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Form No. 102447

Assembly & Operating Instructions for:

1854

Shop Press

Max. Capacity: 100 Ton

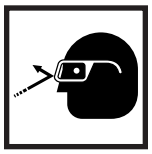
These instructions are intended for various shop presses. Some models are shipped assembled and require a minor amount of assembly; others are shipped unassembled and require complete assembly. The complete assembly procedure is provided in the following instructions for your reference. Verify the contents of the shipping carton against the parts list provided to ensure all parts are present before beginning assembly.

SAFETY PRECAUTIONS

WARNING: To prevent personal injury;

- **Read and carefully follow the operating instructions and safety precautions for the press and hydraulic cylinder. Most problems are caused by incorrect assembly or operation.**
- **The owner of the press must ensure the press is installed and operated according to Federal (OSHA), state, and local safety standards.**
- **A press can exert an extremely high force at a moderate hydraulic pump pressure. If you have any questions about how much force is exerted at a given pressure, contact Technical Services.**
- **This press is designed for shop maintenance applications. For use in other applications, contact Technical Services.**

OPERATION



- **Wear eye protection that meets the standards of ANSI Z87.1 and OSHA. Keep hands away from the work area. The press should be located in an isolated area or shielded to minimize danger to others. Hydraulic pressure can cause materials to break, possibly resulting in personal injury.**
- **It is impossible for the manufacturer to provide practical, all-purpose shielding because this is a general purpose press used in many different applications. The owner of the press must supply shielding (such as the 1230PB or 2036PB available through OTC) that is practical and specific for a particular application.**
- **A workpiece must be well supported and aligned to prevent slippage and breakage.**
- **To prevent accidental slippage, do not place workpiece on the press bed or apply hydraulic force until all bolster pins are in place and all tension has been removed from the bolster lift cables.**
- **Do not stress adapters beyond their capacities. Pushing or pulling adapters used with this press must have a maximum tonnage rating equal to, or greater than, the maximum tonnage rating of the press. Otherwise, breakage may occur.**
- **The user must ensure all safety-related decals are installed, maintained, and replaced when necessary.**

- **Keep hands, feet, legs, etc. out from under the bolster. Accidental slippage can result in personal injury.**

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WARNING (cont'd)

- **To prevent accidental cable breakage, never raise or lower the bolster if a load has been placed on it.**
- **When lowering the bolster, remove the work piece. Place one support pin all the way through each front and the back upright in the highest hole under the bolster that will not interfere with the new bolster position. Remove your hands from the support pins after the pins are in place.**
- **When raising the bolster, remove the work piece. Leave the support pins in place until the bolster is raised to its new position. Remove your hands from the support pins after the pins are in place.**
- **Inspect the entire length of the lifting cables at least every three months, and replace cables that appear frayed, worn, or crushed. The cables must run on the pulleys easily and the pulleys must be free to turn. Correct cable maintenance helps prevent cable breakage.**

Assembly

Note: Refer to Parts list No. 100553 for location of item numbers referenced below.

Important: During the assembly of the press, hand tighten all nuts and bolts, unless directed otherwise. Once assembly is complete, use a wrench to tighten all hardware.

1. Place the lower bolster (Item 29, sheet 1 of 2) on two wood blocks (4x4s approximately 24 in. long). Place blocks perpendicular to the bolster. **IMPORTANT: Make sure the cable attachment holes in the bolster plates are facing up. See Figure 1, to the right.**
2. Attach foot (26) and lower pulley bracket (35) to left-hand upright (27) using cap screws (25) and hex nuts (8).
3. Slide the left-hand upright between the lower bolster assembly (29) until the upright is tight against the bolster plate.
4. Slide right-hand upright (21) between lower bolster assembly (29) until upright is tight against the bolster plate and pulley bracket (35). Then attach foot (26) to right-hand upright (21) and lower pulley bracket (35) using cap screws (25) and hex nuts (8).
5. Mount one of the upper bolsters (3) to top of the uprights (27 and 21) using bolster bolts (5) and hex jam nuts (4). *NOTE: The mounting holes in the upper bolsters for the ram assembly (15) must be facing down.*
6. To install bolster lifting mechanism, insert pulley axles (1) through one side of the middle holes in the press uprights, place pulleys (2) on axles, then push shafts into holes in other side of press uprights. *Note: Once assembly of the press is complete, lubricate both axles using a general purpose grease.*
7. Mount remaining bolster to uprights using bolster bolts (5) and hex jam nuts (4). This will hold pulleys (2) and axles (1) in place.
8. Fasten winch cable (9) to winch assembly (23), then attach winch assembly to left upright (27) using cap screws (11) and washers (2). Tighten cap screws securely.
9. Feed winch cable (9) over pulley, then attach end of cable to the top hole in the left bolster lifting plate using a cap screw (16) and hex nut (13).

CABLE ROUTING DIAGRAM

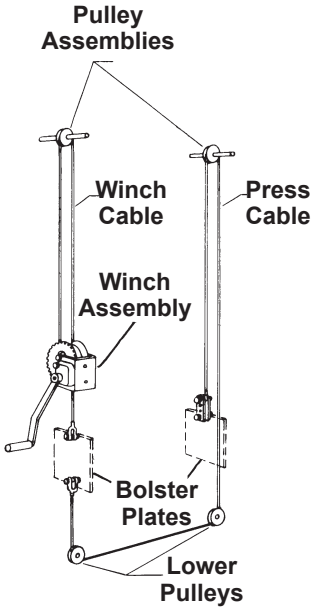

Figure 1

10. Attach press cable (10) to lower hole in the left bolster lifting plate using cap screw (16) and hex nut (13).
11. Lay press cable (10) in center of lower lifting bracket (35), then install pulleys (24) with clevis pins (33), and secure with cotter pins (32). *Note: Once assembly of pulleys is complete, lubricate both clevis pins using a general purpose grease.*
12. Thread cable over upper right pulley (2) and attach to right bolster lifting bracket with cable straps (20), cap screws (18), and locking nuts (13). (See Fig. 1 Cable Threading Diagram.) *NOTE: When attaching cable, place cable attachment eye over center hole of cable straps (20).*
13. Raise and lower bolster assembly to make sure winch and cable operate smoothly and freely. Next, raise bolster just enough to install the two bolster pins (34) through the uprights. Then lower the bolster onto the bolster pins. *Note: Once the bolster is resting on the pins (34), make sure there is slack in the press cable (10). If bolster assembly does not operate freely, or there is no slack in the press cable when the bolster is resting on the pins, reposition the cable on the cable attachment eye (up or down as necessary) until bolster operates freely and there is slack in the cable. Once bolster operates freely and cable is adjusted correctly, remove the two support blocks and wrench tighten all hex nuts (13).*
14. Attach pump mounting bracket (22) to right-hand press upright (21) using cap screws (31) and hex nuts (30).
15. Place pump on mounting bracket. Secure with the four cap screws that were shipped with the pump. (Refer to Figure 2, sheet 2 of 2.)

Hydraulic Connections

Note: Refer to Parts list No. 100553 for location of item numbers referenced below.

1. Assemble the hydraulic hose and gauge to the pump using the hose, gauge, and adapter supplied.

IMPORTANT: Use a high-grade, non-hardening pipe sealant to seal all hydraulic connections. Teflon tape can be used if only ONE layer of tape is applied. Ensure the first thread is exposed without tape. Carefully apply the tape to prevent the tape from becoming pinched or broken off inside the hydraulic system. Loose pieces of tape can travel through a hydraulic system, which could potentially obstruct the flow of oil and damage the system.

2. Thread the hydraulic cylinder (15) into the cylinder mounting plate (14). Refer to Figure 1. **IMPORTANT: The threads of the cylinder must be flush with the bottom of the mounting plate for full thread engagement.**
3. Place the cylinder assembly on the lower bolster assembly (29). **IMPORTANT: The pipe plug on the cylinder must face the pump side of the press frame.**
4. By operating the winch mechanism, raise the cylinder assembly to the upper bolster (3). Block the cylinder assembly if additional height is needed so the cylinder will reach the upper bolster when the lower bolster is raised.
5. Attach the cylinder mounting plate to the upper bolster with cap screws (17), SAE washers (19), beveled washers (7), and hex nuts (8). Refer to Figure 2. *NOTE: Place the beveled washers on top of the bottom lip of the upper bolster. The larger dimension of the beveled washer is positioned to the outside of the bolster to provide a level surface when tightening the hex nuts.* Once the beveled washers are in their correct position, wrench tighten the hex nuts.
6. After the cylinder assembly is secured to the upper bolster, lower the bolster assembly onto the bolster pins.
7. Bleed the hydraulic system by operating the pump until an air-free stream of hydraulic oil flows from the hose.
8. Remove the pipe plug on the cylinder and attach the hydraulic hose.
9. Straighten the press and wrench tighten all hex nuts and cap screws.

IMPORTANT:

- **To prevent damage to the finished surface of the cylinder piston rod when not in use, retract the cylinder.**
- **Only use a high-grade hydraulic oil when refilling the pump reservoir. *Never* use brake fluid or other substitute.**

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