

Emissions Recall

Subject: Turbocharger Unison Ring Sticking

Date: 04/23/2007

Bulletin: R0018

Campaign #: A5050

Affected Models: 2005 & 2006 145(NA), 165(NB), 185(NC)

J05D Model Engines

Important: *Verify on the Hino DCS Warranty System that the vehicle still needs to have this work performed.*

Description:

This Emissions Recall involves inspection of the turbocharger part number, vehicle mileage and possible turbocharger replacement.

Condition:

In some cases rust or corrosion may form between the turbocharger housing and unison ring. This may cause the unison ring to drag or stick, resulting in the illumination of the "Check Engine" lamp and the setting of a Diagnostic Trouble Code (DTC). This condition will also cause the ECU to go into De-Rate mode and the engine power will be limited.

Subject Vehicles:

2005, 2006 and 2007 Model Year, 145 (NA6J), 165 (NB6J), and 185 (NC6J) vehicles produced in Japan and the United States.

Before You Begin:

Read and understand all instructions and procedures before you begin. Read and observe all Caution and Warning safety alerts that precede these instructions while following these procedures. The alerts help to avoid damage to components, serious personal injury, or both.



Once Recall is completed

Fill out the Recall Completion sticker as shown in the picture to the left. This sticker should be attached to the right door jam above the V.I.N. Plate.

Emissions Recall

Turbocharger Identification:

Not all turbochargers will require replacement. Due to the nature of the materials used and the effects of heating and cooling cycles, some turbochargers will have developed a stable oxide layer on the surface of the exhaust housing. Only turbochargers with specific part numbers which have less than 40,000 miles will require replacement.

Use the diagrams below to locate the "Part Number Plate" and determine if the turbocharger requires replacement.



Location of turbocharger **PART NUMBER** plate.

J05D Engine

This part number requires replacement
(if under 40,000 miles)

2	4	1	0	0	4	3	3	0	

This part number **does not** require
replacement. (at any mileage)

1	7	2	0	1	E	0	1	5	0

Emissions Recall

Required Parts:

Engine Model	Part Number	Description	Quantity
J05D	S0400-10439	Turbocharger Assembly	1
	S0400-10441	Installation Parts Kit	1
Turbocharger Installation Kit Contents			

New Part Number	Description	Quantity Contained in Kit
S2410-91860	GASKET (turbo mounting)	1
SZ178-10007	NUT FLANGE	11
SZ126-10015	STUD (in turbo)	3
S2410-91840	GASKET (turbo to exhaust elbow)	1
SZ105-10052	BOLT, WASHER (exhaust elbow to turbo)	2
S2417-91430	GASKET (turbo outlet)	1
SL722-01210	WASHER, SEAL (oil supply line upper)	2
SL722-01415	WASHER, SEAL (oil supply line lower)	2
S2413-51161	GASKET, OIL (turbo oil drain pipe)	2
SZ430-14003	GASKET (coolant line banjo washers)	7
SZ430-14002	GASKET (coolant washers for stand off pipe)	2
SH562-41070	BOLT (exhaust pipe to elbow mounting)	1
S1710-41490	GASKET (exhaust pipe to elbow)	1
S1710-41580	GASKET (exhaust pipe to muffler)	1
SH562-41035	BOLT, FLANGE (exhaust pipe to muffler)	4
S1710-42010	GASKET (EGR Cooler & Pipe)	3

WARNING

1. Apply parking brake and wheel chocks to prevent the vehicle from moving
2. Confirm that the engine has cooled down and is at a low temperature to prevent exposure to high temperatures.
3. Use care when opening or closing the hood to prevent injury.
4. Wear protective gloves and safety glasses when replacing inspecting or replacing the turbocharger to avoid injury to hands and eyes.

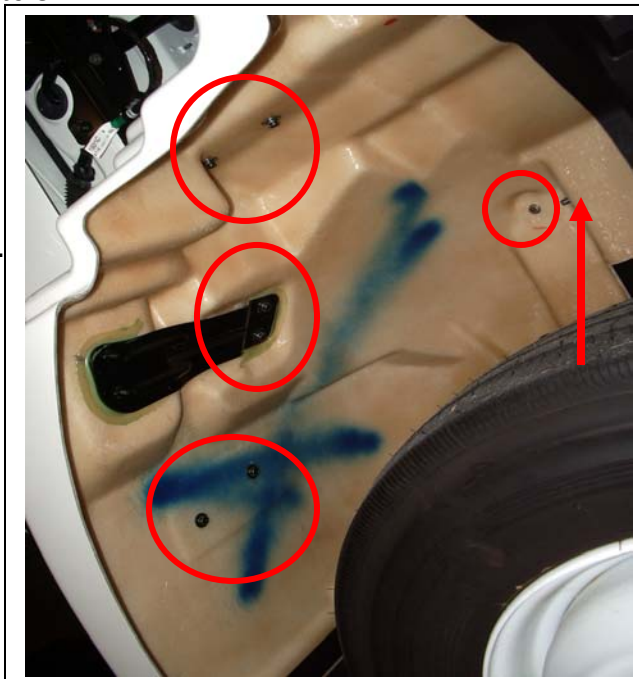


Emissions Recall

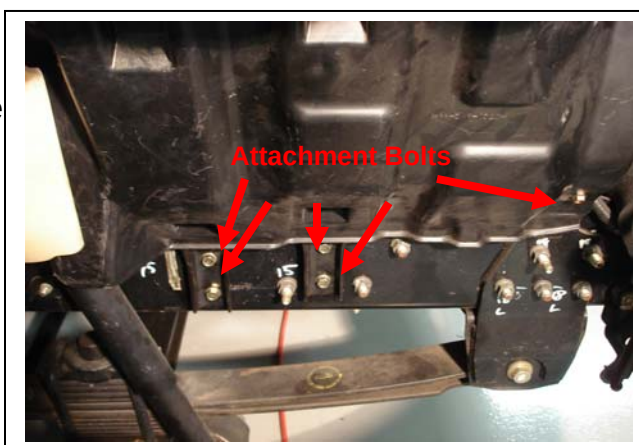
Recall Procedure:

1. Loosen and disconnect negative battery cable.

2. Remove the 7 right fender mounting bolts and the 1 push pin retainer holding the evaporator drain tube. Remove the fender.



3. Remove the 5 bolts attaching the right side cover along with the side cover support brackets.



4. Drain engine coolant by loosening drain plug on oil cooler.

Note:

Use a clean container and save the coolant for reuse.



Emissions Recall

5. Disconnect the mass airflow sensor harness and connector.



6. Remove the upper air inlet hose support bolt.



7. Remove the lower air inlet hose support bolt.



8. Remove the 4 air cleaner assembly mounting bolts.

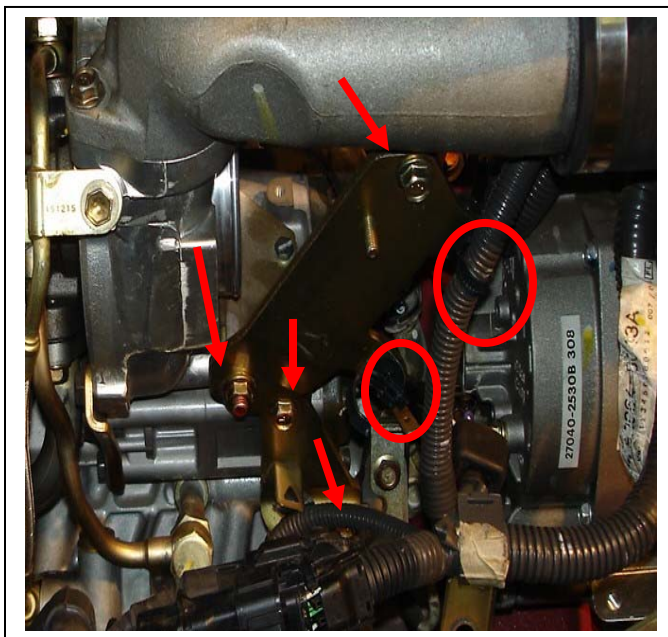
Loosen the hose clamp at the turbo inlet pipe and remove the piping and air cleaner as an assembly.



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9. Release 2 harness retainer clips from the inter-cooler pipe support bracket.

Remove the 4 bolts attaching the inter-cooler pipe support bracket and remove bracket.



10. Remove the 2 bolts attaching the inter-cooler pipe to turbo

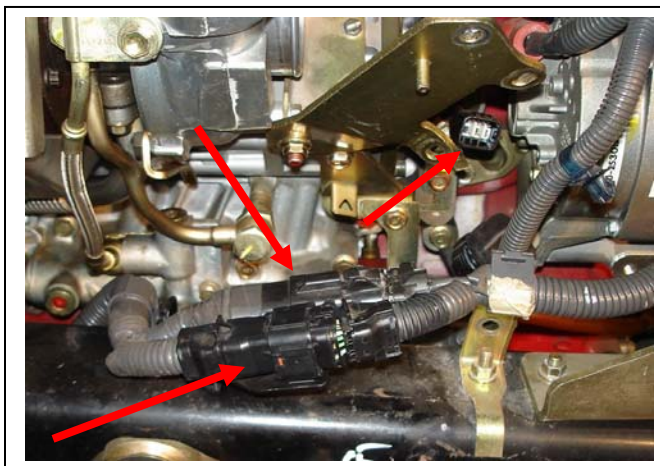
Loosen the hose clamp securing inter-cooler hose to cooler, remove pipe and hose.



Caution: Cover inter-cooler opening to Prevent foreign material from entering the Intake system.



11. Disconnect 3 engine and turbo harness connectors.

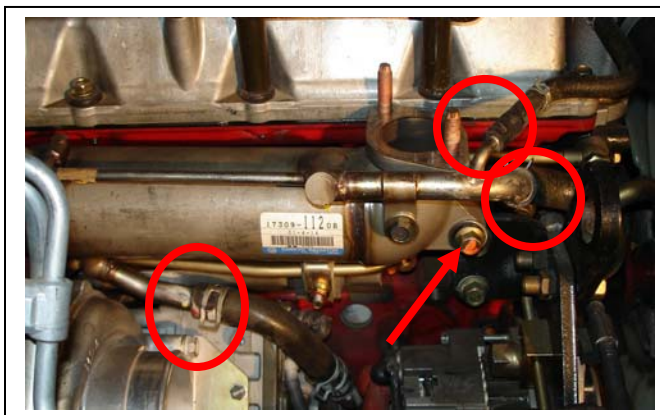


12. Remove the 2 nuts and 2 bolts securing the EGR cooler cross-over tube and remove tube.



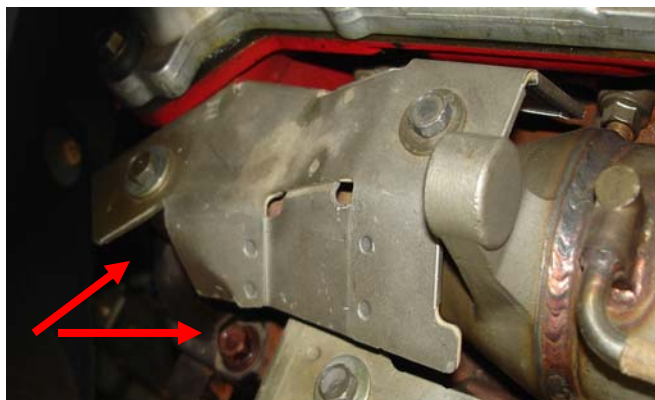
13. Remove 3 hose clamps and hoses from EGR cooler.

Remove 1 mounting bolt at the front of the EGR cooler



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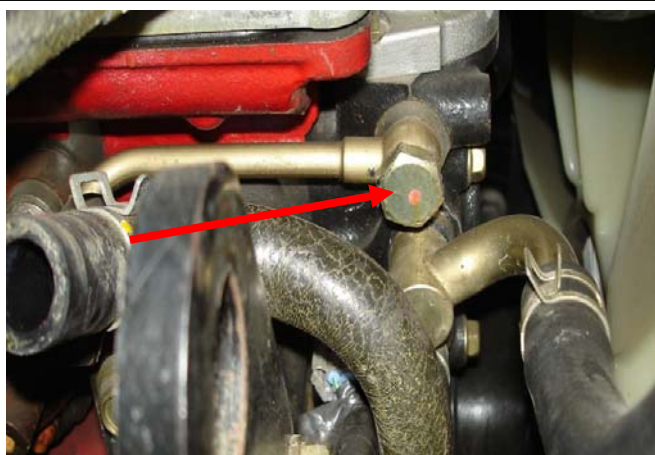
14. Remove the 2 rear EGR cooler mounting bolts and remove cooler.



15. Remove the clamp securing the water pipe.



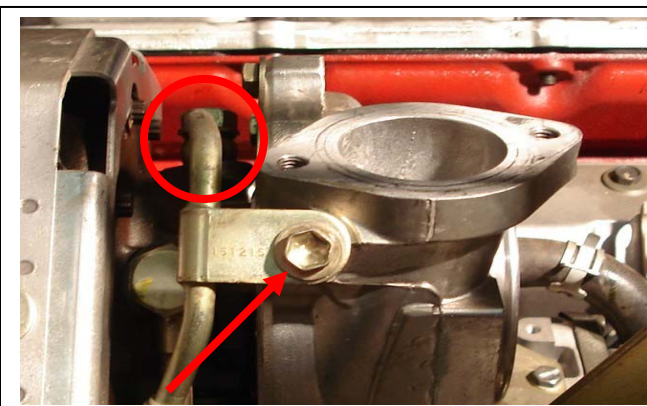
Remove the water pipe between the turbo and thermostat housing.



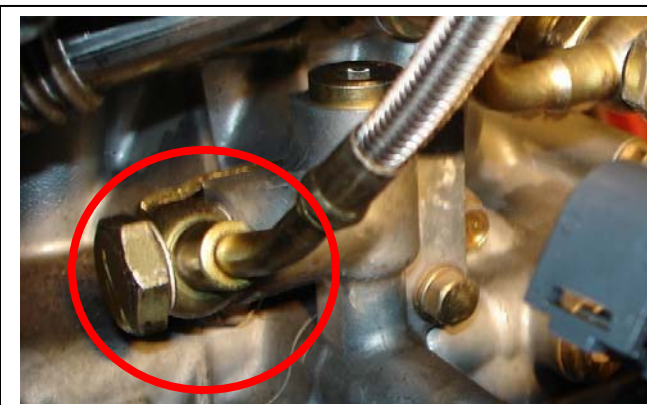
Emissions Recall

16. Remove the turbo oil supply line support bolt.

Remove the oil supply mounting bolt at the turbo.

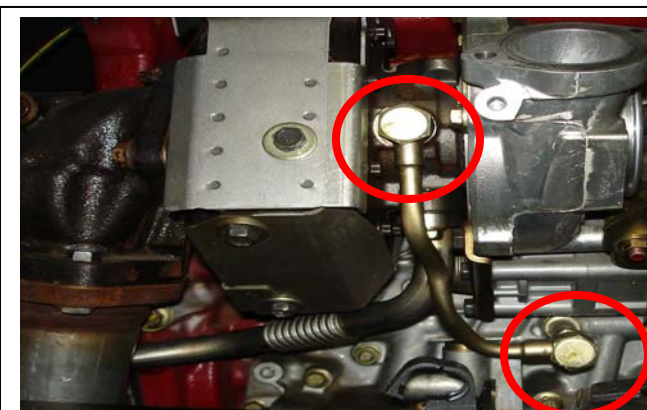


17. Remove the oil supply mounting bolt at the oil cooler and remove line.



18. Remove the water pipe between the turbo and the oil cooler.

Remove the stand off pipe also.



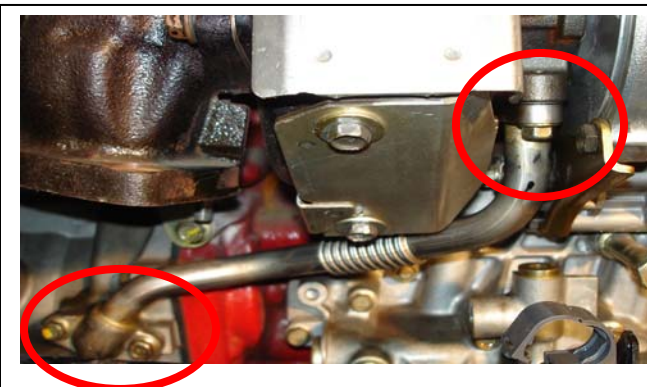
19. Remove the 2 nuts and bolt securing the exhaust pipe flange to the turbo exhaust outlet.

Disconnect the exhaust pipe support brackets and exhaust pipe flange at front of muffler and remove pipe.

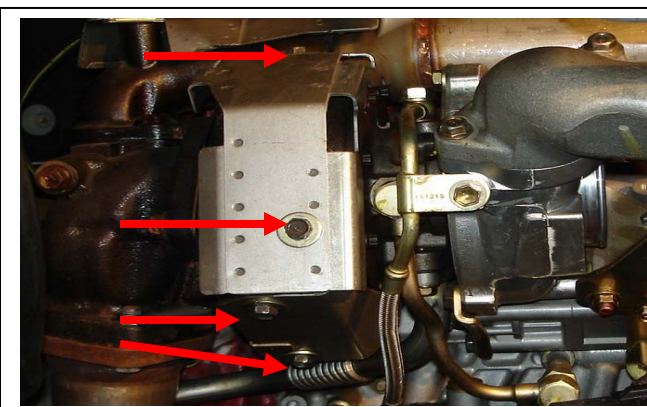


Emissions Recall

20. Remove the turbo oil return pipe.



21. Remove the 4 bolts attaching the upper and lower turbo insulators and remove both insulators.

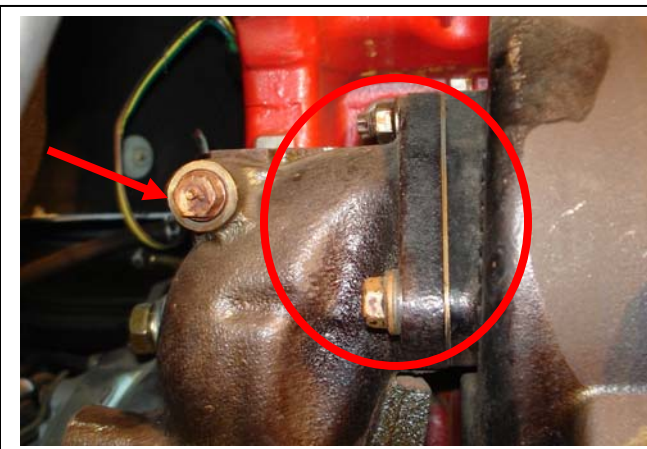


22. Remove the exhaust elbow support bolt from the rear bracket.



23. Remove the exhaust elbow support bolt.

Remove the 2 bolts and 1 nut attaching the exhaust elbow to the turbo and remove elbow.



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24. Remove the 2 lower turbo mounting nuts.



25. Remove the 2 upper turbo mounting nuts and remove the turbo assembly.



26. Close the engine coolant drain plug at oil cooler.

Tighten to specified torque.
22 lbf/ft (29.5 Nm)



Caution:

Before installing the new turbo, pour 5 to 7 drops of new engine oil into the turbo's oil supply hole and turn the turbine wheel by hand for internal lubrication.

Clean gasket surfaces before installing new gaskets.

Use designated heat resistant fasteners where required.

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27. Install 2 new heat resistant studs in the exhaust inlet flange of turbo.



28. Using a new gasket, install turbo and tighten the 4 attaching nuts to their specified torque.

41.2 lbf/ft (56 Nm)



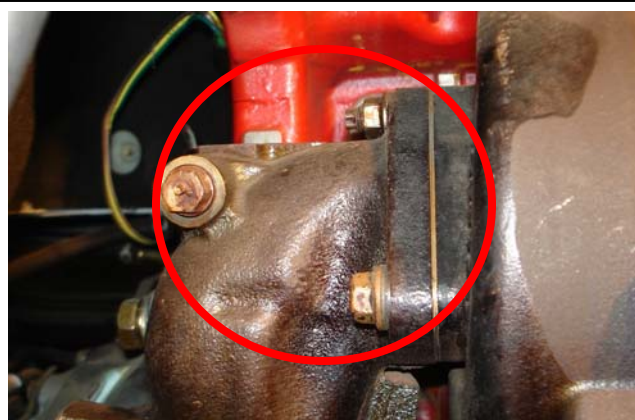
29. Using new gaskets, install the turbo oil return pipe and tighten the 4 bolts to their specified torque.

21 lbf/ft (28.5 Nm)



30. Using 3 new fasteners and gasket install exhaust elbow to turbo and hand tighten

Install and hand tighten the elbow supporting bolt



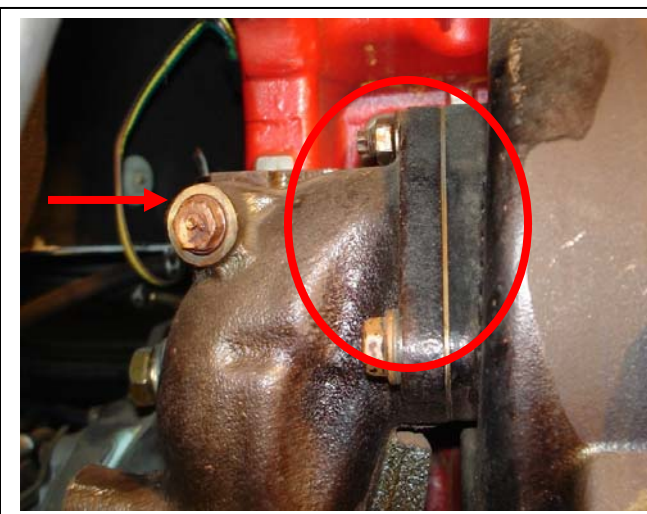
Emissions Recall

31. Install the rear elbow support bolt and hand tighten.



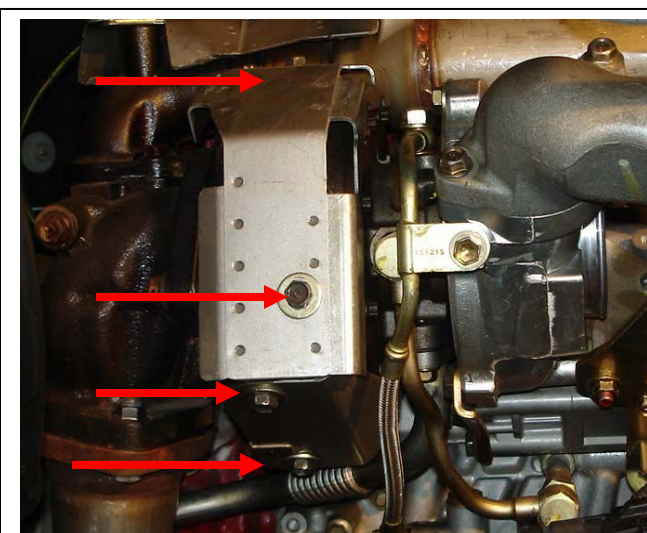
32. Tighten the 2 exhaust elbow to turbo mounting bolts and 1 nut to their specified torque.
50.5 lbf/ft (68.5 Nm)

Now tighten the 2 exhaust elbow supporting bolts to their specified torque.
50.5 lbf/ft (68.5 Nm)



33. Install both insulators and torque the 4 attaching bolts to their specified torque.

18.5 lbf/ft (25 Nm)

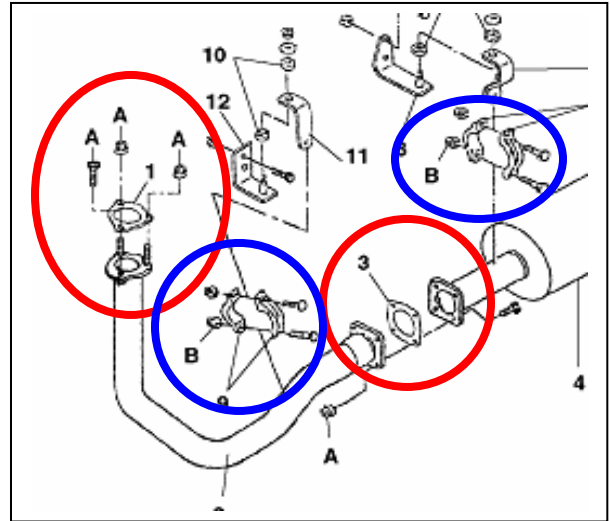


Emissions Recall

34. Using new gaskets (1 & 3), bolts and nuts install the front muffler flange, exhaust pipe to elbow and exhaust pipe support brackets.

Tighten the flanges and exhaust pipe support brackets to their specified torque.

(A) 48 – 55 lbf/ft (65-75 Nm)
(B) 20 – 24 lbf/ft (26.5-32.5 Nm)



35. Using new soft washer between stand off pipe and oil cooler tighten to specified torque.

18 lbf/ft (24.5 Nm)



Using new soft washers on both sides of each banjo fitting. Install the turbo to oil cooler water pipe and tighten to specified torque.

18 lbf/ft (24.5 Nm)



36. Using new copper washers, install the oil supply line at the oil cooler and hand tighten.



Note: Confirm proper stopper pin location.



Emissions Recall

37. Using new copper washers, install the oil supply line at the turbo and hand tighten.

Install the oil supply line support bolt and hand tighten.

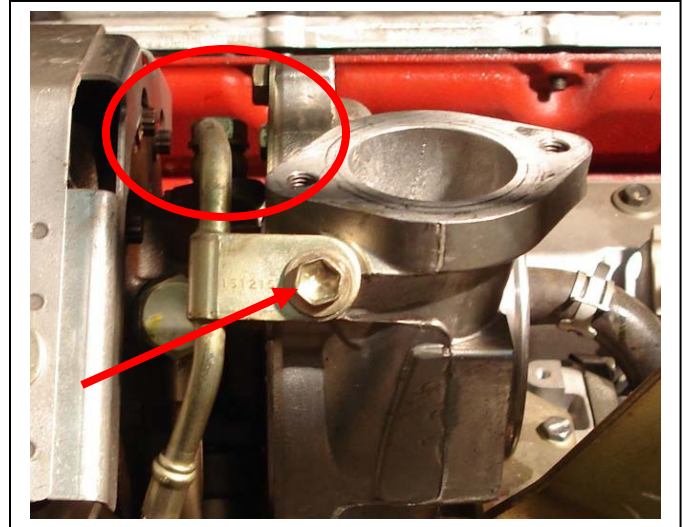
Tighten both ends of the oil supply line to specified torque.

18 lbf/ft (24.5 Nm)

Note: Both bolts must be tightened to the same torque value.

Tighten the oil supply line support bolt to the specified torque.

21 lbf/ft (28.5 Nm)



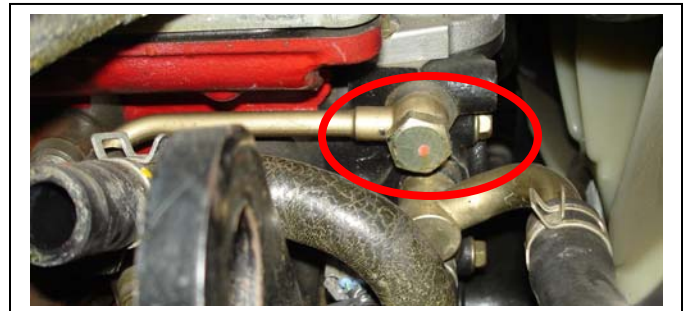
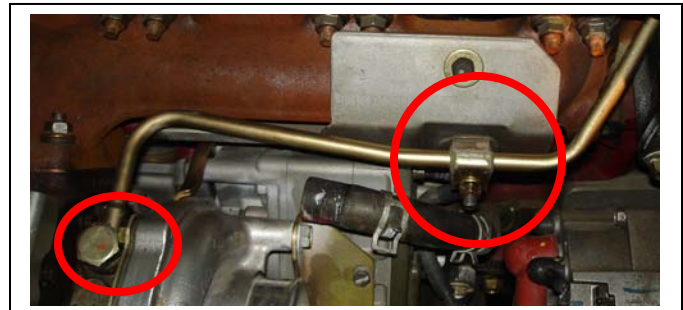
38. Using new soft washers on both sides of each banjo fitting. Install the turbo to thermostat housing water pipe and hand tighten. Install the water line support bolt and hand tighten. Tighten both ends of the water line to specified torque.

18 lbf/ft (24.5 Nm)

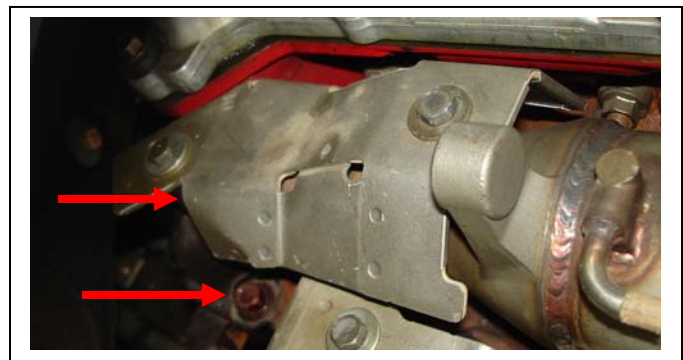
Note: Both bolts must be tightened to the same torque value.

Tighten the water supply line support bolt to the specified torque.

18 lbf/ft (24.5 Nm)



39. Using a new gasket, install the EGR cooler and hand tighten the 2 rear bolts.



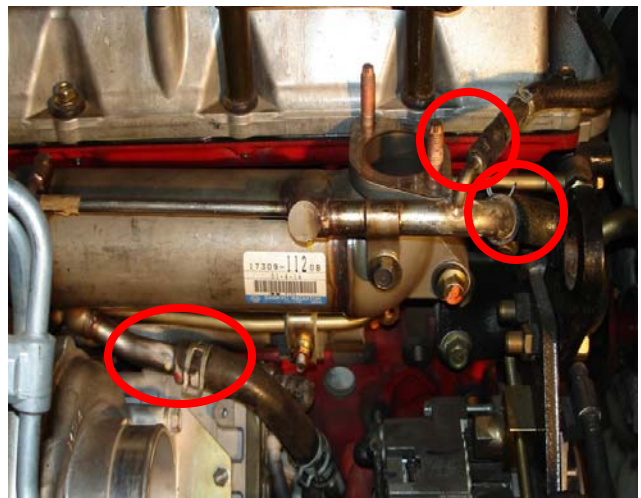
Emissions Recall

40. Tighten front EGR cooler bolt and torque all 3 mounting bolts to specified torque.

50.4 lbf/ft (68.5 Nm)



41. Install the 3 hoses and clamps on the EGR cooler.

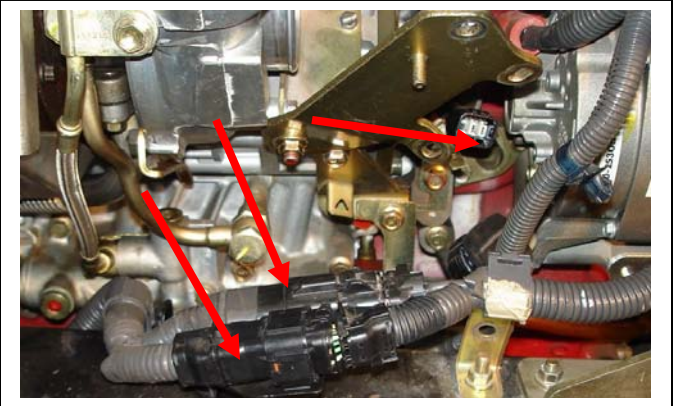


42. Using 2 new gaskets, install EGR cross over and tighten the 2 nuts and 2 bolts to their specified torque.

21 lbf/ft (28.5 Nm)



43. Connect all 3 engine and turbo harnesses.



44. Using a new gasket, install the turbo to Inter-cooler pipe. Tighten 2 attaching bolts at the turbo to their specified torque.

21 lbf/ft (28.5 Nm)



45. Tighten hose clamp at inter-cooler pipe to its specified torque.

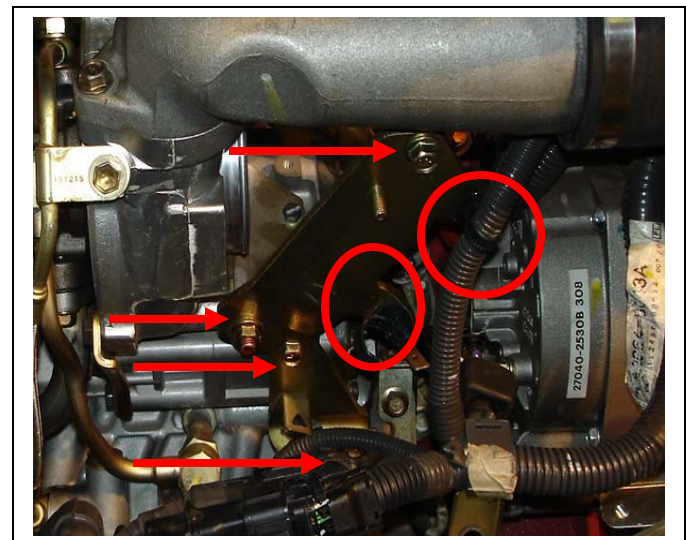
4.5 lbf/ft (6 Nm)



46. Install inter-cooler support pipe and tighten the 4 attaching bolts to their specified torque.

21 lbf/ft (28.5 Nm)

Secure the 2 plastic harness retainers into the inter-cooler pipe supporting bracket.



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47. Install the air filter and hose assembly.
Tighten the 4 mounting bolts to their specified torque.

16.2 lbf/ft (22 Nm)



48. Tighten the lower supporting bolt to its specified torque.

16.2 lbf/ft (22 Nm)

Tighten the hose clamp at the turbo inlet.
To specified torque.
4.5 lbf/ft (6 Nm)



49. Install the turbo duct upper supporting bolt to its specified torque.

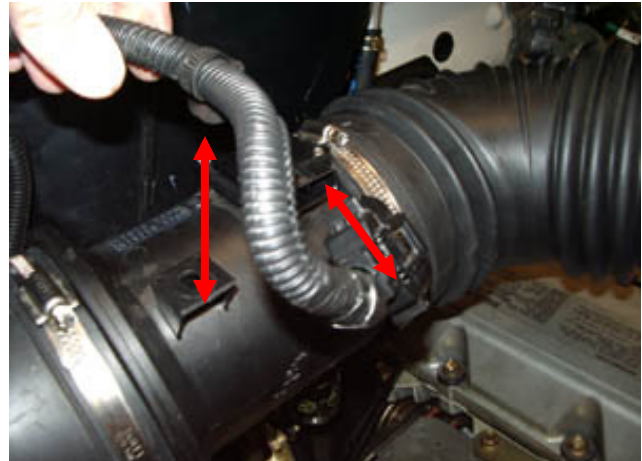
16.2 lbf/ft (22 Nm)



Emissions Recall

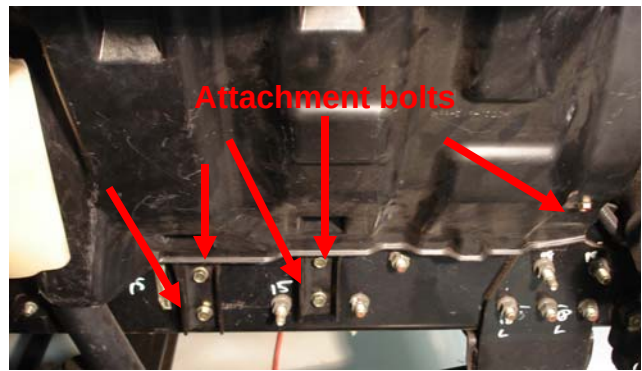
50. Connect the mass airflow sensor harness.

Install mass airflow sensor harness retainer into sensor housing.



51. Install the right side cover and tighten the 5 mounting bolts to their specified torque.

**16.2 +/- 3.0 lbf/ft
(22.0 +/- 4.0 Nm)**



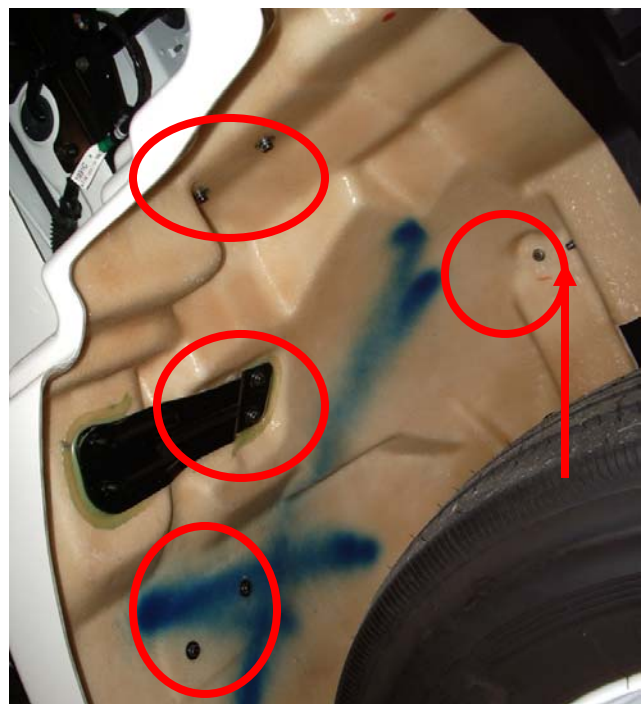
52. Install the right side fender and tighten the 7 bolts to their specified torque.

**10.0 +/- 2.0 lbf/ft
(14 +/- 2.5 Nm)**

Install the 1 push pin holding the evaporator drain tube.

53. Connect the negative battery cable.

54. Fill and bleed the cooling system with long life coolant.



Confirmation:

Idle the engine and confirm there are no coolant or oil leaks.

Confirm proper coolant level.

Claim Information:***Part Number Inspection Only:*****CAMPAIGN NUMBER: A5050****TIME ALLOWANCE: 0.3 HOURS****WARRANTY CODE: 0811298****OPERATION CODE: 08010ARE****ORIGINAL PART NUMBER: 24100-4320A*****Turbo Replacement :******(Includes Inspection)*****CAMPAIGN NUMBER: A5050****TIME ALLOWANCE: 4.0 HOURS****WARRANTY CODE: 0811298****OPERATION CODE: 08010ARE****ORIGINAL PART NUMBER: 24100-4320A**