

NOTE! Although a high-grade, non-hardening thread sealant is preferred, PTFE tape may be used to seal hydraulic connections provided only one layer of tape is used. To prevent the tape from being "pinched" and broken off inside the system, apply tape carefully avoiding the first one or two threads. Any loose pieces of tape will travel through the system and obstruct the flow of oil or cause jamming of precision parts.

CAUTION Do not over-tighten the connections. Connections need only be tightened securely and leak-free. Over-torque may cause premature thread failure.

Inspection

1. Inspect pump and ram for signs of wear or damage which may affect its safe and normal operation. If any of these conditions exist, do not use the tool until it has been repaired.
2. Clean any oil, grease or dirt from the handles. This reduces risk of injury due to a tool slipping from your grip.
3. Inspect the hose for signs of wear. Never use a defective hose with any pressurized equipment. Hose should be replaced before using this tool.

Operating Instructions

▲ WARNING

The Knockouts are designed to punch holes in low carbon, mild steel up to 10 gauge maximum thickness or stainless steel up to 16 gauge. Never use pump, hose or ram if damaged, altered or in poor repair.

Always wear eye protection to protect your eyes against dirt and other foreign objects. Never exceed rated capacity of the unit or tamper with the internal high pressure relief valve.

Set-Up To Punch 1/2" Holes

1. Mark the center of the hole to be punched and drill a 7/16" pilot hole. If accuracy is critical in locating a hole, scribe center gage lines at 90 degrees to each other through the center mark. Gage marks on the outside diameter of the die can then be aligned with the scribed lines for accurate hole positioning.
2. Screw the short threaded end of the 3/4" draw bolt into the threaded hole of the ram. The bolt should be screwed in fully, but only hand-tight.

3. Screw the 3/8" adapter screw into the 3/4" bolt fully but only hand-tight.

4. Place three spacers over the 3/4" draw bolt starting with the shortest and continuing with medium and long spacers (Figure 2).

NOTE! Be sure ram is fully retracted before assembling punch and die set on ram.

5. Place the 1/2" die over the 3/8" draw bolt, pass the end of the bolt through the previously drilled pilot hole and thread the punch on the end of the bolt so that the points just touch the material (Figure 3). Operate the pump as described below.

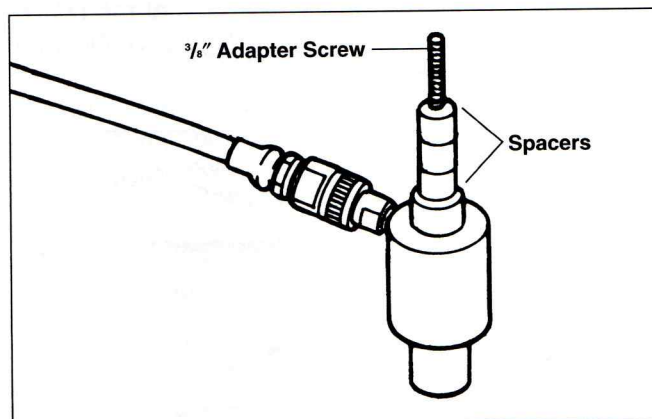


Figure 2 – Set-Up For 1/2" Holes

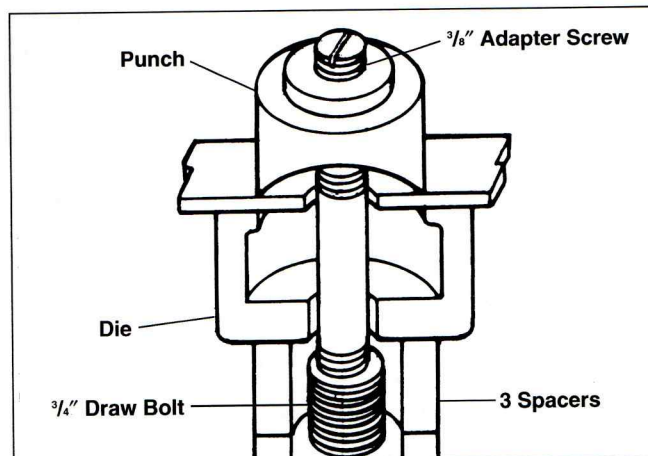


Figure 3 – Punching 1/2" Holes

Set-Up To Punch 3/4" Through 4" Holes

1. Mark the center of the hole to be punched and drill a 13/16" or 7/8" pilot hole. If accuracy is critical in locating a hole, scribe center gage lines at 90 degrees to each other through the center mark. Gage marks on the outside diameter of the die can then be aligned with the scribed lines for accurate hole positioning.