DIDYB–01

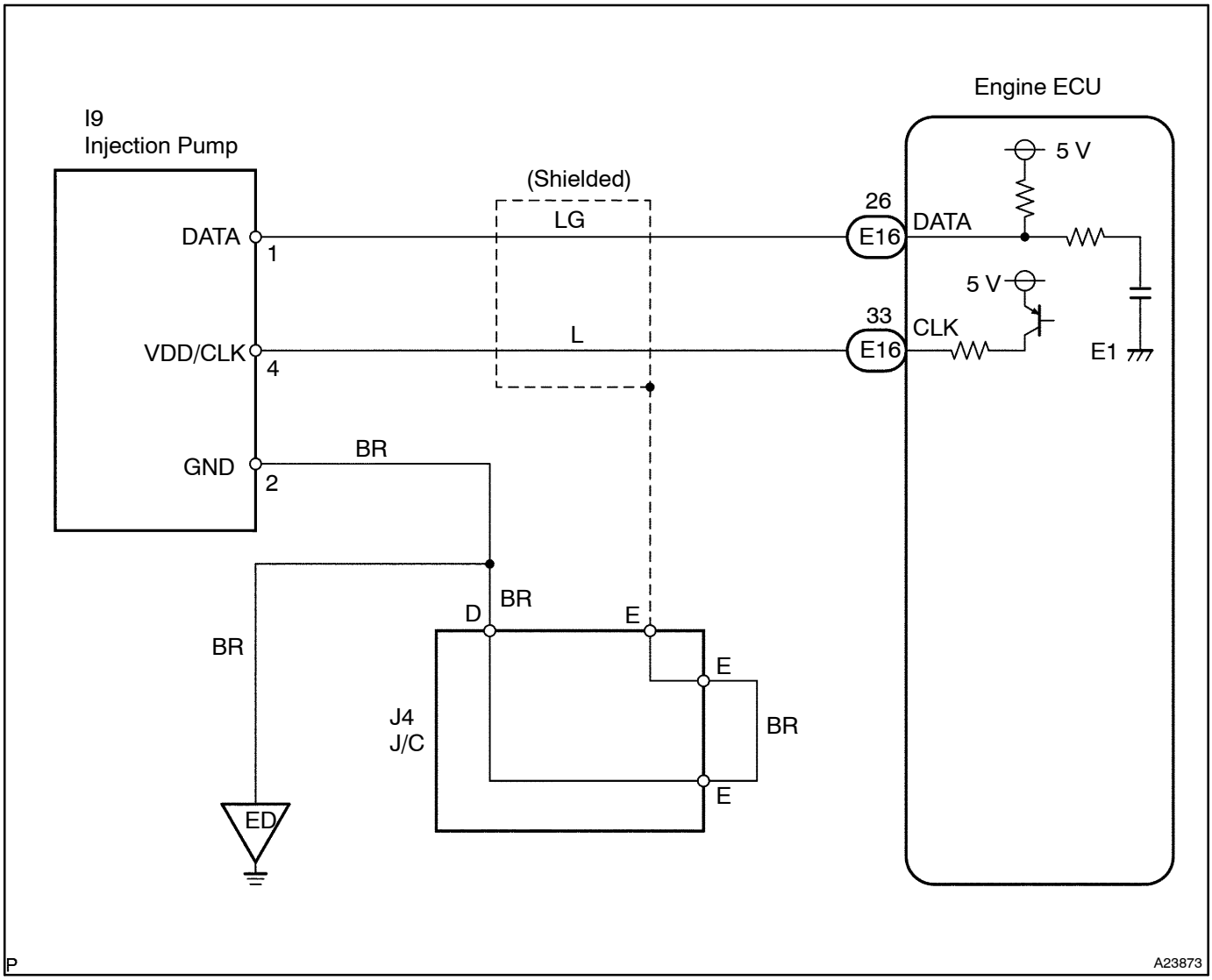
DTC	P1670/32	Injection Pump System Malfunction

CIRCUIT DESCRIPTION

The correction system correct variations between each injection pump.

DTC No.	DTC Detection Condition	Trouble Area
P1670/32	Open or short in injection pump correction unit circuit	• Injection pump correction unit circuit • Injection pump correction unit • Engine ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

1	Check for open and short in harness and connector between DATA of engine ECU and DATA of injection pump correction unit (See page IN–19).

NG → Repair or replace harness or connector.

OK

2	Check for open and short in harness and connector between CLK of engine ECU and VDD/CLK of injection pump correction unit (See page IN–19).

NG → Repair or replace harness or connector.

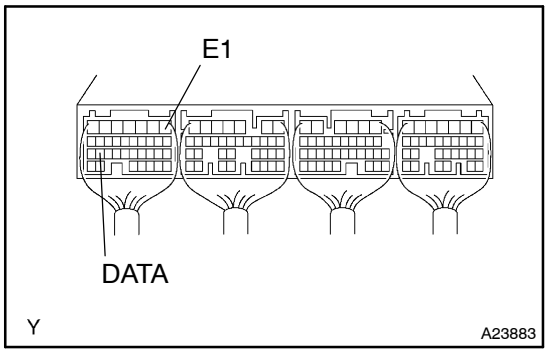
OK

3	Check for open in harness in injection pump correction unit terminal GND and body ground (See page IN–19).

NG → Repair or replace harness or connector.

OK

4	Check waveform between terminal DATA of engine ECU connector.



PREPARATION:

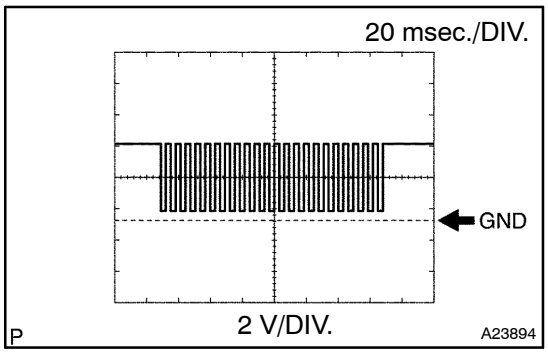
(a) Remove the glove compartment door.
(b) Connect an oscilloscope between terminals DATA and E1 of the engine ECU.
(c) Turn the ignition switch ON.

CHECK:

Within 0.5 seconds after the ignition switch is turned ON, check the waveform between terminals DATA and E1 of the engine ECU.

OK:

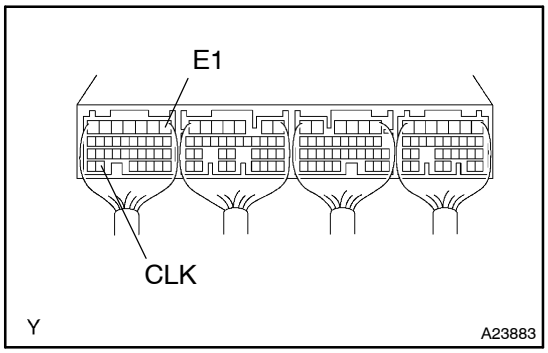
The correct waveforms are as shown.



OK → **Check and replace engine ECU**

NG

5	Check waveform between terminal CLK of engine ECU connector.



PREPARATION:

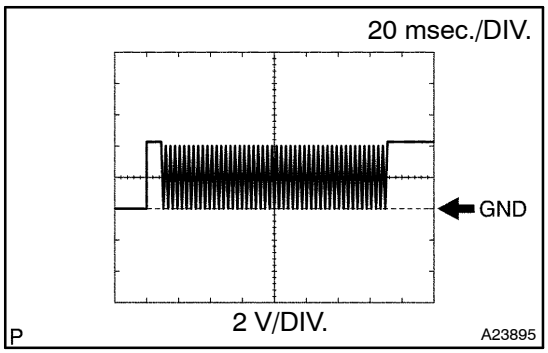
(a) Remove the glove compartment door.
(b) Turn the ignition switch ON.
(c) Connect an oscilloscope between terminals CLK and E1 of the engine ECU.

CHECK:

Within 0.5 seconds after the ignition switch is turned ON, check the waveform between terminals CLK and E1 of the engine ECU.

OK:

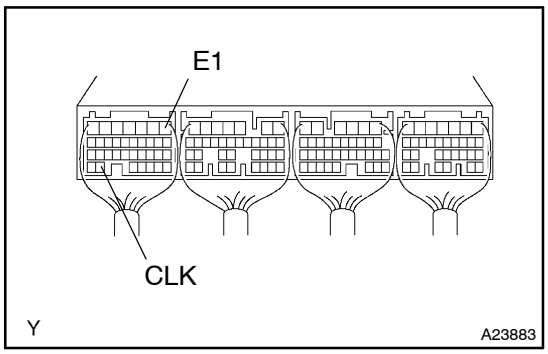
The correct waveforms are as shown.



OK → **Go to step 7.**

NG

6	Check waveform between terminal CLK of engine ECU connector.



PREPARATION:

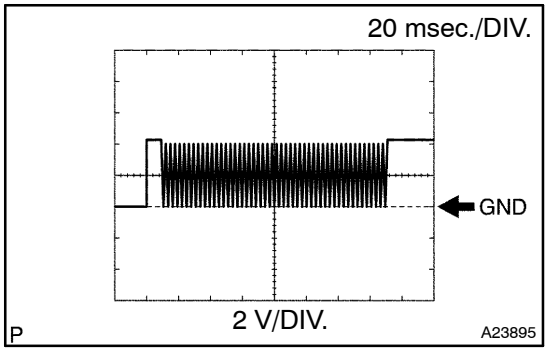
(a) Remove the glove compartment door.
(b) Disconnect the injection pump correction unit connector.
(c) Turn the ignition switch ON.
(d) Connect an oscilloscope between terminals CLK and E1 of the engine ECU.

CHECK:

Within 0.5 seconds after the ignition switch is turned ON, check the waveform between terminals CLK and E1 of the engine ECU.

OK:

The correct waveforms are as shown.

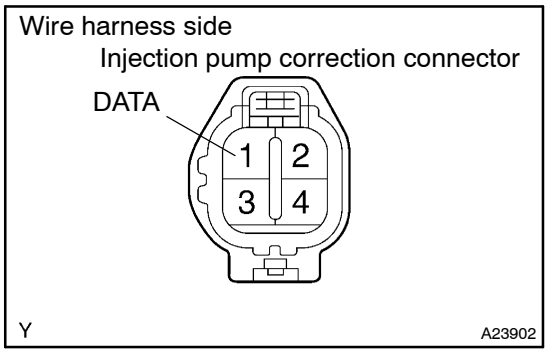


NG → **Check and replace engine ECU.**

OK

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

7	**Check voltage between DATA of wire harness and body ground.**



PREPARATION:

(a) Disconnect the injection pump correction unit connector.
(b) Turn the ignition switch ON.

CHECK:

Measure the voltage between terminal DATA of the injection pump correction unit connector and body ground.

OK:

Voltage: 4.5 to 5.5V

NG → **Check and replace engine ECU.**

OK

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