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AFF 820A

AFF 20 Ton Hydraulic Shop Press Instruction Manual

Model: 820A

Brand: AFF (American Forge & Foundry)

1. INTRODUCTION AND SAFETY INFORMATION

This manual provides essential instructions for the safe operation, assembly, maintenance, and troubleshooting of your AFF 20 Ton Hydraulic Shop Press. Please read this manual thoroughly before operating the press to ensure proper use and to prevent injury or damage.

The AFF 20 Ton Hydraulic Shop Press is designed for straightening, bending, and removing gears, bearings, and bushings in automotive and light industrial applications. It features industrial-grade construction for durability and an 8-level bed adjustment for versatility.

General Safety Warnings

- Always wear appropriate personal protective equipment (PPE), including safety glasses, gloves, and sturdy footwear.
- Ensure the press is placed on a stable, level surface capable of supporting its weight and the load.
- Do not exceed the rated capacity of 20 tons. The press is equipped with overload protection to prevent damage from over-pressurization.
- Keep hands and body clear of the ram and workpiece during operation.
- Inspect the press for any damage or wear before each use. Do not operate if damaged.
- Keep children and unauthorized persons away from the work area.
- Use only genuine AFF replacement parts for repairs.
- This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm (Proposition 65 warning).

2. PRODUCT OVERVIEW AND COMPONENTS

The AFF 20 Ton Hydraulic Shop Press is a robust tool designed for various pressing tasks. Familiarize yourself with its main components:

- **Frame:** Heavy-duty steel construction providing stability.
- **Hydraulic Bottle Jack:** The primary power source for applying force, with an 8-1/2 inch stroke.
- **Press Bed:** Adjustable platform where the workpiece is placed, offering 8 levels of height adjustment.

- **Ram:** The component that extends from the jack to apply pressure.
- **Return Springs:** Heavy-duty springs for fast ram retraction.
- **Arbor Plates:** Professional-grade plates included for supporting workpieces.



Figure 2.1: Overview of the AFF 20 Ton Hydraulic Shop Press. This image shows the complete assembly of the red-colored shop press,

highlighting its sturdy frame, hydraulic bottle jack, and adjustable press bed.



MULTI-FUNCTIONAL
For straightening, bending
and removing gears,
bearings, and bushings



Figure 2.2: Multi-functional capabilities. This image illustrates the press's versatility for straightening, bending, and removing gears, bearings, and bushings, with a person operating it.



Figure 2.3: Durable industrial-grade construction. A close-up view emphasizing the robust build quality and 20-ton capacity of the press.

3. SETUP AND ASSEMBLY

The AFF 20 Ton Hydraulic Shop Press requires assembly. Follow these steps carefully:

1. **Unpacking:** Carefully remove all components from the packaging. Verify all parts are present according to the packing list.
2. **Frame Assembly:** Assemble the main frame components, ensuring all bolts are securely tightened. Refer to the included assembly diagram for specific bolt locations and torque specifications.
3. **Install Hydraulic Jack:** Securely mount the 20-ton hydraulic bottle jack into its designated position within the press frame.
4. **Attach Return Springs:** Connect the heavy-duty return springs to the ram and the upper frame crossbar. These springs assist in fast ram retraction.
5. **Position Press Bed:** Adjust the press bed to the desired height using the 8-level adjustment points. Ensure the bed is level and securely supported by the pins.

6. **Place Arbor Plates:** Position the professional-grade arbor plates on the press bed as needed for your specific application.
7. **Secure Placement:** Place the assembled press on a firm, level, and stable surface. For permanent installations, consider bolting the press to the floor for added stability.

Note: It is recommended to have at least two people for assembly due to the weight of the components (Item Weight: 279 pounds).

4. OPERATING INSTRUCTIONS

Follow these steps for safe and effective operation of your hydraulic shop press:

1. Preparation:

- Ensure the press is stable and clear of obstructions.
- Verify the workpiece is clean and free of debris.
- Select the appropriate arbor plates for your task and place them on the press bed.
- Adjust the press bed height to minimize the distance between the ram and the workpiece, allowing for sufficient ram stroke.

2. **Position Workpiece:** Carefully place the workpiece centrally on the arbor plates on the press bed. Ensure it is stable and will not shift during pressing.

3. Apply Pressure:

- Close the release valve on the hydraulic jack by turning it clockwise until snug.
- Insert the pump handle into the jack's pump socket.
- Slowly pump the handle to extend the ram and apply pressure to the workpiece. Observe the workpiece carefully.
- The press has overload protection to prevent exceeding its 20-ton capacity.

4. Release Pressure:

- Once the task is complete, slowly open the release valve by turning it counter-clockwise.
- The ram will retract due to the heavy-duty return springs.
- Remove the workpiece once the ram has fully retracted.



EFFORTLESS OPERATION

- 20 Ton bottle jack with 8 ½" stroke
- Press bed with 8 adjustment levels



Figure 4.1: Effortless operation. This image highlights the 20-ton bottle jack with its 8-1/2 inch stroke and the press bed's 8 adjustment levels, showing a user operating the pump handle.



WORK EFFICIENTLY

Heavy-duty return springs for fast ram retraction



Figure 4.2: Efficient ram retraction. A close-up view of the heavy-duty return springs, demonstrating their role in quickly retracting the ram after pressure is released.

5. MAINTENANCE

Regular maintenance ensures the longevity and safe operation of your AFF Hydraulic Shop Press.

- **Cleaning:** Keep the press clean and free of dirt, grease, and debris. Wipe down surfaces with a clean cloth after each use.
- **Lubrication:** Periodically lubricate all moving parts, including the ram and pivot points, with a light machine oil.
- **Hydraulic Fluid:** Check the hydraulic fluid level in the bottle jack regularly. Top up with high-quality hydraulic jack oil if necessary. Refer to the jack's specific instructions for fluid type and filling procedure.
- **Inspection:**
 - Inspect all bolts and fasteners for tightness. Tighten as needed.
 - Check the hydraulic hose (if applicable) and connections for leaks or damage.

- Examine the return springs for any signs of stretching or damage.
- Inspect the ram for scoring or corrosion.
- **Storage:** When not in use, store the press in a dry, clean area. Lower the ram completely to protect the hydraulic cylinder.

6. TROUBLESHOOTING

This section addresses common issues you might encounter with your hydraulic shop press.

Problem	Possible Cause	Solution
Ram does not extend or extends slowly.	Low hydraulic fluid level; Air in hydraulic system; Release valve open; Faulty pump.	Check and refill hydraulic fluid; Bleed air from system (refer to jack manual); Ensure release valve is fully closed; Contact qualified service personnel.
Ram does not retract fully.	Release valve not fully open; Damaged return springs; Obstruction.	Ensure release valve is fully open; Inspect and replace return springs if damaged; Check for and remove any obstructions.
Loss of pressure during operation.	Leaking hydraulic seals; Overload protection activated; Release valve not fully closed.	Inspect for leaks and contact service for seal replacement; Reduce load to within capacity; Ensure release valve is fully closed.
Unstable press during use.	Uneven surface; Loose fasteners; Improper assembly.	Place on a level, stable surface; Tighten all assembly fasteners; Re-check assembly instructions.

For issues not listed here or if solutions do not resolve the problem, contact AFF customer support.

7. SPECIFICATIONS

Feature	Detail
Model Number	820A
Load Capacity	20 Tons (40,000 lbs)
Ram Stroke	8-1/2 inches
Bed Adjustment Levels	8 levels
Overall Dimensions (Approx.)	55" W x 84" H
Bed Depth	13.5 inches
Bed Width	31 inches
Throat Depth	9 inches
Throat Width	16.5 inches
Item Weight	279 pounds
Color	Red

Feature	Detail
Manufacturer	SUREWERX USA (AFF)

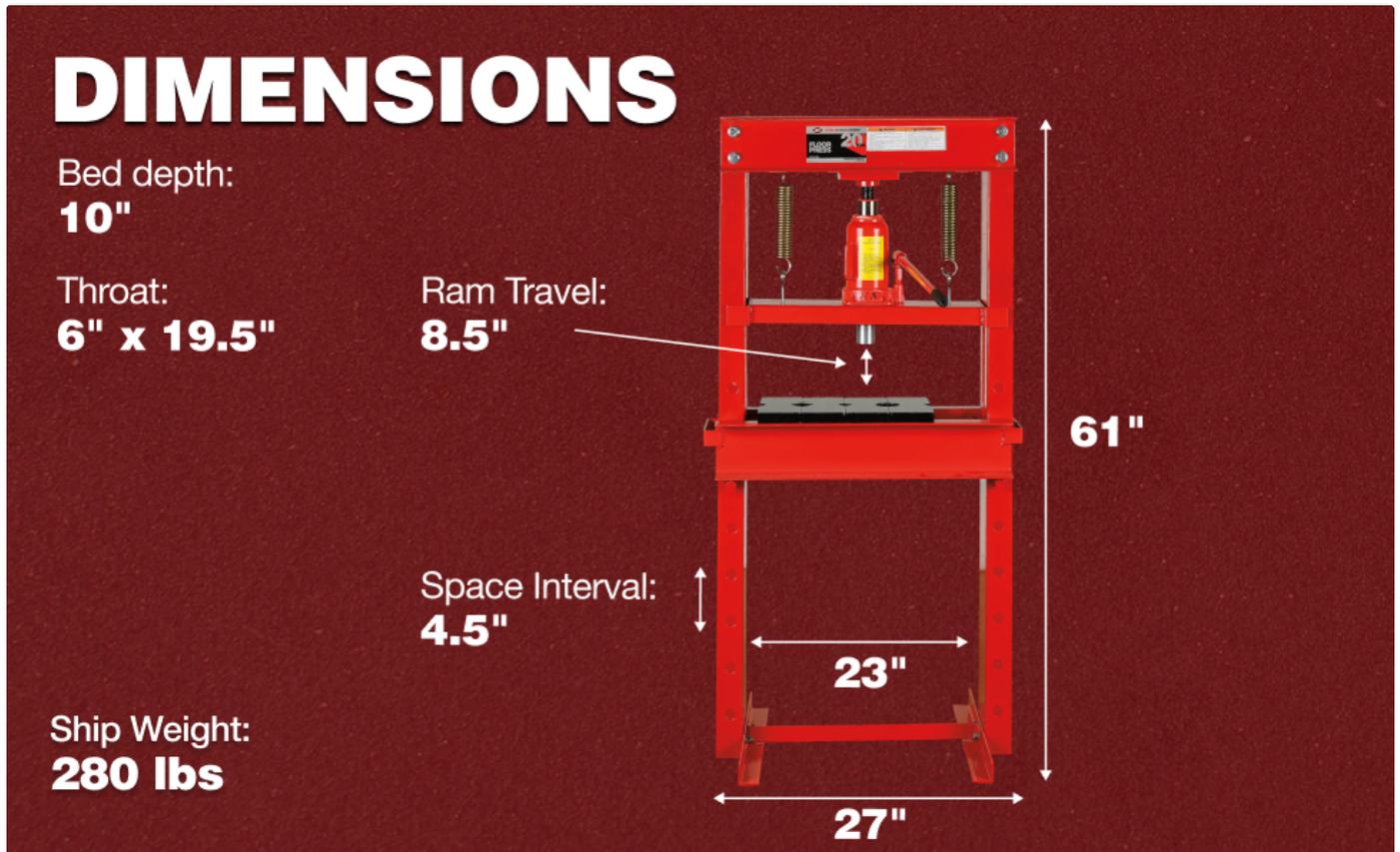


Figure 7.1: Key dimensions of the shop press. This image provides a visual representation of the press with measurements for bed depth, throat, ram travel, space interval, and overall height and width.

8. WARRANTY AND SUPPORT

AFF (American Forge & Foundry) is committed to providing high-quality, "forge tough" heavy-duty and automotive service equipment. Established in 1963, AFF stands for durability, safety, and customer care.

For specific warranty details, claims, or technical support, please refer to the warranty card included with your product or visit the official AFF website. You can also contact their customer service directly. AFF maintains an extensive inventory of parts and hundreds of service depots nationwide.

For general inquiries or to find a service center, please contact SUREWERX USA, the manufacturer.

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