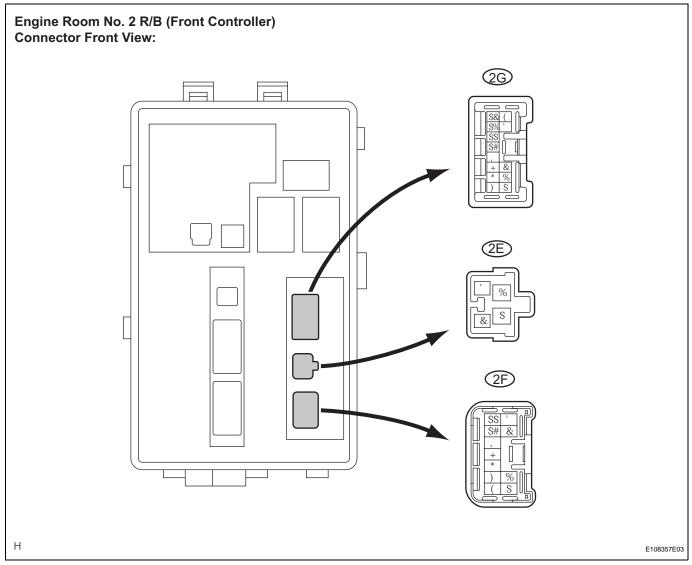
# **TERMINALS OF ECU**

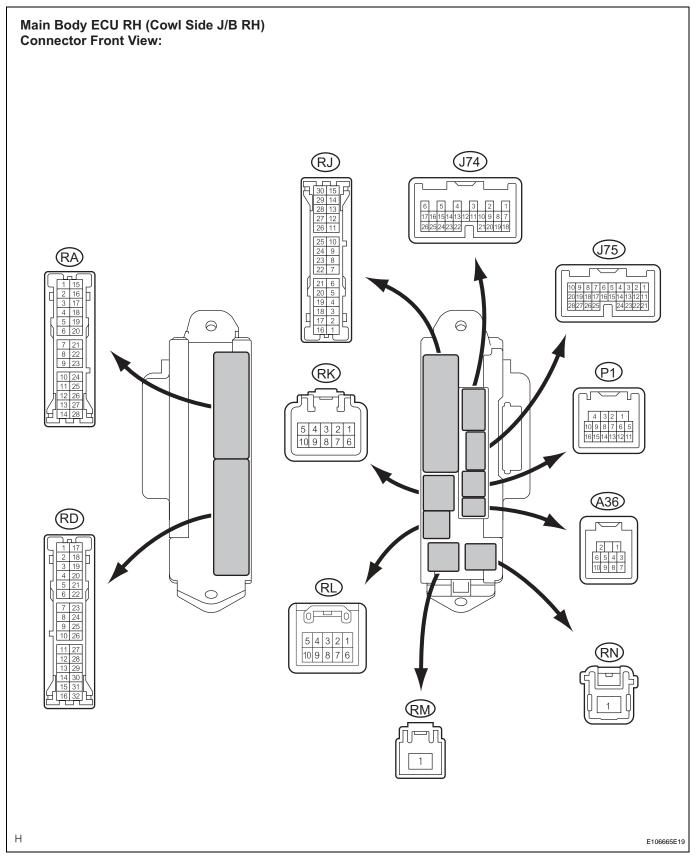
1. CHECK ENGINE ROOM NO. 2 R/B (FRONT CONTROLLER)



Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
ALTB (2E-1) - Body ground	W - Body ground	Power source circuit	Always	10 to 14 V
BATB (2E-2) - Body ground	W-L - Body ground	Power source circuit	Always	10 to 14 V
FMIG (2E-3) - Body ground	B-Y - Body ground	Engine switch signal circuit	Engine switch on (IG)	10 to 14 V
FMIG (2E-3) - Body ground	B-Y - Body ground	Engine switch signal circuit	Engine switch off	Below 1 V
FMB3 (2E-4) - Body ground	G-R - Body ground	Power source circuit	Always	10 to 14 V
E (2F-1) - Body ground	W-B - Body ground	Ground	Always	Below 1 V
MPX1 (2F-5) - Body ground	L - Body ground	Multiplex communication signal circuit	Engine switch on (IG)	Signal waveform
MPX2 (2F-6) - Body ground	GR - Body ground	Multiplex communication signal circuit	Engine switch on (IG)	Signal waveform
FOGR (2G-6) - Body ground	LG - Body ground	Fog light circuit (To front fog light RH)	Front fog light ON	10 to 14 V

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
FOGR (2G-6) - Body ground	LG - Body ground	Fog light circuit (To front fog light RH)	Front fog light OFF	Below 1 V
FOGL (2G-7) - Body ground	G-R - Body ground	Fog light circuit (To front fog light LH)	Front fog light ON	10 to 14 V
FOGL (2G-7) - Body ground	G-R - Body ground	Fog light circuit (To front fog light LH)	Front fog light OFF	Below 1 V
CRAR (2G-8) - Body ground	G - Body ground	Taillight circuit (To parking light RH)	Light control switch in TAIL	10 to 14 V
CRAR (2G-8) - Body ground	G - Body ground	Taillight circuit (To parking light RH)	Light control switch OFF	Below 1 V
CRAL (2G-9) - Body ground	G - Body ground	Taillight circuit (To parking light LH)	Light control switch in TAIL	10 to 14 V
CRAL (2G-9) - Body ground	G - Body ground	Taillight circuit (To parking light LH)	Light control switch OFF	Below 1 V
HLHR (2G-12) - Body ground	R-W - Body ground	Hi-beam circuit (To headlight RH)	Headlight dimmer switch in HI	10 to 14 V
HLHR (2G-12) - Body ground	R-W - Body ground	Hi-beam circuit (To headlight RH)	Headlight dimmer switch in HEAD	Below 1 V
HLHL (2G-13) - Body ground	R-Y - Body ground	Hi-beam circuit (To headlight LH)	Headlight dimmer switch in HI	10 to 14 V
HLHL (2G-13) - Body ground	R-Y - Body ground	Hi-beam circuit (To headlight LH)	Headlight dimmer switch in HEAD	Below 1 V
(2G-4) - Body ground	R-L - Body ground	Hi-beam circuit	Headlight dimmer switch in HI	10 to 14 V
(2G-4) - Body ground	R-L - Body ground	Hi-beam circuit	Headlight dimmer switch in HEAD	Below 1 V
(2G-10) - Body ground	G-Y - Body ground	Taillight circuit (To marker light RH)	Light control switch in TAIL	10 to 14 V
(2G-10) - Body ground	G-Y - Body ground	Taillight circuit (To marker light RH)	Light control switch OFF	Below 1 V
(2G-11) - Body ground	BR - Body ground	Taillight circuit (To marker light LH)	Light control switch in TAIL	10 to 14 V
(2G-11) - Body ground	BR - Body ground	Taillight circuit (To marker light LH)	Light control switch OFF	Below 1 V

#### 2. CHECK MAIN BODY ECU RH (COWL SIDE J/B RH)

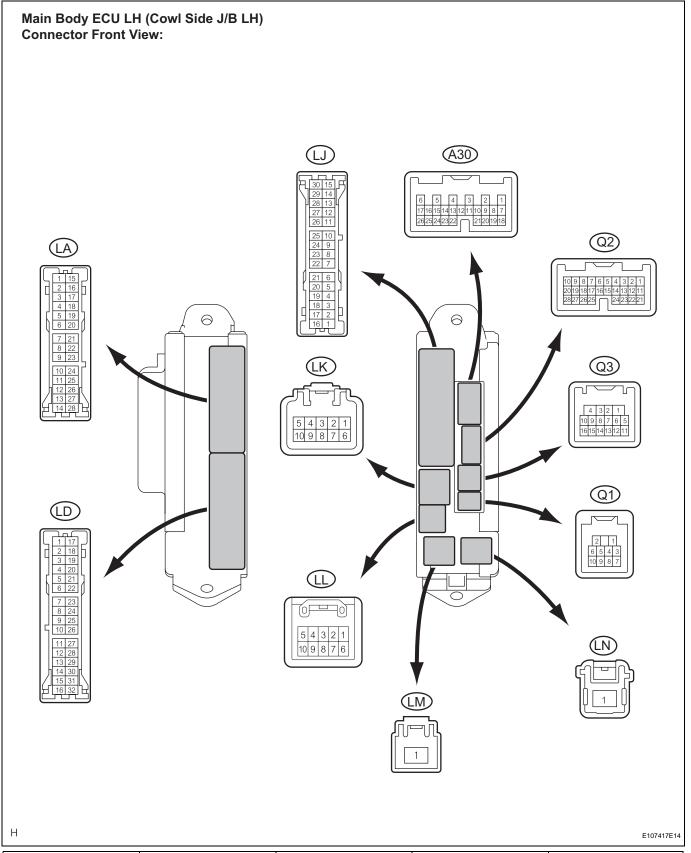


Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
GND2 (RD-7) - Body ground	W-B - Body ground	Ground	Always	Below 1 V

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
LCTY (RA-11) - Body ground	BR - Body ground	Illumination signal (From door courtesy switch rear LH)	Rear LH door is closed	10 to 14 V
LCTY (RA-11) - Body ground	BR - Body ground	Illumination signal (From door courtesy switch rear LH)	Rear LH door is open	Below 1 V
MPX1 (RA-20) - Body ground	GR - Body ground	Multiplex communication signal circuit	Engine switch on (IG)	Signal waveform
BECU (RK-5) - Body ground	G-R - Body ground	Multiplex communication power source circuit	Always	10 to 14 V
HRLY (RL-7) - Body ground	R-W - Body ground	HEAD signal (To HEAD relay)	Light control switch OFF or in TAIL	10 to 14 V
HRLY (RL-7) - Body ground	R-W - Body ground	HEAD signal (To HEAD relay)	Light control switch in HEAD	Below 1 V
DCTY (P1-14) - Body ground	W - Body ground	Illumination signal (From driver side courtesy switch)	Driver's side door is closed	10 to 14 V
DCTY (P1-14) - Body ground	W - Body ground	Illumination signal (From driver side courtesy switch)	Driver's side door is open	Below 1 V
RCTY (P1-16) - Body ground	O - Body ground	Illumination signal (From door courtesy switch rear RH)	Rear RH door is closed	10 to 14 V
RCTY (P1-16) - Body ground	O - Body ground	Illumination signal (From door courtesy switch rear RH)	Rear RH door is open	Below 1 V
FSPT (J75-15) - Body ground	R - Body ground	Illumination signal (To footwell lights)	Footwell lights come on	Below 1 V
FSPT (J75-15) - Body ground	R - Body ground	Illumination signal (To footwell lights)	Footwell lights go off	10 to 14 V
MPX2 (J75-21) - Body ground	GR - Body ground	Multiplex communication signal circuit	Engine switch on (IG)	Signal waveform
CLTE (J74-4) - Body ground	W - Body ground	Automatic light control sensor ground circuit	Always	Below 1 V
CLTS (J74-5) - Body ground	R - Body ground	Automatic light control sensor ground circuit	Engine switch off	Below 1 V
CLTS (J74-5) - Body ground	R - Body ground	Automatic light control sensor ground circuit	Engine switch on (IG), lights control switch in AUTO, headlights come ON	Signal waveform
CLTB (J74-6) - Body ground	GR - Body ground	Automatic light control sensor power source circuit	Engine switch off	Below 1 V
CLTB (J74-6) - Body ground	GR - Body ground	Automatic light control sensor power source circuit	Engine switch on (IG)	10 to 14 V
HEAD (J74-23) - Body ground	L - Body ground	HEAD signal (From light control switch)	Light control switch OFF or in TAIL	10 to 14 V
HEAD (J74-23) - Body ground	L - Body ground	HEAD signal (From light control switch)	Light control switch in HEAD	Below 1 V
ALTB (RA-15) - Body ground	SB - Body ground	Power source circuit	Always	10 to 14 V
UL2 (J75-4) - Body ground	O - Body ground	Interior light switch (ON / OFF) signal	Interior light switch ON	Below 1 V
UL2 (J75-4) - Body ground	O - Body ground	Interior light switch (ON / OFF) signal	Interior light switch OFF	10 to 14 V
TRLY (RD-1) - Body ground	Y - Body ground	HAED signal (to HAED relay)	Light control switch OFF	10 to 14 V

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
TRLY (RD-1) - Body ground	Y - Body ground	HAED signal (to HAED relay)	Light control switch in TAIL	Below 1 V
PCYL (J75-24) - Body ground	Y - Body ground	Illumination signal (From door courtesy light front LH)	Passenger's side door is open	Below 1 V
PCYL (J75-24) - Body ground	Y - Body ground	Illumination signal (From door courtesy light front LH)	Passenger's side door is closed	10 to 14 V
DCYL (P1-13) - Body ground	G - Body ground	Illumination signal (From door courtesy light front RH)	Driver's side door is open	Below 1 V
DCYL (P1-13) - Body ground	G - Body ground	Illumination signal (From door courtesy light front RH)	Driver's side door is closed	10 to 14 V
LGCY (J75-25) - Body ground	L - Body ground	Illumination signal (From luggage door courtesy switch)	Luggage door is open	Below 1 V
LGCY (J75-25) - Body ground	L - Body ground	Illumination signal (From luggage door courtesy switch)	Luggage door is closed	10 to 14 V
PCTY (J75-23) - Body ground	B - Body ground	Illumination signal (From door courtesy switch front LH)	Passenger's side door is open	Below 1 V
PCTY (J75-23) - Body ground	B - Body ground	Illumination signal (From door courtesy switch front LH)	Passenger's side door is closed	10 to 14 V
HAZ (J74-2) - Body ground	Y - Body ground	HAZARD signal (From HAZARD switch)	HAZARD switch ON	Below 1 V
HAZ (J74-2) - Body ground	Y - Body ground	HAZARD signal (From HAZARD switch)	HAZARD switch OFF	10 to 14 V

#### 3. CHECK MAIN BODY ECU LH

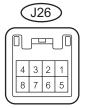


Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
GND (LD-3) - Body ground	W-B - Body ground	Ground	Always	Below 1 V

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
TR (LA-15) - Body ground	P - Body ground	RH side turn signal (To turn signal flasher assembly)	Engine switch off	Below 1 V
TR (LA-15) - Body ground	P - Body ground	RH side turn signal (To turn signal flasher assembly)	Engine switch on (IG) and turn signal switch (right turn) on	10 to 14 V (60 to 120 times per minute)
TL (LA-16) - Body ground	BR - Body ground	LH side turn signal (To turn signal flasher assembly)	Engine switch off	Below 1 V
TL (LA-16) - Body ground	BR - Body ground	LH side turn signal (To turn signal flasher assembly)	Engine switch on (IG) and turn signal switch (left turn) on	10 to 14 V (60 to 120 times per minute)
SGND (LD-8) - Body ground	W-B - Body ground	Ground	Always	Below 1 V
SGND (LD-9) - Body ground	W-B - Body ground	Ground	Always	Below 1 V
MPXB (LD-18) - Body ground	LG - Body ground	Multiplex communication power source circuit	Always	10 to 14 V
ILE (Q1-2) - Body ground	V - Body ground	Illumination signal (To front interior light)	Interior light switch in DOOR position and interior lights come on	Below 1 V
ILE (Q1-2) - Body ground	V - Body ground	Illumination signal (To front interior light)	Interior light switch in DOOR position and interior lights go off	10 to 14 V
RCTY (Q1-3) - Body ground	R - Body ground	Illumination signal (To shift illumination)	Shift illumination comes on	Below 1 V
RCTY (Q1-3) - Body ground	R - Body ground	Illumination signal (To shift illumination)	Shift illumination goes off	10 to 14 V
LCTY (Q1-4) - Body ground	LG - Body ground	Illumination signal (To door mirror foot light)	Door mirror foot lights come on	10 to 14 V
MPX1 (Q3-15) - Body ground	GR - Body ground	Multiplex communication signal circuit	Engine switch on (IG)	Signal waveform
MPX2 (A30-17) - Body ground	GR - Body ground	Multiplex communication signal circuit	Engine switch on (IG)	Signal waveform
ILE1 (LA-19) - Body ground	W - Body ground	Illumination signal (to scuff plate light)	Room light switch in DOOR position and scuff plate lights come on	Below 1 V
ILE1 (LA-19) - Body ground	W - Body ground	Illumination signal (to scuff plate light)	Room light switch in DOOR position and scuff plate lights go off	10 to 14 V
LGCY (Q3-3) - Body ground	W - Body ground	Illumination signal (to seat illumination)	Seat illumination comes on	Below 1 V
LGCY (Q3-3) - Body ground	W - Body ground	Illumination signal (to seat illumination)	Seat illumination goes off	10 to 14 V
BDCY (Q3-11) - Body ground	P - Body ground	Interior light switch (Door) signal	Interior light switch on	Below 1 V
BDCY (Q3-11) - Body ground	P - Body ground	Interior light switch (Door) signal	Interior light switch off	10 to 14 V

# 4. CHECK COMBINATION SWITCH ASSEMBLY (Windshield Wiper Switch)

Combination Switch Assembly (Windshield Wiper Switch)
Connector Front View:



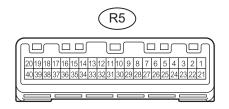
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Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
B (J26-1) - E (J26-5)	LG - W-B	Power source circuit (From battery)	Always	10 to 14 V
IG (J26-2) - E (J26-5)	B - W-B	Engine switch signal circuit (From engine switch)	Engine switch off	Below 1 V
IG (J26-2) - E (J26-5)	B - W-B	Engine switch signal circuit (From engine switch)	Engine switch on (IG)	10 to 14 V
HEAD (J26-4) - Body ground	L - Body ground	Light control switch HEAD signal	Light control switch not in HEAD	10 to 14 V
HEAD (J26-4) - Body ground	L - Body ground	Light control switch HEAD signal	Light control switch in HEAD	Below 1 V
E (J26-5) - Body ground	W-B - Body ground	Ground	Always	Below 1 V
MPX1 (J26-6) - Body ground	GR - Body ground	Multiplex communication signal circuit	Engine switch on (IG)	Signal waveform
MPX2 (J26-7) - Body ground	GR - Body ground	Multiplex communication signal circuit	Engine switch on (IG)	Signal waveform

#### 5. CHECK OVERHEAD J/B

Overhead J/B ECU Connector Front View:

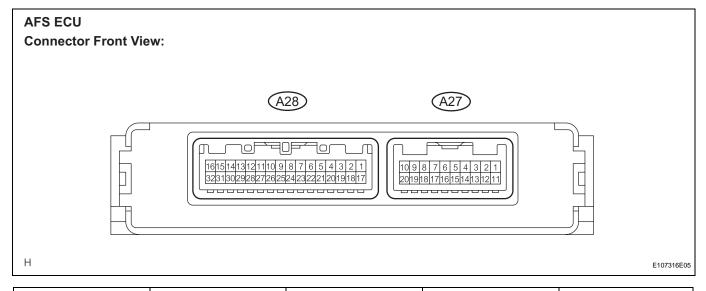


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Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
+B1 (R5-1) - Body ground	L - Body ground	Power source circuit	Always	10 to 14 V
RRMP (R5-3) - Body ground	O - Body ground	Rear personal light power source circuit	Always	10 to 14 V
ILLB (R5-4) - Body ground	L - Body ground	Rear interior light power source circuit	Always	10 to 14 V
CTY (R5-12) - Body ground	W - Body ground	Seat illumination light circuit	Seat illumination goes off	10 to 14 V
CTY (R5-12) - Body ground	W - Body ground	Seat illumination light circuit	Seat illumination comes on	Below 1 V
ILL (R5-13) - Body ground	BR - Body ground	Interior light circuit	Interior lights go off	10 to 14 V
ILL (R5-13) - Body ground	BR - Body ground	Interior light circuit	Interior lights come on	Below 1 V

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
SHFT (R5-14) - Body ground	Y - Body ground	Shift illumination circuit	Shift illumination goes off	10 to 14 V
SHFT (R5-14) - Body ground	Y - Body ground	Shift illumination circuit	Shift illumination comes on	Below 1 V
GND3 (R5-18) - Body ground	W-B - Body ground	Ground	Always	Below 1 V
RGND (R5-19) - GND3 (R5-18)	W-B - W-B	Interior light ground	Always	Below 1 V
LILL (R5-32) - CTY (R5- 12)	B-W	Seat illumination circuit	Always	Below 1 Ω
RILL (R5-33) - ILL (R5-13)	P - BR	Interior light circuit	Always	Below 1 Ω
CILL (R5-34) - GND3 (R5- 18)	P - W-B	Interior light switch (ON/ OFF) circuit	Interior light switch off	10 to 14 V
CILL (R5-34) - GND3 (R5- 18)	P - W-B	Interior light switch (ON/ OFF) circuit	Interior light switch on	Below 1 V
DOOR (R5-35) - GND3 (R5-18)	G - W-B	Interior light switch (DOOR) circuit	Interior light switch off	10 to 14 V
DOOR (R5-35) - GND3 (R5-18)	G - W-B	Interior light switch (DOOR) circuit	Interior light switch on	Below 1 V
MPX (R5-36) - Body ground	GR - Body ground	Multiplex communication signal circuit	Engine switch on (IG)	Signal waveform

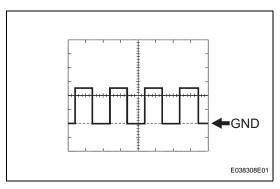
#### 6. CHECK AFS ECU



Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
SBF (A28-1) - SGF (A28-	R-B - G-R	Vehicle height signal (To	Engine switch off	Below 1 V
17)	K-B - G-K	height control sensor)	Engine switch on (IG)	4.5 V to 5.5 V
SPDL (A28-6) - E1 (A27- 1)	R-L - W-B	Vehicle speed signal (To skid control ECU)	Vehicle is driving at approx. 30 km/h (19 mph)	Pulse generation (see waveform 1)
SPDR (A28-7) - E1 (A27- 1)	G-W - W-B	Vehicle speed signal (To skid control ECU)	Vehicle is driving at approx. 30 km/h (19 mph)	Pulse generation (see waveform 1)
			Engine switch off	Below 1 V
BR1+ (A28-9) - BR1- (A28-10)	LG-R - O	Headlight swivel motor RH	Engine running, light control switch in HEAD, driving at more than 10 km/h (6 mph) and turning the steering wheel to right more than 7.5°	Pulse generation (see waveform 2)

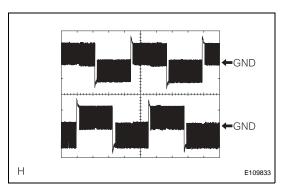
Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
			Engine switch off	Below 1 V
BR2+ (A28-11) - BR2- (A28-12)	L-B - L-Y	Headlight swivel motor RH	Engine running, light control switch in HEAD, driving at more than 10 km/h (6 mph) and turning the steering wheel more than 7.5°	Pulse generation (see waveform 2)
			Engine switch off	Below 1 V
LR1+ (A28-13) - LR1- (A28-14)	L - BR-W	Headlight leveling actuator RH	Engine running, light control switch in HEAD, the vehicle is standing still or bouncing	Pulse generation (see waveform 3)
			Engine switch off	Below 1 V
LR2+ (A28-15) - LR2- (A28-16)	P-LG	Headlight leveling actuator RH	Engine running, light control switch in HEAD, the vehicle is standing still or bouncing	Pulse generation (see waveform 3)
SGF (A28-17) - E1 (A27- 1)	G-R - W-B	Vehicle height signal (To height control sensor)	Always	Below 1 V
SMGR (A28-18) - E1 (A27-1)	W-R - W-B	Headlight swivel motor RH	Always	Below 1 V
SMGL (A28-19) - E1 (A27- 1)	P-G - W-B	Headlight swivel motor LH	Always	Below 1 V
SMBR (A28-21) - SMGR	GR - W-R	Headlight swivel motor RH	Engine switch off	Below 1 V
(A28-18)	GR - W-R	Headilght Swiver motor Kh	Engine switch on (IG)	4.5 V to 5.5 V
SMBL (A28-22) - SMGL	W - P-G	Headlight swivel motor LH	Engine switch off	Below 1 V
(A28-19)			Engine switch on (IG)	4.5 V to 5.5 V
SMR (A28-23) - SMGR	G-B - W-R	Lleadlight avival mater DLL	Engine switch off	Below 1 V
(A28-18)	G-B - W-K	Headlight swivel motor RH	Engine switch on (IG)	0.3 V to 4.6 V
SML (A28-24) - SMGL	Y-B - P-G	Headlight swivel motor LH	Engine switch off	Below 1 V
(A28-19)	1-5- F-6	Treadilght Swiver motor Err	Engine switch on (IG)	0.3 V to 4.6V
			Engine switch off	Below 1 V
BL1+ (A28-25) - BL1- (A28-26)	B-L - L-W	Headlight swivel motor LH	Engine running, light control switch in HEAD, driving at more than 10 km/h (6 mph) and turning the steering wheel to left more than 7.5°	Pulse generation (see waveform 2)
			Engine switch off	Below 1 V
BL2+ (A28-27) - BL2- (A28-28)	L-R - B-Y	Headlight swivel motor LH	Engine running, light control switch in HEAD, driving at more than 10 km/h (6 mph) and turning the steering wheel to left more than 7.5°	Pulse generation (see waveform 2)
			Engine switch off	Below 1 V
LL1+ (A28-29) - LL1-(A28-30)	R-G - G	Headlight leveling actuator LH	Engine running, light control switch in HEAD, the vehicle is standing still or bouncing	Pulse generation (see waveform 3)
			Engine switch off	Below 1 V
LL2+ (A28-31) - LL2-(A28- 32)	Y-R - V-R	Headlight leveling actuator LH	Engine running, light control switch in HEAD, the vehicle is standing still or bouncing	Pulse generation (see waveform 3)
E1 (A27-1) - Body ground	W-B - Body ground	Ground	Always	Below 1 V
IG (A27-2) - E1 (A27-1)	B-O - W-B	Power source circuit	Engine switch off	Below 1 V
10 (MZ1-Z) - L1 (MZ1-1)	D 0 - W-D	(To engine switch)	Engine switch on (IG)	10 to 14 V

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
MPX1 (A27-5) - E1 (A27-1)	G-R - W-B	Multiplex communication signal	Engine switch on (IG)	Signal waveform
MPX2 (A27-6) - E1 (A27- 1)	GR-L - W-B	Multiplex communication signal	Engine switch on (IG)	Signal waveform
SS+ (A27-7) -SS- (A27-8)	L-LG	Steering sensor signal (To position sensor)	Engine idling, slowly turn steering wheel	Pulse generation
SHRL (A27-9) - SGR (A27-20)	B-W - R-Y	Vehicle height signal (To height control sensor rear)	Engine switch off	Below 1 V
			Engine switch on (IG) , bouncing the vehicle	0.5 to 4.5 V
CUEL (A20.2) CCE (A20.		Vehicle height signal (To height control sensor front)	Engine switch off	Below 1 V
SHFL (A28-2) - SGF (A28- 17)	G-Y - G-R		Engine switch on (IG) , bouncing the vehicle	0.5 to 4.5 V
SBR (A27-10) - SGR (A27-20)	W - R-Y	Vehicle height signal (To height control sensor rear)	Engine switch off	Below 1 V
			Engine switch on (IG)	4.5 to 5.5 V
SBF (A28-1) - SGF (A28-		Vehicle height signal (To height control sensor front)	Engine switch off	Below 1 V
17)	R-B - GR		Engine switch on (IG)	4.5 to 5.5 V



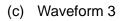
## (a) Waveform 1

Item	Contents
Terminal	SPDL - GND SPDR - GND
Tool setting	5 V/DIV., 2 ms./DIV.
Vehicle condition	Vehicle is driving at approximately 30 km/h (19 mph)

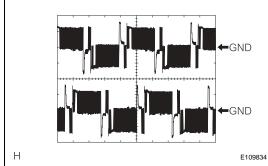


## (b) Waveform 2

Item	Contents	
Terminal	BL1+ - BL1- BL2+ - BL2- BR1+ - BR1- BR2+ - BR2-	
Tool setting	10 V/DIV., 5 ms./DIV.	
Vehicle condition	<ul> <li>Engine running, light control switch in HEAD, driving at more than 10 km/h (6 mph) and turning the steering wheel more than 7.5°</li> <li>If the value is not within the standard range, it is possible there is some defect on the vehicle side. Inspect the fuse, wire harness and connector.</li> </ul>	



	Item	Contents
SND	Terminal	LR1+ - LR1- LR2+ - LR2- LL1+ - LL1- LL2+ - LL2-
SND	Tool setting	10 V/DIV., 5 ms./DIV.



Item	Contents
Vehicle condition	<ul> <li>Engine running, light control switch in HEAD, driving at more than 10 km/h (6 mph) and turning the steering wheel more than 7.5°</li> <li>If the value is not within the standard range, it is possible there is some defect on the vehicle side. Inspect the fuse, wire harness and connector.</li> </ul>