



# Hand Ratchet Punch and Die Kits

Cat. No. 49-16-2692, 49-16-2694

**⚠ WARNING READ ALL SAFETY WARNINGS AND ALL INSTRUCTIONS.** Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury. **Save all warnings and instructions for future reference.**

- **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- **Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
- **Use tool only as directed. Only trained personnel should operate tool.**
- **Do not use in or near live electrical panels.** Only work on de-energized electrical panels. Disconnect all electrical current before use to avoid the risk of electric shock.
- **Keep hands away from knockout die and punch while tool is in use.** Fingers could be crushed or severed.
- **To reduce the risk of injury, wear safety goggles or glasses with side shields. Before use, inspect and discard workpieces and accessories with cracks or damage.** Shards from weakened metal could cause injury.
- **Avoid contact with punched metal edges.** Edges may be sharp and could cause injury.
- **Do not attempt to punch through more than one layer of material at a time.** Punching through multiple layers could cause the material and accessories to warp break, throwing shards that could cause injury.
- **Use tool only with knockout dies and punches rated for the peak output force of this tool. Ensure all threads are hand-tightened securely before operating knockout tool.** Other uses may cause injury or damage to the tool, accessories, and workpiece.

## SYMBOLOLOGY

	<b>WARNING</b> Risk of electric shock. Do not use in or near live electrical panels.
	Always wear eye protection
	<b>WARNING</b> Keep hands away from punch and die. Fingers could be crushed or severed.

### Punching

- The Hand Ratchet Punch and Die Kit can be used to punch 1/2" to 2" holes in mild steel up to 10 gauge.
- Before beginning a punch, inspect and discard material and accessories with cracks or other damage.
- Do not attempt to punch through more than one layer of material at a time.
- Use a thread lubricant to ease operation.

1. Select the appropriate punch, die and draw stud for the application (see chart).
  2. Draw cross-hairs to mark the exact location of the pilot hole.
  3. Drill the pilot hole slightly larger than the draw stud.
  4. For 1-1/2" and 2" Punches, lubricating the draw stud threads is required. For all other die sizes, lubrication is recommended. Use about 3/4" of Grease S2 49-08-5262.
  5. Slide the draw stud through the die, then through the material.
  6. Place the punch under/behind the material and screw onto the draw stud.
  7. Line up cross hairs on the die with those used to locate the pilot hole on the material. Tighten the punch and die securely against each side of the material to hold the assembly in place.
  8. Place the ratchet over the bolt end of the draw stud with the arrow pointing in the clockwise direction. Grasp the handle firmly and ensure hands and body are away from the punch and die.
  9. Begin ratcheting.
- NOTE: It is very important to hold the ratchet perpendicular to the draw stud.
10. When the operation is complete, remove the punch and die from the material. Flip over the ratchet and loosen the draw stud in the counter-clockwise direction.
  11. Unscrew the punch from the draw stud and remove the material. Use caution as the material edges may be sharp.

Conduit Size	Nominal Hole Size	Die Part Number	Punch Part Number	Thrust Bearing Draw Stud Part Number	Pilot Hole Diameter	Grease
1/2"	7/8" (22.2 mm)	1/2" Die 49-16-2660	1/2" Punch 49-16-2661	3/8" Draw Stud 49-16-2621	7/16" (11 mm)	**
3/4"	1-7/64" (28.2 mm)	3/4" Die 49-16-2662	3/4" Punch 49-16-2663	3/4" Draw Stud 49-16-2622	7/8" (22 mm)	**
1"	1-3/8" (34.9 mm)	1" Die 49-16-2664	1" Punch 49-16-2665	3/4" Draw Stud 49-16-2622	7/8" (22 mm)	**
1-1/4"	1-47/64" (44 mm)	1-1/4" Die 49-16-2666	1-1/4" Punch 49-16-2667	3/4" Draw Stud 49-16-2622	7/8" (22 mm)	**
1-1/2"	1-63/64" (50.4 mm)	1-1/2" Die 49-16-2668	1-1/2" Punch 49-16-2669	3/4" Draw Stud 49-16-2622	7/8" (22 mm)	S2 49-08-5262
2"	2-15/32" (62.7 mm)	2" Die 49-16-2670	2" Punch 49-16-2671	3/4" Draw Stud 49-16-2622	7/8" (22 mm)	S2 49-08-5262

\*\* It is recommended to use Grease S2 49-08-5262 on all draw stud threads before beginning a punch