5. Engine Control System

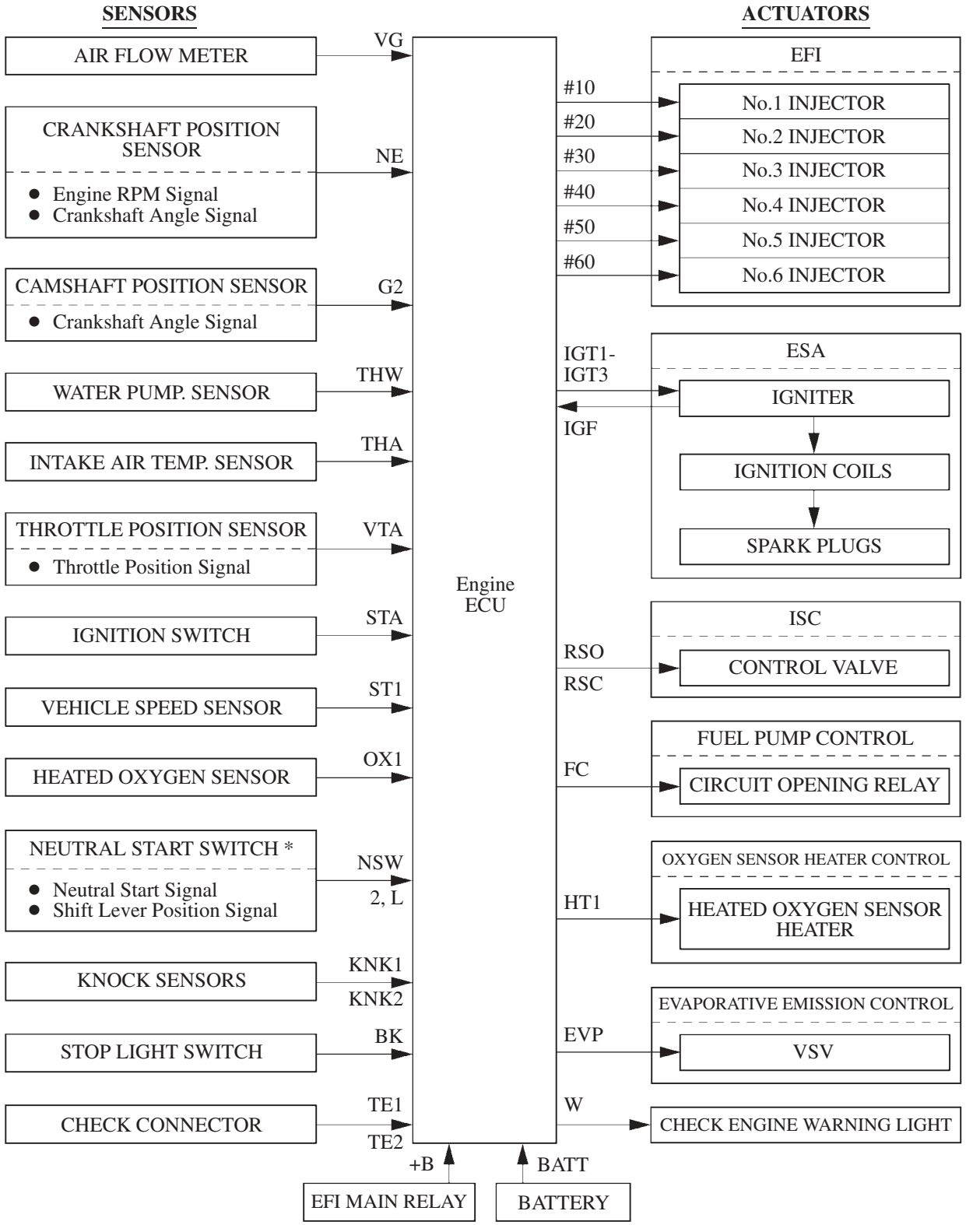
General

The engine control system for the 5VZ-FE engine in the new Hilux and previous Land Cruiser Prado (90 series) are compared below.

System	Outline	New Hilux	Previous Land Cruiser Prado (90 series)
EFI (Electronic Fuel Injection)	● An L-type EFI system directly detects the intake air mass with a hot wire type air flow meter. ● The fuel injection system is a sequential multiport fuel injection system.	○	○
ESA (Electronic Spark Advance)	Ignition timing is determined by the engine ECU based on signals from various sensors. The engine ECU corrects ignition timing in response to engine knocking.	○	○
ISC (Idle Speed Control)	A rotary solenoid type ISC valve controls the fast idle and idle speeds.	○	○
Fuel Pump Control	Fuel pump operation is controlled by signal from the engine ECU.	○	○
Oxygen Sensor Heater Control	Maintains the temperature of the oxygen sensor at an appropriate level to increase accuracy of detection of the oxygen concentration in the exhaust gas.	○	—
Evaporative Emission Control	The engine ECU controls the purge flow of evaporative emission (HC) in the charcoal canister in accordance with engine conditions.	○	○
Diagnosis	When the engine ECU detects a malfunction, the engine ECU diagnoses and memorizes the failed section.	○	○
Fail-Safe	When the engine ECU detects a malfunction, the engine ECU stops or controls the engine according to the data already stored in the memory.	○	○

Construction

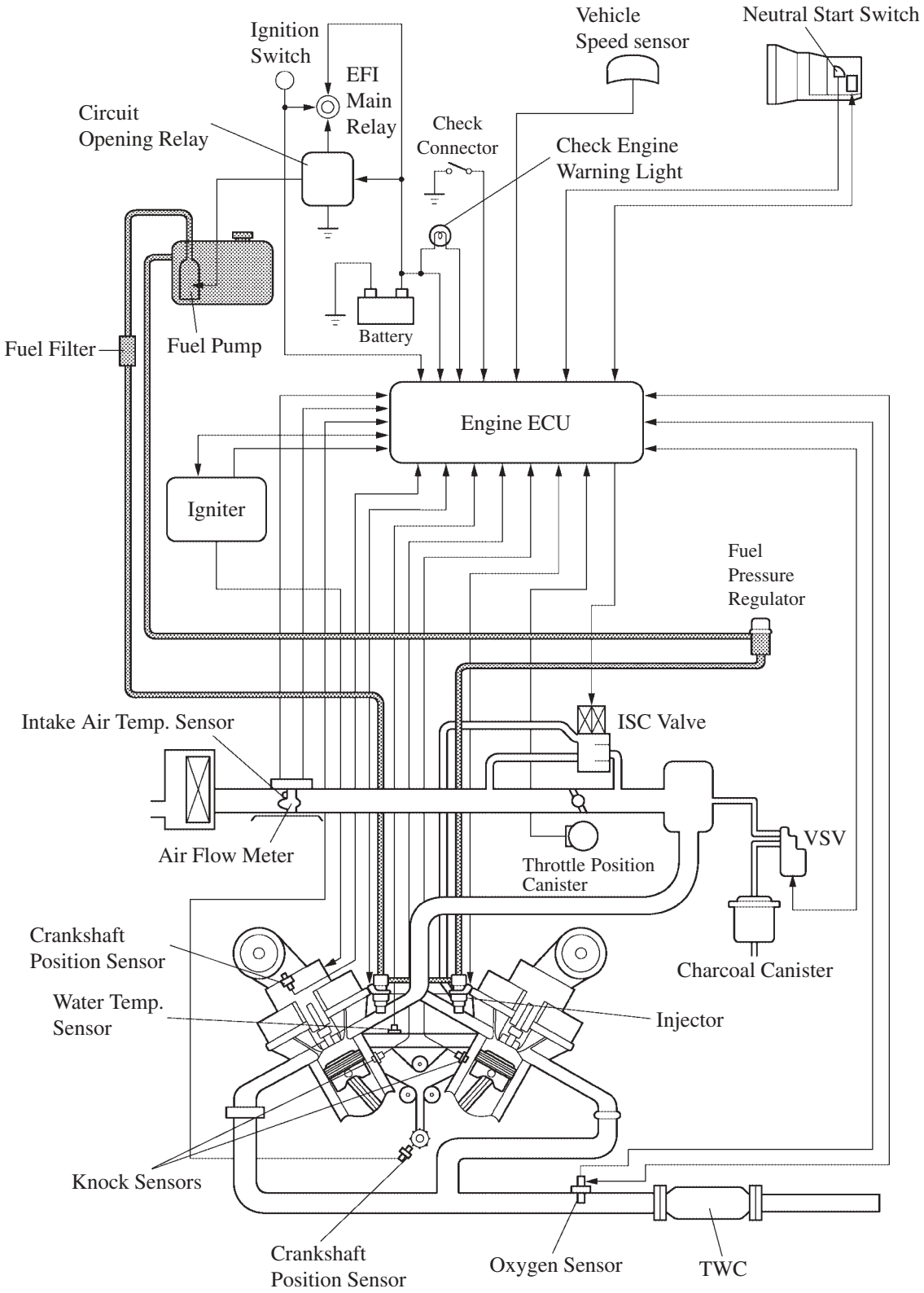
The configuration of the engine control system of the 5VZ-FE engine is as shown in the following chart.



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*: Models with Automatic Transmission

Engine Control System Diagram



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