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2019+ Ram 6.7L Turbocharger

1045772**Performance Screamer Turbo*****1045777****Stock Remanufactured Turbo**

***Meets CARB Requirements for the following models (EO D-553-14):
2019-2022: RAM 2500 and RAM 3500**

PLEASE READ ALL INSTRUCTIONS BEFORE INSTALLATION

PRE-INSTALLATION

A new turbocharger will not solve any of the following failures:

- Oil contamination
- Restrictive oil drain and/or oil supply
- Overspeed due to boost leaks
- Exhaust leaks due to faulty seals and/or clamps

Turbo overspeed will lead to premature turbo failure. Boost pressure can be used to estimate turbo speed. The table shows maximum allowable turbo speed at 3200RPM. A restrictive intake or a boost leak will lead to increase in turbo speed and cause an overspeed failure.

Max Turbo Speed	Max Boost (psi)
121,000 RPM	38

Pre-Installation Inspection

When replacing a turbocharger, BD recommends the following precautions are taken:

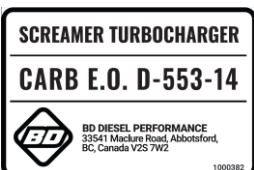
- Replace or clean the air filter.
- Change the engine oil and filter.
- Inspect Intake and CAC passages for debris, and clean if necessary.

In the case of a previous failure also include the following steps:

- Inspect CAC for debris, and cleanout if necessary.
- Inspect engine oil for debris. Flush system if debris was present.

Ensuring that these steps are followed will prolong the life of your new turbocharger.

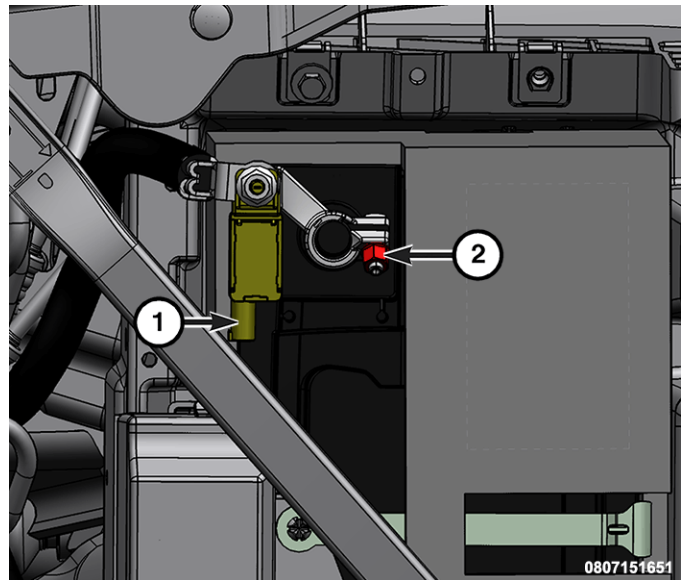
Kit Contents

1045772 / 1045777	4891288	5339363	68437471AA	1462430
				
Dodge 6.7L Turbo Screamer/Stock	Oil Drain Gasket	Turbine Housing Gasket	Exhaust Outlet Elbow Gasket	M10-1.5x30 – M10-1.5x42 Stud
Qty: 1	Qty: 1	Qty: 1	Qty: 1	Qty: 4
HE551-V80G2	1406853	1300131	1462441	3678603
				
Speed Sensor O-ring	Seal; Bonded 16.7mm	Cable Ties	NUT; M10x1.5 Small Flange	Oil Feed Fitting O-ring
Qty: 1	Qty: 4	Qty: 3	Qty: 4	Qty: 1
FT-920156020	FT-99604856	9464K19	1405788	1000382
				
Oil Fitting Face O-ring	Oil Drain Tube O-ring	Coolant Fitting Face O-ring	Coolant Fitting O-ring	CARB EO Decal
Qty: 2	Qty: 2	Qty: 2	Qty: 1	Qty: 1

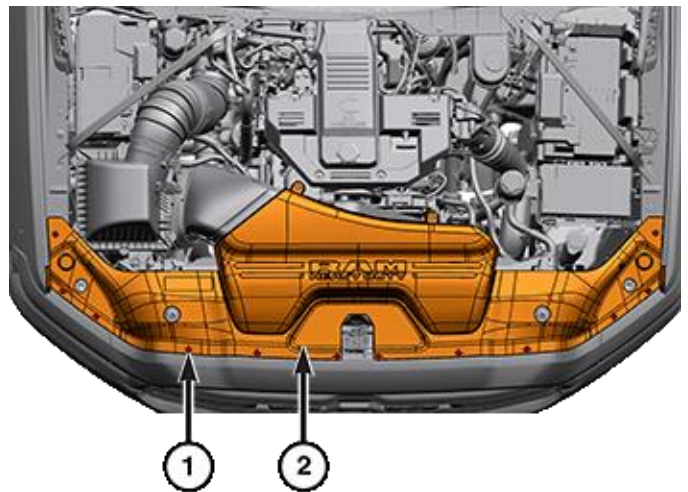
REMOVAL

1. Disconnect the Intelligent Battery Sensor (IBS) wire harness connector (1).
2. Disconnect and isolate both of the negative battery cables (2).

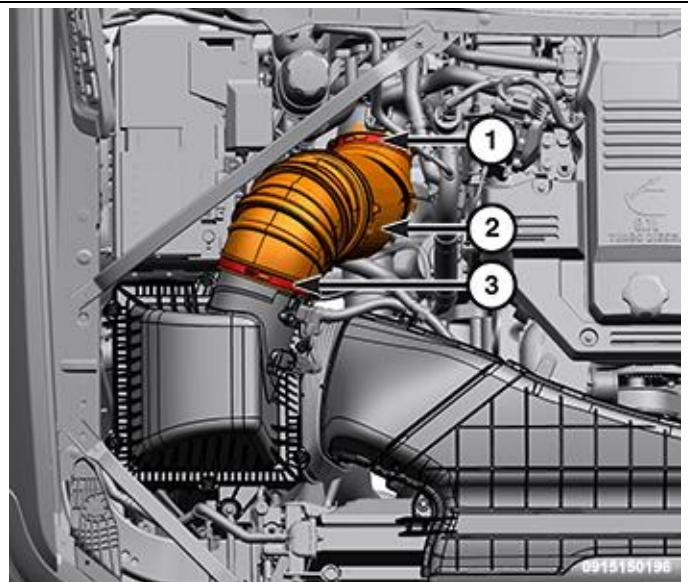
Important! IBS must be disconnected before battery cables to avoid damage!



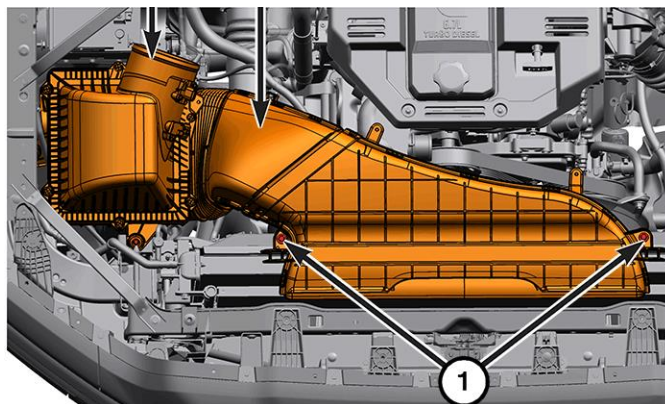
3. Remove the right-side inner fender.
4. Drain the cooling system.
5. Remove the radiator closure (2).



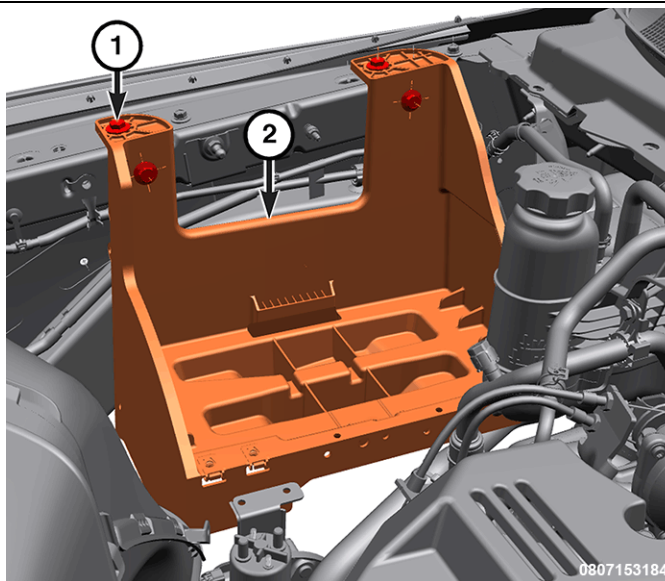
6. Remove the air cleaner hose (2).



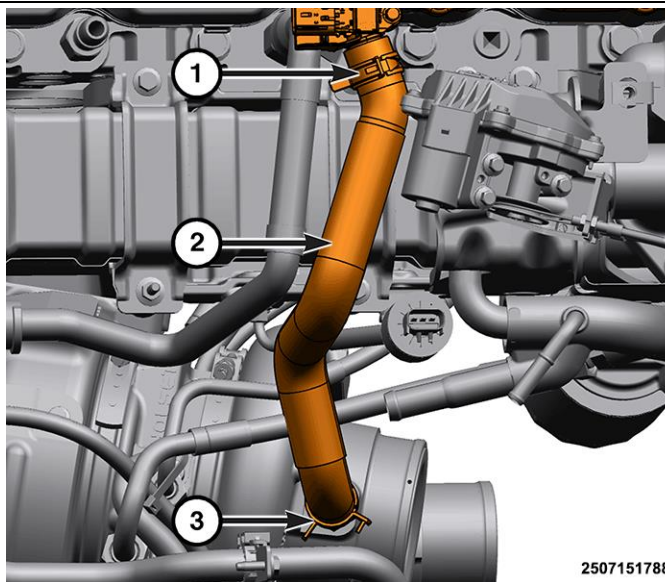
7. Remove the entire air cleaner body.



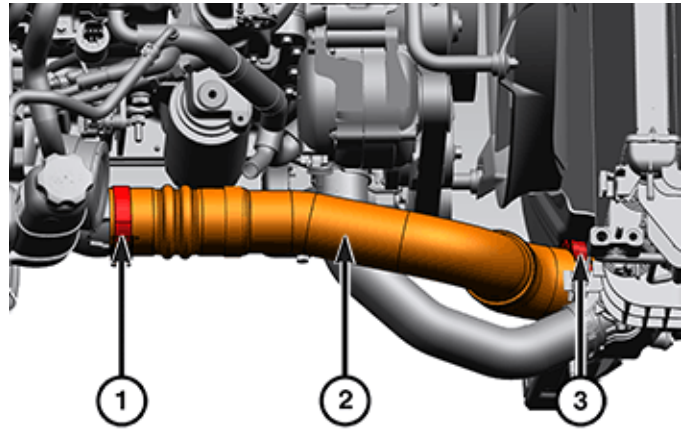
8. Remove the right battery tray (2).



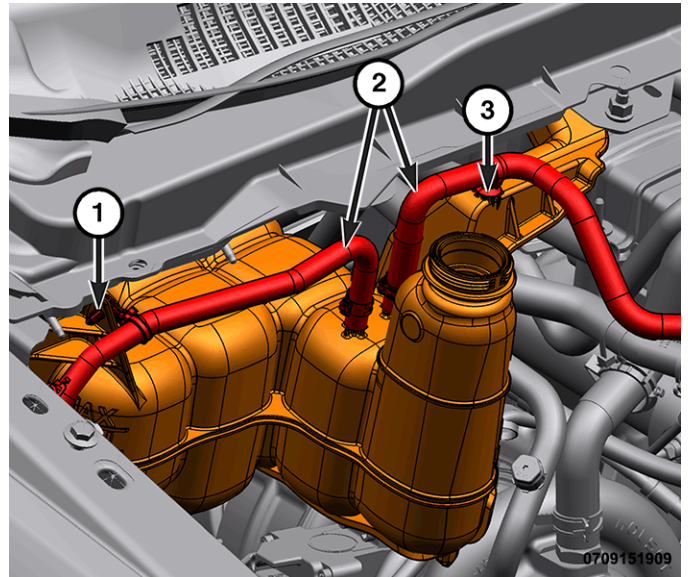
9. Remove the breather hose (2).



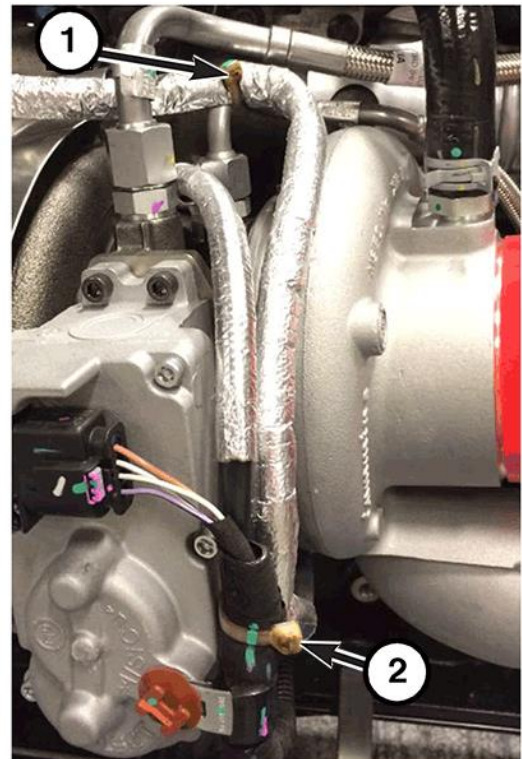
10. Remove the right CAC tube (2).



11. Remove the pressurized coolant bottle.



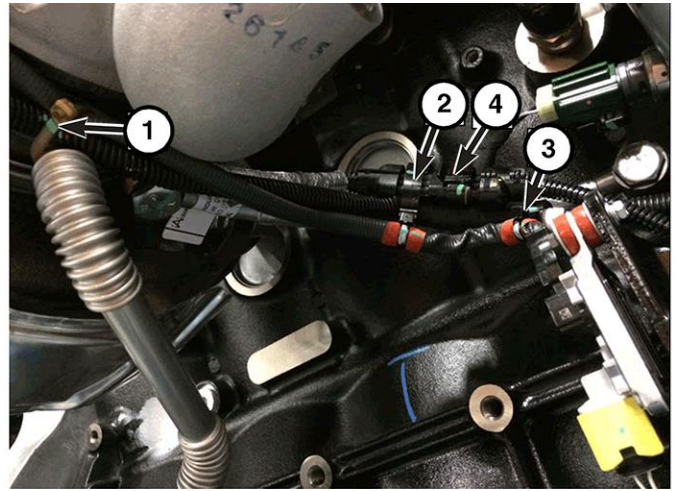
12. Cut the cable ties (1, 2) securing the NOx sensor wire harness, actuator harness, and turbo speed sensor harness.



13. Cut the cable tie (1) securing the NOx sensor harness, actuator wire harness and turbo speed sensor harness to the oil drain tube.

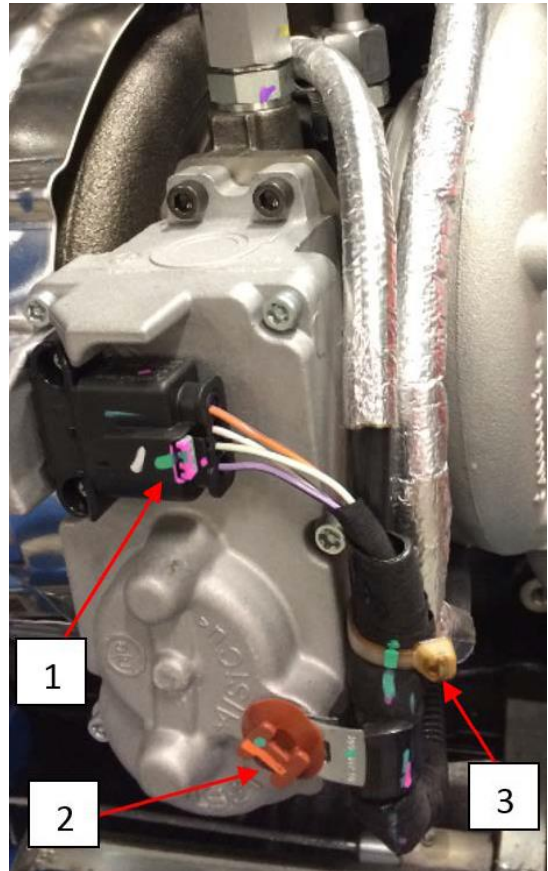
14. Carefully separate the clip (2) securing the speed sensor harness connector.

15. Disconnect the speed sensor harness connector (4).



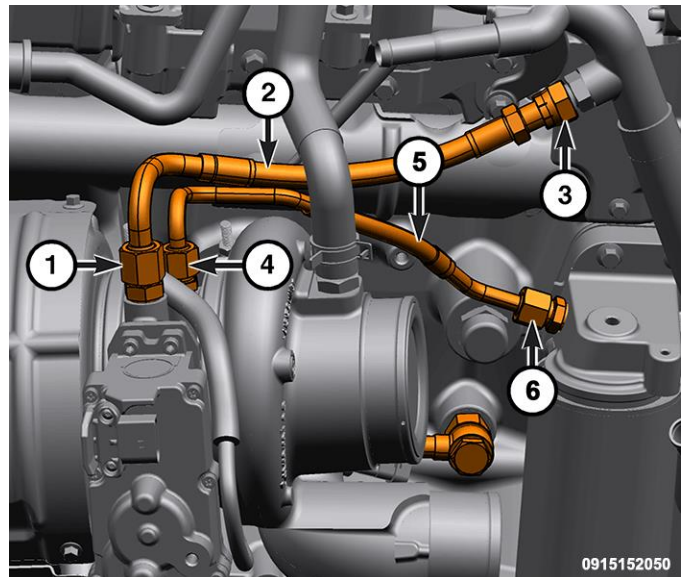
16. Unscrew the plastic clip (2) securing harness to actuator.

17. Disconnect actuator harness connector (1) by cleaning the connector to remove debris, pulling the light gray release lever away from the locked position with your thumb nail until it clicks into the unlocked position, then holding the light grey release lever down while pulling the connector apart.



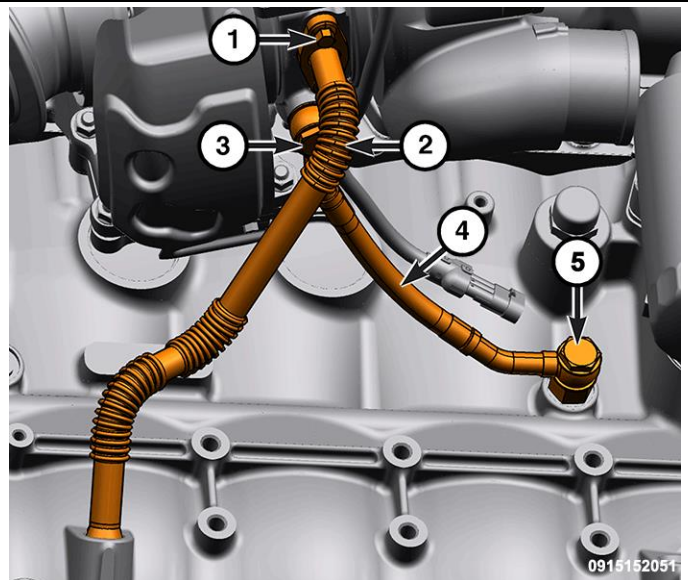
18. Remove the union nuts (1, 3) and the coolant return line (2).

19. Remove the union nuts (4, 6) and the oil supply line (5).

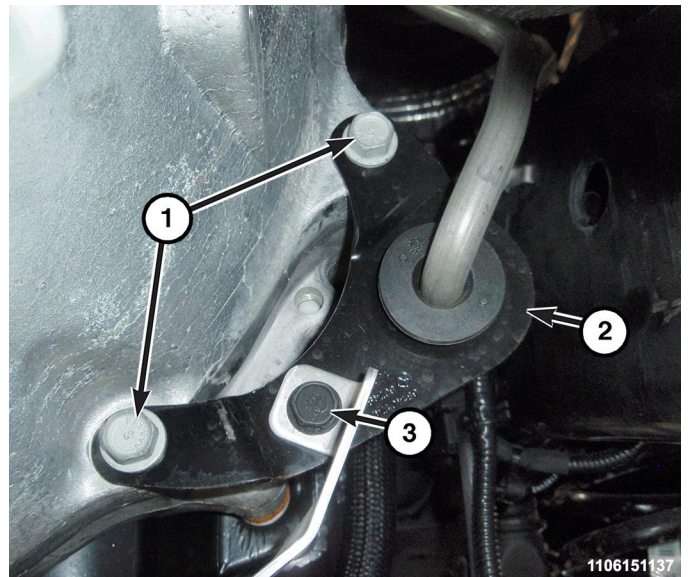


20. Remove the bolts (1) and the oil drain tube (2) from the turbocharger.

21. Remove the banjo bolts (3, 5) and the coolant supply tube (4).

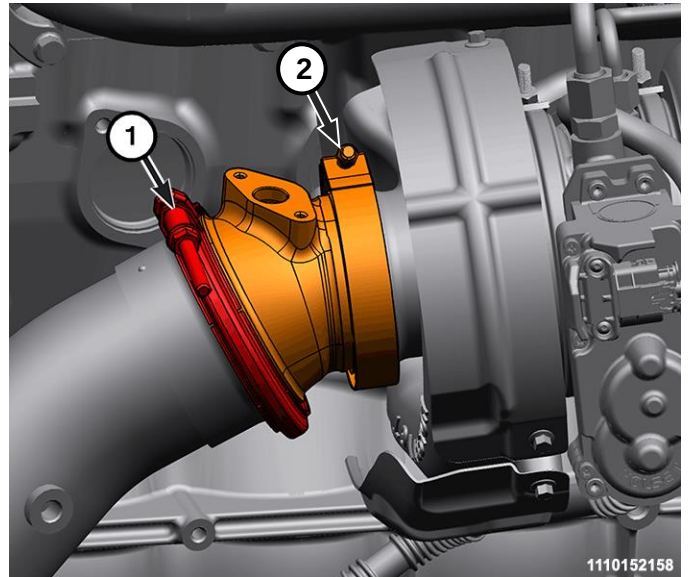


22. Remove the bolts (1, 3) securing the transmission oil cooler line bracket and the exhaust isolator (2) to the transmission.

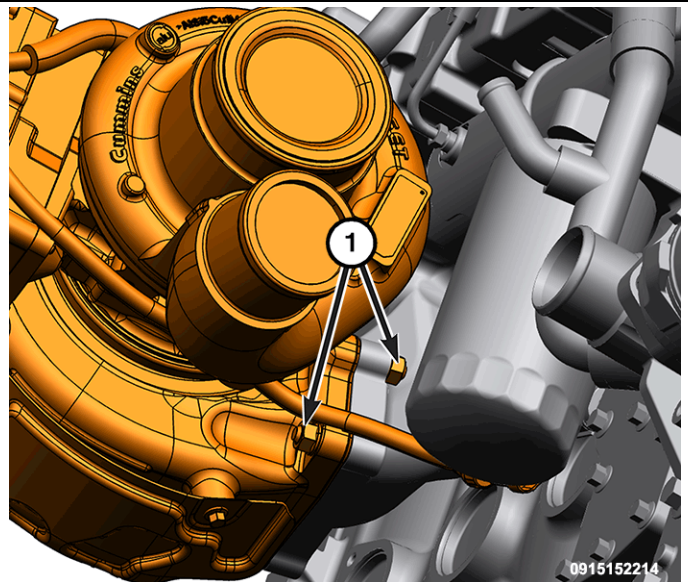


23. Remove both band clamps (1, 2) from the exhaust outlet connector elbow, and then reposition the elbow and the pipe out of the way.

Note: The NOx sensor does not need to be removed for this step.

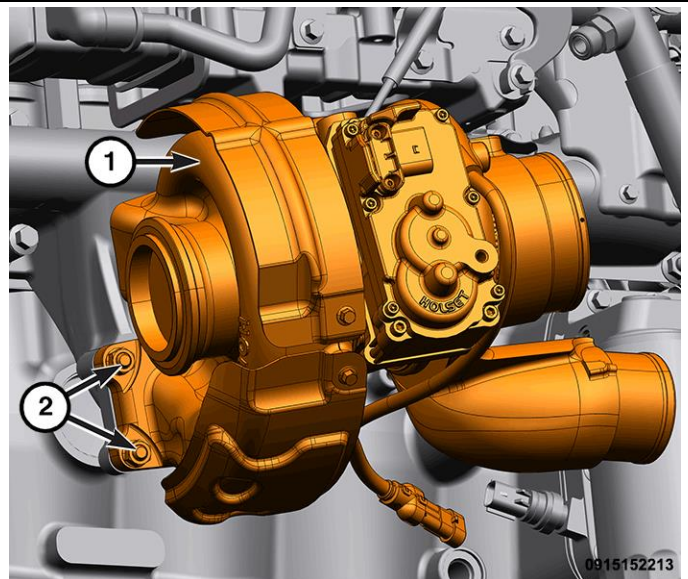


24. Remove the right side turbocharger to exhaust manifold nuts (1).

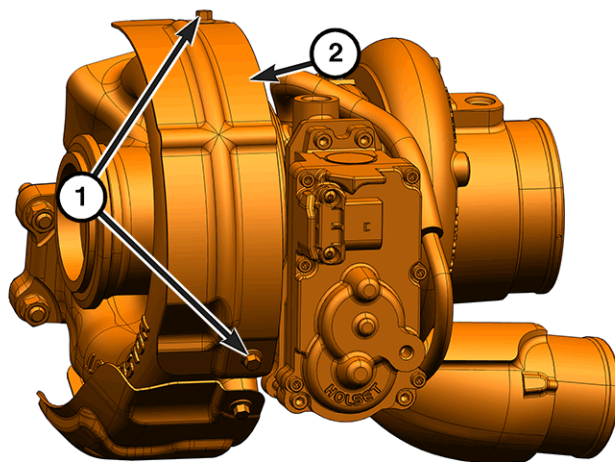


25. Remove the left side turbocharger to exhaust manifold nuts (2).

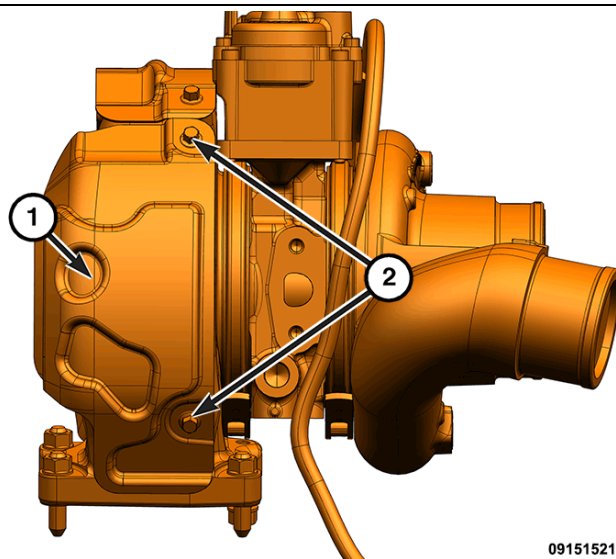
26. Remove the turbocharger (1) from the vehicle through the right side wheel well.



27. If necessary, remove the bolts (1) and the upper heat shield (2).

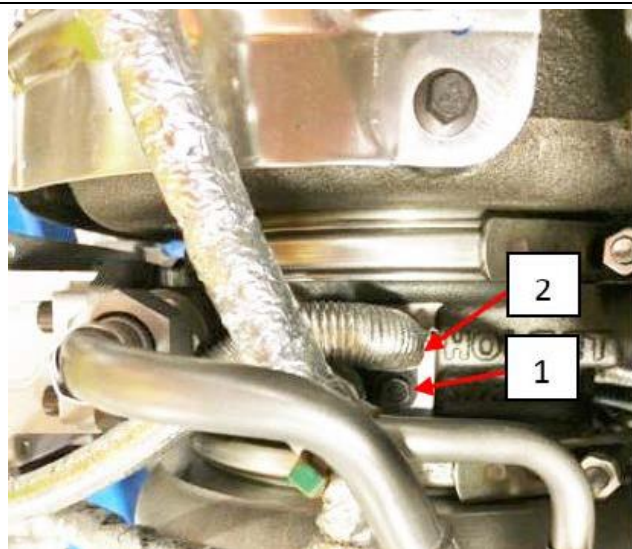


28. If necessary, remove the bolts (2) and the lower heat shield (1).



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29. Remove the turbocharger speed sensor (2), and set it aside to reuse later.

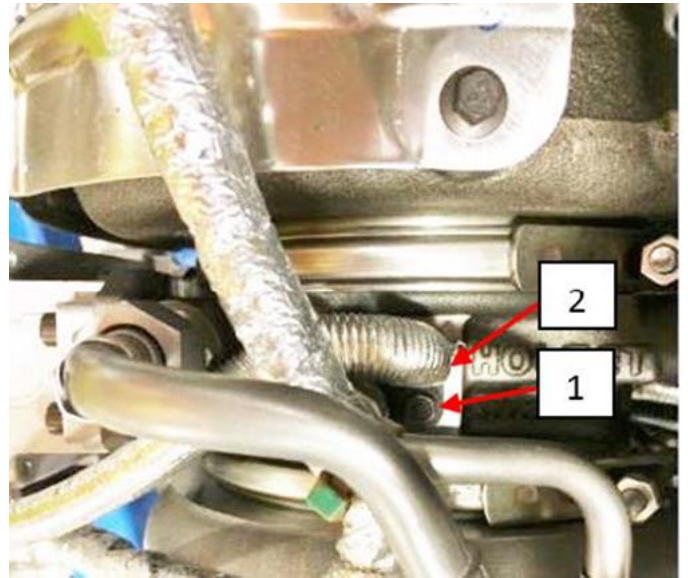


INSTALLATION

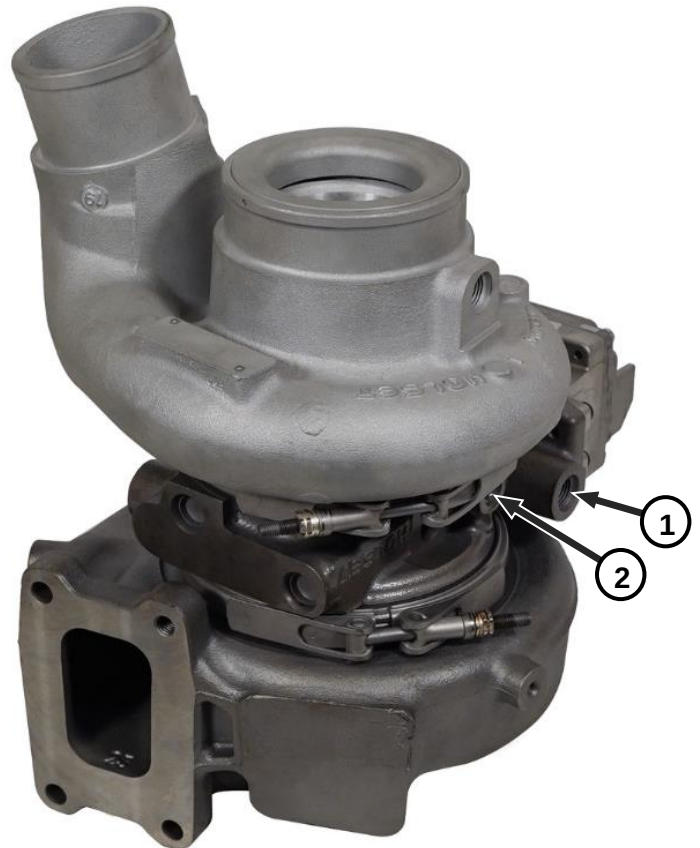
Note: Verify that turbocharger and Charger Air Cooler are free of excess oil and debris. Do not allow any water or solvents to enter the turbocharger inlet or outlet. If necessary, clean the charge air cooler.

Clean the turbocharger mating surfaces. If the old gasket appears to have been leaking, check the mounting flange with a straight edge. If warpage exceeds .004", manifold will need to be replaced or machined.

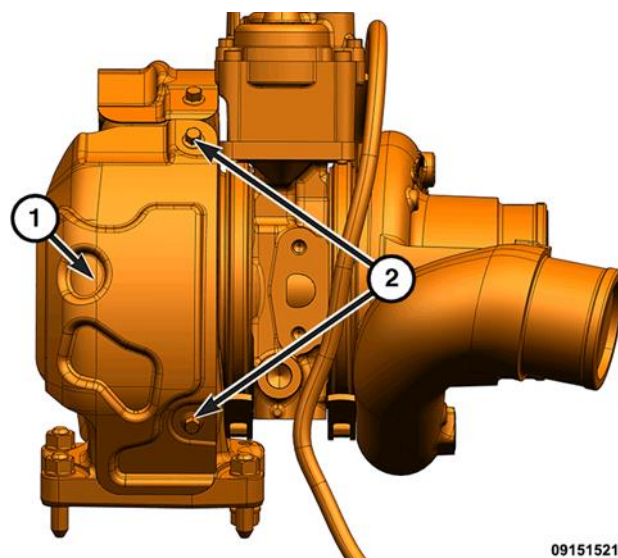
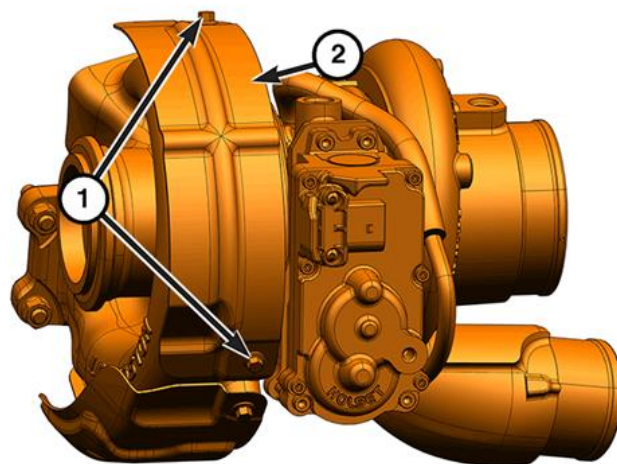
1. Replace and lubricate the speed sensor o-ring (**HE551-V80G2**). Install the sensor (2) and torque the bolt (1) to **10 Nm (89 in-lbs)**.



2. Swap the coolant outlet fitting (1) using new o-ring (**1405788**). Torque fitting to **65 Nm (48 ft-lbs)**.
3. Swap the oil inlet fitting (2) using a new o-ring (**3678603**). Torque fitting to **30 Nm (22 ft-lbs)**.

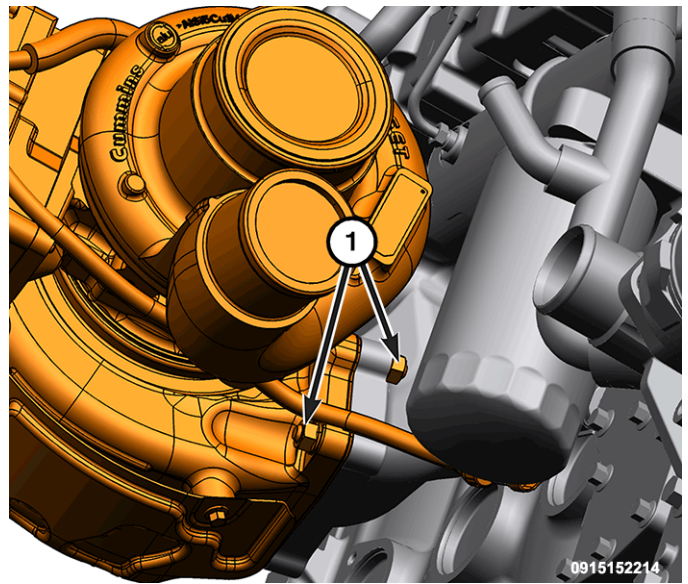
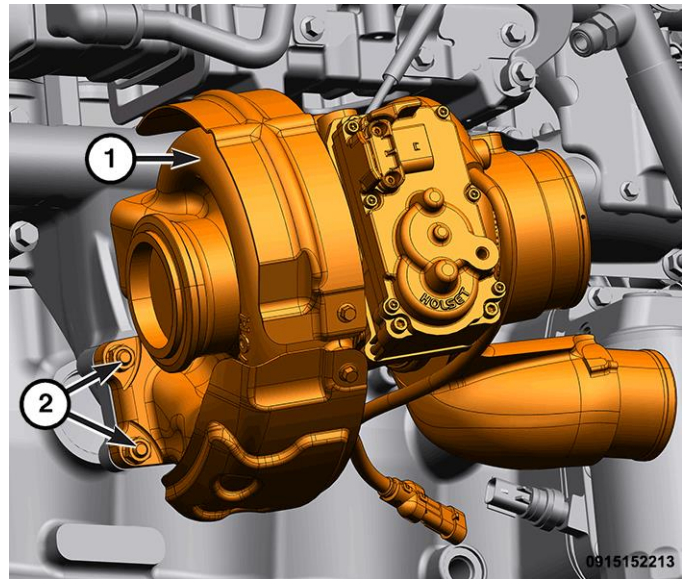


4. If removed, install the heat shields, and tighten the bolts to **11Nm (8 ft-Lbs)**.
5. Install the three new studs (**1462430**) into the turbine inlet, and if desired, replace the single stud in the exhaust manifold flange.
6. Pre-lube the turbocharger with **29.9-59.4ml (1-2oz)** of clean engine oil.

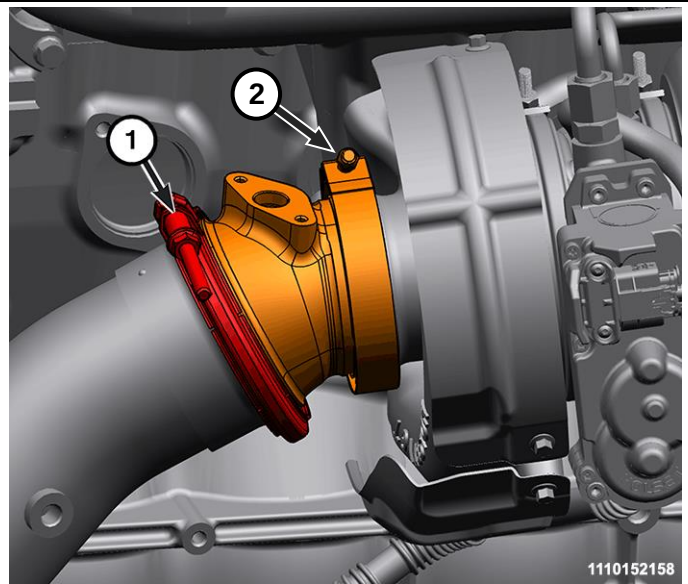


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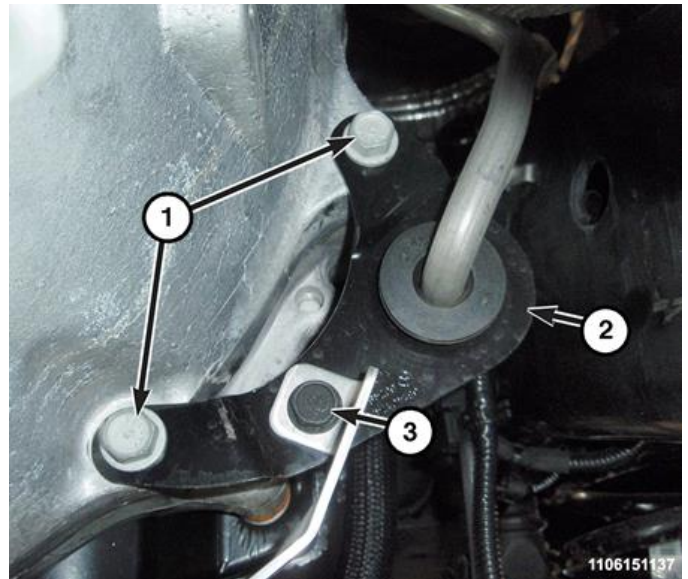
7. Using a new gasket (**5339363**), install the turbocharger onto the exhaust manifold studs by coming through the wheel well, and tighten the new nuts (**1462441**) finger tight.
8. Torque the nuts to **43 Nm (32ft-lbs)** using a cross pattern.
Important! Improper flange torque can lead to exhaust leak, gasket failure and flange damage.



9. Using a NEW gasket (**68437471AA**) at the rear (1) of the exhaust outlet connector elbow, correctly align the elbow and pipe, and then tighten the forward band clamp (2) to **17 Nm (13 ft-lbs)**, and the rear clamp (1) to **61 Nm (45 ft-lbs)**.



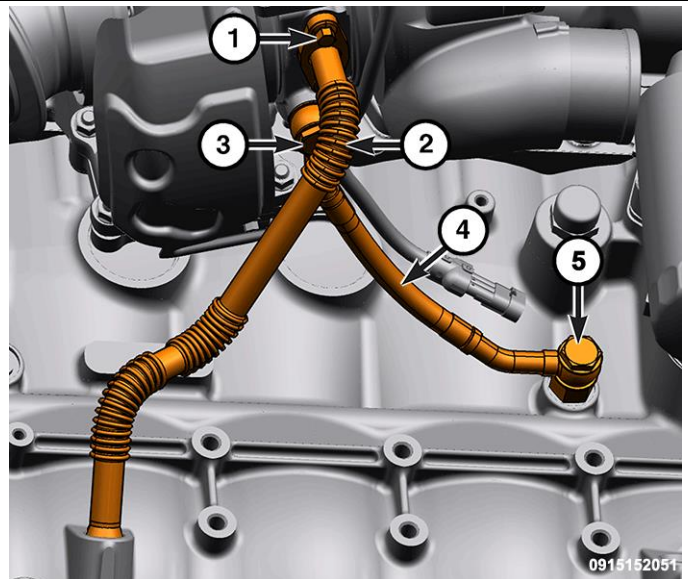
10. Install the exhaust isolator (2) and the transmission oil cooler line bracket to the transmission and tighten the bolts (1, 3) to **24 Nm (18 ft-lbs)**.



11. Replace the turbocharger drain tube o-rings (**FT-99604856**) (2).
12. Lubricate the o-rings with clean engine oil, and install the turbocharger drain tube (1) into the engine block.



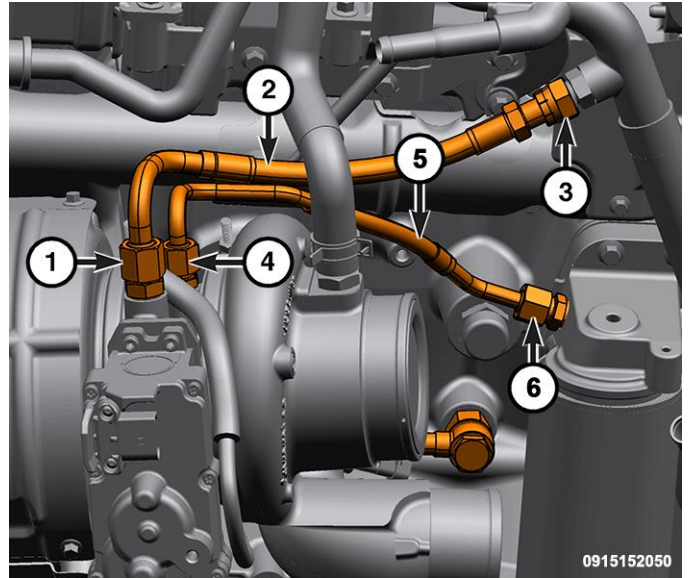
13. Using a **NEW** gasket (**4891288**), install the turbo oil drain tube (2) and tighten the bolts (1) to **24 Nm (18 ft-lbs)**.
14. Using **NEW** sealing washers (**1406853**), install the turbo coolant supply line (4) and tighten the banjo bolts (3, 5) to **35 Nm (26 ft-lbs)**.



15. Install the turbo oil supply line (5).
Replace the face seal o-rings (**1453137**),
and tighten the union nuts (4, 6) to **24 Nm (18 ft-lbs)**.

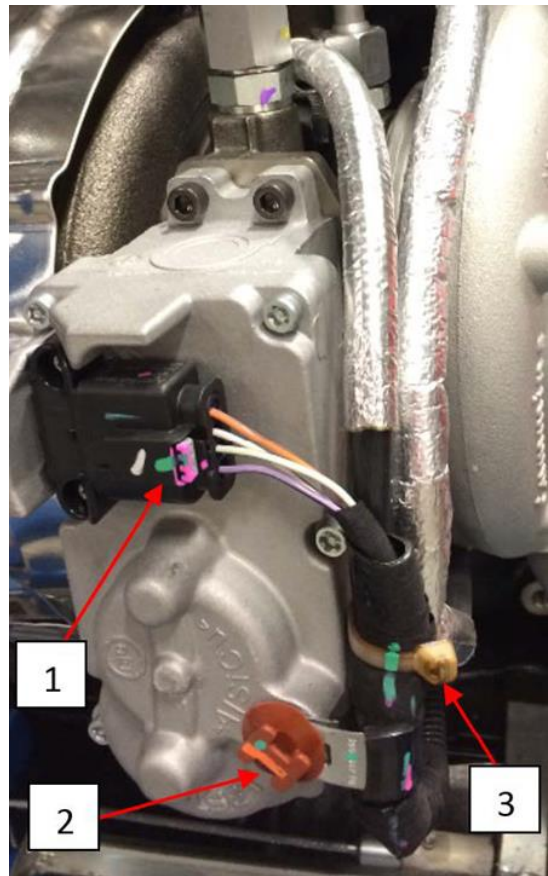
16. Install the coolant return line (2).
Replace the face seal o-rings (**9464K19**),
and tighten the union nuts (1, 3) to **35 Nm (26 ft-lbs)**.

Note: Ensure there is sufficient clearance between the lines and other components.

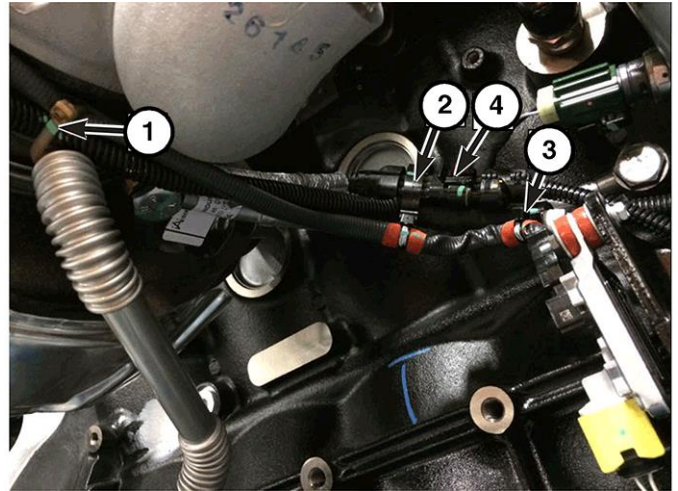


17. Connect the turbo actuator harness connector (1).

18. Screw in the plastic clip (2) securing the turbo actuator wire harness.



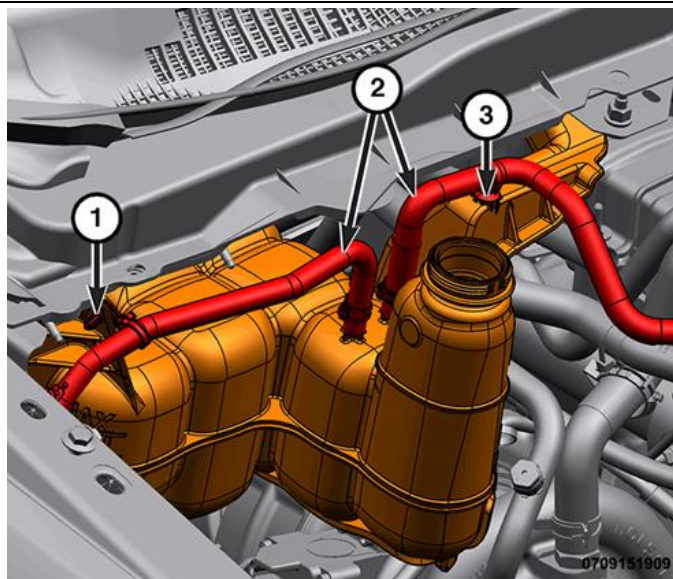
19. Connect the turbo speed sensor harness connector (4).
20. Attach clip (2) in its original location to secure the turbo speed sensor connector.
21. Install cable tie (1) (**1300131**) securing the NOx sensor wire harness, turbo actuator wire harness, and turbo speed sensor wire harness to the oil drain tube.



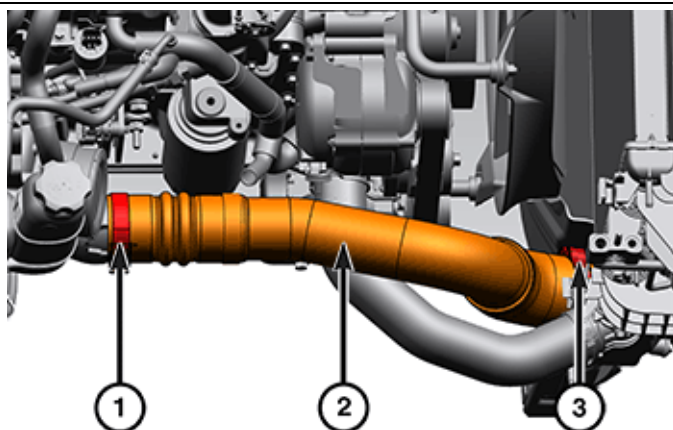
22. Use a cable tie (2) to secure the NOx sensor harness, turbo actuator harness, and speed sensor harness.
23. Use a cable tie (1) to secure the NOx sensor wire to the oil supply tube.



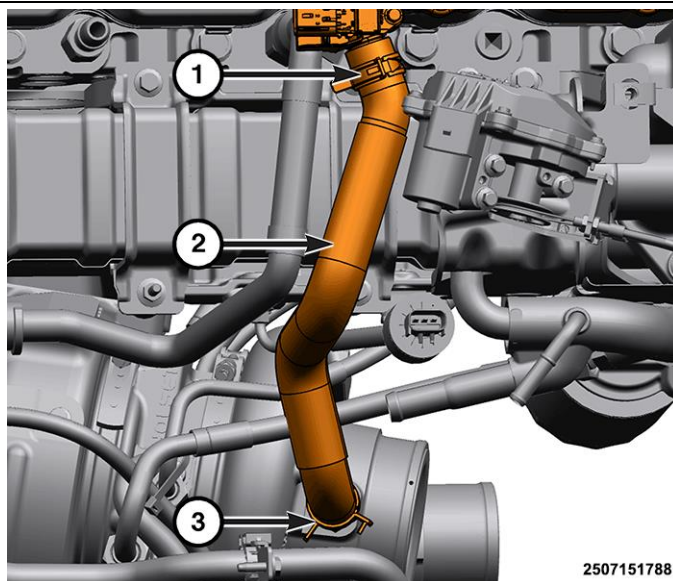
24. Install the pressurized coolant bottle.



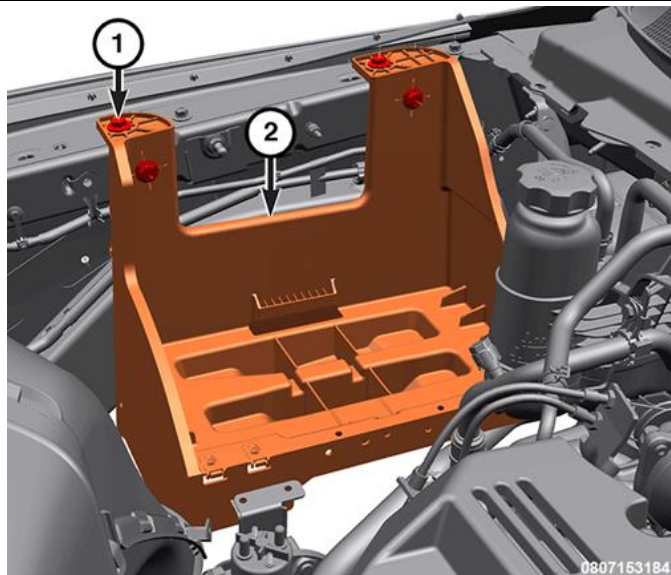
25. Install the right CAC tube (2), and tighten clamp nuts (1, 3) to **11 Nm (8 ft-lbs)**.



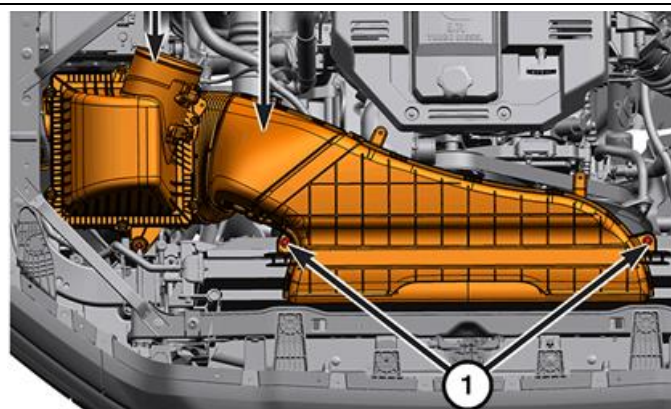
26. Install the breather hose (2).



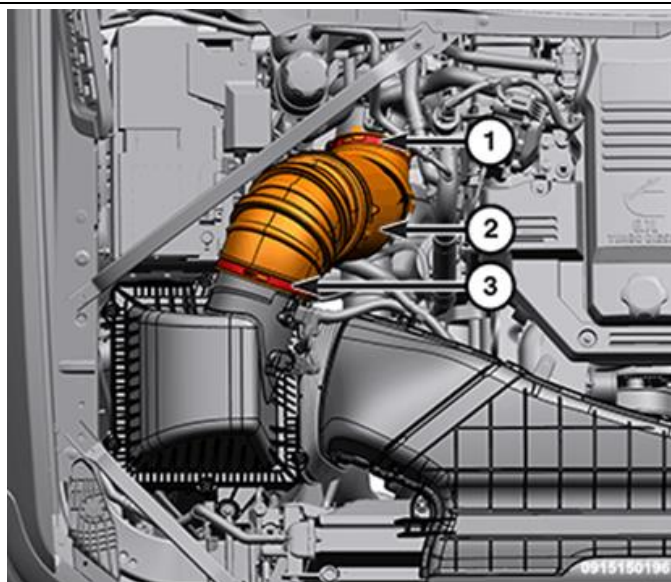
27. Install the right side battery tray (2).



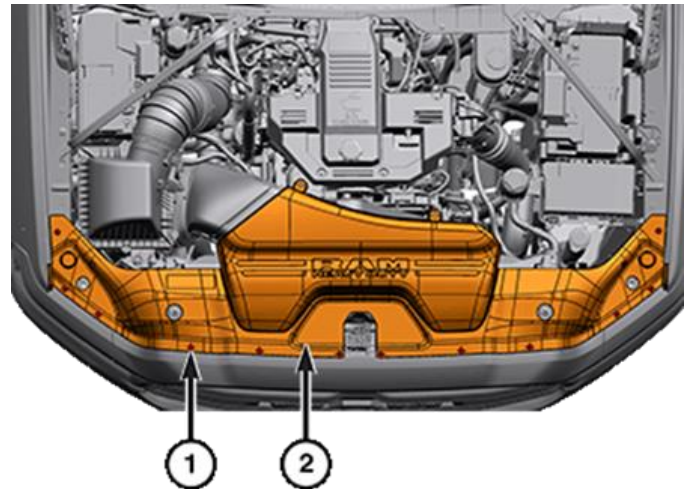
28. Install the air cleaner body.



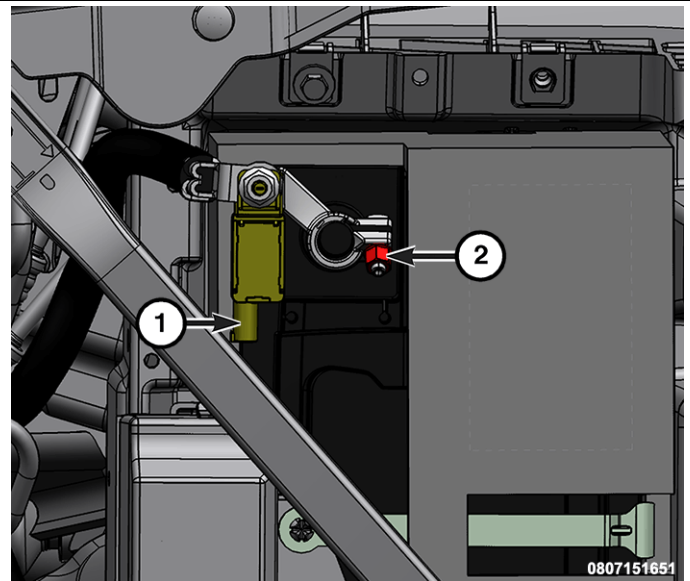
29. Install the air cleaner hose (2), and tighten the hose clamps to **11 Nm (8 ft-lbs)**.



- 30. Install the radiator closure (2).
- 31. Fill the cooling system.
- 32. Install the right side inner fender.



- 33. Reconnect the batteries.
- 34. Reconnect the Intelligent Battery Sensor (IBS) wire harness connector (1).
- 35. Start the engine, and check for any cooling or exhaust leaks and confirm the turbocharger is operating properly.



- 36. For part number 1045772 only:

If your vehicle is listed as covered under CARB EO D-553-14, apply the decal as shown to the vehicle – near the airbox. See front page for vehicle applications.

