MERCURY MerCruiser

Service Bulletin

Bulletin No. 2011-12R1

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Axius Generation 1 Steering Cylinders

Scope

Worldwide.

Models Affected

NOTICE
Revised January 2013. This bulletin supersedes the previous bulletin number 2011-12 November 2011.

All Gasoline Engine Axius Generation 1 Models.

Situation

The CDS G3 Service Tool can change the "City ID" location address of the TVM port and starboard steering cylinder. The dealer only needs to inventory one part number for the TVM cylinder.

If a TVM cylinder must be replaced, contact the Technical Service Department for the correct VSL file (.vsl) to upload into the CDS G3 tool. The VSL file can then be uploaded into the vessel with the CDS Service Tool.

Before starting the installation, it is important to understand the "City ID" of the unit to know if the "City ID" requires changing before use. The "City ID" cannot be changed until the steering cylinder is installed on the boat.

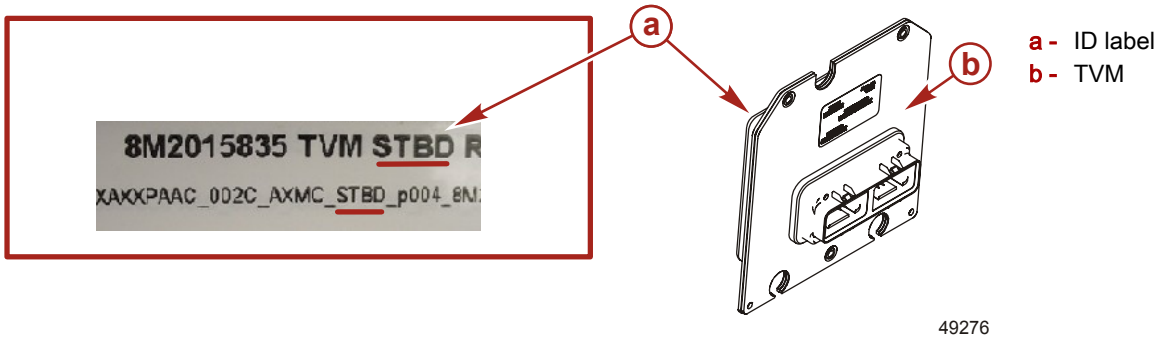
Correction

Install the Axius Generation 1 Steering Cylinder

1. Before removing the existing TVM steering cylinder, connect the CDS G3 Service Tool and record the values of the mechanical drive offset for application to the new cylinder.
   IMPORTANT: If the "MechanicalDriveOffset" values are not obtained before the cylinder is removed, the mechanical drive alignment must be performed using the drive alignment tool after installing the replacement cylinder.

Description	Part Number
Drive alignment tool	8M0029055

2. Determine if the steering cylinder is designated as a port or starboard cylinder by the box labeling and the module software identification (ID) label. The ID label is located on the back of the TVM.



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3. Install the steering cylinder.
   a. Refer to the MerCruiser installation manual provided with the product or the appropriate MerCruiser Service manual, and install the steering cylinder.
   b. Ensure that the pivot bolts are tightened to the specified torque.

Description	Nm	lb-in.	lb-ft
Steering cylinder pivot bolts	34	–	25

   c. Ensure that the hydraulic steering hose fittings are tightened to the specified torque.

Description	Nm	lb-in.	lb-ft
High-pressure hose fitting	54	–	40
Low-pressure hose fitting	34	–	25

After Completing the Installation

If the replacement cylinder has starboard software, but is installed on the port drive:

1. Connect the CDS G3 Service Tool to an appropriate CAN connection.
2. Turn the starboard and port key switches to the on positions.
   IMPORTANT: The starboard key switch must be on so that the starboard master CCM module is powered up.
3. Select the "eBOM" that matches the CCM software.
4. Using the CDS G3 tool, go to "configuration" (click the throttle icon) and select "import." Select the appropriate **port** VSL extension for the replacement cylinder.
5. Turn the starboard key switch off and immediately select "import" to change the "City ID." The import process begins and the "City ID" location will be changed.
   NOTE: *If the distance between the location of components makes it impossible to turn the starboard key switch to the off position and immediately select "Import", disconnect the starboard TVM from the 14-pin harness. The disconnection will cause faults to appear, but must be done so that the starboard CCM is on the CAN bus for this procedure. When disconnecting the starboard TVM , the starboard key switch can remain in the on position.*
6. After the TVM is updated, turn the port key switch or switches (and starboard, if on) to their off positions. Wait until the CAN P and CAN H lights are yellow on the CDS G3 tool.
7. If the starboard TVM was disconnected previously, connect the 14-pin harness before you proceed.
8. Turn the port and starboard key switch or switches to the on position. Read the "Module Data" screen to verify that the "City ID" has changed.
9. Verify that no faults are present.

If the replacement cylinder has port software, but is installed on the starboard drive:

1. Turn only the starboard key switch or switches to the on position.
2. Select the "eBOM" that matches the CCM software.
3. Using the CDS G3 tool, go to "configuration" (click the throttle icon) and select "import." Select the appropriate **starboard** VSL extension for the replacement cylinder.
4. Start the import update process to change the "City ID" location.
5. After the TVM is updated, turn the key switch or switches to the off position until the CAN P and the CAN H light are yellow on the CDS G3 tool.
6. Turn the key switch or switches to the on position. Read the "Module Data" screen to verify that the "City ID" changed.
7. Verify that no faults are present.

Load the "MechanicalDriveOffset" values recorded earlier into the replacement TVM.

Ensure that the correct "eBOM" is selected

1. Click the configuration icon.
2. Select "drive configuration."
3. Select "manual drive alignment." If an offset value is present, change the value to 0.00.
4. Load the value previously recorded from the TVM cylinder that was replaced.

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5. Click the "finished" button.
6. Go back to "manual drive alignment" to verify the value is still in the TVM module.

View the TVM data stream to verify the drive does not require initialization. If initialization is required, follow steps below.

1. Verify that both drives are centered.
2. Click the configuration icon.
3. Select "drive configuration."
4. Select "drive initialization."
5. In the drop down box, select the drive to be initialized.
6. Start and operate the engine or engines to complete the process.

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