Service Bulletin

Bulletin No. 2011-63
CMD 2011-03

Circulate to: ☐ Sales Manager ☐ Accounting ☑ Service Manager ☑ Technician ☑ Parts Manager

Unexpected Disengagement of the Diesel Axius Autopilot Feature

Scope

Worldwide

Models Affected

All vessels equipped with a Cummins MerCruiser Diesel with Axius system

Situation

Cummins MerCruiser Diesel has received reports that some autopilot systems may become inoperative underway. Correct installation, software compatibility, and Inertial Measurement Unit (IMU) calibration are essential for reliable performance.

Correction

Correct mounting and calibration of the IMU unit are essential for proper operation. Use the CDS G3 service tool to verify the IMU is working by observing IMU inputs into the starboard CCM data stream. Heading, pitch angle, roll angle, and yaw rate values should be verified with the tool. If values are not present, verify that the CAN H bus is communicating and that the correct vessel personality is installed for each CCM to read IMU data. Verify that the CAN H bus icon on the CDS G3 display is green, indicating that the CAN H bus is operational.

Ensure that the IMU was located and mounted properly. The mounting location and orientation must meet these requirements:

- The IMU must be mounted as close to the centerline of the vessel as possible, never to starboard of the steering wheel.
- The unit must be aligned within ±5° of the keel of the vessel, with the arrow on the top decal pointing toward the bow. Although the IMU can be calibrated in the vessel to compensate for heading installation–offset, we recommend that the IMU face the bow, parallel to the vessel centerline as specified.
- The IMU must be mounted as level as possible (±3° from earth level while the boat is on plane) to maximize its pitch and roll operational range.
- The mounting location must minimize vibration. Although the IMU is more tolerant of vibration than a flux gate compass, it is best to mount the IMU on a rigid surface free of vibration.
- The mounting location must protect the unit from exposure to sun and water.

The IMU must also be shielded from electrical components and have the following clearances:

- 46 cm (18 in.) minimum from any electro-mechanical or magnetic field–producing device, including the following items:
  - Speakers
  - Relays
  - Chart plotting equipment
  - Wire bundles
- 25 cm (10 in.) minimum from any ferrous material or any flat surface that can hold a handheld radio or mobile device
- 1 m (40 in.) minimum from any appliance, such as a refrigerator, microwave, TV or coffee maker
- 200 cm (80 in.) minimum from propulsion engine(s) or generators

Verify that the IMU software is 2.0.8SC or above. If the IMU software is not 2.0.8SC or above the IMU must be replaced. Verify that the GPS software is 2.2SW or above. If the GPS software is not version 2.2SW or above it must be replaced. GPS data can also be verified through the starboard CCM data stream after an EBOM is selected.

THE INFORMATION IN THIS DOCUMENT IS CONFIDENTIAL AND PROTECTED BY COPYRIGHT AND IS THE PROPERTY OF MERCURY MARINE.

This document is provided for the sole and exclusive use of the original recipient as prescribed by Mercury Marine and may not be distributed or copied, digitally or otherwise, without the prior written consent of Mercury Marine.

provided by http://www.crowleymarine.com

If the above considerations are observed, test the IMU and GPS units for proper operation. If defective or damaged, replace the IMU or GPS as required, using the part numbers listed below.

Part Numbers

Description	CMD Part Number	Mercury Part Number
IMU 2.0.10SCT	5258099	8M0048162
GPS 200	5270383	8M0052305
GPS 300	5289025	8M0056419

Warranty

Submit a warranty claim through your normal warranty processing channel, listing:

- MerCruiser serial number
- Flat Rate Code and Labor – ME94 or ME95
- Part Code – 925 or 831
- Failure Code – 15

Old Part or Parts:

- **Inside the United States and Canada:** Scrap.
- **Outside the United States and Canada:** Follow instructions issued by your Marine Power International office or by your distributor.

THE INFORMATION IN THIS DOCUMENT IS CONFIDENTIAL AND PROTECTED BY COPYRIGHT AND IS THE PROPERTY OF MERCURY MARINE.

This document is provided for the sole and exclusive use of the original recipient as prescribed by Mercury Marine and may not be distributed or copied, digitally or otherwise, without the prior written consent of Mercury Marine.

provided by http://www.crowleymarine.com