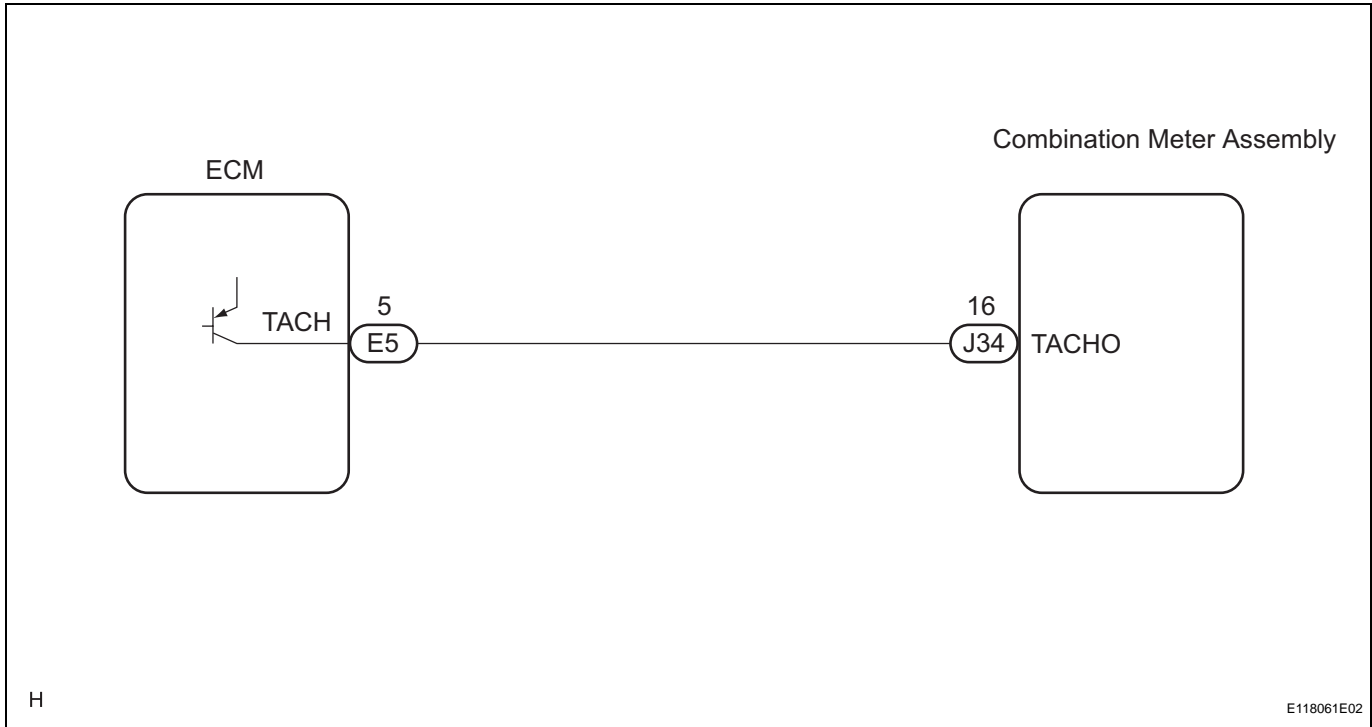


Tachometer Malfunction

WIRING DIAGRAM



ME

1 PERFORM ACTIVE TEST BY INTELLIGENT TESTER

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

METER:

Item	Test Details	Diagnostic Note
TACHO METER	0 / 1,000 / 2,000 / 3,000 / 4,000 / 5,000 / 6,000 / 7,000 / 8,000 (rpm)	-

OK:

Needle indication is normal.

NG

REPLACE COMBINATION METER ASSEMBLY

OK

2 READ VALUE OF INTELLIGENT TESTER (ENGINE SPEED SIGNAL)

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

METER:

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
TACHO METER	Engine speed/Min.: 0 rpm, Max.: 12,750 rpm	Almost same as actual engine speed (When engine is running)	-

OK:

Engine speed displayed on the tester is almost the same as the actual engine speed.

NG

Go to step 3

OK

REPLACE COMBINATION METER ASSEMBLY

3 READ VALUE OF INTELLIGENT TESTER (ENGINE SPEED SIGNAL)

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

ECM:

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
ENGINE SPD	Engine speed/Min.: 0 rpm, Max.: 12,750 rpm	Almost same as actual engine speed (When engine is running)	-

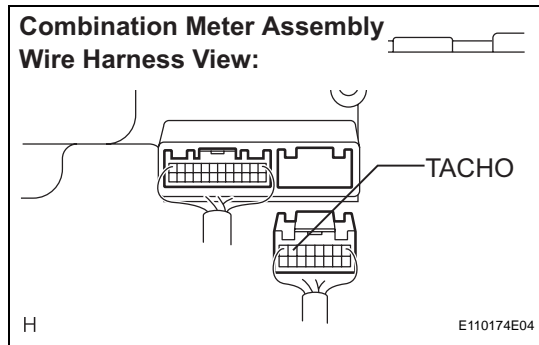
NG

GO TO ENGINE CONTROL SYSTEM

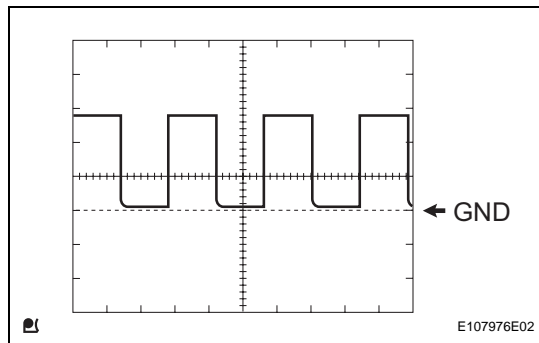
OK

4 CHECK COMBINATION METER

ME



- (a) Check the input signal waveform.
 - (1) Remove the combination meter with the connector still connected.
 - (2) Connect the oscilloscope to the terminal C8-7 (TACHO) 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., 10 ms./DIV.
Vehicle condition	Engine idle speed

OK:

The waveform is displayed as shown in the illustration.

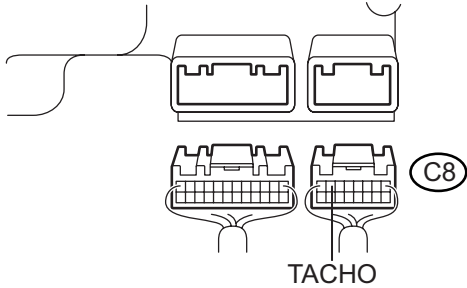
OK

REPLACE COMBINATION METER ASSEMBLY

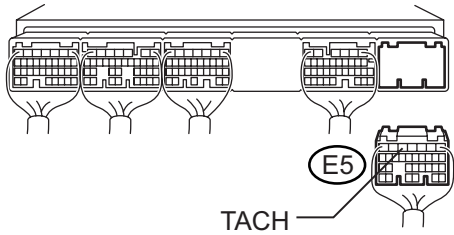
NG

5 CHECK HARNESS AND CONNECTOR (BETWEEN COMBINATION METER AND ECM)

Combination Meter Assembly Wire Harness View:



ECM Wire Harness View:



H

E113260E02

- (a) Disconnect the C8 and E5 connectors.
- (b) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
C8-7 (TACHO) -E5-5 (TACH)	Always	Below 1 Ω
C8-7 (TACHO) - Body ground	Always	10 kΩ or higher

NG REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

ME

REPLACE ECM