

OPERATING INSTRUCTIONS – HYDRAULIC PUNCH **HKP10**

SPECIFICATION.

Maximum working pressure: 700 bar.

Maximum punch force: 10 tonnes (98.1 kN)

Sheet thickness: 3.2 mm (mild steel)

1.6 mm Stainless steel

Weight: 35.8 kg (includes hand pump and punch set)

TEST, EXAMINATION AND SERVICE.

The HKP10 hydraulic punch and associated pump operates at high pressure. If in doubt about any aspect of the equipment, consult your Hi-Force Distributor.

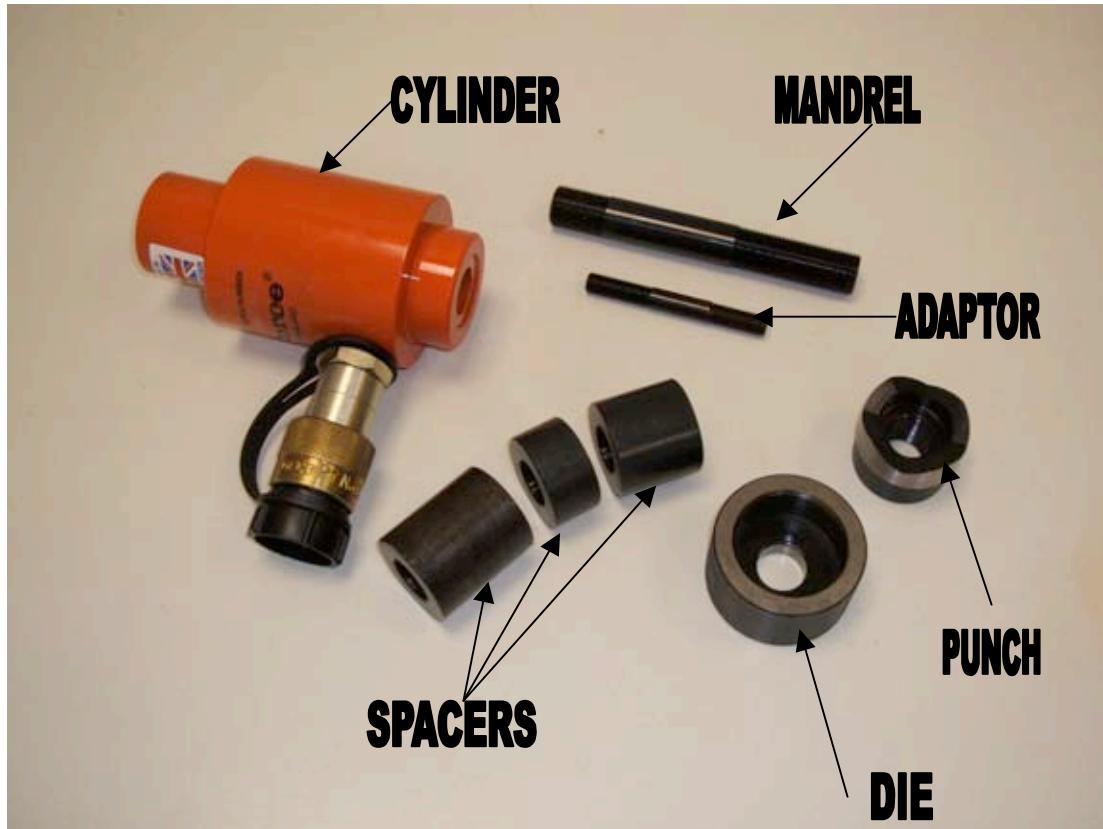
Visually inspect all equipment before use for signs of damage or wear and tear. Any defective or suspect equipment should be repaired or replaced immediately.

All high-pressure hydraulic equipment should be thoroughly examined and proof tested by a competent engineer at least once a year - more frequently for heavy use.

Ask your Hi-Force distributor about the full Hi-Force Repair facilities and the Hi-Force Test and Examination Service - available for all makes of high-pressure hydraulic equipment.

These operating instructions have been written assuming the use of a Hi-Force HP110 hand pump. If any other pump is used, ensure it is suitable for the operating pressure of the HKP10 hydraulic pump. Also ensure that all valves and couplers are compatible for use with a single acting cylinder.

IDENTIFICATION OF PARTS.



PREPARATION OF WORKPIECE FOR PUNCHING.

A pilot hole is required in the sheet to be punched in order to use the HKP10 hydraulic punch. This hole needs to be of the following sizes:

- 10mm for the 21.8mm punch
- 19mm (min) for sizes 28mm to 61mm
- 27 mm (min) for sizes 76.5 to 115.5 mm.

Progressive use of different sized punches is possible for the larger sizes of hole. This means that only a 10mm pilot drill is ever required.

ASSEMBLY OF PUNCH.

Screw the short threaded end of the mandrel fully into the end of the cylinder, hand tight only. Note there are two sizes of mandrel in the set, depending on the size of punch to be used.

If the 21.8mm punch is to be used, then screw the adaptor fully into the end of the mandrel hand tight. For all other punch sizes the adaptor is not required.

Slide spacers as required onto the mandrel. Note; all three spacers are required when using the adaptor.

Slide the die onto the mandrel with the open end away from the cylinder (and towards the work piece).

Pass the mandrel/adaptor through the work piece.

Screw the punch onto the end of the mandrel with the serrated end towards the work piece. Ensure that the mandrel is engaged into the punch by at least 2 times the mandrel diameter, otherwise damage may occur to the threads. Adjust the number of spacers if required to achieve this.

Connect the male coupler on the hydraulic hose to the female coupler on the cylinder hand tight (see separate instruction sheet supplied with the pump)

Check that the punch/die are correctly positioned on the work piece. Close the pressure release valve on the pump. Operate the pump to punch through the workpiece. **Do not** continue pumping once the punch has cut through the work piece as this may damage the punch or die.

Open the release valve on the pump to retract the cylinder.

Remove the punch from the mandrel and extract the blank from inside the die. **Do not** attempt to punch another hole until the blank has been removed.

After use clean and inspect all parts for damage.