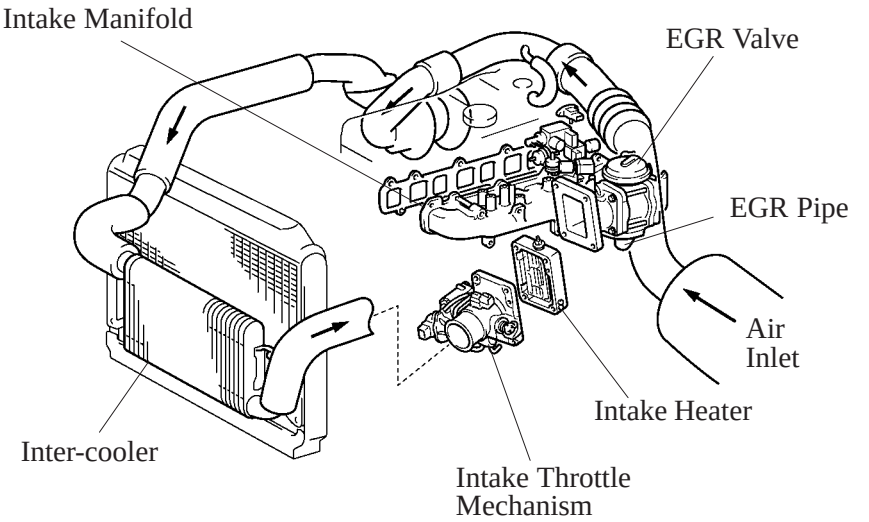
■INTAKE SYSTEM

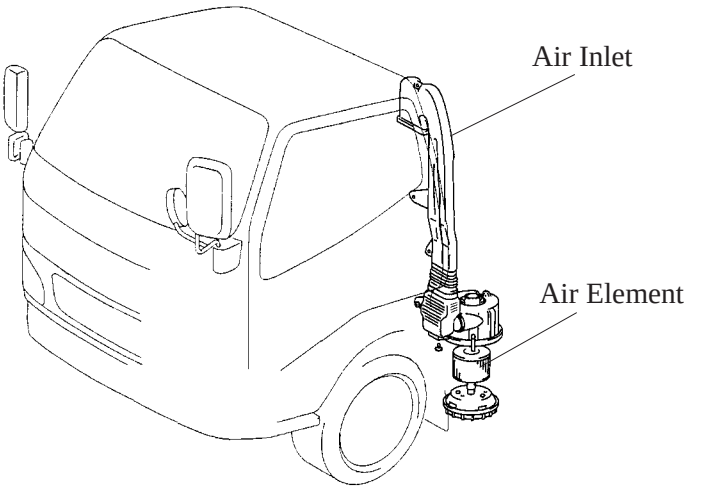
1. General

- The intake manifold is made of lightweight aluminum alloy. A U-turn construction has been adopted in consideration of the proper distribution of the EGR gases.
- An air-cooled intercooler has been provided in front of the radiator. It cools the intake air temperature that has been boosted by the turbocharger to enhance its volumetric efficiency, in order to improve the power output and drivability. It also contributes to low emissions by reducing NOx.



2. Air Inlet

- The air cleaner case is made of injection-molded plastic to realize a dramatic weight reduction over the previous case made of sheet metal. The vibration and noise of this air cleaner case have been reduced through the use of rib reinforcements and rubber mounts.
- The intake pipe is made of blow-molded plastic. Its pipe diameter has been increased in order to significantly reduce the intake resistance from the previous model.
- Each air inlet has been provided with a resonator with an appropriate capacity in order to reduce the intake noise in the respective frequency ranges.



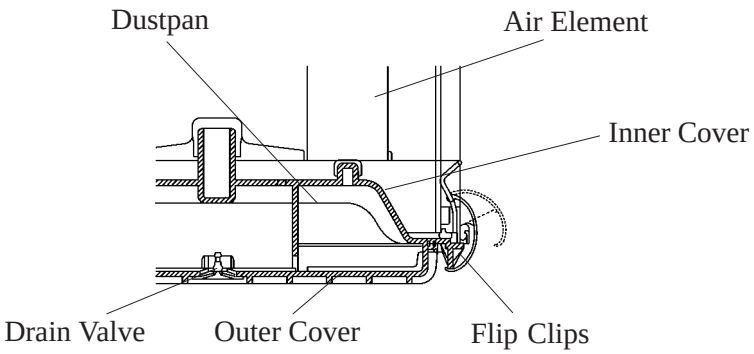
3. Air Element

The air filter element, which supports the high power output of the engine, is a washable type with an optimized filtering surface that helps to prolong the life of the filter element.



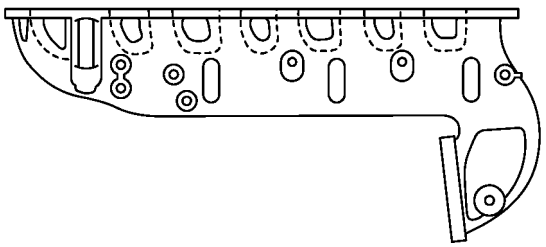
4. Air Cleaner

- The bracket for the air cleaner case is mounted with dampening rubber mounts to reduce vibration.
- The case has a drain valve to ensure the proper drainage of water.
- The vertical mount type has adopted a dustpan construction. The rigidity of the cover has been enhanced through a dual, inner and outer cover construction to reduce noise. The inside of the dual construction functions as a dustpan.
- The vertical mount type uses flip clips that prevent the hooks on the back of the case from jamming while the filter element is being removed or installed.



5. Intake Manifold

A U-turn construction has been adopted in consideration of the proper distribution of the EGR gases. The ports are independent to achieve effective swirl and improve intake efficiency.



6. Intake

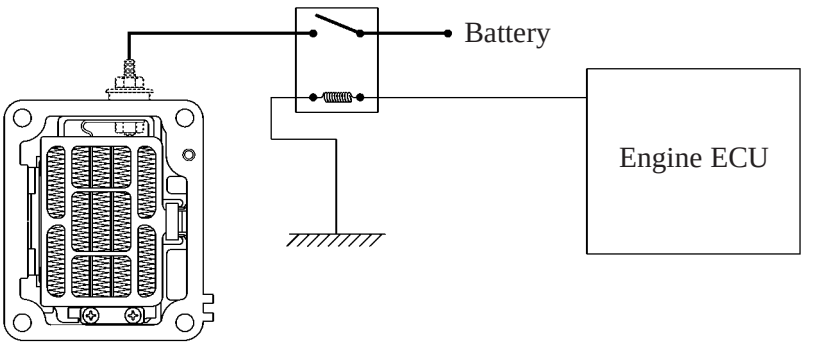
- An intake heater has been provided as an auxiliary device to help start a cold engine.
- A direct injection diesel engine offers favorable startability due to its minimal cooling loss (because of its small combustion chamber surface). By directly warming the intake air, the diesel knock and white smoke can be reduced during starting and immediately after starting the engine.

Heater Indicator Light

- When the ignition switch is turned ON, the glow plug indicator light illuminates for a length of time depending on the coolant temperature (a maximum of 10 seconds).
- When the starter is ON, the indicator light goes out, although the current continues to be applied to the intake heater.

Heater Control

- When the coolant temperature is below 20°C (68°F), this control applies current to the intake heater until the coolant temperature reaches 20°C (68°F) (for a maximum of 77 seconds).
- The intake heater will not operate when the coolant temperature is above 20°C (68°F).



7. EGR Valve

An intake air-cooled type EGR valve has been provided in the intake air passage. The thermal load that is associated with a large volume of exhaust gas recirculation has been reduced through the use of the intake air to cool the entire EGR valve.

