



1217 E. 7th Street
 Mishawaka, IN 46544
 Phone: 1-800-334-4712
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T.I.P. Troubleshooting Information on Power Gear

Hydraulic Pump Motor Diagnosis

Hydraulic pump motor noise or failure to operate correctly can be a very costly failure if the entire pump assy. is replaced. In order to reduce the cost of such repairs, Power Gear has made individual pumps and motors available for service. This TIP sheet addresses steps necessary to diagnose and repair a failed pump motor. Pump motors fail for a variety of reasons. Most prevalent is water contamination, which can cause corrosion to build up inside the motor. This causes binding and heat build up resulting in failure. Diagnosing a failure in the pump motor is straight forward and easily done. Follow these steps to ensure a proper diagnosis. Refer to the appropriate service manual for replacement pump part numbers. The latest updated service manuals can be found on our website at www.powergearus.com.

JACKS WILL NOT EXTEND, PUMP IS NOT RUNNING	
PROBABLE CAUSE	CORRECTIVE ACTION
Motor solenoid wire defective	Check for power at the blue solenoid signal wire while front or rear button is pushed (pin #3 of the 8 pin connector). If no power, check wires, and control..
No power from battery to pump	Check for +12 VDC at the large battery terminal of the solenoid, if no voltage recharge battery or replace power cable.
Bad ground to pump motor	Add new ground cable from pump motor to chassis battery; check chassis ground connection
Motor solenoid faulty	Check for power at the blue solenoid signal wire while jacks down button is pushed. If no power, check wires, and control. If power is present, connect +12 VDC to motor side terminal of solenoid; if motor runs, replace solenoid
Pump motor faulty	Check for continuity between the motor and ground. Connect +12 VDC to motor side terminal of solenoid; if motor does not run, replace pump motor
Faulty control	If all previous causes and actions do not apply replace control

If your pump motor has failed. follow these steps for replacement.

Remove the solenoid by removing the band clamp and cable

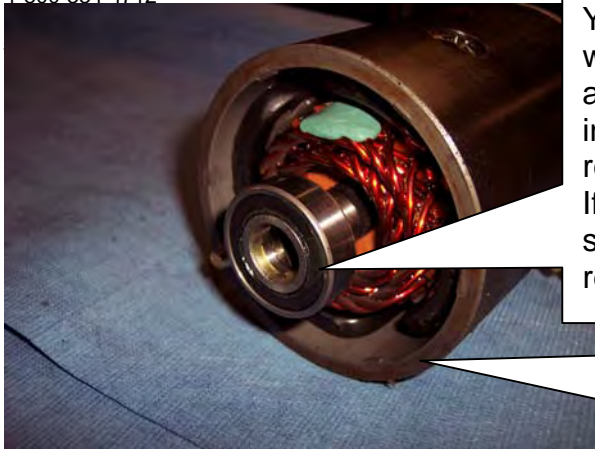
Remove these two screws, which hold the motor to the pump.
NOTE: In some cases corrosion from water contamination can cause rust to seize the bearing to the port plate. Prying the motor off of the pump may be necessary. Damage to the pump motor is likely, but if rust has occurred to this extent, motor replacement is nearly inevitable.



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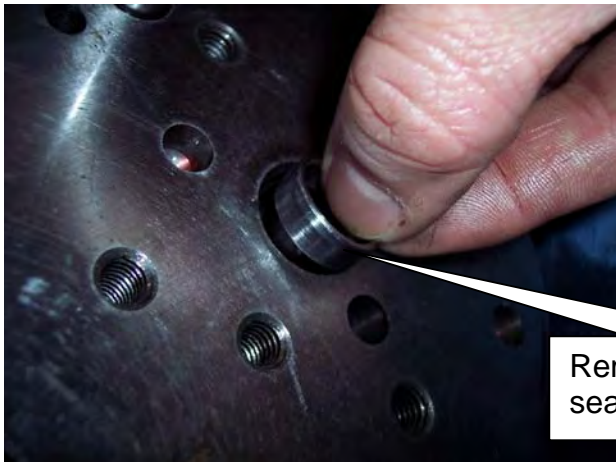


Your motor may come off with or without this bearing still on the armature shaft (it may still be stuck in the port plate). It should be replaced if you replace the motor. If the motor is not badly rusty simply install the new bearing and reassemble.

Motor KIT part number 800302.

Replaces motors for all 500278, 500348, 500350, 500453, 500465, 500506, 500507, 500773, 500825, 500910, 500911, 500920, 500925, 501000, 501013, 501050, 501102, 501159, 501160, 501196, 13-1100, 13-1104, 130-1193, 130-1195, 130-1150, 130-1189 pumps

You should replace the seal if the bearing area was rusty. To do this, remove the tank. Then remove these hoses and pump. Seal is part number 130-1071.

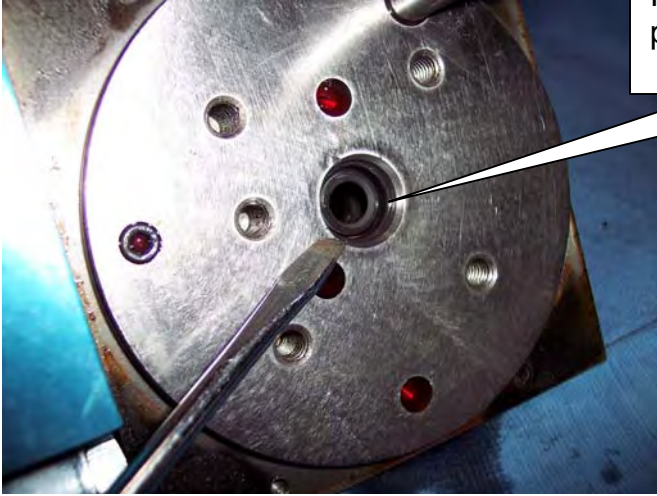


Remove the spacer from the seal area



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Remove this seal. View next picture for instruction.

Punch out the seal from the motor side of the port plate. Clean the bearing and seal area with scotch-brite pad to remove rust if necessary.



Install the new seal with a socket the same diameter as the seal. Use light taps until the seal is fully seated.

- Now re-assemble the pump onto the port plate.
- Install motor onto pump.
- Reinstall pump onto coach.
- Fill to proper level and run jacks down to ground, wait 30 seconds, then retract (repeat 5 times) to bleed system of air.