

## 02 -Engine

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02

# دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



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Exhaust system



## Exhaust system

### Precautions

#### Precautions

1. The temperature of exhaust pipe is high during the operation of engine. During the work of exhaust system, stop the engine, and restart it after the engine and exhaust system is cooled down.

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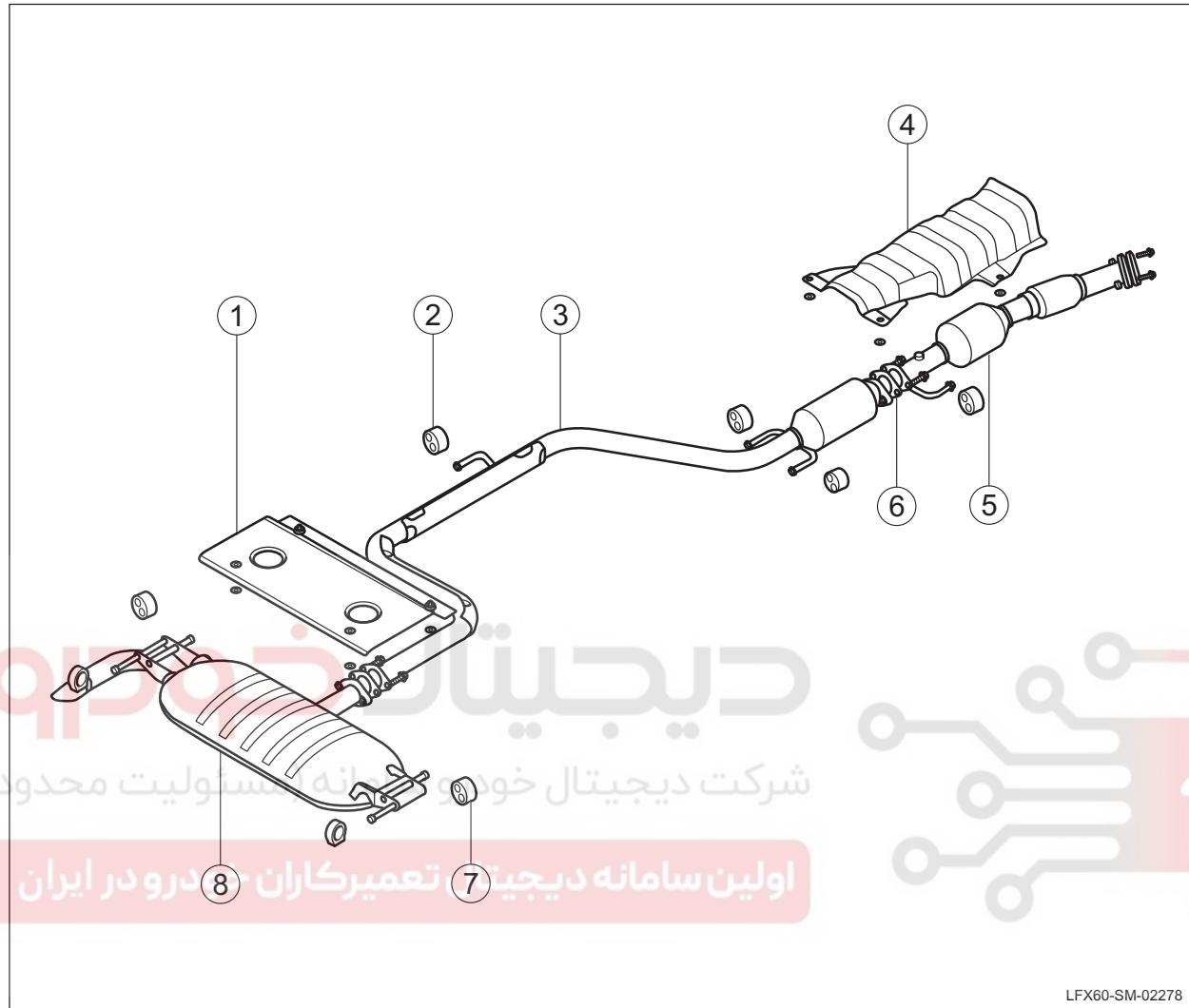
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## Structure and installation location

## Component Location Plan



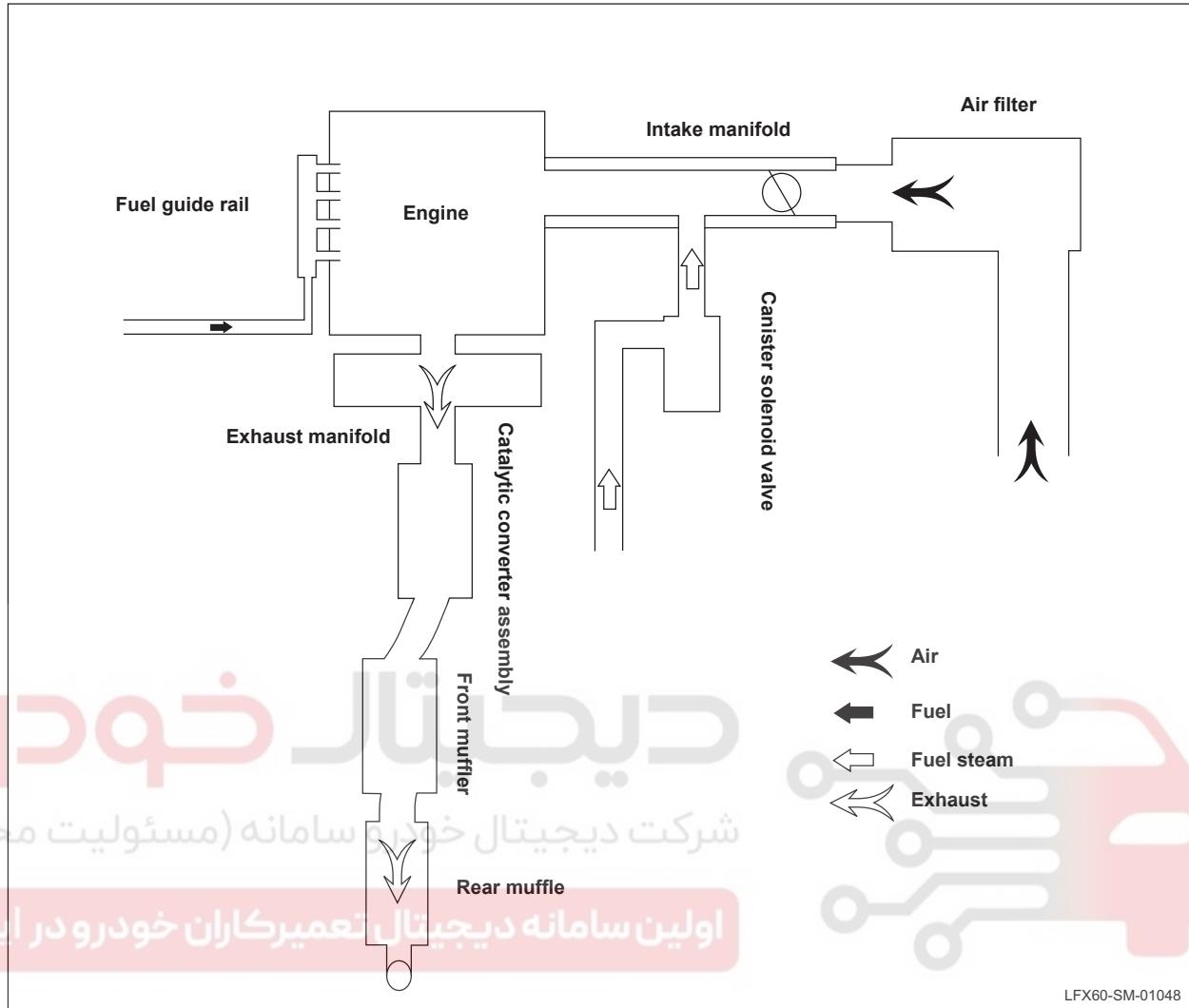
No.	Part Name
1	Thermal baffle
2	Rubber suspension block
3	Front muffler assembly
4	Heat shield III

No.	Part Name
5	rear catalyst assembly
6	exhaust gasket
7	rubber suspension block II
8	Rear muffler assembly

Exhaust system

 力帆汽车  
LIFAN AUTO

## Functional diagram





## Diagnostic Information and Procedures

### Diagnosis Instructions

Before trouble-shooting, first understand and get familiar with the working principle of exhaust system. This is helpful to determine the correct procedures of trouble-shooting when the trouble occurs. More important, it is also helpful to determine if the status described by the client is normal operation.

Any trouble-shooting for the exhaust system shall start from the inspection for the exhaust system, then guide the maintenance personnel to take next logic procedure to perform trouble-shooting. Comprehend and correctly use the diagnostic flow chart to shorten the diagnosis time and avoid the misjudgement.

### General equipment

Exhaust back pressure gauge

### Visual Inspection

1. Confirm the customer's question.
2. Visually check for obvious signs of mechanical or electrical damage.

### Visual inspection table

Mechanical
• vent-pipe lifting lug
• vent-pipe fastener
• exhaust manifold
• Muffler
3. If the observed or raised problem is the evident and the cause has been found, ensure to fix this fault before proceeding with the next step.
4. If for the problem, there are no obvious findings, then confirm the fault and refer to the symptom table.

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Exhaust system



### List of fault symptoms

If the vehicle fails, no trouble code is detected by the engine control module (ECM), and no significant fault location is found after visual inspection and general inspection, it is recommended that troubleshooting should be carried out according to diagnostic ideas and processes of the table below.

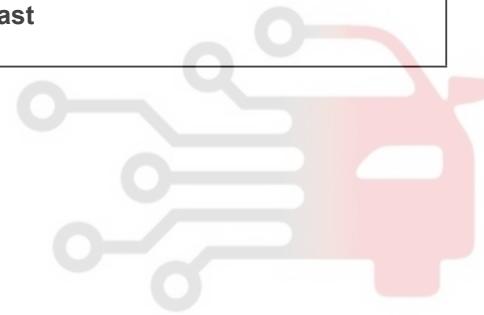
Symptom	Possible Cause	Recommended Measures
Exhaust leaking	• Exhaust system parts in wrong places or installation mistake	• Position and tighten the exhaust system parts to the required Torque
	• Seal components or cushion leaking • Exhaust manifold and cylinder head • Assembly of exhaust manifold and catalyst • Assembly of catalyst and assembly of front muffle	• Replace the leaking seal components of exhaust system.
	• Exhaust manifold cracking or disconnected	• Replace the exhaust manifold.
	• Welding joints of exhaust system parts leaking	• Replace the leaking parts.
Exhaust blocked	• Exhaust pipe • Catalytic converter • Muffler	Refer to: Trouble-shooting for blocked exhaust

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## Trouble-shooting for blocked exhaust

Test condition	Details/results/measures
1. General check.	<p>A. Check if there is any foreign object at the mouth of exhaust pipe.</p> <p>B. Check if the exhaust pipe is bent or deformed obviously.</p> <p>Is it OK after checking?</p> <p>→Yes</p> <p>To step 2.</p> <p>→No</p> <p>Replace the foreign object or replace the parts.</p>
2. Check the exhaust back pressure.	<p>A. Check the back pressure of exhaust system.</p> <p>Is the test normal?</p> <p>→Yes</p> <p>Exhaust system normal</p> <p>→No</p> <p>To step 3.</p>
3. Check the catalytic converter.	<p>A. Dismount the catalytic converter.</p> <p>B. Check if the catalyst gets blocked.</p> <p>Is it OK after checking?</p> <p>→Yes</p> <p>To step 4.</p> <p>→No</p> <p>Replace the assembly of catalytic converter.</p>
4. Check the muffle	<p>A. Dismount the muffle.</p> <p>B. Check if the muffle gets blocked inside.</p> <p>Is it OK after checking?</p> <p>→Yes</p> <p>Check the connections of all the parts in the exhaust system and test if the system works properly.</p> <p>→No</p> <p>Replace the muffle.</p>

## Exhaust system



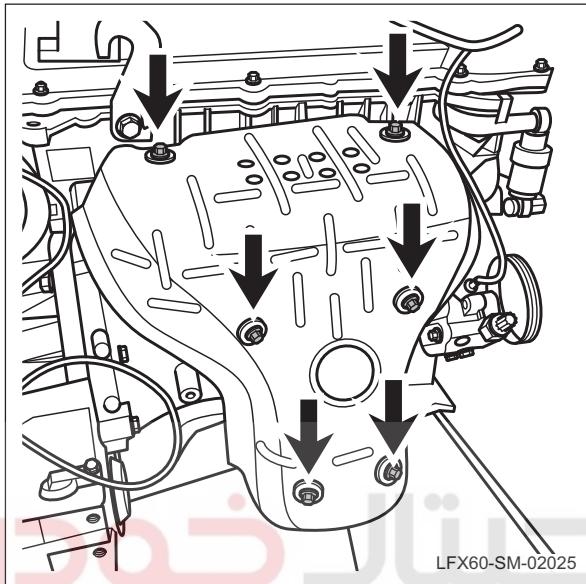
## Removal and Installation

## Replacement of exhaust manifold

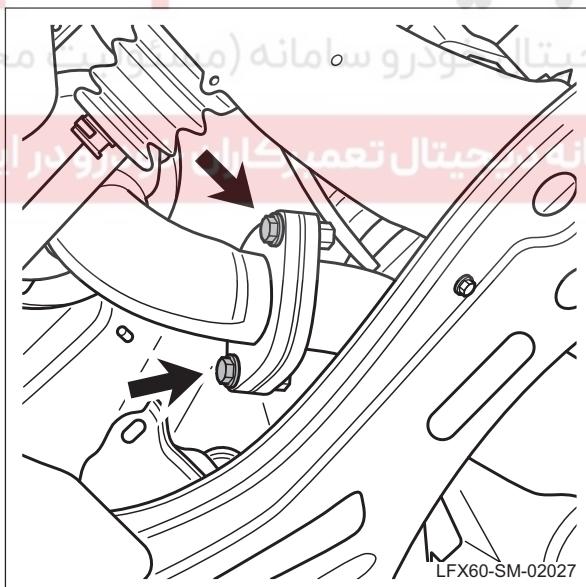
## Removal

## 1. Dismount the exhaust manifold.

(a). Disconnect the battery negative terminal.  
 (b). Dismount the front oxygen sensor. Reference: replacement of front oxygen sensor.

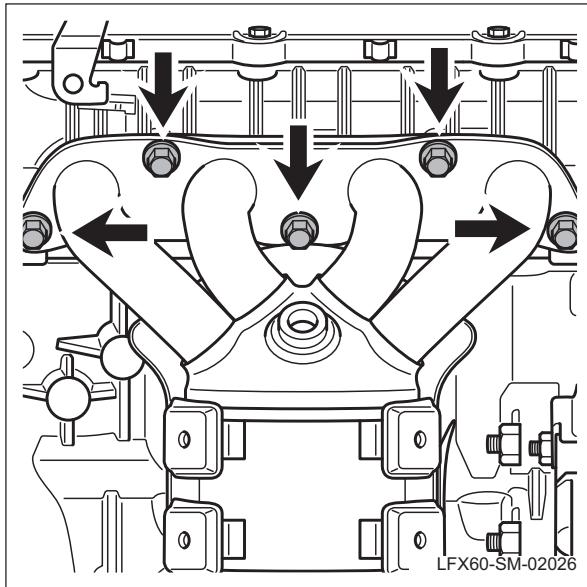


(c). Dismount the tap bolt of heat shield of exhaust manifold and detach the shield.



(d). Dismount the bolt connecting the front exhaust pipe and exhaust manifold.

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- (e). Dismount the tap bolt of exhaust manifold.
- (f). Dismount the tap bolt for fixing the stand 1 under the exhaust manifold.
- (g). Detach the exhaust manifold.

### Installation

1. **Install the assembly of exhaust manifold.**

- (a). The installation sequence is the reverse of the disassembly order.

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