

# Maintenance of HP2 Hydraulic Handpumps

## General

Cleanliness is of prime importance when carrying out handpump maintenance. Dirt in the oil causes wear and premature oil seal failure.

If the pump is to be dismantled, it is recommended that all "O" rings are renewed as a matter of course.

Before dismantling pump, open pressure release valve and drain off all surplus oil from the pump assembly.

## Dismantling

1. Remove screw (15) and slide out lever (6).
2. Remove pin (16) and unscrew relief valve housing (5).
3. Pierce core plugs (23) and prise out.
4. Turn shaft (4) fully clockwise and prise out core plus (22) through bore.
5. Remove screw (13) and extract crosspin (3) with shaft (4) in midstroke position.
6. Withdraw plungers (2) after sliding shaft (4) from body.
7. Remove screws (13), springs (12) and balls (19).
8. Prise out balls (20) and star clips (21) using small allen key through pump suction ports in back face.
9. Relief valve housing (5) is simply dismantled by unscrewing screw (14) and removing spring (11), socket (7) and ball (18).

## Inspection

Remove all seals and thoroughly clean all parts in a suitable solvent. Carefully examine moving parts for wear and damage, and check that valve seats are sharp and unbroken.

## Re-Assembly

Ensure that all parts are perfectly clean. Fit new seals using SAE10 oil or thin grease to avoid damage.

1. Fit balls (20) and star washers (21) to cylinder pockets.
2. Fit balls (19), springs (12) and screws (13) using suitable thread sealer.
3. Slide plungers (2) into cylinders until cross holes are in line with shaft centreline.
4. Slide shaft (4) into body until all crossholes align, and fit crosspin (3) to shaft (4) and centralise.
5. Fit screw (13) to shaft to clamp crosspin (3).
6. Ensure shaft (4) turns freely and fit core plugs (22 & 23) using suitable sealer.
7. Reassemble relief valve using suitable sealed on screw (14) and fit to pump.
8. Fit lever (6) and retain with screw (15).

## Setting Relief Valve

1. Fill pump with oil and connect a pressure gauge to pump outlet port.
2. Operate pump several times and close release valve.
3. Adjust screw (14) until desired pressure is obtained within the range of 1000 psi (70 bar) to 3000 psi (207 bar), do not exceed these values. Lock screw with thread sealer and replace pin (17) to provide approximately 270° of rotation from closed to open positions.

Refit pump in accordance with product leaflet.

## Head Office & Factories:

Valley Hydraulics Limited, Unit B Venture Buildings, Pendle Trading Estate,  
Chatburn, Clitheroe, Lancashire, United Kingdom, BB7 4JY

Phone: +44(0)1200 440383 Fax: +44(0)1200 441628

Email: [sales@valleyhydraulics.co.uk](mailto:sales@valleyhydraulics.co.uk) Web: [www.valleyhydraulics.co.uk](http://www.valleyhydraulics.co.uk)



# Maintenance of HP2 Hydraulic Handpumps

Item	Part No:	Description	Item	Part No:	Description
1	0102/1	Pump Body	16	0102/9	Tension Pin
2	0102/2	Plunger	17	0102/10	Tension Pin
3	0102/3	Crosspin	18	0101/18	4mm Ball
4	0102/4	Shaft	19	0102/11	5mm Ball
5	0102/5	RV Housing	20	0101/19	6mm Ball
6	0101/08	Lever	21	0101/20	Star Clip
7	0102/6	Ball Socket	22	0101/43	Core Plug
8	0101/36	"O" Ring	23	0102/12	Core Plug
9	0101/31	"O" Ring	24	0101/26	Hand Grip
10	0101/29	"O" Ring	25	0102/13	Gasket
11	0101/16	Spring	26	0101/37	Filler Plug
12	0102/7	Spring	27	0101/42	Cork Ring
13	0102/8	Screw	28	0102/14	Reservoir
14	0101/22	Screw	29	0101/39	Setscrew
15	0101/23	Screw	30	0101/40	Washer

