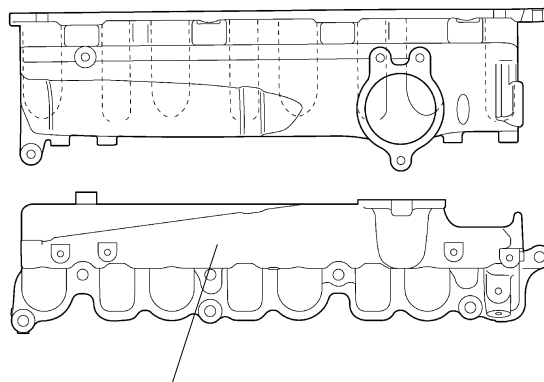


■ INTAKE AND EXHAUST SYSTEM

1. Intake Manifold

In conjunction with the adoption of the direct injection system, an intake manifold provided with an air intake chamber is used in order to reduce the swirl variances between the cylinders.

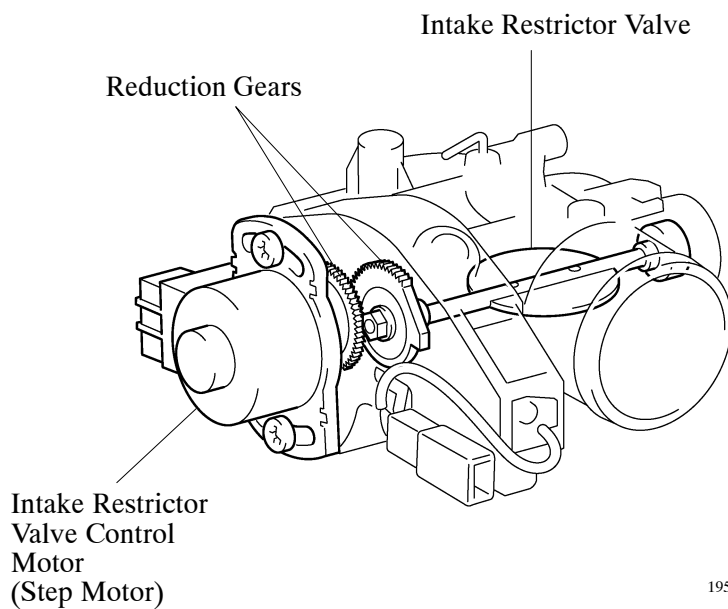


Air Intake Chamber

195EG56

2. Throttle Body

A step motor type intake restrictor valve is used to improve EGR performance and to reduce the vibration and noise when stopping the engine.



195EG84

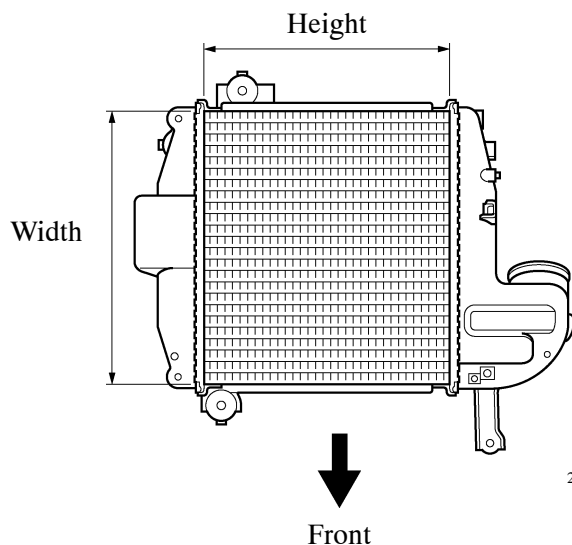
3. Intercooler

- An air-cooled intercooler is used in order to lower the intake air temperature, improve engine performance, and to realize cleaner exhaust gas emissions. It is located directly on top of the engine.
- The inlet tank is made of aluminum and the outlet tank is made of plastic to realize lightweight.
- A dual construction, high-frequency cavity resonator is used for the pipe between the turbocharger and the intercooler.
- The new model continues to use the aforementioned items. In addition, the size of the intercooler core has been increased and its location has been raised in order to increase the clearance to the engine. Through these measures, the cooling performance has been improved.

► Specification ◀

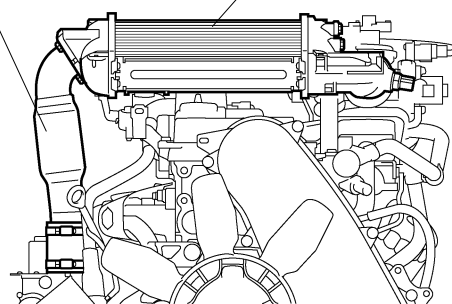
Model		New	Previous
Cooling Type		Air-Cooled Type	←
Core Shape		Tube	←
Core Size*	mm (in.)	305.4 (12.024) × 275.0 (10.827) × 49 (1.929)	305.4 (12.024) × 237.5 (9.350) × 49 (1.929)
Fin Pitch	mm (in.)	2.5 (0.098)	←

*: Width × Height × Thickness



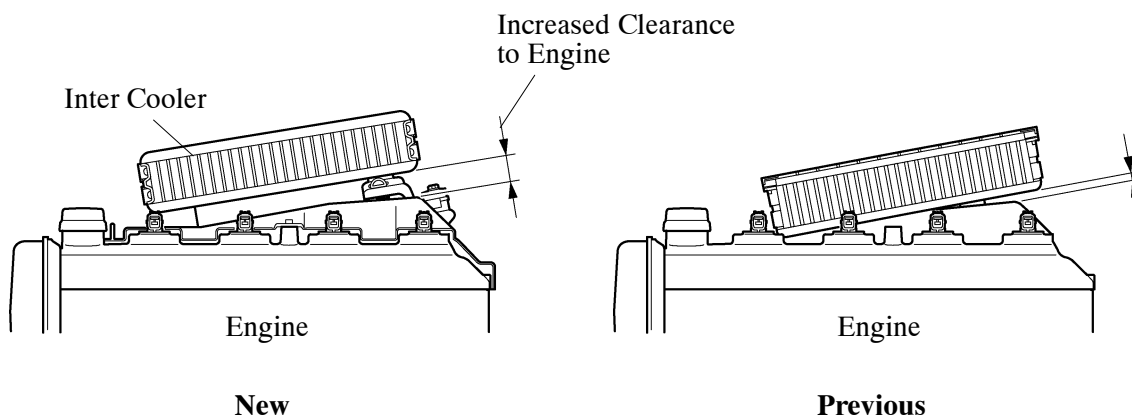
High-Frequency
Cavity Resonator

Intercooler



233EG05

233EG74

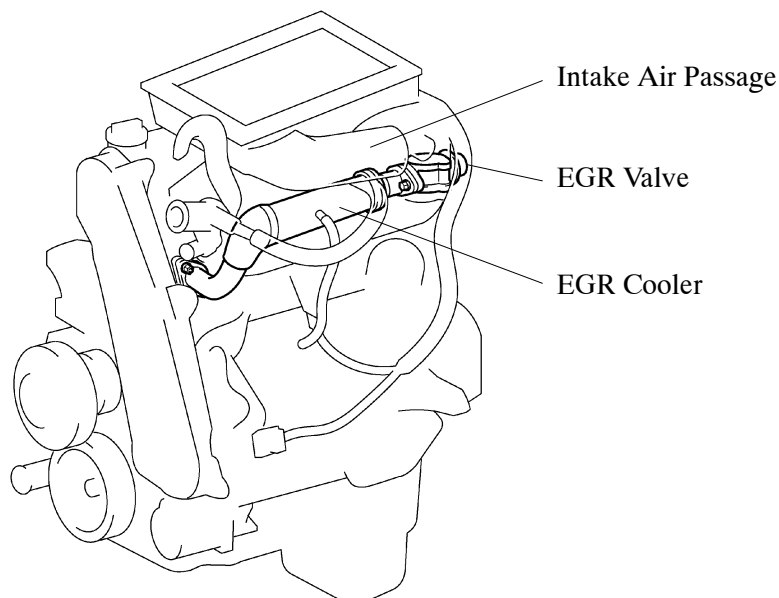


233EG06

4. EGR

General

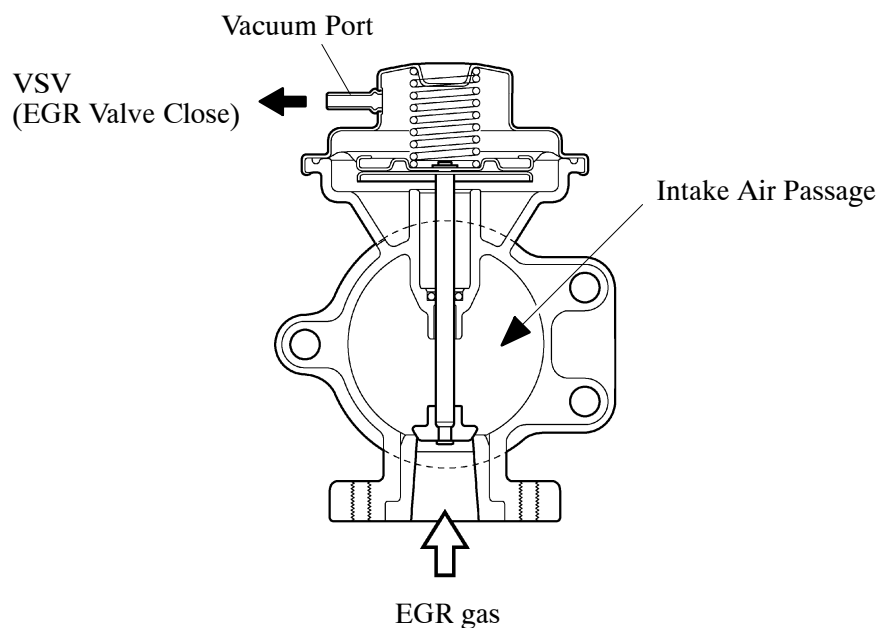
- An EGR valve is provided midstream in the intake air passage. By cooling the EGR valve in this manner, a greater volume of exhaust gas can be processed. For the EGR control system, refer to page.
- By adopting the exhaust gas passage in the cylinder head and the water cooling type EGR cooler, this makes it possible to lower the temperature of the exhaust gas and re-circulate the great amount of exhaust gas.



233EG27

EGR Valve

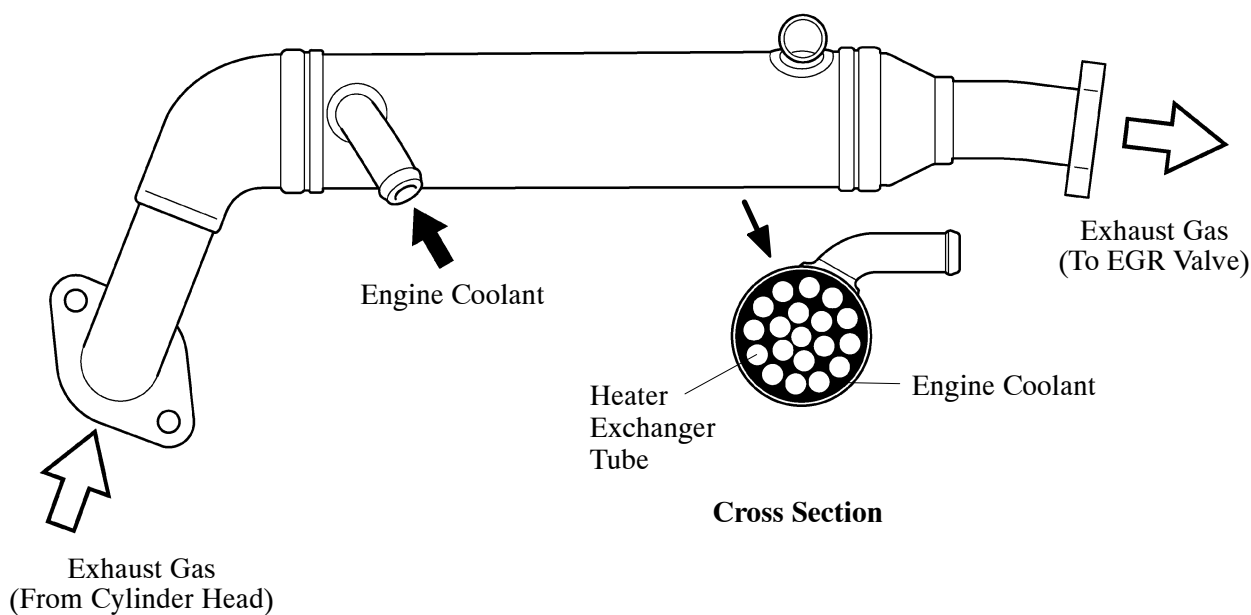
A vacuum port for a VSV (for EGR Valve Close) to cut off EGR is used to improve the valve closing response.



233EG75

EGR Cooler

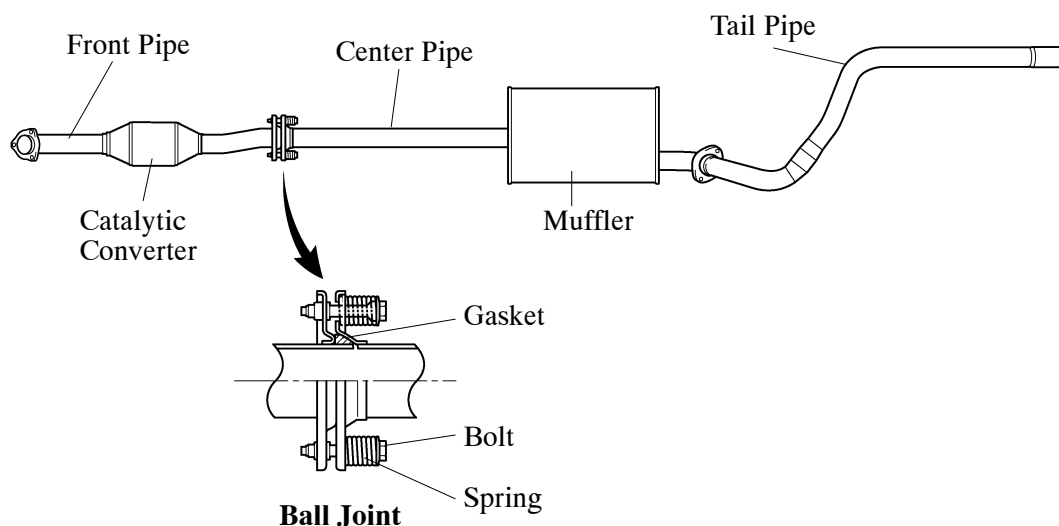
The water cooling type EGR cooler is used in the EGR passage between the cylinder head and the EGR valve. Thus makes it possible to lower the exhaust gas temperature and to re-circulate the great amount of exhaust gas and realizes the reduction of NOx. There are 19 heat exchanger tubes in the EGR cooler, and exhaust gas goes through each tube. Around the heat exchanger tubes runs the engine coolant and absorbs the temperature of the exhaust gas through the tubes.



EG

5. Exhaust Pipe

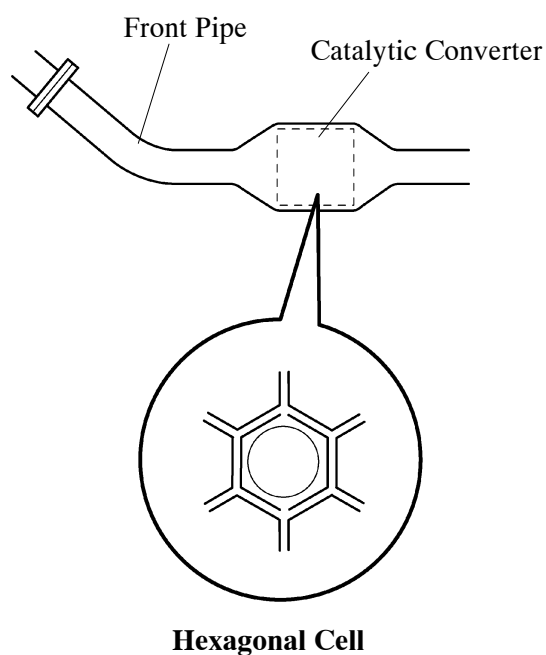
- The exhaust pipe is made of stainless for improved rust resistance.
- A ball joint is used to join the exhaust front pipe and exhaust center pipe. As a result, a simple construction and improved reliability have been realized.
- The catalytic converter is integrated in the front pipe.
- The main difference between the 3-door and 5-door models is the length of the center pipe.



233EG07

6. Catalytic Converter

A large-capacity, oxidation catalytic converter with a hexagonal cell construction is used to clean the exhaust gas particulates, HC and CO.



195EG60