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Heating, Ventilation, and Air Conditioning

Heating/Air Conditioning

Climate Control

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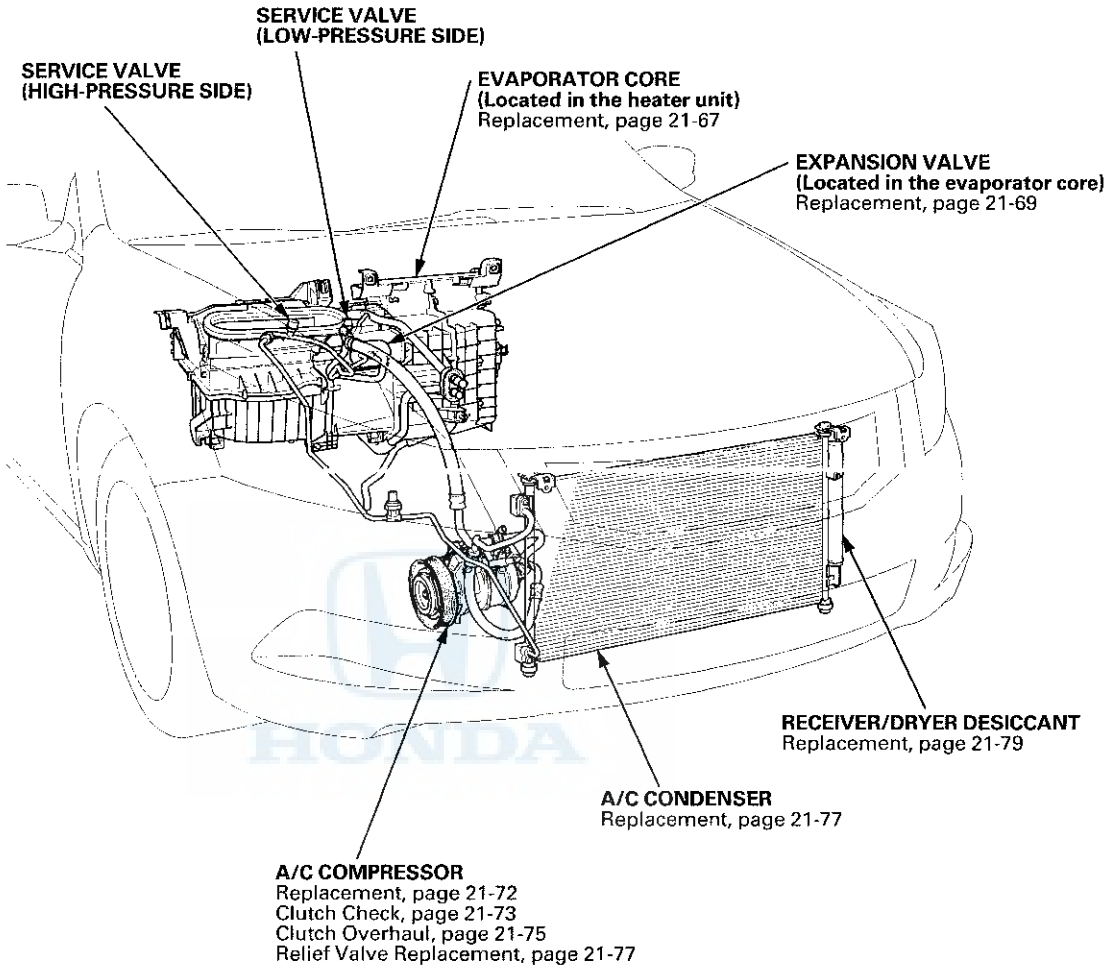
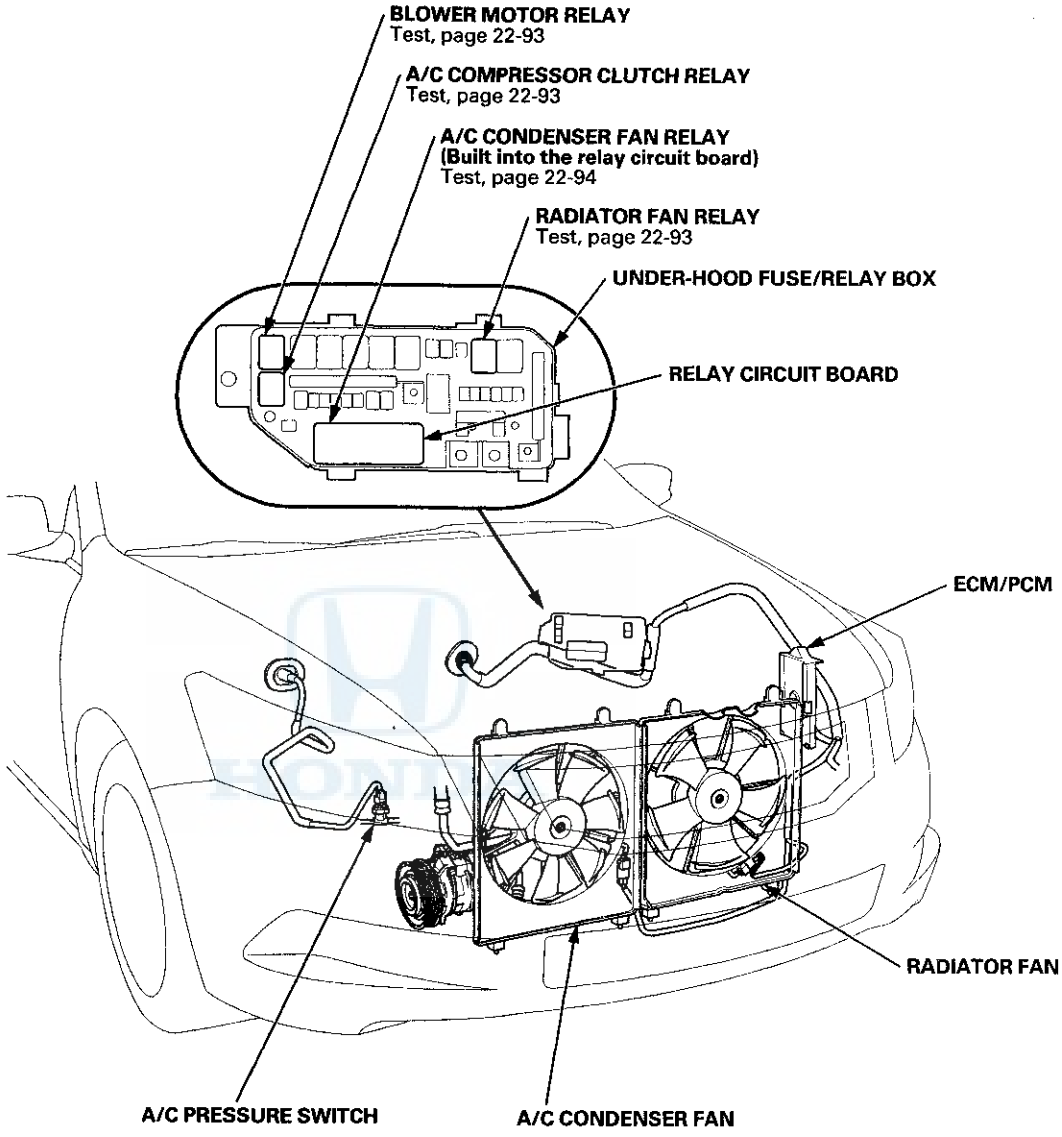


'08-09 models



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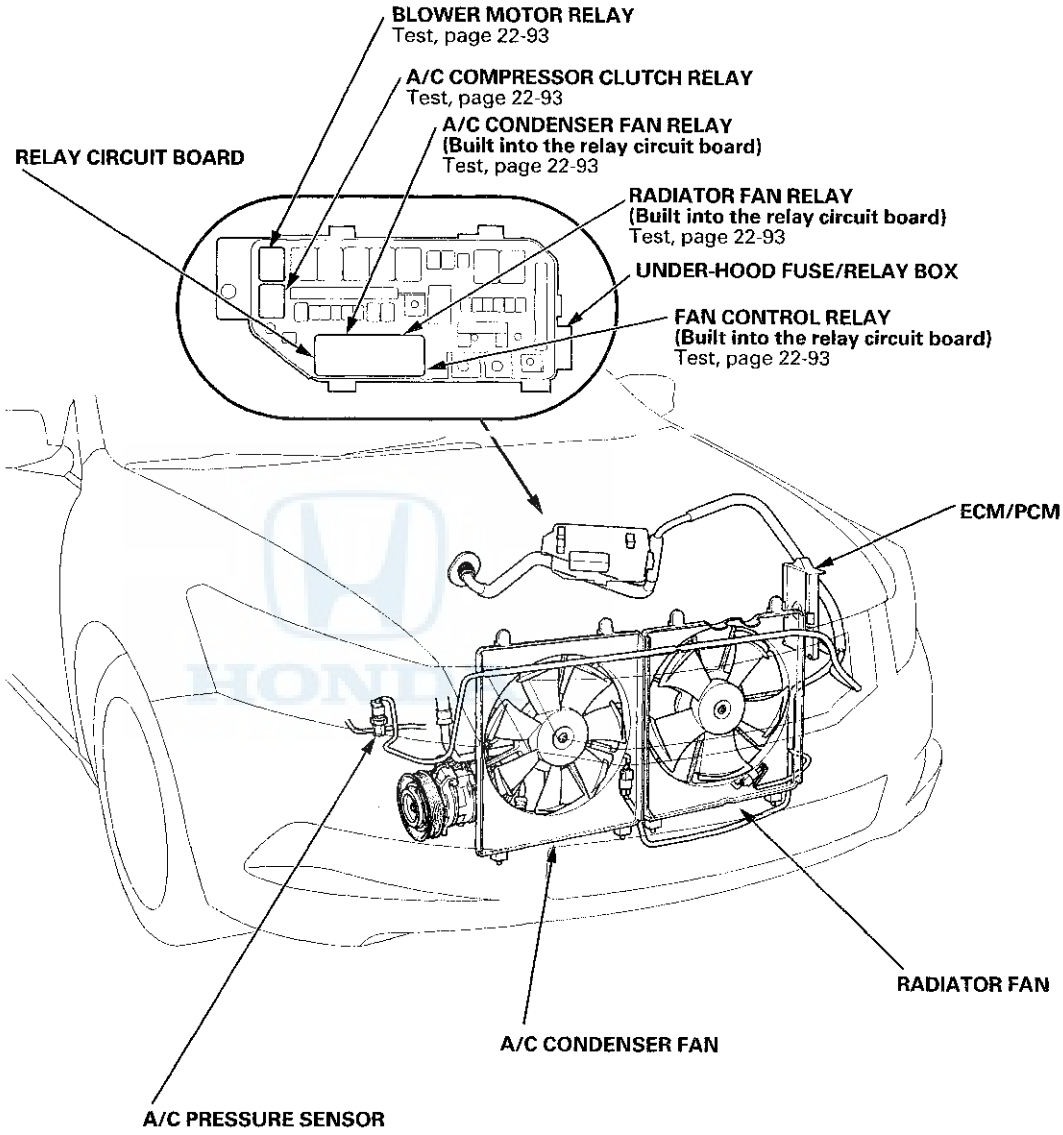
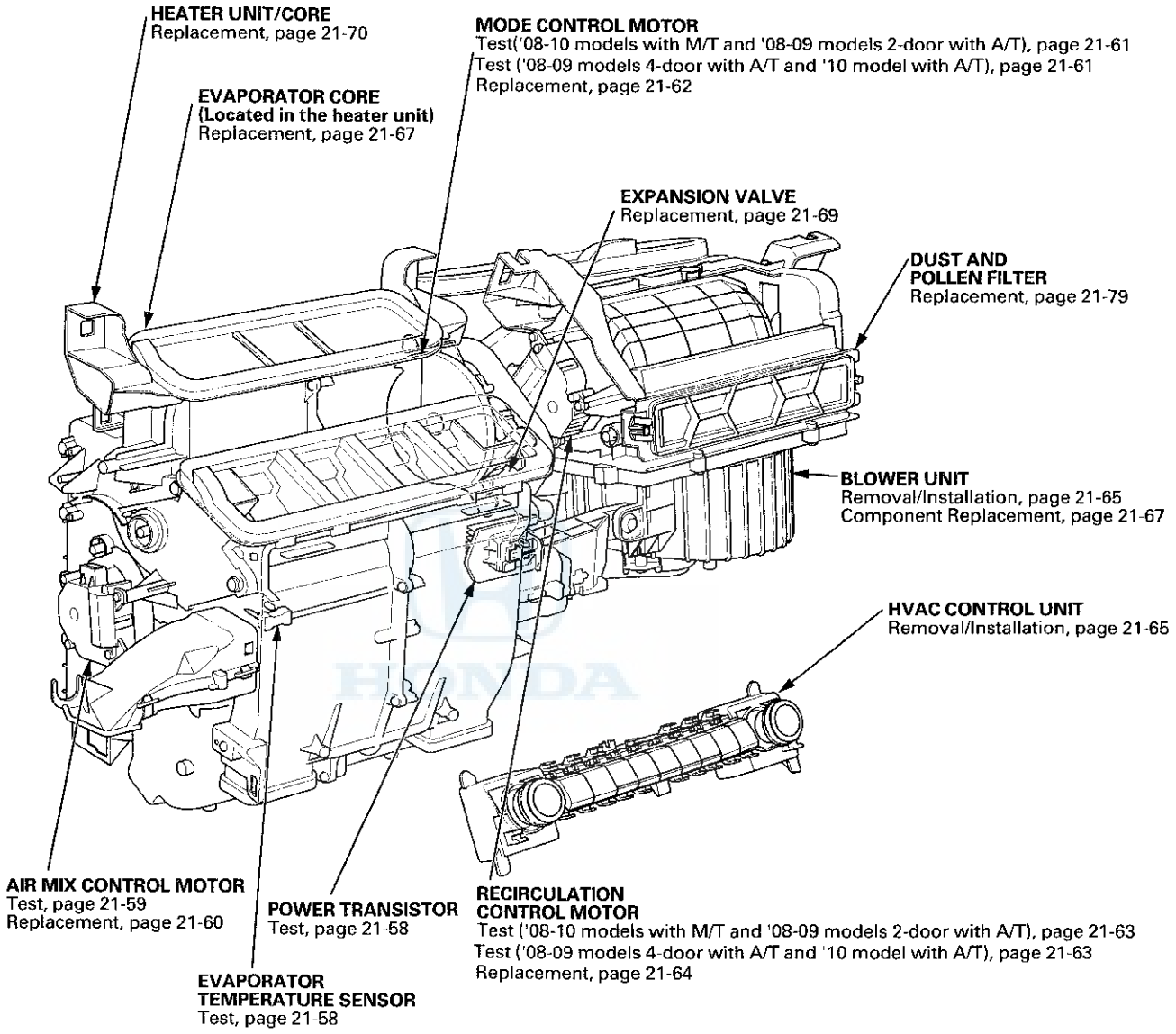
Component Location Index (cont'd)

'10 model

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Heating/Air Conditioning

A/C Service Tips and Precautions

⚠ WARNING

- Compressed air mixed with the R-134a forms a combustible vapor.
- The vapor can burn or explode causing serious injury.
- Never use compressed air to pressure test R-134a service equipment or vehicle air conditioning systems.

⚠ CAUTION

- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.

The air conditioning system uses HFC-134a (R-134a) refrigerant and polyalkyleneglycol (PAG) refrigerant oil, which are not compatible with CFC-12 (R-12) refrigerant or mineral oil. Do not use R-12 refrigerant or mineral oil in this system, and do not attempt to use R-12 servicing equipment; damage to the air conditioning system or your servicing equipment will result.

Use only service equipment that is U.L.-listed and is certified to meet the requirements of SAE J2210 to remove R-134a from the air conditioning system.

If accidental system discharge occurs, ventilate the work area before resuming service.

R-134a service equipment or vehicle air conditioning systems should not be pressure tested or leak tested with compressed air.

Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.

- Always disconnect the negative cable from the battery whenever replacing air conditioning parts.
- Keep moisture and dirt out of the system. When disconnecting any lines, plug or cap the fittings immediately; don't remove the caps or plugs until just before you reconnect each line.
- Before connecting any hose or line, apply a few drops of refrigerant oil to the O-ring.
- When tightening or loosening a fitting, use a second wrench to support the matching fitting.
- When discharging the system, use an R-134a refrigerant recovery/recycling/charging station; don't release refrigerant into the atmosphere.

A/C Refrigerant Oil Replacement

Recommended PAG oil: DENSO ND-OIL 8

P/N 38897-PR7-A01AH: 120 mL (4 fl·oz)

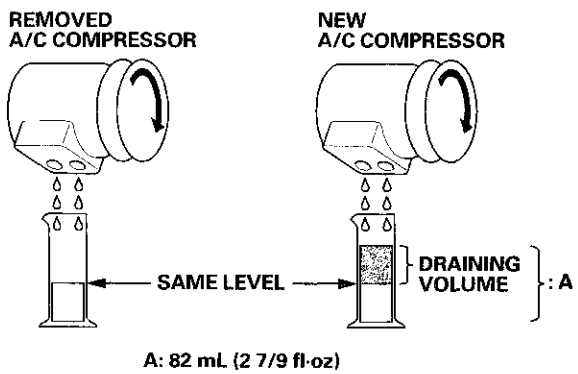
It is important to have the correct amount of refrigerant oil in the A/C system to ensure proper lubrication of the A/C compressor.

Too little oil damages the A/C compressor; too much oil reduces the cooling capacity of the system, and can produce high vent temperatures.

- To avoid contamination, do not return the oil to the container once dispensed, and never mix it with other refrigerant oils.
- Immediately after using the oil, reinstall the cap on the container, and seal it to avoid moisture absorption.
- Do not spill the refrigerant oil on the vehicle; it may damage the paint; if it gets on the paint, wash it off immediately.

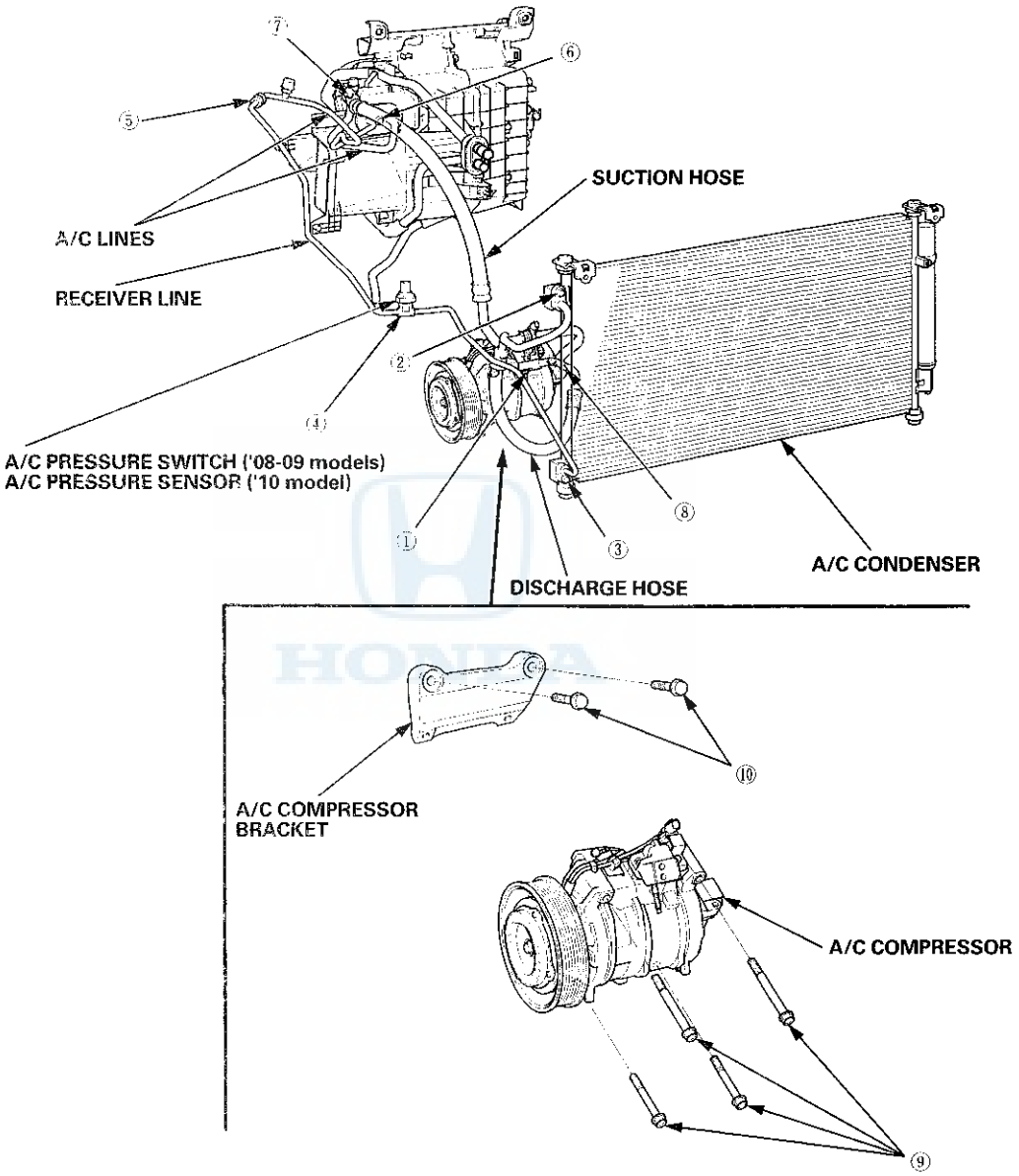
Add the recommended refrigerant oil in the amount listed if you replace any of the following parts.

A/C condenser (including Dryer Desiccant)	35 mL (1 1/5 fl·oz)
Evaporator	35 mL (1 1/5 fl·oz)
Line or hose	10 mL (1/3 fl·oz)
Leakage repair	25 mL (5/6 fl·oz)
A/C compressor	For A/C compressor replacement, subtract the volume of oil drained from the removed A/C compressor from 82 mL (2 7/9 fl·oz), and drain the calculated volume of oil from the new A/C compressor: 82 mL (2 7/9 fl·oz) − Volume of removed A/C compressor = Volume to drain from new A/C compressor. NOTE: Even if no oil is drained from the removed A/C compressor, don't drain more than 50 mL (1 2/3 fl·oz) from the new A/C compressor.



A: 82 mL (2 7/9 fl·oz)

A/C Line Replacement

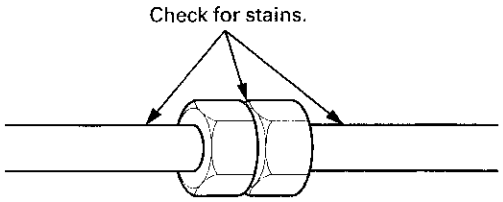


① Discharge hose to the A/C compressor (6 x 1.0 mm): 9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
② Discharge hose to the A/C condenser (6 x 1.0 mm): 9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
③ Receiver line to the A/C condenser (6 x 1.0 mm): 9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
④ A/C pressure switch or A/C pressure sensor to the receiver line (11 x 1.0 mm): 10.8 N·m (1.1 kgf·m, 8.0 lbf·ft)
⑤ Receiver line to the A/C line (16 x 1.5 mm): 13.7 N·m (1.4 kgf·m, 10.1 lbf·ft)
⑥ A/C lines to the evaporator (6 x 1.0 mm): 9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
⑦ A/C line to the suction hose (6 x 1.0 mm): 9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
⑧ Suction hose to the A/C compressor (6 x 1.0 mm): 9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
⑨ A/C compressor to the A/C compressor bracket (8 x 1.25 mm): 22 N·m (2.2 kgf·m, 16 lbf·ft)
⑩ A/C compressor bracket to the engine block (10 x 1.25 mm): 44 N·m (4.5 kgf·m, 32.5 lbf·ft)

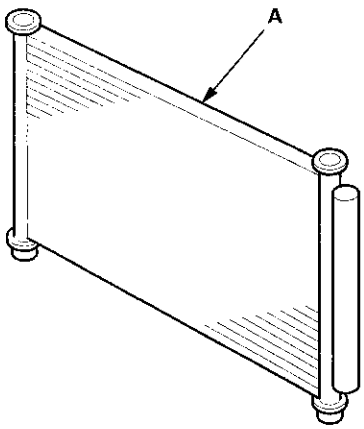
A/C System Inspection

Before troubleshooting any problem with the air conditioning system, do the following:

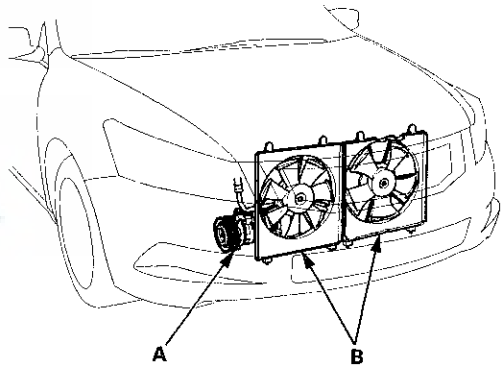
1. With the ignition switch in LOCK (0), inspect the A/C components, the pressure lines and the hoses for stains that may indicate a refrigerant or a compressor oil leak.



2. Check the A/C condenser for material clogging the fins or for damage to the fins:
   - Carefully clean any material from the A/C condenser fins with water and detergent. If deeper cleaning is required, clean the fins with Hondabrite Motorcycle Cleaner (P/N 08732-0032).
   - Be sure to dry the A/C condenser (A) completely.
   - Refer to the refrigerant leak test (see page 21-82) to confirm leaks if there is visible damage to the A/C condenser.



3. Inspect the drive belt (see page 4-29).
4. Make sure no material is blocking the airflow to the A/C condenser.
5. Check the dust and pollen filter, and replace it if it is clogged (see page 21-79).
6. Check for kinks or sharp bends in the A/C lines and hoses, which can greatly reduce system performance. Replace the A/C lines and hoses if they are kinked or damaged (see page 21-7).
7. Start the engine, turn the air conditioning system on, and allow it to run for a few minutes and reach stable operation.
8. Check that the A/C operates at each position of the blower fan switch (except OFF). If the A/C does not operate, refer to the symptom troubleshooting.
9. Check that the A/C compressor clutch (A) is engaged. The pressure plate should be rotating at the same speed as the pulley. If the pressure plate does not engage, refer to the symptom troubleshooting.



10. Check that the cooling fans (B) operate when the A/C compressor clutch is engaged. If either fan fails to operate when the A/C compressor clutch is engaged, refer to the symptom troubleshooting.
11. Check that the engine idle speed is correct when the A/C is switched on and off, and when the A/C compressor clutch is engaged and disengaged.

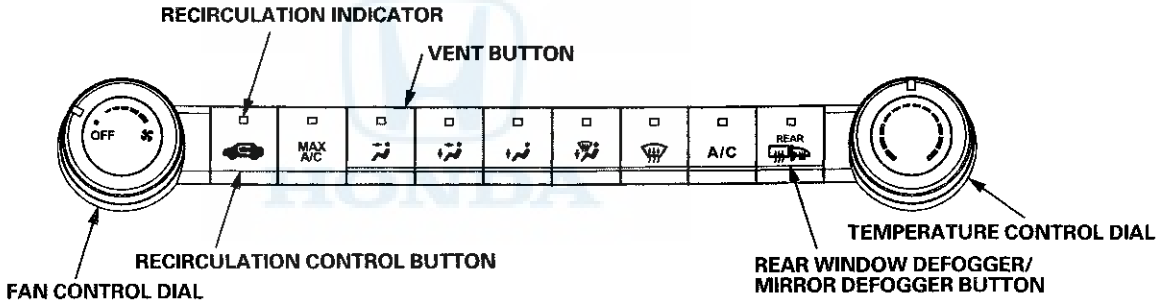
General Troubleshooting Information

How to Use the Self-diagnostic Function

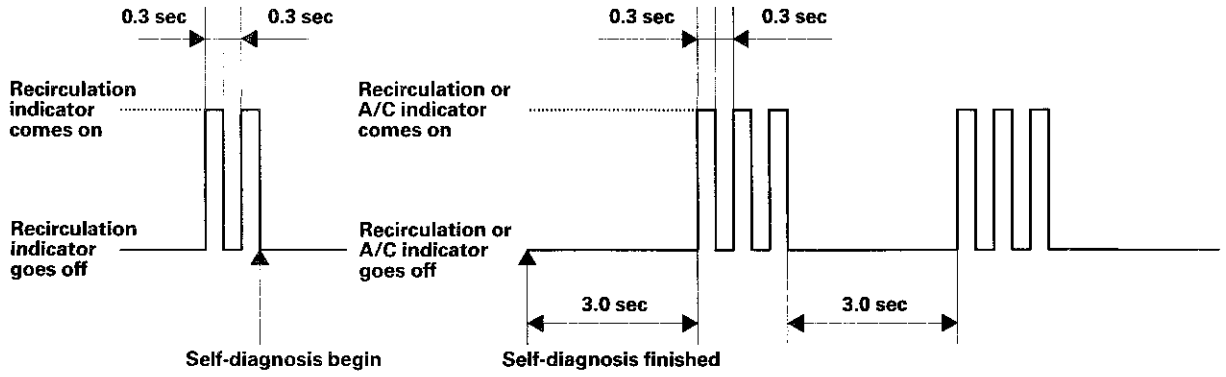
The HVAC control unit has a self-diagnostic function for the heating, ventilation, and air conditioning system. To run the self-diagnostic function, do the following:

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Set the FAN CONTROL dial to OFF, the TEMPERATURE CONTROL dial on Max Cool, and select the VENT mode.
3. Turn the ignition switch to LOCK (0), and then to ON (II).
4. Press and hold the RECIRCULATION CONTROL button, then within 10 seconds press and release the REAR WINDOW DEFOGGER/MIRROR DEFOGGER button five times. Release the RECIRCULATION CONTROL button; the recirculation indicator blinks two times, then the self-diagnostic begins.

   NOTE:
   - The blower motor will run at various speeds when in the self-diagnostic mode.
   - Once the self-diagnostic function is finished, the recirculation indicator blinks, and the number of blinks indicates the Diagnostic Trouble Code (DTC) number. If there are multiple DTCs, the indicator blinks each DTC in sequence from the lowest DTC number to the highest.
   - The indicator pauses 3 seconds, then repeats the DTC blink sequence.
   - If no DTCs are found, the indicator does not blink.



Example of DTC Indication Pattern (DTC 3)



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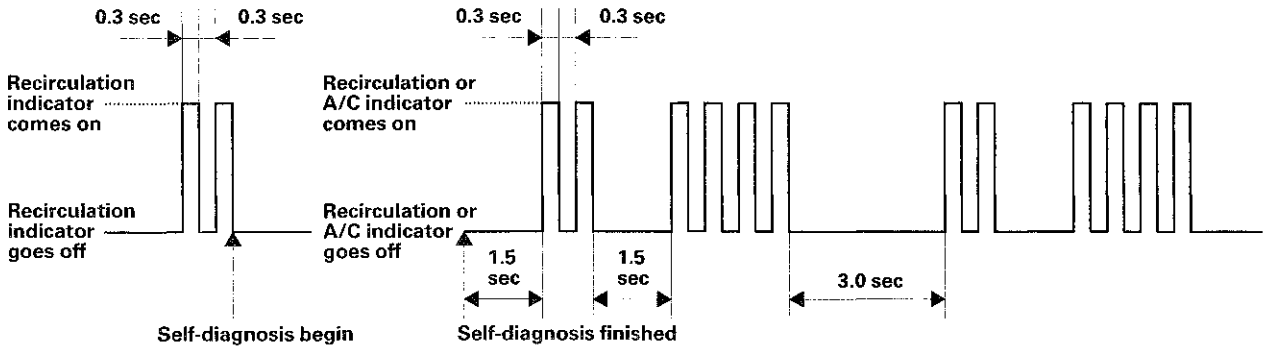
General Troubleshooting Information (cont'd)

Example of DTCs Indication Pattern (DTC 2 and 4)



DTC (Recirculation Indicator Blinks)	Detection Item
1	An open in the air mix control motor circuit (see page 21-24)
2	A short in the air mix control motor circuit (see page 21-25)
3	A problem in the air mix control linkage, door, or motor circuit (see page 21-26)
4*1	An open in the mode control motor circuit (see page 21-27)
5*1	A short in the mode control motor circuit (see page 21-28)
6*1	A problem in the mode control linkage, doors, or motor circuit (see page 21-29)
7*1	An open in the recirculation control motor circuit (see page 21-31)
8*1	A short in the recirculation control motor circuit (see page 21-32)
9*1	A problem in the recirculation control linkage, door, or motor circuit (see page 21-33)
10*2	An open or short in the mode control circuit (see page 21-35)
11*2	A problem in the mode control linkage, doors, or motor circuit (see page 21-37)
12	A problem in the blower motor circuit (see page 21-38)
13	HVAC control unit internal error (see page 21-41)
14	An open in the evaporator temperature sensor circuit (see page 21-42)
15	A short in the evaporator temperature sensor circuit (see page 21-43)

*1: '08-10 models with M/T and '08-09 models 2-door with A/T
*2: '08-09 models 4-door with A/T and '10 model with A/T

Clear the DTCs

When the problem is repaired, DTCs will automatically clear.

Max Cool Position Function

When the mode control button is in the MAX A/C position, the HVAC control unit will automatically select the recirculation mode and turn the A/C on. If the recirculation switch is pressed when in MAX A/C mode, MAX A/C turns off. If the A/C switch is pressed when in MAX A/C mode, the A/C turns off.

Symptom Troubleshooting Index

Symptom	Diagnostic procedure	Also check for
The blower and heater controls and the A/C system do not work	Probable cause: HVAC control unit malfunction Do the HVAC control power and ground circuit troubleshooting (see page 21-45)	• HVAC DTCs (see page 21-9) • Blown fuse No. 16 (7.5 A) in the driver's under-dash fuse/relay box • Faulty blower motor relay • Poor ground at G401 (see page 22-40) • Poor or loose connections at the terminals
The A/C compressor clutch and the A/C condenser/radiator fans are inoperative, but the blower and heater controls work ('08-09 models)	Probable cause: A/C pressure switch circuit malfunction A/C pressure switch circuit troubleshooting (see page 21-54)	• HVAC DTCs (see page 21-9) • Powertrain DTCs (see page 11-3) • Poor or loose connections at the terminals
The A/C compressor clutch and the A/C condenser/radiator fans are inoperative, but the blower and heater controls work ('10 model)	Probable cause: A/C pressure sensor circuit malfunction Do the A/C pressure sensor troubleshooting: A/C pressure sensor circuit low voltage (see page 11-282), A/C pressure sensor circuit high voltage (see page 11-284) NOTE: The A/C pressure sensor can malfunction without setting a DTC	• HVAC DTCs (see page 21-9) • Powertrain DTCs (see page 11-3) • A/C signal circuit troubleshooting (see page 21-56) • Poor or loose connections at the terminals
The A/C compressor clutch does not engage, but the A/C condenser/radiator fans operate, and the blower and heater controls work	Probable cause: No power to the A/C compressor clutch Do the A/C compressor clutch circuit troubleshooting (see page 21-52)	• HVAC DTCs (see page 21-9) • Blown fuse No. 20 (7.5 A) in the under-hood fuse/relay box • A/C system pressure is normal (see page 21-89) • Poor or loose connections at the terminals
The A/C condenser fan is inoperative, but the radiator fan runs with the A/C on. The blower and heater controls work normally ('08-09 models)	Probable cause: A/C condenser fan circuit malfunction • Do the A/C condenser fan circuit troubleshooting (see page 21-46) • Engine overheating due to high ECT • Low idle speed	• HVAC DTCs (see page 21-9) • Powertrain DTCs (see page 11-3) • Blown fuse No. 5 (20 A) in the under-hood fuse/relay box • Poor ground at G302 (see page 22-30) • Poor or loose connections at the terminals
The A/C condenser and radiator fans are inoperative with the A/C on. The blower and heater controls work normally ('08-09 models)	Probable cause: Radiator/A/C condenser fan common circuit malfunction Do the radiator and A/C condenser fan common circuit troubleshooting (see page 21-47)	• HVAC DTCs (see page 21-9) • Powertrain DTCs (see page 11-3) • Blown fuses No. 5 (20 A) and No. 3-6 (MAIN FAN MTR) (30 A) in the under-hood fuse/relay box • Poor ground at G302 (see page 22-30) • Poor or loose connections at the terminals
The condenser/radiator fans do not run at low speed with the A/C on, but the blower and heater controls work normally ('10 model)	• Probable cause: Condenser/radiator fan low speed circuit malfunction Do the radiator and A/C condenser fan low speed circuit troubleshooting (see page 21-48) • Probable cause: A/C pressure sensor circuit malfunction Do the A/C pressure sensor troubleshooting: A/C pressure sensor circuit low voltage (see page 11-282), A/C pressure sensor circuit high voltage (see page 11-284) NOTE: The A/C pressure sensor can malfunction without setting a DTC	• HVAC DTCs (see page 21-9) • Powertrain DTCs (see page 11-3) • Blown fuse No. 3-8 (MAIN FAN MTR) (30A) in the under-hood fuse/relay box • Poor ground at G302 (see page 22-30) • Poor or loose connections at the terminals

(cont'd)

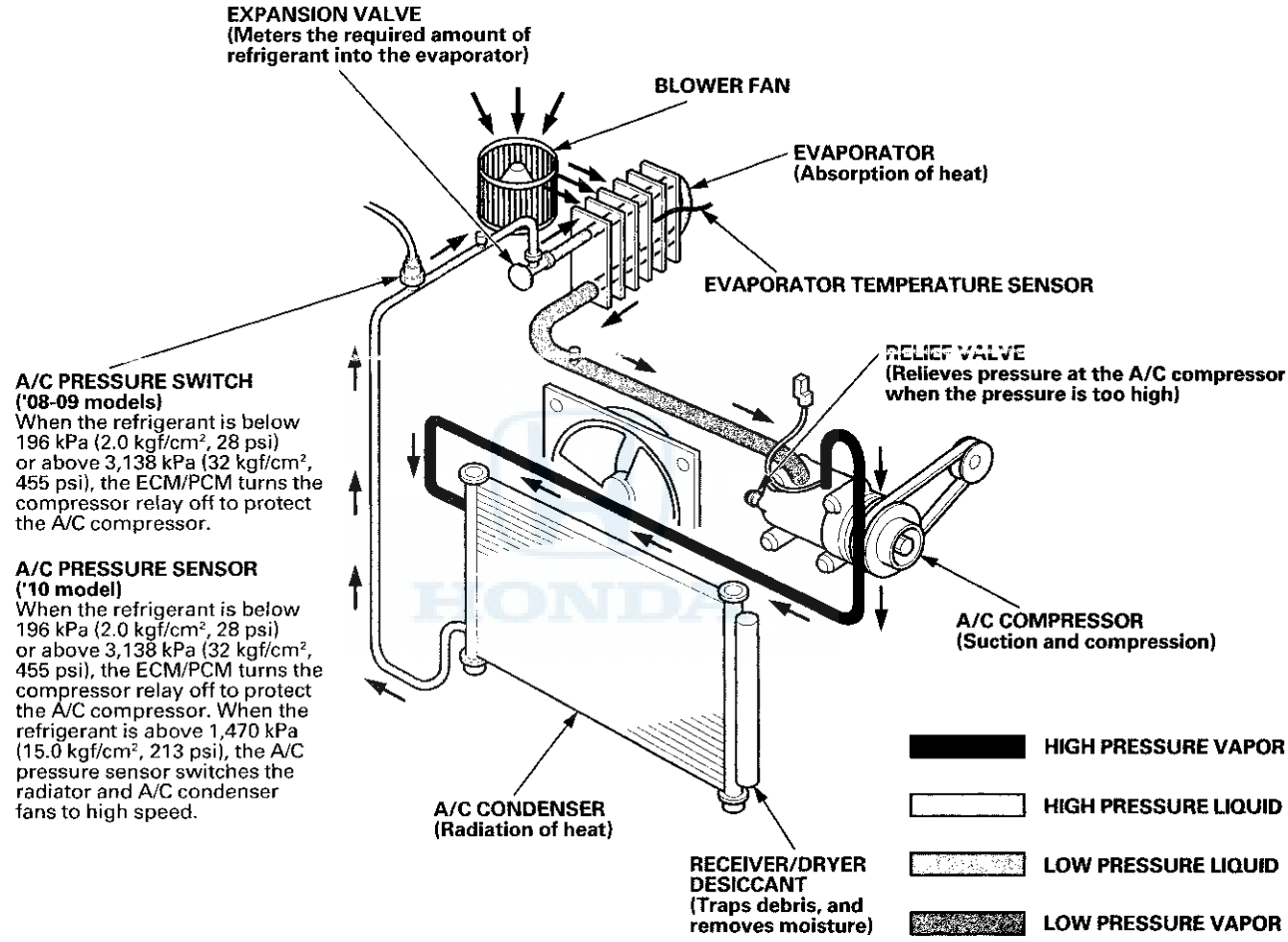
Symptom Troubleshooting Index (cont'd)

Symptom	Diagnostic procedure	Also check for
The condenser/radiator fans do not run at high speed, but do run at low speed ('10 model)	• Probable cause: Malfunction in the fan(s) high speed circuit Do the following troubleshooting as needed: A/C condenser fan high speed circuit troubleshooting (see page 21-51) Radiator fan high speed circuit troubleshooting (see page 10-26) • Probable cause: A/C pressure sensor circuit malfunction Do the A/C pressure sensor troubleshooting: A/C pressure sensor circuit low voltage (see page 11-282), A/C pressure sensor circuit high voltage (see page 11-284) NOTE: The A/C pressure sensor can malfunction without setting a DTC	• HVAC DTCs (see page 21-9) • Powertrain DTCs (see page 11-3) • Blown fuses No. 3-8 (MAIN FAN MTR) (30A) and No. 3-6 (SUB FAN MTR) (30A) in the under-hood fuse/relay box • Poor ground at G301 (see page 22-28) and G302 (see page 22-30) • Poor or loose connections at the terminals
The A/C compressor clutch cycles rapidly on and off	Probable cause: A/C system is very low on refrigerant, indicating a possible leak Do the refrigerant leak check (see page 21-82), and repair any leaks. Replace the receiver/dryer (see page 21-79), then recharge the system to specifications (see page 21-81)	• HVAC DTCs (see page 21-9) • If there is no leak and the refrigerant level is normal, do the A/C compressor clutch circuit troubleshooting (see page 21-52), and look for an intermittent problem
Warm air comes out of the vents, and the high pressure liquid line is very hot	Probable causes: The A/C system is overcharged (too much refrigerant), or the condenser is malfunctioning Recover A/C refrigerant (see page 21-80), then check the A/C condenser for restrictions or poor airflow. Repair as needed. Recharge the system to specifications (see page 21-81)	• Incorrect tension or abnormal wear on the drive belt. Replace the belt and/or the belt tensioner as needed • Proper operation of the A/C condenser/radiator fans. Repair as needed • Signs of an overheated engine. Repair as needed
Warm air comes out of the vents. The suction line is cool to warm, and the discharge line is warm to hot	Probable cause: A/C system is low on refrigerant, indicating a possible leak Do the refrigerant leak check (see page 21-82), and repair any leaks. Recharge the system to specifications (see page 21-81)	• HVAC DTCs (see page 21-9) • Add refrigerant oil depending on the part you replaced (see page 21-6)
Warm air comes out of the vents. The suction line is cool to warm, the discharge line is warm to hot, and there is no frost on the expansion valve	Probable cause: Excessive air and/or moisture in the system, indicating a possible leak Do the refrigerant leak check (see page 21-82), and repair any leaks. Replace the receiver/dryer (see page 21-79), then recharge the system to specifications (see page 21-81)	• HVAC DTCs (see page 21-9) • Check the amount of refrigerant oil in the system (see page 21-6)
Warm air comes out of the vents. The liquid line or the condenser outlet is abnormally cool, or there is frost or condensation on the receiver/dryer	Probable cause: A restriction in the high-pressure side of the system Recover A/C refrigerant (see page 21-80), then check the liquid line, the receiver/dryer, and the condenser for restrictions. Repair as needed. Recharge the system to specifications (see page 21-81)	HVAC DTCs (see page 21-9)
There is heavy frost or condensation on the expansion valve, and frost on the suction line	Probable cause: A restriction in the low-pressure side of the system Recover A/C refrigerant (see page 21-80), then check the suction line, and the expansion valve for restrictions. Repair as needed. Recharge the system to specifications (see page 21-81)	HVAC DTCs (see page 21-9)
Warm air comes out of the vents, but A/C command is normal (A/C switch and clutch are on)	Probable cause: A/C compressor failure Do the A/C system test (see page 21-89), and correct any problems. If necessary, replace the A/C compressor (see page 21-72)	• HVAC DTCs (see page 21-9) • Add refrigerant oil depending on the part you replaced (see page 21-6).
Driver's and passenger's side vent temperatures vary by more than 20 °F (11 °C)	Probable causes: The recirculation control door or the air mix door is malfunctioning Do the following troubleshooting: • Recirculation control motor circuit troubleshooting (see page 21-44) • Air mix control motor test (see page 21-59)	• HVAC DTCs (see page 21-9) • Poor or loose connections at the terminals

Symptom	Diagnostic procedure	Also check for
Warm air comes out of the vents, and there is frost on the expansion valve	Probable cause: The expansion valve is stuck closed Replace the expansion valve (see page 21-69)	• HVAC DTCs (see page 21-9) • Check the old expansion valve for contamination. If contaminants are found, replace the A/C system component (see page 21-7) that caused the contamination
The temperature of the liquid line is the same on both sides of the expansion valve, and the evaporator coil or suction line has heavy condensation	Probable cause: The expansion valve is stuck open Replace the expansion valve (see page 21-69)	• HVAC DTCs (see page 21-9) • Check the old expansion valve for contamination. If contaminants are found, replace the A/C system component (see page 21-7) that caused the contamination
Insufficient heating	1. Check the coolant level (see page 10-6) 2. Check the radiator cap (see page 10-3) 3. Check the coolant temperature during normal operation 4. Check the heater core inlet hose temperature: • If it is COLD, check for restrictions in the hose, a damaged or leaking thermostat, or a damaged or leaking water pump • If it is HOT, check for restrictions in the heater core. Back flush or replace the heater core 5. Do the air mix control motor test (see page 21-59) 6. Check the blower motor unit for obstructions 7. Check for air leaks around the ducts and vents	• HVAC DTCs (see page 21-9) • Damaged cylinder head gasket

System Description

The air conditioning (A/C) system removes heat from the passenger compartment by transferring heat from the ambient air to the evaporator. The A/C system refrigerant expands in the evaporator, and the evaporator becomes very cold and absorbs the heat from the ambient air. The blower fan pushes air across the evaporator where the heat is absorbed, and then it blows the cool air into the passenger compartment.



This vehicle uses HFC-134a (R-134a) refrigerant, which does not contain chlorofluorocarbons. Pay attention to the following service items:

- Do not mix refrigerants CFC-12 (R-12) and HFC-134a (R-134a). They are not compatible.
- Use only the recommended polyalkyleneglycol (PAG) refrigerant oil (DENSO ND-OIL 8) designed for the R-134a A/C compressor. Intermixing the recommended (PAG) refrigerant oil with any other refrigerant oil will result in A/C compressor failure.
- All A/C system parts (A/C compressor, discharge line, suction line, evaporator, A/C condenser, receiver/dryer, expansion valve, O-rings for joints) are designed for refrigerant R-134a. Do not exchange with R-12 parts.
- Use a halogen gas leak detector designed for refrigerant R-134a.
- R-12 and R-134a refrigerant servicing equipment are not interchangeable. Use only a recovery/recycling/charging station that is U.L.-listed and is certified to meet the requirements of SAE J2210 to service the R-134a air conditioning systems.
- Always recover refrigerant R-134a with an approved recovery/recycling/charging station before disconnecting any A/C fitting.

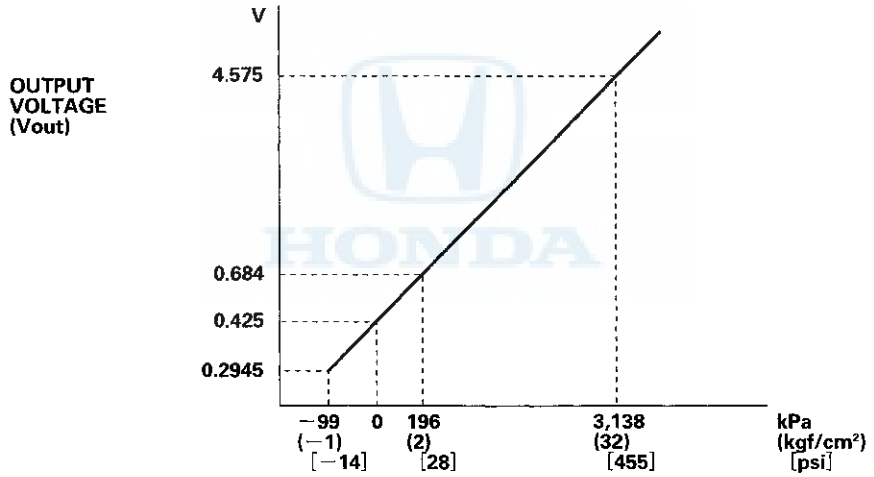
A/C Pressure Sensor ('10 Model)

The A/C pressure sensor converts A/C pressure into electrical signals to the ECM/PCM.

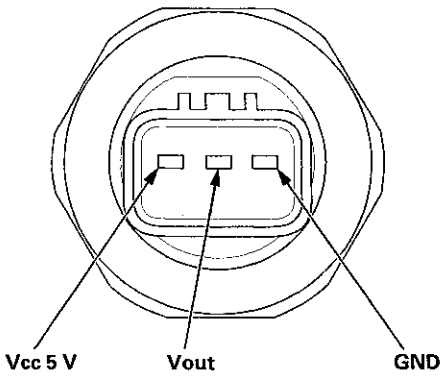
A/C System Pressure	Sensor Output Voltage (V out)	System Operation
Abnormally low pressure: Below 196 kPa (2.0 kgf/cm², 28 psi)	Below 0.685 V	The ECM/PCM disengages the A/C compressor clutch. The radiator and A/C condenser fans operate based on engine coolant temperature.
Normal operating pressure: • Above 196 kPa (2.0 kgf/cm², 28 psi) • Below 1,470 kPa (15.0 kgf/cm², 213 psi)	0.686 V to 1.944 V	The ECM/PCM cycles the A/C compressor clutch based on cooling demand. The radiator and A/C condenser fans operate at low speed unless the engine coolant temperature exceeds 206 °F (97 °C)
High operating pressure: • Above 1,470 kPa (15.0 kgf/cm², 213 psi) • Below 3,138 kPa (32 kgf/cm², 455 psi)	1.945 V to 4.575 V	The ECM/PCM cycles the A/C compressor clutch based on cooling demand. The radiator and A/C condenser fans operate at high speed.
Abnormally high pressure: More than 3,138 kPa (32 kgf/cm², 455 psi)	Above 4.575 V	The ECM/PCM disengages the A/C compressor clutch. The radiator and A/C condenser fans operate based on engine coolant temperature.

The response of the A/C pressure sensor is shown in the graph.

NOTE: When the refrigerant is below 196 kPa (2.0 kgf/cm², 28 psi) or above 3,138 kPa (32 kgf/cm², 455 psi), the ECM/PCM turns the A/C compressor relay off to protect the A/C compressor. When the refrigerant pressure is above 1,470 kPa (15.0 kgf/cm², 213 psi), the ECM/PCM switches the radiator and A/C condenser fans to high speed.



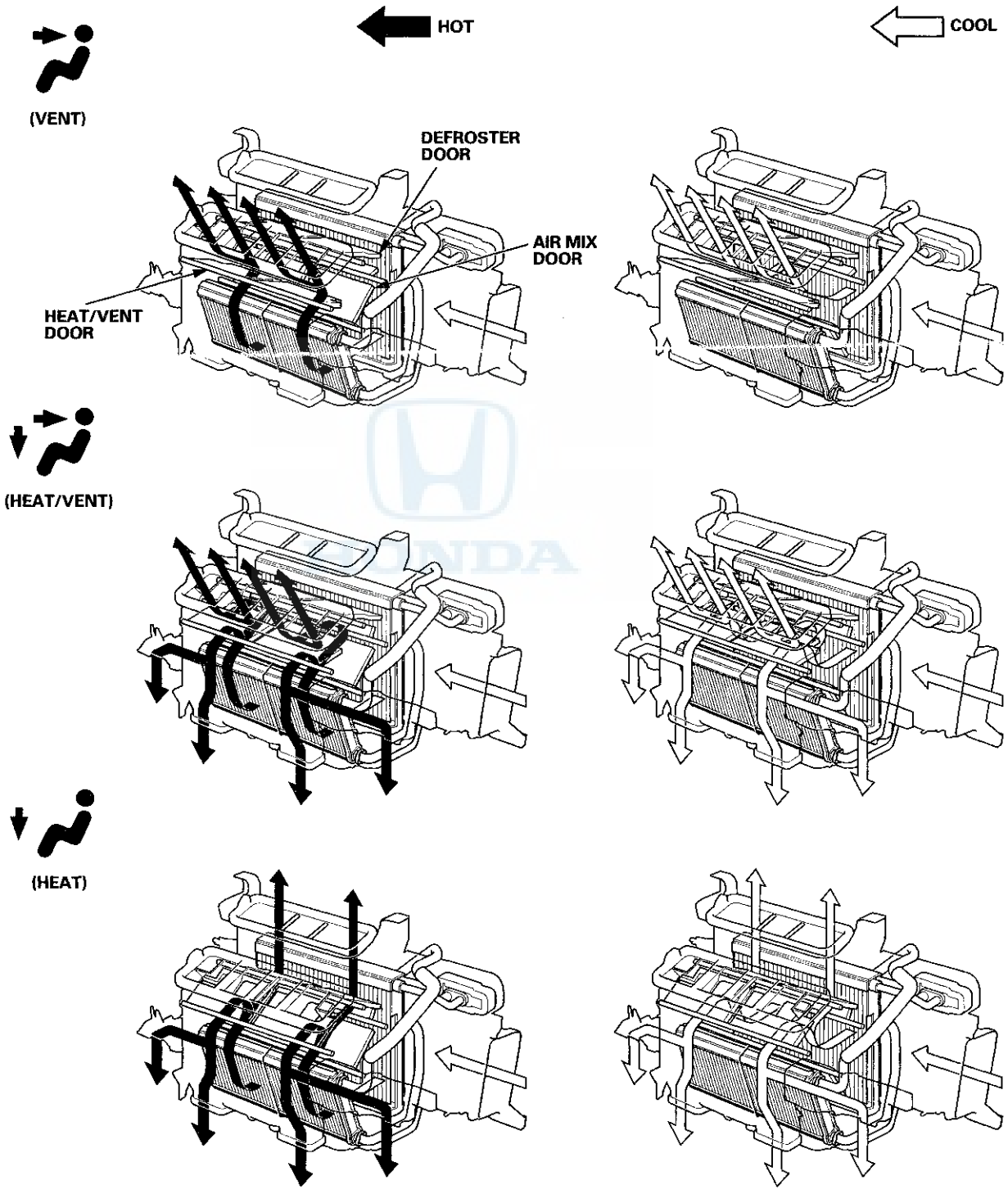
A/C PRESSURE SENSOR

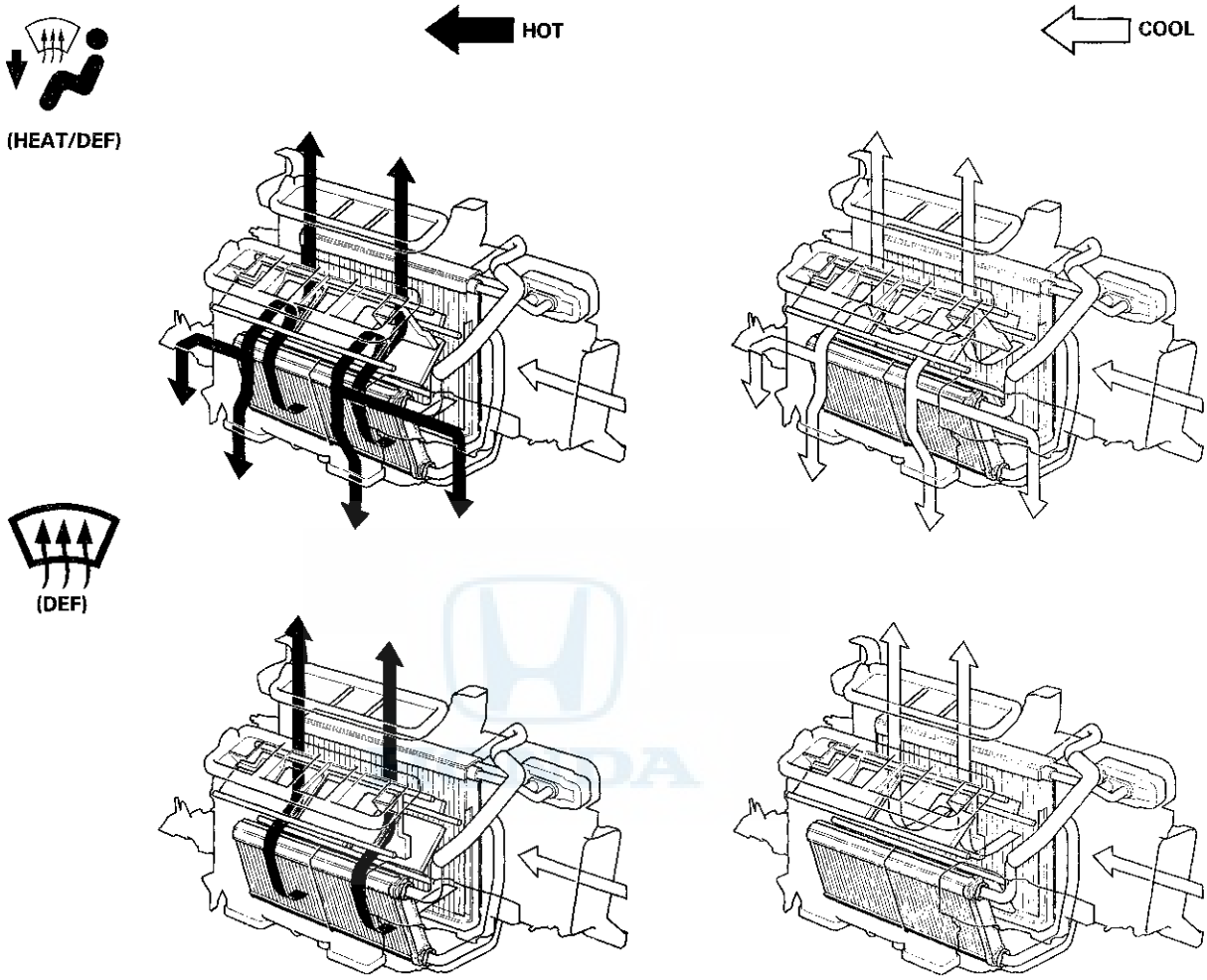


(cont'd)

System Description (cont'd)

Heating/Air Conditioning Door Positions





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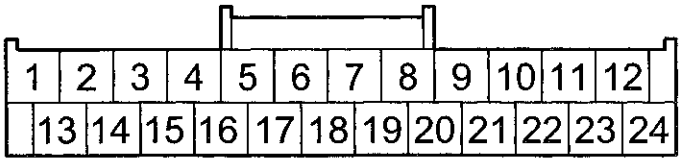
System Description (cont'd)

HVAC Control Unit Inputs and Outputs

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Cavity	Wire color	Terminal name	Description	Signal
1*2	GRN	MODE 4	Inputs mode motor signal	With ignition switch ON (II): less than 0.5 V or about 5.0 V (depending on mode control motor position)
2*2	BLU	MODE 3	Inputs mode motor signal	With ignition switch ON (II): less than 0.5 V or about 5.0 V (depending on mode control motor position)
3*2	PUR	MODE 2	Inputs mode motor signal	With ignition switch ON (II): less than 0.5 V or about 5.0 V (depending on mode control motor position)
4*2	ORN	MODE 1	Inputs mode motor signal	With ignition switch ON (II): less than 0.5 V or about 5.0 V (depending on mode control motor position)
5	PNK	AIR MIX HOT	Drives air mix control motor HOT side	With ignition switch ON (II) and air mix control motor change to the max COOL position: less than 0.5 V at several seconds
6	LT BLU	AIR MIX COOL	Drives air mix control motor COOL side	With ignition switch ON (II) and air mix control motor change to the max HOT position: less than 0.5 V at several seconds
7	GRN	M-DEF	Outputs mode control motor DEF side	With ignition switch ON (II) and mode control motor change to the VENT position: less than 0.5 V at several seconds
8	WHT	M-VENT	Outputs mode control motor VENT side	With ignition switch ON (II) and mode control motor change to the DEF position: less than 0.5 V at several seconds
9	ORN	M-REC	Drives recirculation control motor RECIRCULATE side	With ignition switch ON (II) and recirculation control motor change to the FRESH position: connected to ground at several seconds

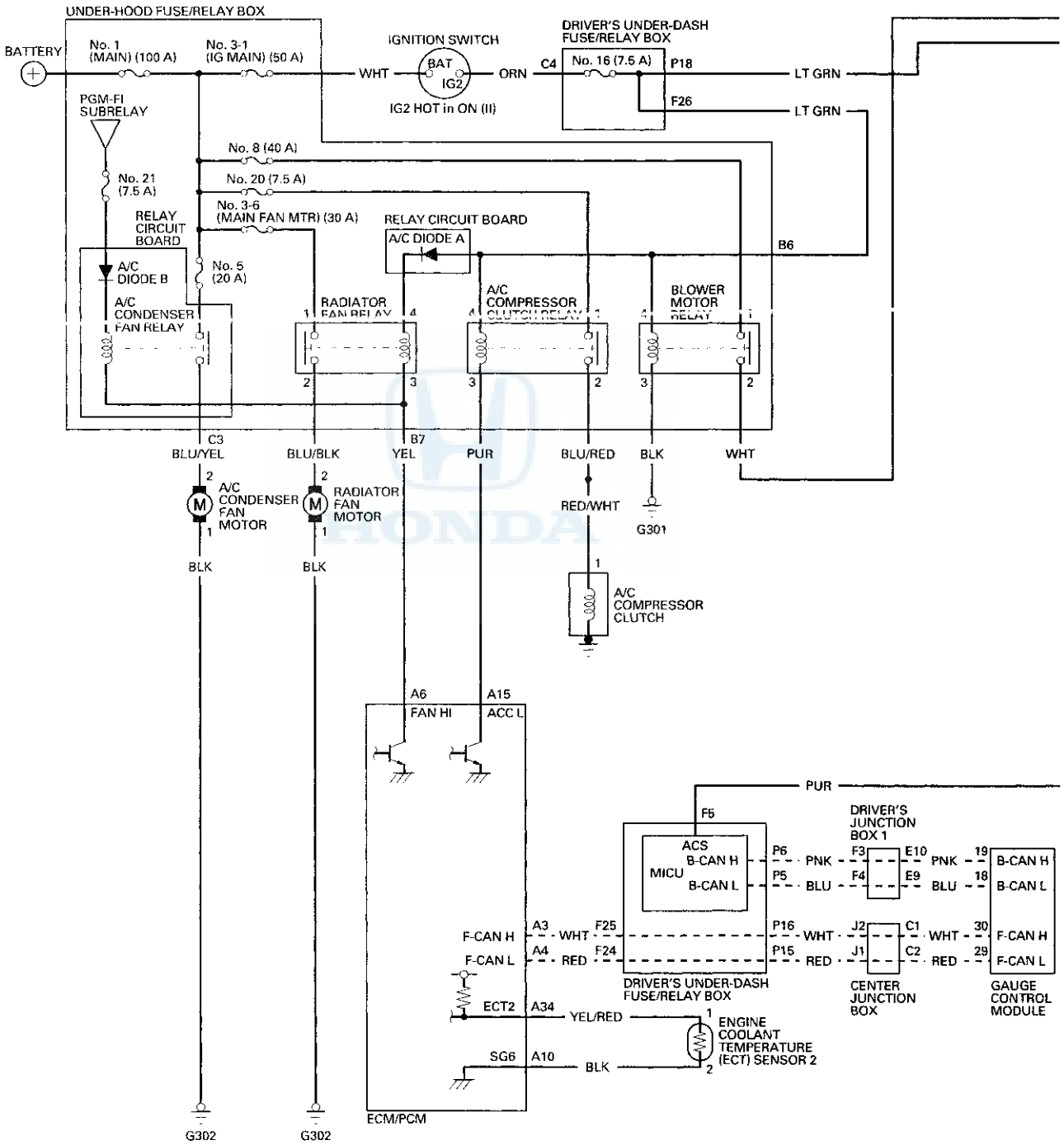
*1: '08-09 models 4-door with M/T, 2-door, and '10 model with M/T
*2: '08-09 models 4-door with A/T and '10 model with A/T

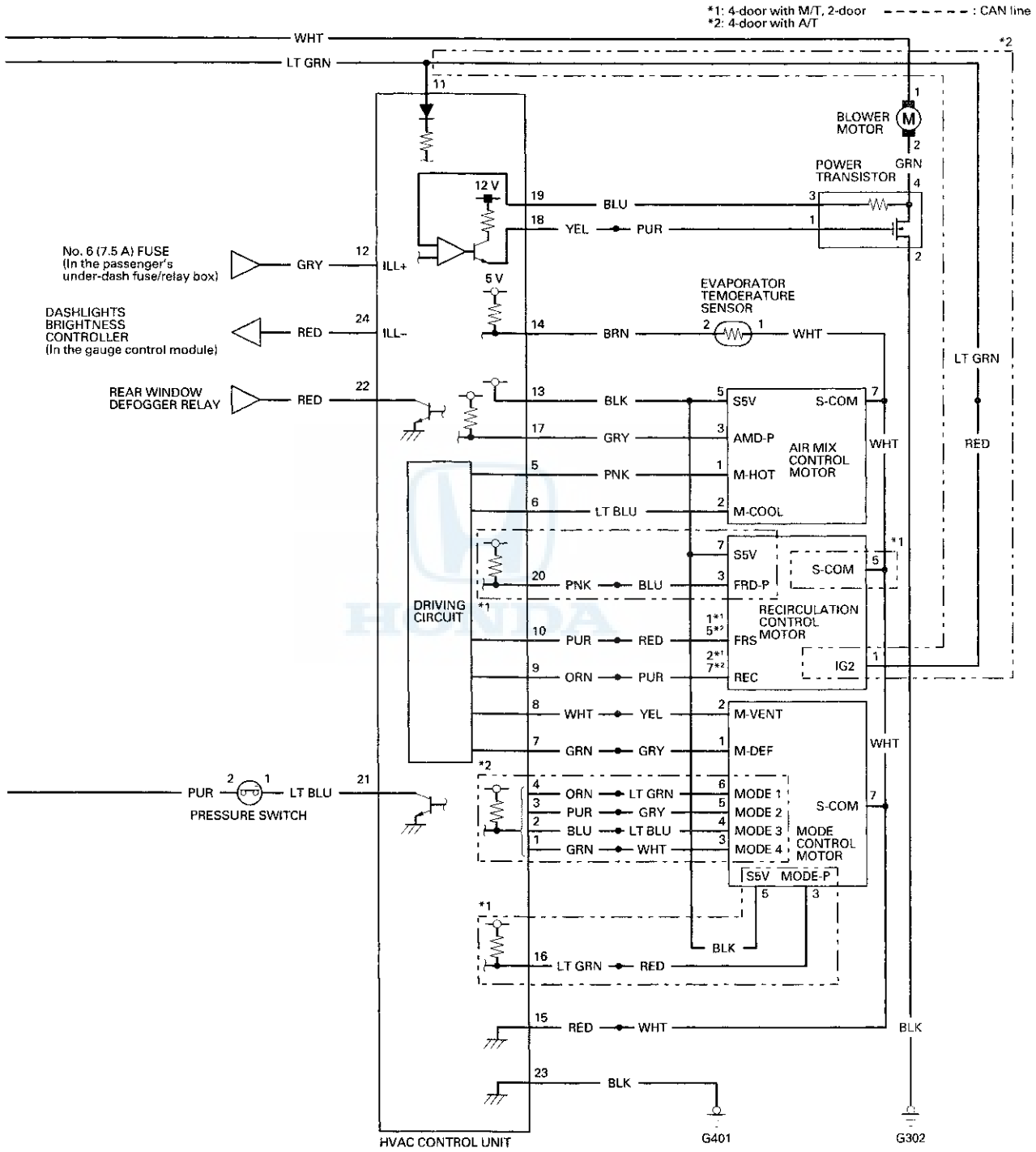
Cavity	Wire color	Terminal name	Description	Signal
10	PUR	M-FRS	Drives recirculation control motor FRESH side	With ignition switch ON (II) and recirculation control motor change to the RECIRCU position: connected to ground at several seconds
11	LT GRN	IG2	IG2 power source	With ignition switch ON (II): battery voltage
12	GRY	SMALL	Inputs voltage for illumination	With combination light switch ON: battery voltage
13	BLK	S5V	Output sensor 5 V	With ignition switch ON (II): about 5.0 V
14	BRN	Teva	Detects evaporator temperature sensor signal	With ignition switch ON (II): about 1.0−4.0 V (depending on evaporator temperature)
15	RED	SENS-COM	Sensor ground	Less than 0.5 V at all times
16*1	LT GRN	MDD-P	Outputs mode control motor potentiometer signal	——
17	GRY	AMD-P	Outputs air mix control motor potentiometer signal	With ignition switch ON (II): about 0.5−4.5 V (depending on air mix motor position)
18	YEL	BLW-G	Outputs power transistor gate voltage	With ignition switch ON (II) and fan control switch OFF: less than 0.5 V With ignition switch ON (II) and fan control switch ON: about 4.0 V battery voltage (depending on blower motor control)
19	BLU	BLW-V	Feedback signal of power transistor drain voltage	With ignition switch ON (II): about 0 V battery voltage (depending on blower motor speed)
20*1	PNK	RFD-P	Outputs recirculation control motor potentiometer signal	——
21	LT BLU	ACS	Outputs A/C on/off signal	With ignition switch ON (II), A/C pressure switch ON, and A/C compressor clutch ON: less than 0.5 V With ignition switch ON (II), A/C pressure switch ON, and A/C compressor clutch OFF: battery voltage
22	RED	RrDEF Ry	Drives rear window defogger relay	——
23	BLK	GND	Ground for HVAC control unit (G401)	Less than 0.5 V at all times
24	RED	ILL -	Detects illumination control signal	With illumination switch ON: changed voltage (depending on dash light brightness controller)

*1: '08-09 models 4-door with M/T, 2-door, and '10 model with M/T
*2: '08-09 models 4-door with A/T and '10 model with A/T

Circuit Diagram

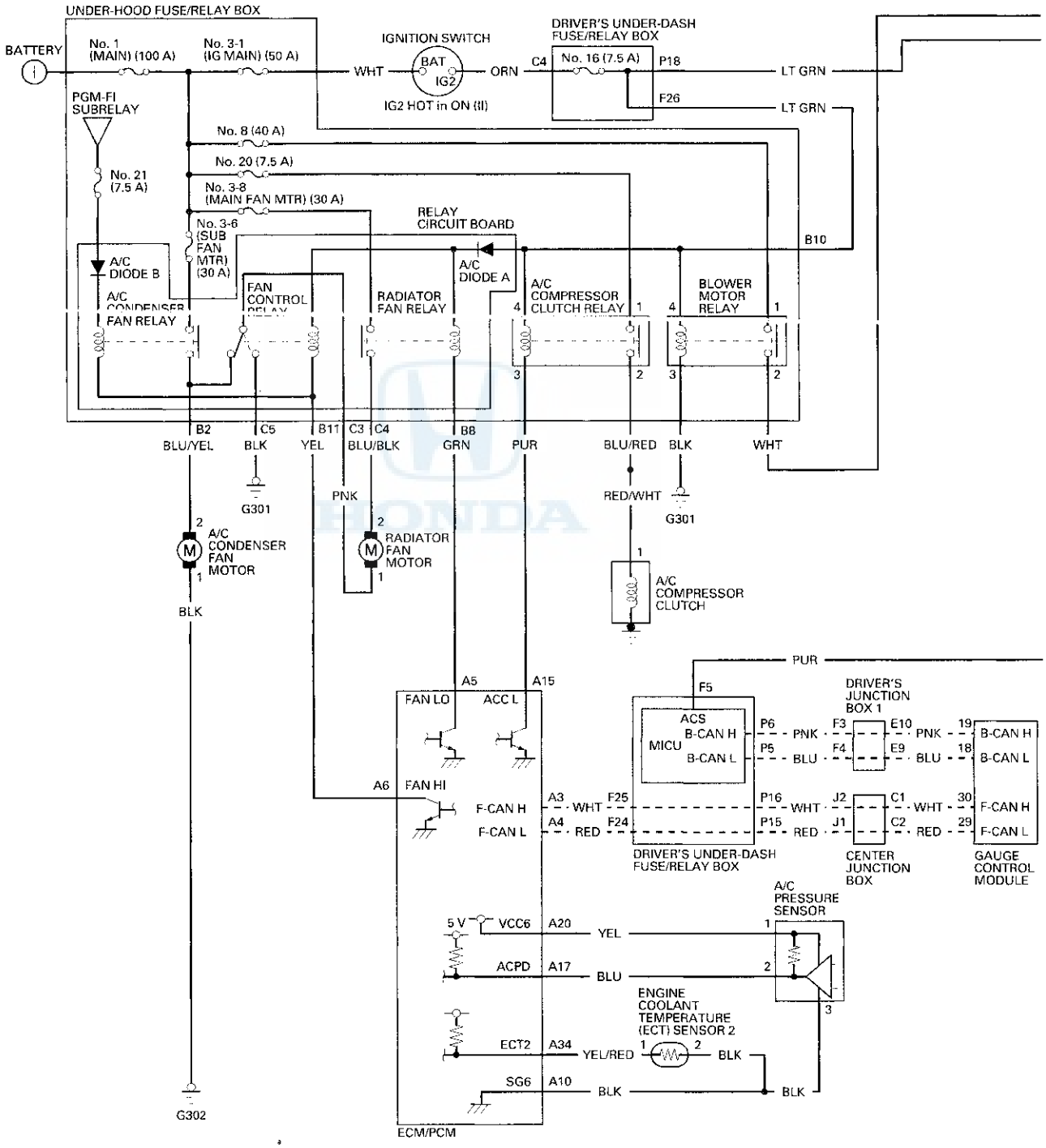
'08-09 Models

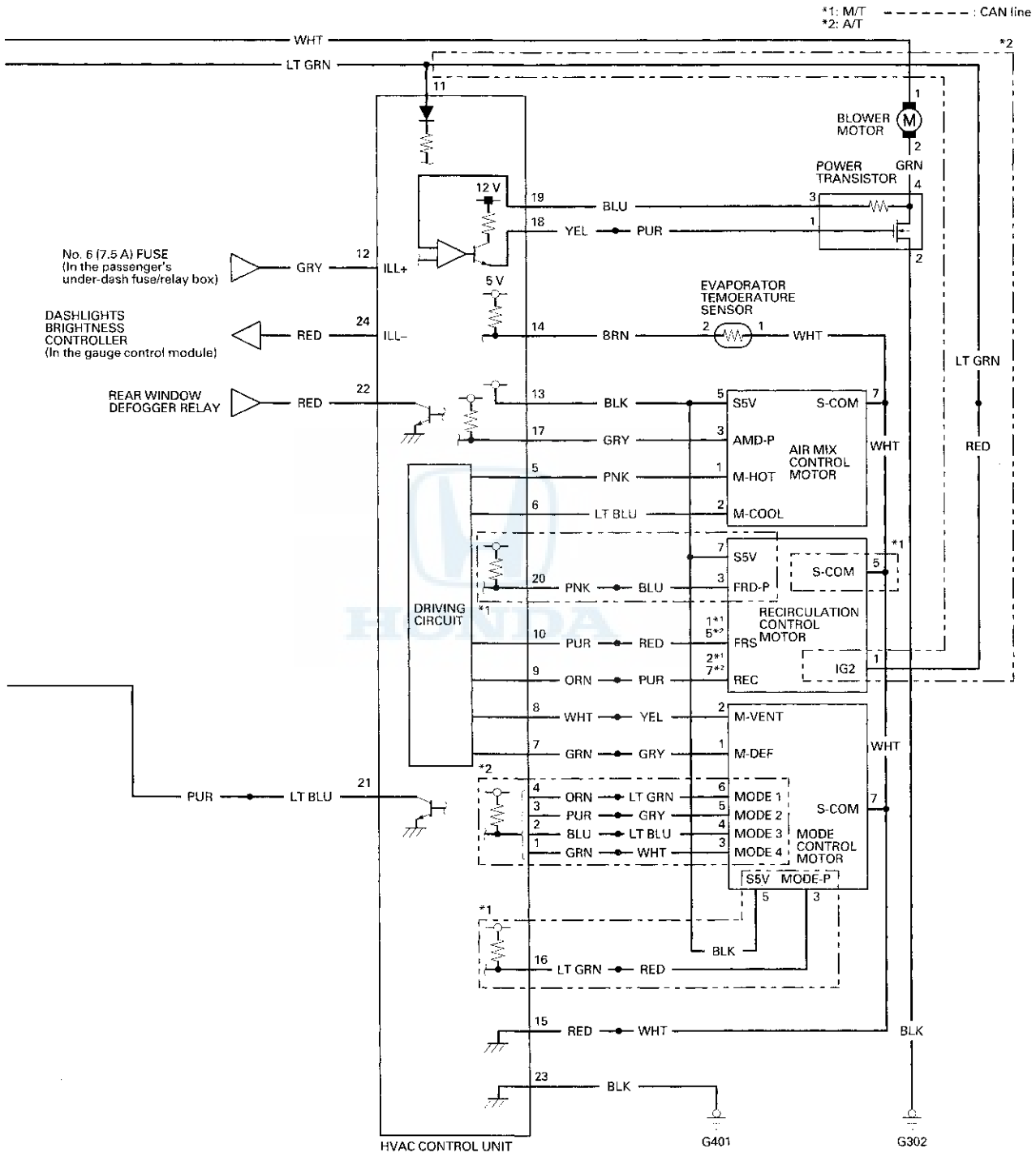



*1: 4-door with M/T, 2-door
*2: 4-door with A/T
: CAN line
WHT
LT GRN
BLOWER MOTOR
POWER TRANSISTOR
GRN
12 V
BLU
YEL
PUR
No. 6 (7.5 A) FUSE
(In the passenger's under-dash fuse/relay box)
GRY
ILL+
5 V
DASHLIGHTS BRIGHTNESS CONTROLLER
(In the gauge control module)
RED
ILL-
EVAPORATOR TEMOERATURE SENSOR
BRN
WHT
REAR WINDOW DEFOGGER RELAY
BLK
GRY
PNK
LT BLU
S5V
S-COM
AMD-P
M-HOT
M-COOL
AIR MIX CONTROL MOTOR
DRIVING CIRCUIT
FRD-P
RECIRCULATION CONTROL MOTOR
FRS
REC
IG2
M-VENT
M-DEF
MODE 1
MODE 2
MODE 3
MODE 4
MODE CONTROL MOTOR
MODE-P
ORN
PUR
RED
LT GRN
PRESSURE SWITCH
HVAC CONTROL UNIT
G401
G302

Circuit Diagram (cont'd)

'10 Model




*1: M/T
*2: A/T
: CAN line
WHT
LT GRN
*2
11
BLOWER MOTOR
POWER TRANSISTOR
GRN
12 V
19
BLU
18
YEL
PUR
No. 6 (7.5 A) FUSE
(In the passenger's under-dash fuse/relay box)
GRY
12
ILL+
5 V
DASHLIGHTS BRIGHTNESS CONTROLLER
(In the gauge control module)
RED
24
ILL–
14
BRN
EVAPORATOR TEMOERATURE SENSOR
WHT
LT GRN
REAR WINDOW DEFOGGER RELAY
RED
22
13
BLK
S5V
S-COM
17
GRY
AMD-P
AIR MIX CONTROL MOTOR
WHT
RED
5
PNK
M-HOT
6
LT BLU
M-COOL
DRIVING CIRCUIT
*1
20
PNK
BLU
FRD-P
RECIRCULATION CONTROL MOTOR
10
PUR
RED
FRS
9
ORN
PUR
REC
IG2
8
WHT
YEL
M-VENT
7
GRN
GRY
M-DEF
WHT
PUR
LT BLU
21
*2
4
ORN
LT GRN
3
PUR
GRY
2
BLU
LT BLU
1
GRN
WHT
MODE 1
MODE 2
MODE 3
MODE 4
S-COM
MODE CONTROL MOTOR
S5V
MODE-P
BLK
16
LT GRN
RED
15
RED
WHT
BLK
23
BLK
HVAC CONTROL UNIT
G401
G302

DTC Troubleshooting

DTC indicator 1: An Open in the Air Mix Control Motor Circuit

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Do the self-diagnostic function with the HVAC control unit (see page 21-9).
3. Check for DTCs.

   Is DTC 1 indicated?

   YES–Go to step 4.

   NO–Intermittent failure. Check for loose wires or poor connections on the air mix control motor circuit.■
4. Turn the ignition switch to LOCK (0).
5. Test the air mix control motor (see page 21-59).

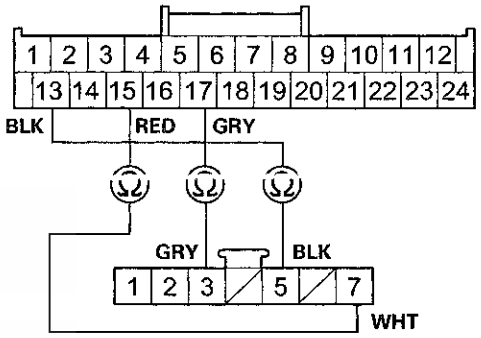
   Is the air mix control motor OK?

   YES–Go to step 6.

   NO–Replace the air mix control motor (see page 21-60).■
6. Disconnect the air mix control motor 7P connector.
7. Disconnect the HVAC control unit 24P connector.
8. Check for continuity between the following terminals of the HVAC control unit 24P connector and the air mix control motor 7P connector.

24P:	**7P:**
No. 13	No. 5
No. 15	No. 7
No. 17	No. 3

HVAC CONTROL UNIT 24P CONNECTOR
Wire side of female terminals



AIR MIX CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

Is there continuity?

YES–Check for loose wires or poor connections at the HVAC control unit 24P connector, and at the air mix control motor 7P connector. If the connections are good, substitute a known-good HVAC control unit and recheck. If the symptom/indication goes away, replace the original HVAC control unit (see page 21-65).■

NO–Repair an open in the wire(s) between the HVAC control unit and the air mix control motor.■

DTC indicator 2: A Short in the Air Mix Control Motor Circuit

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Do the self-diagnostic function with the HVAC control unit (see page 21-9).
3. Check for DTCs.

   Is DTC 2 indicated?

   YES–Go to step 4.

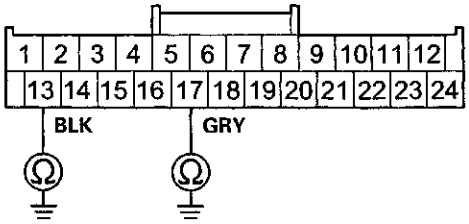
   NO–Intermittent failure. Check for loose wires or poor connections on the air mix control motor circuit.■
4. Turn the ignition switch to LOCK (0).
5. Test the air mix control motor (see page 21-59).

   Is the air mix control motor OK?

   YES–Go to step 6.

   NO–Replace the air mix control motor (see page 21-60).■
6. Disconnect the air mix control motor 7P connector.
7. Disconnect the HVAC control unit 24P connector.
8. Check for continuity between body ground and HVAC control unit 24P connector terminals No. 13 and No. 17 individually.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

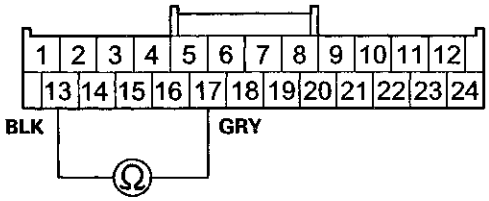
Is there continuity?

YES–Repair a short to body ground in the wire(s) between the HVAC control unit and the air mix control motor.■

NO–Go to step 9.

9. Check for continuity between HVAC control unit 24P connector terminals No. 13 and No. 17.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

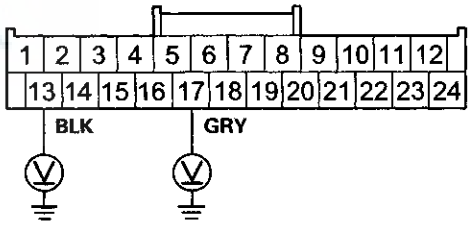
Is there continuity?

YES–Repair a short in the wires.■

NO–Go to step 10.

10. Turn the ignition switch to ON (II), and check the same terminals for voltage between each terminal and body ground.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Is there any voltage?

YES–Repair a short to power in the wire(s) between the HVAC control unit and the air mix control motor. This short may also damage HVAC control unit. Repair a short to power before replacing the HVAC control unit.■

NO–Substitute a known-good HVAC control unit and recheck. If the symptom/indication goes away, and the air mix control motor runs, replace the original HVAC control unit (see page 21-65).■

DTC Troubleshooting (cont'd)

DTC indicator 3: A Problem in the Air Mix Control Linkage, Door, or Motor Circuit

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Do the self-diagnostic function with the HVAC control unit (see page 21-9).
3. Check for DTCs.

   Is DTC 3 indicated?

   YES–Go to step 4.

   NO–Intermittent failure. Check for loose wires or poor connections on the air mix control motor circuit.■
4. Turn the ignition switch to LOCK (0).
5. Test the air mix control motor (see page 21-59).

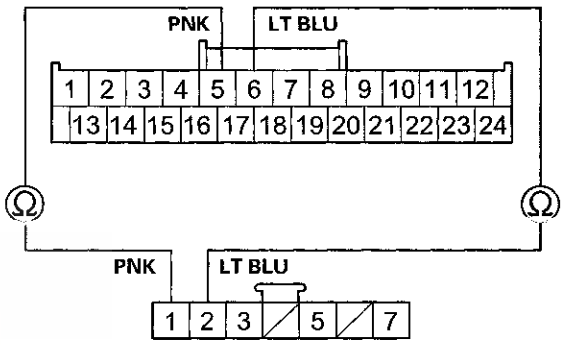
   Is the air mix control motor OK?

   YES–Go to step 6.

   NO–Replace the air mix control motor (see page 21-60), or repair the air mix control linkage or door.■
6. Disconnect the air mix control motor 7P connector.
7. Disconnect the HVAC control unit 24P connector.
8. Check for continuity between the following terminals of the HVAC control unit 24P connector and the air mix control motor 7P connector.

24P:	7P:
No. 5	No. 1
No. 6	No. 2

HVAC CONTROL UNIT 24P CONNECTOR
Wire side of female terminals



AIR MIX CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

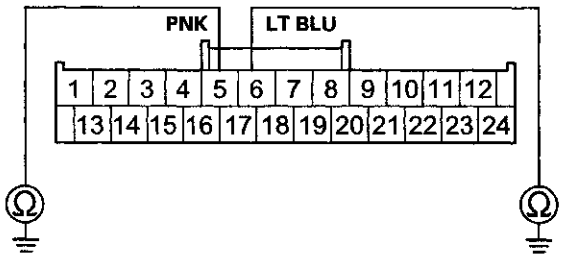
Is there continuity?

YES–Go to step 9.

NO–Repair an open in the wire(s) between the HVAC control unit and the air mix control motor.■

9. Check for continuity between body ground and HVAC control unit 24P connector terminals No. 5 and No. 6 individually.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–Repair a short to body ground in the wire(s) between the HVAC control unit and the air mix control motor.■

NO–Substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit (see page 21-65).■

DTC indicator 4: An Open in the Mode Control Motor Circuit

'08-10 models with M/T and '08-09 models 2-door with A/T

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Do the self-diagnostic function with the HVAC control unit (see page 21-9).
3. Check for DTCs.

   Is DTC 4 indicated?

   YES–Go to step 4.

   NO–Intermittent failure. Check for loose wires or poor connections on the mode control motor circuit.■
4. Turn the ignition switch to LOCK (0).
5. Test the mode control motor (see page 21-61).

   Is the mode control motor OK?

   YES–Go to step 6.

   NO–Replace the mode control motor (see page 21-62).■
6. Disconnect the mode control motor 7P connector.
7. Disconnect the HVAC control unit 24P connector.

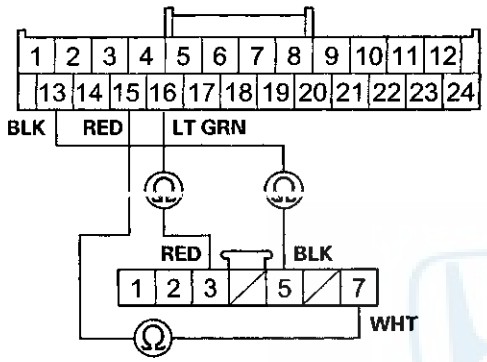
(cont'd)

DTC Troubleshooting (cont'd)

8. Check for continuity between the following terminals of the HVAC control unit 24P connector and the mode control motor 7P connector.

24P:	7P:
No. 13	No. 5
No. 15	No. 7
No. 16	No. 3

HVAC CONTROL UNIT 24P CONNECTOR
Wire side of female terminals



MODE CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

Is there continuity?

YES–Check for loose wires or poor connections at the HVAC control unit 24P connector, and at the mode control motor 7P connector. If the connections are good, substitute a known-good HVAC control unit and recheck. If the symptom/indication goes away, replace the original HVAC control unit (see page 21-65).■

NO–Repair an open in the wire(s) between the HVAC control unit and the mode control motor.■

DTC indicator 5: A Short in the Mode Control Motor Circuit

'08-10 models with M/T and '08-09 models 2-door with A/T

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Do the self-diagnostic function with the HVAC control unit (see page 21-9).
3. Check for DTCs.

   Is DTC 5 indicated?

   YES–Go to step 4.

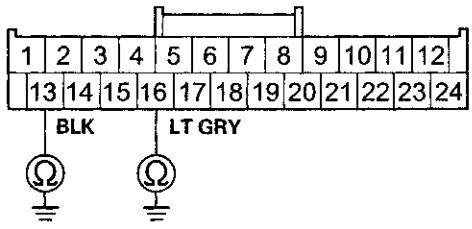
   NO–Intermittent failure. Check for loose wires or poor connections on the mode control motor circuit.■
4. Turn the ignition switch to LOCK (0).
5. Test the mode control motor (see page 21-61).

   Is the mode control motor OK?

   YES–Go to step 6.

   NO–Replace the mode control motor (see page 21-62).■
6. Disconnect the mode control motor 7P connector.
7. Disconnect the HVAC control unit 24P connector.
8. Check for continuity between body ground and HVAC control unit 24P connector terminals No. 13 and No. 16 individually.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

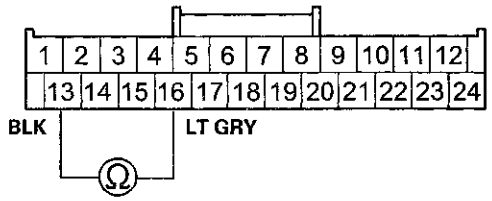
Is there continuity?

YES–Repair a short to body ground in the wire(s) between the HVAC control unit and the mode control motor.■

NO–Go to step 9.

9. Check for continuity between HVAC control unit 24P connector terminals No. 13 and No. 16.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

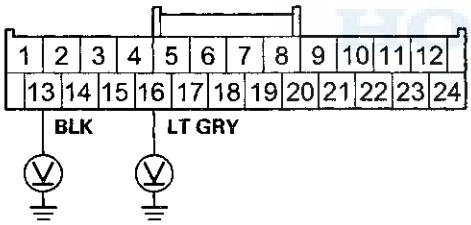
Is there continuity?

YES–Repair a short in the wires.■

NO–Go to step 10.

10. Turn the ignition switch to ON (II), and check the same terminals for voltage between each terminal and body ground.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Is there any voltage?

YES–Repair a short to power in the wire(s) between the HVAC control unit and the mode control motor. This short may also damage the HVAC control unit. Repair a short to power before replacing the HVAC control unit.■

NO–Substitute a known-good HVAC control unit and recheck. If the symptom/indication goes away and the mode control motor runs, replace the original HVAC control unit (see page 21-65).■

DTC indicator 6: A Problem in the Mode Control Linkage, Door, or Motor Circuit

'08-10 models with M/T and '08-09 models 2-door with A/T

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Do the self-diagnostic function with the HVAC control unit (see page 21-9).
3. Check for DTCs.

   Is DTC 6 indicated?

   YES–Go to step 4.

   NO–Intermittent failure. Check for loose wires or poor connections on the mode control motor circuit.■
4. Turn the ignition switch to LOCK (0).
5. Test the mode control motor (see page 21-61).

   Is the mode control motor OK?

   YES–Go to step 6.

   NO–Replace an the mode control motor (see page 21-62), or repair the mode control linkage or door.■
6. Disconnect the mode control motor 7P connector.
7. Disconnect the HVAC control unit 24P connector.

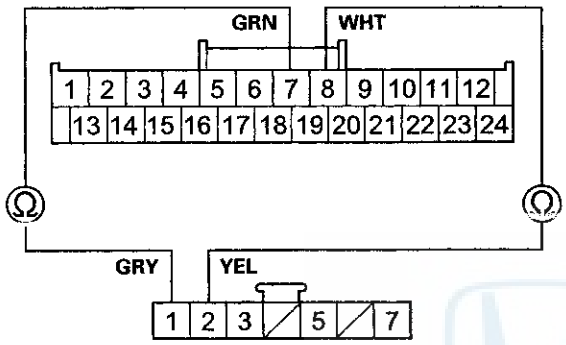
(cont'd)

DTC Troubleshooting (cont'd)

8. Check for continuity between the following terminals of the HVAC control unit 24P connector and the mode control motor 7P connector.

24P:	7P:
No. 7	No. 1
No. 8	No. 2

HVAC CONTROL UNIT 24P CONNECTOR
Wire side of female terminals



MODE CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

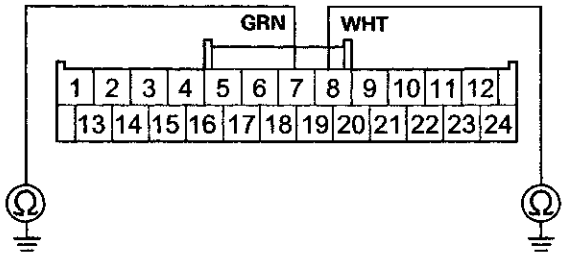
Is there continuity?

YES–Go to step 9.

NO–Repair an open in the wire(s) between the HVAC control unit and the mode control motor.■

9. Check for continuity between body ground and HVAC control unit 24P connector terminals No. 7 and No. 8 individually.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–Repair a short to body ground in the wire(s) between the HVAC control unit and the mode control motor.■

NO–Substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit (see page 21-65).■

DTC indicator 7: An Open in the Recirculation Control Motor Circuit

'08-10 models with M/T and '08-09 models 2-door with A/T

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Do the self-diagnostic function with the HVAC control unit (see page 21-9).
3. Check for DTCs.

   Is DTC 7 indicated?

   YES–Go to step 4.

   NO–Intermittent failure. Check for loose wires or poor connections on the recirculation control motor circuit.■
4. Turn the ignition switch to LOCK (0).
5. Test the recirculation control motor (see page 21-63).

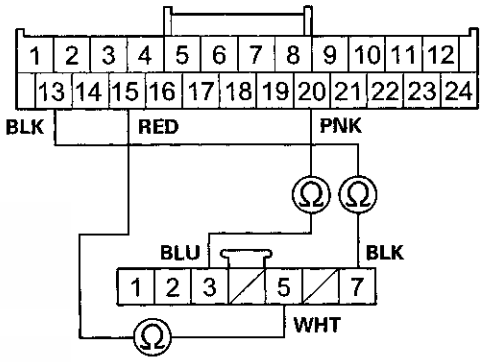
   Is the recirculation control motor OK?

   YES–Go to step 6.

   NO–Replace the recirculation control motor (see page 21-64).■
6. Disconnect the recirculation control motor 7P connector.
7. Disconnect the HVAC control unit 24P connector.
8. Check for continuity between the following terminals of the HVAC control unit 24P connector and the recirculation control motor 7P connector.

24P:	7P:
No. 13	No. 7
No. 15	No. 5
No. 20	No. 3

HVAC CONTROL UNIT 24P CONNECTOR
Wire side of female terminals



RECIRCULATION CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

Is there continuity?

YES–Check for loose wires or poor connections at the HVAC control unit 24P connector, and at the recirculation control motor 7P connector. If the connections are good, substitute a known-good HVAC control unit and recheck. If the symptom/indication goes away, replace the original HVAC control unit (see page 21-65).■

NO–Repair an open in the wire(s) between the HVAC control unit and the recirculation control motor.■

DTC Troubleshooting (cont'd)

DTC indicator 8: A Short in the Recirculation Control Motor Circuit

'08-10 models with M/T and '08-09 models 2-door with A/T

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Do the self-diagnostic function with the HVAC control unit (see page 21-9).
3. Check for DTCs.

   Is DTC 8 indicated?

   YES–Go to step 4.

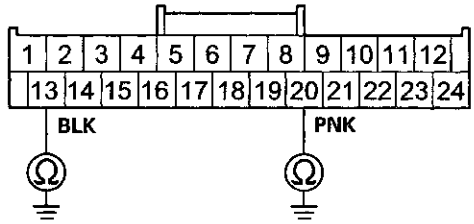
   NO–Intermittent failure. Check for loose wires or poor connections on the recirculation control motor circuit.■
4. Turn the ignition switch to LOCK (0).
5. Test the recirculation control motor (see page 21-63).

   Is the recirculation control motor OK?

   YES–Go to step 6.

   NO–Replace the recirculation control motor (see page 21-64).■
6. Disconnect the recirculation control motor 7P connector.
7. Disconnect the HVAC control unit 24P connector.
8. Check for continuity between body ground and HVAC control unit 24P connector terminals No. 13 and No. 20 individually.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

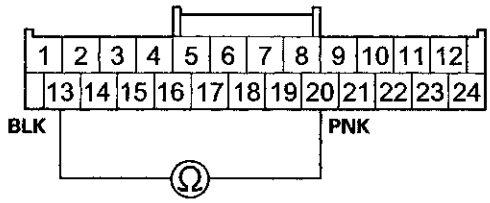
Is there continuity?

YES–Repair a short to body ground in the wire(s) between the HVAC control unit and the recirculation control motor.■

NO–Go to step 9.

9. Check for continuity between HVAC control unit 24P connector terminals No. 13 and No. 20.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

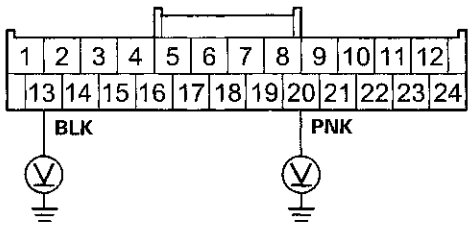
Is there continuity?

YES–Repair a short in the wires.■

NO–Go to step 10.

10. Turn the ignition switch to ON (II), and check the same terminals for voltage between each terminal and body ground.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Is there any voltage?

YES–Repair a short to power in the wire(s) between the HVAC control unit and the recirculation control motor. This short may also damage the HVAC control unit. a Repair short to power before replacing the HVAC control unit.■

NO–Substitute a known-good HVAC control unit and recheck. If the symptom/indication goes away and the recirculation control motor runs, replace the original HVAC control unit (see page 21-65).■

DTC indicator 9: A Problem in the Recirculation Control Linkage, Door, or Motor Circuit

'08-10 models with M/T and '08-09 models 2-door with A/T

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Do the self-diagnostic function with the HVAC control unit (see page 21-9).
3. Check for DTCs.

   Is DTC 9 indicated?

   YES–Go to step 4.

   NO–Intermittent failure. Check for loose wires or poor connections on the recirculation control motor circuit.■
4. Turn the ignition switch to LOCK (0).
5. Test the recirculation control motor (see page 21-63).

   Is the recirculation control motor OK?

   YES–Go to step 6.

   NO–Replace the recirculation control motor (see page 21-64), or repair the recirculation control linkage or door.■
6. Disconnect the recirculation control motor 7P connector.
7. Disconnect the HVAC control unit 24P connector.

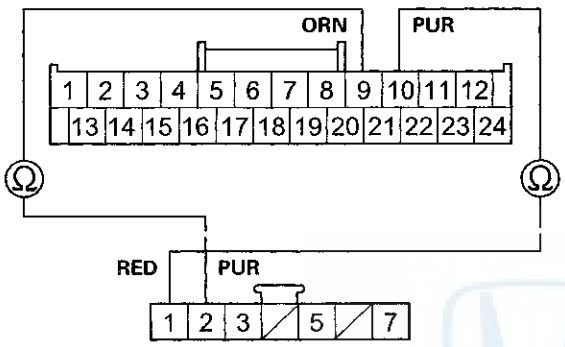
(cont'd)

DTC Troubleshooting (cont'd)

8. Check for continuity between the following terminals of the HVAC control unit 24P connector and the recirculation control motor 7P connector.

24P:	7P:
No. 9	No. 2
No. 10	No. 1

HVAC CONTROL UNIT 24P CONNECTOR
Wire side of female terminals



RECIRCULATION CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

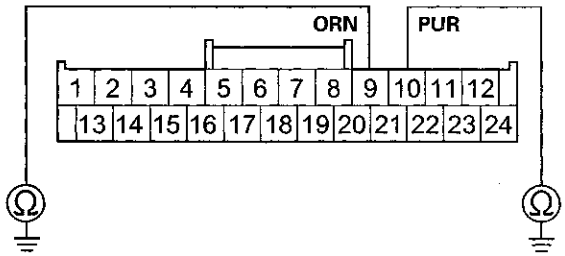
Is there continuity?

YES–Go to step 9.

NO–Repair an open in the wire(s) between the HVAC control unit and the recirculation control motor.■

9. Check for continuity between body ground and HVAC control unit 24P connector terminals No. 9 and No. 10 individually.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–Repair a short to body ground in the wire(s) between the HVAC control unit and the recirculation control motor.■

NO–Substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit (see page 21-65).■

DTC indicator 10: An Open or Short in the Mode Control Motor Circuit

'08-09 models 4-door with A/T and '10 model with A/T

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Do the self-diagnostic function with the HVAC control unit (see page 21-9).
3. Check for DTCs.

   Is DTC 10 indicated?

   YES–Go to step 4.

   NO–Intermittent failure. Check for loose wires or poor connections on the mode control motor circuit.■
4. Turn the ignition switch to LOCK (0).
5. Test the mode control motor (see page 21-61).

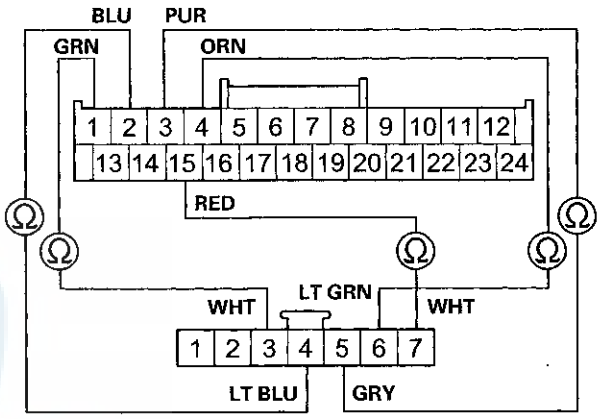
   Is the mode control motor OK?

   YES–Go to step 6.

   NO–Replace the mode control motor (see page 21-62).■
6. Disconnect the mode control motor 7P connector.
7. Disconnect the HVAC control unit 24P connector.
8. Check for continuity between the following terminals of the HVAC control unit 24P connector and the mode control motor 7P connector.

24P:	7P:
No. 1	No. 3
No. 2	No. 4
No. 3	No. 5
No. 4	No. 6
No. 15	No. 7

HVAC CONTROL UNIT 24P CONNECTOR
Wire side of female terminals



MODE CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

Is there continuity?

YES–Go to step 9.

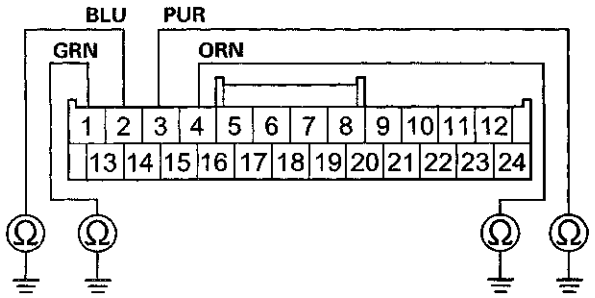
NO–Repair an open in the wire(s) between the HVAC control unit and the mode control motor.■

(cont'd)

DTC Troubleshooting (cont'd)

9. Check for continuity between body ground and HVAC control unit 24P connector terminals No. 1, 2, 3, and 4 individually.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–Repair a short to body ground in the wire(s) between the HVAC control unit and the mode control motor.■

NO–Go to step 10.

10. Check for continuity between the HVAC control unit 24P connector terminals as follows.

From terminal	To terminals
1	2, 3, 4
2	3, 4
3	4

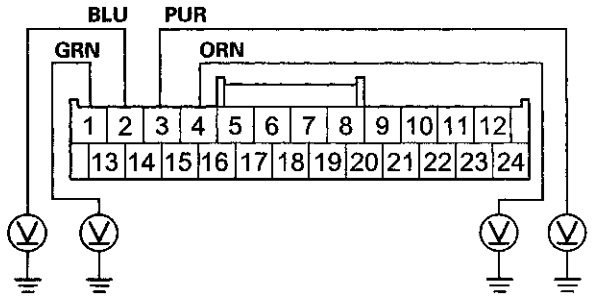
Is there continuity between any of the terminals?

YES–Repair a short in the wires.■

NO–Go to step 11.

11. Turn the ignition switch to ON (II), and check the same terminals for voltage between each terminal and body ground.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Is there any voltage?

YES–Repair a short to power in the wire(s) between the HVAC control unit and the mode control motor. This short may also damage the HVAC control unit. Repair a short to power before replacing the HVAC control unit.■

NO–Check for loose wires or poor connections at the HVAC control unit 24P connector, and at the mode control motor 7P connector. If the connections are good, substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit (see page 21-65).■

DTC indicator 11: A Problem in the Mode Control Linkage, Doors, or Motor Circuit

'08-09 models 4-door with A/T and '10 model with A/T

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Do the self-diagnostic function with the HVAC control unit (see page 21-9).
3. Check for DTCs.

   Is DTC 11 indicated?

   YES–Go to step 4.

   NO–Intermittent failure. Check for loose wires or poor connections on the mode control motor circuit.■
4. Turn the ignition switch to LOCK (0).
5. Test the mode control motor (see page 21-61).

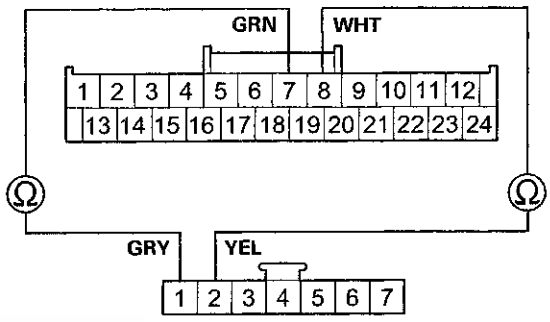
   Is the mode control motor OK?

   YES–Go to step 6.

   NO–Replace the mode control motor (see page 21-62), or repair the mode control linkage or doors.■
6. Disconnect the mode control motor 7P connector.
7. Disconnect the HVAC control unit 24P connector.
8. Check for continuity between the following terminals of the HVAC control unit 24P connector and the mode control motor 7P connector.

24P:	7P:
No. 7	No. 1
No. 8	No. 2

HVAC CONTROL UNIT 24P CONNECTOR
Wire side of female terminals



MODE CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

Is there continuity?

YES–Go to step 9.

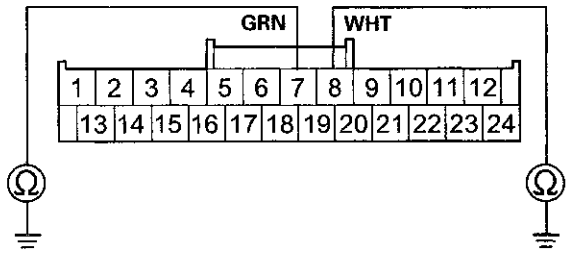
NO–Repair an open in the wire(s) between the HVAC control unit and the mode control motor.■

(cont'd)

DTC Troubleshooting (cont'd)

9. Check for continuity between body ground and HVAC control unit 24P connector terminals No. 7 and No. 8 individually.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–Repair a short to body ground in the wire(s) between the HVAC control unit and the mode control motor.■

NO–Substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit (see page 21-65).■

DTC indicator 12: A Problem in the Blower Motor Circuit

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Do the self-diagnostic function with the HVAC control unit (see page 21-9).
3. Check for DTCs.

   Is DTC 12 indicated?

   YES–Go to step 4.

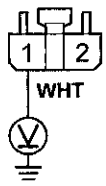
   NO–Intermittent failure. Check for loose wires or poor connections on the blower motor circuit.■
4. Turn the ignition switch to LOCK (0).
5. Check the No. 8 (40 A) fuse in the under-hood fuse/relay box, and the No. 16 (7.5 A) fuse in the driver's under-dash fuse/relay box.

   Are the fuses OK?

   YES–Go to step 6.

   NO–Replace the fuse(s), and recheck. If the fuse(s) blow again, check for a short in the No. 8 (40 A) fuse and the No. 16 (7.5 A) fuse circuits.■
6. Disconnect the blower motor 2P connector.
7. Turn the ignition switch to ON (II).
8. Measure the voltage between blower motor 2P connector terminal No. 1 and body ground.

BLOWER MOTOR 2P CONNECTOR



Wire side of female terminals

Is there battery voltage?

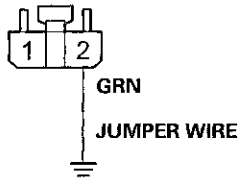
YES–Go to step 9.

NO–Go to step 28.

9. Turn the ignition switch to LOCK (0).
10. Reconnect the blower motor 2P connector.

11. Connect blower motor 2P connector terminal No. 2 to body ground with a jumper wire.

BLOWER MOTOR 2P CONNECTOR



Wire side of female terminals

12. Turn the ignition switch to ON (II).

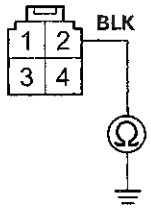
Does the blower motor run?

YES–Go to step 13.

NO–Replace the blower motor (see page 21-67).■

13. Turn the ignition switch to LOCK (0).
14. Disconnect the jumper wire.
15. Disconnect the power transistor 4P connector.
16. Check for continuity between power transistor 4P connector terminal No. 2 and body ground.

POWER TRANSISTOR 4P CONNECTOR



Wire side of female terminals

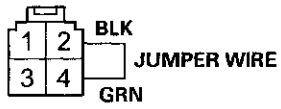
Is there continuity?

YES–Go to step 17.

NO–Check for an open in the wire between the power transistor and body ground. If the wire is OK, check for poor ground at G302 (see page 22-30).■

17. Connect power transistor 4P connector terminals No. 2 and No. 4 with a jumper wire.

POWER TRANSISTOR 4P CONNECTOR



Wire side of female terminals

18. Turn the ignition switch to ON (II).

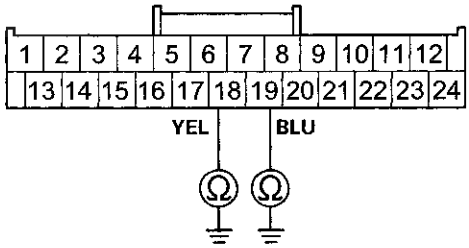
Does the blower motor run at high speed?

YES–Go to step 19.

NO–Repair an open in the GRN wire between the power transistor and the blower motor.■

19. Turn the ignition switch to LOCK (0).
20. Disconnect the jumper wire.
21. Disconnect the HVAC control unit 24P connector.
22. Check for continuity between body ground and HVAC control unit 24P connector terminals No. 18 and No. 19 individually.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–Repair a short to body ground in the wire(s) between the HVAC control unit and the power transistor.■

NO–Go to step 23.

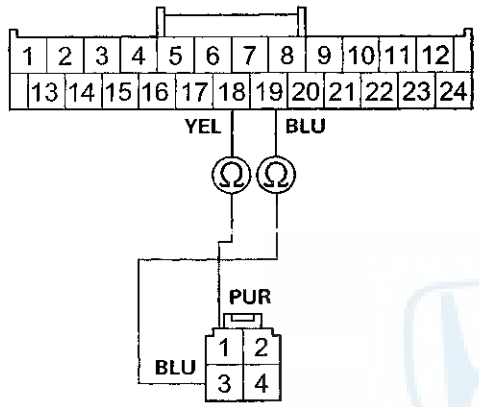
(cont'd)

DTC Troubleshooting (cont'd)

23. Check for continuity between the following terminals of the HVAC control unit 24P connector and the power transistor 4P connector.

24P:	4P:
No. 18	No. 1
No. 19	No. 3

HVAC CONTROL UNIT 24P CONNECTOR
Wire side of female terminals



POWER TRANSISTOR 4P CONNECTOR
Wire side of female terminals

Is there continuity?

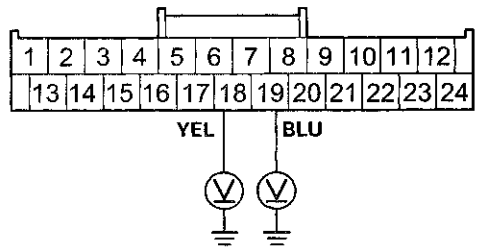
YES–Go to step 24.

NO–Repair an open in the wire(s) between the HVAC control unit and the power transistor.■

24. Turn the ignition switch to ON (II).

25. Measure the voltage between body ground and HVAC control unit 24P connector terminals No. 18 and No. 19 individually.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Is there any voltage?

YES–Repair a short to power in the wires.■

NO–Go to step 26.

26. Reconnect the HVAC control unit 24P connector.

27. Test the power transistor (see page 21-58).

Is the power transistor OK?

YES–Check for loose wires or poor connections at the HVAC control unit 24P connector, and at the power transistor 4P connector. If the connections are good, substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit (see page 21-65).■

NO–Replace the power transistor.■

28. Turn the ignition switch to LOCK (0).

29. Disconnect the jumper wire.

30. Remove the blower motor relay from the under-hood fuse/relay box, and test it (see page 22-93).

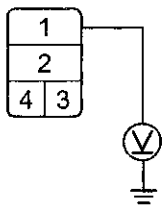
Is the relay OK?

YES–Go to step 31.

NO–Replace the blower motor relay.■

31. Measure the voltage between blower motor relay 4P socket terminal No. 1 and body ground.

BLOWER MOTOR RELAY 4P SOCKET



Terminal side of female terminals

Is there battery voltage?

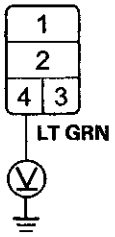
YES–Go to step 32.

NO–Replace the under-hood fuse/relay box (see page 22-85).■

32. Turn the ignition switch to ON (II).

33. Measure the voltage between blower motor relay 4P socket terminal No. 4 and body ground.

BLOWER MOTOR RELAY 4P SOCKET



Terminal side of female terminals

Is there battery voltage?

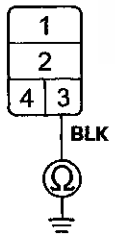
YES–Go to step 34.

NO–Repair an open in the wire between the No. 16 (7.5 A) fuse in the driver's under-dash fuse/relay box and the blower motor relay.■

34. Turn the ignition switch to LOCK (0).

35. Check for continuity between blower motor relay 4P socket terminal No. 3 and body ground.

BLOWER MOTOR RELAY 4P SOCKET



Terminal side of female terminals

Is there continuity?

YES–Repair an open in the WHT wire between the blower motor relay and the blower motor.■

NO–Check for an open in the wire between the blower motor relay and body ground. If the wire is OK, check for poor ground at G301 (see page 22-28).■

DTC indicator 13: HVAC Control Unit Internal Error

NOTE: Check the battery condition (see page 22-90) and the charging system (see page 4-25).

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Do the self-diagnostic function with the HVAC control unit (see page 21-9).
3. Check for DTCs.

   Is DTC 13 indicated?

   YES–The HVAC control unit is faulty, replace the HVAC control unit (see page 21-65).■

   NO–Intermittent failure, the HVAC control unit is OK at this time. Check for poor connections at the HVAC control unit and at G401 (see page 22-40).■

DTC Troubleshooting (cont'd)

DTC indicator 14: An Open in the Evaporator Temperature Sensor Circuit

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Do the self-diagnostic function with the HVAC control unit (see page 21-9).
3. Check for DTCs.

   Is DTC 14 indicated?

   YES–Go to step 4.

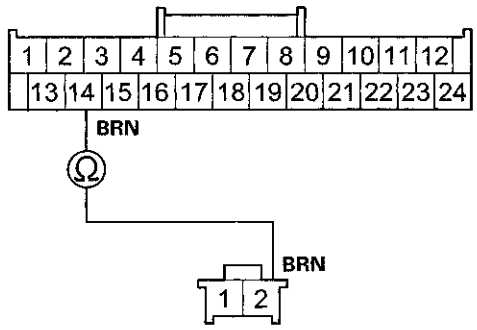
   NO–Intermittent failure. Check for loose wires or poor connections on the evaporator temperature sensor circuit.■
4. Turn the ignition switch to LOCK (0).
5. Remove the evaporator temperature sensor (see page 21-67) and test it (see page 21-58).

   Is the evaporator temperature sensor OK?

   YES–Go to step 6.

   NO–Replace the evaporator temperature sensor (see page 21-67).■
6. Disconnect the HVAC control unit 24P connector.
7. Check for continuity between HVAC control unit 24P connector terminal No. 14 and evaporator temperature sensor 2P connector terminal No. 2.

HVAC CONTROL UNIT 24P CONNECTOR
Wire side of female terminals



EVAPORATOR TEMPERATURE SENSOR 2P CONNECTOR
Wire side of female terminals

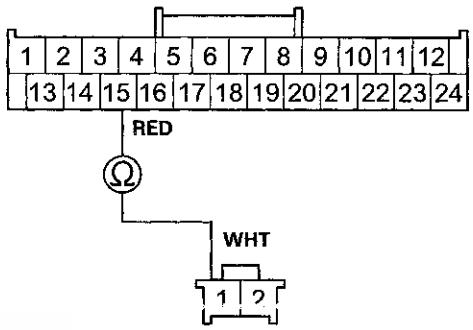
Is there continuity?

YES–Go to step 8.

NO–Repair an open in the wire between the HVAC control unit and the evaporator temperature sensor.■

8. Check for continuity between HVAC control unit 24P connector terminal No. 15 and evaporator temperature sensor 2P connector terminal No. 1.

HVAC CONTROL UNIT 24P CONNECTOR
Wire side of female terminals



EVAPORATOR TEMPERATURE SENSOR 2P CONNECTOR
Wire side of female terminals

Is there continuity?

YES–Check for loose wires or poor connections at the HVAC control unit 24P connector, and at the evaporator temperature sensor 2P connector. If the connections are good, substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit (see page 21-65).■

NO–Repair an open in the wire between the HVAC control unit and the evaporator temperature sensor.■

DTC indicator 15: A Short in the Evaporator Temperature Sensor Circuit

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Do the self-diagnostic function with the HVAC control unit (see page 21-9).
3. Check for DTCs.

   Is DTC 15 indicated?

   YES–Go to step 4.

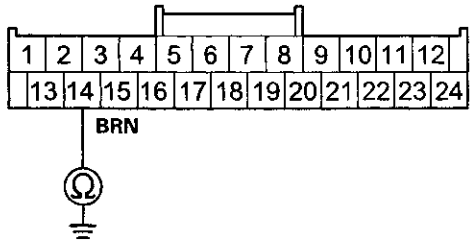
   NO–Intermittent failure. Check for damaged wires or connections in the evaporator temperature sensor circuit.■
4. Turn the ignition switch to LOCK (0).
5. Remove the evaporator temperature sensor (see page 21-67) and test it (see page 21-58).

   Is the evaporator temperature sensor OK?

   YES–Go to step 6.

   NO–Replace the evaporator temperature sensor (see page 21-67).■
6. Disconnect the HVAC control unit 24P connector.
7. Check for continuity between body ground and HVAC control unit 24P connector terminal No. 14.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

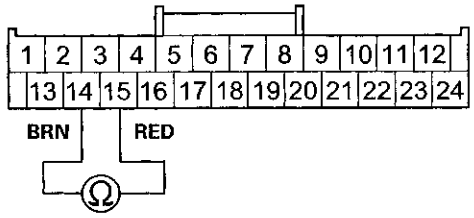
Is there continuity?

YES–Repair a short to body ground in the wire between the HVAC control unit and the evaporator temperature sensor.■

NO–Go to step 8.

8. Check for continuity between HVAC control unit 24P connector terminal No. 14 and No. 15.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–Repair a short in the wires between the HVAC control unit and the evaporator temperature sensor.■

NO–Substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit (see page 21-65).■

Recirculation Control Motor Circuit Troubleshooting

'08-09 models 4-door with A/T and '10 model with AT

1. Check the No. 16 (7.5 A) fuse in the driver's under-dash fuse/ relay box.

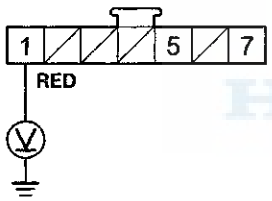
   Is the fuse OK?

   YES–Go to step 2.

   NO–Replace the fuse, and recheck. If the fuse blows again, check for a short in the No. 16 (7.5 A) fuse circuit.■

2. Disconnect the recirculation control motor 7P connector.
3. Turn the ignition switch to ON (II).
4. Measure the voltage between recirculation control motor 7P connector terminal No. 1 and body ground.

RECIRCULATION CONTROL MOTOR 7P CONNECTOR



Wire side of female terminals

Is there battery voltage?

YES–Go to step 5.

NO–Repair an open in the wire between the No. 16 (7.5 A) fuse in the driver's under-dash fuse/relay box and the recirculation control motor.■

5. Turn the ignition switch to LOCK (0).
6. Test the recirculation control motor (see page 21-63).

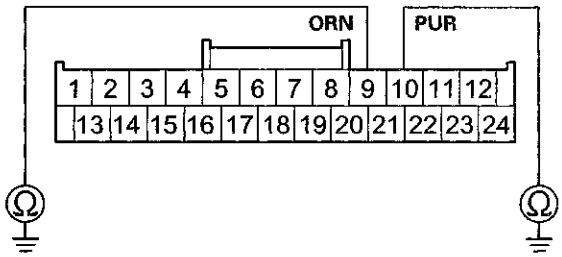
   Is the recirculation control motor OK?

   YES–Go to step 7.

   NO–Replace the recirculation control motor (see page 21-64), or repair the recirculation control linkage or door.■

7. Disconnect the HVAC control unit 24P connector.
8. Check for continuity between body ground and HVAC control unit 24P connector terminal No. 9 and No. 10 individually.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

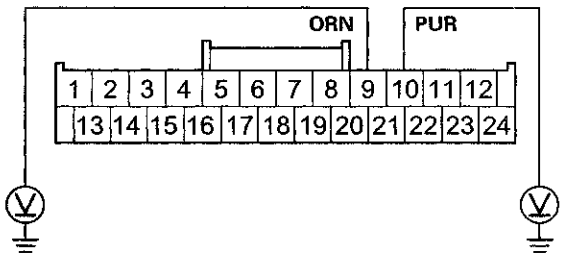
Is there continuity?

YES–Repair a short to body ground in the wire(s) between the HVAC control unit and the recirculation control motor.■

NO–Go to step 9.

9. Turn the ignition switch to ON (II), and check the same terminals for voltage between each terminal and body ground.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Is there any voltage?

YES–Repair a short to power in the wire(s) between the HVAC control unit and the recirculation control motor. This short may also damage the HVAC control unit. Repair a short to power before replacing the HVAC control unit.■

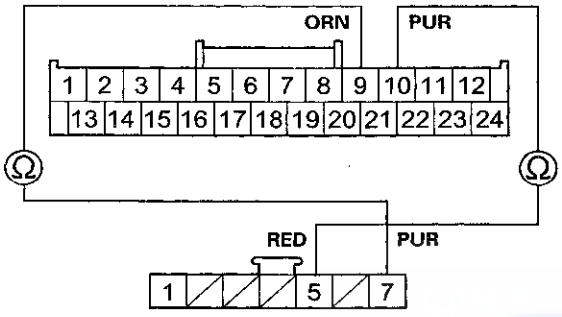
NO–Go to step 10.

10. Turn the ignition switch to LOCK (0).

11. Check for continuity between the following terminals of the HVAC control unit 24P connector and the recirculation control motor 7P connector.

24P:	7P:
No. 9	No. 7
No. 10	No. 5

HVAC CONTROL UNIT 24P CONNECTOR
Wire side of female terminals



RECIRCULATION CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

Is there continuity?

YES–Check for loose wires or poor connections at the HVAC control unit 24P connector, and at the recirculation control motor 7P connector. If the connections are good, substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit (see page 21-65).■

NO–Repair an open in the wire(s) between the HVAC control unit and the recirculation control motor.■

HVAC Control Power and Ground Circuit Troubleshooting

1. Check the No. 16 (7.5 A) fuse in the driver's under-dash fuse/ relay box.

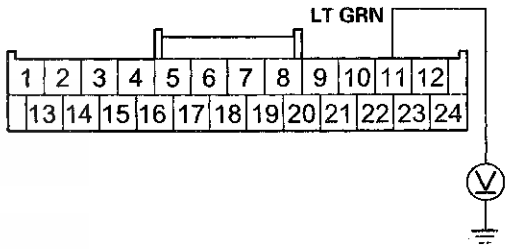
   Is the fuse OK?

   YES–Go to step 2.

   NO–Replace the fuse, and recheck. If the fuse blows again, check for a short in the No. 16 (7.5 A) fuse circuit.■

2. Disconnect the HVAC control unit 24P connector.
3. Turn the ignition switch to ON (II).
4. Measure the voltage between HVAC control unit 24P connector terminal No. 11 and body ground.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Is there battery voltage?

YES–Go to step 5.

NO–Repair an open in the wire between the No. 16 (7.5 A) fuse in the driver's under-dash fuse/relay box and the HVAC control unit.■

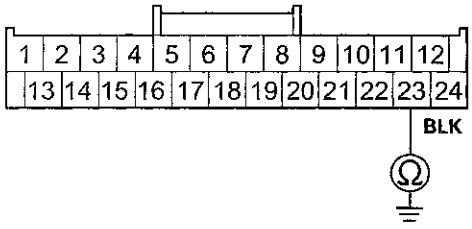
5. Turn the ignition switch to LOCK (0).

(cont'd)

HVAC Control Power and Ground Circuit Troubleshooting (cont'd)

6. Check for continuity between HVAC control unit 24P connector terminal No. 23 and body ground.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–Check for loose wires or poor connections at the HVAC control unit 24P connector. If the connections are good, substitute a known-good HVAC control unit (see page 21-65), and recheck.■

NO–Check for an open in the wire between the HVAC control unit and body ground. If the wire is OK, check for poor ground at G401 (see page 22-40).■

A/C Condenser Fan Circuit Troubleshooting

NOTE:

- Do not use this troubleshooting procedure if the radiator fan and/or the A/C compressor is inoperative. Refer to the symptom troubleshooting index.
- Before doing symptom troubleshooting, check for powertrain DTCs (see page 11-3).

1. Check the No. 5 (20 A) and No. 21 (7.5 A) fuses in the under-hood fuse/relay box.

   Are the fuses OK?

   YES–Go to step 2.

   NO–Replace the fuse(s), and recheck. If the fuse(s) blow again, check for a short in the No. 5 (20 A) fuse and the No. 21 (7.5 A) fuse circuits.■

2. Test the A/C condenser fan relay (see page 22-94).

   Is the relay OK?

   YES–Go to step 3.

   NO–Replace the relay circuit board.■

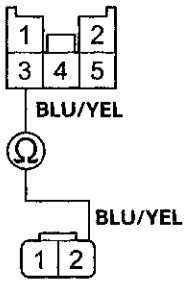
3. Disconnect the A/C condenser fan motor 2P connector.

4. Disconnect under-hood fuse/relay box connector C (14P).

5. Check for continuity between under-hood fuse/relay box connector C (5P) terminal No. 3 and A/C condenser fan motor 2P connector terminal No. 2.

UNDER-HOOD FUSE/RELAY BOX CONNECTOR C (5P)

Wire side of female terminals



A/C CONDENSER FAN MOTOR 2P CONNECTOR

Wire side of female terminals

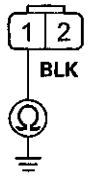
Is there continuity?

YES–Go to step 6.

NO–Repair an open in the wire between the under-hood fuse/relay box and the A/C condenser fan motor.■

6. Check for continuity between A/C condenser fan motor 2P connector terminal No. 1 and body ground.

A/C CONDENSER FAN MOTOR 2P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–Replace the A/C condenser fan motor (see page 10-13).■

NO–Check for an open in the wire between the A/C condenser fan motor and body ground. If the wire is OK, check for poor ground at G302 (see page 22-30).■

Radiator and A/C Condenser Fan Common Circuit Troubleshooting

NOTE:

- Do not use this troubleshooting procedure if only one fan is inoperative, or if the A/C compressor is inoperative. Refer to the symptom troubleshooting index.
- Before doing symptom troubleshooting, check for powertrain DTCs (see page 11-3).

1. Check the No. 3—6 (MAIN FAN MTR) (30 A), No. 5 (20 A), and No. 21 (7.5 A) fuses in the under-hood fuse/relay box, and the No. 16 (7.5 A) fuse in the driver's under-dash fuse/relay box.

   Are the fuses OK?

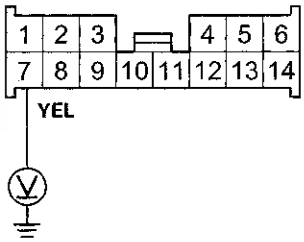
   YES–Go to step 2.

   NO–Replace the fuse(s), and recheck.■

2. Turn the ignition switch to ON (II).

3. Measure the voltage between the under-hood fuse/relay box connector B (14P) terminal No. 7 and body ground.

UNDER-HOOD FUSE/RELAY BOX CONNECTOR B (14P)



Wire side of female terminals

Is there battery voltage?

YES–Go to step 4.

NO–Replace the under-hood fuse/relay box (see page 22-85).■

4. Turn the ignition switch to LOCK (0).

5. Jump the SCS line with the HDS.

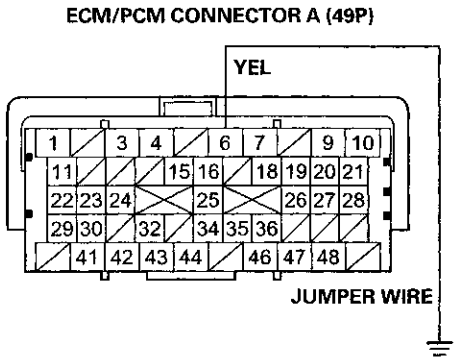
   NOTE: This step must be done to protect the engine control module/powertrain control module (ECM/PCM) from damage.

6. Disconnect ECM/PCM connector A (49P).

(cont'd)

Radiator and A/C Condenser Fan Common Circuit Troubleshooting (cont'd)

7. Connect the ECM/PCM connector A (49P) terminal No. 6 to body ground with a jumper wire.



Terminal side of female terminals

8. Turn the ignition switch to ON (II).

Do the A/C condenser and the radiator fans run?

YES–Check for loose wires or poor connections at ECM/PCM connector A (49P) terminal No. 6. If the connections are good, substitute a known-good ECM/PCM, and recheck. If the symptom/indication goes away, replace the original ECM/PCM (see page 11-204).■

NO–Repair an open in the wire between the under-hood fuse/relay box and the ECM/PCM.■

Radiator and A/C Condenser Fan Low Speed Circuit Troubleshooting

NOTE:

- Do not use this troubleshooting procedure if the A/C compressor is inoperative. Refer to the symptom troubleshooting index.
- Before performing symptom troubleshooting, check for powertrain DTCs (see page 11-3).

1. Check the No. 3—6 (SUB FAN MTR) (30 A) fuse in the under-hood fuse/relay, and the No. 16 (7.5 A) fuse in the driver's under-dash fuse/relay box.

Are you fuses OK?

YES–Go to step 2.

NO–Replace the fuse(s), and recheck. If the fuse(s) blow again, check for a short in the No. 3—6 (30 A) fuse and the No. 16 (7.5 A) fuse circuits.■

2. Connect the HDS to the DLC.
3. Turn the ignition switch to ON (II).
4. Turn on the A/C.
5. Check the FAN LOW CTRL in the PGM-FI Data List with the HDS.

Is the FAN LOW CTRL on?

YES–Go to step 6.

NO–Substitute a known-good ECM/PCM (see page 11-3), and retest. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM (see page 11-204).■

6. Turn the ignition switch to LOCK (0).
7. Remove the relay circuit board (see page 22-85) from the under-hood fuse/relay box, and test the A/C condenser fan relay (see page 22-93).

Is the relay OK?

YES–Go to step 8.

NO–Replace the relay circuit board.■

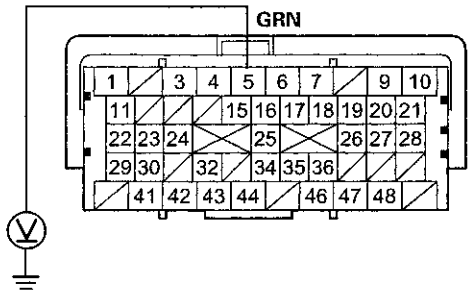
8. Turn the ignition switch to LOCK (0).
9. Reinstall the relay circuit board.
10. Jump the SCS line with the HDS.

NOTE: This step must be done to protect the engine control module/powertrain control module (ECM/PCM) from damage.

11. Disconnect ECM/PCM connector A (49P).

12. Turn the ignition switch to ON (II).
13. Measure the voltage between ECM/PCM connector A terminal No. 5 and body ground.

ECM/PCM CONNECTOR A (49P)



Terminal side of female terminals

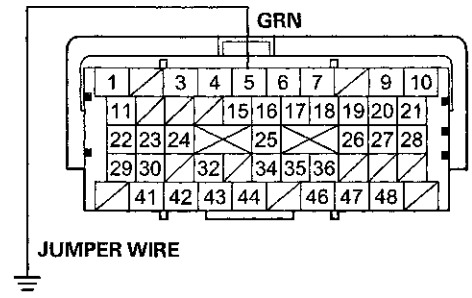
Is there battery voltage?

YES–Go to step 14.

NO–Repair an open in the wires between the under-hood fuse/relay box and the ECM/PCM, or between the No. 16 (7.5 A) fuse in driver's under-dash fuse/relay box and the under-hood fuse/relay box. If wires are OK, replace the under-hood fuse/relay box (see page 22-75).■

14. Turn the ignition switch to LOCK (0).
15. Connect ECM/PCM connector A (49P) terminal No. 5 to body ground with a jumper wire.

ECM/PCM CONNECTOR A (49P)



Terminal side of female terminals

16. Turn the ignition switch to ON (II).

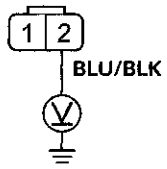
Do the A/C condenser and radiator fans run on low?

YES–Check for loose wires or poor connections at ECM/PCM connector A (49P) terminal No. 5. If the connections are good, substitute a known-good ECM/PCM, and recheck. If the symptom/indication goes away, replace the original ECM/PCM (see page 11-204).■

NO–Go to step 17.

17. Turn the ignition switch to LOCK (0).
18. Disconnect the jumper wire.
19. Reconnect ECM/PCM connector A (49P).
20. Disconnect the radiator fan motor 2P connector.
21. Turn the ignition switch to ON (II), then set the A/C button and fan control button ON.
22. Measure the voltage between radiator fan motor 2P connector terminal No. 2 and body ground.

RADIATOR FAN MOTOR 2P CONNECTOR



Wire side of female terminals

Is there battery voltage?

YES–Go to step 23.

NO–Repair an open in the wire between the under-hood fuse/relay box and the radiator fan motor. If the wire is OK, replace the under-hood fuse/relay box (see page 22-75).■

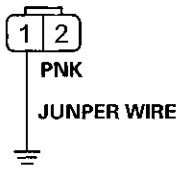
23. Set the A/C button and fan control button OFF, then turn the ignition switch to LOCK (0).
24. Reconnect the radiator fan motor 2P connector.

(cont'd)

Radiator and A/C Condenser Fan Low Speed Circuit Troubleshooting (cont'd)

25. Connect radiator fan motor 2P connector terminal No. 1 to body ground with a jumper wire.

RADIATOR FAN MOTOR 2P CONNECTOR



Wire side of female terminals

26. Turn the ignition switch to ON (II), then set the A/C button and fan control button ON.

Does the radiator fan run?

YES–Go to step 27.

NO–Replace the radiator fan motor (see page 10-13).■

27. Set the A/C button and fan control button OFF, then turn the ignition switch to LOCK (0).
28. Disconnect the jumper wire.
29. Remove the relay circuit board (see page 22-85) from the under-hood fuse/relay box, and test the fan control relay (see page 22-93).

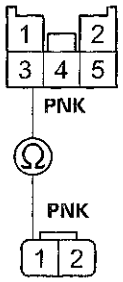
Is the relay OK?

YES–Go to step 30.

NO–Replace the relay circuit board.■

30. Disconnect the under-hood fuse/relay box connector C (5P).
31. Disconnect the radiator fan motor 2P connector.
32. Check for continuity between under-hood fuse/relay box connector C (5P) terminal No. 3 and radiator fan motor 2P connector terminal No. 1.

UNDER-HOOD FUSE/RELAY BOX CONNECTOR C (5P)
Wire side of female terminals



RADIATOR FAN MOTOR 2P CONNECTOR
Wire side of female terminals

Is there continuity?

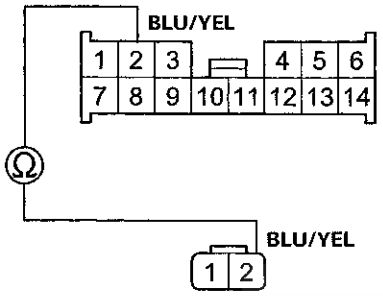
YES–Go to step 33.

NO–Repair an open in the wire between the under-hood fuse/relay box and the radiator fan motor.■

33. Disconnect under-hood fuse/relay box connector B (14P).
34. Disconnect the A/C condenser fan motor 2P connector.

35. Check for continuity between under-hood fuse/relay box connector B (14P) terminal No. 2 and A/C condenser fan motor 2P connector terminal No. 2.

UNDER-HOOD FUSE/RELAY BOX CONNECTOR B (14P)
Wire side of female terminals



A/C CONDENSER FAN MOTOR 2P CONNECTOR
Wire side of female terminals

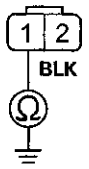
Is there continuity?

YES–Go to step 36.

NO–Repair an open in the wire between the under-hood fuse/relay box and the A/C condenser fan motor.■

36. Check for continuity between A/C condenser fan motor 2P connector terminal No. 1 and body ground.

A/C CONDENSER FAN MOTOR 2P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–Replace the A/C condenser fan motor (see page 10-13).■

NO–Check for an open in the wire between the A/C condenser fan motor and body ground. If the wire is OK, check for poor ground at G302 (see page 22-30).■

A/C Condenser Fan High Speed Circuit Troubleshooting

NOTE:

- Do not use this troubleshooting procedure if the A/C compressor is inoperative. Refer to the symptom troubleshooting index.
- Before doing any symptom troubleshooting, check for powertrain DTCs (see page 11-3).

1. Check the No. 3—6 (SUB FAN MTR) (30 A) and No. 21 (7.5 A) in the under-hood fuse/relay box.

   Are the fuses OK?

   YES–Go to step 2.

   NO–Replace the fuse(s), and recheck. If fuse(s) blow again, check for a short in the No. 3—6 (SUB FAN MTR) (30 A) fuse and No. 21 (7.5 A) fuse circuits.■

2. Jump the SCS line with the HDS.

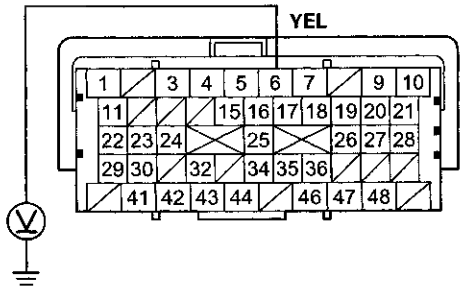
   NOTE: This step must be done to protect the engine control module/powertrain control module (ECM/PCM) from damage.

3. Disconnect ECM/PCM connector A (49P).

4. Turn the ignition switch to ON (II).

5. Measure the voltage between ECM/PCM connector A (49P) terminal No. 6 and body ground.

ECM/PCM CONNECTOR A (49P)



Terminal side of female terminals

Is there battery voltage?

YES–Go to step 6.

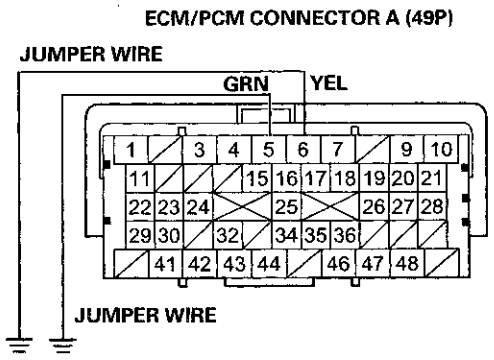
NO–Repair an open in the wire between the under-hood fuse/relay box and the ECM/PCM. If the wire is OK, replace the under-hood fuse/relay box (see page 22-75).■

6. Turn the ignition switch to LOCK (0).

(cont'd)

A/C Condenser Fan High Speed Circuit Troubleshooting (cont'd)

7. Connect ECM/PCM connector A (49P) terminals No. 5 and No. 6 to body ground with a jumper wire.



Terminal side of female terminals

8. Turn the ignition switch to ON (II).

Does the A/C condenser fan and radiator fan run on high?

YES–Check for loose wires or poor connections at ECM/PCM connector A (49P) terminals No. 5 and No. 6. If the connections are good, substitute a known-good ECM/PCM, and recheck. If the symptom/indication goes away, replace the original ECM/PCM (see page 11-204).■

NO–Replace the under-hood fuse/relay box (see page 22-75).■

A/C Compressor Clutch Circuit Troubleshooting

NOTE:

- It is normal for the A/C compressor to turn off under certain conditions, such as low idle, high engine coolant temperature, hard acceleration, or high/low refrigerant pressure.
- Do not use this troubleshooting procedure if the fans are also inoperative with the A/C on. Refer to the symptom troubleshooting index.
- Before doing any symptom troubleshooting, check for powertrain DTCs (see page 11-3). Also check for B-CAN codes (see page 22-134).

1. Check the No. 20 (7.5 A) fuse in the under-hood fuse/relay box, and the No. 16 (7.5 A) fuse in the driver's under-dash fuse/relay box.

Are the fuses OK?

YES–Go to step 2.

NO–Replace the fuse(s) and recheck. If the fuse(s) blow again, check for a short in the No. 20 (7.5 A) fuse and the No. 16 (7.5 A) fuse circuits.■

2. Connect the HDS to the DLC.
3. Start the engine.
4. Turn on the A/C.
5. Check the A/C switch in the PGM-FI data list with the HDS.

Is the A/C switch on?

YES–Go to step 6.

NO–

- '08-09 models: go to A/C pressure switch circuit troubleshooting (see page 21-54).■
- '10 model: go to A/C signal circuit troubleshooting (see page 21-56).■

6. Using the HDS, confirm the following values in the PGM-FI Data List at idle.

TP SENSOR	About 0.5 V	
RPM	A/T	750–850
	M/T	730–830
ECT SENSOR 2	176–212 °F (80–100 °C)	
A/C SWITCH	ON	
A/C CLUTCH	ON	

Are all the values within specifications?

YES–Go to step 7.

NO–Troubleshoot the value that is not within the specifications.■

7. Turn the ignition switch to LOCK (0).

8. Remove the A/C compressor clutch relay from the under-hood fuse/relay box, and test it (see page 22-93).

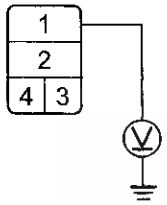
   Is the relay OK?

   YES–Go to step 9.

   NO–Replace the A/C compressor clutch relay.■

9. Measure the voltage between A/C compressor clutch relay 4P socket terminal No. 1and body ground.

A/C COMPRESSOR CLUTCH RELAY 4P SOCKET



Terminal side of female terminals

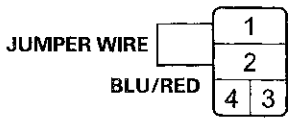
Is there battery voltage?

YES–Go to step 10.

NO–Replace the under-hood fuse/relay box (see page 22-85).■

10. Connect A/C compressor clutch relay 4P socket terminal No. 1 and No. 2with a jumper wire.

A/C COMPRESSOR CLUTCH RELAY 4P SOCKET



Terminal side of female terminals

Does the A/C compressor clutch click?

YES–Go to step 11.

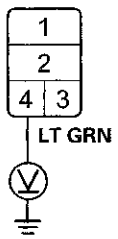
NO–Go to step 20.

11. Disconnect the jumper wire.

12. Turn the ignition switch to ON (II).

13. Measure the voltage between A/C compressor clutch relay 4P socket terminal No. 4 and body ground.

A/C COMPRESSOR CLUTCH RELAY 4P SOCKET



Terminal side of female terminals

Is there battery voltage?

YES–Go to step 14.

NO–Repair an open in the wire between the No. 16 (7.5 A) fuse in the driver's under-dash fuse/relay box and the A/C compressor clutch relay.■

14. Turn the ignition switch to LOCK (0).

15. Reinstall the A/C compressor clutch relay.

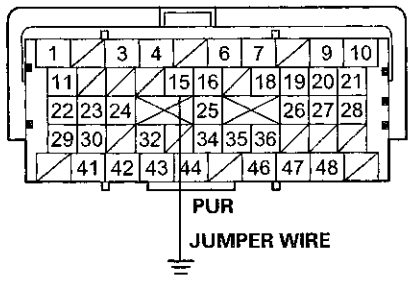
16. Jump the SCS line with the HDS.

    NOTE: This step must be done to protect the engine control module/powertrain control module (ECM/PCM) from damage.

17. Disconnect ECM/PCM connector A (49P).

18. Connect ECM/PCM connector A (49P) terminal No. 15 to body ground with a jumper wire.

ECM/PCM CONNECTOR A (49P)



Terminal side of female terminals

(cont'd)

A/C Compressor Clutch Circuit Troubleshooting (cont'd)

19. Turn the ignition switch to ON (II).

    Does the A/C compressor click?

    YES–Check for loose wires or poor connections at ECM/PCM connector A (49P). If the connections are good, check the ECM/PCM grounds. If the grounds are good, substitute a known-good ECM/PCM, and recheck. If the symptom/indication goes away, replace the original ECM/PCM (see page 11-204).■

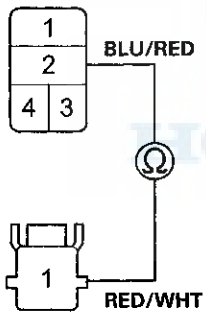
    NO–Repair an open in the wire between the A/C compressor clutch relay and the ECM/PCM.■

20. Disconnect the jumper wire.

21. Disconnect the A/C compressor clutch 1P connector.

22. Check for continuity between A/C compressor clutch relay 4P socket terminal No. 2 and A/C compressor clutch 1P connector terminal No. 1.

A/C COMPRESSOR CLUTCH RELAY 4P SOCKET
Terminal side of female terminals



A/C COMPRESSOR CLUTCH 1P CONNECTOR
Wire side of female terminal

Is there continuity?

YES–Check the A/C compressor clutch clearance, and the compressor clutch field coil (see page 21-73). Repair as needed.■

NO–Repair an open in the wire between the A/C compressor clutch relay and the A/C compressor clutch.■

A/C Pressure Switch Circuit Troubleshooting

NOTE:

- Do not use this troubleshooting procedure if any of the following items are operative: The condenser fan, the radiator fan, or the A/C compressor, or if the heater is inoperative. Refer to the symptom troubleshooting index.
- Check the A/C high-side pressure.
- Before doing any symptom troubleshooting, check for powertrain DTCs (see page 11-3). Also check for B-CAN codes (see page 22-134).

1. Turn the ignition switch to ON (II).
2. Check if the blower motor operates at all speeds.

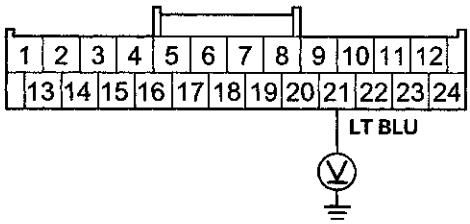
   Does the blower motor operate at all speeds?

   YES–Go to step 3.

   NO–Repair the problem in the blower motor circuit (see page 21-38).■

3. Turn the ignition switch to LOCK (0).
4. Disconnect the HVAC control unit 24P connector.
5. Turn the ignition switch to ON (II).
6. Measure the voltage between HVAC control unit 24P connector terminal No. 21 and body ground.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Is there battery voltage?

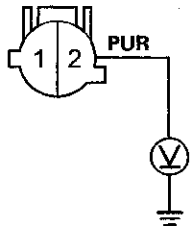
YES–Go to step 14.

NO–Go to step 7.

7. Turn the ignition switch to LOCK (0).
8. Disconnect the A/C pressure switch 2P connector.
9. Turn the ignition switch to ON (II).

10. Measure the voltage between A/C pressure switch 2P connector No. 2 and body ground.

A/C PRESSURE SWITCH 2P CONNECTOR



Wire side of female terminals

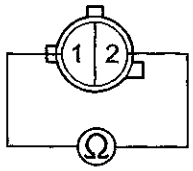
Is there battery voltage?

YES–Go to step 11.

NO–Repair an open in the wire between the A/C pressure switch and the MICU. If the wire is OK, substitute a known-good MICU and recheck. If the symptom goes away, replace the original MICU.■

11. Check for continuity between terminals No. 1 and No. 2 of A/C pressure switch.

A/C PRESSURE SWITCH



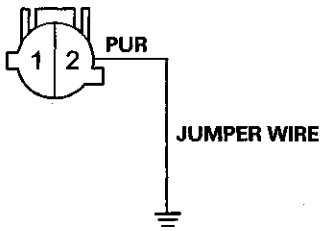
Is there continuity?

YES–Go to step 12.

NO–Replace the A/C pressure switch.■

12. Connect A/C pressure switch 2P connector terminal No. 2 to body ground with a jumper wire.

A/C PRESSURE SWITCH 2P CONNECTOR



Wire side of female terminals

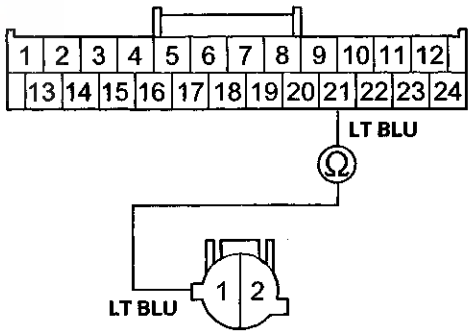
Do the compressor and fans operate?

YES–Go to step 13.

NO–Check for B-CAN codes (see page 22-134).■

13. Check for continuity between HVAC control unit 24P connector terminal No. 21 and A/C pressure switch 2P connector terminal No. 1.

HVAC CONTROL UNIT 24P CONNECTOR
Wire side of female terminals



A/C PRESSURE SWITCH 2P CONNECTOR
Wire side of female terminals

Is there continuity?

YES–Check for loose wires or poor connections at the HVAC control unit 24P connector and at the A/C pressure switch 2P connector.■

NO–Repair an open in the wire between the HVAC control unit and A/C pressure switch.■

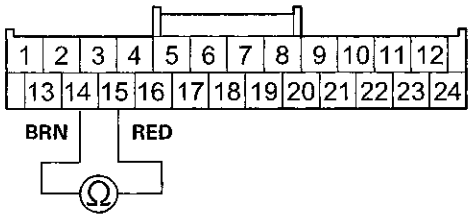
14. Turn the ignition switch to LOCK (0).

(cont'd)

A/C Pressure Switch Circuit Troubleshooting (cont'd)

15. Measure the evaporator temperature sensor resistance between HVAC control unit 24P connector terminal No. 14 and No. 15.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Is resistance less than 24 kΩ?

YES–Check for loose wires or poor connections at the HVAC control unit 24P connector. If the connections are good, substitute a known-good HVAC control unit and recheck. If the symptom goes away, replace the original HVAC control unit (see page 21-65).■

NO–Test the evaporator temperature sensor (see page 21-58).■

A/C Signal Circuit Troubleshooting

NOTE:

- If the blower motor does not run at all speeds, the A/C compressor will be inoperative. Run the self-diagnostic function, and check for DTC 12. Before performing any other troubleshooting, repair the cause of the inoperative blower motor.
- Do not use this troubleshooting procedure if any of the following items are operative: The condenser fan, the radiator fan, or the A/C compressor, or if the heater is inoperative. Refer to the symptom troubleshooting index.
- Before doing symptom troubleshooting, check for powertrain DTCs (see page 11-3).Also check for B-CAN codes.

1. Turn the ignition switch to ON (II).
2. Check if the blower motor operates at all speeds.

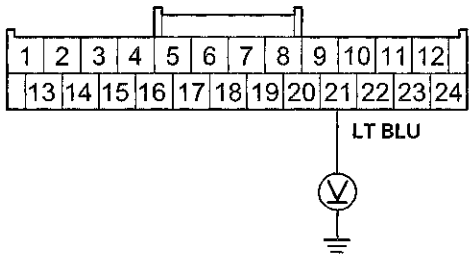
Does the blower motor operate at all speeds?

YES–Go to step 3.

NO–Repair the problem in the blower motor circuit (see page 21-38).■

3. Turn the ignition switch to LOCK (0).
4. Disconnect the HVAC control unit 24P connector.
5. Turn the ignition switch to ON (II).
6. Measure the voltage between HVAC control unit 24P connector terminal No. 21 and body ground.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

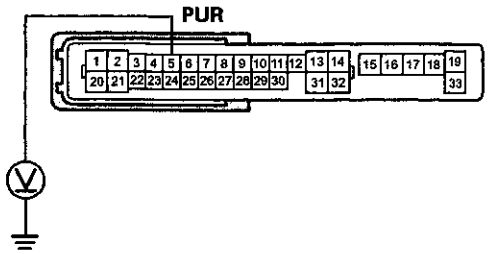
Is there battery voltage?

YES–Go to step 8.

NO–Go to step 7.

7. Measure the voltage between driver's under-dash fuse/relay box connector F (33P) terminal No. 5 and body ground.

DRIVER'S UNDER-DASH FUSE/RELAY BOX CONNECTOR F (33P)



Wire side of female terminals

Is there battery voltage?

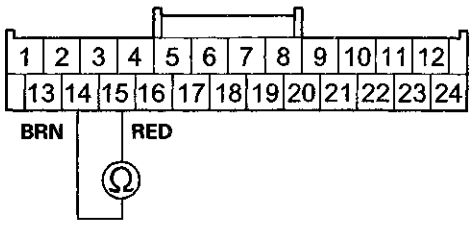
YES–Repair an open in the wire between the HVAC control unit and the MICU.■

NO–Check for loose wire or poor connections at driver's under-dash fuse/relay box connector F (33P) terminal No. 5. If the connections are good, substitute a known-good MICU and recheck. If the symptom goes away, replace the original MICU.■

8. Turn the ignition switch to LOCK (0).

9. Measure the evaporator temperature sensor resistance between HVAC control unit 24P connector terminals No. 14 and No. 15.

HVAC CONTROL UNIT 24P CONNECTOR



Wire side of female terminals

Is resistance less than 24 kΩ?

YES–Check for loose wires or poor connections at the HVAC control unit 24P connector. If the connections are good, substitute a known-good HVAC control unit and recheck. If the symptom goes away, replace the original HVAC control unit.■

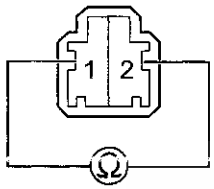
NO–Test the evaporator temperature sensor (see page 21-58).■

Evaporator Temperature Sensor Test

NOTE: Before testing the sensor, check for HVAC DTCs (see page 21-9).

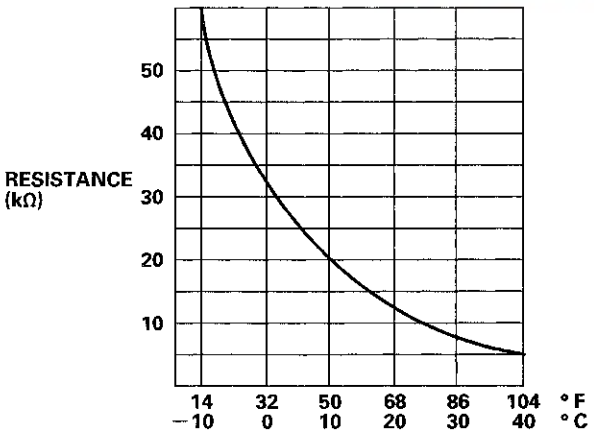
1. Remove the evaporator temperature sensor (see page 21-67).
2. Dip the sensor in ice water, and measure the resistance between its terminals.

EVAPORATOR TEMPERATURE SENSOR



Terminal side of male terminals

3. Pour warm water on the sensor, and check for a change in the resistance.
4. Compare the resistance readings with the specifications shown in the graph; the resistance should be within the specifications.



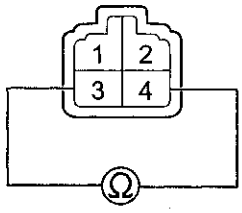
5. If the resistance is not as specified, replace the evaporator temperature sensor (see page 21-67).

Power Transistor Test

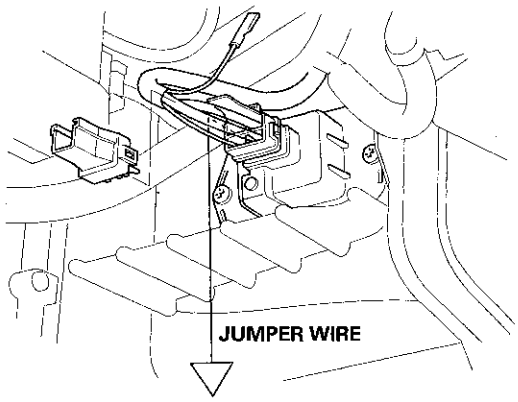
1. Remove the passenger's dashboard undercover (see page 20-170).
2. Disconnect the 4P connector from the power transistor.
3. Measure the resistance between terminals No. 3 and No. 4 of the power transistor. It should be about 1.5 kΩ.
   - If the resistance is within the specifications, go to step 4.
   - If the resistance is not within the specifications, replace the power transistor.

     NOTE: Also check the blower motor. Power transistor failure can be caused by a defective blower motor.

POWER TRANSISTOR



4. Carefully release the lock tab on terminal No. 1 (PUR) (A) in the 4P connector, then remove the terminal and insulate it from body ground.



(To 12 V Power source on vehicle)

Air Mix Control Motor Test

5. Reconnect the 4P connector to the power transistor.
6. Make sure the PUR wire is completely isolated, then supply 12 V to cavity No. 1 with a jumper wire.
7. Turn the ignition switch to ON (II), and check that the blower motor runs.
   - If the blower motor does not run, replace the power transistor.
     NOTE: A faulty blower motor can cause the power transistor to fail. If the power transistor is replaced, also check the blower motor for binding, and replace it if necessary.
   - If the blower motor runs, the power transistor is OK.

NOTE: Before testing the motor, check for HVAC DTCs (see page 21-9).

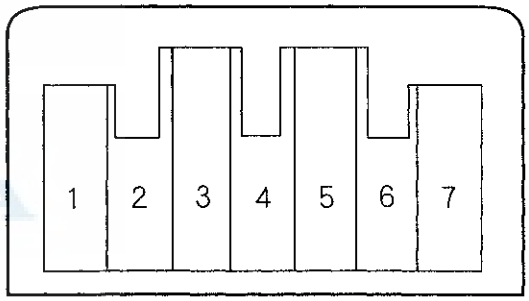
1. Disconnect the 7P connector from the air mix control motor.

NOTICE

Incorrectly applying power and ground to the air mix control motor will damage it. Follow the instructions carefully.

2. Connect battery power to terminal No. 1 of the air mix control motor, and ground terminal No. 2; the air mix control motor should run, and stop at Max Hot. If it doesn't, reverse the connections; the air mix control motor should run, and stop at Max Cool. When the air mix control motor stops running, disconnect battery power immediately.

AIR MIX CONTROL MOTOR



(cont'd)

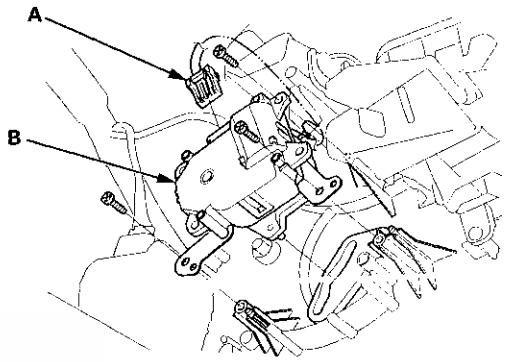
Air Mix Control Motor Test (cont'd)

3. If the air mix control motor did not run in step 2, remove it, then check the air mix control linkage and door for smooth movement.
   - If the linkage and door move smoothly, replace the air mix control motor (see page 21-60).
   - If the linkage or door sticks or binds, repair them as needed.
   - If the air mix control motor runs smoothly, go to step 4.
4. Measure the resistance between terminals No. 5 and No. 7. It should be between 4.2 to 7.8 kΩ.
5. Reconnect the air mix control motor 7P connector, then turn the ignition switch to ON (II).
6. Using the backprobe set, measure the voltage between terminals No. 3 and No. 7 of the 7P connector.

   Max Cool: About 0.5 V
   Max Hot: About 4.5 V
7. If either the resistance or the voltage readings are not as specified, replace the air mix control motor (see page 21-60).

Air Mix Control Motor Replacement

1. Remove the driver's dashboard undercover (see page 20-170).
2. Disconnect the 7P connector (A) from the air mix control motor (B). Remove the self-tapping screws and the air mix control motor from the heater unit.



3. Install the motor in the reverse order of removal. Make sure the pin on the motor is properly engaged with the linkage. After installation, make sure the motor runs smoothly.

Mode Control Motor Test

'08-09 models 4-door with A/T and '10 model with A/T

NOTE: Before testing the motor, check for HVAC DTCs (see page 21-9).

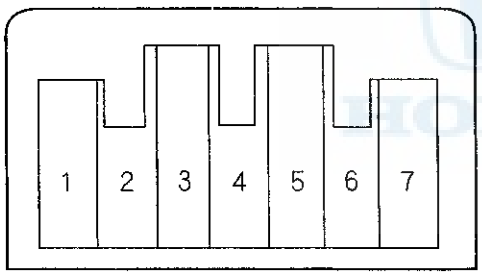
1. Disconnect the 7P connector from the mode control motor.

NOTICE

Incorrectly applying power and ground to the mode control motor will damage it. Follow the instructions carefully.

2. Connect battery power to terminal No. 1 of the mode control motor, and ground terminal No. 2; the mode control motor should run smoothly, and stop at Defrost. If it doesn't, reverse the connections; the mode control motor should run smoothly, and stop at Vent. When the mode control motor stops running, disconnect battery power immediately.

MODE CONTROL MOTOR



3. If the mode control motor did not run in step 2, remove it, then check the mode control linkage and doors for smooth movement.
   - If the linkage and doors move smoothly, replace the mode control motor (see page 21-62).
   - If the linkage or doors stick or bind, repair them as needed.
   - If the mode control motor runs smoothly, go to step 4.
4. Use a digital multimeter with an output of 1 mA or less at the 20 kΩ range. With the mode control motor running as in step 2, check for continuity between terminal No. 7 and terminals No. 3, 4, 5, and No. 6 individually. There should be continuity for a moment at each terminal as the motor moves through its travel.
5. If there is no continuity for a moment at each terminal, replace the mode control motor (see page 21-62).

'08-10 models with M/T and '08-09 models 2-door with A/T

NOTE: Before testing the motor, check for HVAC DTCs (see page 21-9).

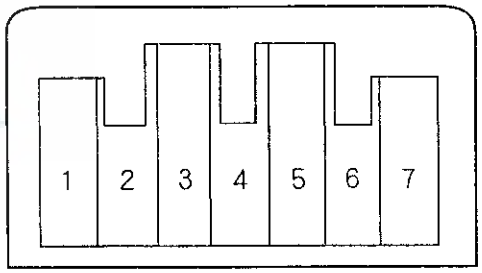
1. Disconnect the 7P connector from the mode control motor.

NOTICE

Incorrectly applying power and ground to the mode control motor will damage it. Follow the instructions carefully.

2. Connect battery power to terminal No. 1 of the mode control motor, and ground terminal No. 2; the mode control motor should run, and stop at Defrost. If it doesn't, reverse the connections; the mode control motor should run, and stop at Vent. When the mode control motor stops running, disconnect battery power immediately.

MODE CONTROL MOTOR



(cont'd)

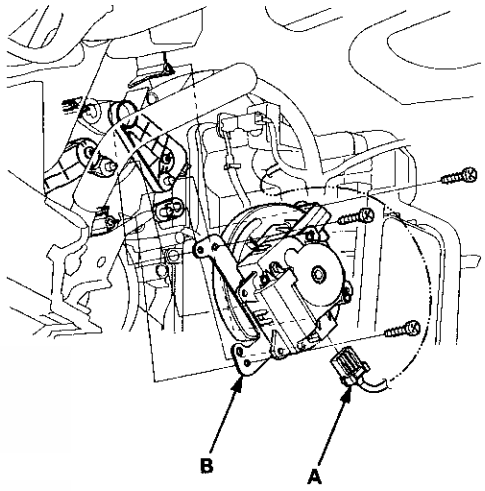
Mode Control Motor Test (cont'd)

3. If the mode control motor did not run in step 2, remove it, then check the mode control linkage and door for smooth movement.
   - If the linkage and door move smoothly, replace the mode control motor (see page 21-62).
   - If the linkage or door sticks or binds, repair them as needed.
   - If the mode control motor runs smoothly, go to step 4.
4. Measure the resistance between terminals No. 5 and No. 7s of the mode control motor. It should be between 4.2 and 7.8 kΩ.
5. Reconnect the mode control motor 7P connector, then turn the ignition switch to ON (II).
6. Using the backprobe set, measure the voltage between terminal No. 3 and No. 7 of the 7P connector.

   Vent: About 0.5 V
   Defrost: About 4.5 V
7. If either the resistance or the voltage readings are not as specified, replace the mode control motor (see page 21-62).

Mode Control Motor Replacement

1. Remove the blower unit (see page 21-65).
2. Disconnect the 7P connector (A) from the mode control motor (B). Remove the self-tapping screws and the mode control motor from the heater unit.



3. Install the motor in the reverse order of removal. Make sure the pin on the motor is properly engaged with the linkage. After installation, make sure the motor runs smoothly.

Recirculation Control Motor Test

'08-09 models 4-door with A/T and '10 model with A/T

NOTE: Before testing the motor, check for HVAC DTCs (see page 21-9).

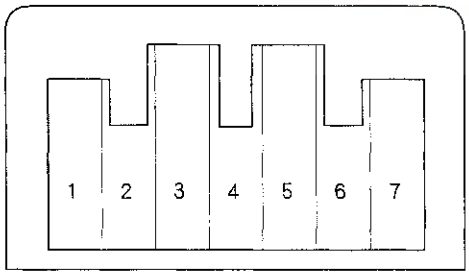
1. Disconnect the 7P connector from the recirculation control motor.

NOTICE

Incorrectly applying power and ground to the recirculation control motor will damage it. Follow the instructions carefully.

2. Connect battery power to terminal No. 1 of the recirculation control motor, and ground either terminal No. 5 or No. 7; the recirculation control motor should run smoothly. To avoid damaging the recirculation control motor, do not reverse power and ground immediately when the motor stops. Disconnect terminal No. 5 or No. 7 from ground; the recirculation control motor should stop at Fresh (when terminal No. 7 is disconnected) or Recirculate (when terminal No. 5 is disconnected). Do not leave the motor connected to power and ground for long periods of time.

RECIRCULATION CONTROL MOTOR



3. If the recirculation control motor did not run in step 2, remove it, then check the recirculation control linkage and doors for smooth movement.
   - If the linkage and doors move smoothly, replace the recirculation control motor (see page 21-64).
   - If the linkage or doors stick or bind, repair them as needed.

'08-10 models with M/T and '08-09 models 2-door with A/T

NOTE: Before testing the motor, check for HVAC DTCs (see page 21-9).

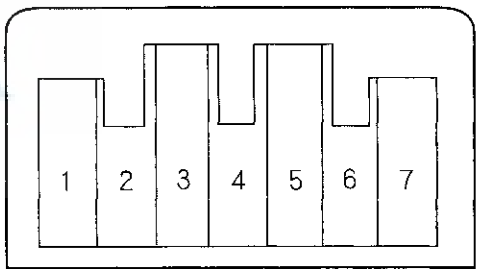
1. Disconnect the 7P connector from the recirculation control motor.

NOTICE

Incorrectly applying power and ground to the recirculation control motor will damage it. Follow the instructions carefully.

2. Connect battery power to terminal No. 1 of the recirculation control motor, and ground terminal No. 2; the recirculation control motor should run, and stop at Fresh. If it doesn't, reverse the connections; the recirculation control motor should run, and stop at Recirculate. When the recirculation control motor stops running, disconnect battery power immediately.

RECIRCULATION CONTROL MOTOR



(cont'd)

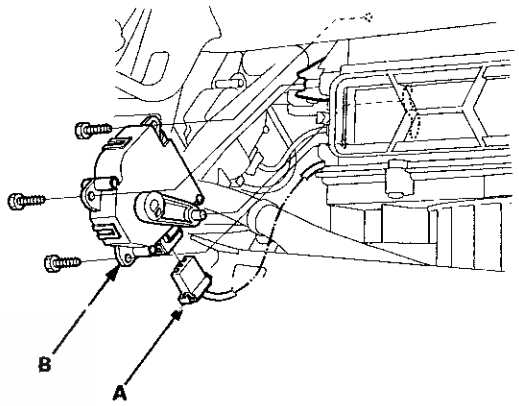
Recirculation Control Motor Test (cont'd)

3. If the recirculation control motor did not run in step 2, remove it, then check the recirculation control linkage and door for smooth movement.
   - If the linkage and door move smoothly, replace the recirculation control motor (see page 21-64).
   - If the linkage or door sticks or binds, repair them as needed.
   - If the recirculation control motor runs smoothly, go to step 4.
4. Measure the resistance between terminals No. 5 and No. 7 of the recirculation control motor. It should be between 4.2 and 7.8 kΩ.
5. Reconnect the recirculation control motor 7P connector, then turn the ignition switch to ON (II).
6. Using the backprobe set, measure the voltage between terminals No. 3 and No. 7 of the 7P connector.

   Fresh: About 1.0 V
   Recirculate: About 4.0 V
7. If either the resistance or the voltage readings are not as specified, replace the recirculation control motor (see page 21-64).

Recirculation Control Motor Replacement

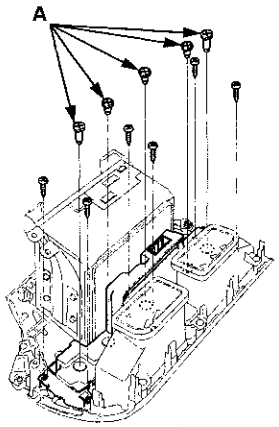
1. Remove the glove box (see page 20-174).
2. Disconnect the 7P connector (A) from the recirculation control motor (B). Remove the self-tapping screws and the recirculation control motor from the heater unit.



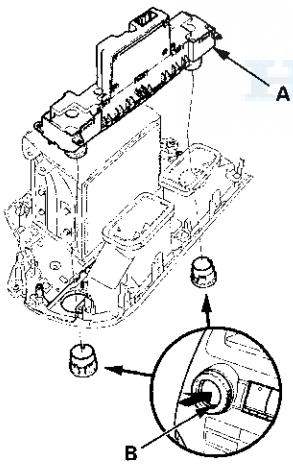
3. Install the motor in the reverse order of removal. Make sure the pin on the motor is properly engaged with the linkage. After installation, make sure the motor runs smoothly.

HVAC Control Unit Removal/Installation

1. Remove the audio unit (see page 23-115).
2. Remove the self-tapping screws. If necessary, replace the bulbs (A).



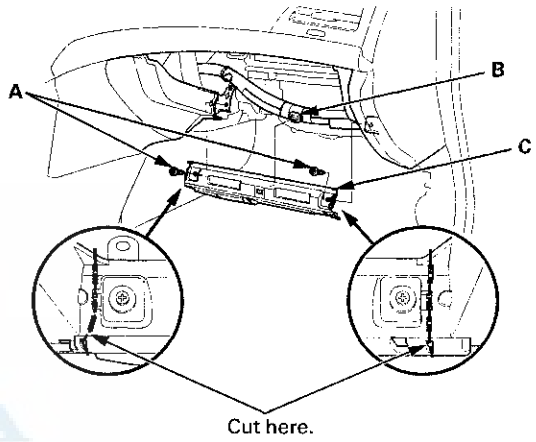
3. While holding the HVAC control unit (A), firmly press the center of one of the dials (B) to remove the outer dial. Repeat for the other outer dial, then remove the unit.



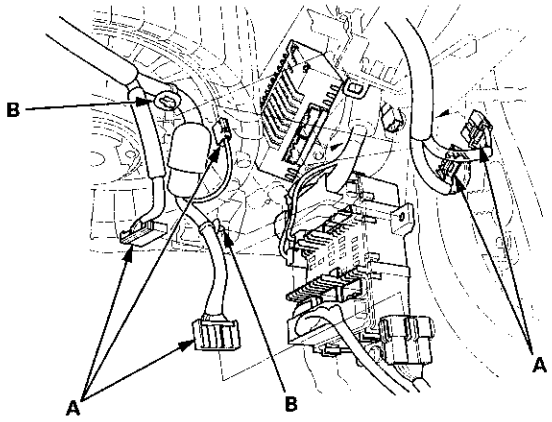
4. Install the control unit in the reverse order of removal. After installation, operate the various functions to make sure they work properly.
5. Run the self-diagnostic function to confirm that there are no problems in the system (see page 21-10).

Blower Unit Removal/Installation

1. Remove the glove box (see page 20-174).
2. Remove the passenger's undercover (see page 20-170).
3. Remove the right kick panel (see page 20-107).
4. Remove the dust and pollen filter assembly from the blower unit.
5. Remove the bolts (A) and the wire harness clip (B). Then cut the plastic cross brace (C) in the glove box opening with diagonal cutters in the area shown. Retain the plastic cross brace to be reinstalled later.



6. Disconnect these connectors (A): Passenger's under-dash fuse/relay box connector D (28P), the stereo amplifier connectors (with premium audio system), the AM/FM antenna lead, and right side wire harness connector C410 (20P). Remove the wire harness clips (B).



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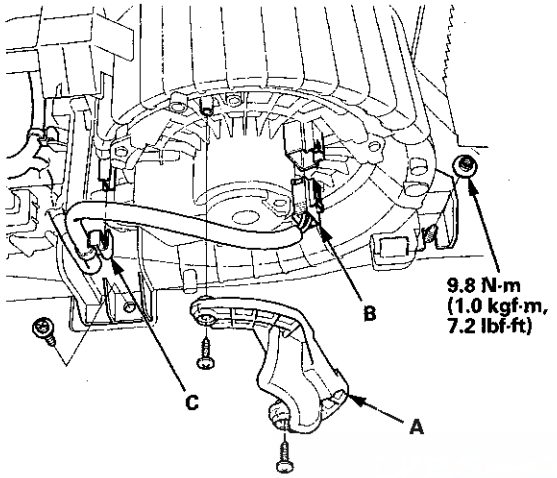
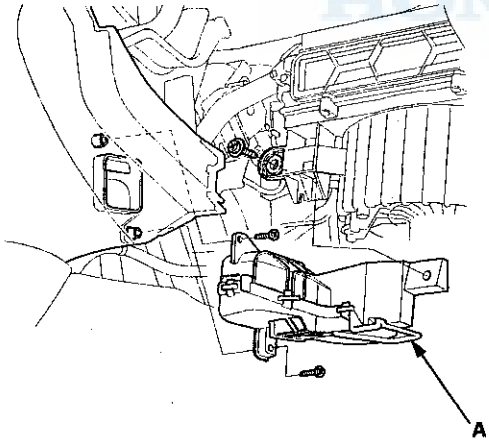
Blower Unit Removal/Installation (cont'd)

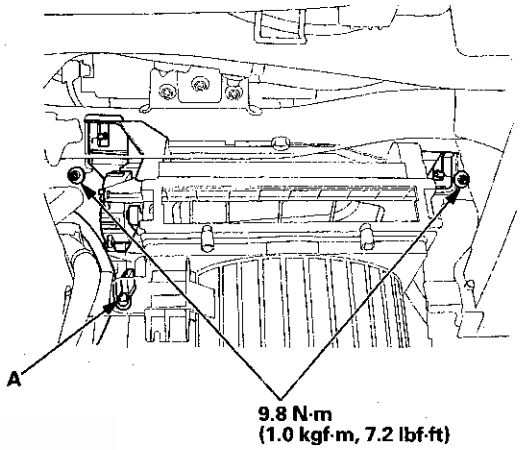
7. Remove the two screws, then remove the cover (A).



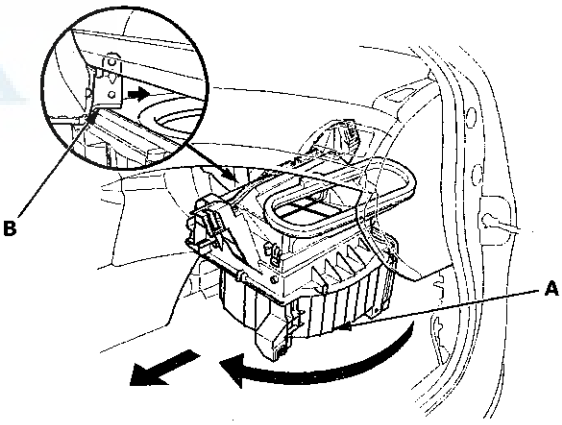
8. Disconnect the connector (B) from the blower motor and the wire harness clip (C). Remove the self-tapping screw and the mounting nut.
9. Remove the self-tapping screws, and the passenger's heater duct (A).



10. Disconnect the connector (A) from the recirculation control motor. Remove the mounting nuts.



11. Pull the blower unit (A) out while rotating it clockwise as shown, so that the glove box bracket (B) passes through the dust and pollen filter area.

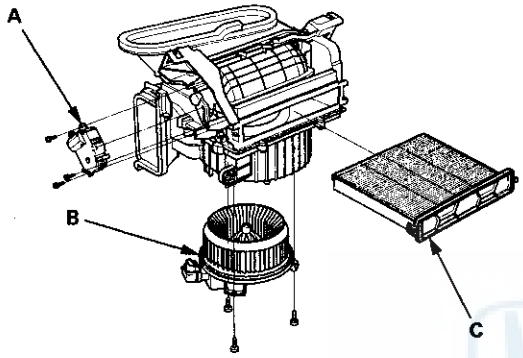


12. Install the unit in the reverse order of removal. Make sure that there is no air leakage.

Blower Unit Component Replacement

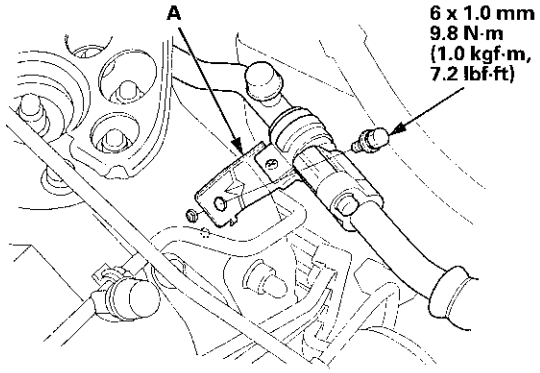
Note these items when overhauling the blower unit:

- The recirculation control motor (A), the blower motor (B), and the dust and pollen filter (C) can be replaced without removing the blower unit.
- Before reassembly, make sure that the recirculation control linkage and door move smoothly without binding.
- After reassembly, make sure the recirculation control motor runs smoothly (see page 21-64).

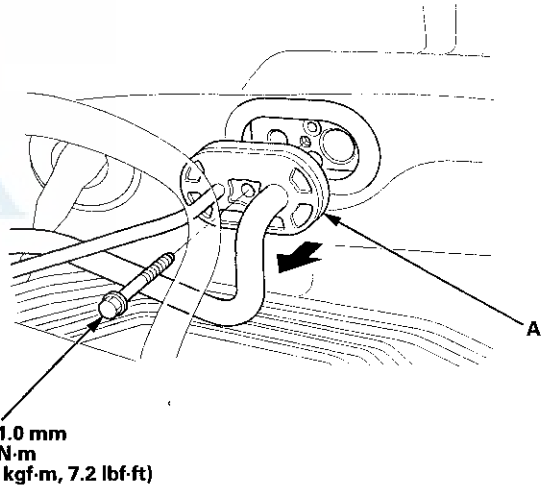


Evaporator Core Replacement

1. Recover the refrigerant with a recovery/recycling/charging station (see page 21-80).
2. Remove the bolt from the A/C line clamp (A).



3. Remove the bolt, then disconnect the A/C line (A) from the evaporator core.

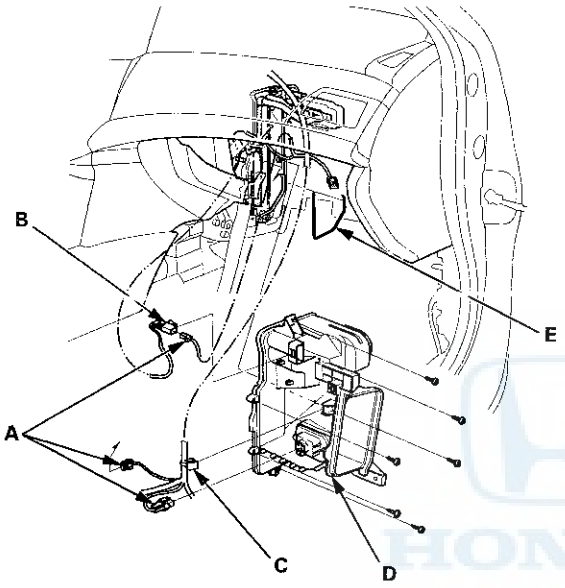


4. Remove the blower unit (see page 21-65).
5. Remove the passenger's console cover (see page 20-157).

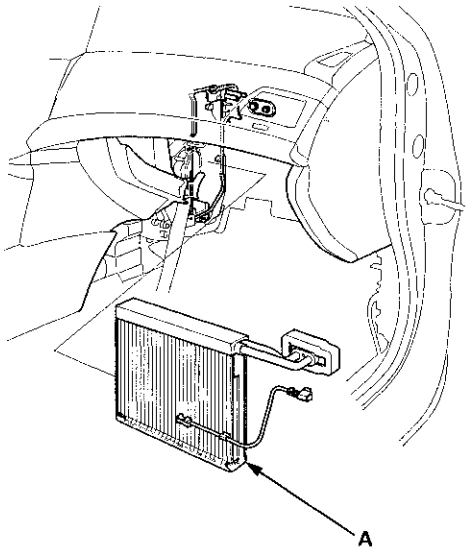
(cont'd)

Evaporator Core Replacement (cont'd)

6. Disconnect these connectors (A): The evaporator temperature sensor, the power transistor, and the passenger's air mix control motor (with climate control). Remove the connector clip (B) and the harness clip (C). Remove the self-tapping screws, the expansion valve cover (D), and the seal (E).

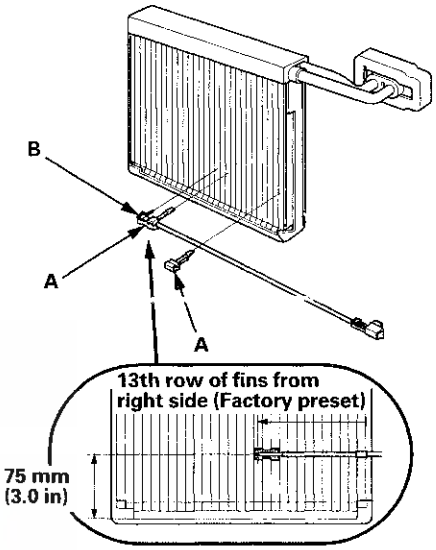


7. Carefully pull out the evaporator core (A) without bending the lines.



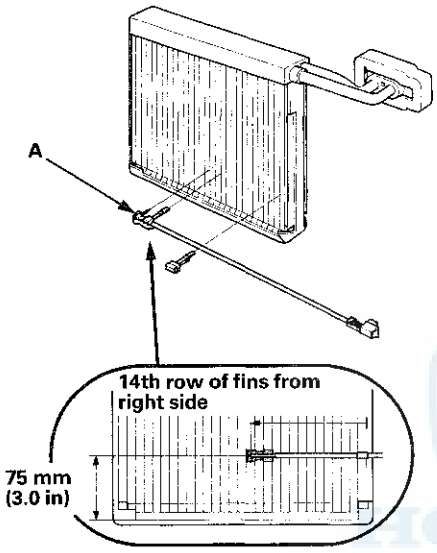
8. Remove the clips (A) and the evaporator temperature sensor (B).

NOTE: At the factory, the evaporator temperature sensor is installed at the 13th row of fins from the right side.



9. When the evaporator temperature sensor (A) is reinstalled onto a new evaporator core, set the evaporator temperature sensor in the 13th fin from the right side.

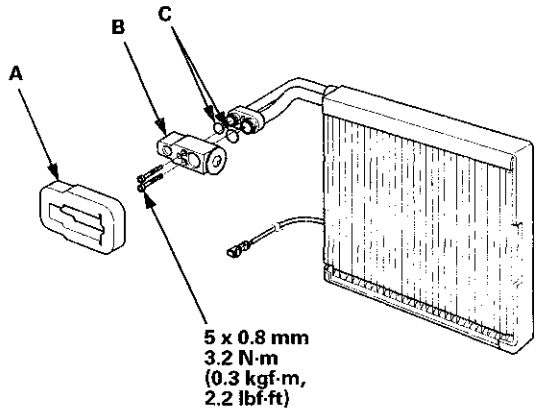
   NOTE: If you are installing the sensor onto the old evaporator core, install the sensor onto the 14th fin, because the 13th fin may be deformed from the previous installation.



10. Install the core in the reverse order of removal, and note these items:
    - If you're installing a new evaporator core, add refrigerant oil (DENSO ND-OIL 8) (see page 21-6).
    - Replace the O-rings with new ones at each fitting, and apply a thin coat of refrigerant oil before installing them. Be sure to use the correct O-rings for HFC-134a (R-134a) to avoid leakage.
    - Immediately after using the oil, reinstall the cap on the container, and seal it to avoid moisture absorption.
    - Do not spill the refrigerant oil on the vehicle; it may damage the paint; if the refrigerant oil contacts the paint, wash it off immediately.
    - Make sure that there is no air leakage.
    - Charge the system (see page 21-81).

Expansion Valve Replacement

1. Remove the evaporator core (see page 21-67).
2. Remove the insulator (A) and bolts, then remove the expansion valve (B) and O-rings (C).



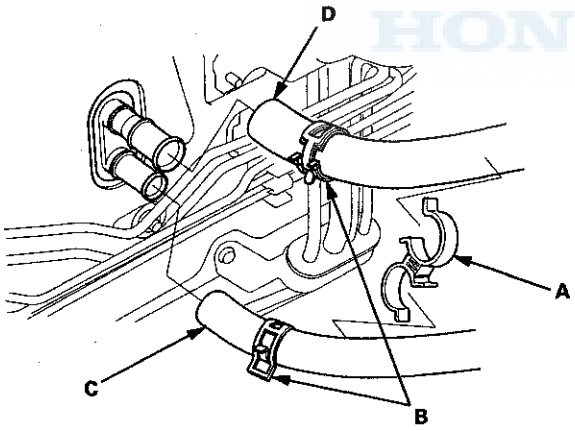
3. Install the expansion valve in the reverse order of removal, and note these items:
    - Replace the O-rings with new ones at each fitting, and apply a thin coat of refrigerant oil before installing them. Be sure to use the correct O-rings for HFC-134a (R-134a) to avoid leakage.
    - Immediately after using the oil, reinstall the cap on the container, and seal it to avoid moisture absorption.
    - Do not spill the refrigerant oil on the vehicle; it may damage the paint; if the refrigerant oil contacts the paint, wash it off immediately.
    - Make sure that there is no air leakage.
    - Charge the system (see page 21-81).

Heater Unit/Core Replacement

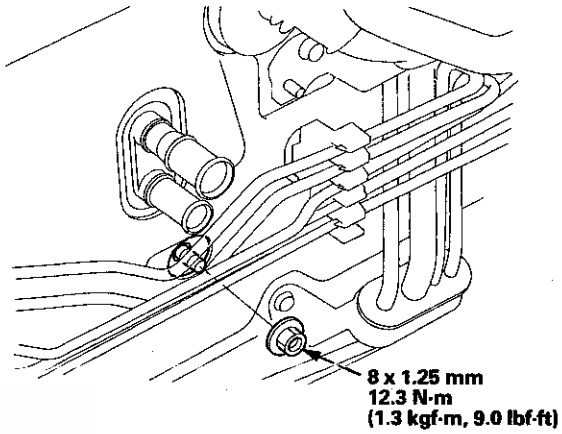
SRS components are located in this area. Review the SRS component locations (see page 24-21) and the precautions and procedures (see page 24-25) before doing repairs or service.

1. Do the battery terminal disconnection procedure (see page 22-91).
2. Recover the refrigerant with a recovery/recycling/charging station (see page 21-80).
3. Disconnect the A/C line from the evaporator core (see page 21-67).
4. When the engine is cool, drain the engine coolant from the radiator (see page 10-6).
5. From under the hood, remove the clamp (A). Slide the hose clamps (B) back. Disconnect the inlet heater hose (C) and the outlet heater hose (D) from the heater unit. Note the layout of the hoses.

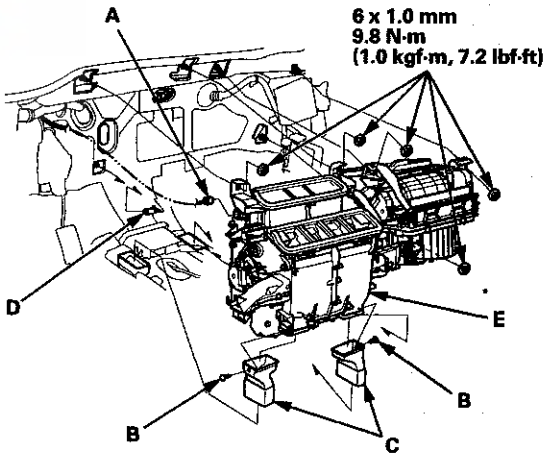
   Engine coolant will run out when the hoses are disconnected; drain it into a clean drip pan. Be sure not to let coolant spill on the electrical parts or the painted surfaces. If any coolant spills, rinse it off immediately.



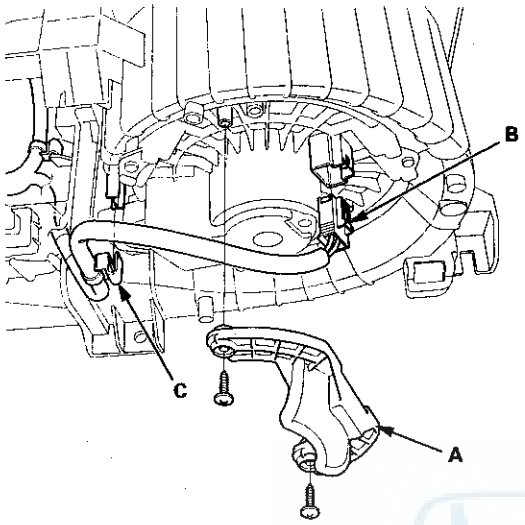
6. Remove the mounting nut from the heater unit. Take care not to damage or bend the fuel lines or brake lines, etc..



7. Remove the dashboard (see page 20-183).
8. Disconnect the connector (A). Remove the clips (B), ducts (C), and the drain hose (D). Then remove the mounting bolt, the mounting nuts, and the blower-heater unit (E).

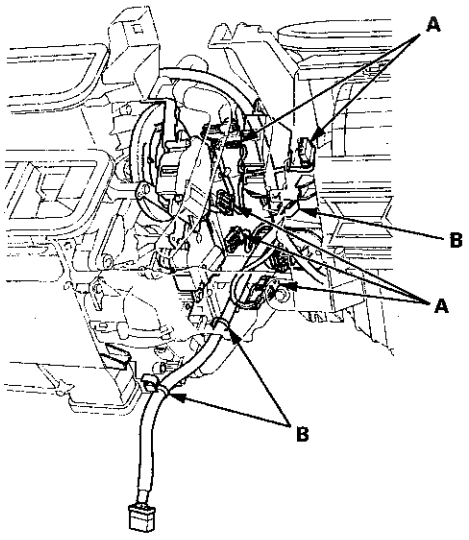


9. Remove the two screws, then remove the cover (A).

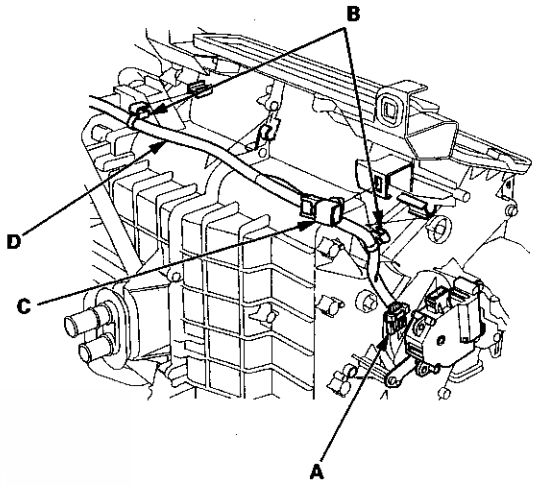


10. Disconnect the connector (B) from the blower motor. Remove the wire harness clip (C).

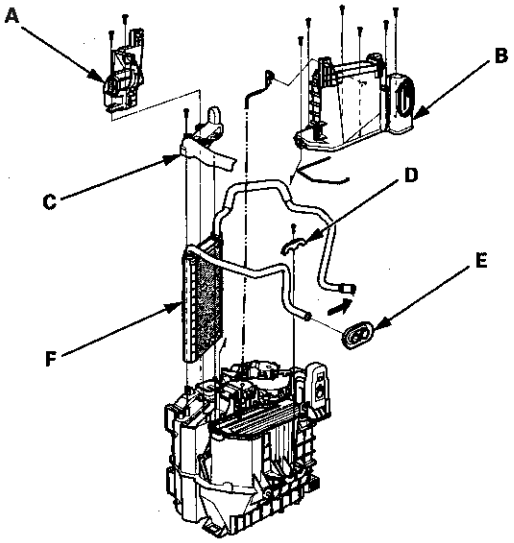
11. Disconnect these connectors (A): The mode control motor, the power transistor, the evaporator temperature sensor, the passenger's air mix control motor (with climate control), and the recirculation control motor. Remove the wire harness clips (B).



12. Disconnect the connector (A) from the air mix control motor. Remove the wire harness clips (B), the connector clip (C), and the wire harness (D).



13. Remove the self-tapping screws and the passenger's heater duct (A). Remove the self-tapping screws and the expansion valve cover (B). Remove the self-tapping screw and the heater core cover (C). Remove the self-tapping screws, the heater pipe bracket (D), and the grommet (E), and carefully pull out the heater core (F).



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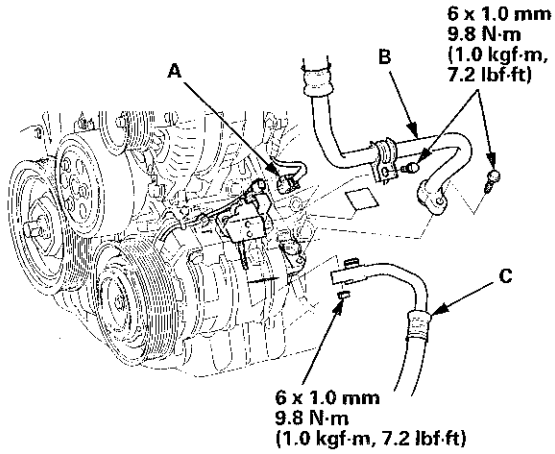
Heater Unit/Core Replacement (cont'd)

14. Install the heater core and the evaporator core in the reverse order of removal.
15. Install the heater unit in the reverse order of removal, and note these items:
    - Do not interchange the inlet and outlet heater hoses, and install the hose clamps securely.
    - Refill the cooling system with engine coolant (see page 10-6).
    - Make sure that there is no coolant leakage.
    - Make sure that there is no air leakage.
16. Do the battery terminal reconnection procedure (see page 22-91).

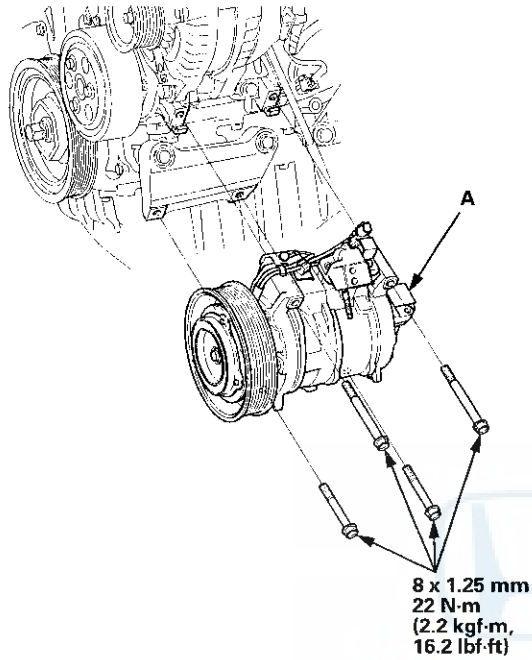
A/C Compressor Replacement

NOTE: Do not install the A/C compressor into a system unless you are completely sure that the system is free of contamination. Installing the A/C compressor into a contaminated system can result in premature A/C compressor failure.

1. If the A/C compressor is marginally operable, run the engine at idle speed, and let the air conditioning work for a few minutes, then shut the engine off.
2. Recover the refrigerant with a recovery/recycling/charging station (see page 21-80).
3. Remove the drive belt (see page 4-30).
4. Remove the A/C condenser fan shroud (see page 10-13).
5. Disconnect the A/C compressor clutch connector (A). Remove the bolts and the nut, then disconnect the suction hose (B) and the discharge hose (C) from the A/C compressor. Plug or cap the lines immediately after disconnecting them to avoid moisture and dust contamination.



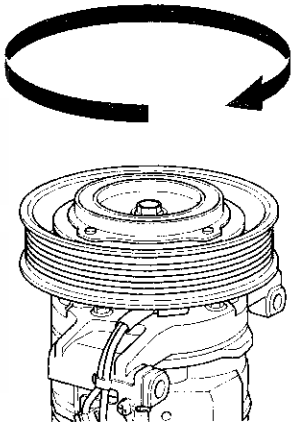
6. Remove the mounting bolts and the A/C compressor (A). Be careful not to damage the radiator fins when removing the compressor.



7. Install the A/C compressor in the reverse order of removal, and note these items:
   - Inspect the A/C lines for any signs of contamination.
   - If you're installing a new A/C compressor, you must calculate the amount of refrigerant oil to be removed from it (see page 21-6). A new A/C compressor comes with a full charge of oil.
   - Replace the O-rings with new ones at each fitting, and apply a thin coat of refrigerant oil before installing them. Be sure to use the correct O-rings for HFC-134a (R-134a) to avoid leakage.
   - Use only PAG refrigerant oil (DENSO ND-OIL 8) for HFC-134a A/C systems.
   - To avoid contamination, do not return the oil to the container once dispensed, and never mix it with other refrigerant oils.
   - Immediately after using the oil, reinstall the cap on the container, and seal it to avoid moisture absorption.
   - Do not spill the refrigerant oil on the vehicle; it may damage the paint; if the refrigerant oil contacts the paint, wash it off immediately.
   - Be careful not to damage the radiator fins when installing the A/C compressor and the A/C condenser fan shroud.
   - Charge the system (see page 21-81).

1. Check the pressure plate for discoloration, peeling, or other damage. If there is damage, replace the clutch set (see page 21-75).
2. Check the pulley bearing play and drag by rotating the pulley by hand. Also check for grease leakage from the bearing. Replace the clutch set with a new one if it is noisy, has excessive play/drag, or has bearing grease contamination on the clutch faces (see page 21-75).

   NOTE: The pulley and the pressure plate were mated at the factory by a burnishing operation. Always replace the pulley and the pressure plate as a set. Replacing only one part of the clutch set will cause clutch slippage.



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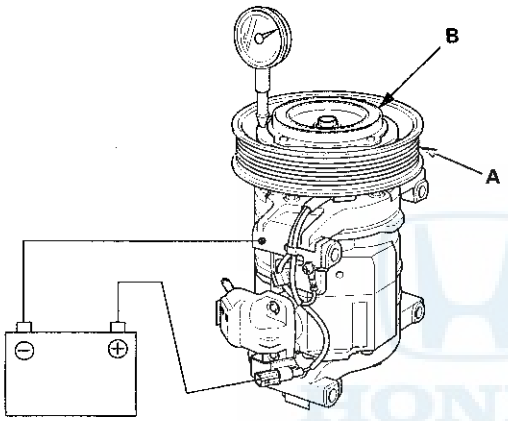
A/C Compressor Clutch Check (cont'd)

3. Measure the clearance between the pulley (A) and the pressure plate (B) with a dial indicator. Zero out the indicator, then apply battery voltage to the A/C compressor clutch. Measure the movement of the pressure plate when the voltage is applied. If the clearance is not within the specified limits, the pressure plate must be reshimmed (see page 21-75).

   Clearance: 0.35—0.60 mm (0.014—0.024 in)

   NOTE: The shims are available in three thicknesses: 0.1 mm, 0.3 mm, and 0.5 mm.

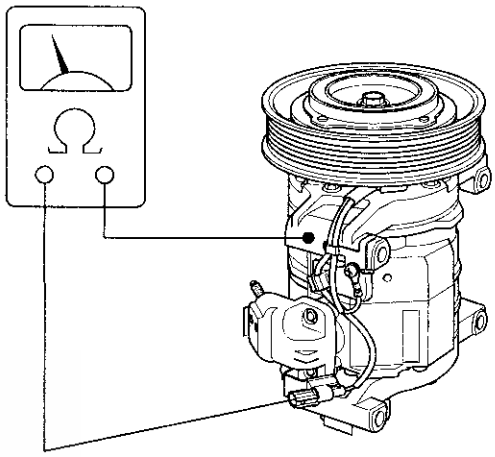


4. Remove the pressure plate (see page 21-75), and inspect the pressure plate and pulley friction surfaces for wear. If there is excessive wear, roughness, or scoring, replace the clutch set.

5. Inspect the friction surfaces and the A/C compressor shaft hub for excess oil. If excess oil is present, and it is not from the engine or power steering system, then the A/C compressor shaft seal is leaking. Replace the A/C compressor (see page 21-72).

6. Check resistance of the field coil. If resistance is not within specifications, replace the field coil (see page 21-75).

   Field Coil Resistance: 3.9—4.3 Ω at 68° F (20 °C)

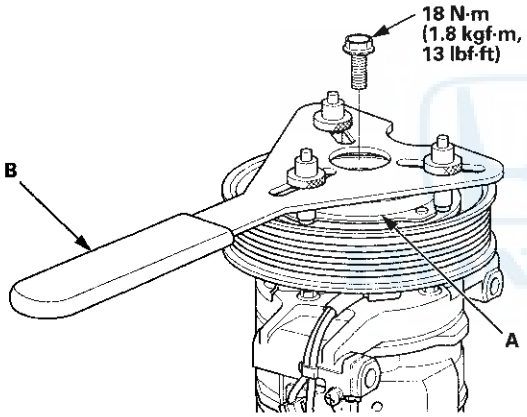


A/C Compressor Clutch Overhaul

Special Tools Required
- A/C Clutch Holder Robinair 10290 or Kent-Moore J37872, commercially available
- A/C Clutch Holder Honda Tool and Equipment ACT499A, commercially available

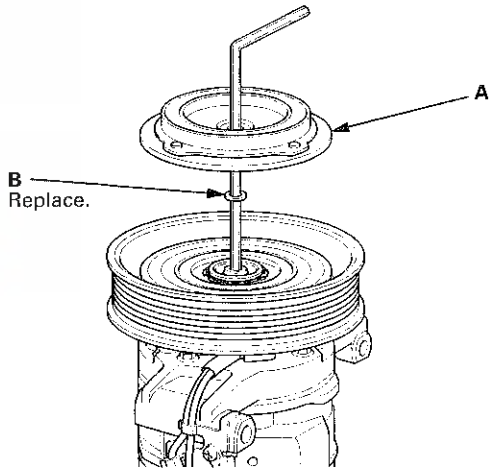
1. Remove the center bolt while holding the pressure plate (A) with a commercially available A/C clutch holder (B).

   NOTE:
   - Do not use a hammer to remove the snap rings. Using a hammer damages the A/C compressor.
   - Do not hammer or pry on the pulley to remove it. If the pulley is difficult to remove, use a commercially available pulley removing tool. Make sure the jaws of the pulling tool engage the back face of the pulley, not the pulley grooves.



2. Remove the pressure plate (A) and the shim(s) (B), taking care not to lose the shim(s). If the clutch needs adjustment, increase or decrease the number and thickness of shims as necessary, then reinstall the pressure plate, and recheck its clearance (see page 21-73).

   NOTE:
   - The shims are available in three thicknesses: 0.1 mm, 0.3 mm, and 0.5 mm.
   - Do not pry the on the pressure plate with screwdrivers or similar tools. Prying damages the pressure plate and the pulley.
   - When replacing the clutch set, place a trial stack of shims, 1 mm total thickness, on the A/C compressor shaft. Install the pressure plate, and check its clearance (see page 21-73). If the clearance is not with specification, add or substract shims as needed.



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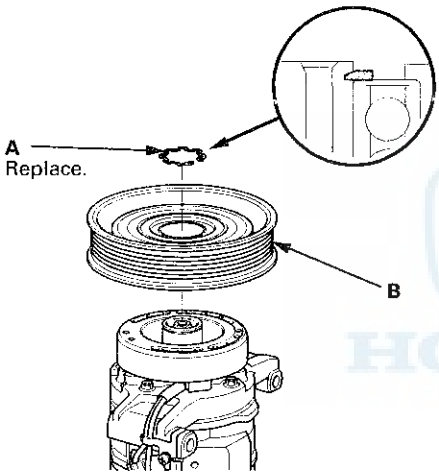
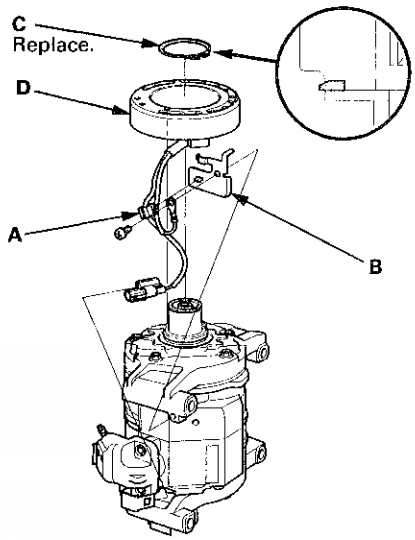
A/C Compressor Clutch Overhaul (cont'd)

3. If you are replacing the field coil, remove the snap ring (A) with snap ring pliers, then remove the pulley (B). Be careful not to damage the pulley or the A/C compressor.

   NOTE:
   - Do not use a hammer to remove the snap rings. Using a hammer damages the A/C compressor.
   - Do not hammer or pry on the pulley to remove it. If the pulley is difficult to remove, use a commercially available pulley removing tool. Make sure the jaws of the pulling tool engage the back face of the pulley, not the pulley grooves.



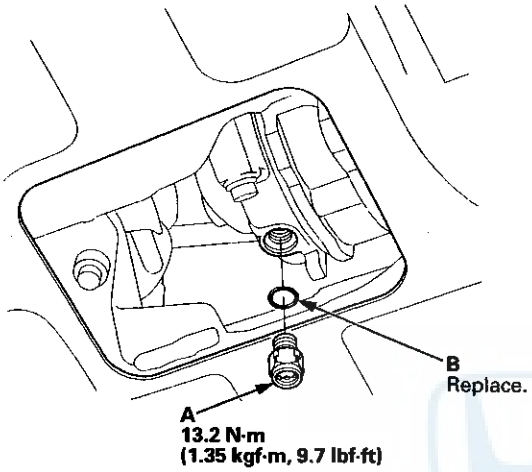
4. Remove the screw, the wire harness clip (A), and the holder (B). Remove the snap ring (C) with snap ring pliers, then remove the field coil (D). Be careful not to damage the field coil or the A/C compressor.



5. Reassemble the clutch in the reverse order of disassembly, and note these items:
   - When replacing the field coil, check that the new coil has the correct resistance (see step 6 on page 21-74).
   - Install the field coil with the wire side facing down, and align the boss on the field coil with the hole in the A/C compressor.
   - Clean the pulley and A/C compressor sliding surfaces with contact cleaner or other non-petroleum solvent.
   - Install new snap rings, note the installation direction, and make sure they are fully seated in the grooves.
   - Make sure that the pulley turns smoothly after it's reassembled.
   - Route and clamp the wires properly, or they can be damaged by the pulley.
6. Cycle the A/C clutch approximately 20 times by running the engine at 1,500–2,000 rpm and setting the A/C system to MAX A/C mode. This procedure seats the clutch friction surfaces and increases clutch torque capacity.

A/C Compressor Relief Valve Replacement

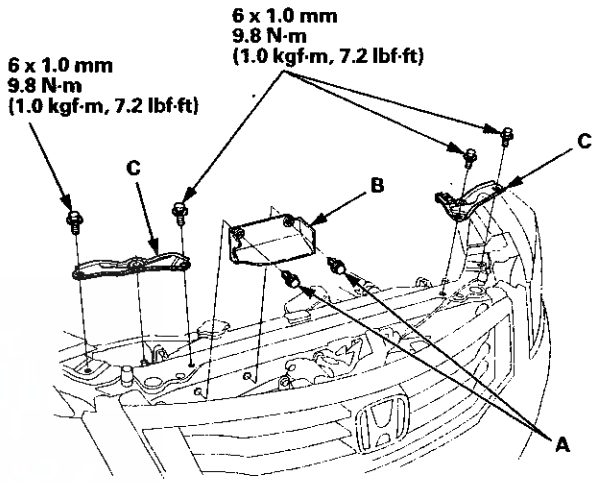
1. Recover the refrigerant with a recovery/recycling/charging station (see page 21-80).
2. Raise the vehicle on a lift.
3. Remove the relief valve (A) and the O-ring (B). Plug the opening to keep foreign matter from entering the system, and the A/C compressor oil from running out.



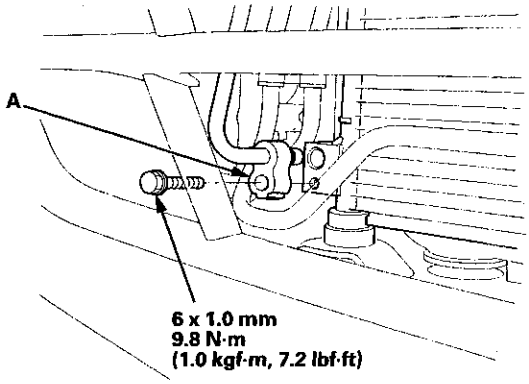
4. Clean the mating surfaces.
5. Replace the O-ring on the relief valve, and apply a thin coat of refrigerant oil before installing it.
6. Remove the plug you installed in step 2, then install and tighten the relief valve.
7. Charge the system (see page 21-81).

A/C Condenser Replacement

1. Recover the refrigerant with a recovery/recycling charging station (see page 21-80).
2. Remove the front grille cover (see page 20-274).
3. Remove the intake air duct and the water separator (see page 10-13).
4. Remove the clips (A) and the duct (B). Remove the bolts and the radiator upper mount brackets (C).



5. Remove the bolt, then disconnect the receiver pipe (A) from the A/C condenser.



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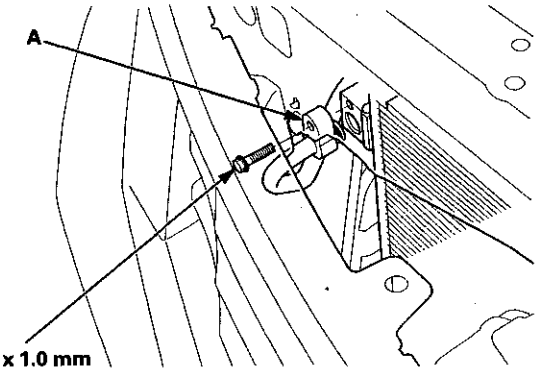
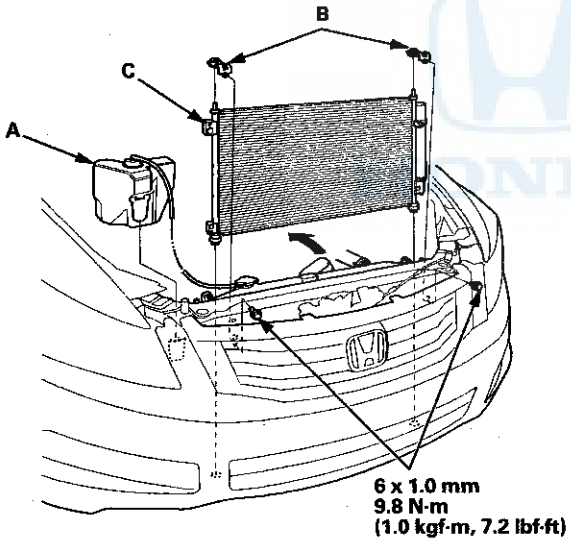
A/C Condenser Replacement (cont'd)

6. Remove the bolt, then disconnect the discharge hose (A) from the A/C condenser.



7. Remove the coolant reservoir (A).



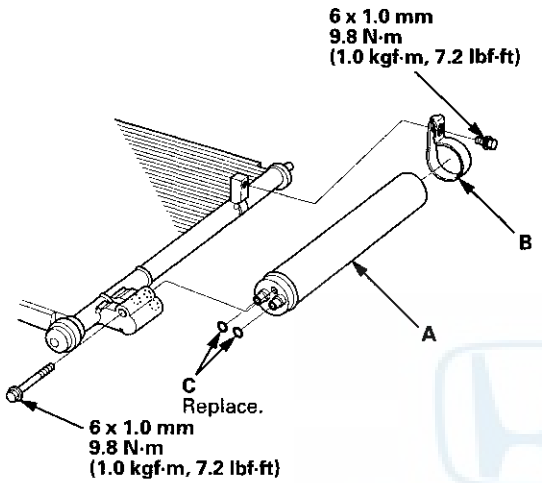
8. Remove the bolts, then remove the A/C condenser upper mount brackets (B). Remove the A/C condenser (C) by lifting it up. Be careful not to damage the radiator or condenser fins when removing the A/C condenser.

9. Install the A/C condenser in the reverse order of removal, and note these items:
   - If you're installing a new A/C condenser, add refrigerant oil (DENSO ND-OIL 8) (see page 21-6).
   - Replace the O-rings with new ones at each fitting, and apply a thin coat of refrigerant oil before installing them. Be sure to use the correct O-rings for HFC-134a (R-134a) to avoid leakage.
   - Immediately after using the oil, reinstall the cap on the container, and seal it to avoid moisture absorption.
   - Do not spill the refrigerant oil on the vehicle; it may damage the paint; if the refrigerant oil contacts the paint, wash it off immediately.
   - Be careful not to damage the radiator or the A/C condenser fins when installing the A/C condenser.
   - Charge the system (see page 21-81).

Receiver/Dryer Desiccant Replacement

NOTE: Install the receiver/dryer as quickly as possible to prevent the system from absorbing moisture from the air.

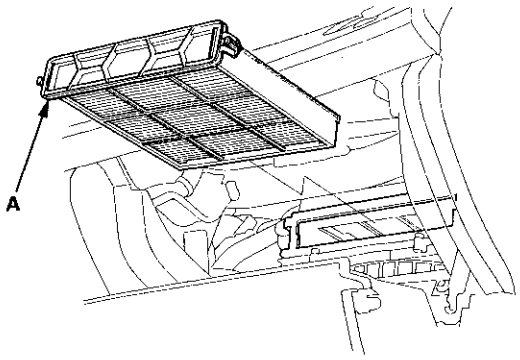
1. Remove the A/C condenser (see page 21-77).
2. Remove the bolts from the A/C condenser, then remove the receiver/dryer (A), the bracket (B), and the O-rings (C).



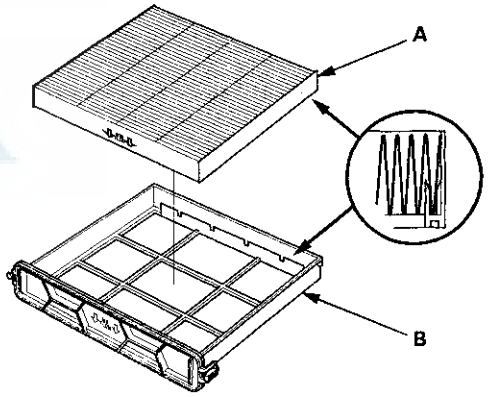
3. Install the receiver/dryer in the reverse order of removal. Replace the O-rings with new ones, and apply a thin coat of refrigerant oil (DENSO ND-OIL 8) before installing them. Be sure to use the correct O-rings for HFC-134a (R-134a) to avoid leakage.

Dust and Pollen Filter Replacement

1. Open the glove box. Remove the glove box stop on the right side, then let the glove box hang down (see page 20-174).
2. Remove the dust and pollen filter assembly (A) from the blower unit.



3. Remove the filter (A) from the housing (B), and replace the filter.



4. Install the filter in the reverse order of removal. Make sure that there is no air leaking out of the blower unit.

Refrigerant Recovery

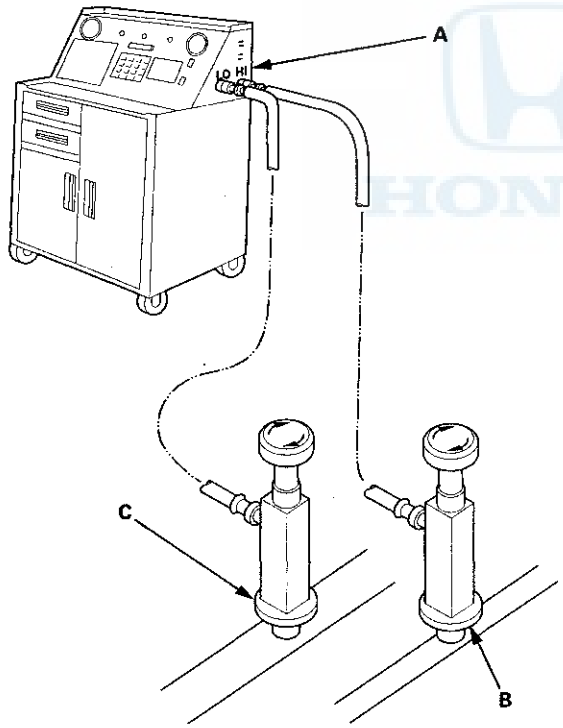
⚠CAUTION

- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.

NOTE:

- If accidental system discharge occurs, ventilate the work area before resuming service.
- Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.

1. Connect an R-134a refrigerant recovery/recycling/charging station (A) to the high-pressure service port (B) and the low-pressure service port (C), as shown, following the equipment manufacturer's instructions.



2. Measure the amount of refrigerant oil removed from the A/C system after the recovery process is completed. Be sure to put the same amount of new refrigerant oil back into the A/C system before charging.

System Evacuation

⚠CAUTION

- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.

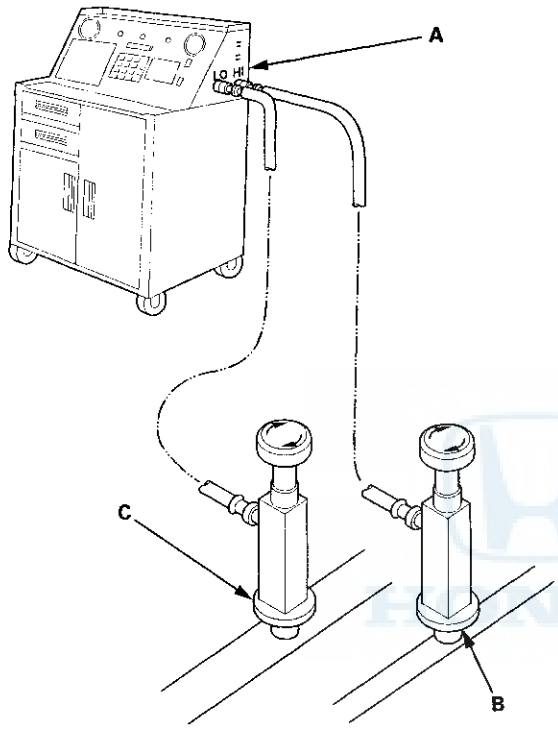
NOTE:

- If accidental system discharge occurs, ventilate the work area before resuming service.
- Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.
- Do not allow moisture to contaminate the A/C system oil. Moisture in the oil is difficult to remove, and it can damage the A/C compressor.

1. When an A/C system has been opened to the atmosphere, such as during installation or repair, it must be evacuated using an R-134a refrigerant recovery/recycling/charging station. If the system has been open for several days, the receiver/dryer should be replaced, refrigerant oil should be drained and replaced with new oil, and the system should be evacuated for several hours.

System Charging

2. Connect an R-134a refrigerant recovery/recycling/charging station (A) to the high-pressure service port (B) and the low-pressure service port (C), as shown, following the equipment manufacturer's instructions. Recover the refrigerant, if any, from the A/C system (see page 21-80).



3. Evacuate the system. The vacuum pump should run for a minimum of 45 minutes to eliminate all moisture from the system. When the suction gauge reads −93.3 kPa (−700 mmHg, −27.6 inHg) for at least 45 minutes, close all valves, and turn off the vacuum pump.

4. If the suction gauge does not reach approximately −93.3 kPa (−700 mmHg, −27.6 inHg) in 15 minutes, there is probably a leak in the system. Partially charge the system, and check for leaks (see page 21-82).

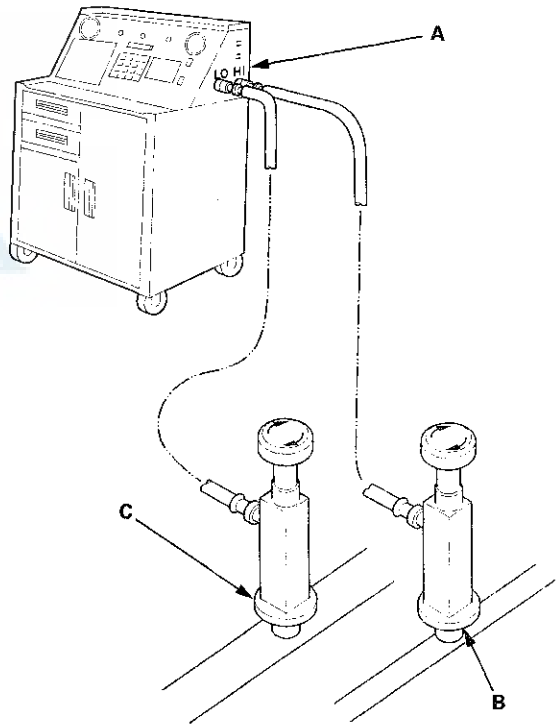
⚠CAUTION

- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.

NOTE:

- If accidental system discharge occurs, ventilate the work area before resuming service.
- Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.

1. Connect an R-134a refrigerant recovery/recycling/charging station (A) to the high-pressure service port (B) and the low-pressure service port (C), as shown, following the equipment manufacturer's instructions.



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System Charging (cont'd)

2. Recover the refrigerant in the A/C system (see page 21-80).
3. Evacuate the system until the suction gauge reads approximately −93.3 kPa (−700 mmHg, −27.6 inHg). Check that the system holds a vacuum for 15 minutes.
   - If the A/C system hold vacuum for 15 minutes, the system does not have a leak. Finish the system evacuation (see page 21-80), then go to step 4.
   - If the A/C system does not hold vacuum for 15 minutes, the A/C system has a leak. Find and repair the leak (see page 21-82).
4. Add the same amount of new refrigerant oil to the system that was removed during recovery. Use only DENSO ND-OIL 8 refrigerant oil.
5. Charge the system with the specified amount of R-134a refrigerant. Do not overcharge the system; the A/C compressor will be damaged.

   Select the appropriate units of measure for your refrigerant charging station.

   Refrigerant Capacity:
   400 to 450 g
   0.40 to 0.45 kg
   0.9 to 1.0 lbs
   14.1 to 15.9 oz
6. Check for refrigerant leaks (see page 21-82).
7. Check the system performance (see page 21-89).

Refrigerant Leak Check

Special Tools Required
- Leak Detector YGK-H-10PM*
- Leak Detector HLD-100*
- Leak Detector TIFZX-1*
- OPTIMAX Jr. A/C Leak Detection Kit TRP124893*

*Available through the Honda Tool and Equipment Program; call 888-424-6857

⚠CAUTION
- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.
- Do not operate the leak detector near flammable vapors. Its sensor operates at high temperatures, and could ignite the vapors, resulting in personal injury and/or damage to the equipment.

NOTE:
- If an accidental system discharge occurs, ventilate the work area before resuming service.
- Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.
- Check the system for leaks using an R-134a refrigerant leak detector with an accuracy of 14 g (0.5 oz) per year or better.

Leak Detector Usage Tips (Refer to the Operator's Manual for complete operating instructions)

- Position the vehicle in a wind-free work area. This will aid in detecting small leaks.
- When using the leak detector for the first time, allow it to warm up for 2 minutes with the probe in a clean atmosphere. This lets the temperature sensor in the detector stabilize.
- The calibration check should be done in the "Search 2" mode. Once that is done, the other check modes do not need calibrating.
- When leak checking through the HVAC module drain hose, avoid drawing water into the probe. Water can damage the internal pump and sensor.
- Avoid creasing the flexible probe extension. Creases can restrict air flow and give false readings.
- Because the detector recalibrates itself for ambient gases, it may be necessary to move the detector away from the leak to clear the sensor. Once the sensor has cleared, recheck the suspected leak.
- When removing the clear probe tip, be careful not to lose the flow ball.
- R-134a is heavier than air; always check below and to the sides of all potential leak sources.
- Halogen leak detectors are sensitive to chemicals: windshield washing solutions, solvents/cleaners, and some vehicle adhesives. Keep these chemicals out of the area when doing leak detection.

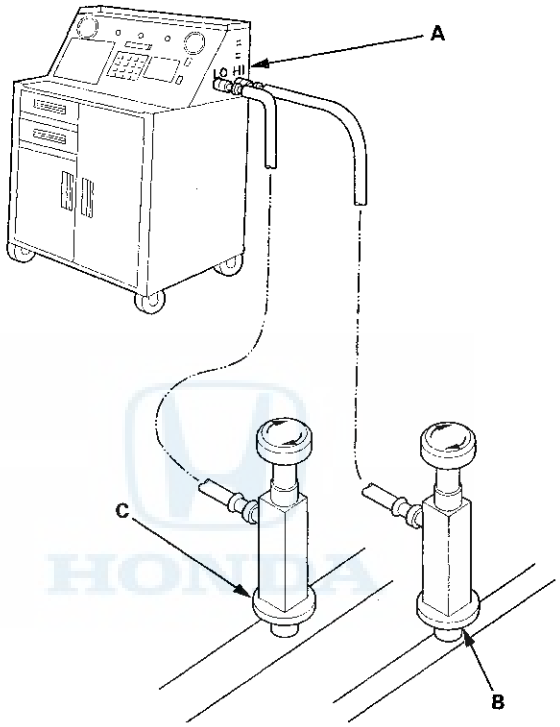
Fluorescent Dye Usage Tips

- Use only Tracer-Stick single dose fluorescent dye capsules from Tracerline®. Other dyes contain solvents that may contaminate the refrigerant oil, leading to component failure.
- Adding excessive amounts of dye can damage the compressor.
- PAG oil is water soluble, so condensation on the evaporator core or the refrigerant lines may wash the PAG oil and fluorescent dye away from the actual leak. Condensation may also carry dye through the HVAC module drain.
- After checking and repairing leaks, thoroughly clean any residual dye from the areas where leaks were found. Use GLO-AWAY dye cleaner, from Tracerline®, and hot water to remove the dye (follow the instructions on the bottle). Residual dye stains can cause misdiagnosis of any future A/C system leaks.
- If any refrigerant dye contacts an exterior paint surface, remove it by doing this:
  - Carefully wash the affected surfaces to remove any dirt, and to prevent paint scratching.
  - Mix water and isopropyl alcohol in a 50/50 mixture. Soak a soft 100 percent cotton towel with the water/alcohol mixture, and place the cloth on the affected areas to remove the dye.
  - After removing the dye with the water/alcohol-soaked cloth, carefully wash the affected areas, and check that there is no remaining dye.

(cont'd)

Refrigerant Leak Check (cont'd)

1. Connect an R-134a refrigerant recovery/recycling/charging station (A) to the high-pressure service port (B) and the low-pressure service port (C), as shown, following the equipment manufacturer's instructions.



2. Recover refrigerant from the A/C system (see page 21-80), and evacuate the system (see page 21-80). If the system achieves a vacuum of approximately −93.3 kPa (−700 mmHg, −27.6 inHg) in 15 minutes, and holds the vacuum for 15 minutes, then the system does not have a leak at this time. If the system cannot achieve or hold a vacuum, continue the refrigerant leak check.

3. Open the high pressure valve to charge the system to the specified capacity. Select the appropriate units of measure for your refrigerant charging station.

Refrigerant Capacity:
400 to 450 g
0.40 to 0.45 kg
0.9 to 1.0 lbs
14.1 to 15.9 oz

4. With the engine OFF, use a halogen leak detector first to detect the leak source. Follow a continuous path in order to ensure that you will not miss any possible leaks. Test the following areas of the system for leaks:

Possible Leak Area	Diagnostic Procedure with the Leak Detector	Notes
Service Ports	• Check the service ports with the detector. • If the detector "sniffs" a leak, use fluorescent dye to confirm it.	When capping the service ports, ensure that the seals on the port caps are in place, and that the caps are tight. The caps are used as the final seals in the system.
A/C Condenser	If the detector "sniffs" a leak, use fluorescent dye to confirm it.	• Check for joints or connections coated with oily dust. • Check for damaged and corroded areas. • Check all fittings, couplings, brazed/welded areas and areas around attachment points. • Move the probe slowly (1 inch/second or less), and keep it within 1/4 inch of the component being checked. This maximizes the chance of detecting a leak. • If you detect a leak, blow compressed air over the area, then recheck for leaks. For large leaks, clearing the area with compressed air may help you pinpoint the leak source.
A/C Lines (Low pressure side)	• Wiggle the rubber hoses when checking crimped metal ends. • If the detector "sniffs" a leak, use fluorescent dye to confirm it.	• Check all fittings, couplings, pressure switches, brazed/welded areas, and areas around attachment points on A/C lines and components. • Check for damaged and corroded areas. • Move the probe slowly (1 inch/second or less), and keep it within 1/4 inch of the component being checked. This maximizes the chance of detecting a leak.

5. Close the quick coupler valves, then disconnect the quick couplers from the vehicle service ports.
6. Attach the universal connect set, from the Optimax Jr. Leak Detection Kit, to the service valve fitting. Close the control valve (the black knob on the connect set).
7. Attach the charging station low pressure hose quick coupler to the service valve fitting, and open the quick coupler valve. Evacuate the connect set using the charging station vacuum pump, then close the quick coupler valve.
8. Detach the universal connect set, and install a Tracer-Stick® dye capsule between the connect set and the service valve fitting (see the manufacturer's instructions for more detail).
9. Attach the quick coupler on the universal connect set to the low pressure service port on the vehicle. Open the charging station low pressure hose quick coupler valve, but do not open the control valve.
10. Start the engine, and set the A/C system to maximum cooling. Open the control valve to let refrigerant and the dye enter the A/C system through the low pressure service port. Close the control valve when the Tracer-Stick® dye capsule is empty.

(cont'd)

Refrigerant Leak Check (cont'd)

11. Run the engine and A/C system for 15 minutes to thoroughly circulate the dye. Then shut the engine off, and inspect the following areas of the system for leaks:

NOTE:
- Check for leaks in a dark work area, and use the UV light and the special glasses from the leak check kit. Other UV lights may not work well with the Tracer-Stick® dye.
- Small leaks may take up to 1 week of vehicle operation (with normal A/C use) to become visible.

Possible Leak Area	Diagnostic Procedure with Fluorescent Dye
Service Ports	If a leak is found, replace the schrader valve on the service port.
A/C Lines	• Use a permanent marker pen to circle the leak area. • If a leak is found, remove and replace the A/C line (see page 21-7).
A/C Condenser	• If a leak is found, remove the A/C condenser (see page 21-77). • Determine whether leak is in the A/C condenser or the receiver/dryer. • Use a permanent marker pen to circle the leak area. • Replace either the receiver/dryer (see page 21-79), or the A/C condenser (see page 21-77), depending upon which is leaking.
A/C Compressor	• Check for leaks at all of the A/C compressor joints, the clutch center, the A/C compressor front housing bolts, and the scroll bolts on the back of the A/C compressor. • If a leak is found, use a permanent marker pen to circle the leak area. • If the A/C compressor relief valve appears to be leaking, determine whether the leak is coming from the relief valve, or the joint between the A/C compressor casing and the valve. If the leak is from the relief valve, check the A/C system pressures, and refer to the pressure test table in the A/C system test (see page 21-89). If the leak is from the casing/valve joint, replace the A/C compressor relief valve (see page 21-77). • If the leak is coming from the suction hose and/or discharge hose fittings on the A/C compressor, clean the A/C fittings and replace the suction/discharge fitting O-rings. • For all other A/C compressor leaks, remove and replace the A/C compressor (see page 21-72).
Evaporator	• Start checking for evaporator leaks by illuminating the evaporator drain tube area. • If a leak is found, remove the evaporator core (see page 21-67). • Determine whether leak is from evaporator or expansion valve. • Use permanent marker pen to circle leak area. • Replace the expansion valve (see page 21-69), or the evaporator core (see page 21-67), depending upon which is leaking.

A/C System Noise Check

⚠CAUTION

- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.

The A/C system noise check will help you determine the source of abnormal A/C system noise.

NOTE:

- If an accidental system discharge occurs, ventilate the work area before resuming service.
- Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.
- Identify the conditions when the noise occurs. The weather, the vehicle speed, the vehicle being in gear or in neutral, the engine temperature, or other conditions may be factors in determining the noise source.
- Do an A/C system inspection (see page 21-8), and correct any problems found prior to diagnosing abnormal noises.
- Abnormal A/C noises can be misleading. For example, a sound similar to a failed bearing may be caused by loose fasteners, loose mounting brackets, or a faulty A/C compressor clutch assembly.

1. Inspect the air inlet grille in the cowl cover for debris. If debris is present, remove it.
2. Sit inside the vehicle, close the doors and windows, and turn the ignition switch to ON (II), but do not start the engine. Cycle the HVAC system through all blower speeds and all air distribution modes to determine where and when the noise occurs.
3. Operate the blower at each speed with the engine and A/C off, and check for unusual noises and excessive vibration. If noise and/or vibration are present, do the following checks:

-1. If the noise or vibration occurs only in a specific mode or setting, then check these items:
   - Operation of the mode control motor, door, and linkage.
   - Operation of the air mix control motor(s), door(s), and linkage.
   - Operation of the recirculation control motor, door, and linkage.

-2. If there is a squeaking or chirping noise, but no unusual vibration, replace the blower motor (see page 21-67).

-3. Remove the blower unit (see page 21-65), and check for foreign material (leaves or twigs, for example) on the blower motor and fan. If foreign material is present, remove it, and recheck for noise. If you don't find any foreign material, remove the blower motor (see page 21-67), and check these items:
   - Check if the fan blades are cracked or broken.
   - Make sure the fan retainer is tight.
   - Inspect the fan alignment on the blower motor shaft.

   Replace the blower motor if any problems are present.

4. Set up the vehicle for the running A/C checks:
   - Select a quiet area for testing.
   - Apply the parking brake.
   - Shift the vehicle in P or N (A/T), or in Neutral (M/T).
   - Start the engine.
   - Set the temperature control dial to Max Cool.
   - Set the mode control switch to Vent.
   - Set the fan control dial to minimum (but not OFF).
   - Turn the A/C switch ON.

   Switch the A/C compressor on and off several times to clearly identify the sound during A/C compressor operation. Listen to the noise while the A/C compressor clutch is engaged and disengaged. Probe the A/C system with a stethoscope to pinpoint the noise.

   NOTE: If the noise does not change when the A/C compressor clutch engages or disengages, the noise may be caused by an engine-related component. Probe the engine area with a stethoscope to pinpoint the noise.

(cont'd)

A/C System Noise Check (cont'd)

5. Turn the ignition switch to LOCK (0), and check the drive belt for excessive wear, oil contamination, improper routing, or a faulty belt tensioner (see page 4-30). Correct any problems found. Start the engine, run the A/C system, and check if the noise is coming from the drive belt, the belt tensioner or any of the pulleys. Repair or replace any faulty components.
6. Listen for noises coming from the A/C lines, the A/C hoses, the A/C condenser, the evaporator, the receiver-drier, or the expansion valve, and check these items:
   - Noises caused by A/C components touching other components or the body. Reroute or insulate the A/C component(s) as needed, and recheck for noise.
   - Loose, damaged or excessively worn A/C components or mounting hardware. Repair or replace the faulty component(s) or hardware, and recheck for noise.
   - A moaning noise coming from the A/C suction line. If there is a moaning noise, check the system refrigerant charge (see page 21-81). If the refrigerant charge is OK, replace the receiver/dryer.
7. Check the operation of the A/C compressor clutch:
   - Make sure A/C compressor clutch engages without slipping. If the clutch does not engage, troubleshoot the A/C compressor clutch circuit (see page 21-52). If the A/C compressor clutch slips, replace the complete clutch assembly (see page 21-75).
   - Make sure the A/C compressor clutch disengages. If the clutch does not disengage, do the A/C compressor clutch check (see page 21-73). If the A/C compressor clutch is OK, replace the A/C compressor (see page 21-72).
   - Make sure the A/C compressor clutch cycles normally. If the A/C compressor clutch is cycling rapidly, the A/C system is probably low on refrigerant due to a leak. Do the refrigerant leak check (see page 21-82). If the refrigerant charge is OK, and there are no leaks, troubleshoot the A/C compressor clutch circuit.
8. Listen with a stethoscope for noises coming from the A/C compressor, and check these items:
   - The noise changes when the A/C compressor clutch disengages. If the noise does not change when the A/C compressor disengages, the noise may be caused by an engine-related component. Probe the engine area with a stethoscope to pinpoint the noise.
   - The A/C system operating pressures are normal. If the system pressures are abnormal, troubleshoot the problem using the pressure test table in the A/C system test (see page 21-89). Correct the pressure-related problem(s), and recheck for noise.
   - The A/C compressor hose connections, mounting brackets, and fasteners are in good condition. If any of these components are loose, damaged, or excessively worn, repair or replace the faulty component(s), and recheck for noise. If these components are in good condition, and the noise is still present, replace the A/C compressor (see page 21-72).

A/C System Test

Performance Test

⚠CAUTION

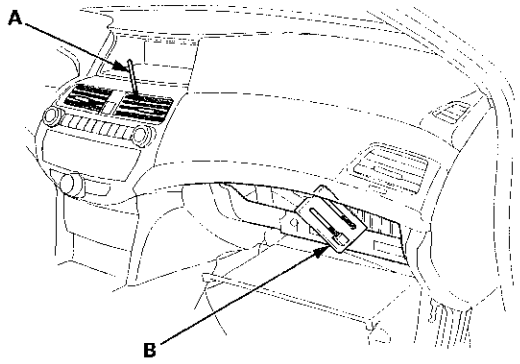
- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.

The performance test will help determine if the A/C system is operating within specifications.

NOTE:

- If accidental system discharge occurs, ventilate the work area before resuming service.
- Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.

1. Do the A/C system inspection (see page 21-8), and correct any problem found.
2. Connect an R-134a refrigerant recovery/recycling/charging station to the high-pressure service port and the low-pressure service port, following the equipment manufacturer's instructions.
3. Determine the relative humidity and air temperature.
4. Open the glove box. Remove the damper and the glove box stop on each side, then let the glove box hang down (see page 20-174).
5. Insert a thermometer (A) in the center vent.



6. Place another thermometer (B) near the blower unit's recirculation inlet duct.
7. Test conditions:
   - Move the vehicle out of direct sunlight and let it cool down to the surrounding (ambient) temperature. If necessary, wash the vehicle to cool it down more quickly.
   - The ambient temperature must be at least 60 °F (16 °C).
   - Open hood.
   - Open front doors.
   - Set the temperature control dial to Max Cool, the mode control switch to Vent, and the recirculation control switch to Recirculate.
   - Turn the A/C switch ON and the fan switch to Max.
   - Run the engine at 1,500 rpm.
   - No driver or passengers in the vehicle.
8. Inspect the A/C components for the following conditions:
   - A/C compressor clutch not engaged.
   - Abnormal frost areas.
   - Unusual noises.

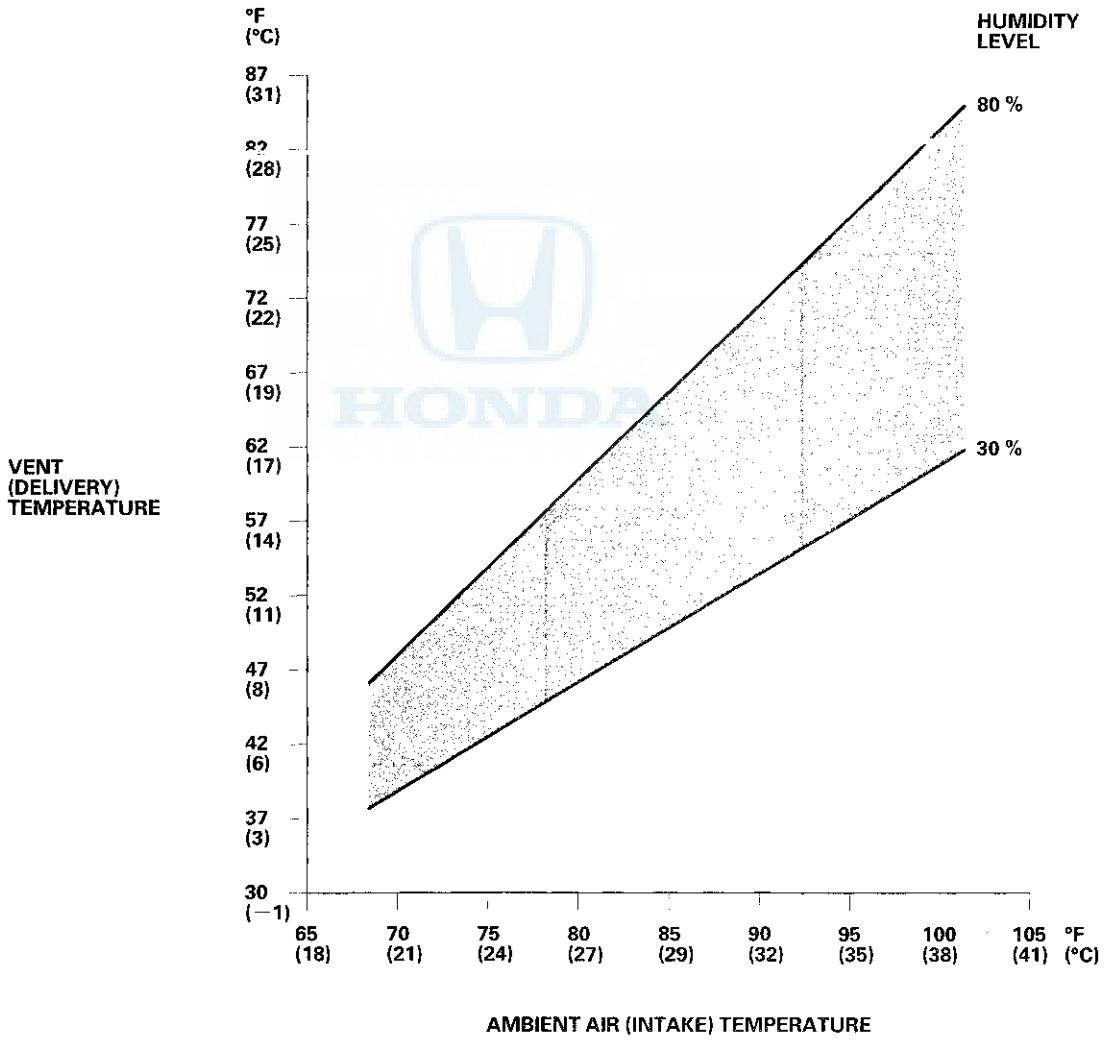
   If you observe any of these conditions, refer to the symptom troubleshooting.
9. After running the air conditioning for 10 minutes under the above test conditions, read the delivery temperature from the thermometer in the center vent, the intake temperature near the blower unit, and the high and low system pressure from the A/C gauges.

(cont'd)

A/C System Test (cont'd)

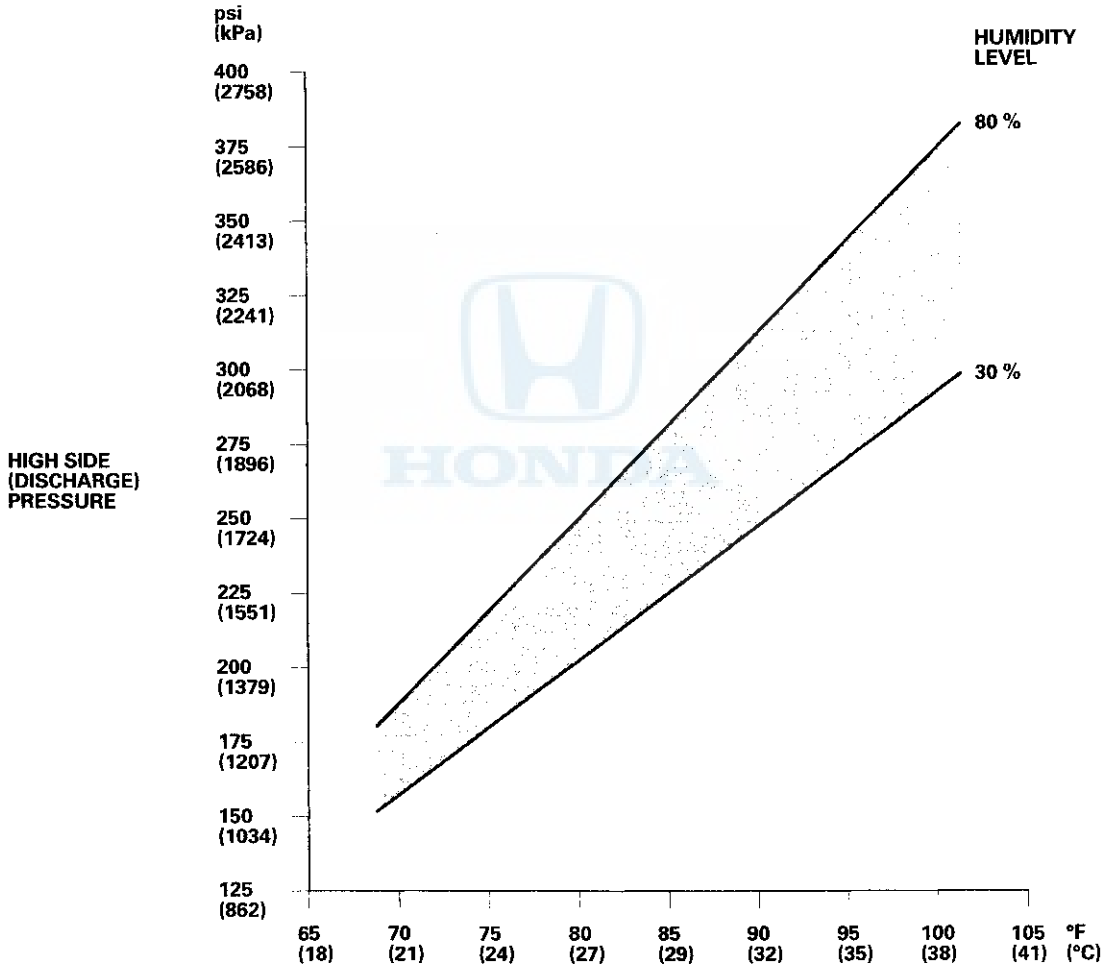
10. To complete the vent (delivery)/ambient air (intake) temperature chart:
    - Mark the vent (delivery) temperature on the vertical line.
    - Mark the ambient air (intake) temperature on the bottom line.
    - Draw a vertical line from the ambient air (intake) temperature mark.
    - Draw a horizontal line from the vent (delivery) temperature mark until it intersects the vertical line.
      NOTE: The vent temperature and the ambient air temperature should intersect in the shaded area. Any measurements outside the area may indicate the need for further inspection.

Ambient Air (Intake) Temperature vs. Vent (Delivery) Temperature



11. To complete the high side (discharge) pressure/ambient air (intake) temperature chart:
    - Mark the high side (discharge) pressure on the vertical line.
    - Mark the ambient air (intake) temperature on the bottom line.
    - Draw a vertical line from the ambient air (intake) temperature mark.
    - Draw a horizontal line from the high side (discharge) pressure mark until it intersects the vertical line.
      NOTE: The high side pressure and the ambient air temperature should intersect in the shaded area. Any measurements outside the area may indicate the need for further inspection.

Ambient Air (Intake) Temperature vs. High Side (Discharge) Pressure

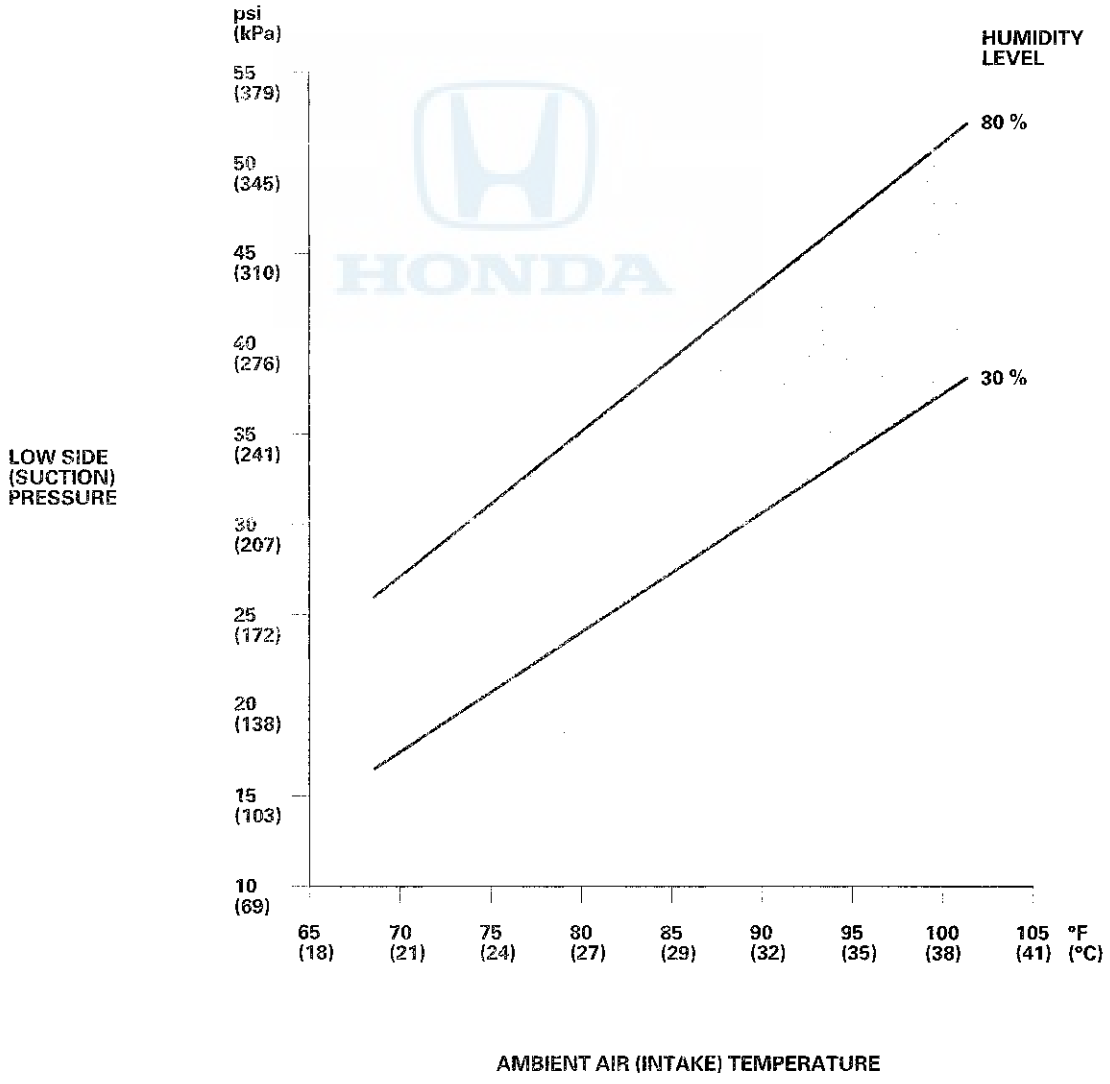


(cont'd)

A/C System Test (cont'd)

12. To complete the low side (suction) pressure/ambient air (intake) temperature chart:
    - Mark the low side (suction) pressure along the vertical line.
    - Mark the ambient air (intake) temperature along the bottom line.
    - Draw a vertical line from the ambient air (intake) temperature mark.
    - Draw a horizontal line from the low side (suction) pressure mark until it intersects the vertical line.
      NOTE: The low side pressure and the ambient air temperature should intersect in the shaded area. Any measurements outside the area may indicate the need for further inspection.

Ambient Air (Intake) Temperature vs. Low Side (Suction) Pressure



Pressure Test

Test results	Related symptoms	Probable cause	Remedy
Suction and discharge pressures are normal	Warm air from the vents.	• The A/C system contains too much refrigerant oil • The air mix door is not operating properly	• Recover refrigerant (see page 21-80), and evacuate the system (see page 21-80). Adjust the amount of oil in the system, then recharge the system (see page 21-81). • Check air mix door operation (see page 21-59), and repair as needed.
Suction and discharge pressures are roughly equal and steady	The suction and discharge pressures equalize when the engine is revved.	The A/C compressor clutch or the drive belt is slipping, or the A/C compressor shaft seal is leaking	• Check whether the A/C compressor clutch or the drive belt is slipping. • If the drive belt is slipping, replace the drive belt (see page 4-30). • If the A/C compressor clutch is slipping, replace it (see page 21-75). • Check the A/C compressor shaft seal. If it's leaking, replace the A/C compressor (see page 21-72).
Suction and discharge pressures are roughly equal but fluctuate	Suction and discharge pressures fluctuate while running. Pressures equalize as soon as the A/C compressor disengages.	The A/C compressor discharge valve or the A/C compressor gasket is faulty	Replace the A/C compressor (see page 21-72).
Suction and discharge pressures are roughly equal and abnormally low	The suction and discharge pressures do not change during continued operation.	The A/C system is undercharged	Recover refrigerant (see page 21-80), then do the refrigerant leak check (see page 21-82). Repair any leaks, then recharge the system (see page 21-81).
Suction and discharge pressures are abnormally high, but normalize when the A/C condenser is cooled	The suction pressure decreases when cool water is sprayed on the A/C condenser.	The A/C system is overcharged	Recover refrigerant (see page 21-80), evacuate the system (see page 21-80), and recharge the system to specifications (see page 21-81).
Suction and discharge pressures are abnormally high, and refrigerant line temperatures are abnormal	• The high pressure vapor line to the A/C condenser is too hot. • The low pressure liquid line from the expansion valve is not cold. • There is an abrupt temperature drop along a refrigerant line, or in the A/C condenser or evaporator.	The A/C system refrigerant flow is restricted	Replace the restricted line or component.
Suction and discharge pressures are abnormally high, but drop rapidly when the A/C compressor disengages	• After stopping the A/C compressor, the discharge pressure quickly drops about 196 kPa (28 psi), then falls gradually. • The input and output temperatures at the expansion valve are not similar.	There is excess air in the A/C system	Recover refrigerant (see page 21-80), evacuate the system (see page 21-80), and recharge the system (see page 21-81).
Suction and discharge pressures are abnormally high, and there is little or no airflow through the A/C condenser		• The A/C condenser and/or radiator fins are clogged • The A/C condenser fins are damaged • The A/C condenser and/or radiator fans are not working properly	• Clean debris from the A/C condenser and/or radiator fins. • Comb the A/C condenser fins to repair any damage. • Troubleshoot the A/C condenser fan and/or the radiator fan circuit(s).

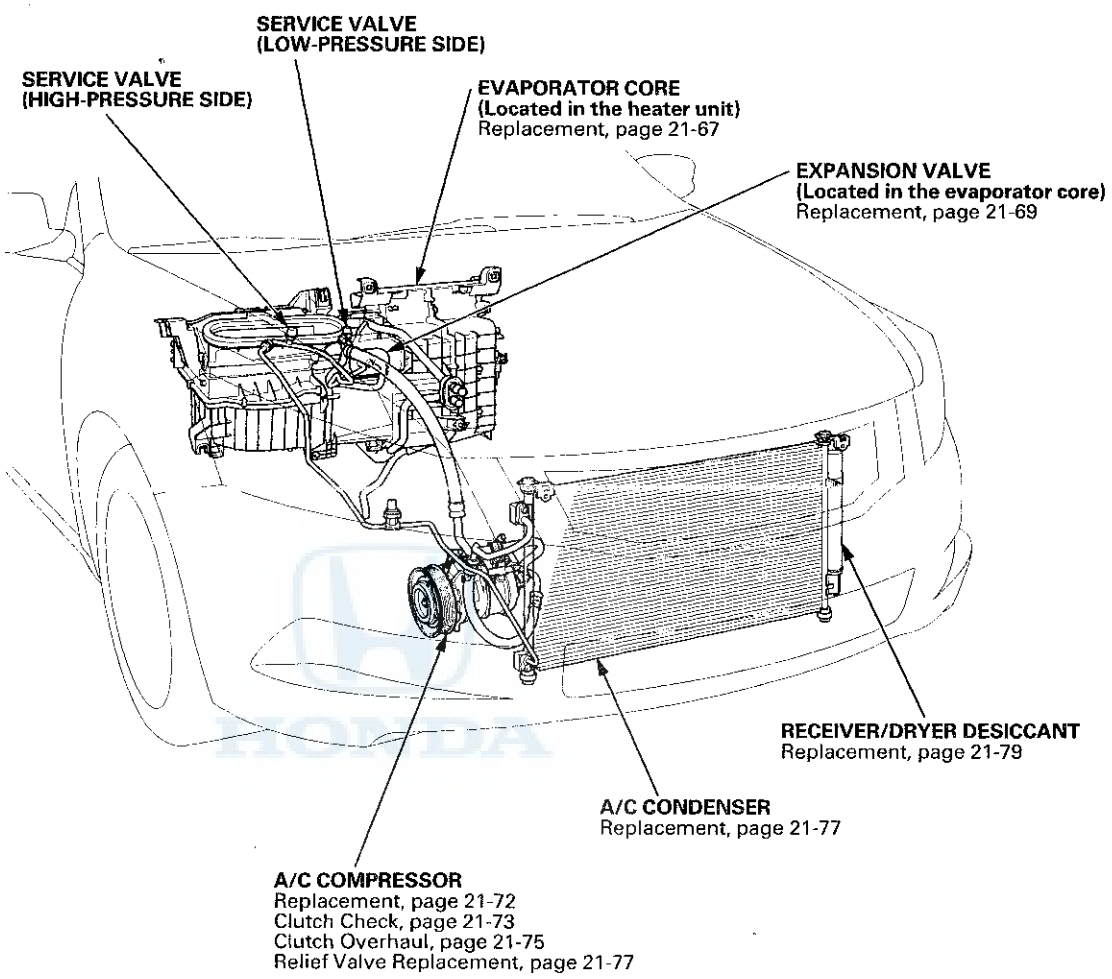
(cont'd)

A/C System Test (cont'd)

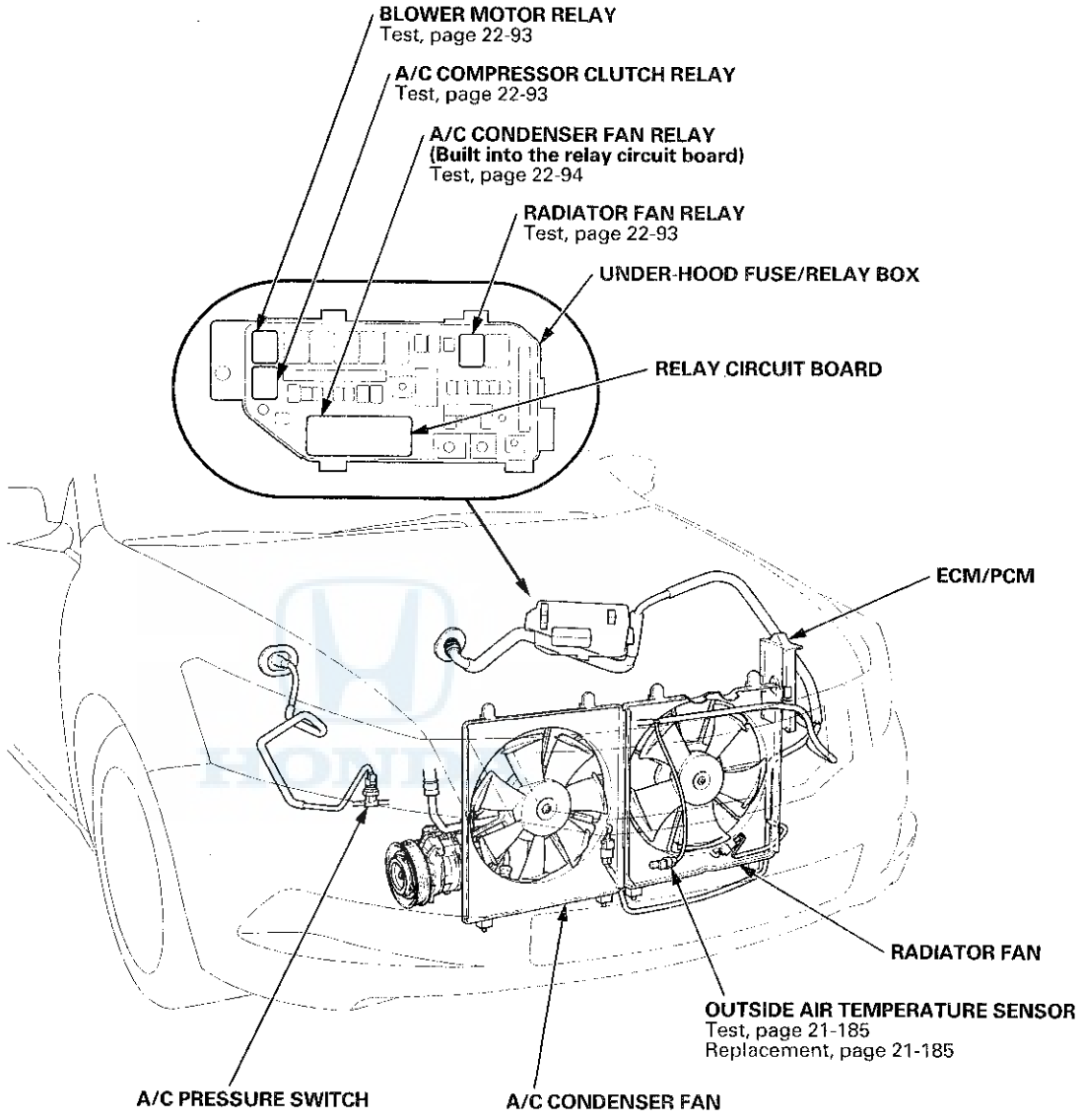
Test results	Related symptoms	Probable cause	Remedy
The suction pressure is high and the discharge pressure is low. Both pressures are steady	• The liquid line temperature is similar on both sides of expansion valve. • System pressures do not vary at a steady engine speed.	The expansion valve is stuck open	Replace the expansion valve (see page 21-69).
The suction pressure is low, the discharge pressure is high, and the refrigerant temperature changes abnormally somewhere in the system	• The high pressure liquid line going into the expansion valve is cold. • There is an abrupt temperature drop in the line between the A/C compressor and the A/C condenser, or in the line between the A/C condenser and the expansion valve.	The A/C system refrigerant flow is restricted	Replace the restricted line or component.
The suction pressure is high, the discharge pressure is low, and there are particle contaminants in the refrigerant lines	The expansion valve and/or the A/C compressor discharge hose are contaminated with metal flakes or desiccant particles.	The A/C compressor is malfunctioning	Replace the A/C compressor (see page 21-72). If the system is contaminated with desiccant, replace the receiver/dryer (see page 21-79).
The suction pressure is high, the discharge pressure is low, and the pressures quickly change when the A/C disengages	The discharge and suction pressures equalize soon after the A/C compressor stops.	The A/C compressor seal is faulty	Replace the A/C compressor (see page 21-72).
Suction and discharge pressures are both low and none of the refrigerant lines are cold	There is no frost on the expansion valve, and the low-pressure liquid line is not cold.	The A/C system has a leak (very low refrigerant charge)	Do the refrigerant leak check (see page 21-82), repair any leaks, and recharge the A/C system (see page 21-81).
Suction and discharge pressures are both low, and the expansion valve or the suction line is abnormally cold	• The temperature around the expansion valve is too low compared to the temperature around the receiver/ dryer. • The low pressure (suction) hose/line is cooler than the evaporator.	• The discharge hose/line is clogged or kinked, which is restricting refrigerant flow • The suction hose/line is clogged or kinked, which is restricting refrigerant flow	Repair or replace the faulty A/C line (see page 21-7).
Initially, the suction and discharge pressure are normal, but both become abnormally low during operation	During extended operation, the air flow from the vents decreases.	The evaporator is freezing up	Run the fan with A/C compressor off to warm the evaporator, then test the evaporator temperature sensor (see page 21-58). If necessary, replace the evaporator temperature sensor.
Suction and discharge pressures are both low and there are abnormal temperature changes at the expansion valve	• During extended operation, warm air comes out of the vents, the suction pressure decreases, and heavy frost occurs on the low pressure liquid line. • The low pressure liquid line is cold at the expansion valve, but warm after the valve. • There is frost on the expansion valve.	The expansion valve is stuck closed	• Replace the expansion valve (see page 21-69), and the receiver/dryer (see page 21-79). • Check the old expansion valve for contamination. If contaminants are found, replace the component that caused the contamination.
The discharge pressure is low, the suction pressure is extremely low, and the expansion valve outlet is abnormally warm	There is no frost on the expansion valve outlet, and the liquid line temperature changes significantly across the expansion valve.	There is excessive moisture in the A/C system	Recover refrigerant (see page 21-80), then replace the receiver/dryer (see page 21-79). Evacuate the system (see page 21-80), and recharge the A/C system (see page 21-81).

Test results	Related symptoms	Probable cause	Remedy
The discharge pressure is low, the suction pressure is extremely low, and the suction line is abnormally cold	There is frost on the line from the evaporator to the A/C compressor.	The evaporator is internally contaminated or plugged	Recover refrigerant (see page 21-80), then replace the evaporator. Evacuate the system (see page 21-80), and recharge the A/C system (see page 21-81).
The discharge pressure is low, the suction pressure is extremely low, and the refrigerant temperature doesn't change going through the expansion valve	• There is no frost on the expansion valve, and the low pressure liquid line is not cold. • The liquid line temperatures are similar on both sides of expansion valve.	The expansion valve is faulty	Replace the expansion valve (see page 21-69).
The discharge pressure is low, the suction pressure is extremely low, and the expansion valve is abnormally cold	There is frost on the expansion valve.	Excessive moisture in the system is freezing the expansion valve	Recover refrigerant (see page 21-80), the replace the receiver/dryer. Evacuate the system (see page 21-80), and recharge the A/C system (see page 21-81).
The discharge pressure is low, the suction pressure is extremely low, and the high pressure liquid line is abnormally cold	There is frost on the line from the receiver/dryer to the expansion valve.	The receiver/dryer is clogged	Recover refrigerant (see page 21-80), then replace the receiver/dryer (see page 21-79). Evacuate the system (see page 21-80), and recharge the A/C system (see page 21-81).
Discharge pressure is so high that the A/C compressor relief valve has opened. Suction pressure is normal or below normal	The temperature drop between the A/C condenser inlet and outlet is less than 30 °F (−1 °C) or more than 60 °F (15 °C)	The A/C condenser or receiver/dryer is restricted	Replace the restricted component, either the A/C condenser (see page 21-77) or the receiver/dryer (see page 21-79).
Discharge pressure is so high that the A/C compressor relief valve has opened. Suction pressure is also above normal	• No evidence of restricted refrigerant flow. • The A/C compressor clutch stays engaged with the A/C switch off.	The A/C compressor clutch circuit is always on (energized), or the A/C compressor clutch is mechanically jammed.	• Do the A/C compressor clutch circuit troubleshooting (see page 21-52), and repair the problem with the circuit. • If the A/C compressor clutch circuit is OK, do the A/C compressor clutch check (see page 21-73), and repair as needed.

Component Location Index



'08-09 models



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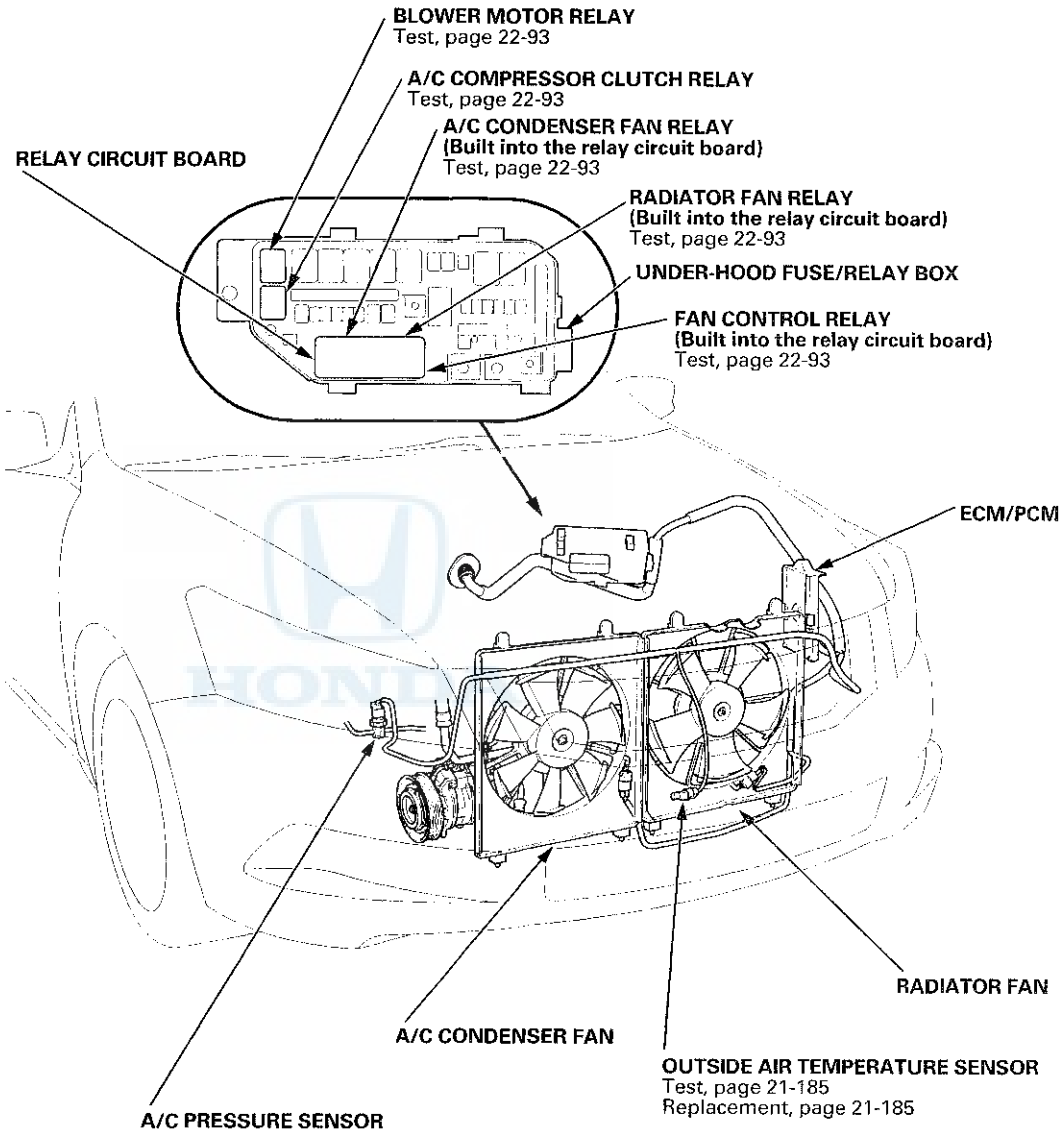
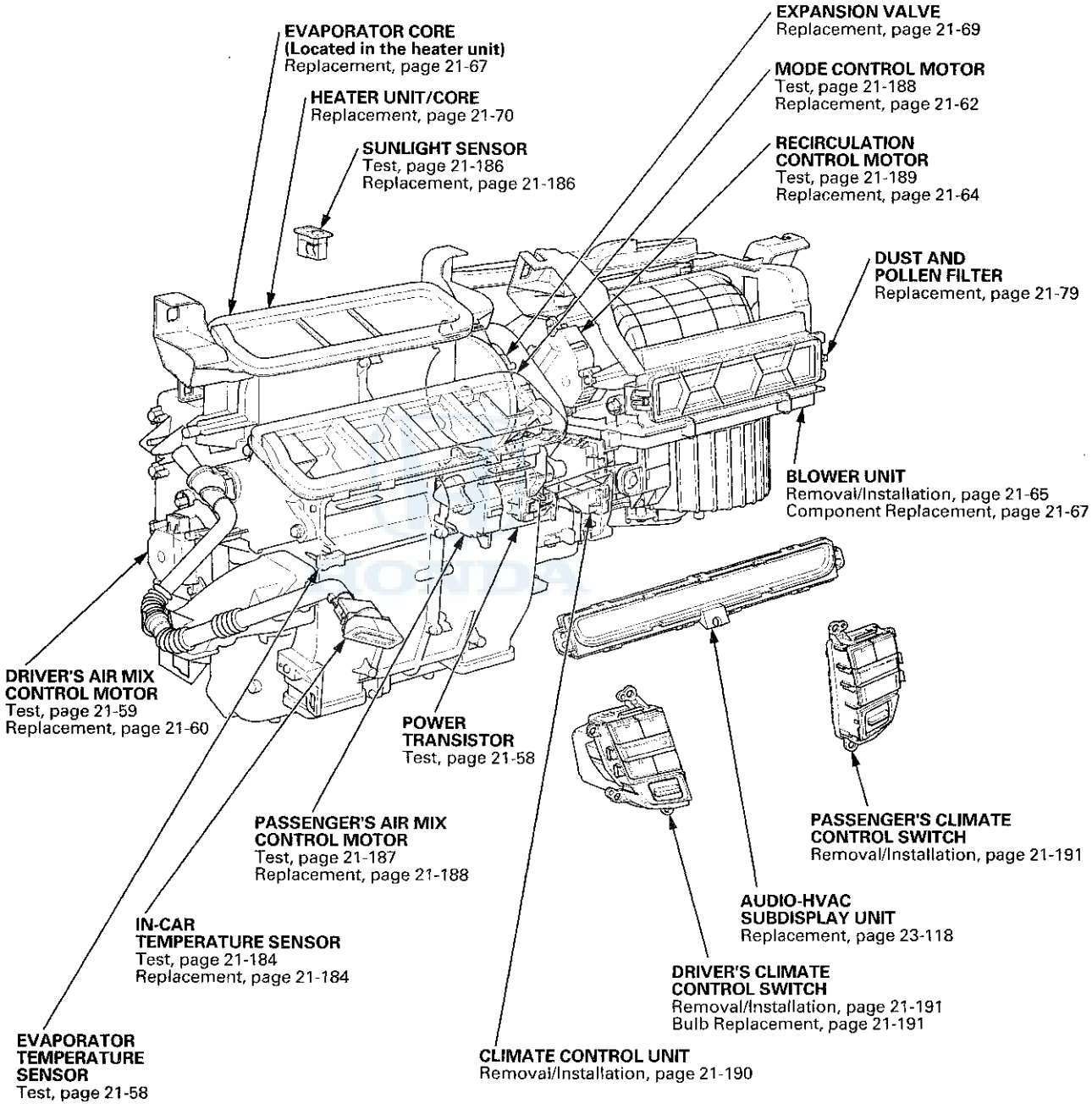
Component Location Index (cont'd)

'10 model



With navigation



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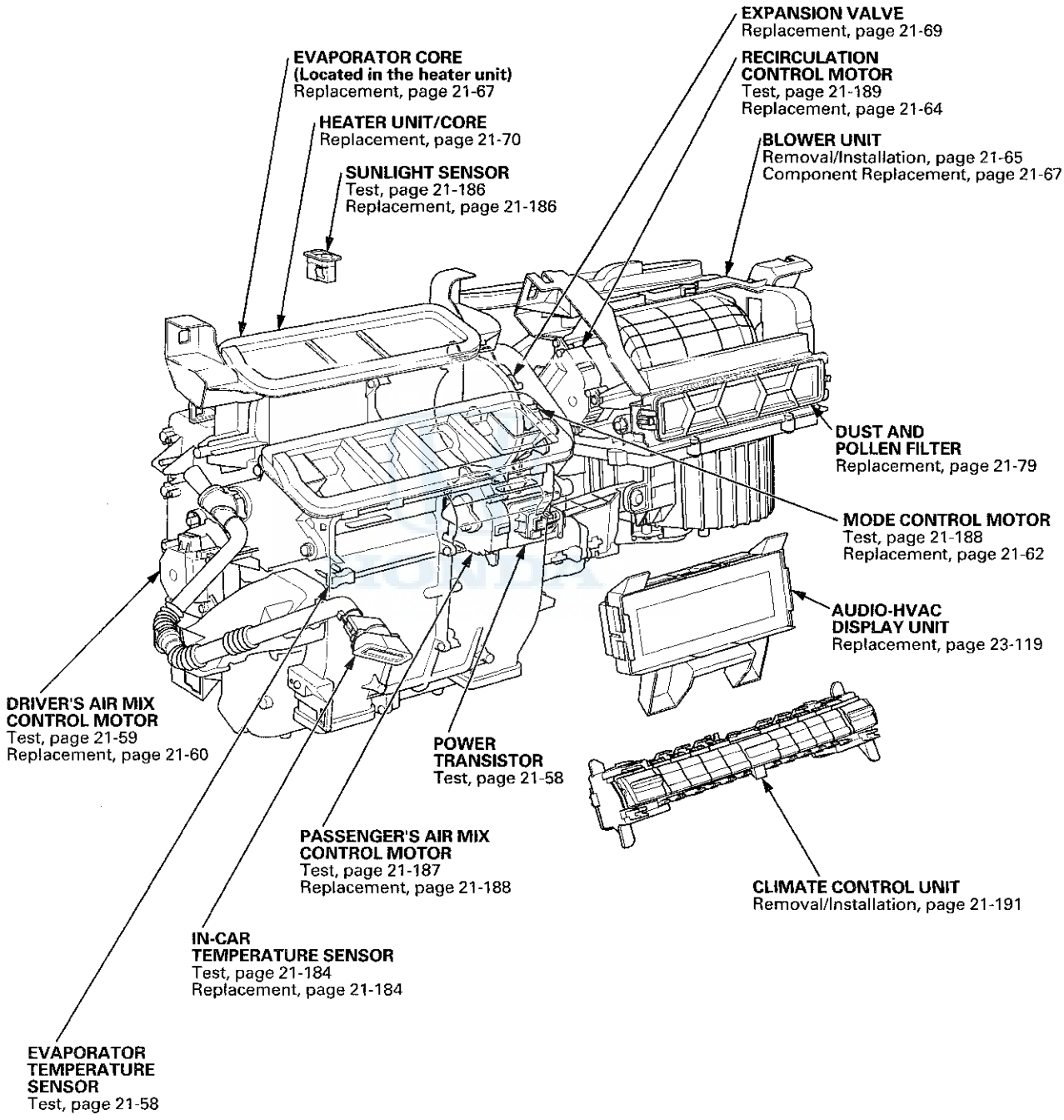


General Troubleshooting Information

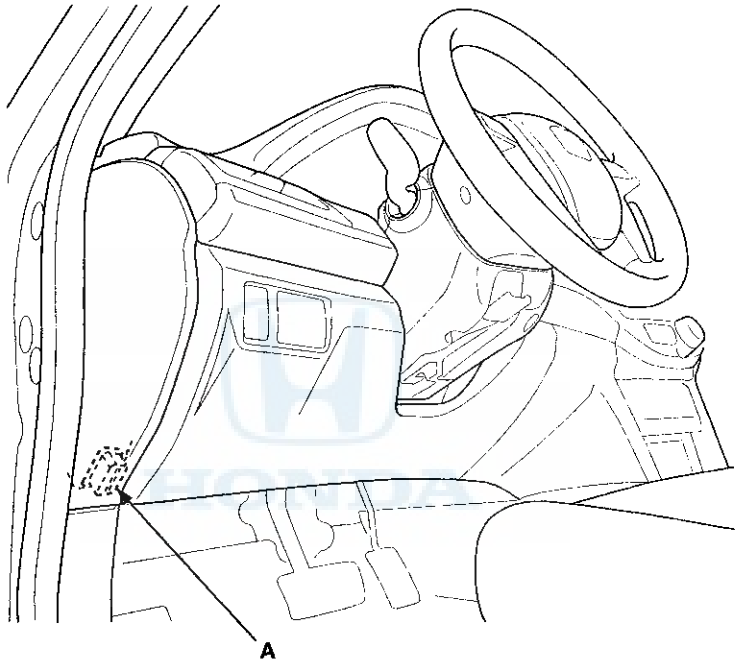
How to Check for DTCs with the HDS

There are three methods used to check for DTCs. The recommended method is to use the Honda Diagnostic System (HDS) with the appropriate software, plugged into the data link connector (DLC).

The second method is to run the self-diagnostic function built into the climate control unit.

The third method is to use the B-CAN system diagnostic test mode A (see page 22-134).

1. Make sure the ignition switch to LOCK (0).
2. Connect the HDS to the data link connector (DLC) (A) located under the driver's side of the dashboard.



3. Turn the ignition switch to ON (II).
4. Make sure the HDS communicates with the vehicle and the climate control unit. If it doesn't, troubleshoot the DLC circuit (see page 11-181).
5. Select HVAC/CLIMATE CONTROL in the BODY ELECTRICAL menu.
6. Select DTCs in the HVAC/CLIMATE CONTROL menu.
7. Check for DTCs. If any DTCs are indicated, write down the DTCs, then go to the indicated DTC troubleshooting. If no DTCs are indicated, refer to symptom troubleshooting.

   NOTE:
   - After troubleshooting, clear the DTCs with the HDS.
   - For specific operations, refer to the user's manual that came with the HDS.

(cont'd)

General Troubleshooting Information (cont'd)

How to Use the Self-diagnostic Function with the HDS

1. Make sure the ignition switch to LOCK (0).
2. Connect the HDS to the data link connector (DLC).
3. Turn the ignition switch to ON (II).
4. Make sure the HDS communicates with the vehicle and the climate control unit. If it doesn't, troubleshoot the DLC circuit (see page 11-181).
5. Select HVAC/CLIMATE CONTROL in the BODY ELECTRICAL menu.
6. Select INSPECTION in the HVAC/CLIMATE CONTROL menu.
7. Select CLIMATE CONTROL SELF TEST in the INSPECTION menu.
8. Check for DTCs. If any DTCs are indicated, write down the DTCs, then go to the indicated DTC troubleshooting.

   NOTE:
   - After troubleshooting, clear the DTCs with the HDS.
   - For specific operations, refer to the user's manual that came with the HDS.

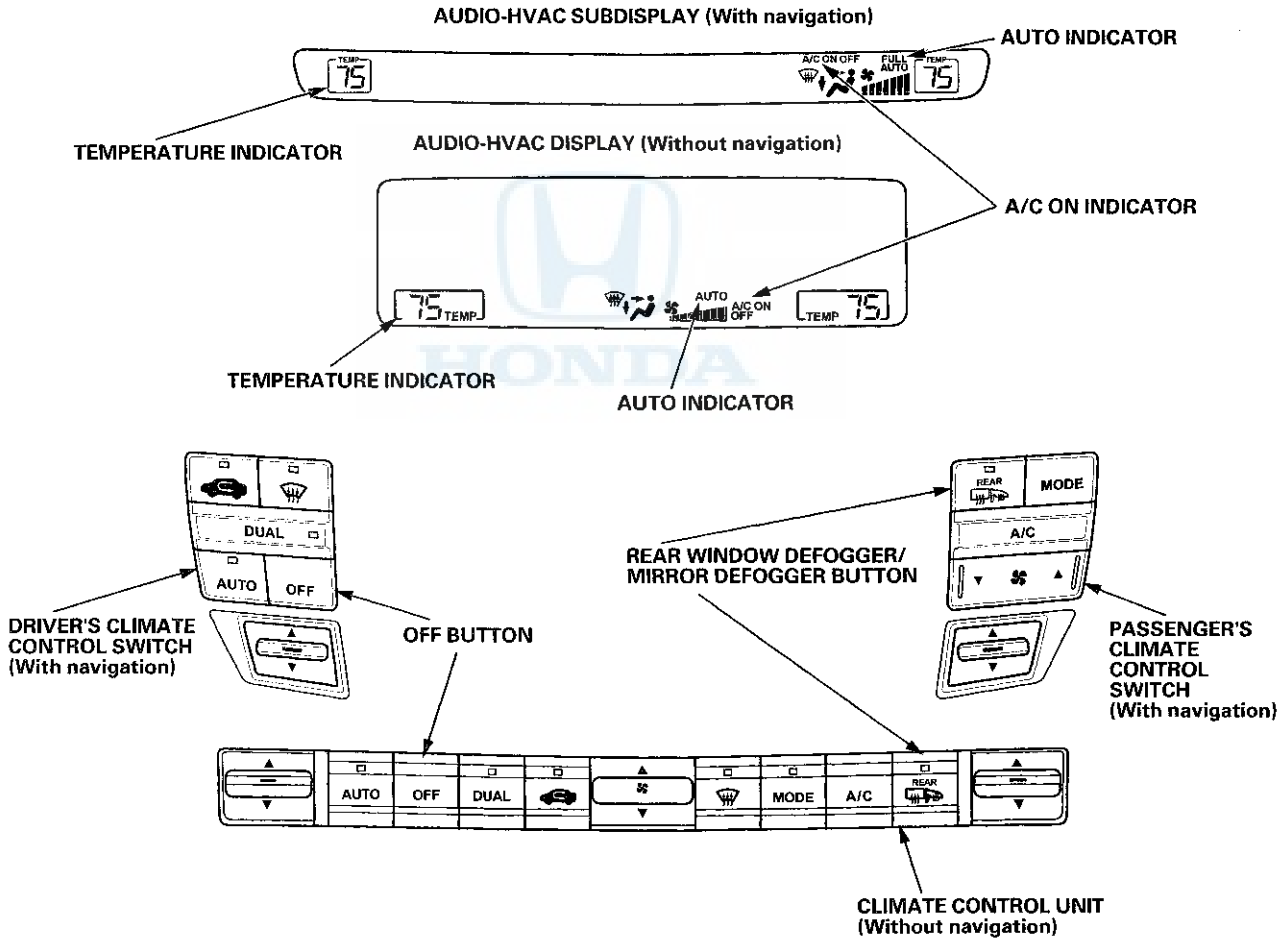
How to Use the Self-diagnostic Function without the HDS

The climate control unit has a self-diagnostic function. To run the self-diagnostic function, do the following:

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Press and hold the OFF button, then within 10 seconds press and release the REAR WINDOW DEFOGGER/MIRROR DEFOGGER button five times. Release the OFF button; then the self-diagnostic begins.

   NOTE:
   - The blower motor will run at various speeds regardless of what the panel is displaying.
   - If there is a problem with the system, the temperature indicator flashes 88, and the A/C ON indicator or the AUTO indicator (or both) also flashes. Segments in the temperature indicator then indicate which DTCs are present.
   - If there is more than one DTC, they are displayed one at a time in sequence followed by a pause (all the display indicator segments illuminate) between the DTCs.
   - If there are no problems detected, the segments will not illuminate, and the system will appear to be turned off.

   '08-09 models



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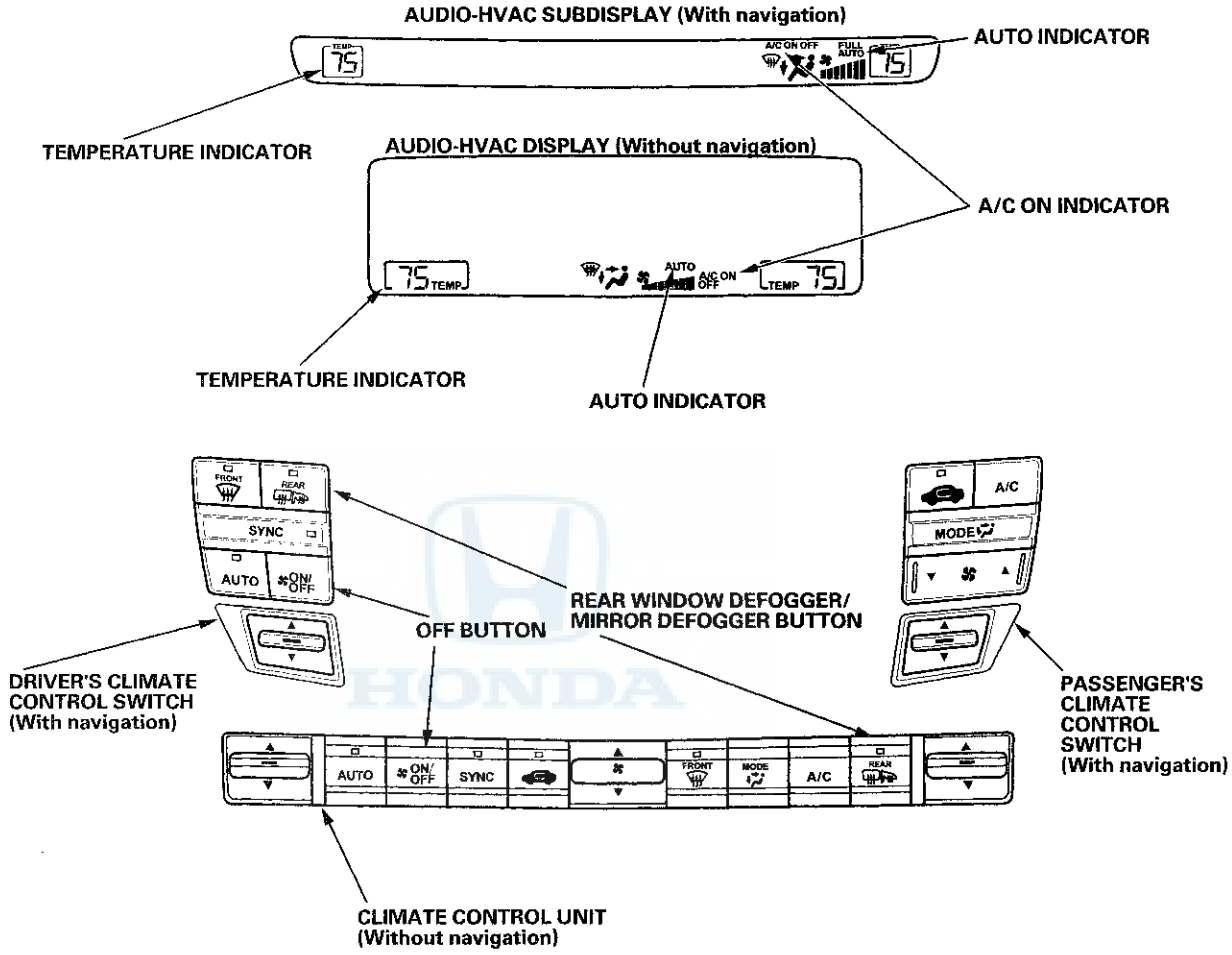
General Troubleshooting Information (cont'd)

'10 model



Canceling the Self-diagnostic Function

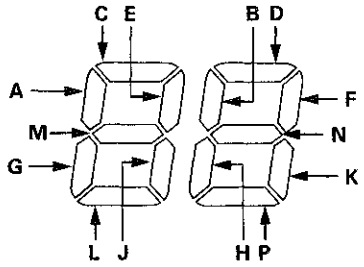
3. Turn the ignition switch to LOCK (0) to cancel the self-diagnostic function. After completing repair work, run the self-diagnostic function again to make sure that there are no other DTCs.

Checking for DTCs

The temperature display indicates single or multiple DTCs. If no DTCs are present, the indicator remains blank.

NOTE: If indicator segments A, C, D, E, G, K, and the AUTO indicator or the A/C ON indicator, are on at the same time, there may be an open in the climate control unit ground circuit.

DRIVER'S TEMPERATURE INDICATOR **AUTO INDICATOR** **A/C ON INDICATOR**



AUTO A/C ON

DTC (Driver's Temperature Indicator Segment, AUTO, and A/C Indicator)	Detection Item
A and AUTO	An open in the in-car temperature sensor circuit (see page 21-141)
B and AUTO	A short in the in-car temperature sensor circuit (see page 21-143)
C and AUTO	An open in the outside air temperature sensor circuit (see page 21-144)
D and AUTO	A short in the outside air temperature sensor circuit (see page 21-146)
E and AUTO	An open in the sunlight sensor circuit (see page 21-147)
F and AUTO	A short in the sunlight sensor circuit (see page 21-149)
G and AUTO	An open in the evaporator temperature sensor circuit (see page 21-150)
H and AUTO	A short in the evaporator temperature sensor circuit (see page 21-151)
A and A/C ON	An open in the driver's air mix control motor circuit (see page 21-152)
B and A/C ON	A short in the driver's air mix control motor circuit (see page 21-154)
C and A/C ON	A problem in the driver's air mix control linkage, door, or motor circuit (see page 21-157)
D and A/C ON	An open in the passenger's air mix control motor circuit (see page 21-158)
E and A/C ON	A short in the passenger's air mix control motor circuit (see page 21-160)
F and A/C ON	A problem in the passenger's air mix control linkage, door, or motor circuit (see page 21-163)
G and A/C ON	An open in the mode control motor circuit (see page 21-134)
H and A/C ON	A short in the mode control motor circuit (see page 21-135)
J and A/C ON	A problem in the mode control linkage, doors, or motor circuit (see page 21-164)
K and A/C ON	An open in the recirculation control motor circuit (see page 21-171)
L and A/C ON	A short in the recirculation control motor circuit (see page 21-138)
M and A/C ON	A problem in the recirculation control linkage, door, or motor circuit (see page 21-169)
N and A/C ON	A problem in the blower motor circuit (see page 21-166)

(cont'd)

General Troubleshooting Information (cont'd)

DTC (Driver's Temperature Indicator Segment)	Detection Item
A	Climate control unit internal error (see page 21-132)
B	Output shaft (countershaft) speed sensor signal error. Check for DTCs in the A/T system and go to the indicated DTC's troubleshooting. If no DTCs are found, replace the climate control unit (see page 21-190)
C	Engine coolant temperature (ECT) sensor signal error. Check for DTCs in the PGM-FI system and go to the indicated DTC's troubleshooting. If no DTCs are found, replace the climate control unit (see page 21-190)
D	Communication bus line error (bus-off) (see page 22-148)

Displaying Sensor Inputs at the Climate Control Unit

The climate control unit has a mode that displays sensor inputs it receives. This mode shows you what the climate control unit is receiving from each of the sensors, one at a time, and it can help you determine if a sensor is faulty.

Check these items before using the sensor input display mode

1. Turn the ignition switch to ON (II), and check the recirculation door function; press the recirculation button to switch from FRESH to RECIRC. The air volume and sound should change slightly.
2. Set the temperature using the driver's control switch to the desired test temperature:
   - Press AUTO button on, the LED turns on.
   - '08-09 models; Press DUAL button off, the LED turns off.
   - '10 model; Press SYNC button off, the LED turns off.

   When selecting the test temperature, note these items:
   - "Lo" temperature setting will default to MAX COOL, VENT, and RECIRC.
   - "Hi" temperature setting will default to MAX HOT, FLOOR, and FRESH.
   - 58 through 86 °F settings will use the automatic climate control logic.
3. Turn the ignition switch to LOCK (0).

To run the sensor input display mode, follow these steps

1. Turn the ignition switch to LOCK (0).
2. Press and hold both the AUTO and RECIRCULATION CONTROL buttons, then start the engine.
3. After the engine starts, release both buttons. The audio-HVAC display will flash the sensor number, and then the value for that sensor. Record the value displayed.
4. To advance to the next sensor, press the REAR WINDOW DEFOGGER button.

   NOTE:
   - The sensor values will be displayed in degrees Celsius (°C) or an alphanumeric code. Use the chart to convert the value to degrees Fahrenheit (°F).
   - If the sensor value displays "Er" this indicates there is an open or short in the circuit or sensor. Check for DTCs using the HDS, or use the climate control self-diagnostic function.
   - If necessary, compare the sensor input display to a known-good vehicle under the same test conditions.
   - If the sensor is out of the normal range, refer to the sensor test or substitute a known-good sensor, and recheck.

Sensor	Item	Displayed Value
1	Mode Positioning	%
2	In-car Temperature	°C
3	Outside Air Temperature	°C
4	Solar Radiation Sensor Value: Dark = 00, Flashlight = 04, Cloudy = 10, Sunny = 65	10 kcal/m²·h
5	Evaporator Outlet Air Temperature	°C
6	Driver's Air Mix Opening (Low value indicates cooler air distribution, higher value indicates warmer air distribution)	% of opening
7	Passenger's Air Mix Opening (Low value indicates cooler air distribution, higher value indicates warmer air distribution)	% of opening
8	Recirculation Control Opening	% of opening
9	Vehicle Speed (Vehicle must be driven to display speed)	10 km/h
A	Engine Coolant Temperature	°C
b	Vent Temperature Air Out (TAO)	°C

(cont'd)

General Troubleshooting Information (cont'd)

Celsius to Fahrenheit Conversion Table

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
0	32	10	50	20	68	30	86	40	104
1	34	11	52	21	70	31	88	41	106
2	36	12	54	22	72	32	90	42	108
3	37	13	55	23	73	33	91	43	109
4	39	14	57	24	75	34	93	44	111
5	41	15	59	25	77	35	95	45	113
6	43	16	61	26	79	36	97	46	115
7	45	17	63	27	81	37	99	47	117
8	46	18	64	28	82	38	100	48	118
9	48	19	66	29	84	39	102	49	120

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
50	122	60	140	70	158	80	176	90	194
51	124	61	142	71	160	81	178	91	196
52	126	62	144	72	162	82	180	92	198
53	127	63	145	73	163	83	181	93	199
54	128	64	147	74	165	84	183	94	201
55	131	65	149	75	167	85	185	95	203
56	133	66	151	76	169	86	187	96	205
57	135	67	152	77	170	87	188	97	207
58	136	68	154	78	172	88	190	98	208
59	139	69	158	79	174	89	192	99	210

Alphanumeric Conversion Table

Display Reading (Alphanumeric)	°C	°F	%
A1 thru A9	−1 thru −9	30 thru 16	−1 thru −9
B0 thru B9	−10 thru −19	14 thru −2	−10 thru −19
C0 thru C9	−20 thru −29	−4 thru −20	−20 thru −29
D0 thru D9	−30 thru −39	−22 thru −38	−30 thru −39
E0 thru E9	−40 thru −49	−40 thru −58	−40 thru −49
F0 thru F9	−50 thru −59	−58 thru −74	+100 thru +109

Alphanumeric Conversion Table (Mode Positioning)

Display Reading (Alphanumeric)	Mode Position
0	VENT
20	HEAT/VENT-1
40	HEAT/VENT-2
60	HEAT
80	HEAT/DEF
F0	DEF

5. To cancel the sensor input display mode, press the AUTO button or turn the ignition switch to LOCK (0).

DTC Troubleshooting Index

Checking the DTCs by HDS

DTC	Detection Item or Symptom	ECU	DTC type	Page
U1280	Communication bus line error (bus-off)	Climate control unit	Loss of communication	DTC Troubleshooting (see page 22-148)
U0155	Climate control unit lost communication with gauge control module	Climate control unit	Loss of communication	DTC Troubleshooting (see page 21-132)
B121A	An open in the mode control motor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-134)
B121B	A short in the mode control motor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-135)
B1220	A short in the recirculation control motor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-138)
B1225	An open in the in-car temperature sensor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-141)
B1226	A short in the in-car temperature sensor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-143)
B1227	An open in the outside air temperature sensor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-144)
B1228	A short in the outside air temperature sensor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-146)
B1229	An open in the sunlight sensor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-147)
B1230	A short in the sunlight sensor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-149)
B1231	An open in the evaporator temperature sensor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-150)
B1232	A short in the evaporator temperature sensor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-151)
B1233	An open in the driver's air mix control motor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-152)
B1234	A short in the driver's air mix control motor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-154)
B1235	A problem in the driver's air mix control linkage, door, or motor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-157)
B1236	An open in the passenger's air mix control motor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-158)
B1237	A short in the passenger's air mix control motor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-160)
B1238	A problem in the passenger's air mix control linkage, door, or motor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-163)
B1240*	A problem in the mode control linkage, door, or motor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-164)
B1241	A problem in the blower motor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-166)
B2983	A problem in the recirculation control linkage, door, or motor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-169)
B2986	An open in the recirculation control motor circuit	Climate control unit	Signal error	DTC Troubleshooting (see page 21-171)

*:'10 model

Climate Control

Symptom Troubleshooting Index

Symptom	Diagnostic procedure	Also check for
The blower and heater controls and the A/C system do not work	Probable cause: Climate control unit malfunction Do the climate control power and ground circuit troubleshooting (see page 21-172)	• HVAC DTCs (see page 21-101) • Blown fuse No. 16 (7.5 A) in the driver's under-dash fuse/relay box • Poor ground at G401 (see page 22-40) • Poor or loose connections at the terminals
The A/C compressor clutch and the A/C condenser/radiator fans are inoperative, but the blower and heater controls work ('08-09 models)	Probable cause: A/C pressure switch circuit malfunction A/C pressure switch circuit troubleshooting (see page 21-180)	• HVAC DTCs (see page 21-101) • Powertrain DTCs (see page 11-3) • Poor or loose connections at the terminals
The A/C compressor clutch and the A/C condenser/radiator fans are inoperative, but the blower and heater controls work ('10 model)	Probable cause: A/C pressure sensor circuit malfunction Do the A/C pressure sensor troubleshooting: A/C pressure sensor circuit low voltage (see page 11-282), A/C pressure sensor circuit high voltage (see page 11-284) NOTE: The A/C pressure sensor can malfunction without setting a DTC	• HVAC DTCs (see page 21-101) • Powertrain DTCs (see page 11-3) • A/C signal circuit troubleshooting (see page 21-182) • Poor or loose connections at the terminals
The A/C compressor clutch does not engage, but the A/C condenser/radiator fans operate, and the blower and heater controls work	Probable cause: No power to the A/C compressor clutch Do the A/C compressor clutch circuit troubleshooting (see page 21-52)	• HVAC DTCs (see page 21-101) • Blown fuse No. 20 (7.5 A) in the under-hood fuse/relay box • A/C system pressure is normal (see page 21-89) • Poor or loose connections at the terminals
The A/C condenser fan is inoperative, but the radiator fan runs with the A/C on. The blower and heater controls work normally ('08-09 models)	Probable cause: A/C condenser fan circuit malfunction • Do the A/C condenser fan circuit troubleshooting (see page 21-46) • Engine overheating due to high ECT • Low idle speed	• HVAC DTCs (see page 21-101) • Powertrain DTCs (see page 11-3) • Blown fuse No. 5 (20 A) in the under-hood fuse/relay box • Poor ground at G302 (see page 22-30) • Poor or loose connections at the terminals
The A/C condenser and radiator fans are inoperative with the A/C on. The blower and heater controls work normally ('08-09 models)	• Probable cause: Radiator/A/C condenser fan common circuit malfunction Do the radiator and A/C condenser fan common circuit troubleshooting (see page 21-47) • Probable cause: A/C pressure sensor circuit malfunction Do the A/C pressure sensor troubleshooting: A/C pressure sensor circuit low voltage (see page 11-282), A/C pressure sensor circuit high voltage (see page 11-284) NOTE: The A/C pressure sensor can malfunction without setting a DTC	• HVAC DTCs (see page 21-101) • Powertrain DTCs (see page 11-3) • Blown fuses No. 5 (20 A) and No. 3-6 (MAIN FAN MTR) (30 A) in the under-hood fuse/relay box • Poor ground at G302 (see page 22-30) • Poor or loose connections at the terminals

Symptom	Diagnostic procedure	Also check for
The condenser/radiator fans do not run at low speed with the A/C on, but the blower and heater controls work normally ('10 model)	• Probable cause: Condenser/radiator fan low speed circuit malfunction Do the radiator and A/C condenser fan low speed circuit troubleshooting (see page 21-48) • Probable cause: A/C pressure sensor circuit malfunction Do the A/C pressure sensor troubleshooting: A/C pressure sensor circuit low voltage (see page 11-282), A/C pressure sensor circuit high voltage (see page 11-284) NOTE: The A/C pressure sensor can malfunction without setting a DTC	• HVAC DTCs (see page 21-101) • Powertrain DTCs (see page 11-3) • Blown fuse No. 3-8 (MAIN FAN MTR) (30A) in the under-hood fuse/relay box • Poor ground at G302 (see page 22-30) • Poor or loose connections at the terminals
The condenser/radiator fans do not run at high speed, but do run at low speed ('10 model)	Probable cause: Malfunction in the fan (s) high speed circuit Do the following troubleshooting as needed: A/C condenser fan high speed circuit troubleshooting (see page 21-51) Radiator fan high speed circuit troubleshooting (see page 10-26)	• HVAC DTCs (see page 21-101) • Powertrain DTCs (see page 11-3) • Blown fuses No. 3-8 (MAIN FAN MTR) (30A) and No. 3-6 (SUB FAN MTR) (30A) in the under-hood fuse/relay box • Poor ground at G301 (see page 22-30) and G302 (see page 22-30) • Poor or loose connections at the terminals
Voice commands do not work	Probable cause: Communication problem between the climate control unit and the navigation system Do the navigation communication line circuit troubleshooting (see page 21-173)	• HVAC DTCs (see page 21-101) • Navi system link (see page 23-176) • Poor or loose connections at the terminals
Blower fan runs slower than expected in cold weather (when in AUTO mode)	Probable cause: Engine coolant temperature (ECT) circuit malfunction Troubleshoot the ECT sensor circuit: • ECT sensor 2 circuit low voltage (see page 11-155) • ECT sensor 2 circuit high voltage (see page 11-157)	• HVAC DTCs (see page 21-101) • Powertrain DTCs (see page 11-3) • Blower motor operation
The A/C compressor clutch cycles rapidly on and off	Probable cause: The A/C system is very low on refrigerant, indicating a possible leak Do the refrigerant leak check (see page 21-82) and repair any leaks. Replace the receiver/dryer (see page 21-79), then recharge the system to specifications (see page 21-81)	• HVAC DTCs (see page 21-101) • If there is no leak and the refrigerant level is normal, do the A/C compressor clutch circuit troubleshooting (see page 21-52), and look for an intermittent problem.
Warm air comes out of the vents, and the high pressure liquid line is very hot	Probable cause: The A/C system is overcharged (too much refrigerant), or the A/C condenser is malfunctioning Recover A/C refrigerant (see page 21-80), then check the condenser for restrictions or poor airflow. Repair as needed. Recharge the system to specifications (see page 21-81)	• Incorrect tension or abnormal wear on the drive belt. Replace the belt and/or the belt tensioner as needed. • Proper operation of the A/C condenser/radiator fans. Repair as needed. • Signs of an overheated engine. Repair as needed.

(cont'd)

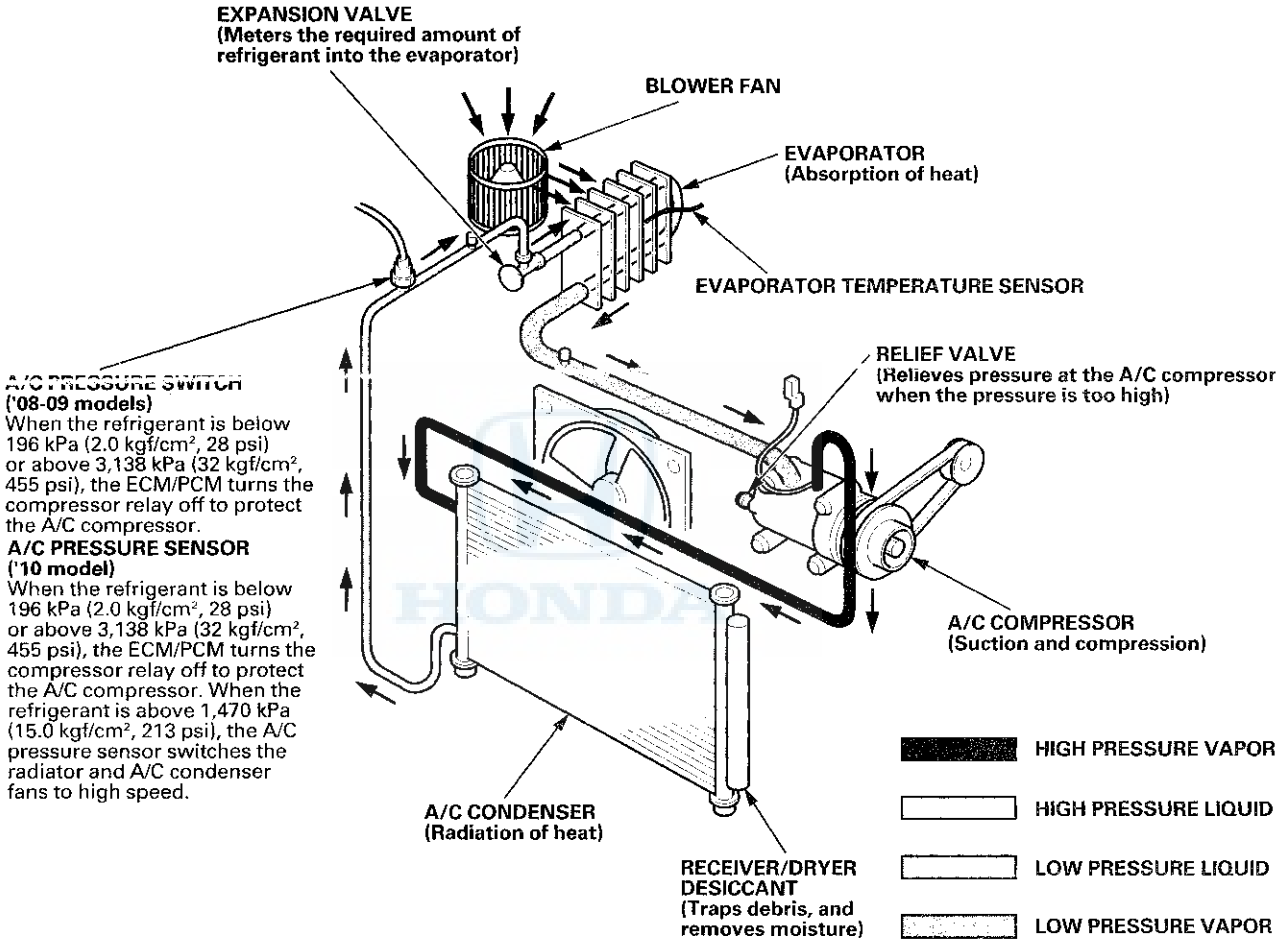
Symptom Troubleshooting Index (cont'd)

Symptom	Diagnostic procedure	Also check for
Warm air comes out of the vents. The suction line is cool to warm, and the discharge line is warm to hot	Probable cause: The A/C system is low on refrigerant, indicating a possible leak Do the refrigerant leak check (see page 21-82) and repair any leaks. Recharge the system to specifications (see page 21-81)	• HVAC DTCs (see page 21-101) • Add refrigerant oil depending on the part you replaced (see page 21-6)
Warm air comes out of the vents. The suction line is cool to warm, the discharge line is warm to hot, and there is no frost on the expansion valve	Probable cause: Excessive air and/or moisture in the system, indicating a possible leak Do the refrigerant leak check (see page 21-82) and repair any leaks. Replace the receiver/dryer (see page 21-79), then recharge the system to specifications (see page 21-81)	• HVAC DTCs (see page 21-101) • Check the amount of refrigerant oil in the system (see page 21-6). Adjust the oil level as needed.
Warm air comes out of the vents. The liquid line or the condenser outlet is abnormally cool, or there is frost or condensation on the receiver/dryer	Probable cause: A restriction in the high-pressure side of the system Recover A/C refrigerant (see page 21-80), then check the liquid line, the receiver/dryer, and the A/C condenser for restrictions. Repair as needed. Recharge the system to specifications (see page 21-81)	HVAC DTCs (see page 21-101)
There is heavy frost or condensation on the expansion valve, and frost on the suction line	Probable cause: A restriction in the low-pressure side of the system Recover A/C refrigerant (see page 21-80), then check the suction line and the expansion valve for restrictions. Repair as needed. Recharge the system to specifications (see page 21-81)	HVAC DTCs (see page 21-101)
Warm air comes out of the vents, but A/C command is normal (A/C switch and clutch are on)	Probable cause: A/C compressor failure Do the A/C system test (see page 21-89), and correct any problems. If necessary, replace the A/C compressor (see page 21-72)	• HVAC DTCs (see page 21-101) • Add refrigerant oil depending on the part you replaced (see page 21-6)
Driver's and passenger's side vent temperatures vary by more than 20 °F (11 °C)	Probable causes: The recirculation control door or the air mix door is malfunctioning Do the following troubleshooting: • Recirculation control motor test (see page 21-189) • Driver's air mix control motor test (see page 21-59) • Passenger's air mix control motor test (see page 21-187)	• HVAC DTCs (see page 21-101) • Poor or loose connections at the terminals
Warm air comes out of the vents, and there is frost on the expansion valve	Probable cause: The expansion valve is stuck closed Replace the expansion valve (see page 21-69)	• HVAC DTCs (see page 21-101) • Check the old expansion valve for contamination. If contaminants are found, replace the A/C system component (see page 21-7) that caused the contamination

Symptom	Diagnostic procedure	Also check for
The temperature of the liquid line is the same on both sides of the expansion valve, and the evaporator coil or suction line has heavy condensation	Probable cause: The expansion valve is stuck open Replace the expansion valve (see page 21-69)	• HVAC DTCs (see page 21-101) • Check the old expansion valve for contamination. If contaminants are found, replace the A/C system component (see page 21-7) that caused the contamination.
HDS does not communicate with the climate control unit or the vehicle	Troubleshoot the DLC circuit (see page 11-181)	
Insufficient heating	1. Check the coolant level (see page 10-6) 2. Check the radiator cap (see page 10-3) 3. Check the coolant temperature during normal operation 4. Check the heater core inlet hose temperature: • If it is COLD, check for restrictions in the hose, a damaged or leaking thermostat, or a damaged or leaking water pump • If it is HOT, check for restrictions in the heater core. Back flush or replace the heater core 5. Do the driver's air mix control motor test (see page 21-59) and passenger's air mix control motor test (see page 21-187) 6. Check the blower motor unit for obstructions 7. Check for air leaks around the ducts and vents	• HVAC DTCs (see page 21-101) • Damaged cylinder head gasket

System Description

The air conditioning (A/C) system removes heat from the passenger compartment by transferring heat from the ambient air to the evaporator. The A/C system refrigerant expands in the evaporator, and the evaporator becomes very cold and absorbs the heat from the ambient air. The blower fan pushes air across the evaporator where the heat is absorbed, and then it blows the cool air into the passenger compartment.



This vehicle uses HFC-134a (R-134a) refrigerant, which does not contain chlorofluorocarbons. Pay attention to the following service items:

- Do not mix refrigerants CFC-12 (R-12) and HFC-134a (R-134a). They are not compatible.
- Use only the recommended polyalkyleneglycol (PAG) refrigerant oil (DENSO ND-01L8) designed for the R-134a A/C compressor. Intermixing the recommended (PAG) refrigerant oil with any other refrigerant oil will result in A/C compressor failure.
- All A/C system parts (A/C compressor, discharge line, suction line, evaporator, A/C condenser, receiver/dryer, expansion valve, O-rings for joints) are designed for refrigerant R-134a. Do not exchange with R-12 parts.
- Use a halogen gas leak detector designed for refrigerant R-134a.
- R-12 and R-134a refrigerant servicing equipment are not interchangeable. Use only a recovery/recycling/charging station that is U.L.-listed and is certified to meet the requirements of SAE J2210 to service the R-134a air conditioning systems.
- Always recover refrigerant R-134a with an approved recovery/recycling/charging station before disconnecting any A/C fitting.

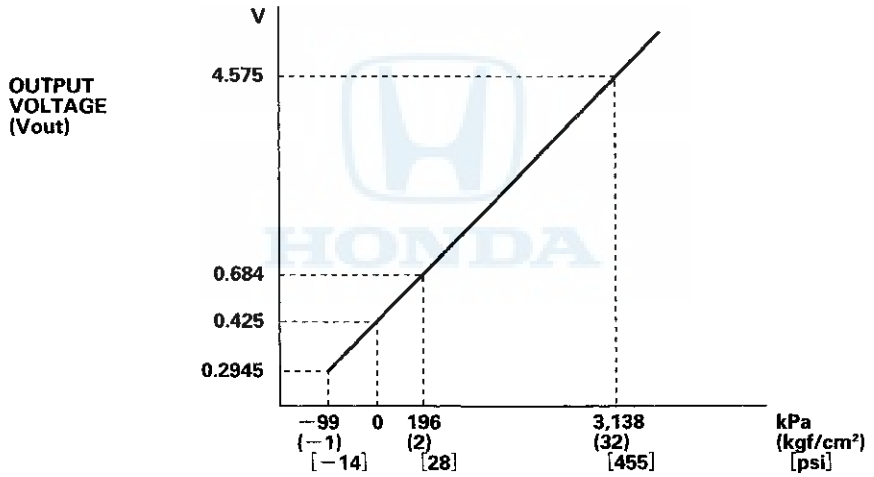
A/C Pressure Sensor ('10 Model)

The A/C pressure sensor converts A/C pressure into electrical signals to the ECM/PCM.

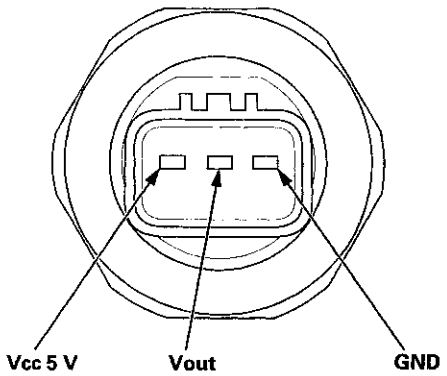
A/C System Pressure	Sensor Output Voltage (V out)	System Operation
Abnormally low pressure: Below 196 kPa (2.0 kgf/cm², 28 psi)	Below 0.685 V	The ECM/PCM disengages the A/C compressor clutch. The radiator and A/C condenser fans operate based on engine coolant temperature.
Normal operating pressure: • Above 196 kPa (2.0 kgf/cm², 28 psi) • Below 1,470 kPa (15.0 kgf/cm², 213 psi)	0.686 V to 1.944 V	The ECM/PCM cycles the A/C compressor clutch based on cooling demand. The radiator and A/C condenser fans operate at low speed unless the engine coolant temperature exceeds 206 °F (97 °C)
High operating pressure: • Above 1,470 kPa (15.0 kgf/cm², 213 psi) • Below 3,138 kPa (32 kgf/cm², 455 psi)	1.945 V to 4.575 V	The ECM/PCM cycles the A/C compressor clutch based on cooling demand. The radiator and A/C condenser fans operate at high speed.
Abnormally high pressure: More than 3,138 kPa (32 kgf/cm², 455 psi)	Above 4.575 V	The ECM/PCM disengages the A/C compressor clutch. The radiator and A/C condenser fans operate based on engine coolant temperature.

The response of the A/C pressure sensor is shown in the graph.

NOTE: When the refrigerant is below 196 kPa (2.0 kgf/cm², 28 psi) or above 3,138 kPa (32 kgf/cm², 455 psi), the ECM/PCM turns the A/C compressor relay off to protect the A/C compressor. When the refrigerant pressure is above 1,470 kPa (15.0 kgf/cm², 213 psi), the ECM/PCM switches the radiator and A/C condenser fans to high speed.



A/C PRESSURE SENSOR



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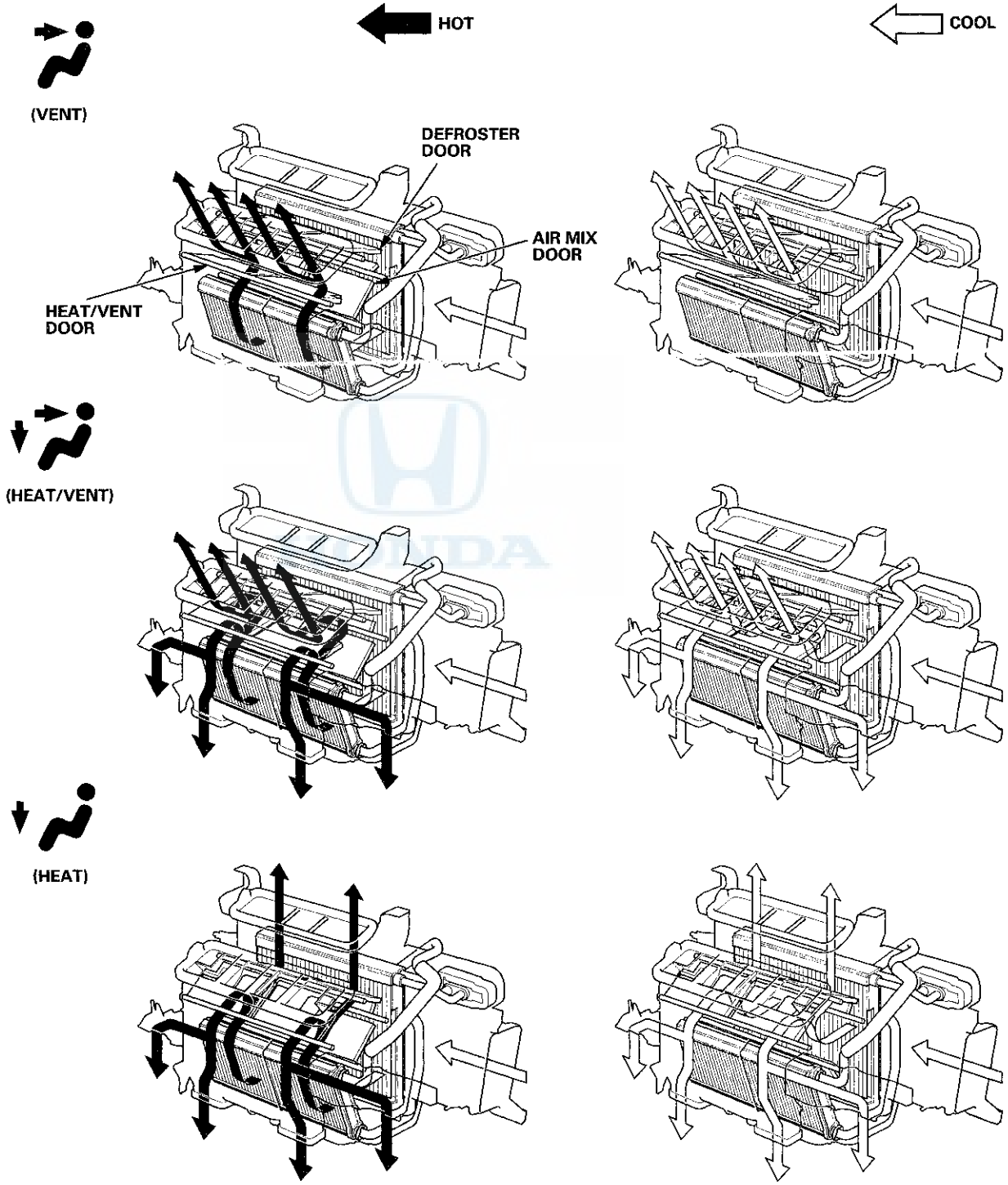
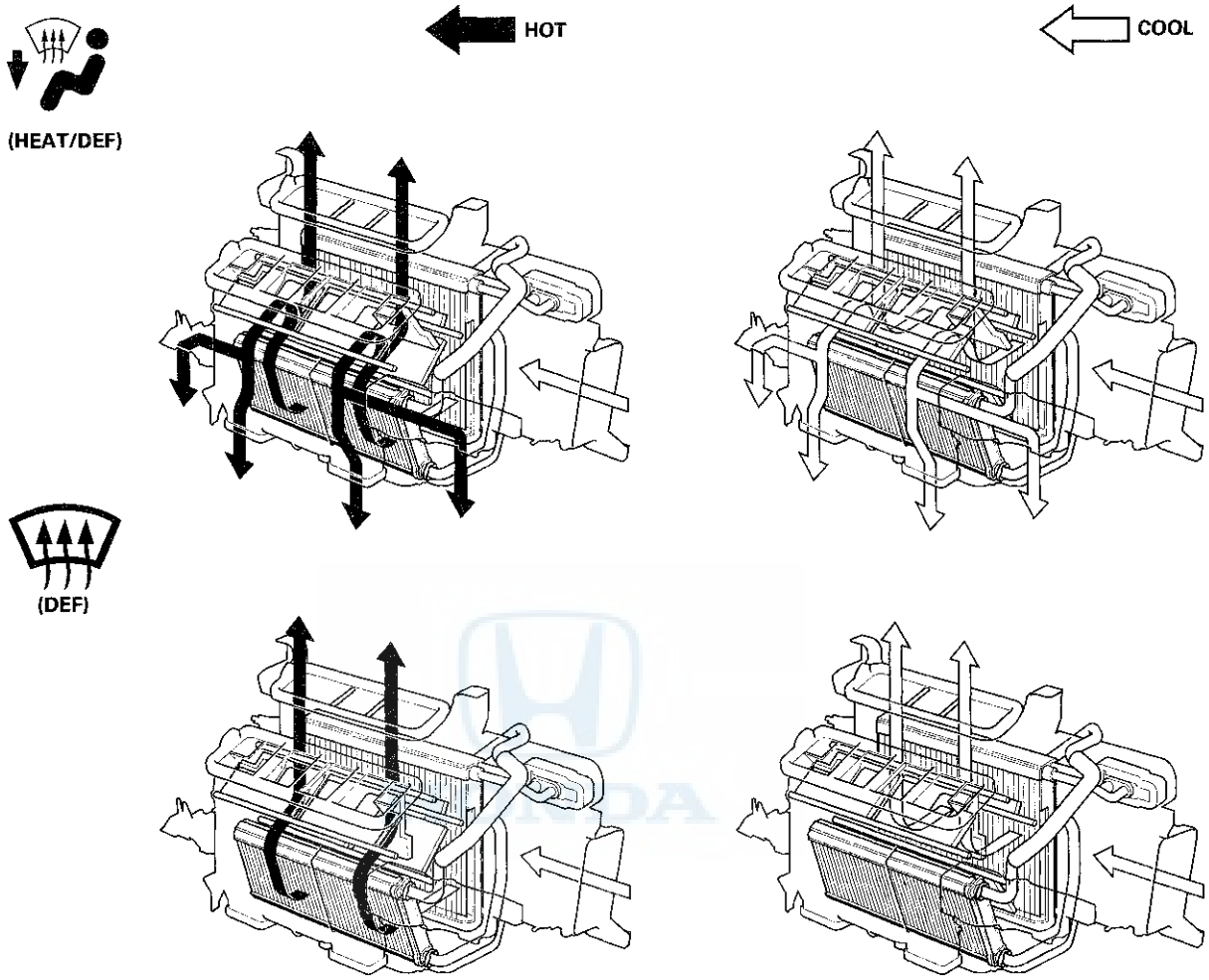
System Description (cont'd)

Climate Control Door Positions





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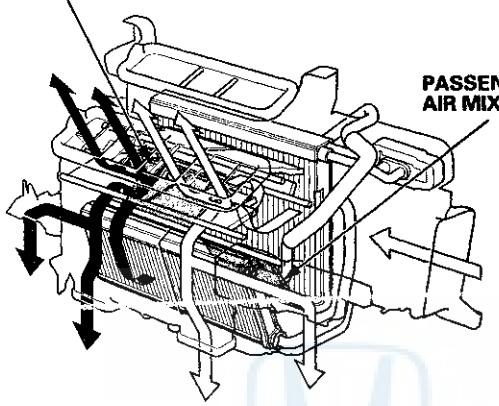
System Description (cont'd)

Dual Air Mix Control System

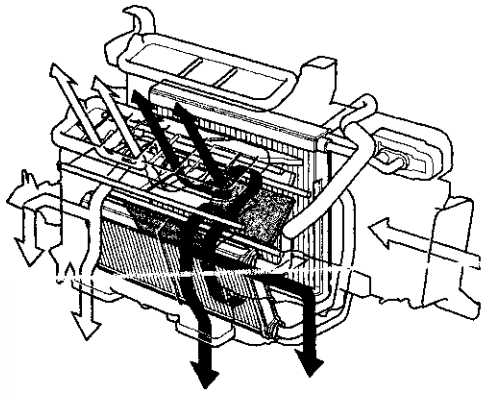
Driver's side: HOT
Passenger's side: COOL

DRIVER'S AIR MIX DOOR

PASSENGER'S AIR MIX DOOR

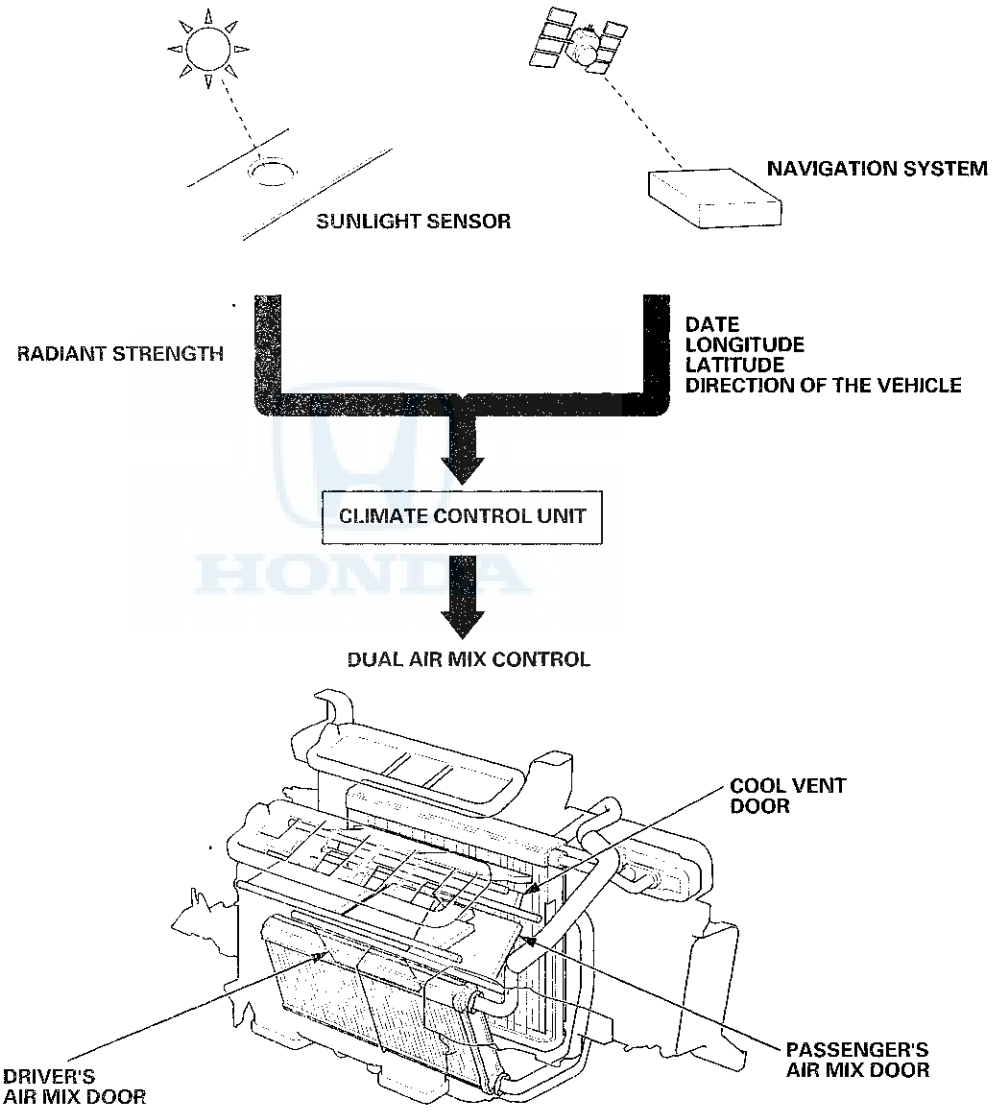


Driver's side: COOL
Passenger's side: HOT



i-Dual Zone Climate Control System

This system automatically controls the temperature and the vent mode of the air direction to the driver and passenger's side depending on the angle of the sun and the direction of the vehicle. It calculates information such as date, time, longitude, and latitude from the navigation system, as well as the radiant strength of the sun from the sunlight sensor, to determine the appropriate mode position and temperature to be directed to each side.



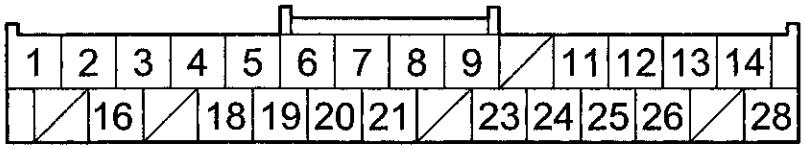
In the event that the navigation system malfunctions, or when driving in areas where the navigation cannot determine the vehicle position (non-coverage areas, tunnels, etc.), the climate control system will operate the same as a vehicle without navigation.

(cont'd)

System Description (cont'd)

Climate Control Unit Inputs and Outputs

CLIMATE CONTROL UNIT CONNECTOR A (28P)



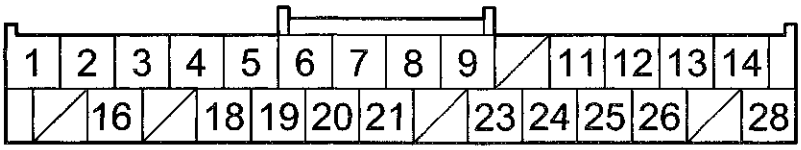
Wire side of female terminals

Cavity	Wire color	Terminal name	Description	Signal
1	LT GRN	M-HOT AS	Drives passenger's air mix control motor HOT side	With ignition switch ON (II) and passenger's air mix control motor change to the max COOL position: less than 0.5 V at several seconds
2	BRN*1 WHT*2	M-COOL AS	Drives passenger's air mix control motor COOL side	With ignition switch ON (II) and passenger's air mix control motor change to the max HOT position: less than 0.5 V at several seconds
3	RED*1 PUR*2	M-FRS	Drives recirculation control motor FRESH side	With ignition switch ON (II) and recirculation control motor change to the RECIRCU position: connected to ground at several seconds
4	LT BLU	M-COOL DR	Drives driver's air mix control motor COOL side	With ignition switch ON (II) and driver's air mix control motor change to the max HOT position: less than 0.5 V at several seconds
5	PUR*1 ORN*2	M-REC	Drives recirculation control motor RECIRCULATE side	With ignition switch ON (II) and recirculation control motor change to the FRESH position: connected to ground at several seconds
6	PNK	M-HOT DR	Drives driver's air mix control motor HOT side	With ignition switch ON (II) and driver's air mix control motor change to the max COOL position: less than 0.5 V at several seconds
7	YEL*1 WHT*2	M-VENT	Outputs mode control motor VENT side	With ignition switch ON (II) and mode control motor change to the DEF position: less than 0.5 V at several seconds
8	GRY*1 GRN*2	M-DEF	Outputs mode control motor DEF side	With ignition switch ON (II) and mode control motor change to the VENT position: less than 0.5 V at several seconds
9	RED*1 LT GRN*2	IG2	IG2 power source	With ignition switch ON (II): battery voltage
11	RED*1 LT GRN*2	MDD-P	Outputs mode control motor potentiometer signal	——
12	BLU*1 PNK*2	RFD-P	Outputs recirculation control motor potentiometer signal	——

*1: With navigation
*2: Without navigation

Climate Control Unit Inputs and Outputs (cont'd)

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

Cavity	Wire color	Terminal name	Description	Signal
13	LT BLU*1 YEL*2	AMD-P AS	Outputs passenger's air mix control motor potentiometer signal	With ignition switch ON (II): about 0.5-4.5 V (depending on passenger's air mix control motor position)
14	GRY	AMD-P DR	Outputs driver's air mix control motor potentiometer signal	With ignition switch ON (II): about 0.5-4.5 V (depending on driver's air mix control motor position)
16*2	RED	ILL - BULB	Detects illumination control signal	With illumination switch ON: changed voltage (depending on dash light brightness controller)
18*2	GRY	SMALL	Inputs voltage for illumination	With combination light switch ON: battery voltage
19	LT BLU*1 RED*2	DISP CLK	Communication signal from subdisplay	With ignition switch ON (II): pulses
20	BLU*1 PUR*2	DISP SI	Communication signal to subdisplay potentiometer signal	With ignition switch ON (II): pulses
21	PUR*1 LT BLU*2	ACS	Outputs A/C on/off signal	With ignition switch ON (II), A/C pressure switch ON, and A/C compressor clutch ON: less than 0.5 V With ignition switch ON (II), A/C pressure switch ON, and A/C compressor clutch OFF: battery voltage
23	BRN	Teva	Detects evaporator temperature sensor signal	With ignition switch ON (II): about 1.0-4.0 V (depending on evaporator temperature)
24	LT GRN*1 BLU*2	TAM	Detects outside air temperature sensor signal	With ignition switch ON (II): about 1.0-4.0 V (depending on outside air temperature)
25	YEL*1 PUR*2	TSUN	Detects sunlight sensor signal	With ignition switch ON (II) and sensor out of direct sunlight: 3.6-3.7 V or more With ignition switch ON (II) and sensor in direct sunlight: 3.3-3.5 V or less
26	BLK*1 WHT*2	TR	Detects in-car temperature sensor signal	With ignition switch ON (II): about 1.0-4.0 V (depending on in-car temperature)
28*1	GRN	BUS DATA	Communication signal to driver's climate control switch	With ignition switch ON (II): pulses

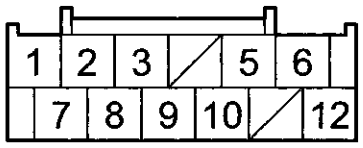
*1: With navigation
*2: Without navigation

(cont'd)

System Description (cont'd)

Climate Control Unit Inputs and Outputs (cont'd)

CLIMATE CONTROL UNIT CONNECTOR B (12P)



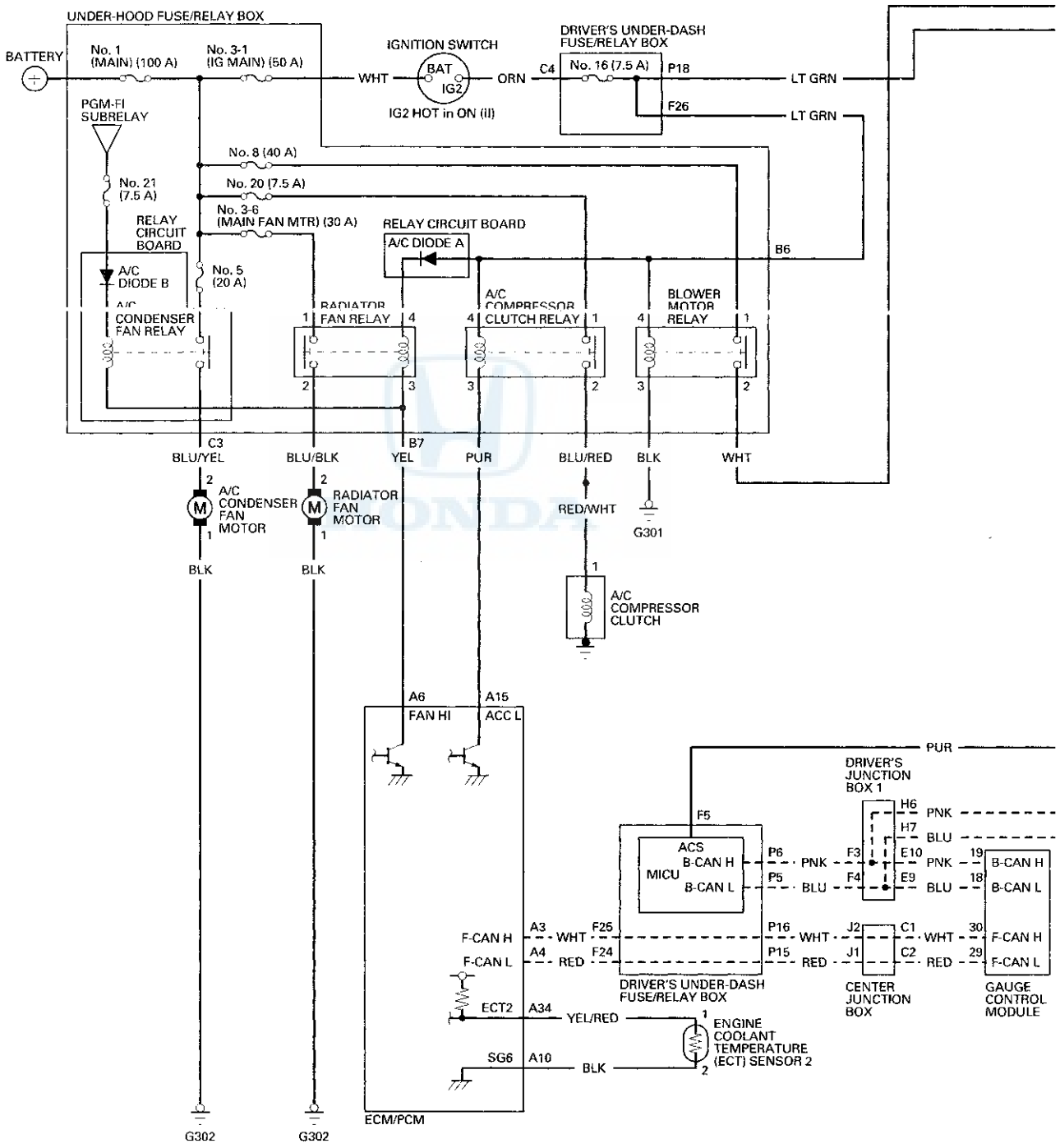
Wire side of female terminals

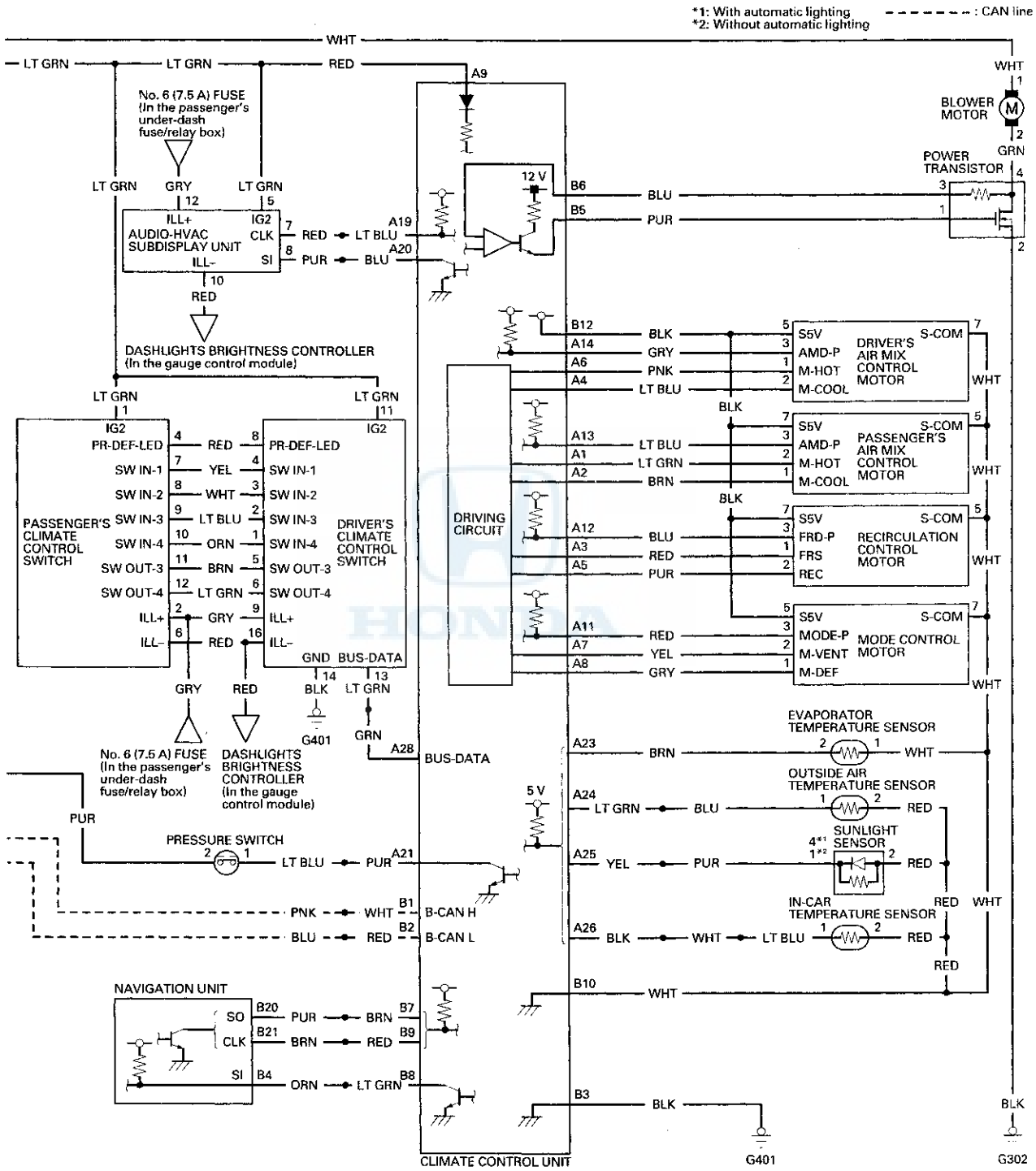
Cavity	Wire color	Terminal name	Description	Signal
1	WHT*1 PNK*2	B-CAN HI	B-CAN communication signal	With ignition switch ON (II): pulses
2	RED*1 BLU*2	B-CAN LO	B-CAN communication signal	With ignition switch ON (II): pulses
3	BLK	GND	Ground for climate control unit (G401)	Less than 0.5 V at all times
5	PUR*1 YEL*2	BLW-G	Outputs power transistor gate voltage	With ignition switch ON (II) and fan control button OFF: less than 0.5 V With ignition switch ON (II) and fan control button ON: about 4.0 V battery voltage (depending on blower motor control)
6	BLU	BLW-V	Feedback signal of power transistor drain voltage	With ignition switch ON (II): about 0 V battery voltage (depending on blower motor speed)
7*1	BRN	NAVI SO	Communication signal from navigation	With ignition switch ON (II): pulses
8*1	LT GRN	NAVI SI	Communication signal to navigation	With ignition switch ON (II): pulses
9*1	RED	NAVI CLK	Communication signal from navigation	With ignition switch ON (II): pulses
10	WHT*1 RED*2	SENS-COM	Sensor ground	Less than 0.5 V at all times
12	BLK	S5V	Outputs sensor 5 V	With ignition switch ON (II): about 5.0 V

*1: With navigation
*2: Without navigation

Circuit Diagram

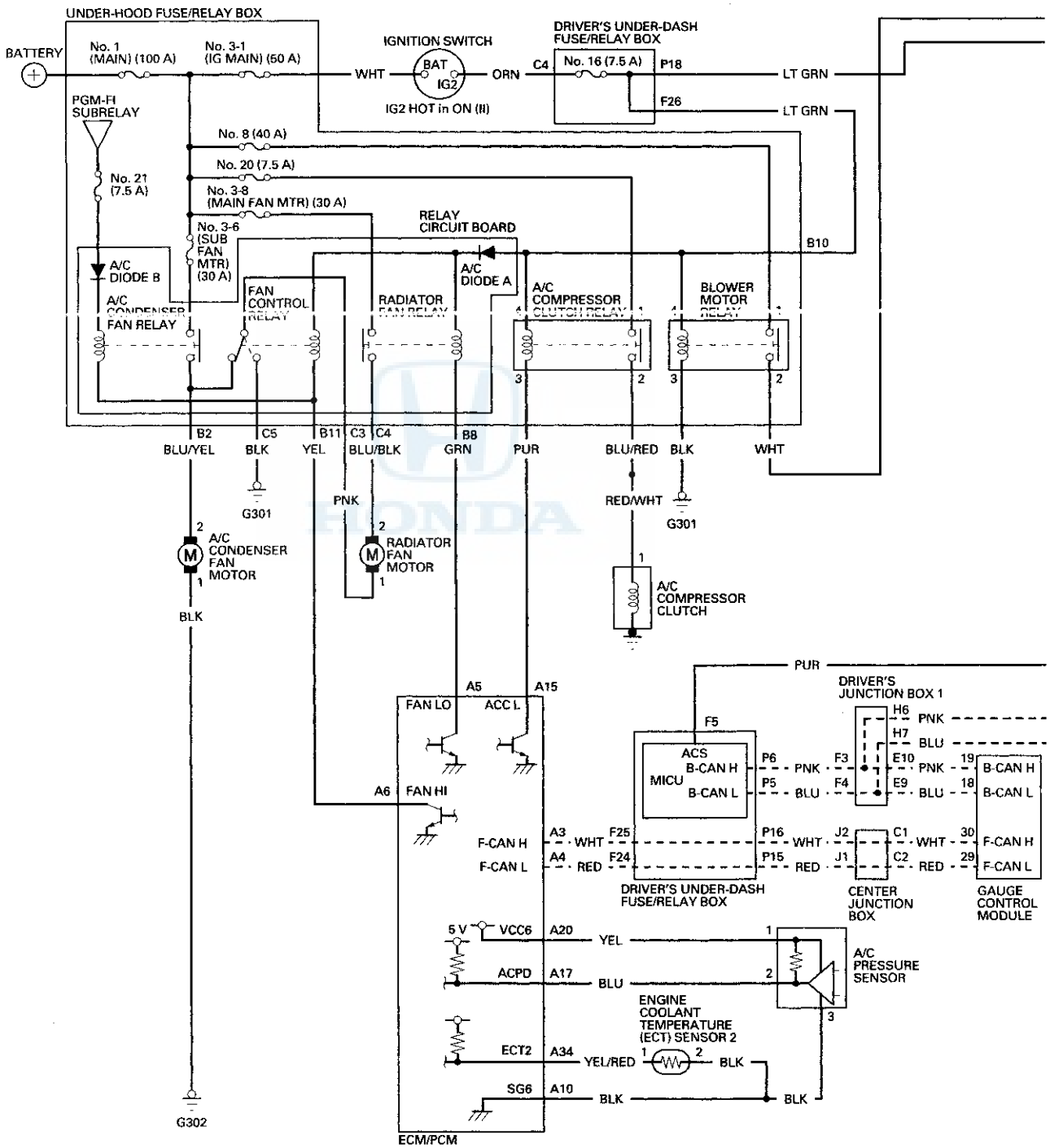
'08-09 Models With Navigation

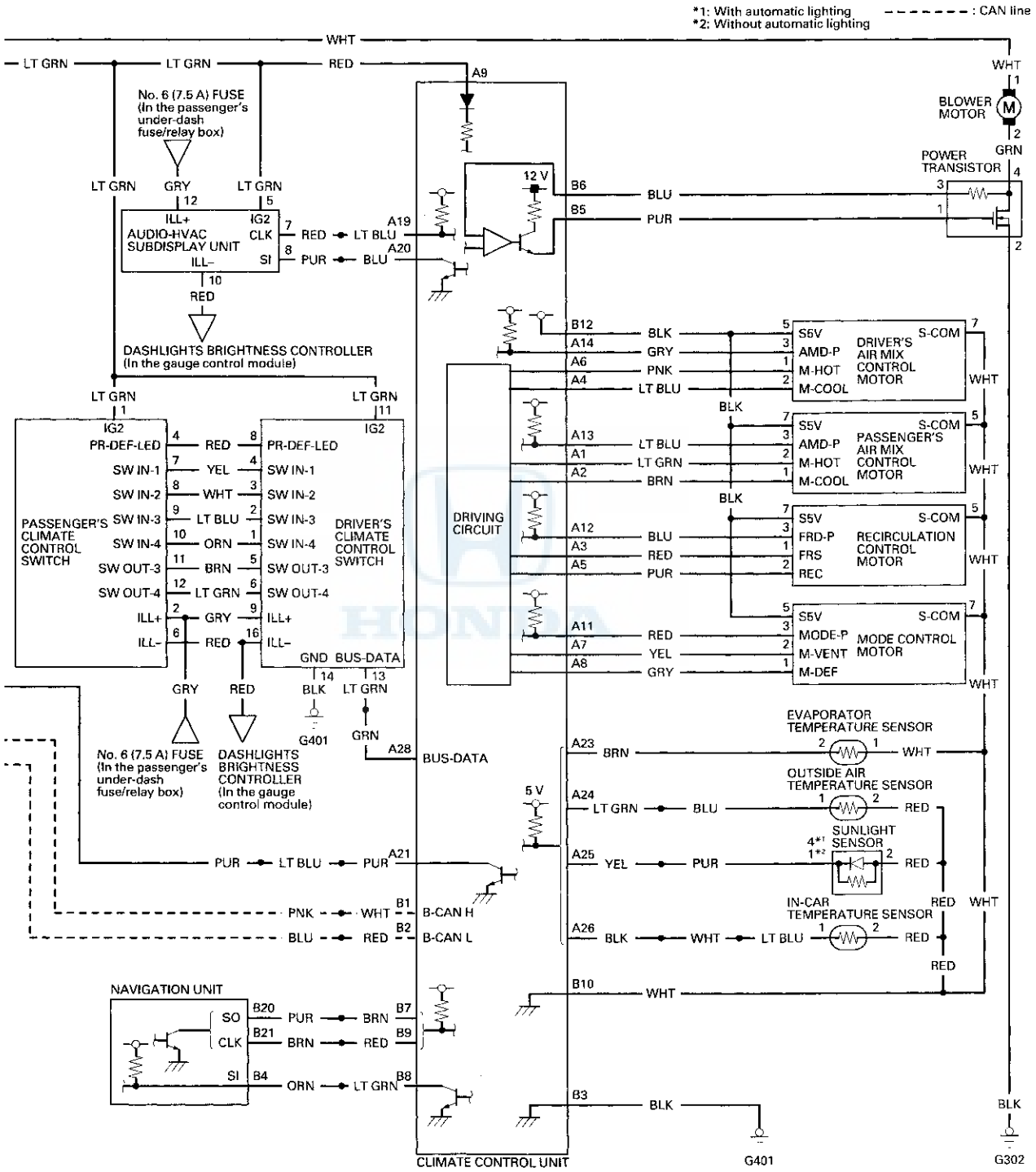



*1: With automatic lighting
*2: Without automatic lighting
: CAN line
WHT
LT GRN
LT GRN
RED
A9
No. 6 (7.5 A) FUSE (In the passenger's under-dash fuse/relay box)
LT GRN
GRY
LT GRN
12
5
ILL+
IG2
AUDIO-HVAC SUBDISPLAY UNIT
CLK
SI
ILL-
7
8
10
RED
A19
LT BLU
A20
PUR
BLU
DASHLIGHTS BRIGHTNESS CONTROLLER (In the gauge control module)
12 V
B6
BLU
B5
PUR
WHT
BLOWER MOTOR
GRN
POWER TRANSISTOR
B12
A14
A6
A4
BLK
GRY
PNK
LT BLU
S5V
AMD-P
M-HOT
M-COOL
DRIVER'S AIR MIX CONTROL MOTOR
S-COM
A13
A1
A2
LT BLU
LT GRN
BRN
PASSENGER'S AIR MIX CONTROL MOTOR
A12
A3
A5
BLU
RED
PUR
FRD-P
FRS
REC
RECIRCULATION CONTROL MOTOR
A11
A7
A8
RED
YEL
GRY
MODE-P
M-VENT
M-DEF
MODE CONTROL MOTOR
DRIVING CIRCUIT
LT GRN
1
LT GRN
11
IG2
PR-DEF-LED
SW IN-1
SW IN-2
SW IN-3
SW IN-4
SW OUT-3
SW OUT-4
ILL+
ILL-
PASSENGER'S CLIMATE CONTROL SWITCH
DRIVER'S CLIMATE CONTROL SWITCH
GND
BUS-DATA
14
13
GRY
RED
BLK
LT GRN
G401
GRN
A28
BUS-DATA
No. 6 (7.5 A) FUSE (In the passenger's under-dash fuse/relay box)
DASHLIGHTS BRIGHTNESS CONTROLLER (In the gauge control module)
EVAPORATOR TEMPERATURE SENSOR
A23
BRN
WHT
OUTSIDE AIR TEMPERATURE SENSOR
A24
LT GRN
BLU
RED
SUNLIGHT SENSOR
A25
YEL
PUR
RED
IN-CAR TEMPERATURE SENSOR
A26
BLK
WHT
LT BLU
RED
5 V
PUR
PRESSURE SWITCH
LT BLU
PUR
A21
PNK
WHT
B1
B-CAN H
BLU
RED
B2
B-CAN L
NAVIGATION UNIT
SO
CLK
SI
B20
B21
B4
PUR
BRN
BRN
RED
ORN
LT GRN
B7
B9
B8
B10
WHT
B3
BLK
CLIMATE CONTROL UNIT
G401
G302

Circuit Diagram (cont'd)

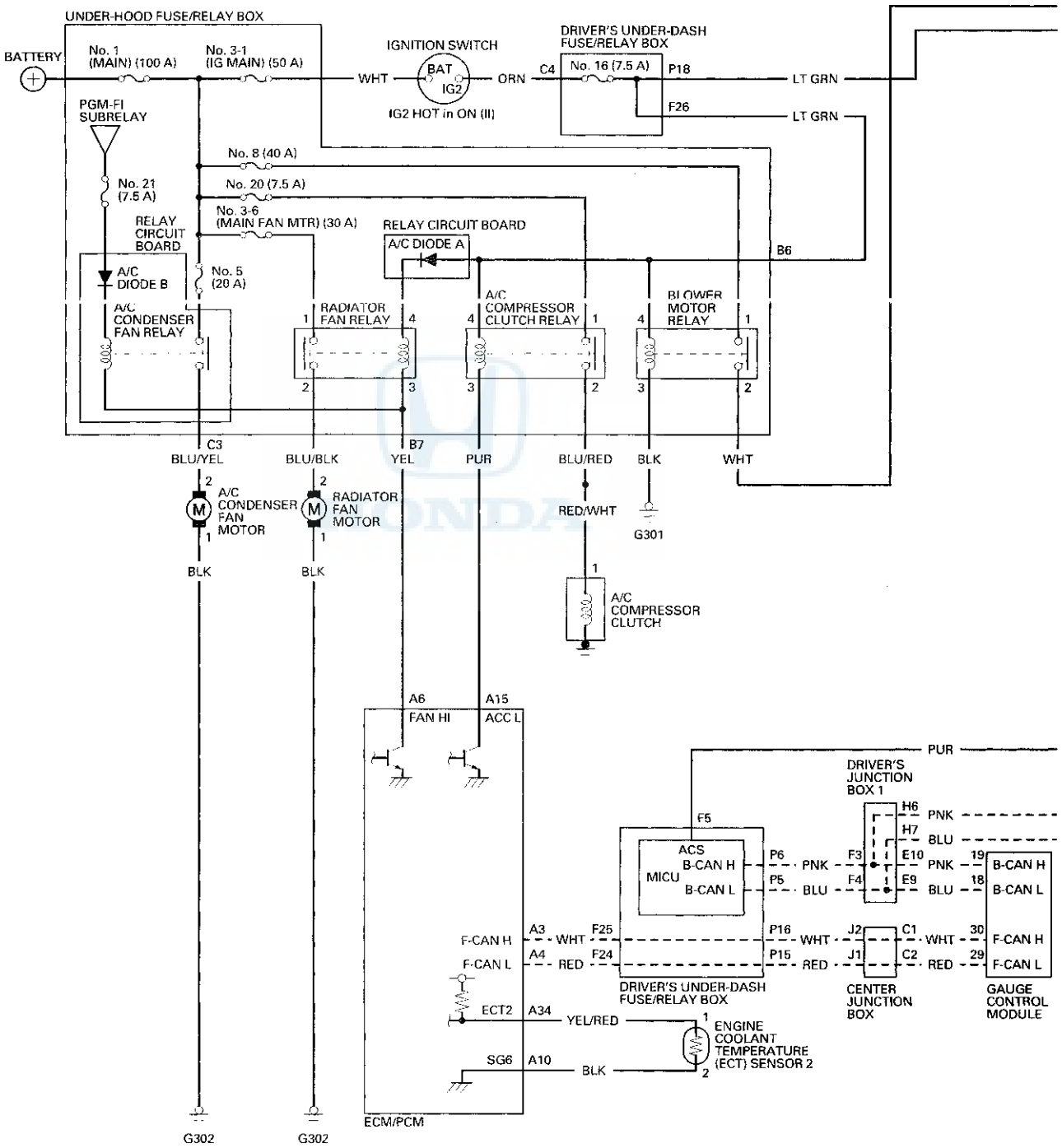
'10 Model With Navigation

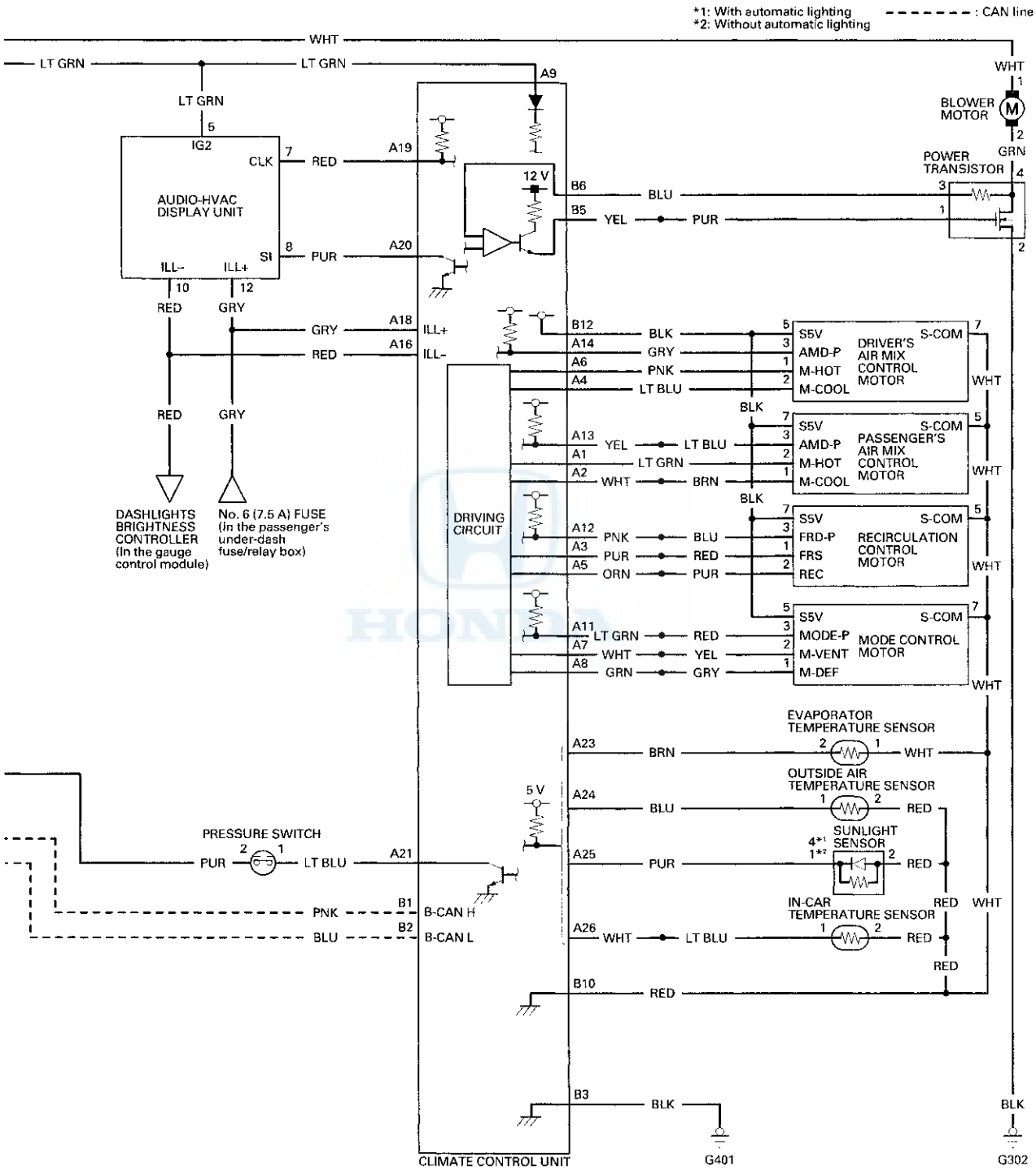



*1: With automatic lighting
*2: Without automatic lighting
: CAN line
WHT
LT GRN
LT GRN
RED
A9
No. 6 (7.5 A) FUSE (In the passenger's under-dash fuse/relay box)
LT GRN
GRY
LT GRN
12
5
ILL+
IG2
AUDIO-HVAC SUBDISPLAY UNIT
CLK
SI
ILL-
10
7
8
RED
LT BLU
PUR
BLU
A19
A20
12 V
B6
B5
BLU
PUR
WHT
1
BLOWER MOTOR
M
2
GRN
POWER TRANSISTOR
4
3
1
2
RED
DASHLIGHTS BRIGHTNESS CONTROLLER (In the gauge control module)
B12
A14
A6
A4
BLK
GRY
PNK
LT BLU
DRIVING CIRCUIT
S5V
AMD-P
M-HOT
M-COOL
DRIVER'S AIR MIX CONTROL MOTOR
S-COM
A13
A1
A2
LT BLU
LT GRN
BRN
PASSENGER'S AIR MIX CONTROL MOTOR
A12
A3
A5
BLU
RED
PUR
FRD-P
FRS
REC
RECIRCULATION CONTROL MOTOR
A11
A7
A8
RED
YEL
GRY
MODE-P
M-VENT
M-DEF
MODE CONTROL MOTOR
LT GRN
1
IG2
PR-DEF-LED
SW IN-1
SW IN-2
SW IN-3
SW IN-4
SW OUT-3
SW OUT-4
ILL+
ILL-
PASSENGER'S CLIMATE CONTROL SWITCH
LT GRN
11
IG2
PR-DEF-LED
SW IN-1
SW IN-2
SW IN-3
SW IN-4
SW OUT-3
SW OUT-4
ILL+
ILL-
GND
BUS-DATA
DRIVER'S CLIMATE CONTROL SWITCH
14
13
GRY
RED
BLK
LT GRN
G401
GRN
A28
BUS-DATA
No. 6 (7.5 A) FUSE (In the passenger's under-dash fuse/relay box)
DASHLIGHTS BRIGHTNESS CONTROLLER (In the gauge control module)
EVAPORATOR TEMPERATURE SENSOR
A23
BRN
WHT
OUTSIDE AIR TEMPERATURE SENSOR
5 V
A24
LT GRN
BLU
RED
SUNLIGHT SENSOR
4*1
1*2
A25
YEL
PUR
RED
IN-CAR TEMPERATURE SENSOR
A26
BLK
WHT
LT BLU
RED
PUR
LT BLU
PUR
A21
PNK
WHT
B1
B-CAN H
BLU
RED
B2
B-CAN L
NAVIGATION UNIT
SO
CLK
SI
B20
B21
B4
PUR
BRN
ORN
BRN
RED
LT GRN
B7
B9
B8
B10
WHT
B3
BLK
CLIMATE CONTROL UNIT
G401
G302
BLK

Circuit Diagram (cont'd)

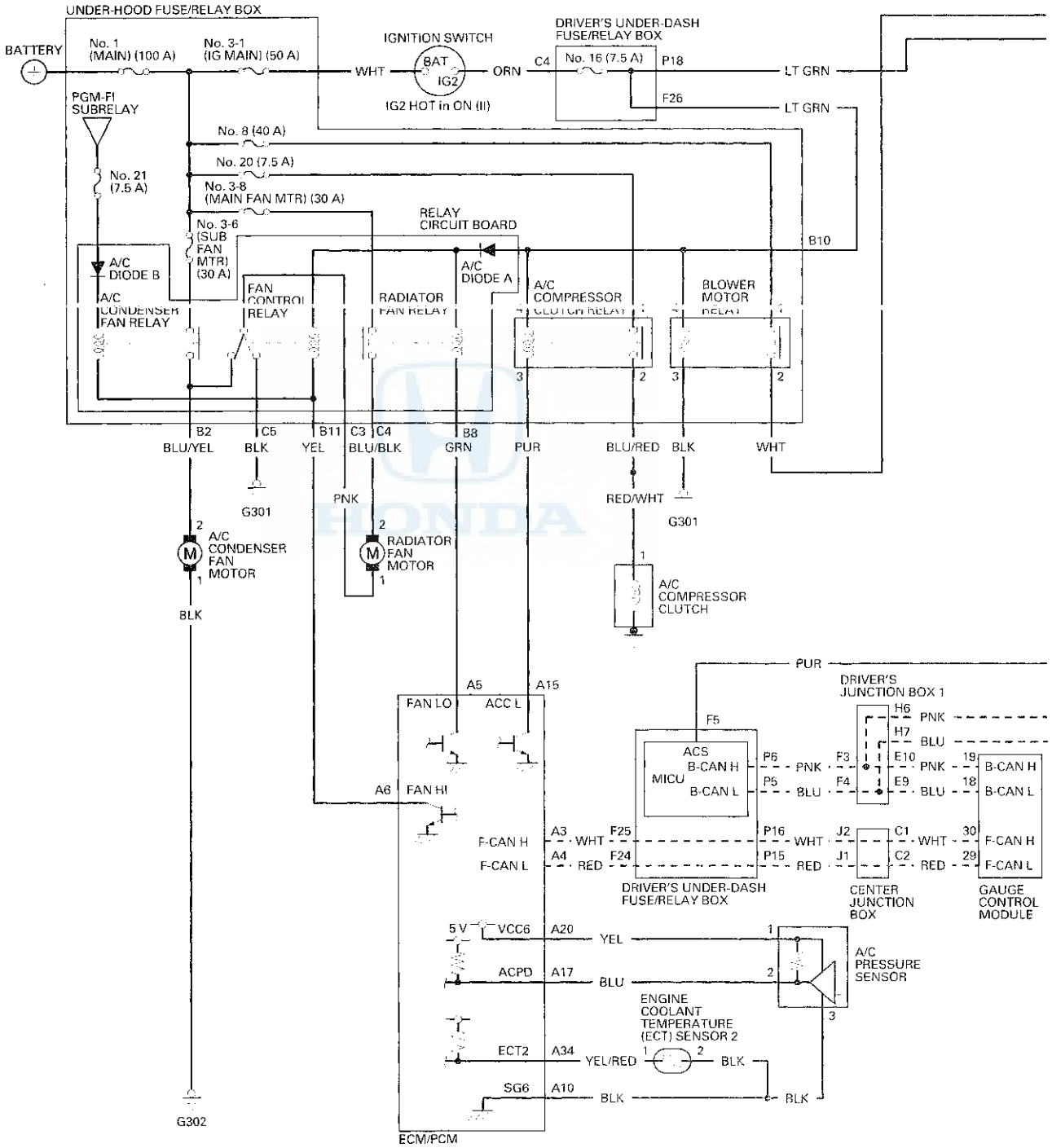
'08-09 Models Without Navigation

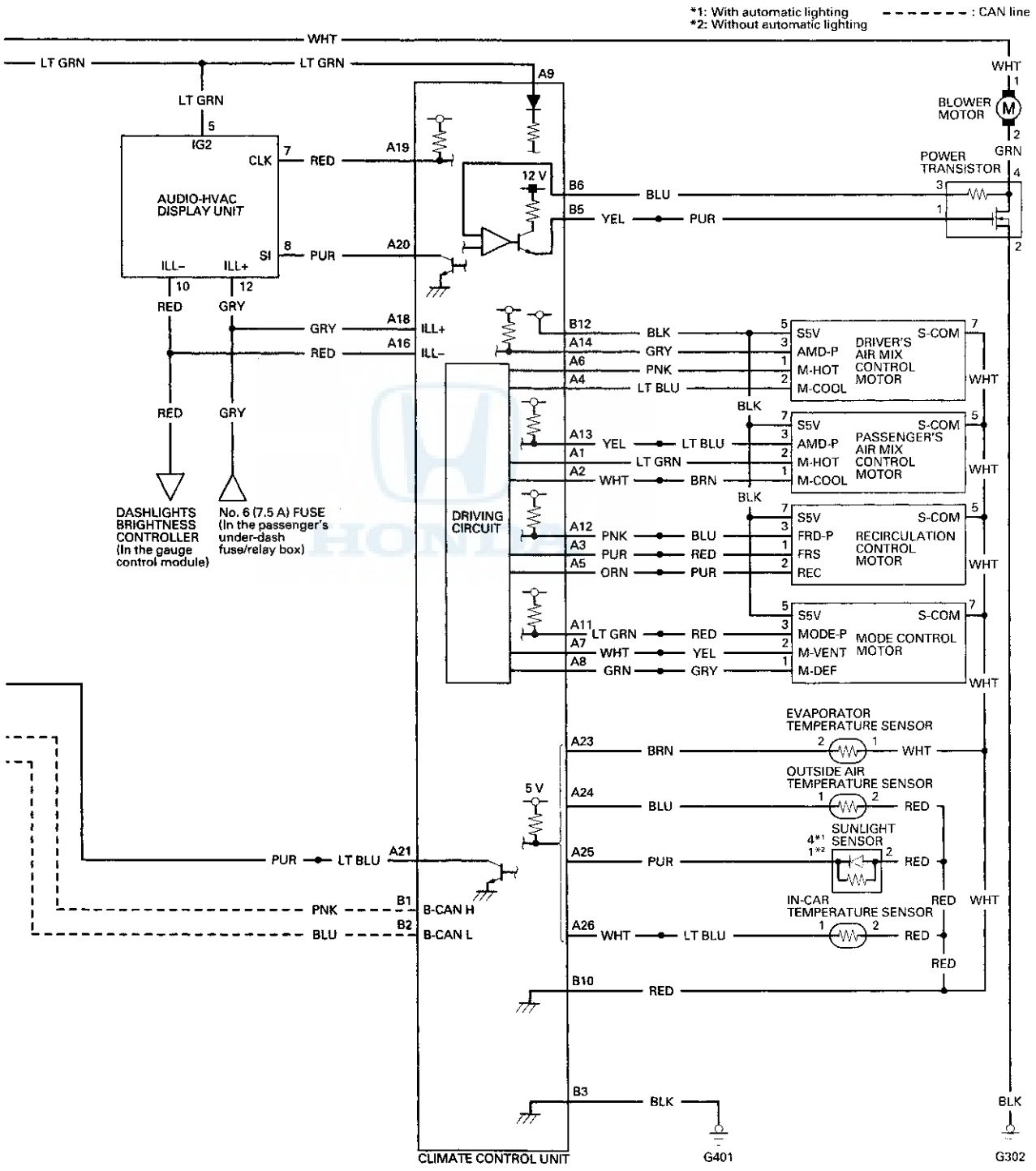



*1: With automatic lighting
*2: Without automatic lighting
: CAN line
WHT
LT GRN
LT GRN
LT GRN
A9
WHT
BLOWER MOTOR
GRN
POWER TRANSISTOR
IG2
CLK
RED
A19
12 V
B6
BLU
AUDIO-HVAC DISPLAY UNIT
B5
YEL
PUR
SI
PUR
A20
ILL-
ILL+
RED
GRY
GRY
A18
ILL+
RED
A16
ILL-
B12
BLK
A14
GRY
A6
PNK
A4
LT BLU
S5V
AMD-P
M-HOT
M-COOL
DRIVER'S AIR MIX CONTROL MOTOR
S-COM
WHT
BLK
A13
YEL
LT BLU
A1
LT GRN
A2
WHT
BRN
PASSENGER'S AIR MIX CONTROL MOTOR
DRIVING CIRCUIT
A12
PNK
BLU
A3
PUR
RED
A5
ORN
PUR
FRD-P
FRS
REC
RECIRCULATION CONTROL MOTOR
A11
LT GRN
RED
A7
WHT
YEL
A8
GRN
GRY
MODE-P
M-VENT
M-DEF
MODE CONTROL MOTOR
DASHLIGHTS BRIGHTNESS CONTROLLER (In the gauge control module)
No. 6 (7.5 A) FUSE (In the passenger's under-dash fuse/relay box)
EVAPORATOR TEMPERATURE SENSOR
A23
BRN
WHT
OUTSIDE AIR TEMPERATURE SENSOR
5 V
A24
BLU
RED
PRESSURE SWITCH
PUR
LT BLU
A21
SUNLIGHT SENSOR
A25
PUR
RED
PNK
B1
B-CAN H
IN-CAR TEMPERATURE SENSOR
BLU
B2
B-CAN L
A26
WHT
LT BLU
RED
B10
RED
B3
BLK
CLIMATE CONTROL UNIT
G401
G302

Circuit Diagram (cont'd)

'10 Model Without Navigation




*1: With automatic lighting
*2: Without automatic lighting
: CAN line
WHT
LT GRN
LT GRN
LT GRN
A9
WHT
BLOWER MOTOR
GRN
POWER TRANSISTOR
IG2
CLK
RED
A19
12 V
B6
BLU
AUDIO-HVAC DISPLAY UNIT
B5
YEL
PUR
SI
PUR
A20
ILL–
ILL+
10
12
RED
GRY
GRY
A18
ILL+
RED
A16
ILL–
B12
BLK
A14
GRY
A6
PNK
A4
LT BLU
S5V
AMD-P
M-HOT
M-COOL
DRIVER'S AIR MIX CONTROL MOTOR
S-COM
WHT
BLK
A13
YEL
LT BLU
A1
LT GRN
A2
WHT
BRN
PASSENGER'S AIR MIX CONTROL MOTOR
DRIVING CIRCUIT
A12
PNK
BLU
A3
PUR
RED
A5
ORN
PUR
FRD-P
FRS
REC
RECIRCULATION CONTROL MOTOR
A11
LT GRN
RED
A7
WHT
YEL
A8
GRN
GRY
MODE-P
M-VENT
M-DEF
MODE CONTROL MOTOR
DASHLIGHTS BRIGHTNESS CONTROLLER (In the gauge control module)
No. 6 (7.5 A) FUSE (In the passenger's under-dash fuse/relay box)
EVAPORATOR TEMPERATURE SENSOR
A23
BRN
WHT
OUTSIDE AIR TEMPERATURE SENSOR
5 V
A24
BLU
RED
SUNLIGHT SENSOR
4*1
1*2
A25
PUR
RED
PUR
LT BLU
A21
IN-CAR TEMPERATURE SENSOR
PNK
B1
B-CAN H
BLU
B2
B-CAN L
A26
WHT
LT BLU
RED
B10
RED
B3
BLK
CLIMATE CONTROL UNIT
G401
G302

DTC Troubleshooting

DTC indicator A: Climate Control Unit Internal Error

NOTE: Check the battery condition (see page 22-90) and the charging system (see page 4-25).

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Do the self-diagnostic function with the climate control unit (see page 21-103).
3. Check for DTCs.

   Is DTC A indicated?

   YES–The climate control unit is faulty; replace the climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

   NO–Intermittent failure, the climate control unit is OK at this time. Check for poor connections at the climate control unit and at G401 (with navigation) (see page 22-40), (without navigation) (see page 22-42).■

DTC U0155: Climate Control Unit Lost Communication with Gauge Control Module

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN system diagnosis test mode A (see page 22-134).

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102).
4. Check for DTCs.

   Is DTC U0155 indicated?

   YES–Go to step 5.

   NO–The system is OK at this time. Check for loose wires or poor connections at the gauge control module and the climate control unit.■

5. Select UNIT INFORMATION in the BODY ELECTRICAL menu.
6. Select CONNECTED UNIT in the UNIT INFORMATION menu.

   Is the gauge control module detected?

   YES–Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

   NO–Go to step 7.

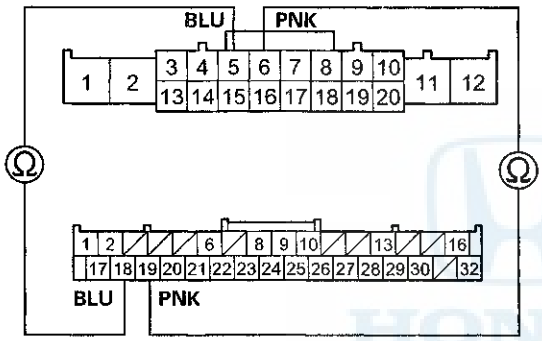
7. Disconnect driver's under-dash fuse/relay box connector P (20P).
8. Disconnect the gauge control module 32P connector.
9. Disconnect climate control unit connector B (12P).

10. Check for continuity between the following terminals of driver's under-dash fuse/relay box connector P (20P), the gauge control module 32P connector, and climate control unit connector B (12P).

20P:	**32P:**
No. 5	No. 18
No. 6	No. 19

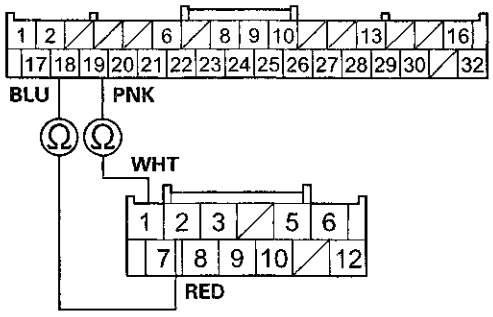
12P:	**32P:**
No. 1	No. 19
No. 2	No. 18

DRIVER'S UNDER-DASH FUSE/RELAY BOX CONNECTOR P (20P)
Wire side of female terminals



GAUGE CONTROL MODULE 32P CONNECTOR
Wire side of female terminals

GAUGE CONTROL MODULE 32P CONNECTOR
Wire side of female terminals



CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals

Is there continuity?

YES–Go to the gauge control module input test (see page 22-347).■

NO–Repair an open in the wire between the MICU and the gauge control module, or an open in the wire between the climate control unit and the gauge control module.■

DTC Troubleshooting (cont'd)

DTC B121A or DTC indicator G and A/C ON: An Open in the Mode Control Motor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

   Is DTC B121A or G and A/C ON indicated?

   YES–Go to step 5.

   NO–Intermittent failure. Check for loose wires or poor connections on the mode control motor circuit.■
5. Turn the ignition switch to LOCK (0).
6. Test the mode control motor (see page 21-188).

   Is the mode control motor OK?

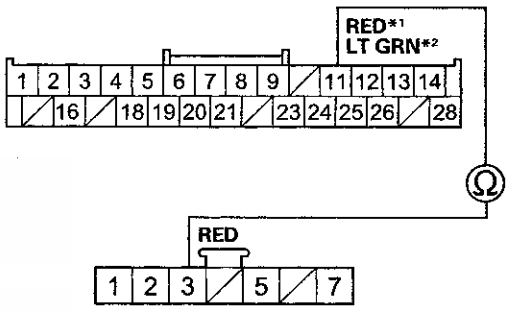
   YES–Go to step 7.

   NO–Replace the mode control motor (see page 21-62).■
7. Disconnect the mode control motor 7P connector.
8. Disconnect climate control unit connectors A (28P) and B (12P).
9. Check for continuity between the following terminals of climate control unit connectors A (28P), B (12P), and the recirculation control motor 7P connector.

28P:	7P:
No. 11	No. 3

12P:	7P:
No. 10	No. 7
No. 12	No. 5

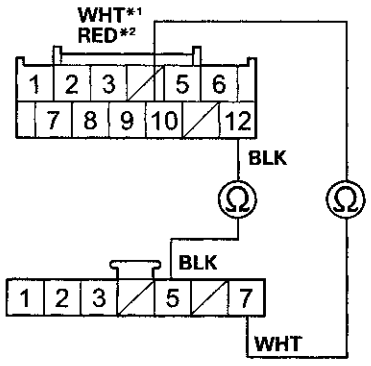
CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



MODE CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals



MODE CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

YES–Check for loose wires or poor connections at climate control unit connectors A (28P), B (12P), and at the mode control motor 7P connector. If the connections are good, substitute a known-good climate control unit and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

NO–Repair an open in the wire(s) between the climate control unit and the mode control motor.■

DTC B121B or DTC indicator H and A/C ON: A Short in the Mode Control Motor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

   Is DTC B121B or H and A/C ON indicated?

   YES–Go to step 5.

   NO–Intermittent failure. Check for loose wires or poor connections on the mode control motor circuit.■
5. Check for DTCs.

   Are these DTCs also present; B1220 or L and A/C ON, and/or B1234 or B and A/C ON, and/or B1237 or E and A/C ON?

   YES–Go to step 13.

   NO–Go to step 6.
6. Turn the ignition switch to LOCK (0).
7. Test the mode control motor (see page 21-188).

   Is the mode control motor OK?

   YES–Go to step 8.

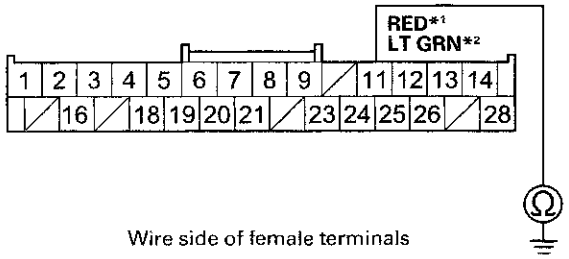
   NO–Replace the mode control motor (see page 21-62).■
8. Disconnect the mode control motor 7P connector.
9. Disconnect climate control unit connectors A (28P) and B (12P).

(cont'd)

DTC Troubleshooting (cont'd)

10. Check for continuity between body ground and climate control unit connector A (28P) terminal No. 11.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

***1: With navigation**
***2: Without navigation**

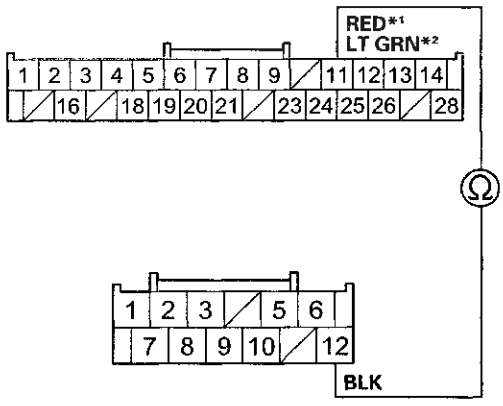
Is there continuity?

YES–Repair a short to body ground in the wire between the climate control unit and the mode control motor.■

NO–Go to step 11.

11. Check for continuity between climate control unit connector A (28P) terminal No. 11 and climate control unit connector B (12P) terminal No. 12.

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

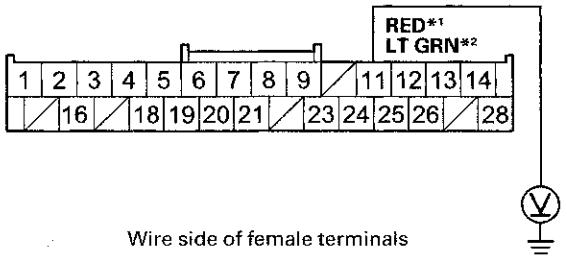
Is there continuity?

YES–Repair a short in the wires.■

NO–Go to step 12.

12. Turn the ignition switch to ON (II), and measure the voltage between climate control unit connector A (28P) terminal No. 11 and body ground.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there any voltage?

YES–Repair a short to power in the wire between the climate control unit and the mode control motor. This short may also damage the climate control unit. Repair a short to power before replacing the climate control unit.■

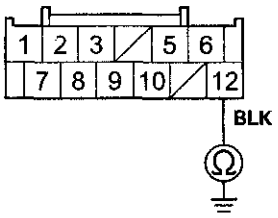
NO–Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

13. Turn the ignition switch to LOCK (0), and disconnect climate control unit connector B (12P).

14. Disconnect these items:
- Driver's air mix control motor
- Passenger's air mix control motor
- Recirculation control motor
- Mode control motor

15. Check for continuity between climate control unit connector B (12P) terminal No. 12 and body ground.

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

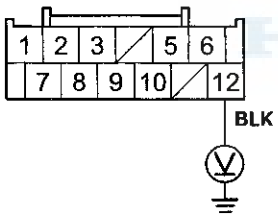
Is there continuity?

YES–Repair a short to body ground in the wire.■

NO–Go to step 16.

16. Turn the ignition switch to ON (II), and check the same terminal for voltage between the terminal and body ground.

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

Is there any voltage?

YES–Repair a short to power in the wire. This short may have also damaged the climate control unit. Repair a short to power before replacing the climate control unit.■

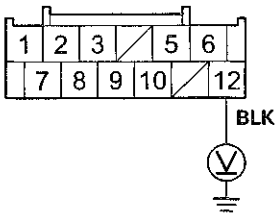
NO–Go to step 17.

17. Turn the ignition switch to LOCK (0).

18. Reconnect climate control unit connector B (12P).

19. Turn the ignition switch to ON (II), and measure the voltage between climate control unit connector B (12P) terminal No. 12 and body ground.

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

Is there about 5 V?

YES–Go to step 20.

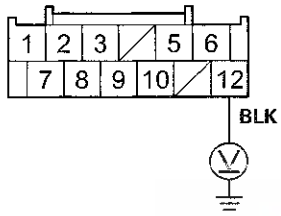
NO–Check for a loose wire or poor connection at climate control unit connector B (12P). If the connection is good, substitute a known-good climate control unit and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

(cont'd)

DTC Troubleshooting (cont'd)

20. While checking the same terminal for voltage to ground, reconnect these items individually and note the voltage reading each time:
    - Driver's air mix control motor
    - Passenger's air mix control motor
    - Recirculation control motor
    - Mode control motor

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

Does the voltage remain at about 5 V?

YES–Substitute a known-good climate control unit and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

NO–Replace the component that caused the voltage drop.■

DTC B1220 or DTC indicator L and A/C ON: A Short in the Recirculation Control Motor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

   Is DTC B1220 or L and A/C ON indicated?

   YES–Go to step 5.

   NO–Intermittent failure. Check for loose wires or poor connections on the recirculation control motor circuit.■
5. Check for DTCs.

   Are these DTCs also present; B121B or H and A/C ON, and/or B1234 or B and A/C ON, and/or B1237 or E and A/C ON?

   YES–Go to step 13.

   NO–Go to step 6.
6. Turn the ignition switch to LOCK (0).
7. Test the recirculation control motor (see page 21-189).

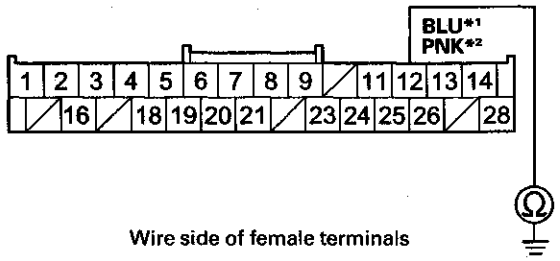
   Is the recirculation control motor OK?

   YES–Go to step 8.

   NO–Replace the recirculation control motor (see page 21-64).■
8. Disconnect the recirculation control motor 7P connector.
9. Disconnect climate control unit connectors A (28P) and B (12P).

10. Check for continuity between body ground and climate control unit connector A (28P) terminal No. 12.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

***1: With navigation**
***2: Without navigation**

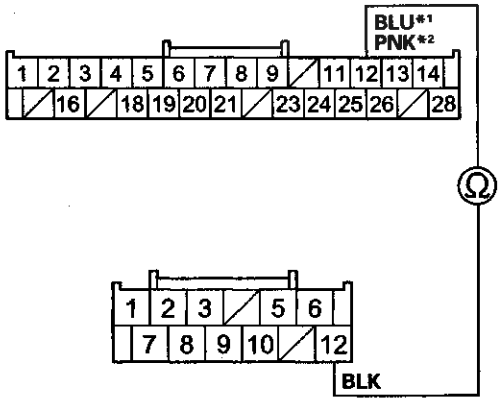
Is there continuity?

YES–Repair a short to body ground in the wire between the climate control unit and the recirculation control motor.■

NO–Go to step 11.

11. Check for continuity between climate control unit connector A (28P) terminal No. 12 and climate control unit connector B (12P) terminal No. 12.

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

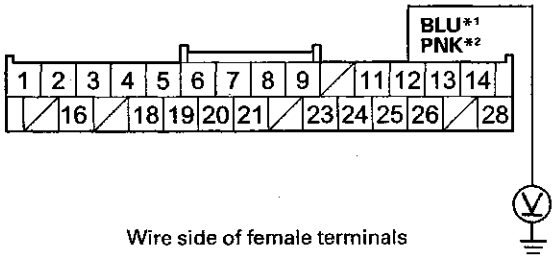
Is there continuity?

YES–Repair a short in the wires.■

NO–Go to step 12.

12. Turn the ignition switch to ON (II), and measure the voltage between climate control unit connector A (28P) terminal No. 12 and body ground.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there any voltage?

YES–Repair a short to power in the wire between the climate control unit and the recirculation control motor. This short may also damage the climate control unit. Repair a short to power before replacing the climate control unit.■

NO–Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

13. Turn the ignition switch to LOCK (0), and disconnect climate control unit connector B (12P).

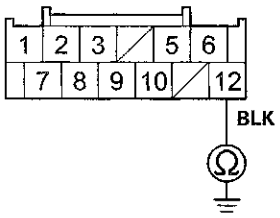
14. Disconnect these items:
- Driver's air mix control motor
- Passenger's air mix control motor
- Recirculation control motor
- Mode control motor

(cont'd)

DTC Troubleshooting (cont'd)

15. Check for continuity between climate control unit connector B (12P) terminal No. 12 and body ground.

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

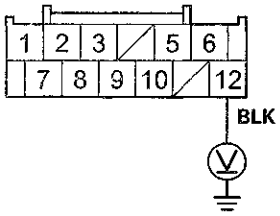
Is there continuity?

YES–Repair a short to body ground in the wire.■

NO–Go to step 16.

16. Turn the ignition switch to ON (II), and check the same terminal for voltage between the terminal and body ground.

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

Is there any voltage?

YES–Repair a short to power in the wire. This short may have also damaged the climate control unit. Repair a short to power before replacing the climate control unit.■

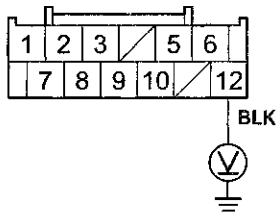
NO–Go to step 17.

17. Turn the ignition switch to LOCK (0).

18. Reconnect climate control unit connector B (12P).

19. Turn the ignition switch to ON (II), and measure the voltage between climate control unit connector B (12P) terminal No. 12 and body ground.

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

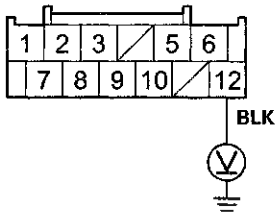
Is there about 5 V?

YES–Go to step 20.

NO–Check for a loose wire or poor connection at climate control unit connector B (12P). If the connection is good, substitute a known-good climate control unit and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

20. While checking the same terminal for voltage to ground, reconnect these items individually and note the voltage reading each time:
    - Driver's air mix control motor
    - Passenger's air mix control motor
    - Recirculation control motor
    - Mode control motor

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

Does the voltage remain at about 5 V?

YES–Substitute a known-good climate control unit and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

NO–Replace the component that caused the voltage drop.■

DTC B1225 or DTC indicator A and AUTO: An Open in the In-car Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

   Is DTC B1225 or A and AUTO indicated?

   YES–Go to step 5.

   NO–Intermittent failure. Check for loose wires or poor connections on the in-car temperature sensor circuit.■
5. Turn the ignition switch to LOCK (0).
6. Remove the in-car temperature sensor (see page 21-184), and test it (see page 21-184).

   Is the in-car temperature sensor OK?

   YES–Go to step 7.

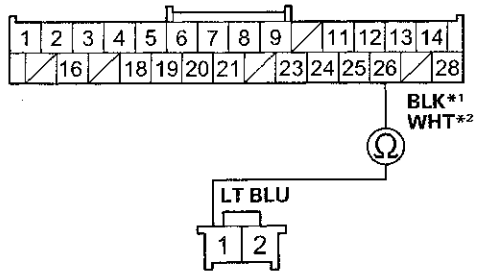
   NO–Replace the in-car temperature sensor.■
7. Disconnect climate control unit connectors A (28P) and B (12P).

(cont'd)

DTC Troubleshooting (cont'd)

8. Check for continuity between climate control unit connector A (28P) terminal No. 26 and in-car temperature sensor 2P connector terminal No. 1.

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



IN-CAR TEMPERATURE SENSOR 2P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

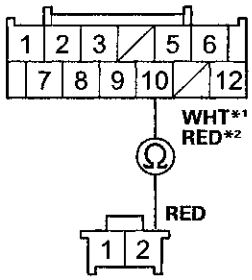
Is there continuity?

YES–Go to step 9.

NO–Repair an open in the wire between the climate control unit and the in-car temperature sensor.■

9. Check for continuity between climate control unit connector B (12P) terminal No. 10 and in-car temperature sensor 2P connector terminal No. 2.

CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals



IN-CAR TEMPERATURE SENSOR 2P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

YES–Check for loose wires or poor connections at climate control unit connectors A (28P), B (12P), and at the in-car temperature sensor 2P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

NO–Repair an open in the wire between the climate control unit and the in-car temperature sensor.■

DTC B1226 or DTC indicator B and AUTO:
A Short in the In-car Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

   Is DTC B1226 or B and AUTO indicated?

   YES–Go to step 5.

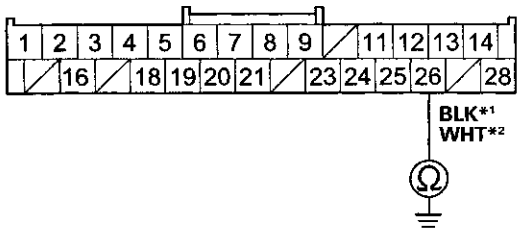
   NO–Intermittent failure. Check for loose wires or poor connections on the in-car temperature sensor circuit.■
5. Turn the ignition switch to LOCK (0).
6. Remove the in-car temperature sensor (see page 21-184), and test it (see page 21-184).

   Is the in-car temperature sensor OK?

   YES–Go to step 7.

   NO–Replace the in-car temperature sensor.■
7. Disconnect climate control unit connectors A (28P) and B (12P).
8. Check for continuity between climate control unit connector A (28P) terminal No. 26 and body ground.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

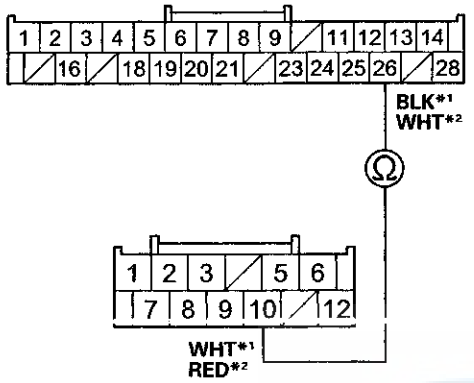
YES–Repair a short to body ground in the wire between the climate control unit and the in-car temperature sensor.■

NO–Go to step 9.

(cont'd)

DTC Troubleshooting (cont'd)

9. Check for continuity between climate control unit connector A (28P) terminal No. 26 and climate control unit connector B (12P) terminal No. 10.



***1: With navigation**
***2: Without navigation**

Is there continuity?

YES–Repair a short in the wires between the climate control unit and the in-car temperature sensor.■

NO–Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

DTC B1227 or DTC indicator C and AUTO: An Open in the Outside Air Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

   Is DTC B1227 or C and AUTO indicated?

   YES–Go to step 5.

   NO–Intermittent failure. Check for loose wires or poor connections on the outside air temperature sensor circuit.■
5. Turn the ignition switch to LOCK (0).
6. Remove the outside air temperature sensor (see page 21-185), and test it (see page 21-185).

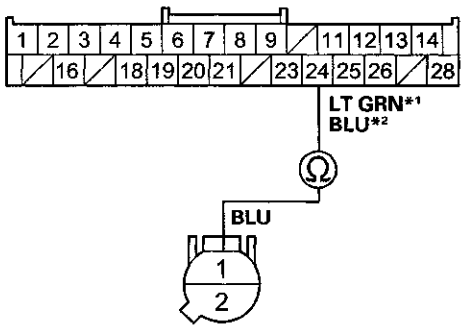
   Is the outside air temperature sensor OK?

   YES–Go to step 7.

   NO–Replace the outside air temperature sensor.■
7. Disconnect climate control unit connectors A (28P) and B (12P).

8. Check for continuity between climate control unit connector A (28P) terminal No. 24 and outside air temperature sensor 2P connector terminal No. 1.

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



OUTSIDE AIR TEMPERATURE SENSOR 2P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

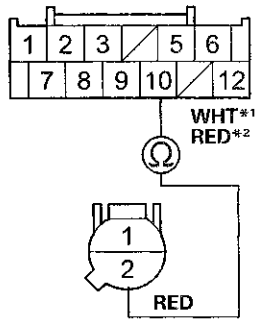
Is there continuity?

YES–Go to step 9.

NO–Repair an open in the wire between the climate control unit and the outside air temperature sensor.■

9. Check for continuity between climate control unit connector B (12P) terminal No. 10 and outside air temperature sensor 2P connector terminal No. 2.

CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals



OUTSIDE AIR TEMPERATURE SENSOR 2P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

YES–Check for loose wires or poor connections at climate control unit connectors A (28P), B (12P), and at the outside air temperature sensor 2P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

NO–Repair an open in the wire between the climate control unit and the outside air temperature sensor.■

DTC Troubleshooting (cont'd)

DTC B1228 or DTC indicator D and AUTO:
A Short in the Outside Air Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

   Is DTC B1228 or D and AUTO indicated?

   YES–Go to step 5.

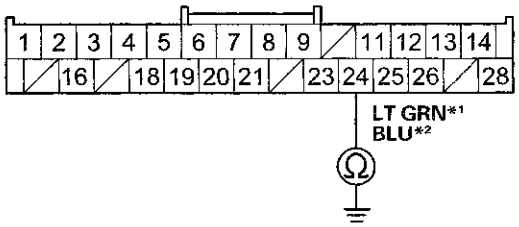
   NO–Intermittent failure. Check for loose wires or poor connections on the outside air temperature sensor circuit.■
5. Turn the ignition switch to LOCK (0).
6. Remove the outside air temperature sensor (see page 21-185), and test it (see page 21-185).

   Is the outside air temperature sensor OK?

   YES–Go to step 7.

   NO–Replace the outside air temperature sensor.■
7. Disconnect climate control unit connectors A (28P) and B (12P).
8. Check for continuity between climate control unit connector A (28P) terminal No. 24 and body ground.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

***1: With navigation**
***2: Without navigation**

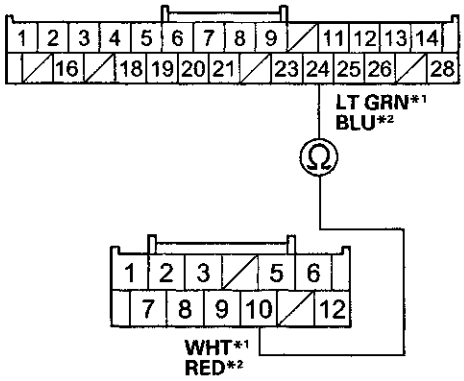
Is there continuity?

YES–Repair a short to body ground in the wire between the climate control unit and the outside air temperature sensor.■

NO–Go to step 9.

9. Check for continuity between climate control unit connector A (28P) terminal No. 24 and climate control unit connector B (12P) terminal No. 10.

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

YES–Repair a short in the wires between the climate control unit and the outside air temperature sensor.■

NO–Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

DTC B1229 or DTC indicator E and AUTO: An Open in the Sunlight Sensor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

   Is DTC B1229 or E and AUTO indicated?

   YES–Go to step 5.

   NO–Intermittent failure. Check for loose wires or poor connections on the sunlight sensor circuit.■
5. Turn the ignition switch to LOCK (0).
6. Disconnect the sunlight sensor 5P connector (with automatic lighting) or 2P connector (without automatic lighting).
7. Disconnect climate control unit connectors A (28P) and B (12P).

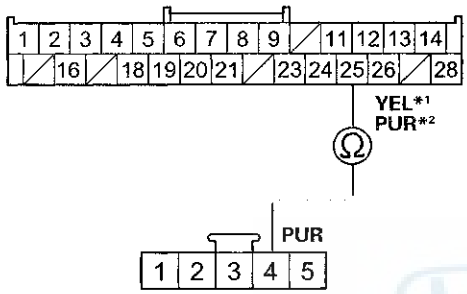
(cont'd)

DTC Troubleshooting (cont'd)

8. Check for continuity between climate control unit connector A (28P) terminal No. 25 and sunlight sensor 5P connector terminal No. 4 (with automatic lighting), or sunlight sensor 2P connector terminal No. 1 (without automatic lighting).

With automatic lighting

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals

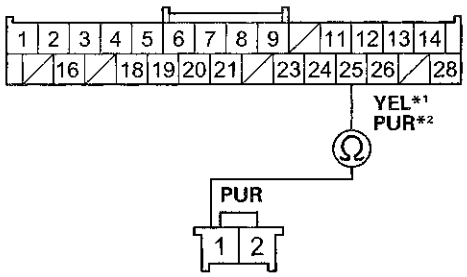


SUNLIGHT SENSOR 5P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Without automatic lighting

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



SUNLIGHT SENSOR 2P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

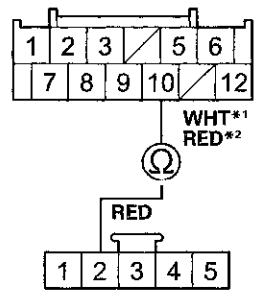
YES–Go to step 9.

NO–Repair an open in the wire between the climate control unit and the sunlight sensor.■

9. Check for continuity between climate control unit connector B (12P) terminal No. 10 and sunlight sensor 5P connector terminal No. 2 (with automatic lighting), or sunlight sensor 2P connector terminal No. 2 (without automatic lighting).

With automatic lighting

CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals

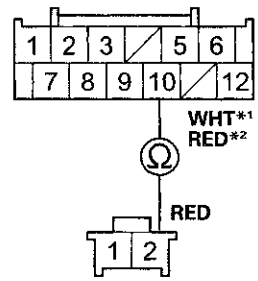


SUNLIGHT SENSOR 5P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Without automatic lighting

CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals



SUNLIGHT SENSOR 2P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

YES–Go to step 10.

NO–Repair an open in the wire between the climate control unit and the sunlight sensor.■

10. Reconnect the sunlight sensor 5P connector (with automatic lighting) or 2P connector (without automatic lighting).
11. Reconnect climate control unit connectors A (28P) and B (12P).
12. Test the sunlight sensor (see page 21-186).

Is the sunlight sensor OK?

YES–Check for loose wires or poor connections at climate control unit connector and at the sunlight sensor 5P connector (with automatic lighting), or the sunlight sensor 2P connector (without automatic lighting). If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

NO–Replace the sunlight sensor (see page 21-186).■

DTC B1230 or DTC indicator F and AUTO: A Short in the Sunlight Sensor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

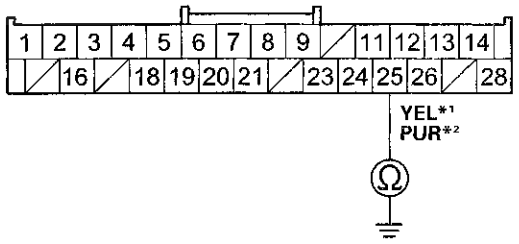
Is DTC B1230 or F and AUTO indicated?

YES–Go to step 5.

NO–Intermittent failure. Check for loose wires or poor connections on the sunlight sensor circuit.■

5. Turn the ignition switch to LOCK (0).
6. Disconnect the sunlight sensor 5P connector (with automatic lighting) or 2P connector (without automatic lighting).
7. Disconnect climate control unit connectors A (28P) and B (12P).
8. Check for continuity between climate control unit connector A (28P) terminal No. 25 and body ground.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

YES–Repair a short to body ground in the wire between the climate control unit and the sunlight sensor.■

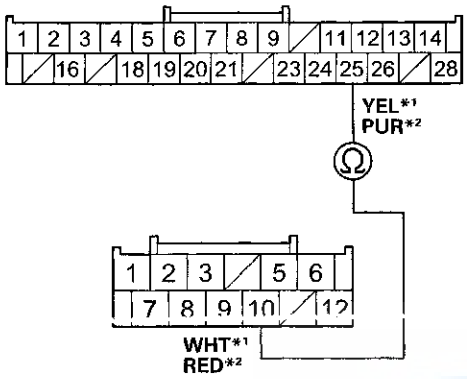
NO–Go to step 9.

(cont'd)

DTC Troubleshooting (cont'd)

9. Check for continuity between climate control unit connector A (28P) terminal No. 25 and climate control unit connector B (12P) terminal No. 10.

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

YES–Repair a short in the wires between the climate control unit and the sunlight sensor.■

NO–Go to step 10.

10. Reconnect the sunlight sensor 5P connector (with automatic lighting) or 2P connector (without automatic lighting).

11. Reconnect climate control unit connectors A (28P)and B (12P).

12. Test the sunlight sensor (see page 21-186).

Is the sunlight sensor OK?

YES–Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

NO–Replace the sunlight sensor (see page 21-186).■

DTC B1231 or DTC indicator G and AUTO: An Open in the Evaporator Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

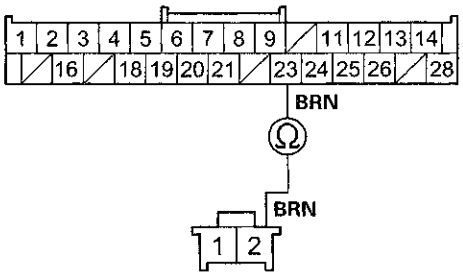
Is DTC B1231 or G and AUTO indicated?

YES–Go to step 5.

NO–Intermittent failure. Check for loose wires or poor connections on the evaporator temperature sensor circuit.■

5. Turn the ignition switch to LOCK (0).
6. Disconnect climate control unit connectors A (28P) and B (12P).
7. Check for continuity between climate control unit connector A (28P) terminal No. 23 and evaporator temperature sensor 2P connector terminal No. 2.

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



EVAPORATOR TEMPERATURE SENSOR 2P CONNECTOR
Wire side of female terminals

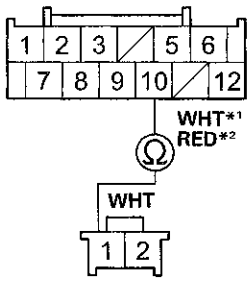
Is there continuity?

YES–Go to step 8.

NO–Repair an open in the wire between the climate control unit and the evaporator temperature sensor.■

8. Check for continuity between climate control unit connector B (12P) terminal No. 10 and evaporator temperature sensor 2P connector terminal No. 1.

CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals



EVAPORATOR TEMPERATURE SENSOR 2P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

YES–Go to step 9.

NO–Repair an open in the wire between the climate control unit and the evaporator temperature sensor.■

9. Remove the evaporator temperature sensor (see page 21-67), and test it (see page 21-58).

Is the evaporator temperature sensor OK?

YES–Check for loose wires or poor connections at climate control unit connectors A (28P), B (12P), and at the evaporator temperature sensor 2P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

NO–Replace the evaporator temperature sensor.■

DTC B1232 or DTC indicator H and AUTO: A Short in the Evaporator Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

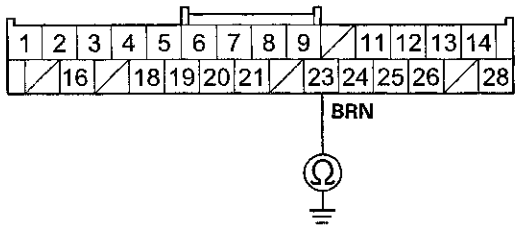
Is DTC B1232 or H and AUTO indicated?

YES–Go to step 5.

NO–Intermittent failure. Check for loose wires or poor connections on the evaporator temperature sensor circuit.■

5. Turn the ignition switch to LOCK (0).
6. Disconnect climate control unit connectors A (28P) and B (12P).
7. Check for continuity between climate control unit connector A (28P) terminal No. 23 and body ground.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

Is there continuity?

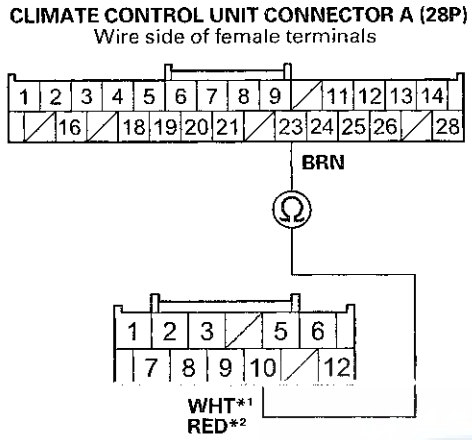
YES–Repair a short to body ground in the wire between the climate control unit and the evaporator temperature sensor.■

NO–Go to step 8.

(cont'd)

DTC Troubleshooting (cont'd)

8. Check for continuity between climate control unit connector A (28P) terminal No. 23 and climate control unit connector B (12P) terminal No. 10.



***1: With navigation**
***2: Without navigation**

Is there continuity?

YES–Repair a short in the wires between the climate control unit and the evaporator temperature sensor.■

NO–Go to step 9.

9. Remove the evaporator temperature sensor (see page 21-67), and test it (see page 21-58).

Is the evaporator temperature sensor OK?

YES–Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

NO–Replace the evaporator temperature sensor.■

DTC B1233 or DTC indicator A and A/C ON: An Open in the Driver's Air Mix Control Motor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

Is DTC B1233 or A and A/C ON indicated?

YES–Go to step 5.

NO–Intermittent failure. Check for loose wires or poor connections on the driver's air mix control motor circuit.■

5. Turn the ignition switch to LOCK (0).
6. Test the driver's air mix control motor (see page 21-59).

Is the driver's air mix control motor OK?

YES–Go to step 7.

NO–Replace the driver's air mix control motor (see page 21-60).■

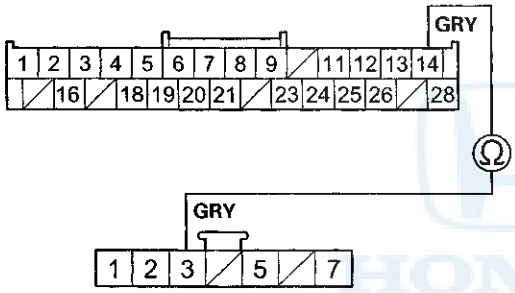
7. Disconnect the driver's air mix control motor 7P connector.
8. Disconnect climate control unit connector A (28P) and B (12P).

9. Check for continuity between the following terminals of climate control unit connectors A (28P), B (12P), and the driver's air mix control motor 7P connector.

28P:	7P:
No. 14	No. 3

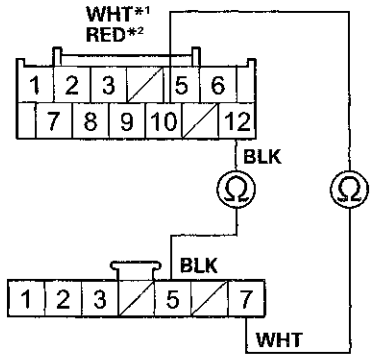
12P:	7P:
No. 10	No. 7
No. 12	No. 5

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



DRIVER'S AIR MIX CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals



DRIVER'S AIR MIX CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

YES–Check for loose wires or poor connections at climate control unit connectors A (28P), B (12P), and at the driver's air mix control motor 7P connector. If the connections are good, substitute a known-good climate control unit and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

NO–Repair an open in the wire(s) between the climate control unit and the driver's air mix control motor.■

DTC Troubleshooting (cont'd)

DTC B1234 or DTC indicator B and A/C ON: A Short in the Driver's Air Mix Control Motor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

   Is DTC B1234 or B and A/C ON indicated?

   YES–Go to step 5.

   NO–Intermittent failure. Check for loose wires or poor connections on the driver's air mix control motor circuit.■
5. Check for DTCs.

   Are these DTCs also present; B121B or H and A/C ON, and/or B1220 or L and A/C ON, and/or B1237 or E and A/C ON?

   YES–Go to step 13.

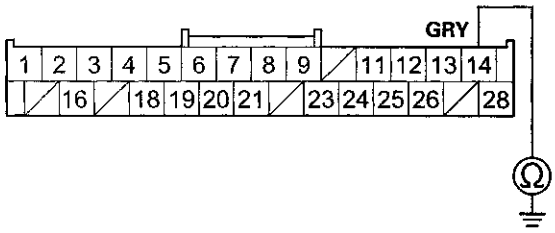
   NO–Go to step 6.
6. Turn the ignition switch to LOCK (0).
7. Test the driver's air mix control motor (see page 21-59).

   Is the driver's air mix control motor OK?

   YES–Go to step 8.

   NO–Replace the driver's air mix control motor (see page 21-60).■
8. Disconnect the driver's air mix control motor 7P connector.
9. Disconnect climate control unit connectors A (28P) and B (12P).
10. Check for continuity between body ground and climate control unit connector A (28P) terminal No. 14.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

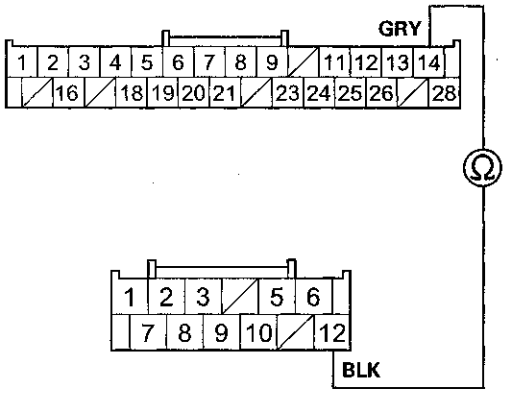
Is there continuity?

YES–Repair a short to body ground in the wire between the climate control unit and the driver's air mix control motor.■

NO–Go to step 11.

11. Check for continuity between climate control unit connector A (28P) terminal No. 14 and climate control unit connector B (12P) terminal No. 12.

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals

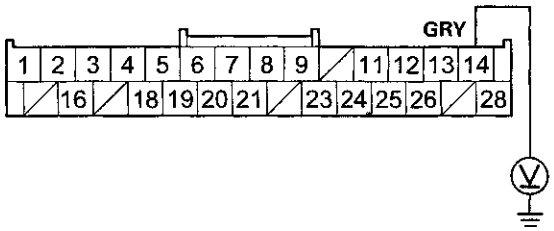
Is there continuity?

YES–Repair a short in the wires.■

NO–Go to step 12.

12. Turn the ignition switch to ON (II), and measure the voltage between climate control unit connector A (28P) terminal No. 14 and body ground.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

Is there any voltage?

YES–Repair a short to power in the wire between the climate control unit and the driver's air mix control motor. This short may also damage the climate control unit. Repair a short to power before replacing the climate control unit.■

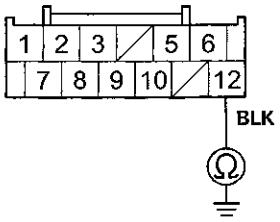
NO–Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

13. Turn the ignition switch to LOCK (0), and disconnect the climate control unit connector B (12P).

14. Disconnect these items:
- Driver's air mix control motor
- Passenger's air mix control motor
- Recirculation control motor
- Mode control motor

15. Check for continuity between climate control unit connector B (12P) terminal No. 12 and body ground.

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

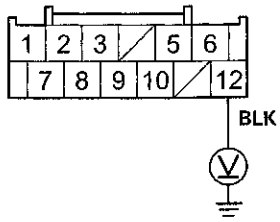
Is there continuity?

YES–Repair a short to body ground in the wire.■

NO–Go to step 16.

16. Turn the ignition switch to ON (II), and check the same terminal for voltage between the terminal and body ground.

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

Is there any voltage?

YES–Repair a short to power in the wire. This short may have also damaged the climate control unit. Repair a short to power before replacing the climate control unit.■

NO–Go to step 17.

17. Turn the ignition switch to LOCK (0).

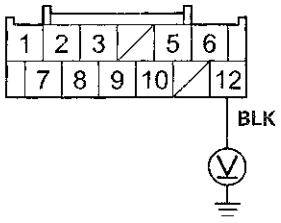
18. Reconnect climate control unit connector B (12P).

(cont'd)

DTC Troubleshooting (cont'd)

19. Turn the ignition switch to ON (II), and measure the voltage between climate control unit connector B (12P) terminal No. 12 and body ground.

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

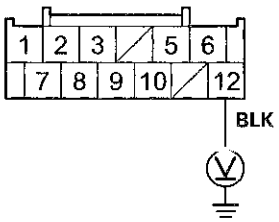
Is there about 5 V?

YES–Go to step 20.

NO–Check for a loose wire or poor connection at climate control unit connector B (12P). If the connection is good, substitute a known-good climate control unit and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

20. While checking the same terminal for voltage to ground, reconnect these items individually and note the voltage reading each time:
    - Driver's air mix control motor
    - Passenger's air mix control motor
    - Recirculation control motor
    - Mode control motor

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

Does the voltage remain at about 5 V?

YES–Substitute a known-good climate control unit and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

NO–Replace the component that caused the voltage drop.■

DTC B1235 or DTC indicator C and A/C ON: A Problem in the Driver's Air Mix Control Linkage, Door, or Motor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

   Is DTC B1235 or C and A/C ON indicated?

   YES–Go to step 5.

   NO–Intermittent failure. Check for loose wires or poor connections on the driver's air mix control motor circuit.■
5. Turn the ignition switch to LOCK (0).
6. Test the driver's air mix control motor (see page 21-59).

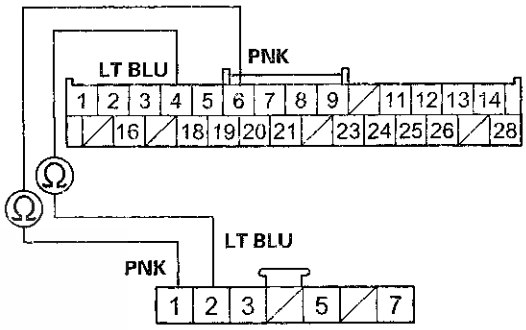
   Is the driver's air mix control motor OK?

   YES–Go to step 7.

   NO–Replace the driver's air mix control motor (see page 21-60), or repair the driver's air mix control linkage or door.■
7. Disconnect the driver's air mix control motor 7P connector.
8. Disconnect climate control unit connector A (28P).
9. Check for continuity between the following terminals of climate control unit connector A (28P) and the driver's air mix control motor 7P connector.

28P:	7P:
No. 4	No. 2
No. 6	No. 1

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



DRIVER'S AIR MIX CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

Is there continuity?

YES–Go to step 10.

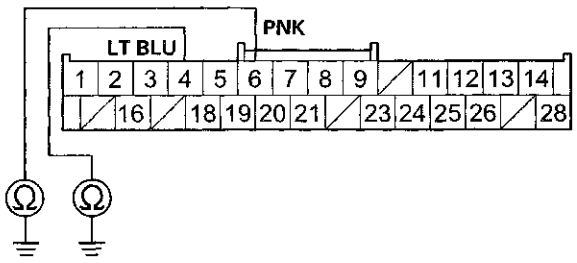
NO–Repair an open in the wire(s) between the climate control unit and the driver's air mix control motor.■

(cont'd)

DTC Troubleshooting (cont'd)

10. Check for continuity between body ground and climate control unit connector A (28P) terminals No. 4 and No. 6 individually.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

Is there continuity?

YES–Repair a short to body ground in the wire(s) between the climate control unit and the driver's air mix control motor.■

NO–Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

DTC B1236 or DTC indicator D and A/C ON: An Open in the Passenger's Air Mix Control Motor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

   Is DTC B1236 or D and A/C ON indicated?

   YES–Go to step 5.

   NO–Intermittent failure. Check for loose wires or poor connections on the passenger's air mix control motor circuit.■
5. Turn the ignition switch to LOCK (0).
6. Test the passenger's air mix control motor (see page 21-187).

   Is the passenger's air mix control motor OK?

   YES–Go to step 7.

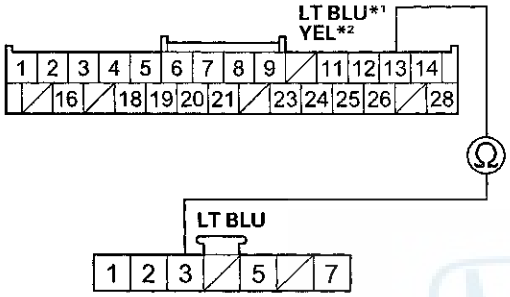
   NO–Replace the passenger's air mix control motor (see page 21-188).■
7. Disconnect the passenger's air mix control motor 7P connector.
8. Disconnect climate control unit connectors A (28P) and B (12P).

9. Check for continuity between the following terminals of climate control unit connectors A (28P), B (12P), and the passenger's air mix control motor 7P connector.

28P:	7P:
No. 13	No. 3

12P:	7P:
No. 10	No. 5
No. 12	No. 7

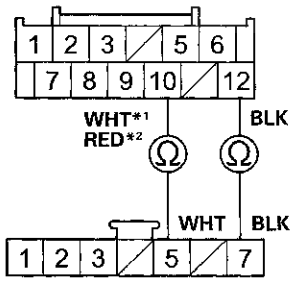
CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



PASSENGER'S AIR MIX CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals



PASSENGER'S AIR MIX CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

YES–Check for loose wires or poor connections at climate control unit connectors A (28P), B (12P), and at the passenger's air mix control motor 7P connector. If the connections are good, substitute a known-good climate control unit and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

NO–Repair an open in the wire(s) between the climate control unit and the passenger's air mix control motor.■

DTC Troubleshooting (cont'd)

DTC B1237 or DTC indicator E and A/C ON: A Short in the Passenger's Air Mix Control Motor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

   Is DTC B1237 or E and A/C ON indicated?

   YES–Go to step 5.

   NO–Intermittent failure. Check for loose wires or poor connections on the passenger's air mix control motor circuit.■
5. Check for DTCs.

   Are these DTCs also present; B121B or H and A/C ON, and/or B1220 or L and A/C ON, and/or B1234 or B and A/C ON?

   YES–Go to step 13.

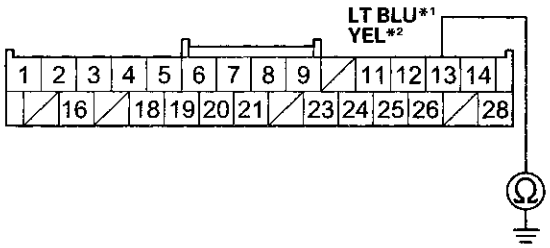
   NO–Go to step 6.
6. Turn the ignition switch to LOCK (0).
7. Test the passenger's air mix control motor (see page 21-187).

   Is the passenger's air mix control motor OK?

   YES–Go to step 8.

   NO–Replace the passenger's air mix control motor (see page 21-188).■
8. Disconnect the passenger's air mix control motor 7P connector.
9. Disconnect climate control unit connectors A (28P) and B (12P).
10. Check for continuity between body ground and climate control unit connector A (28P) terminal No. 13.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

***1: With navigation**
***2: Without navigation**

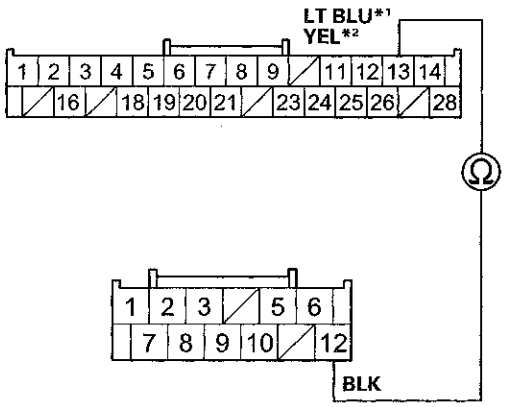
Is there continuity?

YES–Repair a short to body ground in the wire between the climate control unit and the passenger's air mix control motor.■

NO–Go to step 11.

11. Check for continuity between climate control unit connector A (28P) terminal No. 13 and climate control unit connector B (12P) terminal No. 12.

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

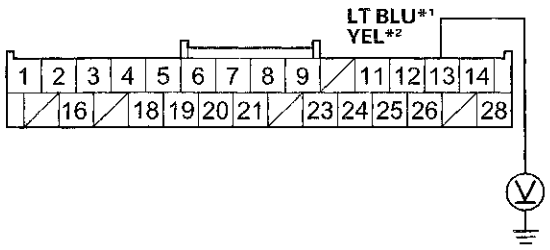
Is there continuity?

YES–Repair a short in the wires.■

NO–Go to step 12.

12. Turn the ignition switch to ON (II), and measure the voltage between climate control unit connector A (28P) terminal No. 13 and body ground.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

***1: With navigation**
***2: Without navigation**

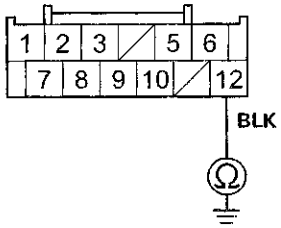
Is there any voltage?

YES–Repair a short to power in the wire(s) between the climate control unit and the passenger's air mix control motor. This short may also damage the climate control unit. Repair a short to power before replacing the climate control unit.■

NO–Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

13. Turn the ignition switch to LOCK (0), and disconnect the climate control unit connector B (12P).
14. Disconnect these items:
    - Driver's air mix control motor
    - Passenger's air mix control motor
    - Recirculation control motor
    - Mode control motor
15. Check for continuity between climate control unit connector B (12P) terminal No. 12 and body ground.

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

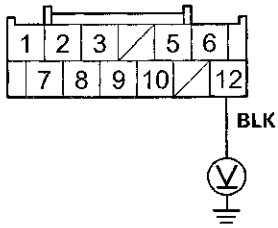
Is there continuity?

YES–Repair a short to body ground in the wire.■

NO–Go to step 16.

16. Turn the ignition switch to ON (II), and check the same terminal for voltage between the terminal and body ground.

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

Is there any voltage?

YES–Repair a short to power in the wire. This short may have also damaged the climate control unit. Repair a short to power before replacing the climate control unit.■

NO–Go to step 17.

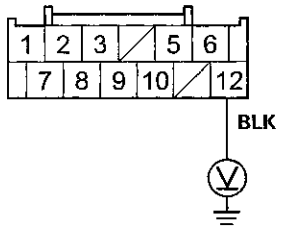
17. Turn the ignition switch to LOCK (0).
18. Reconnect climate control unit connector B (12P).

(cont'd)

DTC Troubleshooting (cont'd)

19. Turn the ignition switch to ON (II), and measure the voltage between climate control unit connector B (12P) terminal No. 12 and body ground.

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

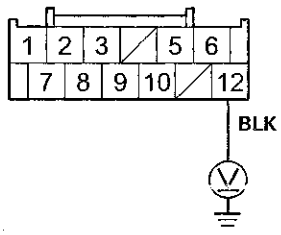
Is there about 5 V?

YES–Go to step 20.

NO–Check for a loose wire or poor connection at climate control unit connector B (12P). If the connection is good, substitute a known-good climate control unit and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

20. While checking the same terminal for voltage to ground, reconnect these items individually and note the voltage reading each time:
    - Driver's air mix control motor
    - Passenger's air mix control motor
    - Recirculation control motor
    - Mode control motor

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

Does the voltage remain at about 5 V?

YES–Substitute a known-good climate control unit and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

NO–Replace the component that caused the voltage drop.■

DTC B1238 or DTC indicator F and A/C ON:
A Problem in the Passenger's Air Mix Control Linkage, Door, or Motor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

   Is DTC B1238 or F and A/C ON indicated?

   YES–Go to step 5.

   NO–Intermittent failure. Check for loose wires or poor connections on the passenger's air mix control motor circuit.■
5. Turn the ignition switch to LOCK (0).
6. Test the passenger's air mix control motor (see page 21-187).

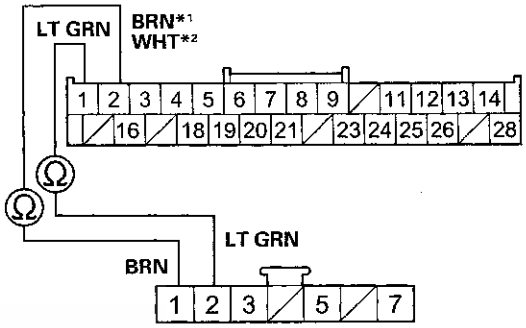
   Is the passenger's air mix control motor OK?

   YES–Go to step 7.

   NO–Replace the passenger's air mix control motor (see page 21-188), or repair the passenger's air mix control linkage or door.■
7. Disconnect the passenger's air mix control motor 7P connector.
8. Disconnect climate control unit connector A (28P).
9. Check for continuity between the following terminals of climate control unit connector A (28P) and the passenger's air mix control motor 7P connector.

28P:	7P:
No. 1	No. 2
No. 2	No. 1

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



PASSENGER'S AIR MIX CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

YES–Go to step 10.

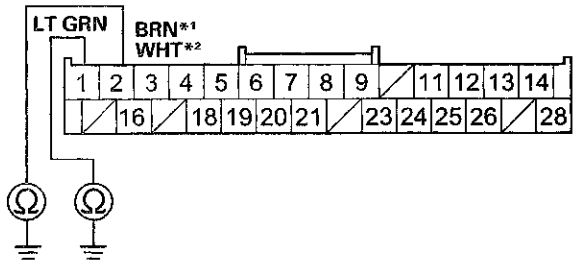
NO–Repair an open in the wire(s) between the climate control unit and the passenger's air mix control motor.■

(cont'd)

DTC Troubleshooting (cont'd)

10. Check for continuity between body ground and climate control unit connector A (28P) terminals No. 1 and No. 2 individually.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

Is there continuity?

YES–Repair a short to body ground in the wire(s) between the climate control unit and the passenger's air mix control motor.■

NO–Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

DTC B1240 or indicator J and A/C ON: A Problem in the Mode Control Linkage, Doors, or Motor Circuit

1. Turn the ignition switch to LOCK (0), and then to ON (II).
2. Do the self-diagnostic function with the climate control unit (see page 21-103).
3. Check for DTCs.

   Is DTC B1240 or J and A/C ON indicated?

   YES–Go to step 4.

   NO–Intermittent failure. Check for loose wires or poor connections on the mode control motor circuit.■
4. Turn the ignition switch to LOCK (0).
5. Test the mode control motor (see page 21-188).

   Is the mode control motor OK?

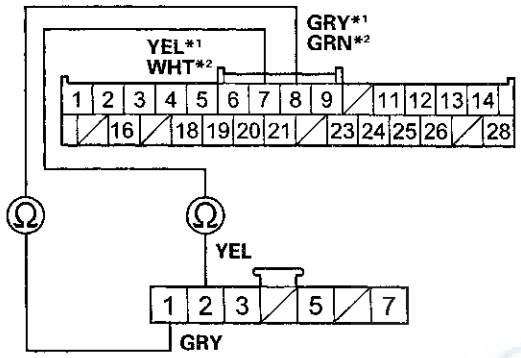
   YES–Go to step 6.

   NO–Replace the mode control motor (see page 21-62), or repair the mode control linkage or doors.■
6. Disconnect the mode control motor 7P connector.
7. Disconnect climate control unit connector A (28P).

8. Check for continuity between the following terminals of climate control unit connector A (28P) and the mode control motor 7P connector.

28P:	7P:
No. 7	No. 2
No. 8	No. 1

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



MODE CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

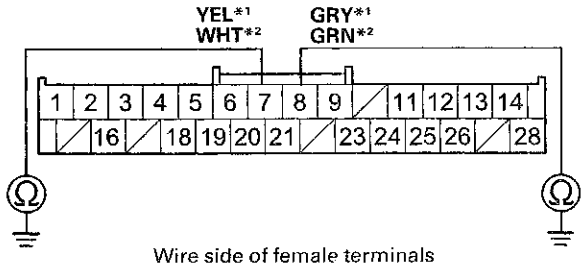
Is there continuity?

YES–Go to step 9.

NO–Repair an open in the wire(s) between the climate control unit and the mode control motor.■

9. Check for continuity between body ground and climate control unit connector A (28P) terminals No. 7 and No. 8 individually.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

YES–Repair a short to body ground in the wire(s) between the climate control unit and the mode control motor.■

NO–Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

DTC Troubleshooting (cont'd)

DTC B1241 or DTC indicator N and A/C ON: A Problem in the Blower Motor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

   Is DTC B1241 or N and A/C ON indicated?

   YES–Go to step 5.

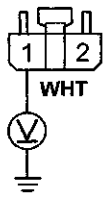
   NO–Intermittent failure. Check for loose wires or poor connections on the blower motor circuit.■
5. Turn the ignition switch to LOCK (0).
6. Check the No. 8 (40 A) fuse in the under-hood fuse/relay box, and the No. 16 (7.5 A) fuse in the driver's under-dash fuse/relay box.

   Are the fuses OK?

   YES–Go to step 7.

   NO–Replace the fuses, and recheck.■
7. Disconnect the blower motor 2P connector.
8. Turn the ignition switch to ON (II).
9. Measure the voltage between blower motor 2P connector terminal No. 1 and body ground.

BLOWER MOTOR 2P CONNECTOR



Wire side of female terminals

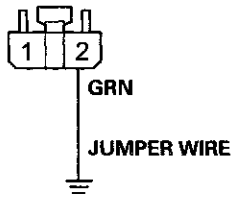
Is there battery voltage?

YES–Go to step 10.

NO–Go to step 30.

10. Turn the ignition switch to LOCK (0).
11. Disconnect the blower motor 2P connector.
12. Connect blower motor 2P connector terminal No. 2 to body ground with a jumper wire.

BLOWER MOTOR 2P CONNECTOR



Wire side of female terminals

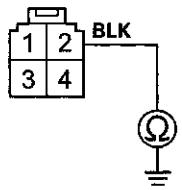
13. Turn the ignition switch to ON (II).

    Does the blower motor run?

    YES–Go to step 14.

    NO–Replace the blower motor (see page 21-67).■
14. Turn the ignition switch to LOCK (0).
15. Disconnect the jumper wire.
16. Disconnect the power transistor 4P connector.
17. Check for continuity between power transistor 4P connector terminal No. 2 and body ground.

POWER TRANSISTOR 4P CONNECTOR



Wire side of female terminals

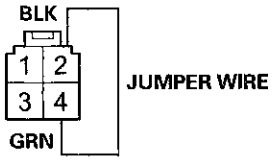
Is there continuity?

YES–Go to step 18.

NO–Check for an open in the BLK wire between the power transistor and body ground. If the wire is OK, check for poor ground at G302 (see page 22-30).■

18. Connect power transistor 4P connector terminal No. 2 and No. 4 with a jumper wire.

POWER TRANSISTOR 4P CONNECTOR



Wire side of female terminals

19. Turn the ignition switch to ON (II).

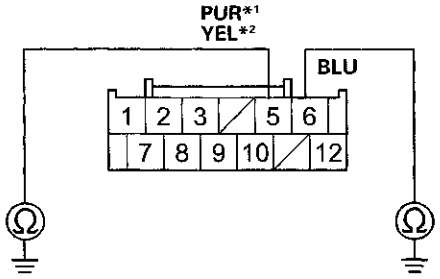
Does the blower motor run at high speed?

YES–Go to step 20.

NO–Repair an open in the GRN wire between the power transistor and the blower motor.■

20. Turn the ignition switch to LOCK (0).
21. Disconnect the jumper wire.
22. Disconnect climate control unit connector B (12P).
23. Check for continuity between body ground and climate control unit connector B (12P) terminals No. 5 and No. 6 individually.

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

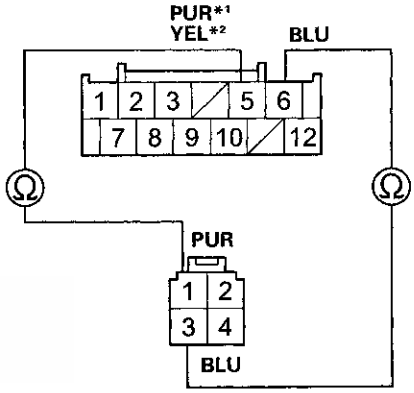
YES–Repair a short to body ground in the wire(s) between the climate control unit and the power transistor.■

NO–Go to step 24.

24. Check for continuity between the following terminals of the climate control unit connector B (12P) and the power transistor 4P connector.

12P:	4P:
No. 5	No. 1
No. 6	No. 3

CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals



POWER TRANSISTOR 4P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

YES–Go to step 25.

NO–Repair an open in the wire(s) between the climate control unit and the power transistor.■

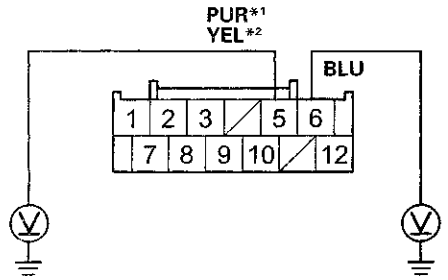
25. Turn the ignition switch to ON (II).

(cont'd)

DTC Troubleshooting (cont'd)

26. Measure the voltage between body ground and climate control unit connector B (12P) terminals No. 5 and No. 6 individually.

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

*1: With navigation
*2: Without navigation

Is there voltage?

YES–Repair a short to power in the wire(s).■

NO–Go to step 27.

27. Turn the ignition switch to LOCK (0).
28. Reconnect climate control unit connector B (12P).
29. Test the power transistor (see page 21-58).

Is the power transistor OK?

YES–Check for loose wires or poor connections at the climate control unit connector B (12P) and at the power transistor 4P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

NO–Replace the power transistor.■

30. Turn the ignition switch to LOCK (0).
31. Disconnect the jumper wire.
32. Remove the blower motor relay from the under-hood fuse/relay box, and test it (see page 22-93).

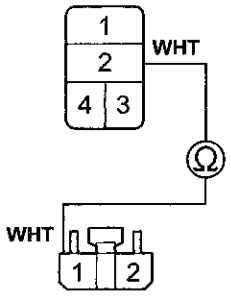
Is the relay OK?

YES–Go to step 33.

NO–Replace the blower motor relay.■

33. Check for continuity between blower motor relay 4P socket terminal No. 2 and blower motor 2P connector terminal No. 1.

BLOWER MOTOR RELAY 4P SOCKET
Terminal side of female terminals



BLOWER MOTOR 2P CONNECTOR
Wire side of female terminals

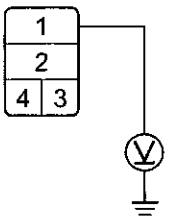
Is there continuity?

YES–Go to step 34.

NO–Repair an open in the wire between the blower motor relay and blower motor.■

34. Measure the voltage between blower motor relay 4P socket terminal No. 1 and body ground.

BLOWER MOTOR RELAY 4P SOCKET



Terminal side of female terminals

Is there battery voltage?

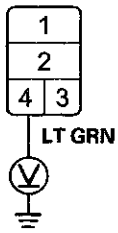
YES–Go to step 35.

NO–Replace the under-hood fuse/relay box (see page 22-85).■

35. Turn the ignition switch to ON (II).

36. Measure the voltage between blower motor relay 4P socket terminal No. 4 and body ground.

BLOWER MOTOR RELAY 4P SOCKET



Terminal side of female terminals

Is there battery voltage?

YES–Check for an open in the wire between the blower motor relay 4P socket terminal No. 4 and body ground. If the wire is OK, check for poor ground at G301 (see page 22-28).■

NO–Repair an open in the wire between the No. 16 (7.5 A) fuse in the driver's under-dash fuse/relay box and blower motor relay 4P socket.■

DTC B2983 or DTC indicator M and A/C ON: A Problem in the Recirculation Control Linkage, Door, or Motor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check the DTCs.

   Is DTC B2983 or M and A/C ON indicated?

   YES–Go to step 5.

   NO–Intermittent failure. Check for loose wires or poor connections on the recirculation control motor circuit.■
5. Turn the ignition switch to LOCK (0).
6. Test the recirculation control motor (see page 21-189).

   Is the recirculation control motor OK?

   YES–Go to step 7.

   NO–Replace the recirculation control motor (see page 21-64), or repair the recirculation control linkage or door.■
7. Disconnect the recirculation control motor 7P connector.
8. Disconnect climate control unit connector A (28P).

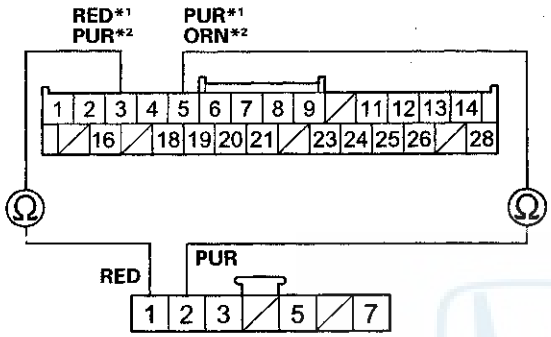
(cont'd)

DTC Troubleshooting (cont'd)

9. Check for continuity between the following terminals of climate control unit connector A (28P) and the recirculation control motor 7P connector.

28P:	7P:
No. 3	No. 1
No. 5	No. 2

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



RECIRCULATION CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

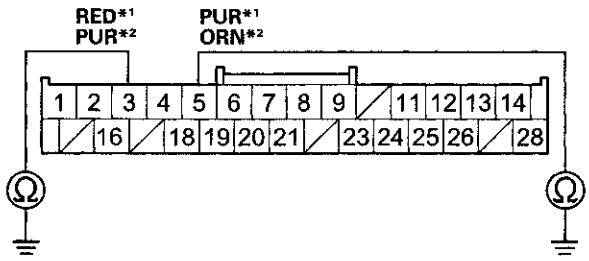
Is there continuity?

YES–Go to step 10.

NO–Repair an open in the wire(s) between the climate control unit and the recirculation control motor.■

10. Check for continuity between body ground and climate control unit connector A (28P) terminals No. 3 and No. 5 individually.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

YES–Repair a short to body ground in the wire(s) between the climate control unit and the recirculation control motor.■

NO–Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

DTC B2986 or DTC indicator K and A/C ON: An Open in the Recirculation Control Motor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0), and then to ON (II).
3. Do the self-diagnostic function with the HDS (see page 21-102) or with the climate control unit (see page 21-103).
4. Check for DTCs.

   Is DTC B2986 or K and A/C ON indicated?

   YES–Go to step 5.

   NO–Intermittent failure. Check for loose wires or poor connections on the recirculation control motor circuit.■
5. Turn the ignition switch to LOCK (0).
6. Test the recirculation control motor (see page 21-189).

   Is the recirculation control motor OK?

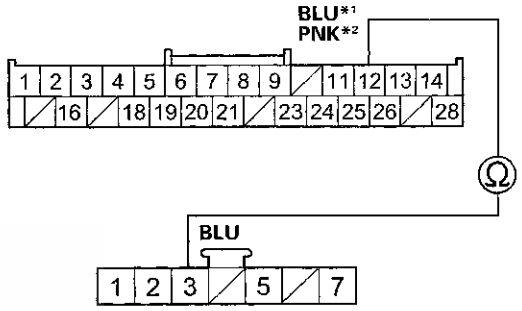
   YES–Go to step 7.

   NO–Replace the recirculation control motor (see page 21-64).■
7. Disconnect the recirculation control motor 7P connector.
8. Disconnect climate control unit connectors A (28P) and B (12P).
9. Check for continuity between the following terminals of climate control unit connectors A (28P), B (12P), and the recirculation control motor 7P connector.

28P:	7P:
No. 12	No. 3

12P:	7P:
No. 10	No. 5
No. 12	No. 7

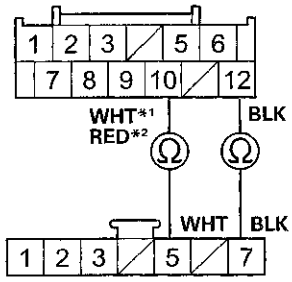
CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



RECIRCULATION CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals



RECIRCULATION CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

(cont'd)

DTC Troubleshooting (cont'd)

Is there continuity?

YES–Check for loose wires or poor connections at climate control unit connectors A (28P), B (12P), and at the recirculation control motor 7P connector. If the connections are good, substitute a known-good climate control unit and recheck. If the symptom/indication goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

NO–Repair an open in the wire(s) between the climate control unit and the recirculation control motor.■

Climate Control Power and Ground Circuit Troubleshooting

1. Check the No. 16 (7.5 A) fuse in the driver's under-dash fuse/ relay box.

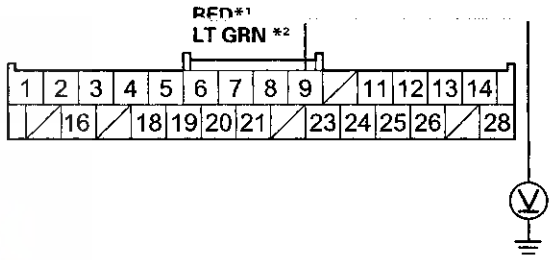
   Is the fuse OK?

   YES–Go to step 2.

   NO–Replace the fuse, and recheck. If the fuse blows again, check for a short in the No. 16 (7.5 A) fuse circuit.■

2. Disconnect climate control unit connector A (28P).
3. Turn the ignition switch to ON (II).
4. Measure the voltage between climate control unit connector A (28P) terminal No. 9 and body ground.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there battery voltage?

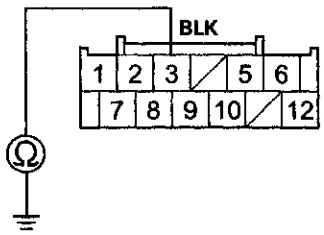
YES–Go to step 5.

NO–Repair an open in the wire between the No. 16 (7.5 A) fuse in the driver's under-dash fuse/relay box and the climate control unit.■

5. Turn the ignition switch to LOCK (0).

6. Check for continuity between climate control unit connector B (12P) terminal No. 3 and body ground.

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

Is there continuity?

YES–Check for loose wires or poor connections at climate control unit connector B (12P). If the connections are good, substitute a known-good climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191), and recheck.■

NO–Check for an open in the wire between the climate control unit and body ground. If the wire is OK, check for poor ground at G401 (see page 22-40).■

Navigation Communication Line Circuit Troubleshooting

1. Operate the climate control system in several modes.

   Is the climate control system OK?

   YES–Go to step 2.

   NO–Do the self-diagnostic function with the HDS (see page 21-102) or climate control unit (see page 21-103).■

2. Do the Navi system links (see page 23-176).

   Is the Air-Con or TALK/BACK icon red?

   YES–

   - If Air-con icon is red, go to step 3.
   - If TALK/BACK icon is red, go to "voice control does not work/respond" in the navigation system symptom troubleshooting (see page 23-226).■

   NO–Go to step 9.

3. Turn the ignition switch to LOCK (0).
4. Disconnect navigation unit connector B (32P).
5. Disconnect climate control unit connector B (12P).

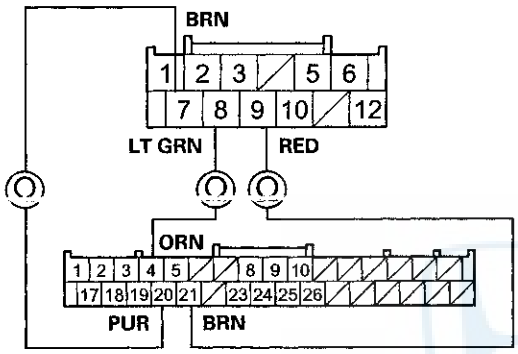
(cont'd)

Navigation Communication Line Circuit Troubleshooting (cont'd)

6. Check for continuity between the following terminals of climate control unit connector B (12P) and navigation unit connector B (32P).

12P:	32P:
No. 7	No. 20
No. 8	No. 4
No. 9	No. 21

CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals



NAVIGATION UNIT CONNECTOR B (32P)
Wire side of female terminals

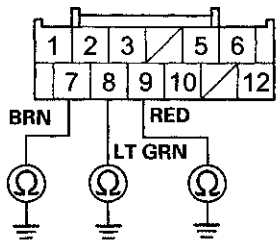
Is there continuity?

YES–Go to step 7.

NO–Repair an open in the wire(s) between the climate control unit and the navigation unit.■

7. Check for continuity between body ground and climate control unit connector B (12P) terminals No. 7, 8, and No. 9 individually.

CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

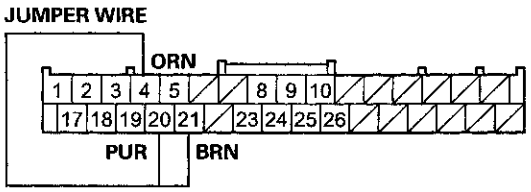
Is there continuity?

YES–Repair a short to body ground in the wire(s) between the climate control unit and the navigation unit.■

NO–Go to step 8.

8. Reconnect climate control unit connector B (12P).
9. Disconnect navigation unit connector B (32P).
10. Connect navigation unit connector B (32P) terminals No. 4, 20, and No. 21 with jumper wires.

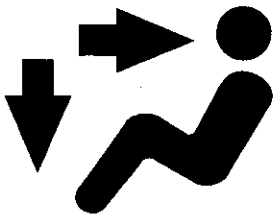
NAVIGATION UNIT CONNECTOR B (32P)



Wire side of female terminals

11. Turn the ignition switch to ON (II).

12. Press and hold the AUTO button, then press and hold the OFF button.



Is the HEAT/VENT indicator solid with the remaining icons blinking?

YES–Do the Unit check with the navigation system (see page 23-182).■

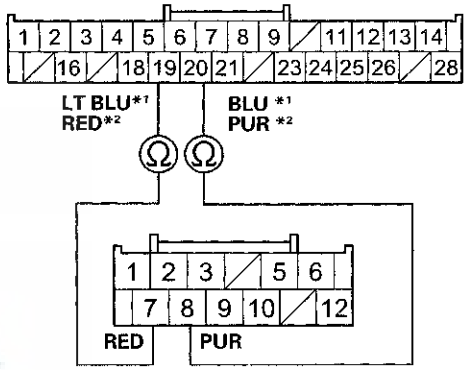
NO–Substitute a known-good climate control unit, and recheck. If the symptom goes away, replace the original climate control unit (see page 21-190).■

Audio Communication Line Circuit Troubleshooting

1. Turn the ignition switch to LOCK (0).
2. Disconnect climate control unit connector A (28P) and the audio-HVAC subdisplay (with navigation) or audio-HVAC display unit (without navigation) 12P connector.
3. Check for continuity between the following terminals of climate control unit connector A (28P) and the audio-HVAC subdisplay or display unit 12P connector.

28P:	**12P:**
No. 19	No. 7
No. 20	No. 8

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



AUDIO-HVAC SUBDISPLAY UNIT 12P CONNECTOR*1
AUDIO-HVAC DISPLAY UNIT 12P CONNECTOR*2
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

YES–Go to step 4.

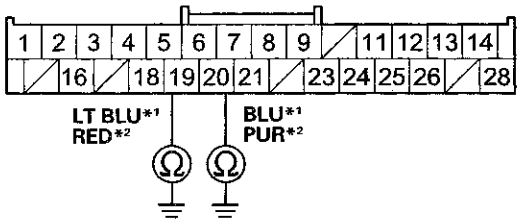
NO–Repair an open in the wire between climate control unit connector A (28P) and the audio-HVAC subdisplay or display unit 12P connector.■

(cont'd)

Audio Communication Line Circuit Troubleshooting (cont'd)

4. Check for continuity between body ground and climate control unit connector A (28P) terminals No. 19 and No. 20 individually.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

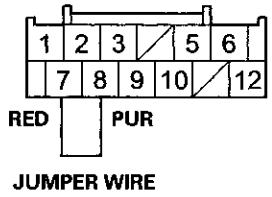
YES–Repair a short to body ground in the wire between climate control unit connector A (28P) and the audio-HVAC control unit 12P connector.■

NO–Go to step 5.

5. Reconnect climate control unit connector A (28P).

6. Connect audio-HVAC subdisplay or display unit 12P connector terminals No. 7 and No. 8 with a jumper wire.

AUDIO-HVAC SUBDISPLAY UNIT 12P CONNECTOR*1
AUDIO-HVAC DISPLAY UNIT 12P CONNECTOR*2



Wire side of female terminals

***1: With navigation**
***2: Without navigation**

7. Turn the ignition switch to ON (II).

8. Press and hold the DEF button and OFF button.

Is the DEF button LED blinking?

YES–Audio-HVAC subdisplay unit or display unit is faulty, replace the audio-HVAC subdisplay unit (see page 23-118) or audio-HVAC display unit (see page 23-119).■

NO–Climate control unit is faulty, replace the climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

Climate Control Switch Communication Line Circuit Troubleshooting

1. Operate the climate control system with the passenger's climate control switch in all modes.

   Does the climate control system operate?

   YES–Intermittent failure. Check for loose wires or poor connections at the driver's and passenger's climate control switches, and at the climate control unit.■

   NO–Go to step 2.

2. Operate the climate control system with the driver's climate control switch in all modes.

   Does the climate control system operate?

   YES–Go to step 3.

   NO–Go to step 11.

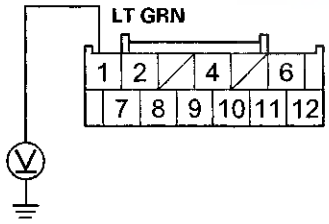
3. Turn the ignition switch to LOCK (0).

4. Disconnect the passenger's climate control switch 12P connector.

5. Turn the ignition switch to ON (II).

6. Measure the voltage between body ground and passenger's climate control switch 12P connector terminal No. 1.

PASSENGER'S CLIMATE CONTROL SWITCH 12P CONNECTOR



Wire side of female terminals

Is there battery voltage?

YES–Go to step 7.

NO–Repair an open in the LT GRN wire.■

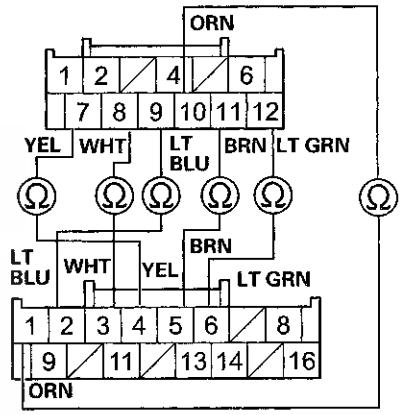
7. Turn the ignition switch to LOCK (0).

8. Disconnect the driver's climate control switch 16P connector.

9. Check for continuity between the following terminals of the passenger's climate control switch 12P connector and the driver's climate control switch 16P connector.

12P:	16P:
No. 7	No. 4
No. 8	No. 3
No. 9	No. 2
No. 10	No. 1
No. 11	No. 5
No. 12	No. 6

PASSENGER'S CLIMATE CONTROL SWITCH 12P CONNECTOR
Wire side of female terminals



DRIVER'S CLIMATE CONTROL SWITCH 16P CONNECTOR
Wire side of female terminals

Is there continuity?

YES–Go to step 10.

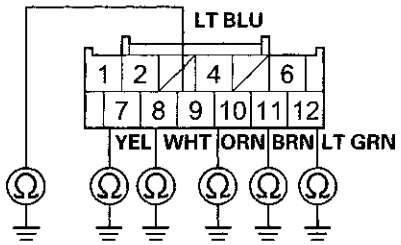
NO–Repair an open in the wires between the driver's climate control switch and the passenger's climate control switch.■

(cont'd)

Climate Control Switch Communication Line Circuit Troubleshooting (cont'd)

10. Check for continuity between body ground and passenger's climate control switch 12P connector terminals No. 7, No. 8, No. 9, No. 10, No. 11, and No. 12.

PASSENGER'S CLIMATE CONTROL SWITCH 12P CONNECTOR



Wire side of female terminals

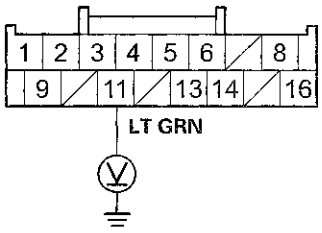
Is there continuity?

YES–Repair a short to body ground in the wire(s) between the driver's climate control switch and the passenger's climate control switch.■

NO–Substitute a known-good passenger's climate control switch, and recheck. If the symptom goes away, replace the original passenger's climate control switch (see page 21-191).■

11. Disconnect the driver's climate control switch 16P connector.
12. Turn the ignition switch to ON (II).
13. Measure the voltage between body ground and driver's climate control switch 16P connector terminal No. 11.

DRIVER'S CLIMATE CONTROL SWITCH 16P CONNECTOR



Wire side of female terminals

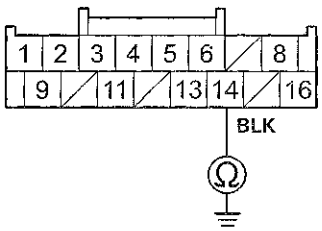
Is there battery voltage?

YES–Go to step 14.

NO–Repair an open in the wire between the driver's climate control switch and the No. 16 (7.5 A) fuse in the driver's under-dash fuse/relay box.■

14. Turn the ignition switch to LOCK (0).
15. Check for continuity between body ground and driver's climate control switch 16P connector terminal No. 14.

DRIVER'S CLIMATE CONTROL SWITCH 16P CONNECTOR



Wire side of female terminals

Is there continuity?

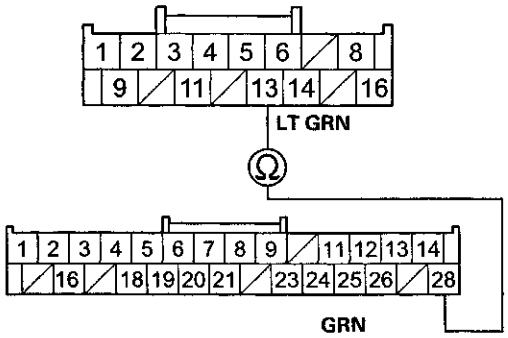
YES–Go to step 16.

NO–Check for an open in the wire between the driver's climate control switch and body ground. If the wire is OK, check for poor ground at G401 (see page 22-40).■

16. Disconnect climate control unit connector A (28P).

17. Check for continuity between driver's climate control switch 16P connector terminal No. 13 and climate control unit connector A (28P) terminal No. 28.

DRIVER'S CLIMATE CONTROL SWITCH 16P CONNECTOR
Wire side of female terminals



CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals

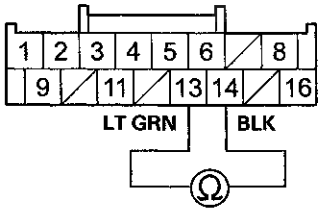
Is there continuity?

YES–Go to step 18.

NO–Repair an open in the wire(s) between the driver's climate control switch and the climate control unit.■

18. Check for continuity between driver's climate control switch 16P connector terminals No. 13 and No. 14.

DRIVER'S CLIMATE CONTROL SWITCH 16P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–Repair a short to another wire.■

NO–Go to step 19.

19. Reconnect the driver's climate control switch 16P connector.

20. Reconnect climate control unit connector A (28P).

21. Press and hold the FAN UP switch, then press the OFF switch.

Is the REC button LED blinking?

YES–Go to step 22.

NO–Substitute a known-good driver's climate control switch (see page 21-191), and recheck the function. If the symptom is still present, replace the climate control unit (see page 21-190).■

22. Check the driver's climate control switch LEDs.

Are the REC button and AUTO button LEDs blinking?

YES–Driver's climate control switch is faulty, replace the driver's climate control switch (see page 21-191).■

NO–Go to step 23.

23. Check the driver's climate control switch LEDs.

Are the REC button and DUAL button LEDs blinking?

YES–Substitute a known-good driver's climate control switch (see page 21-191), and recheck the function. If the symptom is still present, replace the climate control unit (see page 21-190).■

NO–Check for loose wires or poor connections at climate control unit connector A (28P) and driver's climate control switch 16P connector. If the connections are good, replace the climate control unit (see page 21-190).■

A/C Pressure Switch Circuit Troubleshooting

NOTE:

- If the blower motor does not run at all speeds, the A/C compressor will be inoperative. Run the self-diagnostic function, and check for DTC B1241. Before performing any other troubleshooting, repair the cause of the inoperative blower motor.
- Do not use this troubleshooting procedure if any of the following items are operative: The condenser fan, the radiator fan, or the A/C compressor, or if the heater is inoperative. Refer to the symptom troubleshooting index.
- Check the A/C high-side pressure.
- Before doing symptom troubleshooting, check for powertrain DTCs (see page 11-3). Also check for B-CAN codes (see page 22-109).

1. Turn the ignition switch to ON (II).
2. Check if the blower motor operates at all speeds.

   Does the blower motor operate at all speeds?

   YES–Go to step 3.

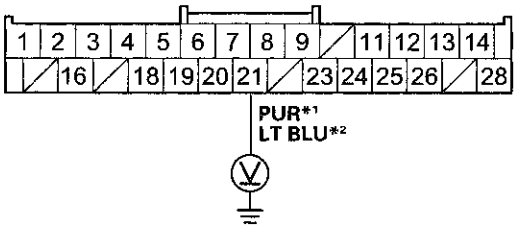
   NO–Repair the problem in the blower motor circuit (see page 21-166).■
3. Do the sensor input display mode (see page 21-107).

   Is Sensor #5 (evaporative outlet air temperature) above 3 °C?

   YES–Go to step 4.

   NO–Go to step 15.
4. Turn the ignition switch to LOCK (0).
5. Disconnect climate control unit connector A (28P).
6. Turn the ignition switch to ON (II).
7. Measure the voltage between climate control unit connector A (28P) terminal No. 21 and body ground.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

***1: With navigation**
***2: Without navigation**

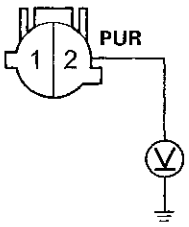
Is there battery voltage?

YES–Replace the climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

NO–Go to step 8.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the A/C pressure switch 2P connector.
10. Turn the ignition switch to ON (II).
11. Measure the voltage between A/C pressure switch 2P connector terminal No. 2 and body ground.

A/C PRESSURE SWITCH 2P CONNECTOR



Wire side of female terminals

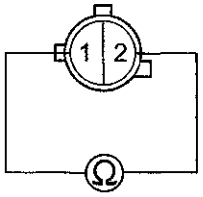
Is there battery voltage?

YES–Go to step 12.

NO–Repair an open in the wire between the A/C pressure switch and the MICU. If the wire is OK, substitute a known-good MICU and recheck. If the symptom goes away, replace the original MICU.■

12. Check for continuity between terminals No. 1 and No. 2 of A/C pressure switch.

A/C PRESSURE SWITCH



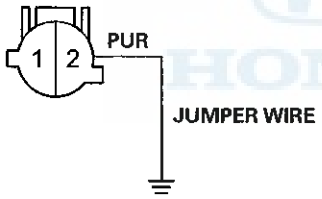
Is there continuity?

YES–Go to step 13.

NO–Replace the A/C pressure switch.■

13. Connect A/C pressure switch 2P connector terminal No. 2 to body ground with a jumper wire.

A/C PRESSURE SWITCH 2P CONNECTOR



Wire side of female terminals

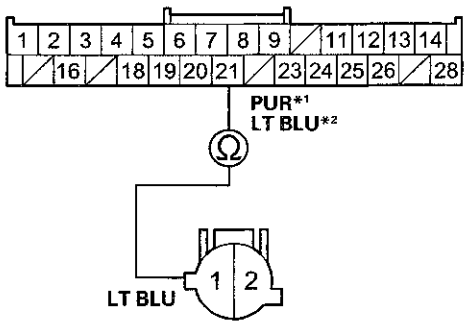
Do the compressor and fans operate?

YES–Go to step 14.

NO–Check for B-CAN codes (see page 22-109).■

14. Check for continuity between climate control unit connector A (28P) terminal No. 21 and A/C pressure switch 2P connector terminal No. 1.

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



A/C PRESSURE SWITCH 2P CONNECTOR
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is there continuity?

YES–Check for loose wires or poor connections at the climate control unit connector A (28P) and at the A/C pressure switch 2P connector.■

NO–Repair an open in the wire between the HVAC control unit and A/C pressure switch.■

15. Turn the ignition switch to LOCK (0).

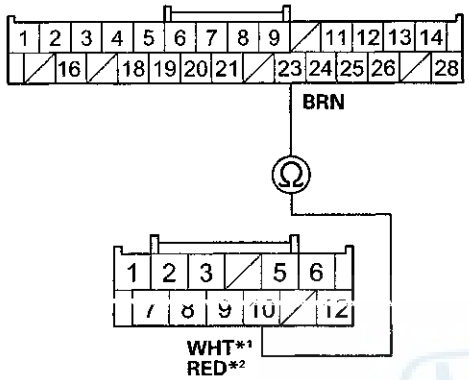
16. Disconnect climate control unit connector A (28P) and B (12P).

(cont'd)

A/C Pressure Switch Circuit Troubleshooting (cont'd)

17. Measure the evaporator temperature sensor resistance between climate control unit connector A (28P) terminal No. 23 and connector B (12P) terminal No. 10.

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is the resistance less than 24 kΩ?

YES–Check for loose wires or poor connections at the climate control unit connectors. If the connections are good, substitute a known-good climate control unit and recheck. If the symptom goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

NO–Test the evaporator temperature sensor (see page 21-58).■

A/C Signal Circuit Troubleshooting

NOTE:

- If the blower motor does not run at all speeds, the A/C compressor will be inoperative. Run the self-diagnostic function, and check for DTC B1241. Before performing any other troubleshooting, repair the cause of the inoperative blower motor.
- Do not use this troubleshooting procedure if any of the following items are operative: The condenser fan, the radiator fan, or the A/C compressor, or if the heater is inoperative. Refer to the symptom troubleshooting index.
- Before doing symptom troubleshooting, check for powertrain DTCs (see page 11-3).

1. Turn the ignition switch to ON (II).
2. Check if the blower motor operates at all speeds.

   Does the blower motor operate at all speeds?

   YES–Go to step 3.

   NO–Repair the problem in the blower motor circuit (see page 21-166).■
3. Do the sensor input display mode (see page 21-107).

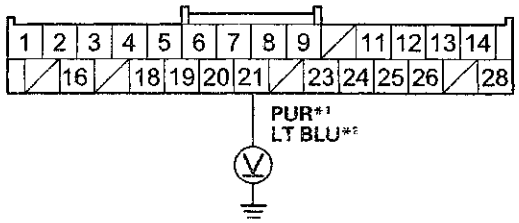
   Is Sensor #5 (evaporative outlet air temperature) above 3 °C?.

   YES–Go to step 4.

   NO–Go to step 9.
4. Turn the ignition switch to LOCK (0).
5. Disconnect climate control unit connector A (28P).
6. Turn the ignition switch to ON (II).

7. Measure the voltage between climate control unit connector A (28P) terminal No. 21 and body ground.

CLIMATE CONTROL UNIT CONNECTOR A (28P)



Wire side of female terminals

***1: With navigation**
***2: Without navigation**

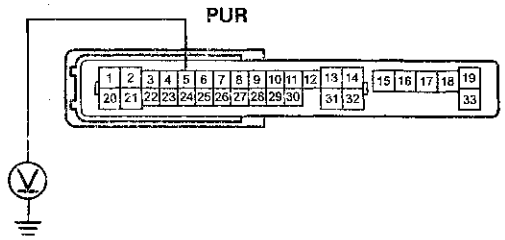
Is there battery voltage?

YES–Replace the climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

NO–Go to step 8.

8. Measure the voltage between driver's under-dash fuse/relay box connector F (33P) terminal No. 5 and body ground.

DRIVER'S UNDER-DASH FUSE/RELAY BOX CONNECTOR F (33P)



Wire side of female terminals

Is there battery voltage?

YES–Repair an open in the wire between the climate control unit and the MICU.■

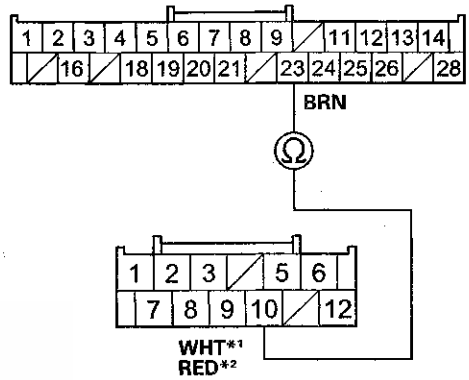
NO–Check for loose wire or poor connections at driver's under-dash fuse/relay box connector F (33P) terminal No. 5. If the connections are good, substitute a known-good MICU and recheck. If the symptom goes away, replace the original MICU.■

9. Turn the ignition switch to LOCK (0).

10. Disconnect climate control unit connector B (12P).

11. Measure the evaporator temperature sensor resistance between climate control unit connector A (28P) terminal No. 23 and connector B (12P) terminal No. 10.

CLIMATE CONTROL UNIT CONNECTOR A (28P)
Wire side of female terminals



CLIMATE CONTROL UNIT CONNECTOR B (12P)
Wire side of female terminals

***1: With navigation**
***2: Without navigation**

Is the resistance less than 24 kΩ?

YES–Check for loose wires or poor connections at the climate control unit connectors. If the connections are good, substitute a known-good climate control unit and recheck. If the symptom goes away, replace the original climate control unit (with navigation) (see page 21-190), (without navigation) (see page 21-191).■

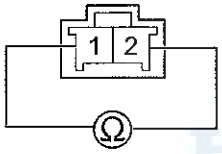
NO–Test the evaporator temperature sensor (see page 21-58).■

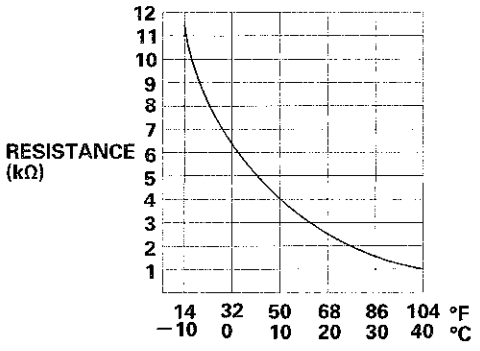
In-car Temperature Sensor Test

NOTE: Before testing the sensor, check for HVAC DTCs (see page 21-101).

1. Remove the in-car temperature sensor (see page 21-184).
2. Test the in-car temperature sensor while holding it in front of the dashboard center vent.
   - Measure the resistance with the system set to Max Cool.
   - Measure the resistance with the system set to Max Hot.
3. Compare the resistance reading between terminals No. 1 and No. 2 of the in-car temperature sensor with the specifications shown in the graph; the resistance should be within the specifications for whatever the ambient temperature is.

IN-CAR TEMPERATURE SENSOR

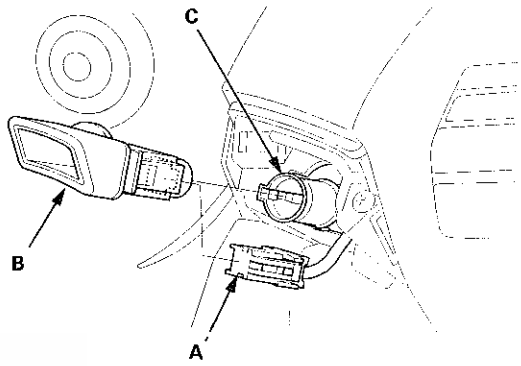




4. If the resistance is not as specified, replace the in-car temperature sensor (see page 21-184).

In-car Temperature Sensor Replacement

1. Remove the driver's inner dashboard trim (see page 20-167).
2. Disconnect the connector (A), and remove the in-car temperature sensor (B) from the air hose (C).



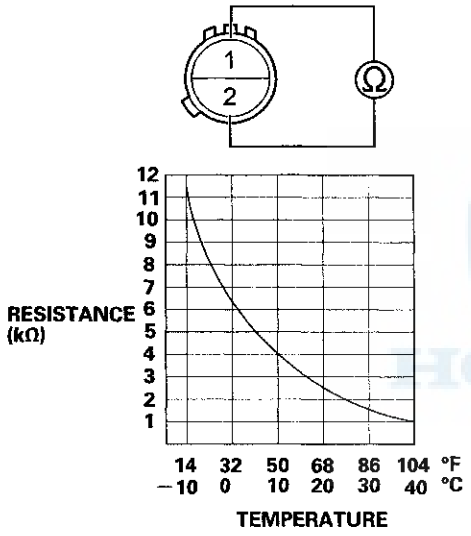
3. Install the sensor in the reverse order of removal. Be sure to connect the air hose securely.

Outside Air Temperature Sensor Test

NOTE: Before testing the sensor, check for HVAC DTCs (see page 21-101).

1. Remove the outside air temperature sensor (see page 21-185).
2. Dip the sensor in ice water, and measure the resistance. Then pour warm water on the sensor, and check for a change in resistance.
3. Compare the resistance reading between terminals No. 1 and No. 2 of the outside air temperature sensor with the specifications shown in the graph; the resistance should be within the specifications.

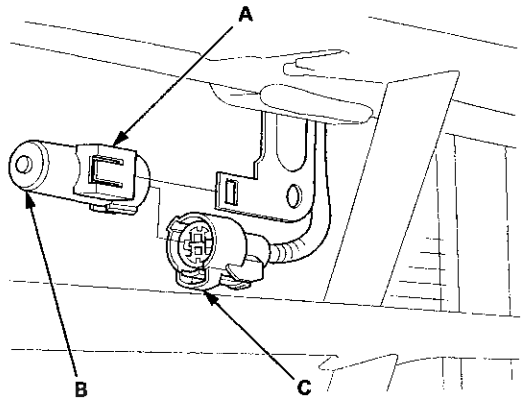
OUTSIDE AIR TEMPERATURE SENSOR



4. If the resistance is not as specified, replace the outside air temperature sensor (see page 21-185).

Outside Air Temperature Sensor Replacement

1. Lift the tab (A) to release the lock, then remove the outside air temperature sensor (B) from the front bumper beam. Disconnect the 2P connector (C) from the outside air temperature sensor.



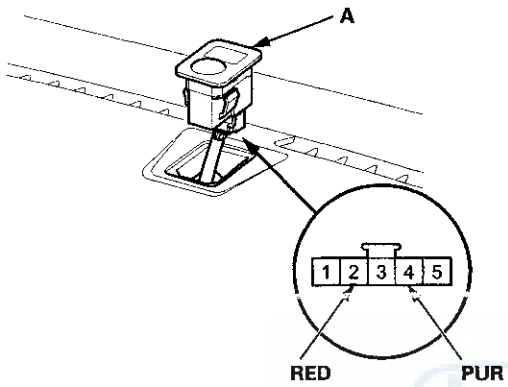
2. Install the sensor in the reverse order of removal.

Sunlight Sensor Test

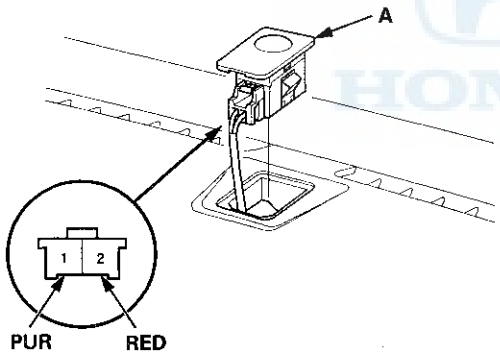
NOTE: Before testing the sensor, check for HVAC DTCs (see page 21-101).

1. Remove the sunlight sensor (see page 21-186).

With automatic lighting sensor



Without automatic lighting sensor



2. Turn the ignition switch to ON (II). Measure the voltage between the terminals with the (+) probe on terminal No. 4 (with automatic lighting sensor) or No. 1 (without automatic lighting sensor) and the (−) probe on terminal No. 2 with the connector connected.

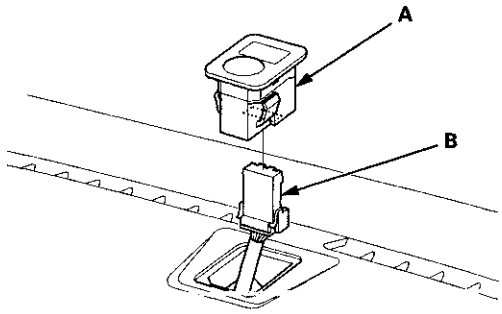
   NOTE: The voltage readings will not change under the light of a flashlight or a fluorescent lamp. Voltage should be:

   - 3.6−3.7 V or more with the sensor out of direct sunlight.
   - 3.3−3.5 V or less with the sensor in direct sunlight.

3. If the voltage is not as specified, replace the sunlight sensor (see page 21-186).

Sunlight Sensor Replacement

1. Remove the sunlight sensor (A) from the dashboard, then disconnect the connector (B). Be careful not to damage the sensor and the dashboard.
2. Install the sensor in the reverse order of removal.



Passenger's Air Mix Control Motor Test

NOTE: Before testing the motor, check for HVAC DTCs (see page 21-101).

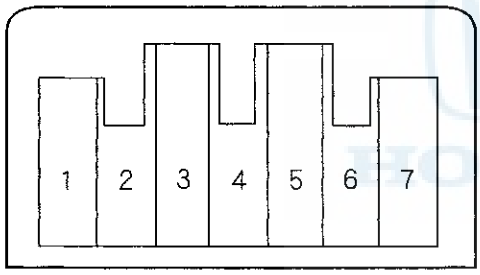
1. Disconnect the 7P connector from the passenger's air mix control motor.

NOTICE

Incorrectly applying power and ground to the passenger's air mix control motor will damage it. Follow the instructions carefully.

2. Connect battery power to terminal No. 1 of the passenger's air mix control motor, and ground terminal No. 2; the passenger's air mix control motor should run, and stop at Max Cool. If it doesn't, reverse the connections; the passenger's air mix control motor should run, and stop at Max Hot. When the passenger's air mix control motor stops running, disconnect battery power immediately.

PASSENGER'S AIR MIX CONTROL MOTOR

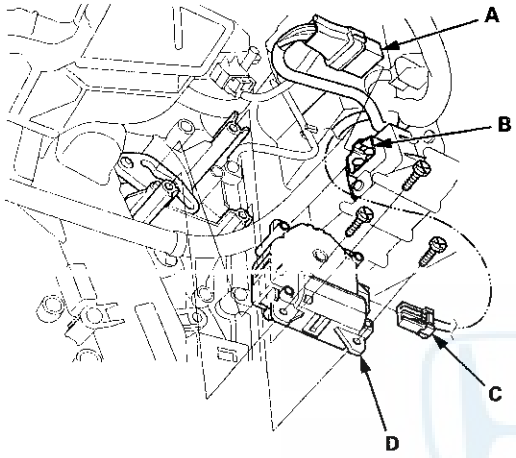


3. If the passenger's air mix control motor did not run in step 2, remove it, then check the passenger's air mix control linkage and door for smooth movement.
   - If the linkage and door move smoothly, replace the passenger's air mix control motor (see page 21-188).
   - If the linkage or door sticks or binds, repair them as needed.
   - If the passenger's air mix control motor runs smoothly, go to step 4.
4. Measure the resistance between terminals No. 5 and No. 7. It should be between 4.2 to 7.8 kΩ.
5. Reconnect the passenger's air mix control motor 7P connector, then turn the ignition switch to ON (II).
6. Using the backprobe set, measure the voltage between terminals No. 3 and No. 5 of the 7P connector.

   Max Cool: about 1.5 V
   Max Hot: about 4.5 V
7. If either the resistance or the voltage readings are not as specified, replace the passenger's air mix control motor (see page 21-188).

Passenger's Air Mix Control Motor Replacement

1. Remove the glove box (see page 20-174).
2. Disconnect the 4P connector (A) from the power transistor (B), and the 7P connector (C) from the passenger's air mix control motor (D). Remove the self-tapping screws and the passenger's air mix control motor from the heater unit.



3. Install the motor in the reverse order of removal. Make sure the pin on the motor is properly engaged with the linkage. After installation, make sure the motor runs smoothly.

Mode Control Motor Test

NOTE: Before testing the motor, check for HVAC DTCs (see page 21-101).

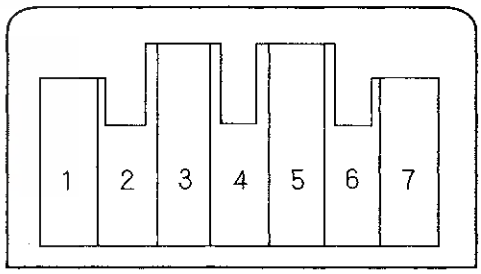
1. Disconnect the 7P connector from the mode control motor.

NOTICE

Incorrectly applying power and ground to the mode control motor will damage it. Follow the instructions carefully.

2. Connect battery power to terminal No. 1 of the mode control motor, and ground terminal No. 2; the mode control motor should run, and stop at Defrost. If it doesn't, reverse the connections; the mode control motor should run, and stop at Vent. When the mode control motor stops running, disconnect battery power immediately.

MODE CONTROL MOTOR



3. If the mode control motor did not run in step 2, remove it, then check the mode control linkage and door for smooth movement.
   - If the linkage and door move smoothly, replace the mode control motor (see page 21-62).
   - If the linkage or door sticks or binds, repair them as needed.
   - If the mode control motor runs smoothly, go to step 4.

Recirculation Control Motor Test

4. Measure the resistance between terminals No. 5 and No. 7 of the mode control motor. It should be between 4.2 and 7.8 kΩ.
5. Reconnect the mode control motor 7P connector, then turn the ignition switch to ON (II).
6. Using the backprobe set, measure the voltage between terminals No. 3 and No. 7 of the 7P connector.

   Vent: About 0.5 V
   Defrost: About 4.5 V
7. If either the resistance or the voltage readings are not as specified, replace the mode control motor (see page 21-62).

NOTE: Before testing the motor, check for HVAC DTCs (see page 21-101).

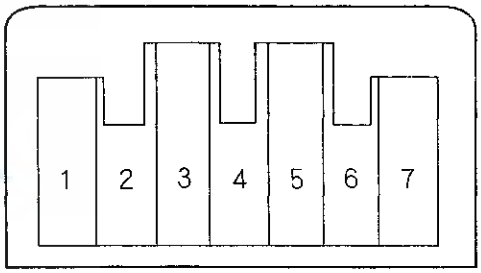
1. Disconnect the 7P connector from the recirculation control motor.

NOTICE

Incorrectly applying power and ground to the recirculation control motor will damage it. Follow the instructions carefully.

2. Connect battery power to terminal No. 1 of the recirculation control motor, and ground terminal No. 2; the recirculation control motor should run, and stop at Fresh. If it doesn't, reverse the connections; the recirculation control motor should run, and stop at Recirculate. When the recirculation control motor stops running, disconnect battery power immediately.

RECIRCULATION CONTROL MOTOR



3. If the recirculation control motor did not run in step 2, remove it, then check the recirculation control linkage and door for smooth movement.
   - If the linkage and door move smoothly, replace the recirculation control motor (see page 21-64).
   - If the linkage or door sticks or binds, repair them as needed.
   - If the recirculation control motor runs smoothly, go to step 4.

(cont'd)

Recirculation Control Motor Test (cont'd)

4. Measure the resistance between terminals No. 5 and No. 7 of the recirculation control motor. It should be between 4.2 and 7.8 kΩ.
5. Reconnect the recirculation control motor 7P connector, then turn the ignition switch to ON (II).
6. Using the backprobe set, measure the voltage between terminals No. 3 and No. 7 of the 7P connector.

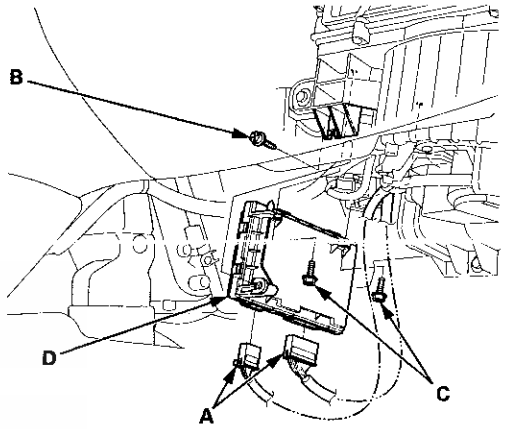
   Fresh: About 1.0 V
   Recirculate: About 4.0 V

7. If either the resistance or the voltage readings are not as specified, replace the recirculation control motor (see page 21-64).

Climate Control Unit Removal/Installation

With Navigation

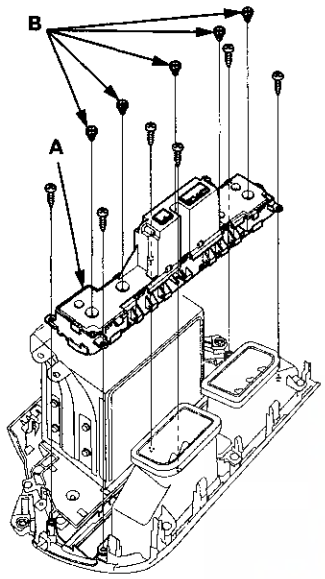
1. Remove the passenger's dashboard undercover (see page 20-170).
2. Disconnect the connectors (A). Loosen the bolt (B) and remove the bolts (C) from the climate control unit (D).



3. Install the control unit in the reverse order of removal. After installation, operate the various functions to make sure they work properly.
4. Run the self-diagnostic function to confirm that there are no problems in the system (see page 21-102).

Without Navigation

1. Remove the audio unit (see page 23-115).
2. Remove the self-tapping screws and the climate control unit (A). If necessary, replace the bulbs (B).

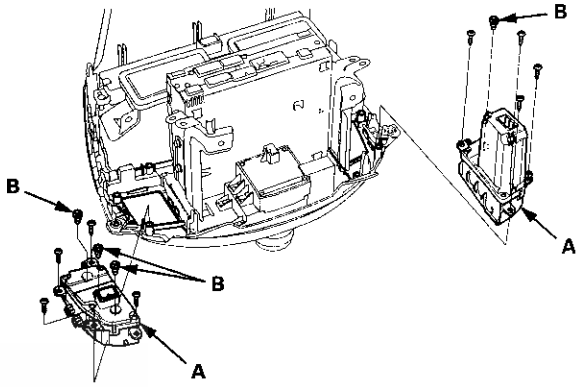


3. Install the control unit in the reverse order of removal.
4. Run the self-diagnostic function to confirm that there are no problems in the system (see page 21-102).

Climate Control Switch Removal/Installation

With Navigation

1. Remove the audio unit (see page 23-114).
2. Remove the self-tapping screws and the climate control switches (A). If necessary, replace the bulbs (B).



3. Install the switches in the reverse order of removal.
4. Run the self-diagnostic function to confirm that there are no problems in the system (see page 21-102).

SUPPLEMENTAL RESTRAINT SYSTEM (SRS) (If electrical maintenance is required)

The Accord SRS includes a driver's airbag in the steering wheel hub, a passenger's airbag in the dashboard above the glove box, seat belt tensioners in the front seat belt retractors, side curtain airbags in the sides of the roof, and side airbags in the front seat-backs. Information necessary to safely service the SRS is included in this Service Manual. Items marked with an asterisk (*) on the contents page include or are located near SRS components. Servicing, disassembling, or replacing these items requires special precautions and tools, and should be done by an authorized Honda dealer.

- To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal or side collision, all SRS service work should be done by an authorized Honda dealer.
- Improper service procedures, including incorrect removal and installation of the SRS, could lead to personal injury caused by unintentional deployment of the airbags, side airbags, and/or side curtain airbags.
- Do not bump or impact the SRS unit, front impact sensors, side impact sensors, or rear safing sensor, especially when the ignition switch is in ON (II), or for at least 3 minutes after the ignition switch is turned to LOCK (0); otherwise, the system may fail in a collision, or the airbags may deploy.
- SRS electrical connectors are identified by yellow color coding. Related components are located in the steering column, center console, dashboard, dashboard lower cover, in the dashboard above the glove box, in the front seats, in the roof side, and around the floor. Do not use electrical test equipment on these circuits.