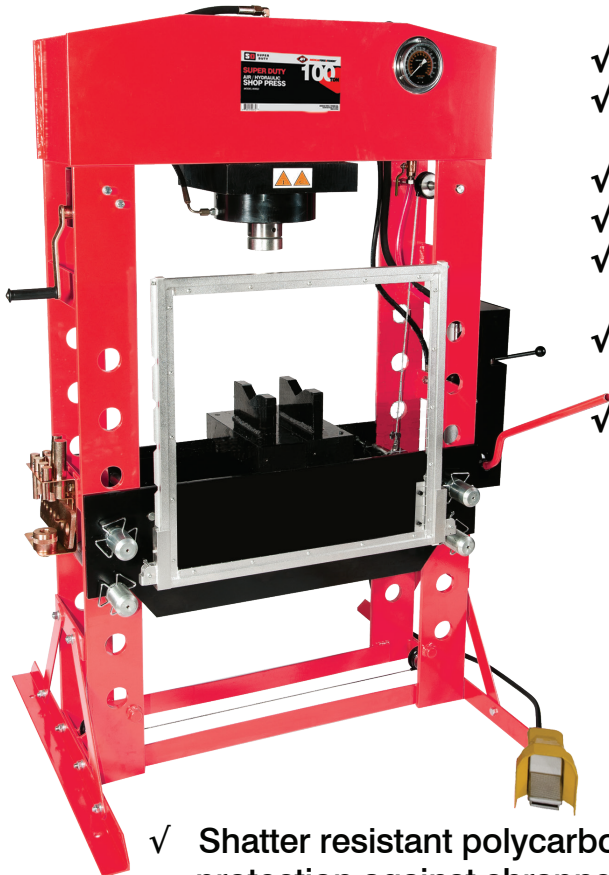




AMERICAN FORGE & FOUNDRY™

Super Duty Shop Presses Featuring New Polycarbonate Design Protector Shield



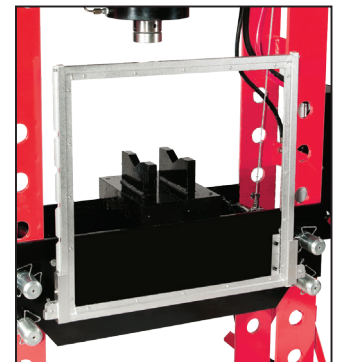
- ✓ Welded construction for exceptional strength and durability
- ✓ Includes 2 pc press plate set and 10 pc pin and bearing press adapter set
- ✓ Dual air motor operation for faster pressing process
- ✓ Glycerin filled gauge accurately shows pressing force
- ✓ 7 position bed height configuration for ultimate operator flexibility
- ✓ Lateral head adjuster provides smooth side to side movement of the press head
- ✓ Heavy duty cable winch for effortless bed adjustment (Cable Winch featured on 50, 75, and 100 ton models)



**SUPER
DUTY**

- ✓ Shatter resistant polycarbonate material provides maximum protection against shrapnel and other debris
- ✓ Standard on all Super Duty Shop Presses ending in "ASD"
- ✓ Need to update your old shop press? Order the following :

- 850ASD-P Fits 20 ton Super Duty models
- 852ASD-P Fits 30 ton Super Duty models
- 854ASD-P Fits 50 ton Super Duty models
- 856ASD-P Fits 75 ton Super Duty models
- 859ASD-P Fits 100 ton Super Duty models



| MODEL | CAPACITY (TONS) | RAM STROKE | OVERALL DIMENSIONS | BED DEPTH | BED WIDTH | THROAT DEPTH | THROAT WIDTH | WEIGHT (LBS) |
|--------|-----------------|------------|--------------------|-----------|-----------|--------------|--------------|--------------|
| 850ASD | 20 | 7.50" | 35"Wx64"H | 7.00" | 19.25" | 5.75" | 10.75" | 282 lbs. |
| 852ASD | 30 | 5.90" | 40"Wx71"H | 7.25" | 21.50" | 6.50" | 15.00" | 363 lbs. |
| 854ASD | 50 | 7.75" | 54"Wx75"H | 10.12" | 28.75" | 7.25" | 16.75" | 660 lbs. |
| 856ASD | 75 | 9.75" | 57"Wx77"H | 10.87" | 31.50" | 8.00" | 19.75" | 1030 lbs. |
| 859ASD | 100 | 11.58" | 55"Wx84"H | 13.50" | 31.00" | 9.00" | 16.5" | 1476 lbs |






100 Ton Shop Press Operating Instructions

MOD NO. 859SD

Hazard Symbols Used in the Manual

This manual includes the hazard symbols defined below when the operations or maintenance job involves a potential danger. These symbols describe the level of danger involved in performing a job on the tool and the precautions to take to avoid the hazard.

| Term | Sign | Description |
|---------------|--|--|
| Danger Label |  | Danger Labels indicate an imminently hazardous situation that if not avoided, WILL result in death or serious injury. |
| Warning Label |  | Warning Labels indicate a potentially hazardous situation, which if not avoided, COULD result in death or serious injury. |
| Caution Label |  | Caution Labels indicate a potentially hazardous situation, which if not avoided, MAY result in minor or moderate injury. |
| Note | NOTE: | Short piece of additional information with the purpose of adding or emphasizing important points in the text. |

Safety Requirements

Important

Make sure to read, understand, and strictly follow all safety related instructions before operation or maintenance of this equipment.

Intended Users

This manual is to be made available to all persons who are required to install, configure or service equipment described herein, or any other associated operation.

Application Area

The machinery described is intended for machinery production and assembling spare parts. It is used to press, size, assemble, rivet small parts in process and not for other use.

Personnel

Installation, operation and maintenance of the equipment should be carried out by qualified personnel. A qualified person is someone who is technically competent and familiar with all safety information and established safety practices with the installation process, operation and maintenance of this equipment; and with all the hazards involved.



Hazards

Personnel safety must have top priority. Thoroughly read the operation manuals to completely understand proper procedures before maintenance or inspection work.



Basic Safety Instructions

Failure to comply with the following could result in serious injury or death.

IMPORTANT

This press is shipped with a removable Guard, determine if the included guard is appropriate for the application, due to the wide variety of pressing / bending applications, it is impossible to incorporate one guard that will apply to all applications. ALWAYS ENSURE THAT THE OPERATOR AND BYSTANDERS ARE PROPERLY GUARDED FROM THE POSSIBILITY OF FLYING DEBRIS.

1. Periodic inspections or maintenance work must be carried out by two or more persons.
2. Read and understand the safety manual.
3. Read and understand all the attached manuals.
4. Attach visible signs on the equipment so that everyone recognizes and understands that maintenance or inspection is ongoing.
5. Post a list with emergency phone numbers nearby the working area.
6. Operator should be aware of what to do in case of an emergency (refer to the Procedures for Emergency Situations); know the location of the first-aid-kit, and the location of the fire extinguisher. Also learn how to use a fire extinguisher.
7. Alert anyone around the Tool whenever planning to operate it during maintenance or inspection work.
8. Always use proper hand tools and jigs during maintenance or inspections. Before operating the machine, check for any hand tools or jigs left inside it. For your own safety, **NEVER** try to remove them with the machine under operation. Consider **SAFETY FIRST**.
9. The operator must wear protective clothes, gloves, safety helmet, shoes and ear protection during operation.
10. To prevent back injury, heavy parts (or units) must be moved by two or more persons.
11. Before powering the machine, alert the persons around it.
12. Be careful not to be pinched by moving parts.
13. Use **ONLY CARRIER** specified for the tool, and set it in a correct position.
14. To avoid accidents, always be aware of any on-going work on the machine. Also, always stay focused on the job to be done.



Safety Instruction and Warnings

1. Before maintenance on pressured parts in the machine, you **MUST** release the pressure in the pressured system. At the same time, **DO NOT** stand in the direction facing the charger, the operator should be on the opposite side and remember **DO NOT** strike, press or transfer until it is discharged.
2. When it is necessary to exchange die after running, operators should wear gloves or use tools to operate and avoid injury.

NOTE:

Immediately stop operating the equipment if not working properly. Contact certified technical support engineers for repair. The equipment must not be operated without approval from the certified technical support engineer.



Prohibited Dangerous Actions

This section describes examples of dangerous actions not only during equipment operation, but also during maintenance and inspections. To avoid accidents, thoroughly read and understand the instructions below regarding dangers related to each mechanism prior to any maintenance or inspection work.

1. Use a qualified person to keep the lift in good condition. Keep it clean for best and safest performance.
2. The maximum load is 100 Ton, **DO NOT** exceed this rated capacity. Never apply excessive force to a work piece and always use the pressure gauge to accurately determine the applied load. Burst hazard exists if hose or connection pressure exceeds rated pressure.
3. Shop presses are designed for automotive, truck, implement, fleet, and industrial repair shops where pressing, bending, straightening, forming or holding is required. Each press includes a cylinder, a pump, and lifting bar which provides a safe way to raise and lower the bed frame, and a pressure gauge for monitoring the applied press force.
4. Keep children and unauthorized persons away from the work area.
5. Remove loose fitting clothing. Remove ties, watches, rings and other loose jewellery, and contain long hair.
6. Wear ANSI approved impact safety goggles, full-face impact safety shield and heavy-duty work gloves when operating the press.
7. Keep proper balance and footing, wear nonskid footwear and do not overreach.
8. Only use this press on a surface that is stable, level, dry and not slippery, and capable of sustaining the load. Keep the surface clean, tidy and free from unrelated materials and ensure there is adequate lighting.
9. Inspect the press before each use. Do not use if bent, broken, cracked, leaking or otherwise damaged, any suspect parts are noted or it has been subjected to a shock load.
10. Check to ensure that all applicable bolts and nuts are firmly tightened.
11. Ensure that work piece is center-loaded and secure.
12. Keep hands and feet away from bed area at all times.
13. Do not use the shop press to compress spring or any other item that could disengage and cause a potential hazard. Never stand directly in front of loaded press and never leave loaded press unattended.
14. Do not operate the press when you are tired or under the influence of alcohol, drugs or any intoxicating medication.
15. Do not allow untrained persons to operate the press.
16. Do not make any modifications to the press.
17. Do not use brake fluid or any other improper fluid and avoid mixing different types of oil when adding hydraulic oil. Only good quality hydraulic jack oil can be used.
18. Do not expose the press to rain or any other kind of bad weather.
19. If the press needs repairing and/or there are parts that need to be replaced, have it repaired by authorized technicians and only use the replacement parts supplied by the manufacturer.

WARNING: The warnings, cautions and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Environmental Pollution









If the substances you use come under the ordinances concerning environmental pollution, follow the ordinances to discharge and dispose of such substances. If you commission industrial waste companies, you should confirm the way of final processing.



Check for the safety of people working around the Tool, before powering it.

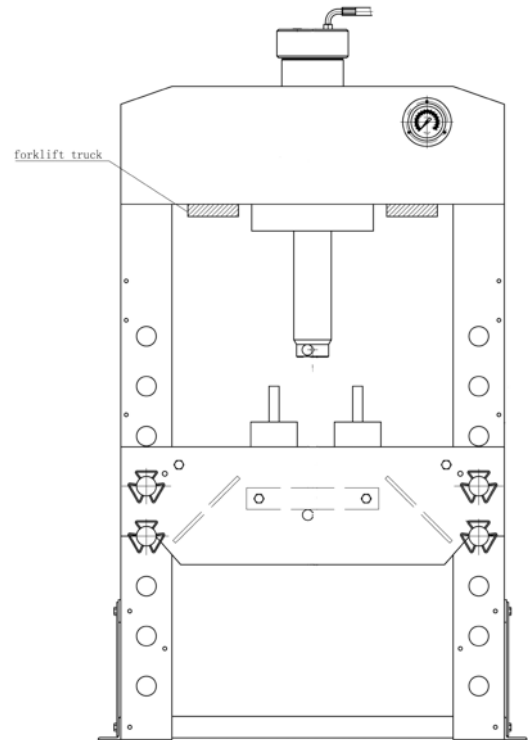
Warning Label

Drawings below show warning labels attached to the machine.

| | | |
|---|---|--|
| 1 |  | Hand crush force from above |
| 2 |  | Read operator's manual |
| 3 |  | Consult technical manual for proper service procedures |
| 4 |  | Must wear protective clothes |
| 5 |  | Must wear protective gloves |
| 6 |  | Must wear safety helmet |
| 7 |  | Must wear protective shoes |
| 8 |  | Must wear ear protector |

2.4 Technical Capacity

| No. | Item | | Unit | Value |
|-----|------------------------------|--------|------|---------|
| 1 | Capacity | | Ton | 100 |
| 2 | Stroke | | mm | 300 |
| 3 | Pressure of Hydraulic System | | MPa | 63.69 |
| 4 | Working Range | | mm | 93~933 |
| 5 | Air Inert Fitting | | NPT | 1/4" |
| 6 | Air Pressure | | PSI | 120-200 |
| 7 | Bed Size | Width | mm | 787 |
| 8 | Height above floor | | mm | 1,900 |
| 9 | Covered area | Width | mm | 990 |
| | | Length | mm | 1,199 |



Prepare Before Using



The units are generally too heavy to be moved by hand. Therefore, use the correct transport and lifting equipment. The weights and dimensions of this press are shown in the chart above. When moving the machine, please use the proper lifting equipment and follow the instructions as follows.

Working Area Conditions

Users should provide enough space for the equipment and the environment should be clean, non-flammable, corrosive and dust free.



A working area of 10m is to be kept free both in front of and behind the machine while it is in operation so that it is always easily accessible.

Unpacking



When opening the packaging, make sure to use the proper tools, wear protective clothing, gloves, safety helmet. Make sure that the product and parts in the box are complete and identical to the parts list. If not, contact the manufacturer immediately.

Disposal of the packaging

The packaging of these machines consists of PVC film and polywood case. The proper disposal of the packaging is the responsibility of the customer.

Installation



The machine must only be installed and commissioned by qualified personnel!
All relevant safety regulations must be strictly adhered to!

Prior to First Use



- Before the first use, fix the machine to the floor by anchor bole. Ensure the standing surface of the machine site is firm and horizontal, and that sufficient lighting is provided.
- Clean the machine thoroughly. Before first use of this product, pour a teaspoon of good quality, air tool lubricant into the air supply inlet of the lift control valve, connect to air supply and operate for 3 seconds to evenly distribute lubricant.

IMPORTANT



This press is shipped with a removable guard, determine if the included guard is appropriate for the application, due to the wide variety of pressing / bending applications, it is impossible to incorporate one guard that will apply to all applications. **ALWAYS ENSURE THAT THE OPERATOR AND BYSTANDERS ARE PROPERLY GUARDED FROM THE POSSIBILITY OF FLYING DEBRIS.**



This press is shipped with a Pressing Adapter Set, which includes various size and capacity Pressing Adapters

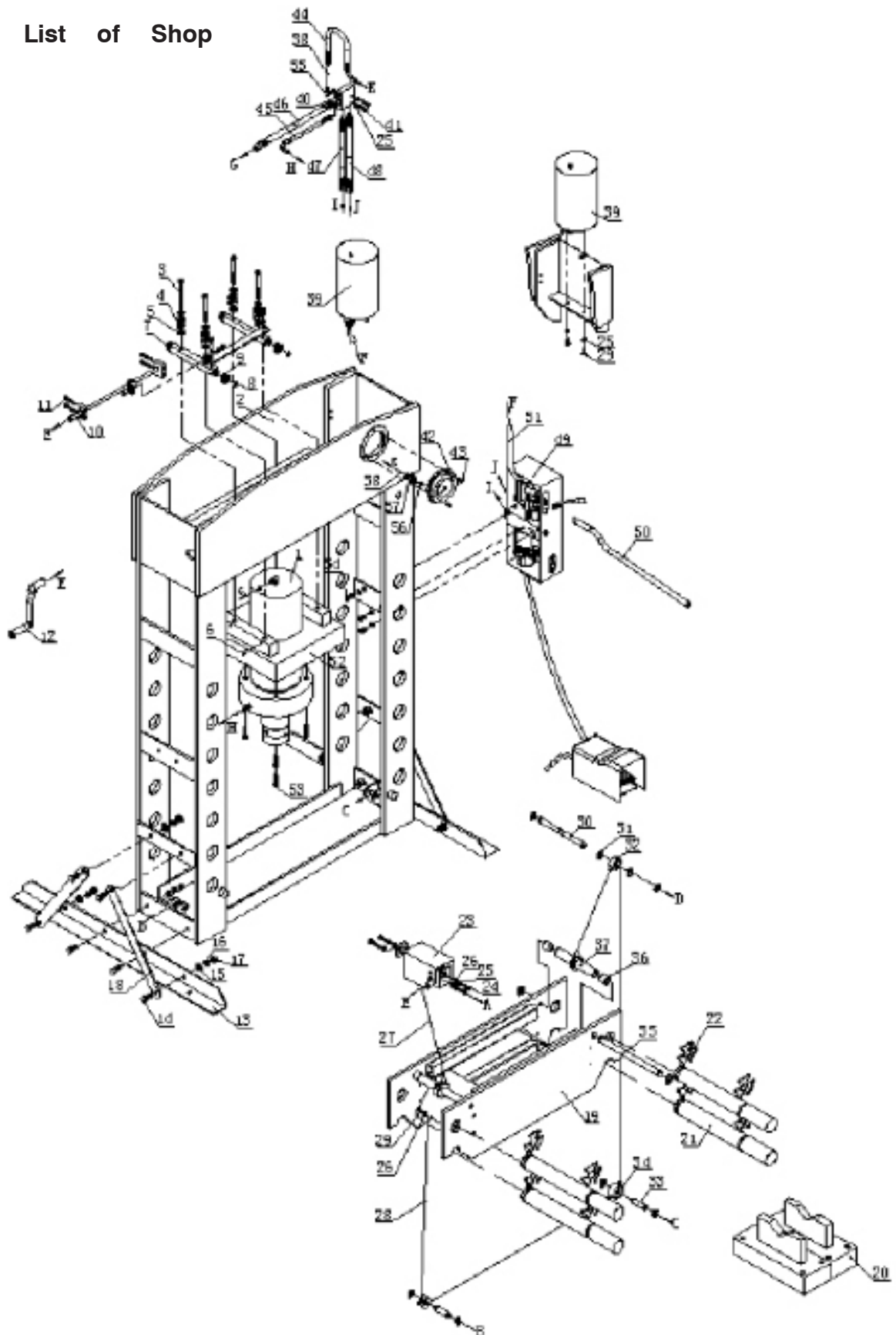
- EACH ADAPTER HAS A MAXIMUM CAPACITY BASED ON ITS SIZE
- DO NOT USE ADAPTER BEYOND RATED CAPACITY.



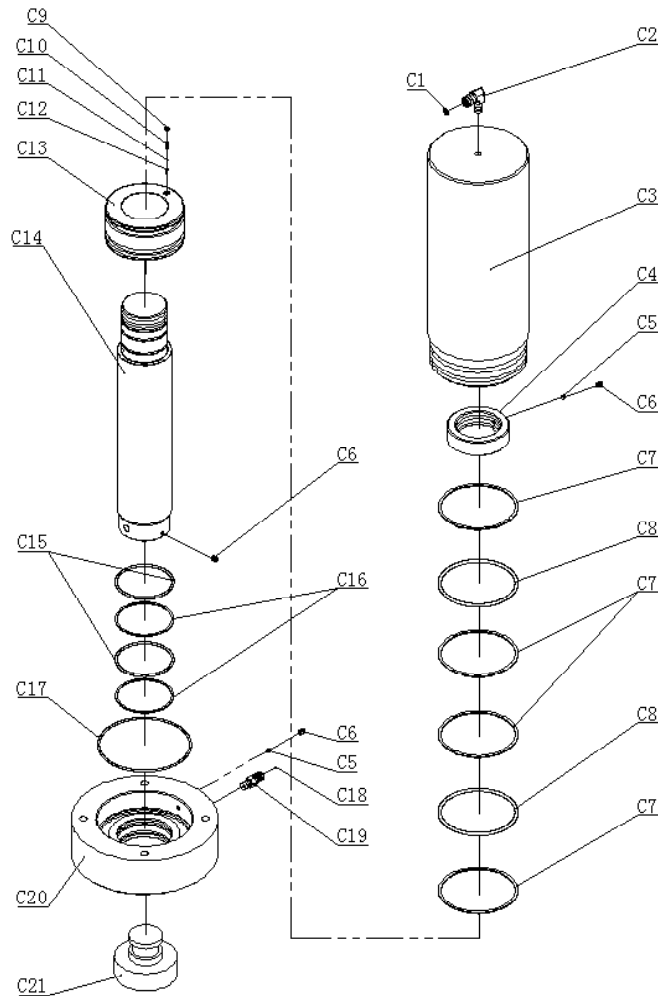
3. Parts List of Shop Press

| No. | Description | Qty. | No. | Description | Qty. |
|-----|---------------------------------|------|-----|-----------------------|------|
| 1 | Ram Assembly | 1 | 30 | Roller Pin | 1 |
| 2 | Body Frame | 1 | 31 | Circlip $\phi 20$ | 8 |
| 3 | Hex Bolt M12*130 | 4 | 32 | Roller With Cover III | 1 |
| 4 | Spring Cove | 8 | 33 | Roller Pin 2 | 2 |
| 5 | Spring | 4 | 34 | Roller With Cover | 2 |
| 6 | Hexagon socket set screw M8*10 | 4 | 35 | Lifting Bar | 2 |
| 7 | Steel Tube II | 2 | 36 | Tube 2 | 4 |
| 8 | Circlip $\phi 17$ | 4 | 37 | Bushing | 1 |
| 9 | Ball Bearing GB/T276-6203 | 4 | 38 | O-ring 9*1.9 | 2 |
| 10 | Ram Moving Equipment | 1 | 39 | Oil Tank | 1 |
| 11 | Hexagon Screw M8*45 | 4 | 40 | Adapter | 1 |
| 12 | Handle Part | 1 | 41 | Hex Screw M10*40 | 2 |
| 13 | Base | 2 | 42 | Pressure Gauge | 1 |
| 14 | Hex Bolt M12*30 | 12 | 43 | Screw M5*8 | 3 |
| 15 | Washer GB/T95- $\phi 12$ | 12 | 44 | Oil Hose 1 | 1 |
| 16 | Spring Washer GB/T93- $\phi 12$ | 15 | 45 | Oil Hose (Down) | 1 |
| 17 | Hex Nut M12 | 12 | 46 | Oil Hose 3 | 1 |
| 18 | Support | 4 | 47 | Oil Hose 1 | 1 |
| 19 | Working Bed | 1 | 48 | Oil Hose 2 | 1 |
| 20 | Heel Block | 2 | 49 | Pump Assembly | 1 |
| 21 | Pin | 4 | 50 | Handle Tube | 1 |
| 22 | Circlip | 8 | 51 | Oil Hose | 1 |
| 23 | Working Bed Moving Equipment | 1 | 52 | Under Plate | 1 |
| 24 | Hex Screw M10*30 | 4 | 53 | Hexagon Screw M12*45 | 4 |
| 25 | Spring Washer $\phi 10$ | 8 | 54 | Hex Bolt M12*25 | 3 |
| 26 | Washer $\phi 10$ | 5 | 55 | Fitting | 1 |
| 27 | Cable 1.6M | 1 | 56 | Nylon Ring | 1 |
| 28 | Cable 4.3M | 1 | 57 | Connecting Nut | 1 |
| 29 | Hex Screw M10*20 | 3 | | | |

3. Parts List of Shop Press

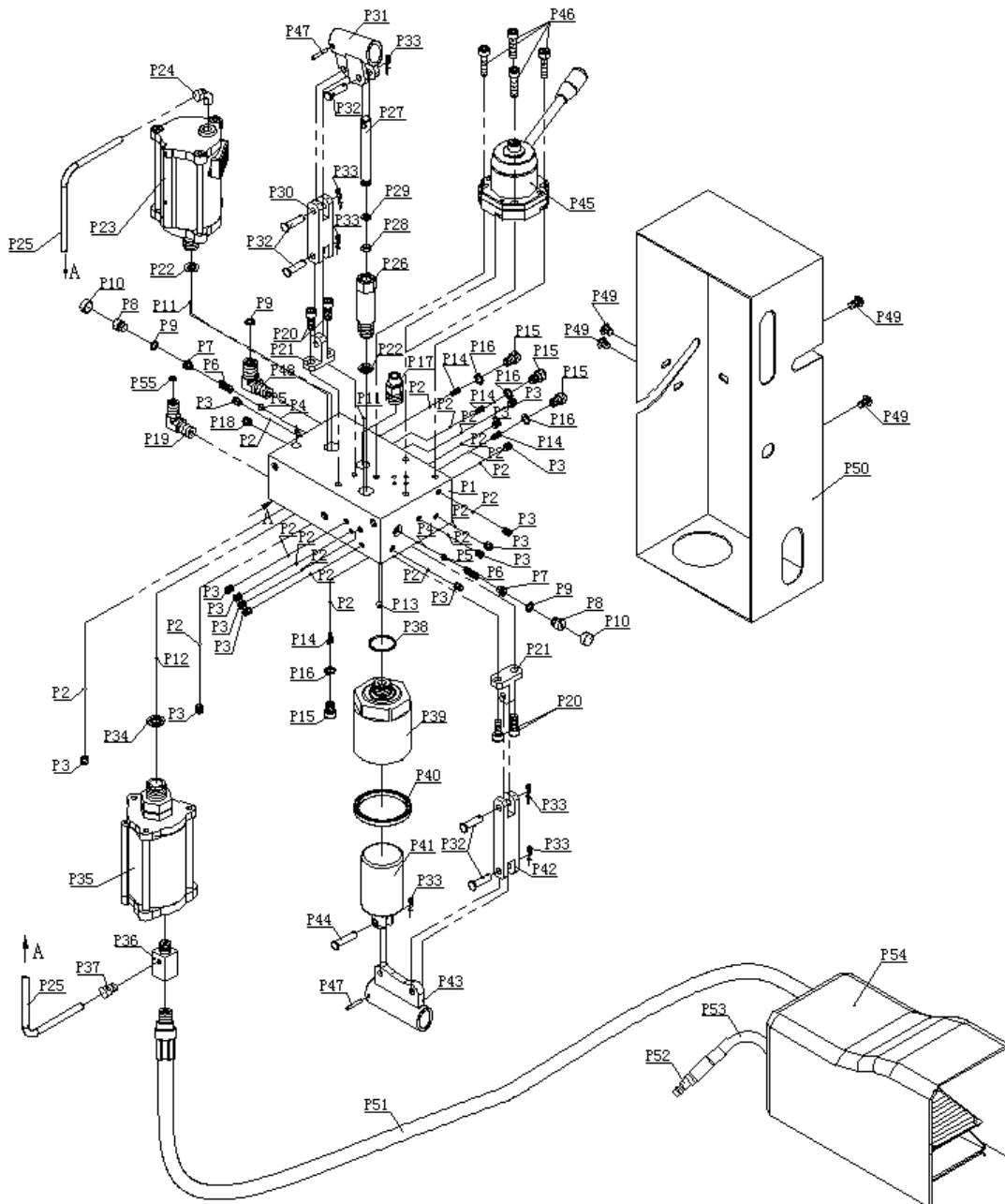


4. Parts List of Ram



| No. | Description | Qty. | No. | Description | Qty. |
|-----|--------------------------------|------|-----|-----------------------------|------|
| C1 | O-ring 8*2 | 1 | C12 | Valve Rod | 1 |
| C2 | Fitting | 1 | C13 | Piston | 1 |
| C3 | Cylinder | 1 | C14 | Piston Rod | 1 |
| C4 | Nut | 1 | C15 | O-ring GB3452.1-96*4 | 2 |
| C5 | Nylon Block | 2 | C16 | PTFE Washer | 2 |
| C6 | Hexagon Socket Set Screw M8*10 | 3 | C17 | O-ring GB3452.1-158.34*3.53 | 1 |
| C7 | PTFE Washer | 4 | C18 | O-ring GB1235-9*1.9 | 1 |
| C8 | O-ring GB3452.1-129.6*5.7 | 2 | C19 | Connector I | 1 |
| C9 | Screw | 1 | C20 | Ring for Ram | 1 |
| C10 | Spring | 1 | C21 | Serrated Saddle | 1 |
| C11 | Steel Ballφ4.7630 | | | | |

5. Parts List of Pump



Pump Features:

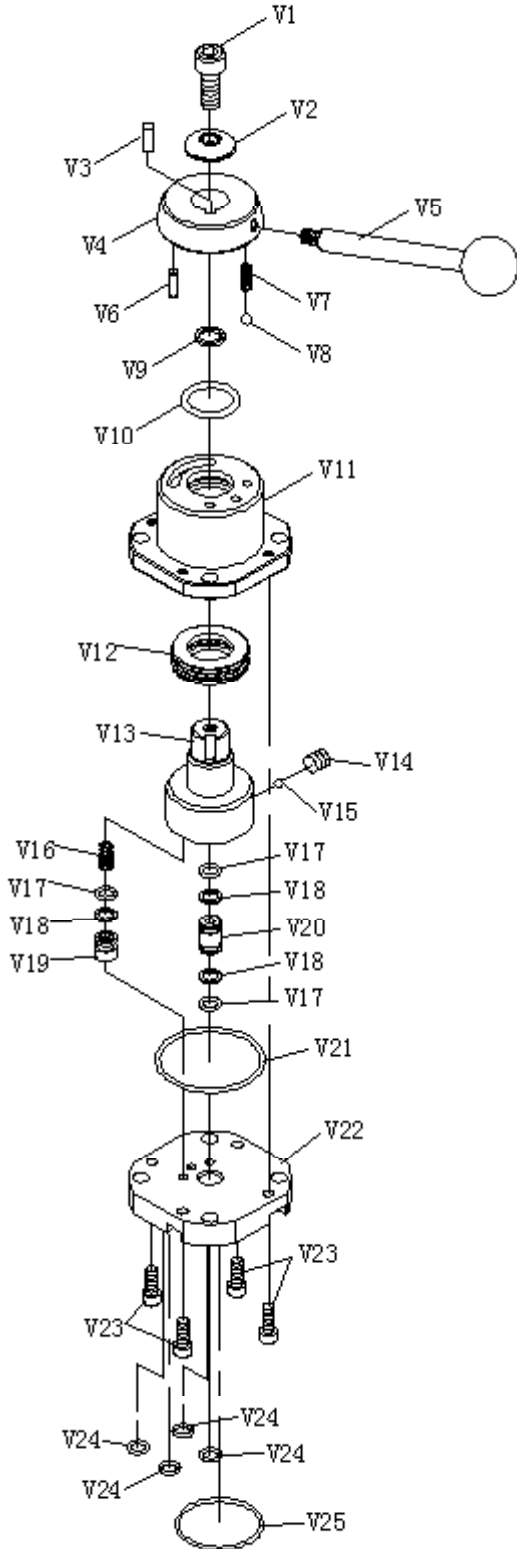
The pump assembly is composed of four pumps, two for high pressure (one is manual and the other is air) which are located on the top of the pump assembly; the other two for low pressure (one is manual and the other is air) which are located in the lower position; and there is one selector valve on the top of the pump assembly.

The two pumps for low pressure are used for quick extension of the piston rod without pressure; and the two pumps for high pressure are working when under pressure. The selector valve is used to control the piston rod's returning or extension.

5. Parts List of Pump

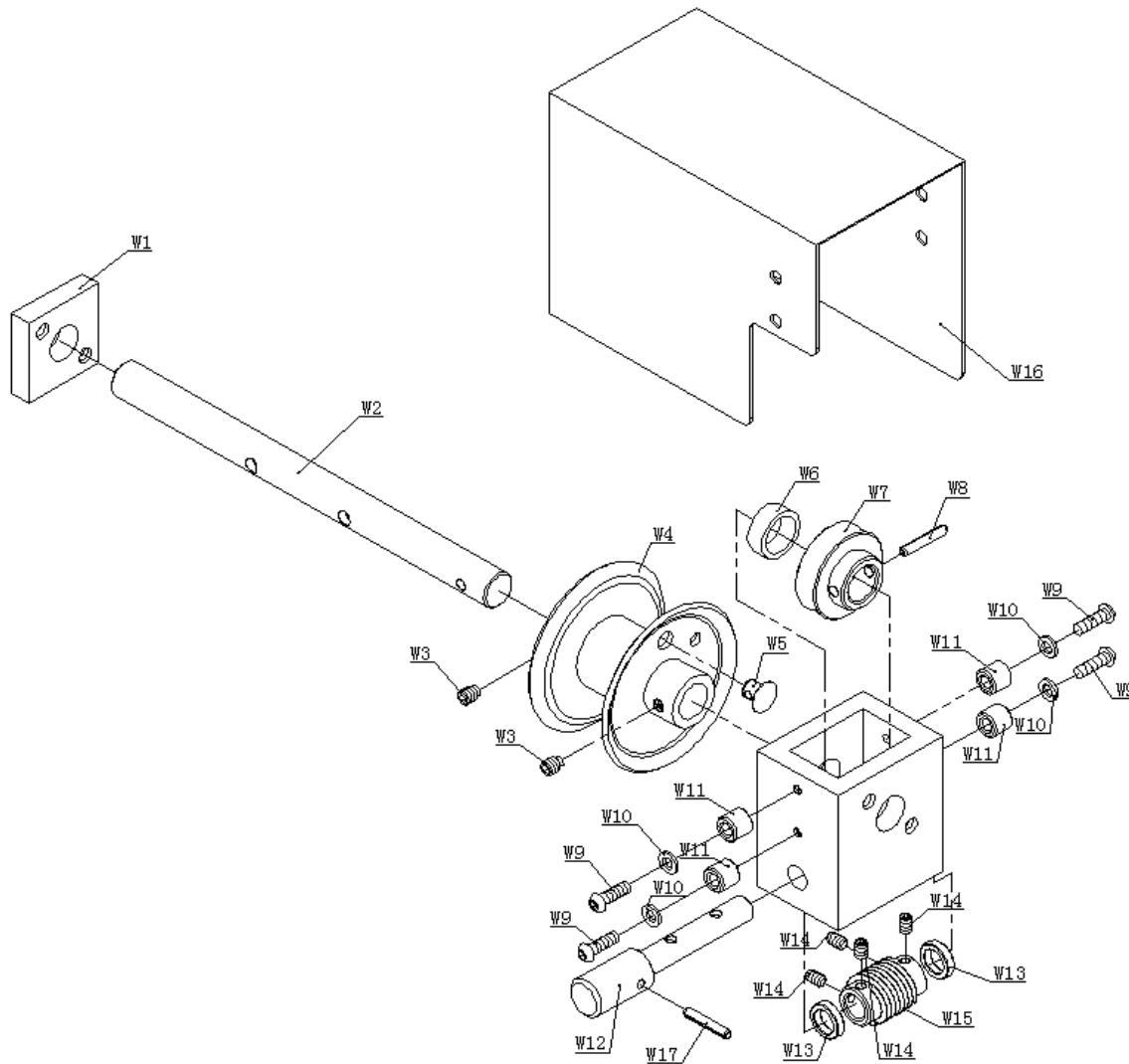
| No. | Description | Qty. | No. | Description | Qty. |
|-----|--------------------------------|------|-----|--------------------------------|------|
| P1 | Pump | 1 | P29 | Circlip | 1 |
| P2 | Steel Ball ϕ 6.0000 | 18 | P30 | Connecting Bar | 1 |
| P3 | Hexagon Socket Set Screw M8*10 | 14 | P31 | Handle Socket | 1 |
| P4 | Steel Ball ϕ 3.0000 | 2 | P32 | Pin8*30 | 5 |
| P5 | Steel Ball Base | 2 | P33 | R-Pin | 6 |
| P6 | Spring | 2 | P34 | Copper Washer | 1 |
| P7 | Screw | 2 | P35 | Air Pump | 1 |
| P8 | Plug Screw | 2 | P36 | Branch Joint | 1 |
| P9 | O-ring | 2 | P37 | Connector | 1 |
| P10 | Cover | 2 | P38 | O-Ring 30*2 | 1 |
| P11 | Steel Ball ϕ 5.0000 | 2 | P39 | Big Pump Core Base | 1 |
| P12 | Steel Ball ϕ 7.1438 | 1 | P40 | U-Ring NOK53*63*6 | 1 |
| P13 | Steel Ball ϕ 8.0000 | 1 | P41 | Big Pump Core | 1 |
| P14 | Spring | 4 | P42 | Big Connecting Bar | 1 |
| P15 | Plug Screw | 4 | P43 | Handle Socket For Low Pressure | 1 |
| P16 | Copper Washer TT-245 | 4 | P44 | Pin 8*35 | 1 |
| P17 | NPT1/2" Connector | 1 | P45 | Manual selector valve | 1 |
| P18 | NPT1/4" Plug | 1 | P46 | Hexagon Screw M8*35 | 4 |
| P19 | Fitting | 1 | P47 | Spring Pin ϕ 4*26 | 2 |
| P20 | Hexagon Bolt M8*20 | 4 | P48 | Fitting | 1 |
| P21 | Connecting Rod Base | 2 | P49 | Flat-head Screw GB70.2-M8*10 | 4 |
| P22 | Copper Washer TT-244 | 2 | P50 | Pump Cover | 1 |
| P23 | Air Pump | 1 | P51 | Air Hose 1 | 1 |
| P24 | NPT1/4"-8 Connector | 1 | P52 | Air Hose Joint | 1 |
| P25 | PU Tube 8*6 | 1 | P53 | Air Hose 2 | 1 |
| P26 | Pump Core Base | 1 | P54 | Air Valve | 1 |
| P27 | Pump Core | 1 | P55 | O-Ring 9*1.9 | 1 |
| P28 | O-ring 6.5*3 | 1 | | | |

6. Parts List of Selector Valve



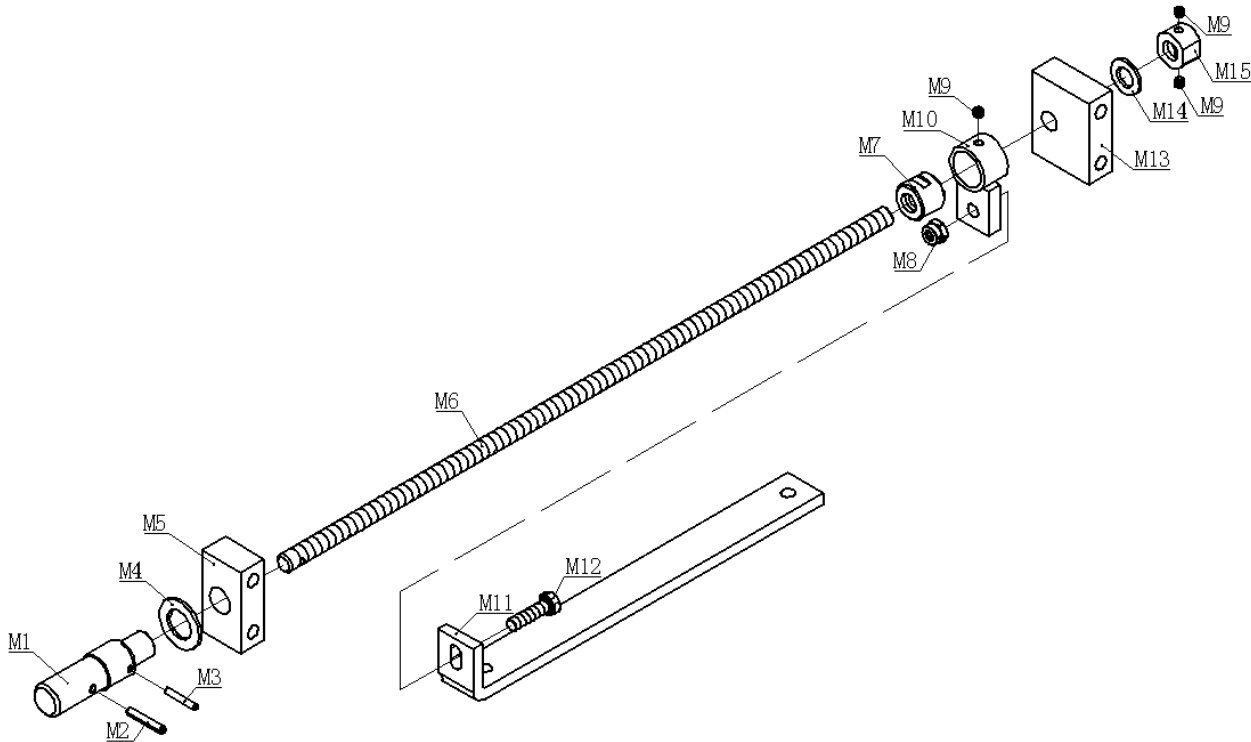
| No. | Description | Qty. |
|-----|--------------------------|------|
| V1 | Hexagon Screw | 1 |
| V2 | T Washer | 1 |
| V3 | Key | 1 |
| V4 | Moving Cover | 1 |
| V5 | Handle | 1 |
| V6 | Pin | 1 |
| V7 | Spring | 1 |
| V8 | Steel Ball | 1 |
| V9 | Copper Washer | 1 |
| V10 | O-Ring | 1 |
| V11 | Valve Jacket | 1 |
| V12 | Ball Bearing | 1 |
| V13 | Valve Plug | 1 |
| V14 | Hexagon Socket Set Screw | 1 |
| V15 | Steel Ball | 1 |
| V16 | Spring | 1 |
| V17 | O-Ring | 3 |
| V18 | PTFE Washer | 3 |
| V19 | Slide Valve | 1 |
| V20 | Connector | 1 |
| V21 | O-Ring | 1 |
| V22 | Valve Plate | 1 |
| V23 | Hexagon Screw | 4 |
| V24 | O-Ring | 4 |
| V25 | O-Ring | 1 |

7. Parts List of Bed Winch Mechanism



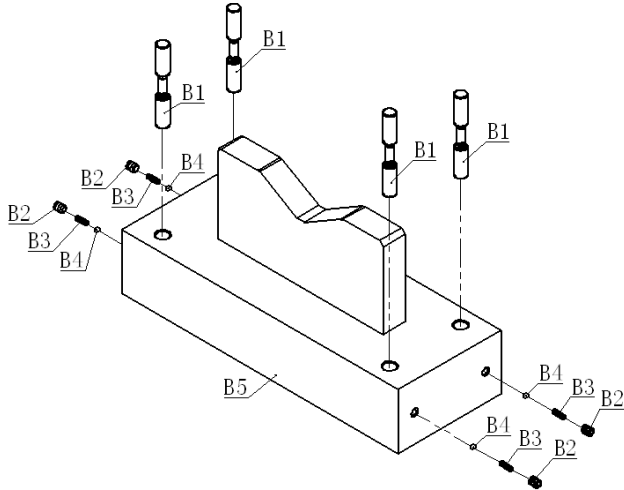
| No. | Description | Qty. | No. | Description | Qty. |
|-----|---------------------|------|-----|--------------------------------|------|
| W1 | Support Plate | 1 | W10 | Washerφ10 | 4 |
| W2 | Worm Shaft | 1 | W11 | Washer | 4 |
| W3 | Hexagon Screw M8*10 | 2 | W12 | Worm Shaft | 1 |
| W4 | Winch | 1 | W13 | Worm Washer | 2 |
| W5 | Rivet | 1 | W14 | Hexagon Socket Set Screw M6*10 | 4 |
| W6 | Worm Pad | 1 | W15 | Worm | 1 |
| W7 | Worm | 1 | W16 | Winch Cover | 1 |
| W8 | Spring Pinφ6*30 | 1 | W17 | Spring Pinφ5*30 | 1 |
| W9 | Hexagon Screw 6*20 | 4 | | | |

8. Parts List of Ram Adjuster



| No. | Description | Qty. | No. | Description | Qty. |
|-----|------------------------|------|-----|-------------------------------|------|
| M1 | Worm Connecting Shaft | 1 | M9 | Hexagon Socket Set Screw M6*5 | 3 |
| M2 | Spring Pin ϕ 5*30 | 1 | M10 | Nut Cover | 1 |
| M3 | Spring Pin ϕ 4*25 | 1 | M11 | Connecting Bar | 1 |
| M4 | Washer ϕ 18 | 1 | M12 | Hex Bolt M8*30 | 1 |
| M5 | Support Base 2 | 1 | M13 | Screw Base 1 | 1 |
| M6 | Screw | 1 | M14 | Washer ϕ 12 | 1 |
| M7 | Nut | 1 | M15 | Locking Nut | 1 |
| M8 | Damping Nut M8 | 1 | | | |

9. Parts List of Heel Blocks



| No. | Description | Qty. |
|-----|---------------------|------|
| B1 | Limit Screw | 4 |
| B2 | Hexagon Screw M8*10 | 4 |
| B3 | Spring | 4 |
| B4 | Steel Ballφ4.763 | 4 |
| B5 | Heel Block | 1 |

10. Unpacking the Plywood Case

10.1

To avoid any damage to the machine or personal injury, remove the small parts packed in case first.

10.2

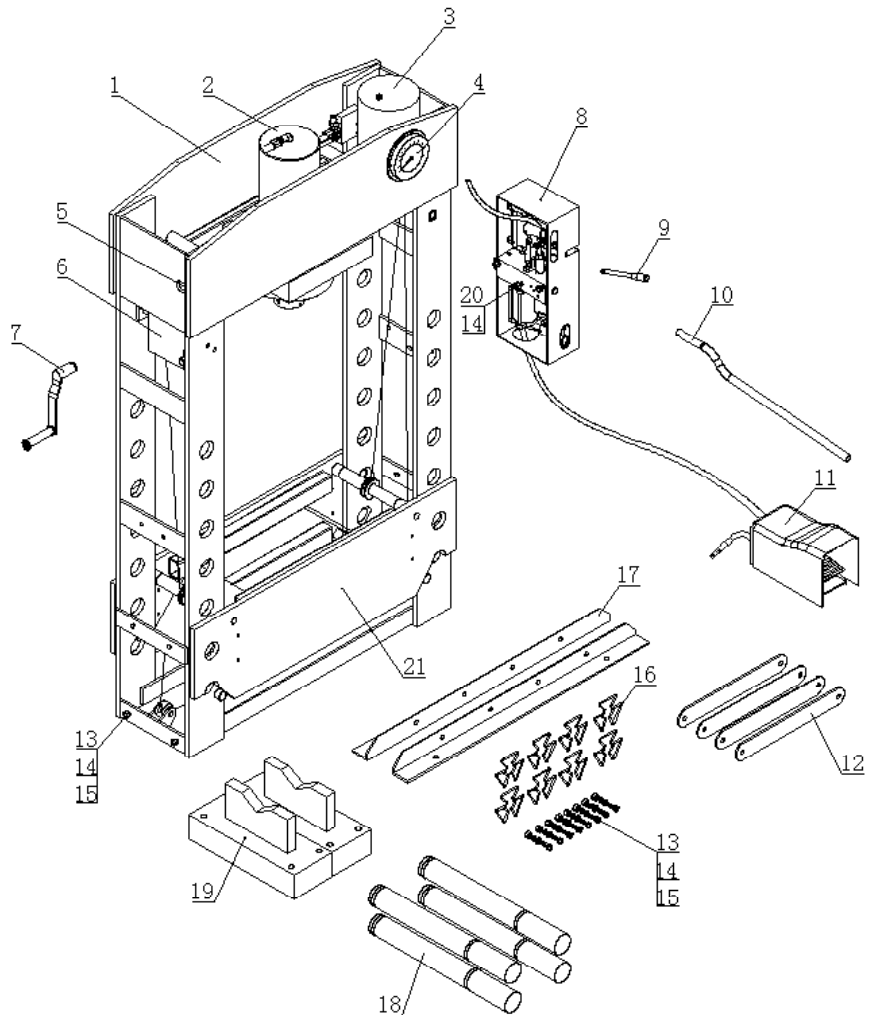
Remove the polybag covering the press.

10.3

Use a fork lift to take the press out of case.

10.4

Double check parts to ensure they are all there. The parts should include press body frame, pump, base, support, hardware kits, etc.
(For details refer to the following sheet)



10. Unpacking the Plywood Case

| No. | Description | Qty. | Remark |
|-----|-------------------------|------|--------------------------------|
| 1 | Body Frame | 1 | |
| 2 | Ram Assembly | 1 | Assembled in the body frame |
| 3 | Oil Tanks Assembly | 1 | Assembled in the body frame |
| 4 | Pressure Gauge | 1 | Assembled in the body frame |
| 5 | Ram Adjuster | 1 | Assembled in the body frame |
| 6 | Bed Winch | 1 | Assembled in the body frame |
| 7 | Handle | 1 | |
| 8 | Pump Assembly | 1 | |
| 9 | Handle For Select Valve | 1 | |
| 10 | Handle Tube | 1 | |
| 11 | Air Foot Valve | 1 | Assembled in the pump assembly |

| No. | Description | Qty. | Remark |
|-----|-------------------------|------|---|
| 12 | Support | 4 | |
| 13 | Hex Bolt M12*30 | 12 | 8pcs in the hardware kit, 4pcs fixed on the body frame |
| 14 | Spring Washer ϕ 12 | 15 | 8pcs in the hardware kit, 4pcs fixed on the body frame, 3pcs fixed on the pump assembly |
| 15 | Washer ϕ 12 | 12 | 8pcs in the hardware kit, 4pcs fixed on the body frame |
| 16 | Circlip | 8 | In the hardware kit |
| 17 | Base | 2 | |
| 18 | Pin | 4 | |
| 19 | Heel Block | 2 | |
| 20 | Hex Bolt M12*25 | 3 | Fixed on the pump assembly |
| 21 | Working Bed | 1 | Assembled in the body frame |

11. Assembly

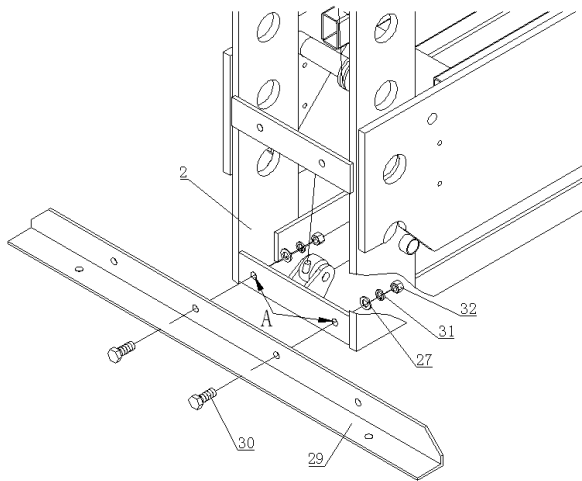


Figure 1

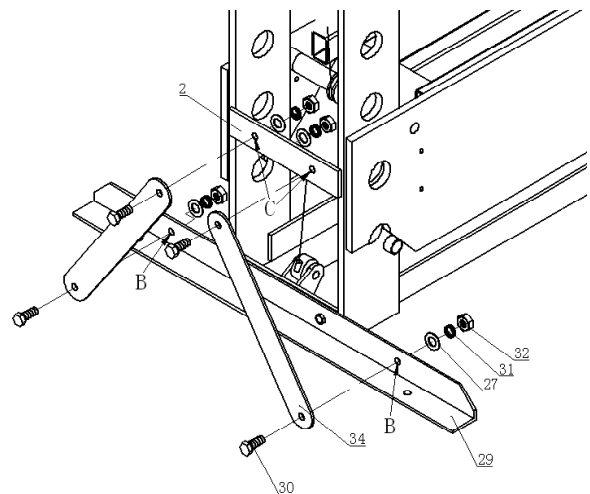


Figure 2

11.1 Base

Disassemble the hex bolt M12*30 (30), washer ϕ 12 (27), spring washer ϕ 12 (31), hex nut M12 (32) from part A of the press frame body. Then assemble the base to the body frame by the above parts.
(refer to fig. 1)

Fix the 4pcs supports (34) to the body frame part B and C by using hex bolt M12X30 (30), washer ϕ 12 (27), spring washer ϕ 12 (31) and hex nut M12 (32)

11.1.1 Pump Assembly

11.1.2

Fix the pump assembly (80) to the body frame by using hex bolt M12X25 (33) and spring washer ϕ 12 (31).
(refer to fig.3)

11.1.3

To avoid oil spillage from the oil hose (88), a plug (93) has been added in the oil hose when packing. To remove the plug, cut the oil hose with the plug about 10mm length.
(refer to fig.4)

11.1.4

Then connect the oil supply hose (88) to 1/2" connector (94) (refer to fig.5)

Once the oil supply hose is connected, open the oil tank valve to allow the flow of oil and check for leaks.

11.1.5

Remove the plug of connector (97, 98) and oil hose (78, 79), then connect the oil hose 1 (78) and oil hose 2 (79) to connector (98) and connector (99) and tighten it.
(refer to fig. 6)

NOTE: make sure the o-rings are in the grooves of connector (97) & (98) before assembling the two oil hoses.

11.1.6

Fix the selector lever (99) on the selector valve on the pump (80). (refer to fig. 7)

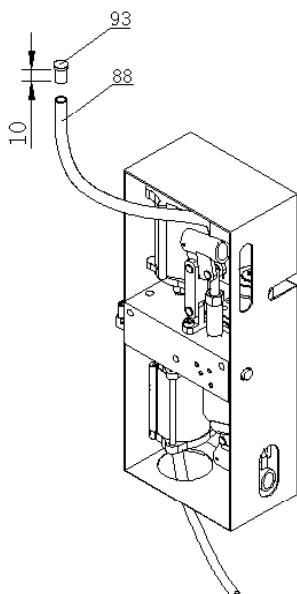


Figure 4

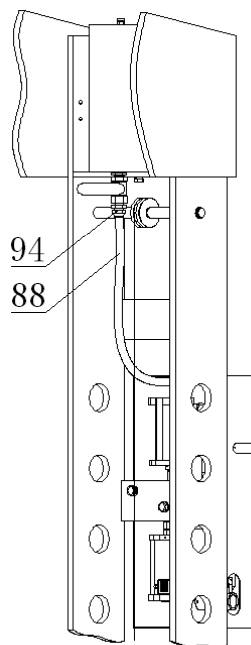


Figure 5

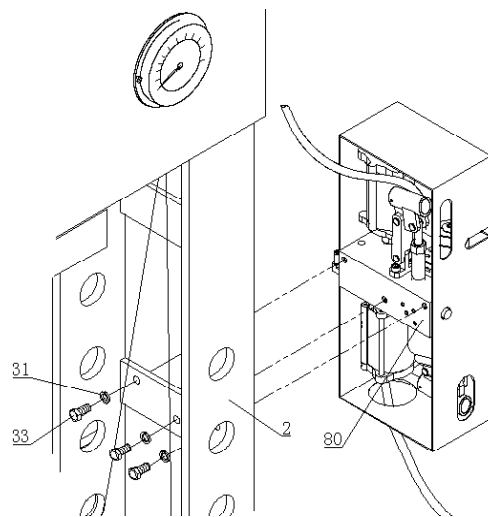


Figure 3

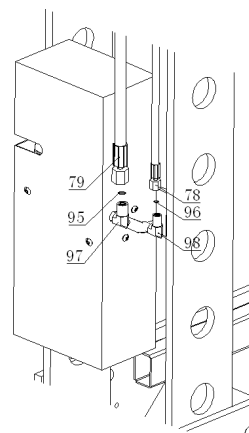


Figure 6

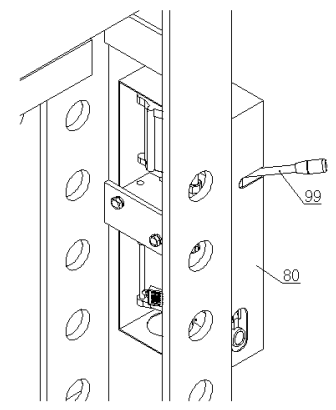
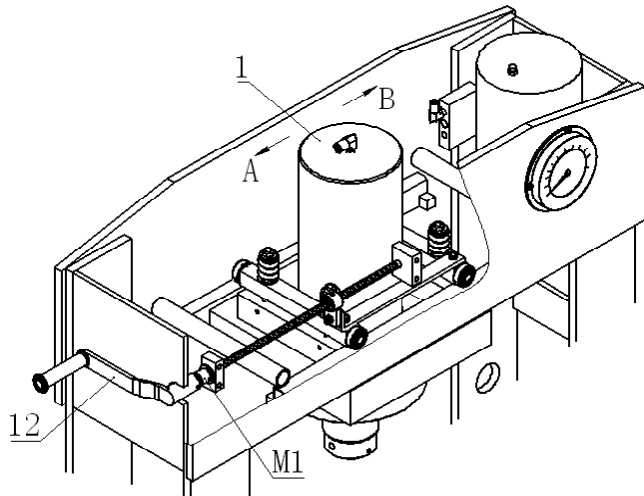


Figure 7

12. Ram Adjustment



12.1.

Insert the handle (12) to the worm connecting shaft (M1).

12.2.

Turning the handle clockwise, and the ram moves left (direction A).

12.3.

Turning the handle (12) counter-clockwise, and the ram moves right (direction B).

13. Bed Adjustment

13.1

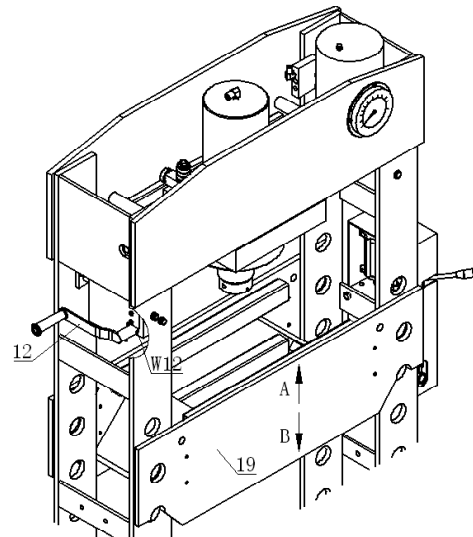
Insert the handle (12) to the worm shaft (W12).

13.2

Turning the handle (12) clockwise, the bed will lift (direction A).

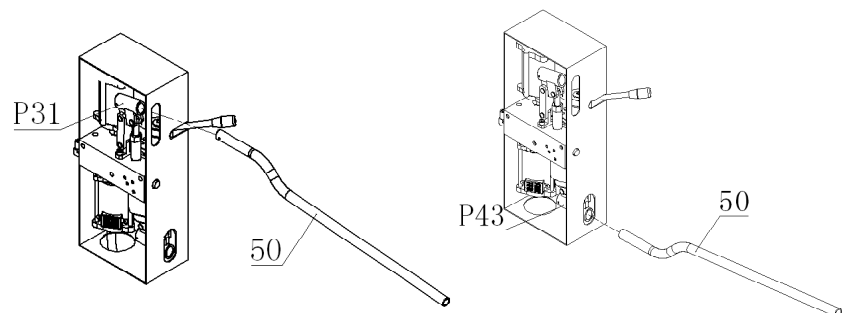
13.3

Turning the handle (12) counter-clockwise the bed will be lowered (direction B).



14. Handle Tube

There are 2 handle sockets, one on top and one on the bottom of the pump, the upper one is for high pressure and low speed; and the lower one is for low pressure and faster speed. One handle tube is used for both pumps.



14.1

When operating the high pressure pump, insert the handle tube (50) into the handle socket (31) as shown in above figure.

14.2

When operating the low pressure pump, insert the handle tube (50) into the socket (43). Refer to the figure above.

15.1. Air Purge Manually

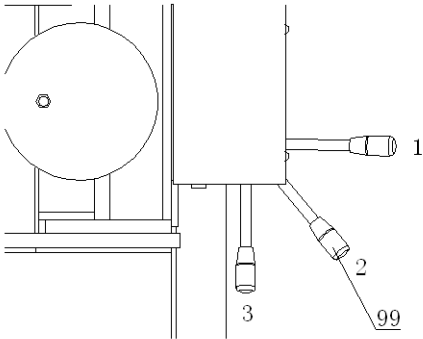


Figure 8

| | |
|----------|---|
| 1 | When the handle lever (99) is in position 1, the piston rod is returning. |
| 2 | When the lever (99) is in position 2, the piston rod is stopped. |
| 3 | When the handle lever (99) is in position 3, the piston rod is extending. |

15.1.1

Turn the handle lever of selector valve to position 2. (refer to fig. 8)

15.1.2

Insert the handle tube (50) to the socket as process 14.2, and pump the handle tube (50) no less than twenty cycles.

15.1.3

Turn the handle lever (99) of socket valve to position 3 (refer to fig 8), and check if the ram is working properly; If the ram working properly, air purge is finished, if not, repeat the process 15.1.1~15.1.2.

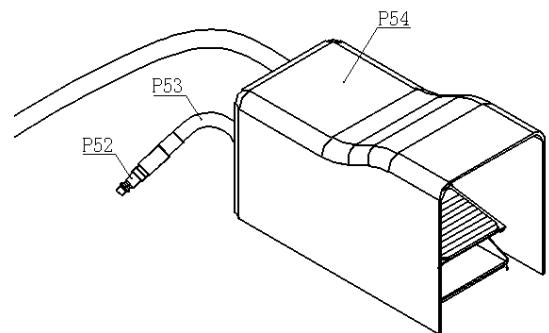


Figure 9

15.2. Air Purge by Manual High Pressure Plunger

15.2.1

Turn the handle lever of selector valve to position 2. (refer to fig. 8)

15.2.2

Insert the handle tube (50) to the socket as process 14.1, pump the handle tube (50) no less than twenty cycles.

15.2.3

Turn the handle lever (99) of socket valve to position 3 (refer to fig. 8), and check if the ram is working properly; If the ram is working properly, air purge is finished, if not, repeat the process 15.2.1~15.2.2.

15.3. Purging by Air

15.3.1

Connecting the air hose (P52) of the air foot valve (P54) to the compressor. (refer to fig. 9)

15.3.2

Turn the handle lever (99) of selector valve to position 2 (fig.8), then depress the air foot valve (P54), keeping the air motor working no less than two minutes.

15.3.3

Turn the handle lever (99) to position 3 (fig. 8), then depress the air foot valve (54), keeping the air motor working and check if the ram is working properly. If the ram is working properly, air purge is finished, if not, repeat the process 15.3.1~15.3.2.

16. Piston's Extension & Retraction

16.1

Extending the Ram

can be operated either manually or by air.

16.1.1

Operating by air:

16.1.1.1

Connecting the air hose (P52) of air foot valve to the compressor. (fig. 9)

16.1.1.2

Turn the handle lever (99) of socket valve to position 3. (fig. 8)

16.1.1.3

Open the air foot valve (P54), when the piston rod is not under load, the air motor (P23) and air motor (P35) work together, then the piston rod extends quickly. When the piston rod is under load, the air motor (P35) stops working, and only the air motor (P23) is working, then the piston rod will extend slowly. (Refer to 5. Parts List of Pump).

16.1.2

Operating manually:

16.1.2.1

Insert the handle tube (50) to the low pressure socket as process 14.2, then pump the handle and extend the piston rod for quicker operation of the ram.

16.1.2.2

Insert the handle tube (50) to the high pressure socket as process 14.1, then pump the handle and extend the piston rod for slower operation of the ram.

16.1.3

The operator can extend the piston rod either by air according to process 16.1.1 OR manually according to process 16.1.2.

Please note that when you operate by air, NEVER operate manually according to process 16.1.2.1 (Manual Low Pressure) at the same time as there may still be pressure in the Low Pressure system.

16.2

Retracting the Ram

can be operated manually or by air.

16.2.1

Operated by air

16.2.1.1

Connecting the air hose (P52) of air foot valve to the compressor. (fig. 9)

16.2.1.2

Turn the handle lever (99) of socket valve to position 1. (fig. 8)

16.2.1.3

Depress the air foot valve (54), the air motor (23) and air motor (P35) work together, and the piston rod returns quickly. (Refer to 5. Parts List of Pump)

16.2.2

Operating manually:

16.2.2.1

Insert the handle tube (50) to the low pressure socket as process 14.2, pumping the handle returns the piston rod quickly.

16.2.2.2

Insert the handle tube (50) to the high pressure socket as process 14.1, pumping the handle returns the piston rod slowly.

16.2.3

The operator can retract the piston rod either by air according to process 16.2.1 OR manually according to process 16.2.2.2.

Please note that when you operate by air, NEVER operate manually according to process 16.2.2.1 (Manual Low Pressure) at the same time as there may still be pressure in the Low Pressure system.

16.3

To stop the movement of the piston rod: stop pumping the handle tube (50) or release the air foot valve (P54), the piston rod will stop moving. Then turn the handle lever (99) of selector valve to position 2. (fig. 9)

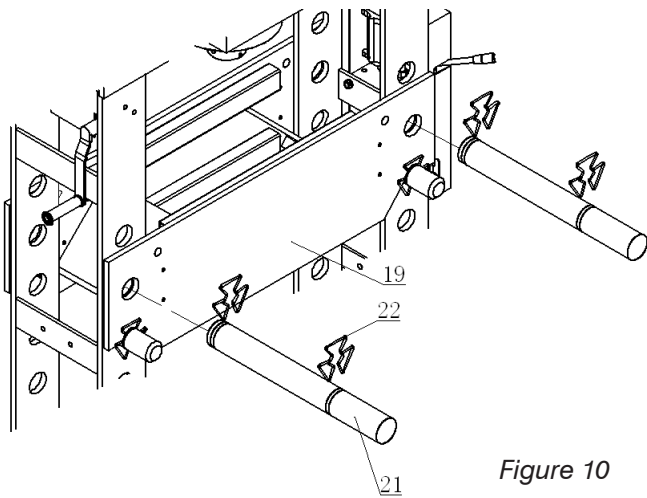


Figure 10

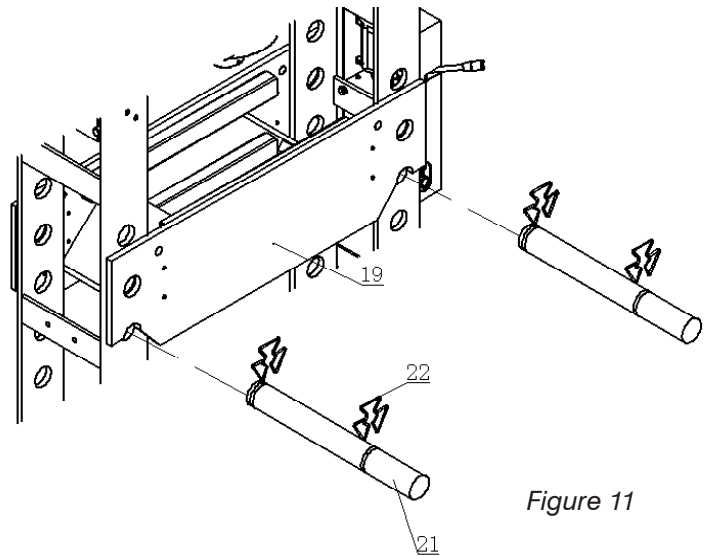


Figure 11

17. Press Setup

17.1

Position Piston according to Section 12 so that it is centered to work piece.

17.2

Adjust the bed (19) according to Section 13 to the appropriate height, then insert the pins (21) to the holes of body frame and lock the circlips (22). (fig. 10 & 11)

17.3

According to the working conditions, operator can decide which side of the heel block is up, and adjust the space of the heel blocks.

NOTE: to prevent the heel blocks from slipping off of the press bed, press down on the four limiting pins of the block. (fig. 12)

17.4

Put the work piece on the heel blocks (20).

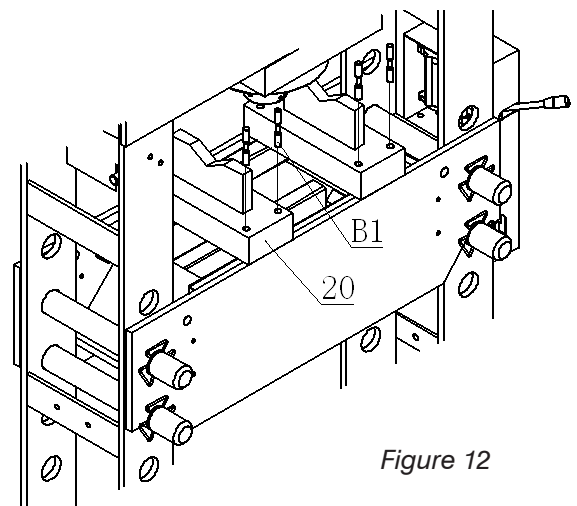


Figure 12

18. Operation

18.1

Turn the handle lever (99) of selector valve to position 3, then depress the air foot valve (P54), both air motors will operate simultaneously, and the piston rod will extend quickly. When the serrated saddle gets close to the work piece, change to manual operation. (*fig. 8 and 9*)

18.2

According to handle tube usage 14.2, insert the handle tube into the high pressure socket (P31) and pump the handle tube, the piston rod extends slowly. Make sure that work piece and piston rod are aligned properly.

18.3

After adjusting the position of work piece, operator can press by air, or manually.

18.3.1

Operating by air:

Depress the air foot valve (P54), and both air motors will work simultaneously, when the serrated saddle (38) touches the work piece, the piston rod will go under pressure, and the air motor (P35) will stop working, only the air motor (P23) will continue to work, under this condition, the piston rod extends slowly and press the work piece on the heel block. After pressing, release the air foot valve P54).

(Refer to 5. Parts List of Pump)

18.3.2

Operating manually:

According to handle tube usage 14.2, insert handle tube into high pressure socket (P31), and pump the handle tube (50) until finished with the pressing process, then stop pumping.

18.3.3

Operating both by air and manual:

Operator can press the work piece both by manual as process 18.3.2 and by air as process 18.3.1 at the same time.

18.4

Release the pressure: turn the handle lever (99) of selector valve to position 2, the pressure on the piston rod will release automatically. (*fig. 8*)

18.5

Piston rod's returning: according to process 16.2.

18.6

Remove the work piece.

18.7

When complete, disconnect the air hose from the compressor and clean the machine.

19. Maintenance

19.1

Use clean and dry cloth to clean the press surface, and grease the connecting part and moving part periodic.

19.2

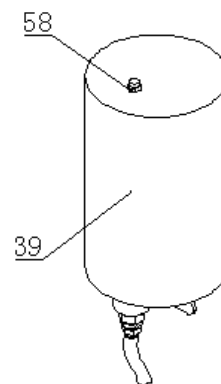
When the press is not in use, fully return the piston rod and stocked in dry place.

19.3

When the press' working efficiency is reduced, purge the air in the hydraulic system according to Step 15.

19.4

Oil volume check: The operator can check if the oil volume is sufficient by pumping the handle tube to check if the piston rod can extend fully (300mm). If the oil volume is low, add hydraulic oil to the oil tank as follows: remove the screw (58) on the oil tank, add hydraulic oil then tighten the screw (58) again. After adding the oil, perform air purge according to process 15.





TON SHOP PRESS MODEL 859SD

| PART | | | KIT INCLUDES | |
|--------------|-----------------|--------|----------------------------------|-----|
| ORDER NUMBER | KIT DESCRIPTION | REF. # | DESCRIPTION | QTY |
| 859SD1 | RAM ASSEMBLY | 1 | RAM ASSEMBLY | 1 |
| | | C1 | O-RING | 1 |
| | | C2 | FITTING | 1 |
| | | C3 | CYLINDER | 1 |
| | | C4 | NUT | 1 |
| | | C5 | NYLON BLOCK | 2 |
| | | C6 | HEXAGON SOCKET SET SCREW SET | 3 |
| | | C7 | PTFE WASHER | 4 |
| | | C8 | O-RING | 2 |
| | | C9 | SCREW | 1 |
| | | C10 | SPRING | 1 |
| | | C11 | STEEL BALL | 1 |
| | | C12 | VALVE ROD | 1 |
| | | C13 | PISTON | 1 |
| | | C14 | PISTON ROD | 1 |
| | | C15 | O-RING | 2 |
| | | C16 | PTFE WASHER | 2 |
| | | C17 | O-RING | 1 |
| | | C18 | O-RING | 1 |
| | | C19 | CONNECTOR 1 | 1 |
| | | C20 | RING FOR RAM | 1 |
| 859SDC21 | SERRATED SADDLE | C21 | SERRATED SADDLE | 1 |
| 859SD7 | STEEL TUBE | 7 | STEEL TUBE | 2 |
| 859SD12 | HANDLE | 12 | HANDLE | 1 |
| 859SD18 | SUPPORT KIT | 18 | SUPPORT KIT | 4 |
| 859SD20 | HEEL BLOCK | 20 | HEEL BLOCK | 2 |
| 859SD21 | PIN | 21 | PIN | 4 |
| 859SD22 | CIRCLE CLIP | 22 | CIRCLE CLIP | 8 |
| 859SD23 | BED | 23 | BED | 1 |
| 859SD27 | CABLE 1.6 M | 27 | CABLE 1.6 M | 1 |
| 859SD28 | CABLE 4.3 M | 28 | CABLE 4.3 M | 1 |
| 859SD39 | OIL TANK | 39 | OIL TANK | 1 |
| 859SD40 | ADAPTER | 40 | ADAPTER | 1 |
| 859SD42 | PRESSURE GUAGE | 42 | PRESSURE GUAGE | 1 |
| 859SDSD44 | OIL HOSE 1 | 44 | OIL HOSE 1 | 1 |
| 859SD45 | OIL HOSE | 45 | OL HOSE | 1 |
| 859SD46 | OIL HOSE 3 | 46 | OIL HOSE 3 | 1 |
| 859SD47 | OIL HOSE | 47 | OIL HOSE | 1 |
| 859SD48 | OIL HOSE 2 | 48 | OIL HOSE 2 | 1 |
| 859SD50 | HANDLE TUBE | 50 | HANDLE TUBE | 1 |
| 859SD51 | OIL HOSE | 51 | OIL HOSE | 1 |
| 859SD57 | CONNECTING NUT | 57 | CONNECTING NUT W/ NYLON RING #56 | 1 |

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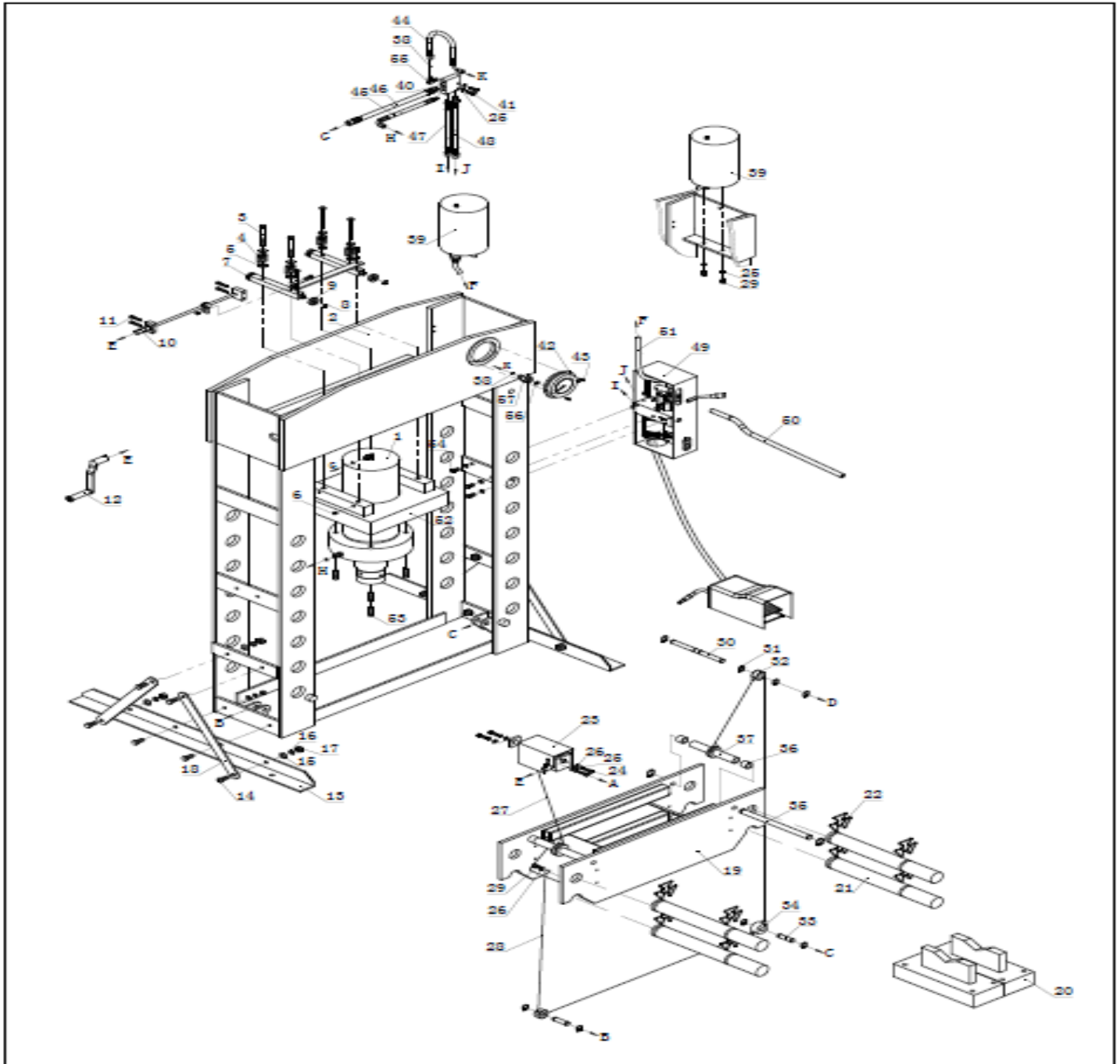
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| ORDER NUMBER | KIT DESCRIPTION | REF. # | DESCRIPTION | |
| 859SDPU | COMPLETE PUMP | P1 | COMPLETE PUMP ASSEMBLY | 1 |
| | | P2 | STEEL BALL 6.0 | 18 |
| | | P3 | HEXAGON SOCKET SET SCREW M8 | 14 |
| | | P4 | STEEL BALL 3.0 | 2 |
| | | P5 | STEEL BALL BASE | 2 |
| | | P6 | SPRING | 2 |
| | | P7 | SCREW | 2 |
| | | P8 | PLUG SCREW | 2 |
| | | P9 | O-RING | 2 |
| | | P10 | COVER | 2 |
| | | P11 | STEEL BALL 5.0 | 2 |
| | | P12 | STEEL BALL 7.1438 | 1 |
| | | P13 | STEEL BALL 8.0 | 1 |
| | | P14 | SPRING | 4 |
| | | P15 | PLUG SCREW | 4 |
| | | P16 | COPPER WASHER | 4 |
| | | P17 | CONNECTOR 1/2 NPT | 1 |
| | | P18 | PLUG 1/4 NPT | 1 |
| | | P19 | FITTING | 1 |
| | | P20 | HEXAGON BOLT M8*20 | 4 |
| | | P21 | CONNECTING ROD BASE | 2 |
| | | P22 | COPPER WASHER | 2 |
| | | P23 | AIR PUMP | 1 |
| | | P24 | CONNECTOR 1/4 NPT | 1 |
| | | P25 | PU TUBE | 1 |
| | | P26 | PUMP CORE BASE | 1 |
| | | P27 | PUMP CORE | 1 |
| | | P28 | O-RING 6.5*3 | 1 |
| | | P29 | CICLE CLIP | 1 |
| | | P30 | CONNECTING BAR | 1 |
| | | P31 | HANDLE SOCKET | 1 |
| | | P32 | PIN | 5 |
| | | P33 | R-PIN | 6 |
| | | P34 | COPPER WASHER | 1 |
| | | P35 | AIR PUMP | 1 |
| | | P36 | BRANCH JOINT | 1 |
| | | P37 | CONNECTOR | 1 |
| | | P38 | O-RING 30*2 | 1 |
| | | P39 | BIG PUMP CORE BASE | 1 |
| | | P40 | U-RING | 1 |
| | | P41 | BIG PUMP CORE | 1 |
| | | P42 | BIG CONNECTING BAR | 1 |
| | | P43 | HANDLE SOCKET LOW PRESSURE | 1 |
| | | P44 | PIN 8*35 | 1 |
| | | P45 | MANUAL SELECTOR VALVE | 1 |
| | | P46 | HEXAGON SCREW M8*35 | 4 |
| | | P47 | SPRING PIN 4*26 | 2 |
| | | P48 | FITTING | 1 |
| | | P49 | FLAT HEAD SCREW | 4 |
| | | P50 | PUMP COVER | 1 |
| | | P51 | AIR HOSE 1 | 1 |
| | | P52 | AIR HOSE JOINT | 1 |
| | | P53 | AIR HOSE 2 | 1 |
| | | P54 | AIR VALVE | 1 |
| | | P55 | O-RING | 1 |

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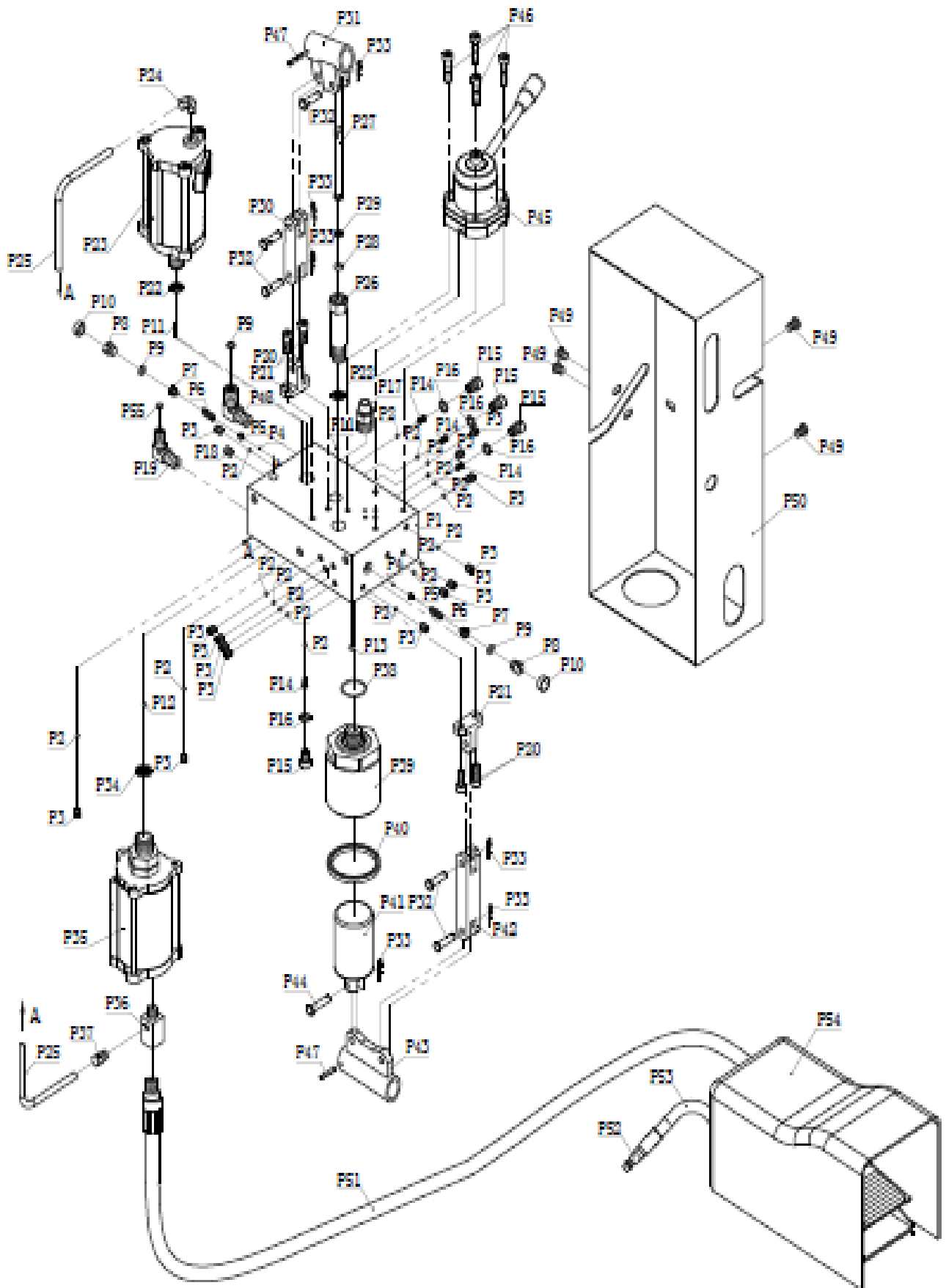
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| 859SDP2 | STEEL BALL 6.0 | P2 | STEEL BALL 6.0 | 18 |
| 859SDP4 | STEEL BALL 3.0 | P4 | STEEL BALL 3.0 | 2 |
| 859SDP11 | STEEL BALL 5.0 | P11 | STEEL BALL 5.0 | 2 |
| 859SDP12 | STEEL BALL 7.1438 | P12 | STEEL BALL 7.1438 | 1 |
| 859SDP13 | STEEL BALL 8.0 | P13 | STEEL BALL 8.0 | 1 |
| 859SDP19 | FITTING | P19 | FITTING | 1 |
| 859SDP23 | AIR PUMP | P23 | AIR PUMP | 1 |
| 859SDP25 | PU TUBE | P25 | PU TUBE | 1 |
| 859SDP35 | AIR PUMP | P35 | AIR PUMP | 1 |
| 859SDP37 | CONNECTOR | P37 | CONNECTOR | 1 |
| 859SDP48 | FITTING | P48 | FITTING | 1 |
| 859SDP51 | AIR HOSE 1 | P51 | AIR HOSE 1 | 1 |
| 859SDP53 | AIR HOSE 2 | P53 | AIR HOSE 2 | 1 |
| 859SDP54 | AIR VALVE | P54 | AIR VALVE | 1 |
| 859SDV5 | HANDLE | V5 | HANDLE | 1 |
| 859SDWM | WINCH ASSEMBLY | | COMPLETE WINCH ASSEMBLY W1-W17 | 1 |
| | | W1 | SUPPORT PLATE | 1 |
| | | W2 | WORM SHAFT | 1 |
| | | W3 | HEXAGON SCREW M8*10 | 2 |
| | | W4 | WINCH | 1 |
| | | W5 | RIVET | 1 |
| | | W6 | WORM PAD | 1 |
| | | W7 | WORM | 1 |
| | | W8 | SPRING PIN 6*30 | 1 |
| | | W9 | HEXAGON SCREW 6*20 | 4 |
| | | W10 | WASHER | 4 |
| | | W11 | WASHER | 4 |
| | | W12 | WORM SHAFT | 1 |
| | | W13 | WORM WASHER | 2 |
| | | W14 | HEXAGON SOCKET SET SCREW M6*10 | 4 |
| | | W15 | WORM | 1 |
| | | W16 | WINCH COVER | 1 |
| | | W17 | SPRING PIN 5*30 | 1 |
| 859SDRA | RAM ADJUSTER | | RAM ADJUSTER M1-M15 | 1 |
| | | M1 | WORM CONNECTING SHAFT | 1 |
| | | M2 | SPRING PIN 5*30 | 1 |
| | | M3 | SPRING PIN 4*25 | 1 |
| | | M4 | WASHER | 1 |
| | | M5 | SUPPORT BASE | 1 |
| | | M6 | SCREW | 1 |
| | | M7 | NUT | 1 |
| | | M8 | DAMPING NUT M8 | 1 |
| | | M9 | HEXAGON SOCKET SET SCREW M6*5 | 3 |
| | | M10 | NUT COVER | 1 |
| | | M11 | CONNECTING BAR | 1 |
| | | M12 | HEX BOLT M8*30 | 1 |
| | | M13 | SCREW BASE | 1 |
| | | M14 | WASHER | 1 |
| | | M15 | LOCKING NUT | 1 |
| | | | | |
| | | | | |
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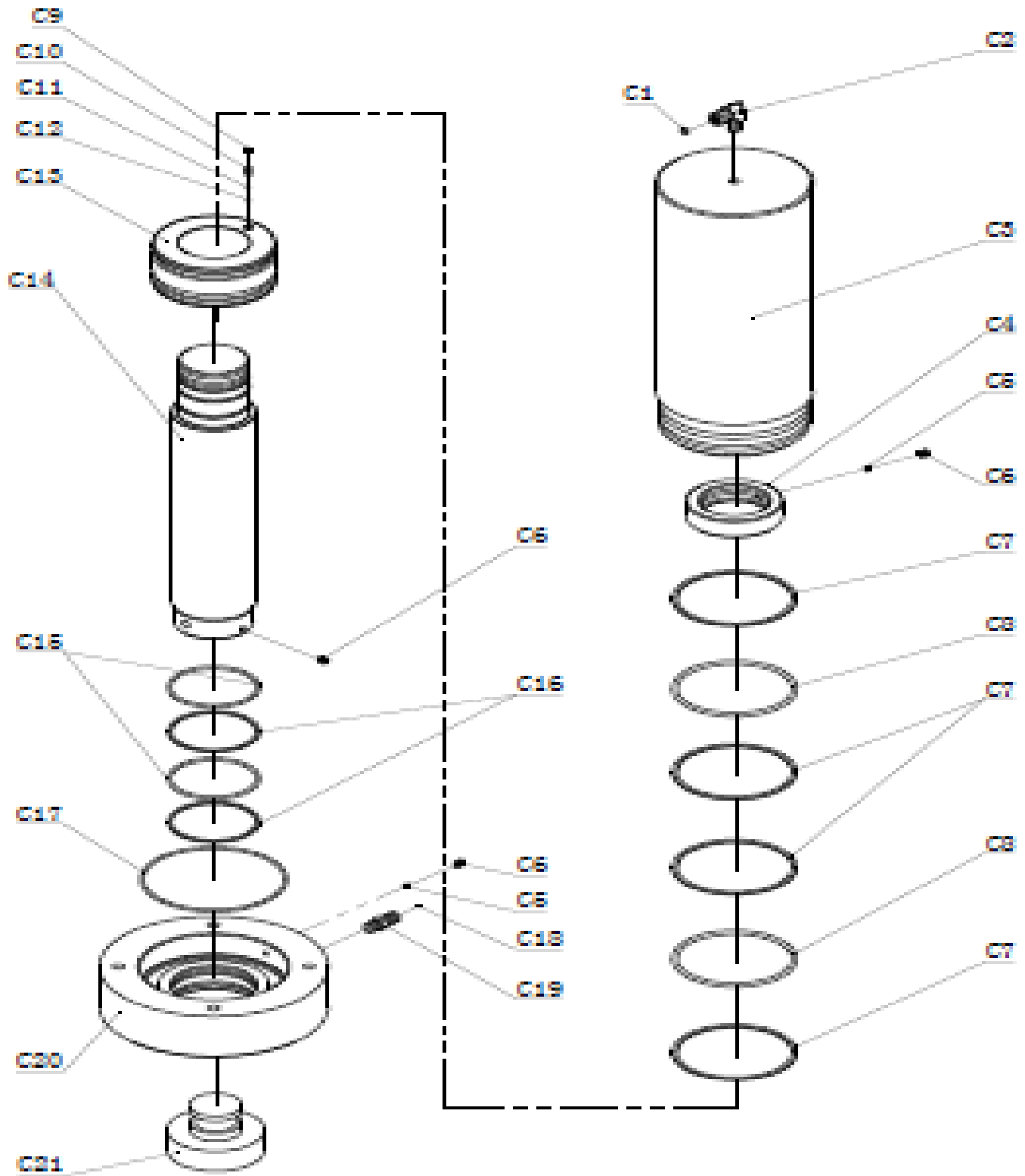
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|------------------|-----------------------|--------|-----------------------|-----|
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| 859SDHRK | HYDRAULIC REPAIR KIT | | HYDRAULIC REPAIR KIT | 1 |
| 859SDPURK | POWER UNIT REPAIR KIT | | POWER UNIT REPAIR KIT | 1 |
| 859SDAAK | ADAPTER ACCESSORY KIT | | ADAPTER ACCESSORY KIT | 1 |
| 859SDMG | MESH GUARD | | MEASH GUARD | 1 |



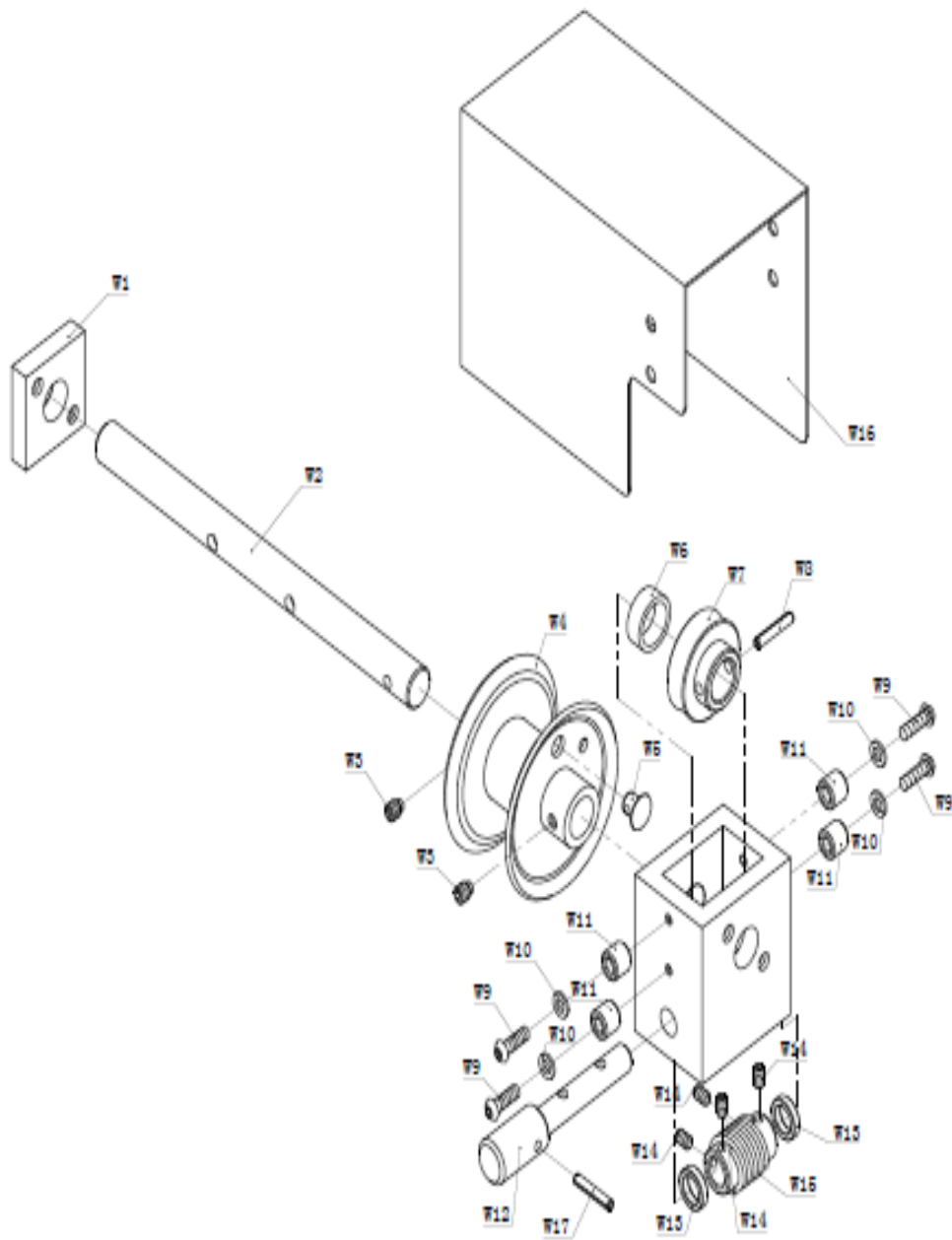
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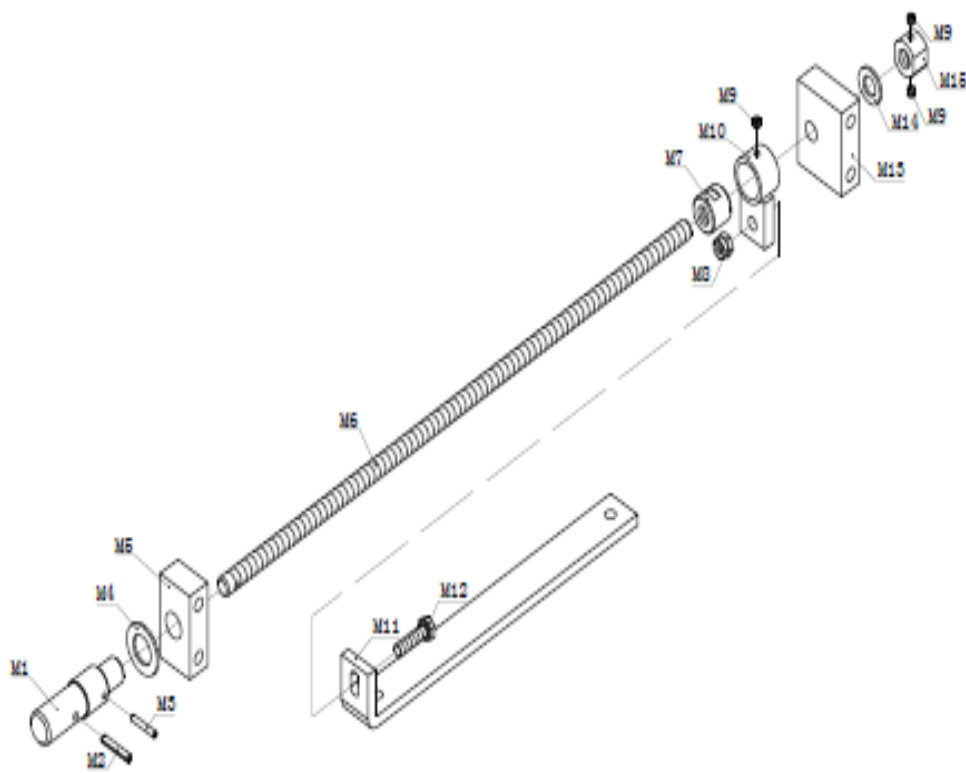
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