

Troubleshooting

Steering Angle Sensor

Diagnostic Trouble Code (DTC) 2-1: Steering Angle Sensor Diagnosis

The TCS control unit performs the self-diagnosis for the steering angle sensor when the speed of the four wheels exceeds 6 mph (10 km/h) on a smooth road. The TCS indicator light comes on if a yaw rate is generated, the corresponding steering angle signal is not input when the steering wheel is turned, and there is no input from the STOP (brake pedal position switch signal) and PARK (parking brake switch signal).

- With engine running, TCS indicator light is ON.
- The tire pressure is correct, and tires with a correct diameter are installed.
- With the SCS service connector connected (see page 19-159), DTC 2-1 is indicated.

Check for a short to body ground in the wires between the TCS control unit and steering angle sensor:

1. Disconnect the TCS control unit 14P and 20P connectors and steering angle sensor connector.
2. Check for continuity between body ground and TCS control unit 14P connector terminals No. 9 and No. 13 individually and between the 20P connector terminal No. 4 and No. 16 individually.

Is there continuity?

YES

Repair short to body ground in the wire(s) between the TCS control unit and steering angle sensor.

NO

Check the STR-VCC circuit inside the TCS control unit:

1. Connect the TCS control unit 14P and 20P connectors.
2. Turn the ignition switch ON (II).
3. Measure the voltage between the TCS control unit 20P connector terminal No. 16 and body ground.

Is there about 5 V?

NO

Replace the TCS control unit.

YES

Check the STR-GND circuit inside the TCS control unit:

Measure the voltage between the TCS control unit 20P connector terminal No. 4 and No. 16.

Is there about 5 V?

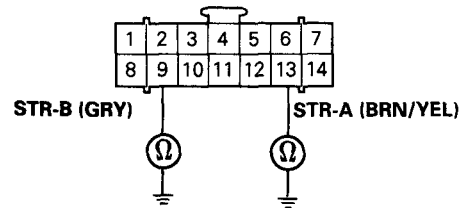
NO

Replace the TCS control unit.

YES

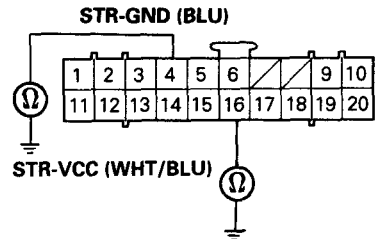
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TCS CONTROL UNIT 14P CONNECTOR

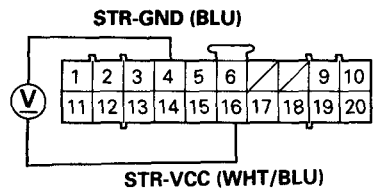
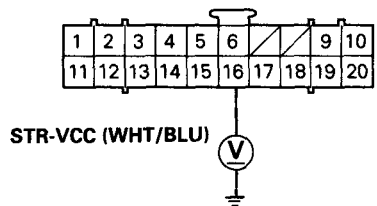


Wire side of female terminals

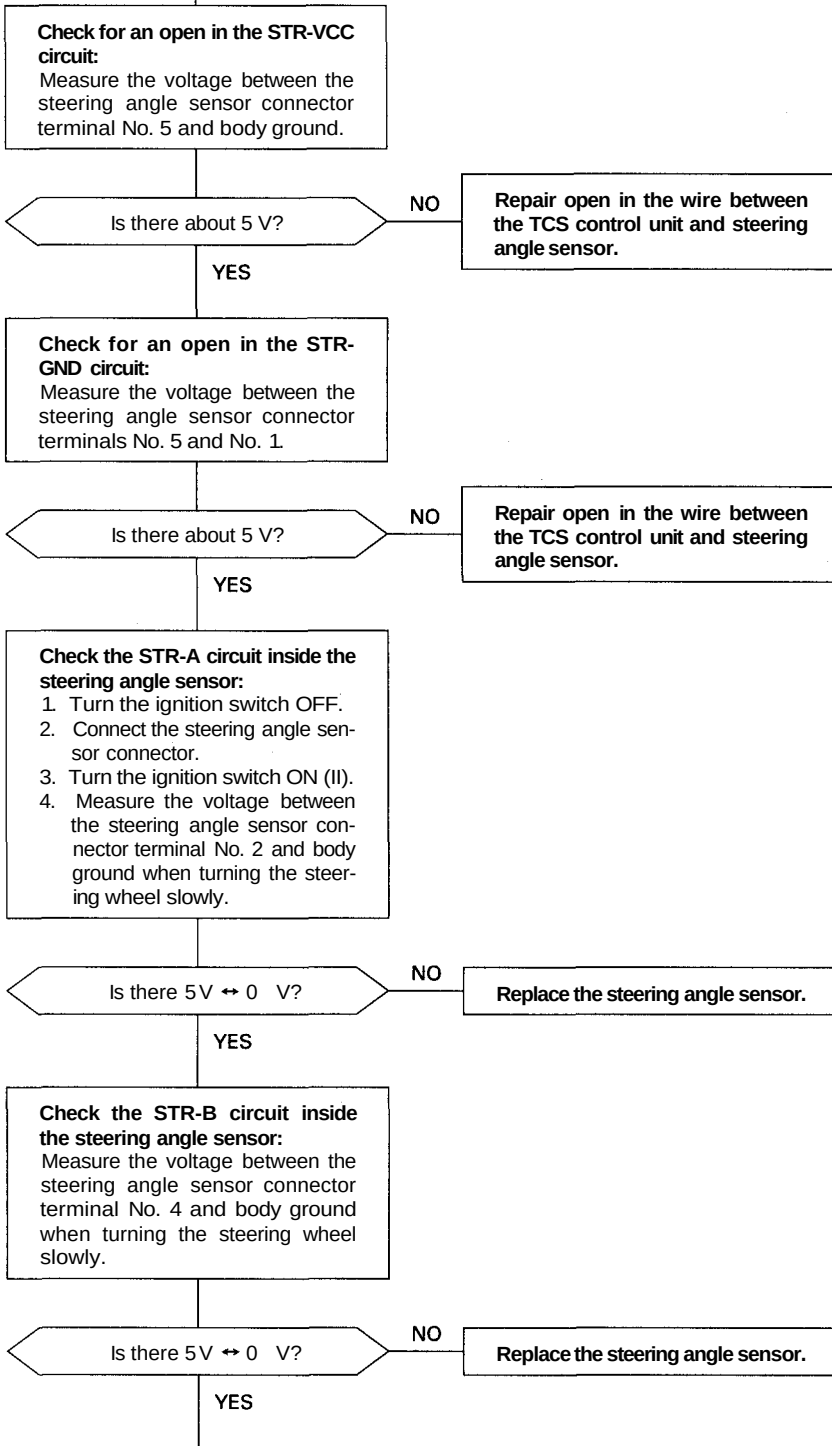
TCS CONTROL UNIT 20P CONNECTOR



Wire side of female terminals

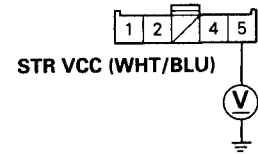


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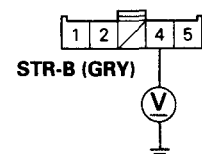
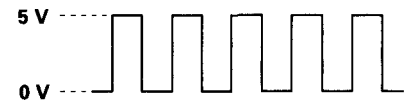
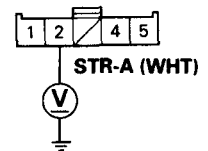
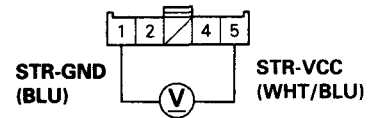


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STEERING ANGLE SENSOR CONNECTOR



Wire side of female terminals



(cont'd)

Troubleshooting

Steering Angle Sensor (cont'd)

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Check for an open in the STR-A circuit:

Measure the voltage between the TCS control unit 14P connector terminal No. 13 and body ground when turning the steering wheel slowly.

Is there 5V ↔ 0 V?

NO

Repair open in the wire between the TCS control unit and steering angle sensor.

YES

Check for an open in the STR-B circuit:

Measure the voltage between the TCS control unit 14P connector terminal No. 9 and body ground when turning the steering wheel slowly.

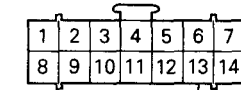
Is there 5V ↔ 0 V?

NO

Repair open in the wire between the TCS control unit and steering angle sensor.

YES

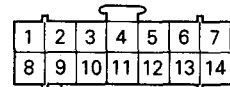
Erase the DTC, and turn the steering wheel slowly after starting the engine. If TCS indicator light comes on and DTC2-1 is indicated, replace the TCS control unit.



STR-A (BRN/YEL)



Wire side of female terminals



STR-B (GRY)

