DI2UG–07

CIRCUIT INSPECTION

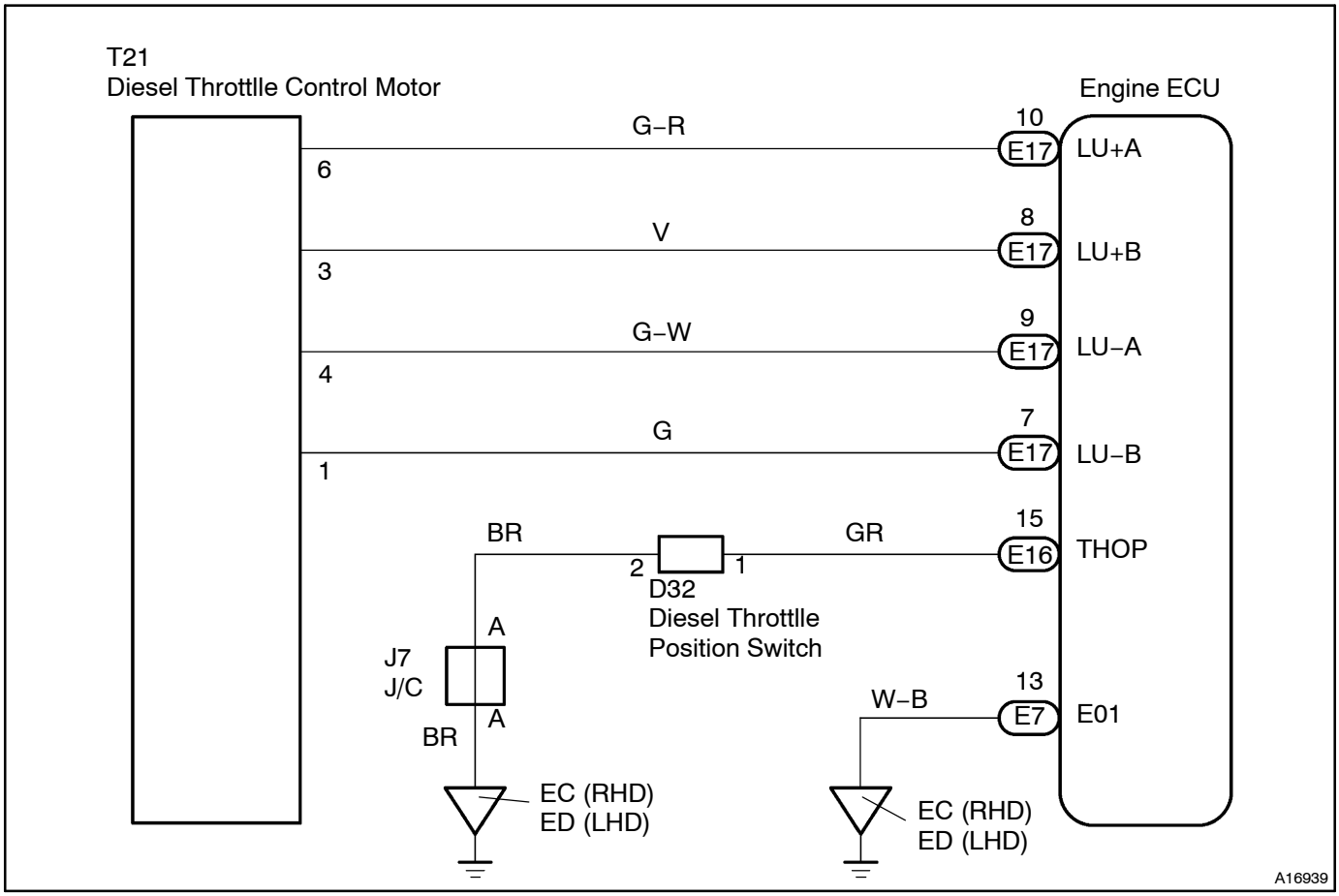
DTC	15	Throttle Control Motor Circuit Malfunction

CIRCUIT DESCRIPTION

Throttle control motor is operated by the engine ECU and it opens and closes the throttle valve.
The fully opening of the throttle valve is detected by the throttle fully open position switch which is mounted on the throttle body.
If this DTC is stored, the engine ECU shuts down the power for the throttle control motor.

DTC No.	DTC Detection Condition	Trouble Area
15	Open or short in throttle control motor circuit	• Open or short in throttle control motor circuit • Throttle control motor • Throttle valve • Throttle drive gear • Diesel throttle body • Engine ECU
	Open or short in throttle full switch circuit	

WIRING DIAGRAM

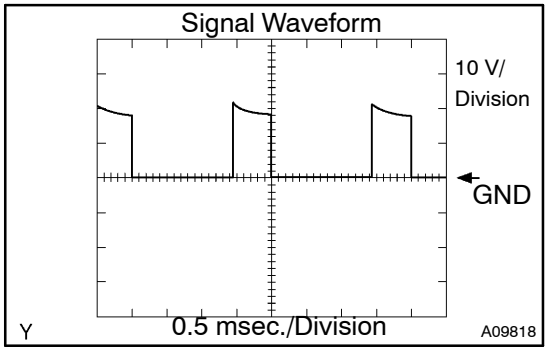


INSPECTION PROCEDURE

HINT:

Read freeze frame data using hand–held tester, as freeze frame records the engine conditions when a malfunction is detected. When troubleshooting, it is useful for determining whether the vehicle was running or stopped, the engine was warmed up or not, etc. at the time of the malfunction.

1	**Check throttle control motor circuit.**



PREPARATION:

(a) Connect the oscilloscope between terminals LU+A, LU+B, LU–A, LU–B and E01 of the engine ECU.

(b) Start the engine.

CHECK:

Check the waveform between terminals LU+A, LU+B, LU–A, LU–B and E01 of the engine ECU when the engine is racing.

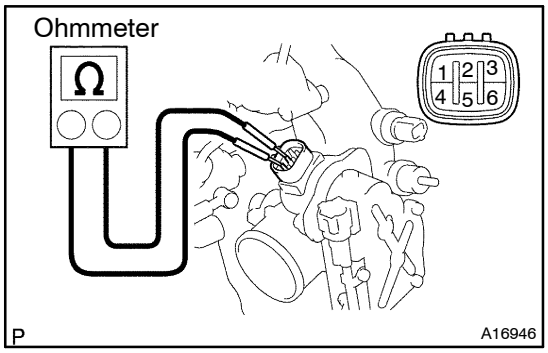
OK:

The correct waveforms are as shown.

OK	**Check and replace engine ECU (See page IN–19).**

NG

2	**Check throttle control motor.**



PREPARATION:

Disconnect the throttle control motor connector.

CHECK:

- Measure the resistance between terminals 1, 3 and 2 of the throttle control motor.
- Measure the resistance between terminals 4, 6 and 5 of the throttle control motor.

OK:

Resistance: 18 – 22 Ω at 20°C (68°F)

NG	**Replace diesel throttle body assembly (See page ED–1).**

OK

3	Check for open and short in harness and connector between throttle control motor and engine ECU (See page IN–19).

NG → Repair or replace.

OK →

Check and replace engine ECU (See Pub. No. RM617E on page ED–16).