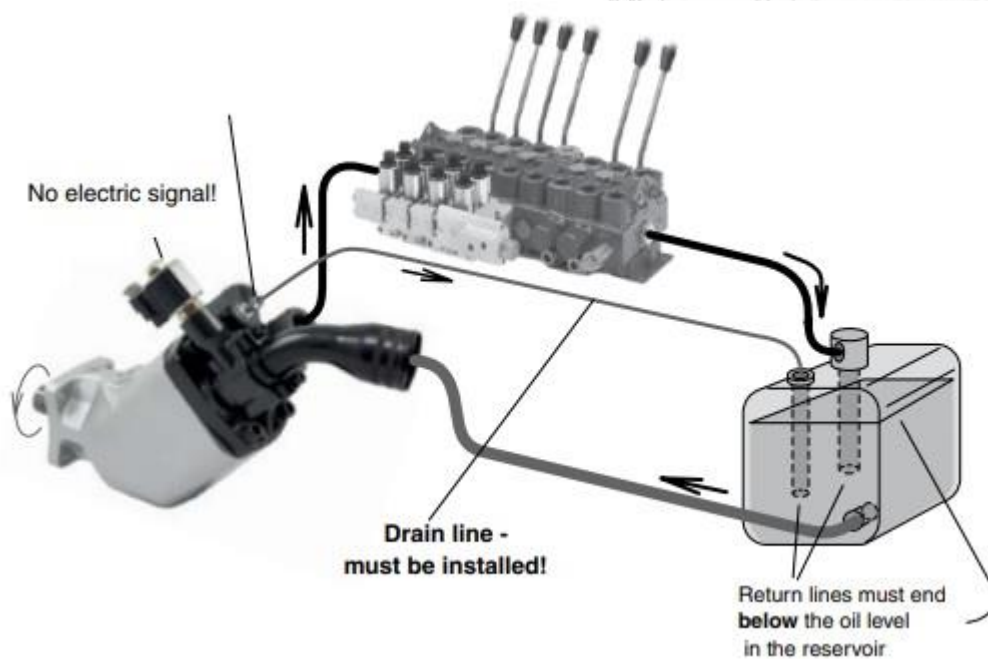


Install the drain line connector which is included with the bypass valve.  
You need to use this connector otherwise the bypass valve will not work



**Note!**

For F1-025, drain fitting kit 378 1640 must be ordered separately.

### BPV-F1 and -T1 bypass valves:

24 VDC solenoid is **standard**  
on F1-25/-41/-51/-61, F1-81/-101 and T1-81/-121  
12 VDC solenoid is optional  
on F1-25/-41/-51/-61, F1-81/-101 and T1-81/-121

#### IMPORTANT!

Always tighten the pressure connector (see below) **before** tightening the cap screws (to 20-25 Nm).

#### Pressure connector

- tighten to:  
BPV-F1-25 to -61  
and T1-81:  
**50 ± 10 Nm**  
BPV-F1-81 to -101  
and T1-121:  
**100 ± 10 Nm**

'Suction fitting' (kit; not included)

#### IMPORTANT!

A drain line (not included) **must be installed**;  
refer to information on page 2.

Drain line connector:  
F1-25/-41/-51/-61/-81/-101, T1-81/-121:  
P/N 378 3039  
(included with the bypass valve)  
Plug (remove before installing the  
drain line connector)

O-ring (included in 'suction fitting')  
Tighten to **46 ± 3 Nm**

Note: Remember to lubricate the seal  
on the cartridge valve before as-  
sembly in the valve block.

Female connector included  
(but **not** the cable)

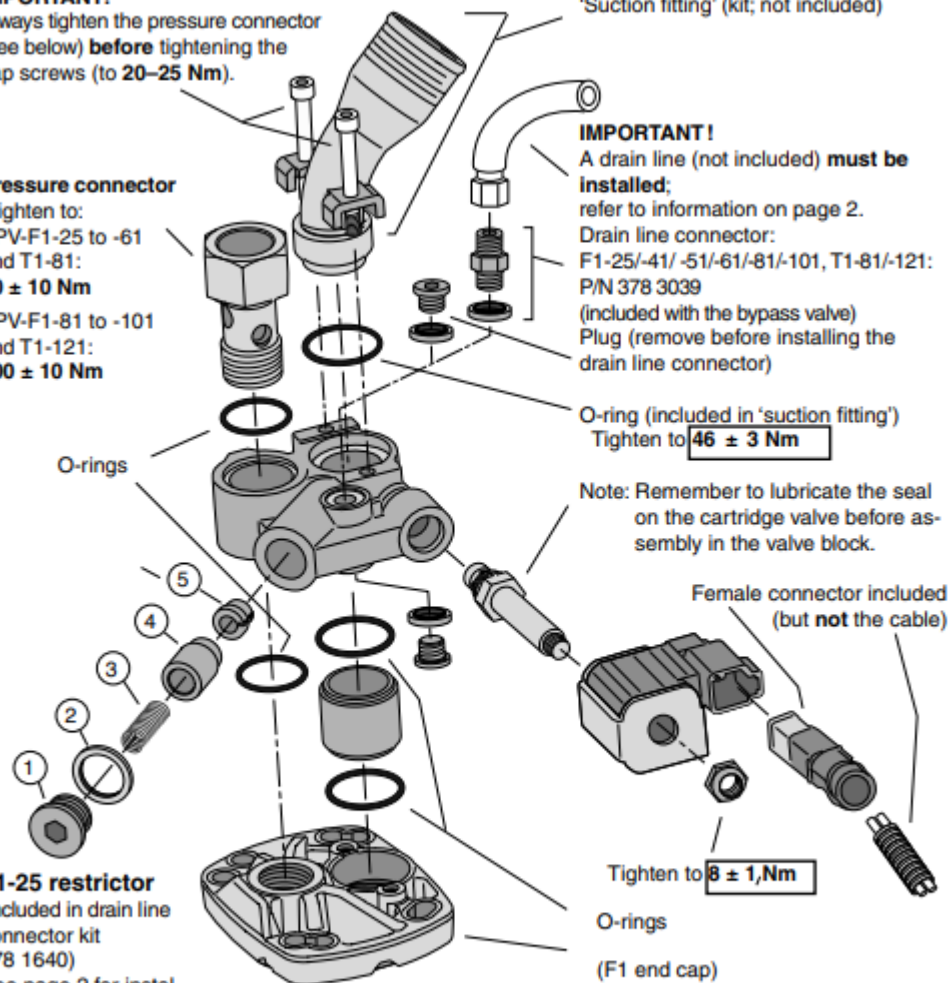
Tighten to **8 ± 1 Nm**

O-rings  
(F1 end cap)

#### F1-25 restrictor

(included in drain line  
connector kit  
378 1640)  
See page 2 for instal-  
lation

Tighten to **125  
± 15 Nm**





## Install the BPV-F1/-T1 bypass valve block on the pump

- 2.** Assemble the cartridge valve in the F1/T1 bypass valve block (BPV) and tighten to  $46 \pm 3$  Nm

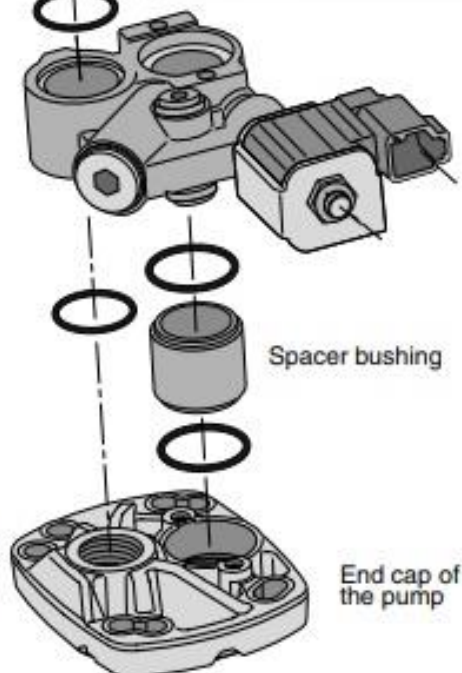
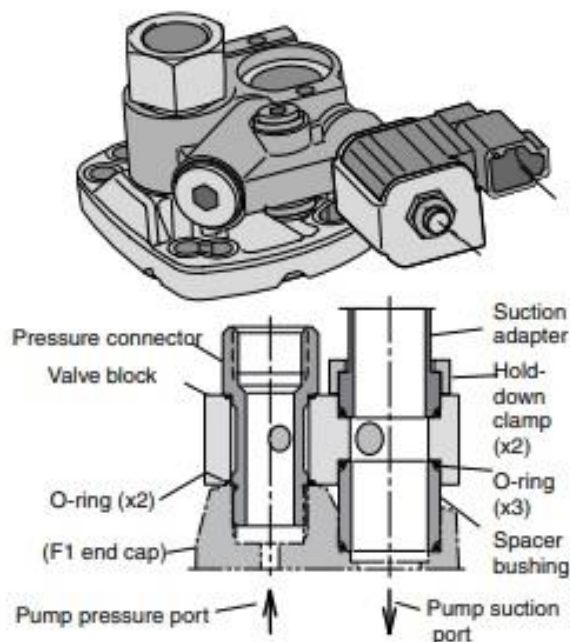
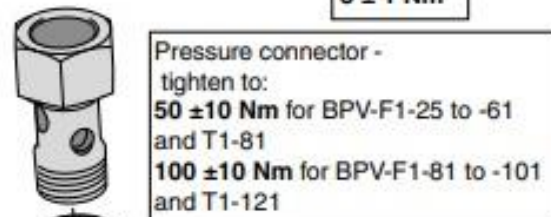
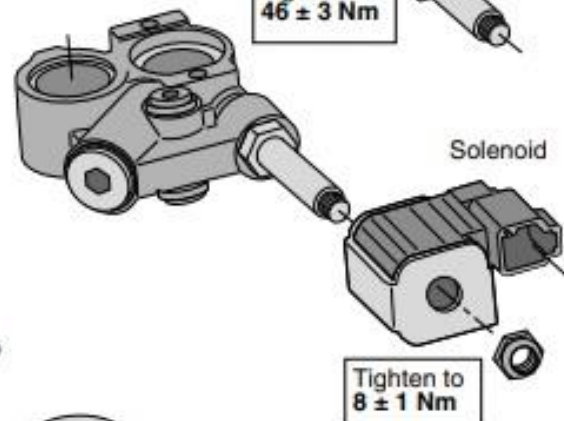
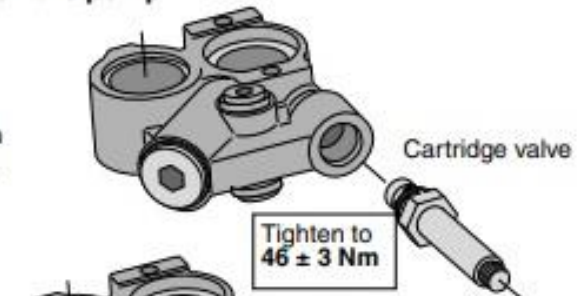
Note: Remember to lubricate the seal on the cartridge valve before assembly in the valve block.

- 3.** Assemble the solenoid to the cartridge valve and tighten the nut to  $8 \pm 1$  Nm

- 4.** Assemble first the spacer bushing with two O-rings in the suction port on the top of the pump. Then assemble the complete valve block with the pressure connector and O-rings in the pressure port on the end cap on top of the pump as shown in the figure to the right and the two figures below.

The Pressure connector - shall be tighten to:  
 **$50 \pm 10$  Nm** for BPV-F1-25 to -61 and T1-81,  
 **$100 \pm 10$  Nm** for BPV-F1-81 to -101 and T1-121

**Note:** As the BPV is symmetrical, it can be 'turned 180°' to prevent interference with chassis components; it can be utilised for either left hand or right hand pumps.



**Manual override can be used if the electrical cable to the solenoid valve is broken or if the solenoid valve is not working.**

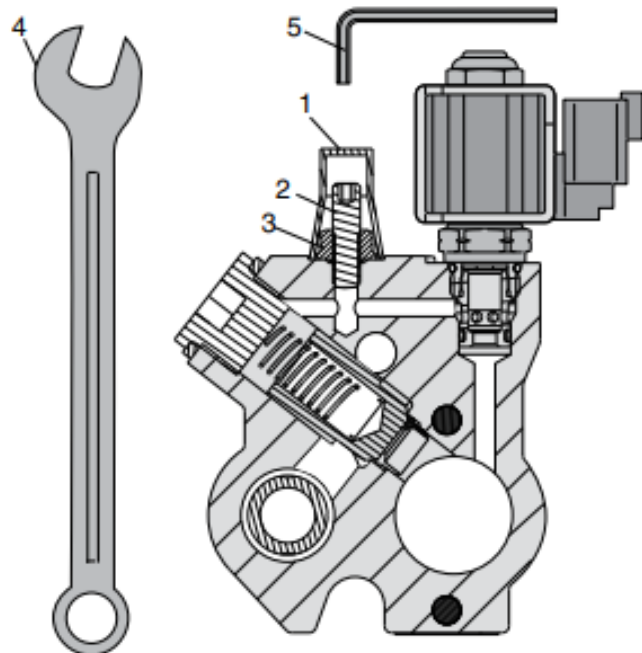
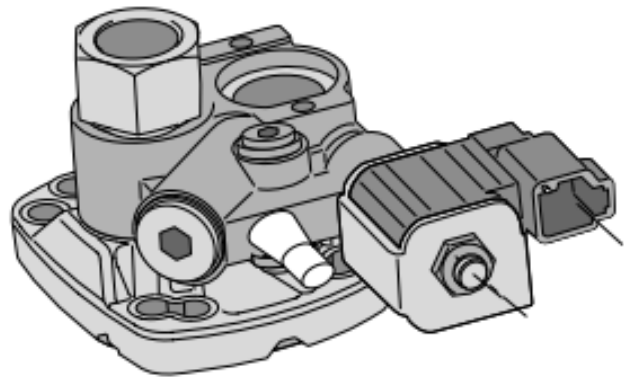
## UK

- Before activating the manual override on bypass valve, **turn off the diesel engine!**
- Remove the protection cup (1)
- Use 13 mm Wrench (4) and loosen the lock nut (3)
- Use 4 mm Allen key (5) and screw down the screw (2) until it stops. The manual override is now activated.

### NOTE!

**Do not remove the screw (2).**  
If you do that, oil will be coming out from the hole.

- Tighten the lock nut (3)



### Remember

When you have used the manual override function please repair the failure and adjust the screw to the original position, otherwise the hydraulic pump can be damaged. Contact Parker Hannifin or your local supplier for a new protection cup.

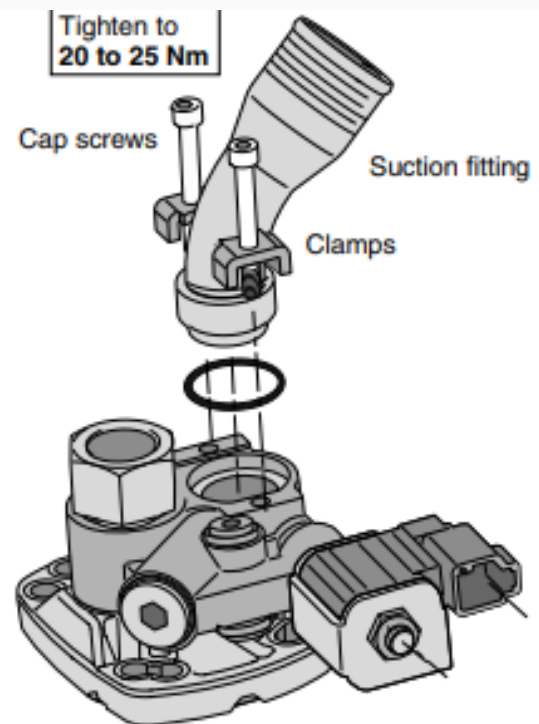


- 5.** Assemble the suction fitting to the valve block as shown in the figure to the right  
A 'suction fitting' consists of a straight, 45°, 90° or 135° suction fitting, clamps, cap screws and O-ring.

**IMPORTANT!**

Always tighten the pressure connector (see page 4) **before** tightening the cap screws (to 20–25 Nm).

**NOTE:** A suction fitting kit is not included with the pump; it must be ordered separately



- 6.** Installation of flow restrictor  
(valid only for pump F1-25):

- Remove items 1, 2, 3 and 4
- Install items 5 and 4; carefully push down until item 4 bottoms against the housing seat
- Remove item 4 and push down item 5 until it seats

**NOTE:** Make sure not to damage the housing seat for item 4

- Reinstall items 4, 3, 2 and 1 and tighten to 125 ± 15 Nm.

