EXHAUST
07

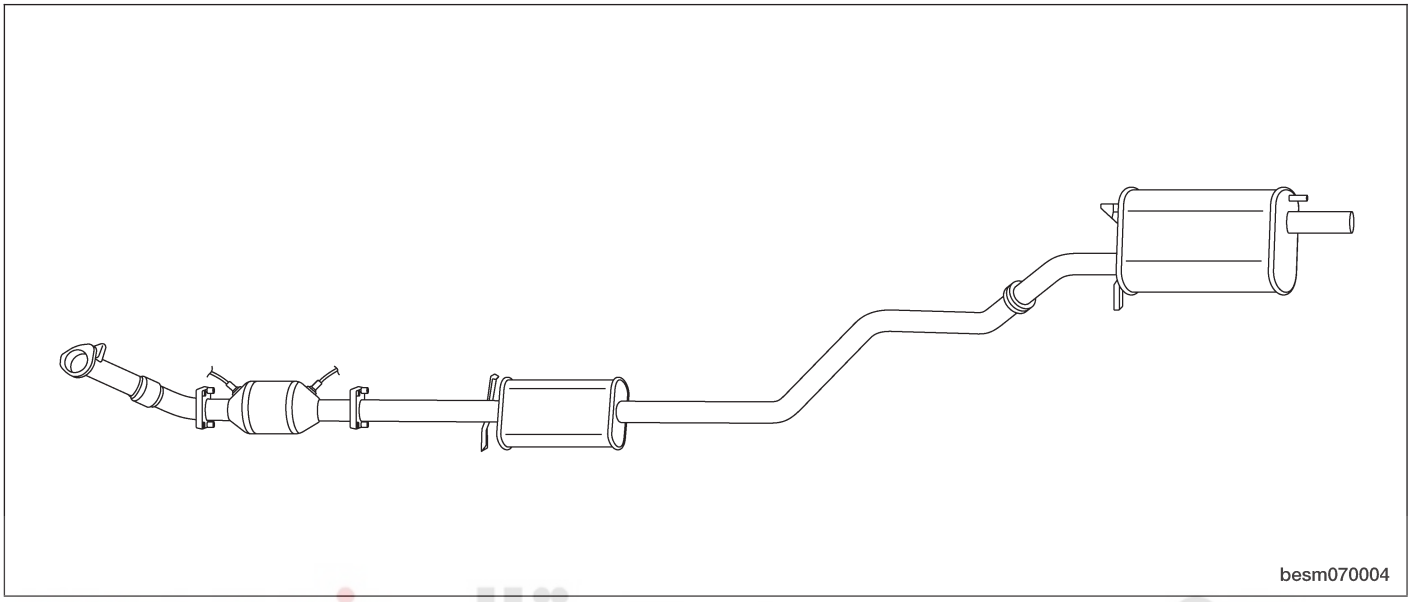
CONTENTS

EXHAUST SYSTEM

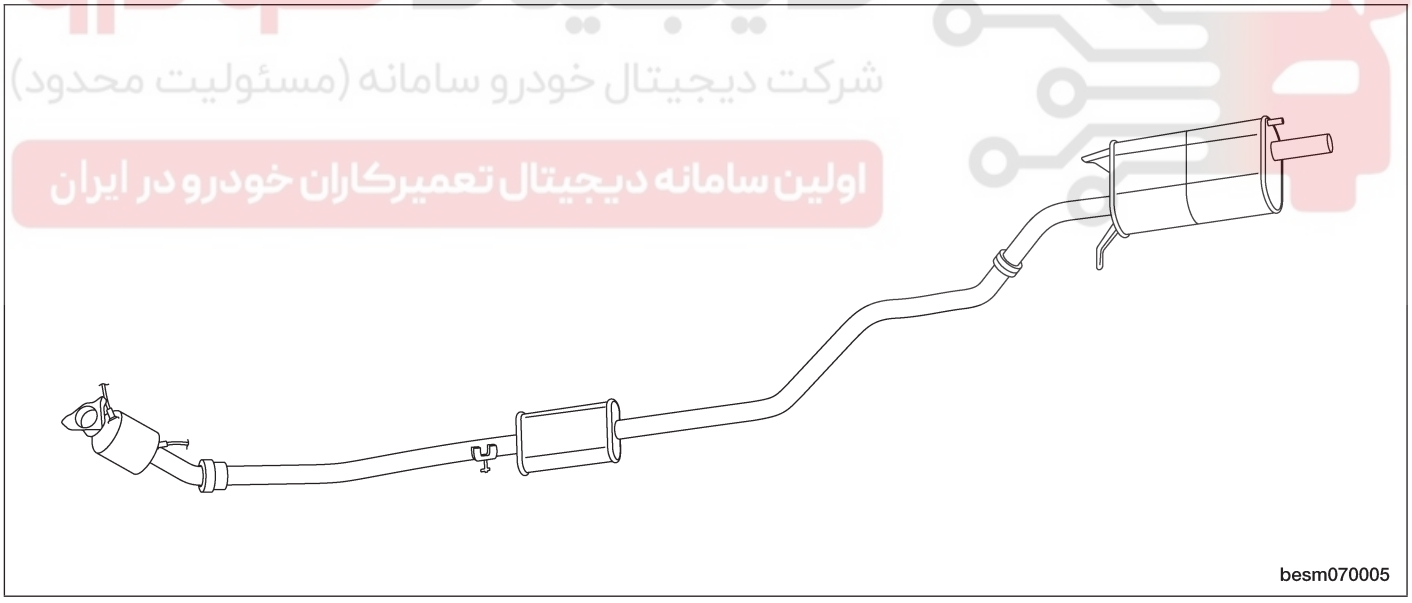
GENERAL INFORMATION

Description

1.6L & 1.8L Exhaust System



2.0L Exhaust System



The exhaust system provides an exit for exhaust gases and reduces engine noise by moving exhaust gases through the three-way catalytic converter, a muffler inlet pipe and a muffler. Rubber exhaust hanger insulators attach the exhaust system to the mounting hooks.

The exhaust system contains the following components:

- Catalytic converter assembly
- Muffler assembly
- Exhaust brackets with isolators bolted to the body
- Heated oxygen sensors mounted to the exhaust pipes
- Tailpipe assembly

WARNING!

Exhaust gases contain carbon monoxide which can be harmful to health and are potentially lethal. Exhaust system leaks should be repaired immediately. Never operate the engine in enclosed areas. Failure to follow these instructions may result in personal injury.

Operation

In order to reduce vehicle emissions released by the engine, the catalytic converter is required to perform in all operating conditions. This reduction is especially beneficial during the cold start and warm up phases of operation, which is when a majority of the tailpipe emissions occur on today's cars because the catalytic converter has not yet reached its operating temperature. The exhaust system channels exhaust gases from the engine and away from the vehicle.

Specifications

Torque Specifications

DESCRIPTION	TORQUE (N·m)
Catalytic Converter Mounting Nuts	50
Exhaust Flange Bolts	50

DIAGNOSIS AND TESTING

Exhaust System Diagnostic Chart

CONDITION	POSSIBLE CAUSES	CORRECTION
Excessive Exhaust Noise	· Leaks at pipe joints. · Burned or blown out muffler. · Burned or rusted-out exhaust pipe. · Exhaust pipe leaking at manifold flange. · Exhaust manifold cracked or broken. · Leak between exhaust manifold and cylinder head. · Restriction in muffler or tailpipe. · Exhaust system contacting body or chassis.	· Tighten clamps to specified torque at leaking joints. · Replace muffler assembly. · Replace exhaust pipe. · Tighten connection attaching nuts. · Replace exhaust manifold. · Tighten exhaust manifold to cylinder head stud nuts or bolts. · Remove restriction, if possible. Replace muffler or tailpipe, as necessary. · Re-align exhaust system to clear surrounding components.
Leaking Exhaust Gases	· Leaks at pipe joints.	· Tighten/replace clamps at leaking joints.

ON-VEHICLE SERVICE

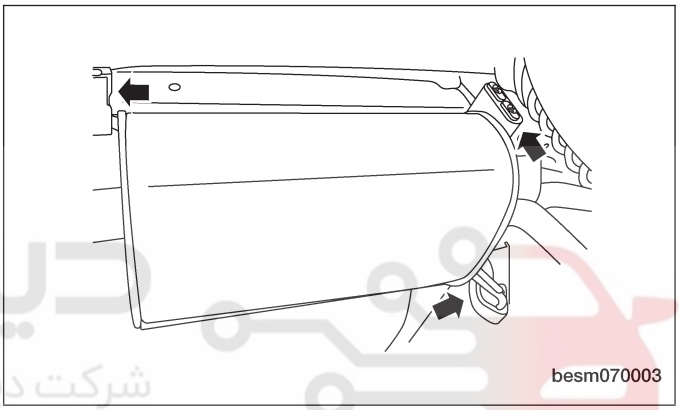
Muffler

Removal & Installation

WARNING!

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 has 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 operating time.

1. Raise the vehicle on hoist.
2. Remove the flange bolts, springs and gasket. (Tighten: Exhaust flange bolts to 50 N·m)
3. Remove the support isolators.
4. Remove the muffler.
5. Clean ends of pipes and muffler to assure mating of all parts. Discard broken or worn isolators, rusted or overused clamps, supports, and attaching parts.
6. Installation is in the reverse order of removal.



Catalytic Converter

Description

The catalytic converter is attached to the exhaust manifold using fasteners and a gasket for sealing.

The catalytic converter plays a major role in the emission control system. The catalytic converter operates as a gas reactor. Its catalytic function is to speed the heat-producing chemical reaction of components in the exhaust gases in order to reduce air pollutants.

Operation

Catalyst operation is dependent on its ability to store and release the oxygen needed to complete the emissions-reducing chemical reactions. As a catalyst deteriorates, its ability to store oxygen is reduced. Since the catalyst's ability to store oxygen is somewhat related to proper operation, oxygen storage can be used as an indicator of catalyst performance.

CAUTION:

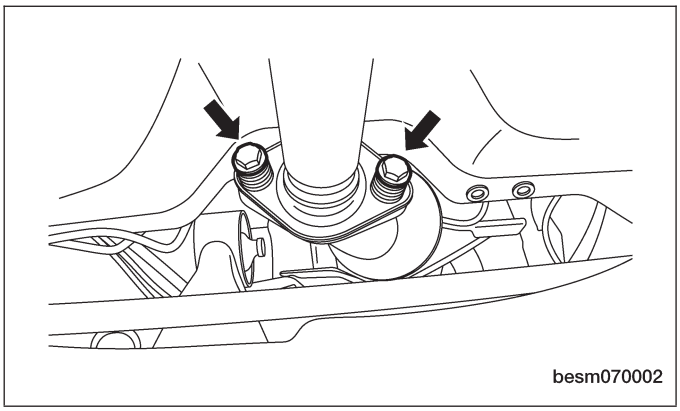
Unleaded gasoline must be used in order to avoid damaging the catalyst core.

Removal & Installation

WARNING!

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 has 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 operating time.

1. Remove the engine cover.
2. Disconnect the negative battery cable.
3. Raise the vehicle on hoist.
4. Remove the flange bolts, springs and gasket. (Tighten: Exhaust flange bolts to 50 N·m)



5. Disconnect the oxygen sensor electrical connector (2).
6. Remove the catalytic converter mounting nuts (1). (Tighten: Catalytic converter mounting nuts to 50 N·m)
7. Remove the catalytic converter.
8. Clean ends of pipes to assure mating of all parts. Discard broken or worn isolators, rusted or over-used clamps, supports, and attaching parts.
9. Installation is in the reverse order of removal.