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2013 Jeep LIBERTY Service Manual

Go to manual page

The normal operating temperature of the exhaust system is very high. Therefore, never work around or attempt to service any part of the exhaust system until it is cooled. Special care should be taken when working near the catalytic converter. The temperature of the converter rises to a high level after a short period of engine operation time.

CAUTION

Avoid application of rust prevention compounds or undercoating materials to exhaust system floor pan heat shields. Light overspray near the edges is permitted. Application of coating will result in excessive floor pan temperatures and objectionable fumes.

EXHAUST SYSTEM DESCRIPTION: The exhaust system consists of the following:

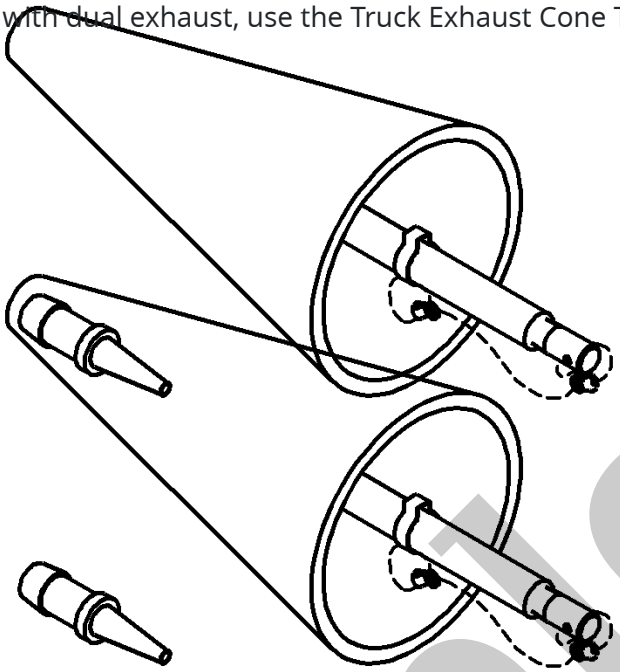
- Catalytic converters
- Exhaust muffler
- Isolators, clamps, and heat shields

The exhaust system must be properly aligned to prevent stress, leakage and body contact. If the system contacts any body panel, it may amplify objectionable noises originating from the engine or body. When inspecting an exhaust system, critically inspect for cracked or loose joints, stripped screw or bolt threads, corrosion damage and worn, cracked or broken hangers. Replace all components that are badly corroded or damaged. DO NOT attempt to repair. When replacement is required, use original equipment parts (or their equivalent). This will assure proper alignment and provide acceptable exhaust noise levels.

, into the vehicle tail pipe.

6. If the vehicle is equipped with dual exhaust, use the Truck Exhaust Cone Tool

Exhaust Cone, Truck



, equipped with attached plug. Plug one side of the dual exhaust pipe. Pressurize the other as described.

7. Apply a mixture of MOPAR® Air Leak Detector to the following areas:
    - All welded joints from 6 inches rearward of the downstream Oxygen (O2) sensor forward
    - O2 sensor seal points
    - O2 sensor boss welds
    - Flange/Joint connection(s)
    - Exhaust manifold to cylinder head connection(s)
    - Exhaust Gas Resonator (EGR) cooler to exhaust manifold connection(s)
    - EGR bypass valve connection(s)
    - EGR crossover tube connection(s)
    - EGR solenoid gasket base and tube seal points (if equipped)

8. Watch for the Air Detector to bubble.

YOUR CURRENT VEHICLE

Exhaust System Inspection

EXHAUST SYSTEM INSPECTION

EXHAUST SYSTEM DIAGNOSIS CHART

CONDITION	POSSIBLE CAUSE	CORRECTION
EXCESSIVE EXHAUST NOISE OR LEAKING EXHAUST GASES	1. Leaks at pipe joints.	1. Tighten clamps/bolts at leaking joints.
	2. Rust through or blown out muffler.	2. Replace muffler. Inspect exhaust system.
	3. Broken or rusted out exhaust pipe.	3. Replace exhaust pipe.
	4. Exhaust pipe leaking at manifold flange.	4. Tighten/replace flange attaching nuts/bolts.
	5. Exhaust manifold cracked or broken.	5. Replace exhaust manifold.
	6. Leak between exhaust manifold and cylinder head.	6. Tighten exhaust manifold to cylinder head bolts.
	7. Catalytic converter rusted or blown out.	7. Replace catalytic converter assembly and gasket.
	8. Restriction in exhaust system.	8. Remove restriction, if possible. Replace restricted part if necessary.

CAUTION

Exhaust Manifold

EXHAUST MANIFOLD

INSPECTION

Inspect exhaust manifold for cracks.

Inspect mating surfaces of exhaust manifold for flatness with a straight edge. Gasket surfaces must be flat within 0.2 mm per 300 mm (0.008 inch per foot).

CALLOUT	DESCRIPTION	SPECIFICATION	COMMENTS
–	Upper Turbocharger Heat Shield Bolts	**11 N·m (8 Ft. Lbs.)**	—

NOTE

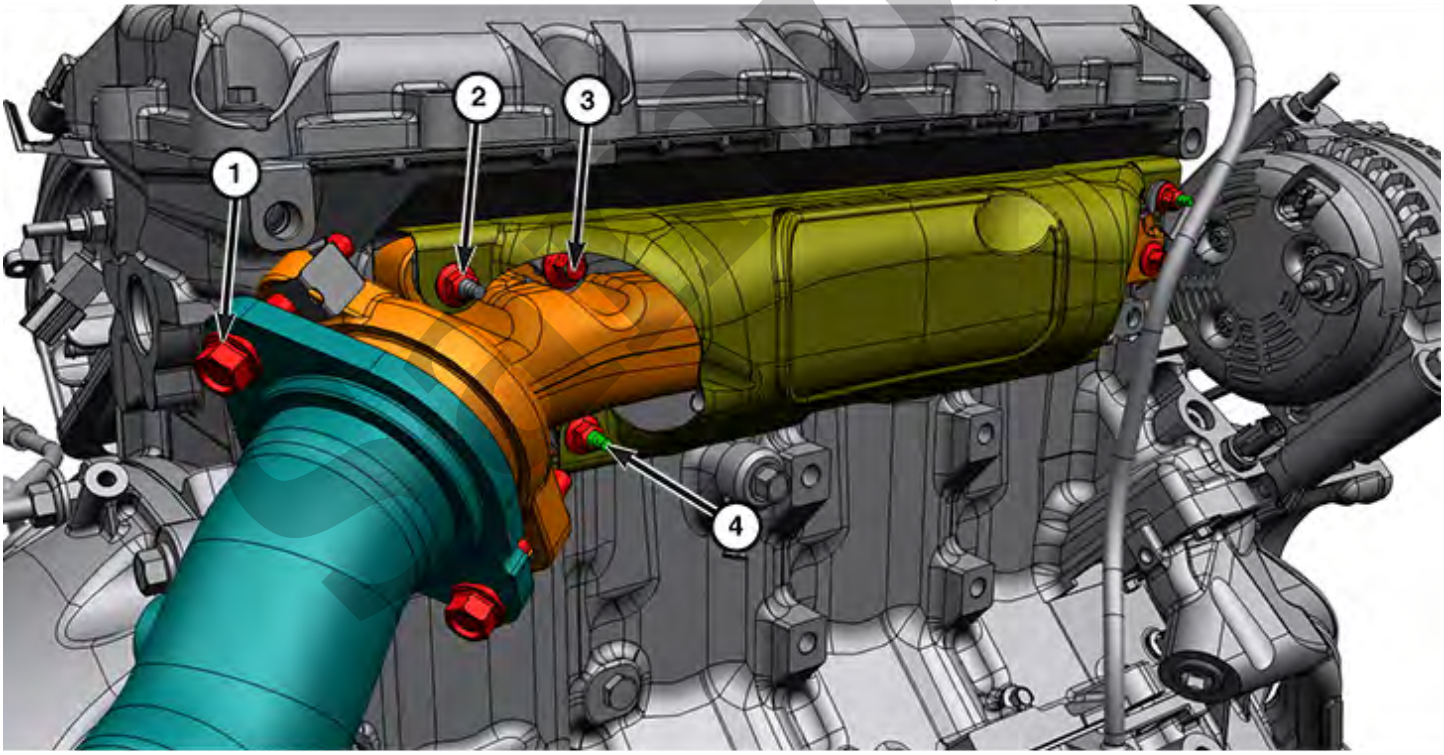
All fasteners removed must be installed in the same location they were removed from.

- The exhaust manifold to cylinder head bolts must be tightened in the sequence shown in the torque table below.
- Re-check the torque using the sequence shown.
- Install the exhaust manifold heat shield and tighten the exhaust manifolds heat shield nuts to proper torque specification.

CAUTION

Do not damage engine harness while lowering the engine.

TORQUE SPECIFICATION - EXHAUST SYSTEM - 5.7L



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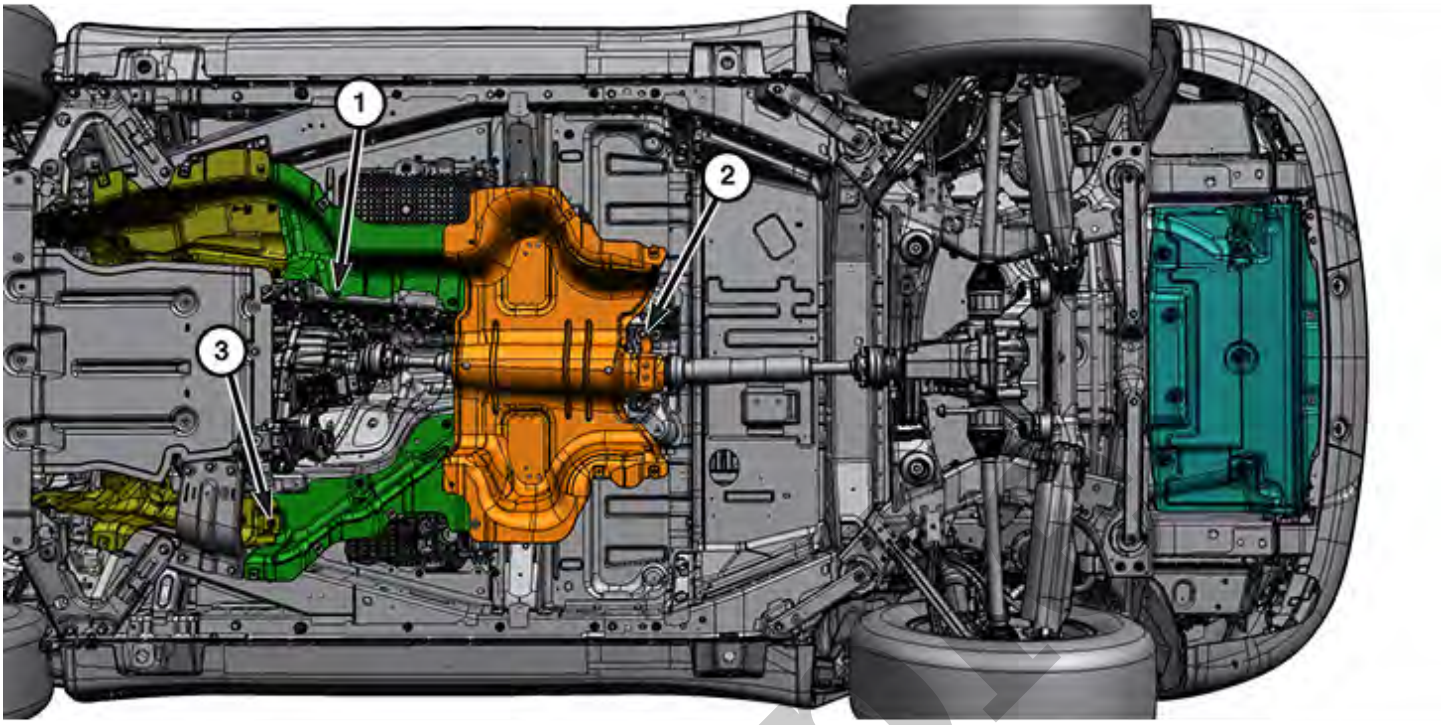
CALLOUT	DESCRIPTION	SPECIFICATION	COMMENT
1	Catalytic Converter To	**30 N·m (22 Ft. Lbs.)**	–



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CALLOUT	DESCRIPTION	SPECIFICATION	COMMENT
1	Heat Shield Nuts - Plastic	**5 N·m (44 In. Lbs.)**	–
2	Heat Shield Bolts	**18 N·m (13 Ft. Lbs.)**	–
3	Heat Shield Nuts - Steel	**8 N·m (71 In. Lbs.)**	–
–	Spare Tire Heat Shield To Underbody (Heat Shield Bolts)	**6 N·m (53 In. Lbs.)**	–

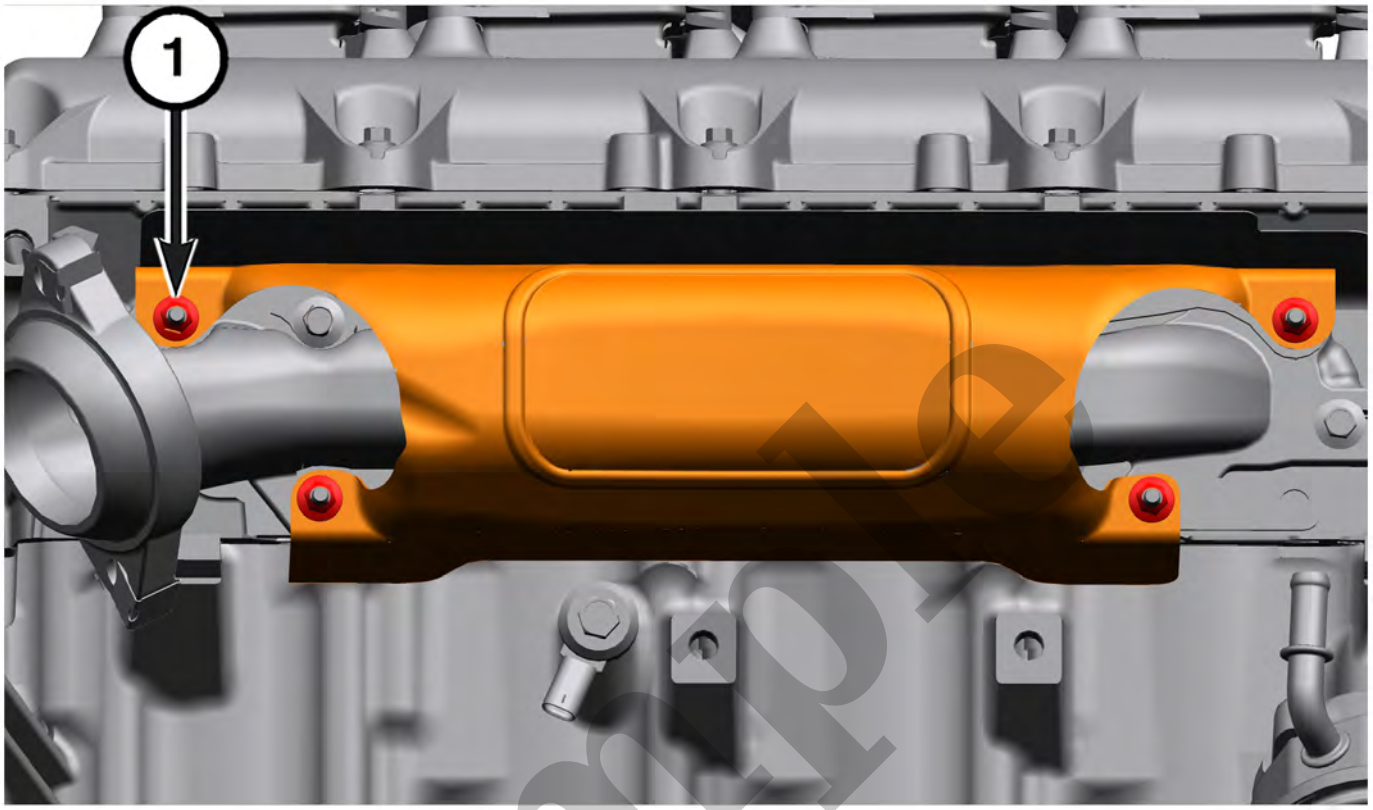
Refer To List:

List 1

- 09 - Engine, 2.0L / Air Intake System / TUBE, Intake Air / Removal and Installation
- 09 - Engine, 3.6L / Air Intake System / TUBE, Intake Air / Removal and Installation
- 09 - Engine, 5.7L / Air Intake System / TUBE, Intake Air / Removal and Installation

List 2

- 09 - Engine, 2.0L / Air Intake System / HOSE, Clean Air / Removal and Installation



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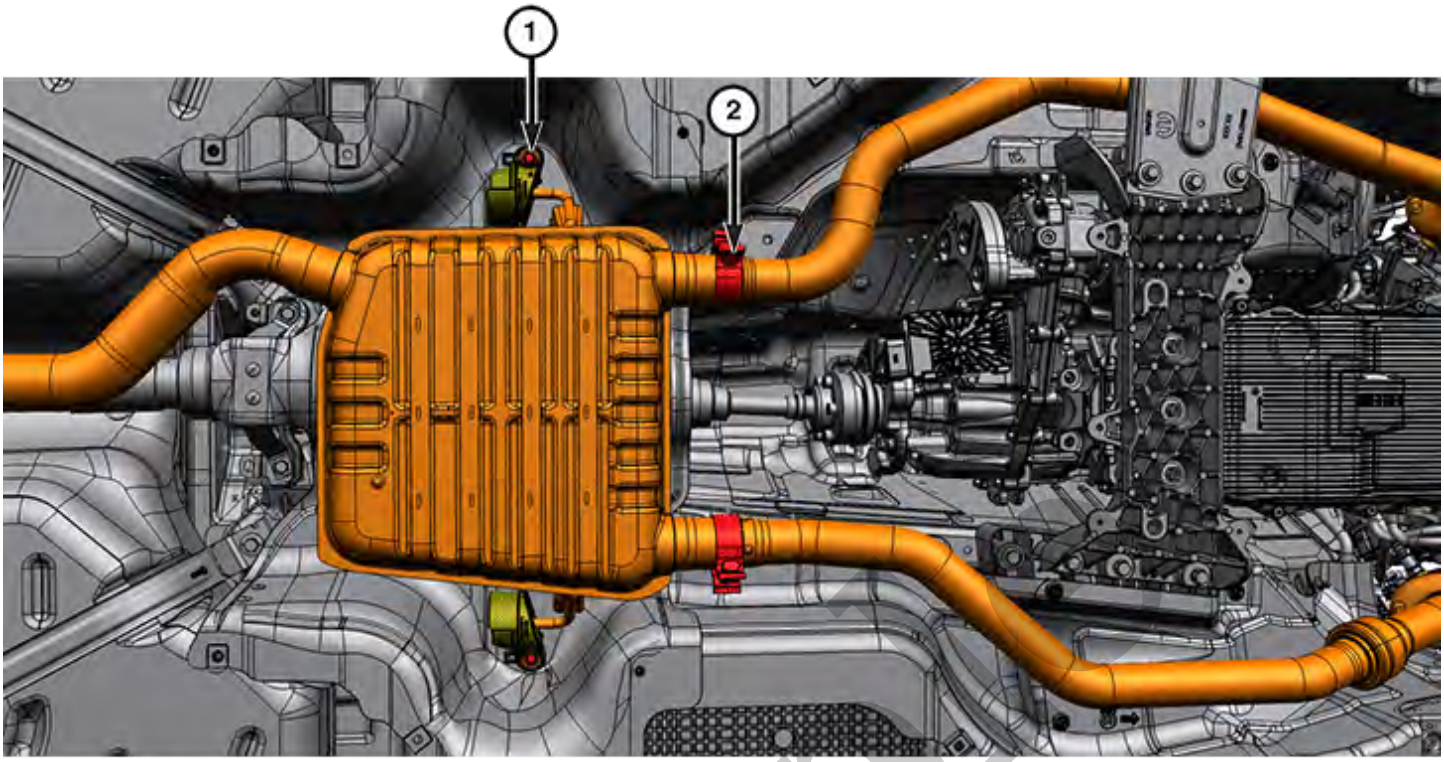
1 - Exhaust Manifold Heat Shield Nuts

6. Remove the exhaust manifold heat shield nuts and the exhaust manifold heat shield.



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CALLOUT	DESCRIPTION	SPECIFICATION	COMMENT
1	Exhaust Isolator Bolts	**25 N·m (18 Ft. Lbs.)**	–
2	Torca Clamp Nut	**48 N·m (35 Ft. Lbs.)**	–