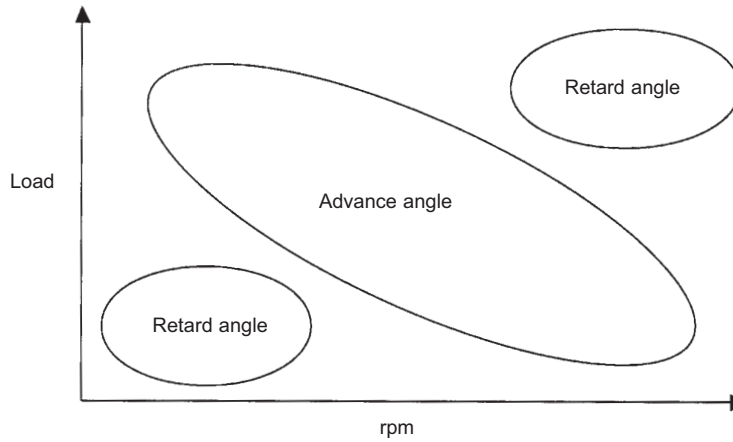


6-4. Operation under various running conditions

The advance and retard angle conditions are controlled in response to running conditions, with the result that low fuel consumption and emissions, and high outputs, can both be achieved.

Sketch showing operation



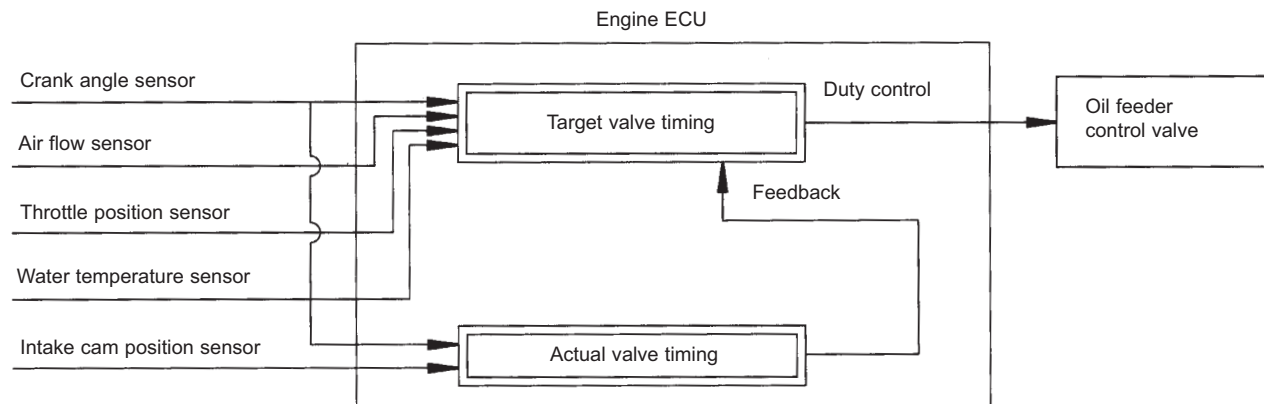
AK500004

Running condition	Valve timing	Operation	Effect
Idling		By reducing overlap, exhaust gas being blown back to the intake port is controlled.	Idling speed stability
Low/Middle range		By making the closing timing of the intake valve quicker, intake air being blown back to the intake port is controlled, volumetric efficiency is improved, and low/mid range torque is increased.	Increase in low/mid range torque.

Running condition	Valve timing	Operation	Effect
High rpm		The intake valve shutting timing is retarded to match the engine speed (rpm), and the valve timing controlled to match the intake air inertial force, resulting in an improvement in volumetric efficiency.	Increased output

6-5 Feedback control

- The engine ECU detects the various sensor signals and computes the most appropriate valve timing for the running condition, and controls the oil feeder control valve.
- The actual valve timing is detected from the intake cam position sensor signal, and feedback control is done to make this closely match the target valve timing.



AK500014

(1) Detecting phase angle

Computes the phase angle using the crank angle sensor output and intake cam position sensor output signals.

7. Purge control

Please refer to Emission Control System.

8. Self-diagnosis system

The engine ECU system check is easy, and has the following functions.

- Engine warning light.
- Diagnosis function
- Service data output
- Actuator test

Note

Please refer to the maintenance manual for each item.