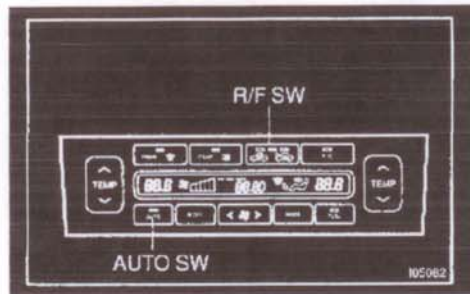


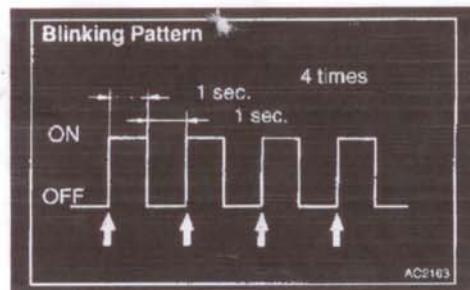
## Heating and Air Conditioning: Testing and Inspection

### Without Scan Tool

#### Indicator Check



- Turn the ignition switch on while pressing the A/C control AUTO switch and R/F SW simultaneously.

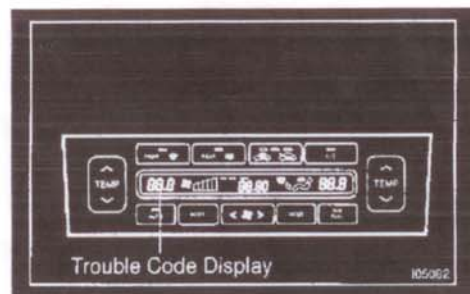


- Check that all the indicators light up and go off at **1 second** intervals 4 times in succession.

#### HINT:

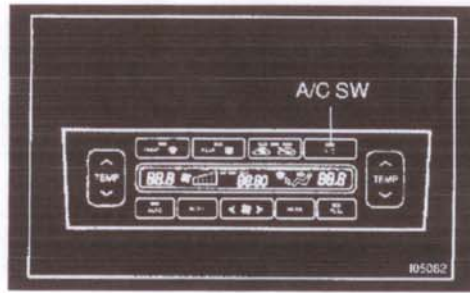
- After the indicator check is ended, the diagnostic trouble code check begins automatically.
- Press the **OFF** switch when desiring to cancel the check mode.

#### DTC CHECK (SENSOR CHECK)



- Perform an indicator check. After the indicator check is completed, the system enters the DTC check mode automatically.
- Read the DTC displayed on the panel. See: Trouble Code Descriptions (DTCs are out put at the temperature display.)

If the slower display is desired, press the Driver Side Temp. Control Switch and change it to step operation. Each time the Driver Side Temp. Control switch is pressed, the display changes by 1 step.



**HINT:**

W/ EMV only

- If the buzzer sounds when a DTC is being read, it means the trouble indicated by that DTC continues to occur.
- If the buzzer does not sound when a DTC is being read, it means the trouble indicated by that DTC occurred earlier (such as poor connector contacts, etc.)

## Heating and Air Conditioning: Testing and Inspection Trouble Code Descriptions

DTC No.	Detection Item	Trouble Area	Memory
00	Normal	-	-
B1411/11 *1	Room temperature sensor circuit	<ul style="list-style-type: none"> <li>• Room temp. sensor</li> <li>• Harness or connector between room temp. sensor and A/C amplifier</li> <li>• A/C amplifier</li> </ul>	○ (8.5 min. or more)
B1412/11	Ambient temperature sensor circuit	<ul style="list-style-type: none"> <li>• Ambient temp. sensor</li> <li>• Harness or connector between ambient temp. sensor and A/C amplifier</li> <li>• A/C amplifier</li> </ul>	○ (8.5 min. or more)
B1413/13	Evaporator temperature sensor circuit	<ul style="list-style-type: none"> <li>• Evaporator temp. sensor</li> <li>• Harness or connector between evaporator temp. sensor and A/C amplifier</li> <li>• A/C amplifier</li> </ul>	○ (8.5 min. or more)
B1418/18	Exhaust gas sensor circuit	<ul style="list-style-type: none"> <li>• Exhaust gas sensor</li> <li>• Harness or connector between exhaust gas sensor and A/C amplifier</li> <li>• A/C amplifier</li> </ul>	-
B1421/21 *3	Solar sensor circuit (Passenger Side)	<ul style="list-style-type: none"> <li>• Solar sensor</li> <li>• Harness or connector between solar sensor and A/C amplifier</li> <li>• A/C amplifier</li> </ul>	- ○ (8.5 min. or more)
B1422/22 *4	All conditions below are detected for 3 sec. or more (a) Engine speed: 450 rpm or more (b) Ratio between engine and compressor rpm deviates 20% or more in comparison to normal operation.	<ul style="list-style-type: none"> <li>• Compressor drive belt</li> <li>• Compressor lock sensor</li> <li>• Compressor</li> <li>• Harness and connector between A/C amplifier and compressor, compressor lock sensor</li> <li>• A/C amplifier</li> </ul>	-
B1423/23	Open in pressure sensor circuit Abnormal refrigerant pressure (below 196 kPa (2.0 kgf/cm <sup>2</sup> , 28 psi) over 3,140 kPa (32.0 kgf/cm <sup>2</sup> , 455 psi))	<ul style="list-style-type: none"> <li>• Pressure switch</li> <li>• Harness or connector between pressure switch and A/C amplifier</li> <li>• Refrigerant pipe line</li> <li>• A/C amplifier</li> </ul>	-
B1424/24	Solar sensor circuit (Driver Side)	<ul style="list-style-type: none"> <li>• Solar sensor</li> <li>• Harness or connector between solar sensor and A/C amplifier</li> <li>• A/C amplifier</li> </ul>	- ○ (8.5 min. or more)
B1431/31	Air mix damper position sensor circuit (Passenger Side)	<ul style="list-style-type: none"> <li>• Air mix damper position sensor</li> <li>• A/C amplifier</li> <li>• Harness or connector between air mix damper position sensor and A/C amplifier</li> </ul>	○ (1 min. or more)
B1432/32	Air inlet damper position sensor circuit	<ul style="list-style-type: none"> <li>• Air inlet damper position sensor circuit</li> <li>• A/C amplifier</li> <li>• Harness or connector between air inlet damper position sensor and A/C amplifier</li> </ul>	○ (1 min. or more)

Detection Item ( Part 1 Of 2 )



B1433/33	Air outlet damper position sensor circuit	<ul style="list-style-type: none"> <li>• Air outlet damper position sensor circuit</li> <li>• A/C amplifier</li> <li>• Harness or connector between max cool damper position sensor and A/C amplifier</li> </ul>	○ (1 min. or more)
B1436/36	Air mix damper position sensor circuit (Driver Side)	<ul style="list-style-type: none"> <li>• Air mix damper position sensor</li> <li>• A/C amplifier</li> <li>• Harness or connector between air mix damper position sensor and A/C amplifier</li> </ul>	○ (1 min. or more)
B1441/41	Air mix damper control servomotor circuit (Passenger side)	<ul style="list-style-type: none"> <li>• Air mix damper control servomotor</li> <li>• Air mix damper position sensor</li> <li>• Harness and connector between A/C amplifier and air mix position sensor</li> <li>• Harness and connector between A/C amplifier and mix damper control servomotor</li> <li>• A/C amplifier</li> </ul>	○ (15secs. or more)
B1442/42	Air inlet damper control servomotor	<ul style="list-style-type: none"> <li>• Air inlet damper control servomotor</li> <li>• Air inlet damper position sensor</li> <li>• Harness and connector between A/C amplifier and air inlet position sensor</li> <li>• Harness and connector between A/C amplifier and air inlet damper control servomotor</li> <li>• A/C amplifier</li> </ul>	○ (15 secs. or more)
B1443/43	Air outlet damper control servomotor circuit	<ul style="list-style-type: none"> <li>• Air outlet damper control servomotor</li> <li>• Air outlet damper position sensor</li> <li>• Harness and connector between A/C amplifier and air outlet position sensor</li> <li>• Harness and connector between A/C amplifier and air outlet servomotor</li> <li>• A/C amplifier</li> </ul>	○ (15secs. or more)
B1446/46	Air mix damper control servomotor circuit (Driver side)	<ul style="list-style-type: none"> <li>• Air mix damper control servomotor</li> <li>• Air mix damper position sensor</li> <li>• Harness and connector between A/C amplifier and air mix position sensor</li> <li>• Harness and connector between A/C amplifier and mix damper control servomotor</li> <li>• A/C amplifier</li> </ul>	○ (15secs. or more)
99	Multiplex communication circuit	Open in multiplex communication circuit	-

#### Detection Item ( Part 2 Of 2 )

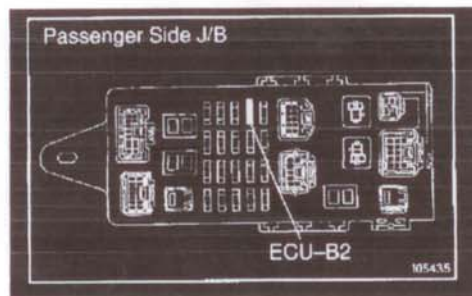
If malfunction code is displayed during the DTC check, check the circuit listed for that code in the table.

#### HINT:

- \*1 If the room temperature is approx.  $-20^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$ ) or lower, DTC B1411/11 may be output even though the system is normal.
- \*2 If the ambient temperature is approx.  $-50^{\circ}\text{C}$  ( $-58^{\circ}\text{F}$ ) or lower, a DTC may be output even though the system is normal.
- \*3 If the check is being performed in a dark place, DTC B1421/21 (solar sensor circuit abnormal) could be displayed. In this case, perform DTC check again while shining a light, such as an inspection light, on the solar sensor. If DTC B1421/21 is still displayed, there could be trouble in the solar sensor circuit.
- \*4 Compressor lock (DTC B1422/22) is indicated only for a current malfunction. To confirm DTC B1422/22, perform the following steps.
  1. With the engine **ON**, enter the DTC check mode.
  2. Press the R/F switch to enter actuator check mode, and set the operation to Step No.3.
  3. Press the AUTO switch to return to DTC check mode.
  4. The DTC is displayed after approx. **3 secs.**
- \*5 The A/C control assembly memorizes the DTC of the respective malfunction when it occurs for period of time indicated in the brackets.

## Heating and Air Conditioning: Testing and Inspection

### How to Clear Diagnostic Trouble Codes



- a. Pull out the ECU-B2 fuse in Passenger Side J/B for **10 sec.** or longer to clear diagnostic the DTC's memory.
- b. After reinserting the fuse, check that the normal code is output.