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Form No. 102430

**Assembly & Operating Instructions
 for:**

1833	203400
1834	211220
1837	014-00085
60178	

SHOP PRESS

Max. Capacity: 25 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



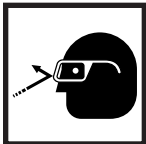
WARNING: To prevent personal injury;



- Read and carefully follow the operating instructions and safety precautions for the press and bottle jack. 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.



Sheet No. 1 of 2

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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. 100551 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.

- Place the lower bolster (Item 12, 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.
- Attach a foot angle (13) to each press upright (10 and 23) using cap screws (20), washers (19), and hex nuts (8).
- Attach the spacer angle (14) to the right-hand press upright (10) with a cap screw (20).
- Slide the upright into the end of the bolster assembly (12) until the upright is tight against the bolster plate.
- Slide the left-hand press upright (23) into the other end of the bolster assembly (12) until it is tight against the bolster plate. Then attach the upright to the angle spacer with a cap screw (20).
- Mount one of the upper bolsters (1) to the top of each upright (10 and 23) using cap screws (7) and hex nuts (5). The holes for the cylinder mounting plate (11) must be facing down.
- Install two pulley axles (4) and pulleys (3). The axles each pass through the exposed uppermost mounting hole in their respective upright (10 and 23). Before pushing each axle all the way through to the opposite mounting hole, slide a pulley (3) onto each axle. *Note: Once assembly of the press is complete, lubricate both axles using a general purpose grease.*
- Mount the remaining upper bolster to the uprights using cap screws (7) and hex nuts (5).
- Assemble a cap screw (2), two washers (24), and a nut (22) to the pulley bracket located at the top of the left-hand upright. To allow the cable to be installed later on, only hand thread the nut onto the screw a few turns at this time.
- Attach the winch assembly (21) to the mounting plate on the left upright using cap screws (18) and hex nuts (22). Wrench tighten the mounting hardware.
- Attach one end of the cable (7, sheet 2 of 2, back) to the bolster plate on the right end of the lower bolster (12) using a cap screw (2, sheet 2 of 2, back) and lock nut (1, sheet 2 of 2, back). Feed the other end of the cable through the pulley (3) and attach it to the left end of the lower bolster. Finish routing the cable as detailed in Figure 1 above.
IMPORTANT: When looping the cable over the cap screw (2) installed earlier on the pulley bracket, make sure the cable is between the two washers (24).
- Operate the winch handle to tension the cable and to lift the bolster assembly off the support blocks. Remove blocks.
- Insert a pair of bolster pins (15) in the uprights using corresponding holes across from each other.
- Level the lower bolster by hand.
- Tighten the cap screw (2) and nut (22) on the pulley bracket to secure the cable between the two washers (24).

CABLE ROUTING DIAGRAM

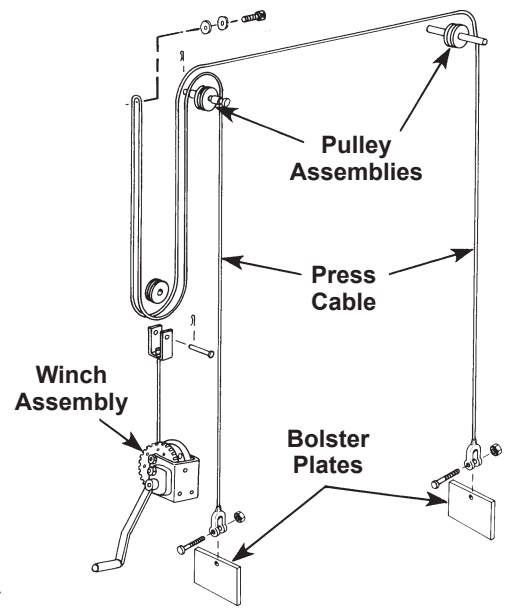


FIGURE 1

Hydraulic Connections

Note: Refer to Parts list No. 100551 for location of item numbers referenced below.

NOTE: If you are assembling a model 1834 press, the pump mounting bracket is not used. The pump for a model 1834 press is positioned on the shop floor for the convenience of the operator.

1. Attach the pump mounting bracket to the right-hand upright. (Refer to the pump mounting bracket diagram, sheet 1 of 2, back.)
2. Assemble the hydraulic hose and gauge to the pump using the hose, gauge, adapters, and couplers 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.

3. Thread the hydraulic cylinder into cylinder mounting plate (item 11, sheet 1 of 2). **IMPORTANT: The threads of the cylinder must be flush with the bottom of the mounting plate for full thread engagement.**
4. Place the cylinder assembly on the lower bolster. **IMPORTANT: The pipe plug on the cylinder must face the pump side of the press frame.**
5. By operating the winch mechanism, raise the cylinder assembly to the upper bolster. Block the cylinder assembly if additional height is needed so the cylinder will reach the upper bolster when the lower bolster is raised.
6. Attach the cylinder mounting plate to the upper bolsters with cap screws (16), hex nuts (8), and beveled washers (9). *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.
7. After the cylinder assembly is secured to the upper bolster, lower the bolster assembly onto the bolster pins.
8. Bleed the hydraulic system by slowly operating the pump handle until an air-free stream of hydraulic oil flows from the hose.
9. Remove the pipe plug on the cylinder and attach the hydraulic hose.
10. 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.**

