DI9UW–01

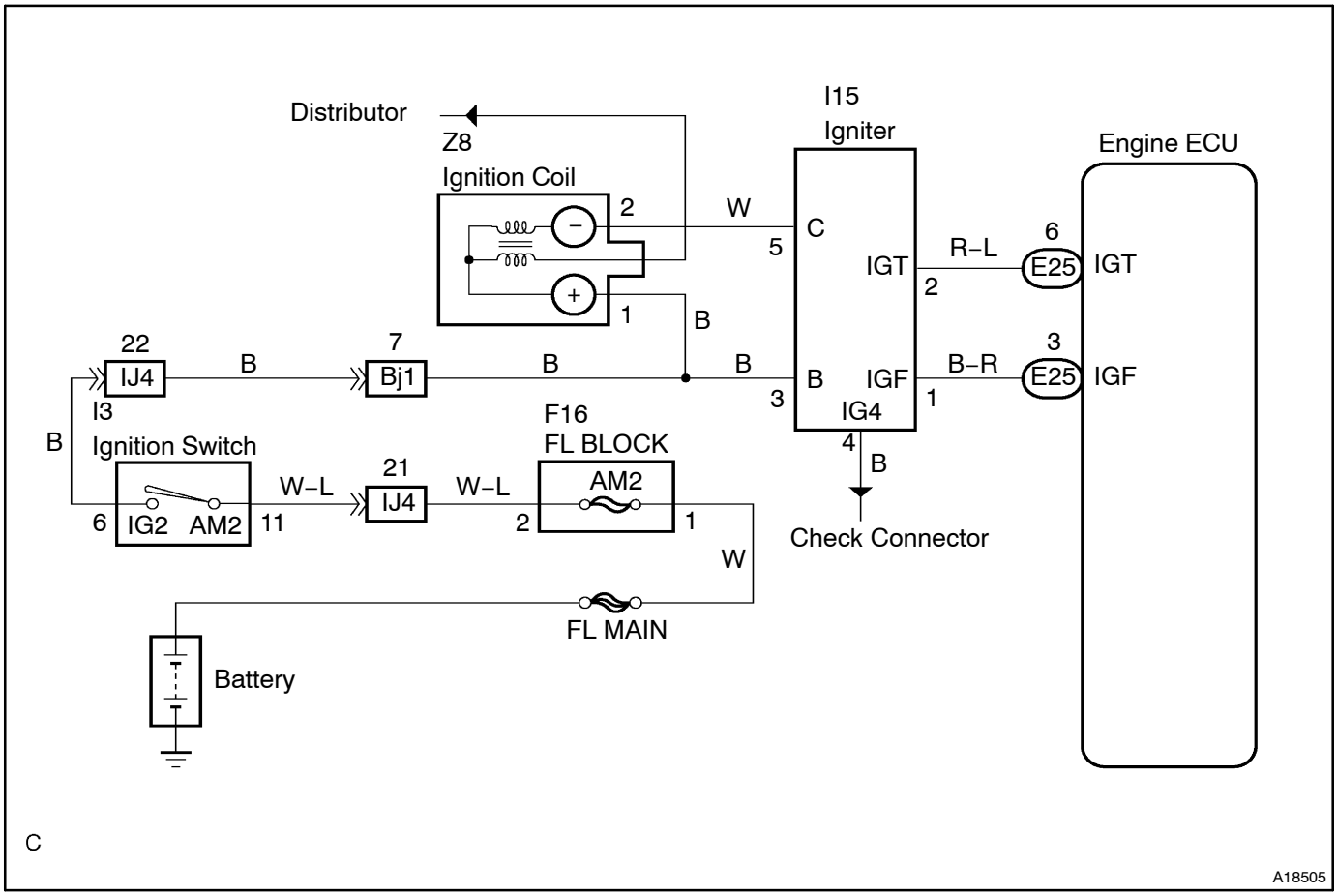
DTC	P1300/14	Igniter Circuit Malfunction

CIRCUIT DESCRIPTION

The engine ECU determines the ignition timing, turns ON Tr1 at a predetermined angle (˚CA) before the desired ignition timing and outputs an ignition signal (IGT) ”1” to the igniter.
Since the width of the IGT signal is constant, the dwell angle control circuit in the igniter determines the time the control circuit starts, primary current flow to the ignition coil based on the engine speed and ignition timing of the previous revolution that is, the time the Tr2 turns ON.
When it reaches the ignition timing, the engine ECU turns Tr1 OFF and outputs the IGT signal ”0”.
This turns Tr2 OFF, interrupting the primary current flow and generating a high voltage in the secondary coil which causes the spark plug to spark. Also, the counter electromotive force is generated when the primary current is interrupted, and the igniter sends an ignition confirmation signal (IGF) to the engine ECU.
The engine ECU stops fuel injection as a fail safe function when the IGF signal is not input to the engine ECU.

DTC No.	DTC Detecting Condition	Trouble Area
P1300/ 14	No IGF signal to engine ECU for 4 consecutive IGT signal	• Open or short in IGF or IGT circuit from igniter to engine ECU • Igniter • Engine ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

1	**Check spark plug and spark (See page IG–1).**

NG → **Go to step 4.**

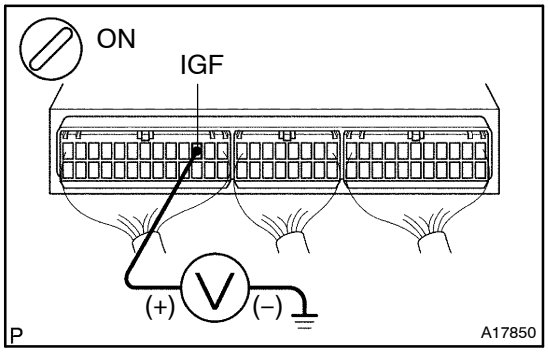
OK

2	**Check for open and short in harness and connector in IGF signal circuit between engine ECU and igniter (See page IN–20).**

NG → **Repair or replace harness or connector.**

OK

3	**Disconnect igniter connector and check voltage between terminal IGF of engine ECU connector and body ground.**



PREPARATION:

(a) Disconnect the igniter connector.
(b) Remove the side trim bracket (See page FU–48).
(c) Turn the ignition switch ON.

CHECK:

Measure the voltage between terminal IGF of the engine ECU connector and body ground.

OK:

Voltage: 4.5 – 5.5 V

NG → **Replace igniter.**

OK

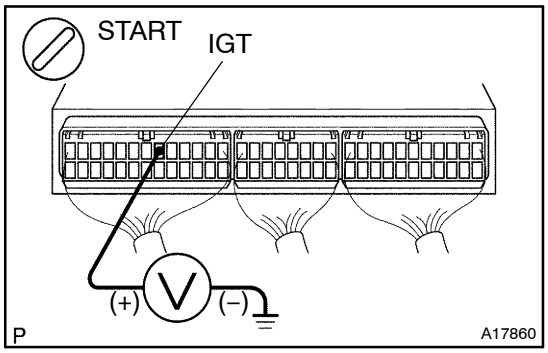
Check and replace engine ECU (See page IN–20).

4	**Check for open and short in harness and connector in IGT signal circuit between engine ECU and igniter (See page IN–20).**

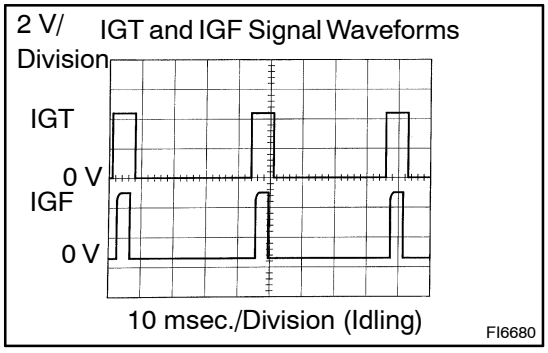
NG → **Repair or replace harness or connector.**

OK

5	**Check voltage between terminal IGT of engine ECU connector and body ground.**



PREPARATION:
Remove the side trim bracket (See page FU–48).
CHECK:
Measure the voltage between terminal IGT of the engine ECU connector and body ground when the engine is cranked.
OK:
Voltage: More than 0.1 V and less than 4.5 V

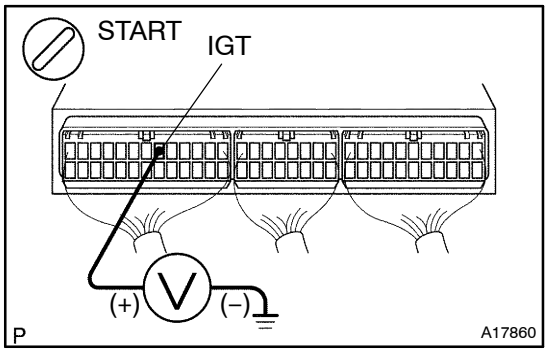


Reference: INSPECTION USING OSCILLOSCOPE
During idling, check the waveforms between terminals IGT and E1, and IGF and E1 of the engine ECU connector.
HINT:
The correct waveforms are as shown.

NG → **Check and replace engine ECU (See page IN–20).**

OK

6	Disconnect igniter connector, and check voltage between terminals IGT of engine ECU connector and body ground.



PREPARATION:

(a) Disconnect the igniter connector.

(b) Remove the side trim bracket (See page FU–48).

CHECK:

Measure the voltage between terminal IGT of the engine ECU connector and body ground when the engine is cranked.

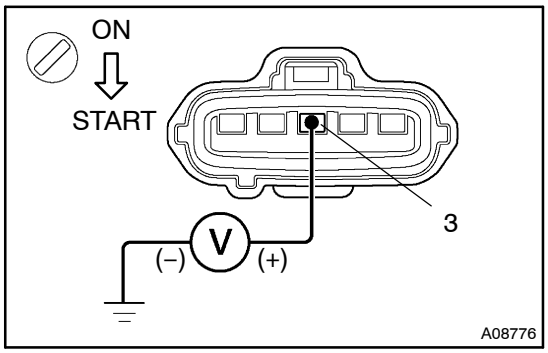
OK:

Voltage: More than 0.1 V and less than 5V

NG → **Replace igniter.**

OK

7	Check voltage between terminal 3 of igniter connector and body ground.



PREPARATION:

Disconnect the igniter connector.

CHECK:

Measure the voltage between terminal 3 of the igniter connector and body ground when the ignition switch is turned ON and START position.

OK:

Voltage: 9 – 14 V

NG → **Check and repair igniter power source circuit.**

OK

8	Check for open and short in harness and connector between ignition switch and igniter (See page IN–20).

NG → **Repair or replace harness or connector.**

OK

Replace igniter.