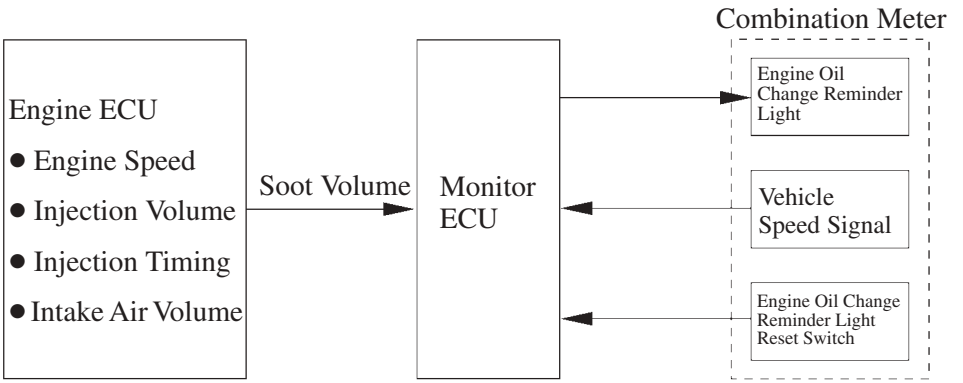
■OIL MAINTENANCE MANAGEMENT SYSTEM

1. General

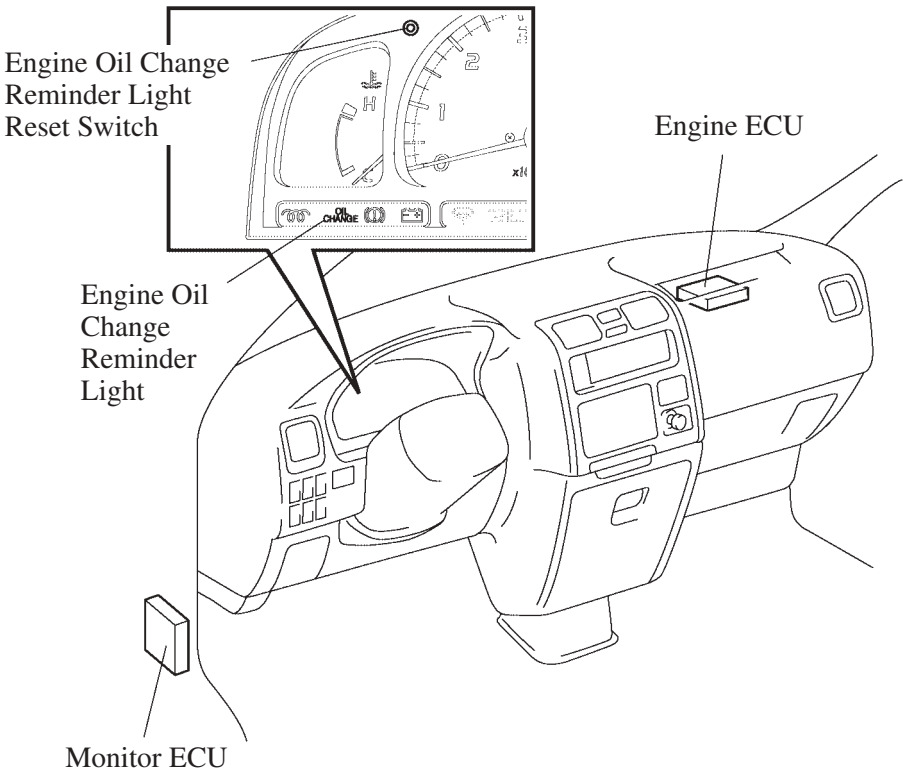
- A new oil maintenance management system has been adopted. This system determines the deterioration conditions of the engine oil and illuminates an engine oil change reminder light to inform the driver when the engine oil and the oil filter must be changed. Accordingly, the maintenance intervals (40,000 km maximum) that correspond to the actual deterioration conditions of the engine oil have been realized.
- This system indirectly determines the deterioration of the engine oil based on the information provided by the engine ECU.

2. System Diagram



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3. Layout of Component



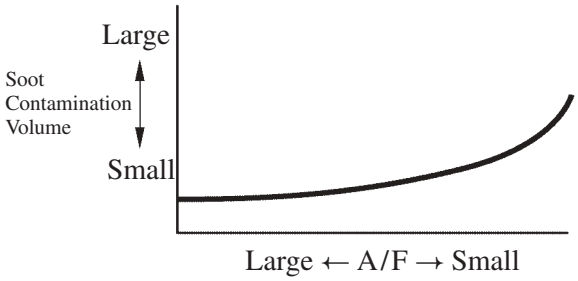
LHD Model

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4. System Operation

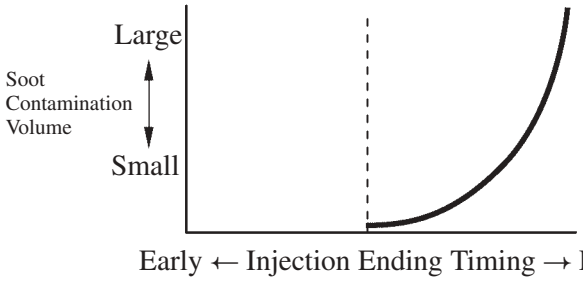
- This system determines the deterioration of the engine oil in accordance with the soot volume in the engine oil. The engine ECU calculates the soot volume in the engine oil in accordance with the engine speed, injection timing, injection volume, and air-fuel ratio. The engine ECU converts the soot volume into pulse signals and transmits the signals to the monitor ECU. The monitor ECU counts the pulse signals as the soot volume, and illuminates the engine oil change reminder light when the cumulative value reaches a prescribed value. Thus, this system informs the driver that the engine oil and the oil filter must be changed.

▶ Soot Generation Conditions ◀



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Relationshipto Air-Fuel Ratio



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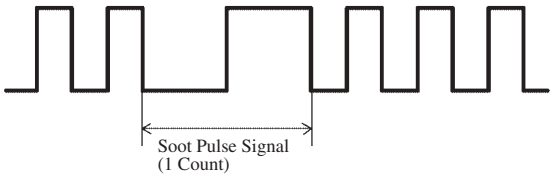
Relationship to INjection Ending Timing

▶ Soot Pulse Signal ◀



224EG37

Normal



224EG38

During soot pulse transmission

- In addition to controlling the illumination of the engine oil change reminder light by counting the soot volume, the monitor ECU illuminates the engine oil change reminder light when the vehicle's driven distance reaches 40,000 km. Thus, this function enhances the reliability of the system.

NOTICE:

This system does not determine the deterioration of the engine oil based on the elapsed time. Even if the engine oil change reminder light does not illuminate, the engine oil and oil filter should be changed at 2-year intervals at the maximum.

5. Counter Reset

Pressing the engine oil change reminder light reset switch in the combination meter for a minimum of 0.8 seconds turns OFF the engine oil change reminder light and resets the cumulative soot volume value and the cumulative driven distance.

6. Diagnosis Function

The monitor ECU is provided with a function to flash the engine oil change reminder light if an open circuit occurs in the transmission line to the engine ECU. For details, refer to the 2KD-FTV Engine Repair Manual (RM 907E).