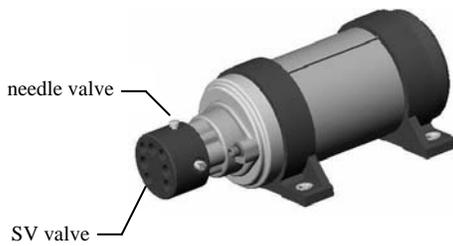


INSTALLING - PUMP MODULE ASSEMBLY - REVERSING PUMP

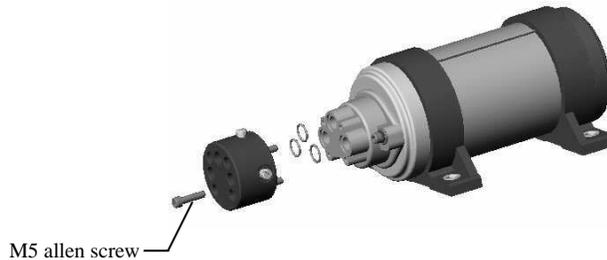
A. Pumpset Dis-Assembly:

1. Remove Pumpset from Vessel:

- a. If the pumpset is fitted with a Shut Off Valve Assembly as per graphic 1, the steering system can be easily kept in useful service by firmly closing the 3 needle valves (located radially around the manifold on the front of the pump body), which isolate the pumpset from the steering system. Once isolated, the pumpset can be removed by splitting the joint between the pump body and the Shut Off Valve Assembly and disconnecting the electrical power supply cables to the motor. 4 x M5 Allen Screws connect the pump body and the Shut Off Valve Assembly, see graphic 2.

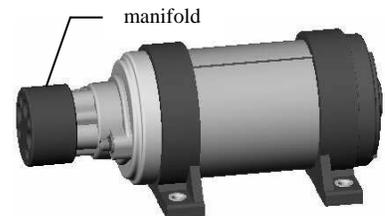


GRAPHIC 1



GRAPHIC 2

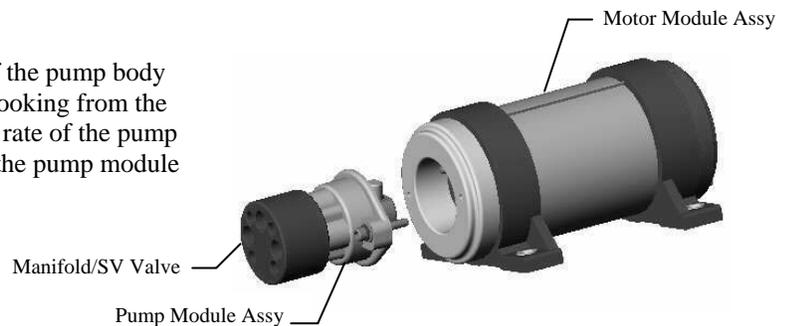
- b. If the pumpset is fitted with a Straight Thru Manifold in place of a Shut Off Valve Assembly as per graphic 3, then OTHER means must be devised to enable the steering system to be kept in useful service. The 3 hydraulic connections at the front of the manifold must be disconnected along with the electrical power supply cables to the motor.



GRAPHIC 3

2. Remove Pump Module from Motor Module:

- a. Note the flow scale setting or the position of the pump body relative to the slotted hole on the right side looking from the front. This relationship determines the flow rate of the pump and should be restored when re-assembling the pump module assembly.
- b. Remove the 2 x M5 Allen Screws that connect the pump body to the motor module front endshield, then remove the pump module assembly (body, rotor & piston assembly). Note that a Straight Thru Manifold or a Shut Off Valve Assy may remain connected to the pump body for this procedure.

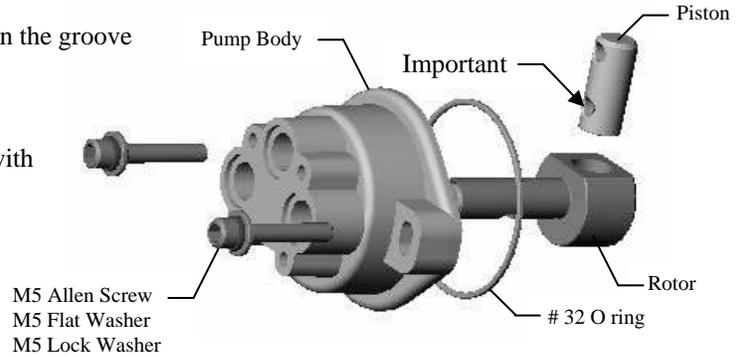


GRAPHIC 4

INSTALLING - PUMP MODULE ASSEMBLY - REVERSING PUMP Continued

3. Pump Module Assembly :

- a. Ensure that the piston is in the correct orientation. This is crucial for operation of the pump. See “Important” note on Graphic 5.
- b. Ensure that the #32 O ring is securely engaged in the groove on the pump body.
- c. Ensure that all parts are free from dust or dirt particles and that all internal parts are covered with a coating of hydraulic oil.
- d. Ensure that the check valve located in the front of the rotor is seated. A dirt particle from contaminated oil can unseat the ball and prevent the pump from building pressure. A technician can easily test the seal of this valve by placing the rotor stem between the lips and attempting to draw air. If any air is drawn, the check valve body, ball & spring must be removed from the rotor and cleaned.



GRAPHIC 5

B. Pumpset Re-assembly: