Service Bulletin

Bulletin No. 2007-64
CMD 2007-04

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

QSD 2.0 Turbocharger Oil Supply Pipe

Models Affected

Models Covered	Serial Number or Year
QSD 2.0 130 HP	88206003-88206005
	88206007
QSD 2.0 150 HP	88220001
	88221001-88221019

Situation

Early production QSD 2.0 engines may have been shipped with a turbocharger oil supply pipe that has an attachment bracket welded to the pipe. The welded joint may crack causing the pipe to leak. The oil supply pipe has been redesigned to use a bracket that wraps around the pipe.

Correction

Inspect all engines within the serial number range. Replace the turbocharger oil supply pipe on all engines that have the welded attachment bracket. Refer to **Identification**.

To replace the turbocharger oil supply pipe, see **Replacing the Turbocharger Oil Supply Pipe**.

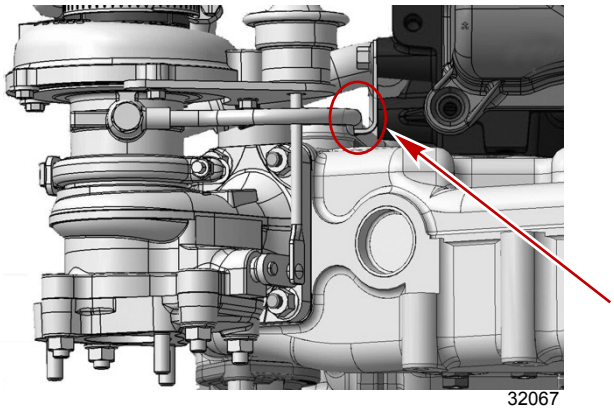
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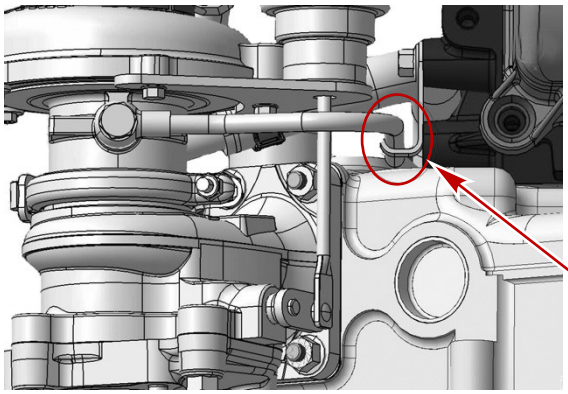
Identification

Look down at the top of the engine between the turbocharger and the rear of the cylinder head. Note where the turbocharger oil supply pipe bracket attaches to the rear of the cylinder head. If the bracket attaches directly to the oil supply pipe with a welded joint, it must be replaced. The correct turbocharger oil supply pipe has the bracket wrapping around the pipe.



32067

Welded turbocharger oil supply pipe bracket—incorrect



32074

Wrapped Turbocharger oil supply pipe bracket—correct

Replacing the Turbocharger Oil Supply Pipe

Removal

⚠ WARNING

Performing service or maintenance without first disconnecting the battery can cause product damage, personal injury, or death due to fire, explosion, electrical shock, or unexpected engine starting. Always disconnect the battery cables from the battery before maintaining, servicing, installing, or removing engine or drive components.

⚠ CAUTION

Disconnecting or connecting the battery cables in the incorrect order can cause injury from electrical shock or can damage the electrical system. Always disconnect the negative (-) battery cable first and connect it last.

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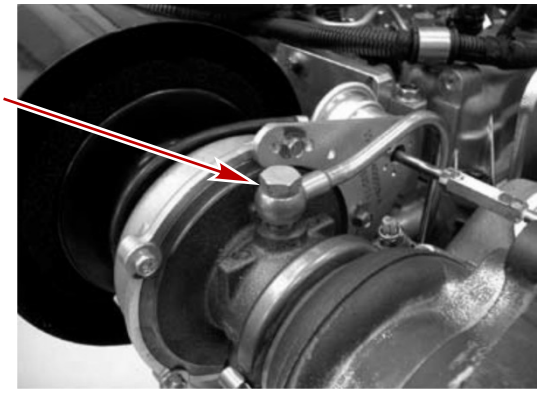
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1. Disconnect the battery cables.

⚠ CAUTION

Water can enter the bilge when the drain system is open, damaging the engine or causing the boat to sink. Remove the boat from the water or close the seacock, disconnect and plug the seawater inlet hose, and ensure the bilge pump is operating before draining. Do not operate the engine with the drain system open.

2. Close the seacock, if equipped, or disconnect and plug the seawater inlet hose.
3. Drain the seawater system.
4. Drain the engine coolant from the engine.
5. Remove hollow bolts and related sealing washers from turbocharger and crankcase connections. Discard the sealing washers.



32075

Hollow bolt

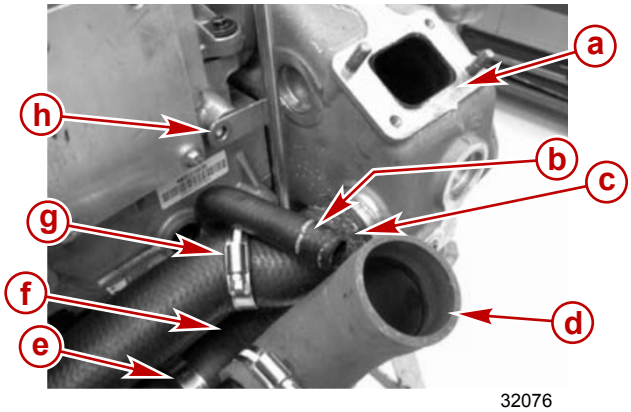
6. Remove the bolt attaching the turbocharger oil supply pipe to the rear of the cylinder head.
7. Loosen the turbocharger oil return rubber hose clamp and remove the hose end from the turbocharger.
8. Loosen the turbocharger compressor outlet hose clamp.
9. Remove the rubber hose connected to the oil separator on the air filter housing.
10. Remove the four nuts attaching the turbocharger flange to the exhaust manifold.
11. Remove the turbocharger. Discard the turbocharger gasket.
12. Loosen the clamps for the seawater hoses attached to the exhaust manifold and heat exchanger.

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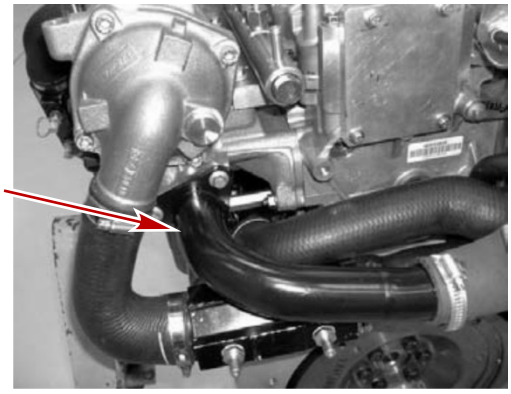
13. Disconnect the ends of the seawater hoses.



32076

a - Turbocharger flange
b - Oil return hose
c - Exhaust manifold seawater hose
d - Compressor outlet hose
e - Hose clamp
f - Heat exchanger seawater hose
g - Hose clamp
h - Location of bolt for oil supply pipe bracket

14. Remove the three bolts from the triangular flange attaching the air crossover pipe to the after cooler assembly. Remove crossover pipe and discard the gasket.



32077

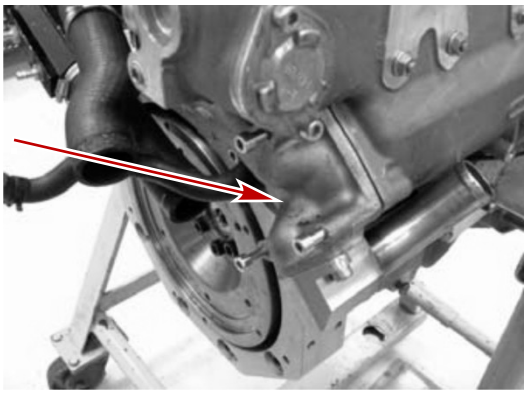
Air crossover pipe

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15. Remove the four bolts attaching the end cover to the heat exchanger. Remove end cap and discard the O-ring.



32078

Heat exchanger end cover

16. Remove the turbocharger oil supply pipe. Twist as necessary.

Installation

1. Install new turbocharger oil supply pipe. Wrap the end of the pipe attached to the crankcase in tape to prevent dirt or debris from entering during installation.
2. Install hollow bolt with new sealing washers finger tight at the crankcase end of the turbocharger oil supply pipe.
3. Install bolt attaching the turbocharger oil supply pipe to the rear of the cylinder head finger-tight.
4. Install heat exchanger end cover with new O-ring. Evenly tighten the four bolts to specification.

Description	Nm	lb. in.	lb. ft.
Heat exchanger end cover bolts	25	–	18

5. Install the air crossover pipe with new gasket. Evenly tighten the three bolts to specification.

Description	Nm	lb. in.	lb. ft.
Air crossover pipe gasket bolts	25	–	18

6. Connect rubber hoses (seawater) to the exhaust manifold and heat exchanger assemblies. Tighten clamps.
7. Install turbocharger with new gasket. Evenly tighten the four nuts attaching the turbocharger flange to exhaust manifold to specification.

Description	Nm	lb. in.	lb. ft.
Turbocharger flange nuts	32	–	24

8. Connect turbocharger compressor outlet hose. Tighten clamp.
9. Install hollow bolt with new sealing washers at the turbocharger end of the turbocharger oil supply pipe.
10. Tighten the hollow bolts on both ends of the turbocharger oil supply pipe to specification.

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Description	Nm	lb. in.	lb. ft.
Hollow bolts	25	–	18

11. Tighten bolt attaching the turbocharger oil supply pipe to the rear of the cylinder head to specification.

Description	Nm	lb. in.	lb. ft.
Turbocharger oil supply pipe bolt	12	120	–

12. Connect turbocharger oil drain pipe hose. Tighten the clamp.
13. Connect the rubber hose to the oil separator on the air filter housing. Tighten the clamp.
14. Connect the battery cables.
15. Open the seacock, if equipped, or unplug and connect the seawater inlet hose.
16. Check for leaks upon first starting the engine.

Parts List

Qty.	Description	Part Number
1	Turbocharger oil supply pipe	898101698
1	Turbocharger gasket	898101721
1	Air crossover gasket	898101727
1	Heat exchanger O-ring	896332077
4	Sealing washer	881791

Warranty

Cummins MerCruiser Diesel will credit the dealer for the cost of parts, labor, and reasonable travel through 1 September 2011. Submit a warranty claim through your normal warranty processing channel, listing:

- MerCruiser serial number
- Part Code: 820
- Failure Code: 00
- Flat Rate Code and Labor:

Labor Code	Flat Rate
MX19	2.0
EXCP	1.5

Old Parts or Parts:

- **USA and Canada:** Scrap
- **International:** Follow instructions issued by your Marine Power International office or by your distributor.

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