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Joystick Piloting for Outboard Command Control Module (CCM) and Thrust Vector Module (TVM) Calibration Update and Joystick Inspection

NOTICE
Revised July 2018. This bulletin supersedes the previous bulletin number 2016-12R3 September 2017.
<ul style="list-style-type: none"> • Reflash process changed • Warranty flat rates changed

Models Affected

IMPORTANT: The reflash procedure referenced in the previous version of this bulletin has been significantly altered. Reference outboard service bulletin 2018-04 for details of the changes and instructions before reflashing.

Models Covered	Serial Number Or Year
All Joystick Piloting for Outboard models that use Design 2 joysticks	-



62532

Scope

Worldwide

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NOTICE

The service technician performing the procedures described in the bulletin must read and understand the entire service bulletin before attempting a reflash procedure. Failure to follow all service bulletin instructions and the instruction shown in CDS G3 during the reflash process may lead to a reflash failure, resulting in an inoperable or disabled vessel.

Situation

Bulletin Revision History

Revised (from R2) June 2017. This bulletin supersedes the previous (from R3) revised September 2017 bulletin.

Reflash package change to CCM calibration.

1. This was done to improve Skyhook functionality.
2. Added procedure to clear module freeze frame data post reflash.
3. Added advanced Skyhook features.
4. Joystick inspection.

Revised (from R1) February 2017. This bulletin supersedes the previous bulletin number 2016-12 December 2016.

CAUTION added referring to the Mercury Theft Deterrent System (TDS) on page 2.

⚠ CAUTION

If the boat has Mercury Theft Deterrent System (TDS) installed, then both key fobs need to be present to pair with the TDS module after reflash. Failure to have both fobs will result in the TDS system becoming activated and the boat will be limited to Guardian forced idle.

This reflash should be performed at the next customer service interval.

The Joystick Piloting for Outboard software system performance and feature upgrades for the command control module (CCM) and thrust vector module (TVM) was updated in October 2016.

Pump_Not_Active Fault

If the system detects that the current to the power steering pump has fallen below a minimum threshold, a **Pump_Not_Active** fault is set. The operator will be alerted via VesselView with the following text:

Critical - Steering Reduced

Steering capability has been reduced. (Return to port immediately - See dealer before next use.)

TVM:PumpNotActive

The steering system for that engine will be shut down. This will allow the operator to cycle the key switch power and restart the power steering pump. Previously, if the power steering pump shut down, the steering system remained active and the electric motor in the steering actuator would continue to attempt to turn the engine, causing the motor to fail from overheating.

If this fault occurs, verify that the power steering pump power and ground cables are connected to the appropriate engine starting battery and the connections are clean and tight.

Steering_Actuator_is_Degraded Fault

The system can detect if the steering actuator electric motor has been damaged from overheating. If the TVM senses that the output to the steering actuator is above a preset limit, it will count the occurrences. If the number of occurrences goes above a preset threshold during a key cycle, a **Steering_Actuator_is_Degraded** fault will be set in the fault freeze frame of the TVM. The operator will NOT be alerted by VesselView.

If this fault occurs, replacement of the steering actuator may be necessary. Refer to the **Joystick Piloting for Outboard Diagnostic Manual** for diagnostic and replacement information.

Duty Cycle Limits When Pump is at Full Output

The current sensor allows the system to monitor the amount of work the power steering pump is doing to steer the vessel. If the system senses that the pump is near full output, it will reduce the amount of current sent to the steering actuator. This will prevent damage to the electric motor in the steering actuator, due to overheating.

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Improved Skyhook Functionality

Changes were made to the CCM calibration to improve the position keeping and to reduce the aggressiveness of the response of the engines. This will noticeably reduce the fore and aft movement of the vessel when Skyhook is engaged.

Advanced Skyhook Features

CCM software now supports advanced Skyhook features. Refer to Mercury Marine.com for more information or follow this link: <https://gofreemarine.com/mercury/>.

Software Supersession

Module	Software superseded from:	To:
CCM	CCM16ZAXXPAAE000E_JPO_SF1P01000 CCM16ZAXXPAAE000F_JPO_SF1P02000 CCM18ZAXXPAAAB_000B_JPO_SF1P03000	CCM18ZAXXPAAAB000C_JPO_SF1P04000
TVM	TVM13XXXOPAAG007_JPO_SF1P00_000	TVM13XXXOPAAB009_JPO_SF1P01_000

Reflash Process

Refer to **Outboard service bulletin 2018-04** to complete the process.



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The technician will no longer need to contact Mercury Technical Service to obtain the Vessel Personality prior to beginning the reflash process. G3 will now record and rewrite the vessel personality during the reflash process.

A video of the reflash process can be found on MercNET or by following this link: https://p.widencdn.net/zpv3s8/New-G3-reflash-6_4_18.

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This joystick inspection should be performed at the next customer service interval.

If the joystick is equipped with the external noise suppressor, replace the joystick assembly. The following two images show the visual differences between the two designs.



Joystick with external noise suppressor



Joystick with internal noise suppressor

Perform a Water Test

The vessel must be water tested prior to returning to the customer for use. During the water test, you must:

- Perform a drive alignment using CDS G3.
- Test Skyhook (if equipped).
- Test autoheading (if equipped).
- Test track waypoint (if equipped).
- Test the joystick functionality in all directions. Usually it is better to test the joystick while close to a stationary object to use as a point of reference.

Warranty

If the engine is within the warranty period, submit a warranty claim through your normal warranty processing channel.

- Engine serial number
- Labor: 0.5 hour per boat
- On the water test labor: 1.0 per starboard engine
- Flat rate code: SB05, SB10
- Part code: 536 (CCM)
- Fail code: 79
- Joystick replacement flat rate code: SB05

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- Joystick replacement labor: 0.5
- Joystick replacement part code: 663
- Joystick replacement fail code: 00

Outside the United States and Canada: Follow the instructions issued by your local office or distributor.

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