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Joystick Piloting for Outboards (JPO) Steering Cylinder Service Replacements

Scope

Worldwide

Models Affected

All Gen 1 JPO-equipped boats that require a steering cylinder replacement

Situation

With the launch of the Gen 2 JPO system, Gen 1 steering cylinders for service replacement are reaching the end of production. Refer to the following images for identifying the steering cylinder generation and the helm design differences.

Steering Cylinder Identification



72642

Gen 1 steering cylinder



72643

Gen 2 steering cylinder

Helm Design Identification



72646

Design 1 helm system joystick



72645

Design 2 helm system joystick

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Acceptable Service Configurations

JPO Systems with Design 1 Helm Components:

On Gen 1 JPO systems with Design 1 helm components, if one steering cylinder needs replacement, it is recommended that all of the steering cylinders on the boat be replaced with Gen 2 cylinders.

IMPORTANT: The Gen 2 steering cylinder responds differently than the Gen 1 steering cylinder, and the Design 1 software cannot compensate for the variance. The Gen 2 steering cylinder will respond to steering and joystick commands faster than the Gen 1 cylinder, which will cause a noticeable visual difference in the turning rates of the engines.

JPO Systems with Design 2 Helm Components:

On Gen 1 JPO systems with Design 2 helm components, an individual Gen 1 steering cylinder can be replaced with a Gen 2 steering cylinder. This will require a reflash of the TVM software with CDS G3 for proper operation.

It is acceptable to have Gen 1 and Gen 2 steering cylinders installed together on the same boat with Design 2 helm components. The service TVM calibration will make the operation of the different steering cylinders the same.

Software Reflash

CDS G3 has the necessary reflash package for the Gen 1 Design 2 TVM that has a Gen 2 steering cylinder installed. Only reflash the TVM that is controlling the replacement Gen 2 cylinder. Changes in the reflash package will allow the Gen 2 steering cylinder to operate similar to the Gen 1 cylinder.




TVM Software	Calibration ID
Original	TVM18XXXOPAAH001_JPO_SF1P03_000
New (with replacement Gen 2 cylinder installed)	TVM18XXXOPAAH001_SF1JPOG2B_S04_000

The reflash package is password protected. The password to unlock it is: **rtez43x4**

IMPORTANT: If the TVM that is controlling the Gen 2 steering cylinder is not reflashed, steering performance will not be the same between the new and old steering cylinders. This could lead to boat handling issues.


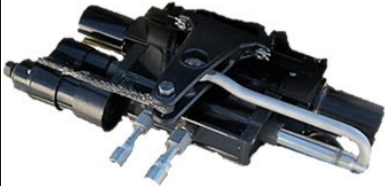

IMPORTANT: Only reflash the TVM in the location that the Gen 2 steering cylinder is installed. If the incorrect TVM is reflashed by mistake, contact Mercury Technical Service for further assistance.

Part Numbers

Joystick Type	Current Steering Cylinder	Service Replacement Steering Cylinder		TVM Reflash with CDS G3
		Image	Part number	
 72646	 72642	 72643	8M0123581	No

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		Image	Part number	
 72645	 72642	 72643	8M0123581	Yes

NOTE: When replacing a Gen 1 steering cylinder with a Gen 2, the hydraulic hose connections are different. Remove the fittings from the Gen 1 steering cylinder and install them into the Gen 2 steering cylinder.

IMPORTANT: Gen 2 steering hose connections can be crossed during installation. If this occurs, the steering cylinder will fail the first time it is operated. Refer to the instruction sheet that is included in the Gen 2 steering cylinder kit for correct hose connections.

Power steering pump current sensors should already be installed. This will need to be verified before returning the boat to service. A current sensor must be installed on the power steering pump power cable regardless of which style of pump is installed.

The following is an image of the current sensor kit:



- a - Sensor
- b - Fuse holder
- c - Harness

60616

Qty.	Description	Part Number
1	Current sensor diagnostic kit	8M0115125

IMPORTANT: If a power steering pump current sensor is not installed, damage to the steering cylinder will result if the pump shuts down undetected.

Additional Parts Needed

If the tie bar arm is removed during steering cylinder replacement, the fasteners that connect it to the engine must be replaced. L6 Verado 2B144122 and below, listed per engine:

Qty.	Description	Part Number
2	Screw, 8mm	896555025
2	Tab Washer	896634

L6 Verado 2B144123 and above and all V8 Verado, listed per engine:

Qty.	Description	Part Number
1	Hardware kit	8M0099091

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Warranty

If the unit is within the warranty period:

US and Canada

Complete and process the claim via MercNET or a warranty claim form.

International

Follow instructions issued by the Marine Power International office or by an authorized Marine Power distributor.

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