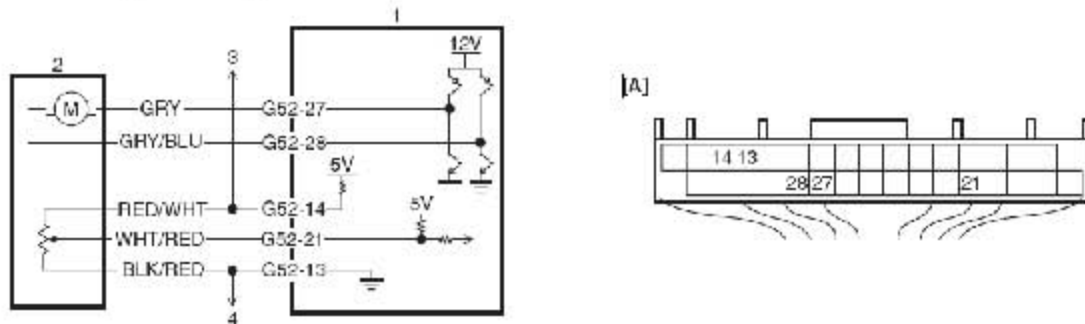


# B1511: Temperature Control Actuator (Position Sensor) and/or Its Circuit Malfunction

## 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
Temperature control actuator position sensor signal voltage is more than or less than specified value for specified time continuously.	<ul style="list-style-type: none"> <li>Temperature control actuator circuit</li> <li>Temperature control actuator</li> <li>HVAC control module</li> </ul>

## DTC Troubleshooting

### NOTE

When DTC B1502, B1503, B1512 and B1530 are indicated together, it is possible that "BLK/RED" wire circuit open.

Step	Action	Yes	No
1	<p><b>Position sensor power supply circuit check</b></p> <p>1) Disconnect temperature control actuator connector with ignition switch turned OFF.</p> <p>2) Check for proper connection to temperature control actuator at "RED/WHT", "WHT/RED" and "BLK/RED" wire terminals.</p> <p>3) If OK, measure voltage between "RED/WHT" wire terminal of temperature control actuator connector and vehicle body ground with ignition switch turned ON.</p> <p>Is voltage 4 – 6 V?</p>	Go to Step 6.	Go to Step 2.
2	<p><b>Position sensor power supply circuit check</b></p> <p>1) Disconnect air flow control actuator connector with ignition switch turned OFF.</p> <p>2) Measure voltage between "RED/WHT" wire terminal of temperature control actuator connector and vehicle body ground with ignition switch turned ON.</p> <p>Is voltage 4 – 6 V?</p>	Air flow control actuator faulty.	Go to Step 3.
3	<p><b>Position sensor power supply circuit check</b></p> <p>1) Disconnect air intake control actuator connector with ignition switch turned OFF.</p> <p>2) Measure voltage between "RED/WHT" wire terminal of temperature control actuator connector and vehicle body ground with ignition switch turned ON.</p> <p>Is voltage 4 – 6 V?</p>	Air intake control actuator faulty.	Go to Step 4.

Step	Action	Yes	No
4	<p><b>Position sensor power supply circuit 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 "G52-14", "G52-27" and "G52-21" terminals.</p> <p>3) If OK, measure resistance between "RED/WHT" wire terminal of temperature control actuator connector and "G52-14" terminal of HVAC control module connector.</p> <p>Is resistance below 5 <math>\Omega</math>?</p>	Go to Step 5.	"RED/WHT" wire open or high resistance circuit.
5	<p><b>Position sensor power supply circuit check</b></p> <p>1) Measure resistance between "RED/WHT" wire terminal of temperature control actuator connector and vehicle body ground.</p> <p>Is resistance infinity?</p>	Go to Step 6.	"RED/WHT" wire shorted to ground circuit.
6	<p><b>Position sensor power supply circuit check</b></p> <p>1) Measure voltage between "RED/WHT" 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.	"RED/WHT" wire shorted to other circuit.
7	<p>Position sensor signal circuit check</p> <p>1) Connect HVAC control module connector with ignition switch turned OFF.</p> <p>2) Measure voltage between "WHT/RED" wire terminal of temperature control actuator connector and vehicle body ground with ignition switch turned ON.</p> <p>Is voltage 4 – 6 V?</p>	Go to Step 11.	Go to Step 8.

Step	Action	Yes	No
8	Position sensor signal circuit check 1) Disconnect connector from HVAC control module with ignition switch turned OFF. 2) Measure resistance between "WHT/RED" wire terminal of temperature control actuator connector and "G52-21" terminal of HVAC control module connector. Is resistance below 5 $\Omega$ ?	Go to Step 9.	"WHT/RED" wire open or high resistance circuit.
9	Position sensor signal circuit check 1) Measure resistance between "WHT/RED" wire terminal of temperature control actuator connector and vehicle body ground. Is resistance infinity?	Go to Step 10.	"WHT/RED" wire shorted to ground circuit.
10	Position sensor signal circuit check 1) Measure voltage between "WHT/RED" wire terminal of temperature control actuator connector and vehicle body ground with ignition switch turned ON. Is voltage 0 V?	Go to Step 11.	"WHT/RED" wire shorted to other circuit.
11	Position sensor ground circuit check 1) Connect HVAC control module connector with ignition switch turned OFF. 2) Measure resistance between "BLK/RED" wire terminal of temperature control actuator connector and vehicle body ground. Is resistance below 5 $\Omega$ ?	Go to Step 13.	Go to Step 12.

Step	Action	Yes	No
12	Position sensor ground circuit check 1) Measure resistance between "G52-13" terminal of HVAC control module connector and vehicle body ground. Is resistance below 5 $\Omega$ ?	"BLK/RED" wire open or high resistance circuit.	HVAC control module faulty.
13	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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