

TROOPER

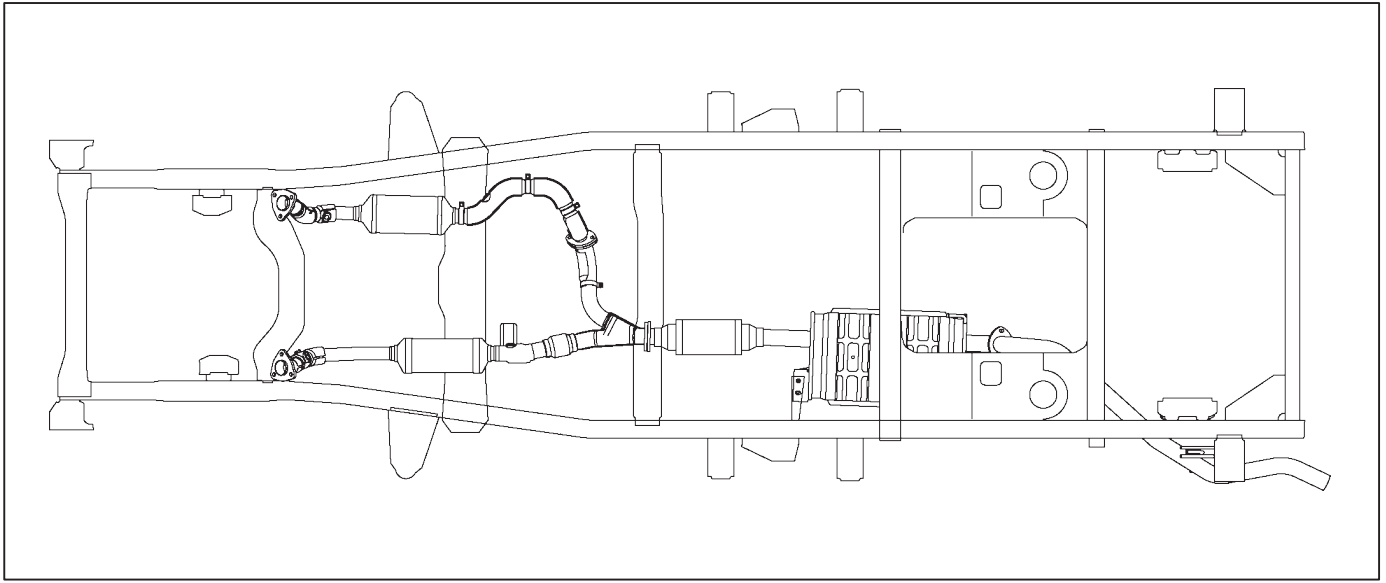
ENGINE

ENGINE EXHAUST

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General Description



150R200017

When inspecting or replacing exhaust system components, make sure there is adequate clearance from all points on the underbody to prevent overheating the floor pan and possible damage to the passenger compartment insulation and trim materials.

Check complete exhaust system and nearby body areas and rear compartment lid for broken, damaged, missing or mispositioned parts, open seams, holes, loose connections or other deterioration which could permit exhaust fumes to seep into the rear compartment or passenger compartment. Dust or water in the rear compartment may be an indication of a problem in one of these areas. Any faulty areas should be corrected immediately.

Hangers

Various types of hangers are used to support exhaust system(s). These include conventional rubber straps, rubber rings, and rubber blocks.

The installation of exhaust system supports is very important, as improperly installed supports can cause annoying vibrations which can be difficult to diagnose.

Three Way Catalytic Converter

The three way catalytic converter is an emission control device added to the exhaust system to reduce pollutants from the exhaust gas stream.

CAUTION: The catalytic converter requires the use of unleaded fuel only.

Periodic maintenance of the exhaust system is not required. If the vehicle is raised for other service, it is advisable to check the condition of the complete exhaust system.

A dual bed monolith catalytic converter is used in combination with three way catalytic converter.

Catalytic Types:

Three way (Reduction/Oxidation) catalyst

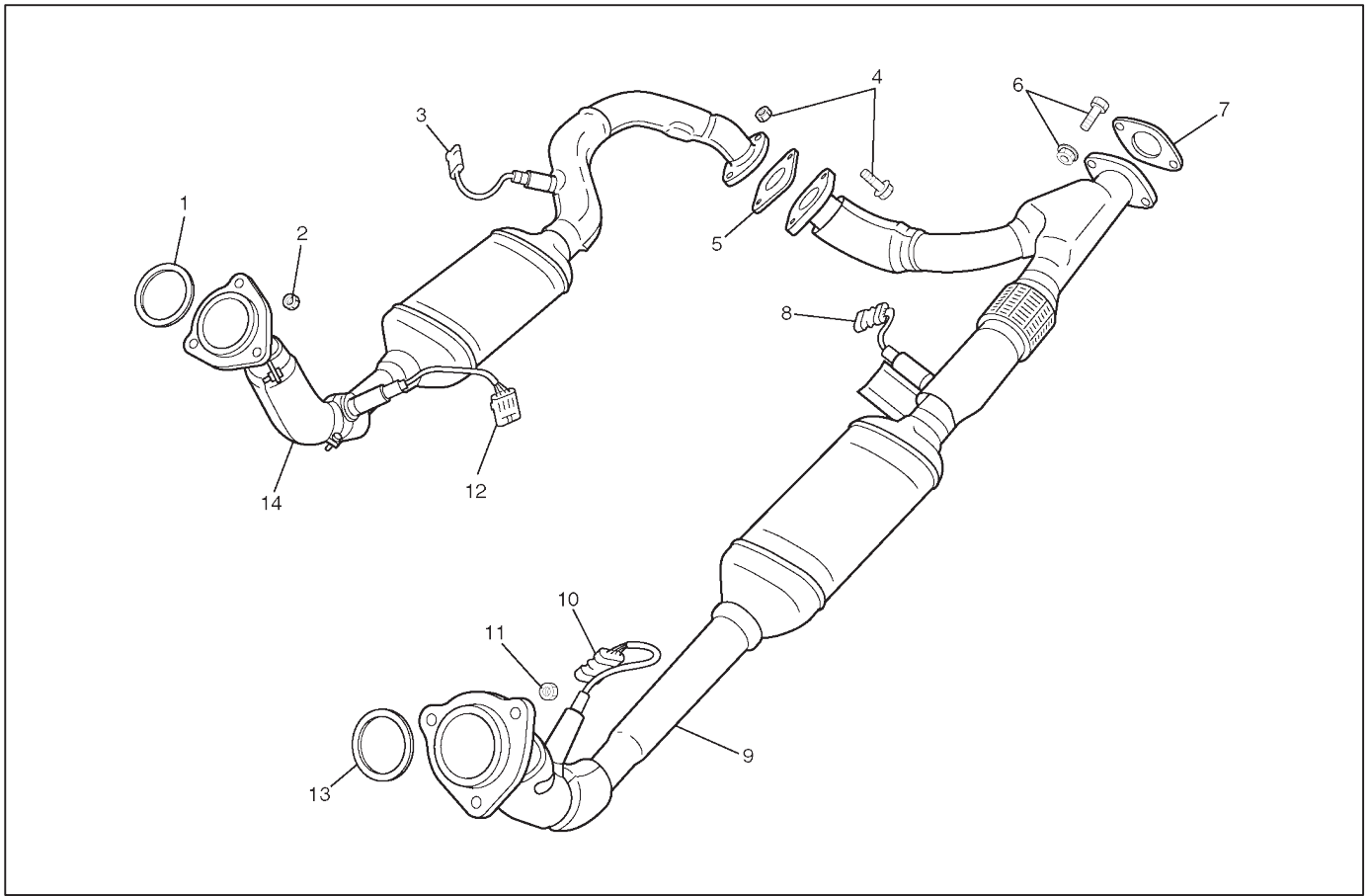
The catalyst coating on the three way (reduction) converter contains platinum and rhodium which lowers the levels of nitrous oxide (NOx) as well as hydrocarbons (HC) and carbon monoxide (Co).

Gasket

The gasket must be replaced whenever a new exhaust pipe, muffler or catalytic converter is installed.

Front Exhaust Pipe

Front Exhaust Pipe and Associated Parts



150R200005

Legend

- | | |
|---|--|
| (1) Gasket | (8) O2 Sensor Harness Connector |
| (2) Front Exhaust Pipe RH Fixing Nuts | (9) Front Exhaust Pipe LH |
| (3) O2 Sensor Harness Connector | (10) O2 Sensor Harness Connector |
| (4) Front Exhaust Pipe RH Fixing Bolts and Nuts | (11) Front Exhaust Pipe LH Fixing Nuts |
| (5) Gasket | (12) O2 Sensor Harness Connector |
| (6) Front Exhaust Pipe Fixing Bolts and Nuts | (13) Gasket |
| (7) Gasket | (14) Front Exhaust Pipe RH |

Removal

1. Disconnect battery ground cable.
2. Raise the vehicle and support with suitable safety stands.
3. Disconnect O2 sensor harness connector (3)(8)(10)(12).
4. Remove front exhaust pipe fixing bolts and nuts (4)(6).
5. Remove front exhaust pipe fixing three stud nuts (2)(11) from exhaust manifold.
6. Remove front exhaust pipe (9)(14).

Installation

1. Install front exhaust pipe (9)(14) and tighten three stud nuts (2)(11) and two nuts (4)(6) to the specified torque.

Torque

Stud Nuts : 67 N·m (49 lb ft)

Nuts(4) : 57 N·m (42 lb ft)

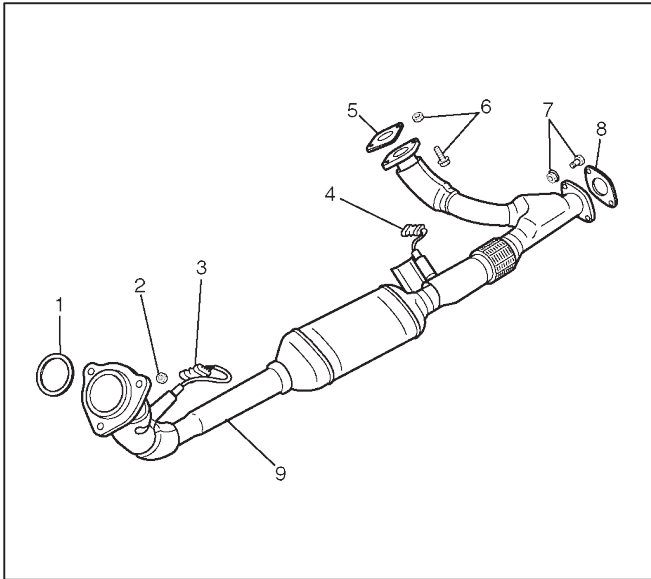
Nuts(6) : 43 N·m (32 lb ft)

2. Reconnect O2 sensor harness connector (3)(8)(10)(12).

Three Way Catalytic Converter LH

Removal

1. Disconnect battery ground cable.
2. Raise the vehicle and support with suitable safety stands.
3. Disconnect front O2 sensor harness connector and rear O2 sensor harness connector (3)(4).
4. Remove exhaust front pipe fixing three stud nuts (2) from exhaust manifold side and two nuts (6)(7) from rear end of exhaust front pipe (9).



Legend

- (1) Gasket
- (2) Front Exhaust Pipe Fixing Three Stud Nuts
- (3) O2 Sensor Harness Connector
- (4) O2 Sensor Harness Connector
- (5) Gasket
- (6) Front Exhaust Pipe RH Fixing Bolts and Nuts
- (7) Front Exhaust Pipe Fixing Bolts and Nuts
- (8) Gasket
- (9) Front Exhaust Pipe LH

Installation

1. Install exhaust front pipe (9) and tighten three studs nuts (2) and two nuts (6)(7) to the specified torque.

Torque

Stud nuts : 67 N·m (49 lb ft)

Nuts(6) : 57 N·m (42 lb ft)

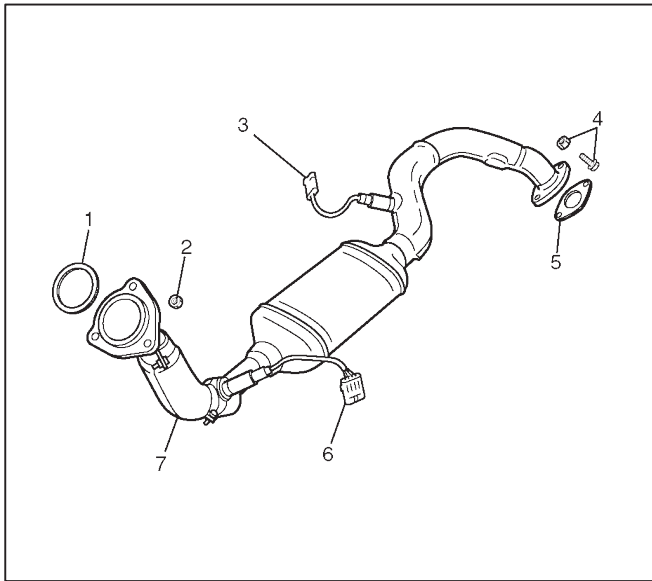
Nuts(7) : 43 N·m (32 lb ft)

2. Reconnect O2 sensor harness connector (3)(4).

Three Way Catalytic Converter RH

Removal

1. Disconnect battery ground cable.
2. Raise the vehicle and support with suitable safety stands.
3. Remove torsion bar. Refer to removal procedure in Front Suspension section.
4. Disconnect front O₂ sensor harness connector (6) and rear O₂ sensor harness connector (3).
5. Remove front exhaust pipe fixing bolts and nuts (4).
6. Remove three stud nuts (2) from exhaust manifold then remove the exhaust front pipe (7).



Installation

1. Install front exhaust pipe (7) and tighten three stud nuts (2) and two nuts (4) to the specified torque.

Torque

Stud nuts : 67 N·m (49 lb ft)

Nuts : 57 N·m (42 lb ft)

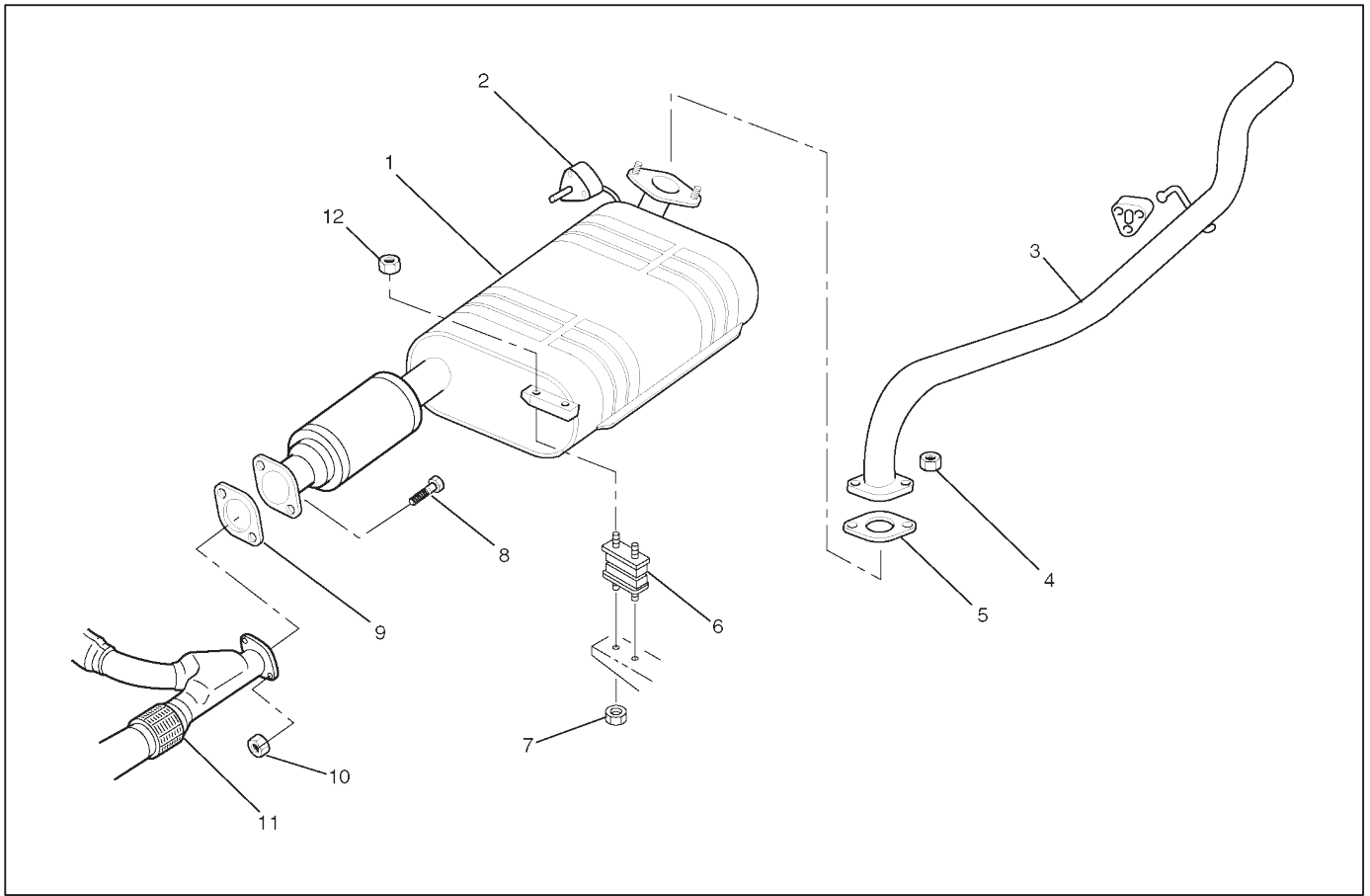
2. Install the torsion bar and readjust the vehicle height. Refer to the installation and vehicle height adjustment instructions in the Front Suspension Section.

Legend

- (1) Gasket
- (2) Front Exhaust Pipe Fixing Three Stud Nuts
- (3) O₂ Sensor Harness Connector
- (4) Front Exhaust Pipe Fixing Bolts and Nuts
- (5) Gasket
- (6) O₂ Sensor Harness Connector
- (7) Front Exhaust Pipe RH

Exhaust Silencer

Exhaust Silencer and Associated Parts



150R200014

Legend

- | | |
|----------------------------|-----------------------------------|
| (1) Exhaust Silencer | (6) Rubber Support |
| (2) Mounting Rubber | (7) Nut |
| (3) Rear Exhaust Pipe | (8) Exhaust Silencer Fixing Bolts |
| (4) Rear Exhaust Pipe Nuts | (9) Gasket |
| (5) Gasket | (10) Exhaust Silencer Fixing Nuts |
| | (11) Exhaust Front Pipe |

Removal

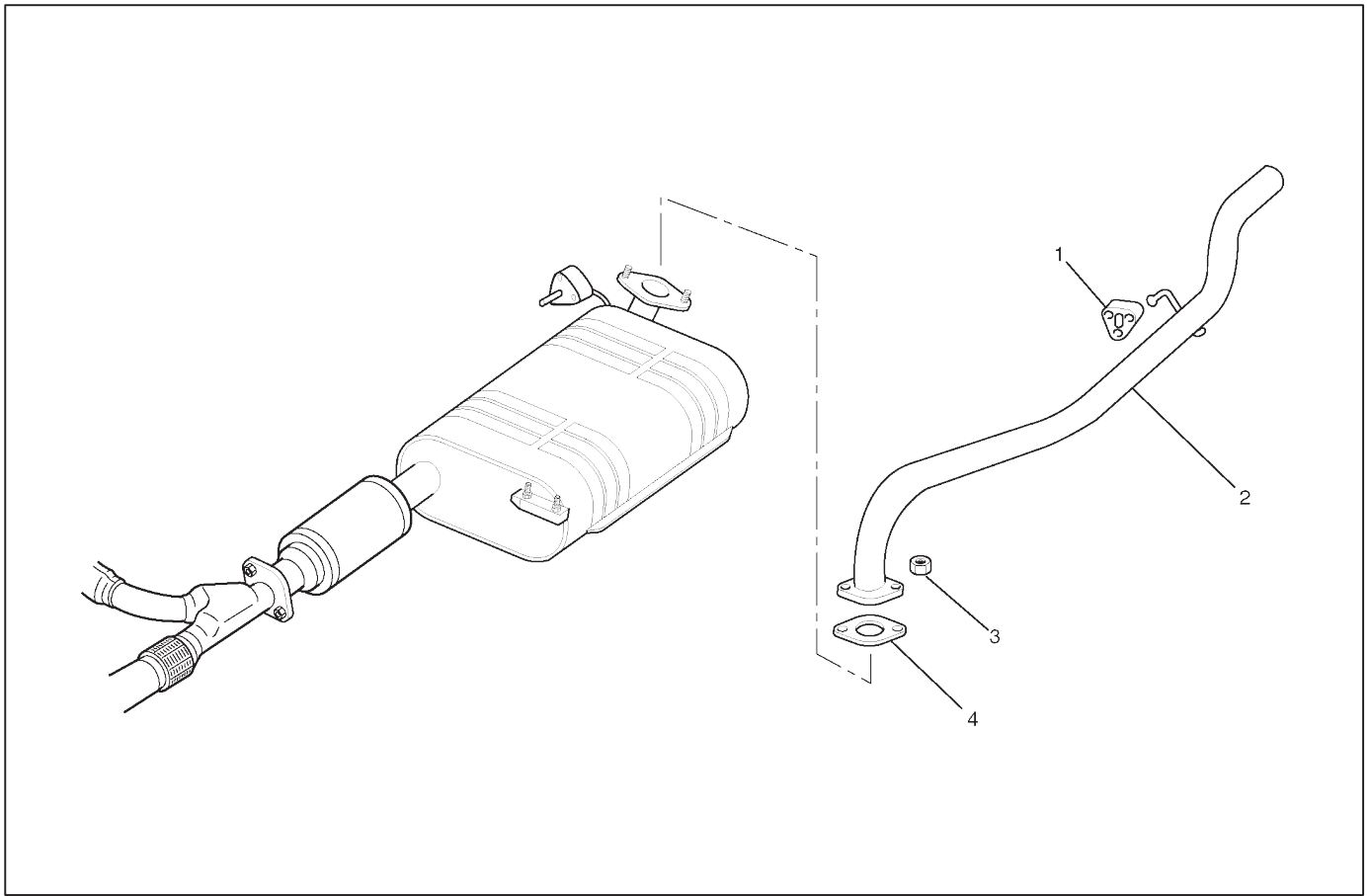
1. Disconnect battery ground cable.
2. Raise the vehicle and support with suitable safety stands.
3. Remove rear exhaust pipe nuts (4) then disconnect rear exhaust pipe from exhaust silencer.
4. Remove exhaust silencer fixing bolts (8) then disconnect exhaust silencer from front exhaust pipe (11).
5. Remove exhaust silencer mounting nuts (12) from rubber support (6) chassis side then remove exhaust silencer (1).

Installation

1. Install the exhaust silencer (1) and tighten two nuts (12) to the specified torque.
Nuts: 16 N·m (12 lb ft)
2. Install the exhaust silencer and tighten two bolts (8) on front exhaust pipe to specified torque.
Bolts: 43 N·m (32 lb ft)
3. Install the rear exhaust pipe (3) and tighten on exhaust silencer to specified torque.
Nuts: 43 N·m (32 lb ft)

Rear Exhaust pipe

Rear Exhaust pipe and Associated Parts



150R200009

Legend

- (1) Mounting Rubber
- (2) Rear Exhaust Pipe

- (3) Rear Exhaust Pipe Fixing Nuts
- (4) Gasket

Removal

1. Disconnect battery ground cable.
2. Raise the vehicle and support with suitable safety stands.
3. Remove rear exhaust pipe fixing nuts (3), then disconnect rear exhaust pipe from exhaust silencer.
4. Remove mounting rubber (1).
5. Remove rear exhaust pipe (2).

Installation

1. Install the mounting rubber (1).
2. Install the exhaust pipe (2) and tighten two nuts (3) on exhaust silencer to specified torque.

Nuts: 43 N·m (32 lb ft)

Main Data and Specifications

Torque Specifications

