

10. On-board Refueling Vapor Recovery (ORVR) System

A: GENERAL

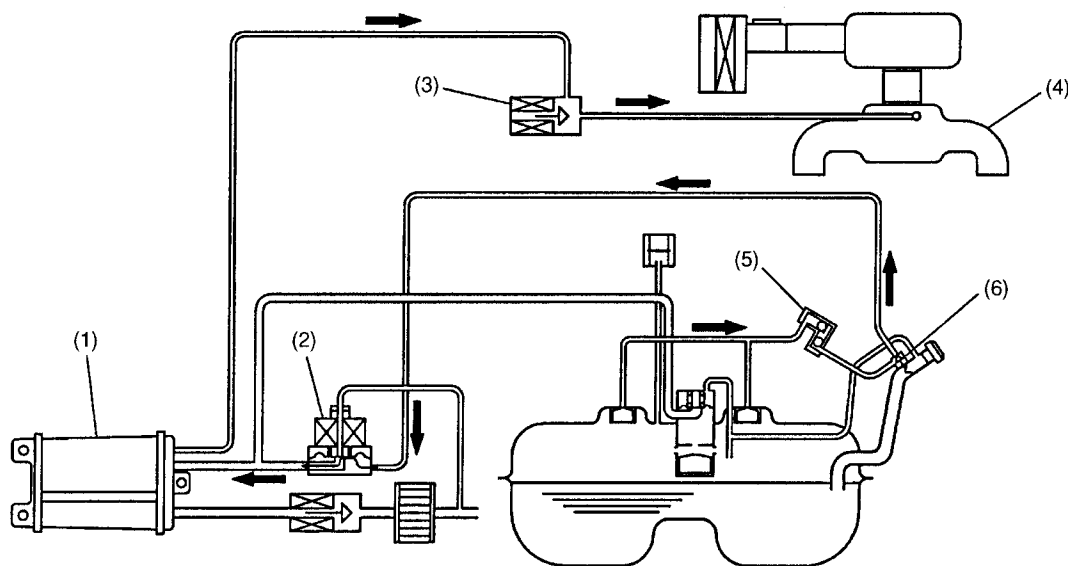
The on-board refueling vapor recovery system allows the fuel evaporation gas in the fuel tank to be introduced directly into the canister through the vent valve when the fuel tank inside pressure increases as a result of refueling.

The diagnosis of the system is performed by monitoring the fuel tank inside pressure detected by the fuel tank pressure sensor while forcibly closing the drain valve.

B: OPERATION

- While driving

Since the back side of the diaphragm in the pressure control solenoid valve is open to the atmosphere, the diaphragm is held pressed by the atmospheric pressure in the position where only the external air is introduced into the canister. When the evaporation gas pressure acting on the other side of the diaphragm increases and overcomes the atmospheric pressure, it pushes the diaphragm and opens a port through which the evaporation gas makes its way to the canister.

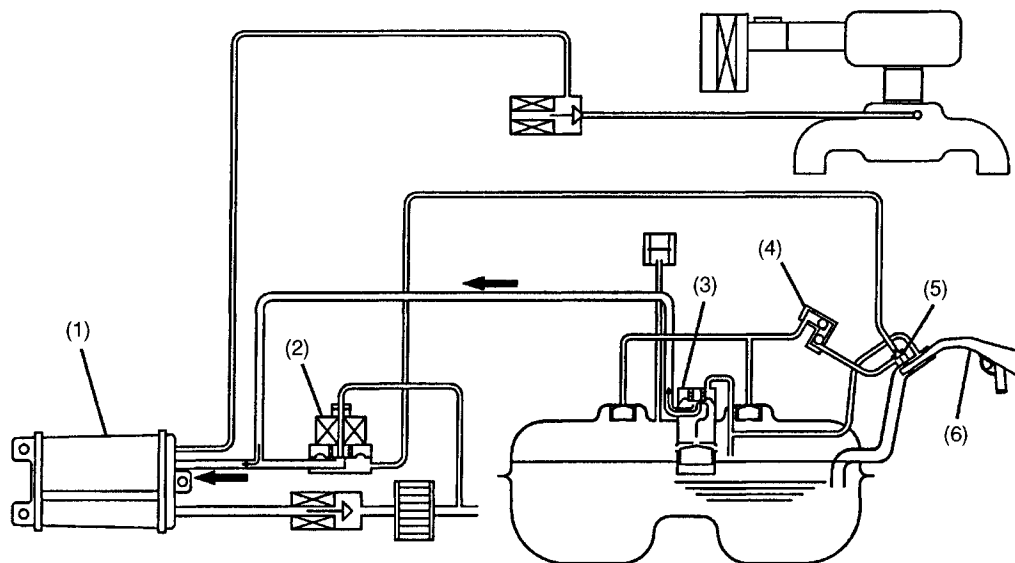


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|-------------------------------------|------------------------|
| (1) Canister | (4) Intake manifold |
| (2) Pressure control solenoid valve | (5) Roll over valve |
| (3) Purge control solenoid valve | (6) Shut valve: opened |

- While refueling

As fuel is filled in to fuel tank, internal pressure is increased. When internal pressure overcomes atmospheric pressure, port of the vent valve is opened, and evaporation gas is introduced into the canister through the vent line. Fuel vapor is absorbed by a charcoal in the canister and purified air is discharged from the drain valve. When a filler gun is inserted, the shut valve closes the evaporation line.



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|-------------------------------------|------------------------|
| (1) Canister | (4) Roll over valve |
| (2) Pressure control solenoid valve | (5) Shut valve: closed |
| (3) Vent valve | (6) Filler gun |