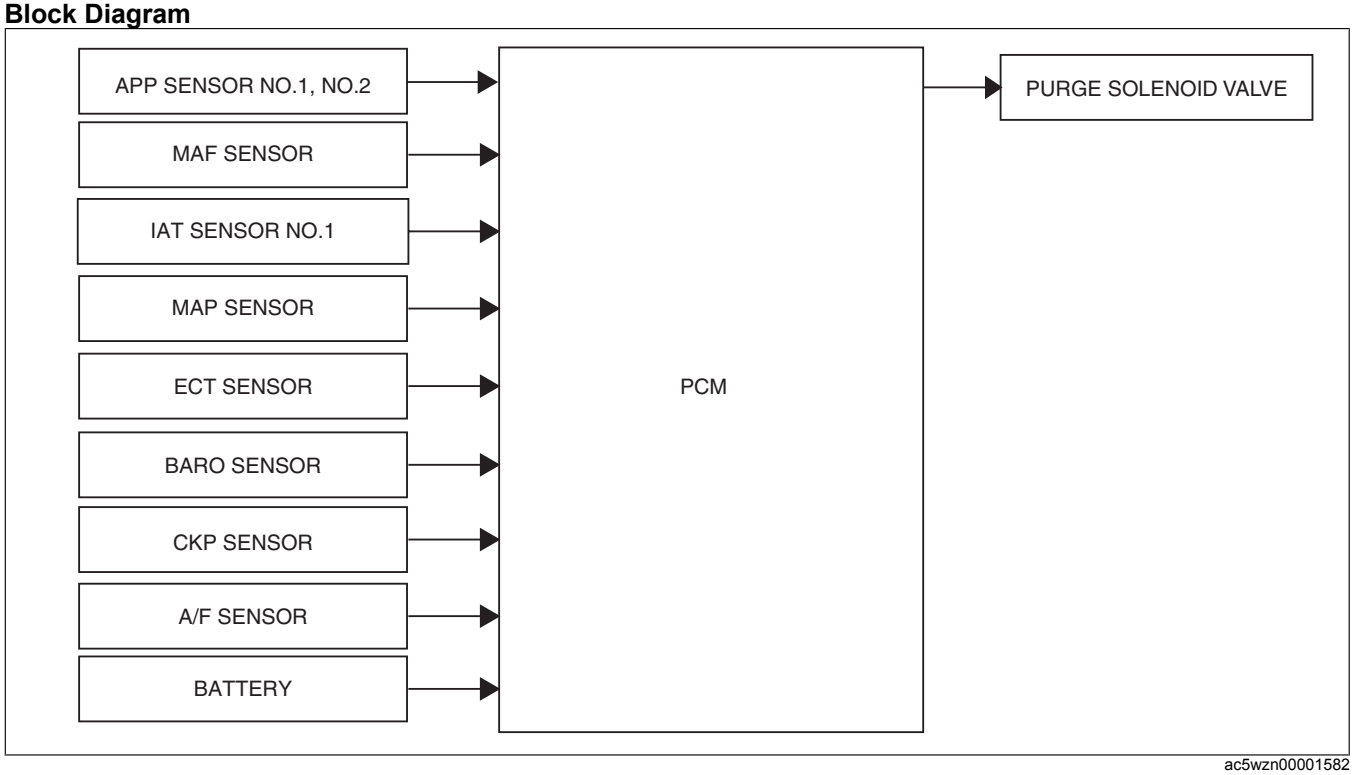
PURGE CONTROL [SKYACTIV-G 2.0, SKYACTIV-G 2.5]

id0140g2203800

Outline

- An appropriate amount of evaporative gas is fed into the intake manifold by the purge solenoid valve operation according to the engine operation conditions. This ensures driveability and prevents release of evaporative gas into the atmosphere.
- The PCM drives the purge solenoid valve based on the signal from each control part.

Block Diagram



ac5wzn00001582

Operation

Determination of purge solenoid valve energization time

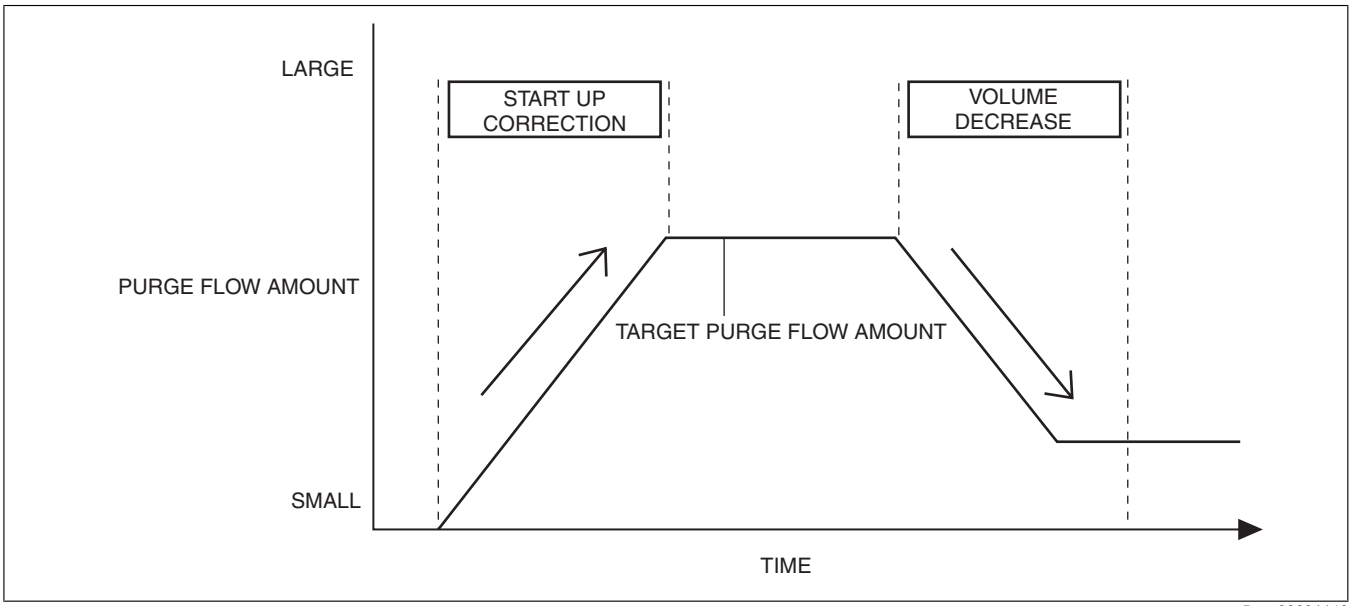
- The PCM determines energization time based on purge flow amount. In addition, it corrects the energization time according to fluctuations in battery positive voltage (the lower the rate of battery positive voltage, the longer the energization time).

Calculation method for purge flow amount

- The PCM determines the purge flow amount through the addition of each correction to the target purge flow amount.

Contents		Calculation or determination method of purge flow amount and correction
Target purge flow amount		The target purge flow amount is determined by multiplying the correction for the intake air temperature and the fuel evaporative gas concentration with the purge mass volume. The purge mass volume is calculated from the purge intake rate for the intake air mass volume which differs according to engine conditions.
Correction	Startup correction	Purpose: Prevents a change in the air/fuel ratio due to a purge intake lacking evaporative gas concentration in the charcoal canister. **During purge control startup** • Determined according to the target purge flow amount.
	Volume decrease correction	Purpose: Decreases the purge flow amount and stabilizes the air/fuel ratio. **Unstable combustion condition (feedback correction value for fuel injection control is unstable)** • Determined according to the A/F sensor feedback conditions.

Purge control image



ac5uun00001140

Operation condition

- In evaporative purge control during normal driving, the PCM sends a duty signal to the purge solenoid valve when all of the following conditions are met.
  - — Fuel injection control is in feedback zone (λ=1)
  - — Engine coolant temperature **60 °C {140 °F} or more**