

Circulate to: Sales Manager Accounting Service Manager Technician Parts Manager

Cylinder Head Bolt Replacement

Models Affected

HP525 EFI serial numbers M951172 through M953285

HP600 SCi serial numbers M952995 through M953281

Situation

The head bolts used in the aforementioned engines have an anti-corrosive coating that is flaking off and causing the head bolts to loosen.

Correction

Replace the existing head bolts with new head bolts without the anti-corrosive coating, as supplied in the repair kit.

Repair Kit Part Number

Qty.	Description	Part Number
1	Cylinder Head Bolt Repair Kit	8M8000006

Replacement Procedure

WARNING

Explosion Hazard. Avoid personal injury, death, or property damage. Adhere to the following procedures when working with fuel or components of the fuel system:

- Disconnect the negative battery lead or turn the battery switch(es) to the off position and remove any other possible sources of spark.
- Extinguish all open flames.
- Work in a well-ventilated area and avoid prolonged exposure to fuel vapors.
- Clean up any fuel spills immediately.

IMPORTANT: Complete the Cylinder Head Bolt Replacement Procedure with the engine cold.

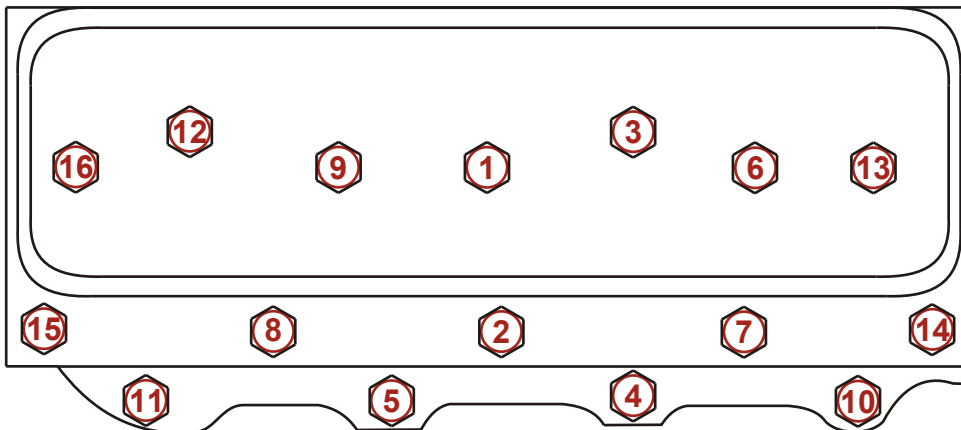
IMPORTANT: Setting valve lash is critical. Review the service manual before starting the procedure to verify the correct method.

Refer to the appropriate **Service Manual (90-843189 HP525 EFI or 90-841966 HP600 SCi)** for more information on the following procedures. The HP600 SCi Service Manual is accessible electronically on MercNET but at the time of this printing, was not available in printed form. The printed manual will be available at a later date.

THE INFORMATION IN THIS DOCUMENT IS CONFIDENTIAL AND PROTECTED BY COPYRIGHT AND IS THE PROPERTY OF MERCURY MARINE.

This document is provided for the sole and exclusive use of the original recipient as prescribed by Mercury Marine and may not be distributed or copied, digitally or otherwise, without the prior written consent of Mercury Marine.

1. Remove the spark plugs.
2. Remove the tailpipes and headers.
3. Inspect the engine for coolant leakage:
 - Check the external area around the cylinder head gasket for leakage.
 - Check if the coolant reservoir has been overflowing through the fill cap.
 - Check the oil for coolant contamination.
 - If a scope is available, then scope the internal cylinder area and piston for coolant. If leakage is suspected, refer to **Head Gasket Leaking** in this service bulletin.
4. Remove the coolant reservoir by removing the three mounting bolts. Verify that the cap is on tight and gently roll the reservoir over the front of the engine.
5. Remove the fuel line from the fuel filter and fuel rail.
6. On 2006 models, remove the band clamp from around the fuel filter to provide clearance for removing the valve cover.
7. Remove both valve covers.
8. Remove the exhaust rockers on cylinders 2, 3, 6, and 7.
9. Replace one head bolt at a time using the following steps:
 - Replace each bolt using the numbered bolt pattern shown in the following torque sequence illustration.



6339

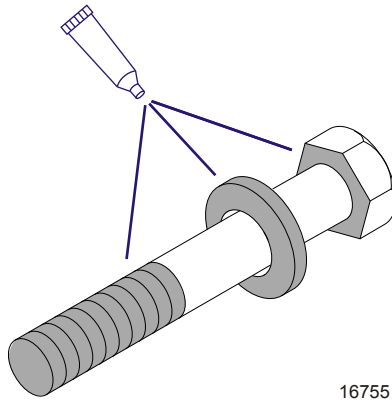
Cylinder Head Bolt Replacement and Torque Sequence

- Reuse the existing washer. Be sure the chamfer on the washer is against the bolt head.


THE INFORMATION IN THIS DOCUMENT IS CONFIDENTIAL AND PROTECTED BY COPYRIGHT AND IS THE PROPERTY OF MERCURY MARINE.

This document is provided for the sole and exclusive use of the original recipient as prescribed by Mercury Marine and may not be distributed or copied, digitally or otherwise, without the prior written consent of Mercury Marine.

- Apply new engine oil to the new bolt, the threads, and the washer.



16755

Tube Ref No.	Description	Where Used	Part No.
	Engine Oil	Head bolts and washers	Obtain Locally

- Torque the bolts to the first torque specification using the following torque specification chart. Do not tighten to final torque until all bolts are replaced.

Description		Nm	lb. in.	lb. ft.
Cylinder Head Bolts	First	68		50

10. Repeat Step 8 for each bolt.

11. Torque each bolt to the final torque specification using the torque sequence shown in the previous illustration.

Description		Nm	lb. in.	lb. ft.
Cylinder Head Bolts	Final (2 times)	95		70

12. Retorque all of the head bolts to ensure that each bolt is torqued to its proper final specification.

13. Install the exhaust rockers and set the valve lash. Refer to the Service Manual for the proper procedure.

14. Install the valve covers.

15. Clean and paint the exposed outside rows of head bolts to protect them from corrosion with the supplied black touch-up paint.

16. Install the coolant reservoir.

17. Install the fuel filter band clamp. Install the fuel line to the fuel rail and fuel filter.

18. Apply anti-seize to the header bolts and install the header gasket and header.

19. Install the tailpipe gasket and tailpipe.

20. Apply anti-seize to the spark plug threads and install the spark plugs.

21. Run the engine and check for leaks. Correct if necessary.

Warranty Information for Head Bolt Replacement

Submit a warranty claim through your normal warranty processing channel and list the following:

- The engine serial number

THE INFORMATION IN THIS DOCUMENT IS CONFIDENTIAL AND PROTECTED BY COPYRIGHT AND IS THE PROPERTY OF MERCURY MARINE.

This document is provided for the sole and exclusive use of the original recipient as prescribed by Mercury Marine and may not be distributed or copied, digitally or otherwise, without the prior written consent of Mercury Marine.

Cylinder Head Bolt Replacement

- Qty. 1 P/N 8M8000006
- 5.0 hours labor
- Warranty labor code: NJC
- Part code: 412
- Failure code: 00

Old parts:

- USA and Canada: Return parts with warranty claim.
- International: Follow instructions issued by Marine Power International Office or by your distributor.

Head Gasket Leaking

If a head gasket is suspected of leaking, then the induction system and cylinder heads will have to be removed to replace the head gaskets. Refer to the appropriate service manual for removal and installation procedures of these components. The following parts will be required to change out the cylinder head bolts and head gaskets:

Qty.	Description	Part Number
1	Cylinder Head Bolt Repair Kit	8M8000006
2	Head Gaskets	27-843072
2	Intake Gaskets	27-843072
1	59.0 mm Boost by-pass hose clamp (HP600 SCi only)	54-888988006
1	Loctite 5900 Flange Sealant	92-809826

Warranty Information for Head Bolt and Gasket Replacement

Submit a warranty claim through your normal warranty processing channel and list the following:

- The engine serial number
- Parts as listed above
- 9.7 hours labor
- Warranty labor code: PM52
- Part code: 412
- Failure code: 00

Old parts:

- USA and Canada: Return parts with warranty claim.
- International: Follow instructions issued by Marine Power International Office or by your distributor.

THE INFORMATION IN THIS DOCUMENT IS CONFIDENTIAL AND PROTECTED BY COPYRIGHT AND IS THE PROPERTY OF MERCURY MARINE.

This document is provided for the sole and exclusive use of the original recipient as prescribed by Mercury Marine and may not be distributed or copied, digitally or otherwise, without the prior written consent of Mercury Marine.