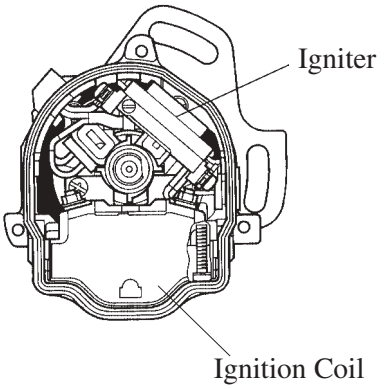
■IGNITION SYSTEM

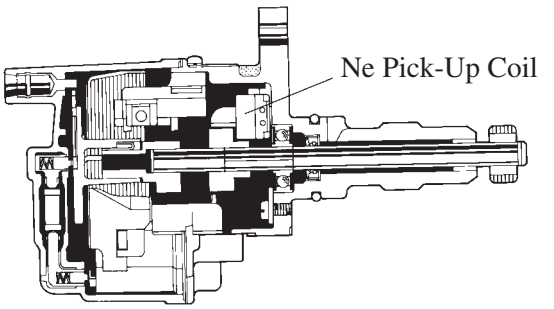
1. Distributor

The distributor contains an igniter and an ignition coil to simplify the system and to reduce weight.

▶ For 1RZ-E Engine ◀



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■ENGINE CONTROL SYSTEM

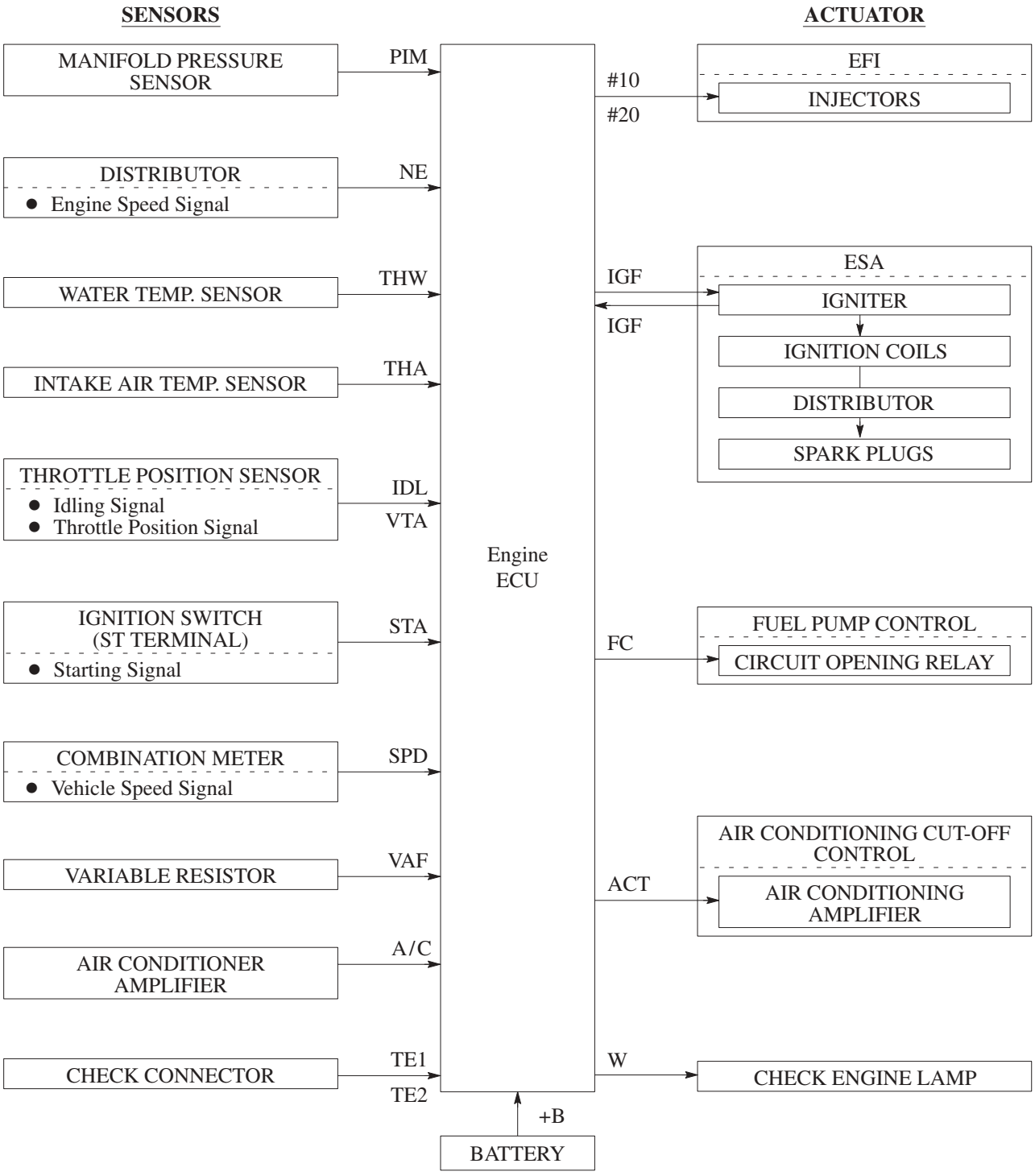
1. General

In accordance with the signals received from the sensors, the engine control system of the 1RZ-E engine precisely controls the EFI (Electronic Fuel Injection) and the ESA (Electronic Spark Advance) to improve engine performance and fuel economy. The engine control system for the 1RZ-E engine contains the systems listed below.

System	Outline
EFI (Electronic Fuel Injection)	A D-type EFI system is used, which indirectly detects intake air volume by the manifold pressure sensor signal.
	The fuel injection system is a simultaneous all-injection system.
ESA (Electronic Spark Advance)	Ignition timing is determined by the ECU based on signals from various sensors.
Fuel Pump Control	Fuel pump operation is controlled by signals from the ECU based on the engine speed signal (NE).
Air Conditioning Cut-Off Control	By controlling the air conditioning compressor in accordance with the throttle valve opening angle and the vehicle speed, driveability is maintained.
Diagnosis	When the ECU detects a malfunction, the ECU diagnoses and memorizes the failed section.
Fail-Safe	When the ECU detects a malfunction, the ECU stops or controls the engine according to the data already stored in memory.

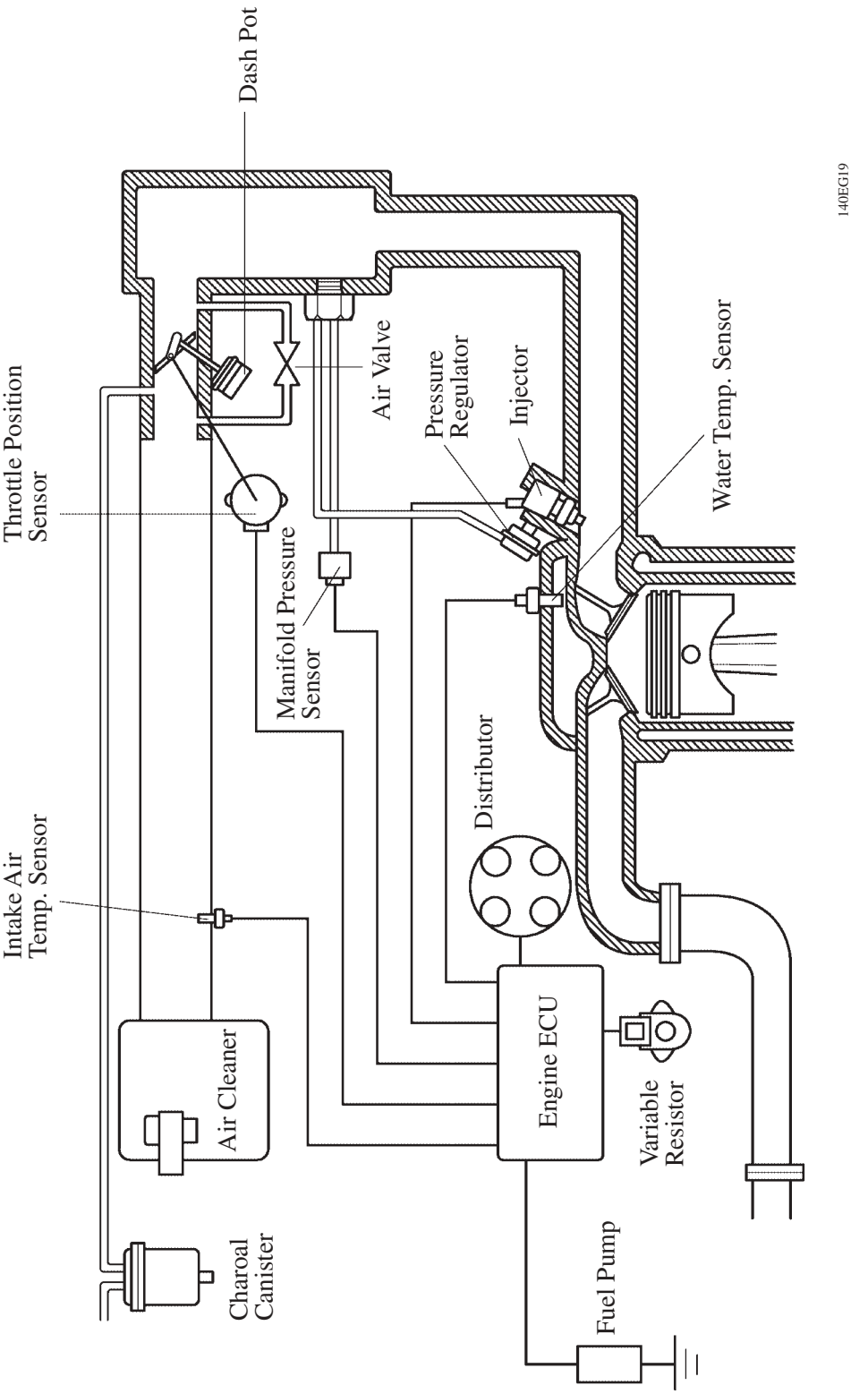
2. Construction

The configuration of the engine control system of the 1RZ-E engine is as shown in the following chart.

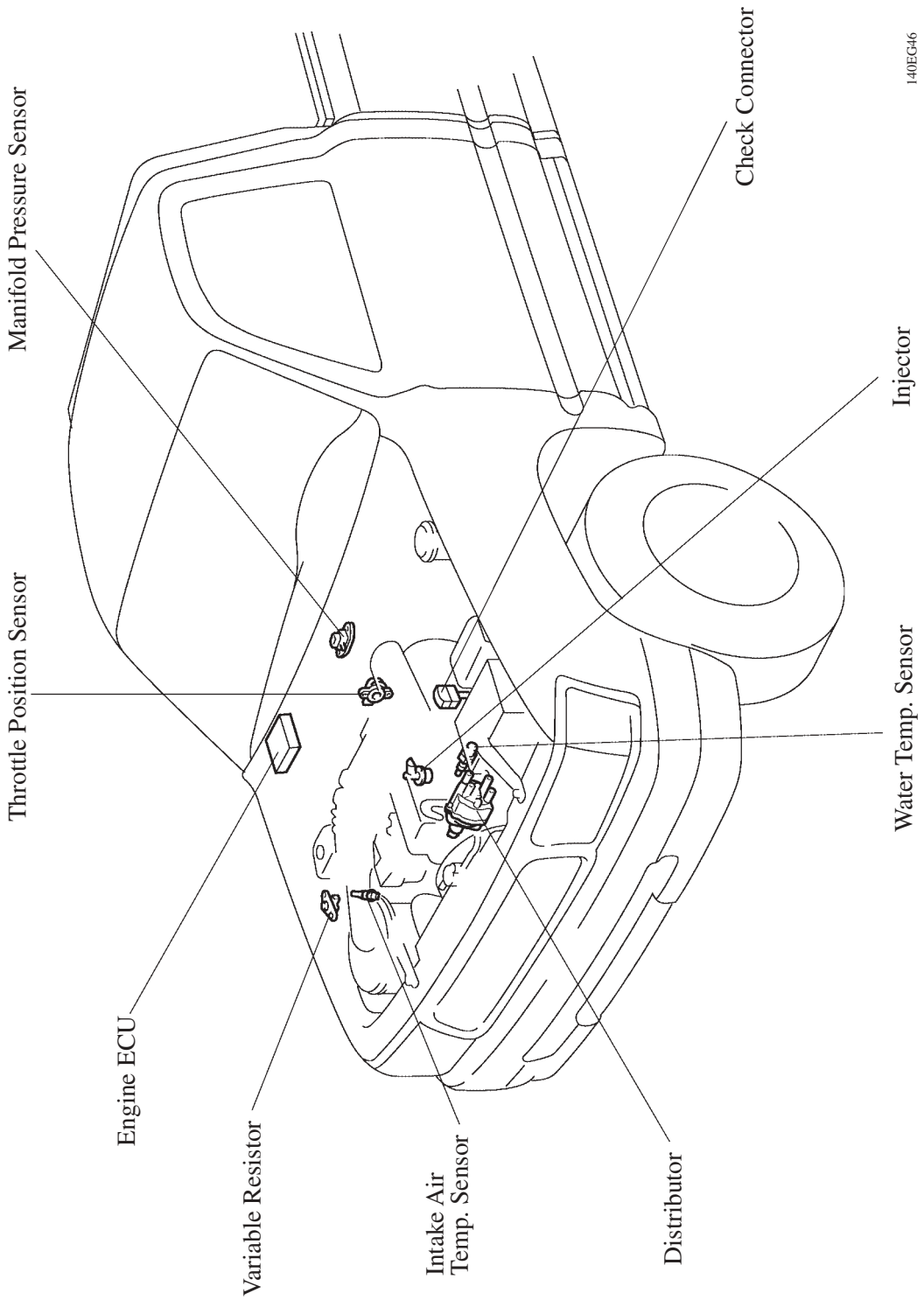


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3. Engine Control System Diagram



4. Layout of Components



5. Main Components of Engine Control System

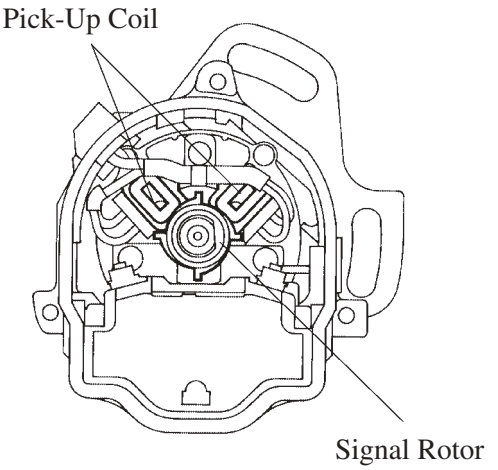
General

The main components of the engine control system are as follows:

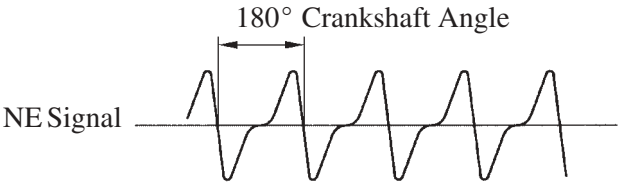
Components		Outline
Manifold Pressure Sensor		Semiconductor Type
Throttle Position Sensor		Linear Type
Distributor	Engine Speed Sensor	2 Pick-Up Coils in Series 4 Teeth
Injector		Side Feed Type

Engine Speed Sensor

The engine speed sensor sends engine speed information to the ECU. It consists of the timing rotor having 4 teeth and fixed to the distributor shaft rotating at a speed of 1/2 the engine rpm, and the pick-up coil. For each rotation of the timing rotor, alternating voltage signals are generated in the pick-up coils as illustrated. These signals are called the Ne signals, and 4Ne signals are generated for each distributor rotation.



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