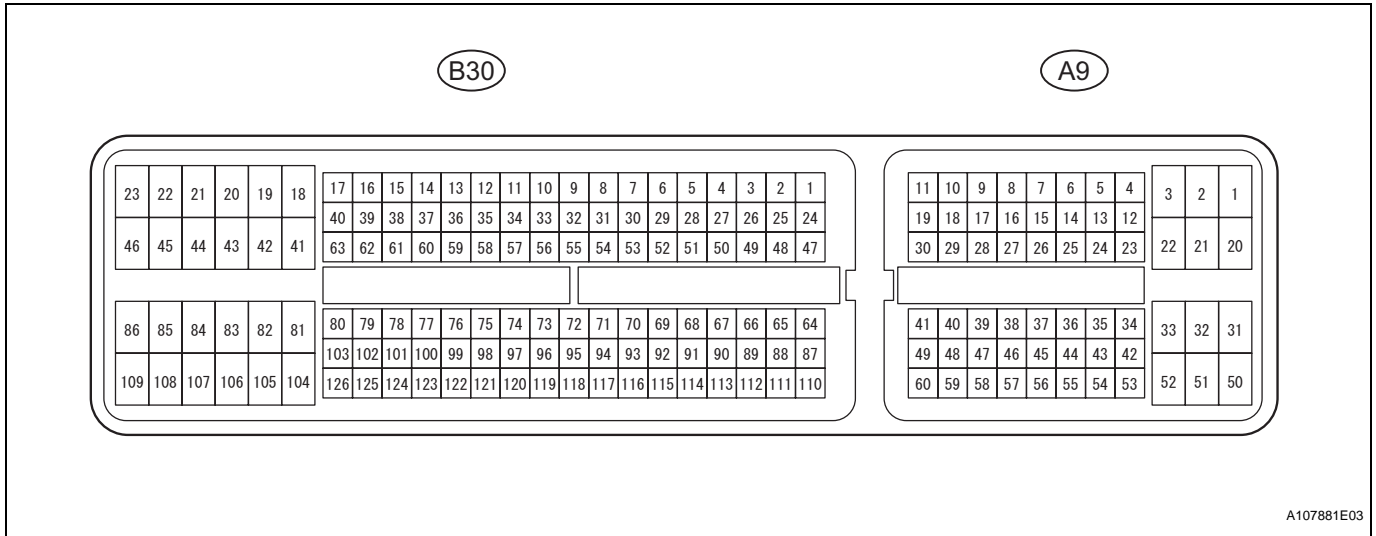


# TERMINALS OF ECM

## 1. CHECK ECM

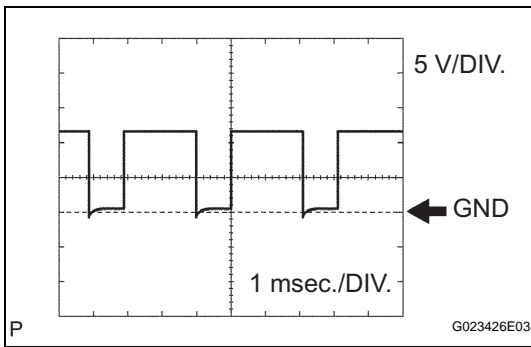


- (a) Measure the voltage of the ECM connector.  
**HINT:**  
 Each ECM terminal's standard voltage is shown in the table below.  
 In the table, first follow the information under "Condition". Look under "Symbols (Terminal No.)" for the terminals to be inspected. The standard voltage between the terminals is shown under "Specified Condition".  
 Use the illustration above as a reference for the ECM terminals.

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
STAR (B30-52) - E1 (B30-104)	W - BR	Park/Neutral position switch signal	Ignition switch ON and shift lever on P or N	Below 2 V
STAR (B30-52) - E1 (B30-104)	W - BR	Park/Neutral position switch signal	Ignition switch ON and shift lever not on P or N	10 to 14 V
P (B30-73) - E1 (B30-104)	L - BR	P shift position switch signal	Ignition switch ON and transfer shift lever on P	10 to 14 V
P (B30-73) - E1 (B30-104)	L - BR	P shift position switch signal	Ignition switch ON and transfer shift lever not on P	Below 1 V
R (B30-53) - E1 (B30-104)	R - BR	R shift position switch signal	Ignition switch ON and transfer shift lever on R	10 to 14 V
R (B30-53) - E1 (B30-104)	R - BR	R shift position switch signal	Ignition switch ON and transfer shift lever not on R	Below 1 V
N (B30-54) - E1 (B30-104)	Y - BR	N shift position switch signal	Ignition switch ON and transfer shift lever on N	10 to 14 V
N (B30-54) - E1 (B30-104)	Y - BR	N shift position switch signal	Ignition switch ON and transfer shift lever not on N	Below 1 V
D (B30-56) - E1 (B30-104)	B - BR	D shift position switch signal	Ignition switch ON and transfer shift lever on D or 3	10 to 14 V
D (B30-56) - E1 (B30-104)	B - BR	D shift position switch signal	Ignition switch ON and transfer shift lever not on D or 3	Below 1 V

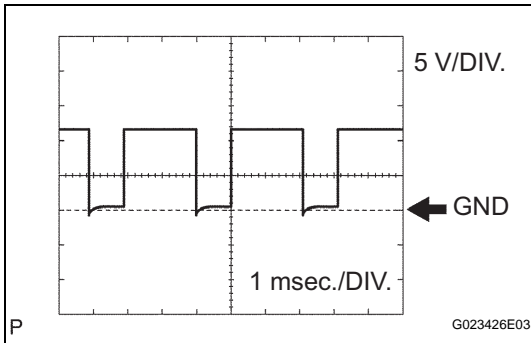
Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
3 (A9-26) - E1 (B30-104)	P - BR	3 shift position switch signal	Ignition switch ON and transfer shift lever on 3	10 to 14 V
3 (A9-26) - E1 (B30-104)	P - BR	3 shift position switch signal	Ignition switch ON and transfer shift lever not on 3	Below 1 V
2 (B30-55) - E1 (B30-104)	P - BR	2 shift position switch signal	Ignition switch ON and transfer shift lever on 2 and L	10 to 14 V
2 (B30-55) - E1 (B30-104)	P - BR	2 shift position switch signal	Ignition switch ON and transfer shift lever not on 2 and L	Below 1 V
L (B30-74) - E1 (B30-104)	LG - BR	L shift position switch signal	Ignition switch ON and transfer shift lever on L	10 to 14 V
L (B30-74) - E1 (B30-104)	LG - BR	L shift position switch signal	Ignition switch ON and transfer shift lever not on L	Below 1 V
STP (A9-36) - E1 (B30-104)	L - BR	Stop light switch signal	Brake pedal is depressed	Between 10 V and 14 V
STP (A9-36) - E1 (B30-104)	L - BR	Stop light switch signal	Brake pedal is released	Below 1 V
SL1+ (B30-57) - SL1- (B30-77)	V - P	SL1 solenoid signal	Engine idle speed	Pulse generation (see waveform 1)
SL1+ (B30-57) - SL1- (B30-77)	V - P	SL1 solenoid signal	Ignition switch ON	Pulse generation (see waveform 1)
SL1+ (B30-57) - SL1- (B30-77)	V - P	SL1 solenoid signal	1st gear	Pulse generation (see waveform 1)
SL1+ (B30-57) - SL1- (B30-77)	V - P	SL1 solenoid signal	Not on 1st gear	Below 1 V
SL2+ (B30-58) - SL2- (B30-59)	Y - L	SL2 solenoid signal	Engine idle speed	Pulse generation (see waveform 2)
SL2+ (B30-58) - SL2- (B30-59)	Y - L	SL2 solenoid signal	Ignition switch ON	Pulse generation (see waveform 2)
SL2+ (B30-58) - SL2- (B30-59)	Y - L	SL2 solenoid signal	1st or 2nd gear	Pulse generation (see waveform 2)
SL2+ (B30-58) - SL2- (B30-59)	Y - L	SL2 solenoid signal	3rd or O/D gear	Below 1 V
DSL (B30-79) - E01 (B30-45)	G - BR	DSL solenoid signal	Vehicle speed 65 km/h (40 mph), lock-up (ON to OFF)	Below 1 V
DSL (B30-79) - E01 (B30-45)	G - BR	DSL solenoid signal	Vehicle driving under lock-up position	Pulse generation (see waveform 3)
SLT+ (B30-76) - SLT- (B30-75)	R - GR	SLT solenoid signal	Engine idle speed	Pulse generation (see waveform 4)
S4 (B30-78) - E01 (B30-45)	W - BR	S4 solenoid signal	Ignition switch ON	Below 1 V
S4 (B30-78) - E01 (B30-45)	W - BR	S4 solenoid signal	O/D gear	10 to 14 V
S4 (B30-78) - E01 (B30-45)	W - BR	S4 solenoid signal	Not on O/D gear	Below 1 V
THO1 (B30-72) - ETHO (B30-95)	LG - BR	ATF temperature sensor signal	ATF temperature: 115°C (239°F) or more	Below 1.5 V
NT+ (B30-125) - NT- (B30-124)	W - R	Speed sensor (NT) signal	Vehicle speed 20 km/h (12 mph)	Pulse generation (see waveform 5)
NC+ (B30-101) - NC- (B30-102)	R - W	Speed sensor (NC) signal	Vehicle speed 30 km/h (19 mph): (3rd gear) Engine speed 1,400 rpm	Pulse generation (see waveform 6)

AX



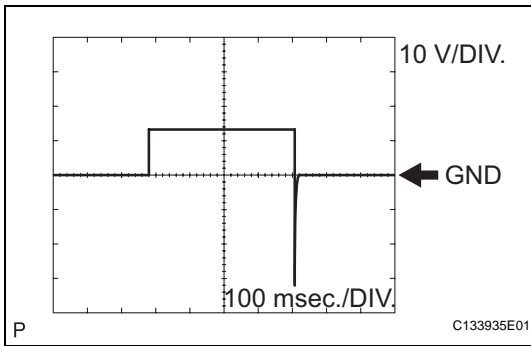
(b) Using an oscilloscope, check the waveform 1.  
**Waveform 1 (Reference)**

Item	Content
Symbols (Terminal No.)	SL1+ (B30-57) - SL1- (B30-77)
Tool Setting	5 V/DIV., 1 msec./DIV.
Condition	Engine idle speed



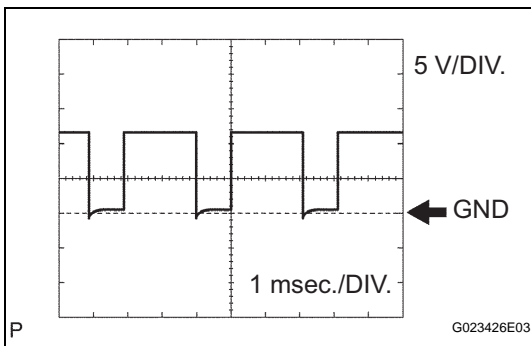
(c) Using an oscilloscope, check the waveform 2.  
**Waveform 2 (Reference)**

Item	Content
Symbols (Terminal No.)	SL2+ (B30-58) - SL2- (B30-59)
Tool Setting	5 V/DIV., 1 msec./DIV.
Condition	Engine idle speed



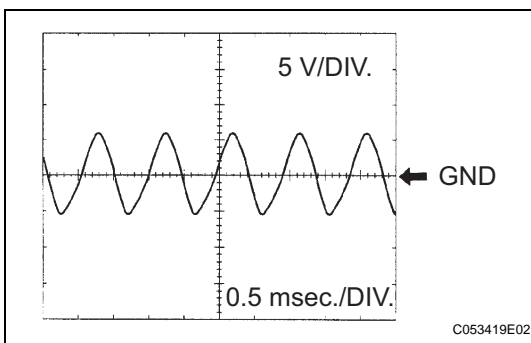
(d) Using an oscilloscope, check the waveform 3.  
**Waveform 3 (Reference)**

Item	Content
Symbols (Terminal No.)	DSL (B30-79) - E01 (B30-45)
Tool Setting	10 V/DIV., 100 msec./DIV.
Condition	Vehicle speed 65 km/h (40 mph), lock-up (ON to OFF)



(e) Using an oscilloscope, check the waveform 4.  
**Waveform 4 (Reference)**

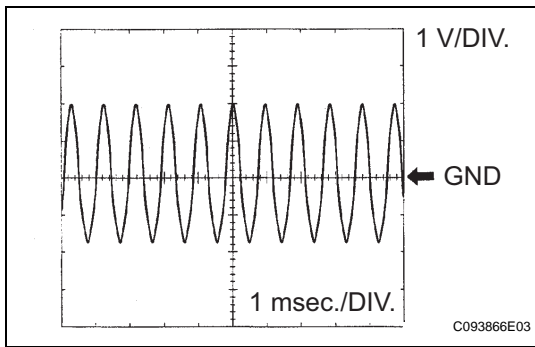
Item	Content
Symbols (Terminal No.)	SLT+ (B30-76) - SLT- (B30-75)
Tool Setting	5 V/DIV., 1 msec./DIV.
Condition	Engine idle speed



(f) Using an oscilloscope, check the waveform 5.  
**Waveform 5 (Reference)**

Item	Content
Symbols (Terminal No.)	NT+ (B30-125) - NT- (B30-124)
Tool Setting	5 V/DIV., 0.5 msec./DIV.
Condition	Vehicle speed 20 km/h (12 mph)

AX



(g) Using an oscilloscope, check the waveform 6.  
**Waveform 6 (Reference)**

Item	Content
Symbols (Terminal No.)	NC+ (B30-101) - NC- (B30-102)
Tool Setting	1 V/DIV., 1 msec./DIV.
Condition	Vehicle speed 30 km/h (19 mph): (3rd gear) Engine speed 1,400 rpm