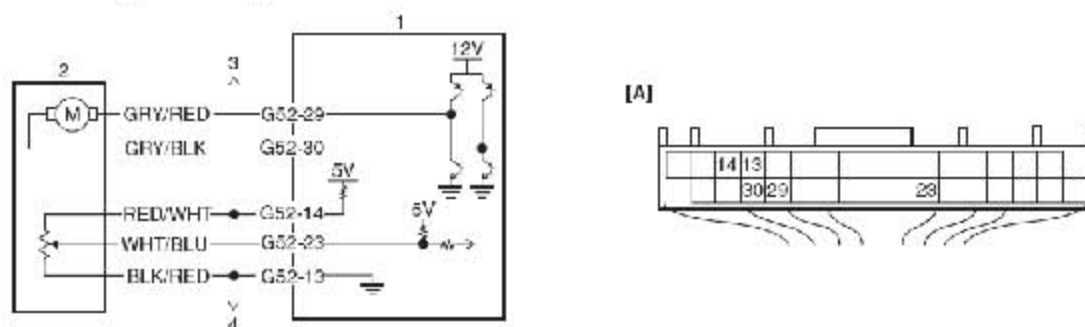


B1512: Air Flow Control Actuator (Position Sensor) and Its Circuit Malfunction

Wiring Diagram



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

DTC Detecting Condition and Trouble Area

| DTC Detecting Condition | Trouble Area |
|---|---|
| Air flow control actuator position sensor signal voltage is more than or less than specified value for specified time continuously. | <ul style="list-style-type: none"> Air flow control actuator circuit Air flow control actuator HVAC control module |

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) Check DTC.

DTC Troubleshooting

NOTE

When DTC B1502, B1503, B1511 and B1530 are indicated together, it is

possible that "BLK/RED" wire circuit open.

| Step | Action | Yes | No |
|------|--|--------------------------------------|---------------|
| 1 | <p>Position sensor power supply circuit check</p> <p>1) Disconnect air flow control actuator connector with ignition switch turned OFF.</p> <p>2) Check for proper connection to air flow control actuator at "RED/WHT", "WHT/BLU" and "BLK/RED" wire terminals.</p> <p>3) If OK, measure voltage between "RED/WHT" wire terminal of air flow 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>Position sensor power supply circuit check</p> <p>1) Disconnect temperature control actuator connector with ignition switch turned OFF.</p> <p>2) Measure voltage between "RED/WHT" wire terminal of air flow control actuator connector and vehicle body ground with ignition switch turned ON.</p> <p>Is voltage 4 – 6 V?</p> | Temperature control actuator faulty. | Go to Step 3. |
| 3 | <p>Position sensor power supply circuit check</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>Position sensor power supply circuit check</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", "G52-13" and "G52-23" terminals.</p> <p>3) If OK, measure resistance between "RED/WHT" wire terminal of air flow control actuator connector and "G52-14" terminal of HVAC control module connector.</p> <p>Is resistance below 5 Ω?</p> | Go to Step 5. | "RED/WHT" wire open or high resistance circuit. |
| 5 | <p>Position sensor power supply circuit check</p> <p>1) Measure resistance between "RED/WHT" wire terminal of air flow 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>Position sensor power supply circuit check</p> <p>1) Measure voltage between "RED/WHT" wire terminal of air flow 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/BLU" wire terminal of air flow 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/BLU" wire terminal of air flow control actuator connector and "G52-23" terminal of HVAC control module connector. Is resistance below 5 Ω ? | Go to Step 9. | "WHT/BLU" wire open or high resistance circuit. |
| 9 | Position sensor signal circuit check 1) Measure resistance between "WHT/BLU" wire terminal of air flow control actuator connector and vehicle body ground. Is resistance infinity? | Go to Step 10. | "WHT/BLU" wire shorted to ground circuit. |
| 10 | Position sensor signal circuit check 1) Measure voltage between "WHT/BLU" wire terminal of air flow control actuator connector and vehicle body ground with ignition switch turned ON. Is voltage 0 V? | Go to Step 11. | "WHT/BLU" 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 air flow control actuator connector and vehicle body ground. Is resistance below 5 Ω ? | Go to Step 13. | Go to Step 12. |
| 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 Ω ? | "BLK/RED" wire open or high resistance circuit. | HVAC control module faulty. |

| Step | Action | Yes | No |
|------|--|-----------------------------|-----------------------------------|
| 13 | Air flow control actuator check 1) Check air flow control actuator referring to "Air Flow Control Actuator Inspection: ". Is it in good condition? | HVAC control module faulty. | Air flow control actuator faulty. |

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