

Circulate to: Sales Manager Accounting Service Manager Technician Parts Manager

Mercury Diesel 4.2L V8 Tier 3 Exhaust Manifolds Replacement

Models Affected

Models Covered	Serial Numbers Affected
4.2L V8 Tier 3	CMC000200 and up

Scope

Worldwide

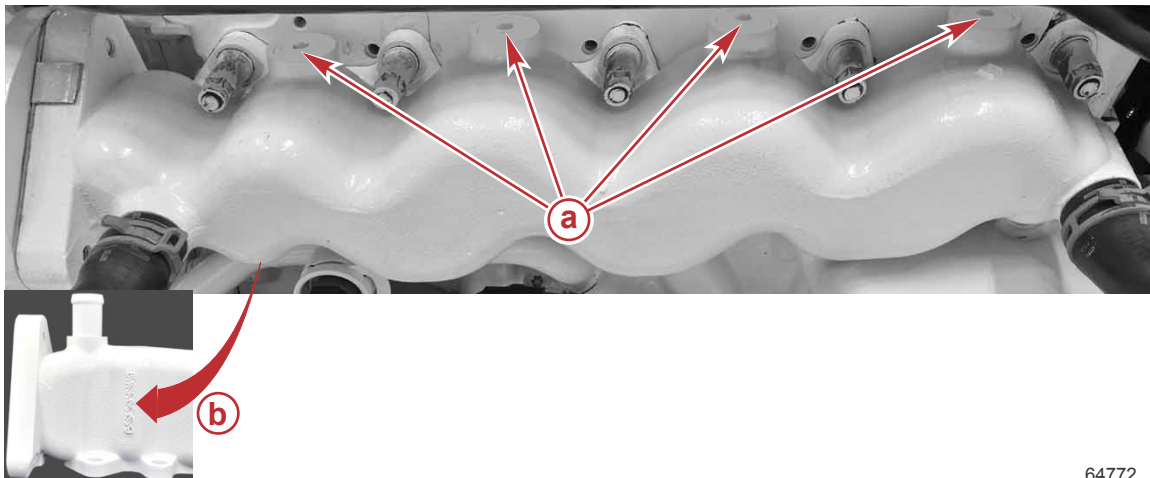
Situation

Mercury Diesel has identified a situation whereby internal sections of the exhaust manifold may overheat, which would cause the manifold to crack or allow the cap plugs to be pushed out. The result of either of these failures will cause a very quick loss of engine coolant.

Inspection/Test

Engines already reworked by the factory will have manifolds with threaded cap plugs and a Mercury part number as shown in the photo below. The exhaust manifold that needs to be replaced will have pressed in cap plugs. The following two images show the visual differences between the two designs.

Exhaust manifold that does not require replacement



64772

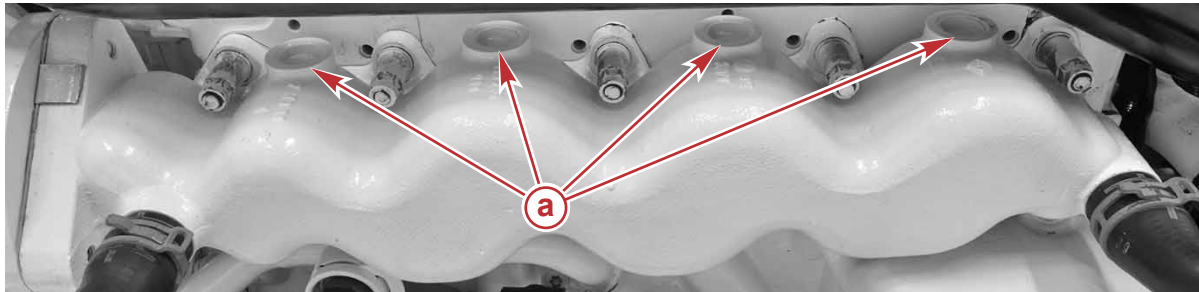
Starboard side shown, port side similar

- a** - Threaded cap plugs (containing an internal hex)
- b** - Mercury part number (8M0128259 or 8M0133046) which is cast into the manifold

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Exhaust manifold that requires replacement



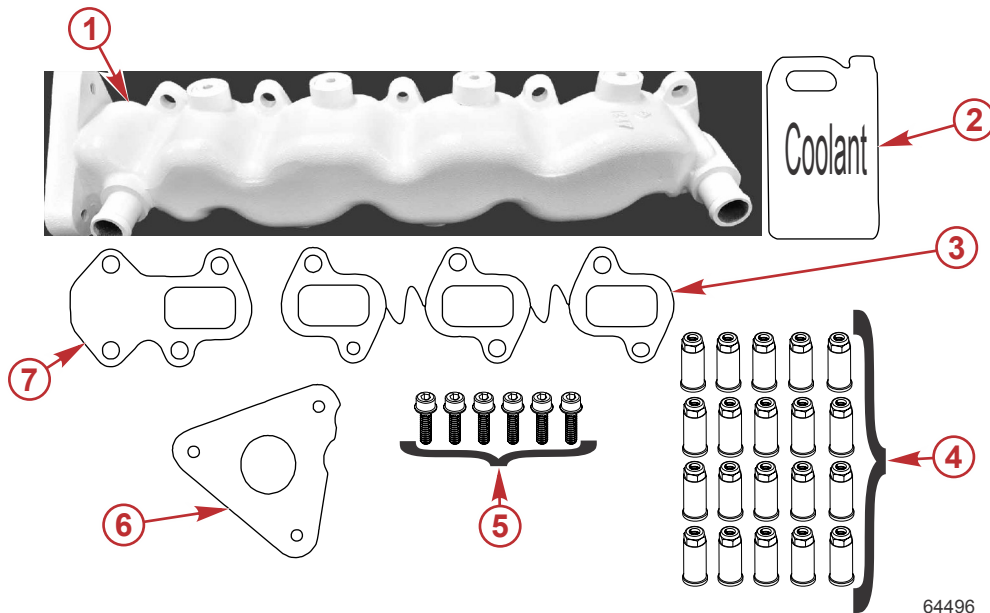
64471

Starboard side shown, port side similar

a - Pressed in cap plugs (containing a depressed inner diameter)

Parts Required/Contained in Kit

4.2L TDI exhaust manifold kit (8M0137069)



64496

Ref.	Qty.	Description	Part Number
1	2	Exhaust manifold	8M0136921
2	3	Coolant (gallon)	8M0110567
3	2	Gasket	8M0066721
4	20	Nut (M8 x 27)	8M0066513
5	6	Screw (M8 x 26)	8M0068256
6	2	Gasket	8M0068016
7	2	Gasket	8M0040657

Correction

IMPORTANT: Perform these procedures only if the exhaust manifold (containing the pressed in cap plugs) as described above is installed on the engine. Disregard these procedures if the exhaust manifold (containing the threaded cap plugs) as described above is installed on the engine.

Refer to **8M0070862 TDI 4.2L Mercury Diesel Service Manual** for the sections referenced in the following procedures.

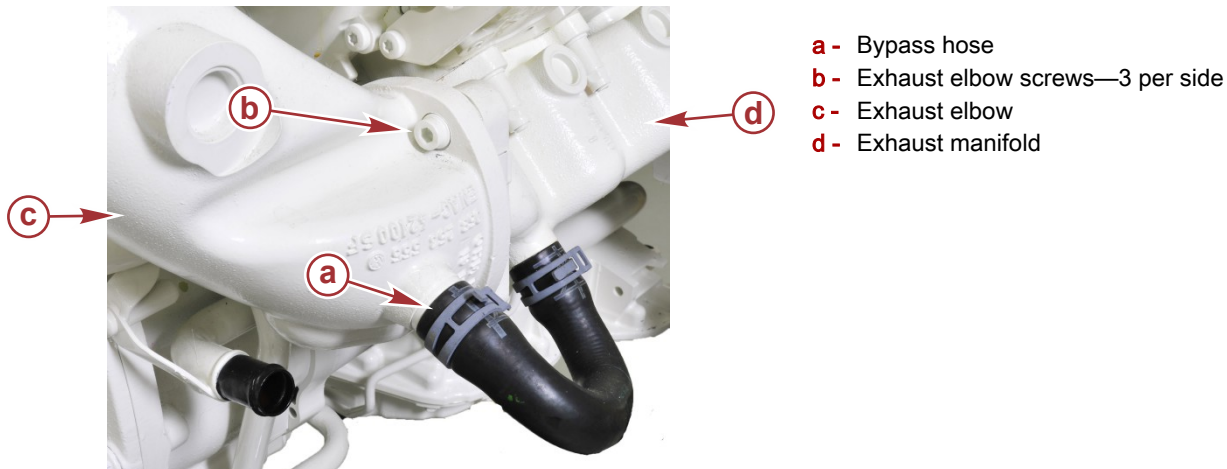
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Exhaust Manifold Removal

Refer to **Section 3A - Engine Disassembly** for component removal procedures to access the exhaust manifold for removal.

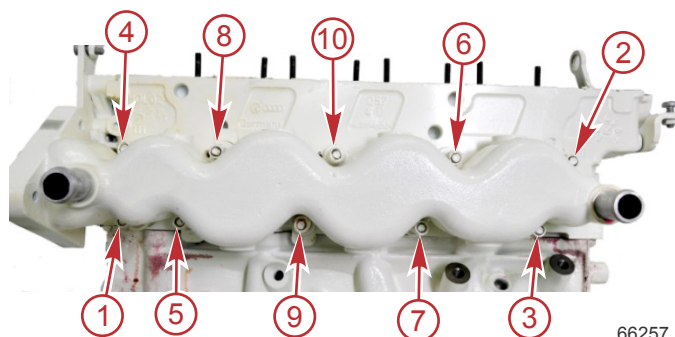
1. Drain the engine coolant. Refer to **Section 1C - Draining the Closed-Cooling System**.
2. Remove the bypass hose from the exhaust elbow to the exhaust manifold.
NOTE: Two screws are hidden in the photo.
3. Remove the exhaust elbow to exhaust manifold screws.



- a - Bypass hose
- b - Exhaust elbow screws—3 per side
- c - Exhaust elbow
- d - Exhaust manifold

58776

4. Remove the exhaust manifold nuts from the exhaust manifold in a cross pattern as shown below.
5. Remove the exhaust manifold and gaskets from the cylinder head.
6. Be certain the engine block mating surfaces where the gaskets and manifold were installed are cleaned and free of debris.
7. Repeat for the other side.



66257

Starboard side shown, port side similar

Additional Clearance For Manifold Installation

NOTE: Perform the following procedures if additional clearance is necessary for installing the exhaust manifold.

Starboard

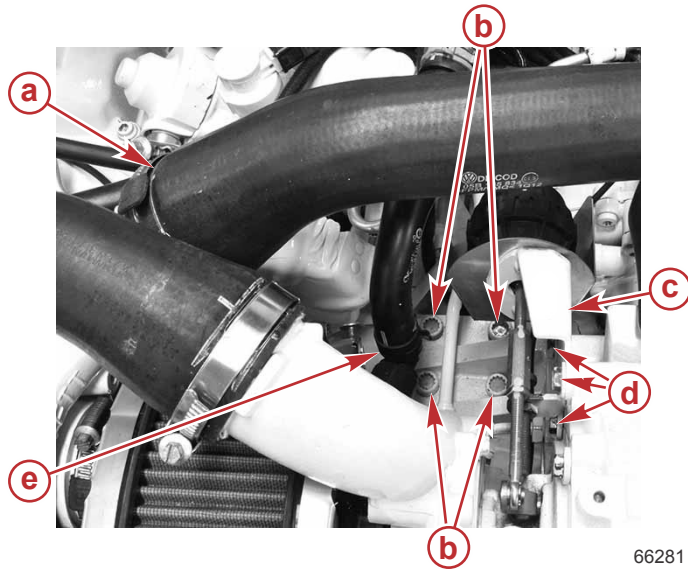
NOTE: Perform the following steps if additional clearance is necessary for installing the exhaust manifold on the starboard side.

1. Remove the vacuum line retaining bracket bolts and bracket. Position the bracket to gain access to the four screws on the exhaust elbow.
2. Remove the hose clamp and hose.
3. Pull out the press fit breather hose.

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- Loosen the four exhaust elbow screws enough to allow the exhaust elbow to move slightly.



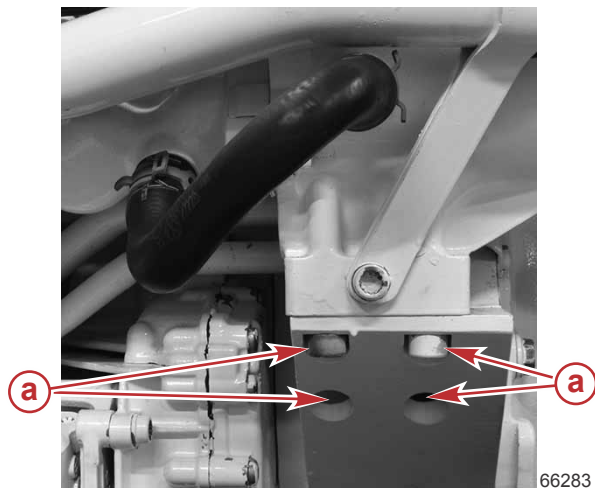
- Starboard**
- a** - Hose clamp and hose
 - b** - Exhaust elbow screws
 - c** - Bracket
 - d** - Vacuum line retaining bracket screws
 - e** - Press fit breather hose

66281

Port

NOTE: Perform the following step if additional clearance is necessary for installing the exhaust manifold on the port side.

Loosen the four exhaust elbow screws enough to allow the exhaust elbow to move slightly.




- Port**
- a** - Exhaust elbow screws

66283

Exhaust Manifold Installation

- Install new gaskets on the cylinder head studs for the exhaust manifold.
- Apply Optimal Longtime PD2 Extreme Pressure Grease onto the stud threads and install the exhaust manifold onto the studs and hand-start the new nuts on the studs.

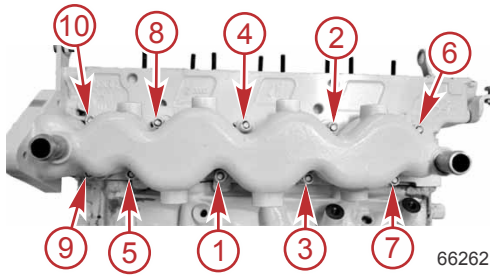
Tube Ref No.	Description	Where Used	Part No.
 145	Optimal Longtime PD2 Extreme Pressure Grease	Stud threads	92-848767

- Tighten the new nuts in a crosswise pattern shown below to the first specified torque.

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- Then tighten the new nuts to the final specified torque in the same cross pattern shown below.



Starboard side shown, port side similar

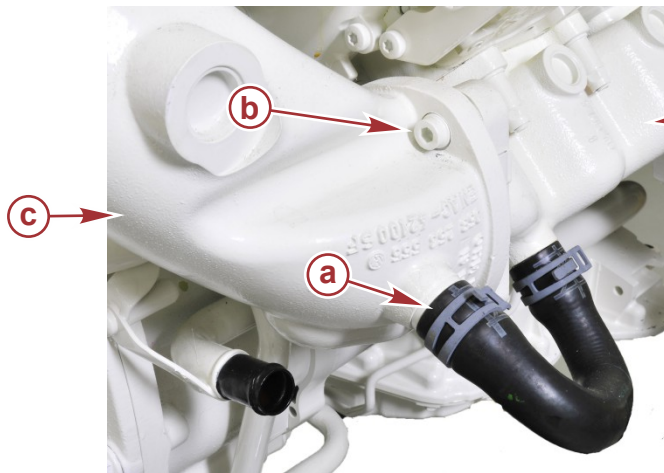
Description	Nm	lb-in.	lb-ft
Exhaust manifold nuts first torque	10	88.5	–
Exhaust manifold nuts final torque	25	–	18.4

- Install new gaskets on the exhaust elbow.
- Install the exhaust elbow onto the exhaust manifold and hand-start the new screws.

NOTE: Two screws are hidden in the photo.
- Tighten the new screws to the first specified torque.
- Then tighten the new screws to the final specified torque.

Description	Nm	lb-in.	lb-ft
Exhaust elbow screws (3 per side) first torque	10	88.5	–
Exhaust elbow screws (3 per side) final torque	20	177	–

- Install the bypass hose onto the exhaust manifold and exhaust elbow and secure with clamps.



Starboard side shown, port side similar

- a - Bypass hose
- b - Exhaust elbow screws
- c - Exhaust elbow
- d - Exhaust manifold

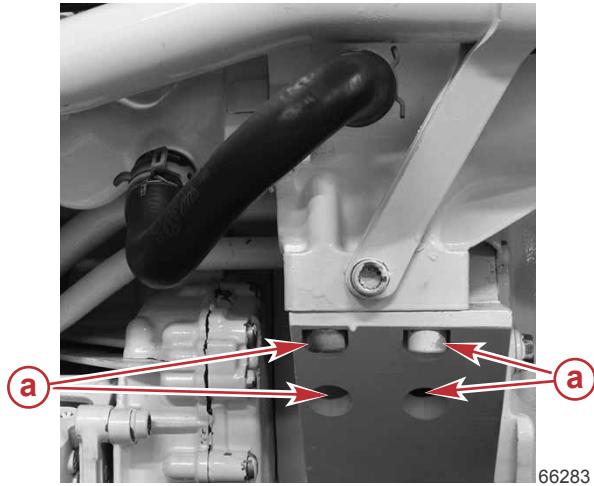
- Repeat the above steps for the port side.

NOTE: Perform the following steps if the exhaust elbow screws on the port side were loosened previously.
- Tighten the four exhaust elbow screws to the specified torque.

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Description	Nm	lb-in.	lb-ft
Exhaust elbow screws (port)	40	-	29.5



Port
a - Exhaust elbow screws

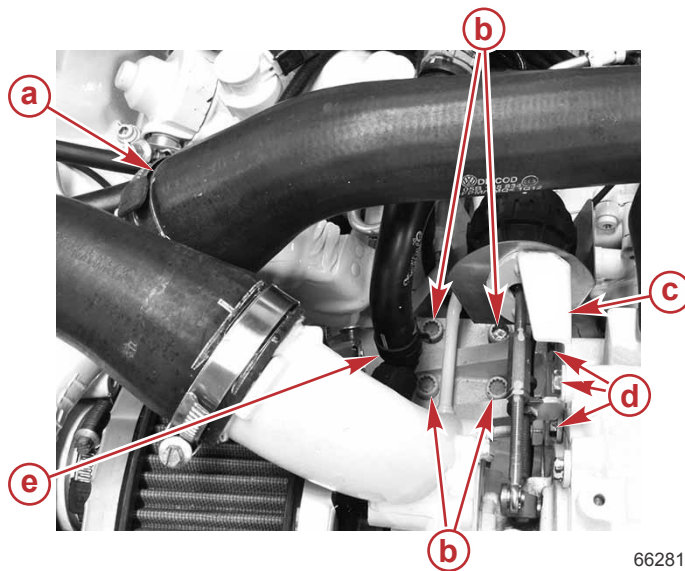
NOTE: Perform the following steps if the following fasteners and components were either loosened and removed previously on the starboard side.

- Tighten the four exhaust elbow screws to the specified torque.

Description	Nm	lb-in.	lb-ft
Exhaust elbow screws (starboard)	40	-	29.5

- Install the press fit breather hose.
- Install the hose on the engine with the hose clamp.
- Install the vacuum line retaining bracket on the engine with the bolts and tighten the bolts to the specified torque.

Description	Nm	lb-in.	lb-ft
Vacuum line retaining bracket screws	40	-	29.5



Starboard
a - Hose clamp and hose
b - Exhaust elbow screws
c - Bracket
d - Vacuum line retaining bracket screws
e - Press fit breather hose

- Install the oil lines. Refer to **Section 3B - Install the Oil Lines**.
Refer to **Section 3B - Engine Assembly** for component installation procedures after installing the exhaust manifold.

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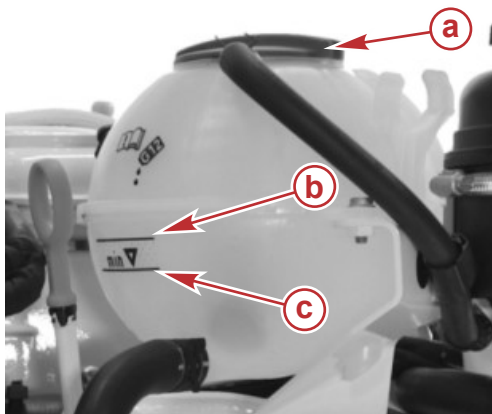
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Filling the Closed-Cooling System

IMPORTANT: Use only the specified coolant.

Description	Capacity	Part Number
Marine Engine Coolant	9.0 Liter (9.5 US qt)	8M0070979

1. Verify that the closed-cooling heat exchanger drain screw is tight.
2. Remove the coolant pressure cap from the expansion tank coolant reservoir.



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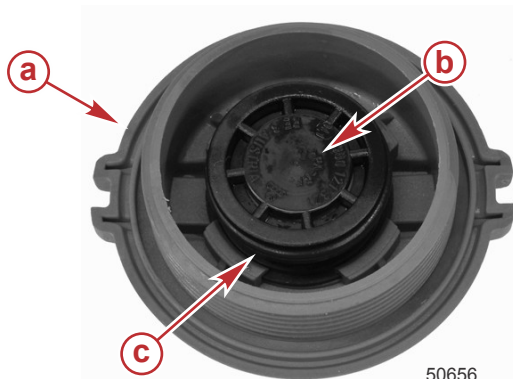
- a - Coolant pressure cap
- b - Maximum mark
- c - Minimum mark

3. Slowly add the coolant to the expansion tank coolant reservoir. Allow the trapped air to escape.
4. When coolant cannot be added, supply the seawater pump with water.

NOTICE

Without sufficient cooling water, the engine, the water pump, and other components will overheat and suffer damage. Provide a sufficient supply of water to the water inlets during operation.

5. Do not install the pressure cap. Start and operate the engine at idle for approximately two minutes.
6. Add coolant if necessary to maintain the coolant at the specified level on the expansion tank coolant reservoir.
7. Allow the engine to warm up.
8. Add coolant if necessary to maintain the coolant at the specified level on the expansion tank coolant reservoir.
9. Inspect the O-ring in the pressure cap for damage and replace if necessary.



50656

- a - Pressure cap
- b - Over pressure valve
- c - O-ring

10. Install the coolant pressure cap after the engine has reached normal operating temperature—with the thermostat fully open, and the coolant level remaining constant.
11. Observe the temperature gauge and check the engine for coolant leaks. If the temperature gauge indicates the presence of excessive temperature or coolant is leaking, stop the engine immediately and inspect for the cause.
12. After the first operation, allow the engine to cool.
13. Remove the coolant pressure cap and add the specified coolant to the level indicated on the expansion tank coolant reservoir.

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14. Install and securely tighten the pressure cap.

Owner Notification

A letter will be sent to every registered owner of an affected Mercury Diesel engine. The letter will reference Mercury Diesel Service Bulletin 2018-61 and will advise the owner to contact their selling dealer or a Mercury Diesel authorized dealer for repair. A copy of the customer letter is included with this service bulletin for your reference.

Warranty

United States and Canada: Mercury Marine will credit the dealer for the cost of parts and labor. Submit a warranty claim through your normal warranty processing channel, listing:

- Engine serial number
- Qty: 1 - 8M0137069 4.2L TDI exhaust manifold kit
- Warranty flat rate code: SB40 (4.0 hours includes time to replace two manifolds per engine)
- Warranty flat rate code: RR01 (4.0 hours includes time to remove and replace one engine)
- Part code: 505
- Fail code: 00

NOTE: *A separate warranty claim will be required for each Engine Serial Number in twin installations. Expenses related to haul-out are not covered by this warranty.*

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Dear Mercury Marine Customer,

Thank you for the purchase of your Mercury Diesel package. Mercury Marine is dedicated to providing a superior product with outstanding quality and reliability. As part of our commitment to superior customer satisfaction, we have determined that your diesel engine must be recalled so that we may perform updates required to ensure the reliable use of your package.

What is the Condition?

We are contacting you because our records indicate that you are the registered owner of a Mercury 4.2L TDI (Tier 3) diesel engine. Mercury Diesel has identified a situation whereby internal sections of the exhaust manifolds may overheat, which could cause the manifold to crack internally or the cap plugs to be pushed out. The result of either of these failures will cause a very quick loss of engine coolant, along with significant damage to the internal components of the engine.

What Will We at Mercury Do?

We have provided instructions to our authorized dealers on the proper method of inspecting your engine package and verifying if it qualifies for the replacement of the exhaust manifolds. The required service will be performed at NO COST to you.

What Should You Do?

Please contact your authorized Mercury Diesel servicing dealer and mention this letter regarding the replacement of the exhaust manifolds on your engine(s). Also mention Mercury Diesel Service Bulletin 2018-61 and schedule an appointment to have this work performed. Your servicing dealer will be able to determine how long the repair will take.

What if you have other questions or you no longer own this engine?

Please contact your Mercury Diesel dealer or call Mercury Marine Customer Assistance, at 1-920-929-5040.

We have sent this notice in the interest of your continued satisfaction with our product. We sincerely regret any inconvenience this may cause you.

Thank you for boating with Mercury Marine.

Mercury Marine Customer Service