

AIR CONDITIONING SYSTEM

HOW TO PROCEED WITH TROUBLESHOOTING

056CG-01

1	VEHICLE BROUGHT TO WORK SHOP
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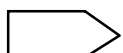
2	CUSTOMER PROBLEM ANALYSIS (See page 05-457)
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3	CHECK AND CLEAR DTC (See page 05-458)
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4	PROBLEM SYMPTOM CONFIRMATION
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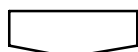


SYMPTOM OCCUR (GO TO STEP 6)

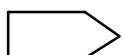


SYMPTOM DOES NOT OCCUR (GO TO STEP 5)
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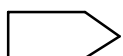
5	SYMPTOM SIMULATION (See page 01-21)
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6	DTC CHECK (See page 05-458)
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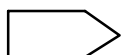


MALFUNCTION CODE (GO TO STEP 7)
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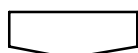
NORMAL CODE (GO TO STEP 8)

7	DTC CHART (See page 05-461)
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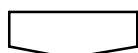


GO TO STEP 10

8	PROBLEM SYMPTOMS TABLE (See page 05-468)
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9	ACTUATOR CHECK (See page 01-21)
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10	CIRCUIT INSPECTION (See page 05-470 - 05-540)
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11	IDENTIFICATION OF PROBLEM
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12	PARTS INSPECTION
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13	REPAIR
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14	CONFIRMATION TEST
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15	END
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CUSTOMER PROBLEM ANALYSIS CHECK

AIR CONDITIONING SYSTEM Check Sheet

Inspector's name: _____

Customer's Name		Registration No.	
		Registration Year	
		Frame No.	
Date vehicle Brought In	/ /	Odometer Reading	km Miles

Date of Problem Occurrence	/ /
How Often does Problem Occur?	☐ Continuous ☐ Intermittent (times a day)
Weather	☐ Fine ☐ Cloudy ☐ Snowy ☐ Various / Other
Outdoor Temperature	☐ Hot ☐ Warm ☐ Cool ☐ Cold (Approx. °F °C)

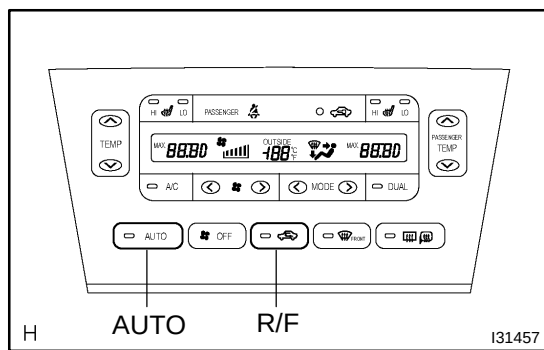
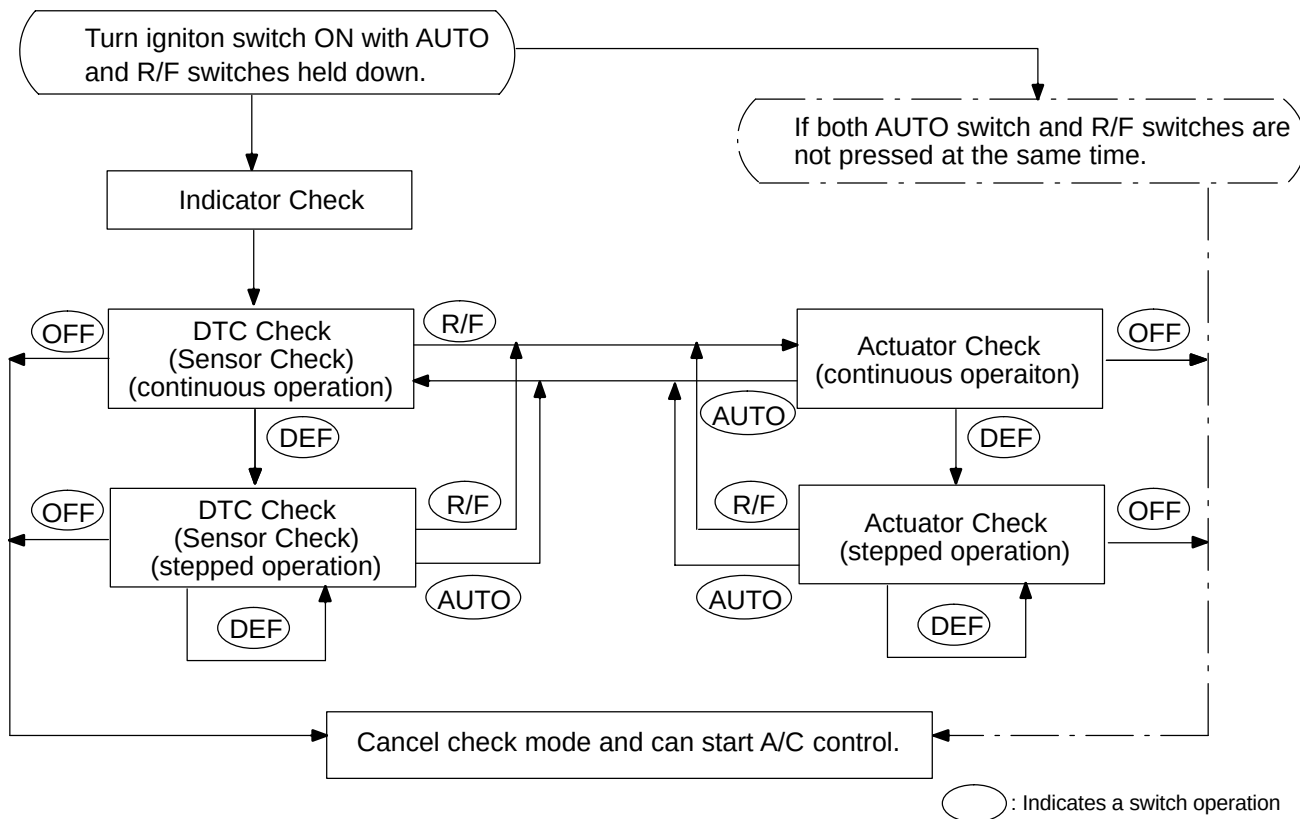
Symptoms	Air Flow Control is Faulty	☐ Blower motor does not operation ☐ Blower motor speed does not change (Always Hi, Always Med, Always Lo)
	Temperature Control is Faulty	☐ Cabin temperature does not go down ☐ Cabin temperature does not rise ☐ Response is slow
	Air Inlet Control is Faulty	☐ Cannot change between FRS and REC (Always Fresh or always Recirculating)
	Vent Control is Faulty	☐ Mode will not change ☐ Will not enter the desired mode

DTC Check	1st Time	☐ Normal Code ☐ Malfunction Code (Code)
	2nd Time	☐ Normal Code ☐ Malfunction Code (Code)

PRE-CHECK

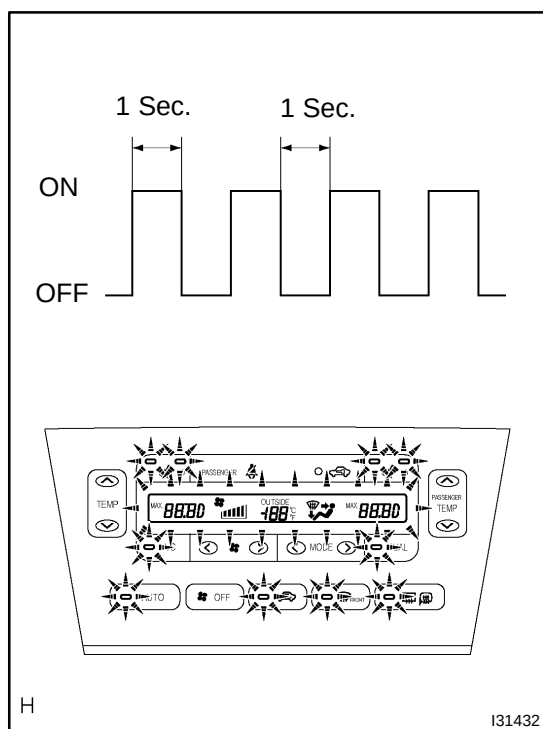
1. LIST OF OPERATION METHODS

- (a) By operating each of the A/C control switches as shown the diagram below, it is possible to enter the diagnosis check mode.



2. INDICATOR CHECK

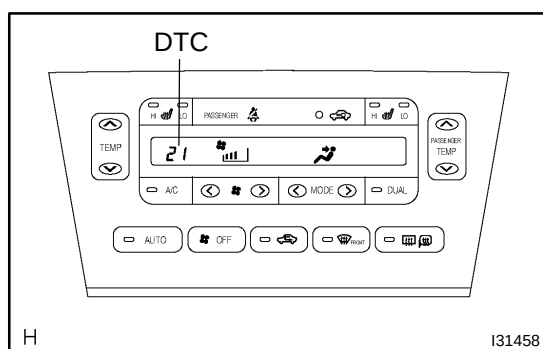
- (a) Turn the ignition switch ON while pressing the A/C control AUTO switch and R/F switch simultaneously.



- (b) Check that the indicators light up and go off at second intervals 4 times in succession.

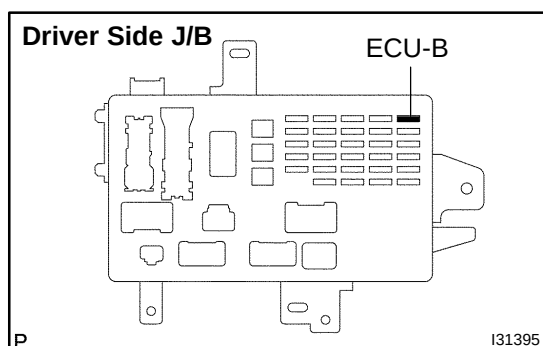
HINT:

- After the indicator check is completed, the system enters the DTC begins automatically.
- Press the OFF switch when desiring to cancel the check mode.



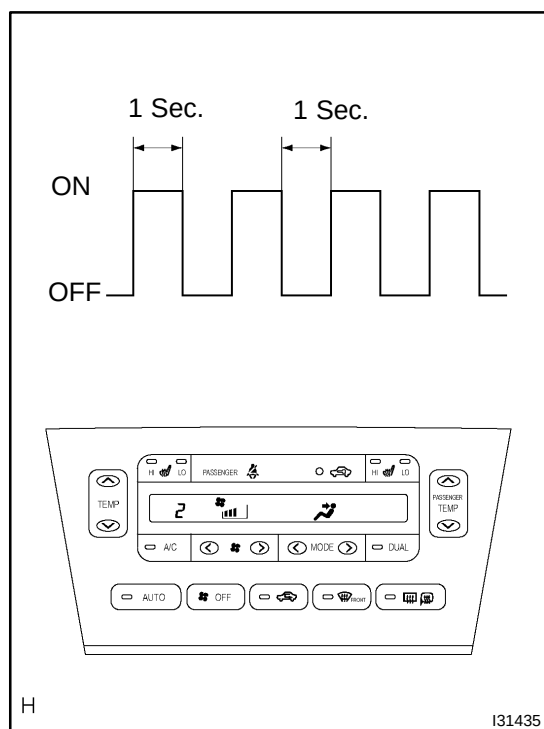
3. DTC CHECK (SENSOR CHECK)

- (a) Perform an indicator check. After the indicator check is completed, the system enters the DTC check mode automatically.
- (b) Read the code displayed on the panel. Refer to the list of codes on page 05-461 when reading the codes. (Trouble code are output at the temperature display.)
- (c) If the slower display is desired, press the FRONT DEF switch and change it to stepped operation. Each time the FRONT DEF switch is pressed, the display changes by 1 step.



4. CLEARING DTC

- (a) To clear diagnostic trouble code, there are 2 ways.
- (1) During sensor check, press the "FRONT DEF" switch and "REAR DEF" switch at the same time.
 - (2) Pull the ECU-B fuse in engine room J/B for 20 sec. or longer to clear the DTC memory.



5. ACTUATOR CHECK

- After entering the DTC check mode (Sensor Check Mode) press the R/F switch.
- Since each damper, motor and relay automatically operates at 1 sec. intervals beginning in order from 10 in the temperature display, check the temperature and air flow visually and by hand.

If the slower display is desired, press the DEF switch and change it to step operation. Each time the DEF switch is pressed, the display changes by 1 step.

HINT:

- Code are displayed in order from the smaller to the larger numbers.
- To cancel the check mode, press the OFF switch.

Step No.	Display code	Conditions				
		Blower level	Air flow vent	Air inlet damper	Magnetic clutch	Air mix damper
1	0	0	FACE	FRESH	OFF	"COLD" side (Full closed)
2	1	1	FACE	FRESH	OFF	"COLD" side (Full closed)
3	2	14	FACE	FRESH	ON	"COLD" side (Full closed)
4	3	14	FACE	FRESH/ RECIRCULATION	ON	"COLD" side (Full closed)
5	4	14	FACE	RECIRCULATION	ON	"COLD"/ "HOT " (50 % open)
6	5	14	B/L	RECIRCULATION	ON	"COLD"/ "HOT " (50 % open)
7	6	14	FOOT	RECIRCULATION	ON	"HOT" side (Full opened)
8	7	14	FOOT	RECIRCULATION	ON	"HOT" side (Full opened)
9	8	14	FOOT/ DEF	RECIRCULATION	ON	"HOT" side (Full opened)
10	9	31	DEF	RECIRCULATION	ON	"HOT" side (Full opened)

DIAGNOSTIC TROUBLE CODE CHART

If malfunction code is displayed during the DTC check (sensor check), check the circuit listed for that code in the table below (Proceed to the page given for that circuit).

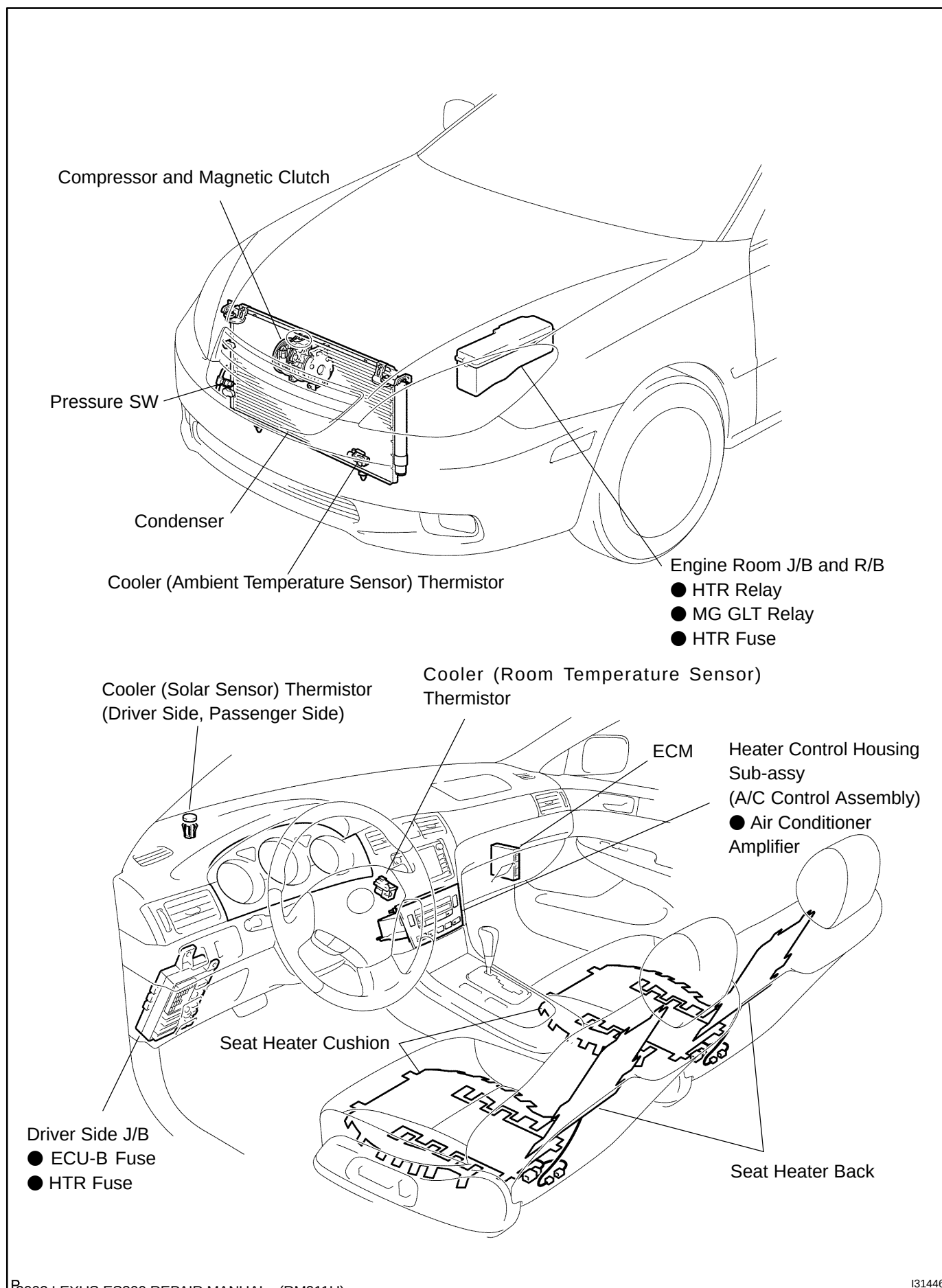
DTC No. (See Page)	Detection Item	Trouble Area	Memory
00	Normal	-	-
11*1 (05-470)	Room temperature sensor circuit	- Room temp. sensor - A/C amplifier (Heater Control Housing) - Harness or connector between room temp. sensor and A/C amplifier (Heater Control Housing)	○ (8.5 min. or more)
12*2 (05-473)	Ambient temperature sensor circuit	- Ambient temp. sensor - Harness or connector between ambient temp. sensor and A/C amplifier (Heater Control Housing) - A/C amplifier (Heater Control Housing)	○ (8.5 min. or more)
13 (05-475)	Evaporator temperature sensor circuit	- Evaporator temp. sensor - Harness or connector between evaporator temp. sensor and A/C amplifier (Heater Control Housing) - A/C amplifier (Heater Control Housing)	○ (8.5 min. or more)
14 (05-478)	Water temperature sensor circuit	- Harness or connector between ECM and A/C amplifier (Heater Control Housing) - ECM - A/C amplifier (Heater Control Housing)	-
21*3 (05-480)	Solar sensor circuit (short) (Passenger side)	- Solar sensor - Harness or connector between solar sensor and A/C amplifier (Heater Control Housing) , body ECU	○ (8.5 min. or more)
	Solar sensor circuit (open)	- Body ECU - A/C amplifier (Heater Control Housing)	-
22*4 (05-483)	Compressor lock sensor circuit	- Compressor Drive Belt - Compressor lock sensor - Compressor - ECM - Harness or connector between ECM and A/C lock sensor, A/C amplifier (Heater Control Housing) - A/C amplifier (Heater Control Housing)	-
23 (05-486)	Pressure switch circuit	- Pressure switch - A/C amplifier (Heater Control Housing) - Harness or connector between pressure switch and A/C amplifier (Heater Control Housing)	-
24*3 (05-489)	Solar sensor circuit (short) (Driver side)	- Solar sensor - Harness or connector between solar sensor and A/C amplifier (Heater Control Housing) , body ECU	○ (8.5 min. or more)
	Solar sensor circuit (open)	- Body ECU - A/C amplifier (Heater Control Housing)	-
31 (05-492)	Air mix damper position sensor circuit (Passenger side)	- Air mix damper position sensor - A/C amplifier (Heater Control Housing) - Harness or connector between air mix damper position sensor and A/C amplifier (Heater Control Housing)	-
32 (005-495)	Air inlet damper position sensor circuit	- Air inlet damper position sensor (Recirculation damper servo sub-assy) - A/C amplifier (Heater Control Housing) - Harness or connector between air inlet damper position sensor and A/C amplifier (Heater Control Housing)	○ (1 min. or more)

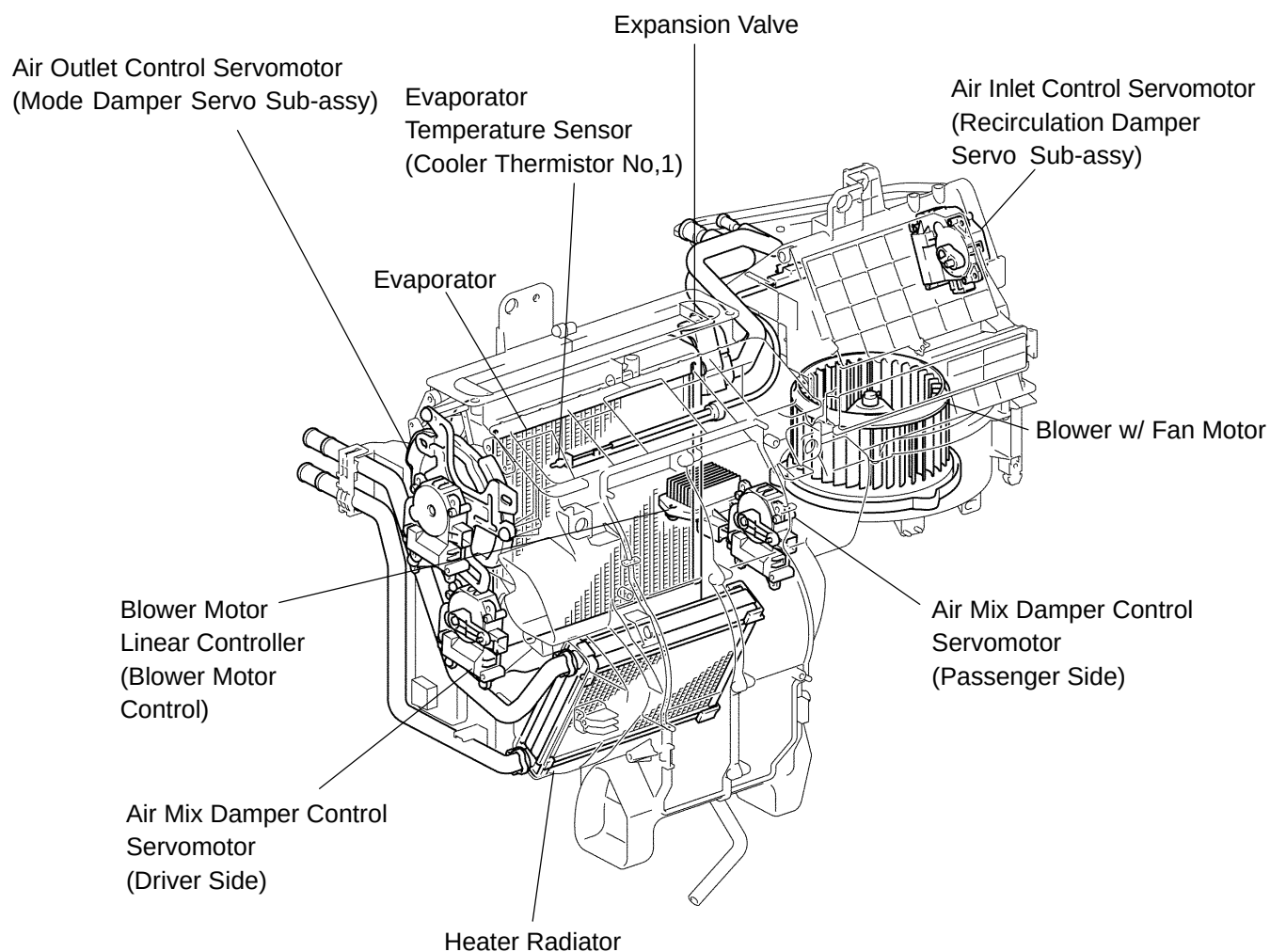
33 (05-498)	Air outlet damper position sensor circuit	• Air outlet damper position sensor (Mode damper servo sub-assy) • A/C amplifier (Heater Control Housing) • Harness or connector between air outlet damper position sensor (Mode damper servo sub-assy) and A/C amplifier (Heater Control Housing)	○ (1 min. or more)
36 (05-501)	Air mix damper position sensor circuit (Driver side)	• Air mix damper position sensor • A/C amplifier (Heater Control Housing) • Harness or connector between air mix damper position sensor and A/C amplifier (Heater Control Housing)	○ (1 min. or more)
41 (05-504)	Air mix damper control servomotor (Passenger side)	• Air mix control servomotor • Harness or connector between air mix damper control servomotor and A/C amplifier (Heater Control Housing) • A/C amplifier (Heater Control Housing)	○ (15 sec.)
42 (05-508)	Air inlet damper control servomotor	• Air inlet control servomotor (Recirculation damper servo sub-assy) • Harness or connector between air inlet damper control servomotor and A/C amplifier (Heater Control Housing) • A/C amplifier (Heater Control Housing)	○ (15 sec.)
43 (05-512)	Air outlet damper control servomotor	• Air outlet control servomotor (Mode damper servo sub-assy) • Harness or connector between air outlet damper control servomotor (Mode damper servo sub-assy) and A/C amplifier (Heater Control Housing) • A/C amplifier (Heater Control Housing)	○ (15 sec.)
46 (05-516)	Air mix damper control servomotor (Driver side)	• Air mix control servomotor • Harness or connector between air mix damper control servomotor and A/C amplifier (Heater Control Housing) • A/C amplifier (Heater Control Housing)	○ (15 sec.)
63*6 (05-520)	Seat heater (Driver side)	• Seat heater • Harness or connector between seat heater and A/C amplifier (Heater Control Housing) • A/C amplifier (Heater Control Housing)	-
64*6 (05-523)	Seat heater (Passenger side)	• Seat heater • Harness or connector between seat heater and A/C amplifier (Heater Control Housing) • A/C amplifier (Heater Control Housing)	-

HINT:

- *1: If the room temp. is approx. -18.6°C (-3.7°F) or lower, trouble code 11 may be output even though the system is normal.
- *2: If the ambient temp. is approx. -52.9°C (-61.4°F) or lower, a malfunction code may be output even though the system is normal.
- *3: If the check is being performed in a dark place, DTC 21, 24 (solar sensor circuit abnormal) could be displayed.
- *4: Compressor lock (DTC22) is indicated only for a current occurring malfunction (See page 05-483). To confirm DTC 22, perform the following steps.
 - (1) With the engine ON, enter the DTC check mode.
 - (2) Press the F/R switch to enter actuator check mode, and set the operation to Step No. 3.
 - (3) Press the AUTO switch to return to DTC check mode.
 - (4) The DTC is displayed after approx. 3 sec.
- *5: The A/C amplifier (Heater Control Housing) memorizes the DTC of the respective malfunction it has occurred for the period of the time indicated in the brackets.
- *6: Even though the system is in good condition, DTC is output when the seat sensor temperature senses -40°C (-40°F) and over 99°C (210.2°F).

LOCATION



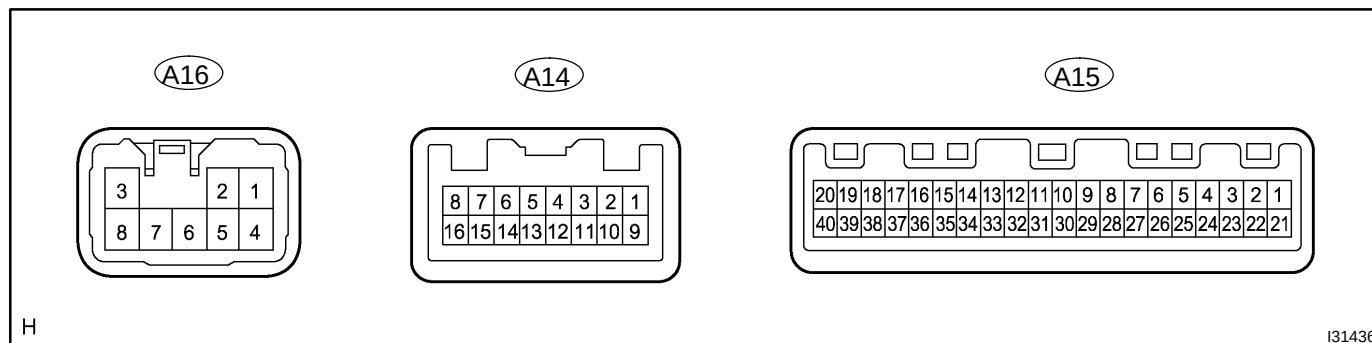


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I31447

TERMINALS OF ECU

HEATER CONTROL HOUSING SUB-ASSY (A/C Amplifier)



Symbols (Terminals No.)	Wiring Color	Condition	STD Voltage (V)
A/CS ⇔ GND (A14-2 ⇔ A15-21)	P-L ⇔ W-B	Ignition switch: ON A/C switch: OFF → ON	Below 1.0 V → 10 - 14 V
TW ⇔ GND (A14-4 ⇔ A15-21)	Y-G ⇔ W-B	Ignition switch: ON	Pulse generation
AC1 ⇔ GND (A14-6 ⇔ A15-21)	Y-B ⇔ W-B	Ignition switch: ON Magnetic clutch: OFF → ON	3.7 - 4.5 V → 1.3 - 2.6 V
A/CI ⇔ GND (A14-7 ⇔ A15-21)	B ⇔ W-B	Ignition switch: ON Magnetic clutch: OFF → ON	10 - 14 V → Below 1.0 V
LP ⇔ GND (A14-10 ⇔ A15-21)	V ⇔ W-B	During set preparation	3 - 5 V
PBEW ⇔ GND (A14-16 ⇔ A15-21)	L-Y ⇔ W-B	Seat belt warning light blinks	Below 1.0 V → 10 - 14 V
SPD ⇔ GND (A15-1 ⇔ A15-21)	V-W ⇔ W-B	Start engine and turn wheel	Pulse generation
BLW ⇔ GND (A15-2 ⇔ A15-21)	L-O ⇔ W-B	Ignition switch: ON Blower switch: ON	Pulse generation
HR ⇔ GND (A15-3 ⇔ A15-21)	L-W ⇔ W-B	Ignition switch: ON Blower switch: OFF → ON	10 - 14 V → Below 1.0 V
PSW ⇔ GND (A15-4 ⇔ A15-21)	L-B ⇔ W-B	Start engine Refrigerant pressure: Normally → Less than 196 kpa (2.0 kgf/cm ² , 28 psi) or more than 3,140 kpa (32.0 kgf/cm ² , 455 psi)	Below 1.0 V → 0
RDEF ⇔ GND (A15-5 ⇔ A15-21)	Y-G ⇔ W-B	Rear defogger switch: ON → OFF	Below 1.0 V → 10 - 14 V
TAM ⇔ SG-6 (A15-8 ⇔ A15-39)	G-R ⇔ W-B	Ignition switch: ON Ambient temp.: 25 °C (77 °F) → 40 °C (104 °F)	1.35 - 1.75 V → 0.85 - 1.25 V
TPI ⇔ SG-2 (A15-9 ⇔ A15-35)	L-R ⇔ LG-B	Ignition switch: ON R/F switch: FRESH → RECIRCULATION	1.0 V → 4.0 V
S5-1 ⇔ GND (A15-10 ⇔ A15-21)	V ⇔ W-B	Ignition switch: LOCK → ON	0 → 5.0 V
B ⇔ GND (A15-11 ⇔ A15-21)	W-R ⇔ W-B	Always	10 - 14 V
IG+ ⇔ GND (A15-12 ⇔ A15-21)	L-B ⇔ W-B	Ignition switch: LOCK → ON	0 → 10 - 14 V
AMDH ⇔ GND (A15-13 ⇔ A15-21)	B-W ⇔ W-B	Ignition switch: ON Set temp.: MAX. COOL → MAX. HOT (*1)	Below 1.0 V → 10 - 14 V
AMDC ⇔ GND (A15-14 ⇔ A15-21)	LG-R ⇔ W-B	Ignition switch: ON Set temp.: MAX. HOT → MAX. COOL (*1)	Below 1.0 V → 10 - 14 V
AMPH ⇔ GND (A15-15 ⇔ A15-21)	LG ⇔ W-B	Ignition switch: ON Set temp.: MAX. COOL → MAX. HOT (*1)	Below 1.0 V → 10 - 14 V
AMPC ⇔ GND (A15-16 ⇔ A15-21)	L-W ⇔ W-B	Ignition switch: ON Set temp.: MAX. HOT → MAX. COOL (*1)	Below 1.0 V → 10 - 14 V

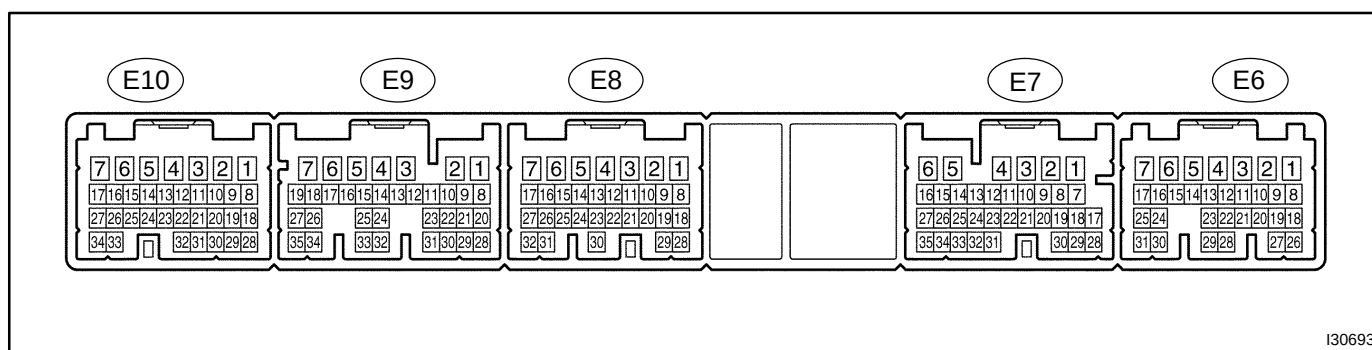
Symbols (Terminals No.)	Wiring Color	Condition	STD Voltage (V)
AOF ⇔ GND (A15-17 ⇔ A15-21)	P ⇔ W-B	Ignition switch: ON Mode select: DEF → FACE (*1)	Below 1.0 V → 10 - 14 V
AOD ⇔ GND (A15-18 ⇔ A15-21)	O ⇔ W-B	Ignition switch: ON Set air flow setting: FACE → DEF (*1)	Below 1.0 V → 10 - 14 V
AIF ⇔ GND (A15-19 ⇔ A15-21)	L ⇔ W-B	Ignition switch: ON R/F switch: RECIRCULATION → FRESH (*1)	Below 1.0 V → 10 - 14 V
AIR ⇔ GND (A15-20 ⇔ A15-21)	R-L ⇔ W-B	Ignition switch: ON R/F switch: FRESH → RECIRCULATION (*1)	Below 1.0 V → 10 - 14 V
GND ⇔ Body ground (A15-21 ⇔ Body ground)	W-B ⇔ Body ground	Always	Continuity
TE ⇔ SG (A15-23 ⇔ A15-40)	L-W ⇔ LG-B	Evaporator temp.: 0 °C (32 °F) → 15 °C (59 °F)	2.0 - 2.4 V → 1.4 - 1.8 V
TR ⇔ SG-5 (A15-24 ⇔ A15-38)	B ⇔ LG-B	Ignition switch: ON Ambient temp.: 25 °C (77 °F) → 40 °C (104 °F)	1.8 - 2.2 V → 1.2 - 1.6 V
TSD ⇔ Body ground (A15-25 ⇔ Body ground)	V ⇔ Body ground	Ignition switch: ON Solar sensor subject to electric light	0.8 V → 3.3 V
TSP ⇔ Body ground (A15-26 ⇔ Body ground)	O ⇔ Body ground	Ignition switch: ON Solar sensor subject to electric light	0.8 V → 3.3 V
TPD ⇔ SG-3 (A15-27 ⇔ A15-36)	L-R ⇔ LG-B	Ignition switch: ON Set temp.: MAX. HOT → MAX. COOL	1.0 V → 4.0 V
TPO ⇔ SG-1 (A15-28 ⇔ A15-34)	B-Y ⇔ LG-B	Ignition switch: ON Set air flow setting :DEF → FACE	1.0 V → 4.0 V
TPP ⇔ SG-4 (A15-29 ⇔ A15-37)	B-R ⇔ L-B	Ignition switch: ON Set temp.: MAX. HOT → MAX COOL	1.0 V → 4.0 V
S5-2 ⇔ GND (A15-30 ⇔ A15-21)	V ⇔ W-B	Ignition switch: LOCK → ON	0 → 5.0 V
S5-3 ⇔ GND (A15-31 ⇔ A15-21)	V ⇔ W-B	Ignition switch: LOCK → ON	0 → 5.0 V
S5-4 ⇔ GND (A15-32 ⇔ A15-21)	G-B ⇔ W-B	Ignition switch: LOCK → ON	0 → 5.0 V
SG-1 ⇔ Body ground (A15-34 ⇔ Body ground)	LG-B ⇔ Body ground	Always	Continuity
SG-2 ⇔ Body ground (A15-35 ⇔ Body ground)	LG-B ⇔ Body ground	Always	Continuity
SG-3 ⇔ Body ground (A15-36 ⇔ Body ground)	LG-B ⇔ Body ground	Always	Continuity
SG-4 ⇔ Body ground (A15-37 ⇔ Body ground)	L-B ⇔ Body ground	Always	Continuity
SG-5 ⇔ Body ground (A15-38 ⇔ Body ground)	LG-B ⇔ Body ground	Always	Continuity
SG-6 ⇔ Body ground (A15-39 ⇔ Body ground)	B-W ⇔ Body ground	Always	Continuity
SG ⇔ Body ground (A15-40 ⇔ Body ground)	LG-B ⇔ Body ground	Always	Continuity
SHDE ⇔ Body ground (A16-1 ⇔ Body ground)	LG-B ⇔ Body ground	Always	Continuity
SHDT ⇔ SHDE (A16-2 ⇔ A16-1)	B-L ⇔ LG-B	Ignition switch: ON Temp. of seat heater sensor: 30°C (86°F) → 50°C (122°F)	2.6 - 3.0 V → 1.8 - 2.2 V
SHP+ ⇔ GND (A16-3 ⇔ A15-21)	L ⇔ W-B	Ignition switch: ON	10 - 14 V
SHPE ⇔ Body ground (A16-4 ⇔ Body ground)	B ⇔ Body ground	Always	Below 1V
SHPT ⇔ SHPE (A16-5 ⇔ A16-4)	LG ⇔ B	Ignition switch: ON Temp. of seat heater sensor: 30°C (86°F) → 50°C (122°F)	2.6 - 3.0 V → 1.8 - 2.2 V

DIAGNOSTICS - AIR CONDITIONING SYSTEM

Symbols (Terminals No.)	Wiring Color	Condition	STD Voltage (V)
SHD+ ⇔ GND (A16-6 ⇔ A15-21)	L ⇔ W-B	Ignition switch: ON	10 - 14 V
SHD- ⇔ GND (A16-7 ⇔ A15-21)	R-B ⇔ W-B	Ignition switch: ON Seat heater switch: OFF → ON	0 → 10 - 14 V
SHP- ⇔ GND (A16-8 ⇔ A15-21)	R-Y ⇔ W-B	Ignition switch: ON Seat heater switch: OFF → ON	0 → 10 - 14 V

*1: When the servomotor is it operation.

ECM



Symbols (Terminals No.)	Wiring Color	Condition	STD Voltage (V)
HP ⇔ Body ground (E7-1 ⇔ Body ground)	BR ⇔ Body ground	Always	Continuity
ACMG ⇔ E1 (E7-3 ⇔ E8-1)	L-W ⇔ BR	Engine start A/C switch: OFF → ON	10 - 14 V → Below 1.0 V
THWO ⇔ E1 (E7-14 ⇔ E8-1)	Y-G ⇔ BR	Ignition switch: ON	Pulse generation
A/CS ⇔ E1 (E7-31 ⇔ E8-1)	P-L ⇔ BR	Engine start A/C switch: OFF → ON	Below 1.0 V → 10 - 14 V
THR ⇔ E1 (E7-32 ⇔ E8-1)	Y-B ⇔ BR	Engine start A/C switch: OFF → ON	3.7 - 4.5 V → 1.3 - 2.6 V
A/CI ⇔ E1 (E7-33 ⇔ E8-1)	B ⇔ BR	Engine start A/C switch: OFF → ON	10 - 14 V → Below 1.0 V
LCKI ⇔ E1 (E8-23 ⇔ E8-1)	W-L ⇔ BR	Engine start A/C switch: OFF → ON	Pulse generation
E1 ⇔ Body ground (E8-1 ⇔ Body ground)	BR ⇔ Body ground	Always	Continuity

PROBLEM SYMPTOMS TABLE

Symptom	Suspect Area	See page
Whole functions of the A/C system does not operate.	1. IG power source circuit 2. Heater control housing sub-assy (A/C amplifier)	05-526 01-31
Air Flow Control : No blower operation	1. Heater relay circuit 2. Blower motor circuit 3. Heater control housing sub-assy (A/C amplifier)	05-530 05-533 01-31
Air Flow Control : No blower control	1. Blower motor circuit	05-533
Air Flow Control : Insufficient air out	1. Blower motor circuit 2. Heater control housing sub-assy (A/C amplifier)	05-533 01-31
Temperature Control : No cool air comes out	1. Volume of refrigerant 2. Drive belt tension 3. Refrigerant pressure 4. Compressor lock sensor circuit 5. Compressor circuit 6. Pressure switch circuit 7. Air mix control servomotor circuit (Driver side) (Passenger side) 8. Air mix damper position sensor circuit (Driver side) (Passenger side) 9. Room temp. sensor circuit 10. Ambient temp. sensor circuit 11. Vehicle speed signal circuit 12. Heater control housing sub-assy (A/C amplifier)	55-2 55-10 55-2 05-483 05-536 05-486 05-516 05-504 05-501 05-492 05-470 05-473 05-540 01-31
Temperature Control : No warm air comes out	1. Air mix control servomotor circuit (Driver side) (Passenger side) 2. Air mix damper position sensor circuit (Driver side) (Passenger side) 3. Ambient temp. sensor circuit 4. Vehicle speed signal circuit 5. Room temp. sensor circuit 6. Evaporator temp. sensor circuit 7. Heater control housing sub-assy (A/C amplifier) 8. Heater radiator	05-516 05-504 05-501 05-492 05-473 05-540 05-470 05-470 01-31 -
Temperature Control : Output air is warmer or cooler than the set temperature or response is slow.	1. Room temp. sensor circuit 2. Ambient temp. sensor circuit 3. Vehicle speed signal circuit 4. Solar sensor circuit (Driver side) (Passenger side) 5. Air mix damper position sensor circuit (Driver side) (Passenger side) 6. Air mix control servomotor circuit (Driver side) (Passenger side) 7. Water temp. sensor circuit 8. Heater control housing sub-assy (A/C amplifier)	05-470 05-473 05-540 05-540 05-489 05-516 05-504 05-501 05-492 05-478 01-31
Temperature Control : No temperature control (only Max. cool or Max. warm)	1. Air mix control servomotor circuit (Driver side) (Passenger side) 2. Air mix damper position sensor circuit (Driver side) (Passenger side) 3. Heater control housing sub-assy (A/C amplifier)	05-516 05-504 05-501 05-492 01-31
No air inlet control	1. Air inlet damper control servomotor circuit 2. Air inlet damper position sensor circuit 3. Heater control housing sub-assy (A/C amplifier)	05-508 05-495 01-31

DIAGNOSTICS - AIR CONDITIONING SYSTEM

No air outlet control	1. Air outlet damper position sensor circuit 2. Air outlet control servomotor circuit 3. Heater control housing sub-assy (A/C amplifier)	05-512 05-498 01-31
Engine idle up does not occur, or is continuous	1. Compressor circuit 2. Heater control housing sub-assy (A/C amplifier)	05-536 01-31
Set temperature value displayed does not much up with operation of temperature control switch.	1. Heater control housing sub-assy (A/C amplifier)	01-31
Brightness does not changes when rheostat volume or light control switch it turned.	1. Illumination light system 2. Heater control housing sub-assy (A/C amplifier)	- 01-31
Unable to access the diagnosis mode.	1. Heater control housing sub-assy (A/C amplifier)	01-31
DTC not recorded. Set mode is cleared when IG switch is turned off.	1. Back-up power source circuit 2. Heater control housing sub-assy (A/C amplifier)	05-528 01-31
Seat heater does not operate.	1. Seat heater circuit (Driver side) (Passenger side) 2. Heater control housing sub-assy (A/C amplifier)	05-520 05-523 01-31

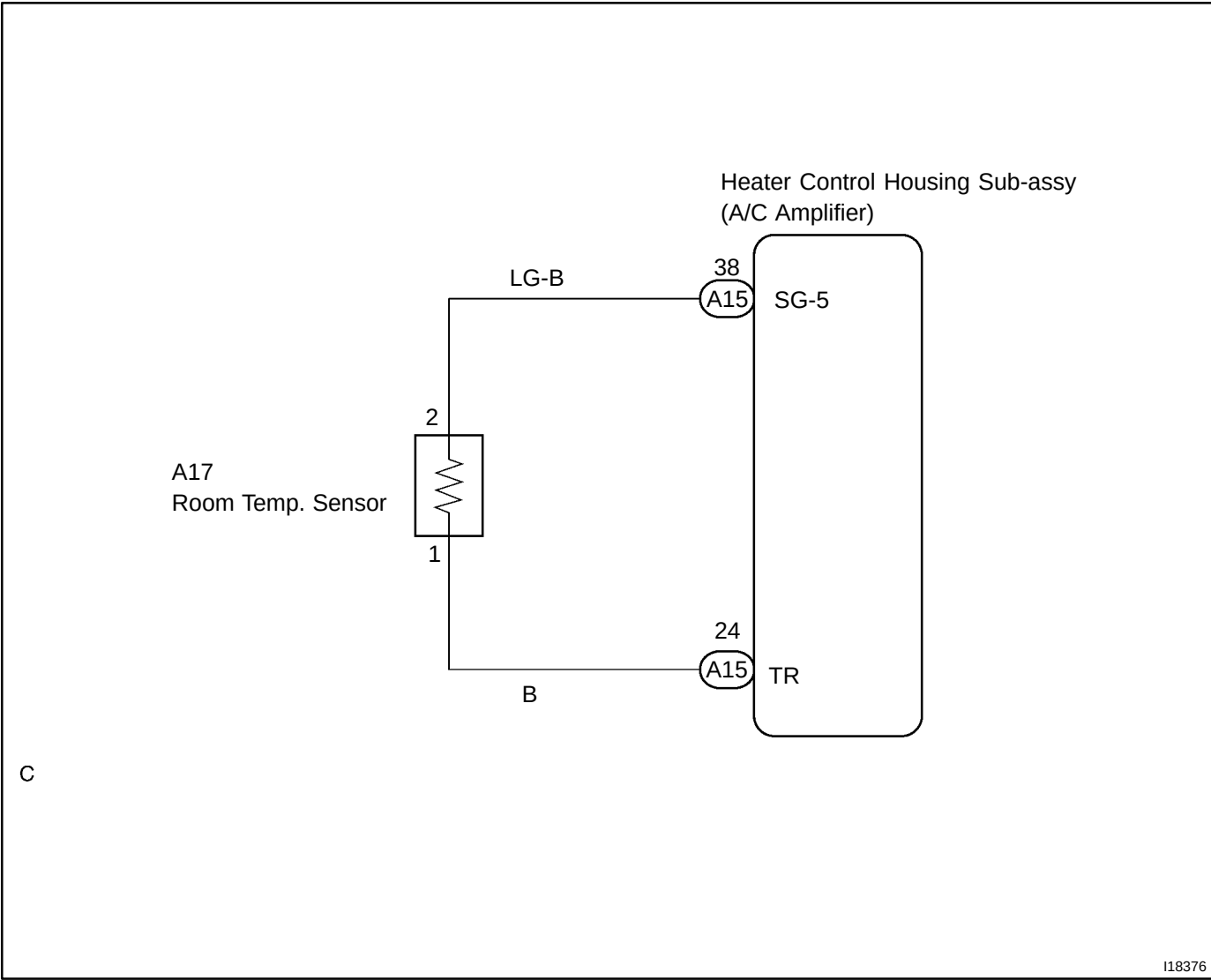
DTC	11	ROOM TEMPERATURE SENSOR CIRCUIT
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CIRCUIT DESCRIPTION

This sensor detects the temperature inside the cabin and sends the appropriate signals to the A/C amplifier.

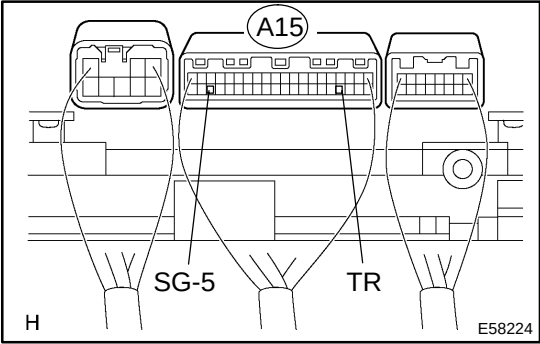
DTC No.	Detection item	Trouble Area
11	Open or short in room temperature sensor circuit	- Room temperature sensor - Harness or connector between room temperature sensor and A/C amplifier - A/C amplifier

WIRING DIAGRAM



INSPECTION PROCEDURE

1 INSPECT HEATER CONTROL HOUSING SUB-ASSY(TR, SG-5)



- (a) Remove A/C amplifier with connectors still connected.
- (b) Turn ignition switch ON.
- (c) Measure voltage between terminals TR and SG-5 of A/C amplifier connector at each temperature.
Voltage:
at 25 °C (77 °F) : 1.8 - 2.2 V
at 40 °C (104 °F) : 1.2 - 1.6 V

HINT:
As the temperature increases, the voltage decreases.

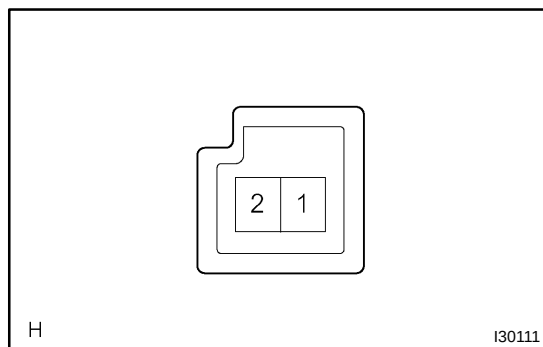
A	NG
B	OK (when checking from the PROBLEM SYMPTOM TABLE)
C	OK (Checking from the DTC)

B PROCEED TO NEXT CIRCUIT INSPECTION SHOWN ON PROBLEM SYMPTOM TABLE

C CHECK AND REPLACE HEATER CONTROL HOUSING SUB-ASSY

A

2 INSPECT COOLER (ROOM TEMP. SENSOR) THERMISTOR

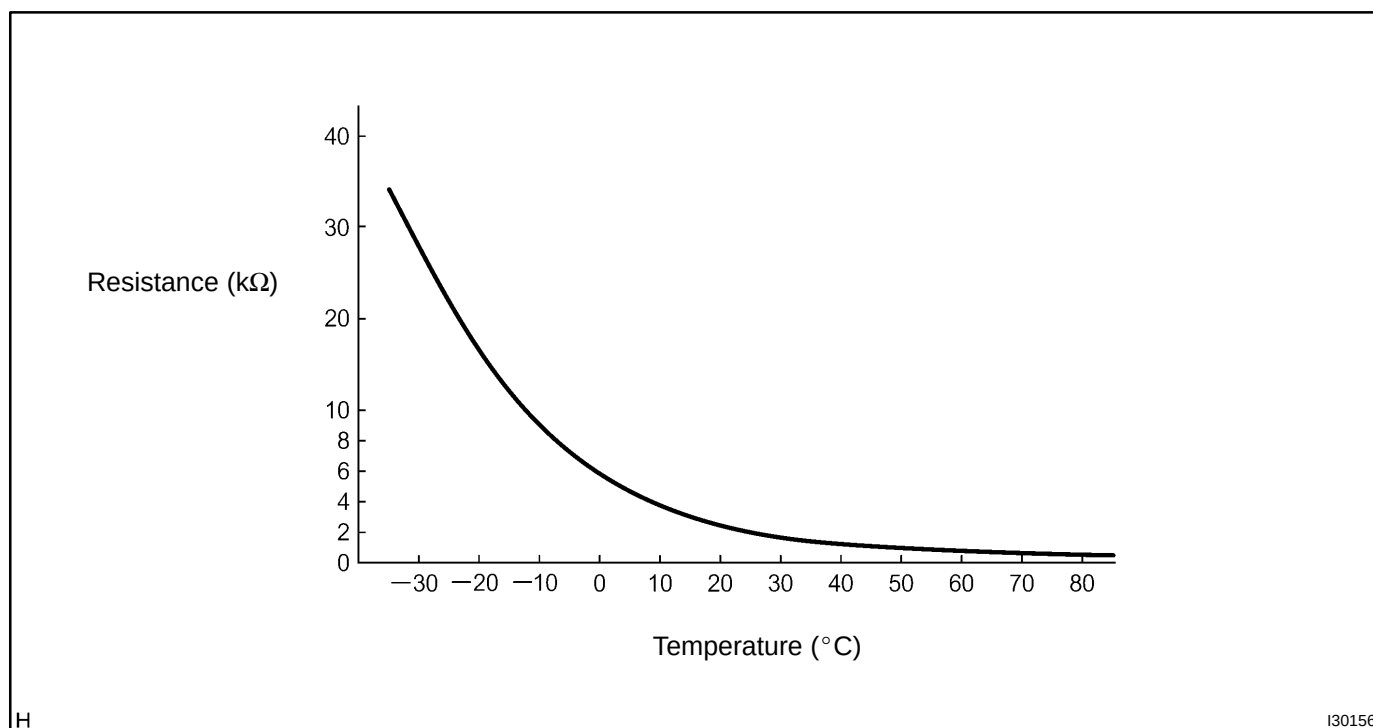


- (a) Remove cooler (room temp. sensor) thermistor.
- (b) Measure resistance between terminals 1 and 2 of cooler (room temp. sensor) connector at each temperature.

Resistance: $1700 \pm 85 \Omega$

HINT:

As the temperature increases, the resistance decreases.



NG

REPLACE COOLER (ROOM TEMP. SENSOR) THERMISTOR

OK

3 CHECK HARNESS AND CONNECTOR(BETWEEN COOLER (ROOM TEMP. SENSOR) THERMISTOR AND HEATER CONTROL HOUSING)

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

CHECK AND REPLACE HEATER CONTROL HOUSING SUB-ASSY

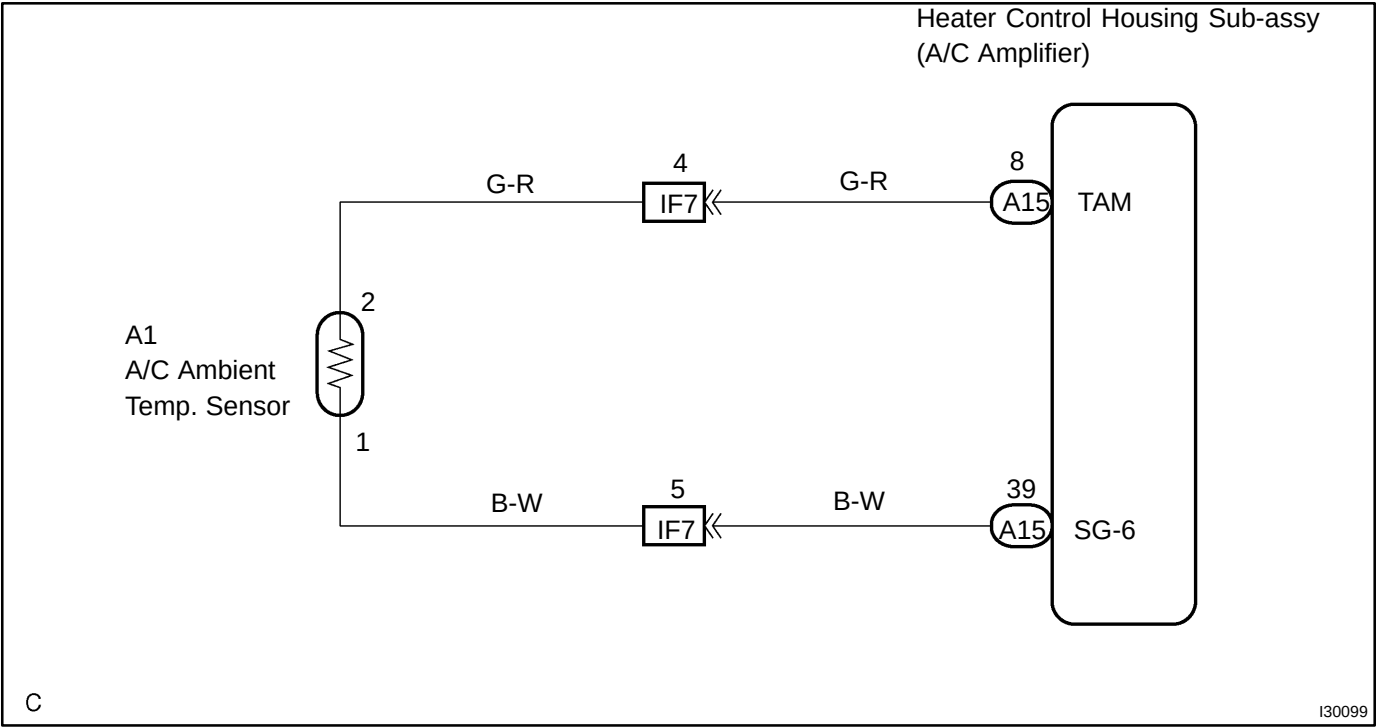
DTC	12	AMBIENT TEMPERATURE SENSOR CIRCUIT
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CIRCUIT DESCRIPTION

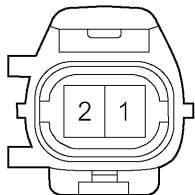
This sensor detects the temperature outside the cabin and sends the appropriate signals to the A/C amplifier.

DTC No.	Detection item	Trouble Area
12	Open or short in ambient temperature sensor circuit	• Ambient temperature sensor • Harness or connector between ambient temperature sensor and A/C amplifier • A/C amplifier

WIRING DIAGRAM



INSPECTION PROCEDURE

1 INSPECT COOLER (AMBIENT TEMP. SENSOR) THERMISTOR

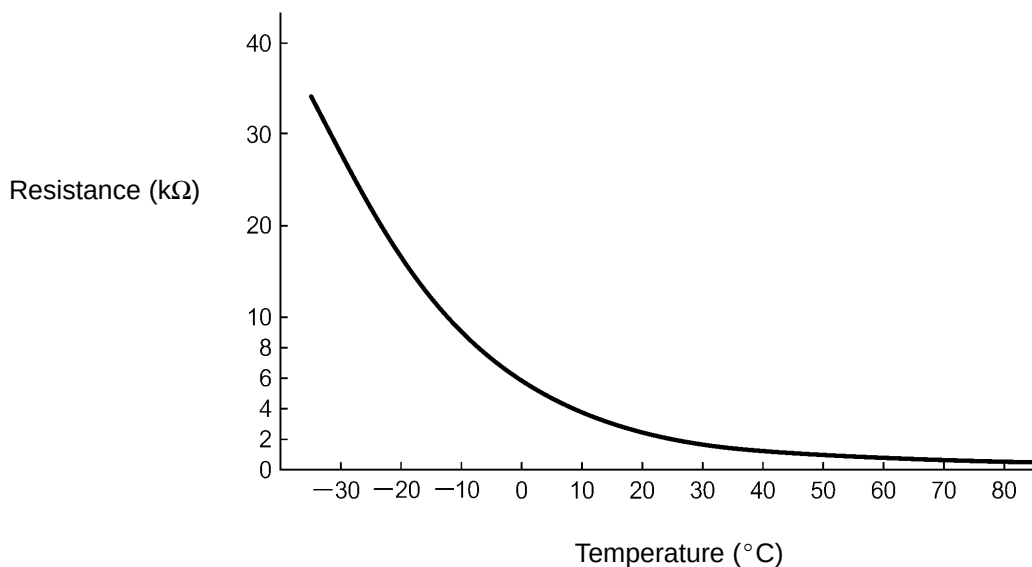
H

I30155

- (a) Remove cooler (ambient temp. sensor) thermistor.
- (b) Measure resistance between terminals 1 and 2 of cooler (ambient temp. sensor) thermistor connector at each temperature.

Resistance:**at 25 °C (77 °F) : 1.65 - 1.75 kΩ****at 40 °C (104 °F) : 0.85 - 0.95 kΩ****HINT:**

As the temperature increases, the resistance decreases.



H

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NG

REPLACE COOLER (AMBIENT TEMP. SENSOR) THERMISTOR

OK

2 CHECK HARNESS AND CONNECTOR(COOLER(AMBIENT TEMP.SENSOR)THERMISTOR AND CLOCK ASSY)

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

CHECK AND REPLACE HEATER CONTROL HOUSING SUB-ASSY