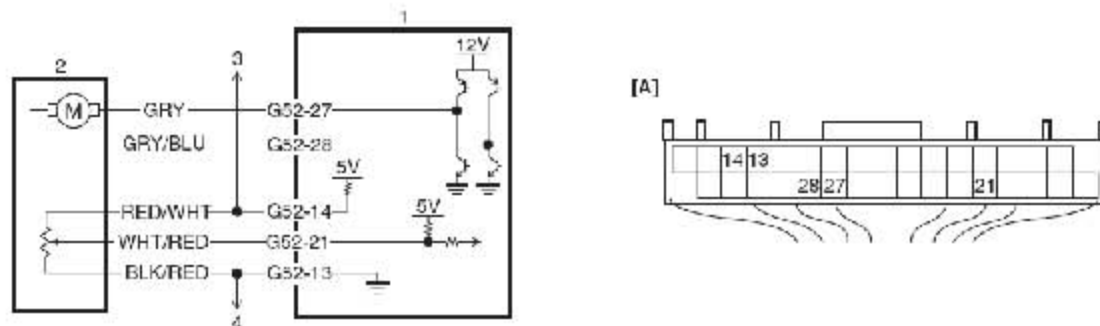


# B1513: Temperature Control Actuator and Its Circuit Malfunction

## Wiring Diagram



[A]: HVAC control module connector "G52" (harness side view)	3. To other actuators
1. HVAC control module	4. To other sensors
2. Temperature control actuator	

## DTC Detecting Condition and Trouble Area

DTC Detecting Condition	Trouble Area
Difference between target opening and actual opening is more than specified value even though temperature control actuator has operated for 15 seconds.	<ul style="list-style-type: none"> <li>• Temperature control actuator circuit</li> <li>• Temperature control linkage</li> <li>• Temperature control actuator</li> <li>• HVAC unit</li> <li>• HVAC control module</li> </ul>

## DTC Confirmation Procedure

- 1) Connect scan tool to DLC with ignition switch turned OFF.
- 2) Turn ON ignition switch and clear DTC using scan tool.
- 3) Start A/C system and select temperature selector at "MAX COOL" position or "MAX HOT" position.
- 4) Wait for 1 minute.
- 5) Check DTC.

## DTC Troubleshooting

Step	Action	Yes	No
1	<p><b>DTC check</b></p> <p>1) Connect scan tool to DLC with ignition switch turned OFF.</p> <p>2) Turn ON ignition switch and check DTC.</p> <p>Is there DTC B1511?</p>	Go to applicable DTC diag. flow.	Go to Step 2.
2	<p><b>Visual check 1) Check if there is any obstruction in operating range of actuator linkage and if actuator linkage operates smoothly. Is it in good condition?</b></p>	Go to Step 3.	Obstruction in operating range of actuator linkage, actuator linkage faulty and/or internal fault of HVAC unit.
3	<p><b>Wire harness check</b></p> <p>1) Disconnect connector from temperature control actuator with ignition switch turned OFF.</p> <p>2) Check for proper connection to temperature control actuator connector at "GRY" and "GRY/BLU" wire terminals.</p> <p>3) If OK, measure voltage between "GRY" wire terminal of temperature control actuator connector and vehicle body ground with ignition switch turned ON when temperature selector is operation to COOL direction.</p> <p>Is voltage 10 – 14 V?</p>	Go to Step 7.	Go to Step 4.

Step	Action	Yes	No
4	<p><b>Wire harness check</b></p> <p>1) Disconnect connector from HVAC control module with ignition switch turned OFF.</p> <p>2) Check for proper connection to HVAC control module connector at "G52-27" and "G52-28" terminals.</p> <p>3) If OK, measure resistance between "GRY" wire terminal of temperature control actuator connector and "G52-27" terminal of HVAC control module connector.</p> <p>Is resistance below 5 <math>\Omega</math>?</p>	Go to Step 5.	"GRY" wire open or high resistance circuit.
5	<p><b>Wire harness check</b></p> <p>1) Measure resistance between "GRY" wire terminal of temperature control actuator connector and vehicle body ground.</p> <p>Is resistance infinity?</p>	Go to Step 6.	"GRY" wire shorted to ground circuit.
6	<p><b>Wire harness check</b></p> <p>1) Measure voltage between "GRY" wire terminal of temperature control actuator connector and vehicle body ground with ignition switch turned ON.</p> <p>Is voltage 0 V?</p>	Go to Step 7.	"GRY" wire shorted to other circuit.

Step	Action	Yes	No
7	Wire harness check 1) Connect connector to HVAC control module with ignition switch turned OFF. 2) Measure voltage between "GRY/BLU" wire terminal of temperature control actuator connector and vehicle body ground with ignition switch turned ON when temperature selector is operation to HOT direction. Is voltage 10 – 14 V?	Go to Step 11.	Go to Step 8.
8	Wire harness check 1) Disconnect connector from HVAC control module with ignition switch turned OFF. 2) Check for proper connection to HVAC control module connector at "G52-27" and "G52-28" terminals. 3) If OK, measure resistance between "GRY/BLU" wire terminal of temperature control actuator connector and "G52-28" terminal of HVAC control module connector. Is resistance below 5 $\Omega$ ?	Go to Step 9.	"GRY/BLU" wire open or high resistance circuit.
9	Wire harness check 1) Measure resistance between "GRY/BLU" wire terminal of temperature control actuator connector and vehicle body ground. Is resistance infinity?	Go to Step 10.	"GRY/BLU" wire shorted to ground circuit.
10	Wire harness check 1) Measure voltage between "GRY/BLU" wire terminal of temperature control actuator connector and vehicle body ground with ignition switch turned ON. Is voltage 0 V?	Go to Step 11.	"GRY/BLU" wire shorted to other circuit.

Step	Action	Yes	No
11	Position sensor circuit check 1) Check temperature control actuator position sensor circuit referring to Step 1 to Step 6 and Step 11 to Step 12 of "DTC B1511: Temperature Control Actuator (Position Sensor) and/or Its Circuit Malfunction: ". Is it in good condition?	Go to Step 12.	Repair circuit.
12	Temperature control actuator check 1) Check temperature control actuator referring to "Temperature Control Actuator Inspection: ". Is it in good condition?	HVAC control module faulty.	Temperature control actuator faulty.

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