## DIRECT FUEL INJECTION SYSTEM [SKYACTIV-G 2.0, SKYACTIV-G 2.5]

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### Purpose, Outline

- Engine output has been improved through the direct injection of fuel into the combustion chamber.
- High response can be because there is no time lag from when the fuel injection starts until the fuel is provided to the combustion chamber.

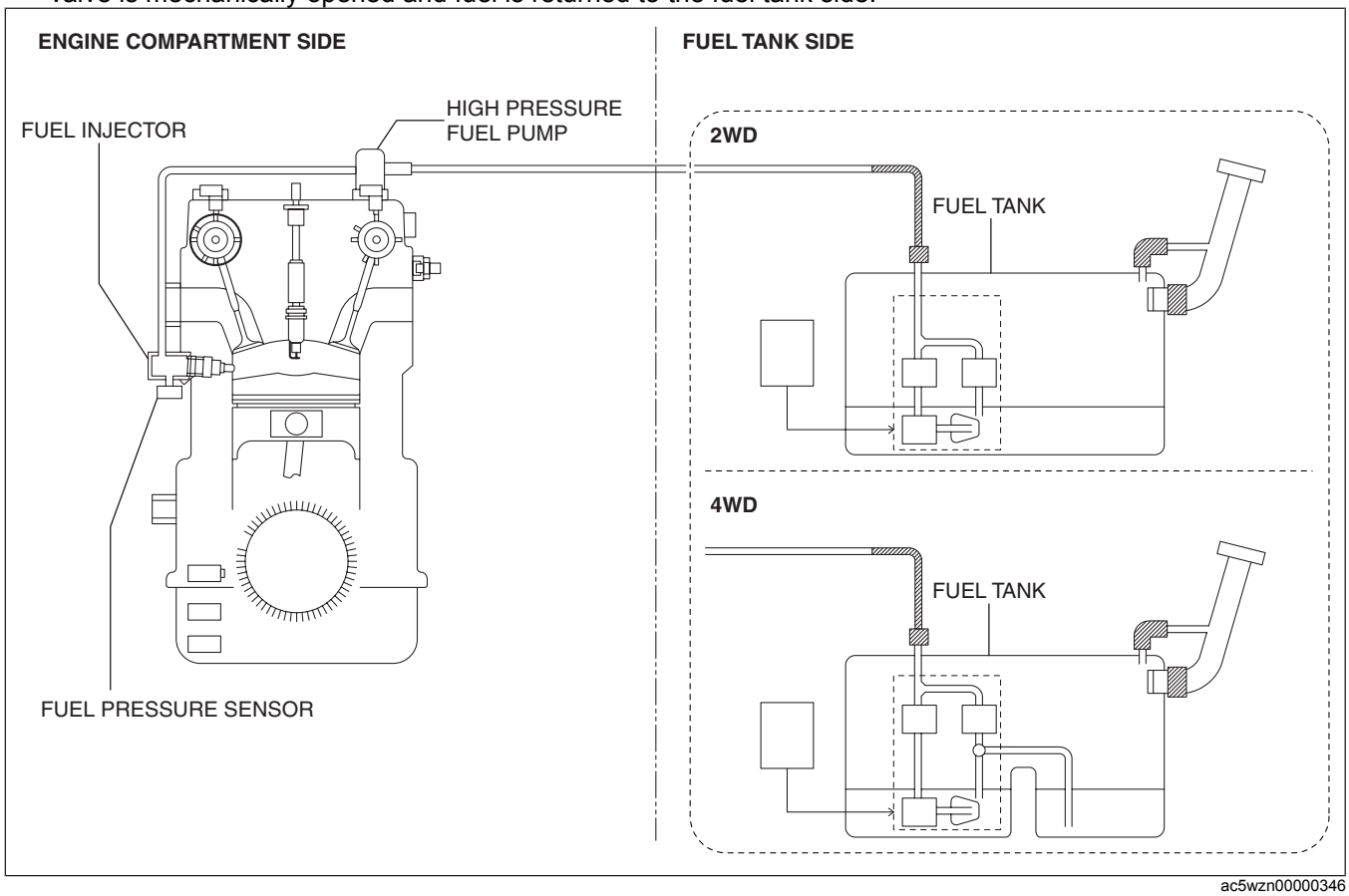
### Structure

- The direct fuel injection system consists of the following parts.

| Part name | Reference |
|---|---|
| High pressure fuel pump | (See HIGH PRESSURE FUEL PUMP [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| Fuel injector | (See FUEL INJECTOR [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| Fuel distributor | (See FUEL DISTRIBUTOR [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| Fuel pressure sensor | (See FUEL PRESSURE SENSOR [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| Relief valve | — |

### Operation

- Fuel is supplied from the high pressure fuel pump into the fuel distributor, and the fuel injector injects the fuel into the cylinder. Fuel is injected during the intake stroke and diffused uniformly in the combustion chamber by the flow of intake air. For the fuel injection control, refer to the CONTROL SYSTEM. (See FUEL INJECTION CONTROL SYSTEM [SKYACTIV-G 2.0, SKYACTIV-G 2.5].)
- The fuel pressure sensor detects the fuel pressure in the fuel distributor and sends a fuel pressure signal to the PCM. Based on the signal from the fuel pressure sensor, the PCM controls the high pressure fuel pump so that the fuel pressure is in accordance with the driving conditions. For the high pressure fuel pump control, refer to CONTROL SYSTEM. (See HIGH PRESSURE FUEL PUMP CONTROL [SKYACTIV-G 2.0, SKYACTIV-G 2.5].)
- Fuel pressure is adjusted by the spill valve control solenoid valve, and a relief valve is equipped to ensure safety in case of a malfunction. If the fuel pressure in the high pressure fuel pump reaches the set pressure, the relief valve is mechanically opened and fuel is returned to the fuel tank side.

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