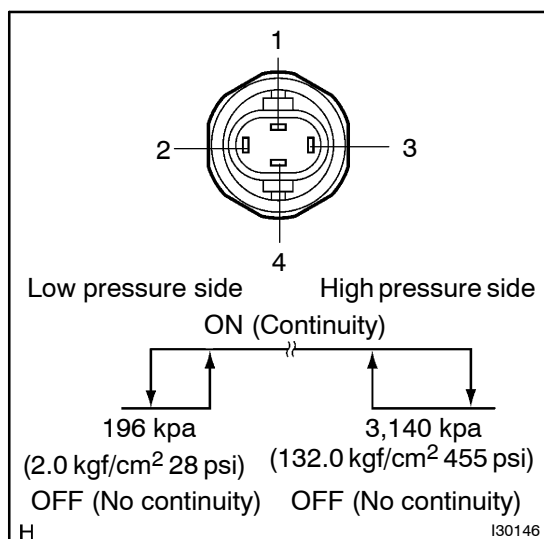


ON-VEHICLE INSPECTION



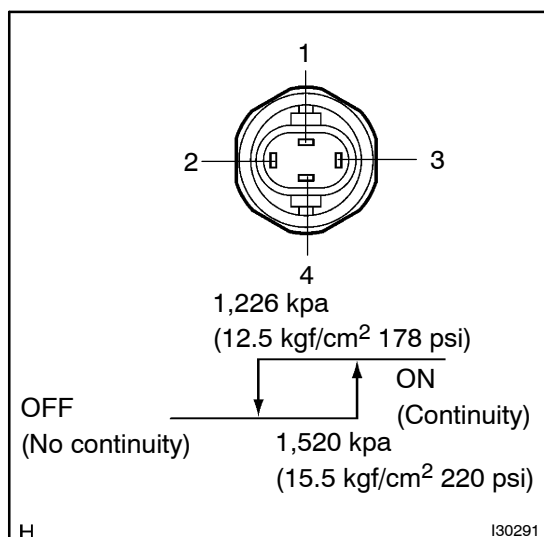
1. INSPECT PRESSURE SWITCH NO.1.

(a) Magnetic clutch control:

Inspect pressure switch operation.

- (1) Set on the manifold gauge set.
- (2) Connect the positive (+) lead from the ohmmeter to terminal 4 and the negative (–) lead to terminal 1.
- (3) Check continuity between terminals when refrigerant pressure is changed, as shown in the illustration.

If operation is not as specified, replace the pressure switch.



(b) Cooling fan control:

Inspect pressure switch operation.

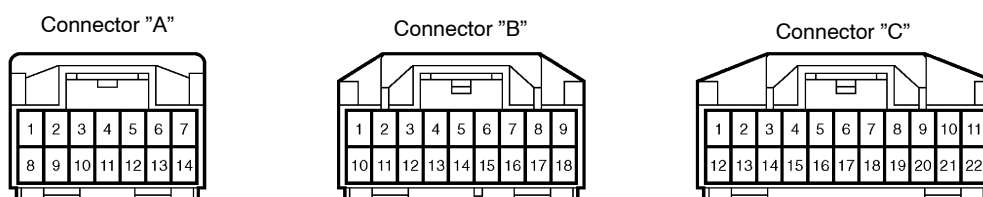
- (1) Connect the positive (+) lead from the ohmmeter to terminal 2 and the negative (–) lead to terminal 3.
- (2) Check continuity between terminals when refrigerant pressure is changed, as shown in the illustration.

If operation is not as specified, replace the pressure switch.

2. INSPECT AIR CONDITIONING AMPLIFIER ASSY

- (a) Disconnect the connector from amplifier and inspect the connector on wire harness side, as shown in the chart.

Wire Harness Side:



N

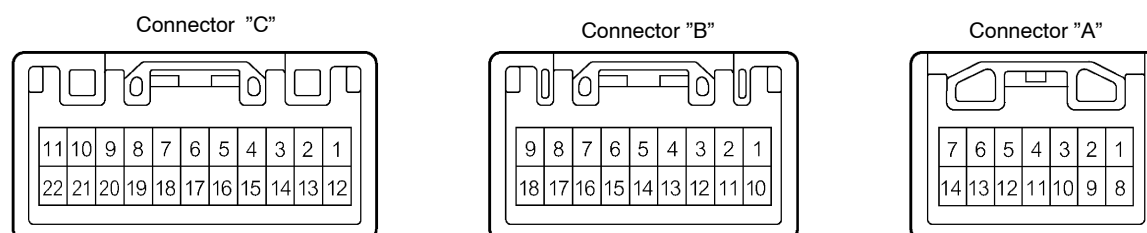
I16773

Symbols (Terminal No.)	Condition	Specified condition
IG ⇔ GND (C1 ⇔ C10)	Ignition switch: LOCK → ACC	0 → 10 – 14 V
GND ⇔ Body ground (C10 ⇔ Body ground)	Always	Continuity

If circuit is as specifies, try replacing the amplifier with a new one. If the circuit is not as specified, inspect the circuits connected to other parts.

- (b) Connect the connector to heater amplifier and inspect wire harness side from the back side, as shown in the chart below.

From Back Side:



E56119

Symbols (Terminal No.)	Condition	Specified condition
HR ⇔ GND*1 (A1 ⇔ C10)	Blower switch: OFF → M1	0 → Below 1.0 V
MD1 ⇔ GND (A2 ⇔ C10)	Ignition switch: ON Blower switch: OFF → M1	0 → Below 1.0 V
MD2 ⇔ GND (A3 ⇔ C10)	Ignition switch: ON Blower switch: OFF → M2	0 → Below 1.0 V
MD3 ⇔ GND (A4 ⇔ C10)	Ignition switch: ON Blower switch: OFF → M3	0 → Below 1.0 V
SREC ⇔ GND (A5 ⇔ C10)	Ignition switch: ON R/F switch: FRESH → RECIRCULATION	0 → Below 1.0 V
SFRS ⇔ GND*3 (A6 ⇔ C10)	Ignition switch: ON R/F switch: RECIRCULATION → FRESH	Below 1.0 V → 0
TSET ⇔ SG (A7 ⇔ A14)	Ignition switch: ON Set temp: MAX. WARM → MAX. COOL	Below 0.3 V → Above 4.7 V
A/C ⇔ GND (A8 ⇔ C10)	Ignition switch: ON A/C switch: OFF → ON	0 → Below 1.0 V

Symbols (Terminal No.)	Condition	Specified condition
ACIND ⇔ GND (A10 ⇔ C10)	Ignition switch: ON Magnetic clutch: OFF → ON	0 → Below 1.0 V
S5 ⇔ GND (A12 ⇔ C10)	Ignition switch: LOCK → ACC	0 → 5.0 V
SG ⇔ Body ground (A14 ⇔ Body ground)	Always	Continuity
SG-2 ⇔ Body ground (B1 ⇔ Body ground)	Always	Continuity
SG-4 ⇔ Body ground (B2 ⇔ Body ground)	Always	Continuity
REC ⇔ IG-2*2 (B3 ⇔ B18)	Ignition switch: ON R/F switch: FRESH → RECIRCULATION	Below 1.0 V → 10 – 14 V
AMC ⇔ GND (B4 ⇔ C10)	Ignition switch: ON Set temp.: MAX. WARM → MAX. COOL	Below 1.0 V → 10 – 14 V
AMH ⇔ GND (B5 ⇔ C10)	Ignition switch: ON Set temp.: MAX. COOL → MAX. WARM	Below 1.0 V → 10 – 14 V
AOF ⇔ GND (B6 ⇔ C10)	Ignition switch: ON Mode select: DEF → FACE	Below 1.0 V → 10 – 14 V
AOD ⇔ GND (B7 ⇔ C10)	Ignition switch: ON Set air flow setting: FACE → DEF	Below 1.0 V → 10 – 14 V
AOD ⇔ GND*1 (B9 ⇔ C10)	Ignition switch: ON R/F switch: RECIRCULATION → FRESH	Below 1.0 V → 10 – 14 V
SG-3 ⇔ Body ground (B10 ⇔ Body ground)	Always	Continuity
FRS ⇔ GND*2 (B11 ⇔ B10)	Ignition switch: ON R/F switch: RECIRCULATION → FRESH	Below 1.0 V → 10 – 14 V
S5-2 ⇔ GND (B12 ⇔ C10)	Ignition switch: LOCK → ACC	0 → 5.0 V
S5-3 ⇔ SG-3 (B13 ⇔ B10)	Ignition switch: LOCK → ACC	0 → 5.0 V
S5-4 ⇔ SG4 (B14 ⇔ B2)	Ignition switch: LOCK → ACC	0 → 5.0 V
TP ⇔ SG-3 (B15 ⇔ B10)	Ignition switch: ON Set temp.: MAX. WARM → MAX. COOL	1.0 → 4.0 V
TPO ⇔ SG-4 (B16 ⇔ B2)	Ignition switch: ON Set air flow setting: DEF → FACE	1.0 → 4.0 V
TPI ⇔ SG-2*1 (B17 ⇔ B1)	Ignition switch: ON R/F switch: FRESH → RECIRCULATION	1.0 → 4.0 V
IG-2 ⇔ GND*3 (B18 ⇔ C10)	Ignition switch: LOCK → ACC	0 → 10 – 14 V
ACIN ⇔ GND*3 (C2 ⇔ C10)	Ignition switch: ON Magnetic clutch OFF → ON	Below 1.0 V → 10 – 14 V
CFN+ ⇔ GND-*4 (C3 ⇔ C14)	Start engine Radiator fan motor speed: HI → OFF	0 → Below 1.0 V
ING ⇔ GND (C4 ⇔ C10)	Start engine	Pulse generation
MHOT ⇔ GND*1 (C5 ⇔ C10)	Ignition switch: ON Set temp.: MAX. COOL → MAX. WARM	0 → Below 1.0 V
AC1 ⇔ GND (C6 ⇔ C10)	Ignition switch: ON Magnetic clutch: OFF → ON	0 → Below 1.0 V
SPD ⇔ GND*1 (C7 ⇔ C10)	Start engine	Pulse generation

Symbols (Terminal No.)	Condition	Specified condition
TE ⇔ SG-1 (C8 ⇔ C9)	Evaporator temp.: 0 °C (32 °F) → 15 °C (59 °F)	2.0 – 2.4 → 1.4 – 1.8 V
SG-5 ⇔ Body ground (C9 ⇔ Body ground)	Always	Continuity
MGCR ⇔ GND*4 (C13 ⇔ C10)	Ignition switch: ON Magnetic clutch: OFF → ON	0 → Below 1.0 V
CFN ⇔ GND*4 (C14 ⇔ C10)	Start engine → Radiator fan motor speed: HI → OFF	Below 1.0 V → 10 – 14 V
ACT ⇔ GND*4 (C15 ⇔ C10)	Ignition switch: ON Magnetic clutch: ON → OFF	0 → Below 1.0 V
VER2 ⇔ GND (C16 ⇔ C10)	With rear cooler → Without rear cooler	0 → Below 1.0 V
VER1 ⇔ GND (C17 ⇔ C10)	LHD models → RHD models	0 → Below 1.0 V
PRS ⇔ GND (C18 ⇔ C10)	Start engine Refrigerant pressure: Normally → Less than 0.19 Mpa (2.0 kgf·cm ² , 28 psi) or more than 1.34 Mpa (32 kgf·cm ² , 2,455 psi)	0 → Below 1.0 V
LOCK ⇔ SG-6 (C20 ⇔ C21)	Ignition switch: ON Magnetic clutch: OFF → ON	Pulse generation
SG-6 ⇔ Body ground (C21 ⇔ Body ground)	Always	Continuity

*1: Two way flow heater

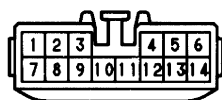
*2: Except two way flow heater

*3: 1AZ-FE

*4: 1CD-FTV

If circuit is as specified, try replacing the amplifier with a new one. If the circuit is not as specified, inspect the circuits connected to other parts.

Wire Harness Side:



Z13472

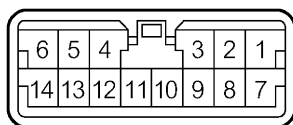
3. INSPECT HEATER AMPLIFIER ASSY (COLD AREA, 1AZ-FE)

- (a) Disconnect the connector from the heater amplifier assy and inspect the on wire harness side, as shown the chart.

Test connector	Condition	Specified condition
2 ⇔ 5	IG switch: OFF → ON	0 → 10 – 14 V
5 ⇔ Body ground	Always	Continuity
9 ⇔ 13	Ambient temp.: 25 °C (77 °F)	1.24 – 1.84 V
12 ⇔ 5	Light control switch: OFF → ON	0 → Below 1.0 V
13 ⇔ Body ground	Always	Continuity

If the circuit is as specified, try to replace the heater amplifier assy with a new one. If the circuit is as specified, inspect the circuits connected to other parts.

From Back Side:



H

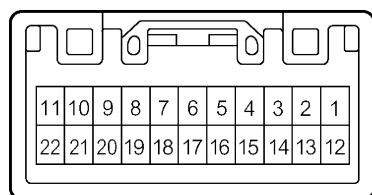
E56120

- (b) Connect the connector to heater amplifier assy and inspect wire harness side connector from the back side, as shown in the chart.

Test connector	Condition	Specified condition
1 ↔ 5	Engine speed: above 650 rpm. Ambient temp.: Below 10 °C (50 °F) Set temp.: MAX HOT Water temp.: Below 65 °C (149 °F)	10 – 14 V
3 ↔ 5	Engine speed: above 650 rpm. Ambient temp.: Below 10 °C (50 °F) Set temp.: MAX HOT Water temp.: Below 65 °C (149 °F)	Above 4.7 V
4 ↔ 5	Start engine	Pulse generation
6 ↔ 5	Start engine	Pulse generation
7 ↔ 5	Engine speed: above 650 rpm. Ambient temp.: Below 10 °C (50 °F) Set temp.: MAX HOT Water temp.: Below 65 °C (149 °F)	10 – 14 V
8 ↔ 5	Engine speed: above 650 rpm. Ambient temp.: Below 10 °C (50 °F) Set temp.: MAX HOT Water temp.: Below 65 °C (149 °F)	10 – 14 V
10 ↔ 5	Engine speed: above 650 rpm. Ambient temp.: Below 10 °C (50 °F) Set temp.: MAX HOT Water temp.: Below 65 °C (149 °F)	Above 4.7 V
11 ↔ 5	Start engine	Pulse generation
14 ↔ 5	Engine speed: above 650 rpm. Ambient temp.: Below 10 °C (50 °F) Set temp.: MAX HOT Water temp.: Below 65 °C (149 °F)	Below 1.0 V

If the circuit is as specified, try to replace the heater amplifier assy with a new one. If the circuit is as specified, inspect the circuits connected to other parts.

From Back Side:



E56573

4. INSPECT AIR CONDITIONER CONTROL ASSY

- (a) Connect the connector to air conditioner control assy and inspect wire harness side from the back side, as shown in the chart below.

Test connector	Condition	Specified condition
1 ⇔ 5	Ignition switch: OFF → ON	0 → Below 1.0 V
2 ⇔ 5	Light control switch: OFF → ON	0 → Below 1.0 V
3 ⇔ 5	Blower switch: OFF → M2	0 → Below 1.0 V
4 ⇔ 5	Rear defogger switch: OFF → ON	10 – 14 → Below 2 V
5 ⇔ Body ground	Always	Continuity
6 ⇔ 5	Ignition switch: ON Magnetic clutch: OFF → ON	Pulse generation
7 ⇔ 5	Ignition switch: ON Blower switch: OFF → M1	0 → Below 1.0 V
8 ⇔ 5	Ignition switch: ON Blower switch: OFF → M2	0 → Below 1.0 V
9 ⇔ 5	Ignition switch: ON Blower switch: OFF → M3	0 → Below 1.0 V
10 ⇔ 22	Ignition switch: ON Set temp.: MAX. WARM → MAX. COOL	Below 0.3 → Above 4.7 V
11 ⇔ 5	Ignition switch: LOCK → ACC	0 → 5.0 V
12 ⇔ 5	Ignition switch: LOCK → ACC	0 → 10 – 14 V
13 ⇔ 5	Ignition switch: ON Blower switch: OFF → H3	0 → Below 1.0 V
14 ⇔ 5	Ignition switch: ON Blower switch: OFF → M1	0 → Below 1.0 V
16 ⇔ 5*2	Ignition switch: Rear cooler switch: ON	0 → Below 1.0 V
17 ⇔ 5	Ignition switch: ON R/F switch: FRESH → RECIRCULATION	Below 1.0 V → 10 – 14 V
18 ⇔ 5	Ignition switch: ON R/F switch: RECIRCULATION →	Below 1.0 V → 10 – 14 V
19 ⇔ 5*1	Ignition switch: ON A/C switch: OFF → ON	0 → Below 1.0 V
20 ⇔ 5	Blower switch: OFF → ON	10 – 14 → Below 2.0 V
21 ⇔ 5*2	Rear cooler switch: OFF → ON	0 → Below 1.0 V
22 ⇔ Body ground	Always	Continuity

*1: w/ cooler

*2: LHD models, w/ rear cooler

If the circuit is as specified, try replacing the air conditioner control assy with a new one. If the circuit is as specified, inspect the circuits connected to other parts.