

CIRCUIT DESCRIPTION

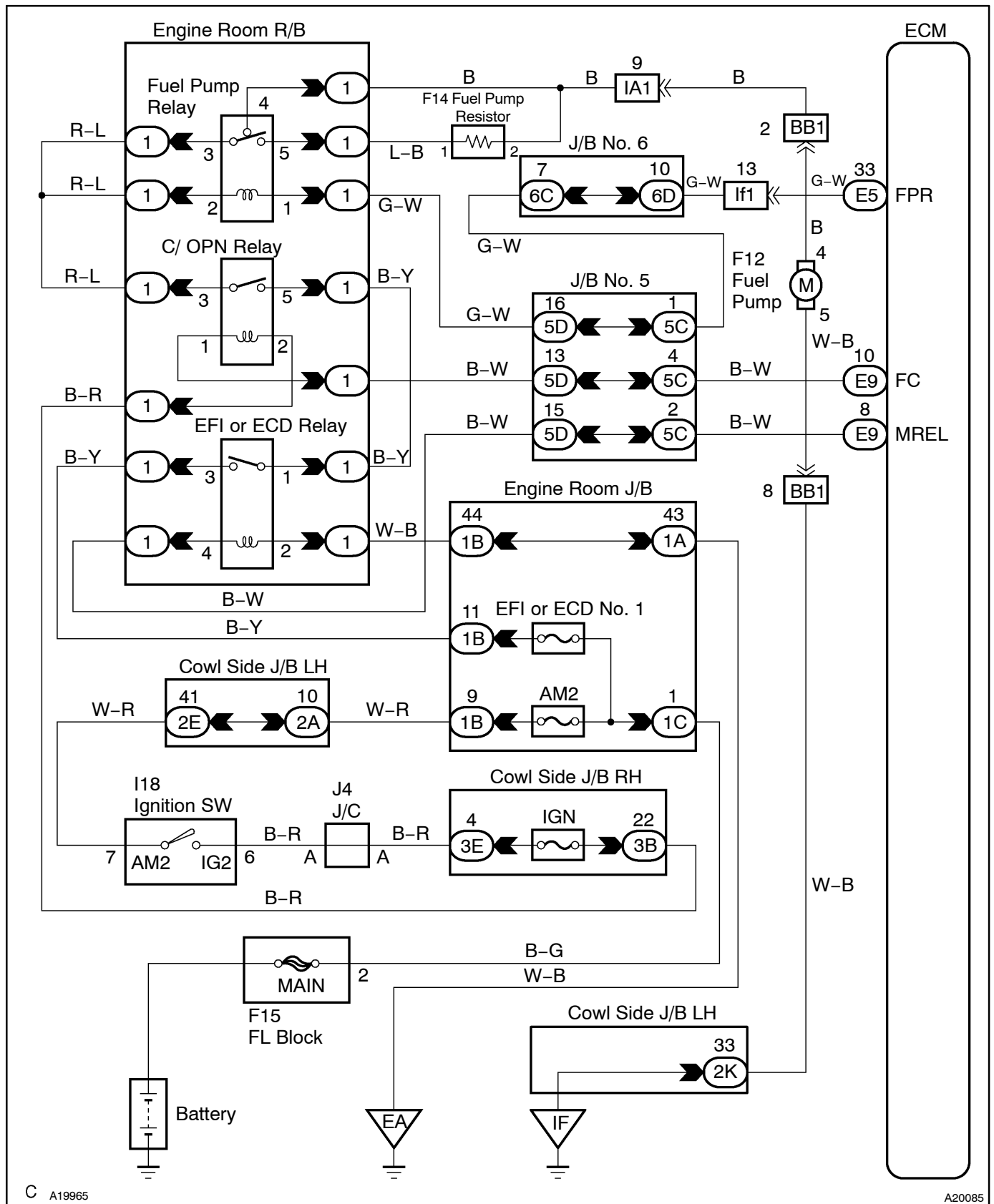
When the STA signal and NE signal are input to the ECM, Tr1 is turned ON, current flows to coil of the circuit opening relay, the relay switches on, power is supplied to the fuel pump and the fuel pump operates. While the NE signal is generated (engine running), the ECM keeps Tr1 ON (circuit opening relay ON) and the fuel pump also keeps operating.

The fuel pump speed is controlled at two levels (high speed or low speed) by the condition of the engine (starting, light load, heavy load). When the engine starts (STA ON), Tr2 in the ECM is OFF, so the fuel pump relay closes and battery voltage is applied directly to the fuel pump. Fuel pump operates at high speed. After the engine starts during idling or light loads, since Tr2 goes ON, power is supplied to the fuel pump via the fuel pump resistor.

The diagram illustrates the electrical system for the EFI. The battery is connected to the main power line, which passes through the MAIN and AM2 terminals. The Ignition Switch controls the IGN and ST lines. The Park/Neutral Position Switch is connected to the ST line. The EFI Relay is controlled by the IGN line and provides power to the EFI system. The C/OPN Relay is controlled by the ST line and provides power to the Starter Relay. The Fuel Pump Relay is controlled by the ST line and provides power to the Fuel Pump. The Fuel Pump Resistor is connected to the Fuel Pump. The Starter Relay is controlled by the ST line and provides power to the Starter. The Fuel Pump is connected to the Fuel Pump Resistor. The Tr1 and Tr2 relays are connected to the Fuel Pump. The ECM is connected to the MREL, FPR, FC, and NE terminals. The Crankshaft Position Sensor (NE Signal) is connected to the NE terminal.

DTC No.	DTC Detecting Condition	Trouble Area
P0230	Open or short in fuel pump relay circuit	• Open or short in fuel pump relay circuit • Fuel pump relay • C/OPN relay • Fuel pump • ECM

WIRING DIAGRAM



HINT:

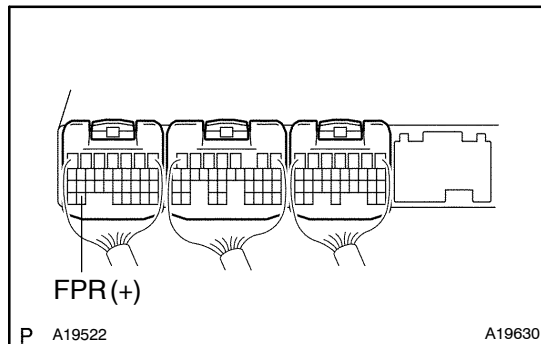
This diagnostic chart is based on premise that engine is started. If the engine is not started, proceed to problem symptoms table on [DI-35](#).

INSPECTION PROCEDURE

HINT:

Read freeze frame data using hand-held tester or the OBD II scan tool, as freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting, this is useful for determining whether the vehicle was running or stopped, the engine was warmed up or not, the air-fuel ratio was lean or rich, etc. at the time of the malfunction.

1 Check voltage between terminal FPR of ECM and body ground.



PREPARATION:

- (a) Remove the glove compartment door (See page [SF-60](#)).
- (b) Start the engine.

CHECK:

Measure the voltage between terminal FPR of the ECM connector and body ground while racing the engine.

OK:

Voltage: 4.5 – 5.5 V

OK

Check and replace ECM (See page [IN-36](#)).

NG

2 Check operation of fuel pump relay (See page [SF-40](#)).

NG

Replace fuel pump relay.

OK

3 Check operation of C/OPN relay (See page [SF-39](#)).

NG

Replace C/OPN relay.

OK

4	Check fuel pump (See page SF-7).
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NG

Replace or replace fuel pump.

OK

Repair or replace harness or connector between fuel pump relay and ECM (See page [IN-36](#)).