



Service Bulletin

Bulletin No. 2012-09
OEM No. 2012-05

Circulate to: Sales Manager Accounting Service Manager Technician Parts Manager

Alternator End Cover Contacting Cylinder Block—150 FourStroke Models Affected

Models Covered	Serial Number
150 FourStroke	1B906474–1B943665

Situation

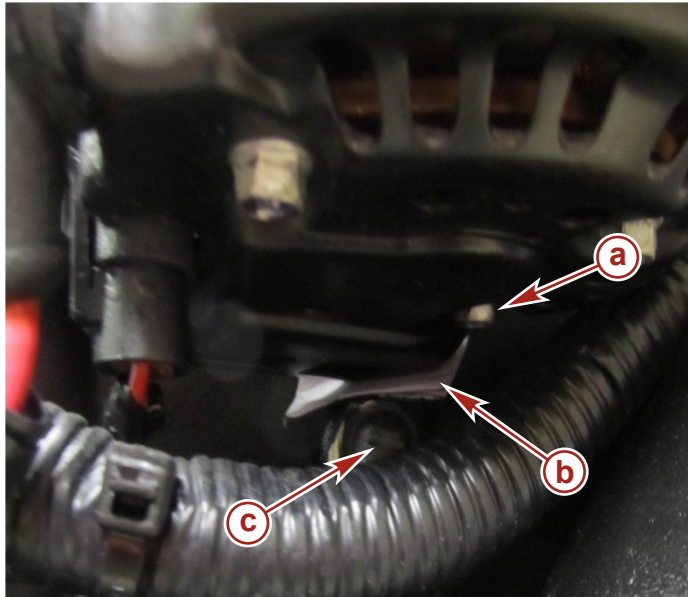
Mercury Marine has identified a possible interference issue between the alternator end cover and the cylinder block on the outboard listed above. If the contacting alternator is exposed to extended engine operation, induced vibration can cause alternator stator wire fractures, which will reduce the alternator output. Output will be reduced from 60 amps to 46 amps if one phase winding experiences a fracture. No alternator output will occur if all phase windings fracture, or if the common winding lead experiences a wire fracture. Mercury Marine has changed the design of the alternator end cover to assure clearance between the cover and the cylinder block. Affected outboards will need to be inspected and, if necessary, corrected following the procedures outlined in this service bulletin.

Inspection/Test

- Inspect for a 0.254 mm (0.010 in.) clearance between the innermost corner of the alternator end cover and the cylinder block just above the flush hose fitting boss.
IMPORTANT: Use a folded sheet of paper or a piece of cardboard stock which is flexible enough to bend around the flush fitting boss. A sheet of copy paper is approximately 0.1 mm (0.004 in.) so three thicknesses or a trifold piece would work as a gauge.

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- a - Alternator end cover
- b - Gauge, folded paper or cardboard stock
- c - Flush hose fitting boss

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2. If the folded paper sheet or cardboard gauge can slide between the alternator end cover and the cylinder block, the clearance is sufficient and no corrective action is required.
3. If the gauge cannot slide between the alternator end cover and the cylinder block as described, proceed to the correction instructions.

Correction

Alternator Removal

Remove the alternator as outlined in the outboard service manual.

Outboards With Less Than 25 Hours of Operation - Remove and Replace Alternator End Cover

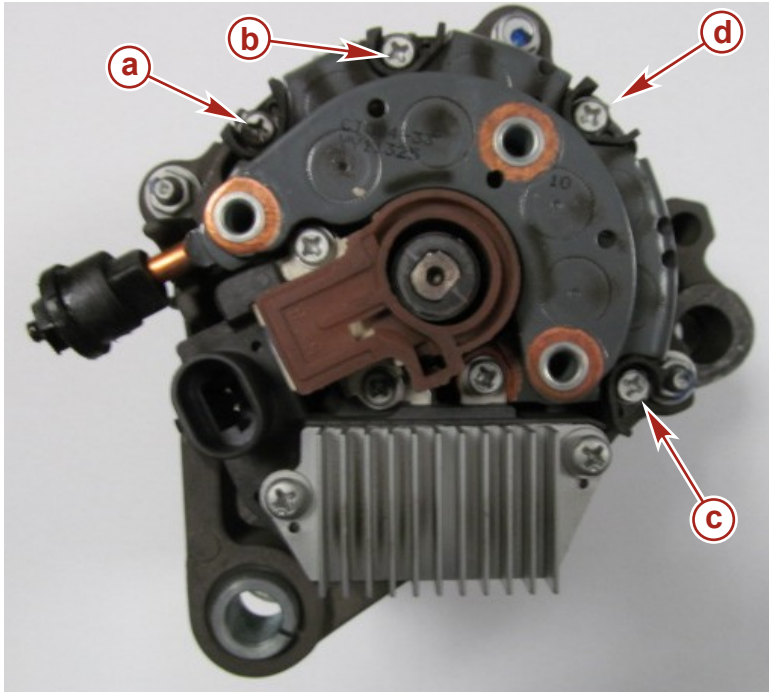
1. Remove and retain three screws securing end cover.
IMPORTANT: To avoid damaging the B+ terminal stud, use hand tools only to loosen the B+ terminal hex nut.
2. Loosen the nut on the B+ terminal to allow the insulator collar to be disengaged from the alternator end cover.
3. Remove the alternator end cover.
4. Using an ohmmeter verify that the alternator phase windings have the specified continuity.
5. Replace alternators which do not pass all of the continuity tests.

Description	Part Number
DMT 2004 digital multimeter	91-892647A01

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Meter Test Leads		Meter Scale	Readings (Ω)
Red	Black		
Terminal A	Terminal D	Auto	1.0 ohms or less
Terminal B	Terminal D	Auto	1.0 ohms or less
Terminal C	Terminal D	Auto	1.0 ohms or less



- a** - Terminal A winding
- b** - Terminal B winding
- c** - Terminal C winding
- d** - Terminal D winding (common)

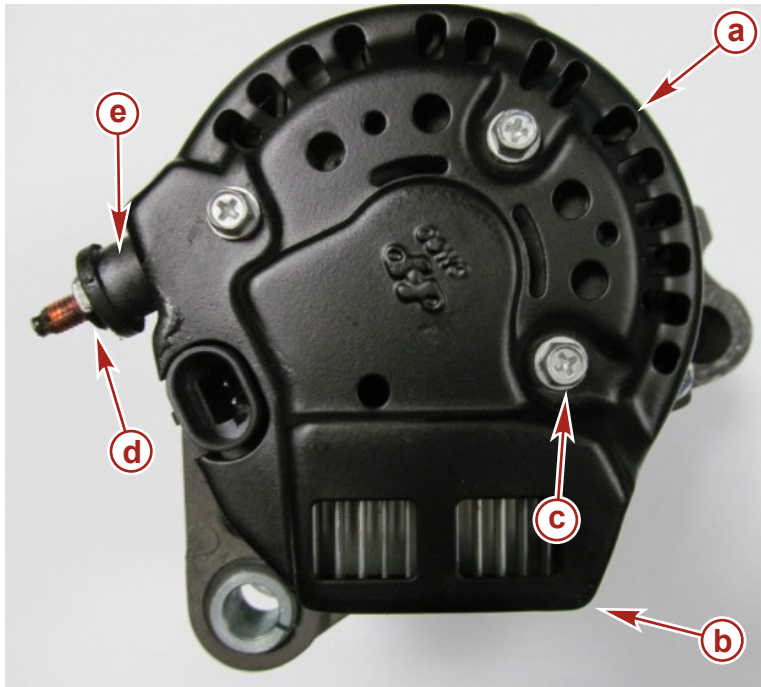
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6. Install the new alternator end cover and secure it with the three retained screws. Tighten the retaining screws to the specified torque.
7. Engage the insulator collar into the alternator end cover and tighten the B+ hex nut to the specified torque.

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Description	Nm	lb-in.	lb-ft
Alternator end cover screw (M4 x 25 mm)	4.5	40	–
B+ terminal nut (M6)	3.6	32	–



- a - Alternator end cover
- b - Area of contact with cylinder block
- c - Screw (M4 x 25 mm)
- d - Hex nut (M6)
- e - Insulator collar

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8. Reinstall the alternator as outlined in the outboard service manual.

Outboards With More Than 25 Hours of Operation - Remove and Replace Alternator if No Clearance was Found Between Alternator and Block

Replace alternator as outlined in the outboard service manual.

Parts Required

Outboards With Less Than 25 Hours of Operation That Have Passed the Field Winding Resistance Tests

Qty.	Description	Part Number
1	Alternator end cap	8M0074048

Outboards With Less Than 25 Hours of Operation That Have Failed the Field Winding Resistance Tests and Outboards With More Than 25 Hours of Operation

Qty.	Description	Part Number
1	Alternator	8M0065239

IMPORTANT: Revised (corrected) service replacement alternators (P/N 8M0065239) are identified by a decal on the alternator end cover with a part number of 8M0062515.

Owner Notification

A letter will be sent to every registered owner of an affected outboard. The letter will advise the owner to return the outboard to their selling dealer or any Mercury Outboard authorized dealer for the inspection and repair. As a selling or servicing dealer, you should also contact your customers to make them aware of this recall and to schedule an appointment for this inspection and repair. A copy of the customer letter is included with this service bulletin for your records.

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Dealer Outboard Inventory

Affected outboards in dealer inventory should have the clearance between the alternator end cover and the cylinder block inspected and/or corrected prior to customer delivery. Outboards brought in for other service work may also be inspected and/or corrected as required.

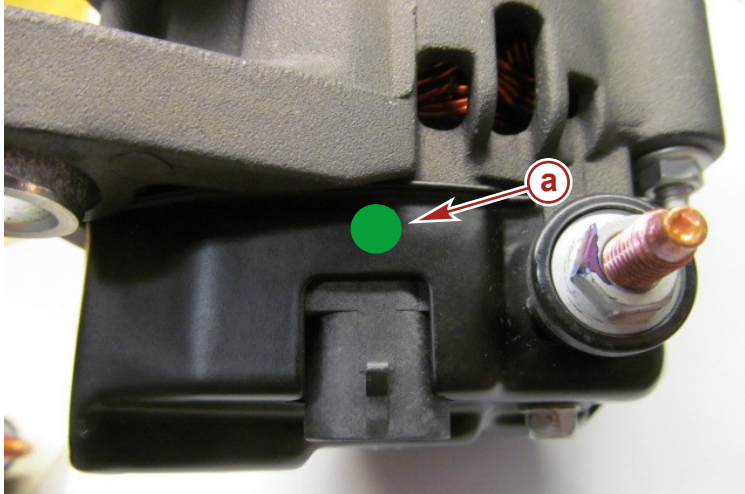
Dealer Parts Inventory

Packaged alternators (P/N 8M0057693) in dealer parts inventory should be inspected for the factory rework paint mark. If the paint mark is not present, the alternator end cover should be replaced and a green paint mark applied by the dealer.

Repair Identification

Affected outboards that have been reworked at the factory are identified with a green paint mark located on the alternator end cover just above the 2-pin connector.

Dealers should also identify any inspected or reworked alternators with a green paint mark at the same location.



a - Green paint mark

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Warranty

Mercury Marine will credit the dealer for the cost of parts and labor. Complete a warranty claim listing:

- Outboard serial number

For Inspection Only, No Correction Required

- Labor: 0.4 hour
- Warranty flat rate code: SB04
- Part code: 301
- Failure code: 00

For Inspection, Correction, and Alternator End Cover Replacement - Outboards With Less Than 25 Hours of Operation

- Labor: 0.8 hours
- Warranty flat rate code: SB08
- Part code: 301
- Failure code: 00

For Inspection, Correction, and Alternator Replacement - Outboards With Less Than 25 Hours of Operation That Have Failed the Field Winding Resistance Tests

- Labor: 0.7 hours
- Warranty flat rate code: SB07
- Part code: 301
- Failure code: 00

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For Inspection, Correction, and Alternator Replacement - Outboards With More Than 25 Hours of Operation

- Labor: 0.6 hours
- Warranty flat rate code: SB06
- Part code: 301
- Failure code: 00

United States and Canada

Complete/process the claim via MercNET or return a warranty claim form.

International

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

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Dear Mercury Marine Owner

Thank you for your purchase of a Mercury Outboard. We at Mercury Marine are dedicated to providing superior reliability and customer satisfaction. As part of our commitment to superior customer satisfaction, we have determined that it is necessary to have your outboard's alternator inspected for proper mounting clearance with the cylinder block, to insure the durability of your Mercury Outboard.

What is the condition?

On a small number of outboards, it is possible that the alternator's end plate can come in contact with the cylinder block. If the contacting alternator is exposed to extended engine operation, induced vibration can cause the alternator to fail. The dealer's technician will be able to inspect the mounting of your outboard's alternator and determine the corrective action required.

What will Mercury Marine do?

Any authorized Mercury Marine dealer will inspect and if necessary repair or replace the alternator on your outboard at no charge to you.

What should you do?

Please contact your Mercury Outboard dealer and mention Outboard Service Bulletin 2012-09 to schedule an appointment to have the alternator inspected. Your dealer is able to determine how long the repair will take on your engine.

Please present this notice to your dealer when you bring your boat in for your service appointment.

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

Please contact your Mercury Outboard dealer or call Mercury Outboard Customer Service at 1-920-929-5040 between 7:30 AM and 5:30 PM CST.

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

Thank you for boating with Mercury Marine

Mercury Marine Service