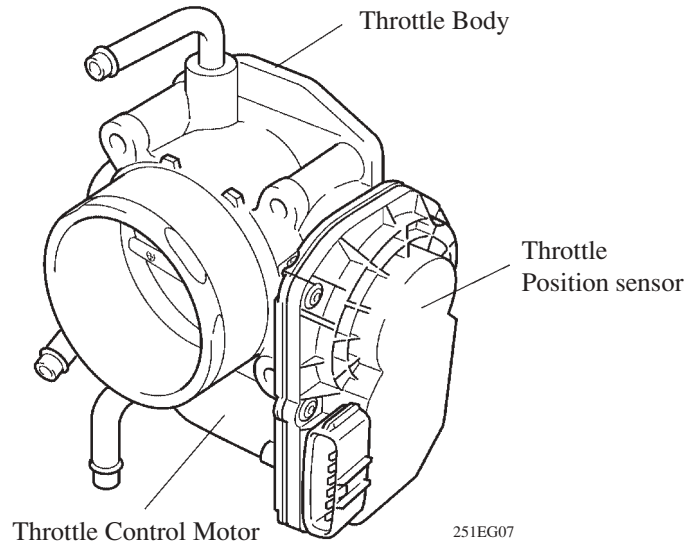


2. Intake and Exhaust System

Throttle Body

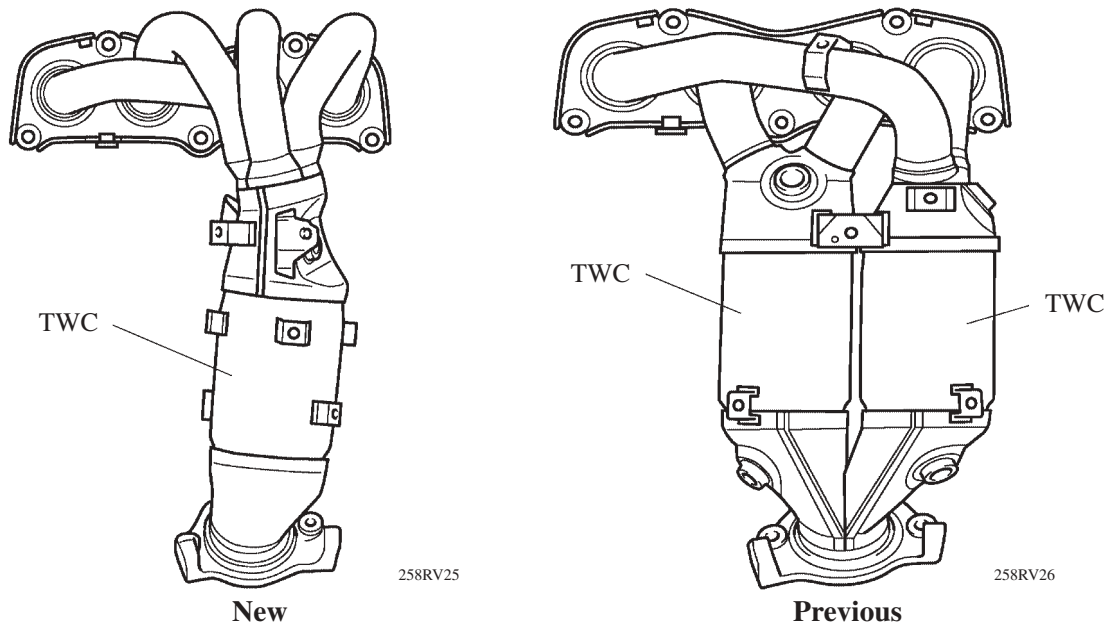
- A DC motor with excellent response and minimal power consumption is used for the throttle control motor. The engine ECU performs the duty ratio control of the direction and the amperage of the current that flows to the throttle control motor in order to regulate the opening angle of the throttle valve.
- The link-less type throttle body has adopted and it realizes excellent throttle control.

For details of ETCS-i control, refer to [see page 438](#).



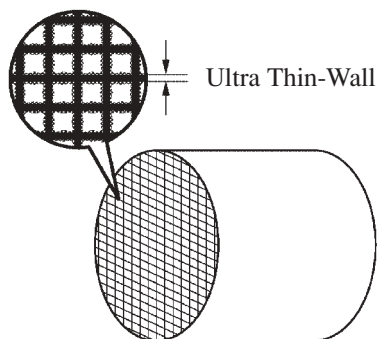
Exhaust Manifold

- To comply with the STEP-IV exhaust emission regulations in Europe, the exhaust manifold has been changed from dual pipes to a single pipe, and the warm-up performance of the catalyst has been improved, in order to reduce the exhaust emissions during the starting of the engine.
- Along with the change to a single pipe, the number of startup converters (TWC) has been changed from two to one.
- The branches of the exhaust manifold have been changed from the unequal-length to an equal-length type, in order to improve engine performance in the low- to medium-speed range, and fuel economy in the high-speed range.



Three-Way Catalytic Converter

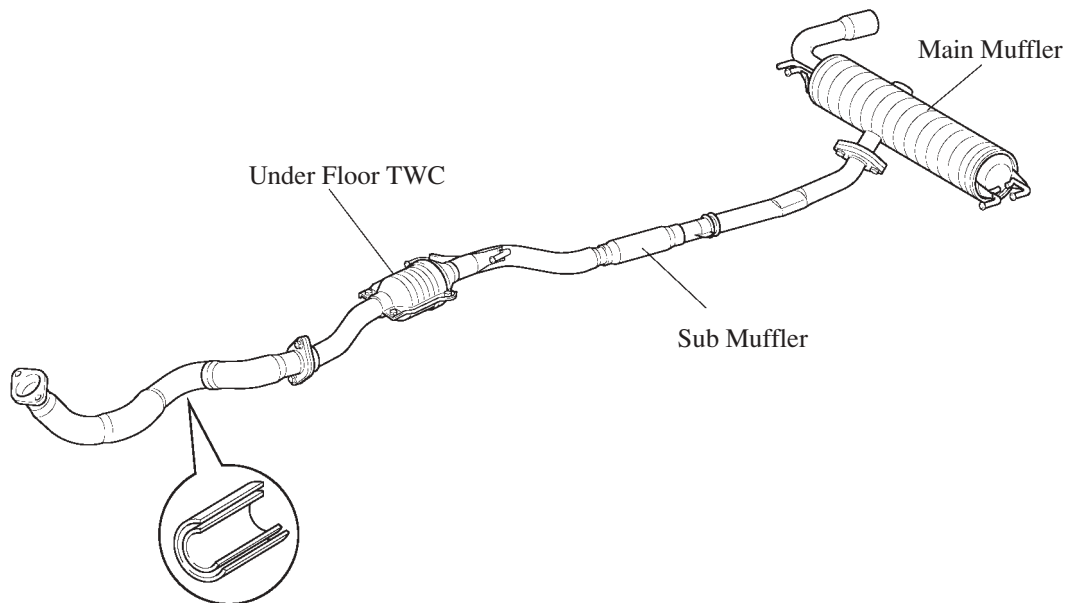
- The ceramic type TWC (Three-Way Catalytic Converter) has been adopted directly below the exhaust manifold and under floor. This TWC enables to improvement in reducing the amount of exhaust emissions by optimizing the cell's density and wall thickness.



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Exhaust Pipe

- To comply with the STEP-IV exhaust emission regulations on the models for Europe and the G. C. C. countries, their exhaust pipe system has adopted an under floor catalyst and a double-wall pipe upstream from the catalyst.



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