DI4EA–18

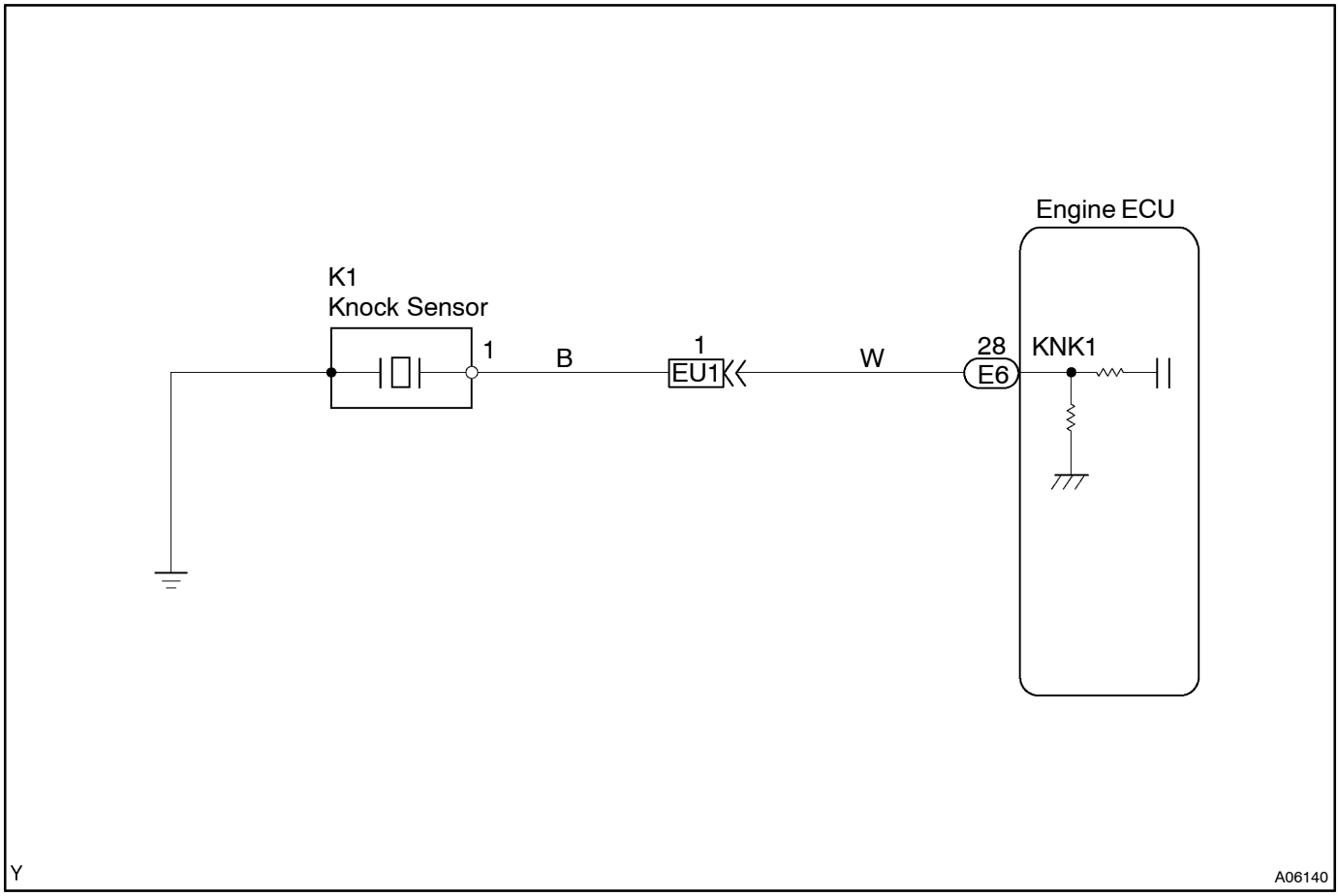
DTC	P0325	Knock Sensor Circuit Malfunction

CIRCUIT DESCRIPTION

The knock sensor are fitted to the cylinder block to detect the engine knocking. This sensor contains a piezo-electric
element which generates a voltage when the cylinder block vibrates and is beformed due to the knocking. If engine knocking occurs, ignition timing is retarded to suppress it.

DTC No.	DTC Detecting Condition	Trouble Area
P0325	No knock sensor signal to engine ECU with engine speed 1,200 rpm or more (1 trip detection logic)	• Open or short in knock sensor circuit • Knock sensor (looseness) • Engine ECU

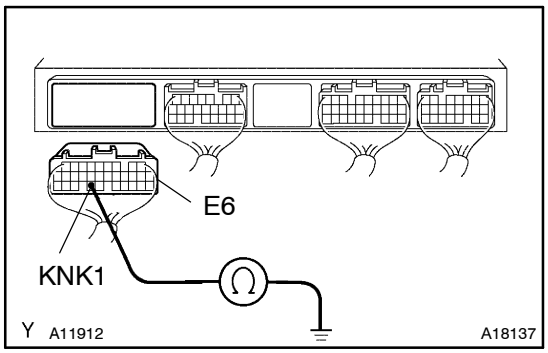
WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:
Read freeze frame data using the hand–held tester. Because freeze frame data records the engine conditions when the malfunction is detected. When troubleshooting it 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.

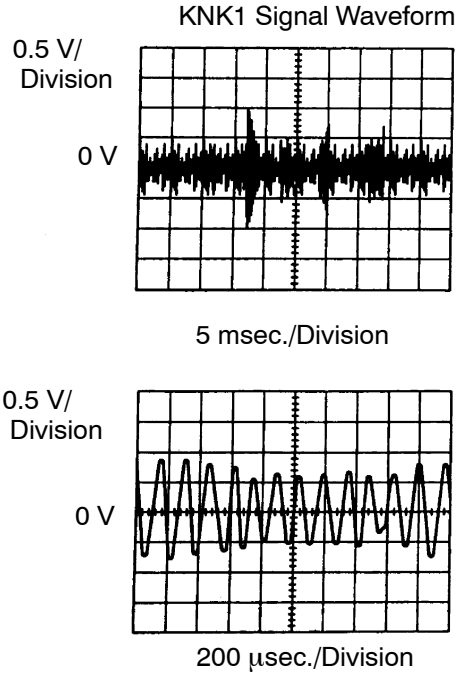
1	**Check continuity between terminal KNK1 of engine ECU connector and body ground.**



PREPARATION:
(a) Remove the glove compartment.
(b) Disconnect the E6 connector of the engine ECU.

CHECK:
Measure the resistance between terminal KNK1 of the engine ECU connector and body ground.

OK:
Resistance: 1 MΩ or higher



Reference: INSPECTION USING OSCILLOSCOPE
- With the engine racing (4,000 rpm), check the waveform between terminal KNK1 of the engine ECU and the body ground.

HINT:
The correct waveform are shown, in the illustration.

- Spread the time on the horizontal axis, and confirm that the period of the wave is 151 μsec.
  (Normal mode vibration frequency of knock sensor: 6.6 kHz).

HINT:
If the normal mode vibration frequency is not 6.6 kHz, the sensor is malfunctioning.

OK	**Go to step 3 .**

NG

2	Check knock sensor (See Pub. No. RM521E).

NG → Replace knock sensor.

OK

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

NG → Repair or replace harness or connector.

OK

4	Does malfunction disappear when a good knock sensor is installed?

YES → Replace knock sensor.

NO

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