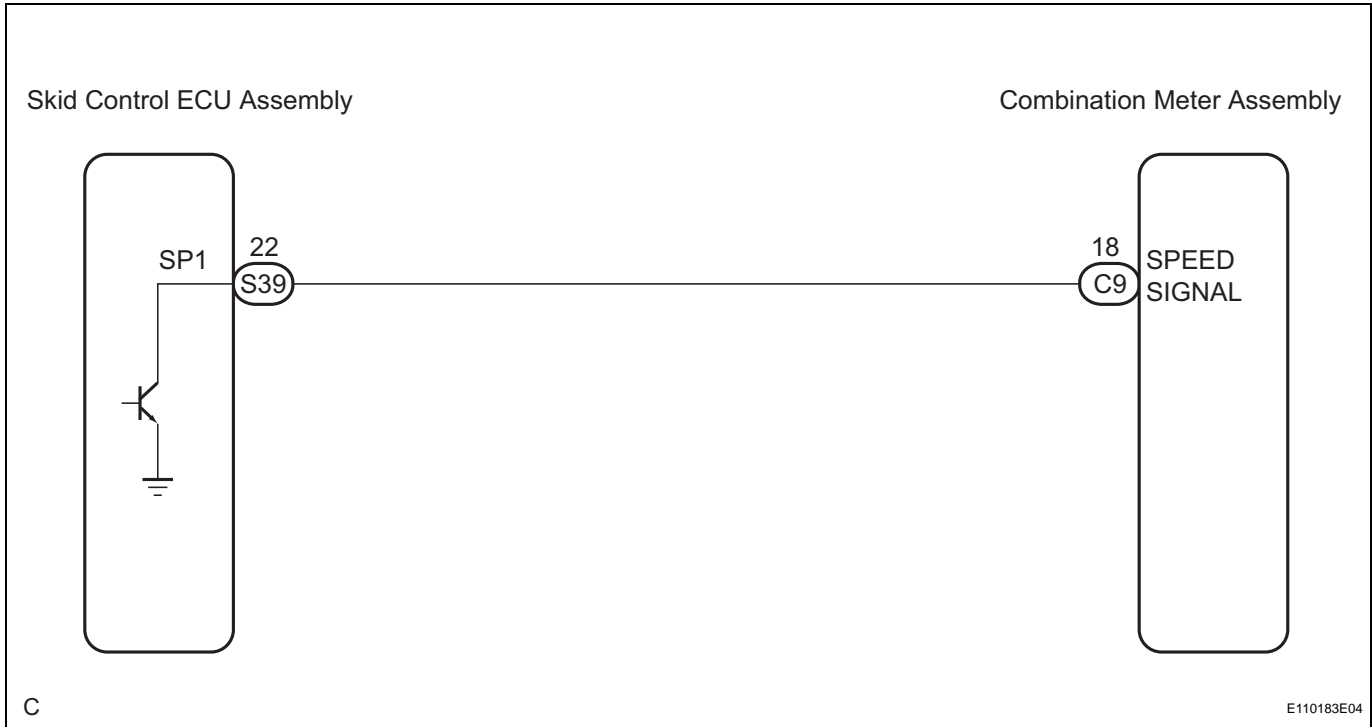


Speedometer Malfunction

WIRING DIAGRAM



ME

HINT:

Start the inspection from step 1 when using the intelligent tester and start from the step 4 when not using intelligent tester.

1 PERFORM ACTIVE TEST BY INTELLIGENT TESTER

- (a) Operate the intelligent tester according to the steps on the display and select "ACTIVE TEST".

METER:

Item	Test Details	Diagnostic Note
SPEED METER	0 / 40 (24) / 80 (48) / 120 (72) / 160 (96) / 200 (120) km/h (mph)	-

OK:

Needle indication is within the allowable range.

NG

REPLACE COMBINATION METER ASSEMBLY

OK

2 READ VALUE OF INTELLIGENT TESTER

(a) Operate the intelligent tester according to the steps on the display and select "DATA LIST".

METER:

Item	Measurement Item/Range (Display)	Normal Condition	Diagnostic Note
SPEED METER	Vehicle speed / Min.: 0 km/h (0 mph), Max.: 255 km/h (158 mph)	Almost same as actual speed (When driving)	-

OK:

Vehicle speed displayed on the tester is almost the same as the actual vehicle speed.

NG 

Go to step 3

OK 

REPLACE COMBINATION METER ASSEMBLY

3 READ VALUE OF INTELLIGENT TESTER

(a) Operate the intelligent tester according to the steps on the display and select "DATA LIST".

ABS (Skid control ECU):

Item	Measurement Item/Range (Display)	Normal Condition	Diagnostic Note
SPD1	Vehicle speed / Min.: 0 km/h (0 mph), Max.: 255 km/h (158 mph)	Almost same as actual speed (When driving)	-

OK:

Vehicle speed displayed on the tester is almost the same as the actual vehicle speed.

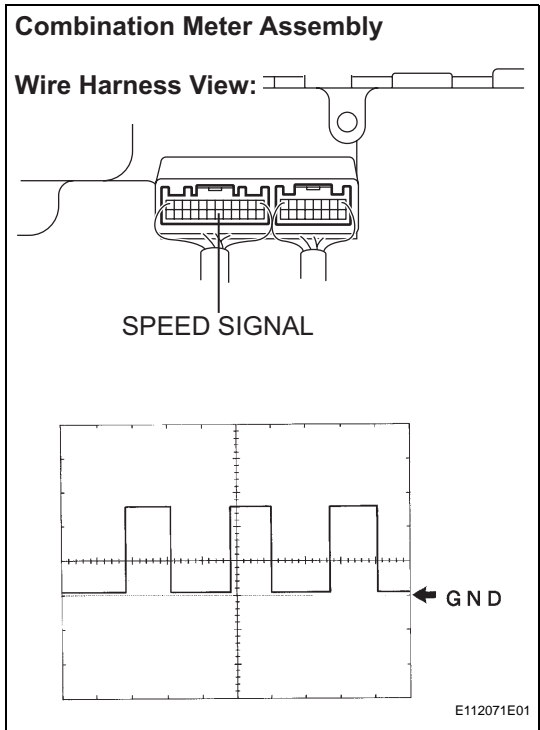
NG 

GO TO BRAKE CONTROL SYSTEM

OK 

ME

4 INSPECT COMBINATION METER ASSEMBLY



- (a) Check the input signal waveform.
- (1) Remove the combination meter assembly with connector(s) still connected.
 - (2) Connect the oscilloscope to the terminals C9-18 (SPEED SIGNAL) and body ground.
 - (3) Start the engine.
 - (4) Check the signal waveform according to the condition(s) in the table below.

Item	Condition
Tool setting	5 V/DIV., 20 ms/DIV.
Vehicle condition	Driving at approx. 20 km/h (12 mph)

OK:
 The waveform is displayed as shown in the illustration.

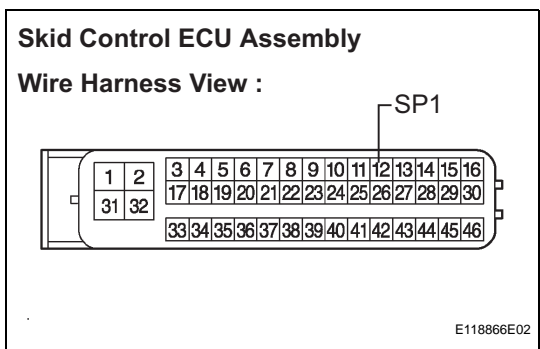
HINT:
 As the vehicle speed increases, the cycle of the signal waveform narrows.

NG → **Go to step 6**

OK

ME

5 INSPECT COMBINATION METER ASSEMBLY



- (a) Disconnect the S39 connector.
 (b) Measure the voltage according to the value(s) in the table below.

Standard Voltage

Tester Connection	Condition	Specified Condition
S39-22 (SPEED SIGNAL) - Body ground	Ignition switch ON	10 to 14 V

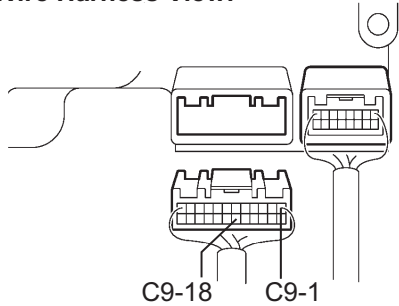
NG → **REPLACE ABS & TRACTION ACTUATOR ASSEMBLY**

OK

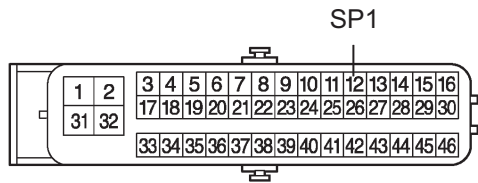
REPLACE COMBINATION METER ASSEMBLY

6 CHECK HARNESS AND CONNECTOR (COMBINATION METER AND SKID CONTROL ECU)

**Combination Meter Assembly
Wire Harness View:**



**Skid Control ECU Assembly
Wire Harness View:**



I036643E02

- (a) Disconnect the C9 and S39 connectors.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance

Tester Connection	Condition	Specified Condition
C9-18 (SPEED SIGNAL) S39-22 (SP1)	Always	Below 1 Ω
C9-18 (SPEED SIGNAL) - Body ground	Always	10 kΩ or higher

NG

**REPAIR OR REPLACE HARNESS OR
CONNECTOR**

OK

REPLACE COMBINATION METER ASSEMBLY

ME