IHS555  Steering Orbit Motor Troubleshooting /

YOUR STEERING MECHANISM MUST BE IN GOOD WORKING ORDER FOR THE POWER STEERING ORBIT MOTOR TO OPERATE CORRECTLY, IF YOU HAVE BINDING OR HARD STEERING BEFORE INSTALLITION IT WILL AFFECT THE ORBIT MOTOR PERFORMANCE.

#1  BINDING OR NOT CENTERING;
If the steering wheel binds, turns on its own (motoring) or sticks when turned, or does not return to the center from the end positions, usually the problem is bushings in the steering shaft worn or not lubricated. Or misalignment of the shafts, Replace any worn bushings or lubricate any dry bushings & verify shaft alignment.

#2  HARD STEERING;
If the steering wheel requires a lot of effort to turn for the entire travel (lock to lock) usually it’s one of the following problems, low pressure to the orbit motor, the orbit motor requires a pressure flow of 300 to 600 PSI. with peak pressure reaching up to 1100PSI. check the pump, & belt (or the flow divider valve if equipped) for correct pressure. The orbit motor requires a minimum of 3 to 4 GPM continous fluid flow & recommended at least 7 GPM at normal engine speed, Otherwise it could also be caused by misalignment of the orbit motor to the steering shafts, or worn steering gears, steering shafts, bushings & bearings. The steering gears could also be out of adjustment or need lubricated.

#3  NOISE;
Usually if the belt driven pump is noisy, its caused by the belt being worn or loose or misaligned. It could also be low on fluid, or air in the system so you would have to bleed the lines. To bleed the system of air jack the front end up & support with a stand turn the steering wheel to the left & right 1 turn (NOT STOP TO STOP) & loosen the pressure line. You may have to repeat this several times to completely fill the orbit motor & lines, When only fluid comes out tighten the line.
CAUTION

THE POWER STEERING UNIT IS DEPENDENT ON THE SYSTEM FOR LUBRICATION. DO NOT OPERATE THE POWER STEERING UNIT UNLESS THE SYSTEM IS FILLED WITH FLUID.

The Char-Lynn Power Steering Unit requires 3 to 4 GPM continuous fluid flow. For the most efficient performance it is recommended that the system produce at least 7 GPM when working at normal tractor engine speed. NOTE: Operating pressures are normally very low, but under some conditions they can reach intermittent pressures up to 1100 PSI.

Some power steering kits contain a separate pump reservoir unit which assures the required GPM and PSI; other kits utilize a flow-divider valve which diverts an adequate fluid supply from the tractor system to the Power Steering Unit. Systems using this flow divider valve must be in good working order otherwise most of the system fluid will be diverted to the Power Steering Unit causing slow operation of other hydraulic components.

Recommended operating temperatures are 170°F to 220°F at full operating service. However, the higher temperatures, although permissible, are not recommended for continuous duty.

CAUTION

IT IS ESSENTIAL THAT THE SYSTEM CONTAIN A FILTER SO THAT THE HYDRAULIC FLUID CAN BE KEPT CLEAN AND FREE OF CONTAMINATION.

INSTALLATION

The installation procedure is fully explained in the instruction sheet supplied with the mounting kit designed especially for your tractor. Read this instruction sheet carefully and perform the installation method as outlined.

When drilling the tractor steering shaft, support it on a block (Fig. 1) to hold it rigid. “Spot” the hole in the steering shaft first with a 5/16” drill using the coupling as a guide, then drill through the shaft with a 3/16” drill. Ream the hole to full size with a 5/16” drill.

ALIGNMENT: Correct alignment is vital to efficient performance and long service life. The steering shaft must turn freely without binding. Make a constant check for alignment while installing the Power Steering Unit.

CAUTION

BOTH UNIT END SHAFTS MUST BE ALIGNED PERFECTLY WITH TRACTOR STEERING SHAFT.

![Figure 1](image1.png)

![Figure 2](image2.png)
IHS555 ORBITAL
IHS740 PRIORITY (FLOW CONTROL) VALVE
IHS673 PORT BLOCK

NOTE! THE PUMP INLET TO FLOW VALVE MUST BE DIRECTLY PLUMBED OFF THE PUMP, IT MUST NOT BE SPLIT OFF OF THE PUMP LINE. ALL HYD. VALVES AND CYLINDERS ARE SUPPLIED BY THE 1/2NPT PORT OFF OF THE FLOW VALVE. FLOW VALVE IS PRESET AT 1500PSI AT THE FACTORY. RETURN FROM ORBITAL CAN BE JOINED WITH RETURN FROM FLOW VALVE TO RETURN TANK.

OUTLET TO ORBITAL
SUPPLY TO REMOTE VALVES AND CYLINDERS

LIFT OR REMOTE VALVE
STEERING ORBITAL

STP 2/24/2014 Tom