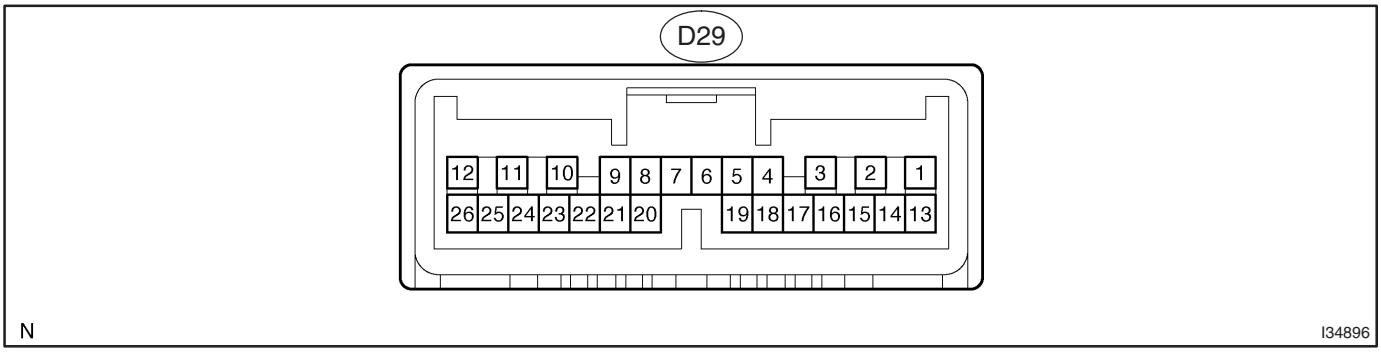
05H0Y–01

TERMINALS OF ECU

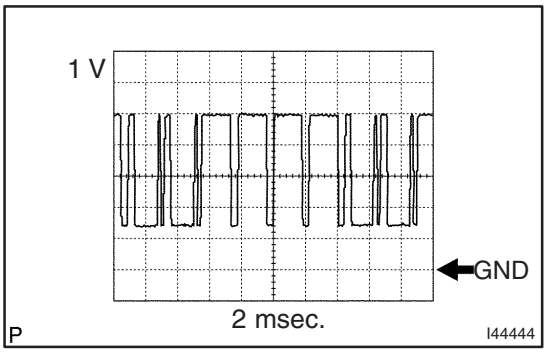
1. CHECK CRUISE CONTROL ECU (DISTANCE CONTROL ECU)



(a) Measure the voltage and resistance of the connector.
Standard:

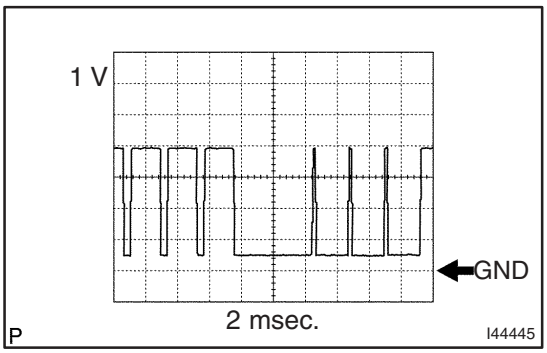
Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
+B (D29–1) – GND (D29–12)	R–B – BR	Battery	Always	10 to 14 V
CANH (D29–8)	LG	CAN communication signal	CAN communication circuit	–
CANL (D29–9)	L	CAN communication signal	CAN communication circuit	–
SGND (D29–10) – Body ground	BR – Body ground	Ground	Always	Below 1 Ω
GND (D29–12) – Body ground	BR – Body ground	Ground	Always	Below 1 Ω
IGB (D29–13) – GND (D29–12)	L–O – BR	Ignition switch ON signal	Ignition switch ON	10 to 14 V
LRDD (D29–22) – GND (D29–12)	P–L – BR	Millimeter wave radar sensor input signal	Ignition switch ON	Pulse generation (see waveform 1)
LRRD (D29–23) – GND (D29–12)	L–Y – BR	Millimeter wave radar sensor output signal	Ignition switch ON	Pulse generation (see waveform 2)

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



Waveform 1 (Reference):

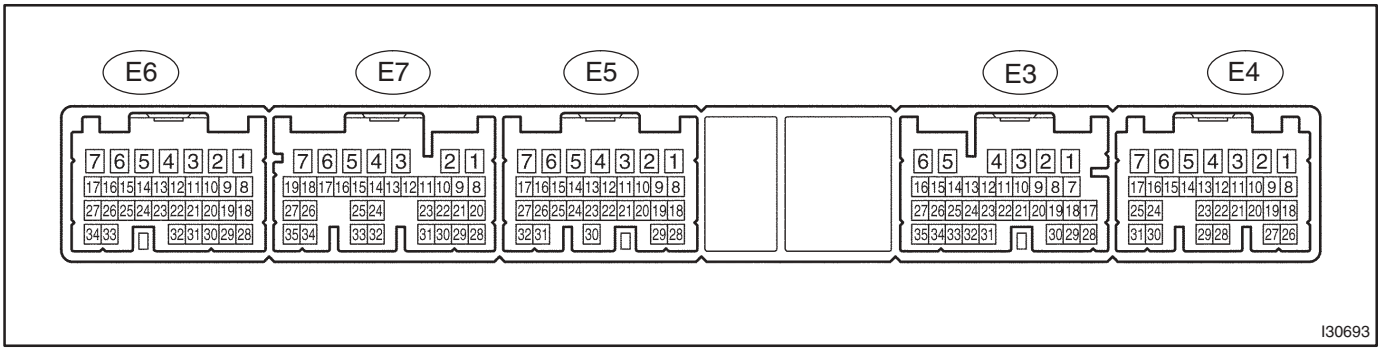
Tester Connection	LRDD (D29–22) – GND (D29–12)
Tool Setting	1 V/DIV, 2 msec./DIV
Condition	Ignition switch ON



Waveform 2 (Reference):

Tester Connection	LRRD (D29–23) – GND (D29–12)
Tool Setting	1 V/DIV, 2 msec./DIV
Condition	Ignition switch ON

2. CHECK ECM

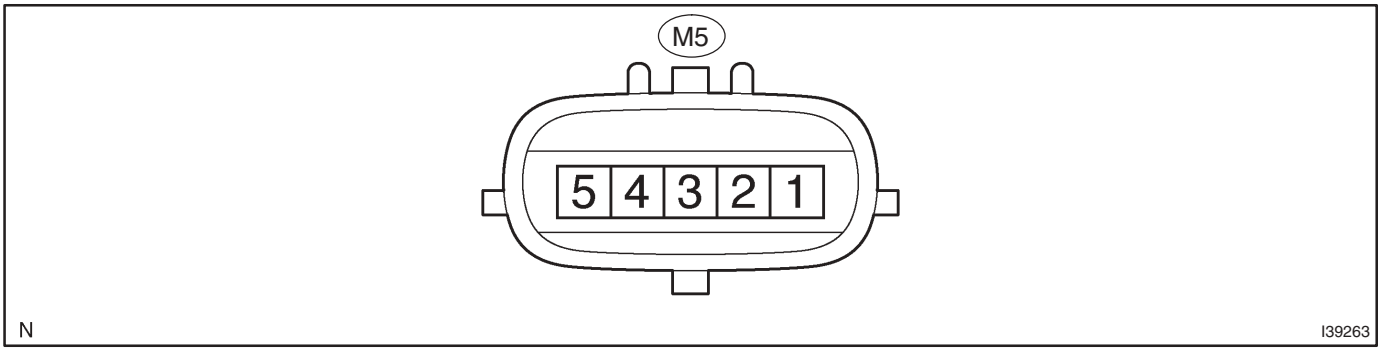


(a) Measure the voltage and resistance of the connectors.
Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
STP (E3–4) – E1 (E7–7)	G–O – BR	Stop lamp signal	Brake pedal released (stop lamp switch OFF)	Below 1 V
STP (E3–4) – E1 (E7–7)	G–O – BR	Stop lamp signal	Brake pedal depressed (stop lamp switch ON)	10 to 14 V
CCS (E3–31) – E1 (E7–7)	W–L – BR	Cruise control main switch signal	Ignition switch ON, cruise control main switch ON: CANCEL switch 1: OFF → 2: ON SET/COAST switch 1: OFF → 2: ON RES/ACC switch 1: OFF → 2: ON	 1: Below 1 V 2: 6.6 to 10.1 V 1: Below 1 V 2: 4.5 to 7.1 V 1: Below 1 V 2: 2.3 to 4.0 V
ST1 (E4–8) – E1 (E7–7)	V–Y – BR	Stop lamp signal	Ignition switch ON, brake pedal depressed (stop lamp switch)	Below 1 V
ST1 (E4–8) – E1 (E7–7)	V–Y – BR	Stop lamp signal	Ignition switch ON, brake pedal Released (stop lamp switch)	10 to 14 V
CCHG (E4–20) – E1 (E7–7)	V – BR	Distance control switch signal	Ignition switch ON, cruise control main switch ON,MODE switch ON	Below 1 V
CCHG (E4–20) – E1 (E7–7)	V – BR	Distance control switch signal	Ignition switch ON, cruise control main switch ON,MODE switch OFF	10 to 14 V
LGND (E4–29) – Body ground	BR–Y – Body ground	Ground	Always	Below 1 Ω
E1 (E7–7) – Body ground	BR – Body ground	Ground	Always	Below 1 Ω

If the result is not as specified, the ECM may have a malfunction.

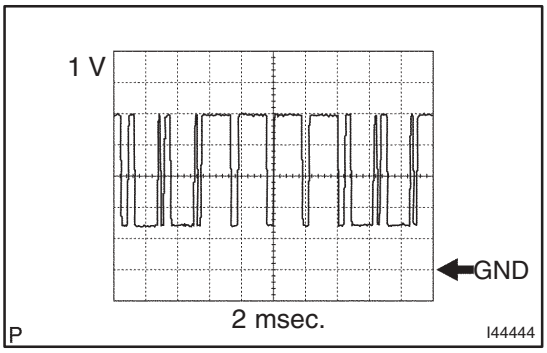
3. CHECK MILLIMETER WAVE RADAR SENSOR



(a) Measure the voltage and resistance of the connector.
Standard:

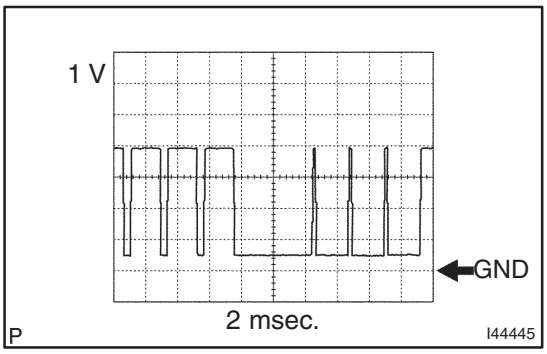
Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
LGND (M5–1) – Body ground	B–L – Body ground	Ground (Distance signal)	Always	Below 1 Ω
SGND (M5–2) – Body ground	B–R – Body ground	Ground	Always	Below 1 Ω
LRDD (M5–3) – SGND (M5–2)	B–O – B–R	Millimeter wave radar sensor output signal	Ignition switch ON	Pulse generation (see waveform 1)
LRRD (M5–4) – SGND (M5–2)	B–Y – B–R	Radar sensor input signal	Ignition switch ON	Pulse generation (see waveform 2)
IGB (M5–5) – SGND (M5–2)	B – B–R	Power source	Ignition switch ON	10 to 14 V

If the result is not as specified, the radar sensor may have a malfunction.



Waveform 1 (Reference):

Tester Connection	LRDD (M5–3) – SGND (M5–2)
Tool Setting	1 V/DIV., 2 msec./DIV
Condition	Ignition switch ON



Waveform 2 (Reference):

Tester Connection	LRRD (M5–4) – SGND (M5–2)
Tool Setting	1 V/DIV., 2 msec./DIV
Condition	Ignition switch ON