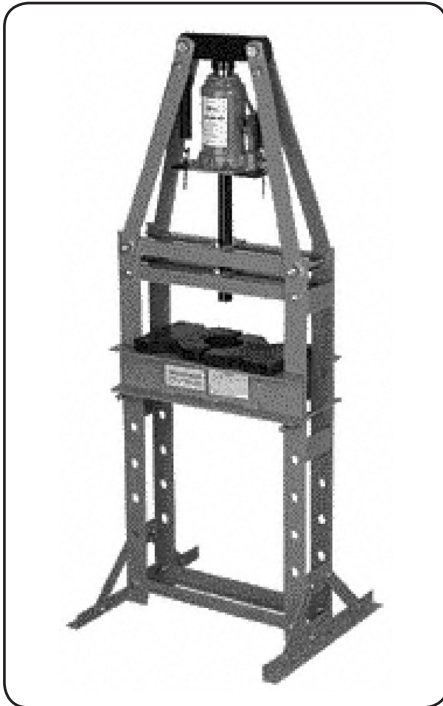


**Central
Hydraulics®**

20 TON SHOP PRESS

Model 37999

SET UP AND OPERATING INSTRUCTIONS



Distributed exclusively by Harbor Freight Tools®.

3491 Mission Oaks Blvd., Camarillo, CA 93011

Visit our website at: <http://www.harborfreight.com>



**Read this material before using this product.
Failure to do so can result in serious injury.
SAVE THIS MANUAL.**

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For technical questions or replacement parts, please call 1-800-444-3353.

Manual Revised 09g

SAVE THIS MANUAL

Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

IMPORTANT SAFETY INFORMATION

In this manual, on the labeling, and all other information provided with this product:



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if

not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

CAUTION

CAUTION, without the safety alert symbol, is used to address practices not related to personal injury.



WARNING Read all safety warnings and instructions. Failure to heed these markings may result in personal injury and/or property damage. Save all warnings and instructions for future reference.

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

Work area

- a. **Keep the work area clean and well lit.** Cluttered benches and dark areas increase the risks of electric shock, fire, and injury to persons.
- b. **Do not operate the tool in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Air and hydraulic tools create sparks which may ignite the dust or fumes.

Personal safety

- a. **Stay alert. Watch what you are doing and use common sense when operating the tool. Do not use the tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating the tool increases the risk of injury to persons.
 - b. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair increases the risk of injury to persons as a result of being caught in moving parts.
 - c. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.
 - d. **Use safety equipment.** Wear heavy-duty work gloves during use. Non-skid safety shoes and a hard hat must be used for the applicable conditions.
 - e. **Always wear eye protection.** Wear ANSI-approved safety goggles, heavy-duty work gloves, and steel-toe work boots during set up and/or use.
- b. **Store the tool when it is idle out of reach of children and other untrained persons.** A tool is dangerous in the hands of untrained users.
 - c. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that affects the tool's operation.** If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools. There is a risk of bursting if the tool is damaged.
 - d. **Use only accessories that are identified by the manufacturer for the specific tool model.** Use of an accessory not intended for use with the specific tool model, increases the risk of injury to persons.

Service

- a. ***Tool service must be performed only by qualified repair personnel.***
- b. **When servicing a tool, use only identical replacement parts. Use only authorized parts.**
- c. **Use only the lubricants supplied with the tool or specified by the manufacturer.**

Specific Safety Rules

1. Maintain labels and nameplates on the Shop Press. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
2. Keep hands away from arbor plates and press rod during use.

3. Do not move workpiece while compressed.
4. Release load before service or maintenance.
5. Bolt to floor before use.
6. Keep area under arbor plates clear. If arbor plates rest on obstruction (i.e., bolt, debris, etc.), it creates an uneven press, causing excess stress and possible breakage.
7. Do not stand directly in front of the press when loaded. Do not leave the press unattended when loaded.
8. Avoid off-center loads. Do not operate if workpiece tilts or binds during compression.
9. STOP and release compression if you suspect imminent structural failure. If safe, inspect thoroughly and reposition before proceeding.
10. Do not compress springs or other elastic objects. They could disengage hazardously.
11. Keep bystanders out of work area.
12. 20 Ton Limit. Do not operate the hydraulic jack beyond rated capacity.
13. Inspect before every use; do not use if parts are loose or damaged.
14. Jack service must be performed only by qualified repair personnel. Service or maintenance performed by unqualified personnel could result in a risk of injury.
15. When servicing a jack, use only identical replacement parts - refer to attached, product-specific parts list and diagram. Follow instructions in the "Inspection, Maintenance, And Cleaning" section of this manual. Use of unauthorized parts or failure to follow maintenance instructions may create a risk of injury.
16. Only use with accessories rated to handle the forces exerted by this tool during operation. Other accessories not designed for the forces generated may break and forcefully launch pieces.
17. Use only with bottle jack provided,
18. Industrial applications must follow OSHA requirements.
19. This product is not a toy. Keep it out of reach of children.
20. The warnings, precautions, 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.



SAVE THESE INSTRUCTIONS.

SPECIFICATIONS

Maximum Capacity	20 Tons (40,000 pounds)
Oil Type	Hydraulic Jack Oil

Note: For additional information regarding the parts listed in the following pages, refer to the Assembly Diagram near the end of this manual.

Unpacking

When unpacking, make sure that the item is intact and undamaged. If any parts are missing or broken, please call Harbor Freight Tools at 1-800-444-3353 as soon as possible.

Components

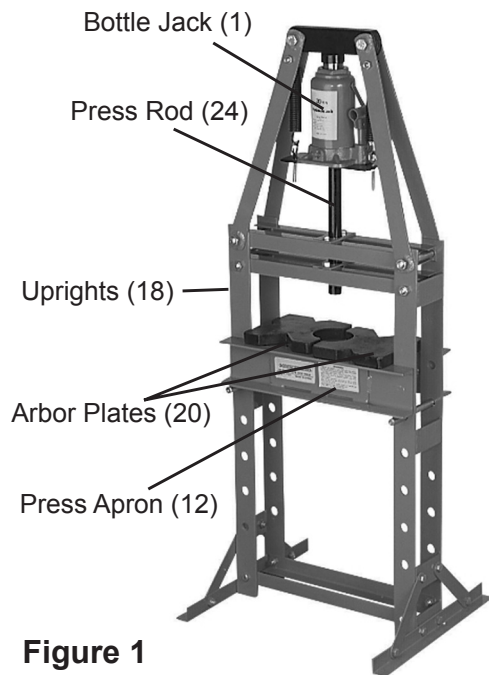


Figure 1

OPERATING INSTRUCTIONS



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Inspect tool before use, looking for damaged, loose, and missing parts. If any problems are found, do not use tool until repaired.

Assembly

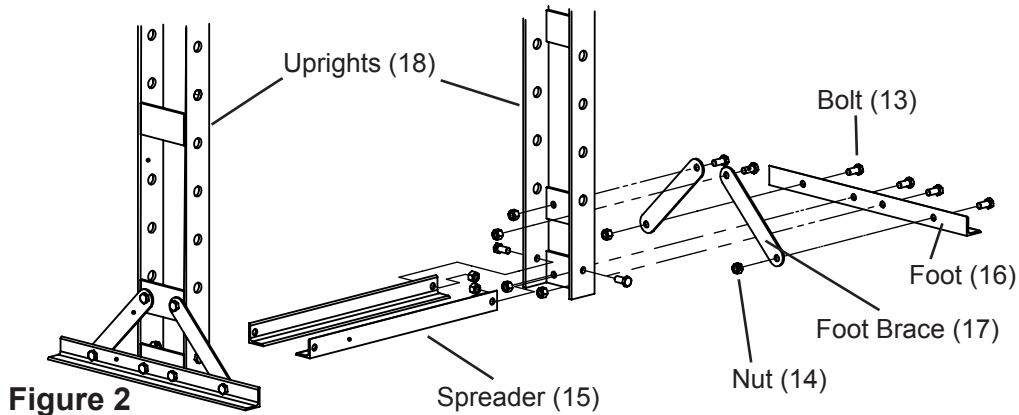
1. Using the Components photo (left) and the Parts List and Diagram near the end of the manual, lay out and identify all pieces before assembly.

Note: All threaded ends of the fasteners should face the interior of the press or the back of the press, with the bolt-heads on the outside or front of the press.

Have someone help you hold pieces in place during assembly.

Finger tighten all nuts in step 2. Then adjust the unit so that it is square, and tighten all nuts and bolts before bolting to the floor.

Finger tighten all nuts for the remainder of the assembly. Then adjust the unit so that it is square and the Press Rod (24) has smooth vertical travel. Securely tighten all nuts and bolts.



2. First Assemble the Feet (16) and Uprights (18), and then Mount the Shop Press:
 - a. Lay down one of the Uprights (18) with the cross straps facing up.
 - b. Attach a Foot (16) to the end where the cross strap is flush with the end of the Upright, using two Bolts (13) and Nuts (14).
 - c. Attach two Foot Braces (17) to the Upright and the Foot, using four Bolts (13) and Nuts (14), as per Figure 2 orientation above.
 - d. Assemble the remaining Upright, Foot and Foot Braces as above.
 - e. Attach the two Spreaders (15) to the foot-end of one of the Uprights (see Figure 2), and secure with two Bolts (13) and Nuts (14).
 - f. Attach the remaining Upright to the other end of the Spreaders using two Bolts (13) and Nuts (14).
 - g. Using a square (sold separately), make sure that all connections are at right angles (except the Braces (17)) and tighten all nuts and bolts in place. Determine where you want to use the Press, and with assistance, move the unit to the location where it is to be used.
 - h. If needed, drill four 1/2" diameter mounting holes in the feet and use as a template to mark the spots where four 1/2" diameter holes will be drilled in the concrete or wood floor. Before drilling, re-check that the press is square. Additionally, check for any hidden wiring or cables and adjust the location for the holes as needed. Then, temporarily set the Shop Press aside.
 - i. Use a masonry drill bit to drill the four 1/2" diameter holes (about 3"-4" deep) into the concrete. Make sure to blow out the concrete dust from the drilled holes. Insert Lag screw anchors (not included) into the holes.
 - j. Set the Shop Press back to the location where it is to be used, and align the four 1/2" diameter mounting holes in its feet with the four pre-drilled 1/2" holes in the concrete or wood. Then use four minimum 3" long, 1/2" diameter, concrete anchor bolts or lag bolts (not included) to secure the Shop Press to the concrete or wood floor.

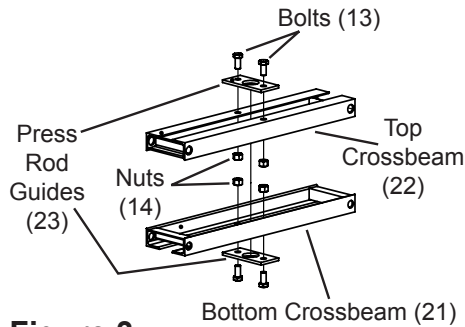


Figure 3

3. To Assemble the Crossbeams (21/22):

Attach a Press Rod Guide (23) to the center of the Top and Bottom Crossbeams (21 & 22) by securing in place with the Bolts (13) and Nuts (14).

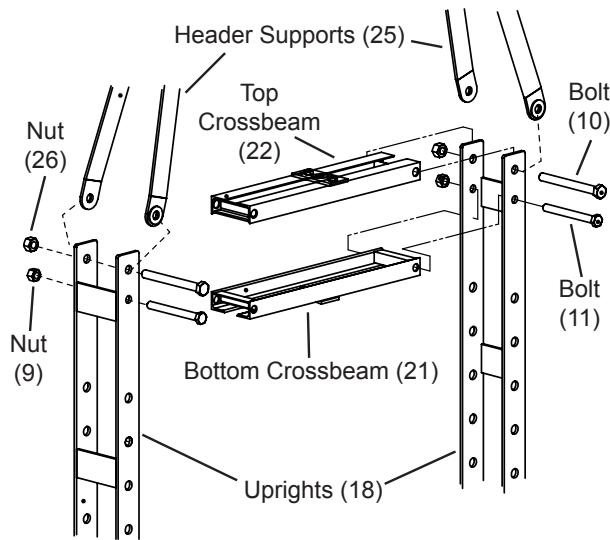


Figure 4

4. To Attach the Crossbeams (21/22) and Header Supports (25) to the Uprights (18):
 - a. Position one end of the Bottom Crossbeam (21) with the second hole at the top of the Upright and secure with a Bolt (11) and Nut (9). Repeat for the other end.
 - b. Position one end of the top Crossbeam (22) at the top end of

the Upright (18). Position Header Supports (25) at its sides, thread a Bolt (10) through the Crossbeam, Header Support, Top Crossbeam, the other Header Support and out through the other Upright. Attach Nut (26). Repeat for the other end.

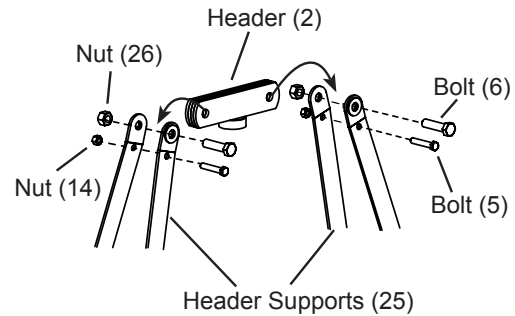


Figure 5

5. To Attach the Header Supports (25) to the Header (2):

Attach the four Header Supports (25) to the sides of the Header (2) using two Bolts (6) and Nuts (26). Insert two Bolts (5) through the lower holes at the top of the Header Supports and secure with Nuts (14).

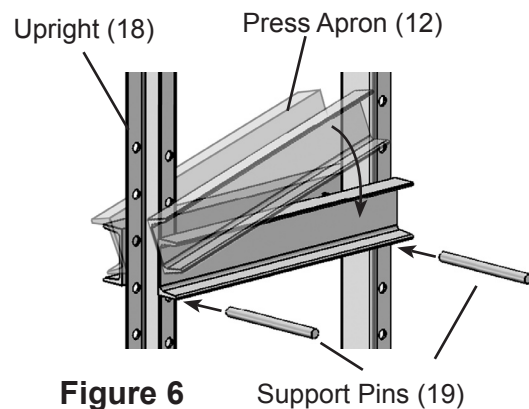


Figure 6

6. To install the Press Apron (12):
 - a. Slide the Support Pins (19) into the holes in the Uprights (18).
 - b. Angle the Press Apron (12) so the rails of the Press Apron straddle the Uprights, then lower into place so

the Press Apron rests on the Support Pins.

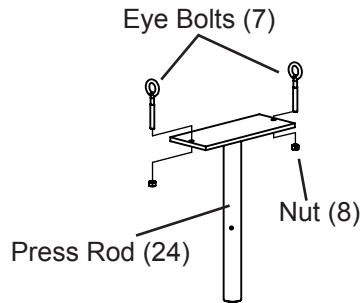


Figure 7

7. Insert the Eye Bolts (7) into the holes in the Press Rod (24) and secure in place with the Nuts (8).

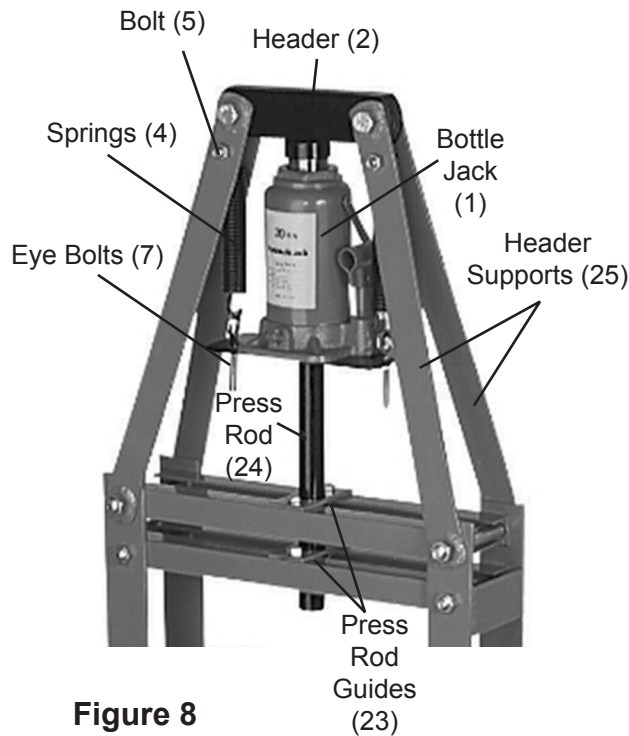


Figure 8

8. To install the Bottle Jack assembly:
 - a. Slide the Press Rod (24) through the Press Rod Guides (23).
 - b. Hang the Springs (4) from the Bolts (5) in the Header Supports (25).
 - c. Bleed the Bottle Jack (see Bleeding the Bottle Jack, page 9) and make sure it is fully collapsed. Center the

Bottle Jack (1) on the Press Rod (24).

- d. Slide the Press Rod up so the Bottle Jack fits into the guide ring on the Header (2).
 - e. Hook the Springs (4) into the Eye Bolts (7).
 - f. Adjust the Eye Bolts so the assembly is tight and secure.
9. Tighten the Bolts and Nuts which secure the Press Rod Guides (23), making sure that the press Rod is centered in them.
 10. Place the Arbor Plates (20) on the Press Apron (12).

Bleeding the Bottle Jack

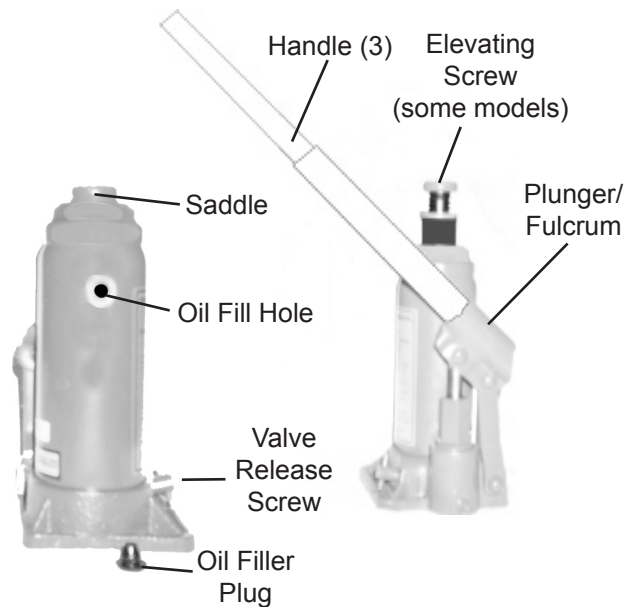


Figure 8

IMPORTANT! Before first use, check for proper hydraulic oil level in the Jack. Then thoroughly test the Jack for proper operation prior to its actual use. If the Jack does not work properly, bleed excess air from its hydraulic system as follows:

1. Open the Release Valve.

2. Remove the Oil Filler Plug and fill the Jack with hydraulic fluid to the full level.
3. Apply pressure to the Saddle, and pump the Handle (3) quickly several times.
4. Check the Oil Fill Hole and, if necessary, top off the Oil Fill Hole with hydraulic oil.
5. Replace the Oil Filler Plug and close the Release Valve.
6. Test the Jack several times for proper operation before putting into use. If, after bleeding, the Jack still does not appear to be working properly, do not use the Jack until it has been repaired by a qualified service technician.

General Operating Instructions

The Shop Press can be used for a variety of functions including electric motor and armature repair, installation and removal of pressure fitted parts such as gears and bearings, and bending or straightening of metal. Care should be taken in set up and operation of the Shop Press to avoid damage or injury.

To operate the Shop Press:

1. Use the Support Pins (19) to adjust the height of the Press Apron (12).

Note: The Press Apron (12) should be in the highest position possible with the workpiece as close as possible to the ram of the Press Rod (24).

2. Place the item to press between the Arbor Plates (20).

WARNING: Make sure there is no obstruction (such as a stray bolt or debris) under the Arbor Plates. Such items create an uneven surface which can cause the Arbor Plates to break under pressure.

WARNING: When pressing two items together, the items must be lined up vertically. If not, one item may forcefully eject itself sideways from the unit.

3. Using the Jack Handle (3), jack down the Jack Plate until the ram of the Jack Plate contacts your workpiece. Make sure if you are pressing two items together, that they are in vertical alignment. Continue to operate the Handle to press the work piece.

4. When the task is completed, be careful when releasing Jack pressure. For safety, remove the Handle, then use the Handle to slowly turn the Valve Release Screw on the Jack, allowing the Jack Plate to rise.

WARNING: After pressing, during the release process the Jack may rise quickly. Stay clear.

USER-MAINTENANCE INSTRUCTIONS



Procedures not specifically explained in this manual must be performed only by a qualified technician.



WARNING TO PREVENT
SERIOUS INJURY
FROM TOOL FAILURE:
Do not use damaged
equipment. If abnormal noise
or vibration occurs, have the
problem corrected before
further use.

1. **Before each use**, inspect the general condition of the Shop Press and Bottle Jack. Check for broken, cracked, or bent parts, loose or missing parts, and any condition that may affect the proper operation of the product. If a problem occurs, have the problem corrected before further use.
Do not use damaged equipment.
2. **Before each use, thoroughly test the Bottle Jack (1) for proper operation prior to its actual use. If the Bottle Jack appears *not* to be working properly, follow *Bleeding* instructions on page 9.**
3. **Change the hydraulic oil at least once every three years. To change the hydraulic oil:**
 - a. With the Jack fully lowered, unhook the Springs from the Eye Bolts and remove the Jack from the Shop Press.
 - b. Remove the Oil Filler Plug.
 - c. Tip the Bottle Jack to allow the old hydraulic oil to drain out of the unit

completely, and dispose of the old hydraulic oil in accordance with local regulations.

- d. Completely fill the unit with a high quality hydraulic oil (not included) until the oil just begins to run out of the Oil Fill Hole.
- e. Reinstall the Oil Filler Plug.
- f. Clean with a clean cloth using a detergent or mild solvent.
- g. Replace the Bottle Jack onto the Shop Press (See step 8 under Assembly).

Troubleshooting

⚠WARNING

TO PREVENT SERIOUS INJURY:

Use caution when troubleshooting a malfunctioning jack.

Completely resolve all problems before use. If the solutions presented in the Troubleshooting guide do not

solve the problem, have a qualified technician inspect and repair the jack before use.

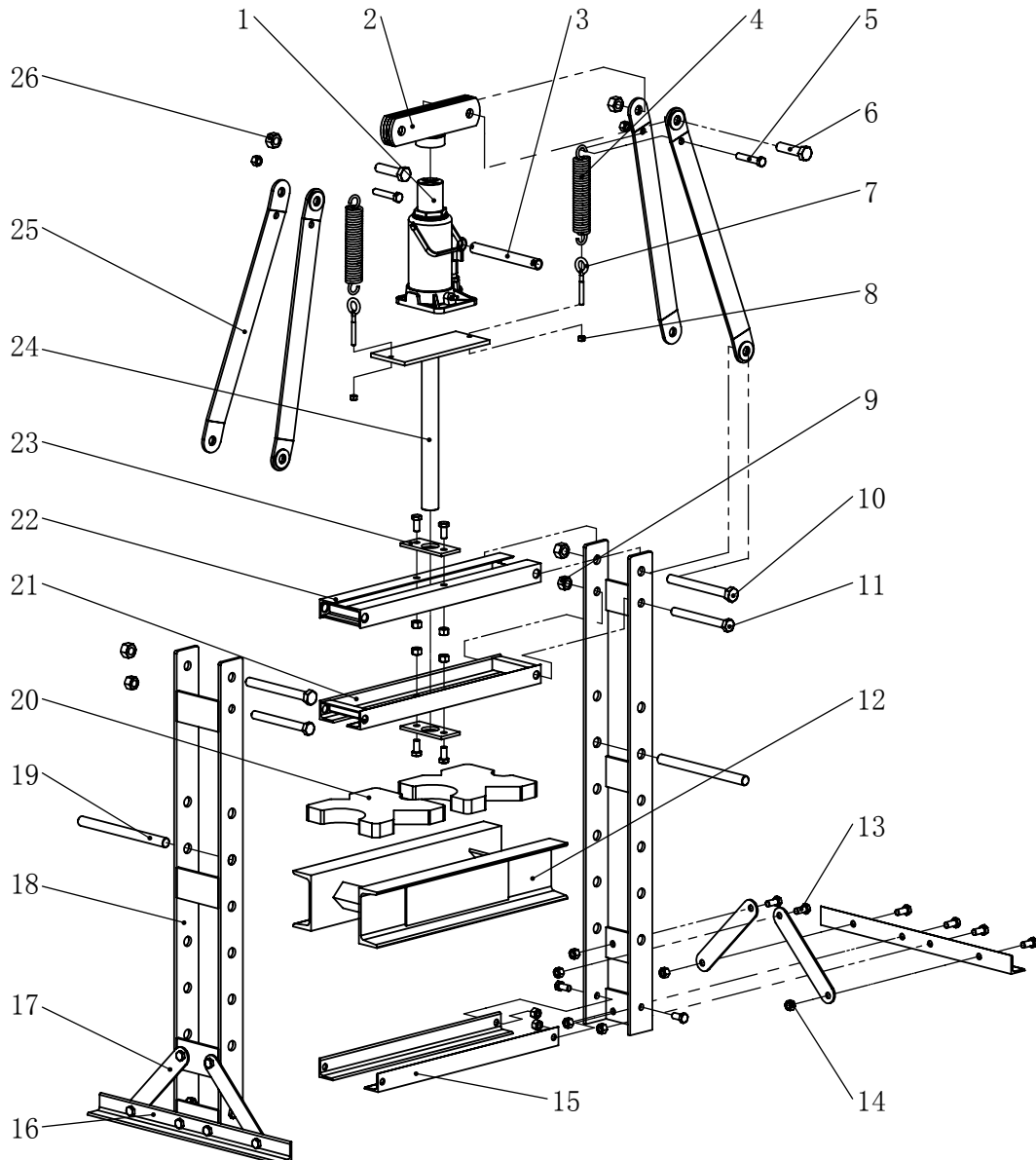
After the jack is repaired: Test it carefully without a load by raising it and lowering it fully, checking for proper operation, BEFORE RETURNING THE JACK TO OPERATION.

DO NOT USE A DAMAGED OR MALFUNCTIONING JACK!

POSSIBLE SYMPTOMS							PROBABLE SOLUTION (Make certain that the jack is not supporting a load while attempting a solution.)
Jack will not function at its weight capacity	Saddle lowers under load	Pump stroke feels spongy	Saddle will not lift all the way	Handle moves up when jack is under load	Oil leaking from filler plug		
X	X						Check that Release Valve is closed fully. Valves may be blocked and may not close fully. To flush the valves: 1. Lower the Saddle and securely close the Release Valve. 2. Manually lift the saddle several inches. 3. Open the release valve and force the saddle down as quickly as possible. Jack may be low on oil. Check the oil level and refill if needed. Jack may require bleeding - see instructions on page 6. Unit may have too much hydraulic oil inside, check fluid level and adjust if needed.
X	X			X			
		X	X				
X							
					X		

PARTS LIST & ASSEMBLY DIAGRAM

Part	Description	Qty	Part	Description	Qty
1	Bottle Jack	1	14	Nut M12	22
2	Header	1	15	Spreader	2
3	Jack Handle	1	16	Foot	2
4	Spring	2	17	Foot Brace	4
5	Bolt M12 x 65	2	18	Upright	2
6	Bolt M18 x 70	2	19	Support Pin	2
7	Eye Bolt	2	20	Arbor Plate	2
8	Nut M8	2	21	Bottom Crossbeam	1
9	Nut M16	2	22	Top Crossbeam	1
10	Bolt M18 x 175	2	23	Press Rod Guide	2
11	Bolt M16 x 155	2	24	Press Rod	1
12	Press Apron	1	25	Header Support	4
13	Bolt M12 x 25	20	26	Nut M18	4



PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

LIMITED 90 DAY WARRANTY

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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Record Product's Serial Number Here: _____

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.