Forge - Power Hammer

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Manual(s)

- KA75_Manual_DIGITAL.pdf

Member Notes

Resources

Power Hammer Tool Tutorial

A power hammer is a pneumatic device that simulates the blow of a blacksmith's hammer to manipulate the shape of hot metal.

Our hammer uses a compressed air ram activated via foot pedal to provide up to 75lb hammer blows. One press of the pedal delivers one strike, and repeated taps deliver repeated blows.

> The top section of this machine moves suddenly when turning on/off and during operation. **Exercise extreme caution when placing hands and extremities near this machine.**

Safety

- Always maintain full use of vision and hearing PPE (close fitting natural fiber or flame retardant clothing and close toed shoes are also strongly encouraged any time you are near forges or furnaces)
- Ram pops up when air is turned on - stand clear
- Keep foot off pedal between operations and when placing small pieces on die
- Turn air off when not in use to prevent others from cycling ram unintentionally
- Don’t set tools on top of the ram
- Don’t lean on the ram
- Watch out for cut off Ends. They can fly off and hit someone or land in a corner and start a fire.

Operation

Checking the machine and Starting Up

1. Always check to make sure die wedges are tight, and re-check wedges regularly when operating.
2. Open the shut-off valve slowly. Always stand clear when the ram comes up!
3. Lubricate the guides before each session using light hydraulic oil or auto transmission fluid - a squirt can is provided at the machine for this purpose. The cylinder guides should be kept just wet with oil.

Shutting down

1. Place the wooden block between the jaws of the hammer

2. Close the shut-off valve
3. Step gently on the foot pedal to lower the ram onto the block - avoid slamming it down.

Notes

- In most cases, the operator needs to anticipate the blow and let off the treadle just before the hammer strikes so that the hammer can bounce off the work.
- If a more holding blow is used, a lot of heat is sucked from the work and another heat may be required.
- When striking repeated blows, it is not necessary (or even desirable) to let the hammer return all the way to the top of its stroke. Come down on the treadle soon enough so the hammer only raises about six or eight inches off the work.

Changing Dies

> As of July 2026, **members are prohibited from changing dies.** Please ask the shop tech on duty if you have a project that requires changing dies. Instructions are provided below for clarity.

Removing Dies

1. Open shut-off valve slowly.
2. Place a block of wood (2 x 4) about 12 inches long between ram and anvil cap.
3. Close shut-off valve to lower ram.
4. Bleed valve should remain open until ready to run the hammer!
5. Make sure ram resting securely on block!
6. Shut-off valve with operators secure key padlock!
7. Drive wedge loose from the operator side.
8. When removing top die it must be held up by hand or prop as the wedge is withdrawn.
9. Remove wedge and die should be free to come out.

Installing Dies

1. With hammer blocked as described above, put die in place with center pin (locating pin) and insert proper wedge.
2. Tighten wedge just snug (from side opposite operator).
3. Close bleed valve and open shutoff valve slowly.
4. When ram raises remove block, close shut-off valve and open bleed valve to lower ram.
5. Sock wedges tight with two-pound hammer.
6. Re-check wedges after one or two strikes of the ram.
7. Re-check position of the dies often after changing dies.