Service Bulletin

Bulletin No. 2016-01

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

MerCruiser Emissions Control Engines Equipped with Generation III Cool Fuel Modules

Models Affected

Models Covered	Serial Number Or Year
MCM Bravo Sterndrive MPI EC Engines	0W060000–2A437084
MerCruiser Inboard MPI EC Engines	0M398372–2A437084
MerCruiser EC Ski Engines	1A090000–2A437084
MerCruiser 350 Scorpion EC Engines	0W698433–2A437084
MerCruiser 377 Scorpion EC Engines	1A091488–2A437084

Scope

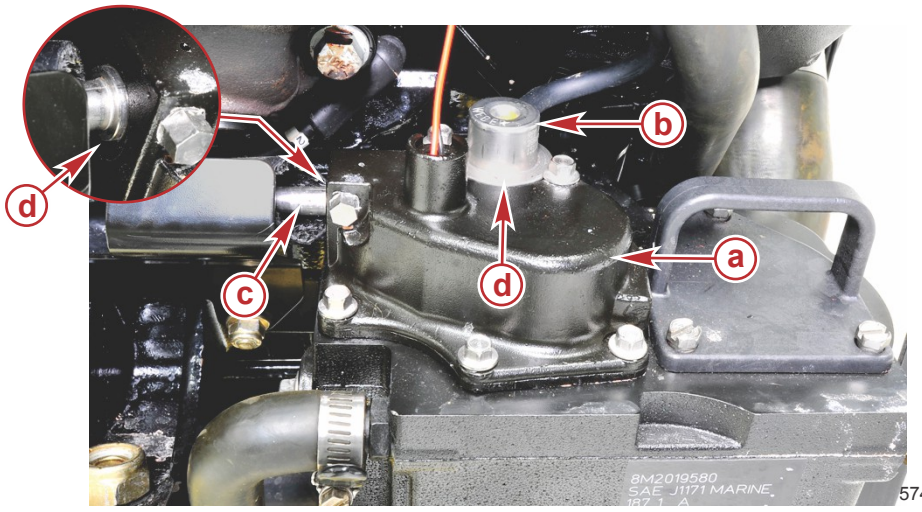
Worldwide

Situation

Paint delamination below the fuel pressure regulator on some Generation III Cool Fuel module top covers may cause performance issues, emissions related faults, or fuel weepage at the fuel pressure regulator or fuel module discharge line.

Inspection

If you encounter fuel weepage, thoroughly inspect the areas around the fuel pressure regulator, discharge fuel line, and below the Gen III Cool Fuel module for the accumulation of fuel residue that would indicate the condition as described.



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Cool Fuel module

- **a -** Cool Fuel module top cover
- **b -** Fuel pressure regulator
- **c -** Discharge fuel line
- **d -** Inspection points

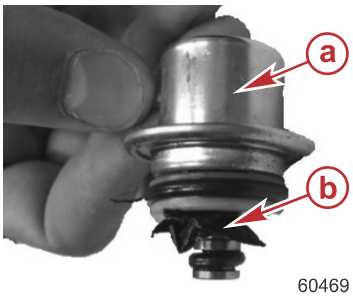
Paint delamination can cause rich or lean fuel mixtures and performance issues such as upper RPM misfires, loss of RPM, or any of the following active faults.

Fault	Explanation
396 Engine_Misfire	One or more cylinders are misfiring
319 O2Control_ITermHighPort	Port bank fuel mixture reading too rich
320 O2Control_ITermLowPort	Port bank fuel mixture reading too lean
321 O2Control_ITermHighStarboard	Starboard bank fuel mixture reading too rich
322 O2Control_ITermLowStarboard	Starboard bank fuel mixture reading too lean
310 CATM_OSCExcessAbortPort	Port bank failed catalyst cycle checks
314 CATM_OSCExcessAbortStarboard	Starboard bank failed catalyst cycle checks
303 O2SR_r_PreSwitchRatioPort	Precatalyst oxygen sensor not responding
305 O2SR_r_PreSwitchRatioStarboard	Precatalyst oxygen sensor not responding
389 PO2S_LeanRangeSTBD	Postcatalyst oxygen sensor stuck lean
390 PO2S_RichRangeSTBD	Postcatalyst oxygen sensor stuck rich
391 PO2S_LeanRangePORT	Postcatalyst oxygen sensor stuck lean
392 PO2S_RichRangePORT	Postcatalyst oxygen sensor stuck rich

IMPORTANT: Refer to the appropriate MerCruiser service manual for fuel pressure regulator removal instructions. Observe all precautionary safety related instructions when relieving fuel pressure from a pressurized fuel system prior to disassembly.

If any of the above conditions are observed, perform the following inspection.

1. Remove the regulator from the top cover and look for paint particles or flaking paint caught in the regulator screen.



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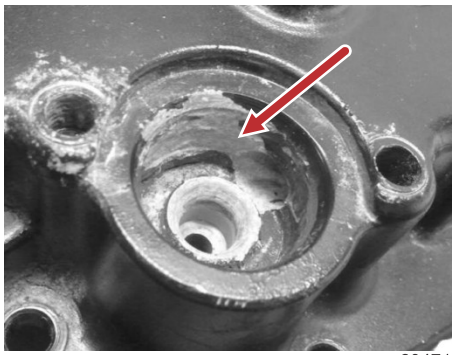
a - Regulator assembly
b - Flaking paint

2. Inspect the top cover and regulator seat for evidence of deterioration, paint particles, and flaking paint.



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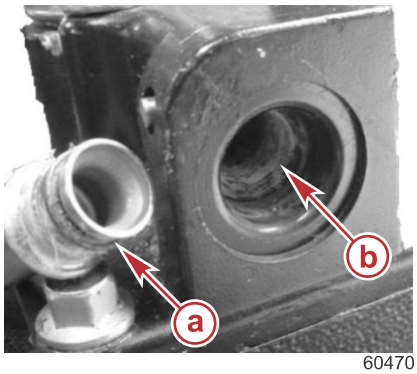
3. Remove the discharge fuel line. Inspect the quad ring and the condition of the fuel line bore for missing paint.



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a - Discharge fuel line and quad ring
b - Discharge fuel line bore

IMPORTANT: Do not reuse discharge fuel line quad ring. The quad ring must be replaced prior to discharge fuel line installation.

Qty.	Description	Part Number
1	Quad ring	863151

Correction

IMPORTANT: Refer to the appropriate MerCruiser service manual for complete fuel system service instructions. Observe all precautionary safety related instructions when relieving fuel pressure from a pressurized fuel system prior to disassembly.

Replace the Gen III Cool Fuel module top cover, top cover seal, fuel pressure regulator, and the discharge fuel line quad ring if signs of fuel weepage, or paint delamination are observed at the inspection points described in this bulletin.

Qty.	Description	Part Number
1	Anodized Gen III Cool Fuel module top cover	8M0086387
1	Fuel pressure regulator	892681
1	Top cover seal	892683
1	Quad ring	863151

A seal kit is available that includes the pump and filter cartridge seals.

Qty.	Description	Part Number
1	Generation III Cool Fuel module seal kit	892683A01

Clean or replace all fuel injectors to prevent engine damage from lean fuel conditions. Refer to the electronic parts catalog for the part numbers of the replacement fuel injectors for your engine. Clean and flush the discharge fuel line and fuel rail assembly prior to reassembly.

NOTE: *Units that have had top covers or complete fuel modules replaced after April 28, 2014 may not fall under the guidelines of this bulletin as the top covers sent out as service replacements both separately and as components of the complete module assembly were anodized. Anodized parts are not susceptible to paint delamination in these areas. Anodized top covers have a dull black finish versus the glossy black finish that painted top covers exhibit.*