

LIGHTING SYSTEM

SPECIFICATIONS

GENERAL SPECIFICATIONS

Items	Specifications
Exterior lights	
Headlight W	65155
Fog light W	35* ¹ or 55* ²
Front combination light	
Turn-signal light / side marker light CP	43/3 (3496)
Rear combination light	
Turn-signal light / side marker and tail light CP	32/2 (2057)* ⁴
Stop light / tail light CP	32/2 (2057)* ¹
Turn-signal and stop light / side marker and tail CP	3212 (2057)* ²
Side marker and tail light CP	3 (168)* ²
Back-up light CP	21
License plate light CP	3 (168)
High-mounted stop light CP	32 (1156) or LED* ³ : Light' Emitting Diode
Engine compartment inspection light W	3.8 (194)
Interior lights	
Foot light W	3.4 (158)
Dome light W	8
Spot light W	8
Door light W	5
Glove compartment light W	3.4 (158)
Luggage compartment light W	5

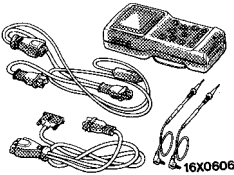
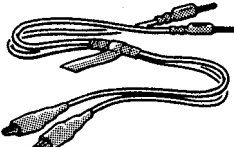
NOTE

- (1) *¹: Vehicles with small bumper
 (2) *²: Vehicles with large bumper
 (3) *³: Vehicles with rear spoiler
 (4) The values in parentheses denote SAE trade number.

SERVICE SPECIFICATIONS

Items	Specifications
Limit	
Headlight intensity	20,000 cd or more

SPECIAL TOOL

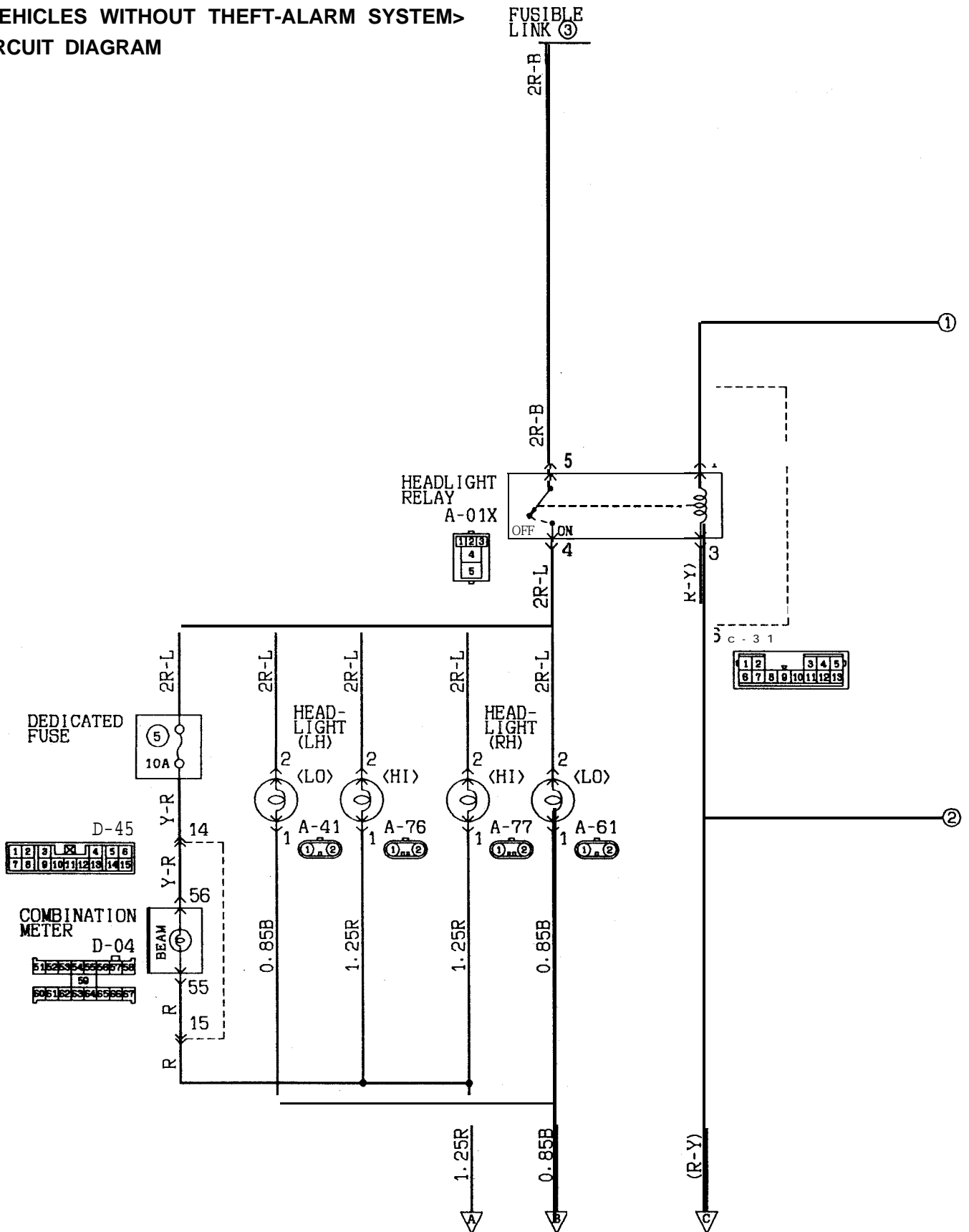
Tool number and tool name	Replaced by Miller tool number	Application
 MB991 502 Scan Tool (MUT-II)	DRB-II Scan Tool	Checking the lighting system
 MB991 529 Diagnostic trouble code check harness	MB991 529	Checking the lighting system using a voltmeter

TROUBLESHOOTING

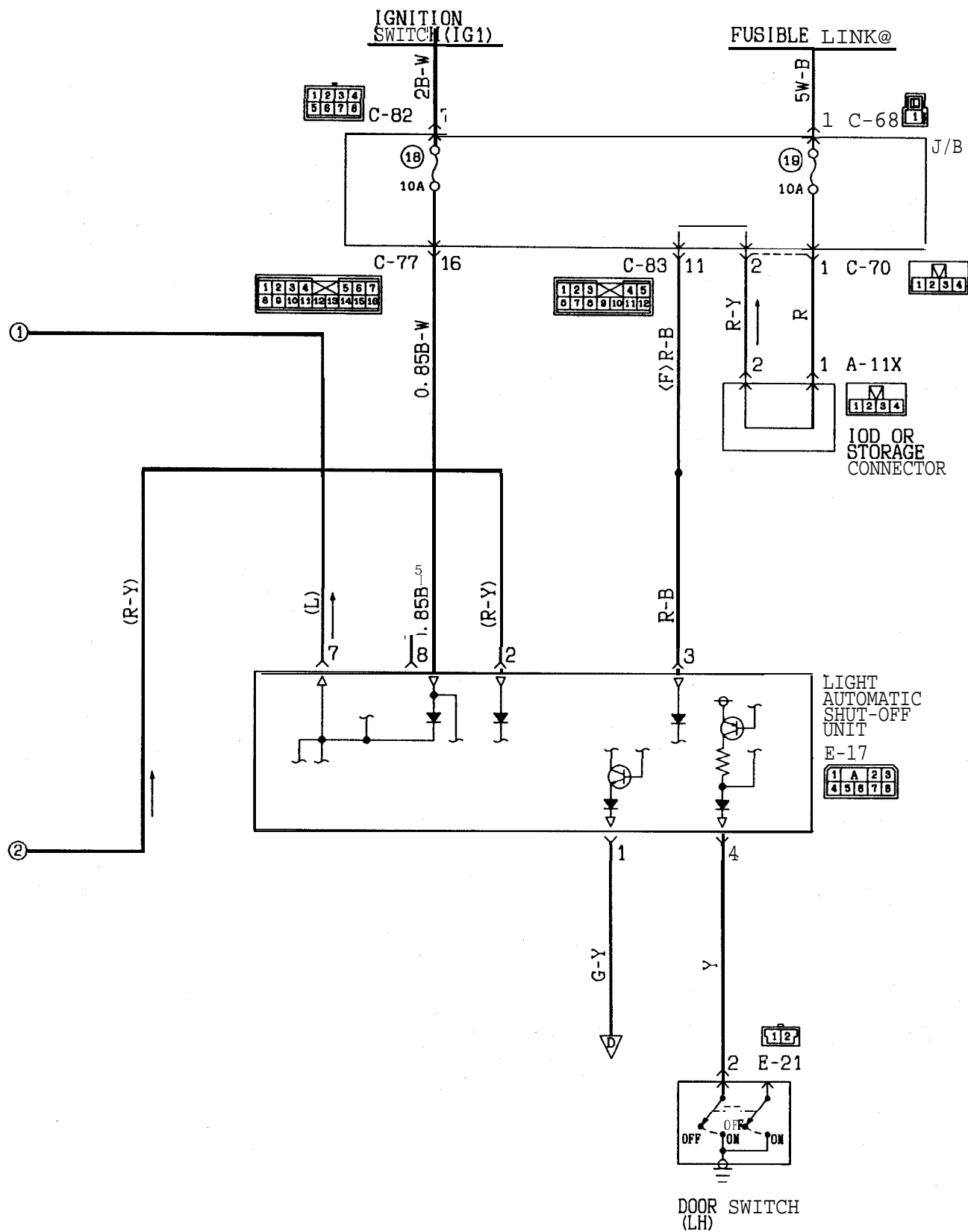
HEADLIGHT CIRCUIT (VEHICLES FOR U.S.)

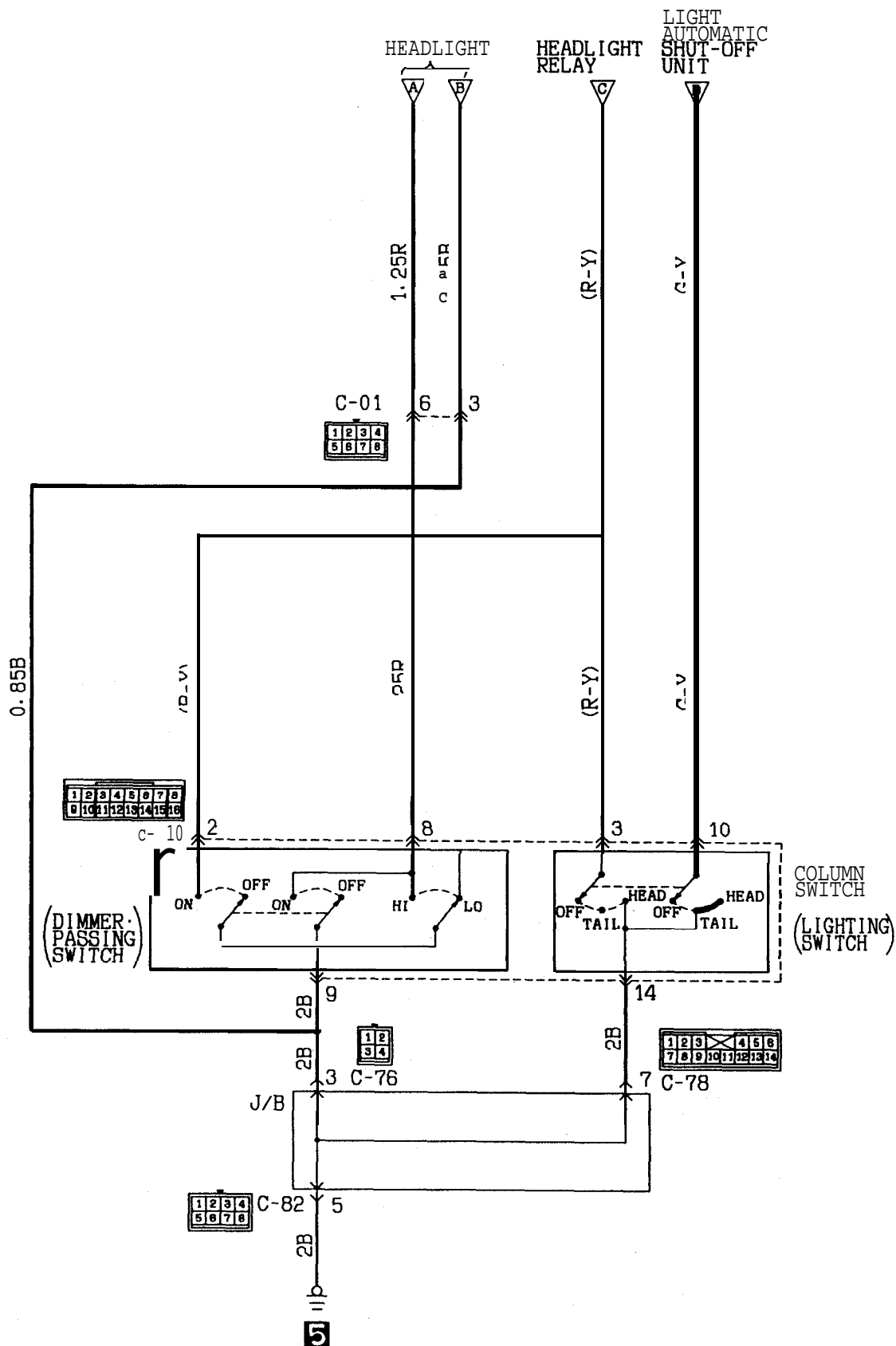
<VEHICLES WITHOUT THEFT-ALARM SYSTEM>

CIRCUIT DIAGRAM



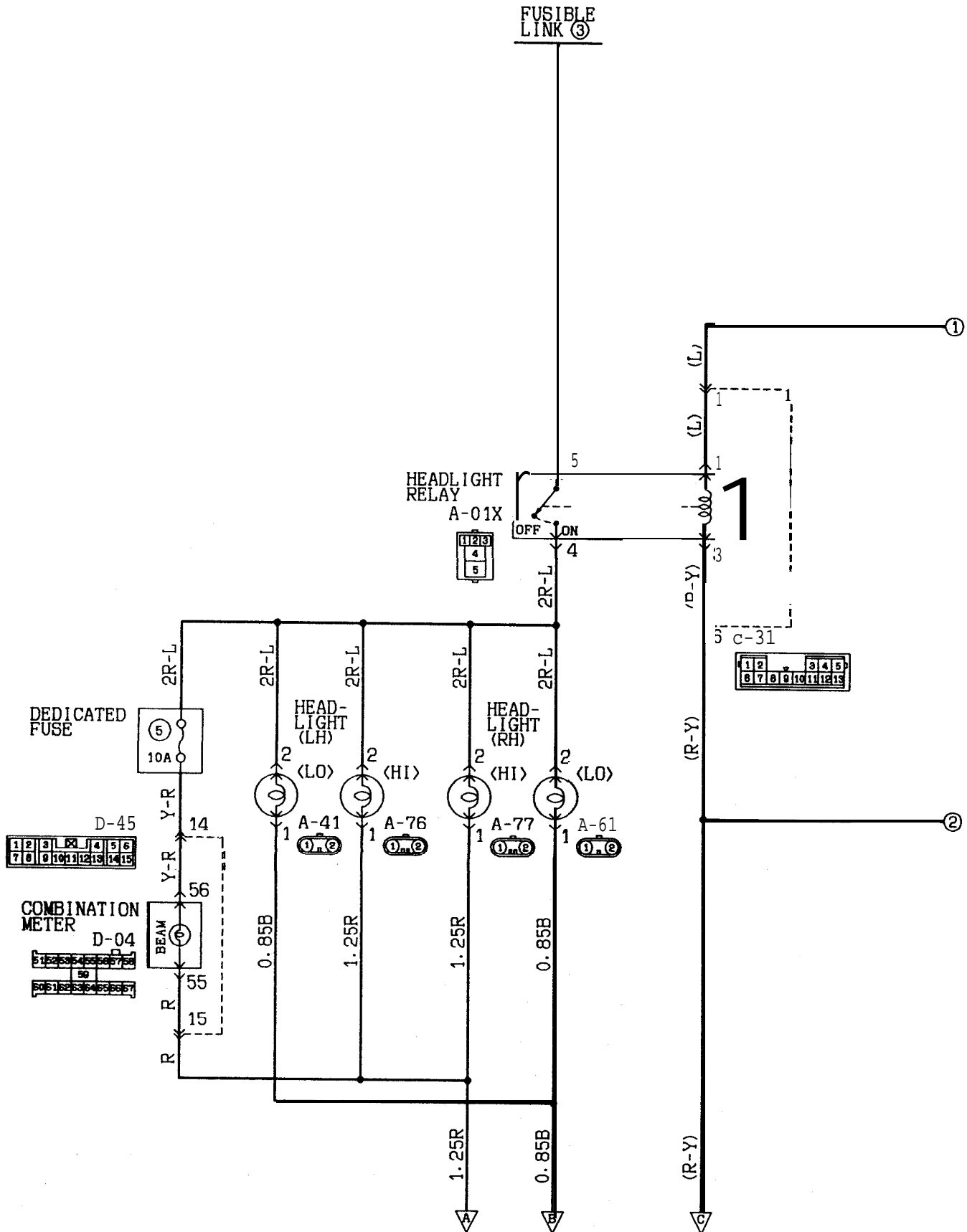
**HEADLIGHT CIRCUIT (VEHICLES FOR U.S.) <VEHICLES WITHOUT THEFT-ALARM SYSTEM>
(CONTINUED)**

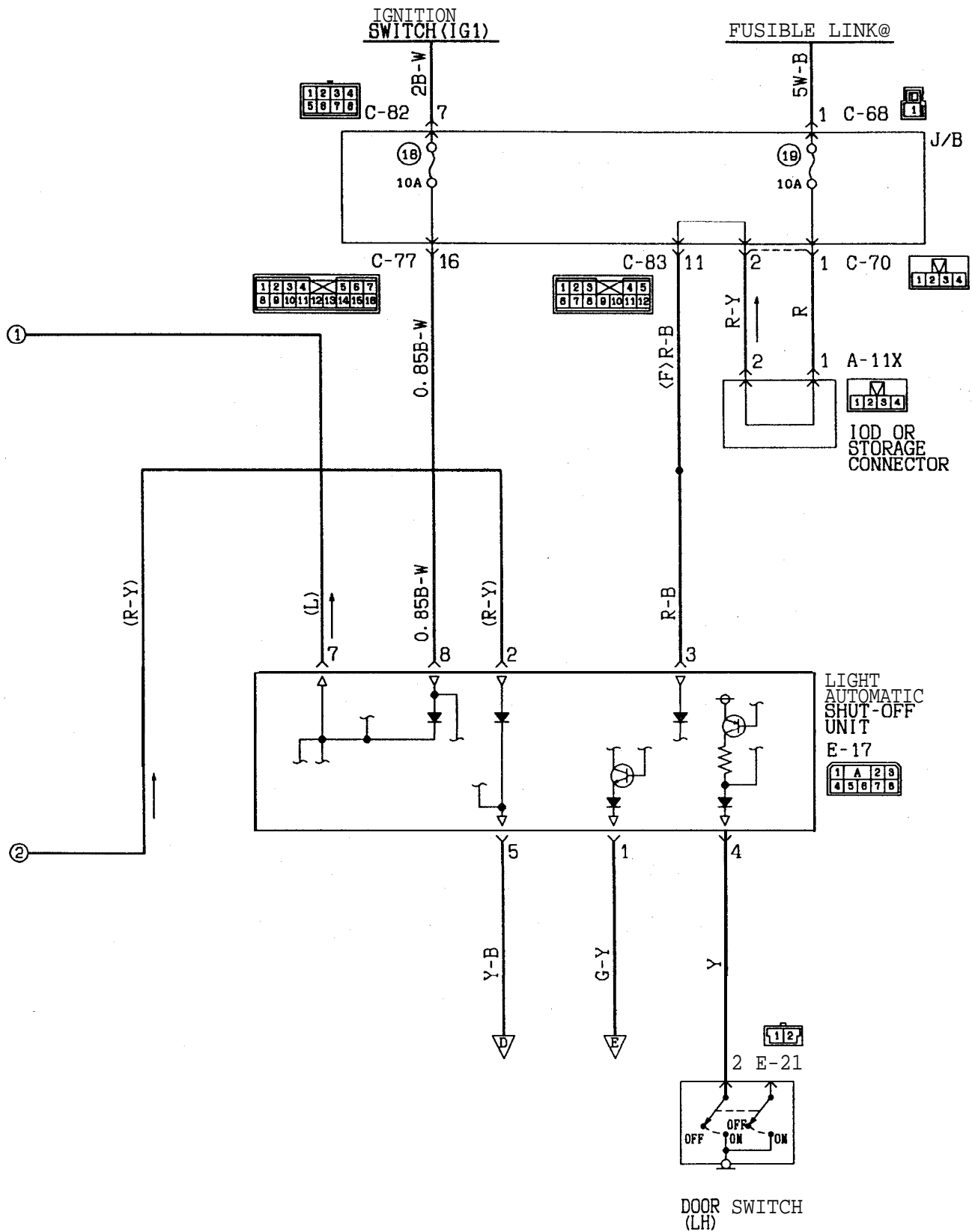




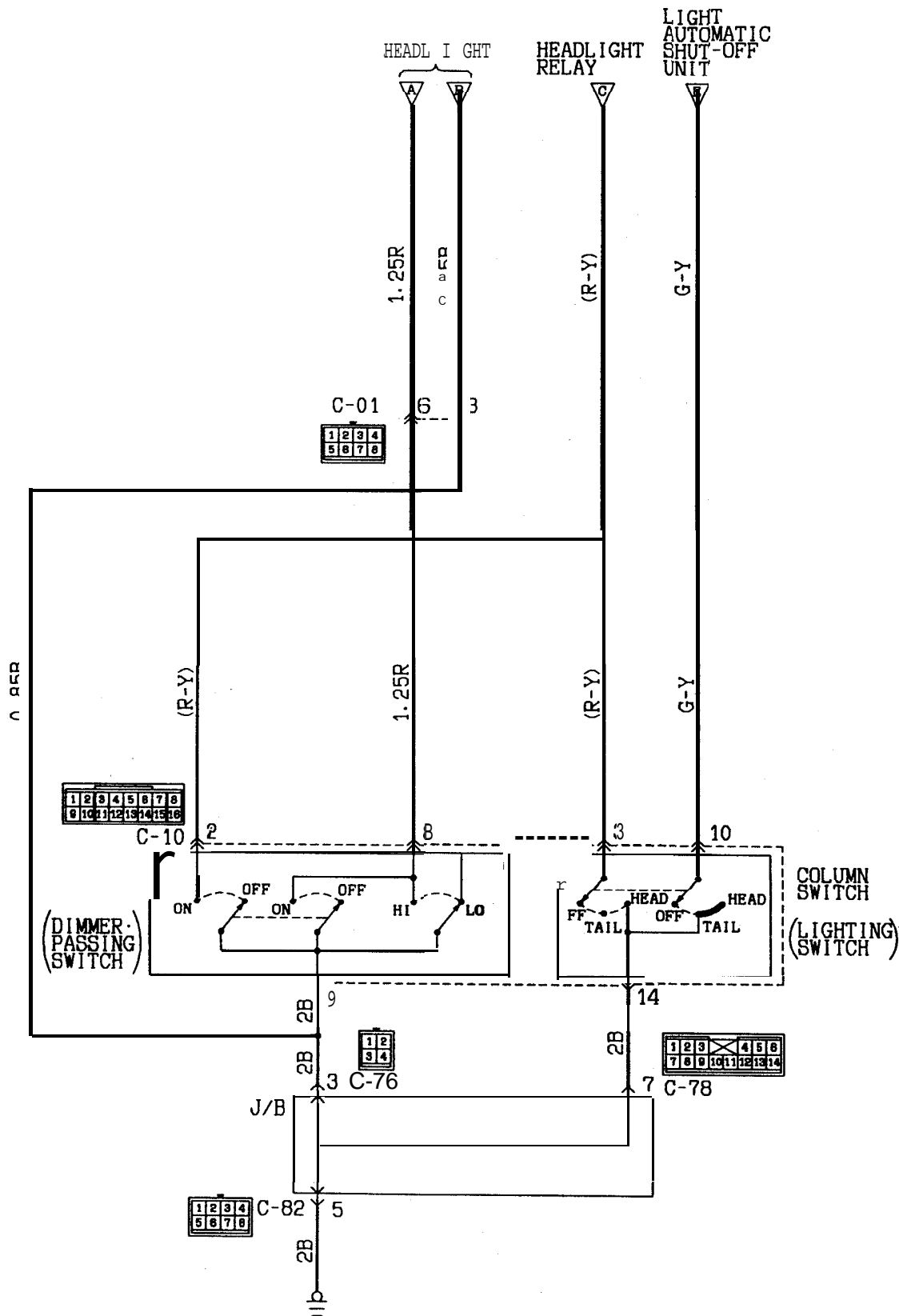
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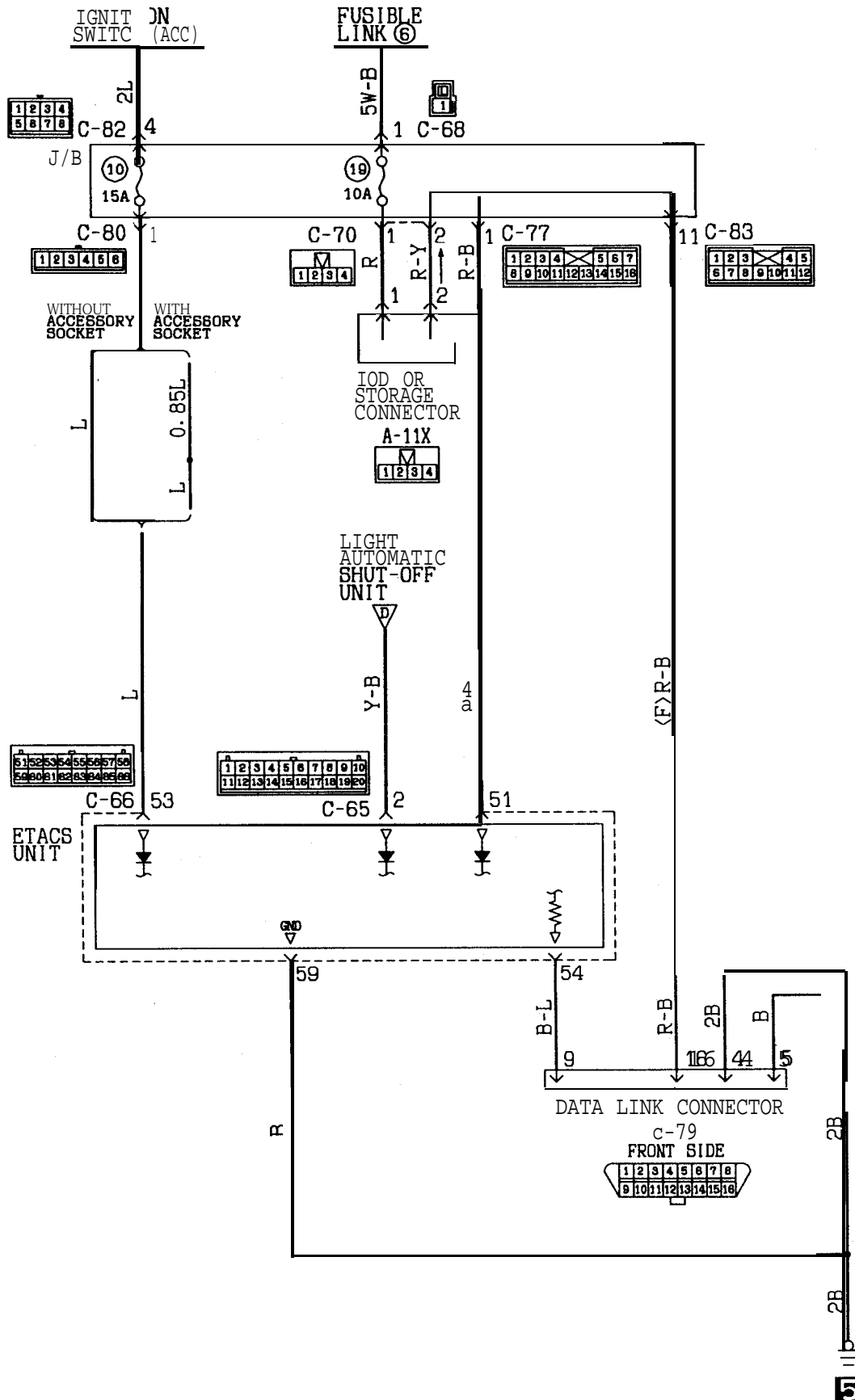
CIRCUIT DIAGRAM





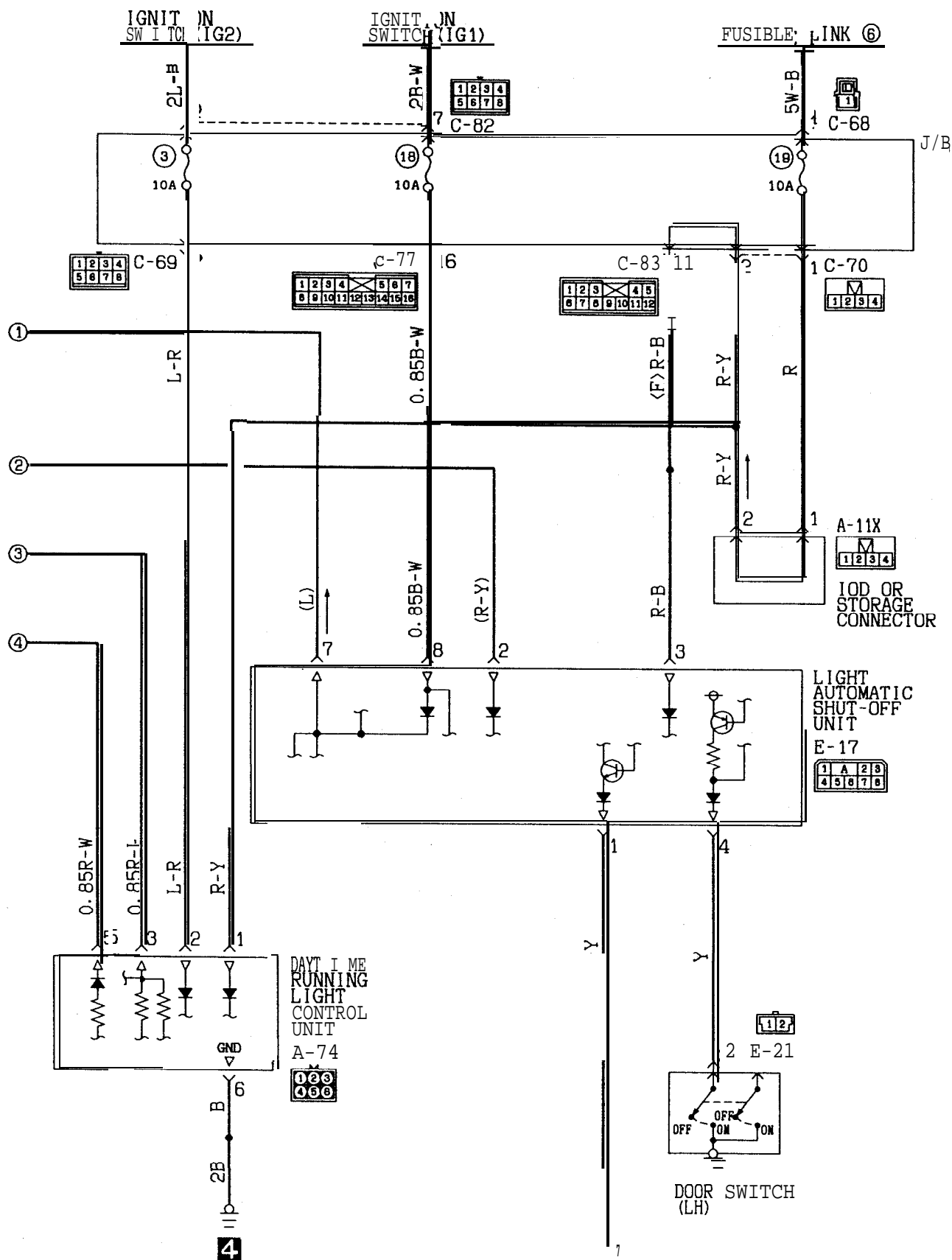
<VEHICLES WITH THEFT-ALARM SYSTEM> (CONTINUED)





CIRCUIT DIAGRAM





0.85B

UPPER BEAM RELAY

HEADLIGHT RELAY

LIGHT AUTOMATIC SHUT-OFF UNIT

C-01

C-10

(DIMMER-PASSING SWITCH)

C-76

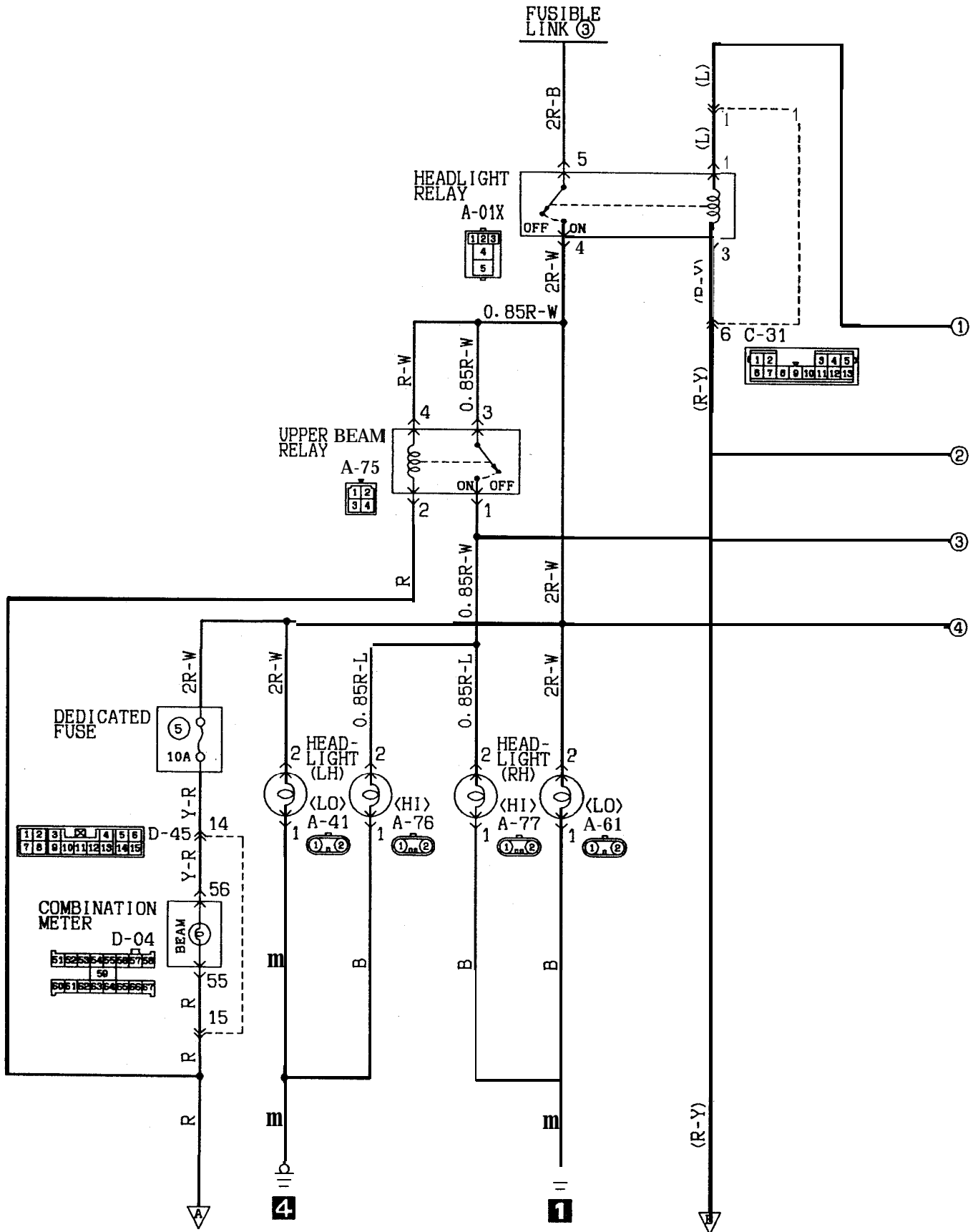
C-82

C-78

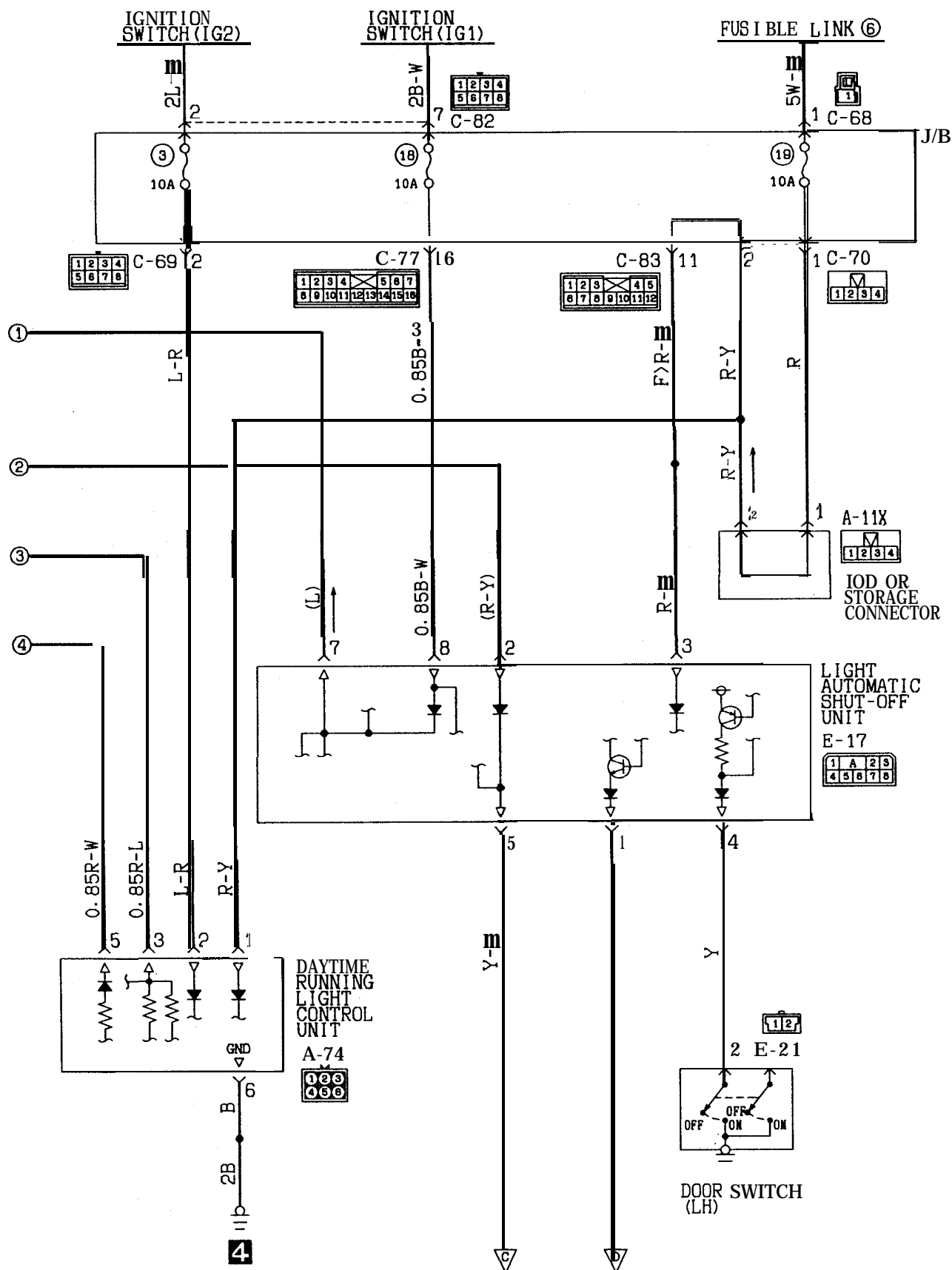
COLUMN SWITCH (LIGHTING SWITCH)

Wiring details include terminal blocks with pin numbers (e.g., 1-8, 1-14), switch positions (OFF, ON, HI, LO, HEAD, TAIL), and wire labels (A, B, C, R, D-V, R-Y, G-Y, 2B, 3, 5, 6, 7, 8, 9, 10, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100).

<VEHICLES WITH THEFT-ALARM SYSTEM>
CIRCUIT DIAGRAM

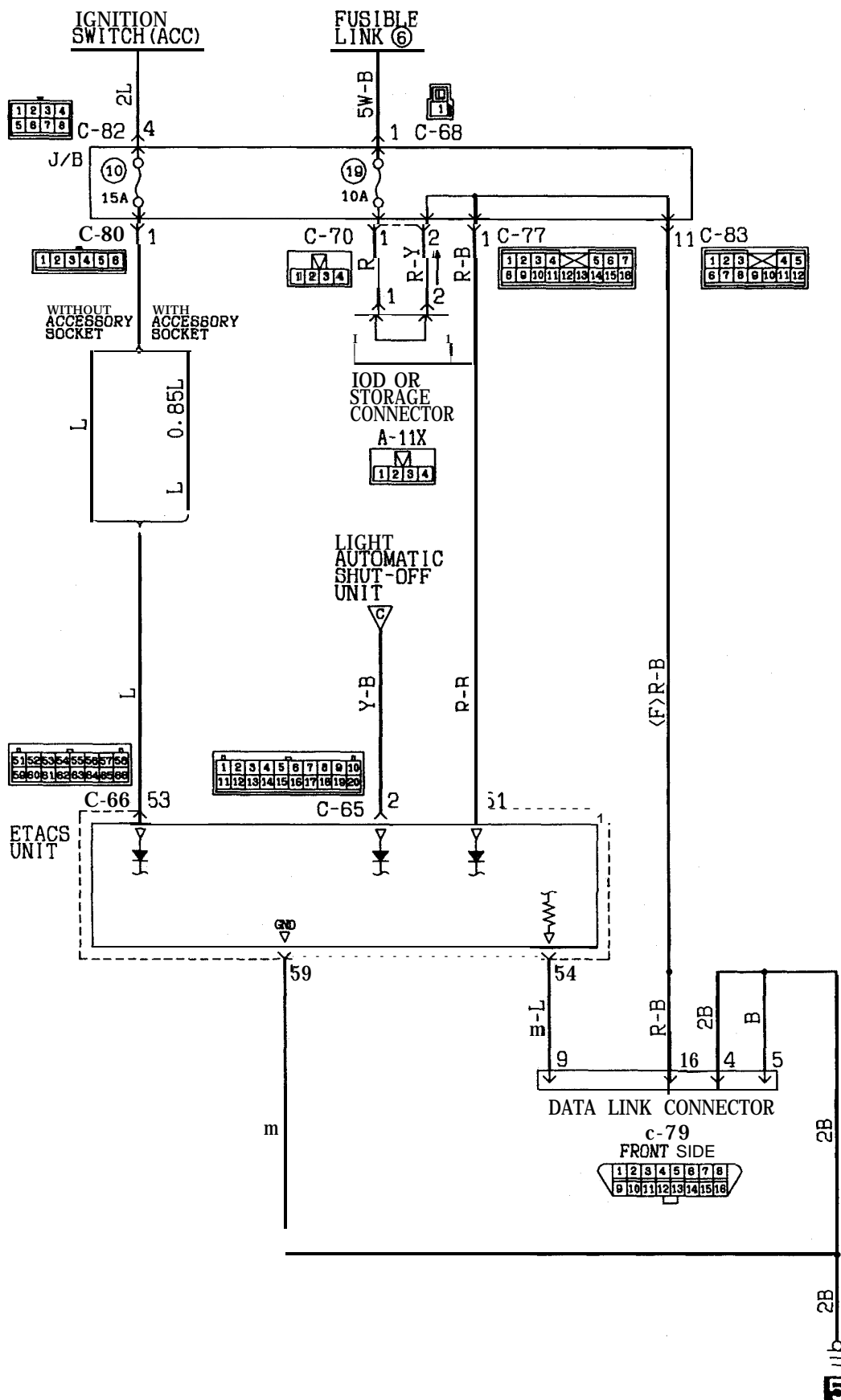


<VEHICLES WITH THEFT-ALARM SYSTEM> (CONTINUED)



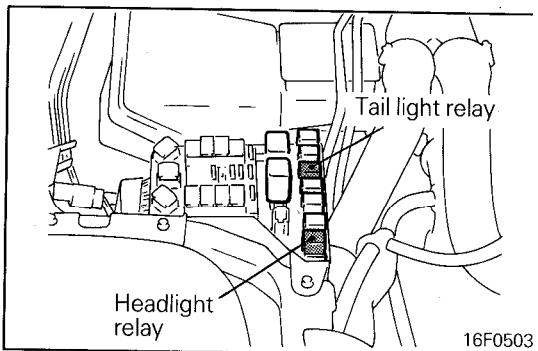


<VEHICLES WITH THEFT-ALARM SYSTEM> (CONTINUED)

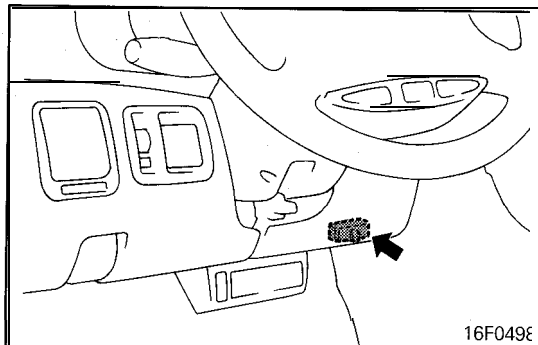


COMPONENT LOCATION

Headlight relay/Tail light relay

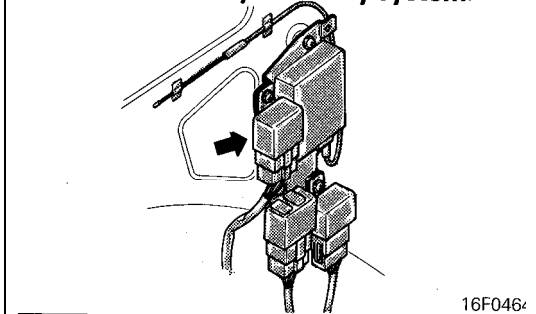


Data link connector



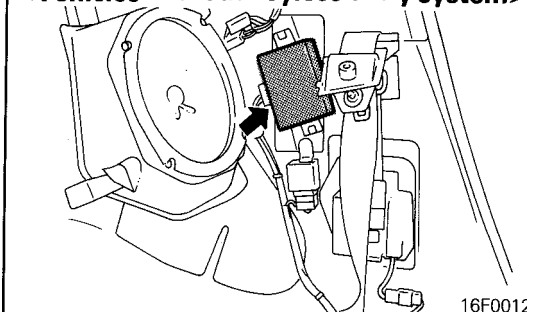
Light automatic shut-off unit

<Vehicles with keyless entry system>

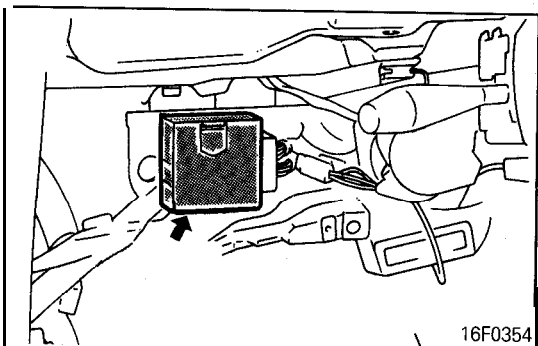
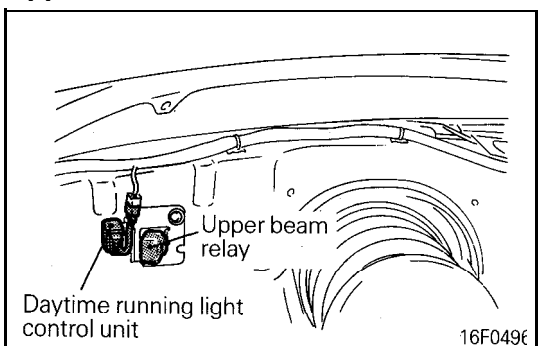


Light automatic shut-off unit

<Vehicles without keyless entry system>



ETACS unit

Daytime running light control unit/
Upper beam relay

OPERATION**<Headlights ON operation>**

- Turn the lighting switch to “HEAD”, and the contact point of the headlight relay will be closed to turn “ON” the headlight relay.
- When the dimmer switch is placed in the LO position, the headlight low-beams go on. When the switch is placed in the HI position, the headlight low-beams and high-beams go on.

<High-beam indicator light>

- When the high-beam is lit or when the passing switch is activated, the high-beam indicator light will be lit.

<Light automatic shut-OFF system>

- If the driver's door is opened after the ignition switch is turned to “OFF” or the ignition switch is turned to “OFF” after the driver's door is opened when the headlights are lit, the current which flows to the coil side of the headlight relay will be cut off by the light automatic shut-OFF unit opening the contact point, and the headlight relay will be turned “OFF” to automatically shut off the headlights.
- To turn the headlights on again after they are automatically shut off, turn the lighting switch to “OFF” once and then back to “HEAD”, or turn the ignition switch to “ACC” or “ON”, and the automatic shut-OFF will be cancelled and the current will flow from the light automatic shut-OFF unit to the coil side of the headlight relay again to close the contact point. Thus, the headlight relay will be turned “ON” to turn on the headlights.

NOTE

When the lighting switch is at “HEAD”, the light automatic shut-OFF system is valid for tail lights, parking and side marker lights, license plate light, illumination light, etc.

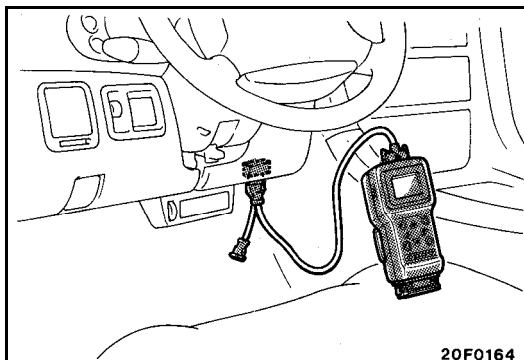
(Refer to P.8-315.)

TROUBLESHOOTING HINTS

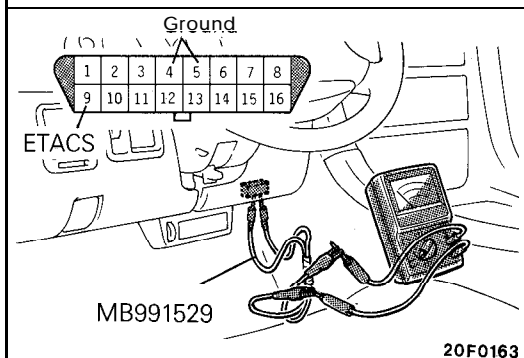
Phenomenon		Checking method
Headlights don't come on.	But the tail lights do illuminate.	<ul style="list-style-type: none"> • Check the headlight relay. (Refer to P.8-338.) • Check the lighting switch. (Refer to P.8-344.) • Check the light automatic shut-OFF unit. (Refer to P.8-339.)
	The tail lights also don't illuminate.	<ul style="list-style-type: none"> • Check the fusible link ③.
The low beam at both sides doesn't illuminate.		<ul style="list-style-type: none"> • Check the "LO" contacts of the dimmer switch.
The upper beam at both sides doesn't illuminate.	The passing signal functions OK.	<ul style="list-style-type: none"> • Check the "HI" contacts of the dimmer switch.
	The passing signal doesn't function.	<ul style="list-style-type: none"> • Check the dimmer switch. (Refer to P.8-344.)
One headlight doesn't illuminate.		<ul style="list-style-type: none"> • Check the bulb.
Can't switch from low to high beam or vice versa.		<ul style="list-style-type: none"> • Check the dimmer switch. (Refer to P.8-344.)
The high beam indicator light doesn't illuminate.	The high beam of the headlights is normal.	<ul style="list-style-type: none"> • Check dedicated fuse No. ⑤. • Check the bulb.
Headlights are not automatically shut off.	Tail lights are automatically shut off.	<ul style="list-style-type: none"> • Check the light automatic shut-OFF unit. (Refer to P.8-339.)
	Tail lights are not automatically shut off either.	<ul style="list-style-type: none"> • Check the driver's side door switch. (Refer to GROUP 23A – Door Assembly). • Check the light automatic shut-OFF unit. (Refer to P.8-339.)

NOTE

For information concerning the theft-alarm system, refer to P.8-412.



20F0164



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Input Signal

Using the scan tool or voltmeter, check whether or not the input signals from each switch are being input to the ETACS unit.

When using the scan tool

- (1) Connect the scan tool to the data link connector.

Caution

Turn off the ignition switch beforehand whenever the scan tool is connected or disconnected.

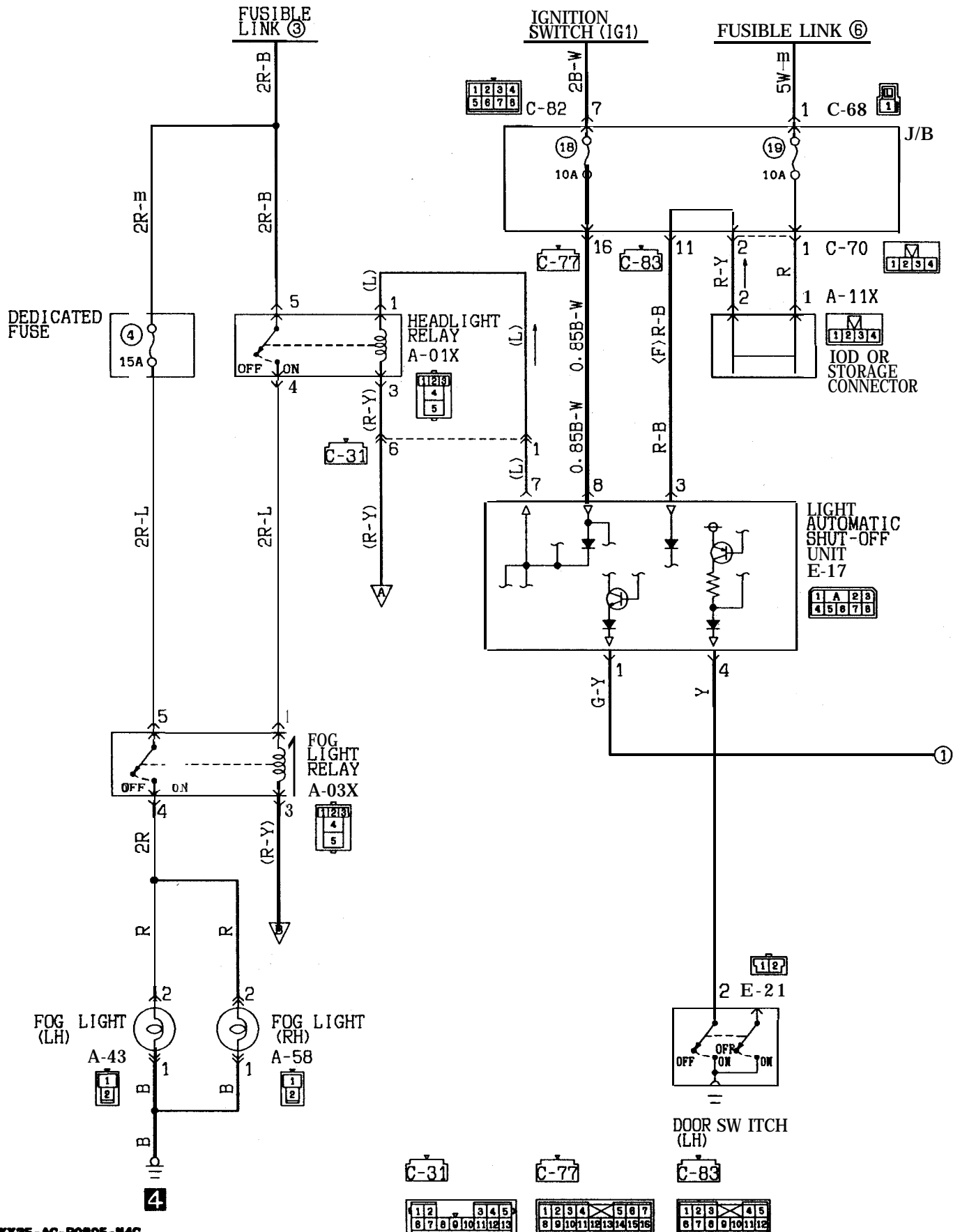
- (2) If the scan tool makes a peep sound when each switch is operated (turned ON/OFF), the input signal to ECU is normally sent from the switch circuit system.

When using a voltmeter

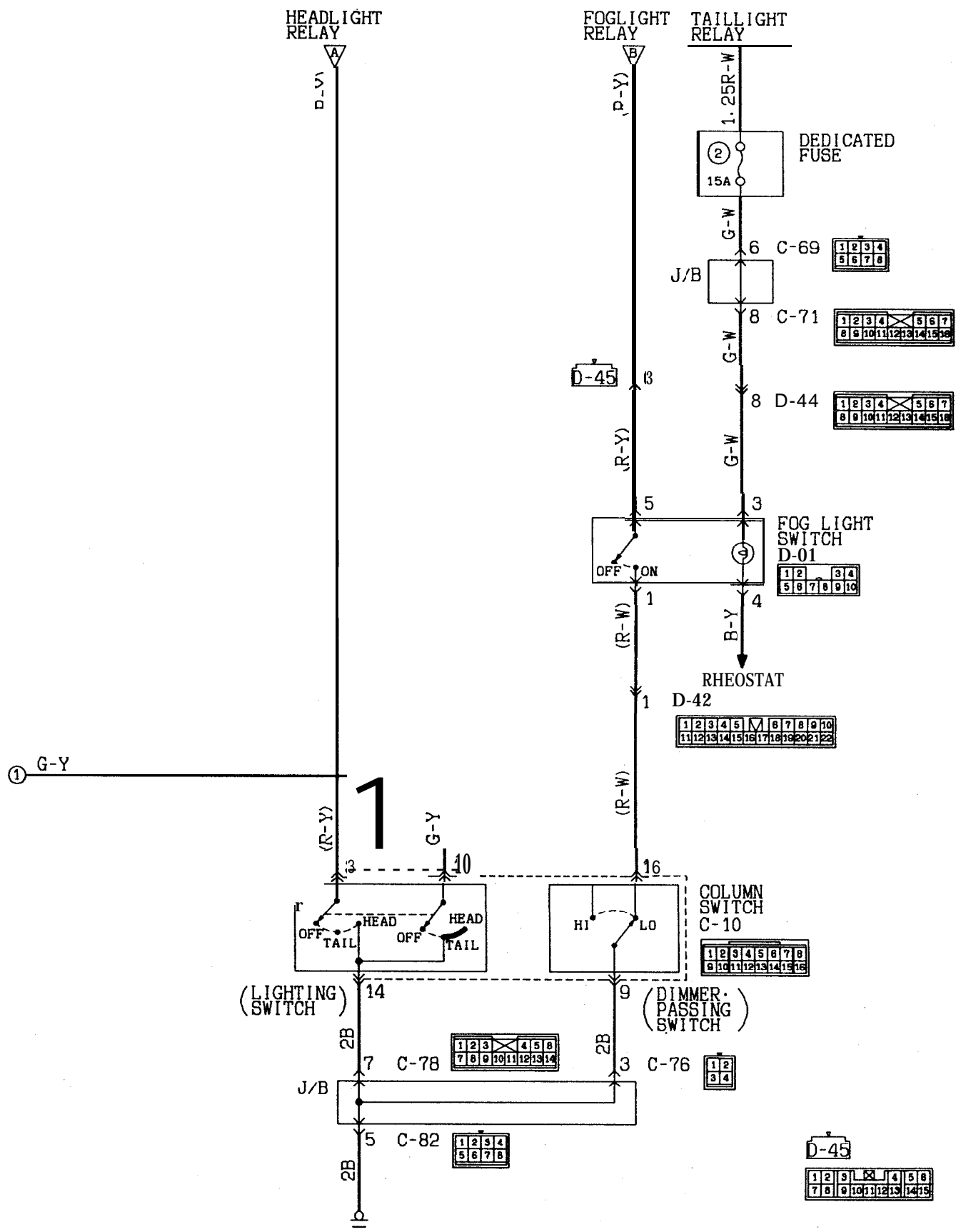
- (1) Connect a voltmeter to the ETACS terminal and the ground terminal of the data link connector using the special tool.
- (2) If the voltmeter pointer deflects once when each switch is operated (turned ON/OFF), the input signal to ECU is normally sent from the switch circuit system.

FOG LIGHT CIRCUIT

CIRCUIT DIAGRAM



FOG LIGHT CIRCUIT (CONTINUED)



OPERATION

- When the fog light switch is placed in the ON position with the lighting switch in the HEAD position and the dimmer switch in the LO position, current flows through the dedicated fuse ④ to the coil of the fog light relay, the fog light switch, the dimmer switch and ground, causing the contacts of the fog light relay to close.
When the contacts of the fog light relay close, current flows through the dedicated fuse ④ to the contacts of the fog light relay, the fog lights and ground, causing the fog lights to come on.
- When the dimmer switch is placed in the HI position or the lighting switch is placed in the TAIL or OFF position while the fog lights are ON, current supply to the fog light relay or headlight relay is cut off. As a result, the contacts of the fog light relay open, and the fog lights go out.

NOTE

The fog lights are included in the light automatic shut-OFF system operation. (Refer to P.8-304.) The illumination lights are also included in the same system operation.

Fog Lights Operation Conditions

Fog light switch	Lighting switch	Dimmer switch	Fog lights
ON position	OFF position or TAIL position	LO position	OFF
		HI position	OFF
	HEAD position	LO position	ON
		HI position	OFF

TROUBLESHOOTING HINTS

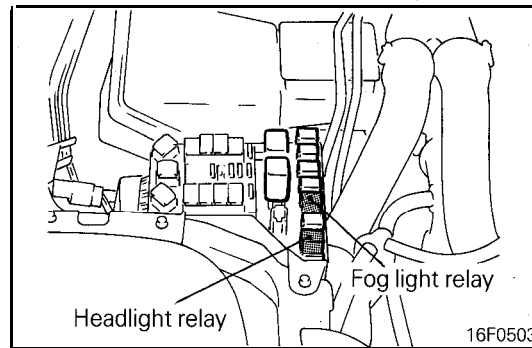
1. The right or left fog lights only go on.
 - Check the bulb.
2. Fog lights do not go on when the fog light switch is set at ON.
 - Check the dedicated fuse ④.
 - Check the fog light relay. (Refer to P.8-338.)
 - Check the fog light switch.

NOTE

For the light automatic shut-OFF system troubleshooting hints, refer to P.8-305.

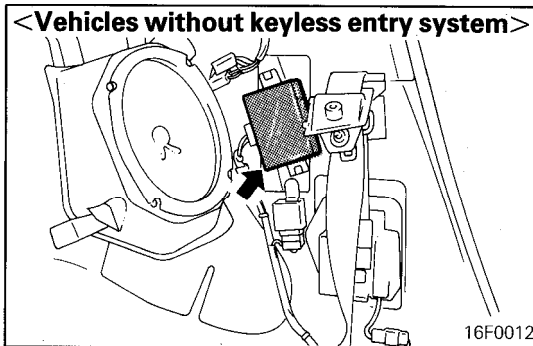
COMPONENT LOCATION

Headlight relay/Foglight relay



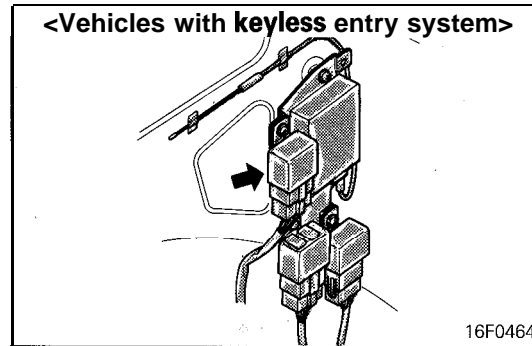
Light automatic shut-off unit

<Vehicles without keyless entry system>



Light automatic shut-off unit

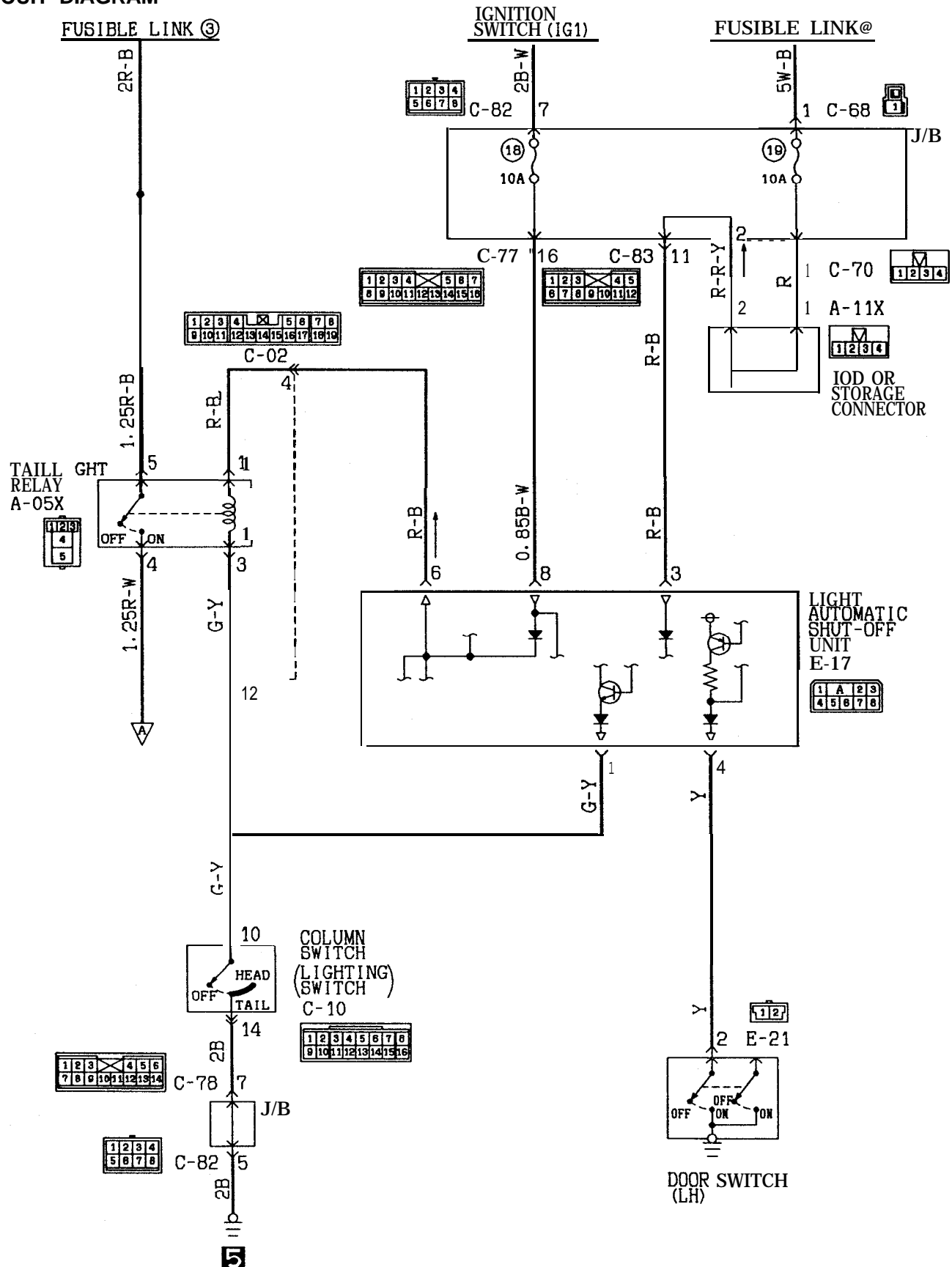
<Vehicles with keyless entry system>



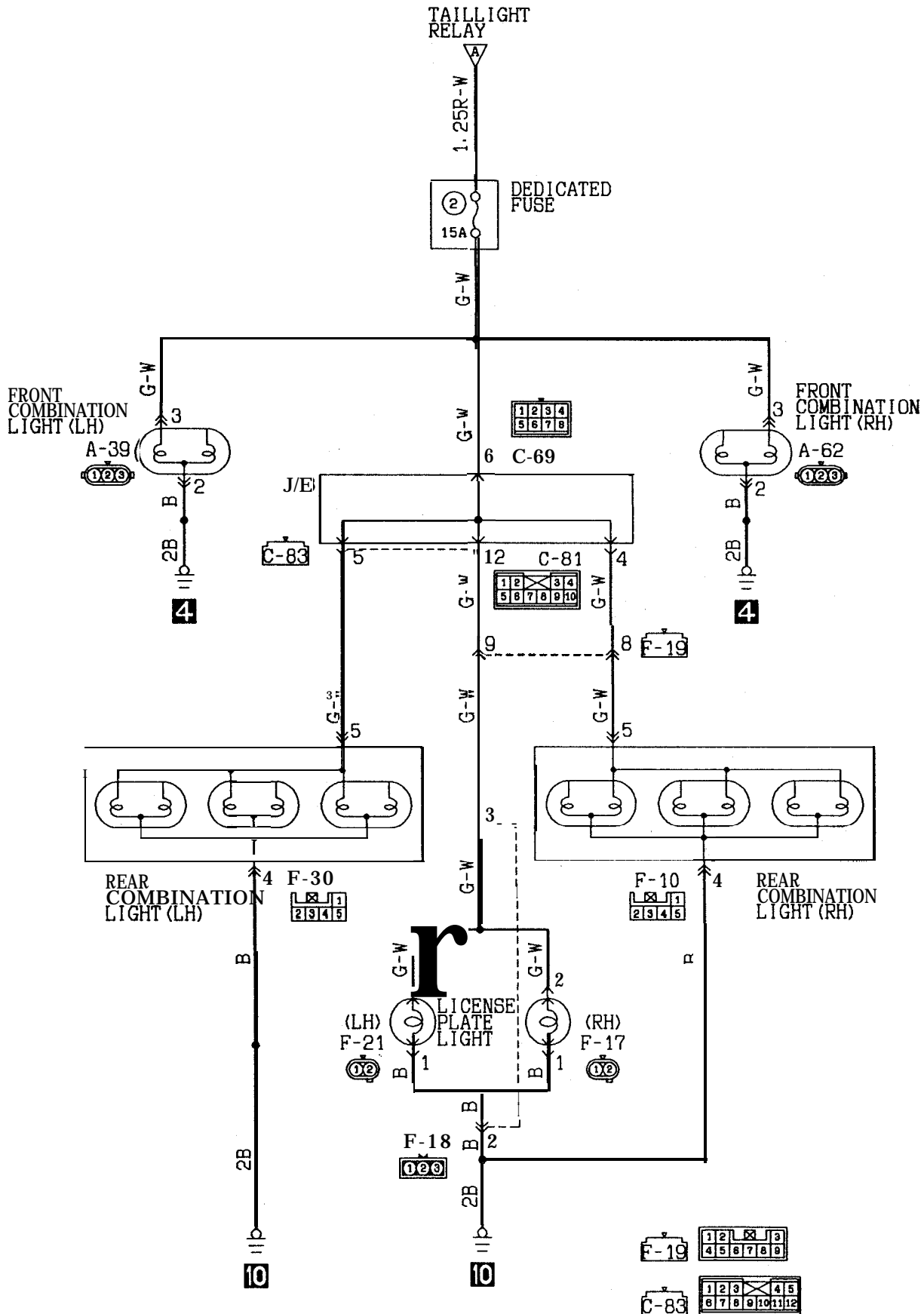
TAIL LIGHT, PARKING/SIDE MARKER LIGHT AND LICENSE PLATE LIGHT CIRCUIT

<VEHICLES WITH SMALL BUMPER>

CIRCUIT DIAGRAM



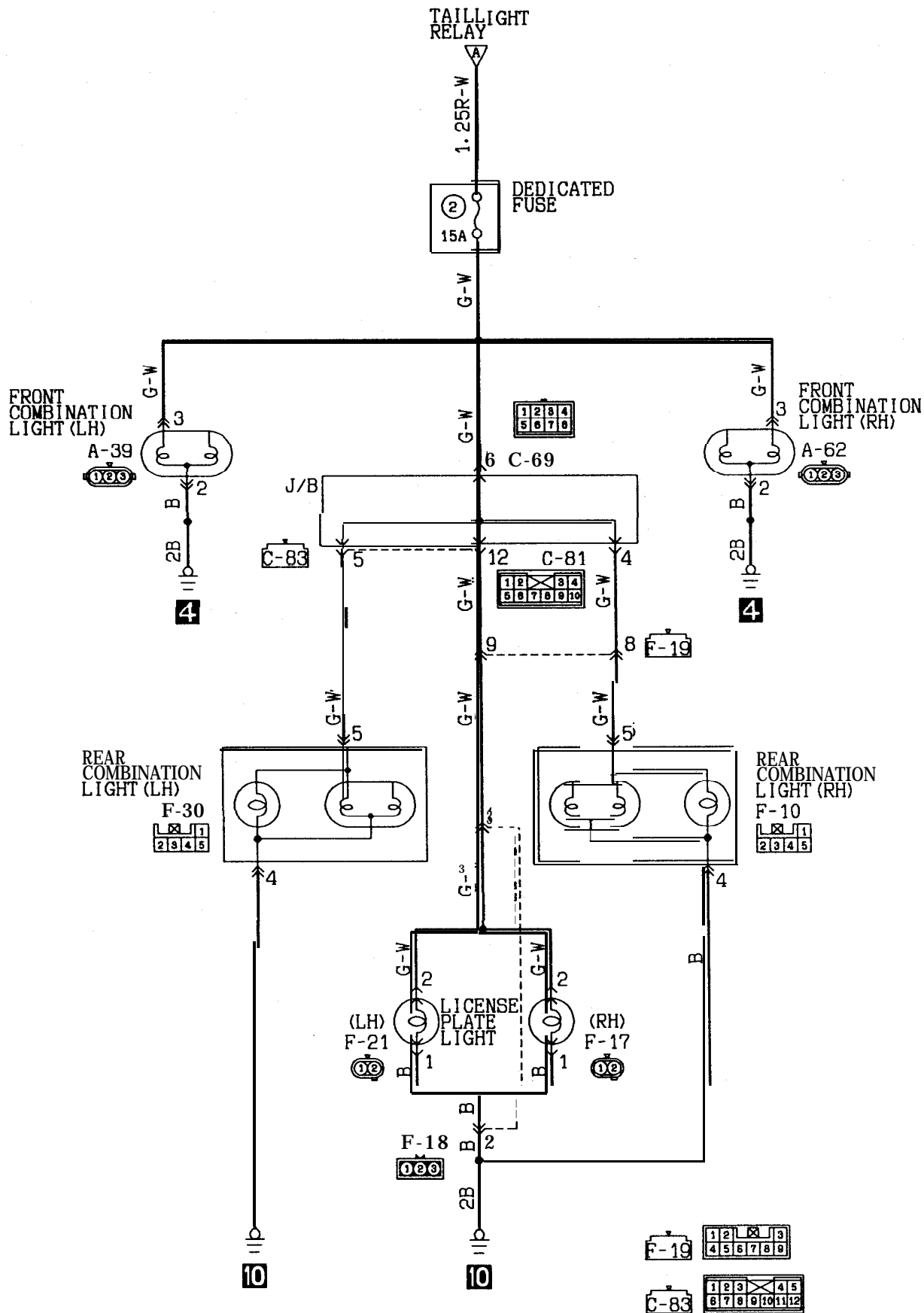
TAIL LIGHT, PARKING/SIDE MARKER LIGHT AND LICENSE PLATE LIGHT CIRCUIT
 <VEHICLES WITH SMALL BUMPER> (CONTINUED)



The diagram illustrates the electrical circuit for the vehicle's lighting system. Key components and their connections include:

- Ignition Switch (IG1):** Provides power to the system through a 2R-B wire.
- Fusible Link:** Protects the circuit from overcurrent.
- Relays and Connectors:**
 - C-82:** A 2R-B wire connector.
 - C-77:** A 16-pin connector.
 - C-83:** A 11-pin connector.
 - C-78:** A 2B wire connector.
 - C-82:** A 2B wire connector.
 - C-68:** A 10A wire connector.
 - C-70:** A 10A wire connector.
 - A-11X:** A 10A wire connector.
 - J/B:** A junction box.
- Lighting Components:**
 - TAILLIGHT RELAY A-05X:** Controls the taillights.
 - HEAD LIGHTS:** Controlled by the Column Switch (LIGHTING) SWITCH c-10.
 - TAIL LIGHTS:** Controlled by the Column Switch (LIGHTING) SWITCH c-10.
 - Light Automatic Shut-Off Unit E-17:** Automatically shuts off the headlights.
 - DOOR SWITCH (LH):** Controls the left door light.
- Wiring Labels:**
 - 2R-B:** 2-wire, red-black.
 - 1.25R-W:** 1.25-wire, red-white.
 - 1.25R-B:** 1.25-wire, red-black.
 - 0.85R-W:** 0.85-wire, red-white.
 - 0.85R-B:** 0.85-wire, red-black.
 - G-Y:** Green-yellow.
 - Y:** Yellow.
 - R-B:** Red-black.
 - R-W:** Red-white.
 - R-Y:** Red-yellow.
 - W:** White.

<VEHICLES WITH LARGE BUMPER> (CONTINUED)



OPERATION

- When the lighting switch is placed in the TAIL or HEAD position, current flows through the coil of the tail light relay to the lighting switch and ground, causing the contacts of the tail light relay to close. Then current flows through the contacts of the tail light relay to the dedicated fuse ②, the individual lights and ground, causing the tail lights, parking/side marker lights and license plate lights to go ON.

<Light automatic shut-OFF system>

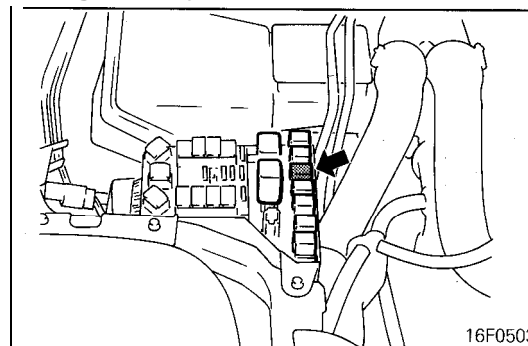
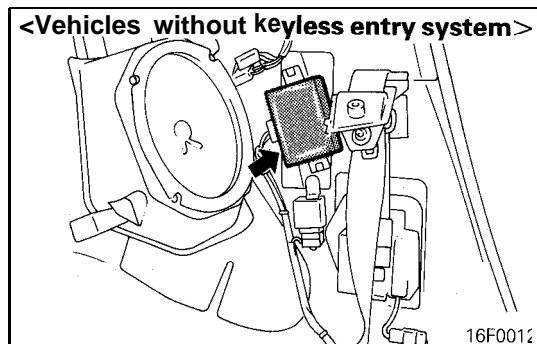
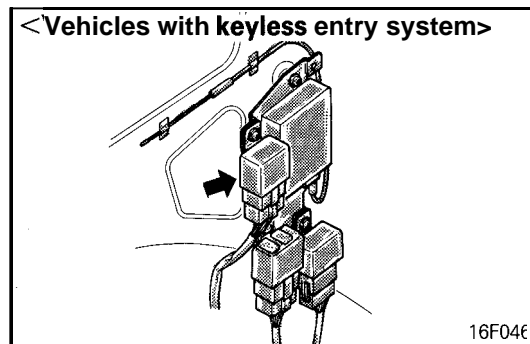
- If the driver's door is opened after the ignition switch is turned to "OFF" or the ignition switch is turned to "OFF" after the driver's door is opened when the tail lights are lit, the current which flows to the coil side of the tail light relay will be cut off by the light automatic shut-OFF unit opening the contact point, and the tail light relay will be turned "OFF" to automatically shut off the tail lights, parking and front side marker lights and license plate light.
- To turn on the tail lights, parking and front side marker lights and license plate light again after they are automatically shut off, turn the lighting switch to "OFF" once and to "HEAD" again, or turn the ignition switch to "ACC" or "ON", and the automatic shut-off will be cancelled and the current will flow from the light automatic shut-OFF unit to the coil side of the tail light relay to close the contact point. Thus, the tail light relay will be turned "ON" to turn on the tail lights, parking and front marker lights and license plate light.

NOTE

When the lighting switch is at the "HEAD" position, the light automatic shut-OFF system will be also activated for the headlights. (Refer to P.8-304.) The same system will also be activated for the illumination lights, etc.

TROUBLESHOOTING HINTS

- All lights don't illuminate.
 - The headlights don't illuminate, either.
 - Check the fusible link ③.
 - The headlights illuminate.
 - Check the tail light relay. (Refer to P.8-338.)
 - Check the dedicated fuse ②.
 - Check the lighting switch. (Refer to P.8-344.)
 - Check the light automatic shut-OFF unit. (Refer to P.8-339.)
- Some light does not come on.
 - Check the bulb.
 - Check the grounding circuit.
- Some light is not automatically shut off.
 - Check the driver's side door switch. (Refer to GROUP 23A – Door Assembly.)
 - Check the automatic shut-OFF unit. (Refer to P.8-339.)

COMPONENT LOCATION**Taillight relay****Light automatic shut-off unit****Light automatic shut-off unit**

DOMELIGHT, FOOT LIGHT AND IGNITION KEY CYLINDER ILLUMINATION LIGHT CIRCUIT

OPERATION

<Dome light>

- Battery voltage is always applied to the dome light. When the dome light switch is turned to "ON", the dome light will remain lit. After either door is opened if the dome light switch is at "DOOR" position, the dome light will come on.
- With the dome light turned on (with the ignition switch in the OFF position and with the dome light switch in the DOOR position), close all doors, and the timer circuit in the ETACS unit will be activated to gradually vary the voltage for approx. 6 seconds owing to the duty control, and the voltage will be output to transistor Tr. Since the voltage applied to the dome light gradually decreases, the dome light will be dimmed.
- If the ignition switch is turned to "ON" while the dome light is lit (while the timer is activated), the timer circuit will be opened to turn "off" transistor Tr. This will immediately turn off the dome light without dimming.

<Foot lights and ignition key illumination light>

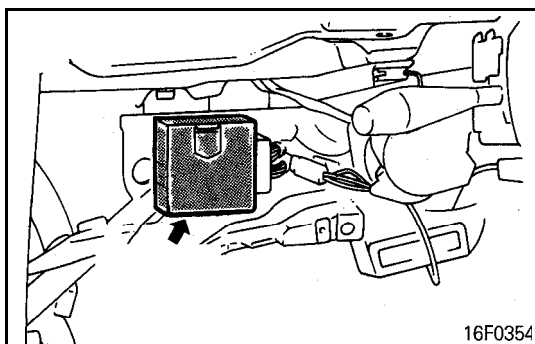
- Battery voltage is always applied to the foot lights and ignition key illumination light. With the ignition switch in the OFF position, open any door, and all lights will come on.
- With all lights turned on (with the ignition switch in the OFF position), close all doors, and the timer circuit inside the ETACS unit will operate in the same manner as the dome light to dim all lights. When the ignition switch is placed in the ON position with all lights turned on (with the timer in operation), the same operation as the dome light will take place.

TROUBLESHOOTING HINTS

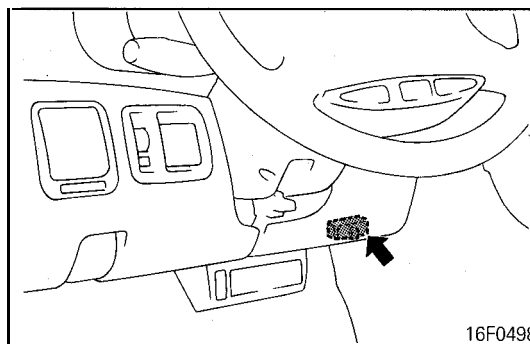
Phenomenon		Checking method
Dome light does not come on when a door is opened with the dome light switch in the DOOR position.	The foot lights and ignition key cylinder illumination light don't illuminate, either.	<ul style="list-style-type: none"> • Check the door switch input signal. (Refer to P.8-317.) • Check the door switch. (Refer to GROUP 23B – Door Assembly.)
	The foot lights and ignition key cylinder illumination light illuminate.	<ul style="list-style-type: none"> • Check the dome light switch. • Check the dome light bulb.
Dome light, foot lights and ignition key illumination light go out at once when doors are closed.		<ul style="list-style-type: none"> • Check the door switch input signal. (Refer to P.8-317.)
Even if ignition switch is turned on while lights are being dimmed, lights do not go out at the same time.		<ul style="list-style-type: none"> • Check the ignition switch input signal. (Refer to P.8-317.)

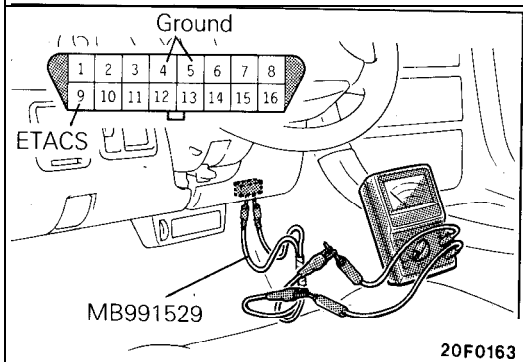
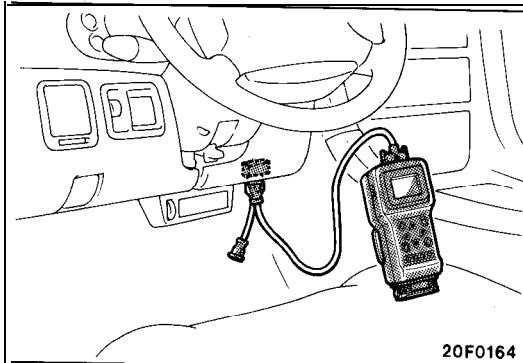
COMPONENT LOCATION

ETACS unit



Data link connector





Input Signal

Using the scan tool or voltmeter, check whether or not the input signals from each switch are being input to the ETACS unit.

When using the scan tool

- (1) Connect the scan tool to the data link connector.

Caution

Turn off the ignition switch beforehand whenever the scan tool is connected or disconnected.

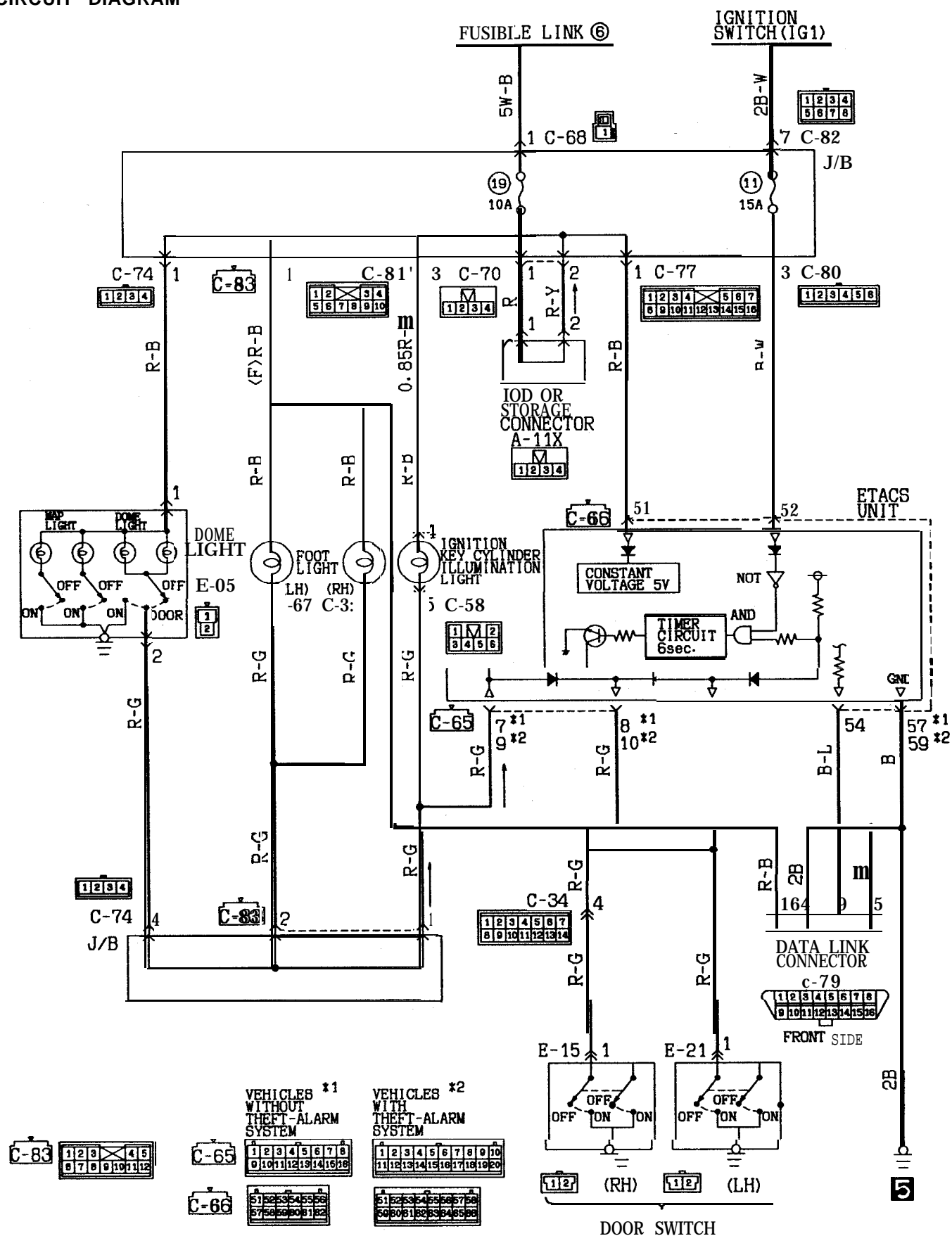
- (2) If the scan tool makes a beep sound when each switch is operated (turned ON/OFF), the input signal to ECU is normally sent from the switch circuit system.

When using a voltmeter

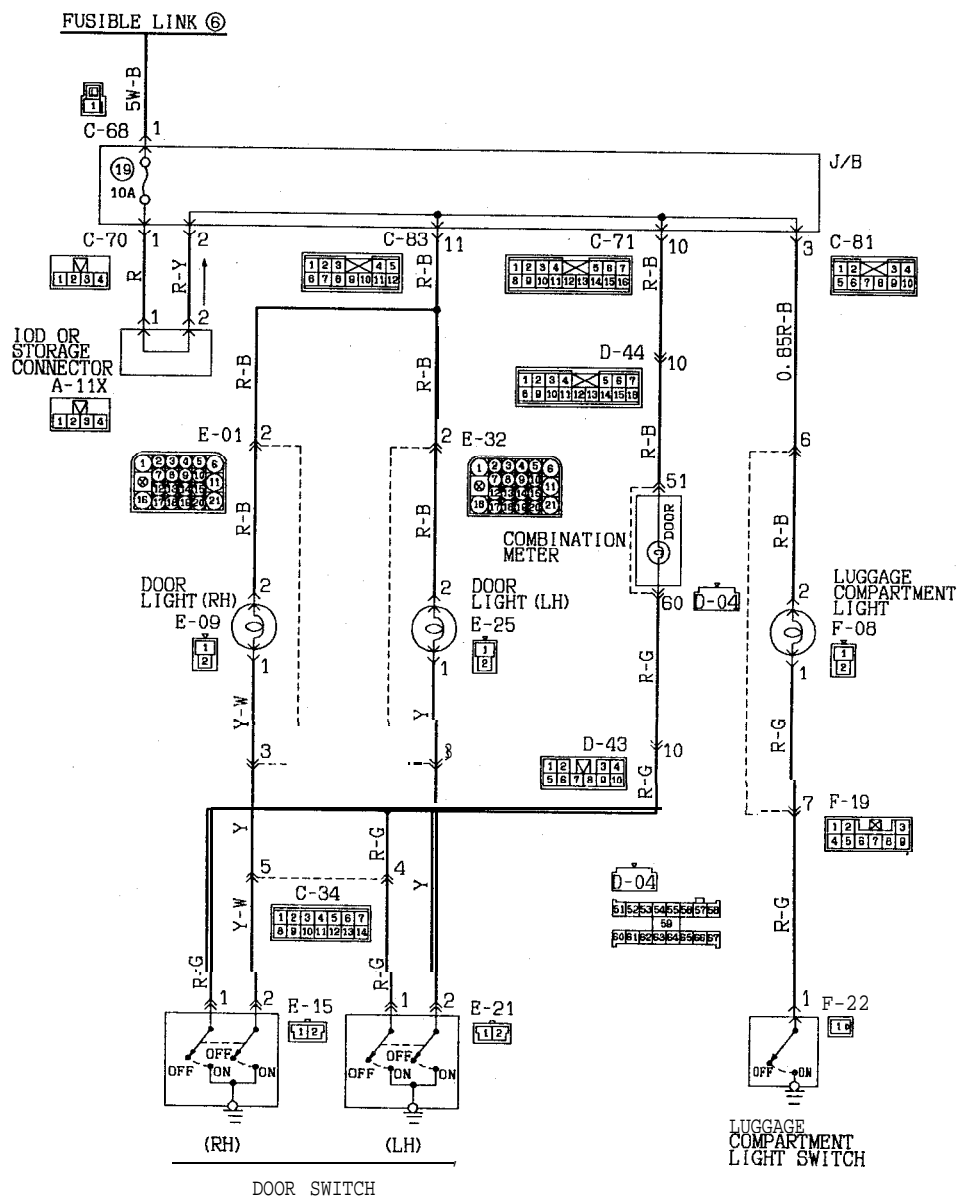
- (1) Connect a voltmeter to the ETACS terminal and the ground terminal of the data link connector using the special tool.
- (2) If the voltmeter pointer deflects once when each switch is operated (turned ON/OFF), the input signal to ECU is normally sent from the switch circuit system.

DOMESTIC LIGHT, FOOT LIGHT AND IGNITION KEY CYLINDER ILLUMINATION LIGHT CIRCUIT

CIRCUIT DIAGRAM



DOOR LIGHT AND LUGGAGE COMPARTMENT LIGHT CIRCUIT CIRCUIT DIAGRAM

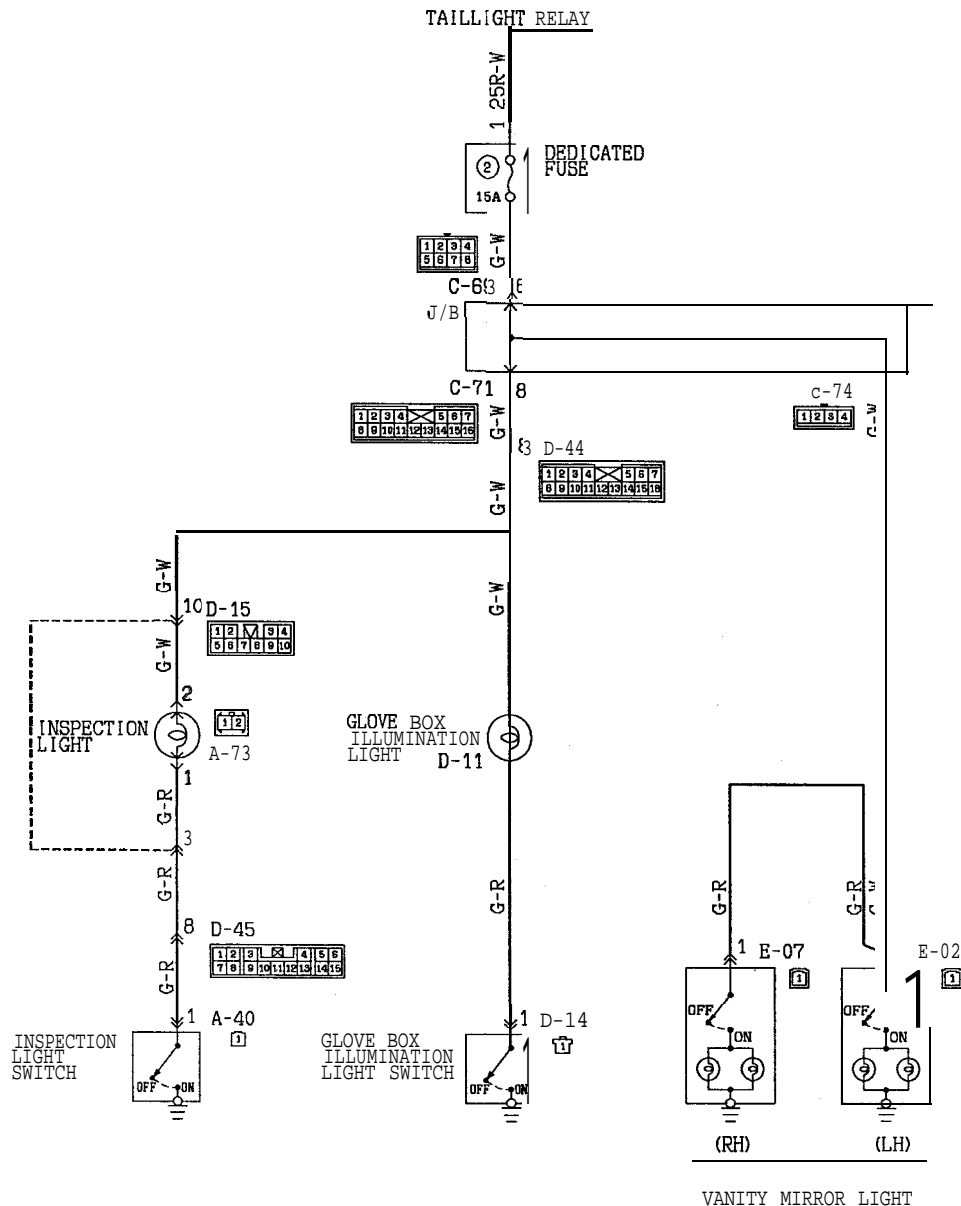


135-AC-R0817-N3C

OPERATION

- Battery voltage is always applied (via sub-fusible link No. ⑥ and multipurpose fuse No. ⑱) to the luggage compartment light and door light.
- When the door is opened, the door switch is switched ON and the door light illuminates.
- When the liftgate is opened, the luggage compartment light switch is switched ON and the luggage compartment light illuminates.

GLOVE BOX LIGHT, VANITY MIRROR LIGHT AND INSPECTION LIGHT CIRCUIT CIRCUIT DIAGRAM



X35-AC-R0818-NC

OPERATION

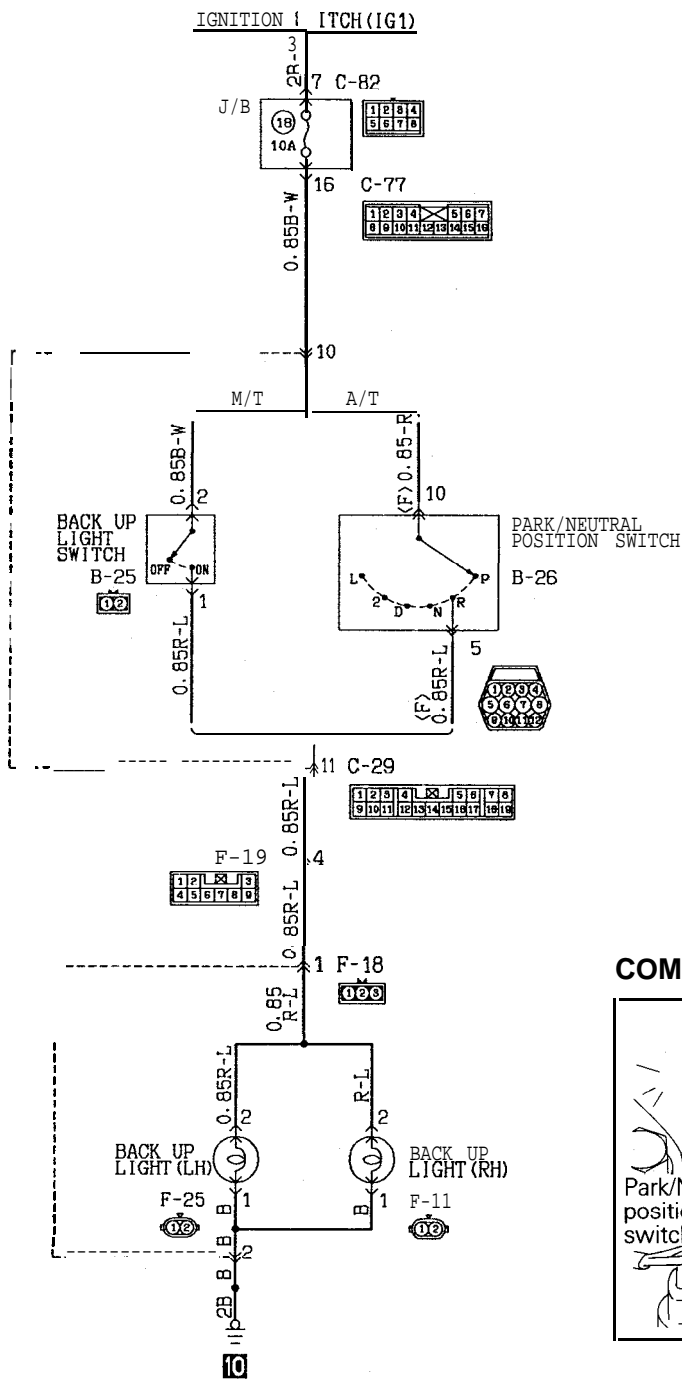
- When the lighting switch is placed in the TAIL or HEAD position, and the contacts of the tail light relay close, battery voltage is applied via the dedicated fuse (2) to the glove box light, the vanity mirror light and the inspection light.
- When the glove box is opened, the glove box illumination light switch is switched ON and the glove box illumination light illuminates.
- When the vanity mirror lid is opened, the vanity mirror light switch is switched ON and the vanity mirror light illuminates.
- When the engine hood is opened, the inspection light switch is switched ON and the inspection light illuminates.

NOTE

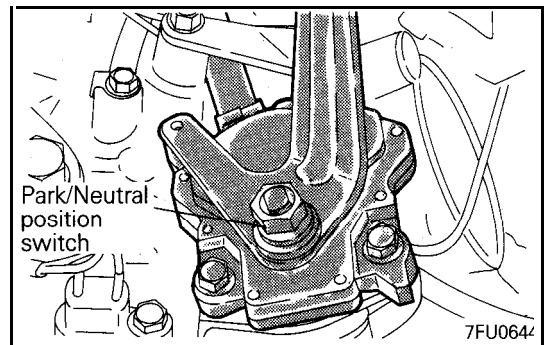
The light automatic shut-OFF system is valid for the glove box light, vanity mirror light and inspection light. (Refer to P.8-315.)

BACK-UP LIGHT CIRCUIT

CIRCUIT DIAGRAM



COMPONENT LOCATION



X35-AC-R0914-R3C

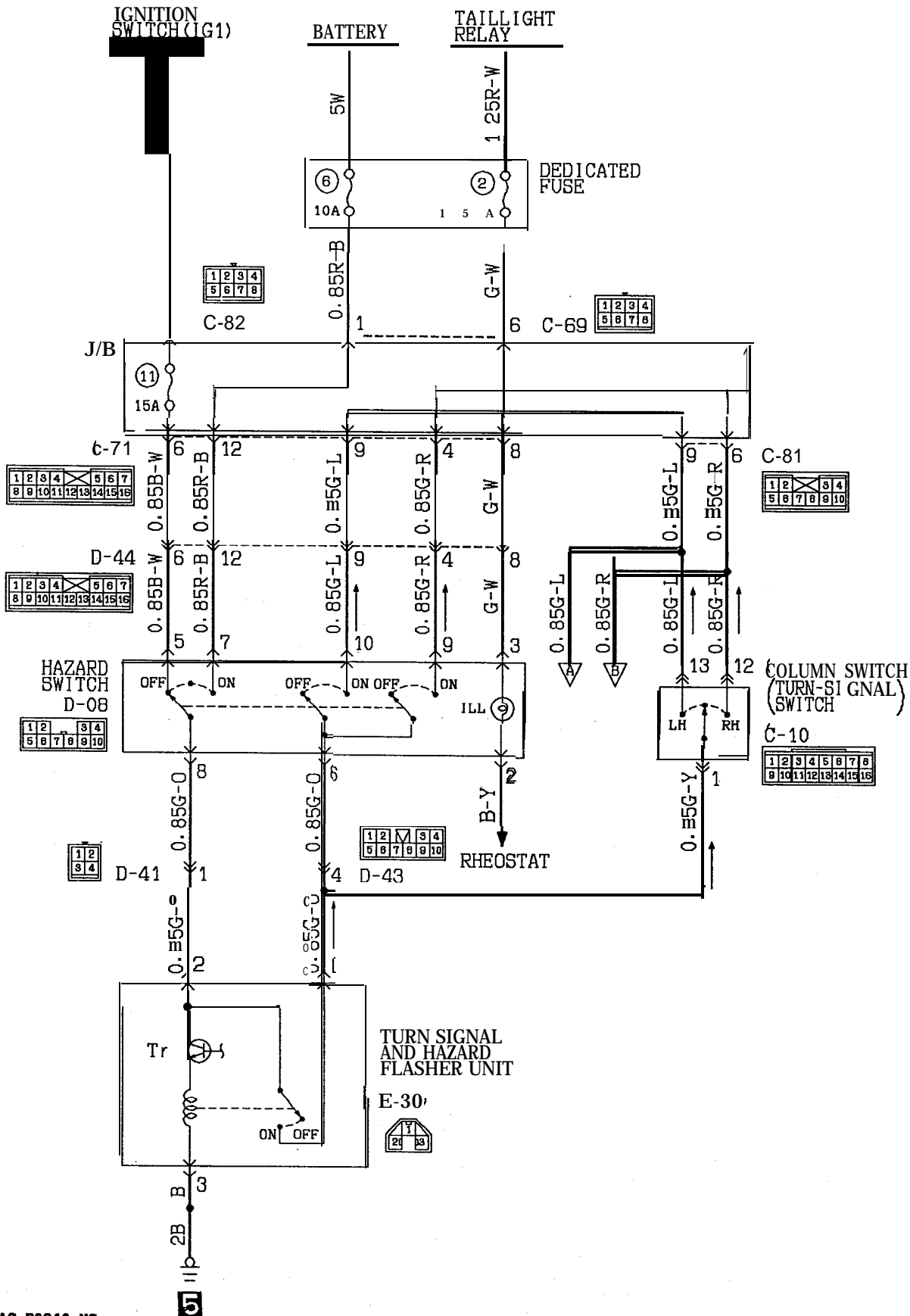
OPERATION

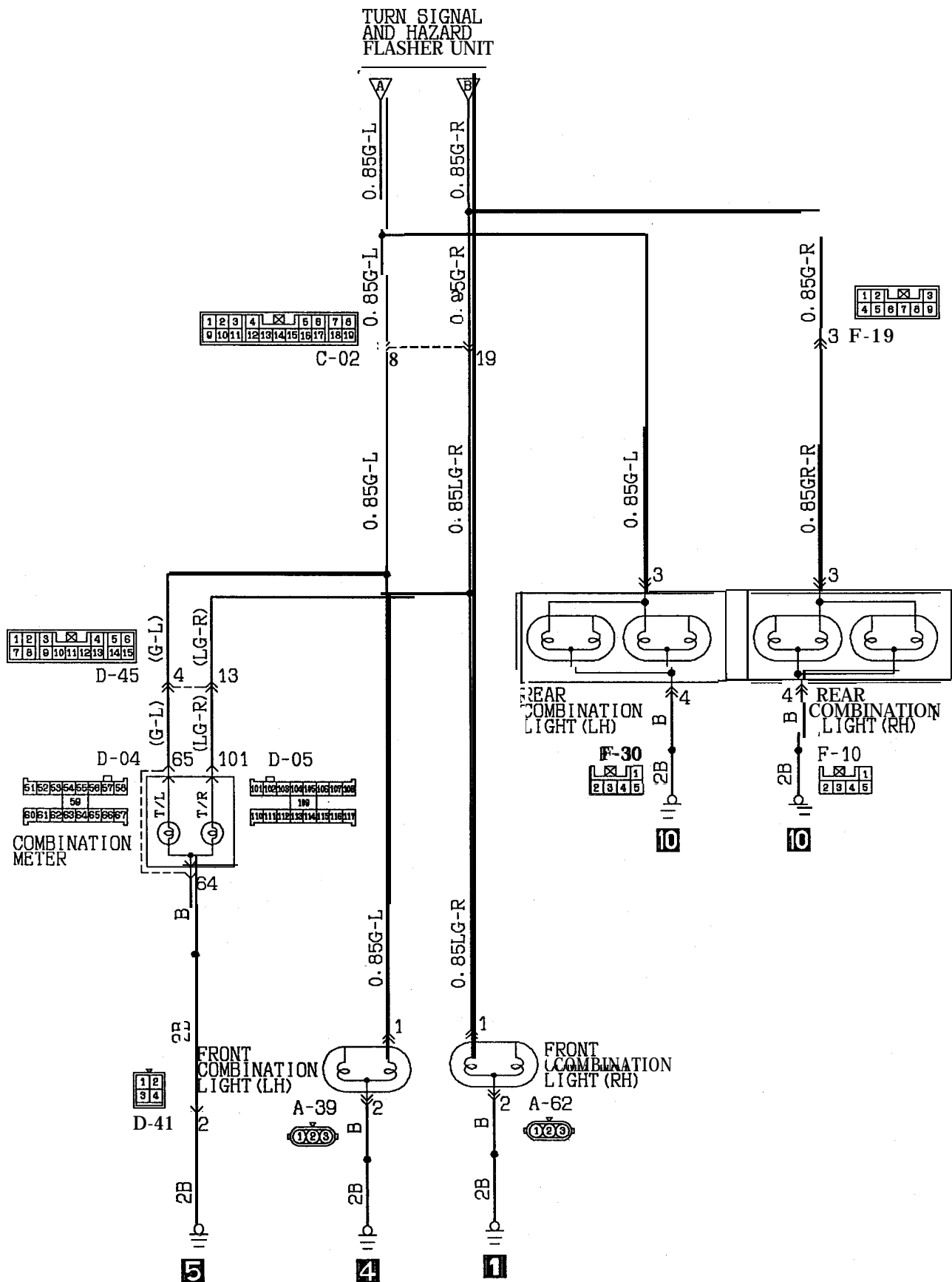
- When, with the ignition switch at the "ON" position, the shift lever (or the selector lever) is moved to the "R" position, the backup light switch (M/T) is switched ON (or the park/neutral position switch (A/T) is switched to the "R" position), and the backup light illuminates.

TURN-SIGNAL LIGHT AND HAZARD LIGHT CIRCUIT

<VEHICLES WITH SMALL BUMPER – TYPE 1>

CIRCUIT DIAGRAM





OPERATION

1. When operation is normal
 - When the ignition switch is switched to the ON position, battery voltage is applied (via the multi-purpose fuse ⑪ and hazard switch) to the turn-signal and hazard flasher unit.
 - When the turn-signal switch is switched to the LH (or RH) position, Tr (within the flasher unit) is switched ON and OFF repeatedly. Then the contacts of the relay (also within the flasher unit) repeatedly switch from ON to OFF, causing the turn-signal lights and turn-signal indicator light LH (or RH) to flash.
2. If one of the bulbs is burned out
 - If either of the turn-signal light bulbs is burned-out, the resistance of the turn-signal circuit as a whole increases, resulting in shorter ON and OFF intervals of the Tr and a higher flashing rate of the lights.

<Hazard-warning lights>

- When the hazard-warning switch is switched to the “ON” position, the relay contact of the turn signal and hazard flasher unit is switched ON and OFF repeatedly, in the same manner as for the operation of the turn-signal lights, and the left and right turn-signal lights and turn-signal indicator lights simultaneously flash repeatedly.

NOTE

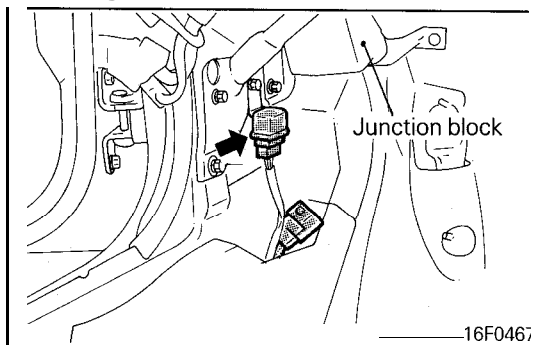
- (1) The number of flashes of the hazard-warning lights does not change if there is damaged or disconnected wiring of one light.
- (2) The light automatic shut-OFF system is valid for the illumination light of the hazard switch. (Refer to P.8-315.)

TROUBLESHOOTING HINTS

1. The turn-signal lights and hazard-warning lights do not operate at all.
 - Check the hazard switch contact (power supply side).
 - Check the turn-signal and hazard flasher unit.
2. All turn-signal lights at the left (or right) side do not function.
 - (1) The hazard-warning lights function normally.
 - Check the hazard switch contact (turn-signal side).
 - Check the turn-signal switch.
3. The number of flashes of the turn-signal lights is excessive.
 - Check the bulbs.
4. The hazard-warning lights do not function.
 - (1) The turn-signal lights function normally.
 - Check the hazard switch contact (hazard-warning light side).

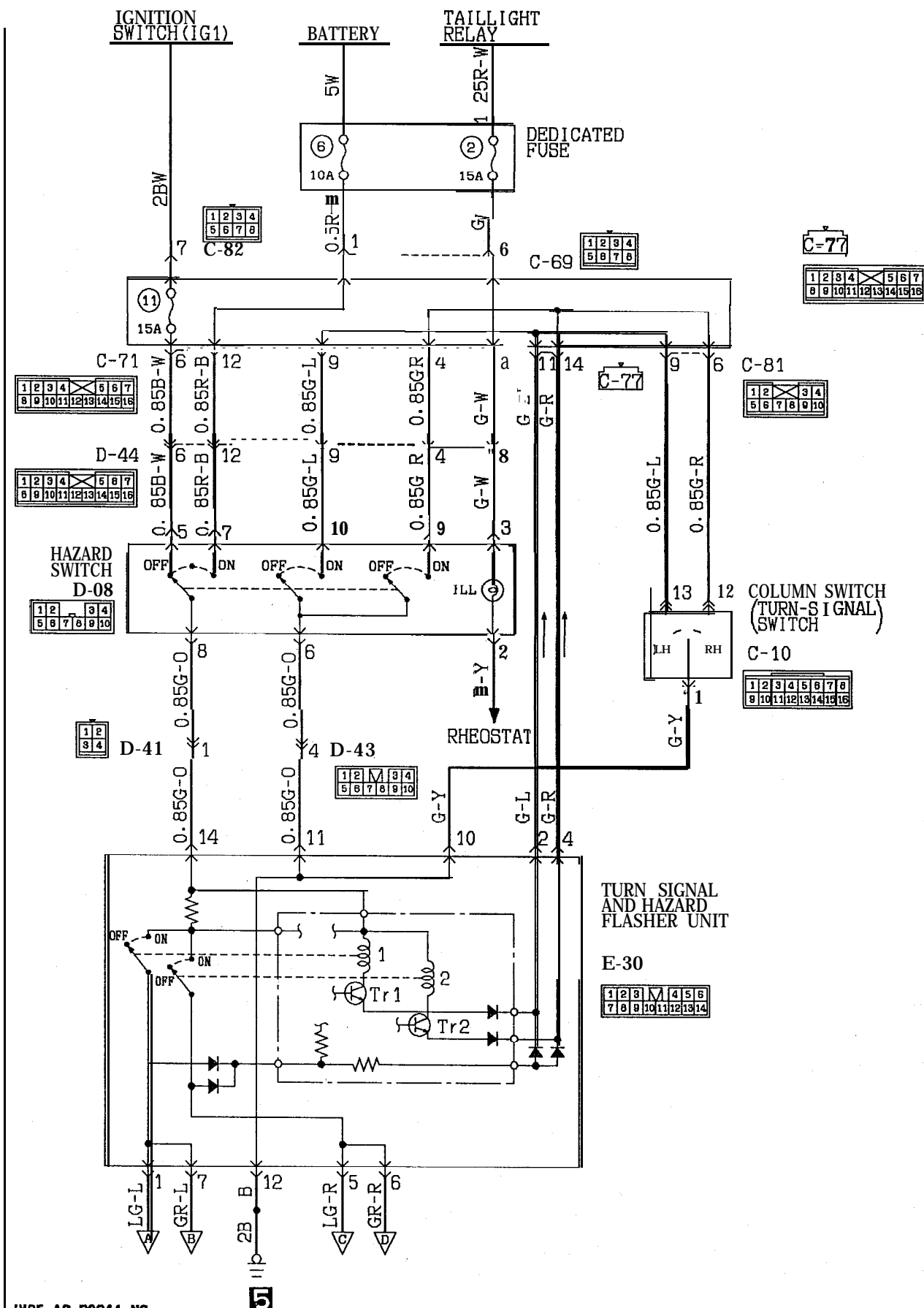
NOTE

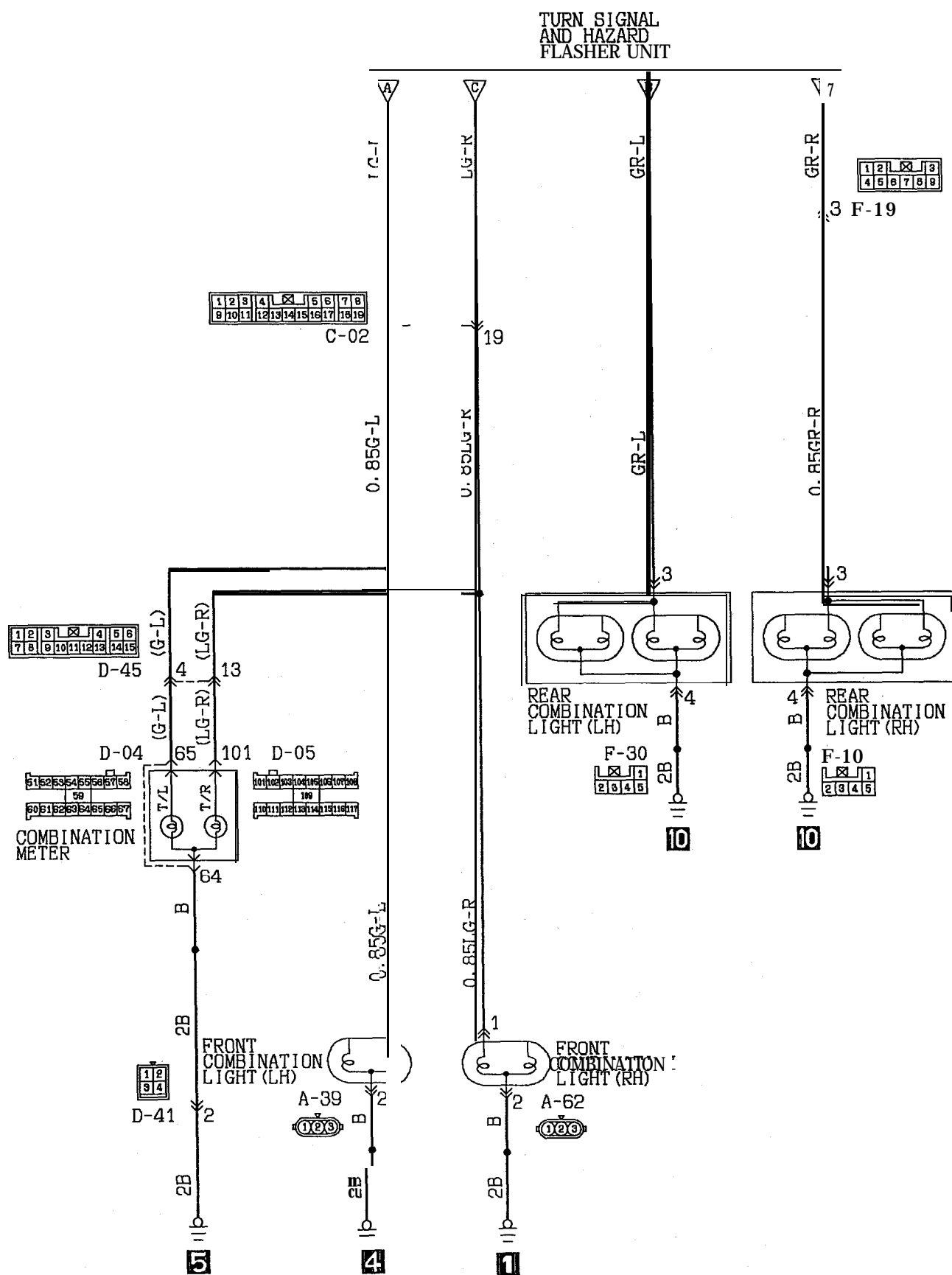
For the troubleshooting hints of the automatic light shut-OFF system, refer to P.8-315.

COMPONENT LOCATION**Turn-signal and hazard flasher unit**

<VEHICLES WITH SMALL BUMPER – TYPE 2>

CIRCUIT DIAGRAM





OPERATION

1. When operation is normal
 - When the ignition switch is switched to the ON position, battery voltage is applied (via the multi-purpose fuse ⑪) and hazard switch)
 - When the turn-signal switch is switched to the LH position, Tr1 (within the flasher unit) is switched ON and OFF repeatedly. Then the contacts of the relay 1 (also within the flasher unit) repeatedly switch from ON to OFF, causing the turn-signal lights and turn-signal indicator light LH to flash.
 - When the turn-signal switch is switched to the RH position, Tr2 (within the flasher unit) is switched ON and OFF repeatedly. Then the contacts of relay 2 (also within the flasher unit) repeatedly switch from ON to OFF, causing the turn-signal lights and turn-signal indicator light RH to flash.
2. If one of the bulbs is burned out
 - If the LH (or RH) turn-signal light bulb is burned-out, the resistance of the turn-signal circuit as a whole increases, resulting in shorter ON and OFF intervals of the LH Tr1 (or RH Tr2) and a higher flashing rate of the LH lights (or RH lights).

<Hazard-warning lights>

- When the hazard-warning switch is switched to the "ON" position, the relay contact of the turn signal and hazard flasher unit is switched ON and OFF repeatedly, in the same manner as for the operation of the turn-signal lights, and the left and right turn-signal lights and turn-signal indicator lights simultaneously flash repeatedly.

NOTE

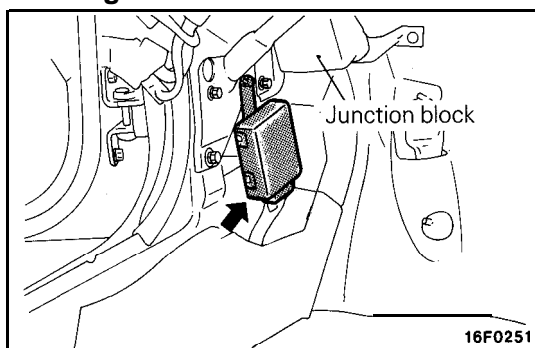
- (1) The number of flashes of the hazard-warning lights does not change if there is damaged or disconnected wiring of one light.
- (2) The light automatic shut-OFF system is valid for the illumination light of the hazard switch. (Refer to P.8-315.)

TROUBLESHOOTING HINTS

1. The turn-signal lights and hazard-warning lights do not operate at all.
 - Check the hazard switch contact (power supply side).
 - Check the turn-signal and hazard flasher unit.
2. All turn-signal lights at the left (or right) side do not function.
 - (1) The hazard-warning lights function normally.
 - Check the hazard switch contact (turn-signal side).
 - Check the turn-signal switch.
3. The number of flashes of the turn-signal lights is excessive.
 - Check the bulbs.
4. The hazard-warning lights do not function.
 - (1) The turn-signal lights function normally.
 - Check the hazard switch contact (hazard-warning light side).

NOTE

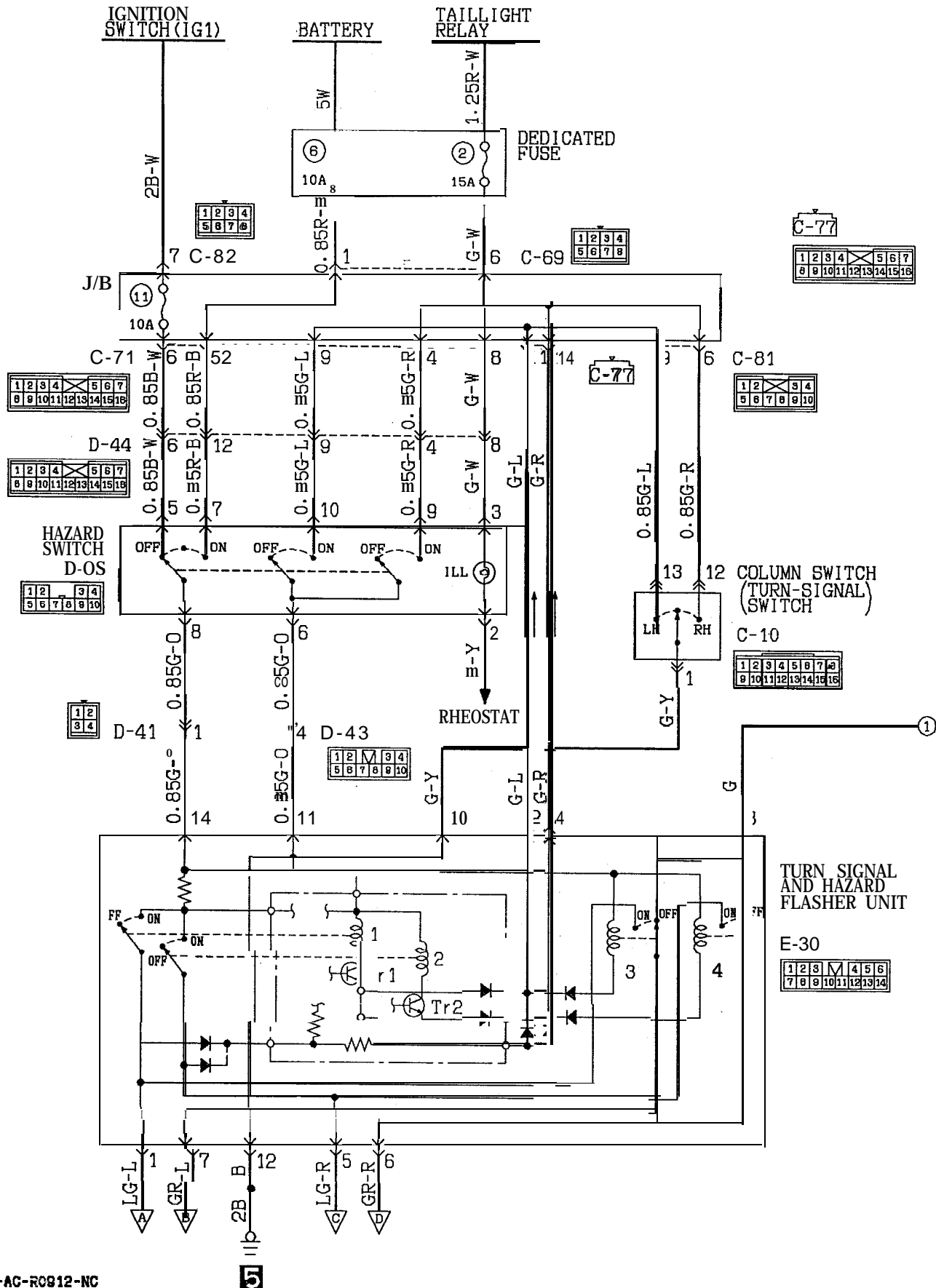
For the troubleshooting hints of the automatic light shut-OFF system, refer to P.8-315.

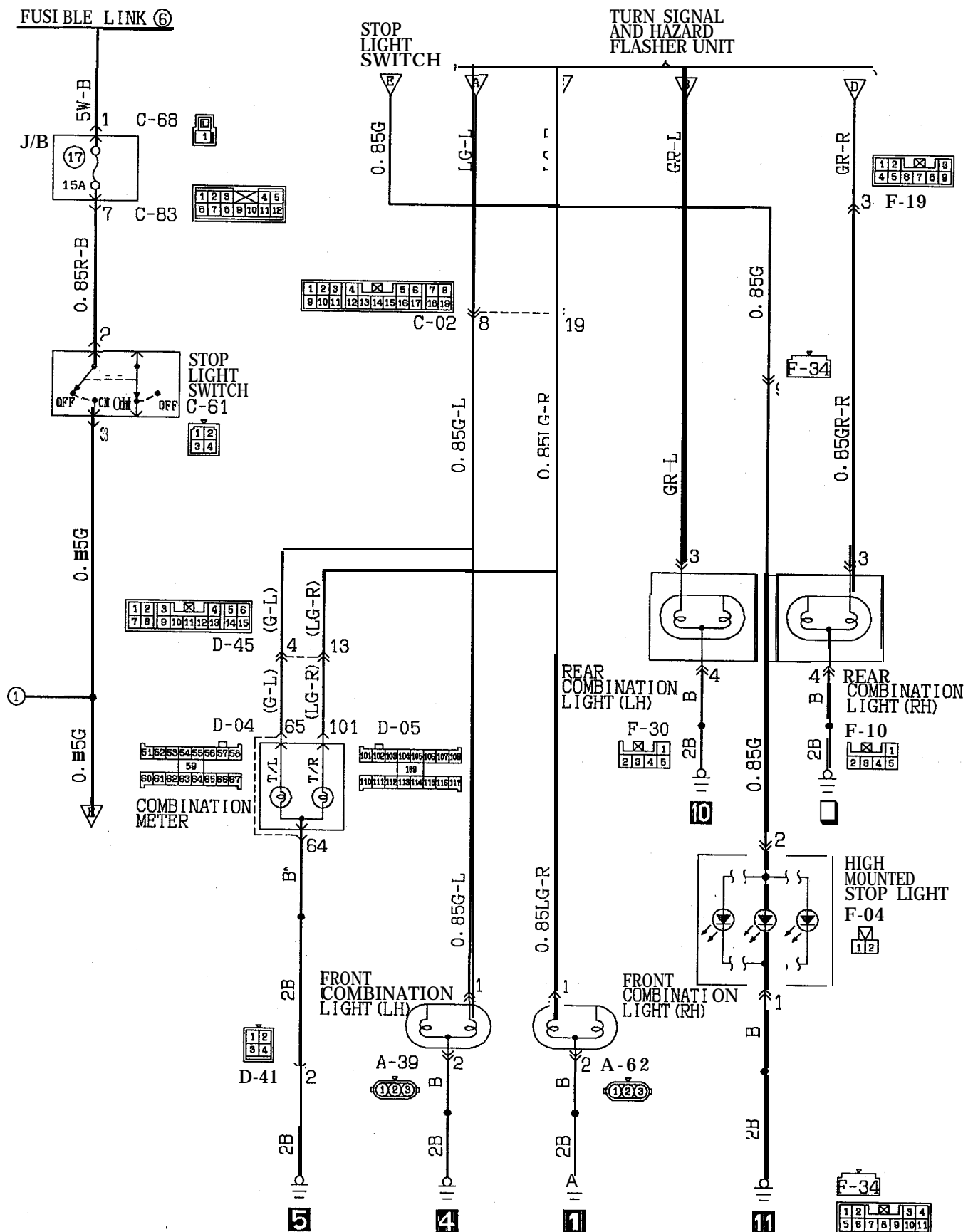
COMPONENT LOCATION**Turn-signal and hazard flasher unit**

TURN-SIGNAL LIGHT, HAZARD LIGHT AND STOP LIGHT CIRCUIT

<VEHICLES WITH LARGE BUMPER>

CIRCUIT DIAGRAM





OPERATION

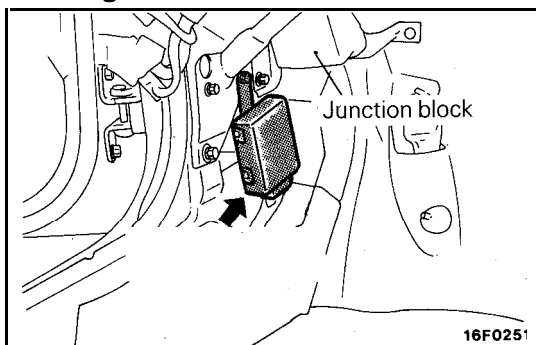
1. When operation is normal

- When the ignition switch is switched to the ON position, battery voltage is applied (via the multi-purpose fuse ⑪ and hazard switch) to the turn-signal and hazard flasher unit. Battery voltage is also always applied via the multi-purpose fuse ⑰ and the stop light switch to the turn-signal and hazard flasher unit.
- When the turn-signal switch is placed in the LH (or RH) position, the LH Tr1 (or RH Tr2) repeatedly switches from ON to OFF. At the same time, the contacts of LH relay 1 (or the contacts of RH Tr2) repeatedly switch from ON to OFF, causing the turn-signal lights and turn-signal indicator light LH (or RH) to flash.
- When the brake pedal is depressed while the turn-signal lights LH (or RH) are flashing, the stop light switch enters the ON state. Then the LH (or RH) rear combination lights that are indicating the turning direction continue to flash. In the other rear combination lights that are not indicating the turning direction, however, the stop light comes on.

2. If one of the bulbs is burned-out

- If the LH (or RH) turn-signal light bulb is burned-out, the resistance of the turn-signal circuit as a whole increases, resulting in shorter ON and OFF intervals of the LH Tr1 (or RH Tr2) and a higher flashing rate of the LH lights (or RH lights).

When the turn-signal switch is placed in the LH (or RH) position, if the contacts of the LH relay 3 (or the contacts of the RH relay 4) continue to be OFF, the front combination lights alone will flash at a higher rate just like when a turn-signal light bulb is burned-out, whereas the rear combination lights cease to flash.

COMPONENT LOCATION**Turn-signal and hazard flasher unit****<Hazard-warning lights>**

- When the hazard-warning switch is switched to the "ON" position, the relay contact of the turn signal and hazard flasher unit is switched ON and OFF repeatedly, in the same manner as for the operation of the turn-signal lights, and the left and right turn-signal lights and turn-signal indicator lights simultaneously flash repeatedly.

NOTE

- (1) The number of flashes of the hazard-warning lights does not change if there is damaged or disconnected wiring of one light.
- (2) The light automatic shut-OFF system is valid for the illumination light of the hazard switch. (Refer to P.8-315.)

TROUBLESHOOTING HINTS

1. The turn-signal lights and hazard-warning lights do not operate at all.
 - Check the hazard switch contact (power supply side).
 - Check the turn-signal and hazard flasher unit.
2. All turn-signal lights at the left (or right) side do not function.
 - (1) The hazard-warning lights function normally.
 - Check the hazard switch contact (turn-signal side).
 - Check the turn-signal switch.
3. The number of flashes of the turn-signal lights is excessive.
 - Check the bulbs.
4. The turn-signal lights of the front combination lights flash at a higher rate.
 - (1) The turn-signal lights of the rear combination lights do not flash but the stop light illuminates.
 - Check the turn-signal and hazard flasher unit.
5. The hazard-warning lights do not function.
 - (1) The turn-signal lights function normally.
 - Check the hazard switch contact (hazard-warning light side).

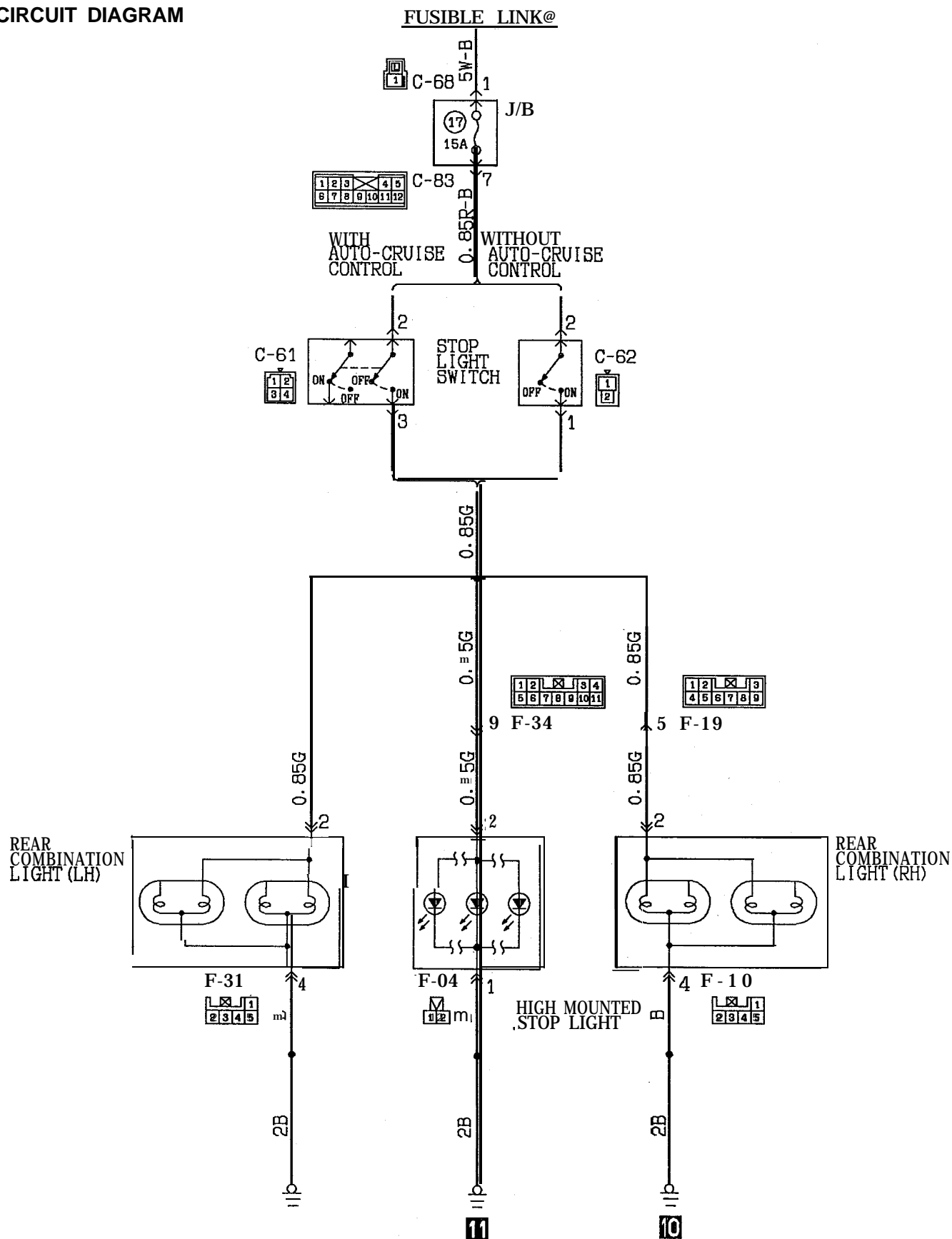
NOTE

For the troubleshooting hints of the automatic light shut-OFF system, refer to P.8-315.

STOP LIGHT CIRCUIT

<VEHICLES WITH SMALL BUMPER>

CIRCUIT DIAGRAM

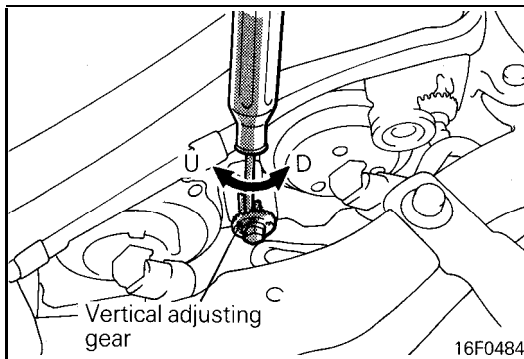


SERVICE ADJUSTMENT PROCEDURES

HEADLIGHT AIMING

PRE-AIMING INSTRUCTIONS

1. Inspect for badly rusted or faulty headlight assemblies. These conditions must be corrected before a satisfactory adjustment can be made.
2. Place vehicle on a level floor.
3. Bounce front suspension through three (3) oscillations by applying body weight to hood or bumper.
4. Inspect tire inflation.
5. Rock vehicle sideways to allow vehicle to assume its normal position.
6. If fuel tank is not full, place a weight in trunk of vehicle to simulate weight of a full tank [3 kg (6.5 lbs.) per gallon].
7. There should be no other load in the vehicle other than driver or substituted weight of approximately 70 kg (150 lbs.) placed in driver's position.
8. Thoroughly clean headlight lenses.

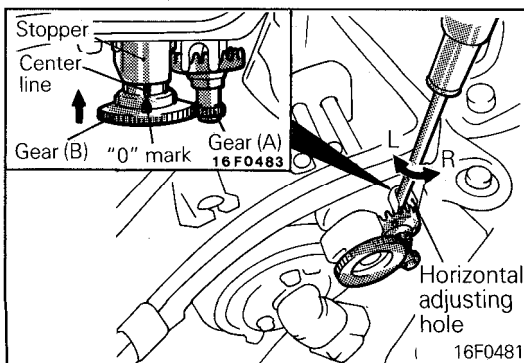
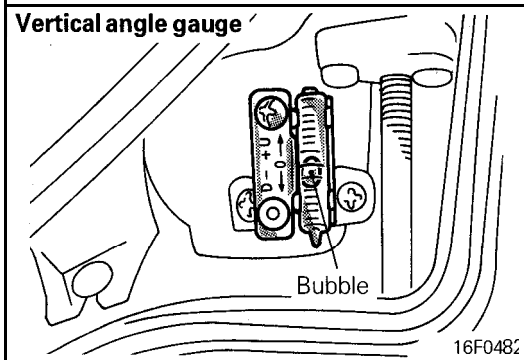


VERTICAL ADJUSTING

Adjust the vertical angle with the vertical adjusting gear so that the bubble of the vertical angle gauge is aligned with the "0" mark position.

NOTE

The beam angle will change about 0°12' with on mark.

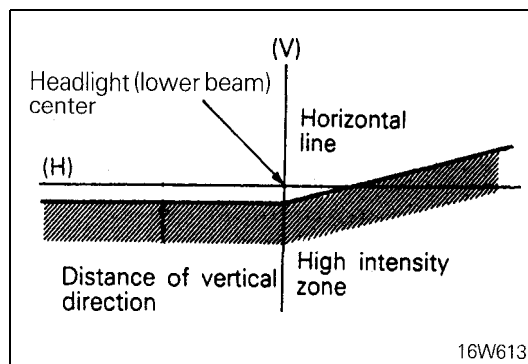


HORIZONTAL ADJUSTING

Insert a screwdriver in the horizontal adjusting hole and turn until the "0" mark and the center line are in alignment.

NOTE

The beam angle will change about 0°23' with on mark.



AIMING WITH SCREEN

HEADLIGHT AIM PREPARATION

Place vehicle on a known level floor 7.6 m (25 feet) from aiming screen or light colored wall. Four lines of adhesive tape or like are required on screen or wall:

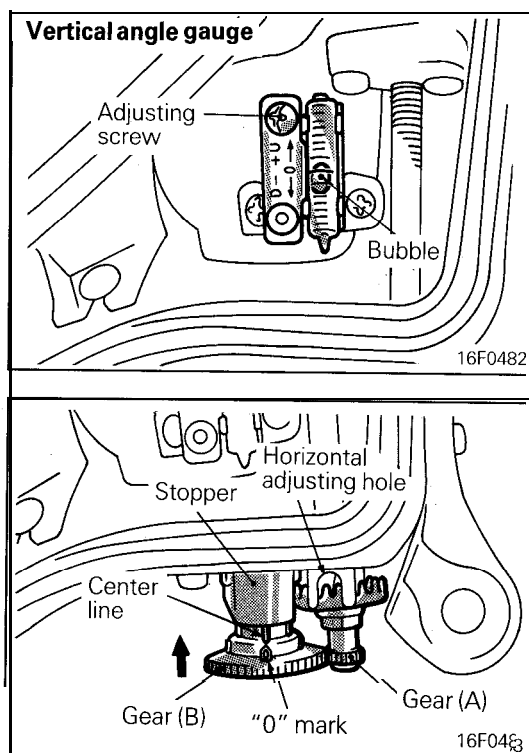
1. Position a vertical tape so that it is aligned with the vehicle center line.
2. Position a horizontal tape with reference to center line of headlight.
3. Position a vertical tape on the screen with reference to the center line of each of headlights.

VISUAL HEADLIGHT ADJUSTMENT

1. A properly aimed lower beam will appear on the aiming screen 7.6 m (25 feet) in front of the vehicle. The shaded area as shown in the illustration indicates high intensity zone.
2. Adjust low beam of headlights to match the low beam pattern of the right and left headlights.

NOTE

If the visual headlight adjustment at low beam is made, the adjustment at high beam is not necessary.



3. Check to see that the bubble in the headlight vertical angle gauge is in the illustrated position.
4. If the bubble is out of position, adjust by turning the adjusting screw.
5. Confirm that the "0" mark on the headlight horizontal angle adjusting gear (B) is in alignment with the center line.
6. If not, perform the adjustment as follows.

- (1) Pull up the stopper.
- (2) Push the gear (B) in the arrow direction to disengage it from the gear (A).
- (3) Align the "0" mark on the gear (B) with the center line.
- (4) Push down the stopper to engage the gear (B) with the gear (A).

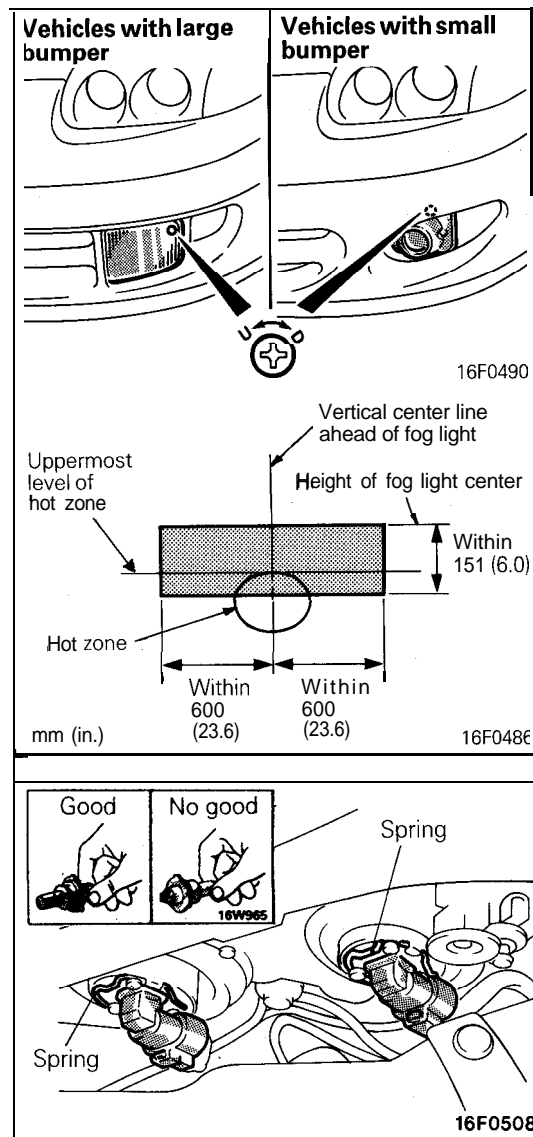
LUMINOUS INTENSITY MEASUREMENT

Measure the luminous intensity of headlights with a photometer in accordance with the instruction manual prepared by the manufacturer of the photometer and make sure that the luminous intensity is within the following limit.

Limit: 20,000 cd or more

NOTE

- (1) When measuring the luminous intensity of headlight, keep the engine at 2,000 rpm and have the battery charged.
- (2) If there are specific regulations for luminous intensity of headlights in the region where the vehicle is operated, make sure that the intensity conforms to the requirements of such regulations.



FOG LIGHT AIMING

1. Place vehicle on a known level floor 7.6 m (25 feet) from aiming screen or light colored wall.
2. Adjust the adjusting screw so that the top end of high intensity area may come to the same level as the fog light center height.

BULB REPLACEMENT

1. Disconnect the connector.
2. Turn the bulb socket counterclockwise to pull it out.

Caution

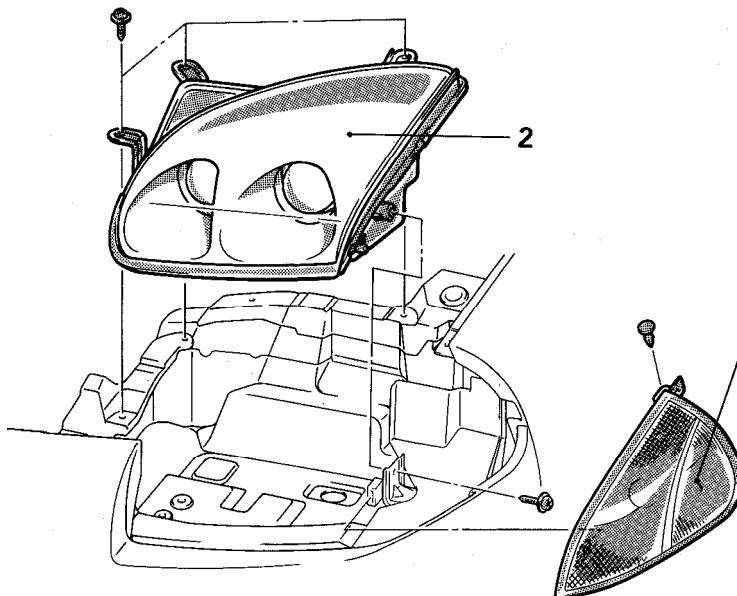
Do not touch the surface of the headlight bulb with hands or dirty gloves. If the surface does become dirty, clean it with alcohol or thinner, and let it dry thoroughly before installing.

HEADLIGHT

REMOVAL AND INSTALLATION

Removal steps

1. Front combination light
2. Headlight

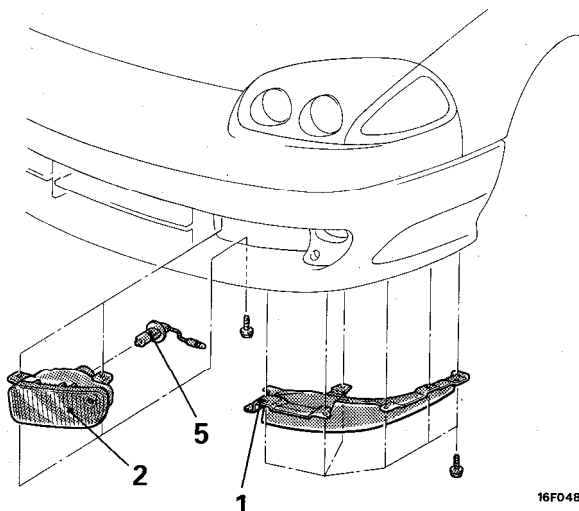


16F0480

FOG LIGHT

REMOVAL AND INSTALLATION

<Vehicles with small bumper>



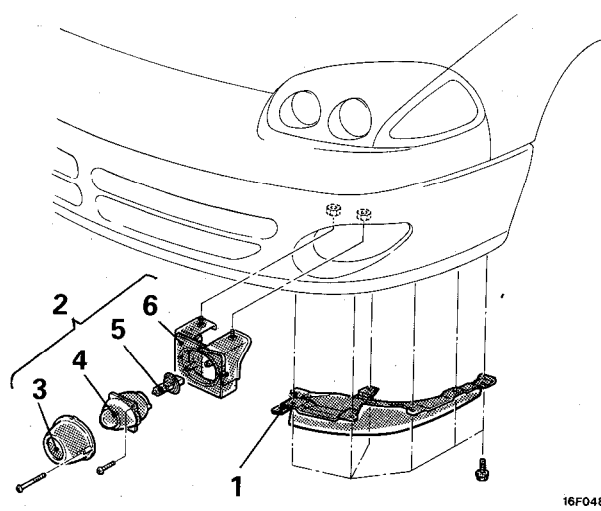
16F0487

<Vehicles with small bumper>

Removal steps

1. Front air side spoiler
2. Fog light assembly
- + 5. Bulb

<Vehicles with large bumper>



16F0488

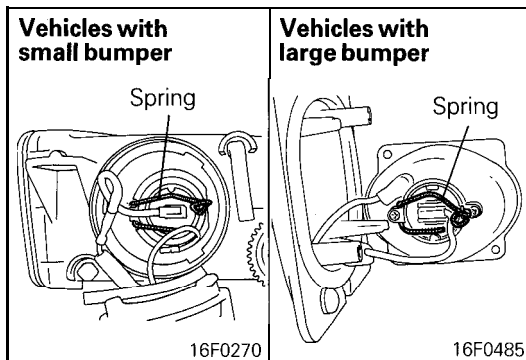
<Vehicles with large bumper>

Fog light removal steps

1. Front air side spoiler
2. Fog light assembly

Bulb replacement removal steps

3. Lens
4. Projector unit
- 4 5. Bulb
6. Bracket



SERVICE POINT OF REMOVAL

5. REMOVAL OF BULB

- (1) Remove the socket cover (vehicles with small bumper fog light) or projector unit (vehicles with larger bumper fog light).
- (2) Remove the bulb mounting spring and remove the bulb.

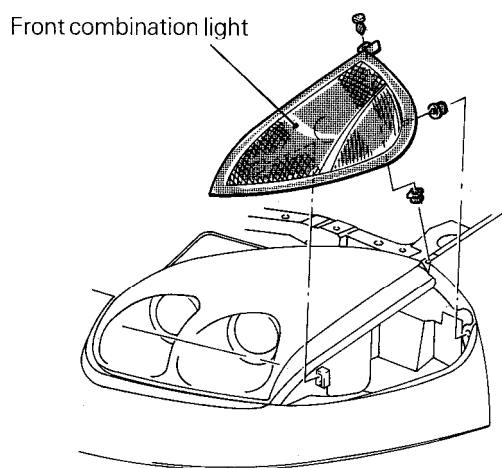
Caution

Do not touch the surface of the headlight bulb with bare hands or dirty gloves.

If there are deposits on the surface, loosen and remove the deposits with a cloth dipped in alcohol or thinner, and let the surface dry before mounting the bulb.

FRONT COMBINATION LIGHT

REMOVAL AND INSTALLATION



16F0477

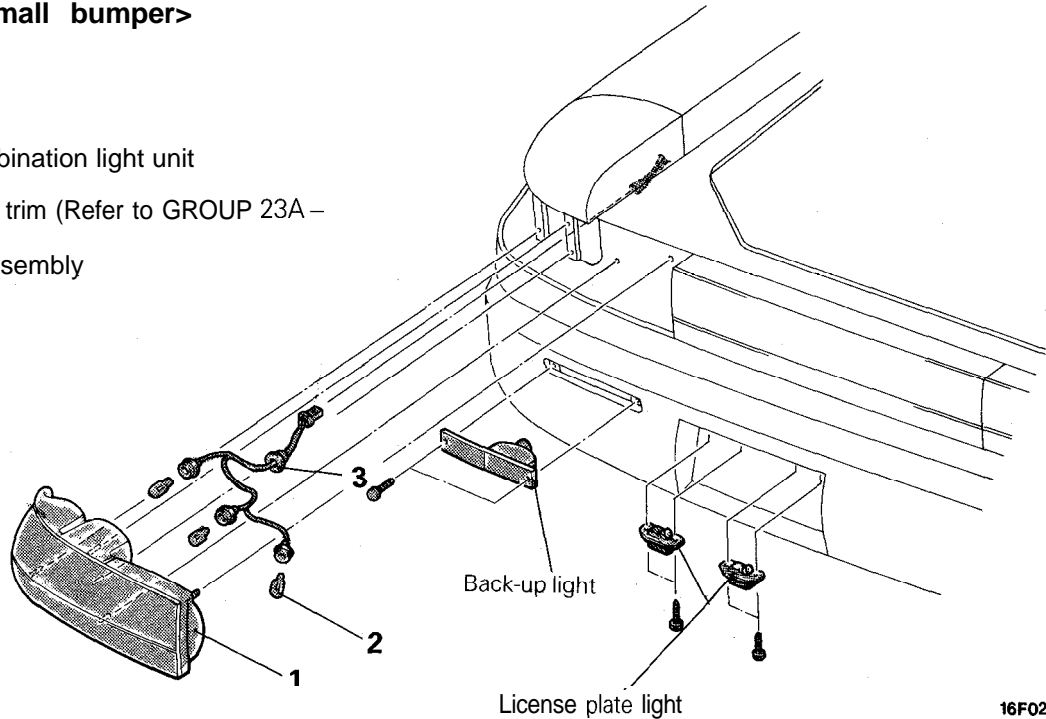
REAR COMBINATION LIGHT - BACK-UP LIGHT AND LICENSE PLATE LIGHT

REMOVAL AND INSTALLATION

<Vehicles with small bumper>

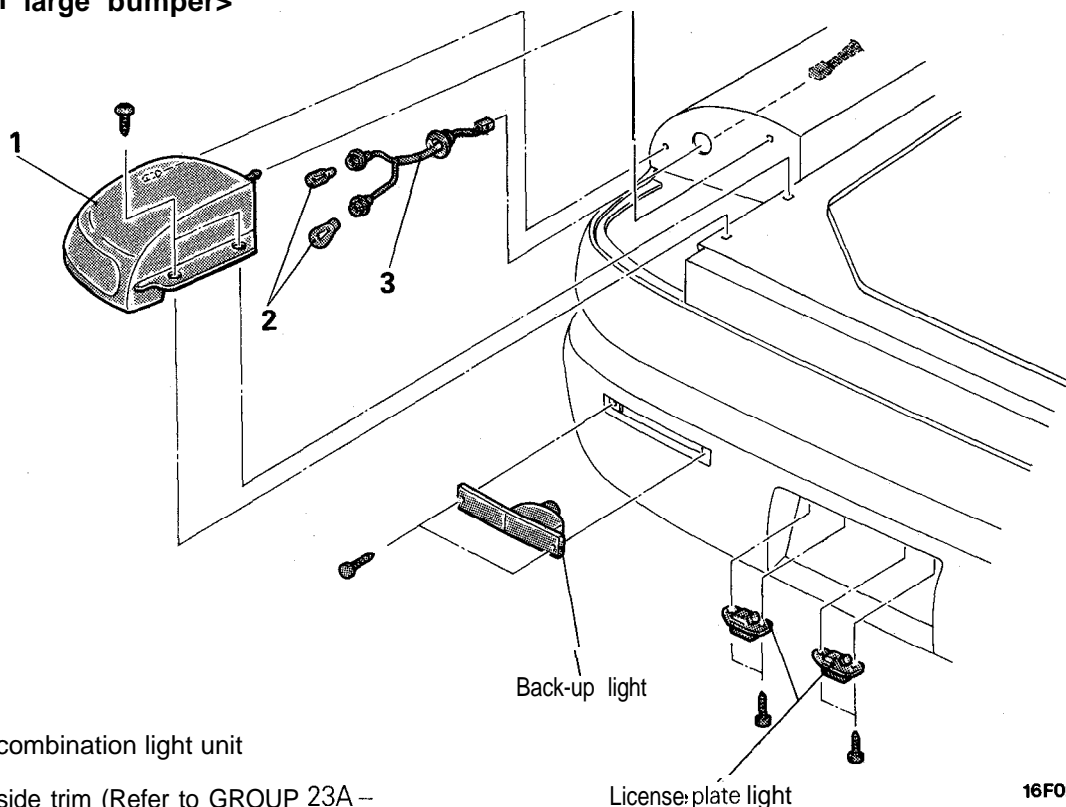
Removal steps

1. Rear combination light unit
2. Bulb
3. Socket assembly



16F0208

<Vehicles with large bumper>



Removal steps

1. Rear combination light unit
2. Bulb
3. Socket assembly

16F0209

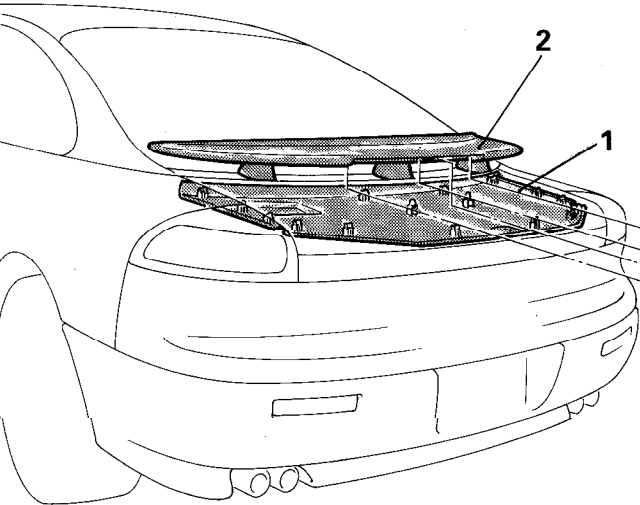
HIGH MOUNTED STOP LIGHT
REMOVAL AND INSTALLATION

N08IKAL

<Vehicles with rear spoiler>

Removal steps

- 1. Liftgate lower trim
(Refer to GROUP 23A – Trims.)
- 2. Air spoiler
(Refer to GROUP 23A – Aero Parts.)
- 3. High mounted stop light

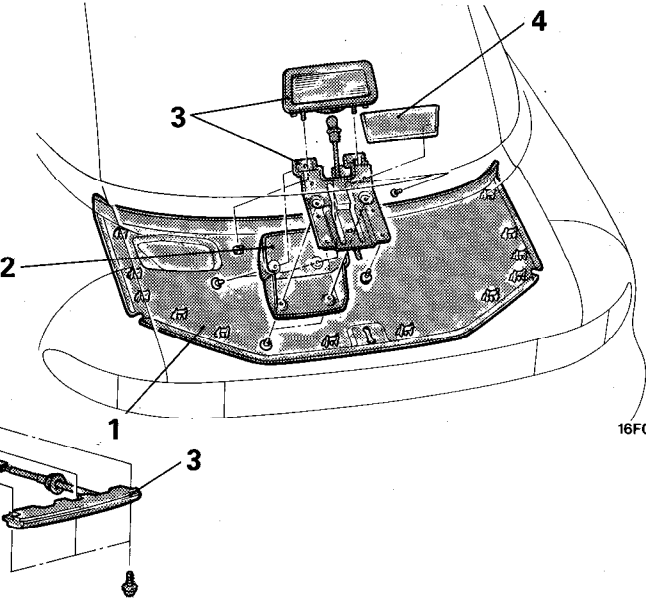


16F0230

<Vehicles without rear spoiler>

Removal steps

- 1. Liftgate lower trim
(Refer to GROUP 23A – Trims.)
- 2. High mounted stop light cover
- 3. High mounted stop light lens and bracket
- 4. Gasket

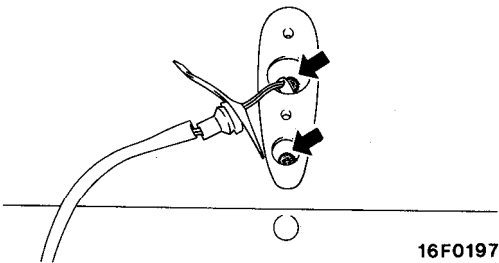


16F0231

SERVICE POINT OF REMOVAL

3. REMOVAL OF HIGH-MOUNTED STOP LIGHT
(Vehicles with rear spoiler)

Remove the air spoiler center stay mounting screws before removing the high-mounted stop light.



16F0197

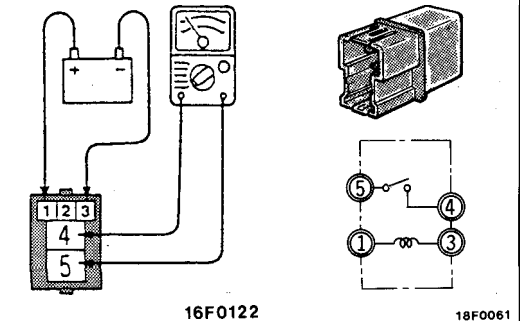
RELAY

INSPECTION

HEADLIGHT RELAY / TAILLIGHT RELAY / FOG LIGHT RELAY

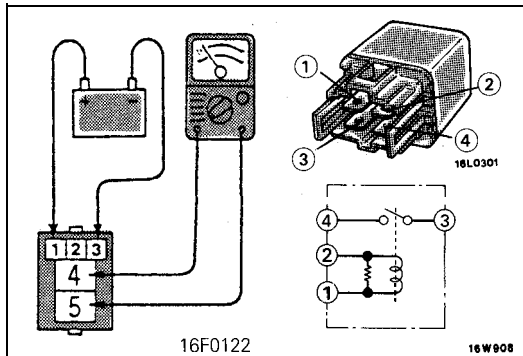
Connect battery to terminal 1 and check continuity between terminals with terminal 3 grounded.

Power is supplied	4 – 5 terminals	Continuity
Power is not supplied	4 – 5 terminals	No continuity
	1 – 3 terminals	Continuity



16F0122

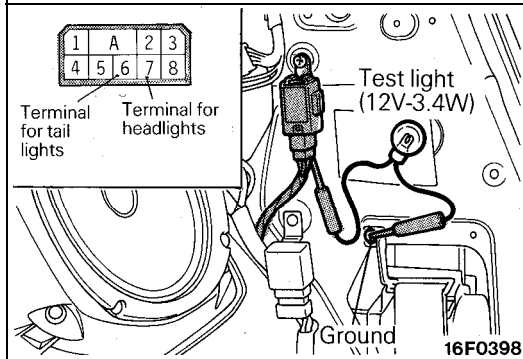
18F0061



UPPER BEAM RELAY (VEHICLES FOR CANADA)

Connect battery to terminal 1 and check continuity between terminals with terminal 2 grounded.

Power is supplied	3 – 4 terminals	Continuity
Power is not supplied	3 – 4 terminals	No continuity
	1 – 2 terminals	Continuity



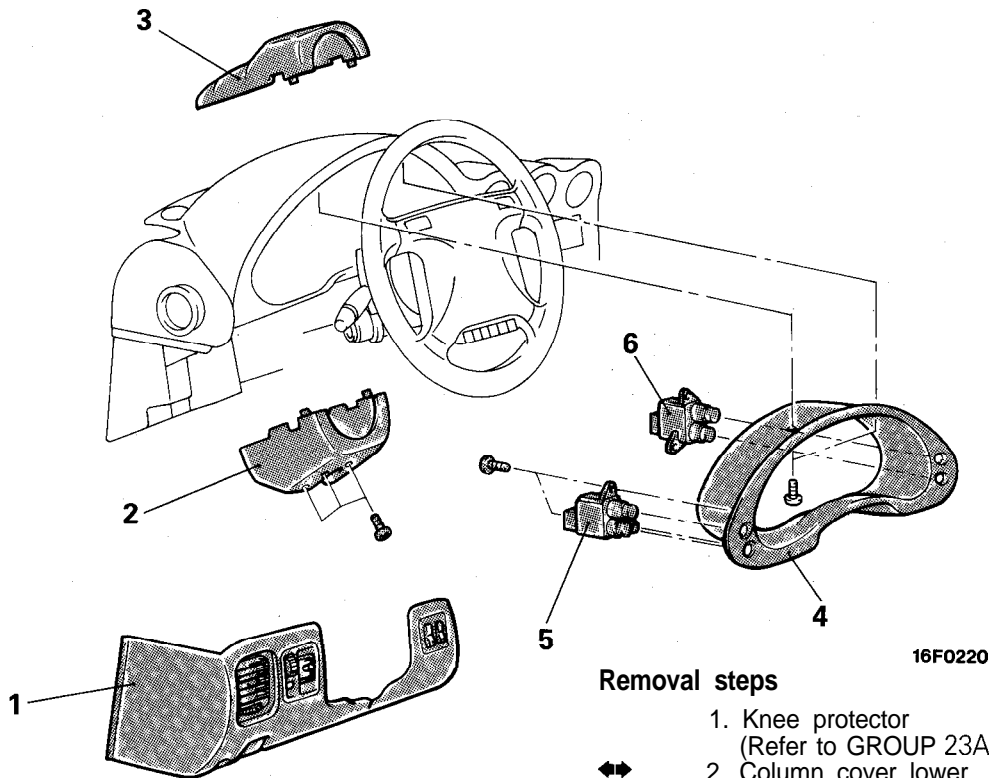
LIGHT AUTOMATIC SHUT-OFF UNIT

- (1) Remove the quarter trim. (Refer to GROUP 23A – Trim.)
- (2) Keeping the connector connected to the light automatic shut-OFF unit, connect the test light (12V – 3.4W) from the harness side to terminal No. 6 (for tail lights) or No. 7 (for headlights). Under the following conditions, check the operation of the test light.

	Conditions	Test light
(1)	Ignition switch and lighting switch are at "OFF" position.	Illuminated
(2)	Lighting switch is at "TAIL" or "HEAD" with ignition switch at "ACC" or "ON" position.	Illuminated
(3)	Driver's door is opened after ignition switch is turned from state (2) to "OFF" position. (Reverse procedure is also allowable.)	Illuminated
(4)	Ignition switch is once turned from state (3) "OFF", then turned to "TAIL" or "HEAD".	Extinguished
(5)	Ignition switch is turned from state (3) to "ACC" or "ON" position.	Illuminated

FOG LIGHT SWITCH

REMOVAL AND INSTALLATION

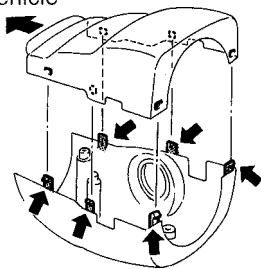


Removal steps

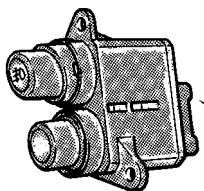


1. Knee protector
(Refer to GROUP 23A – Instrument Panel.)
2. Column cover lower
3. Column cover upper
4. Meter bezel
5. Fog light switch
6. Rear window defogger switch

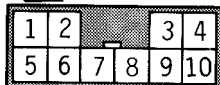
Front of vehicle



16F0129



16F0140



16A0358

SERVICE POINTS OF REMOVAL

2. REMOVAL OF COLUMN COVER LOWER / 3. COLUMN COVER UPPER

After the screws have been removed, remove the covers, while making sure not to break the grippers.

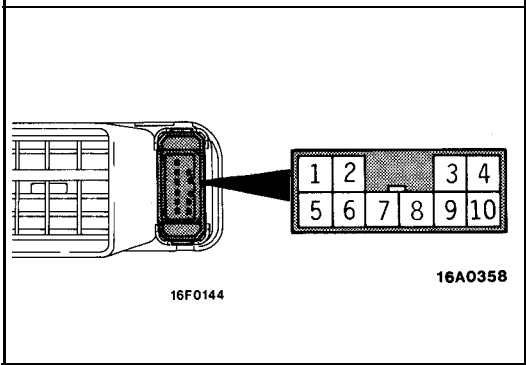
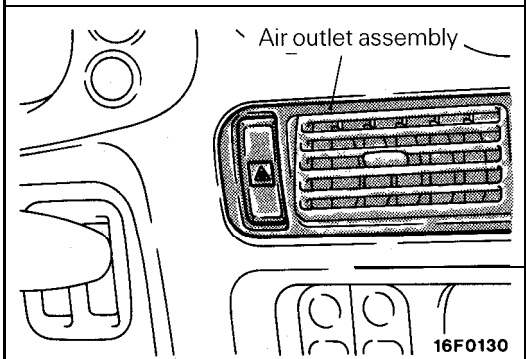
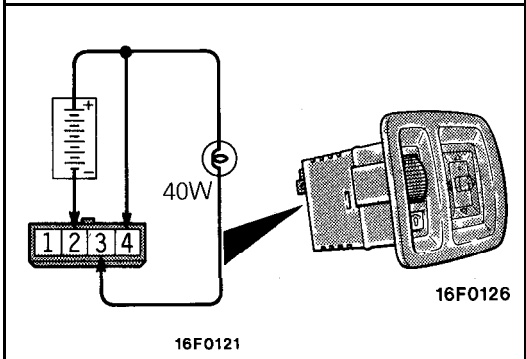
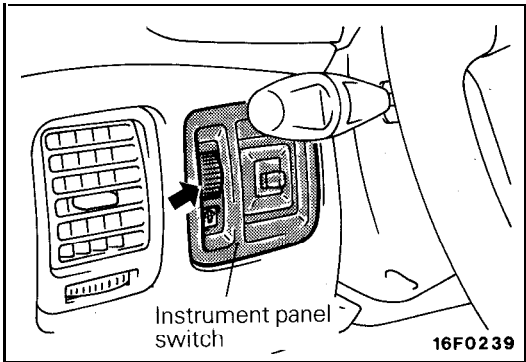
INSPECTION

Operate the switch to check for continuity between terminals.

Terminal	1	5	3	4
Switch position				
ON	○	○		
OFF				

NOTE

- (1) ○—○ indicates that there is continuity between the terminals.
- (2) Refer to P.8-410. Check the rear window defogger switch.



RHEOSTAT

INSPECTION

- (1) Remove the instrument panel switch from the knee protector.
- (2) Connect the battery and a test bulb (40W) as shown in the figure.
- (3) The function of the rheostat is normal if the intensity of illumination changes smoothly, without flashing or flickering, when the rheostat is operated.

HAZARD SWITCH

INSPECTION

- (1) Remove the center air outlet assembly from instrument panel. [Refer to GROUP 24 – VENTILATORS (Instrument Panel).]
- (2) Operate the switch to check for continuity between terminals.

Terminal	1	5	6	7	8	9	10	2	3
Switch position									
ON			○	○	○	○	○	○	○
OFF		0			○				○
									○

○—○ indicates that there is continuity between the terminals.

NOTE
○—○ indicates that there is continuity between the terminals.