DIDY9–01

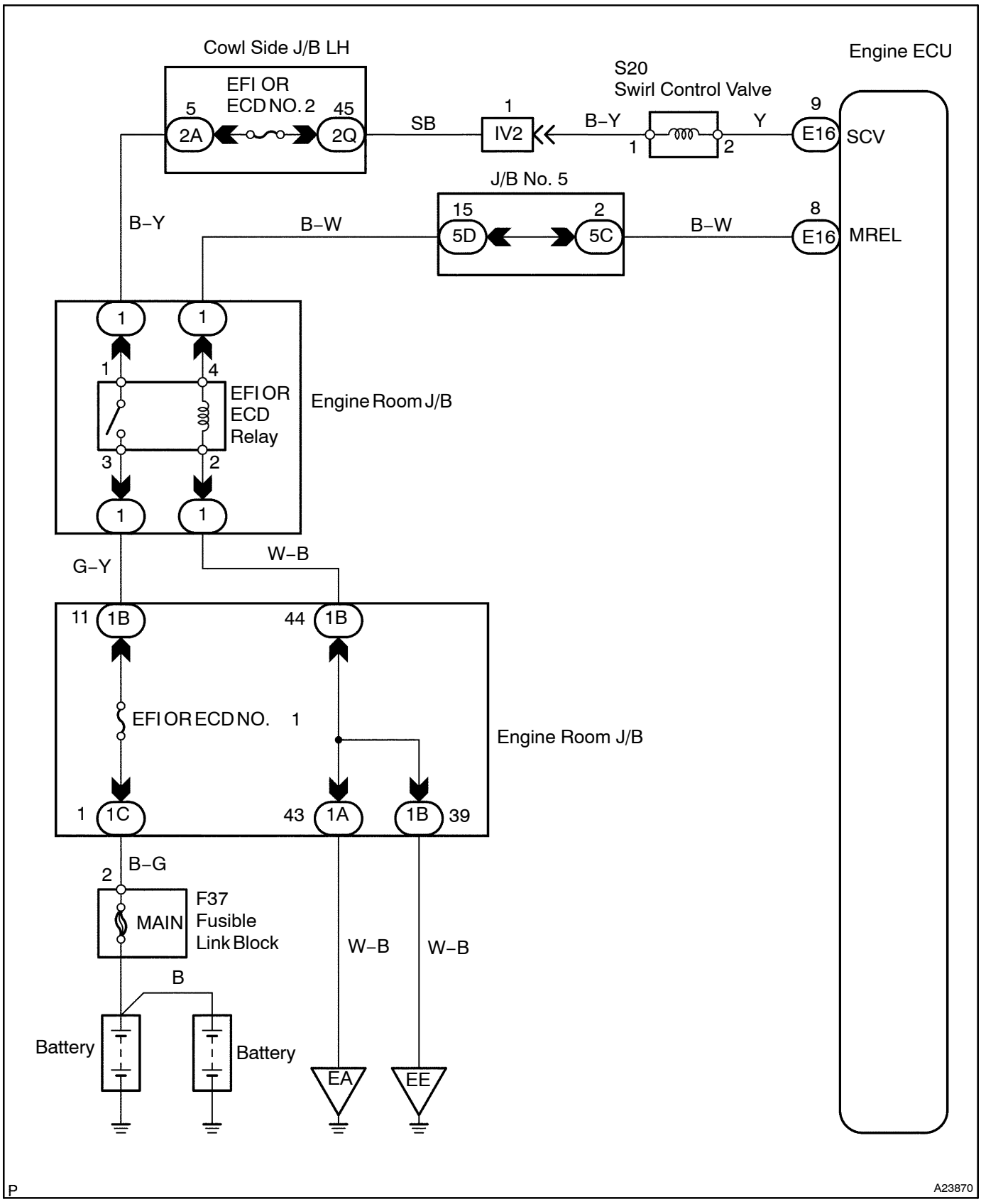
DTC	P 1416/58*	SCV Control Circuit

HINT:
*: Only for Europe

CIRCUIT DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
P1416/58	Condition that intake air volume is at standard value or less for 15 sec. is detected 3 times	• SCV valve • VSV for SCV • Air flow meter • Vacuum hose • Engine ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

When using intelligent tester II:

1	**Check connection of vacuum hose.**

NG → **Repair or replace.**

OK

2	**Check vacuum between SCV and VSV for SCV at 900 rpm.**

PREPARATION:

(a) Using a 3 –way connector, connect a vacuum gauge to the hose between the VSV and SCV.

(b) Warm up the engine to above 80 °C (176°F).

CHECK:

Check the vacuum at 900 rpm.

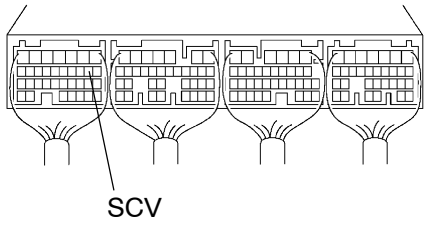
RESULT:

Type	Vacuum
I	0 kPa (0 mmHg, 0 in.Hg) to 50 kPa (375 mmHg, 14.8 in.Hg)
II	Above 50 kPa (375 mmHg, 14.8 in.Hg)

Type II → **Go to step 7.**

Type I

3	Check voltage between terminal SCV of engine ECU connector and body ground.



PREPARATION:

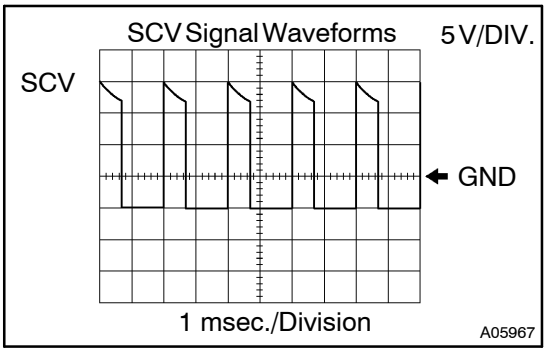
(a) Remove the glove compartment door.
(b) Turn the ignition switch ON.

CHECK:

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

OK:

Voltage: 9 to 14 V



Reference: INSPECTION USING OSCILLOSCOPE

While the SCV system is ON (engine speed 900 rpm), check the waveform between terminals SCV and E 1 of the engine ECU connector.

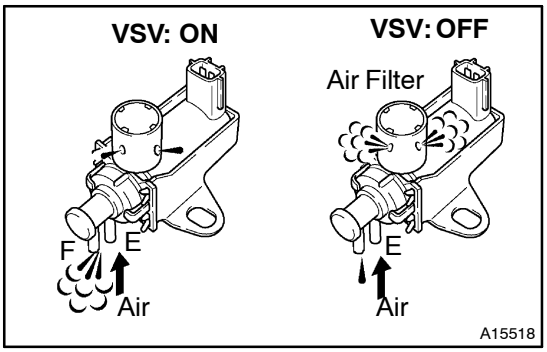
HINT:

The correct waveform is as shown.

NG → **Go to step 5.**

OK

4	Check operation of VSV for SCV.



PREPARATION:

(a) Disconnect the vacuum hoses from the VSV.
(b) Connect the intelligent tester II to the DLC3.
(c) Turn the ignition switch ON and push the intelligent tester II main switch ON.
(d) Select the Active Test mode on the intelligent tester II.

CHECK:

Check the operation of the VSV when it is operated by the intelligent tester II.

OK:

VSV ON:
Air from port E flows out through port F.
VSV OFF:
Air from port E flows out through air filter.

OK → **Go to step 7.**

NG

5	Check VSV for SCV (See Pub No. RM896E, page ED−10).

NG → Replace VSV.

OK

6	Check for open and short in harness and connector between VSV and engine ECU, and VSV and EFI OR ECD relay (See page IN−19).

NG → Repair or replace harness or connector.

OK

7	Check SCV assembly (See Pub No. RM896E, page ED−7).

NG → Replace SCV assembly.

OK

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

When not using intelligent tester II:

1	**Check connection of vacuum hose.**

NG → **Repair or replace.**

OK

2	**Check vacuum between SCV and VSV for SCV at 900 rpm.**

PREPARATION:

(a) Using a 3−way connector, connect a vacuum gauge to the hose between the VSV and SCV.

(b) Warm up the engine to above 80˚C (176˚F).

CHECK:

Check the vacuum at 900 rpm.

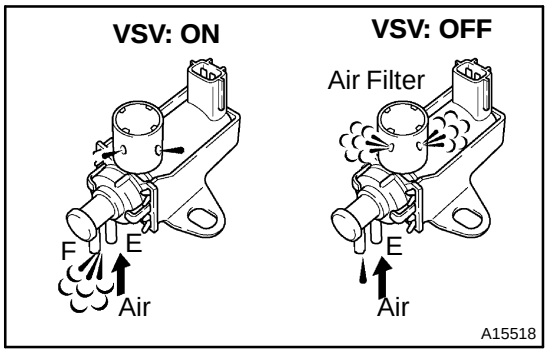
RESULT:

Type	Vacuum
I	0 kPa (0 mmHg, 0 in.Hg) to 50 kPa (375 mmHg, 14.8 in.Hg)
II	Above 50 kPa (375 mmHg, 14.8 in.Hg)

Type II → **Go to step 6.**

Type I

3	Check operation of VSV.



PREPARATION:

(a) Remove the glove compartment door.
(b) Disconnect the S20 connector from the engine ECU.
(c) Turn the ignition switch ON.

CHECK:

Check the VSV operation.

(1) Connect between terminal SCV of the engine ECU connector and body ground (ON).
(2) Disconnect between terminal SCV of the engine ECU connector and body ground (OFF).

OK:

VSV ON:
Air from port E flows out through port F.
VSV OFF:
Air from port E flows out through air filter.

OK	Go to step 6.

NG

4	Check VSV for SCV (See Pub No. RM896E, page ED−10).

NG	Replace VSV.

OK

5	Check for open and short in harness and connector between VSV and engine ECU, and VSV and EFI OR ECD relay (See page IN−19).

NG	Repair or replace harness or connector.

OK

6	**Check SCV assembly (See Pub No. RM896E, page ED−7).**

NG → **Replace SCV assembly.**

OK

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