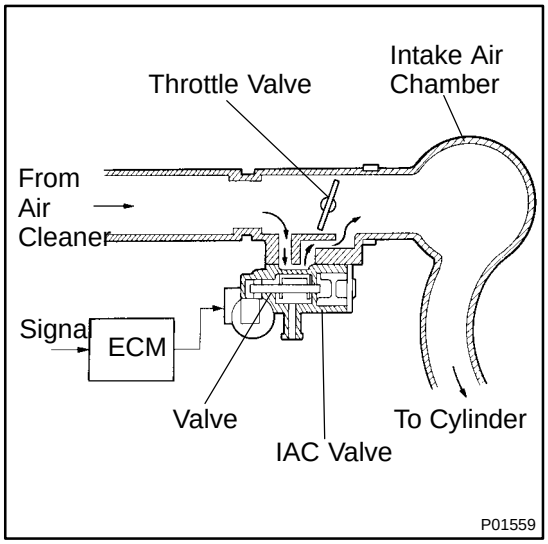
DI6VH-02

DTC	P0505	Idle Control System Malfunction

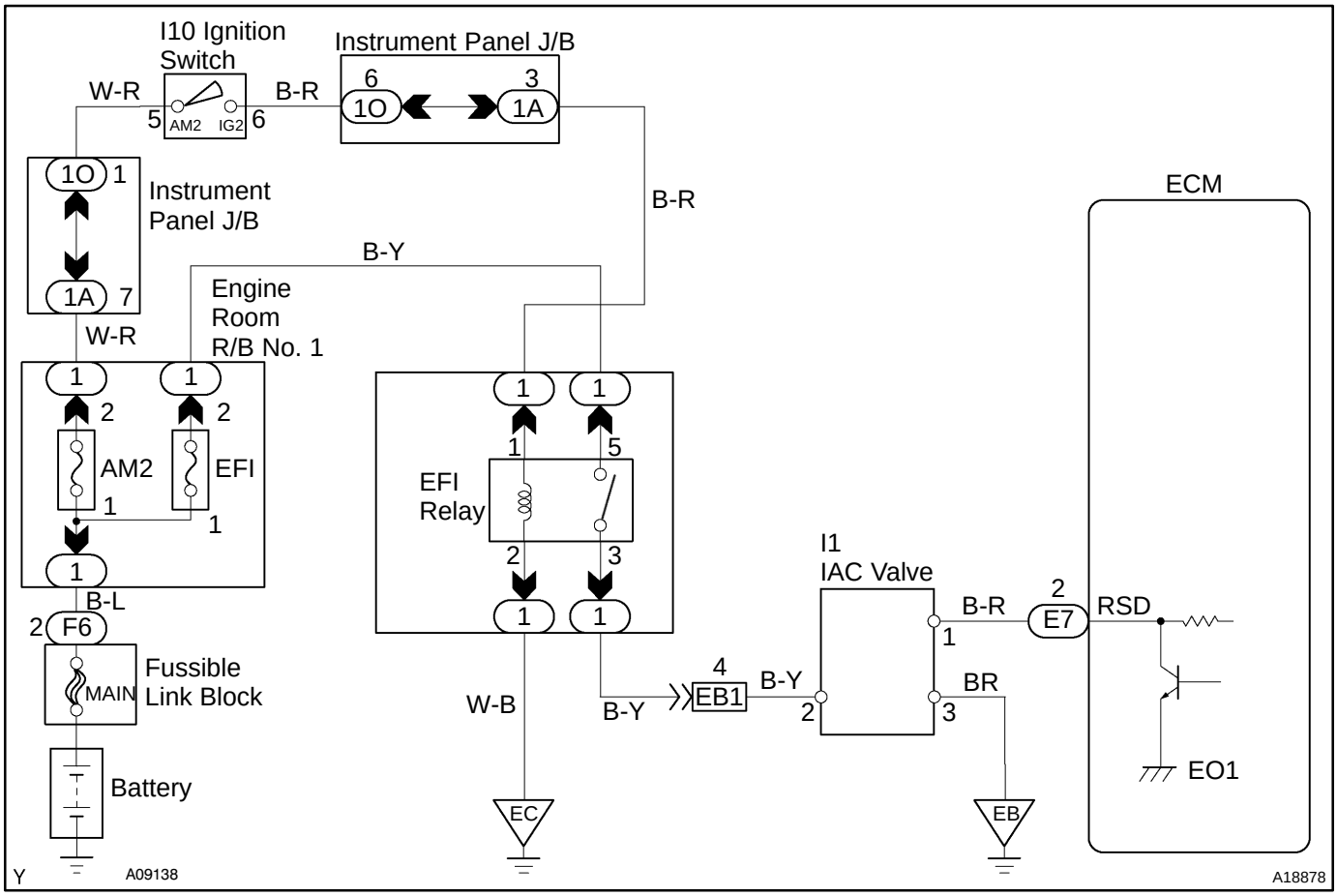
CIRCUIT DESCRIPTION



The rotary solenoid type IAC valve is located on the throttle body and intake air bypassing the throttle valve is directed to the IAC valve through a passage.
In this way the intake air volume bypassing the throttle valve is regulated, controlling the engine speed.
The ECM operates only the IAC valve to perform idle-up and provide feedback for the target idling speed.

DTC No.	DTC Detecting Condition	Trouble AreaTrouble Area
P0505	Idle speed continues to vary greatly from the target speed (2 trip detection logic)	• IAC valve is stuck or closed • Open or short in IAC valve circuit • Open or short in A/C switch circuit • Air induction system • ECM • PCV piping

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:
Read freeze frame data using TOYOTA hand-held tester or OBD II scan tool. 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 warmed up or not, the air-fuel ratio lean or rich, etc. at the time of the malfunction.

1	**Check engine idle speed.**

PREPARATION:
(a) Warm up engine to normal operating temperature.
(b) Switch off all accessories.
(c) Switch off alr conditioning.
(d) Shift transmission into ”N” or neutral position.
(e) Connect the TOYOTA hand-held tester to DLC3 on the vehicle.
(f) Select ACTIVE TEST mode on the TOYOTA hand-held tester.

CHECK:
Make note of the engine RPM before, and 5 seconds after the TOYOTA hand-held tester active test is turned ON.

OK:
Difference of engine speed: More than 100 rpm.

OK → **Go to step 7.**

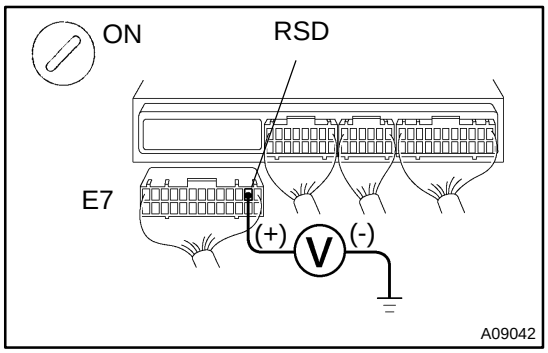
NG

2	**Check connection of PCV piping.**

NG → **Repair or replace PCV piping.**

OK

3	**Check voltage between terminals RSD of ECM connector and body ground.**



PREPARATION:

(a) Remove the connector cover from the ECM.
(b) Disconnect the E7 connector of ECM.
(c) Turn the ignition switch ON.

CHECK:

Measure voltage between terminals RSD of the ECM connector and body ground,

OK:

Voltage: 9 - 14 V

OK	**Go to step 5.**

NG

4	**Check IAC valve (See page SF-37).**

NG	**Replace IAC valve.**

OK

Check for open and short in harness and connector between engine room J/B No.2 and IAC valve and ECM (See page IN-29).

5	**Check operation of the IAC valve (See page SF-37).**

NG	**Repair or replace IAC valve.**

OK

6	Check the blockage of IAC valve and the passage to bypass the throttle valve.

NG → Repair or replace IAC valve.

OK →

Check and replace ECM (See page IN-29).

7	Check for A/C signal circuit (See page AC-88).

NG → Repair or replace.

OK →

Check air induction system
(See page SF-1).