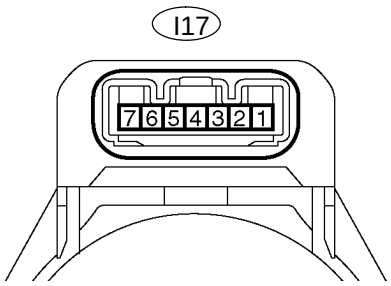
05A27-01

TERMINALS OF ECU

1. CHECK TRANSPONDER KEY AMPLIFIER



B65593

(a) Disconnect the I17 amplifier connector, and check the continuity of each terminal of the wire harness side connector.

Standard:

Symbols (Terminal No.)	Wiring Color	Condition	Standard
GND (I17-7) ⇔ Body ground	L ⇔ -	Constant	Continuity

If the result is not as specified, there may be a malfunction on the wire harness side.

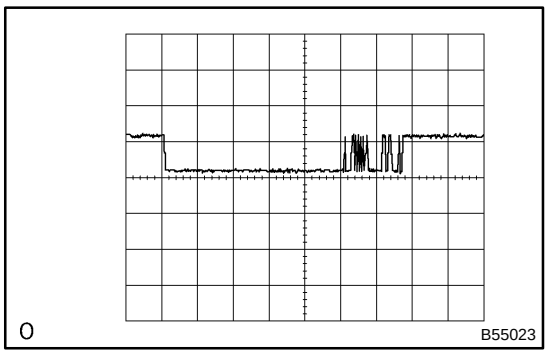
(b) Reconnect the I17 amplifier connector, and check the continuity or voltage of each terminal of the connector.

Standard:

Symbols (Terminal No.)	Wiring Color	Condition	Standard
VC5 (I17-1) ⇔ GND (I17-7)	GR-B ⇔ L	No key in ignition key cylinder → With key	0 V → 10 - 14 V
CODE(I17-4) ⇔ GND (I17-7)	P-G ⇔ L	No key in ignition key cylinder → With key	Waveform 1
TXCK (I17-5) ⇔ GND (I17-7)	LG-R ⇔ L	No key in ignition key cylinder → With key	Waveform 2
GND (I17-7) ⇔ Body ground	L ⇔ -	Constant	Continuity

If the result is not as specified, the amplifier may malfunction.

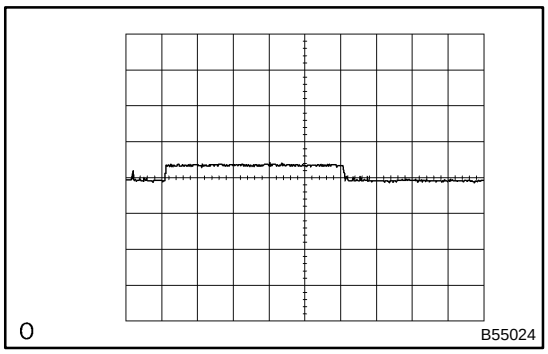
(c) Inspect using an oscilloscope.



B55023

Waveform 1 (Reference):

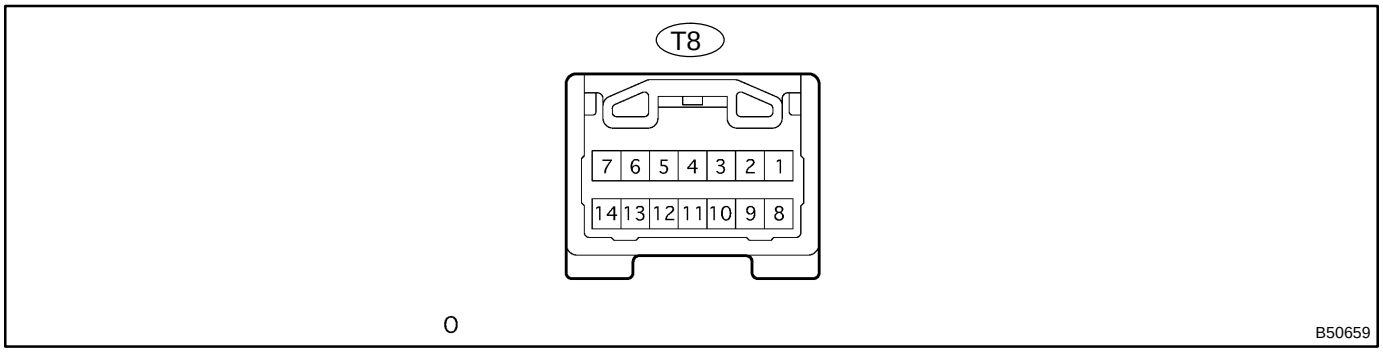
Terminal	CODE ⇔ GND
Tool setting	10 V/DIV., 10 ms/DIV.
Condition	Ignition switch ON



Waveform 2 (Reference):

Terminal	TXCK ⇔ GND
Tool setting	10 V/DIV., 10 ms/DIV.
Condition	Ignition switch ON

2. CHECK TRANSPONDER KEY ECU ASSY



(a) Disconnect the the T8 ECU connector, and check the voltage or continuity between each terminal of the wire harness side connector.

Standard:

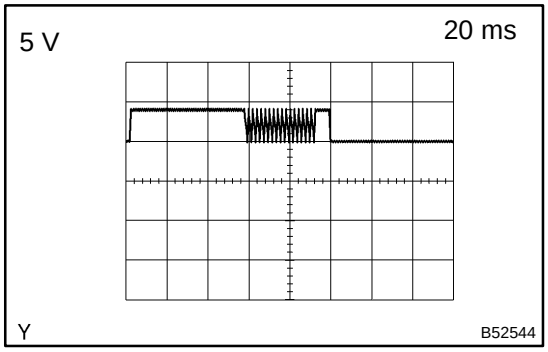
Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
AGND (T8-13) ⇔ Body ground	L ⇔ -	Constant	Continuity
+B (T8-1) ⇔ GND (T8-14)	W-R ⇔ W-B	Constant	10 - 14 V
IG (T8-2) ⇔ AGND (T8-13)	B-O ⇔ L	Ignition switch OFF → ON	0 V → 10 - 14 V
KSW (T8-10) ⇔ AGND (T8-13)	G-Y ⇔ L	No key in the ignition key cylinder → With key	No continuity → Continuity

If the result is not as specified, there may be a malfunction on the wire harness side.

(b) Reconnect the T8 ECU connector, and check the voltage between each terminal of the connector.

Standard:

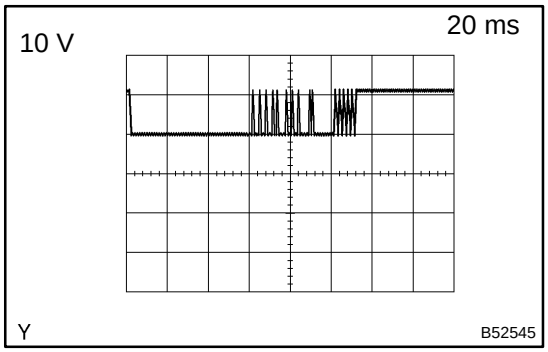
Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
KSW (T8-10) ⇔ AGND (T8-13)	G-Y ⇔ L	No key in the ignition key cylinder → With key	10 - 14 V → 0 V
VC5 (T8-8) ⇔ AGND (T8-13)	GR-B ⇔ L	Ignition switch OFF → ON	0 V → 10 - 14 V
TXCT (T8-12) ⇔ AGND (T8-13)	LG-R ⇔ L	Ignition switch OFF → ON	Waveform 1
CODE (T8-11) ⇔ AGND (T8-13)	P-G ⇔ L	Ignition switch OFF → ON	Waveform 2
EFIO (T8-6) ⇔ AGND (T8-13)	W-R ⇔ L	Ignition switch OFF → ON	Waveform 3
EFII (T8-7) ⇔ AGND (T8-13)	L-R ⇔ L	Ignition switch OFF → ON	Waveform 4



(c) Inspect using an oscilloscope.

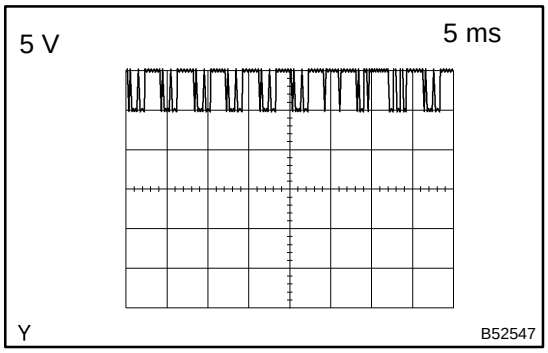
Waveform 1 (Reference):

Terminal	TXCT ⇔ GND
Tool setting	5 V/DIV., 20 ms/DIV.
Vehicle condition	Ignition switch ON



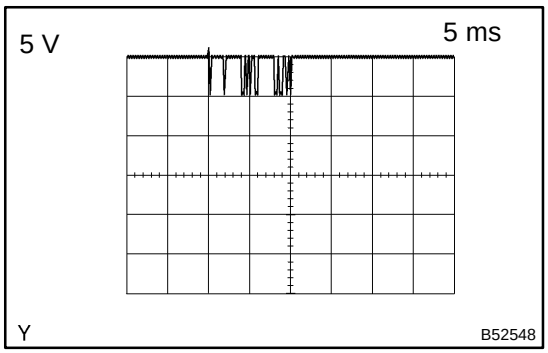
Waveform 2 (Reference):

Terminal	CODE ⇔ GND
Tool setting	10 V/DIV., 20 ms/DIV.
Vehicle condition	Ignition switch ON



Waveform 3 (Reference):

Terminal	EFIO ⇔ GND
Tool setting	5 V/DIV., 5 ms/DIV.
Vehicle condition	Ignition switch ON

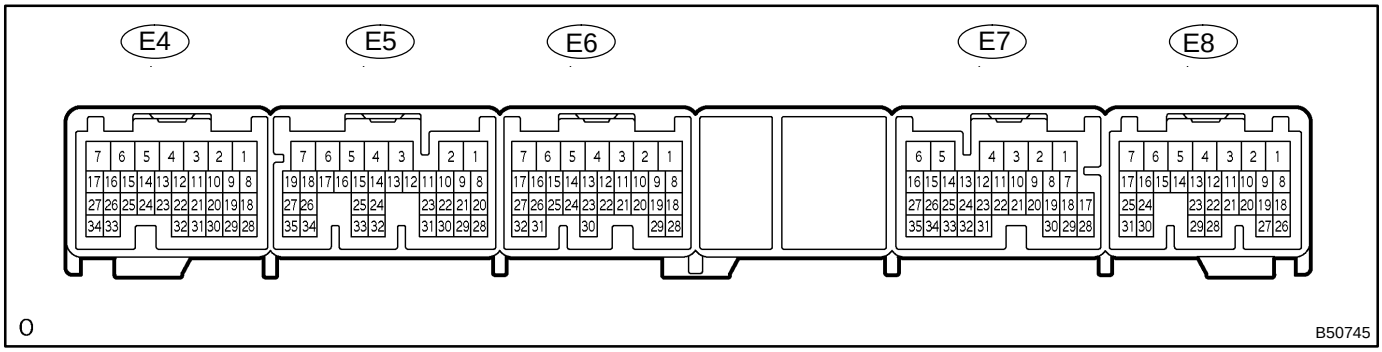


Waveform 4 (Reference):

Terminal	EFII ⇔ GND
Tool setting	5 V/DIV., 5 ms/DIV.
Vehicle condition	Constant

If the result is not as specified, the T8 ECU may malfunction.

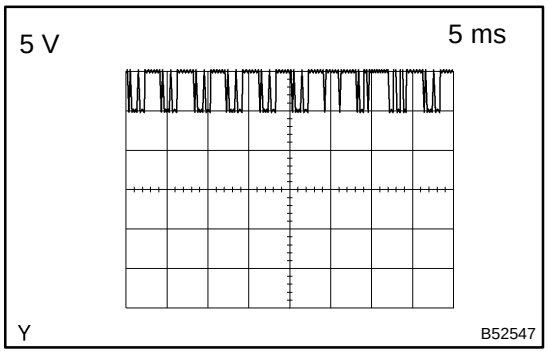
3. CHECK ECM



(a) Disconnect the the E6, E7 and E8 ECU connectors, and check the voltage or continuity between each terminal of the wire harness side connectors.

Standard:

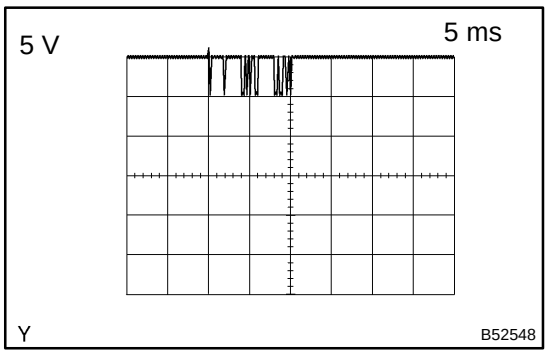
Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
BATT (E8-4) ⇔ E1 (E6-1)	L ⇔ BR	Constant	9 - 14 V
+B (E8-6) ⇔ E1 (E6-1)	B ⇔ BR	Ignition switch OFF → ON	9 - 14 V
+B1 (E8-2) ⇔ E1 (E6-1)	B ⇔ BR	Ignition switch OFF → ON	9 - 14 V
IMI (E7-27) ⇔ E1 (E6-1)	W-R ⇔ BR	No key in ignition key cylinder → With key	Waveform 1
IMO (E7-26) ⇔ E1 (E6-1)	L-R ⇔ BR	No key in ignition key cylinder → With key	Waveform 2
E1 (E6-1) ⇔ Body ground	BR ⇔ -	Constant	Continuity



(b) Inspect using an oscilloscope.

Waveform 1 (Reference):

Terminal	IMI ⇔ GND
Tool setting	5 V/DIV., 5 ms/DIV.
Vehicle condition	Ignition switch ON



Waveform 2 (Reference):

Terminal	IMO ⇔ GND
Tool setting	5 V/DIV., 5 ms/DIV.
Vehicle condition	Constant

If the result is not as specified, there may be a malfunction on the wire harness side.