

VP-9 MAG DRIVE MAGNET REPLACEMENT

Spectra Mag-Drive feed pumps have an internal magnet inside a stainless steel can on the rear of the pump head. This internal magnet has engages the pump shaft with two flats that are machined into the shaft and the magnet. The stainless steel can is held on to the pump head by the bell housing, and is sealed to the pumphead with an O-ring.

An external magnet is mounted on the feed pump motor shaft. When the pump head is mounted on the motor, the internal magnet is inside the hollow external magnet, so that when the external magnet spins, the internal magnet is dragged along with it, turning the pump.

Two failure modes have been identified that can cause the internal magnet to fail. If the pump is allowed to “decouple,” so that the outer magnet is spinning but the inner magnet is not, the strength of both magnets will be reduced over time and they both must be replaced. Decoupling is caused by high operating pressures, incorrect accumulator pressure, or starting the pump when the system is already at high pressure. Decoupling makes a grinding noise.

The second failure mode affects only the internal magnet. After a long period in service the flats in the inner magnet borecan become worn and eventually disappear. When this happens the motor runs and both magnets spin but the pump does not turn. There is no noise associated with this failure mode.

To replace an internal magnet, first remove the pump from the motor. **Do not remove the circlip on the front of the pump.** Inside the bell housing are four Allen screws which hold the bell housing on to the pump. Remove the screws and bell housing. The bell housing holds the stainless steel magnet can onto the pump, so it can now be pulled off of the pump. The can will be full of water, this is normal. Remove the circlip that holds the magnet onto the shaft and remove the magnet. Clean up the pump, replace the o-ring, and install the new magnet and circlip. Reassemble the can and bell housing and reinstall the pump head on the motor.

For Newport 700 and 1000 (large case) feed pumps, order Outer Magnet part no. PC-HA-OMMAG5 and Inner Magnet replacement kit p/n KIT-VP-M5RPM.

For Catalina, Newport Mag, and Newport 400 (small case) feed pumps, order Outer Magnet p/n PC-HA-OMMAG3 and Inner Magnet replacement kit p/n KIT-VP-M3RPM.

Feb 13, 07