

SD0809CEA

20T Air/Manual Hydraulic Shop Press




Operation Manual

1. Important Information

1.1 Safety Information

1.1.1 Hazard Symbols Used in the Manuals

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.

1.1.2 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.

1.1.3 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.

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 anyone recognizes and understands that maintenance or inspection is on going.
5. Post a list with emergency phone numbers nearby the working area.
6. 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. Please make sure that the operator must wear protective cloth, gloves, safety helmet, shoes and ear protector during operating.
10. To prevent back injury, heavy parts (or units), must be moved by two persons or more.
11. Before powering the machine, alert the persons around it.
12. Be careful not to be pinched by motion 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.

1.1.4 Safety Instruction



1. Before maintenance 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 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 glove or use tools to operate avoid being hurt.

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



Be careful when you are near the caution signs.
Safety for material used in the machine

The MSDS (Material Safety Data Sheet) information document of lubricant oils offered by supplier should be placed at the convenient place.



1.1.5 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.

1.1.6 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 security of people working around the Tool, before powering it back.

1.2 Warning Label

Below drawing show warning labels attached on 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

1.3 Compliance with standards

European Community Directive	Manufacturer's Assurance	Harmonized Standards
Machinery Directive 98/37/EC	Declaration of Incorporation	Annex I of Machinery Directive 98/37/EC

2.Specification

2.1 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.

2.2 Dimension & Weight

Main body dimension 730x540x1619 mm

Weight 136kg

2.3 Environmental conditions

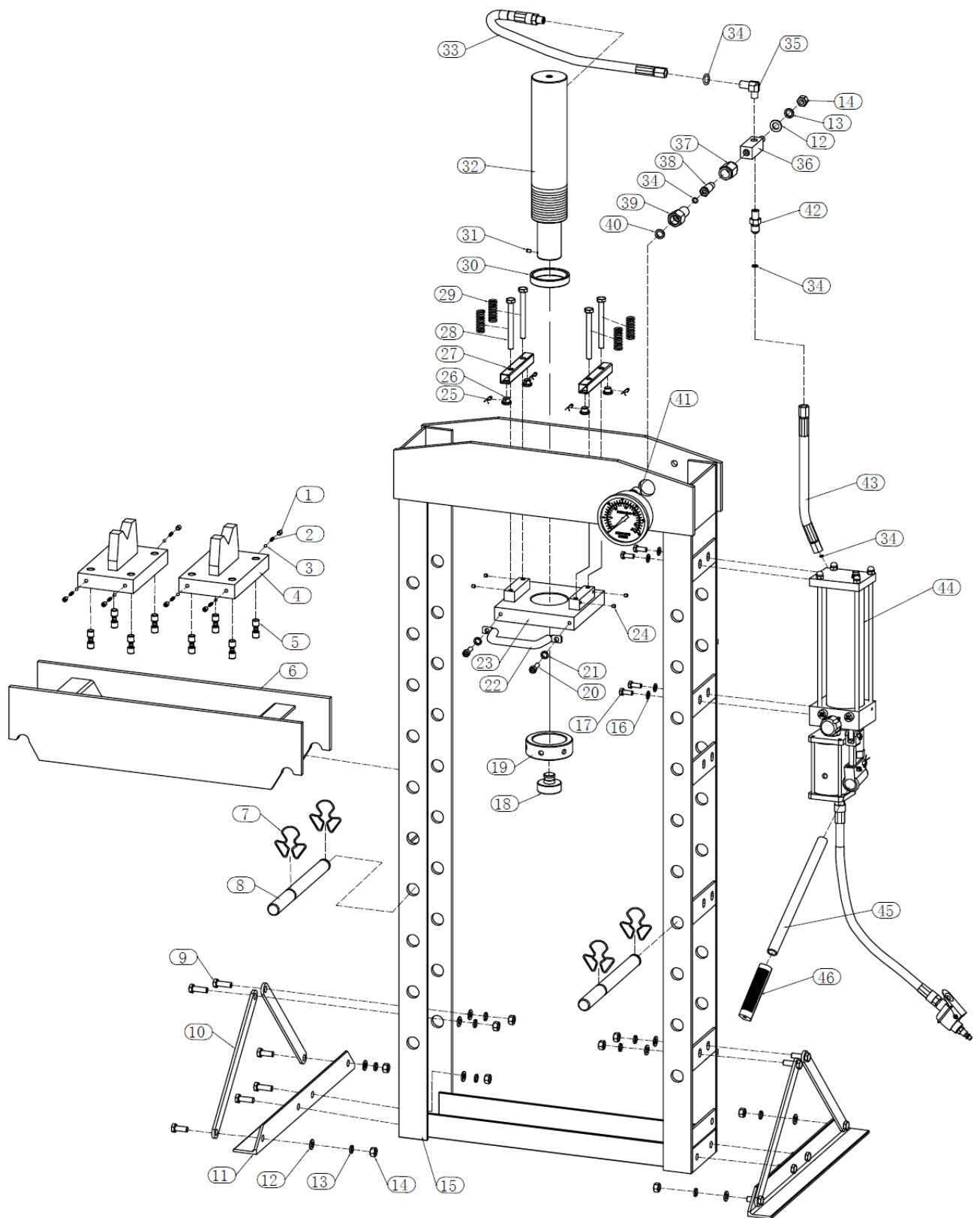
Operating Temperature	-5 to +40
Storage Temperature	-25 to +55
Shipping Temperature	-25 to +70 (not exceeding 24 hours)
Altitude	Equipment should be installed at an altitude of maximum 1000m.
Humidity	Maximum 85% relative humidity at 40 non-condensing
Atmosphere	Non-flammable, corrosive and dust free.
Ambient light	>300LUX
Noise	≤85dB(C)

2.4 Technical Capacity

2.4.1 Mechanical part

No.	Item		Unit	Value
1	Capacity		Ton	20
2	Stroke		mm	185
3	Pressure of Hydraulic System		MPa	69.36
4	Working Range		mm	35 912
5	Air Inert Fitting		NPT	1/4"
6	Air Pressure		MPa	0.75-0.85
7	Bed Size	Width	mm	510
8	speed		mm/s	1.2
9	Height above floor		mm	1619
10	Covered area	Width	mm	540
		Length	mm	730
11	Gross weight		Kg	136

2.5 Mechanical Construction



Parts List

Part No.	Description	Q'ty.	Part No.	Description	Q'ty.
1	Screw	8	24	Screw	4
2	Spring	8	25	R-pin	4
3	Steel Ball	8	26	Sliding Block	4
4	Heel Block	2	27	Connecting Rod	2
5	Screw	8	28	Bolt	4
6	Bed Frame	1	29	Spring	4
7	Circlip	4	30	Upper Round Nut	1
8	Pin	2	31	Screw	1
9	Bolt	12	32	Ram Assy	1
10	Support Bar	4	33	Hydraulic Hose2	1
11	Base Section	2	34	O-ring	4
12	Washer	13	35	Elbow	1
13	Lock Washer	13	36	Connector	1
14	Nut	13	37	Nut	1
15	Frame	1	38	Screw	1
16	Washer	4	39	Gauge Joint	1
17	Bolt	4	40	Nylon Ring	1
18	Serrated Saddle	1	41	Pressure Gauge	1
19	Under Round Nut	1	42	Connector	1
20	Screw	2	43	Hydraulic Hose1	1
21	Spring	2	44	Pump Assy	1
22	Handle	1	45	Handle	1
23	Ram Plate	1	46	Handle Sleeve	1

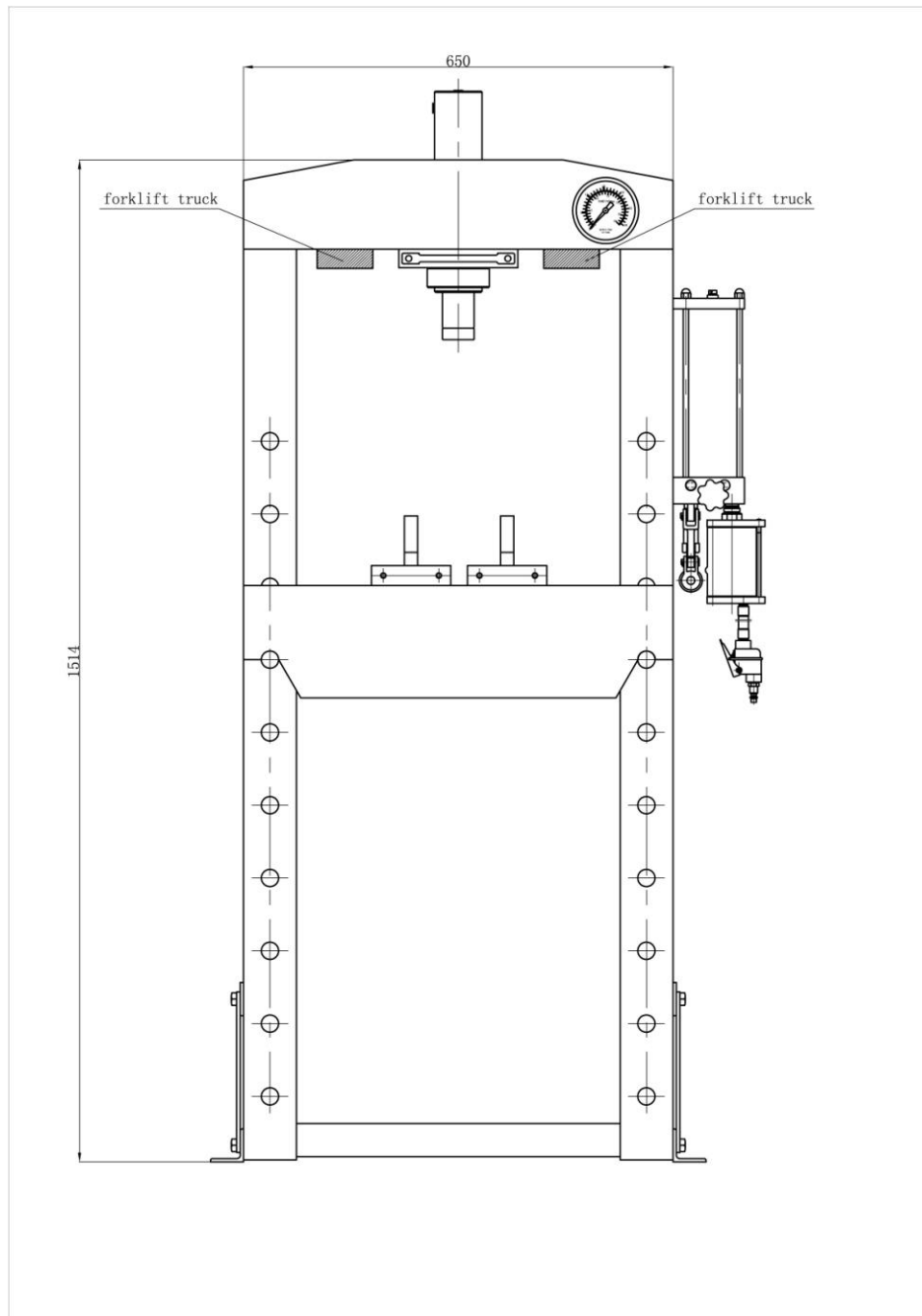
3.Prepare before using

3.1 Transport



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 machine (unit) are shown on the label in clause 2.

During moving the machine, please make sure to use the proper lifting equipment and follow the instructions as follows.



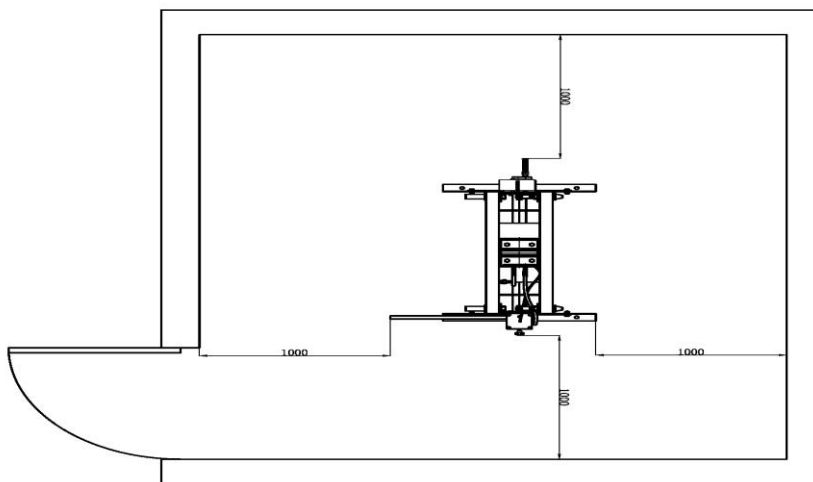
Hydraulic part

3.2 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 1,000mm 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.



3.3 Unpacking & Check



When open the packing, please make sure to use the proper tools, wear protective cloth, gloves, safety helmet

Make sure that the product and parts in box should be complete and identical with the part list. If not, please contact with the manufacturer in time.

3.4 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.

3.5 Installation



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

- The bed frame(6) is put in the bottom in order to convenient for package and transport, then fixed on the post by two bolts M12.

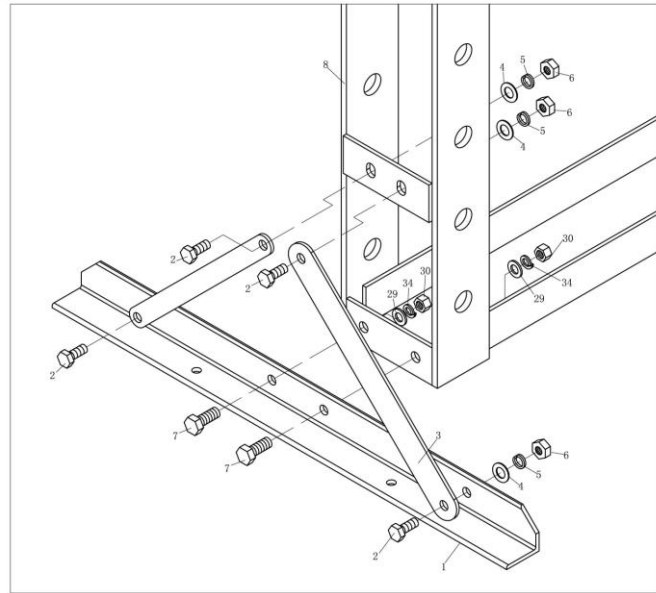


Figure 1

- Attach the base section (11) and support (10) to left and right connecting plate using bolt (9), washer (12), lock washer (13) and nut (14).

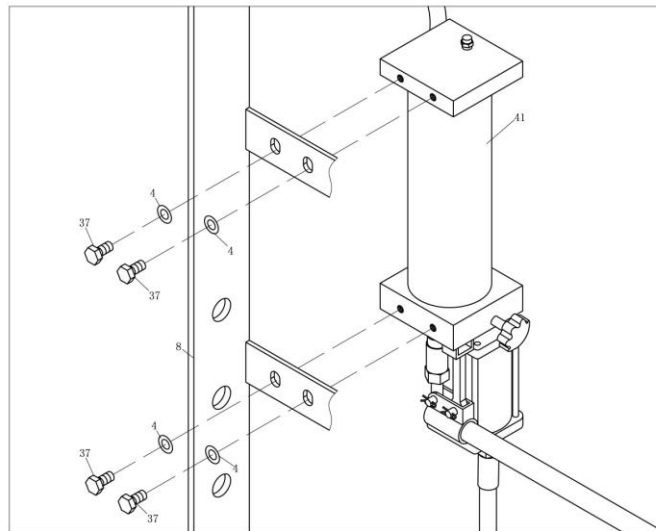


Figure 2

- Move the pump assy (44) to the outside of the post, use bolt (17) and washer (16) which dismantled just now to twist tight on the right connecting plate.

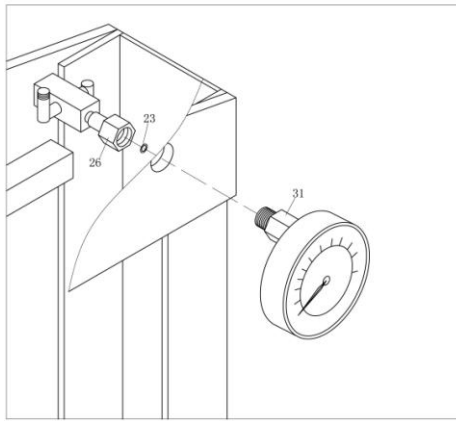


Figure 3

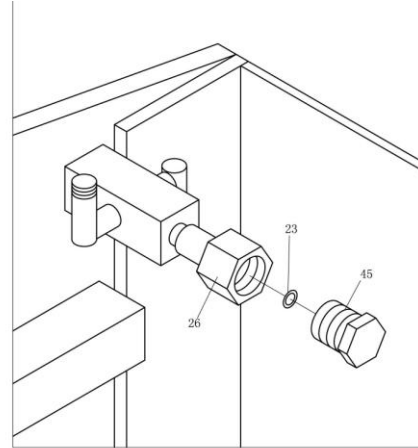
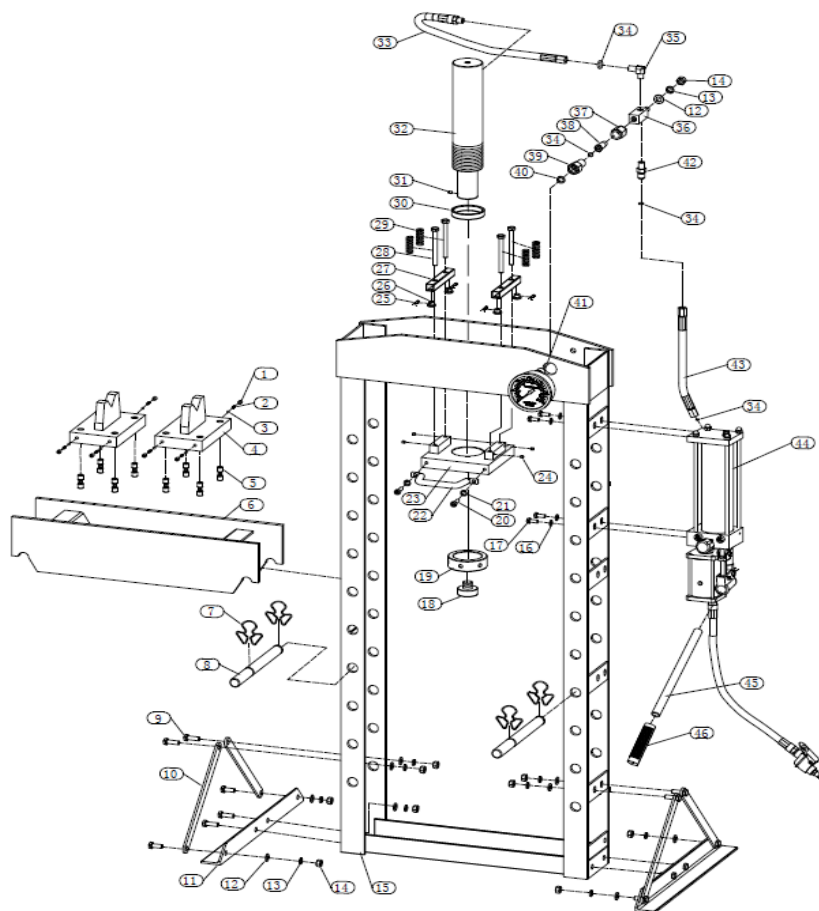


Figure 4

- Assemble the nylon ring (40) to gauge fitting (39), then put the pressure gauge (41) and twist tight. Remark: twist as tight as possible, otherwise it will be leak.

3.6 Commissioning the machine



Before the commissioning

Before the first use, please fix the machine to the floor by anchor bole. It must be ensured that the standing surface of the machine site is firm and horizontal, and that sufficient lighting is provided for.

- 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 to air supply and operate for 3 seconds to evenly distribute lubricant.
- Purge away air from the hydraulic system.
- Manual operation system: open the release valve by turning it counterclockwise. Pump several full stokes to eliminate any air in the system.
- Air operating system: open the release valve by turning it counterclockwise. Connect the quick coupler-male into the air supply hose quick coupler-female, then turn on the air valve(P39) letting the pump work for several times to eliminate any air in the system.
- Check all parts and conditions, if there is any part broken, stop using it and contact your supplier immediately.

4. Operation

Ensure bed frame at proper position and lock the bed frame by pins (9) firmly.

Place the heel block (4) on bed frame(6), then insert workpiece onto the heel block.

◆ **Note: The steel block must be used by pair, not by piece!**

◆ **The steel block can be used by both sides.**

Close the release valve by turning it clockwise until it is firmly closed.

Connect the quick air valve(P39) into the junction of air source, turn on the air valve(P39) to let the pump work until serrated saddle(18) nears workpiece, then turn off the air valve. When air source is unavailable, pump the handle(45)until serrated saddle (18) nears workpiece.

Align workpiece and ram to ensure center loading.

Turn on air valve (or pump handle) to apply load onto workpiece (please see numeration in pressure gauge).

when work is done, turn off the air valve (or stop pumping handle), slowly and carefully remove load from workpiece by turning the release valve counterclockwise in small increments.(must turn with the small angle, the biggest is two circles)

Once ram has fully retracted, remove workpiece from bed frame.

Disconnect the air inlet fitting from the air source.

5.Trouble shooting

No.	Fault	Cause	Remedy
1	The pump is working, while the ram can't work	1. the oil pipe loosed the ram is leaking	1. checking the connecting situation of oil pipes replace the oil seals

2	When open release valve, the ram can't reset	<ol style="list-style-type: none"> 1. the oil pipe loosed 2. no enough space in pump 3. the ram become invalid 	<ol style="list-style-type: none"> 1. checking the connecting situation of oil pipes 2. open the exhaust valve 3. replace the ram
3	manual normal, while ram can't work	<ol style="list-style-type: none"> 1 release valve not complete closed 2 air in system 	<ol style="list-style-type: none"> 1 check the release valve 2 purge away the air according to manual
4	the sound from air motor but ram can't work	<ol style="list-style-type: none"> 1 release valve not complete closed 2 air in system 	<ol style="list-style-type: none"> 1 check the release valve 2 purge away the air according to manual
5	the ram can't fully work	<ol style="list-style-type: none"> 1 the oil is not enough 	<ol style="list-style-type: none"> 1 Add oil
6	The air motor can't work	<ol style="list-style-type: none"> 1. air press is not enough and overload the capacity 2. air motor is broken 	<ol style="list-style-type: none"> 1 check the air press and capacity 2 Replace the air motor
7	Oil leaking	<ol style="list-style-type: none"> 1. seal kits broken 2. screw parts loosed 	<ol style="list-style-type: none"> 1 replace the seal kits 2 Tighten the screw parts

6. Maintenance

Maintenance should be acted before daily working everyday.

Clean the outside of the press with dry, clean and soft cloth and periodically lubricate the hoist, wheel shaft assembly, the joints and all moving parts with a light oil in normal service.

DO NOT allow lubricant to heel block nor frame of shop press.

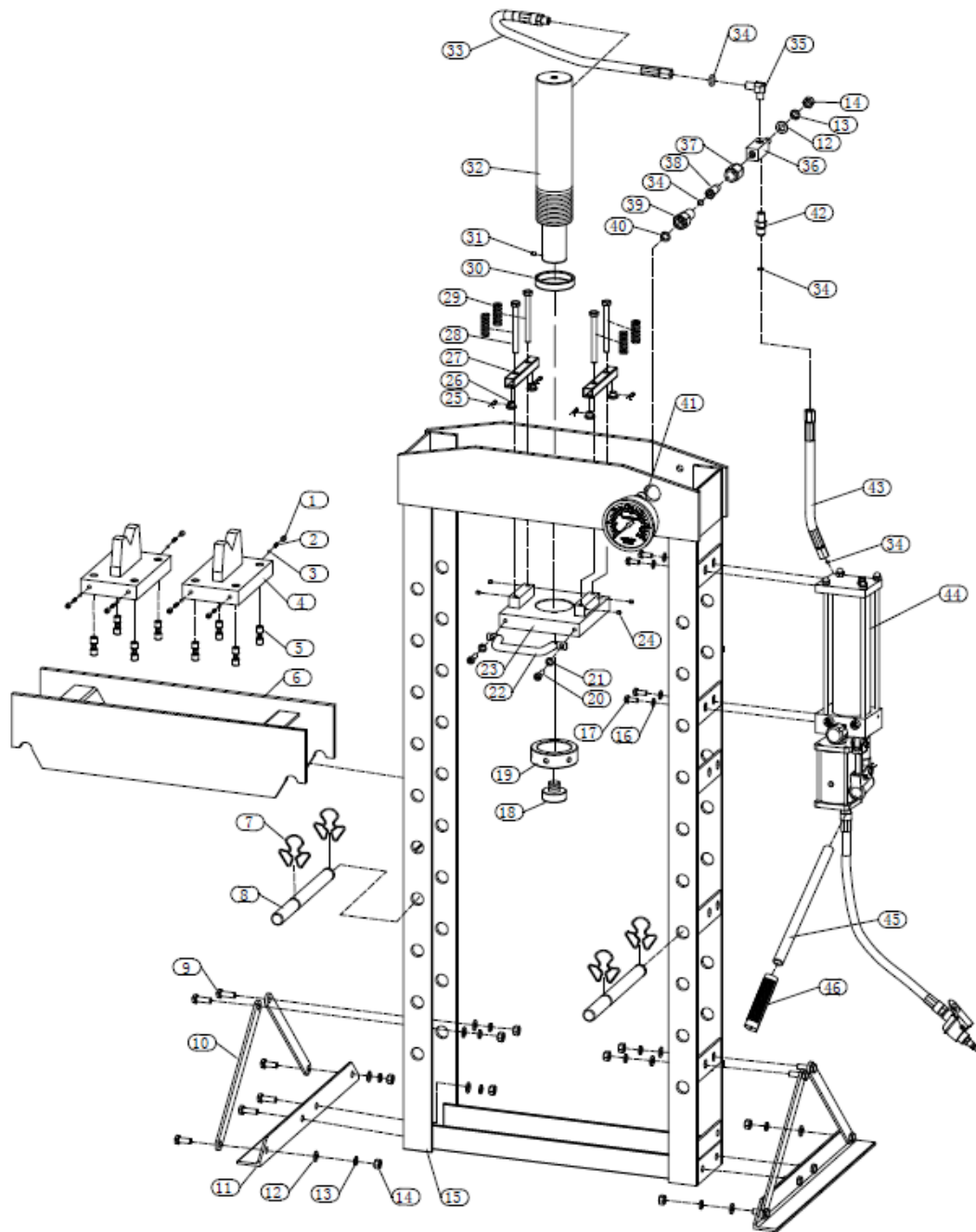
When not in use, store the press in a dry location with ram and piston fully retracted.

When press efficiency drops, purge away air from the hydraulic system as described before.

Check the hydraulic oil: remove the oil filler nut (P37) on the top of the reservoir, if the oil is not adequate, fill with 22 ISO6743 hydraulic jack oil as necessary, then replace the oil filler nut, purge away air from the hydraulic system as described before.

The equipment must not be repaired or changed spare parts by whom without approval from the certified technical support engineer.

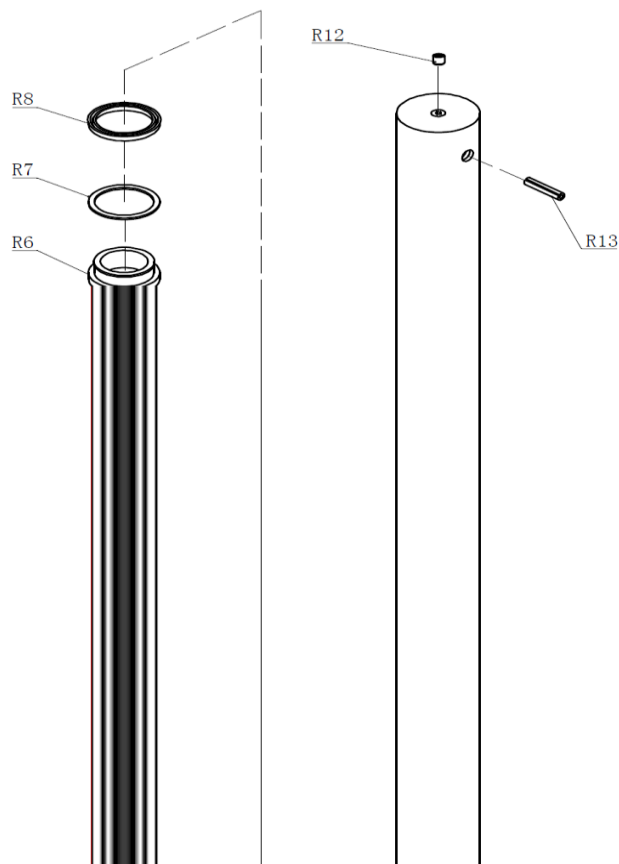
Annex A
Overall drawing of machine



Parts List

Part No.	Description	Q'ty.	Part No.	Description	Q'ty.
1	Screw	8	24	Screw	4
2	Spring	8	25	R-pin	4
3	Steel Ball	8	26	Sliding Block	4
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12	Washer	13	35	Elbow	1
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15	Frame	1	38	Screw	1
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18	Serrated Saddle	1	41	Pressure Gauge	1
19	Under Round Nut	1	42	Connector	1
20	Screw	2	43	Hydraulic Hose1	1
21	Spring	2	44	Pump Assy	1
22	Handle	1	45	Handle	1
23	Ram Plate	1	46	Handle Sleeve	1

Annex B
Main cylinders



PartsList

Part No.	Description	Q'ty.
R1	Limit Collar	1
R2	Screw	1
R3	Copper Washer	1
R4	Piston Rod	1
R5	O Ring	1
R6	Piston	1
R7	PTFE Washer	1
R8	U Ring	1
R9	Nut	1
R10	Spring	1
R11	Ram	1
R12	Screw	1
R13	Pin	1
24	Screw	1

