

SD0809CEA 20T Air/Manual Hydraulic Shop Press



Operation Manual

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1. Important Information

1.1 Safety Information

1.1.1 Hazard Symbols Used in 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 RE20T 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 manual 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 ongoing.
5. Post a list with emergency phone numbers nearby the working area.

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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 RE20T whenever planning to operate it during maintenance or inspection work.
8. Always use proper hand tools and jigs during maintenance or inspections. Before operating machinery, check for any hand tools or jigs left inside of it. For your own safety, **NEVER** try to remove any tools, jigs, or debris with machinery in operation. Consider **SAFETY FIRST**.
9. Make sure operator is wearing protective clothing, gloves, safety helmet, shoes, and ear protection during machinery operation.
10. To prevent back injury, heavy parts (or units), must be moved by two or more people.
11. Before powering on machinery, alert the persons around it.
12. Be careful of pinch points by moving machinery.
13. Only use carriers specified for use by RE20T and set in correct position.
14. To avoid accidents, always be aware of any ongoing work on machinery.

1.1.4 Safety Instruction



1. Before any maintenance is performed on pressurized, you **MUST** release pressure from the system. **DO NOT** stand in direction of the charger. Operator should stand on other side of machinery as pressure is being released from system.
2. If necessary to exchange dies after machinery use, operator should wear protective equipment to avoid injury to self or others.

NOTE: Immediately stop using machinery if it is not in good working order. Contact a certified technical support engineer for repair. Equipment should not be operated without approval from a certified technical support engineer.



Take caution around machinery. Always wear protective gear.

1.1.5 Prohibited Dangerous Actions

This section describes examples of dangerous actions that can occur 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 substances used fall under ordinances concerning environmental pollution, follow ordinances as follows to discharge and dispose of such substances. If industrial waste companies are used, you should confirm ways of final processing.








Check for people around machinery before powering machine back on.

1.2 Warning Label

1.2 Warning Label

Below diagram illustrates warning labels attached to machinery.

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

3. Specification

2.1 Application Area

The machinery described is intended for machinery production and assembling spare parts. It is used to press, size, assemble, and rivet small parts and no other uses.

2.2 Dimension and Weight

Main body dimension 28-3/4" x 21-1/4" x 63-3/4"

Weight 300 lbs.

2.3 Environmental Conditions

Operating Temperature	23°F – 104°F
Storage Temperature	-13°F – 131°F
Shipping Temperature	-13°F – 158°F Not Exceeding 24 Hours
Altitude	Equipment should be installed at a maximum altitude of 3281 ft.
Humidity	Maximum 85% relative humidity at 104°F non-condensing
Atmosphere	Non-flammable, corrosive, dust free
Ambient Light	>300LUX
Noise	<85dB (C)

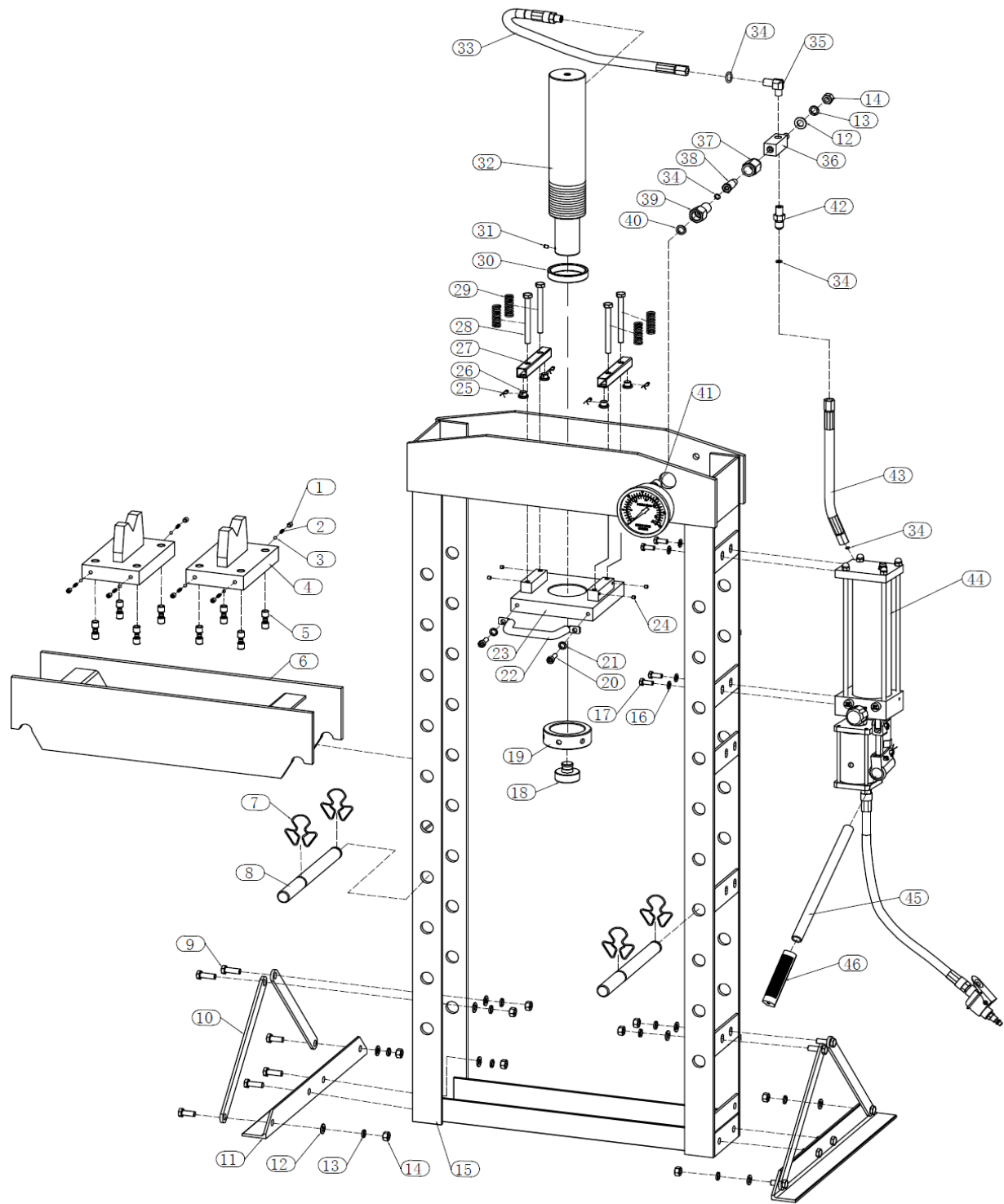
2.4 Technical Capacity

2.4.1 Mechanical Specifications

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

FOLLOWS ON NEXT PAGE



PARTS LIST

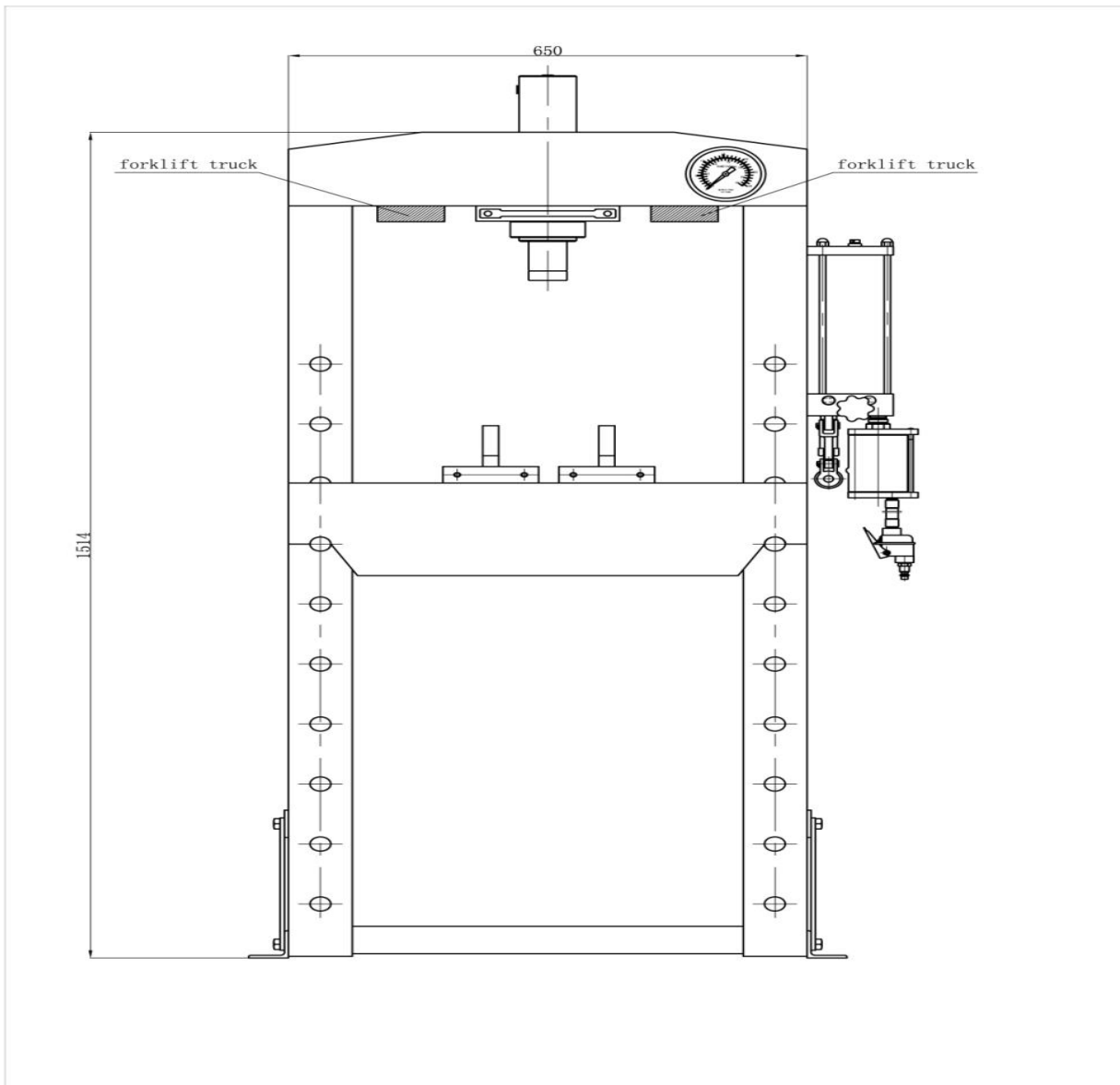
Part No.	Description	Q'ty	Part No.	Description	Q'ty
1	Screw	8	24	Screw	4
2	Spring	8	25	R-Pin	4
3	Steel Ball	8	26	Sliding Block	4
4	Heel Block	2	27	Connecting Rod	2
5	Screw	8	28	Bolt	4
6	Bed Frame	1	29	Spring	4
7	Circlip	4	30	Upper Round Nut	1
8	Pin	2	31	Screw	1
9	Bolt	12	32	Ram Assy	1
10	Support Bar	4	33	Hydraulic Hose 2	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 Hose 1	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 unit is too heavy to be moved by hand. Use the correct transport and lifting equipment to move machinery. To move machinery please refer to proper lifting points in diagram as follows.



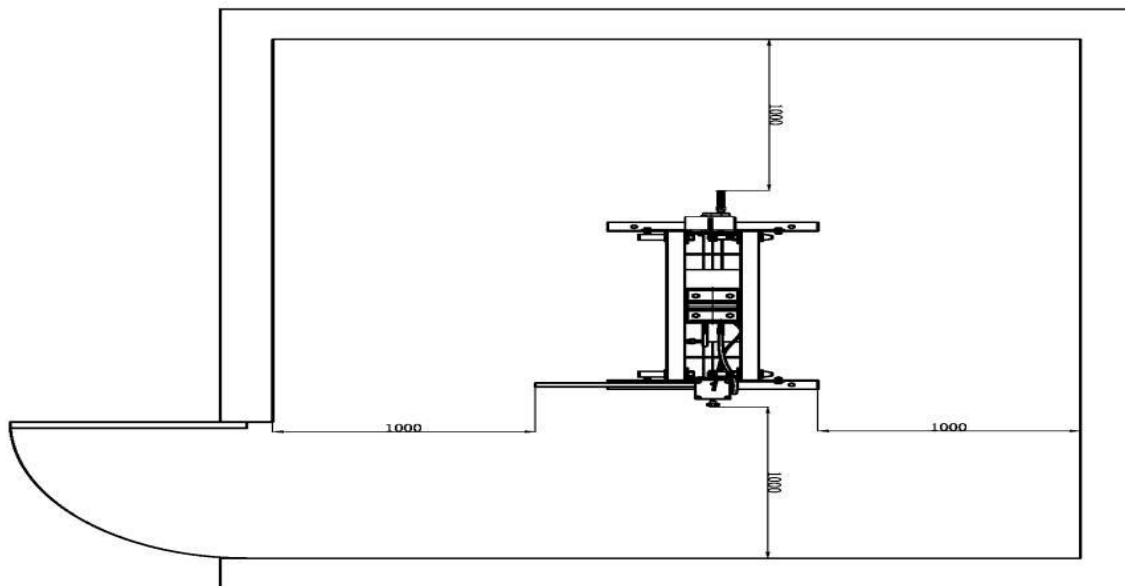
Hydraulic Parts

3.2 Working Area Conditions

Area around machinery should provide enough space to operate machinery and should be clean, non-flammable, corrosive, and dust free.



A working area of 40" is to be kept free both in front of and behind the machinery while it is in operation so that it is always easily accessible.



3.3 Unpacking and Checking Equipment



When opening packaging, make sure to use proper tools and wear proper safety protection. Make sure all parts that are listed on parts list on page 12 are included in packaging. If any parts are missing, please contact manufacturer.

3.4 Disposal of Product Packaging

Packaging is made of PVC film and polywood casing, please dispose of in accordance with local ordinance.

3.5 Product Installation



The machinery must 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 for easy shipping, then fixed on the post by two bolts(M12).

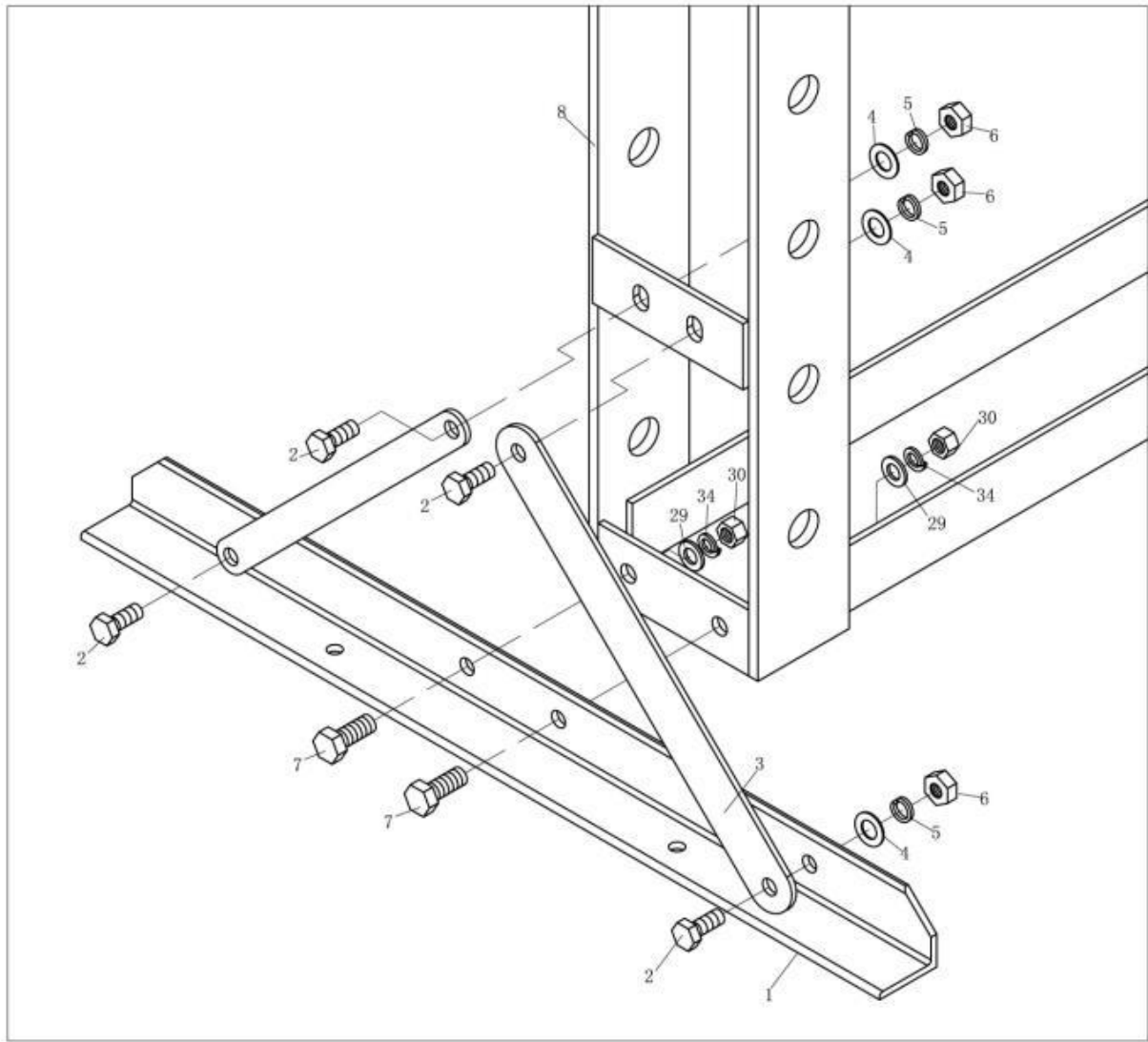


Figure 1

⇒ 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).

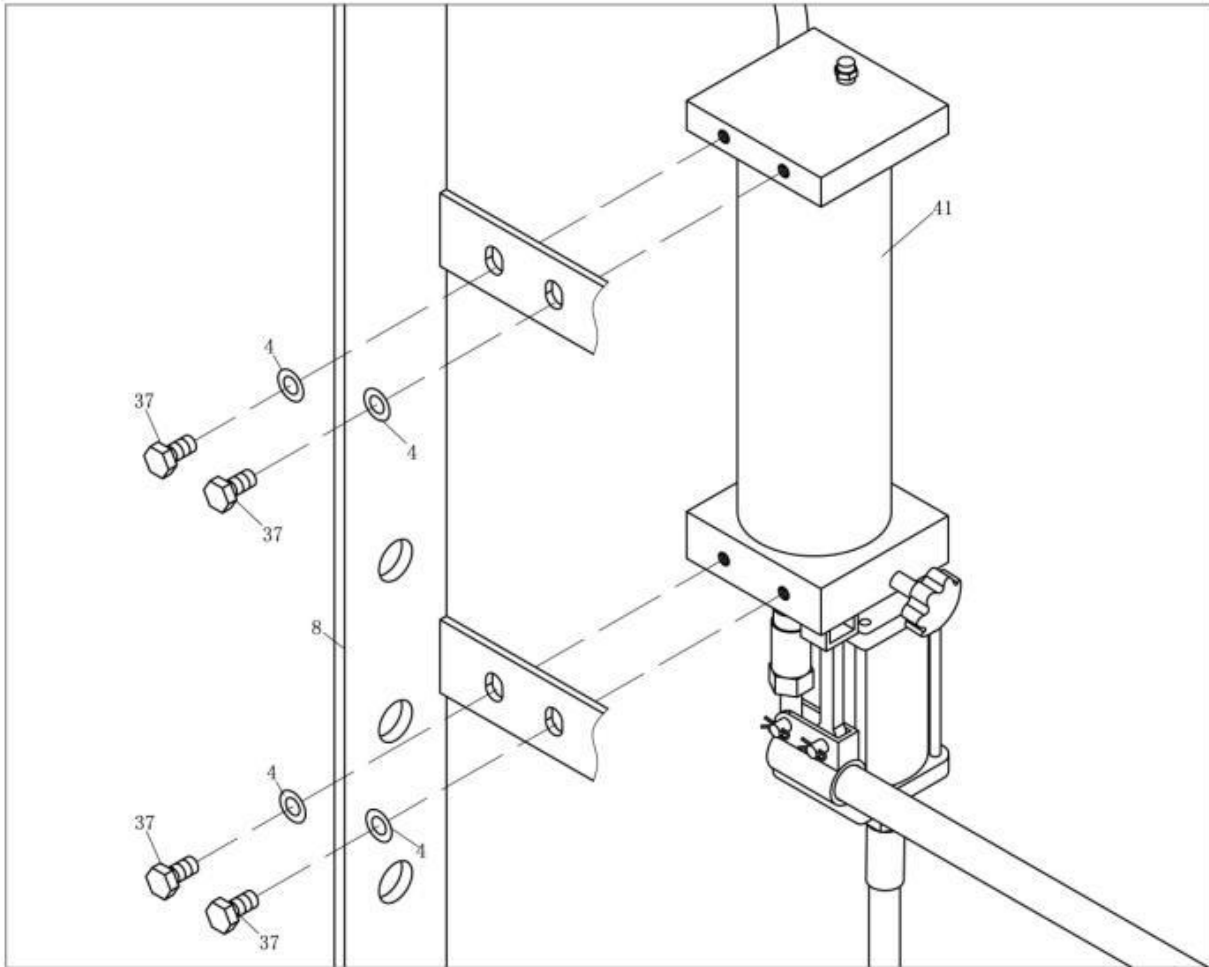


Figure 2

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

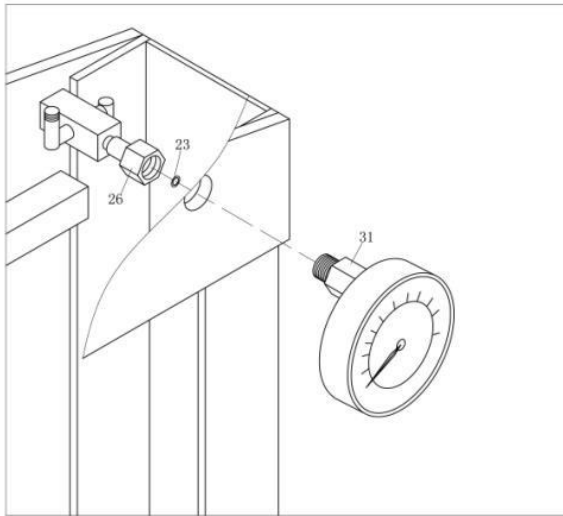


Figure 3

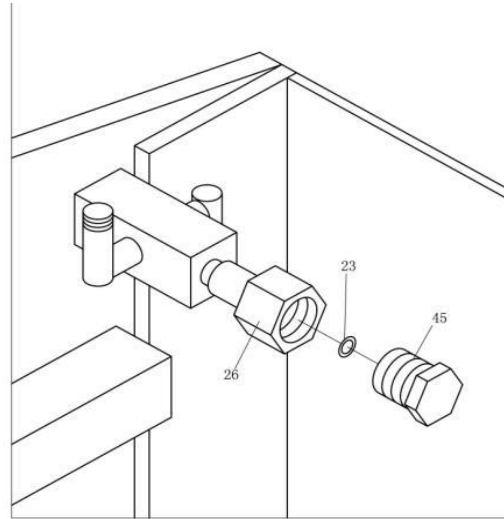
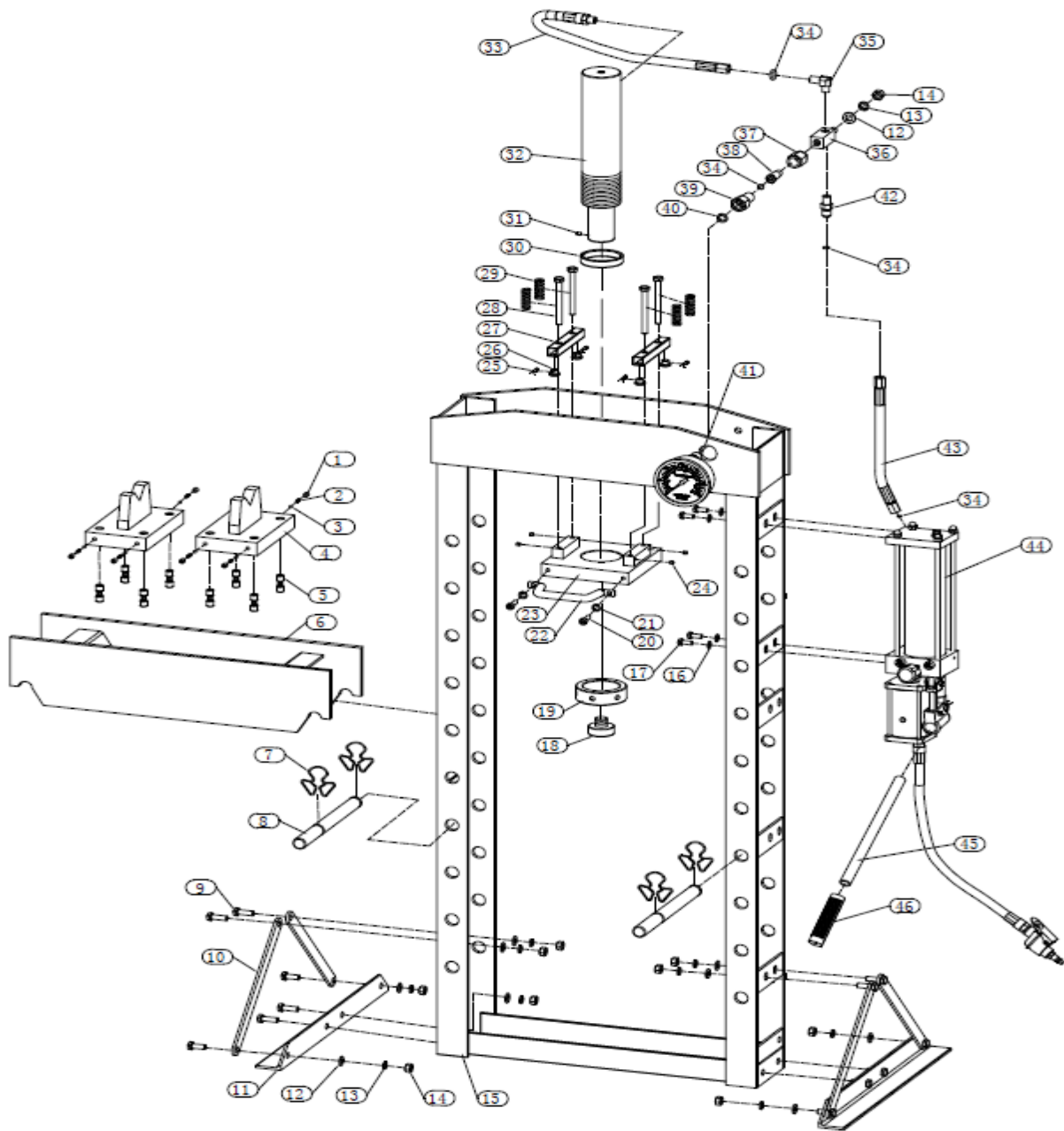


Figure 4

⇒ Assemble the nylon ring (40) to gauge fitting (39), then install the pressure gauge (41) and twist tight. **REMARK:** Twist as tight as possible or pressure gauge will leak.

3.6 Commissioning the Machine



Before Commission

Before first use, please attach the machine to floor with anchor bole. Ensure that the machine site is firm, functional, horizontal, and has plenty of lighting.

- Clean the machinery thoroughly
- Before first use, 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.
- Purge air out of hydraulic system.
- Manual operation system: open the release valve by turning it counterclockwise. Pump several full strokes 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 several times to eliminate any air in the system.
- Check all parts and conditions, if there are any broken parts, stop using immediately and contact manufacturer immediately.

4. Operation

- Ensure bed frame is in proper position and lock bed frame by pins (9) firmly.
- Place the heel block (4) on bed frame (6), then insert workpiece onto heel block.

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

The steel block can be used by both sides.

- Close release valve by turning clockwise until it is firmly closed.
- Connect the quick air valve (P39) into the junction of an 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. Troubleshooting

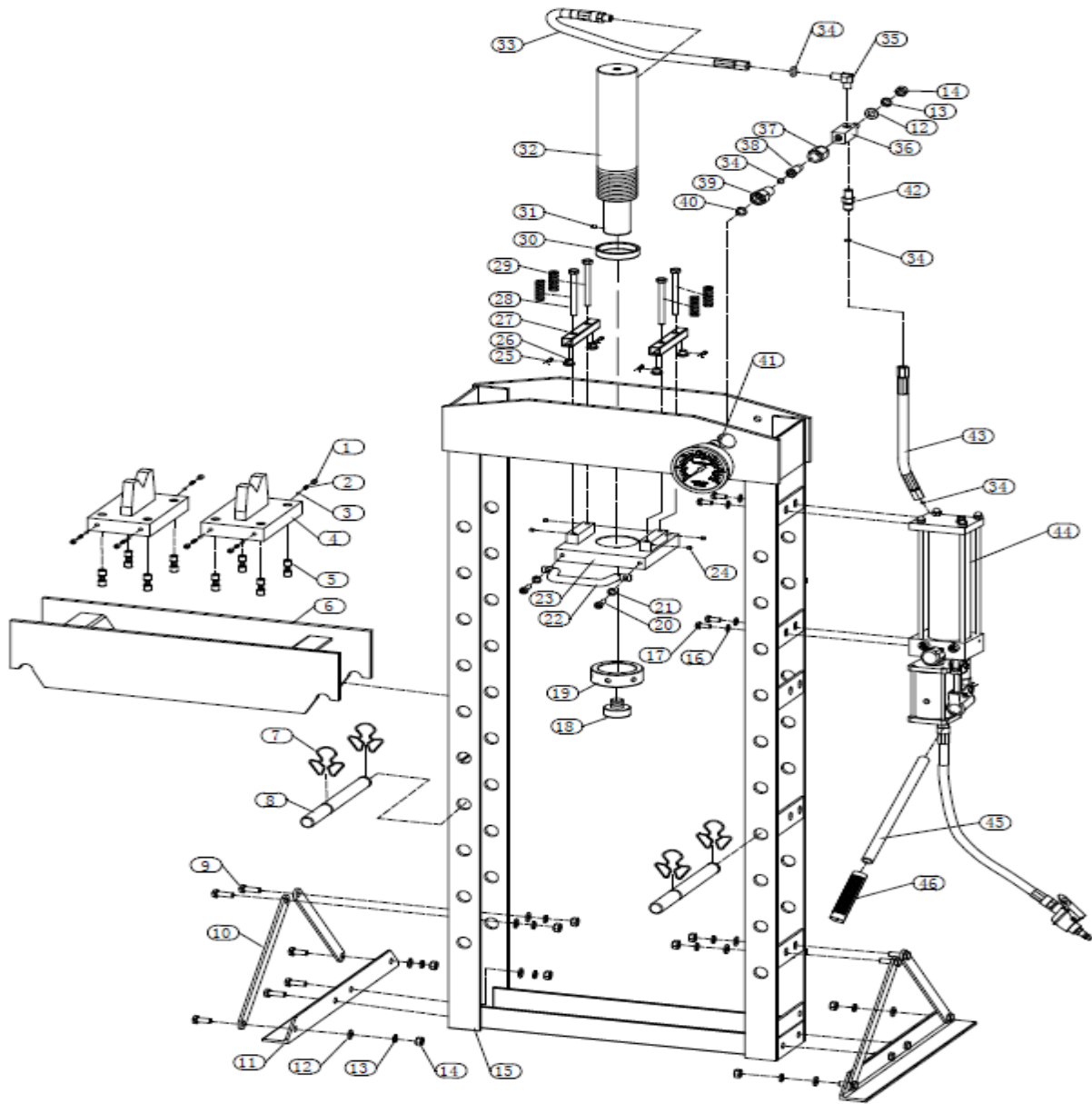
No.	Fault	Cause	Remedy
1	Pump is working but ram is not	Oil pipe is loose causing ram to leak	Check oil pipe connections & replace seals
2	Release valve is open but ram can't reset	<ol style="list-style-type: none"> 1. Loose oil pipe 2. Not enough space in pump 3. Ram is damaged 	<ol style="list-style-type: none"> 1. Check oil pipe connections 2. Open exhaust valve 3. Replace ram
3	Manual pump works but ram does not	<ol style="list-style-type: none"> 1. Release valve not closed 2. Air in system 	<ol style="list-style-type: none"> 1. Check release valve 2. Purge away air
4	Air motor makes sound, but ram does not work	<ol style="list-style-type: none"> 1. Release valve not closed 2. Air in system 	<ol style="list-style-type: none"> 1. Check release valve 2. Purge air away
5	Ram can't fully extend	Not enough oil	Add oil
6	Air motor not working	<ol style="list-style-type: none"> 1. Not enough air pressure 2. Air motor is broken 	<ol style="list-style-type: none"> 1. Check air pressure and capacity 2. Replace air motor
7	Oil leaking	<ol style="list-style-type: none"> 1. Seal is inoperable 2. Screw loose 	<ol style="list-style-type: none"> 1. Replace seals 2. Tighten screws

6. Maintenance

- Precautionary maintenance should be performed every day before machinery operation.
- Clean outside of press with dry, clean, soft cloth and periodically lubricate the hoist, wheel shaft assembly, joints, and all moving parts with a light oil in normal service.
- **DO NOT** allow lubricant on heel block nor frame of shop press.
- When not in use, store press in a dry location with ram and piston fully retracted.
- When press efficiency drops, purge air from the hydraulic system as described before.
- Check hydraulic oil by removing oil filler nut (P37) on top of reservoir and if oil is inadequate, fill with 22 oz. ISO6743 hydraulic jack oil as necessary, replace oil filler nut, and purge away air from hydraulic system as described before.
- Equipment must only be repaired by certified technical support engineer.

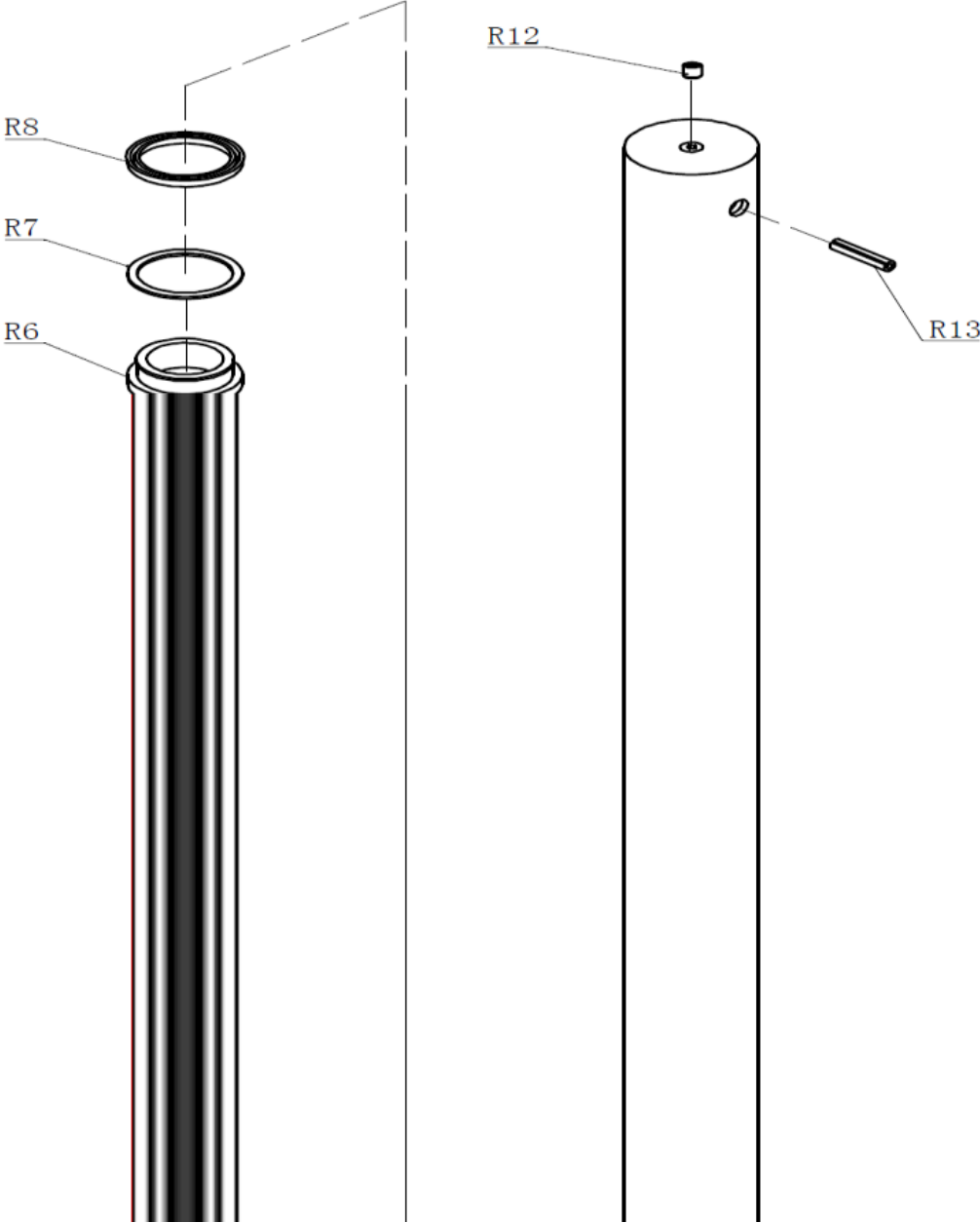
Annex A

Overall Drawing of Machine



Annex B

Main Cylinders



Ram Parts List

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