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## **TROUBLESHOOTING & MAINTENANCE TIPS**

### **AUTOMATIC PILOT**

The typical autopilot consists of five separate components. The control unit (display), the processor, the heading sensor (compass), the rudder feedback, and the pump. Proper installation and setup is essential for an autopilot to perform correctly. There are multiple settings and adjustments that can either improve or diminish the performance of an autopilot. Familiarize yourself with your system and refer to the operation manual when problems and/or questions arise.

#### **Routine Checks and Maintenance:**

An autopilot system will consist of several components and therefore have multiple cables and connections that can potentially cause problems. As with your other electronics, periodically inspect your system. With hydraulic pilots you should routinely check the pump and associated lines for signs of leakage and corrosion. Visually inspect the rudder feedback assembly for signs of water damage and problems with the mechanical linkage. Any air in the hydraulics will restrict or prevent the autopilot from properly steering the vessel. Mechanical steering systems should be well maintained and properly lubricated.

#### **Common Problems:**

Relative to other electronics on your vessel an autopilot will draw a considerable amount of current. Undersized wiring and poor connections can prevent proper operation and even cause damage to the pilot.

The autopilot receives its basic information from the heading sensor or other device such as a compass or gyro to steer your vessel. Know the configuration of your autopilot and where the heading device is located. As with other "compass" devices, the heading sensor can be affected by metal and other magnetic materials and objects.

One common problem area is the rudder feedback assembly. Most autopilots incorporate a feedback unit to relay rudder (engine with outboards) position data to the autopilot. Failures are usually caused by water intrusion or a mechanical failure with the linkage that connects the actually feedback unit to the rudders.

#### **Auto vs Nav Mode:**

Most autopilots operate in one of three different modes. In the standby or manual mode the pilot is not controlling the steering unless given a command by the operator to steer port of starboard. In the "Auto" mode the pilot will steer on a specific heading or course. In the "Nav" mode the autopilot will steer to a designated location or waypoint. In order to accomplish this, the autopilot must be connected to an external navigational device such as a GPS. Therefore, if an autopilot functions properly in the "Auto" mode but not in the "Nav" mode, the problem is usually traced back to the GPS receiver or associated wiring.