



**WILLS RIDLEY LTD**

*Specialist in Marine Hydraulic Steering Systems*

# Fault Finding Manual



## Manual Steering System

Item	Possible Cause	Action
Steering System does not operate	Pressure Relief and Bypass Valve open. Pressure Relief Valve faulty.	Check that the Pressure Relief and Bypass Valve are closed and then replace.
	No or insufficient oil in the system.	Check for leaks and refill if necessary.
Steering appears heavy.	Rudder Stock bearings seizing.	Replace bearings.
	Too small a diameter wheel fitted. Rudder Torque too high for actuator capability.	Replace with recommended size.
Wheels spin involuntarily. Steering appears spongy.	Foreign body in check valve. Check valves in Helm Pump worn. Air in Hydraulic System.	Contact Wills Ridley with Rudder dimensions and max speed for calculations.
Wheel continues to revolve beyond normal limits.	Actuator Piston Seals worn.	Reseal.
Helm Pump leaking from front end.	Worn or damaged Seals in drive shaft.	Check shaft condition and replace if necessary.

## Power Steering System

Item	Possible Cause	Action
Steering System does not operate	Pressure Relief and Bypass Valve open.	Check that the Pressure Relief and Bypass Valve are closed.
	Pressure Relief Valve faulty.	Replace.
	No, or insufficient oil in the system.	Check for leaks and refill as necessary.
	Break in power supply between control and solenoid valves.	Manually operate the push buttons on the solenoid valves. If steering works, check all electrical connections and wires.
	Limit switches not correctly set.	Check and correct.
	Fuses in starter enclosure blown.	Replace.
Mains alarm	3 Phase power supply failure.	Check power supplies.
Control Alarm	24vdc power supply failure.	Check for power supplies.
Low Oil Alarm	Reservoir short of oil.	Top up Reservoir with recommended Hydraulic Oil.
Filter Alarm	Filter blocked.	Change filter.
Steering movement is sluggish	Rudder Stock bearings seizing.	Replace bearings.
	Rudder Torque to high for actuator(s) capability.	Contact Wills Ridley with Rudder dimensions and max speed for a new calculation.
	Relief Valve wrongly set.	Check pressure and relief valve setting.