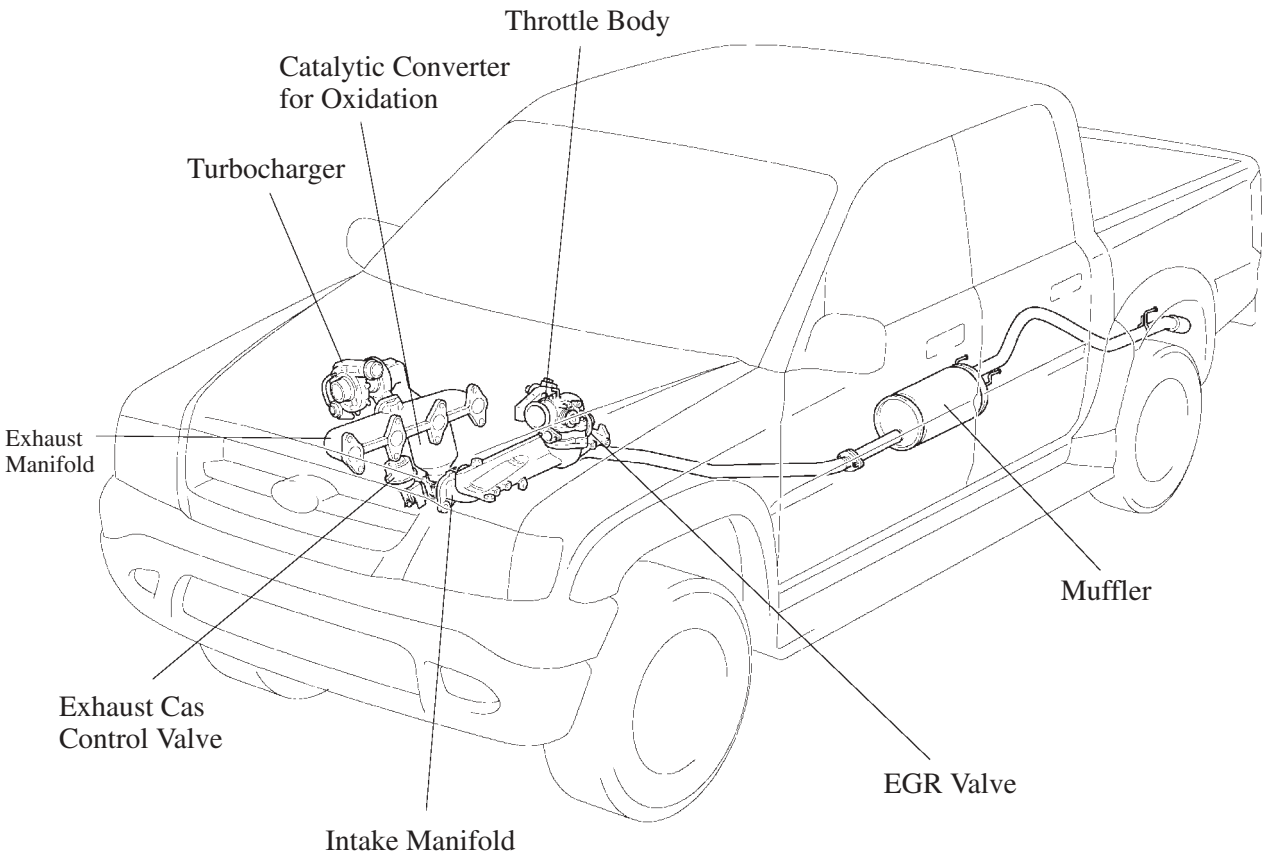
■INTAKE AND EXHAUST SYSTEM

1. General

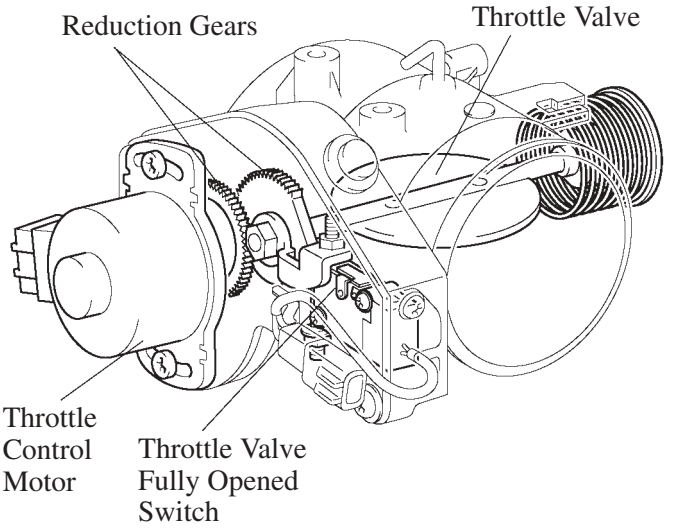
- In conjunction with the adoption of the direct injection system, an equal-length port intake manifold provided with an intake chamber has been adopted in order to reduce the swirl variances between the cylinders.
- A step motor type throttle has been adopted.
- EGR valve position sensor has been provided on the EGR valve.
- Catalytic converter for oxidation has been adopted in order to comply with the European STEP III regulations.
- An exhaust gas control system has been adopted.



210EG59

2. Throttle Body

The throttle valve opening angle is controlled by the engine ECU via the step motor type throttle control motor to tralize high EGR performance and low vibration when stopping the engine.



224EG17

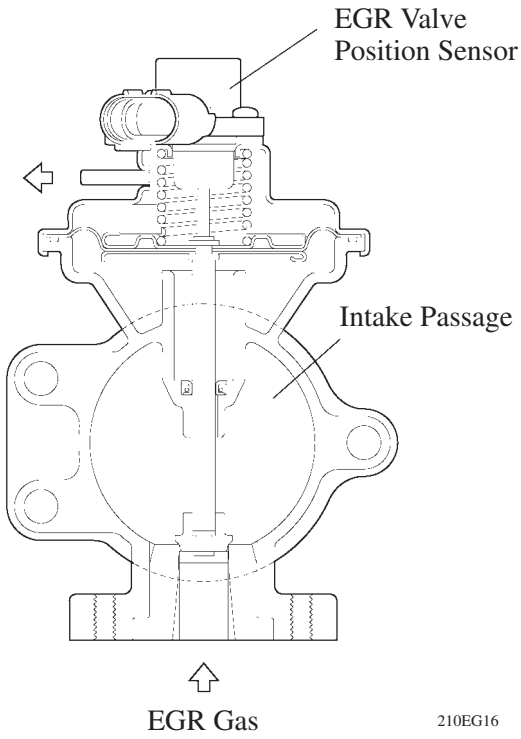
3. EGR System

General

- This system is designed to reduce and control NOx formation due to a slight reduction of peak temperature in the engine combustion chamber, which is accomplished by introducing a small amount of inert gas into intake manifold. For details of EGR control, see page 61.
- By adopting the exhaust gas passage in the cylinder head, this makes it possible to lower the temperature of the exhaust gas and re-circulate the great amount of exhaust gas.

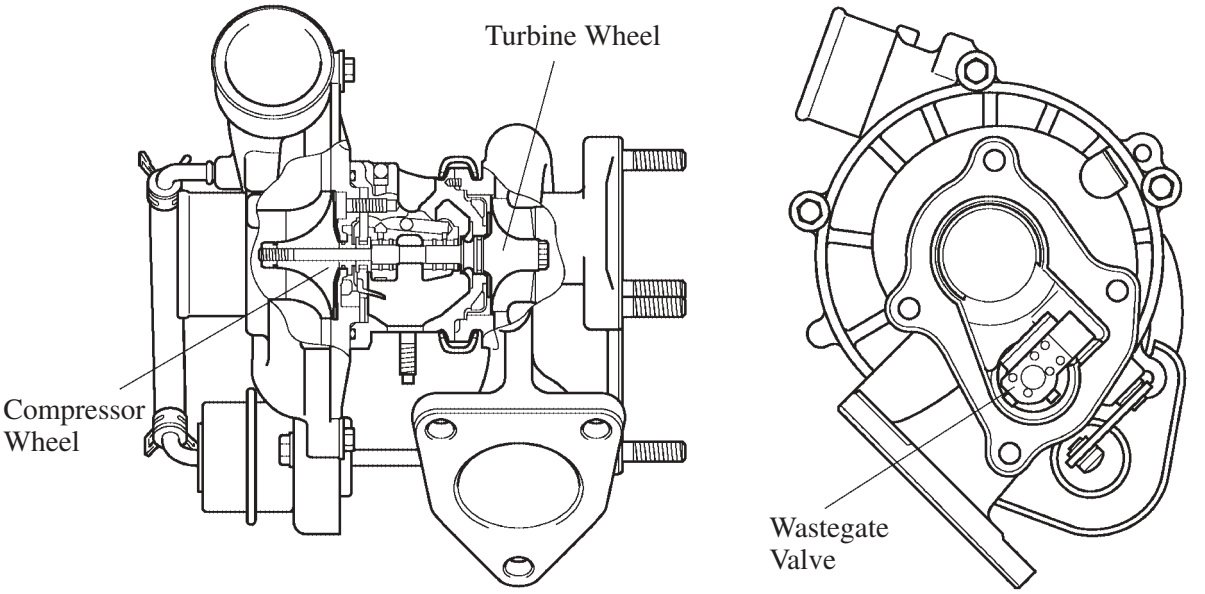
EGR Valve

- An EGR valve position sensor has been provided in the EGR valve in order to directly measure the actual amount of the valve opening. This measurement is then input into the engine ECU in order to improve the precision of EGR control.
- By adopting the EGR valve in the intake pipe, this makes it possible to lower the temperature of the EGR valve and re-circulate the great amount of exhaust gas.



4. Turbocharger

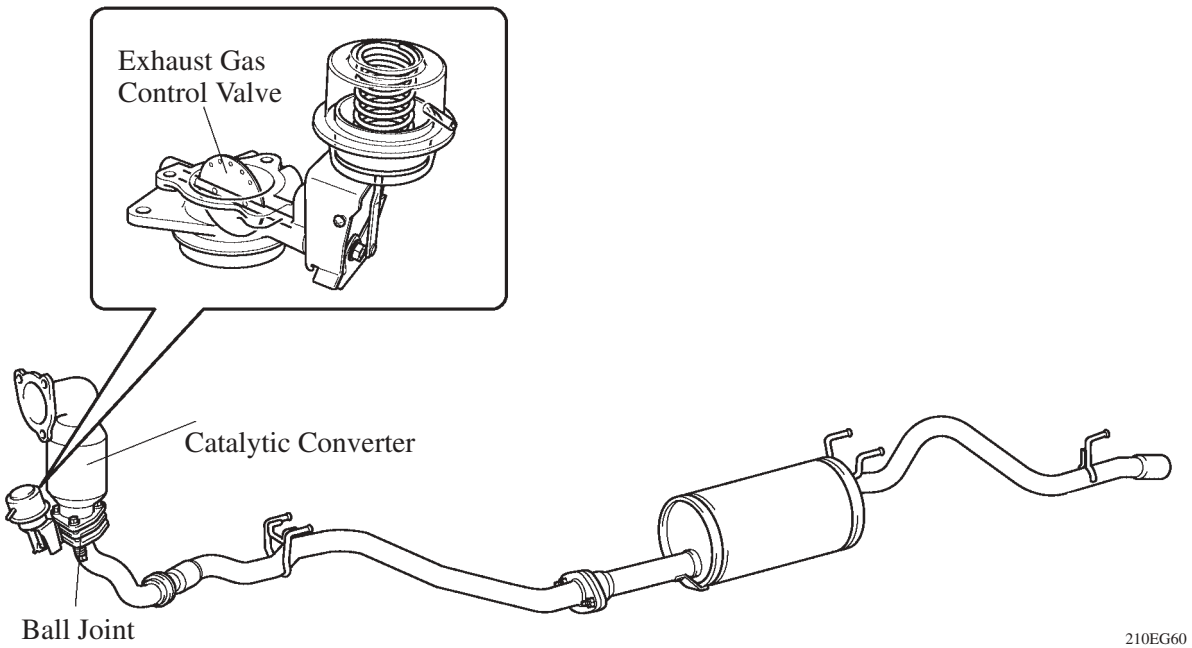
- A lightweight and compact air cooled type turbocharger is used for high performance.
- To control the turbo pressure, this turbocharger is provided with a wastegate valve and an actuator that operates mechanically in accordance with the turbo pressure.



215EG35

5. Exhaust Pipe

- An exhaust gas control valve has been provided below the catalytic converter to improve the engine's warm-up performance. For details, refer to page 62.
- A ball joint has been adopted to reduce vibration.
- The catalytic converter has been placed directly below the engine in order to ensure cleaner emissions even at low engine temperature, in order to comply with the European STEP III regulations.



210EG60