

Ignition System

General Description

Ignition System Construction

S6RW0D1801001

The ignition system is an electronic (distributorless) ignition system. It consists of the parts as described below.

- **ECM**

It detects the engine and vehicle conditions through the signals from the sensors, determines the most suitable ignition timing and time for electricity to flow to the primary coil and sends a signal to the ignitor (power unit) in the ignition coil assembly.

- **Ignition coil assembly (including an ignitor)**

The ignition coil assembly has a built-in ignitor which turns ON and OFF the current flow to the primary coil according to the signal from ECM. When the current flow to the primary coil is turned OFF, a high voltage is induced in the secondary coil.

- **High-tension cords and spark plugs**

- **CKP sensor (Crankshaft position sensor) and CMP sensor (Camshaft position sensor)**

Using signals from these sensors, ECM identifies the specific cylinder whose piston is in the compression stroke, detects the crank angle and adjusts initial ignition timing automatically.

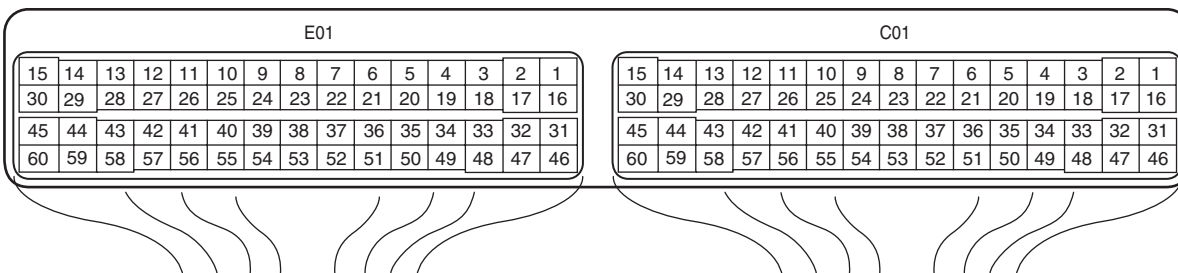
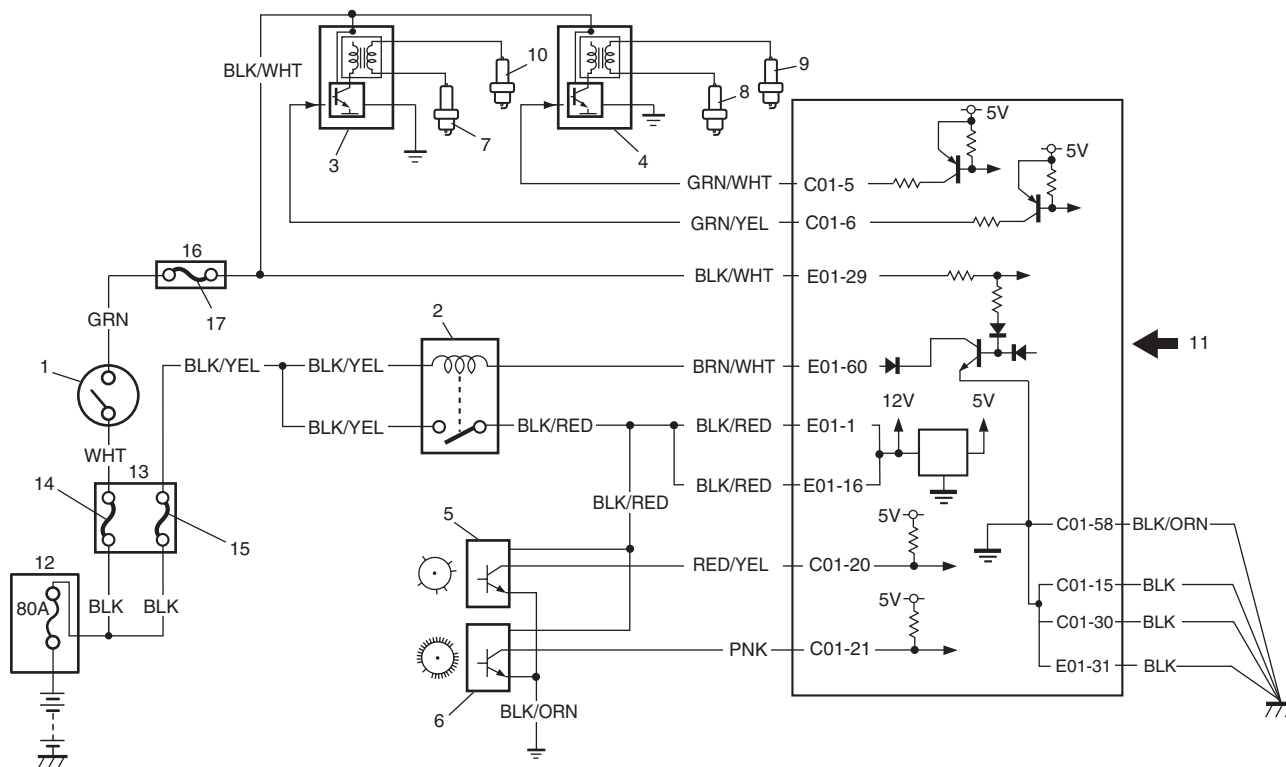
- **TP sensor, ECT sensor, MAP sensor, MAF sensor, IAT sensor, knock sensor and other sensors / switches**

Although this ignition system does not have a distributor, it has two ignition coil assemblies (one is for No.1 and No.4 spark plugs and the other is for No.2 and No.3 spark plugs). When an ignition signal is sent from ECM to the ignitor in the ignition coil assembly for No.1 and No.4 spark plugs, a high voltage is induced in the secondary coil and that passes through the high-tension cords and causes No.1 and No.4 spark plugs to spark simultaneously. Likewise, when an ignition signal is sent to the ignitor in the other ignition coil assembly, No.2 and No.3 spark plugs spark simultaneously.

Schematic and Routing Diagram

Ignition System Wiring Circuit Diagram

S6RW0D1802001



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1. Ignition switch	7. No.1 spark plug	13. Relay box
2. Main relay	8. No.2 spark plug	14. "IG ACC" fuse
3. Ignition coil assembly for No.1 and No.4 spark plugs	9. No.3 spark plug	15. "FI" fuse
4. Ignition coil assembly for No.2 and No.3 spark plugs	10. No.4 spark plug	16. Junction block assembly
5. CMP sensor	11. Sensed information	17. "IG COIL" fuse
6. CKP sensor	12. Battery fuse box	

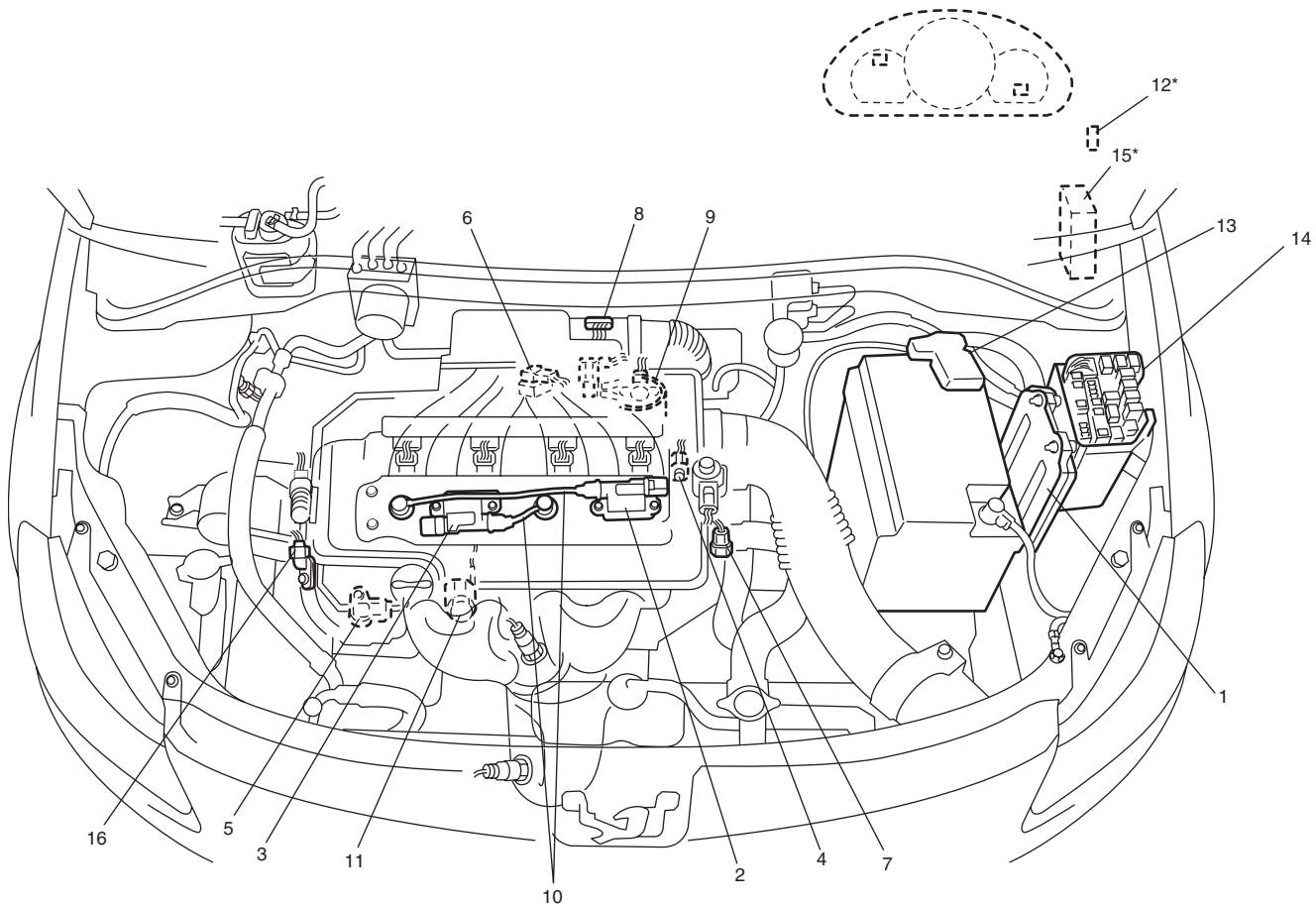
Component Location

Ignition System Components Location

S6RW0D1803001

NOTE

The figure shows left-hand steering vehicle. For right-hand steering vehicle, parts with (*) are installed at the opposite side.



I5RW0C180002-01

1. ECM	7. ECT sensor	13. Battery fuse box
2. Ignition coil assembly for No.1 and No.4 spark plugs	8. MAF and IAT sensor	14. Relay box
3. Ignition coil assembly for No.2 and No.3 spark plugs	9. Electric throttle body assembly	15. Junction block assembly
4. CMP sensor (VVT model)	10. High-tension cords	16. CMP sensor (VVT model)
5. CKP sensor	11. Knock sensor	
6. MAP sensor (if equipped)	12. Data link connector	