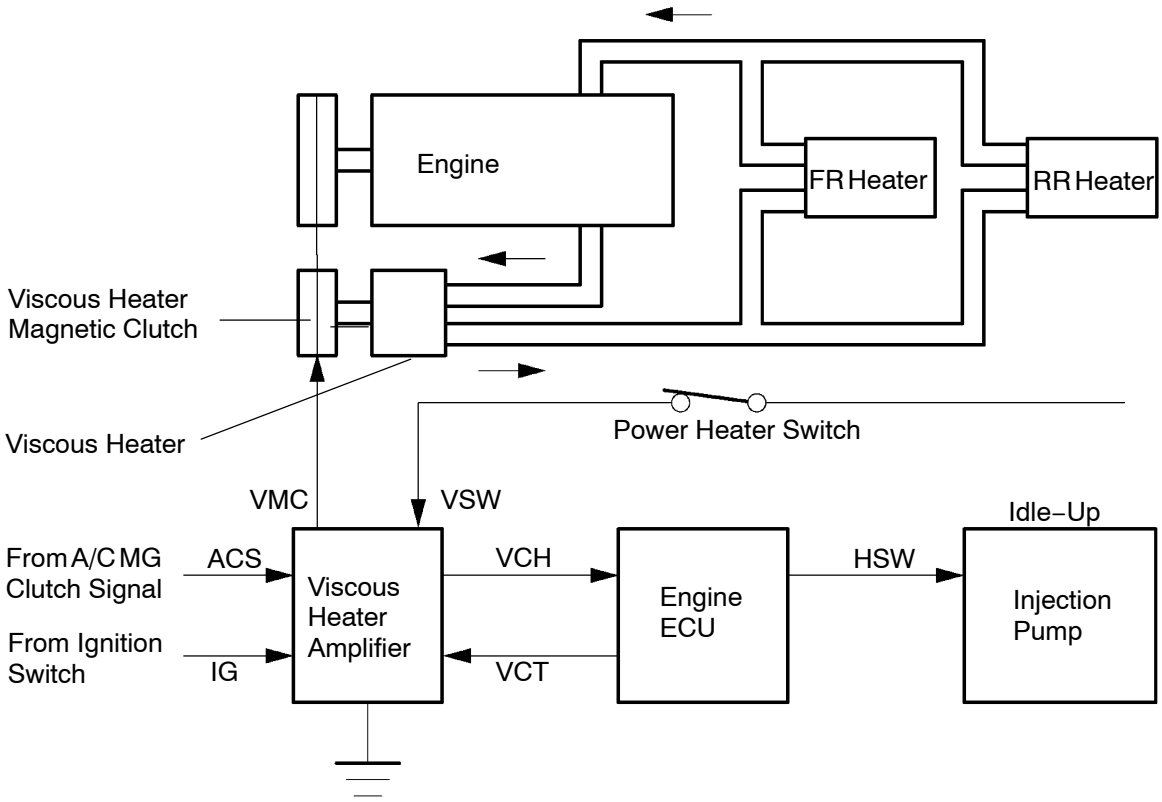
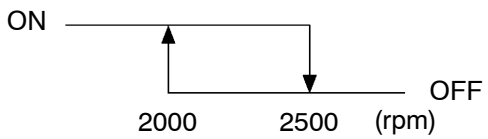
Heater Idle –Up Switch Circuit

CIRCUIT DESCRIPTION

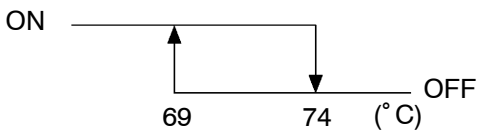
When the vehicle is stopped with the power heater switch ON (located on the left side (LHD) or right side (RHD) of the ignition switch), the engine ECU controls the spill control valve to idle –up. However, power heater switch is OFF during engine starting, A/C operating and acceleration (with the vehicle speed at less than 30 km/h (19 mph) and accelerator pedal opening at 45% or more for 5 seconds).



Engine Speed Control



Water Temperature Control



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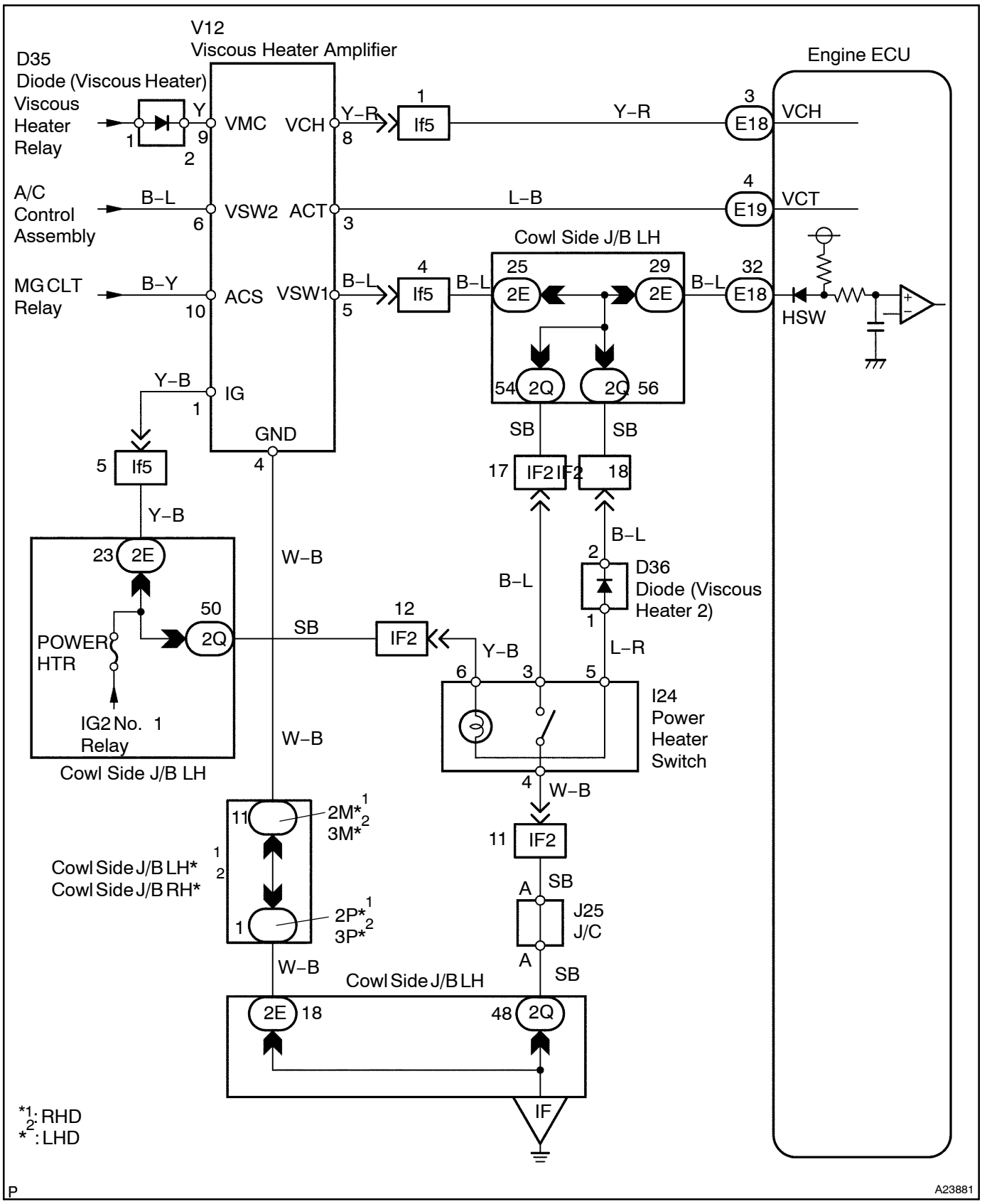
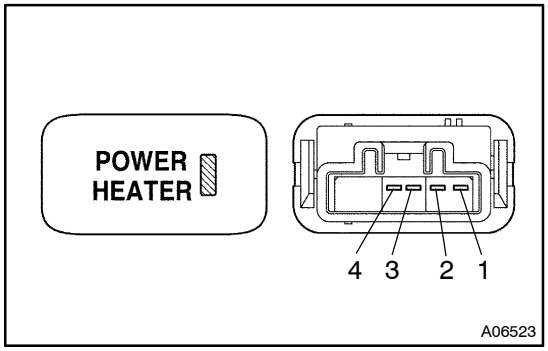
WIRING DIAGRAM



INSPECTION PROCEDURE

1	**Check power heater switch.**



PREPARATION:
(a) Remove the lower finish panel.
(b) Remove the power heater switch.

CHECK:
Check the resistance between each terminal.

Switch position	Tester connection	Specified condition
OFF	3 – 4	10 kΩ or higher
ON	3 – 4	Below 1 Ω
Illumination circuit	1 – 2	Below 1 Ω

NG → **Replace power heater switch.**

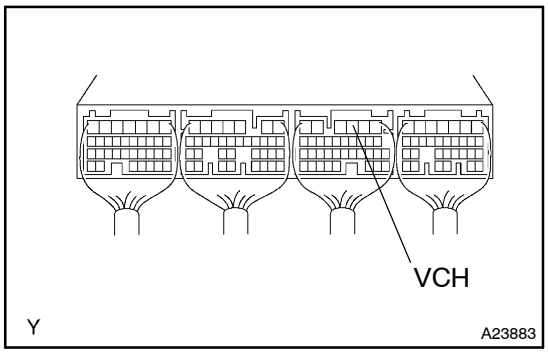
OK

2	**A/C Cut Control Circuit (See page DI–141).**

NG → **Check and replace A/C amplifier.**

OK

3	**Check voltage between terminal VCH of engine ECU and body ground.**



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

CHECK:
Measure the voltage between terminal VCH of the engine ECU connector and body ground when the heater blower switch is turned to OFF and ON.

OK:

Heater blower switch condition	Voltage
OFF	9 to 14 V
ON	0 to 3 V

OK → **Go to step 5.**

NG

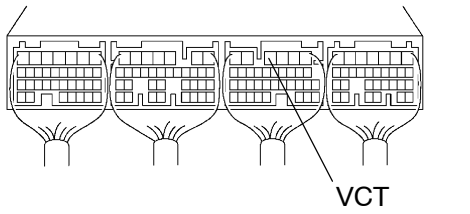
4	**Check for open and short in harness and connector between terminal VCH of engine ECU and terminal VCH of viscous heater amplifier (See page IN–19)**

NG → **Repair or replace harness or connector.**

OK

Check and replace viscous heater amplifier.

5	**Check voltage between terminal VCT of engine ECU and body ground.**



PREPARATION:

(a) Remove the glove compartment door.

(b) Turn the ignition switch ON.

CHECK:

Measure the voltage between terminal VCT of the engine ECU connector and body ground when the heater blower switch is turned to OFF and ON.

OK:

Heater blower switch condition	Voltage
OFF	9 to 14 V
ON	0 to 3 V

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

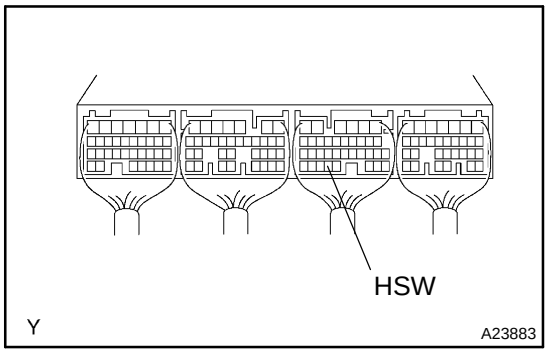
NG

6	**Check for open and short in harness and connector between terminal VCT of engine ECU and terminal VCT of viscous heater amplifier (See page IN–19).**

NG → **Repair or replace harness or connector.**

OK

7	Check voltage between terminal HSW of engine ECU and body ground.



PREPARATION:

(a) Remove the glove compartment door.

(b) Turn the ignition switch ON.

CHECK:

Measure the voltage between terminal HSW of the engine ECU connector and body ground when the power heater switch is pushed to OFF and ON.

OK:

Power heater switch condition	Voltage
OFF	9 to 14 V
ON	0 to 3 V

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

NG

8	Check for open and short in harness and connector between injection pump and viscous heater amplifier (See page IN−19).

NG → **Repair or replace harness or connector.**

OK

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