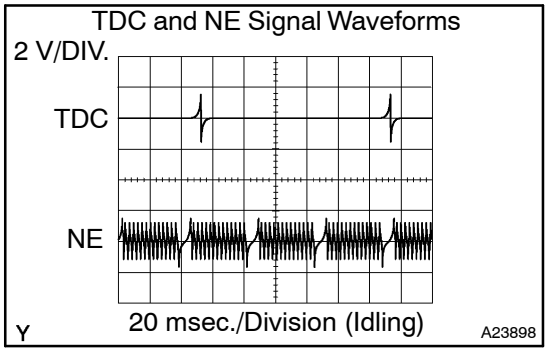
DIDYD–01

DTC	P0335/13	Engine Speed Sensor Circuit 1 (NE Circuit)

CIRCUIT DESCRIPTION

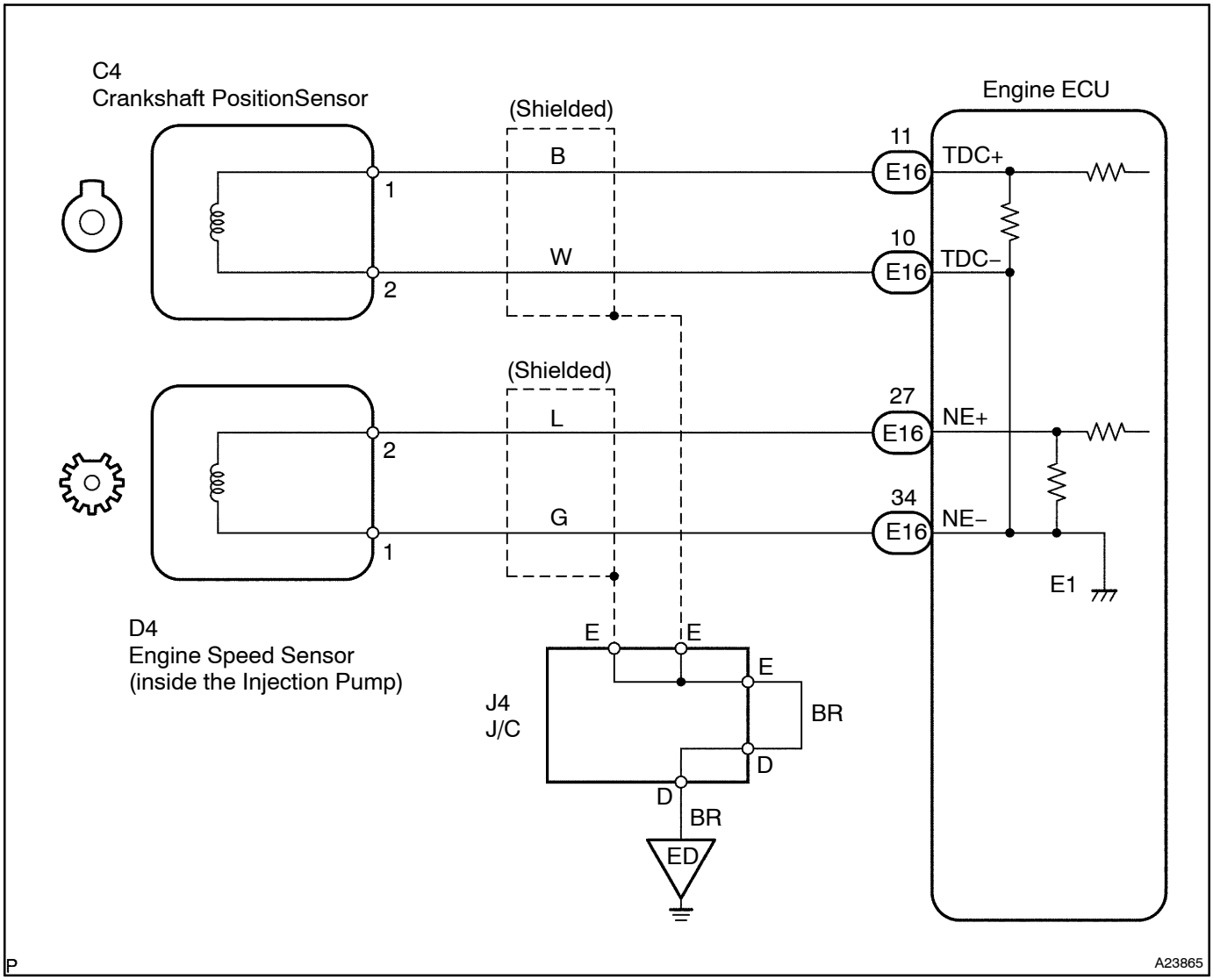
The crankshaft position sensor in the engine control system contains signal plate and a pickup coil for TDC signal. The TDC signal plate has 1 tooth on its outer circumference. The TDC signal sensor generates 1 signal for every engine revolution. The engine ECU detects the top dead center by the TDC signals.
The engine speed sensor in the engine control system contains signal plate and a pickup coil for NE signal. The NE signal plate has 78 teeth and is mounted in the injection pump. The NE signal sensor generates 78 signals every 2 engine revolutions. The engine ECU detects the engine speed and cam lift position of the injection pump. The engine ECU uses TDC signal and NE signals for injection timing control. The NE signal is also used for injection volume control.

DTC No.	DTC Detection Condition	Trouble Area
P0335/13	No NE signal to engine ECU for 0.5 sec. or more at 580 rpm or more	• Open or short in engine speed sensor circuit • Engine speed sensor • Engine ECU
	No NE signal to engine ECU for 2.0 sec. or more during cranking	



Reference: INSPECTION USING OSCILLOSCOPE
During cranking or idling, check between terminals NE+ and NE– of the engine ECU.
HINT:
The correct waveforms are as shown.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	**Check resistance of engine speed sensor (See Pub No. RM617E, FU–113).**

NG → **Check and replace injection pump (See Pub No. RM617E, FU–113).**

OK

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

NG → Repair or replace harness or connector.

OK

3	Inspect sensor installation.

NG → Tighten sensor.

OK

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