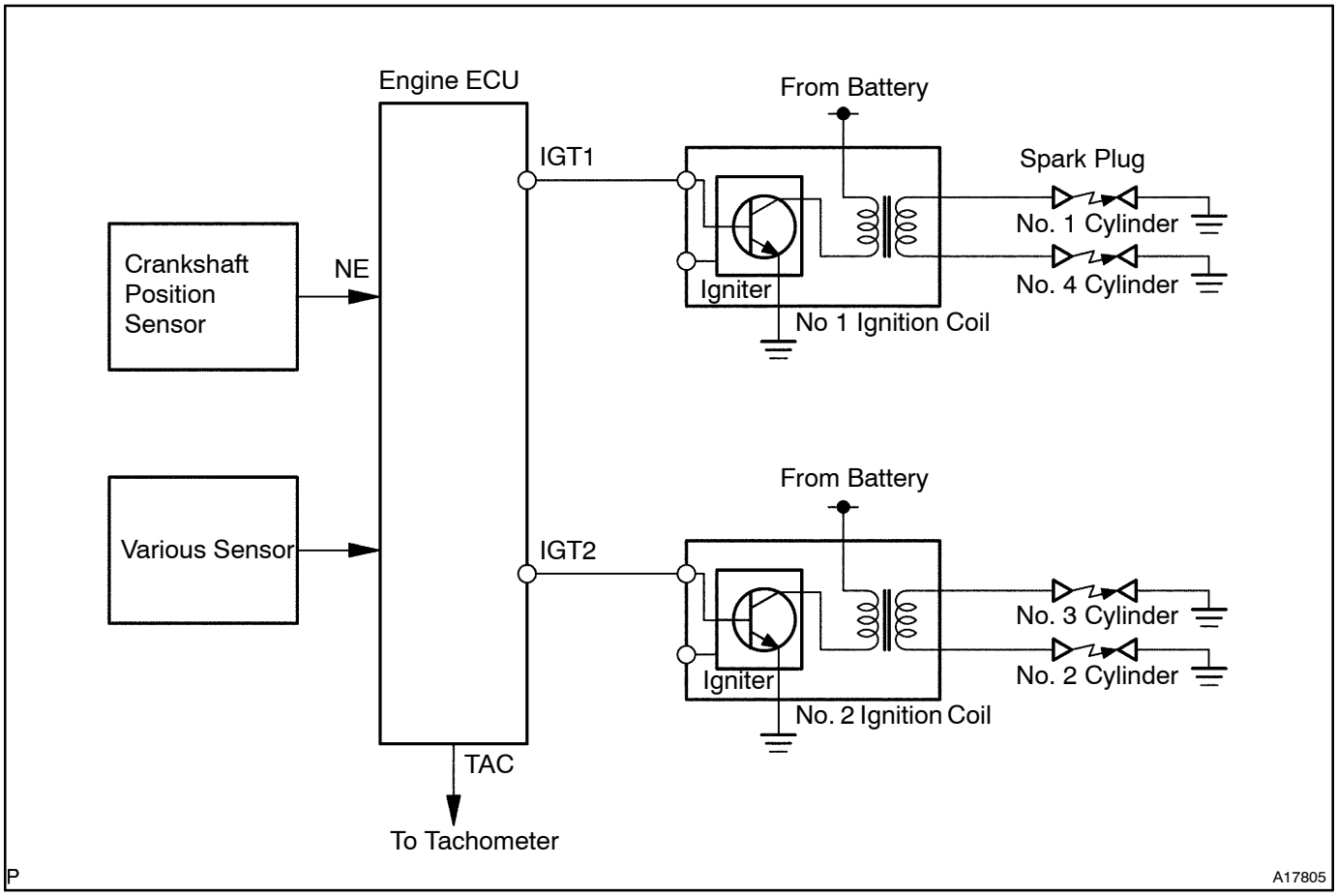
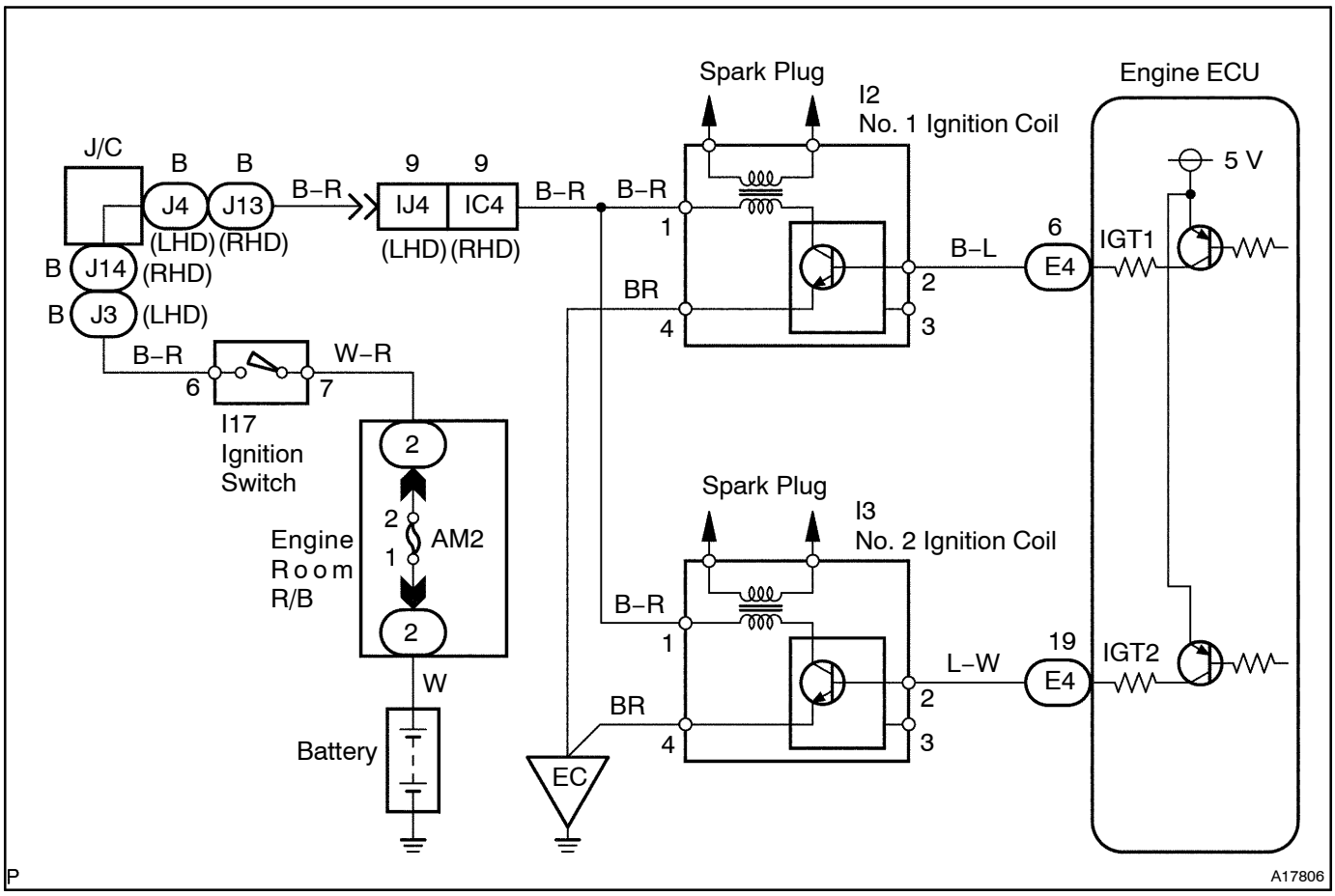
Ignition Signal Circuit

CIRCUIT DESCRIPTION

A DIS (Direct Ignition System) has been adopted, The DIS improves the ignition timing accuracy, reduces high–voltage loss, and enhances the overall reliability of the ignition system by eliminating the distributor. The DIS is a 2–cylinder simultaneous ignition system which ignites 2 cylinders simultaneously with 1 ignition coil. In the 2–cylinder simultaneous ignition system, each of the 2 spark plugs is connected to the end of the secondary winding, High voltage generated in the secondary winding is applied directly to the 2 spark plugs. The sparks of the 2 spark plugs pass simultaneously from the center electrode to the ground electrode.
The engine ECU determines ignition timing and outputs the ignition signals (IGT) for each cylinder. Based on IGT signals, the power transistors in the igniter cuts off the current to the primary coil in the ignition coil is supplied simultaneously to the 2 spark plugs via the high–tension cords that are connected to the both ends of the secondary coil.



WIRING DIAGRAM



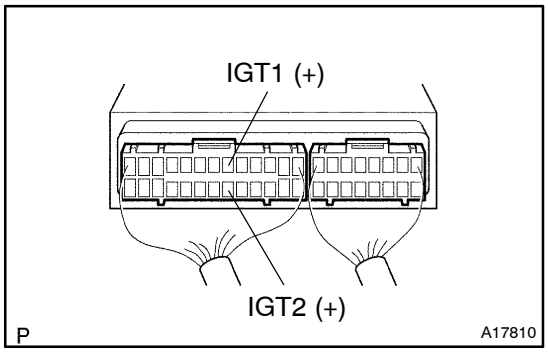
INSPECTION PROCEDURE

1	**Check spark plug and spark (See Pub. No. RM584E).**

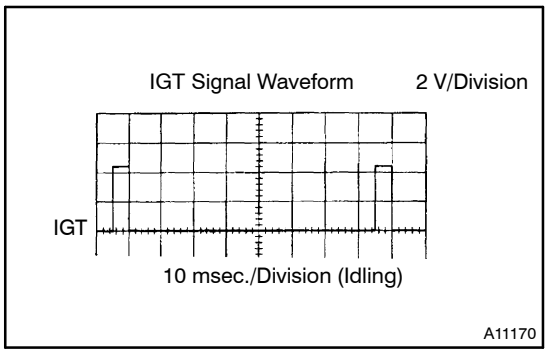
NG → **Check for open and short in harness and connector between engine ECU and ignition coil (See page IN–19).**

OK

2	Check voltage between terminals IGT1/IGT2 of engine ECU connector and body ground.



PREPARATION:
Remove the grove compartment.
CHECK:
Measure the voltage between terminal IGT1/IGT2 of the engine ECU connector and body ground when the engine is cranked.
OK:
Voltage: More than 0.1 V and less then 4.5 V

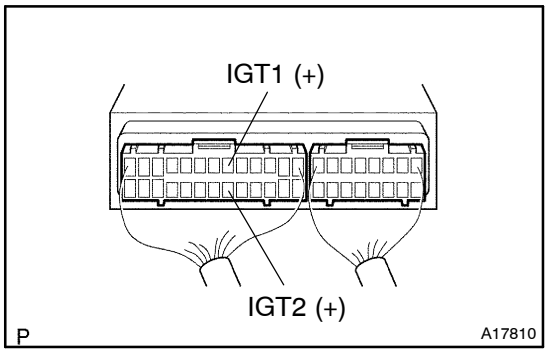


Reference: INSPECTION USING OSCILLOSCOPE
During idling, check the waveform between terminals IGT1/IGT2 and E1 of the engine ECU connector.
HINT:
The correct waveform are as shown.

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

OK

3	Disconnect ignition coil connector and check voltage between terminal IGT1/IGT2 of engine ECU connector and body ground.

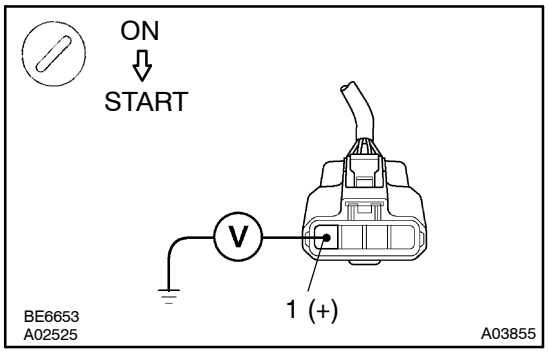


PREPARATION:
(a) Disconnect the ignition coil connector.
(b) Remove the glove compartment.
CHECK:
Measure the voltage between terminals IGT1/IGT2 of the engine ECU connector and body ground when the engine is cranked.
OK:
Voltage: More than 0.1 V and less then 4.5 V

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

OK

4	Check ignition coil power source circuit.



PREPARATION:
Disconnect the ignition coil connector.
CHECK:
Measure the voltage between terminals 1 of the ignition coi connector and body ground when the ignition switch is turned to ON and STA position.
OK:
Voltage: 9 – 14 V

NG → **Repair ignition coil power source circuit.**

OK

5	Check for open and short in harness and connector between ignition switch and ignition coil (See page IN–19).

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

OK

Replace ignition coil.