or 440 Three Phase
Frequency	Hz	60
Revolutions per minute	rpm	1680
Insulation protection	IP	55
Insulation classification	-	F
Weight	kg	2265
Diameter cylinder	mm	220
Diameter piston rod	mm	90
Diameter piston head	mm	120

Fig. 1 Technical specifications Scotchman PressPro Model 110W MT

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).

2. Safety advice



Note: the supplier of the press can not be held responsible for any damages or injuries when the machine is modified or when maintenance is done by unqualified personnel.

2.1 Users responsibility

Safe use of the hydraulic press can be achieved in daily work when all the necessary precautions are taken. It is the responsibility of the user to ensure that:

- the machine is used as directed;
- the machine is used in perfect working condition and the safety installations are checked regularly;
- none of the safety and warning instructions are removed from the machine and these remain legible;
- all regular maintenance operations are conducted as prescribed;
- only original spare parts are used;
- the direction valve seal is not removed.

2.2 Basic safety advice

Before starting work, inspect the machine carefully. Replace all worn or defective parts immediately. Keep all parts in good condition and secured in place. Tighten nuts, bolts and screws to keep the equipment in good working condition.



Warning: do not put your hands into the working area when the piston is moving. Hands or any other part of the body in this danger zone can get smashed by the piston. The danger zone is clearly marked on the left and right side with the following symbol:



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. Therefore always release the force from the object, move the piston upwards and then safely turn off the press.



Warning: always wear safety shoes, safety glasses, ear protection and body fitting clothes to prevent injuries to any part of the body.



Note: do not use the machine in the following conditions:

- explosion hazard zones;
- outdoors;
- extreme temperatures $+5^{\circ}\text{C} < > +50^{\circ}\text{C}$



Note: maximum pressing force can be exerted for a short time only.



**Note: the machine MUST be bolted to the floor - see Chapter 3 Installation .
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 .**



Caution: any welding operations on the press table are prohibited. This can damage the machine or the operator can get dangerously injured.

2.3 Out of use

Do not use the machine when:

- The operator has not read or not understood the manual.
- Maintenance has not been done by qualified personnel.
- The press is not complete or non-original spare parts have been used.
- Any worn parts are visible.
- The specifications of the power supply are not conform the information stated at the motor plate +/-10%.
- The power supply plug is not equipped with a protection circuit.
- Unprotected bystanders are present.

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Metal Fabricating Solutions
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3. Installation



Note: When press is delivered, check for freight damage before signing anything. If you later find anything damaged while unpacking or setting up the press **STOP and contact Scotchman Ind.**

3.1 Deliver condition

The press is delivered in the following condition:

- Hydraulic unit not installed to the frame. It is delivered packed on the table or separately.
- Cylinder fixed in the middle of the press.
- Hydraulic unit without oil.

3.2 Transport

In all cases of transporting the press, take care of the following precautions:

- Mount the hydraulic unit on the inside of the frame on the table - Not on the outside!
- Fix the cylinder in the middle of the press.
- Fasten the frame properly to avoid abrupt movements.

3.3 Environmental conditions

The machine should be placed in:

- A clean- dry- and dust free room.
- A surrounding temperature of $+5^{\circ}\text{C} < > +50^{\circ}\text{C}$.
- A maximum humidity of 90%, not condensing.
- An area with enough working light.
- An area with a flat, hard floor, where good fixing of the press is possible.

3.4 Bolting the machine to the floor

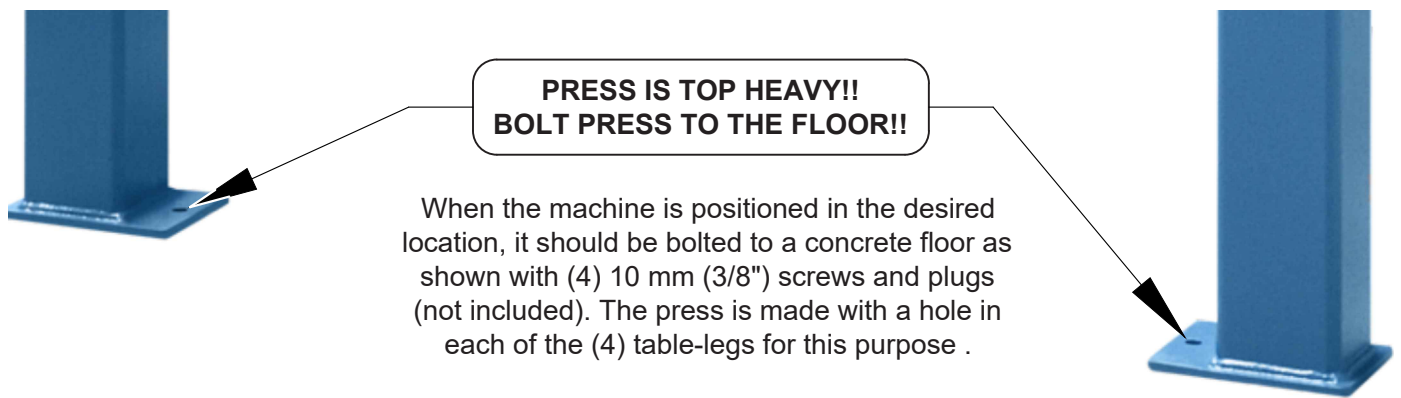
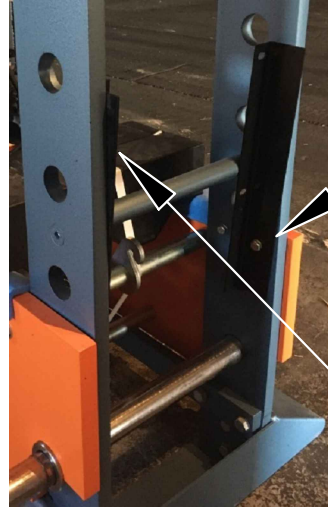


Fig. 2 Bolting Scotchman PressPro Model 110W MT to the floor.

3.5 Installation of the hydraulic unit

Hyd. Power Unit is shipped as shown. It must be bolted to the angle iron mounts & the hoses need to be connected to the press.



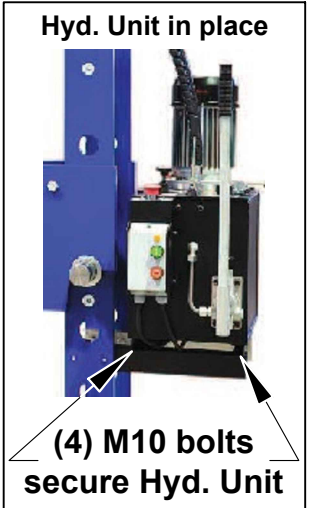
Remove the back bolt & loosen the bolt on the angle iron. Rotate the angle iron to horizontal and install the back bolt. Tighten both bolts. This must be done on both sides.

Fig. 3 Hydraulic Unit and mounting brackets as shipped from the factory

Hydraulic Unit is bolted to the brackets with (4) M10 bolts on the bottom. Also See Fig. 6 on the next page for overall view.



Tip: the hydraulic unit weighs about 110 lbs!!
When placing the unit in the correct position, make sure to use enough man or machine power to lift the unit.



(4) M10 bolts secure Hyd. Unit

Fig. 4 Securing Hydraulic Unit

3.5.1 Connecting hydraulic hoses

Once the hydraulic unit is mounted, the hoses must be attached. The caps in the hose and fitting are color coded. In the example shown below:
Yellow hose to Yellow fitting & Red hose to Red fitting

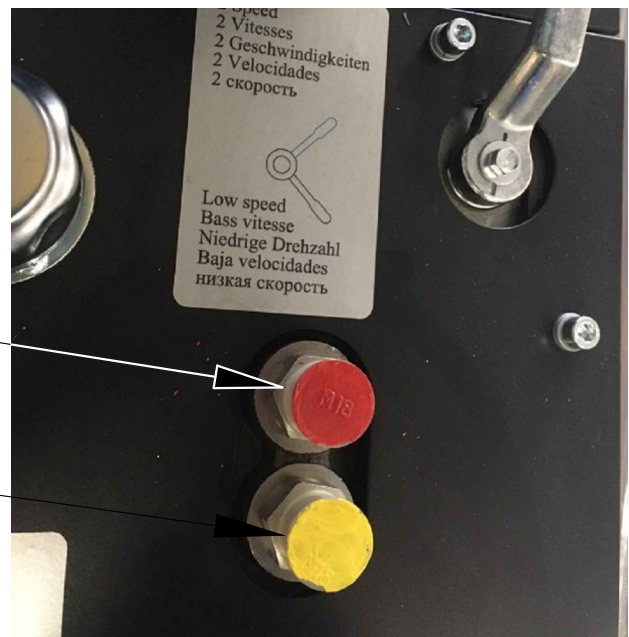


Fig. 5 Hydraulic hoses and attachment locations

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.



Fig. 6 Keep hoses straight - no sharp bends

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

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

3.6 Oil tank filling

The press is delivered without oil. Before starting 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:

- Bring the piston into its upper position.
- Remove the filler plug on top of the hydraulic unit.
- Fill the tank with a sufficient amount of oil. The total capacity of this press including the reservoir and cylinder is 15 gal. (57 liters).
- Replace the filler plug.
- Start the hydraulic unit.
- De-aerate the press: Lower the piston (with the direction control valve / joystick) 4 in. and bring the piston back to its upper position. Then lower the piston 8 in. and bring it back to the upper position. Then lower the piston 12 in. and then back to the upper position. Then move the piston down again to 15 to 15-3/4 in. and bring it back up to the upper position.
- Turn off the hydraulic unit.
- Remove the filler plug again and check oil level.
- If needed, add more hydraulic oil to the tank.
- Replace the filler plug.

3.7 Electrical connection

- The machine must be connected to 220V 3ph or 440V 3ph power.
- The electric circuit must be protected by a fuse or circuit breaker with an adequate rating.
- The motor direction can be changed by swapping (2) of the incoming phases (SEE BELOW).



NOTE: check if the turning direction of the motor is in the direction of the arrow, looking at the motor from above. THE WRONG DIRECTION CAN DAMAGE THE MACHINE IN A VERY SHORT TIME!!



Note: never run the press when its low on oil. This will damage the hydraulic unit and cause the press to malfunction.

4. Functions of the press

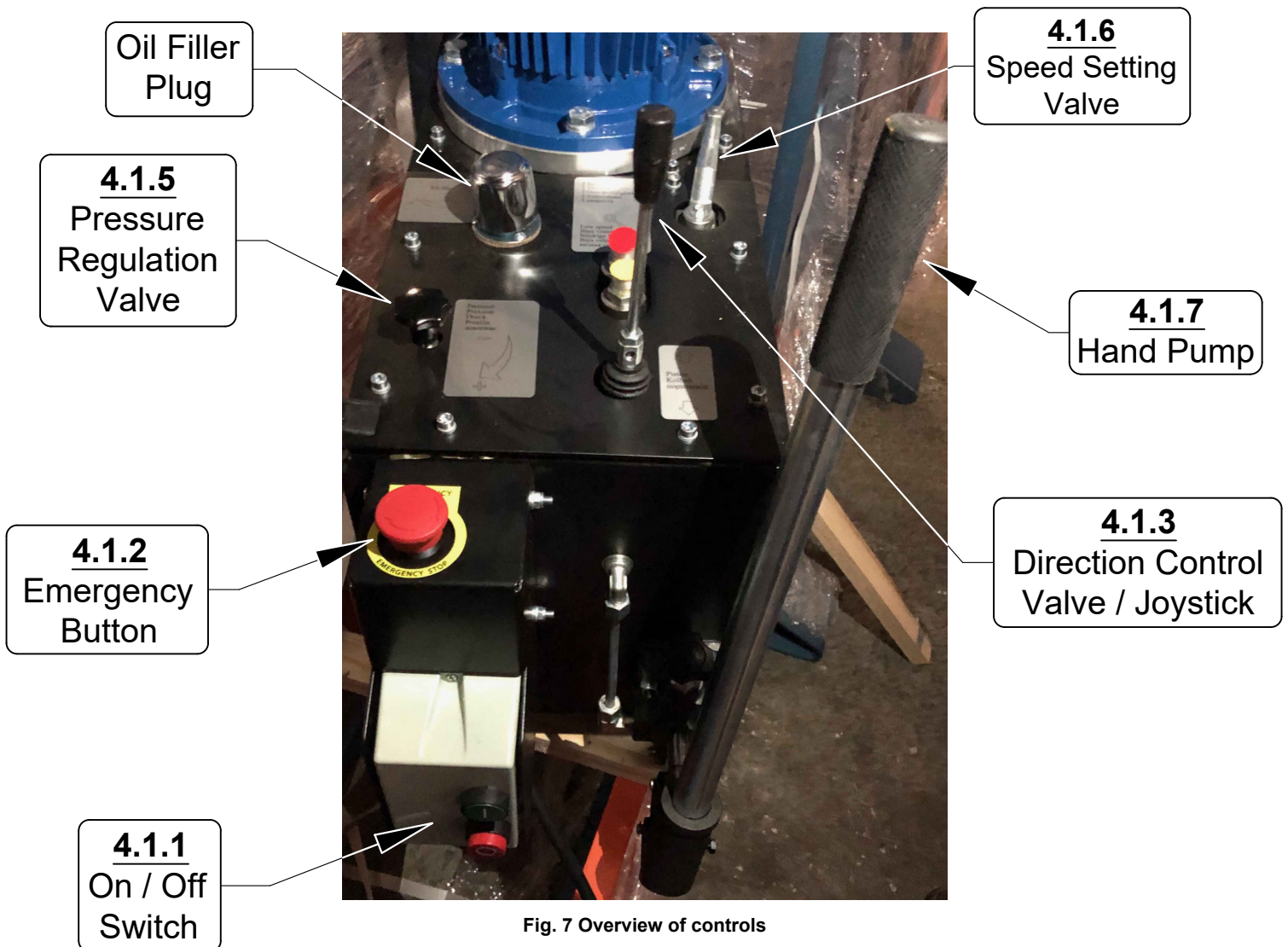


Fig. 7 Overview of controls

4.1 Hydraulic unit

4.1.1 On / Off switch

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.
- Pushing the red button will stop the motor of the hydraulic unit immediately. All parts will stay in the position where 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.



Fig. 8 On / Off switch

4.1.2 Emergency button

The emergency button is located on top of the on / off switch. Pushing the red emergency button in case of emergency will stop the electric motor of the hydraulic unit immediately. All other parts will stay in the same position they are at that moment.

To restart the hydraulic unit again:

- Make sure that the dangerous situation is solved.
- Reset the red emergency button by turning it counter clockwise, the button will pop-up again.
- Push the green button from the on / off switch again.



Fig. 9 Emergency switch

4.1.3 Direction control valve

The direction control valve / joystick is located in the top cover of the hydraulic unit. The valve has 3 lever positions:

- Middle position: if the lever has not been operated, the valve will always return to this position. There is no movement of the press ram.
- Upper position: if the lever is positioned upwards, the press ram of the cylinder will move upwards. As long as the valve is operated, 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 positioned downwards, the press ram of the cylinder will move downwards. As long as the valve is operated, 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.

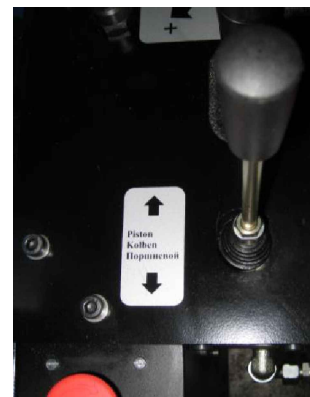
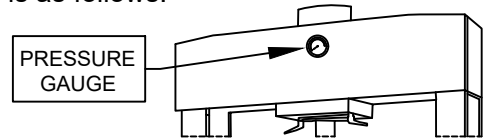


Fig. 10 Directional control valve

4.1.4 Pressure gauge

The pressure gauge is located in the head (in front toward the top) of the press. The gauge shows the pressure in psi & bars. For this press the maximum pressure is as follows:

PressPro 176MT: 3750psi (260 bar)



If this maximum pressure is reached, the maximum capacity of the press is reached as well.

4.1.5 Pressure regulation valve

The pressure regulation valve is located in the top cover of the hydraulic unit. With this valve the maximum pressure, referring to the maximum press capacity, can be changed. Turning the knob clockwise will increase the pressure, turning the knob counter clockwise will reduce the pressure.

Adjusting the pressure:

- Start the hydraulic unit.
- Raise the press ram so no force is applied.
- Turn the knob on the pressure control valve counter clockwise to lower the pressure.

Do not remove the knob!!

Note that it can be turned far enough to unscrew from the pressure control valve.

- 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 while watching the pressure gauge.



Fig. 11 Pressure regulation

4.1.6 Speed setting valve

The speed setting valve is located in the top cover of the hydraulic unit. If the lever is in the lower position, the piston will move with low speed when the directional control valve is activated. If the lever is in the upper position, the piston will move with high speed when the direction control valve is activated. When the piston is reaching the work piece with high speed, it will automatically switch to low speed as soon as it feels counter pressure. This has no influence on the maximum working pressure or working force.



Fig. 12 Speed setting valve

4.1.7 Hand pump

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 of the on/ off switch.
- Set the directional control valve in the required position (up- or downwards).
- Start pumping the hand pump with its lever.



Fig. 13 Hand pump

5. Getting started

To start the press for the first time, make sure:

- The press is installed correctly (see former paragraphs).
- The oil tank is filled with a sufficient amount of oil.
- The hydraulic hoses are tightened correctly to the cylinder and to the hydraulic unit.
- The machine is connected to the correct voltage & grounded per local code.

5.1 De-aerating the press

When starting up for the first time or when the hydraulic hoses have been disconnected from the hydraulic unit or cylinder, the system need to be de-aerated. To do this:

- Start with the piston in the upper position (as delivered condition).
- Make sure there is no work piece on the table.
- Start the hydraulic unit.
- Move the piston to the down position by activating the directional control valve.
- Move the piston back to the up position by activating the direction control valve.
- Repeat this complete cycle at least 6 times to ensure that all the air is out of the system.



Note: incorrect de-aerating can cause unexpected movements of the piston and cause the press to malfunction.

5.2 De-aerating the hand pump

When starting up for the first time or when maintenance of the hydraulic unit is performed, the hand pump needs to be de-aerated. To do this:

- Start with the piston in the upper position.
- Make sure there is no work piece on the table.
- Turn off the hydraulic unit by pushing the red button at the on / off switch.
- Set the directional control valve in the downwards position.
- Start pumping the hand pump with its lever until the piston reaches the lower position.
- Set the directional control valve in the upwards position.
- Start pumping the hand pump with its lever until the piston reaches the upper position.
- Repeat this complete cycle at least 3 times to be sure all air is out of the hand pump.



Note: incorrect de-aerating can cause unexpected movements of the piston and cause the press to malfunction.

5.3 Positioning of cylinder

All 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 both levers two turns 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).
- Tighten the levers again when the cylinder is in the right position. 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.

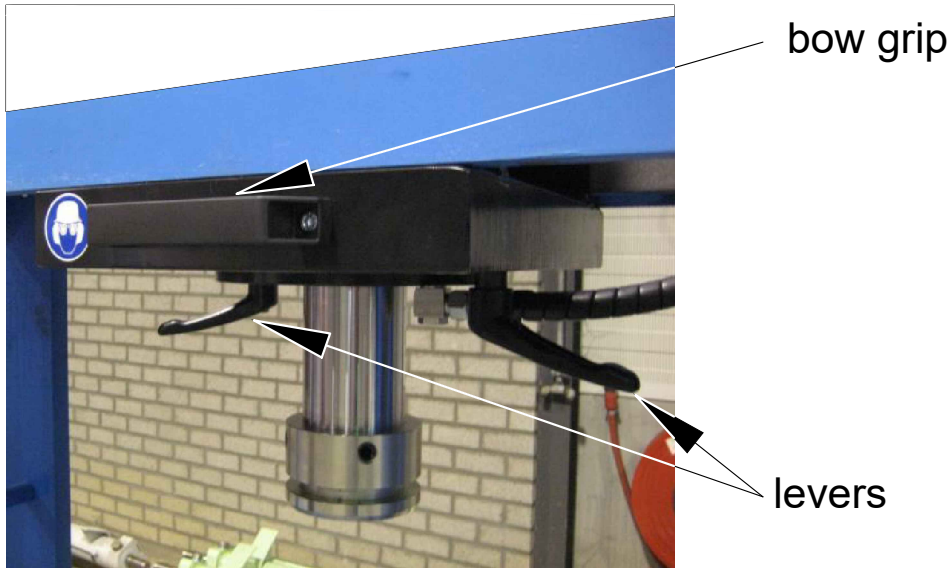


Fig. 14 Moving the cylinder



Tip: working with the cylinder in the outer left or outer right position, will shorten the durability of the press. Working in the center of the press is preferable.

5.4 Regular use

Place the work piece on the table in alignment with the piston rod. If this is not possible, reposition the cylinder and portal to achieve the best alignment.

Take caution when performing operation on elements that are likely to fly off, break (especially casting element and hardened elements) or bounce up as a result of the applied force. In this case, a cover 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 as described in the previous chapters.



Warning: always wear safety shoes, safety glasses, ear protection and body fitting clothes to prevent injuries to any part of the body.



Note: upward movement of the piston is only allowed for returning the piston to its start position. Any other use of the return stroke (e.g. stretching) can result in broken parts and de-function of the press.

When pressing operations are finished:

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

5.5 Working period

The machine is not designed for continuous operation.

- Maximum cycle intensity is 2 per minute.
- Maximum 10 minutes working time with maximum cycle intensity.



Note: when you do not take the maximum working period into account, it can result in overheating the hydraulic oil and heating up the hydraulic unit. The machine can get damaged and the operator may suffer burns.

5.6 Adjusting press cylinder/table position

Section 5.3 explains how to change the position of the cylinder from side to side. The cylinder on the PressPro 176 MT can be moved front to back as well. This is done by anchoring the four legs on the table (1) solidly to the floor, and then moving the press head back and forth to wherever it is needed. When the desired position is achieved simply lock the press head into place and begin use.

In Figure 15 below, the dotted lines (2) represent the parts of the press that actually move. On both sides, the rollers (3) ride on a ledge (4) that is welded to the table.

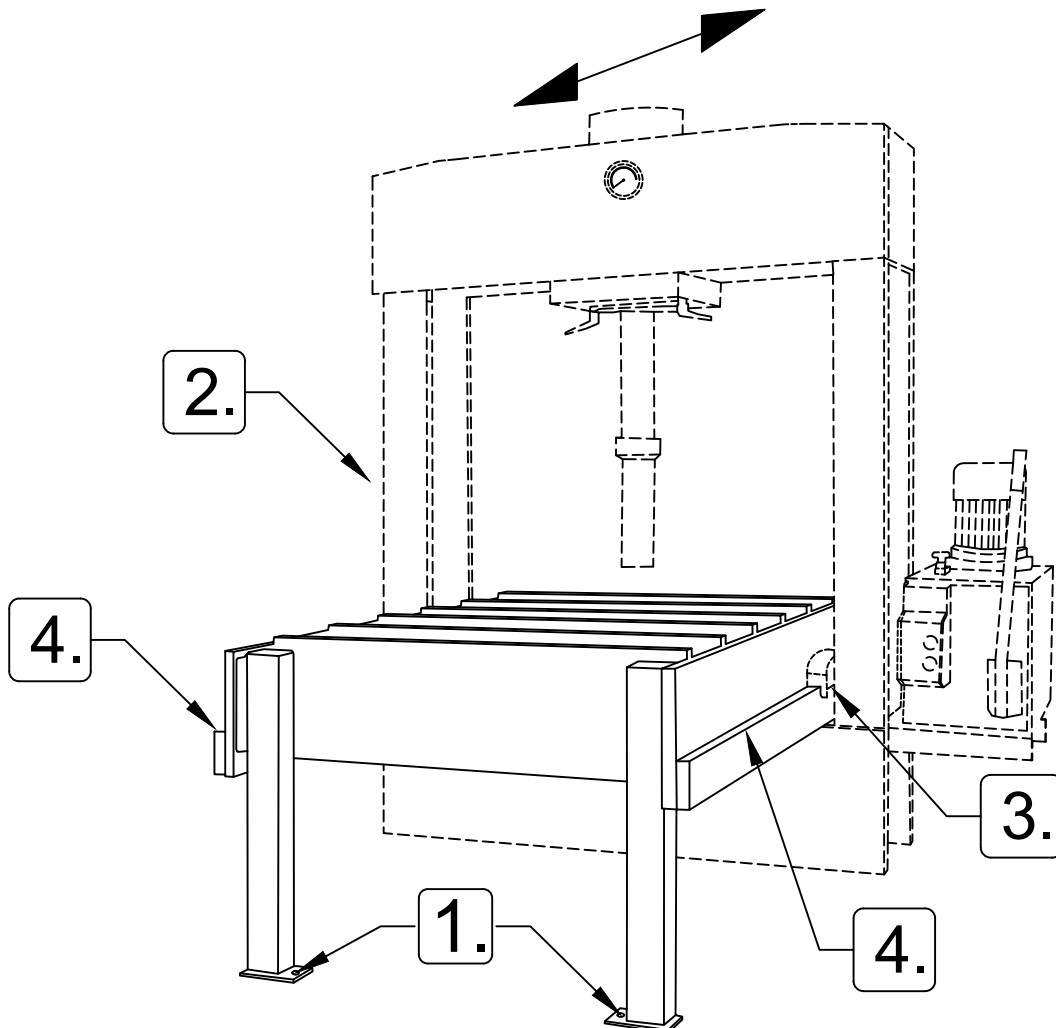


Fig. 15 Moving the cylinder front-to-back.

6. Servicing and maintenance



Note: replacing parts, electrical, mechanical or hydraulic, can only be done by qualified personnel. Your supplier can not be held responsible for damages or injuries as result of inappropriate servicing.

Daily	Weekly	Half-yearly	Yearly
Remove dust and dirt from the table and around the press.	Check oil level of the hydraulic unit.	Inspect all hydraulic fittings and hoses and tighten any loose connections.	Replace the hydraulic oil of the unit. See instruction below.
Check the press for visible damages.	Check electrical connections.	Inspect and tighten all loose fixing bolts.	

- In case of leakages, damaged parts or bare electric cables; do not use the machine before it is repaired.
- Always use original spare parts.



Note: when starting with maintenance, always unplug the electrical connection and make sure there is no hydraulic pressure on the system. Both can result in injuries to the maintenance operator.

6.1 Oil tank draining

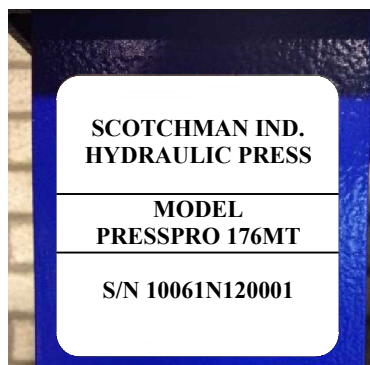
Replace the hydraulic oil at least once a year. A drain plug is located at the bottom of the oil tank. If the inside of the tank is not clean, remove the top cover of the tank and clean the tank from the inside. Check if the drained oil has a gray color or if there are metal particles visible in the oil. This can indicate worn out parts in the cylinder or the hydraulic unit. You have to prevent spilling dirt and water inside the oil tank.

6.2 Contact your supplier

If there are any questions, please contact your supplier.

Always mention the serial number on the machine label. This label is located at the frame of the press (front right side). When you have questions about the hydraulic unit, also mention its serial number.

The label is located on the back of the hydraulic tank.



FRAME

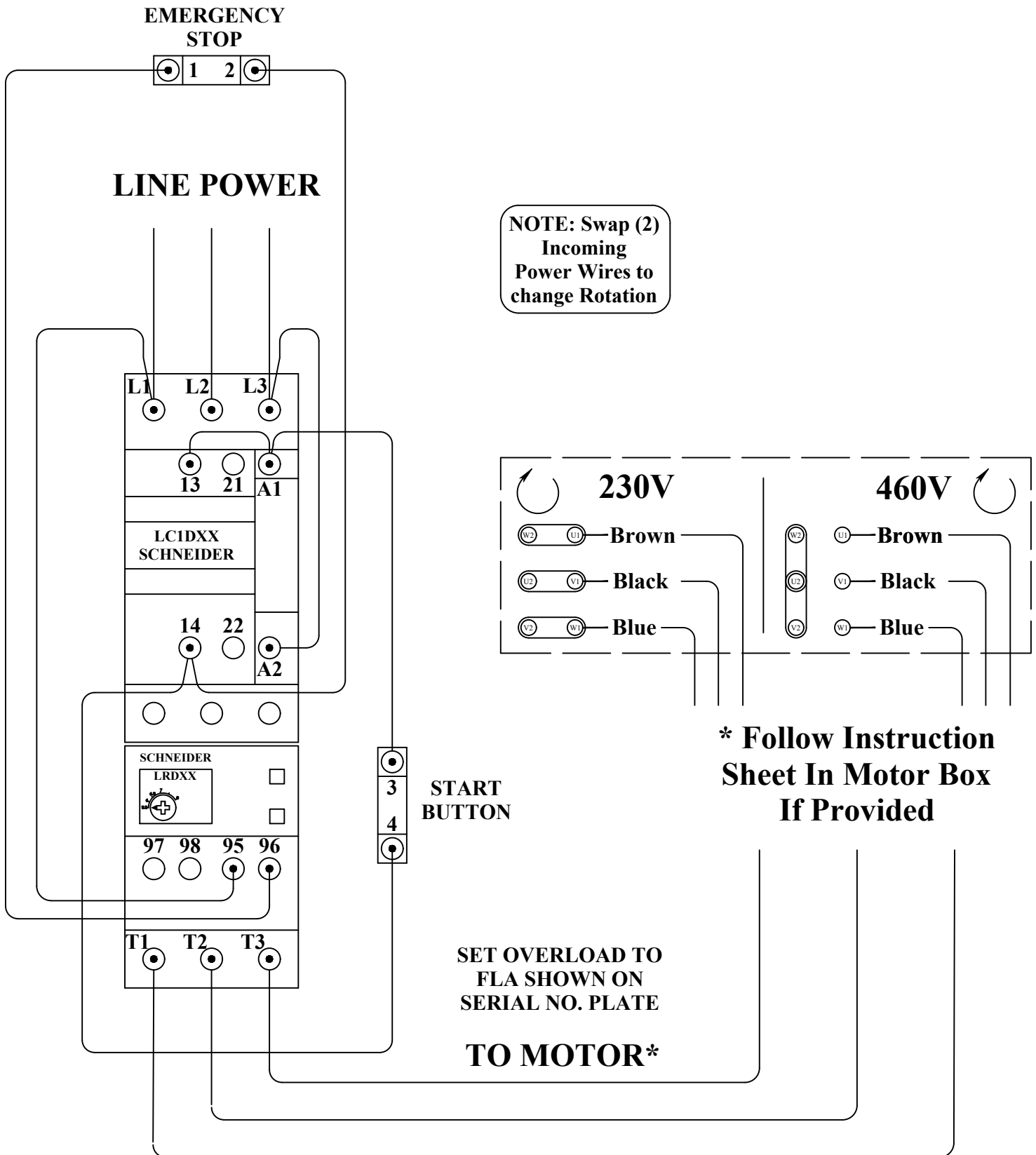


HYDRAULIC TANK

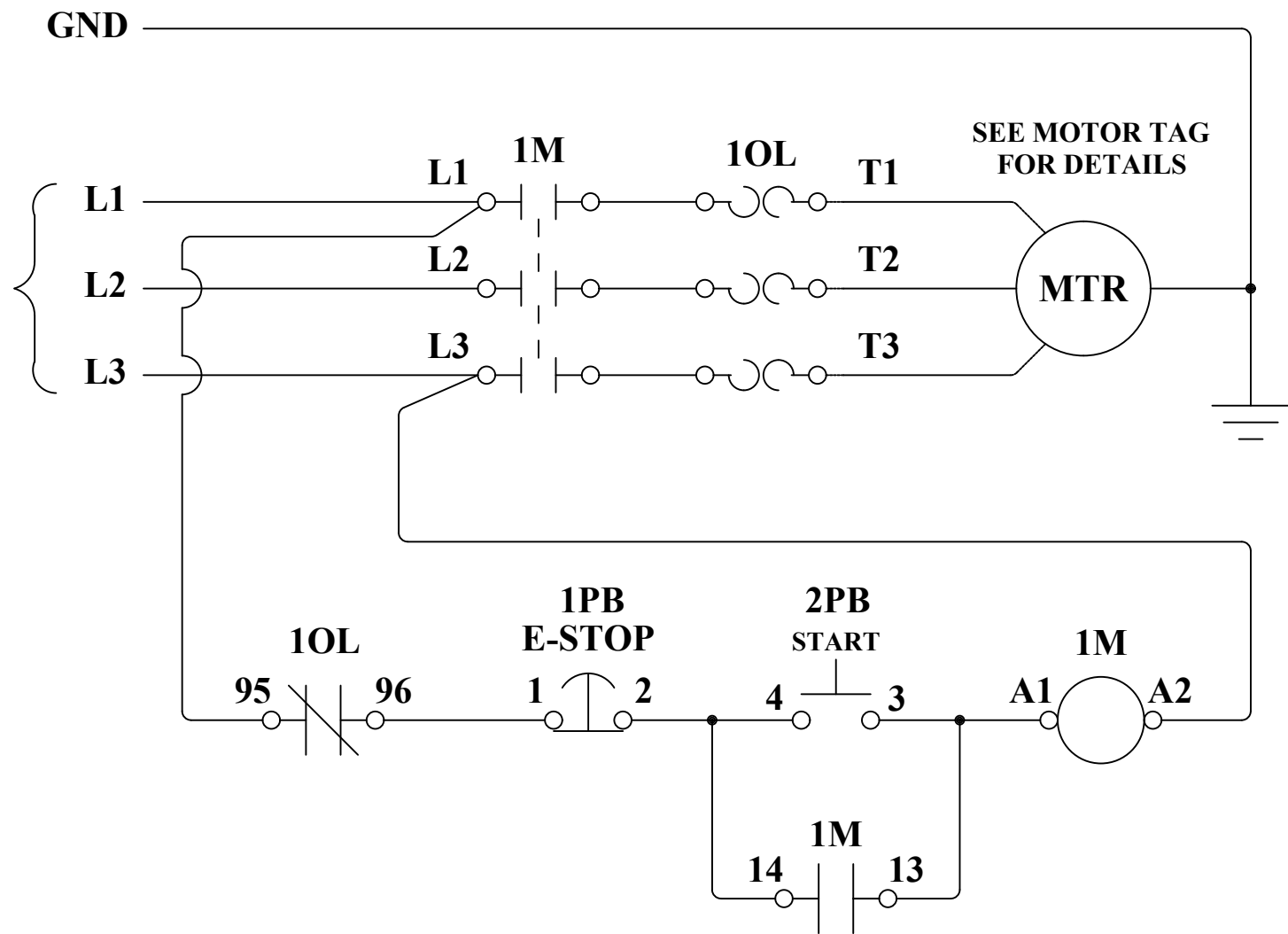
Fig. 16 Examples of type labels

7. Appendixes

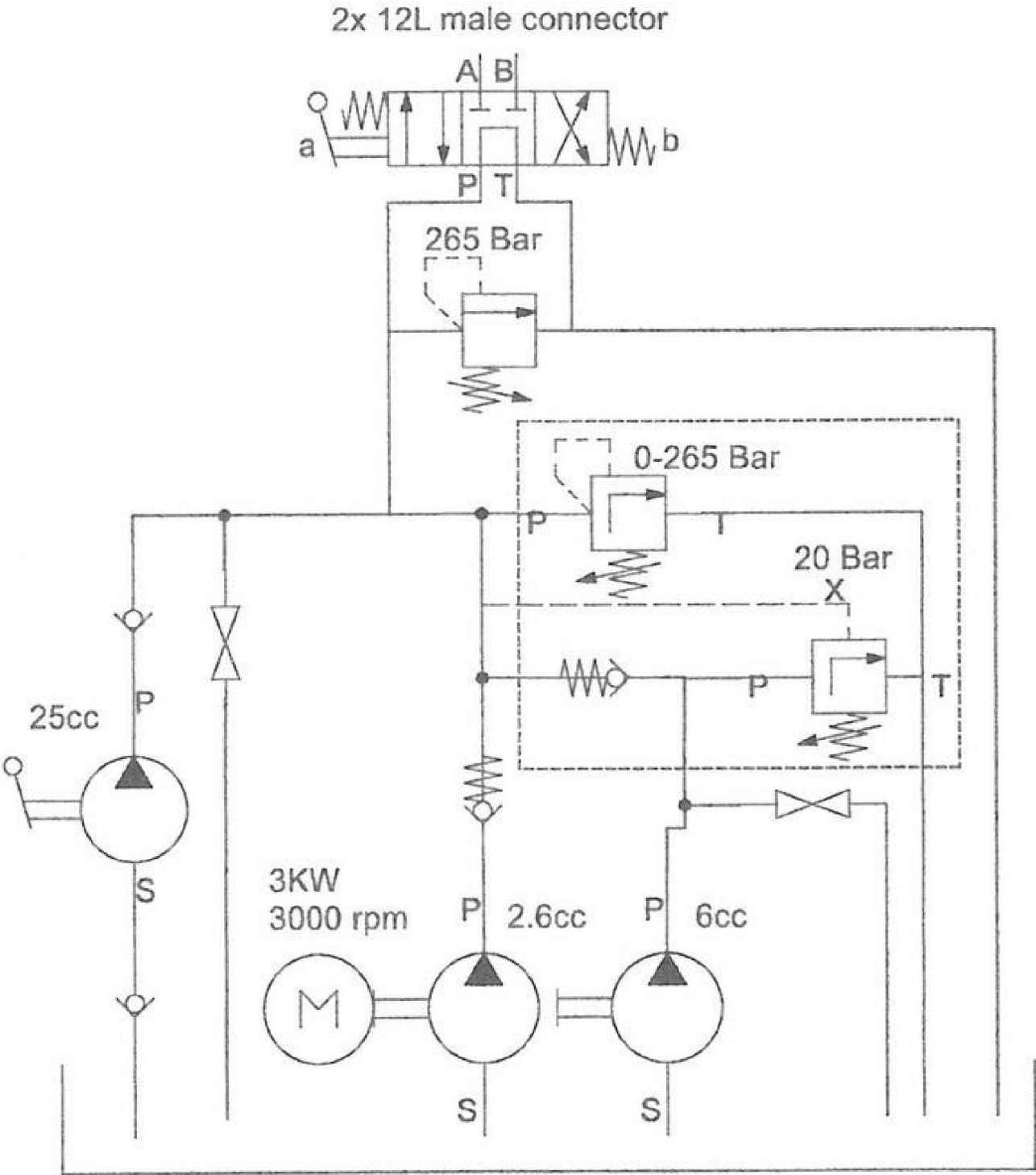
7.1 Appendix I: Electric schematic for a press with a manual operated hydraulic unit



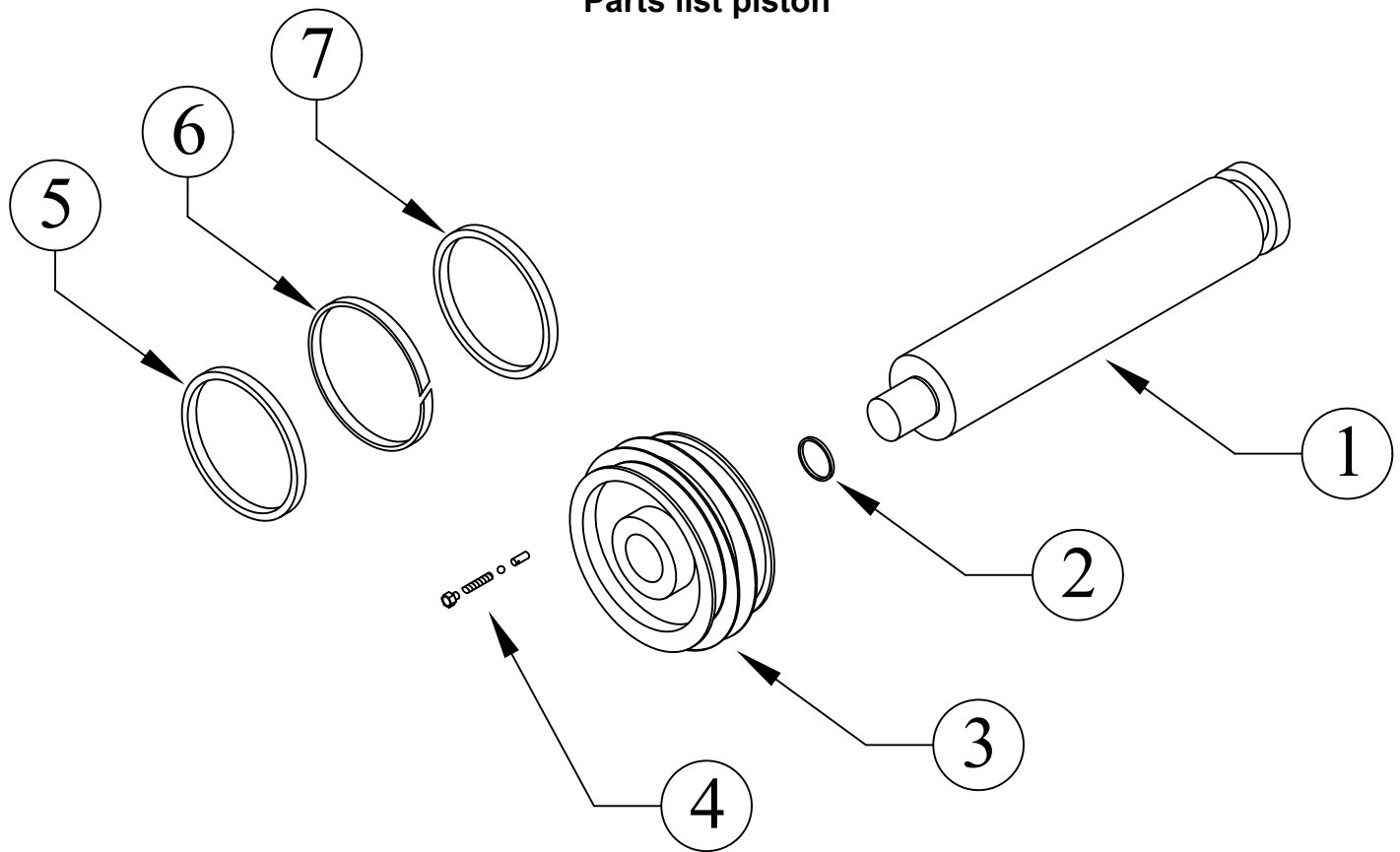
**INCOMING SUPPLY
(BY CUSTOMER)
PROVIDE MAXIMUM
UPSTREAM
PROTECTION PER N.E.C.
CODE 430-52 AND TABLE
430-152.**



7.2 Appendix II: Hydraulic schematic

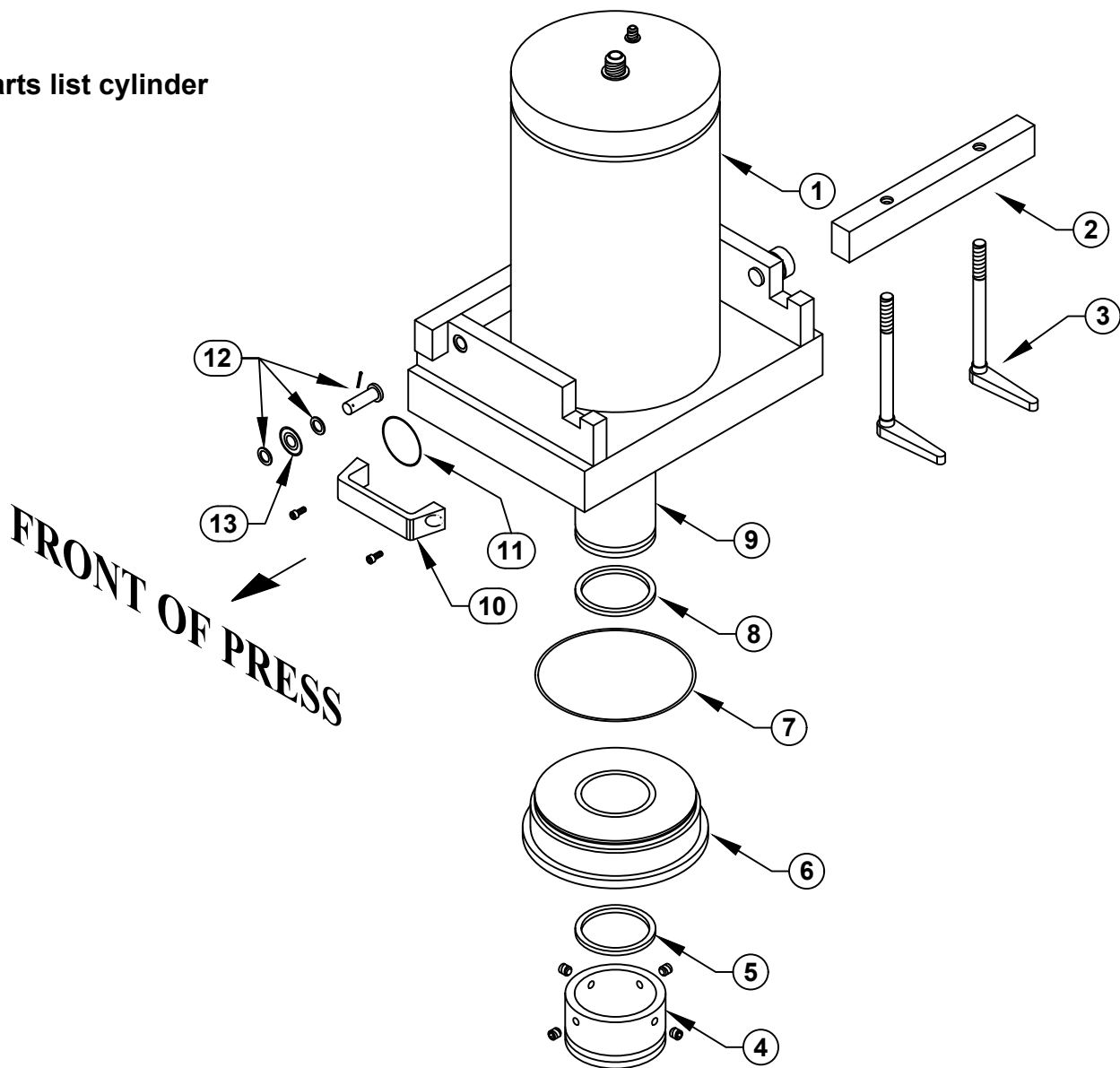


Parts list piston



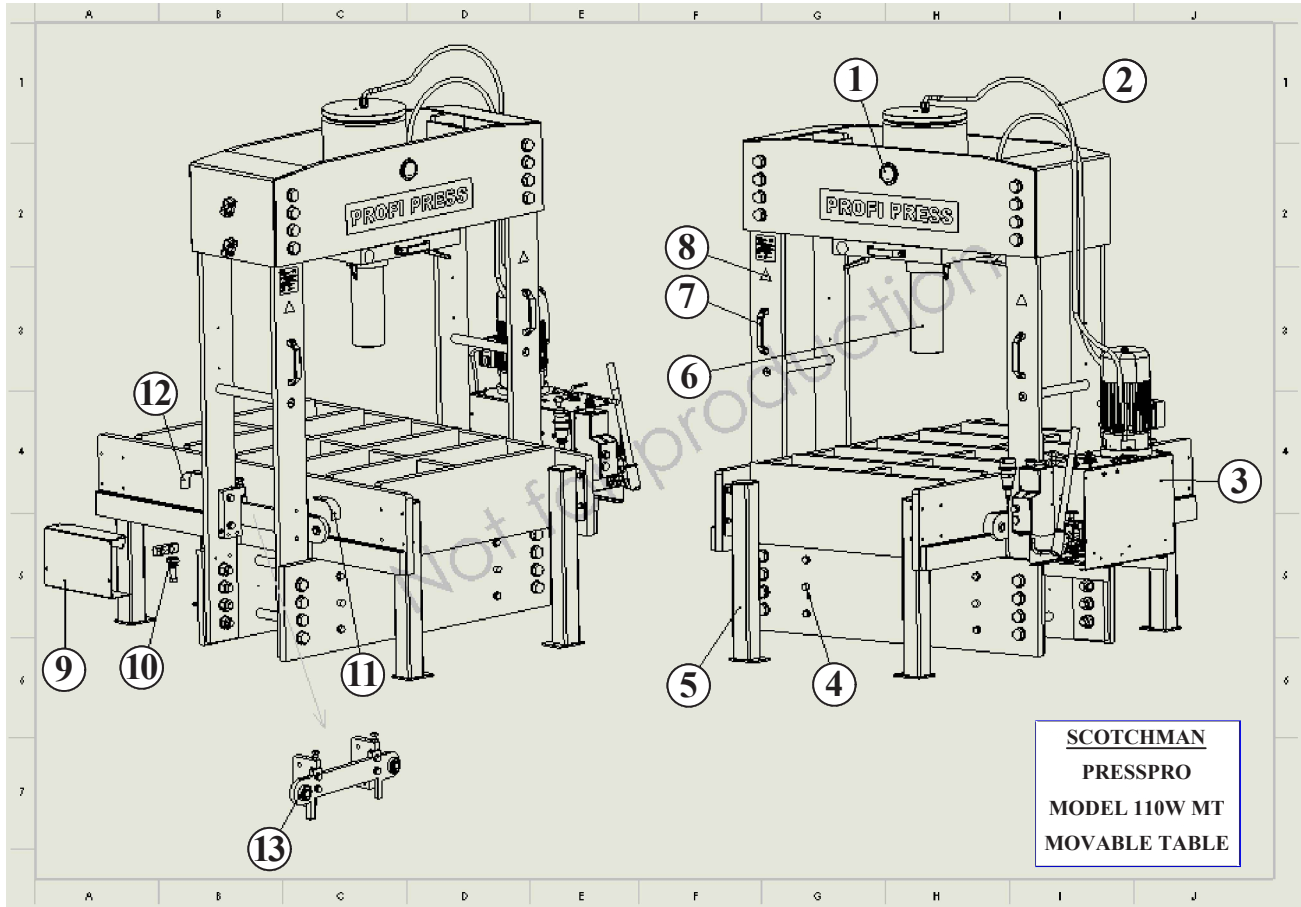
ITEM	Description	Qty	PART #
1	PISTON SHAFT	1	100-506
2	O-RING	1	96x3 NBR 90
3	PISTON	1	100-505
4	VALVE SET	1	Inc. Items 4.1-4.4
4.1	VALVE TIP	1	30-200-515
4.2	VALVE HOUSING	1	30-200-516
4.3	SPRING	1	30-200-D1970
4.4	BULLET	1	30-200-ø12
5	U-SEAL	1	200-220-15
6	RING	1	280-214-19.2
7	U-SEAL	1	208-220-9

Parts list cylinder

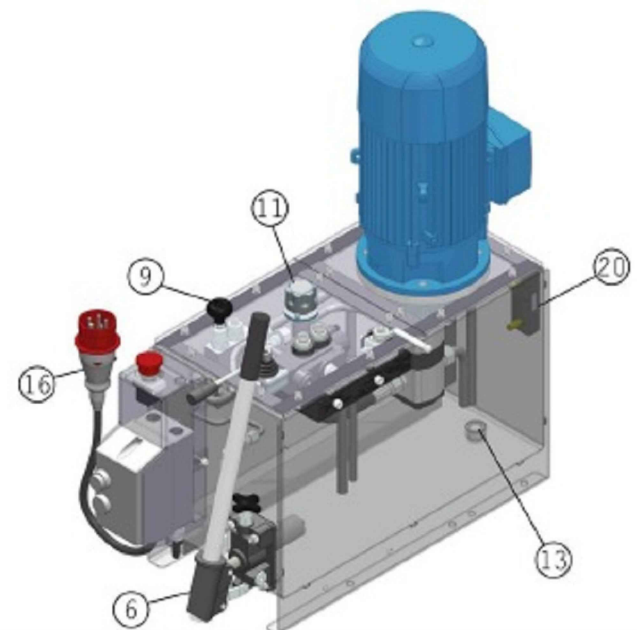
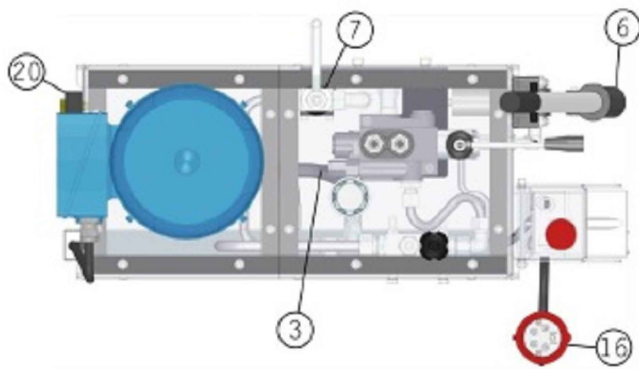
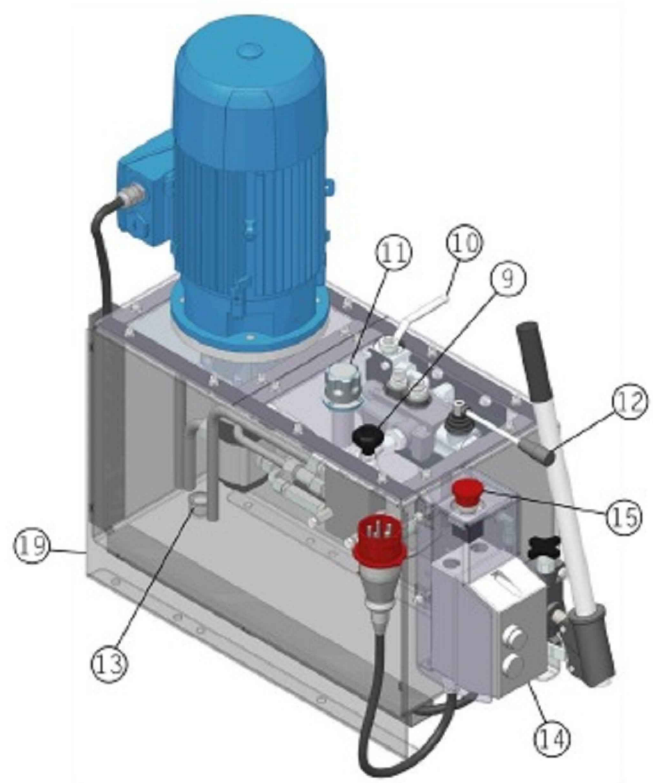
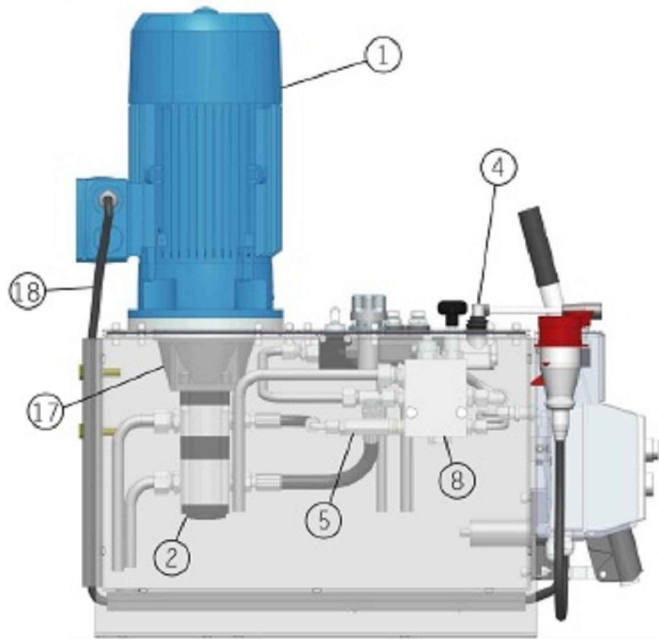


ITEM	Description	Qty	PART #
1	COMPLETE CYL. ASSY	1	PL100-500
2	CYL MOUNTING STRIP-110	2	100-601
3	HANDLE ASSY	4	PL60-200
4	PISTON HEAD ASSY	1	
	PISTON HEAD 110 TON	1	PLS003693
	M16 X 16 SET SCREW	4	30-200-M16X16
5	WIPER		90-102.2-7.1
6	CYLINDER HEAD	1	100-504
7	O-RING	1	210x5 NBR 70
8	U-SEAL	1	90-105-9
9	COMPLETE PISTON ASSY	1	100-508
10	BOW GRIP ASSY	1	
	BOW GRIP	1	PL60-200-06904-1160081
	M8 X 25 SHCS	2	221120
11	Label eye protection	1	30-200-227535
12	ROLLER SHAFT ASSY	4	
	ROLLER BEARING SHAFT	1	600-200-514
	1/8X2 HAIRPIN COTTER PIN	1	123011
	ROLLER BEARING WASHER	2	30-200-A17
13	ROLLER BEARING H-PRESS	4	60-200-6303

Parts list press



Parts list hydraulic unit



Parts list hydraulic Unit

Pos	Description	Qty
1	Electric motor	1
2	Tandem pump	1
3	Pressure relief	1
4	Directional control valve	1
5	Check valve	1
6	Hand pump	1
7	Speed setting valve	1
8	Pressure regulator (VABP)	1
9	Knob pressure regulator	1
10	Handle speed setting valve	1
11	Filling plug	1
12	Handle control valve	1
13	Drain plug	1
14	On- / Off switch	1
15	Emergency button	1
16	Cable / Plug	1
17	Bell housing	1
18	Pipes + couplings package	1
19	Tank	1
20	Sight glass	1

If you have questions about the hydraulic unit, please mention its serial number.
The label is located on the back of the hydraulic tank.



LABEL - HYDRAULIC TANK