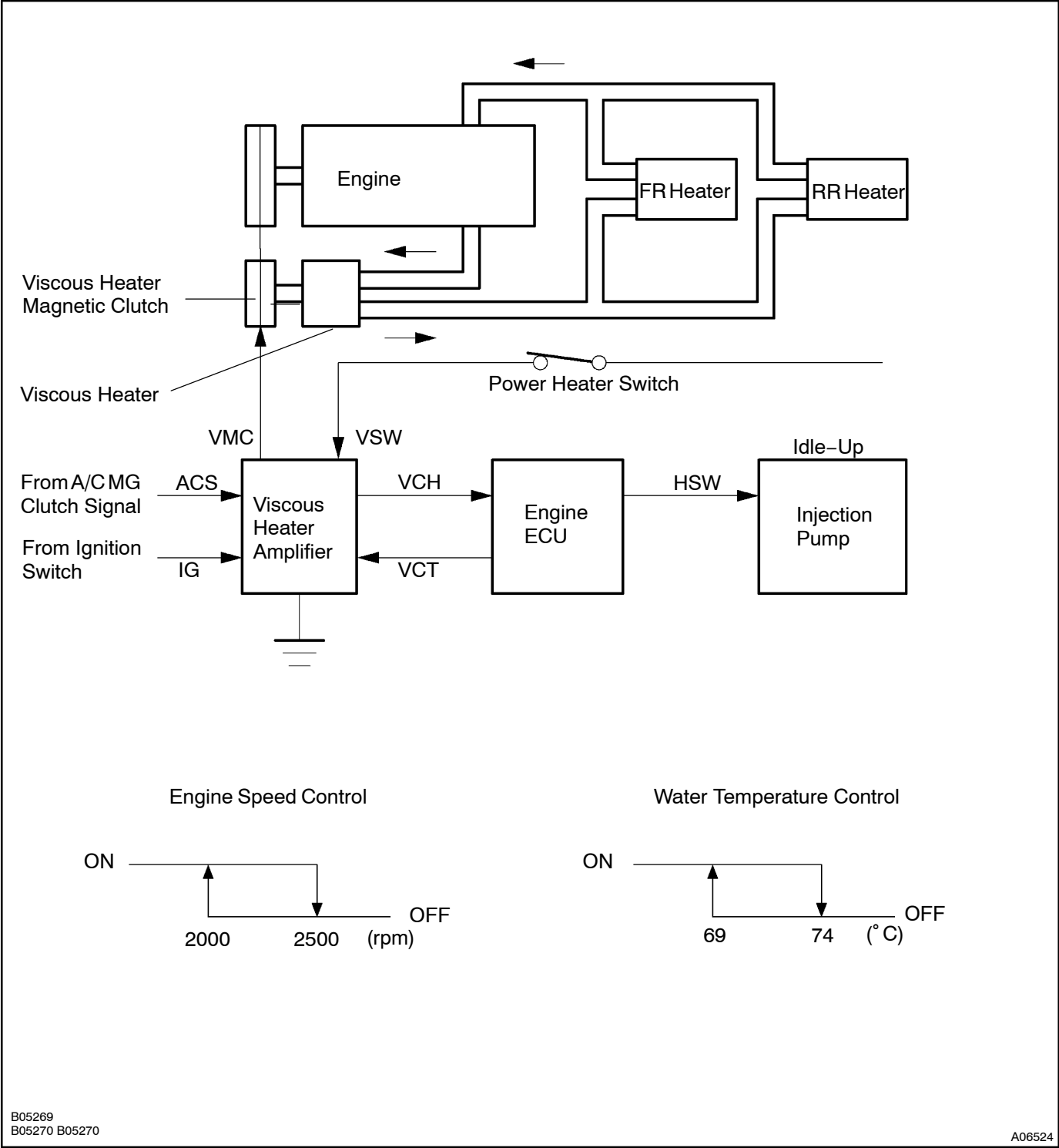


Heater Idle -Up Switch Circuit

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).



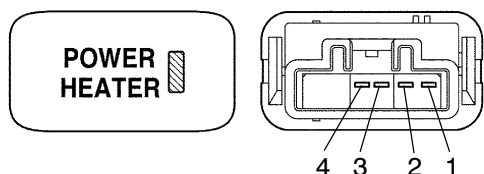
The diagram illustrates the electrical system for the viscous heater amplifier (V12). Key components include:

- V12 Viscous Heater Amplifier**: The central control unit with multiple input and output terminals.
- D35 Diode (Viscous Heater)**: Connected to the VMC terminal (pin 9).
- A/C Control Assembly**: Provides inputs B-L (pin 6) and B-Y (pin 10).
- MG CLT Relay**: Connected to the ACS terminal (pin 10).
- Cowl Side J/B LH**: Junction box containing relays (IF2, IF5), diodes (D36), and switches (I24).
- I24 Power Heater Switch**: Controls the power heater circuit.
- Engine ECU**: Receives signals from the amplifier via Y-R (pin 3) and L-B (pin 4) lines.

The diagram shows detailed wiring paths, including ground connections (GND) and specific wire colors (e.g., Y-B, W-B, SB, IF2, IF5). It also includes a legend for RHD/LHD configurations at the bottom left.

INSPECTION PROCEDURE

1 Check power heater switch.



A06523

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

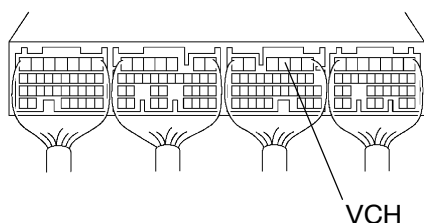
2 A/C Cut Control Circuit (See page DI-141).

NG

Check and replace A/C amplifier.

OK

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



Y

A23883

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.

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- 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](#))

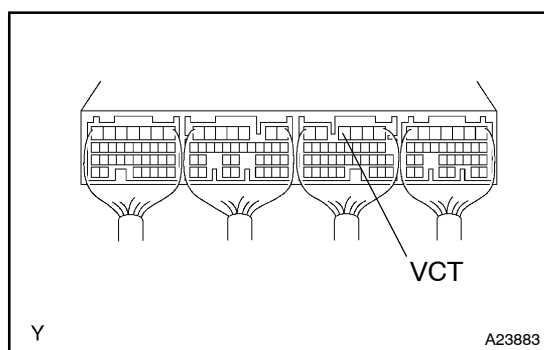
NG

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

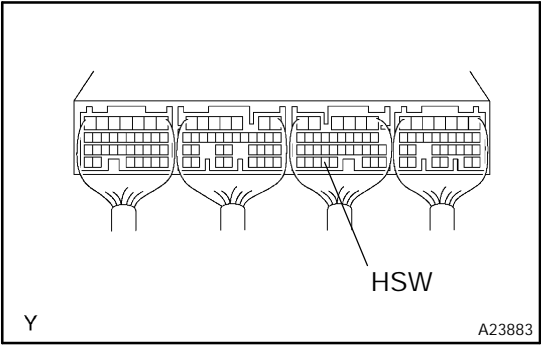
- 6** Check for open and short in harness and connector between terminal VCT of engine ECU and terminal VCT of viscous heater amplifier ([See page IN-19](#)).

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).