

2. Combination Meter

A: DIAGNOSTICS PROCEDURE

If speedometer does not operate, or operates abnormally, check combination meter circuit.

CAUTION:

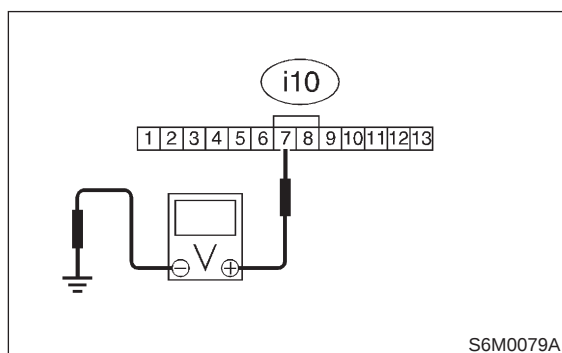
Make sure that trouble code of vehicle speed sensor 2 system appears in electrical system on-board diagnosis.

2A1 : CHECK POWER SUPPLY FOR COMBINATION METER.

- 1) Remove combination meter.
- 2) Turn ignition switch to ON.
- 3) Measure voltage between combination meter connector and chassis ground.

Connector & terminal

(i10) No. 7 (+) — Chassis ground (-):



- CHECK** : Is the voltage more than 10 V?
- YES** : Go to step 2A2.
- NO** : Repair harness and connector.

NOTE:

In this case, repair the following:

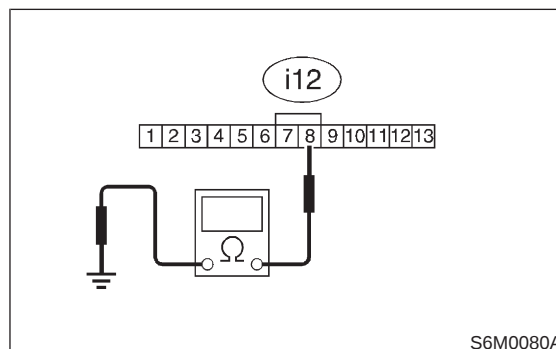
- Open circuit in harness between combination meter and battery.
- Poor contact in coupling connectors (i10) and combination meter connector. <Ref. to FOREWORD [T3C0].>

2A2 : CHECK GROUND CIRCUIT OF COMBINATION METER.

- 1) Turn ignition switch to OFF.
- 2) Measure resistance of harness between combination meter connector and chassis ground.

Connector & terminal

(i12) No. 8 (+) — Chassis ground (-):



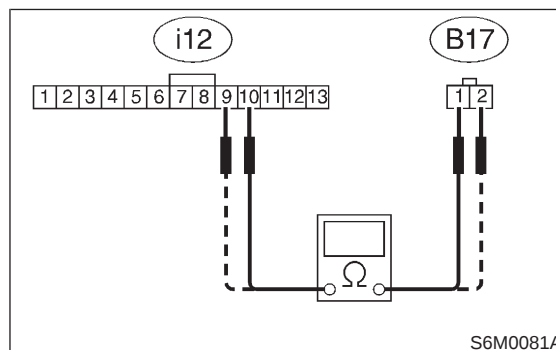
- CHECK** : Is the resistance less than 10 Ω?
- YES** : Go to step 2A3.
- NO** : Repair harness and connector.

2A3 : CHECK HARNESS CONNECTOR BETWEEN COMBINATION METER AND VEHICLE SPEED SENSOR 2.

- 1) Disconnect connector from vehicle speed sensor 2.
- 2) Measure resistance between combination meter connector and vehicle speed sensor 2 connector.

Connector & terminal

(B17) No. 1 — (i12) No. 10:



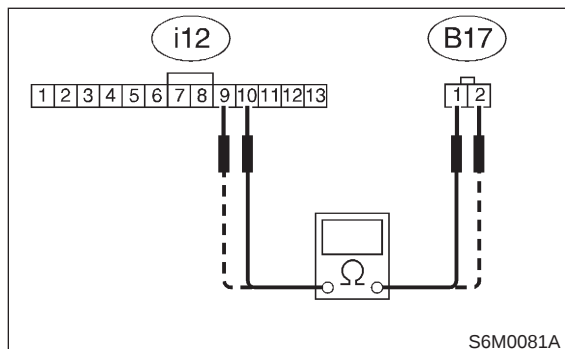
- CHECK** : Is the resistance less than 10 Ω?
- YES** : Go to step 2A4.
- NO** : Repair or replace wiring harness between combination meter and vehicle speed sensor 2.

2A4 : CHECK HARNESS CONNECTOR BETWEEN COMBINATION METER AND VEHICLE SPEED SENSOR 2.

Measure resistance between vehicle speed sensor 2 connector and combination meter connector.

Connector & terminal

(B17) No. 2 — (i12) No. 9:



CHECK : **Is the resistance less than 10 Ω?**

YES : Go to step **2A5**.

NO : Repair or replace wiring harness between combination meter and vehicle speed sensor 2.

2A5 : CHECK VEHICLE SPEED SENSOR 2.**NOTE:**

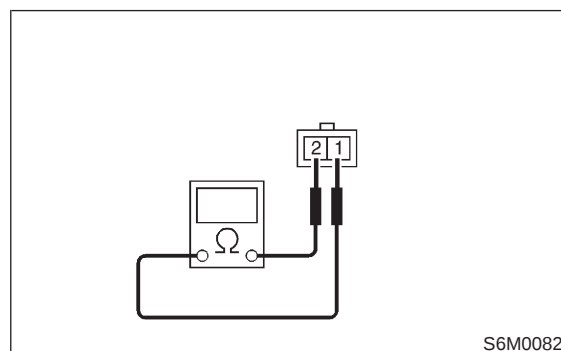
- If resistance between terminals of vehicle speed sensor 2 is out of specification, the sensor may have a failure.
- If resistance is OK and voltage between terminals of vehicle speed sensor 2 is out of specification, mechanical trouble may be present between vehicle speed sensor 2 and speedometer shaft in transmission.

1) Disconnect connector from vehicle speed sensor 2.

2) Measure resistance between terminals of vehicle speed sensor 2.

Terminals

No. 1 — No. 2:



CHECK : **Is the resistance between 350 Ω and 450 Ω?**

YES : Go to step **2A6**.

NO : Replace vehicle speed sensor 2.

2A6 : CHECK VEHICLE SPEED SENSOR 2.

1) Set the vehicle on free roller, or lift-up the vehicle and support with safety stands.

WARNING:

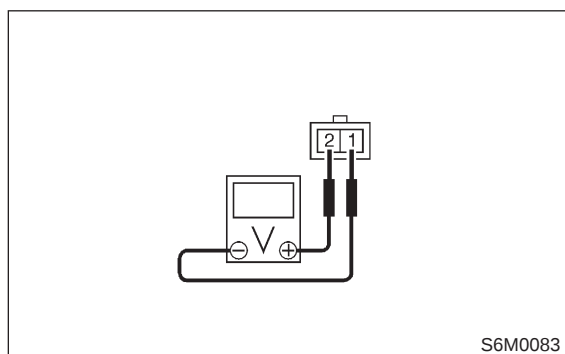
Be careful not to be caught up by the running wheels.

2) Drive the vehicle at speed greater than 20 km/h (12 MPH).

3) Measure voltage between terminals of vehicle speed sensor 2.

Terminals

No. 1 — No. 2:



CHECK : *Is the voltage more than 5 V? (AC range)*

YES : Repair or replace speedometer.

NO : Replace vehicle speed sensor 2.

2A7 : CHECK VEHICLE SPEED SENSOR 2.

NOTE:

Using an oscilloscope:

1) Turn ignition switch to OFF.

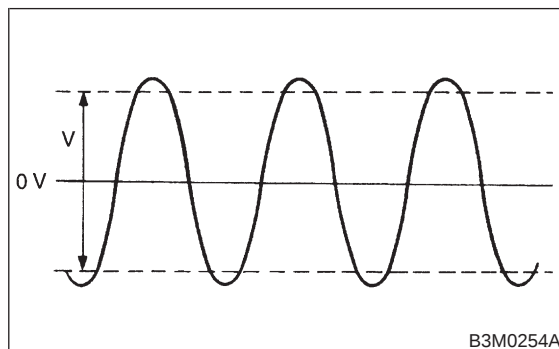
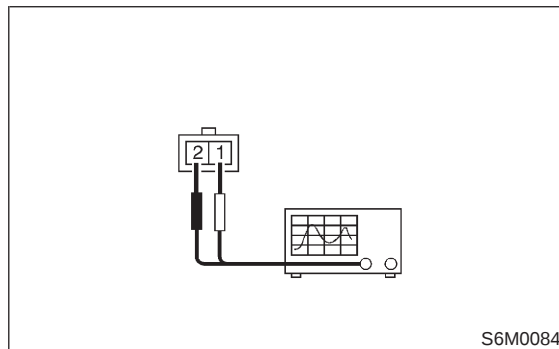
2) Set oscilloscope to vehicle speed sensor 2.

3) Drive the vehicle at speed greater than 20 km/h (12 MPH).

4) Measure signal voltage.

Terminals

No. 1 — No. 2:



CHECK : *Is the voltage more than 5 V?*

YES : Repair or replace speedometer.

NO : Replace vehicle speed sensor 2.