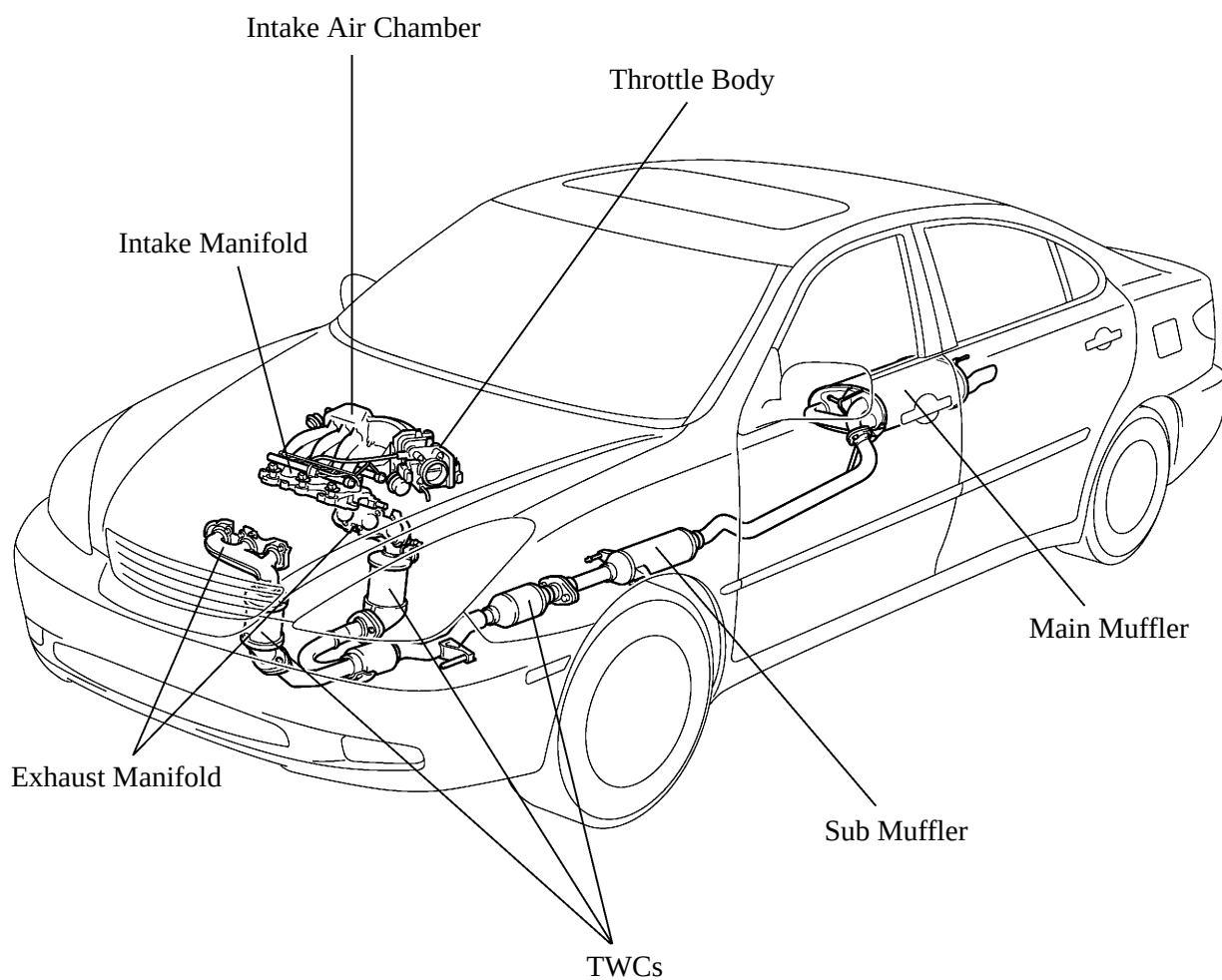


■ INTAKE AND EXHAUST SYSTEM

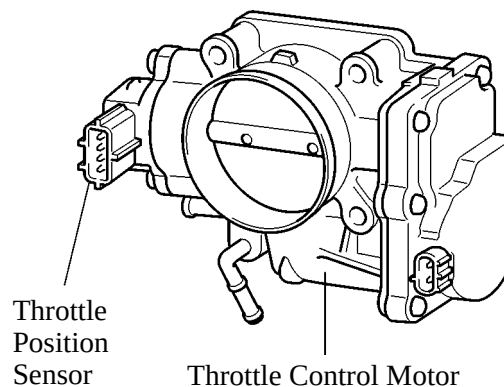
1. General

- The adoption of the ETCS-i (Electronic Throttle Control System-intelligent) has realized excellent throttle control.
- The adoption of the ACIS (Acoustic Control Induction System) has improved the engine performance.
- The adoption of the air intake control system has improved engine noise reduction and performance. For details, see page EG-46.
- 2-way exhaust control system is provided to reduce noise and back pressure in the main muffler.



2. Throttle Body

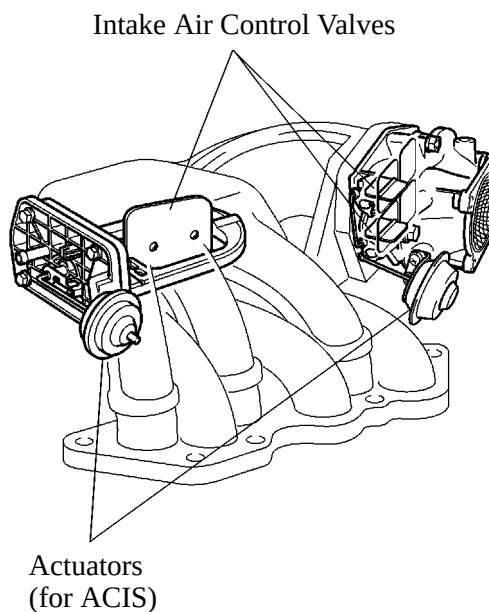
- The link-less type ETCS-i has adopted and it realizes excellent throttle control.
For details of ETCS-i control, refer to see page EG-39.
- A DC motor with excellent response and minimal power consumption is used for the throttle control motor. The ECM performs the duty ratio control of the direction and the amperage of the current that flows to the throttle control motor in order to regulate the opening angle of the throttle valve.



211EG34

3. Intake Air Chamber

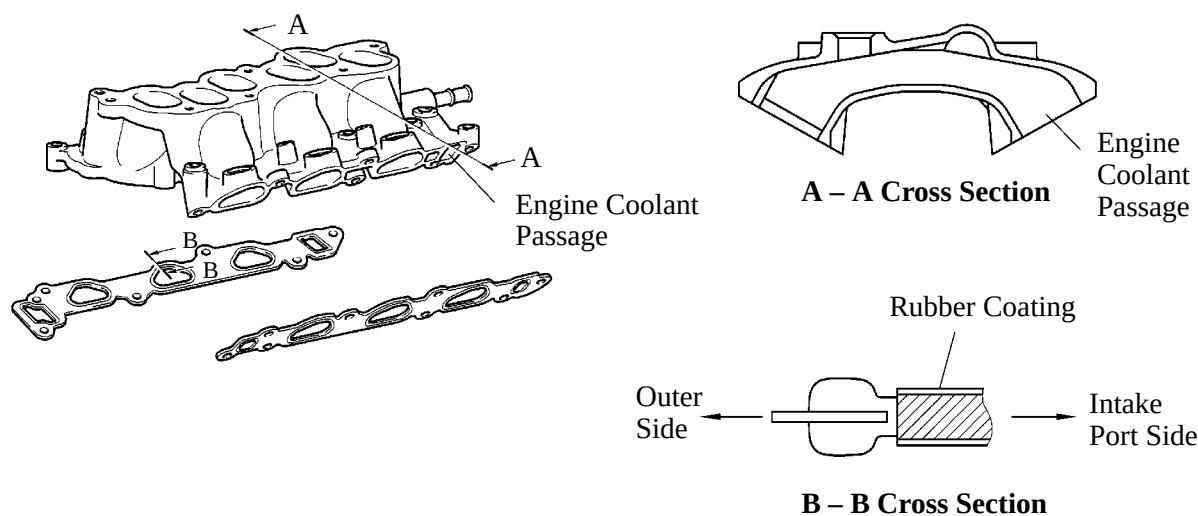
The intake air chamber is made of plastics to realize lightweight. The intake air chamber consists of upper and lower sections and contains an intake air control valve. This valve is activated by ACIS (Acoustic Control Induction System) and is used to alter the intake pipe length to improve the engine performance in all speed ranges. For details of ACIS control, refer to see page EG-42.



211EG19

4. Intake Manifold

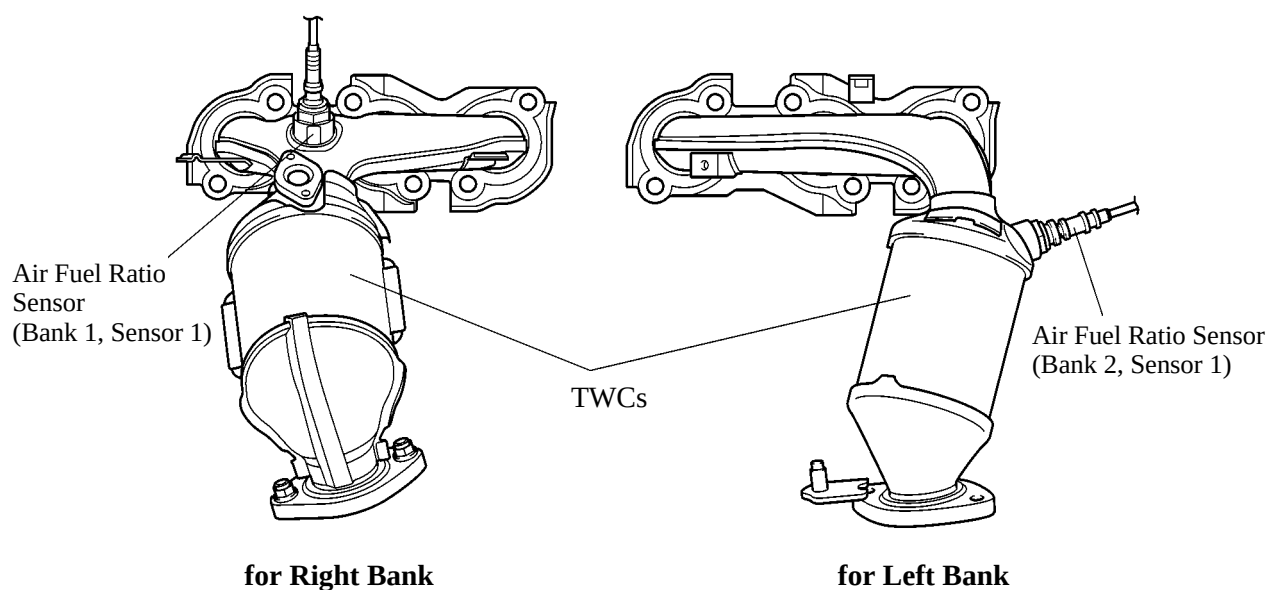
- The port diameter of the intake manifold and the port length have been optimized.
- An engine coolant passage connects the left and right banks at the rear end of the intake manifold.
- The intake manifold gaskets has rubber coating applied onto surface, and provide superior durability.



211EG35

5. Exhaust Manifold

- A stainless steel exhaust manifold is used for improving the warm-up of three-way catalytic converter and for weight reduction.
- The air fuel ratio sensor has been adopted to the exhaust manifold.
- An ultra thin-wall, high-cell metal type TWC (Three-Way Catalytic Converter) has been adopted. This TWC enables to improve exhaust emissions by optimizing the cells density.



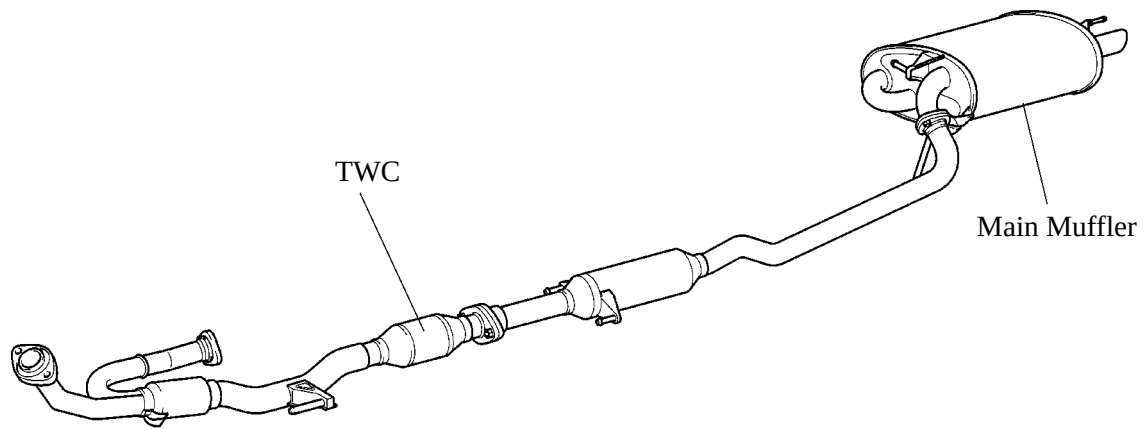
211EG09

208EG113

6. Exhaust Pipe

General

- An ultra thin-wall, high-cell ceramic type TWC has been adopted. 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.



211EG32

2-Way Exhaust Control System

- A 2-way exhaust control system is used. This system reduces the back pressure by opening a variable valve that is enclosed in the main muffler.
- The valve opens steplessly in accordance with the operating condition of the engine, thus enabling a quieter operation at lower engine speeds, and reducing 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.

