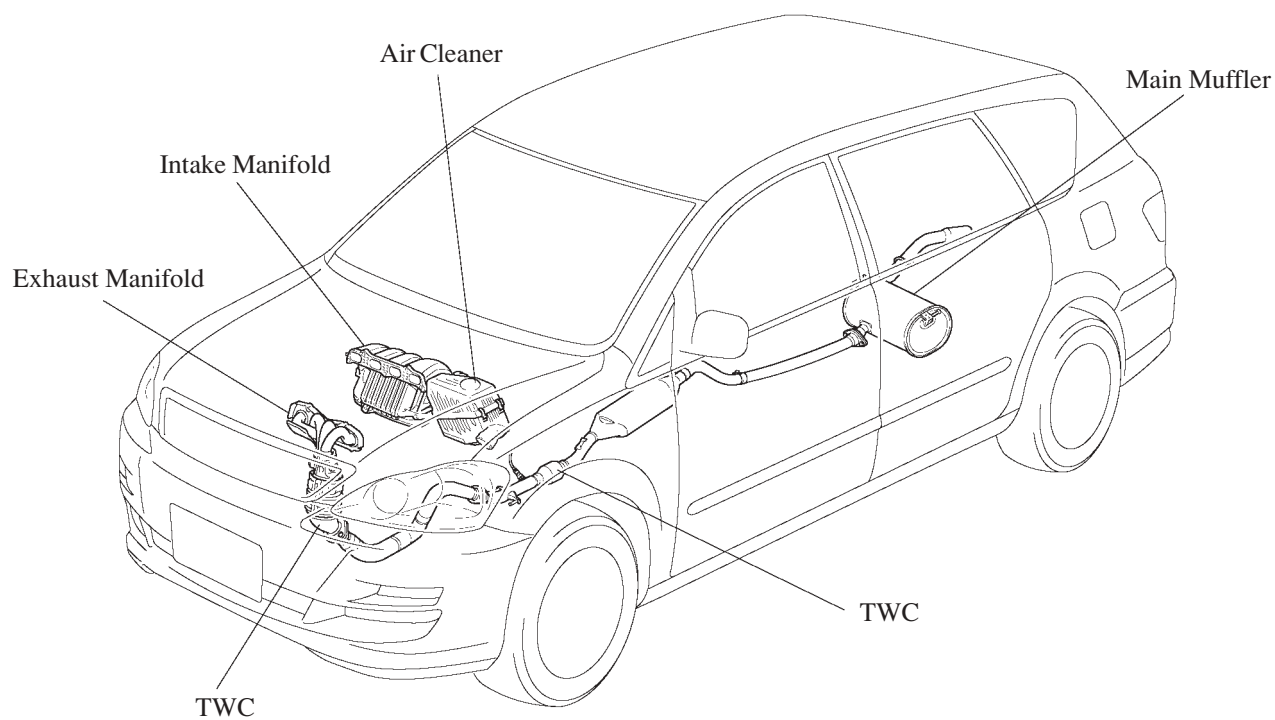


## 8. Intake and Exhaust System

The adoption of ETCS-i (Electronic Throttle Control System-intelligent) has realized excellent throttle control.

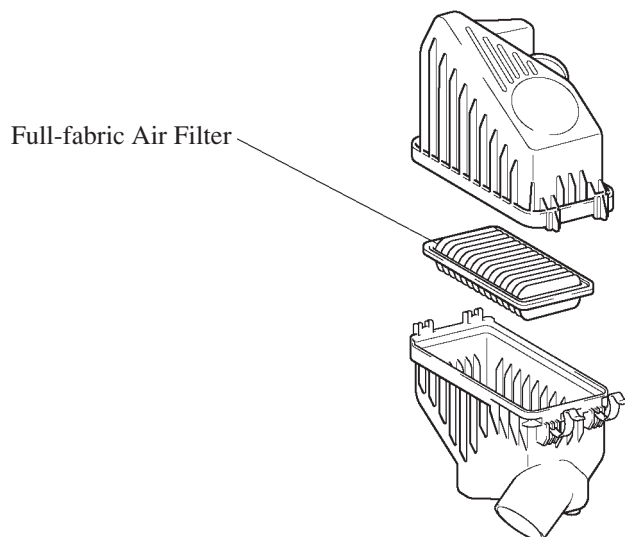
- The intake manifold has been made of plastic to reduce the weight and the amount of heat transferred from the cylinder head.



258AS19

## Air Cleaner

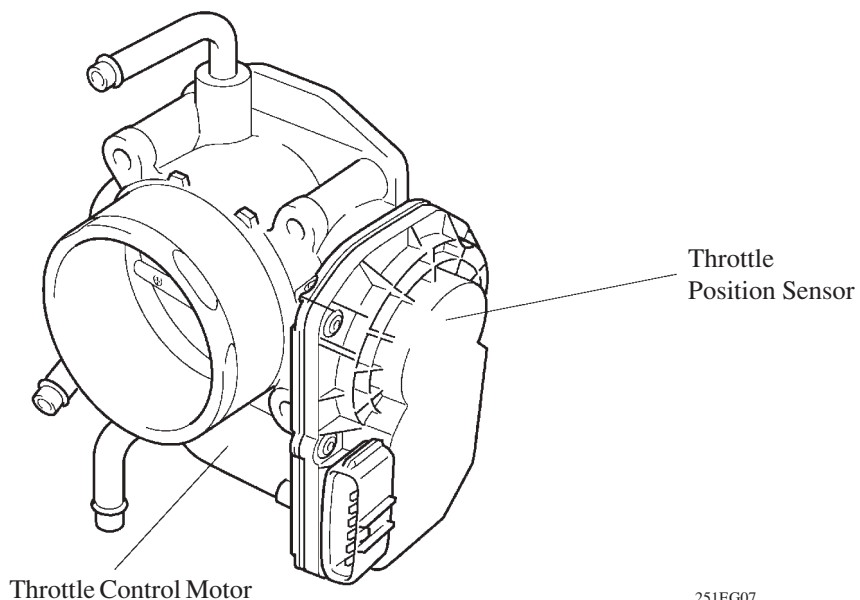
A flameless, full-fabric air filter has been adopted to reduce weight and to simplify its disposal.



206EG13

## Throttle Body

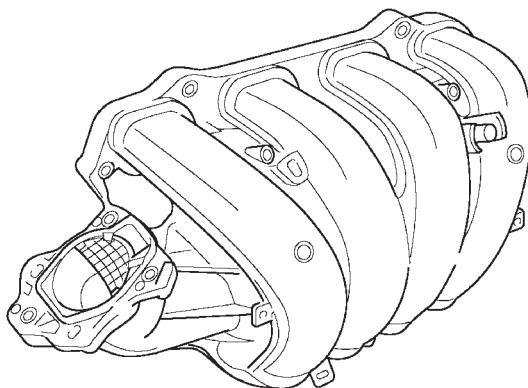
- An electronic throttle body with a built-in throttle position sensor and throttle control motor has been adopted.
- The adoption of the link-less type ETCS-i has realized excellent throttle control. For details of ETCS-i control, refer to [see page 174](#).
- A DC motor with excellent response and minimal power consumption is used for the throttle control motor. The ECU performs the duty ratio control of the direction and the amperage of the current that flows to the throttle motor in order to regulate the opening angle of the throttle valve.
- The control of the throttle position sensor is the same as that on the 1AZ-FE engine. For details, [see page 173](#).



251EG07

### Intake Manifold

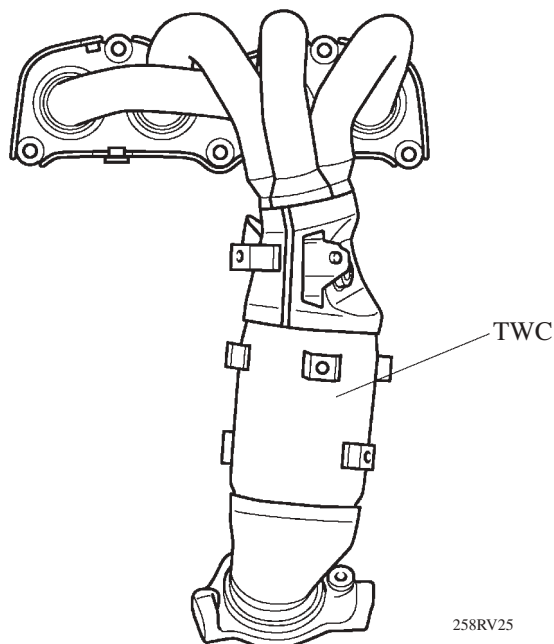
- The intake manifold has been made of plastic to reduce the weight and the amount of heat transferred from the cylinder head. As a result, it has become possible to reduce the intake air temperature and improve the intake volumetric efficiency.
- A resonator is installed inside the air intake chamber which makes use of the intake pulse to improve torque in the mid-speed range.



258AS50

### Exhaust Manifold

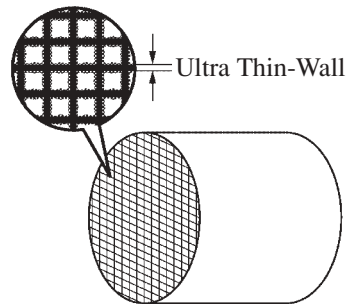
- A stainless steel exhaust manifold is used for weight reduction.
- A single exhaust pipe has been adopted for the start-up converter case in order to improve the warm-up performance of the catalyst and reduce exhaust gas emissions during the starting of the engine.



258RV25

### Three-Way Catalytic Converter

- The ceramic type TWC (Three-Way Catalytic Converter) has been adopted directly below the exhaust manifold and under floor. This TWC enables to improve exhaust emissions by optimizing the cell's density and the wall thickness.

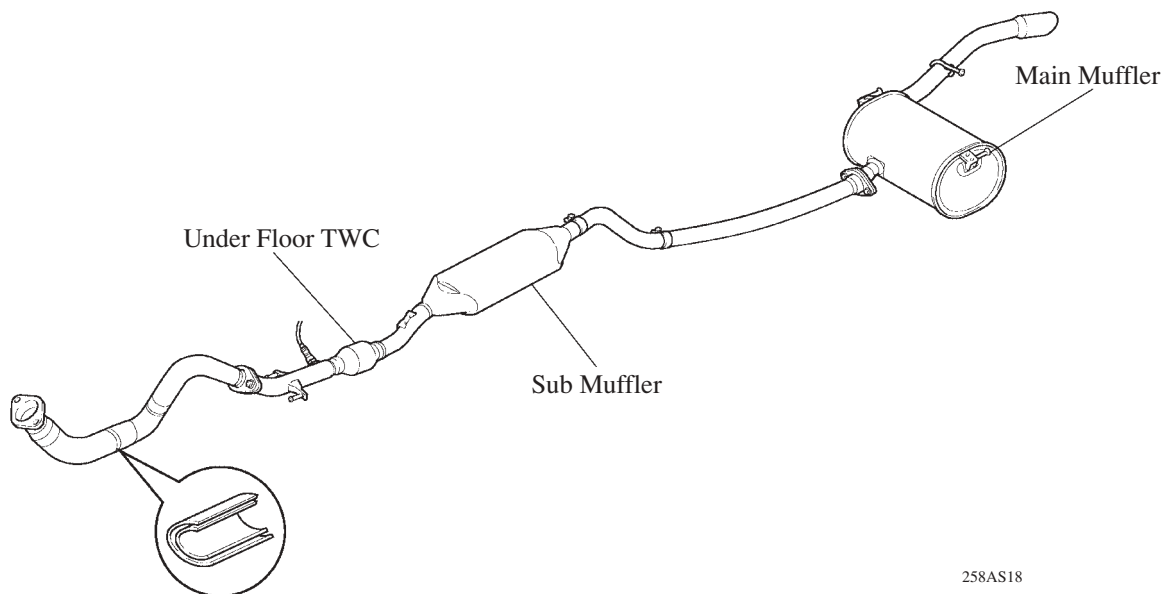


198EG06

4

### Exhaust Pipe

- An under floor catalyst has been adopted and the pipe upstream of the catalyst has been changed to a dual pipe construction.



258AS18