





Headlight

System Outline

The current is always flowing from the HEAD MAIN fuse to HEAD relay (Coil side) to TERMINAL 6 of the daytime running light relay and from ECU-B fuse to TERMINAL 3 of the daytime running light relay. The current is always flowing from the TAIL fuse to TAIL relay (Coil side) to TERMINAL 14 of the daytime running light relay (USA).

When the ignition SW is turned on, the current flowing through the GAUGE fuse flows to TERMINAL 12 of the daytime running light relay.

1. Daytime Running Light Operation

When the engine is started, voltage generated at TERMINAL L of the generator is applied to TERMINAL 8 of the daytime running light relay. If the parking brake lever is pulled up (Parking brake SW on) at this time, the relay is not activated so the daytime running light system does not operate. If the parking brake lever is then released (Parking brake SW off), a signal is input to TERMINAL 11 of the relay.

This activates the daytime running light relay and the HEAD relay is turned on, so the current flows from the HEAD MAIN fuse to the HEAD relay (Point side) to HEAD LH LWR, HEAD RH LWR fuses to TERMINAL 2 of the headlights to TERMINAL 1 to TERMINAL 1 of the daytime running light relay to TERMINAL 2 to GROUND, causing the headlights to light up (Headlights light up dimmer than normal brightness.). Once the daytime running light system operates and the headlights light up, the headlights remain on even if the parking brake lever is pulled up (Parking brake SW on).

If the engine stalls and the ignition SW remains on, the headlights remain light up even through current is no longer output from TERMINAL L of the generator. If the ignition SW is then turned off, the headlights go off.

If the engine is started with the parking brake lever released (Parking brake SW off), the daytime running light system operates and headlights light up when the engine starts.

2. Headlight Operation

When the light control SW is switched to Head position and the dimmer SW is set to Low position, causing the daytime running light relay and the HEAD relay to turn on, so the current flows from the HEAD MAIN fuse to HEAD relay (Coil side) to TERMINAL 6 of the daytime running light relay to TERMINAL 7 to TERMINAL 12 of the light control SW to TERMINAL 11 to GROUND. The current to HEAD relay (Point side) then flows to HEAD LH LWR, HEAD RH LWR fuses to TERMINAL 2 of the headlights (Low) to TERMINAL 1 to TERMINAL 1 of the daytime running light relay to TERMINAL 2 to GROUND, causing the headlights to light up at normal intensity.

When the light control SW is switched to Head position and the dimmer SW is set to High position, the signal from the dimmer SW is input to the daytime running light relay. This activates the daytime running light relay and the HEAD relay is turned on, so the current flows from the HEAD MAIN fuse to HEAD relay (Point side) to TERMINAL 1 of the DIMMER relay to TERMINAL 2 to TERMINAL 13 of the daytime running light relay, activating the DIMMER relay. This causes current to flow from TERMINAL 3 of the DIMMER relay to TERMINAL 5 to HEAD LH UPR, HEAD RH-UPR fuses to TERMINAL 2 of the headlights (High) to TERMINAL 1 to GROUND, causing the headlights to light up at high beam and the high beam indicator light to light up.

When the dimmer SW is switched to Flash position, the signal from the dimmer SW is input to the daytime running light relay. This activates the daytime running light relay and the HEAD relay is turned on, so the current flows from the HEAD MAIN fuse to HEAD relay (Point side) to TERMINAL 1 of the DIMMER relay to TERMINAL 2 to TERMINAL 13 of the daytime running light relay, activating the DIMMER relay, and also flows from the HEAD LH UPR, HEAD RH UPR fuses to TERMINAL 2 of the headlights to TERMINAL 1 to GROUND, causing the headlights to light up at high beam and the high beam indicator light to light up.

3. Automatic Light Control Operation (USA)

When the daytime running light is operating and the Automatic control sensor detects a decrease in the ambient light, the automatic light control operation starts. At the same time, daytime running light relay is activated, so current flows from the TAIL fuse to the TAIL relay (Coil side) to TERMINAL 14 of the daytime running light relay, and the HEAD MAIN fuse to the HEAD relay (Coil side) to TERMINAL 6 of the daytime running light relay, activating both the TAIL relay and the HEAD relay, so that the taillights and headlights light up.

When the automatic light control sensor detects an increase in the ambient light, the ignition SW is turned to off, the light control SW is turned to Head position, and the automatic light control operation stops.

Service Hints

HEAD Relay

- 1-2 : Closed with the light control SW at Head position or the dimmer SW at Flash position
 Closed with the engine running and the parking brake lever is released (Parking brake SW off)

D2 Daytime Running Light Relay

- 12-Ground : Approx. 12 volts with the ignition SW at ON position
 7-Ground : Approx. 12 volts with the light control SW at Head position or the dimmer SW at Flash position
 3, 6, 14-Ground : Always approx. 12 volts
 11-Ground : Continuity with the parking brake lever pulled up
 8-Ground : 13.2-14.0 volts with the engine running at 5000 rpm and 115°C (239°F)
 2-Ground : Always continuity
 16-Ground : Continuity with the dimmer SW at High or Flash position
 10-Ground : Continuity with the brake fluid level not enough or the parking brake lever pulled up

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A18	38	H1	34 (2ZZ-GE)	J1	35 (2ZZ-GE)
B2	34 (2ZZ-GE)		36 (1ZZ-FE)		37 (1ZZ-FE)
	36 (1ZZ-FE)	H2	34 (2ZZ-GE)	J2	39
C11	38		36 (1ZZ-FE)	P4	39
C12	38	H3	34 (2ZZ-GE)	S1	35 (2ZZ-GE)
D2	38		36 (1ZZ-FE)		37 (1ZZ-FE)
G1	34 (2ZZ-GE)	H4	34 (2ZZ-GE)		
	36 (1ZZ-FE)		36 (1ZZ-FE)		

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	23	Engine Room R/B (Engine Compartment Left)
3	28	RH R/B (Right Side of the Instrument Panel Reinforcement)

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
IG	25	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
IH		
3B	29	Instrument Panel Wire and RH J/B (Right Side of the Instrument Panel Reinforcement)
3C		
4B	32	Instrument Panel Wire and Center J/B (Behind the Combination Meter)

□ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA2	46	Engine Room Main Wire and Instrument Panel Wire (Instrument Panel Reinforcement LH)
IA3		
IA4		
IA5		
IE1	48	Instrument Panel Wire and Instrument Panel No.4 Wire (Behind the Combination Meter)
IG3	48	Engine Wire and Instrument Panel Wire (Blower Unit RH)

▽ : Ground Points

Code	See Page	Ground Points Location
EA	42 (2ZZ-GE)	Front Right Fender
	44 (1ZZ-FE)	
EB	42 (2ZZ-GE)	Front Left Suspension Tower
	44 (1ZZ-FE)	
IE	46	Behind Combination Meter

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: Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E4	42 (2ZZ-GE)	Engine Room Main Wire	I4	48	Engine Room Main Wire
	44 (1ZZ-FE)				