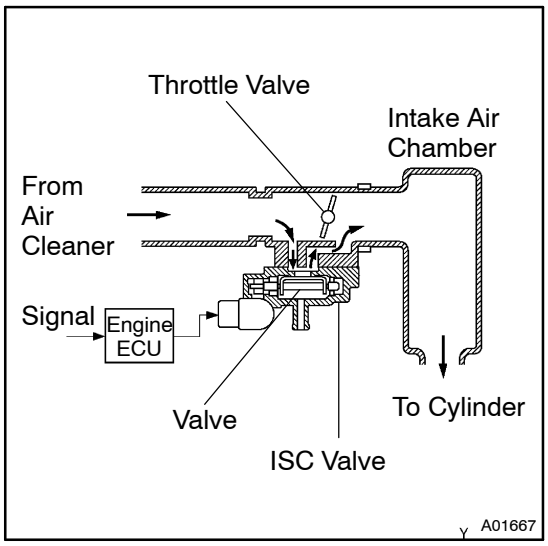
DI31F–03

DTC	P0505/33	Idle Control System Malfunction

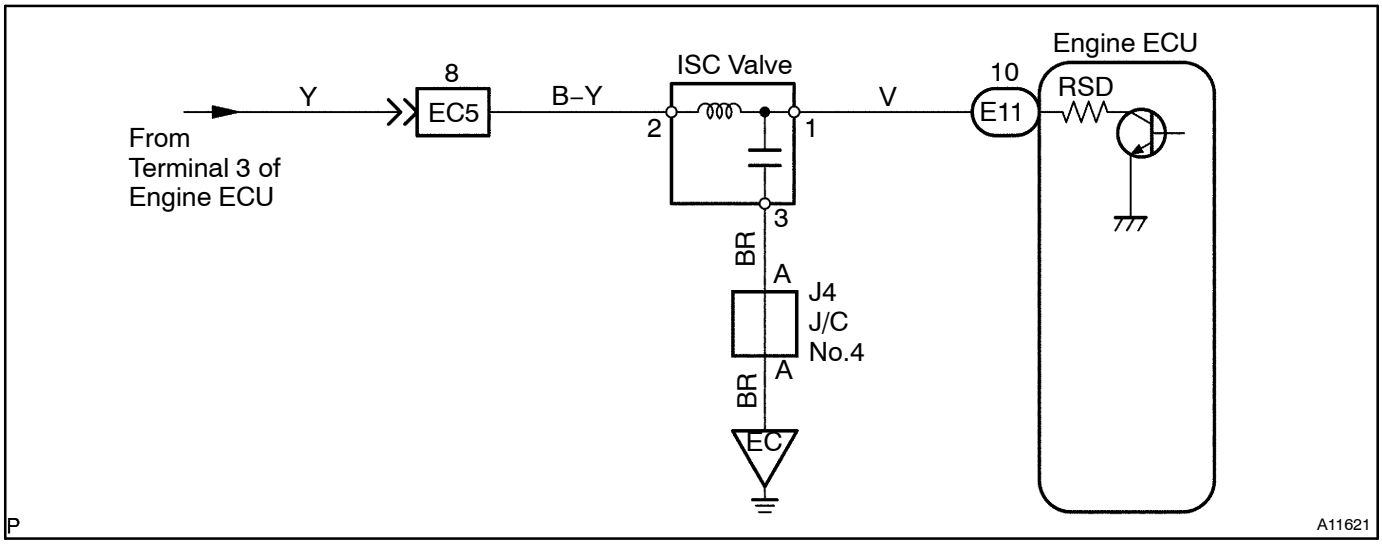
CIRCUIT DESCRIPTION



The rotary solenoid type ISC valve is located in front of the intake air chamber and intake air bypassing the throttle valve is directed to the ISC valve through a passage.
In this way the intake air volume bypassing the throttle valve is regulated, controlling the engine speed.
The engine ECU operates only the ISC valve to perform idle–up and provide feedback for the target idling speed.

DTC No.	DTC Detection Condition	Trouble Area
P0505/33	Open or short in ISC valve circuit	• Open or short in ISC valve circuit • ISC valve • Engine ECU

WIRING DIAGRAM

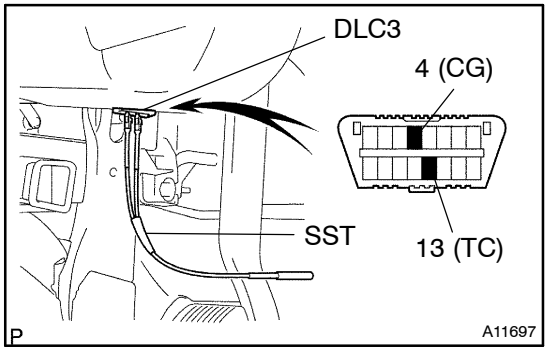


INSPECTION PROCEDURE

HINT:
Read freeze frame data using hand–held tester. Because freeze frame 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.

When using hand–held tester:

1	**Check engine idle speed.**



PREPARATION:

(a) Warm up the engine to normal operating temperature.
(b) Switch off all the accessories.
(c) Switch off the A/C.
(d) Shift the transmission into the N position.
(e) Connect the hand–held tester to the DLC3 on the vehicle.
(f) Using SST, connect terminals 13 (TC) and 4 (CG) of the DLC3.
SST 09843–18040

CHECK:

Check the difference of engine speed between the ones, less than 5 sec. and more than 5 sec. after connecting terminals 13 (TC) and 4 (CG) of the DLC3.

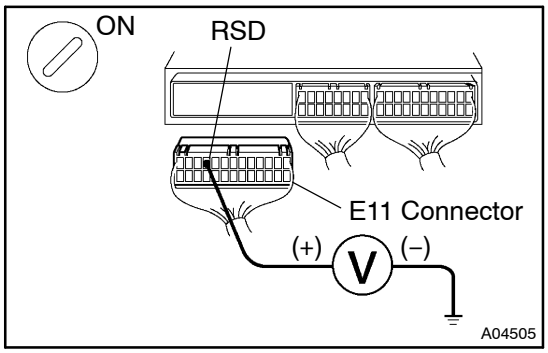
OK:

Difference of engine speed: More than 100 rpm

OK	**Proceed to next circuit inspection shown on problem symptom table (See page DI–19).**

NG

2	**Check voltage between terminal RSD of engine ECU connector and body ground.**



PREPARATION:

(a) Remove the glove compartment (See page FI–56).
(b) Disconnect the E11 connector from the engine ECU.
(c) Turn the ignition switch ON.

CHECK:

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

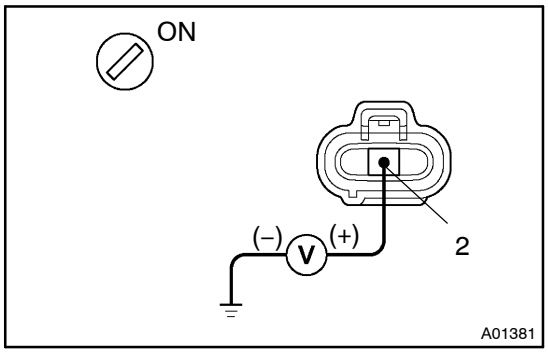
OK:

Voltage: 9 – 14 V

OK	**Go to step 5.**

NG

3	Check voltage between terminal of ISC valve connector and body ground.



PREPARATION:

(a) Disconnect the ISC valve connector.

(b) Turn the ignition switch ON.

CHECK:

Measure the voltage between terminal 2 of the ISC valve connector and body ground.

OK:

Voltage: 9 – 14 V

NG → **Check for open and short in harness and connector between ISC valve and EFI main relay.**

OK ↓

4	Check for open and short in harness and connector in RSD circuit (See page IN–19).

NG → **Repair or replace.**

OK ↓

Replace ISC valve.

5	Check for open and short in harness and connector between terminal 3 of ISC valve connector and body ground (See page IN–19).

NG → **Repair or replace.**

OK ↓

6	Check operation of ISC valve (See page FI–37).

NG → **Replace ISC valve.**

OK

7	Check blockage of ISC valve and passage to bypass throttle valve.

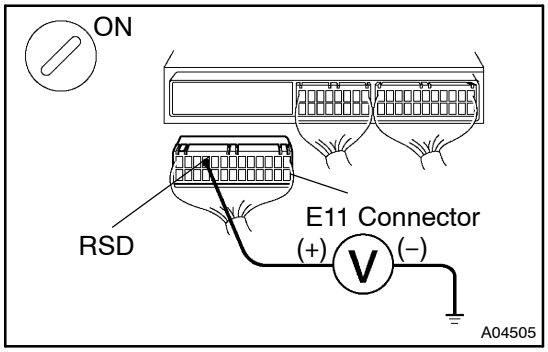
NG → Repair or replace ISC valve and throttle body.

OK

Proceed to next circuit inspection shown on problem symptom table (See page DI–19).

When not using hand–held tester:

1	Check voltage between terminal RSD of engine ECU connector and body ground.



PREPARATION:
(a) Remove the glove compartment (See page FI–56).
(b) Disconnect the E11 connector from the engine ECU.
(c) Turn the ignition switch ON.

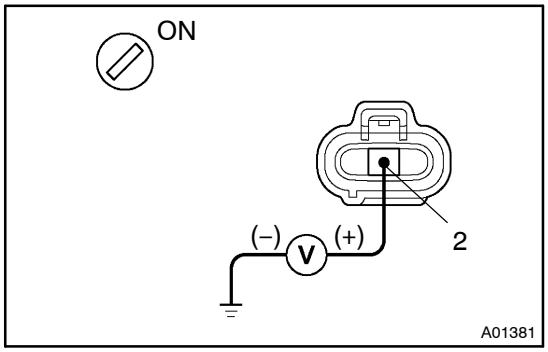
CHECK:
Measure the voltage between terminal RSD of the engine ECU connector and body ground.

OK:
Voltage: 9 – 14 V

OK → Go to step 4.

NG

2	Check voltage between terminal of ISC valve connector and body ground.



PREPARATION:
(a) Disconnect the ISC valve connector.
(b) Turn the ignition switch ON.

CHECK:
Measure the voltage between terminal 2 of the ISC valve connector and body ground.

OK:
Voltage: 9 – 14 V

NG → Check for open and short in harness and connector between ISC valve and EFI main relay.

OK

3	Check for open and short in harness and connector in RSD circuit (See page IN–19).

NG → Repair or replace.

OK

Replace ISC valve.

4	Check for open and short in harness and connector between terminal 3 of ISC valve connector and body ground (See page IN–19).

NG → Repair or replace.

OK

5	Check operation of ISC valve (See page FI–37).

NG → Replace ISC valve.

OK

6	Check blockage of ISC valve and passage to bypass throttle valve.

NG → Repair or replace ISC valve and throttle body.

OK

Proceed to next circuit inspection shown on problem symptom table (See page DI–19).