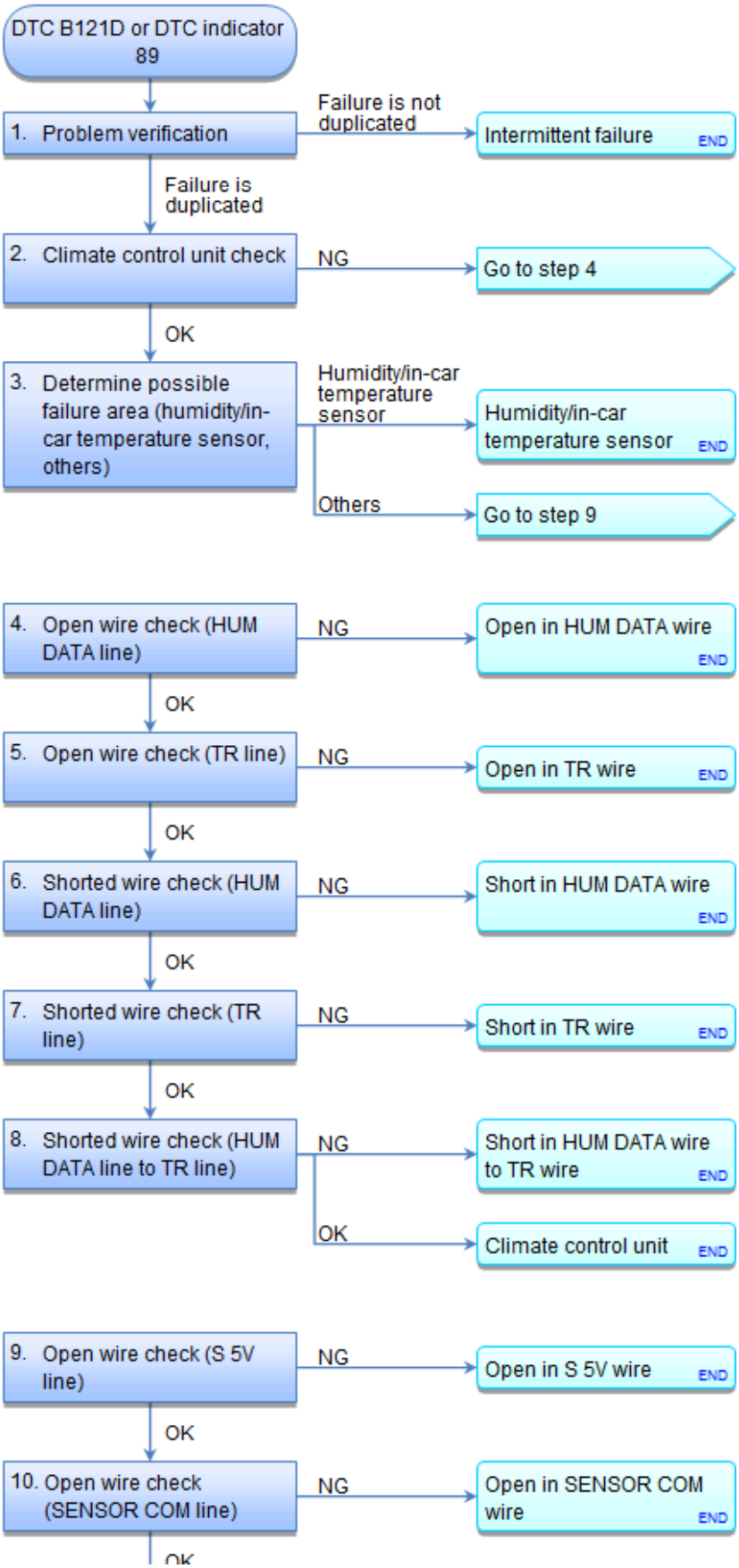
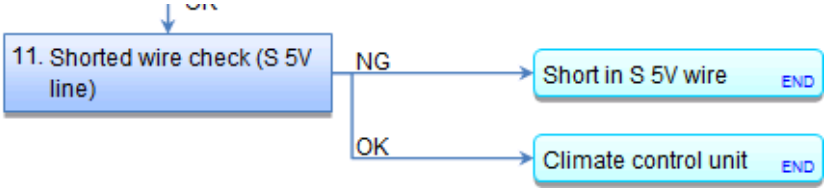
DTC Troubleshooting: B121D (89)




11. Shorted wire check (S 5V line)
NG
Short in S 5V wire
END
OK
Climate control unit
END

DTC B121D or DTC indicator 89: Humidity/in-car temperature sensor communication error

DTC Description	DTC
B121D Humidity/in-car temperature sensor communication error	

DTC (AC)

1. Problem verification:

-1. Clear the DTC with the HDS.

Clear DTCs

-2. Turn the vehicle to the OFF (LOCK) mode and then the ON mode.

-3. Do the Self-Diagnostic Function with the HDS or the climate control unit.

-4. Check for DTCs.

DTC Description	DTC
B121D Humidity/in-car temperature sensor communication error	

Is DTC B121D or 89 indicated?

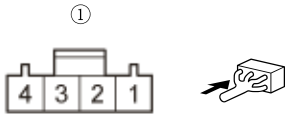
YES The failure is duplicated. Go to step 2.

NO Intermittent failure. Check for loose wires or poor connections on the humidity/in-car temperature sensor circuit.■

2. Climate control unit check:

-1. Turn the vehicle to the OFF (LOCK) mode after confirming the A/C system is OFF.

-2. Connect terminals A and B with a jumper wire.
Terminal A Humidity/in-car temperature sensor 4P connector (female terminals) No. 2: ①
Terminal B Humidity/in-car temperature sensor 4P connector (female terminals) No. 4: ①



-3. Turn the vehicle to the ON mode.

-4. While pressing the WINDSHIELD DEFROST button, press and hold the ON/OFF button for 10 seconds or more.

MODE INDICATOR

Does the MODE indicator turn on?

YES Go to step 3.

NO Go to step 4.

3. Determine possible failure area (humidity/in-car temperature sensor, others):

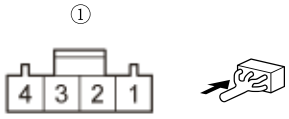
-1. Turn the vehicle to the OFF (LOCK) mode.

-2. Disconnect the jumper wire.

-3. Turn the vehicle to the ON mode.

-4. Measure the voltage between test points 1 and 2.

Test condition	Vehicle ON mode Humidity/in-car temperature sensor 4P connector: disconnected
Test point 1	Humidity/in-car temperature sensor 4P connector (female terminals) No. 1: ①
Test point 2	Body ground



Is there about 5 V?

YES Replace the humidity/in-car temperature sensor.■

NO Go to step 9.

4. Open wire check (HUM DATA line):

-1. Turn the vehicle to the OFF (LOCK) mode.

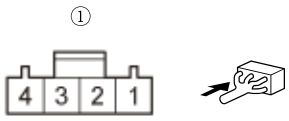
-2. Disconnect the jumper wire.

-3. Disconnect the following connector.
Climate control unit connector A (32P)

-4. Check for continuity between test points 1 and 2.

Test condition	Vehicle OFF (LOCK) mode Climate control unit connector A (32P): disconnected Humidity/in-car temperature sensor 4P connector: disconnected

Test point 1	Climate control unit connector A (32P) No. 7
Test point 2	Humidity/in-car temperature sensor 4P connector (female terminals) No. 2: ①



Is there continuity?

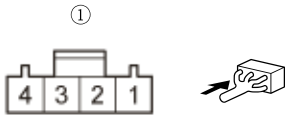
YES The HUM DATA wire is not open. Go to step 5.

NO Repair an open in the HUM DATA wire.■

5. Open wire check (TR line):

-1. Check for continuity between test points 1 and 2.

Test condition	Vehicle OFF (LOCK) mode Climate control unit connector A (32P): disconnected Humidity/in-car temperature sensor 4P connector: disconnected
Test point 1	Climate control unit connector A (32P) No. 24
Test point 2	Humidity/in-car temperature sensor 4P connector (female terminals) No. 4: ①



Is there continuity?

YES The TR wire is not open. Go to step 6.

NO Repair an open in the TR wire.■

6. Shorted wire check (HUM DATA line):

-1. Check for continuity between test points 1 and 2.

Test condition	Vehicle OFF (LOCK) mode Climate control unit connector A (32P): disconnected Humidity/in-car temperature sensor 4P connector: disconnected
Test point 1	Climate control unit connector A (32P) No. 7
Test point 2	Body ground

Is there continuity?

YES Repair a short to ground in the HUM DATA wire.■

NO The HUM DATA wire is OK. Go to step 7.

7. Shorted wire check (TR line):

-1. Check for continuity between test points 1 and 2.

Test condition	Vehicle OFF (LOCK) mode Climate control unit connector A (32P): disconnected Humidity/in-car temperature sensor 4P connector: disconnected
Test point 1	Climate control unit connector A (32P) No. 24
Test point 2	Body ground

Is there continuity?

YES Repair a short to ground in the TR wire.■

NO The TR wire is OK. Go to step 8.

8. Shorted wire check (HUM DATA line to TR line):

-1. Disconnect the following connector.
Climate control unit connector A (32P)

-2. Check for continuity between test points 1 and 2.

Test condition	Vehicle OFF (LOCK) mode Climate control unit connector A (32P): disconnected Humidity/in-car temperature sensor 4P connector: disconnected
Test point 1	Climate control unit connector A (32P) No. 7
Test point 2	Climate control unit connector A (32P) No. 24

Is there continuity?

YES Repair a short in the HUM DATA wire to the TR wire.■

NO Replace the climate control unit.■

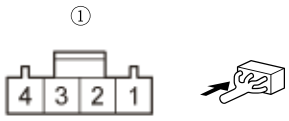
9. Open wire check (S 5V line):

-1. Turn the vehicle to the OFF (LOCK) mode.

-2. Disconnect the following connector.
Climate control unit connector A (32P)

-3. Check for continuity between test points 1 and 2.

Test condition	Vehicle OFF (LOCK) mode Climate control unit connector A (32P): disconnected Humidity/in-car temperature sensor 4P connector: disconnected
Test point 1	Climate control unit connector A (32P) No. 26
Test point 2	Humidity/in-car temperature sensor 4P connector (female terminals) No. 1: ①



Is there continuity?

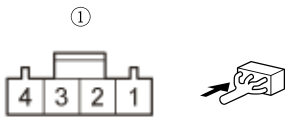
YES The S 5V wire is not open. Go to step 10.

NO Repair an open in the S 5V wire.■

10. Open wire check (SENSOR COM line):

-1. Check for continuity between test points 1 and 2.

Test condition	Vehicle OFF (LOCK) mode
	Climate control unit connector A (32P): disconnected
	Humidity/in-car temperature sensor 4P connector: disconnected
Test point 1	Climate control unit connector A (32P) No. 12
Test point 2	Humidity/in-car temperature sensor 4P connector (female terminals) No. 3: ①



Is there continuity?

YES The SENSOR COM wire is OK. Go to step 11.

NO Repair an open in the SENSOR COM wire.■

11. Shorted wire check (S 5V line):

-1. Check for continuity between test points 1 and 2.

Test condition	Vehicle OFF (LOCK) mode
	Climate control unit connector A (32P): disconnected
	Humidity/in-car temperature sensor 4P connector: disconnected
Test point 1	Climate control unit connector A (32P) No. 26
Test point 2	Body ground

Is there continuity?

YES Repair a short to ground in the S 5V wire.■

NO Replace the climate control unit.■