

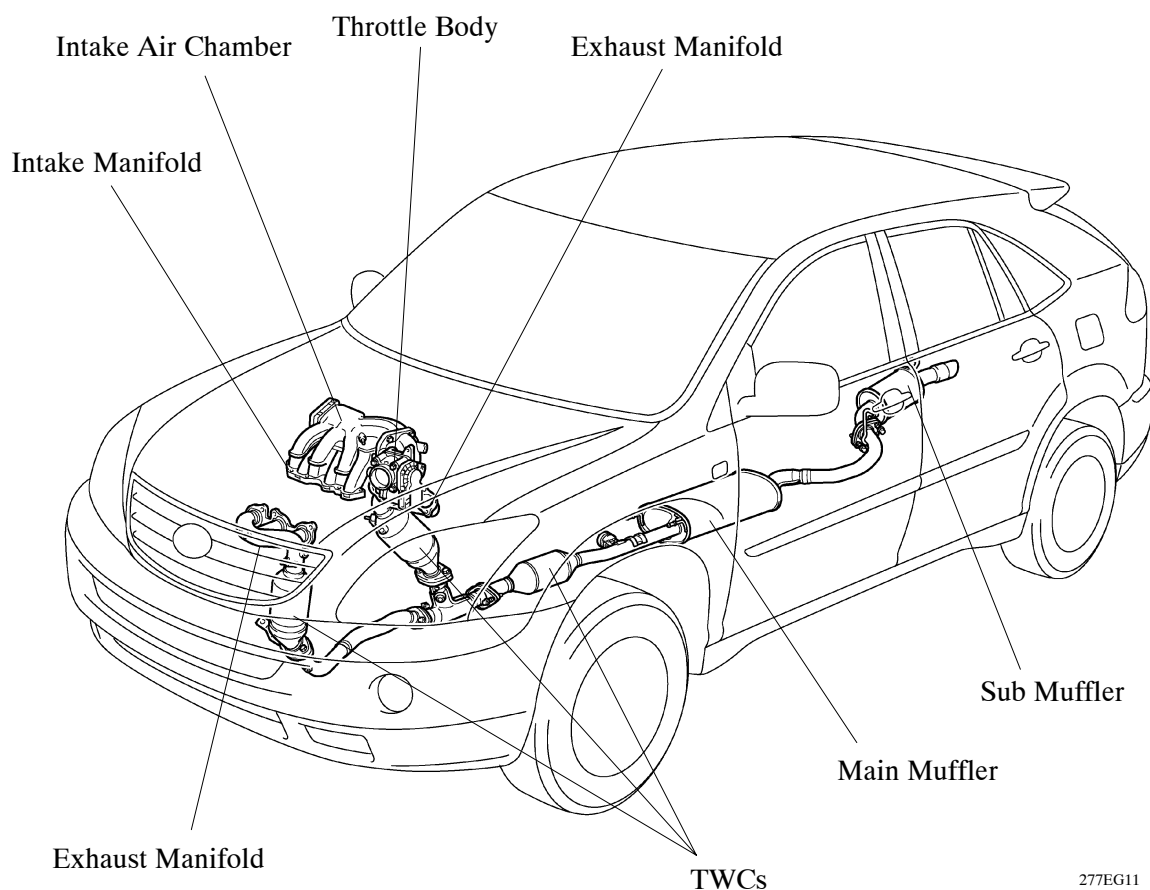
■ INTAKE AND EXHAUST SYSTEM

1. General

2-way exhaust control system is used in the main muffler to reduce noise and back pressure.

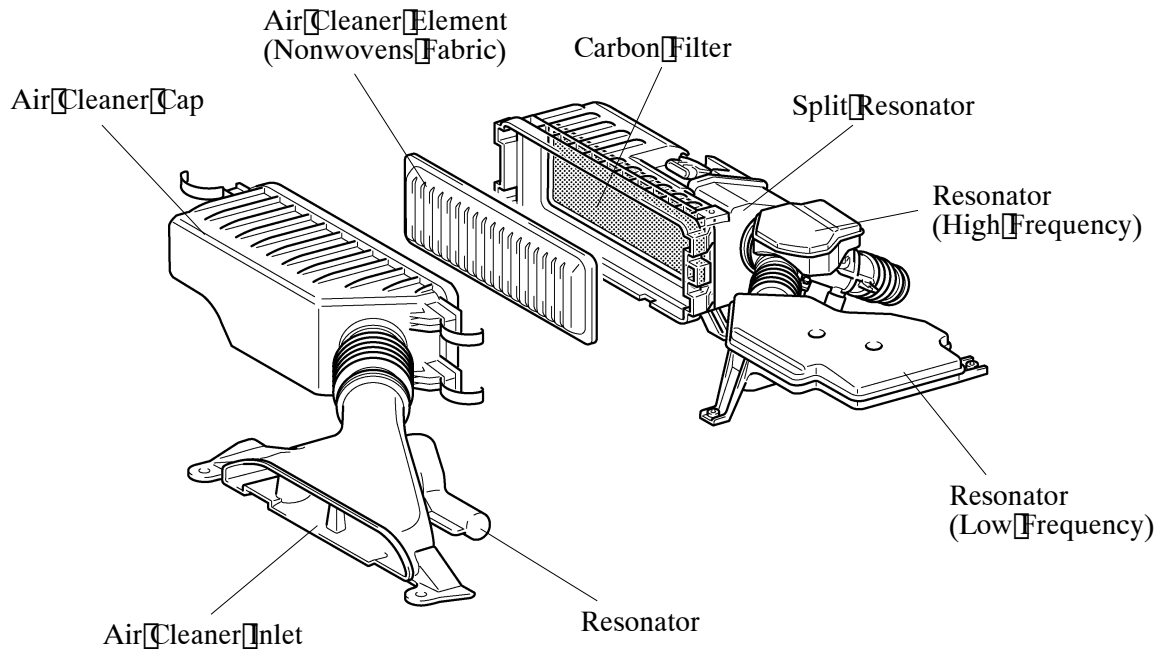
— Main Changes from Current RX330 —

- The intake air control valve has been discontinued, along with the discontinuance of the ACIS (Acoustic Control Induction System).
- The following are used with the hybrid system:
 - The air cleaner assembly has been relocated directly above the engine.
 - Resonators are used in various areas of the air cleaner assembly.
 - The intake port of the air cleaner has been relocated.
 - A large-capacity main muffler is used.
 - An intake air connector has been added, along with the relocation of the air cleaner assembly.



2. Air Cleaner

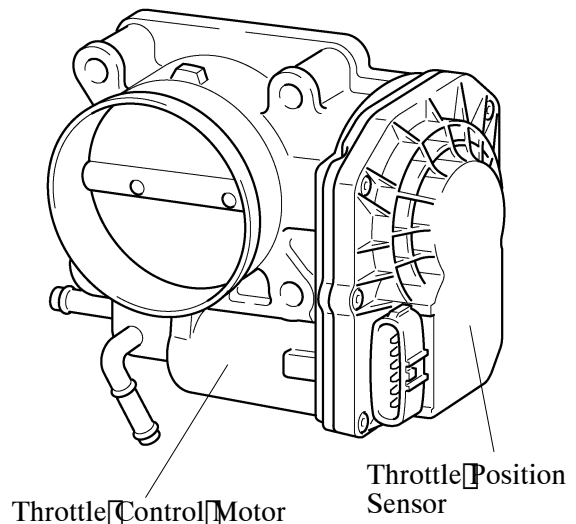
- A carbon filter, which adsorbs the HC that accumulates in the intake system when the engine is stopped, is used in the air cleaner cap in order to reduce evaporative emissions. This filter is maintenance-free.
- A split resonator is used inside the air cleaner. A low-frequency resonator and a high-frequency resonator are used in the vibrating area of the air cleaner hose. Furthermore, a resonator is used in the vibrating area of the air inlet. As a result, noise has been reduced and performance has been improved.
- An inlet port for the air cleaner has been located in the center of the upper radiator support to improve intake efficiency.



277EG12

3. Throttle Body

- A DC motor with excellent response and minimal power consumption is used for the throttle control motor. The HV ECU performs the duty ratio control of the direction and the amperage of the current that flows to the throttle control motor in order to regulate the opening angle of the throttle valve.
- The link-less type throttle body is used for excellent throttle control.
For details, refer to ETCS-i on [page EG-46](#).

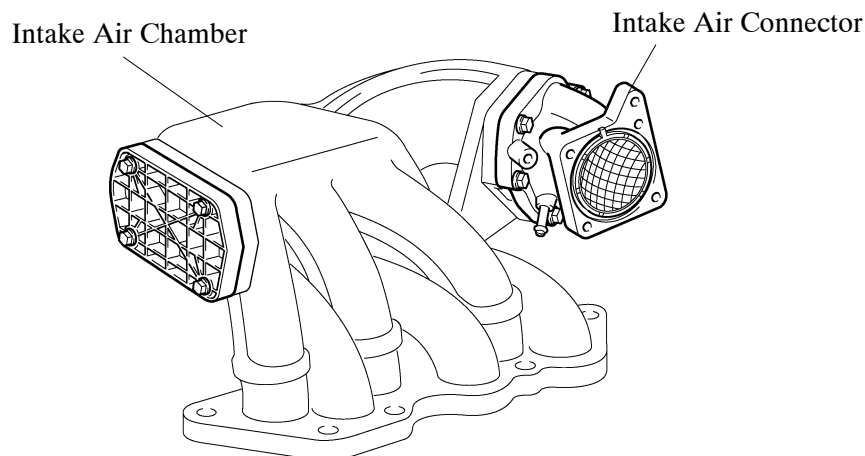


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4. Intake Air Chamber

The following measures have been taken to reduce the weight of the intake air chamber:

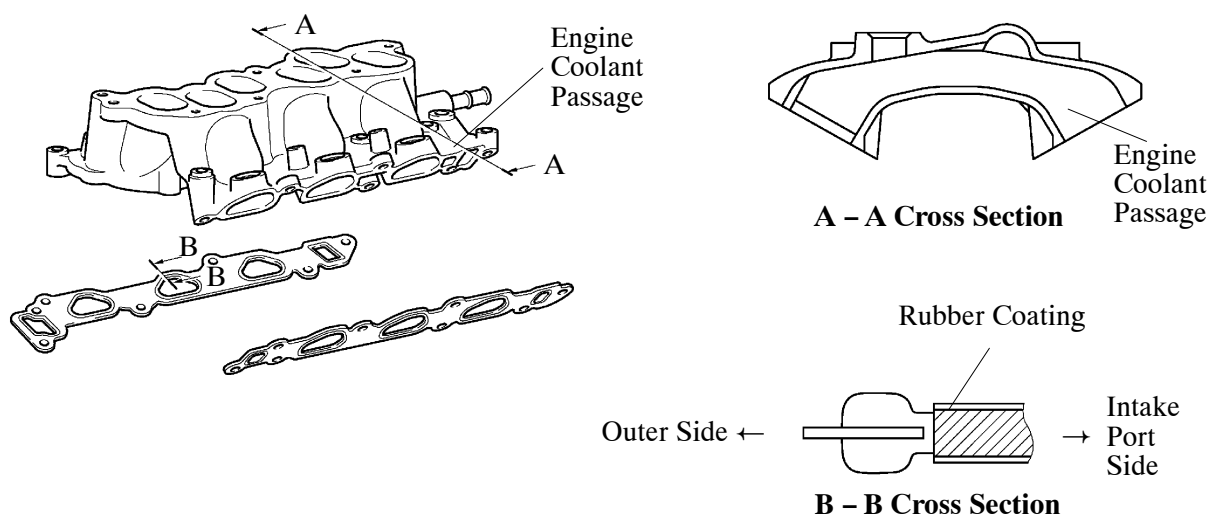
- The intake air connector is made of aluminum alloy
- The intake air chamber is made of plastic similar to the RX330



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5. Intake Manifold

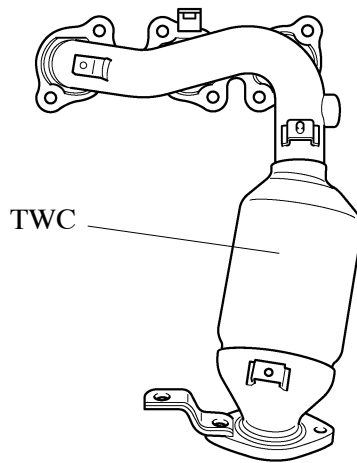
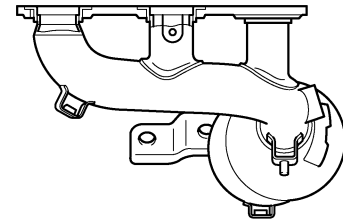
- The port diameter of the intake manifold and the port length have been optimized.
- An engine coolant passage connects the left and right banks at the rear end of the intake manifold.
- The intake manifold gaskets has rubber coating applied onto surface, and provide superior durability.



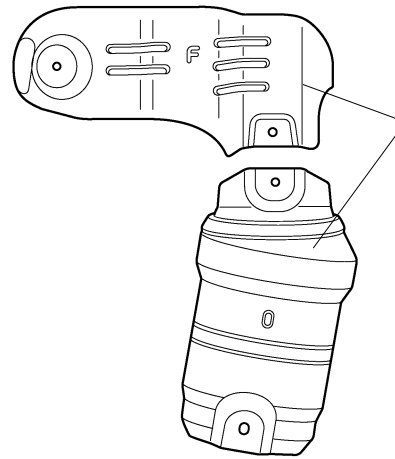
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6. Exhaust Manifold

- Air fuel ratio sensors are located on the exhaust manifolds.
- A high temperature resistant exhaust manifold with an integrated TWC (Three-Way Catalytic converter) is used.
- Ceramic type TWC is used. This TWC enables to improve exhaust emissions by optimizing the cells density.

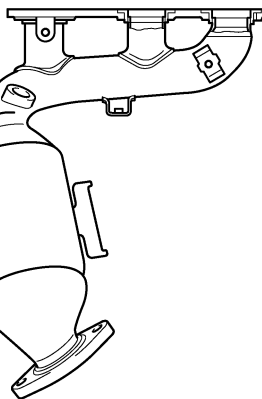


TWC

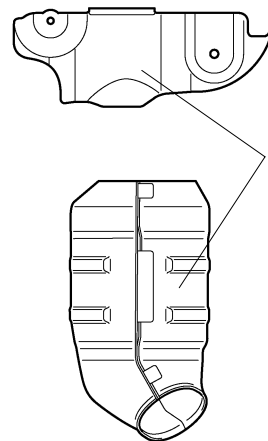


Heat Insulators

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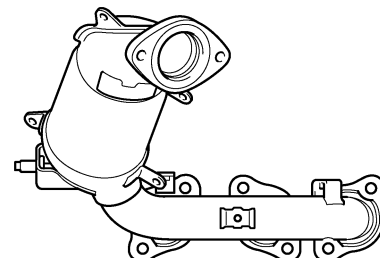
for Left Bank

TWC



Heat Insulators

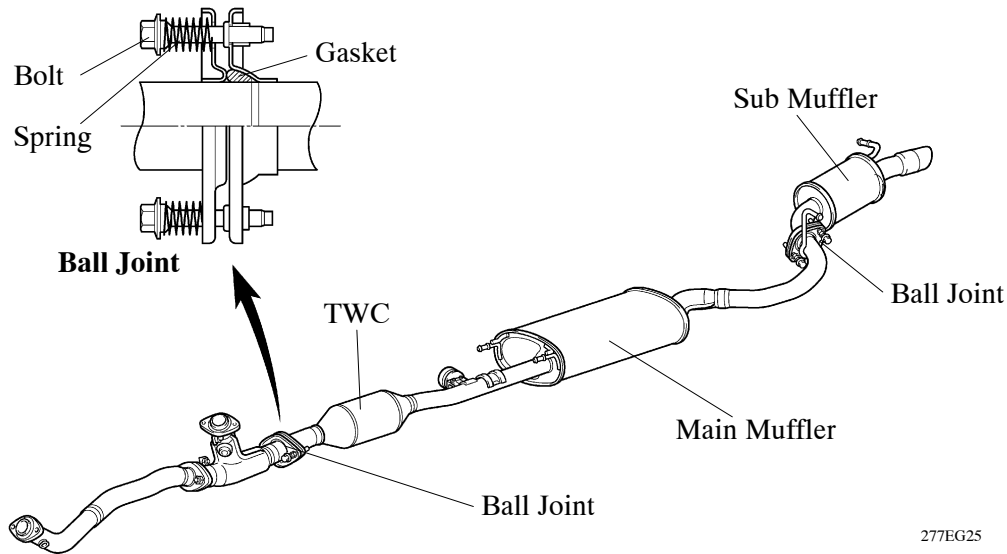
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**for Right Bank**

7. Exhaust Pipe

General

- Ceramic type TWC is used. This TWC enables to improve exhaust emissions by optimizing the cells density.
- 2-way exhaust control system is provided to reduce noise and back pressure in the main muffler.
- A ball joint is used to join the exhaust front pipe, exhaust center pipe and exhaust tail pipe. As a result, a simple construction and improved reliability have been realized.
- A large-capacity, main muffler is used in the center of the vehicle to improve quietness.



277EG25

2-Way Exhaust Control System

- A 2-way exhaust control system is used.
- At lower engine speeds, this system enable a quieter operation with control valve close in main muffler.
- The valve opens steplessly in accordance with engine condition and this system reduce the back pressure at higher engine speeds.

1) Construction

The control valve is enclosed in the main-muffler. When the exhaust gas pressure overcomes the spring pressure, the control valve opens steplessly in accordance with the exhaust gas pressure.

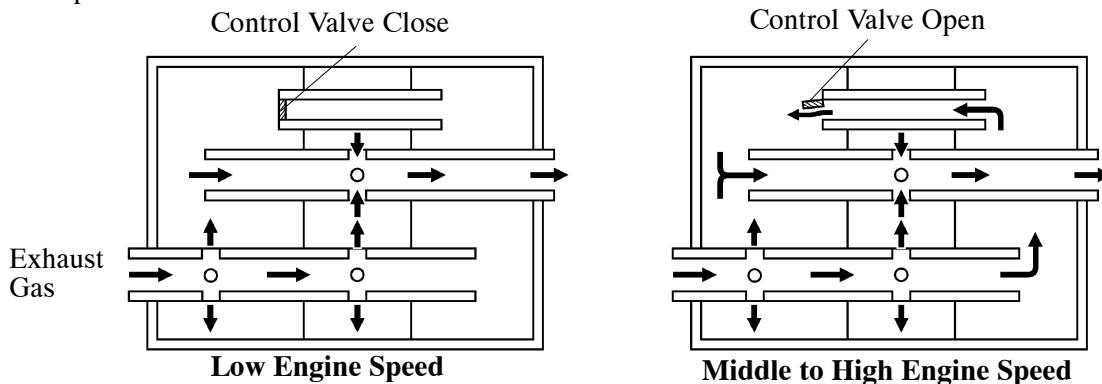
2) Operation

a. When Control Valve is Closed (low engine speed)

Since the pressure in the main muffler is low, the control valve is closed. Hence exhaust gas does not pass the bypass passage, and exhaust noise decreased by the main muffler.

b. When Control Valve is Open (middle to high engine speed)

The valve opens more as the engine speed and the back pressure in the muffler increase. This allows a large volume of exhaust gas to pass the bypass passage, thereby substantially decreasing the back pressure.



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