



## **Alpha Marine Systems Alpha 3000 System Test Procedure**

**CAUTION!** Be aware that the Drive Unit's shaft should not be allowed to rotate. When moving in or out (manually or under power) the clevis fitting should remain in the same rotational orientation. This is normally achieved by the presence of the clevis pin, but in some of the tests, you might choose to disengage the clevis. If so, just be sure to prevent rotation. Additionally, if moving the shaft manually, disconnect at least one of the Drive Unit's power wires from the Control Unit (#6 and/or #7 at the lower terminal strip).

### **SYSTEM TEST**

1. Press the Control Unit's OFF button to be sure it is off, then use the Morse cable to engage the drive link latch.
2. Rotate the compass knob on the Control Unit to agree with the vessel's approximate heading.
3. If the system is equipped with a handheld Remote Helm, set its Helm switch to PILOT.
4. Turn on the Control Unit by pressing the ON button.
5. Very slowly turn the compass knob and verify that the wheel follows in the proper direction. (If necessary, the Compass Sensor may be turned in its mounting bracket or re-mounted to correct alignment.)
6. If the system is equipped with a handheld Remote Helm, similarly test its operation by setting the Helm switch to REMOTE HELM and turning its direction knob. Set the switch to PILOT mode when finished.
7. Turn off the Control Unit by pressing the OFF button.

If the Drive Unit does not appear to be functioning, follow the Drive Unit Test procedure below.

### **DRIVE UNIT TEST PROCEDURE**

1. Press the Control Unit's OFF button to be sure it is off, then disconnect the Compass System from the Control Unit (terminals 13-17 of the lower terminal strip).
2. If the system is equipped with a handheld Remote Helm, set its Helm switch to PILOT.
3. Set the YAW knob to the MAX position.
4. Turn on the Control Unit by pressing the ON button.
5. The Drive Unit should drive to the center helm position and stop. If it does so, slowly turn the YAW knob to the MIN position; the Drive Unit may move a little bit farther, then stop.
6. Turn off the Control Unit by pressing the OFF button.

If the Drive Unit did not move at all during this procedure, withdraw the Drive Unit's shaft to expose about 11 inches of shaft, and then repeat from step 3. If it still doesn't move, then proceed to the Drive Unit Troubleshooting Procedure.



## **DRIVE UNIT TROUBLESHOOTING PROCEDURE**

1. While attempting to drive to port and starboard (using the compass knob or Remote Helm), measure the voltage at the motor terminals (#6 and #7 of the lower terminal strip) on the Control Unit. The voltage should vary between +13 volts and -13 volts, depending upon the direction and amount of helm commanded.

If there is very little or no voltage across these terminals when turning, then there may be a problem with the Control Unit and it should be serviced by an authorized service center.

2. With the Drive Unit power wires (black and white or silver and gold) removed from the Control Unit, try applying 12-volt power directly across them to see if the shaft moves. Be careful not to drive the shaft to its extremes. The shaft normally moves over a range from about one inch shy of full retraction to about one inch shy of full extension. The last two digits of the Drive Unit's part number (which should appear on a sticker adhered to the Drive Unit) indicates the number of inches of travel. For example, if the last two digits are "12," then the normal working range would be over about 1 inch to 11 inches of extension (this does not include the clevis fitting).

If the Drive Unit is unresponsive to power, then there may be an electrical or mechanical problem and it should be serviced by an authorized service center.

If steps 1 and 2 above revealed no problems, then there may be a problem with the feedback sensor inside the Drive Unit. See the separate document "Alpha Marine Systems Drive Unit Feedback Sensor Synchronization Test" for assistance in checking a synchronization error.

If you have any questions about this testing procedure, please contact the service department at The Offshore Store ([service@offshorestore.com](mailto:service@offshorestore.com)) or Alpha Marine Systems ([service@alphamarinesystems.com](mailto:service@alphamarinesystems.com)).