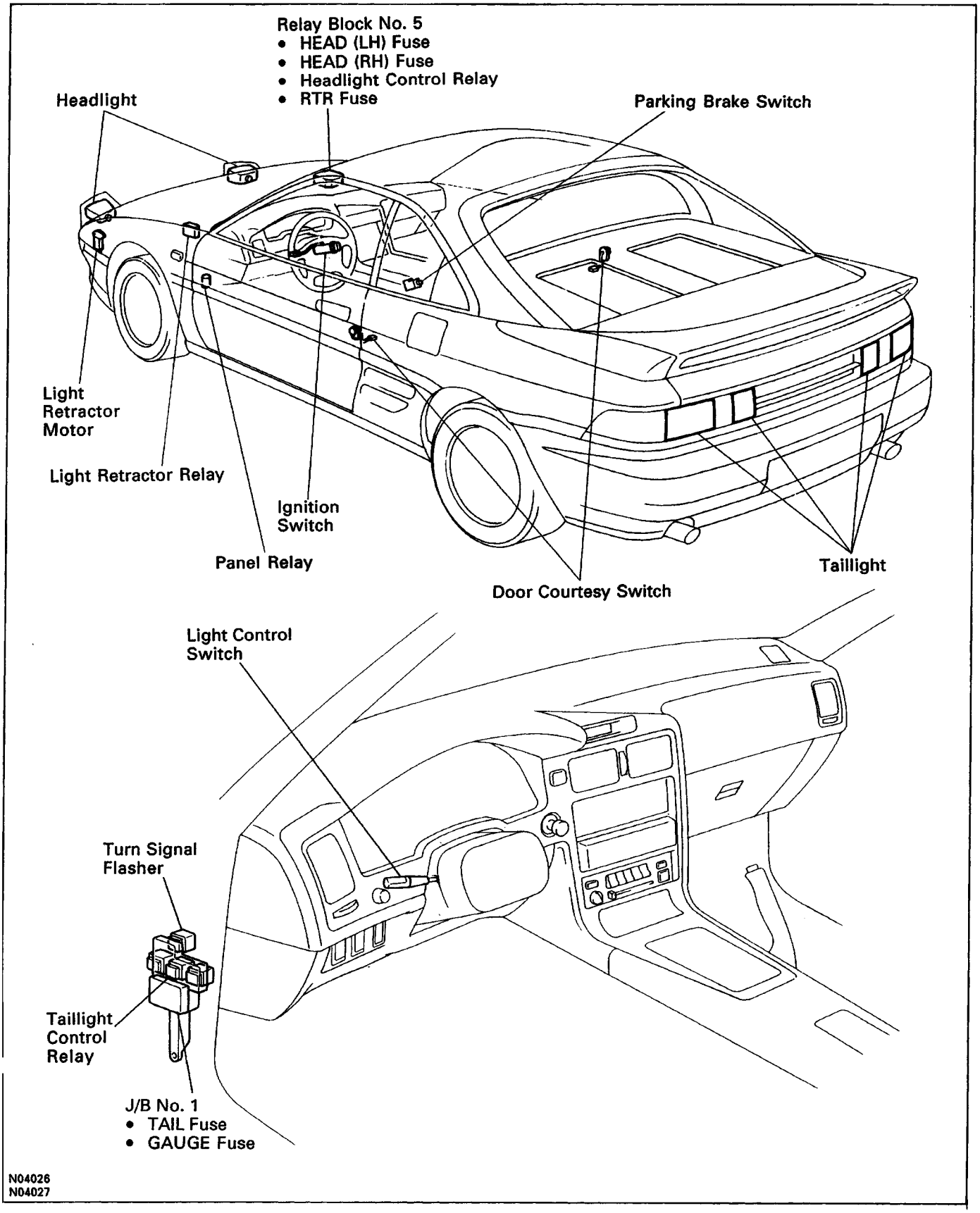
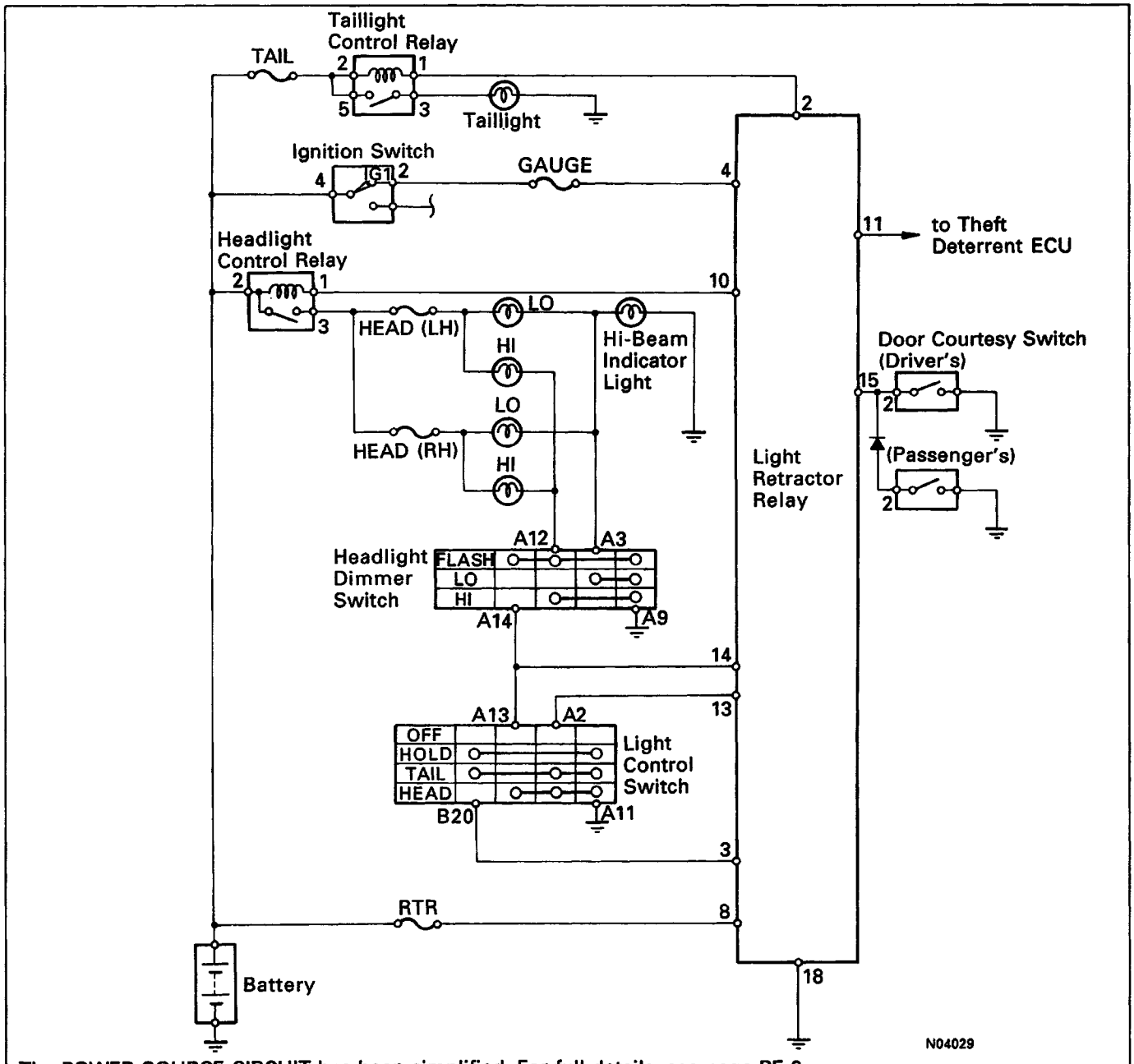
HEADLIGHT AND TAILLIGHT SYSTEM

PARTS LOCATION



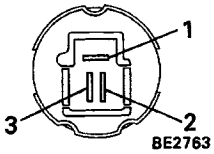
WIRING AND CONNECTOR DIAGRAMS

(USA)

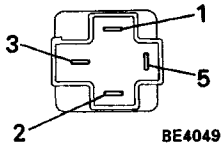


The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

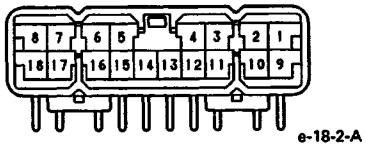
Headlight Control Relay



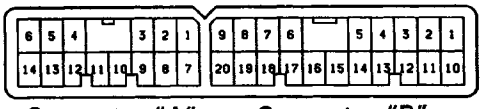
Taillight Control Relay



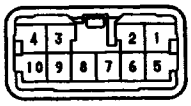
Light Retractor Relay



Light Control Switch, Headlight Dimmer Switch



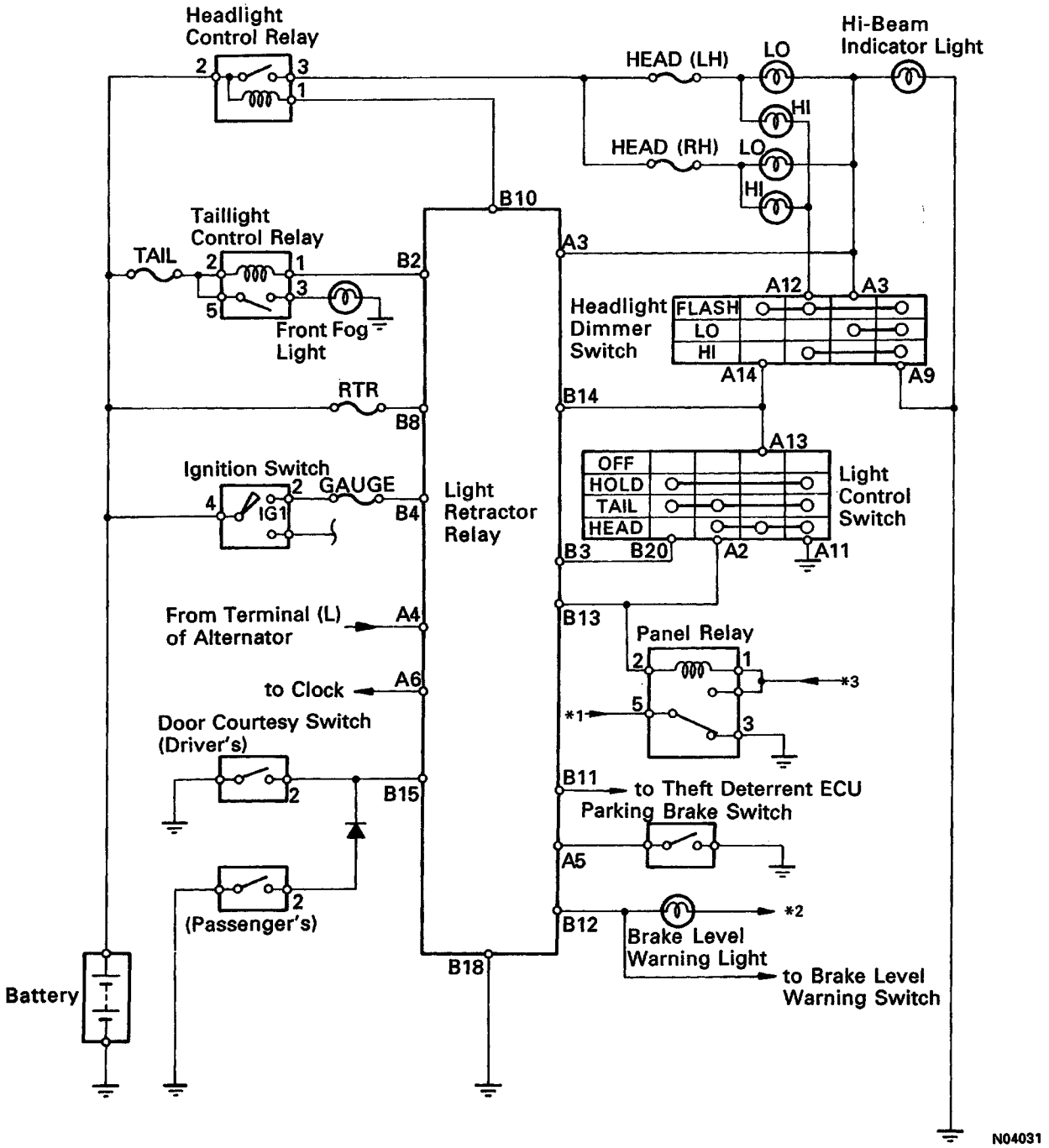
Ignition Switch



Door Courtesy Switch

(CANADA)

Daytime Running Light System

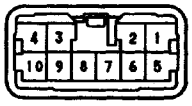


*1 Front Indicator Lights (Light Control Switch: TAIL or HEAD) to Illumination (Light Control Switch: OFF)
*2 from GAUGE Fuse
*3 from Terminal 3 of Taillight Control Relay

The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

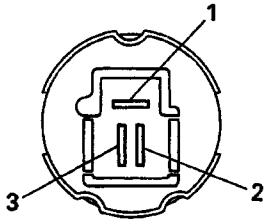
CONNECTOR DIAGRAMS

Ignition Switch



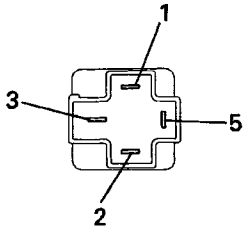
g-10-2-B

Headlight Control Relay



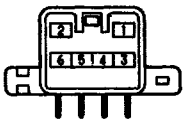
BE2763

Taillight Control Relay



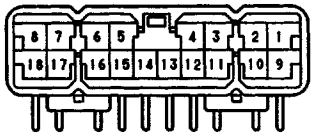
BE4049

Light Retractor Relay



Connector "A"

e-6-2-A



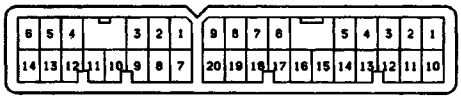
Connector "B"

e-18-2-A

Door Courtesy Switch

e-2-1-G

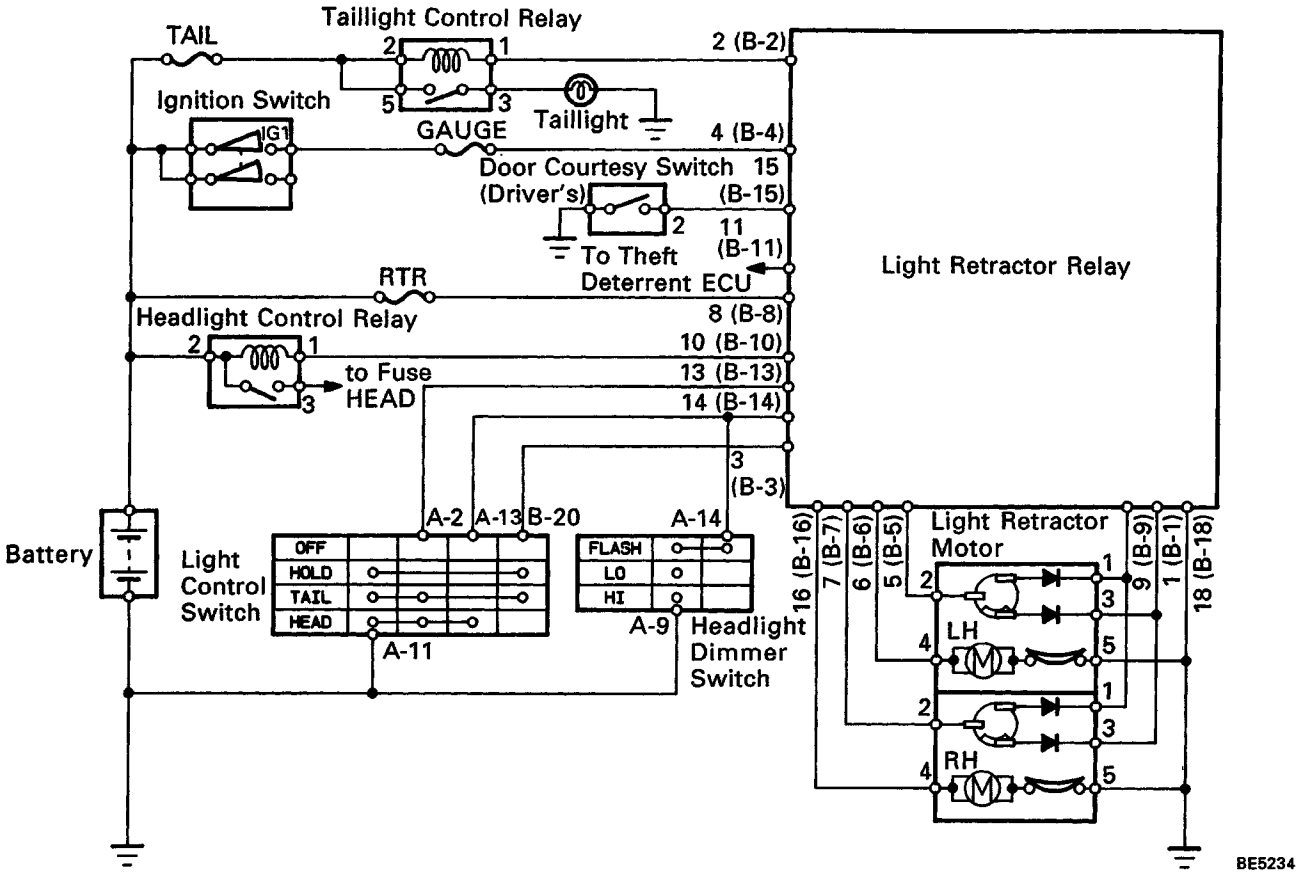
Light Control Switch, Headlight Dimmer Switch



Connector "A" Connector "B"

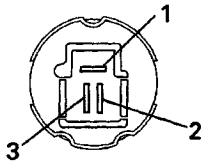
V-34-2

LIGHT RETRACTABLE SYSTEM



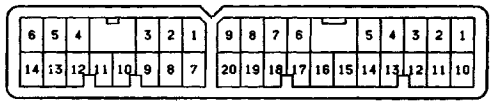
The terminals indicated in brackets ( ) are for CANADA models.
The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

Headlight Control Relay



BE2763

Light Control Switch, Headlight Dimmer Switch



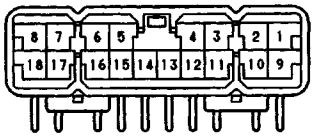
Connector "A" Connector "B"

V-34-2

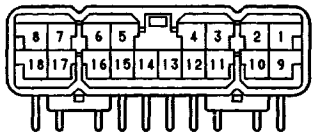
Light Retractor Motor

IJ-5-2-A

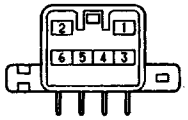
Light Retractor Relay



(USA) e-18-2-A

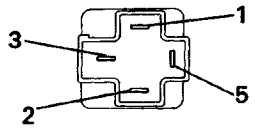


Connector "B" (CANADA) e-18-2-A



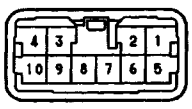
Connector "A" e-6-2-A

Taillight Control Relay



BE4049

Ignition Switch



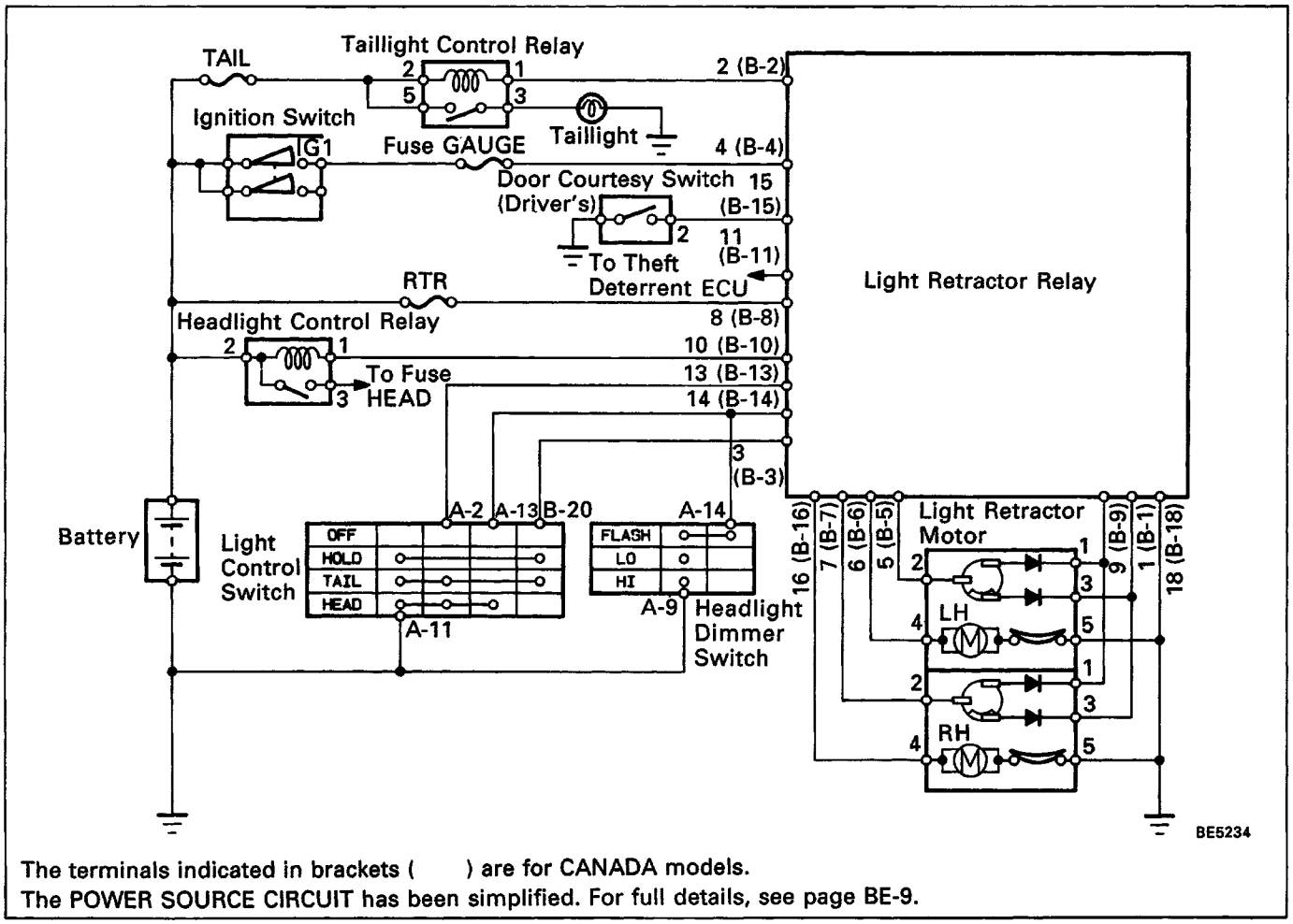
g-10-2-B

Door Courtesy Switch

e-2-1-G

SYSTEM DESCRIPTION

LIGHT RETRACTABLE SYSTEM



The terminals indicated in brackets ( ) are for CANADA models.
The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

- Current flows from the battery to terminal 8 (B–8) of the light retractor relay.
- Battery voltage is applied to terminal 5 (B–5) and 7 (B–7) of the light retractor relay.

Operation examples of the switch are shown below;
HINT: The numbers in [ ] are for the left side headlight.

1. LIGHT CONTROL SWITCH IN "TAIL"

When the switch is set continuity is produced between terminal 13 (B–13) of the light retractor relay (hereafter called LRR) and the body ground. Also, because continuity is produced between terminal 2 (B–2) of the LRR and the body ground, the taillight control relay (hereafter called TCR) is turned on. Then the taillights light up.

2. LIGHT CONTROL SWITCH IN "HEAD"

When the switch is set continuity is produced between terminal 13 (B–13) of the LRR and the body-ground, and 14 (B–14) of the LRR and the body ground of the LRR.

- Also continuity is produced between terminals 9 (B–9) and 18 (B–18) of the LRR. Then the LRR operates to lead current from terminal 8→ terminal 16 (B–16) [6 (B–6)] of the LRR→ terminal 4 of the light retractor motor→terminal 5 of the motor →the body ground, and the motor starts, to run in order to raise the headlights.

When the headlights rise, the limit switch operates, so that continuity is broken between terminals 2 and1 of the motor, and continuity is produced between terminals 2 and 3.
As a result, because the LRR is interrupted, the headlights stay in position.

- Also, because continuity is produced between terminal 2 (B–2) of the LRR and the body ground, and 10 (B–10) of the LRR and the body ground, the TCR and the headlight control relay (hereafter called HCR) are turned on.

  Then the taillights and the headlights light up.

3. LIGHT CONTROL SWITCH CHANGED FROM "HEAD" TO "TAIL"

When the switch is set continuity is broken between terminal 14 (B–14) of the LRR and the body ground, and continuity is produced between terminal 3 (B–3) of the LRR and body ground.

- As a result, the headlights are kept in position.
- By breaking continuity between terminal 14 (B–14) of the LRR and the body ground, continuity is broken between terminal 10 (B–10) and the body ground.
  Then the headlights go out.

4. LIGHT CONTROL SWITCH CHANGED FROM "TAIL" TO "HOLD"

When the switch is set, continuity is broken between terminal 13 (B–13) of the LRR and the bodyground. Also, because continuity is broken between terminal 2 (B–2) of the LRR and the bodyground, the TCR is turned off.

Then the taillights go out.

The headlights are kept in position, because continuity is kept between terminal 3 (B–3) of the LRR and the body ground.

5. LIGHT CONTROL SWITCH CHANGED FROM "HOLD" TO "OFF"

When the switch is set, continuity is broken between terminal 3 (B–3) of the LRR and the body ground, so that continuity is produced between terminal 1 (B–1) and 18 (B–18) of the LRR.

Then the LRR operates so that the current flows from terminal 8 (B–8)→ terminal 16 (B–16) [6 (B–6)] of the LRR→terminal 4 of the light retractor motor → terminal 5 of the motor→ the body ground, and the motor starts to run in order to retract the headlights.

When the headlights are retracted, the limit switch operates, so that continuity is broken between terminals 2 and 3 of the motor, and continuity is proceeded between terminals 2 and 1.

As a result, because the LRR is interrupted, the headlights stay in position.

6. IGNITION SWITCH TURNED FROM "ON" TO "ACC" OR "LOCK" AND DRIVER'S DOOR OPEN WITH LIGHT CONTROL SWITCH IN "HEAD" (Light Auto Turn Off system)

When the switches are set, current does not flow from the battery to terminal 4 (B–4) of the LRR, and continuity is produced between terminal 15 (B–15) of the LRR and the body ground. Also because continuity is broken between terminals 2 (B–2) of the LRR and the body ground, and 10 (B–1 0) of the LRR and the body ground, the TCR and the HCR –are turned off.

Then the taillights and the headlights go out.

Also with the light control switch in "TAIL", the taillights go out.

When the ignition switch is turned on again, the taillights and headlights light normally.

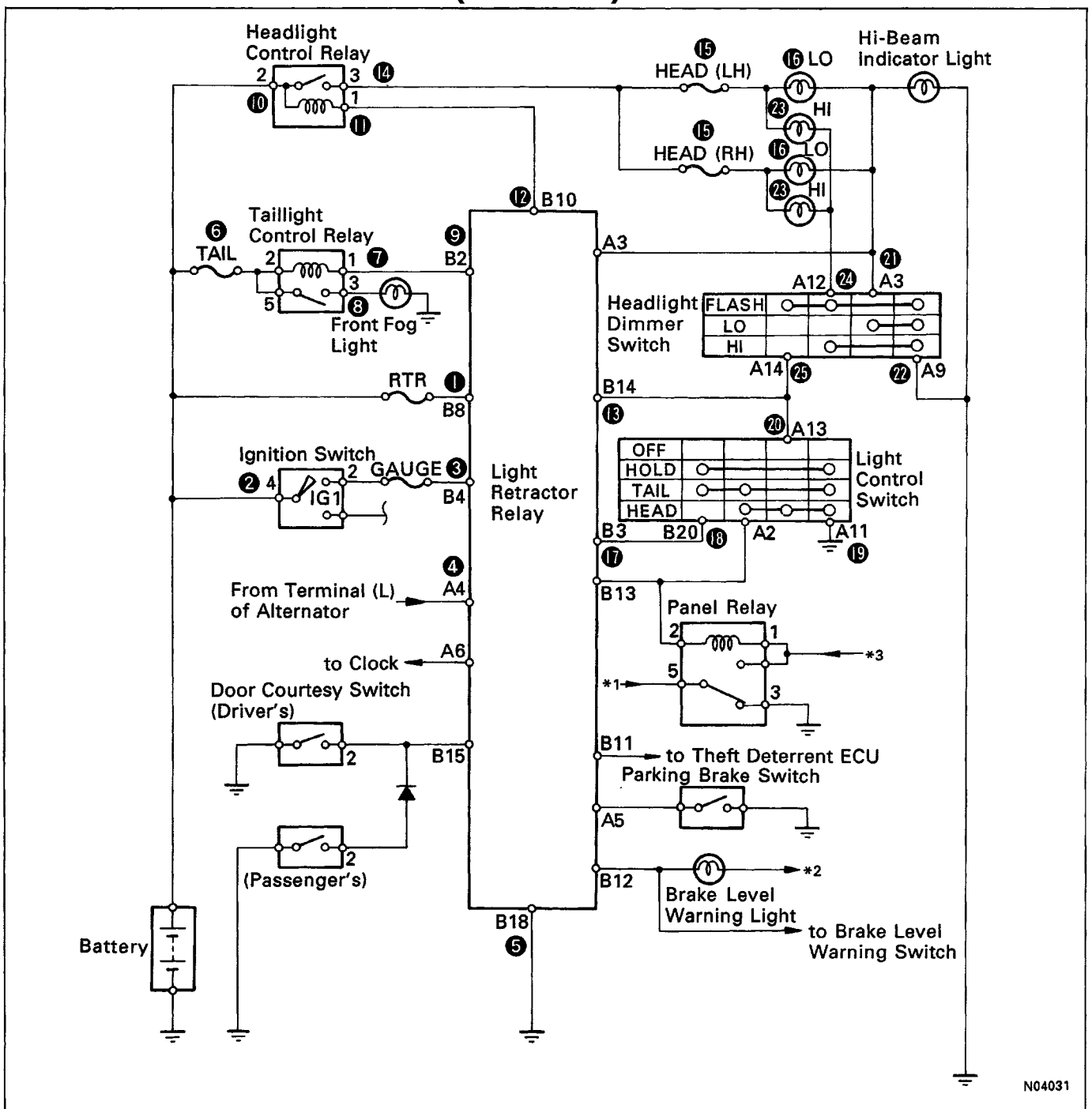
During light auto turn off operation, if the light switch is turned first to "HOLD" or "OFF", then turned to "TAIL" or "HEAD", both sets of lights will come on again.

DAYTIME RUNNING LIGHT SYSTEM

The Daytime Running Light (DRL) system is activated when engine is started (However, if the parking brake lever is engaged when the engine is started, the DRL will not light up after the engine has started Once the parking brake is released, the DRL will then light up and will remain on regardless of operation of the parking brake lever).

The DRL remain on until the ignition switch is turned off.

(CANADA)



*1 Front Indicator Lights (Light Control Switch: TAIL or HEAD to Illumination (Light Control Switch: OFF)
*2 from GAUGE Fuse
*3 from Terminal 3 of Taillight Control Relay

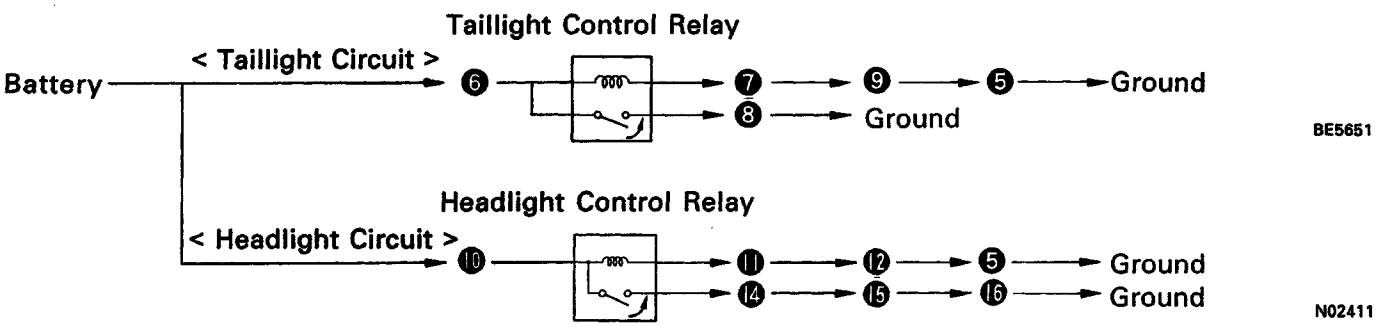
The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

OPERATION EXAMPLE (CURRENT FLOW TABLE
1. DAYTIME RUNNING LIGHT LIGHTS UP

Switch	Position
Ignition Switch	*ON
Light Control Switch	OFF
Headlight Dimmer Switch	LO or HI
*1 Door Courtesy Switch	ON

with Engine Running

Condition: Battery voltage → ❶, Battery voltage → ❷ → ❸, Battery voltage → ❹
Continuity: ❺ → Ground

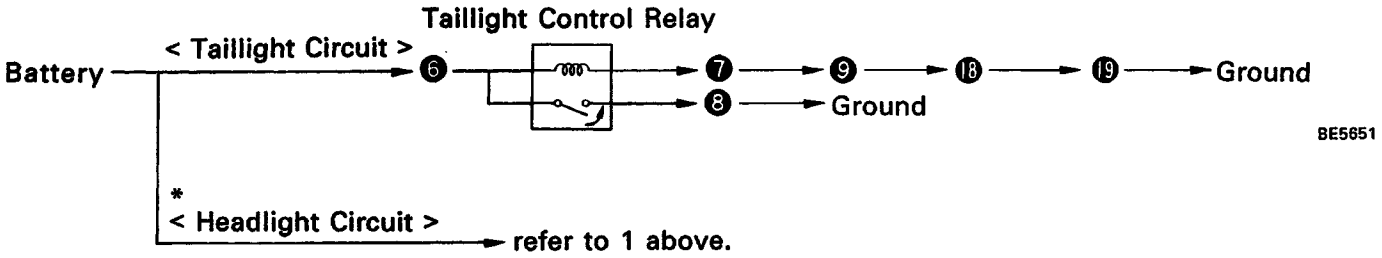


2. TAILLIGHT LIGHTS UP

Switch	Position
Ignition Switch	OFF* or ON
Light Control Switch	TAIL
Headlight Dimmer Switch	LO or HI
*1 Door Courtesy Switch	ON

* with Engine Running

Condition: Battery voltage → ❶, *(Battery voltage → ❷ → ❸, Battery voltage → ❹)
Continuity: ❺ → Ground

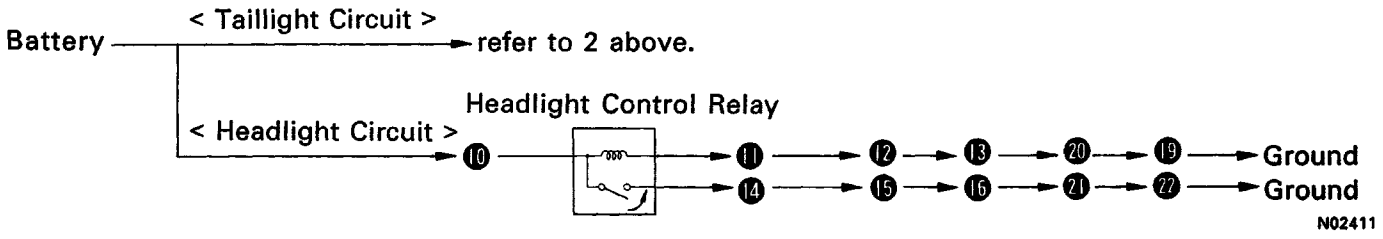


3. HEADLIGHT LOW BEAM LIGHTS UP

Switch	Position
Ignition Switch	OFF* or ON
Light Control Switch	HEAD
Headlight Dimmer Switch	LO
*1 Door Courtesy Switch	ON

with Engine Running

Condition: Battery voltage ⟶ ❶, *(Battery voltage ⟶ ❷ ⟶ ❸, Battery voltage ⟶ ❹)
Continuity: ❺ ⟶ Ground

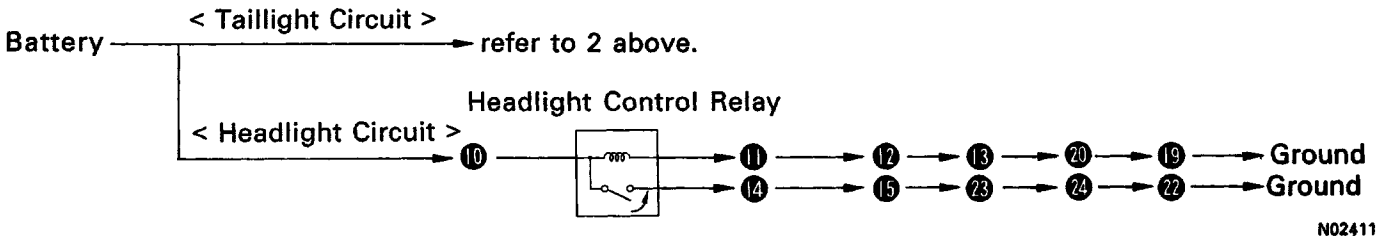


4. HEADLIGHT HIGH BEAM LIGHT UP

Switch	Position
Ignition Switch	OFF or *ON
Light Control Switch	HEAD
Headlight Dimmer Switch	HI
*1 Door Courtesy Switch	ON

with Engine Running

Condition: Battery voltage ⟶ ❶, *(Battery voltage ⟶ ❷ ⟶ ❸, Battery voltage ⟶ ❹)
Continuity: ❺ ⟶ Ground

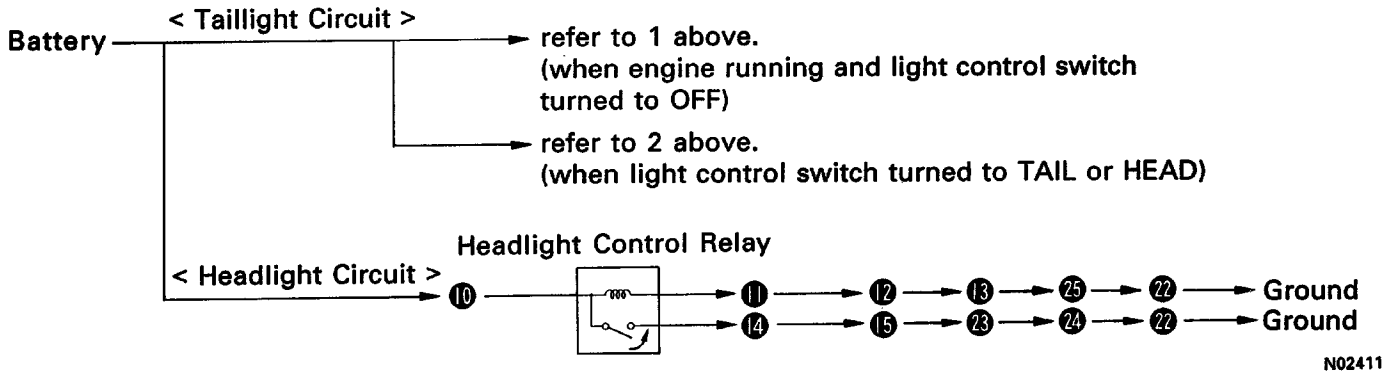


5. HEADLIGHT FLASH

Switch	Position
Ignition Switch	OFF or *ON
Light Control Switch	OFF or TAIL or HEAD
Headlight Dimmer Switch	Flash
*1 Door Courtesy Switch	0 N

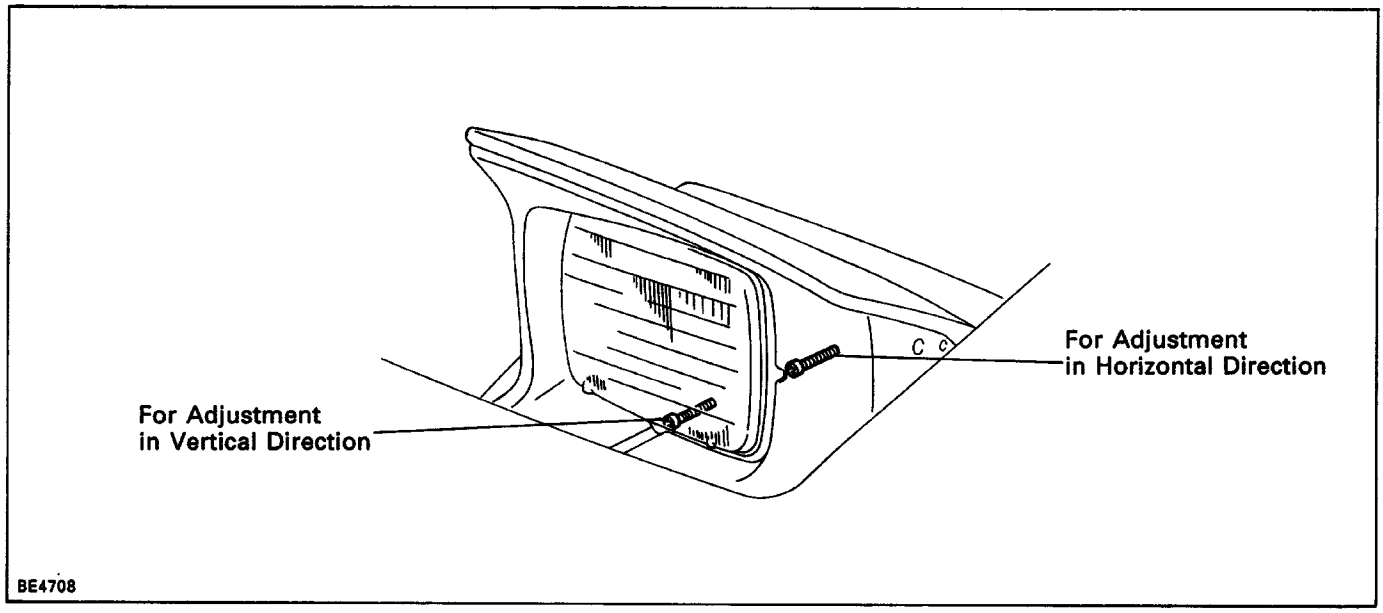
with Engine Running

Condition: Battery voltage → ❶, *(Battery voltage → ❷ → ❸, Battery voltage → ❹)
Continuity: ❺ → Ground



HEADLIGHT

HEADLIGHT AIMING ADJUSTMENT



TROUBLESHOOTING

You will find the troubles easier using the table well shown below. In this table, each number shows the priority of causes in troubles. Check each part in order. If necessary, replace these parts.

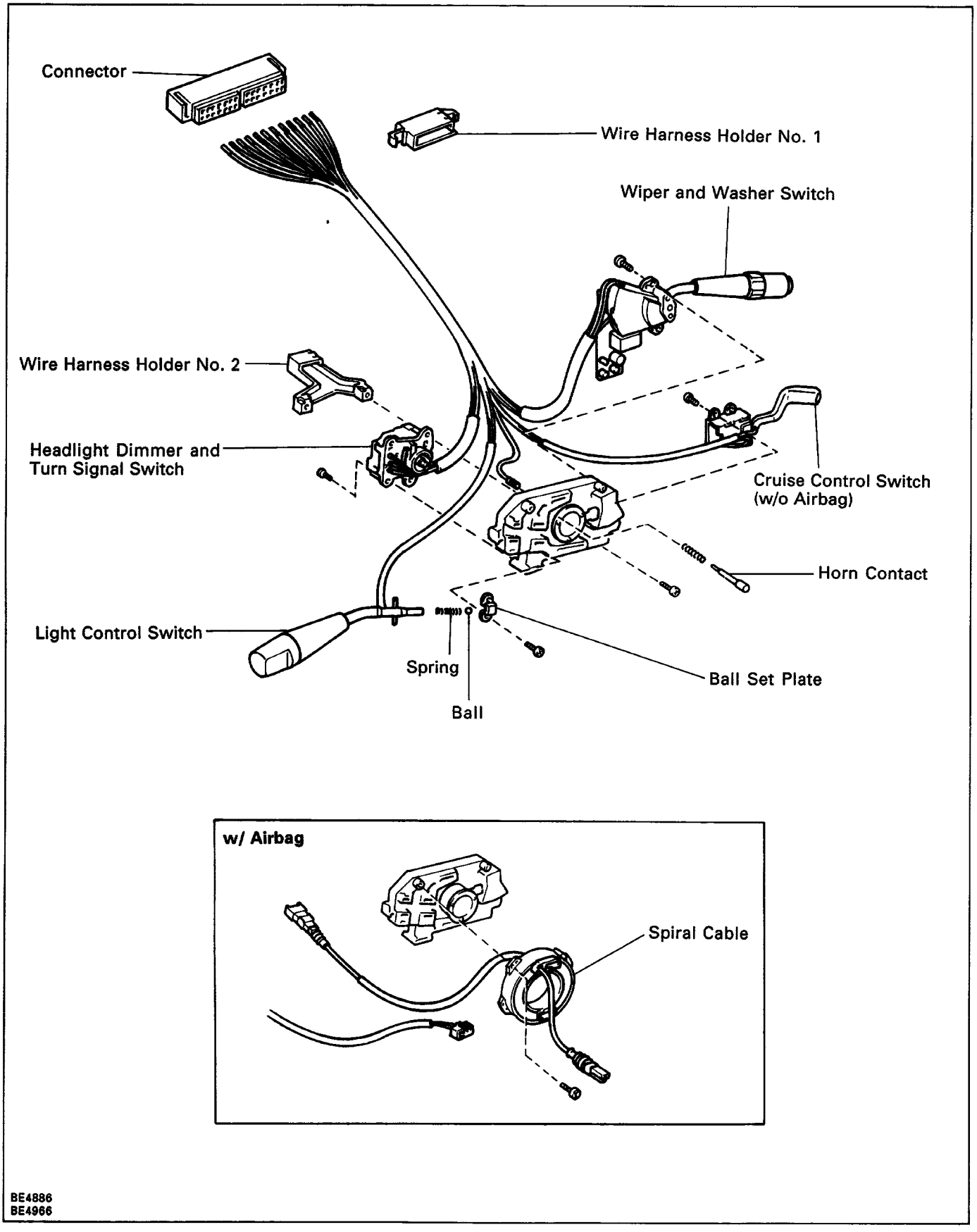
	See page	BE–3	BE–3	BE–3	BE–3	BE–3	BE–30	BE–30	BE–30	BE–30	BE–11	BE–49	BE–33	BE–34	–	–	–
	Pa its name	MAIN FL	RTR Fuse	GAUGE Fuse	HEAD Fuse	TAIL Fuse	Light Control Switch	Dimmer Switch	Headlight Control Relay	Taillight Control Relay	Ignition Switch	Door Courtesy Switch	Light Retractor Relay	Light Retractor Motor	Wire Harness	Headlight Bulb*	Taillight Bulb
	Trouble																
Headlight	Headlight does not light up. (Taillight is normal.)	1			2		3	4							5	6	
	Headlight does not light up. (Taillight does not light up.)						1	2							3	4	
	Only one light comes ON.				1										2	3	
	"Lo–Beam" does not light up.							3	1				2		4	5	
	"Hi–Beam" does not light up.							3	1				2		4	5	
	"Flash" does not light up.							3	1				2		4	5	
	Light Retractable System does not operate						2	3	4				6	5	7	8	
Taillight	Taillight does not light up. (Headlight does not light up.)	1				2	3								4	5	
	Taillight does not light up. (Headlight does not light up.)					1	2			3					4		5
	Only one light goes out or does not light up.														1		2
	Rear Combination light does not light up.					1									2		3
Daytime running light system does not operate.							4	5	1	2			3		6		
Light Auto Turn Off does not operate.				1							2	3	4		5		

* Sculptured Type: If operation is not as specified, replace the Headlight Bulb.
Rectangular Type: If operation is not as specified, replace the Headlight Assembly.

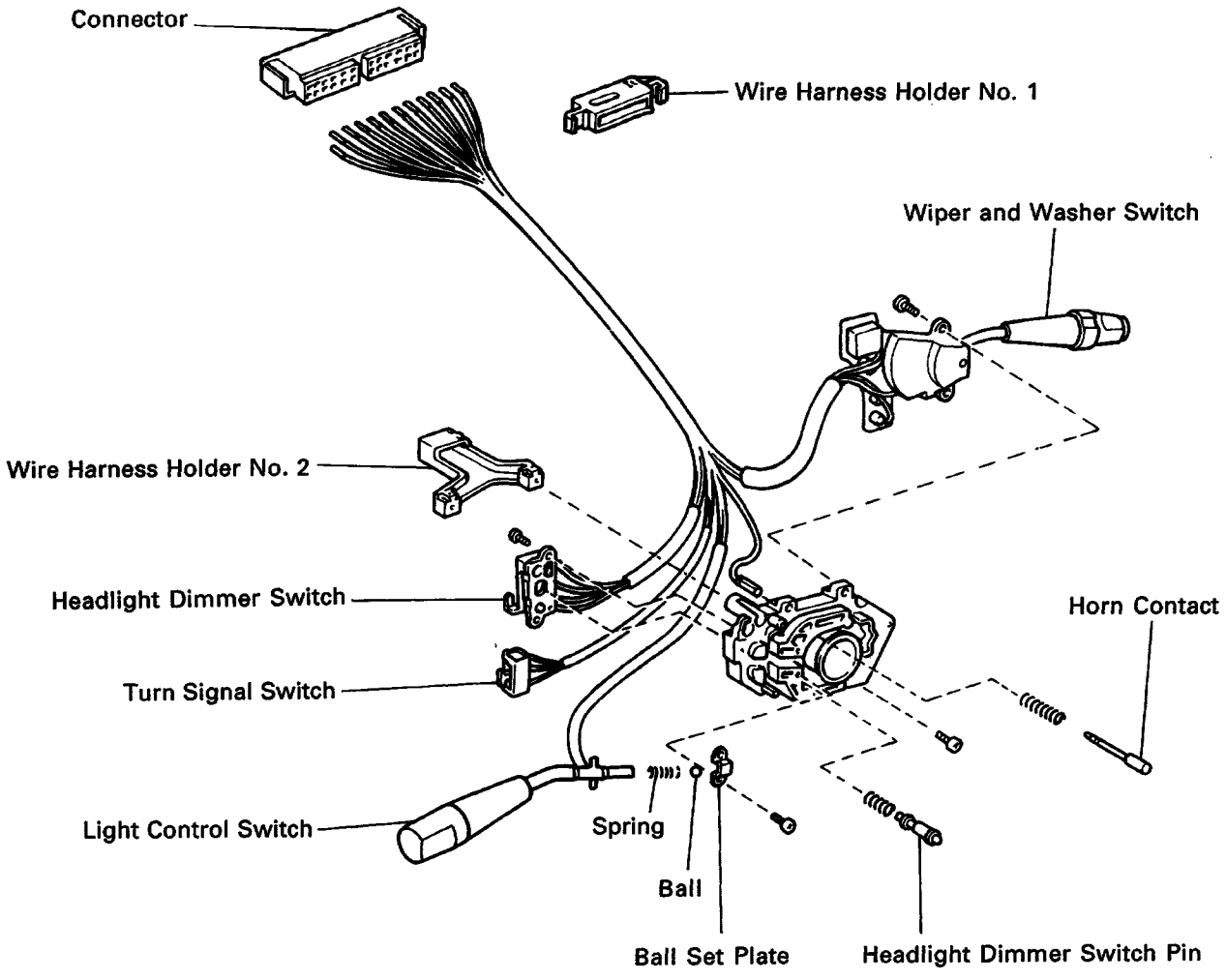
COMBINATION SWITCH

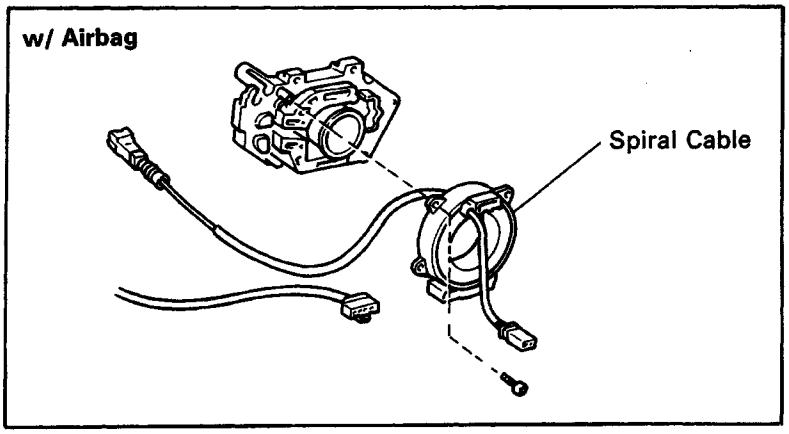
COMPONENTS

(A Type)



(B Type)





BE4372
BE4967

COMBINATION SWITCH DISASSEMBLY

1. REMOVE WIRE HARNESS HOLDER NO. 1

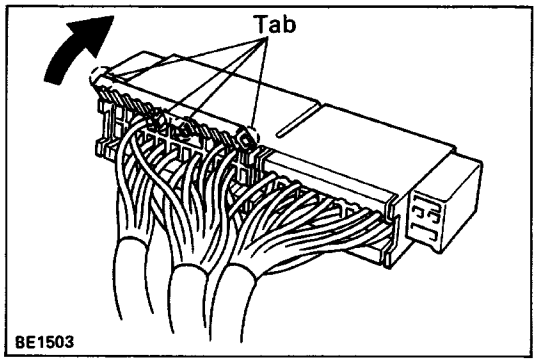
2. REMOVE WIRE HARNESS HOLDER NO. 2

3. 1w/Airbag)

REMOVE SPIRAL CABLE SUBASSEMBLY

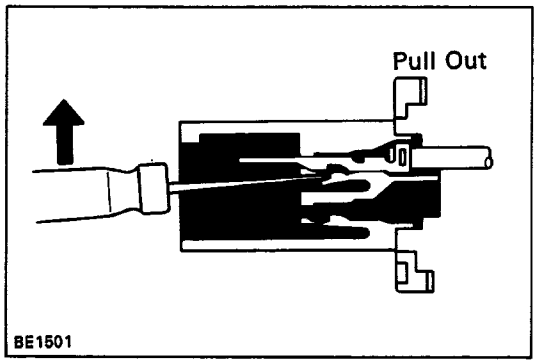
(a) Remove the four screws.

(b) Disconnect the connector and remove the spiral cable subassembly.



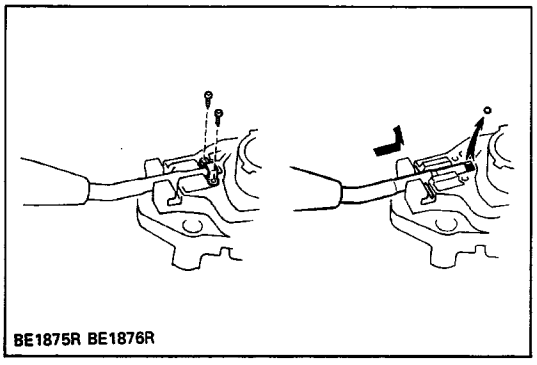
4. REMOVE TERMINALS FROM CONNECTOR

(a) Release four tabs and open the terminal cover.



(b) From the open end, insert a miniature screwdriver between the locking lug and terminal.

(c) Pry down the locking lug with the screwdriver and pull the terminal out from the rear.



5. REMOVE LIGHT CONTROL SWITCH

(a) Remove two screws and the ball set plate from the switch body.

(b) Remove the ball and slide out the switch from the switch body with the spring.

6. REMOVE HEADLIGHT DIMMER AND TURN SIGNAL SWITCH

(A Type)

Remove four screws and the switch from the switch body.

(B Type)

(a) Pry loose two locking lugs and remove the turn signal switch from the switch body.

(b) Remove two screws and the headlight dimmer switch from the switch body.

(c) Remove the headlight dimmer switch pin from the switch body with the spring.

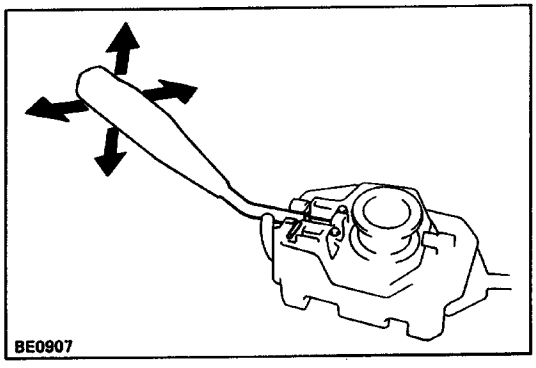
7. REMOVE WIPER AND WASHER SWITCH

Remove two screws and the switch from the switch body.

8. (A Type)
REMOVE CRUISE CONTROL SWITCH

Remove two screws and the switch from the body.

9. REMOVE HORN CONTACT

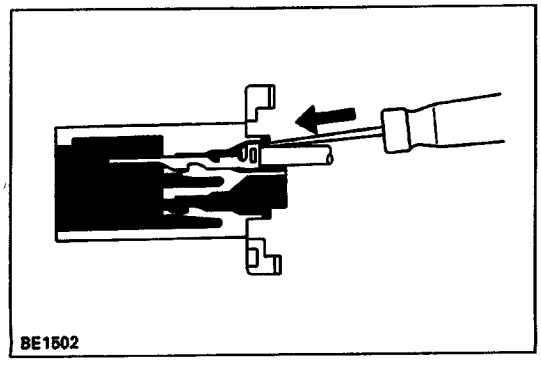


COMBINATION SWITCH ASSEMBLY

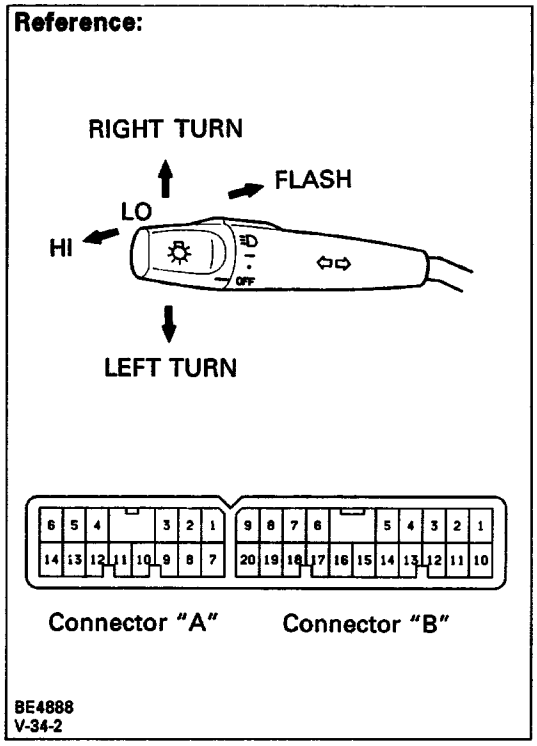
INSTALL PARTS OF COMBINATION SWITCH IN REVERSE SEQUENCE OF DISASSEMBLY

HINT:

- After installing the light control switch to the switch body, insure that the switch operation is smoothly.



- Push in the terminal until it is securely locked in the connector lug.



COMBINATION SWITCH INSPECTION

LIGHT CONTROL SWITCH CONTINUITY

Terminal (Color) / Switch position	A–2	A–11	A–13	B–20
OFF				
HOLD (•)		○		○
TAIL (–)	○	○		○
HEAD	○	○	○	

HEADLIGHT DIMMER SWITCH CONTINUITY

Terminal (Color) / Switch position	A–3	A–9	A–12	A–14
Flash		○	○	○
Low beam	○	○		
High beam		○	○	

TURN SIGNAL SWITCH CONTINUITY

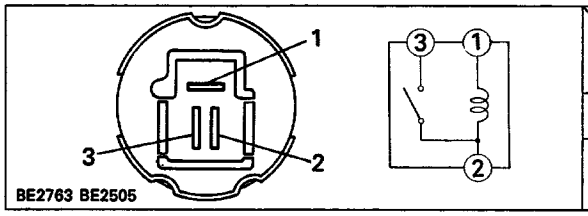
Terminal (Color) / Switch position	A–1	A–5	A-8
Left turn	○	○	
Neutral			
Right turn	○		○

If continuity is not as specified, replace the switch.

HEADLIGHT CONTROL RELAY

HEADLIGHT CONTROL RELAY INSPECTION

CONTINUITY



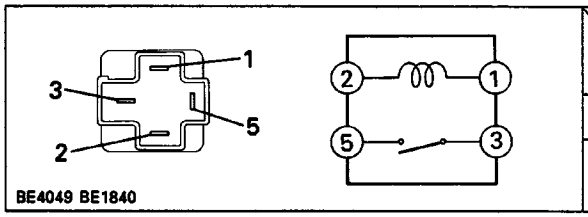
Terminal / Condition	1	2	3
Constant	○ ∿∿ ○		
Apply battery voltage to terminals 1 and 2.		○	○

If continuity is not as specified, replace the relay.

TAILLIGHT CONTROL RELAY

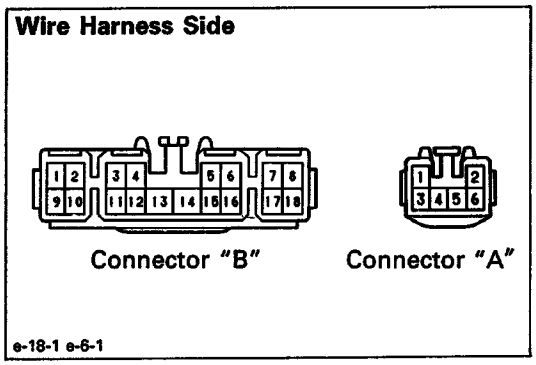
TAILLIGHT CONTROL RELAY INSPECTION

CONTINUITY



Terminal / Condition	1	2	3	5
Constant	○ ∿∿ ○			
Apply battery voltage to terminals 1 and 2.			○	○

If continuity is not as specified, replace the relay.



DAYTIME RUNNING LIGHT SYSTEM

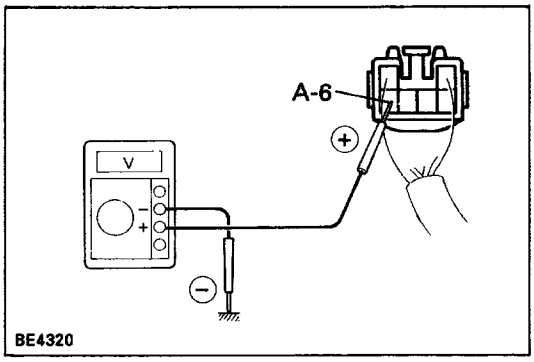
LIGHT RETRACTOR RELAY INSPECTION

RELAY CIRCUIT

Disconnect the connector from the relay and inspect the connector on the wire harness side as shown in the chart.

Check for	Tester connection	Condition		Specified value
Continuity	B-3 — Ground	Light control switch position	OFF or HOLD	No continuity
			HOLD or TAIL	Continuity
	A-5 — Ground	Parking brake switch position	OFF (Parking brake lever released)	No continuity
			ON (Parking brake lever engaged)	Continuity
	B-13 — Ground	Light control switch position	OFF or HOLD	No continuity
			TAIL o r HEAD	Continuity
	B-14 — Ground	Light control switch position: OFF, HOLD or TAIL		
		Headlight dimmer switch position	Low beam or High beam	No continuity
			Flash	Continuity
		Light control switch position: HEAD		Continuity
	B-18 — Ground	Constant		Continuity
Voltage	A-3 — Ground	Light control switch HEAD and Dimmer switch LO		No voltage
		Light control switch HEAD and Dimmer switch HI		Battery voltage
	A-4 — Ground	Engine	Stop	No voltage
			Running	Battery voltage
	A-12 — Ground	Constant		Battery voltage
	B-2 — Ground	Constant		Battery voltage
	B-4 — Ground	Ignition switch position	LOCK or ACC	No voltage
			O N o r START	Battery voltage
	B-8 — Ground	Constant		Battery voltage
	B-10 — Ground	Constant		Battery voltage

If circuit is as specified, inspect relay operation.

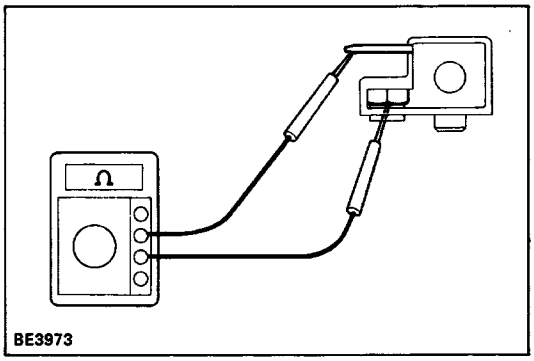


RELAY OPERATION

(a) Connect the positive W lead from the voltmeter to terminal A–6 and negative (–) lead to the ground.

(b) Check that there is battery voltage with light control switch is turned on.

If operation is not as specified, replace the relay.



PARKING BRAKE SWITCH

PARKING BRAKE SWITCH INSPECTION

INSPECT PARKING BRAKE

(a) Check that there is continuity between terminals with the switch ON (switch pin released).

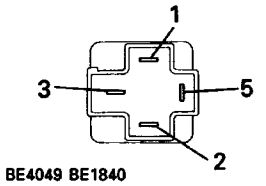
(b) Check that there is no continuity between terminals with the switch OFF (switch pin pushed in).

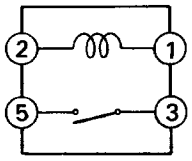
If operation is not as specified, replace the switch.

PANEL RELAY

PANEL RELAY INSPECTION

CONTINUITY





Terminal / Condition	1	2	3	5
Consistent	○—∿∿∿—○			
Apply battery voltage to terminals 1 and 2.			○—○	

If continuity is not as specified, replace the relay.

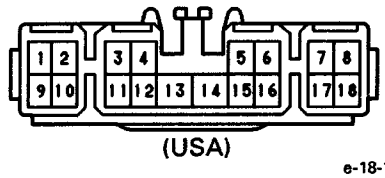
LIGHT RETRACTABLE SYSTEM

LIGHT RETRACTOR RELAY INSPECTION

RELAY CIRCUIT

Disconnect the connector from the relay and inspect the connector on wire harness side as shown in the chart.

Wire Harness Side

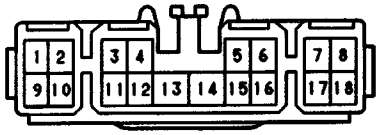


(USA)

e-18-1

e-6-1

Connector "A"



e-18-1

Connector "B"

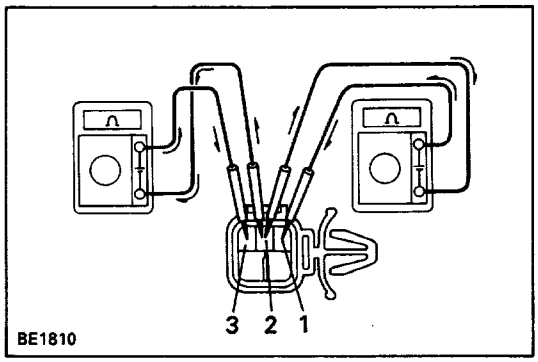
(CANADA)

Check for	Tester connection	Condition		Specified value
Continuity	3 (B-3) – Ground	Light control switch position	OFF or HEAD	No continuity
			HOLD or TAIL	Continuity
	6 (B-6) – Ground 16 (B-16) – Ground	Constant		*1 Continuity
	13 (B-13) – Ground	Light control switch position	OFF or HOLD	No continuity
			TAIL or HEAD	Continuity
	14 (B-14) – Ground	Light control switch position: OFF, HOLD or– TAIL		
		Headlight dimmer switch position	Low beam or High beam	No continuity
			Flash	Continuity
		Light control switch position: HEAD		Continuity
	18 (B-18) – Ground	Constant		Continuity
	*2 5 (B-5) – 1 (B-1)	Headlight position	Any position ex. lowermost	Continuity
	*2 7 (B-7) – 1 (B-1)		Lowermost	No continuity
	*2 5 (B-5) – 9 (B-9)	Headlight position	Any position ex. uppermost	Continuity
	7 (B-7) – 9 (B-9)		Uppermost	No continuity

Check for	Tester connection	Condition		Specified value
Voltage	2 (B–2) – Ground	Constant		Battery voltage
	4 (B–4) – Ground	Ignition switch position	LOCK or ACC	No voltage
			ON	Battery voltage
	8 (B–8) – Ground	Constant		Battery voltage
	10 (B–10) – Ground	Constant		Battery voltage
	15 (6–15) – Ground	Door– position	Closed (Courtesy switch OFF)	Battery voltage
			Opened (Courtesy switch ON)	No voltage

The number in ( ) mean for CANADA vehicle.
*1: There is resistance because this circuit is grounded through the motor.
: Connect the test leads so that the current from the ohmmeter can flow according to the above orders.

If circuit is as specified, replace the relay.



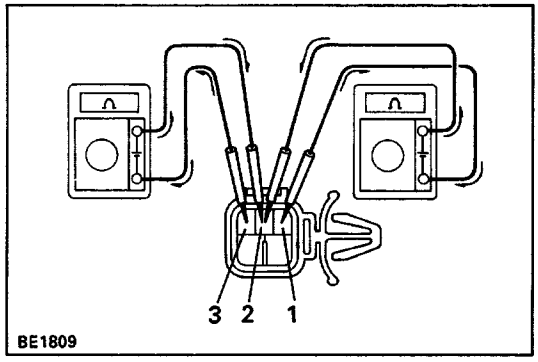
LIGHT RETRACTOR MOTOR

LIGHT RETRACTOR MOTOR INSPECTION

DIODE CONTINUITY

(a) Set the motor to any position except the uppermost or lowermost position.

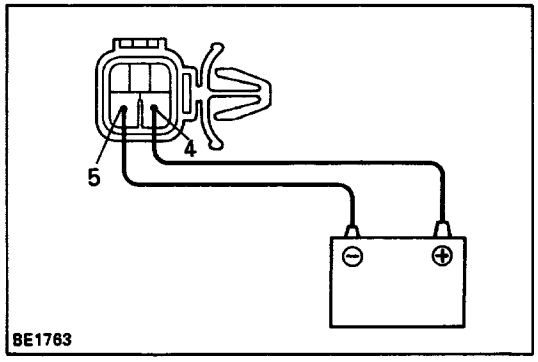
(b) Connect the ohmmeter test lead so that the current from the meter can flow from terminal 1 to 2, check that there is no continuity.



(c) Connect the ohmmeter test lead so that the current from the meter can flow from terminal 3 to 2, check that there is no continuity.

(d) Reverse the test leads of ohmmeter, check that there is continuity.

If continuity is not as specified, replace the motor.



OPERATION

Connect the positive W lead from the battery to ter–minal 4 and the negative (–) lead to terminal 5, check that the motor operates.

If operation is not as specified, replace the motor.