

## A: ON-CAR SERVICES

### 1. ADJUSTMENT

- 1) Adjust wiper blade in original position as shown in the illustration by changing wiper arm installation.

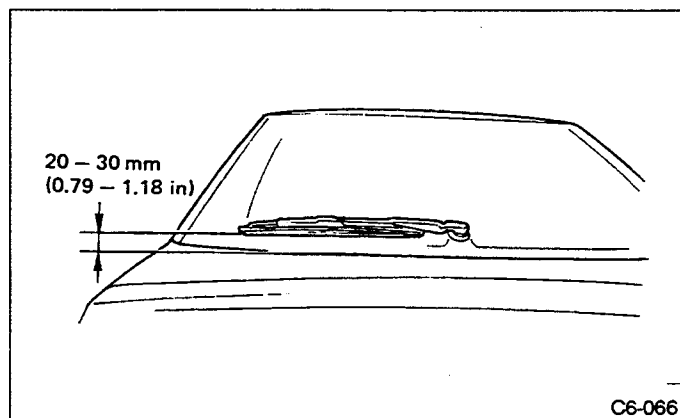


Fig. 38

- 2) Adjust washer ejecting point on rear gate window as shown in the illustration when the car stops.

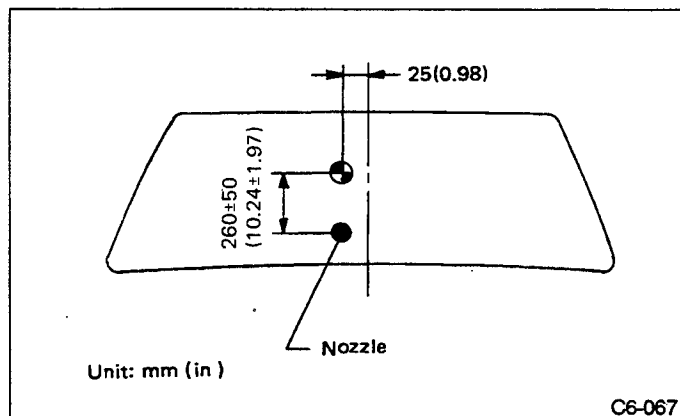


Fig. 39

## B: REMOVAL AND INSTALLATION

### 1. WIPER ARM

- 1) Remove head cover.
- 2) Remove nut and wiper arm.

### 2. WIPER MOTOR

- 1) Remove cap and special nut.  
**Be careful not to strike service tool against nozzle during removal.**

- 2) Remove rear gate trim. Ref. to [5-3].
- 3) Disconnect connector (Motor & relay).
- 4) Separate washer hoses at joint.
- 5) Remove attaching screws and take out wiper motor ASSY.

**Be careful not to damage O-ring when removing wiper motor ASSY.**

### 3. WASHER TANK

- 1) Remove rear quarter trim. Ref. to [5-3].
- 2) Disconnect washer hose and motor connector.
- 3) Remove attaching bolts.

# W SERVICE PROCEDURE

## 11. Security System

### A: SCHEMATIC

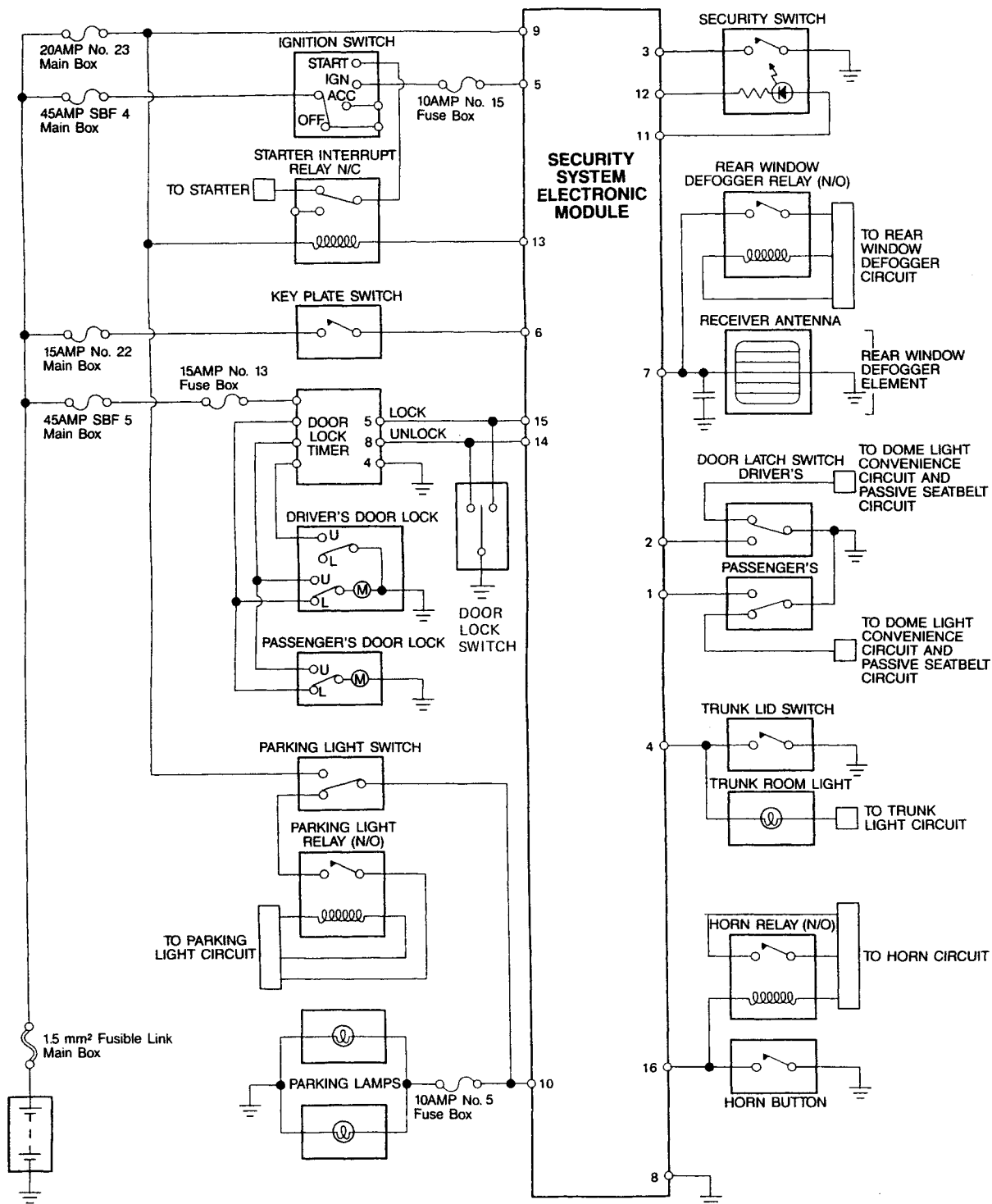
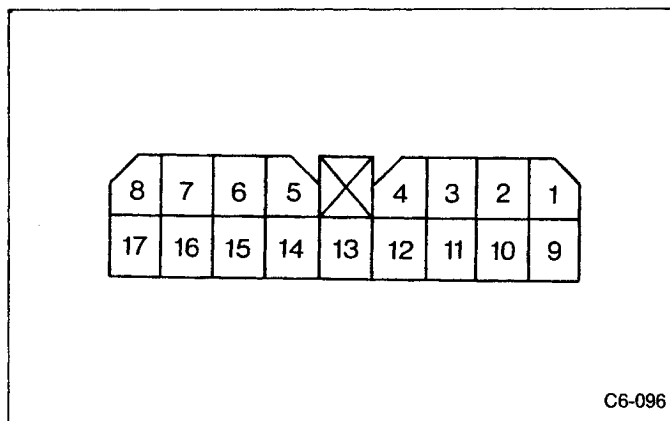


Fig. 1



C6-096

Fig. 2

PIN	FUNCTION
1	PASSENGER DOOR LATCH SWITCH
2	DRIVERS DOOR LATCH SWITCH
3	SECURITY SWITCH
4	TRUNK LID SWITCH
5	IGNITION
6	KEY PLATE SWITCH
7	RECEIVER ANTENNA
8	GROUND
9	+ 12 VOLTS
10	PARKING LIGHT
11	LED + (INDICATOR)
12	LED - (INDICATOR)
13	STARTER
14	UNLOCK-DOOR LOCK ACTUATOR
15	LOCK-DOOR LOCK ACTUATOR
16	HORN
17	OPEN

## 1. FUNCTION AND OPERATION

(1) The security system monitors the dome and trunk light circuits to sense unauthorized entry into the vehicle. The system senses impacts to the vehicle resulting from possible suspicious activity. The system will sound the horn and flash the parking lights if entry or impact is detected. When actively armed, the system will disable the starter. The starter circuit is deactivated through a relay which interrupts the circuit.

(2) The remote transmitter arms or disarms the system. The remote arm and disarm also provides driver convenience of locking and unlocking the doors. The security system communicates with the door lock timer unit to lock and unlock the doors. When disarming, the system turns the on dome light illuminating the interior for entering the vehicle in the dark.

### 1) Passive Arming

The system arms automatically 27 seconds after the dome light dims off. If a door or the trunk is opened within the 27 second exit delay, the system waits until all doors and trunk are closed to begin a new 27 second cycle.

**The doors will not lock automatically when the system arms.**

### 2) Passive Disarming

The system can be disarmed by turning the ignition switch to the ON position. When a door is opened the parking lights flash and a clicking noise is heard counting down the 17 second entry delay before the alarm sound.

### 3) Active Arming

The system arms/disarms when the remote transmitter button is pressed. Along with the arm/disarm signal, the doors lock/unlock. The doors and trunk must be closed securely and the parking lights switched OFF for the system to arm.

### 4) Active Disarming

The system disarms when the remote transmitter button is pressed. The transmitter also disarms the system for passively armed. The doors automatically unlock with the disarm signal.

### 5) Alarm Activation

The alarm sounds if the doors or trunk are opened after the system is armed. A sudden shock such as breaking a window or not disarming the system before the end of the 17 second entry delay also sets off the alarm.

### 6) Alarm

The alarm sounds for 2 minutes. The system rearms if all sensors are returned to a normal state. If the sensors are not returned to a normal state, the alarm continues to sound in 2 minute cycles to a total of 10 minutes.

### 7) Starter Interrupt

With the system actively armed, the system disables the starter circuit. The starter will not operate unless the system is disarmed actively.

**The system must be disarmed with the remote transmitter if armed with the remote transmitter for the engine to start.**

### 8) Emergency By-Pass

If the remote transmitter is lost or broken the starter interrupt can be by-passed allowing the engine to start. The following procedure must be used to activate the emergency by-pass.

#### 1. Enter the vehicle.

**The alarm will sound as the door is opened.**

2. Securely close the door.

**Do not change the position of the Security Switch or leave the doors or trunk open, otherwise the alarm will sound for 10 minutes before the engine can be started.**

3. Turn on the parking lights.

**The alarm will sound for two minutes.**

4. Start the engine by turning the ignition switch.

5. Turn off the parking light switch.

9) Red Indicator Light

The red indicator light signals the status of the system. Under normal conditions the light will flash approximately every two seconds. If an intrusion has been sensed and the alarm was activated the indicator light will flash a code showing the type of intrusion as follows:

Number of Flashes	Point of Intrusion
2	Door
4	Shock Sensor Activated
5	Use of non-authorized remote transmitter.
8	Ignition tampering

10) Panic Mode

The security system will automatically sound the alarm if the remote transmitter button is held down for more than 3 seconds. To deactivate the panic mode hold the button for 8 seconds or turn the ignition switch to the on position.

11) Warn-Away

Minor impacts or shocks to the vehicle will cause the system to sound the horn as a warning. If 3 minor shocks are sensed within 7 seconds then the alarm will sound a normal 2 minute alarm cycle.

12) Horn Signal

The horn provides feedback for the driver that the system responded to the remote transmitter. The horn will sound a single tone when armed and two tones when disarmed. A third tone will sound indicating the alarm was activated.

## 2. STARTER INTERRUPT RELAY

The relay, activated by a signal from the electronic control unit, interrupts the starter circuit keeping the starter from operating.

1) Passive Arming: The starter circuit functions normally. The system will not activate the starter interrupt relay if passively armed.

2) Active Arming: The system interrupts the starter circuit if actively armed. The electronic control unit grounds the coil side of the relay, opening the relay switch contacts, interrupting the starter circuit.

## 3. REMOTE TRANSMITTER

The remote transmitter is a hand-held device which transmits a radio signal to the system providing an arm or disarm command. The signal also locks or unlocks the doors.

### C: SHOCK SENSOR ADJUSTMENT

The system shock sensor is preset and requires no additional adjustments unless requested by the consumer. The adjustment screw for the shock sensor is located in the end of the electronic control unit. The sensor sensitivity can be fine tuned changing the level of impact required to set off the alarm. To reduce sensitivity turn the screw counter-clockwise. Increase sensitivity by turning the screw clockwise.

**D: PROTECTIVE FUSE**

A 1 amp fuse is located in the end of the electronic control unit near the shock sensor adjustment screw. The fuse protects the circuit board from power surges

or shorts. To replace the fuse place a screwdriver in the end of the fuse holder and turn counter-clockwise. The fuse and holder rotates outward.

**Do not change the position of the shock sensor adjustment.**

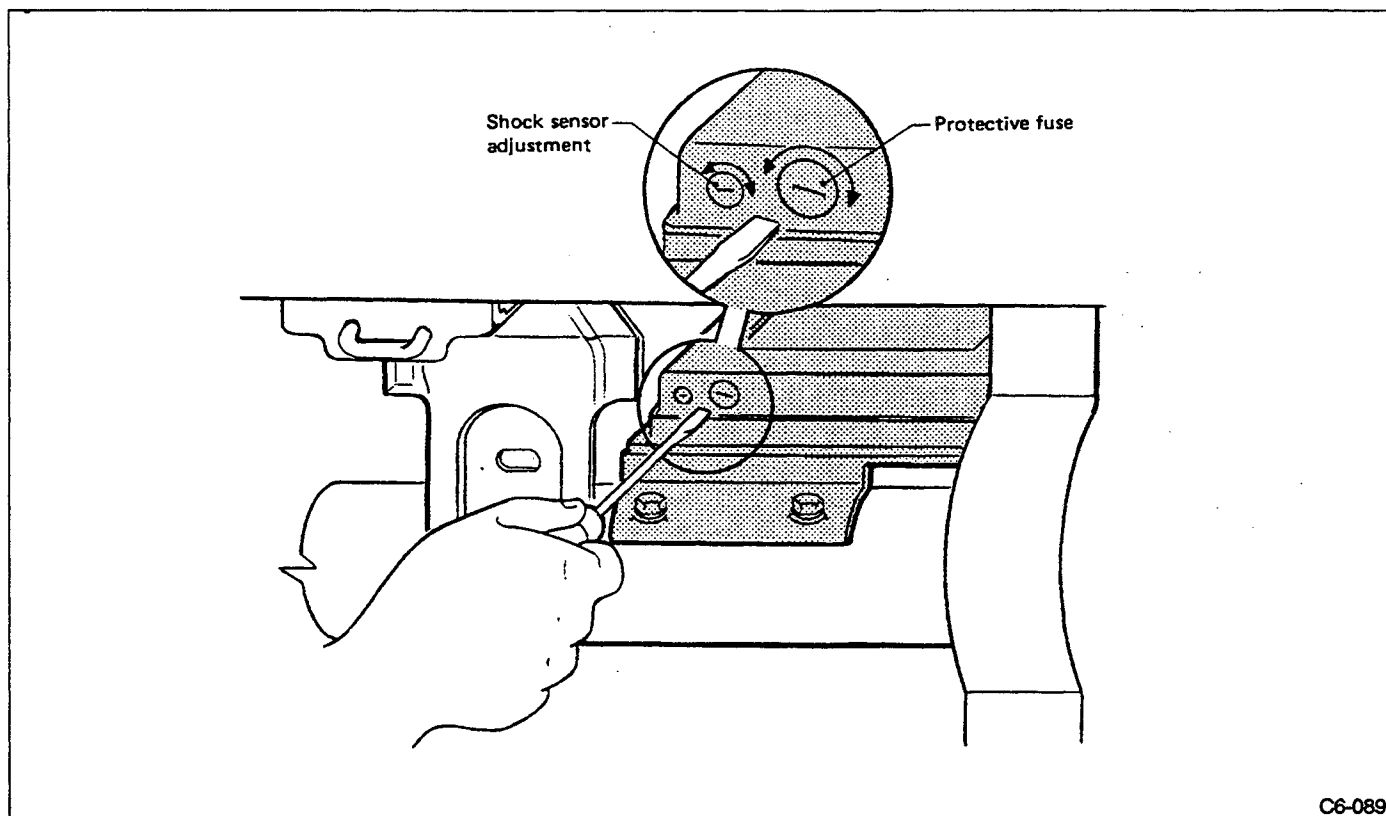


Fig. 42

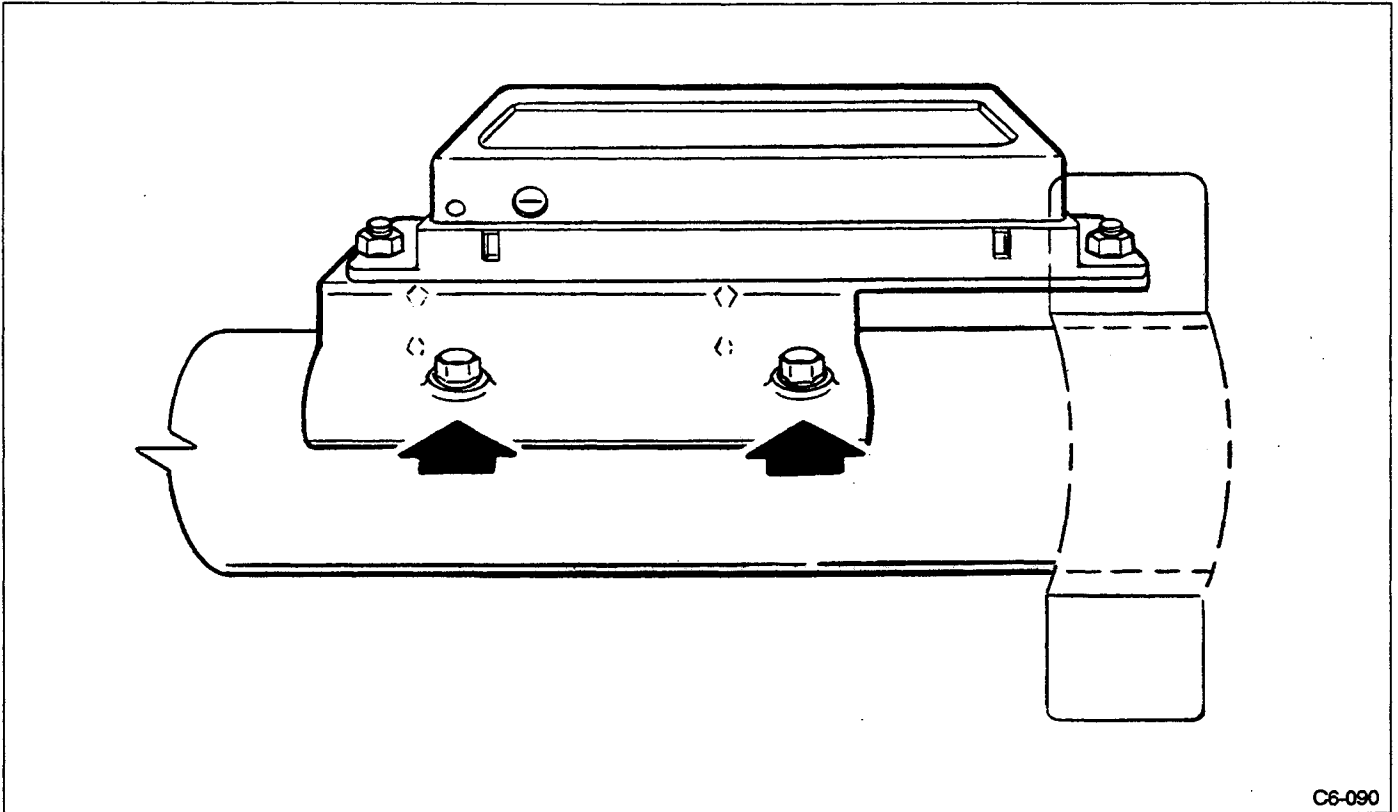
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**E: REMOVAL AND INSTALLATION****1. ELECTRONIC CONTROL MODULE**

- 1) Remove glove box door and inner panel.
- 2) Remove glove box door switch assembly and brace.
- 3) Remove the two attaching bolts from the electronic control module bracket.

- 4) Gently pull the electronic control unit away from inside the dash. Disconnect the connector from the back of the control unit.

**Reprogram the remote transmitter code to the electronic control unit whenever the connector or battery has been disconnected.**



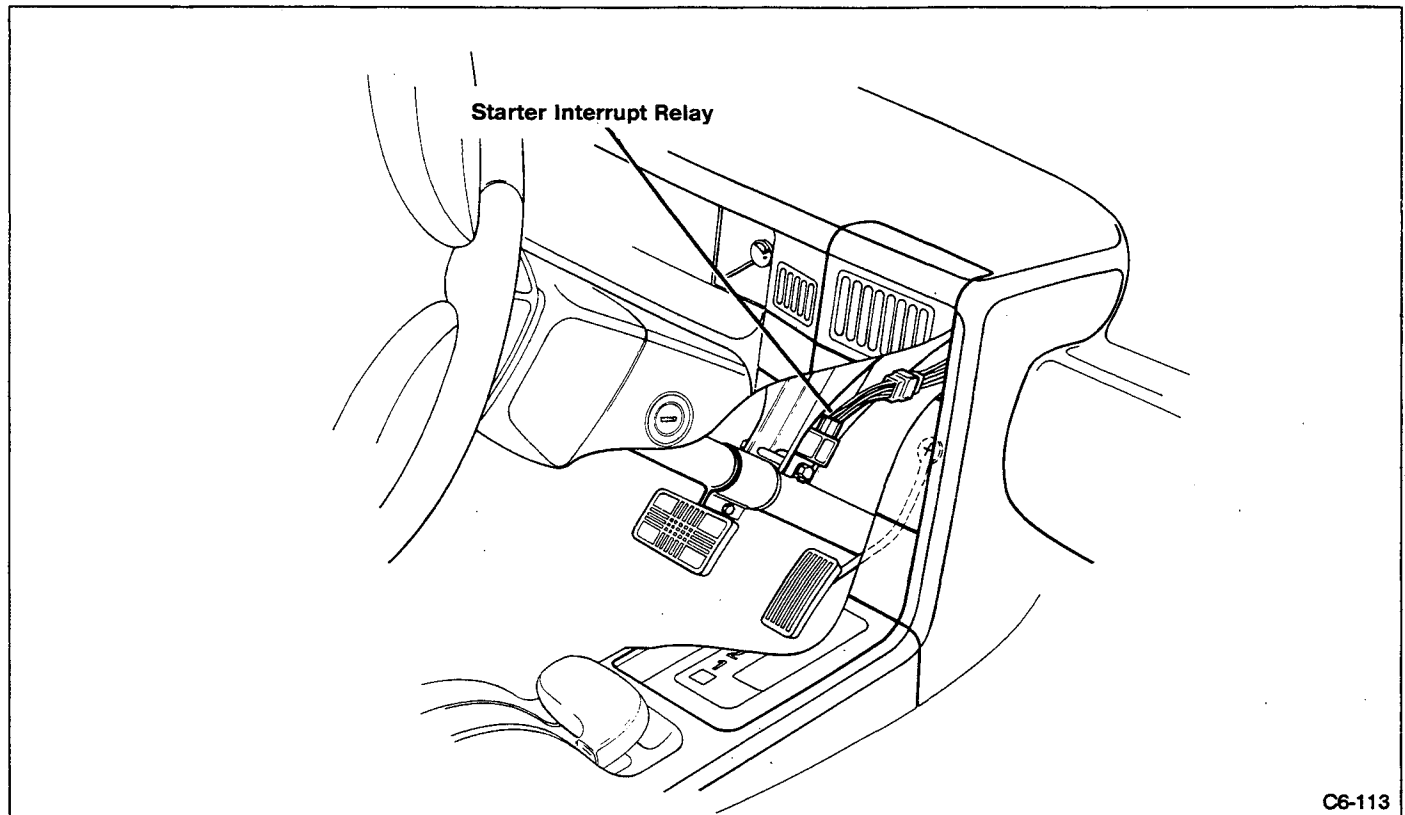
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*Fig. 43*

**2. STARTER INTERRUPT RELAY**

1) Disconnect the connector from the bottom of the relay.

2) Remove the attaching bolt.

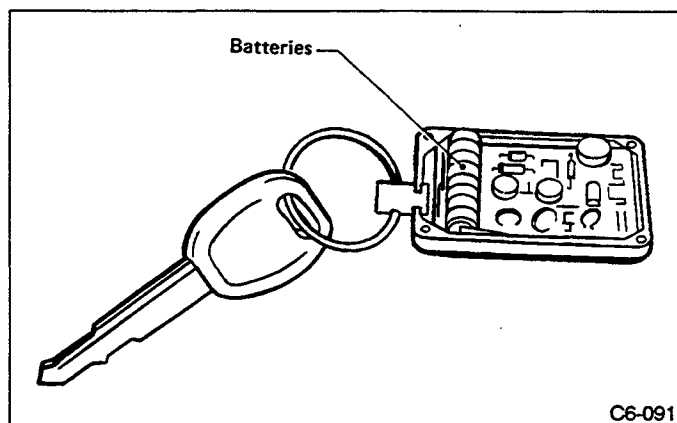


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Fig. 44

**3. REMOTE TRANSMITTER BATTERIES**

- 1) Remove the four screws from the back of the remote transmitter housing.
- 2) Turn the remote transmitter over and gently lift off the top cover.



C6-091

Fig. 45

**4. PROGRAMMING THE REMOTE TRANSMITTER CODES**

The remote transmitter codes must be reprogrammed whenever the battery or wiring connector for the electronic control unit has been disconnected. The electronic control unit clicks and the parking lights flash as a signal the transmitter codes need to be reprogrammed.

Press the button on each remote transmitter twice and one more time on one of the transmitters: a total of five (5) times. The electronic control unit must receive five transmitter codes for the system to operate.

**F: FUNCTION TESTS****1. PASSIVE ARMING**

- 1) Cycle the ignition ON to OFF. Exit the vehicle.
- 2) Securely close all doors and trunk lid.
- 3) The system should automatically arm 27 seconds after the dome light dimes out.
- 4) Open a door. The system should sound the alarm 17 seconds after the door was opened. The system will click and flash the parking lights during the 17 second entry delay.
- 5) Allow the system to passively arm once again. Open the trunk lid. The alarm should sound immediately, (press the remote transmitter button to stop the alarm).

6) Allow the system to passively arm once again. Open the door and turn the ignition on. The system should not sound the alarm after 17 seconds.

## **2. ACTIVE ARMING**

- 1) Securely close all doors and trunk lid.
- 2) Actively arm the system by pressing the button on the remote transmitter. The system should arm and lock the doors. The arming is signaled by a single flash of the parking lights and a tone from the horn.
- 3) Open a door by unlocking with the key. The alarm should sound immediately when the door is opened.
- 4) Attempt to start the engine. The engine should not start.
- 5) Disarm the system by pressing the button on the remote transmitter. The alarm should stop sounding.
- 6) Actively arm the system once again.
- 7) Open the trunk lid by unlocking with the key. The alarm should sound immediately when the trunk is opened. Stop the alarm by pressing the remote transmitter button.
- 8) Roll down the driver's door window.
- 9) Securely close all doors.
- 10) Actively arm the system once again by pressing the remote transmitter button.
- 11) Reach through the open driver's door window and press the main switch OFF. The alarm should sound immediately when the main switch is pressed OFF.
- 12) Disarm the system and stop the alarm by pressing the remote transmitter button.

## **3. SHOCK SENSOR**

- 1) Unlatch the hood.
- 2) Arm the system.
- 3) Open the hood by 102 mm (4 in). Let the hood fall freely. The alarm should sound when the hood closes.
- 4) Stop the alarm by pressing the remote transmitter button.

## **4. SECURITY SWITCH**

- 1) Turn the ignition ON.
- 2) Press the Security Switch OFF. Turn OFF the ignition. The indicator light should remain ON - no flashing.
- 3) Press the remote transmitter button. The system should lock the doors but not arm.
- 4) Unlock a door with the key and open. The alarm should not sound.

## **5. EMERGENCY BY-PASS**

- 1) Actively arm the system by pressing the remote transmitter button.
- 2) Open a door by unlocking with the key. The alarm should sound as soon as the door is opened.
- 3) Enter and securely close the door.
- 4) Turn the parking lights on.
- 5) Wait for the system to complete the two (2) minute alarm cycle.
- 6) Attempt to start the engine. The engine should start.

## **6. PANIC MODE**

- 1) Securely close all doors and trunk lid.
- 2) Continuously press the remote transmitter button for more than 3 seconds. The alarm should begin to sound after 3 seconds.
- 3) Continuously press the remote transmitter button for more than 8 seconds to turn off the panic mode alarm.



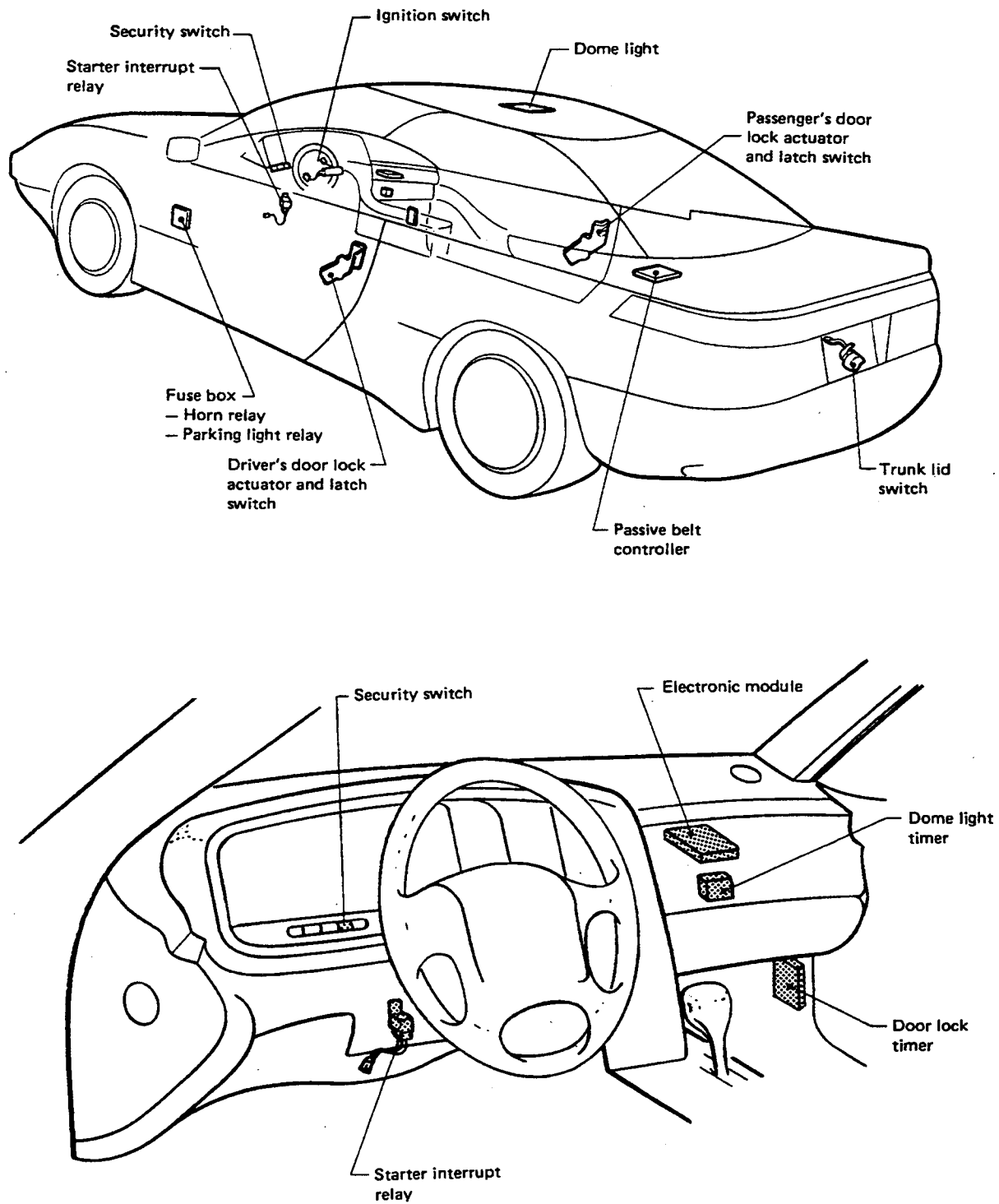
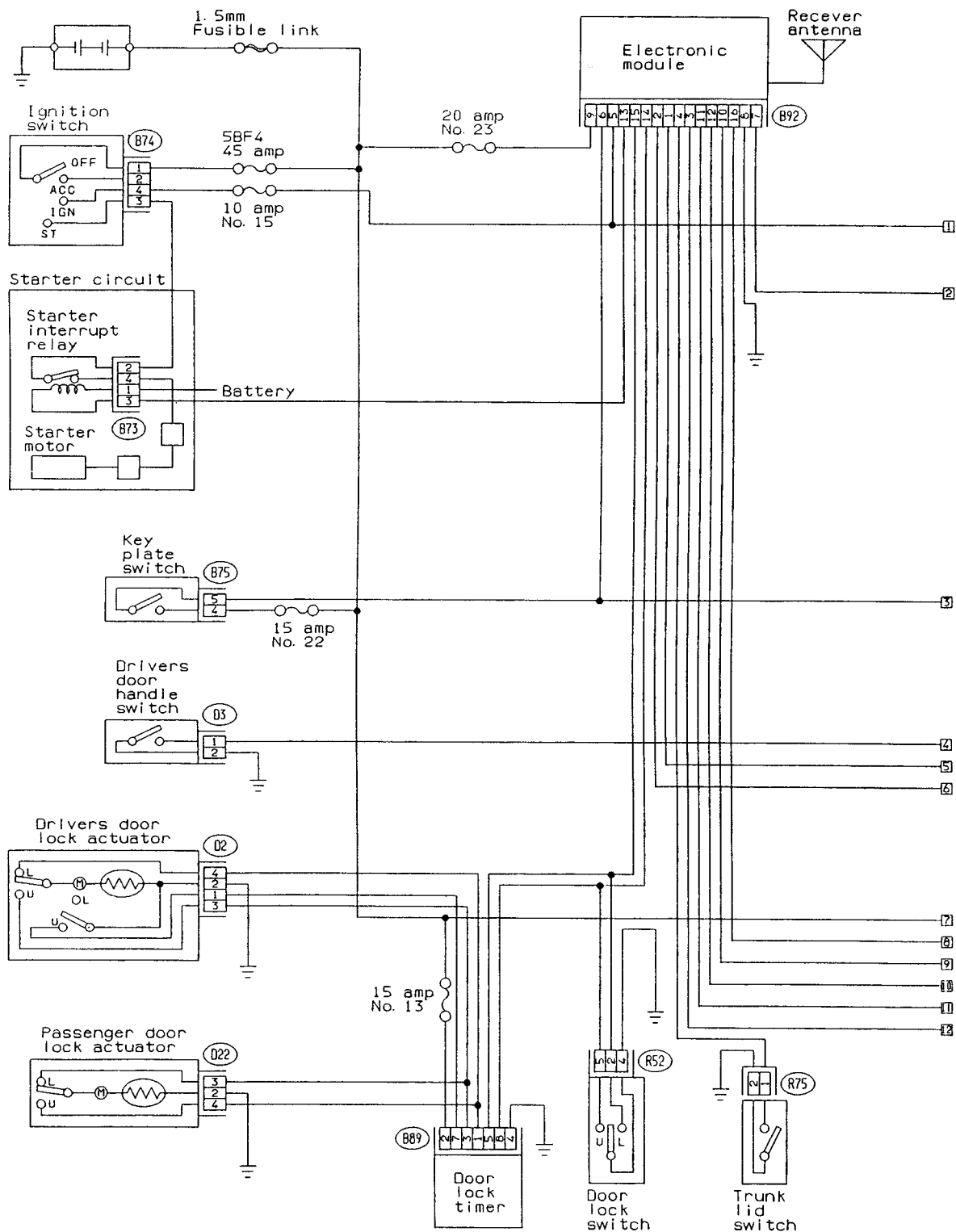
**G: COMPONENT LOCATIONS**

Fig. 46

C6-092

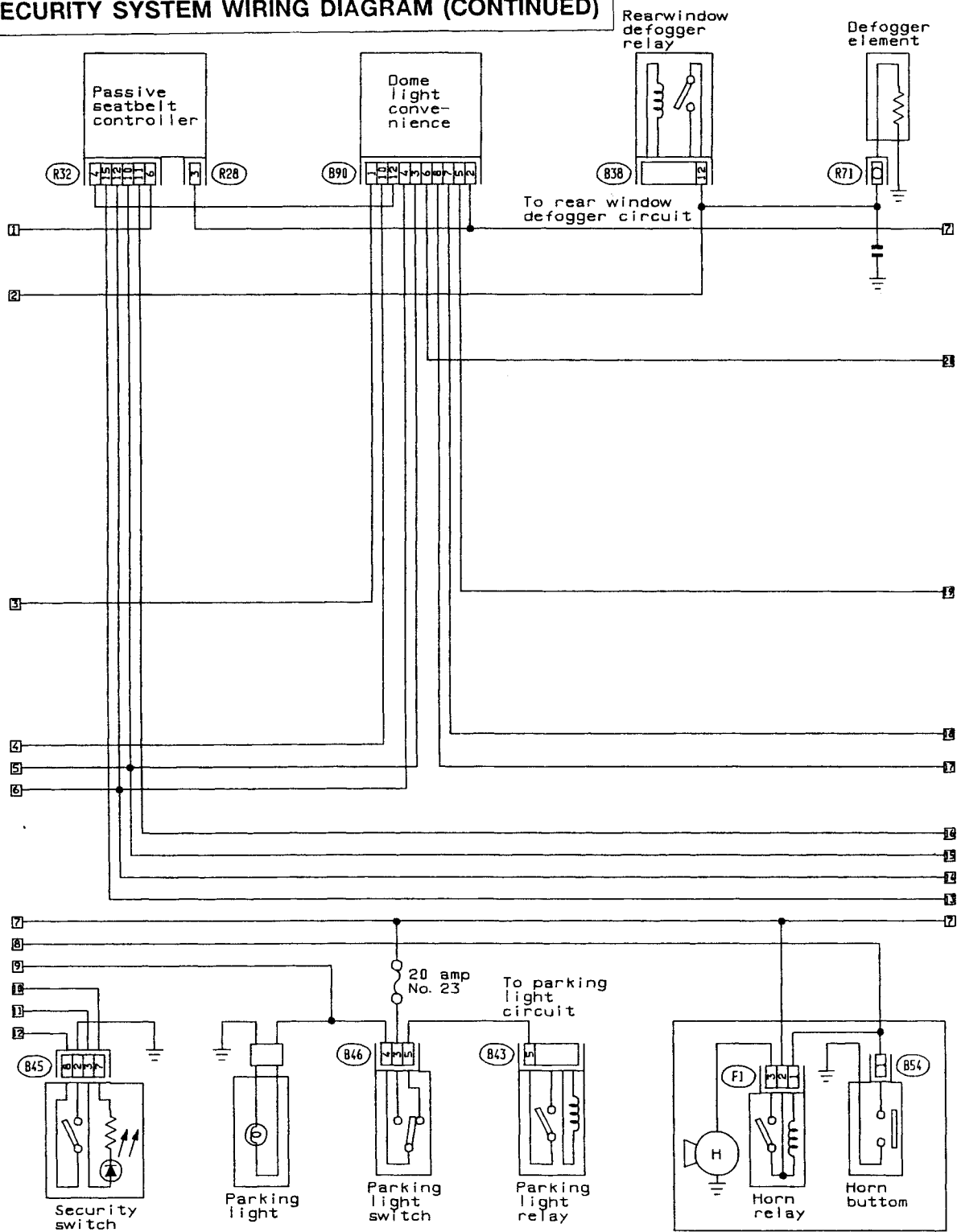
## H: SECURITY SYSTEM WIRING DIAGRAM



C6-207

Fig. 3

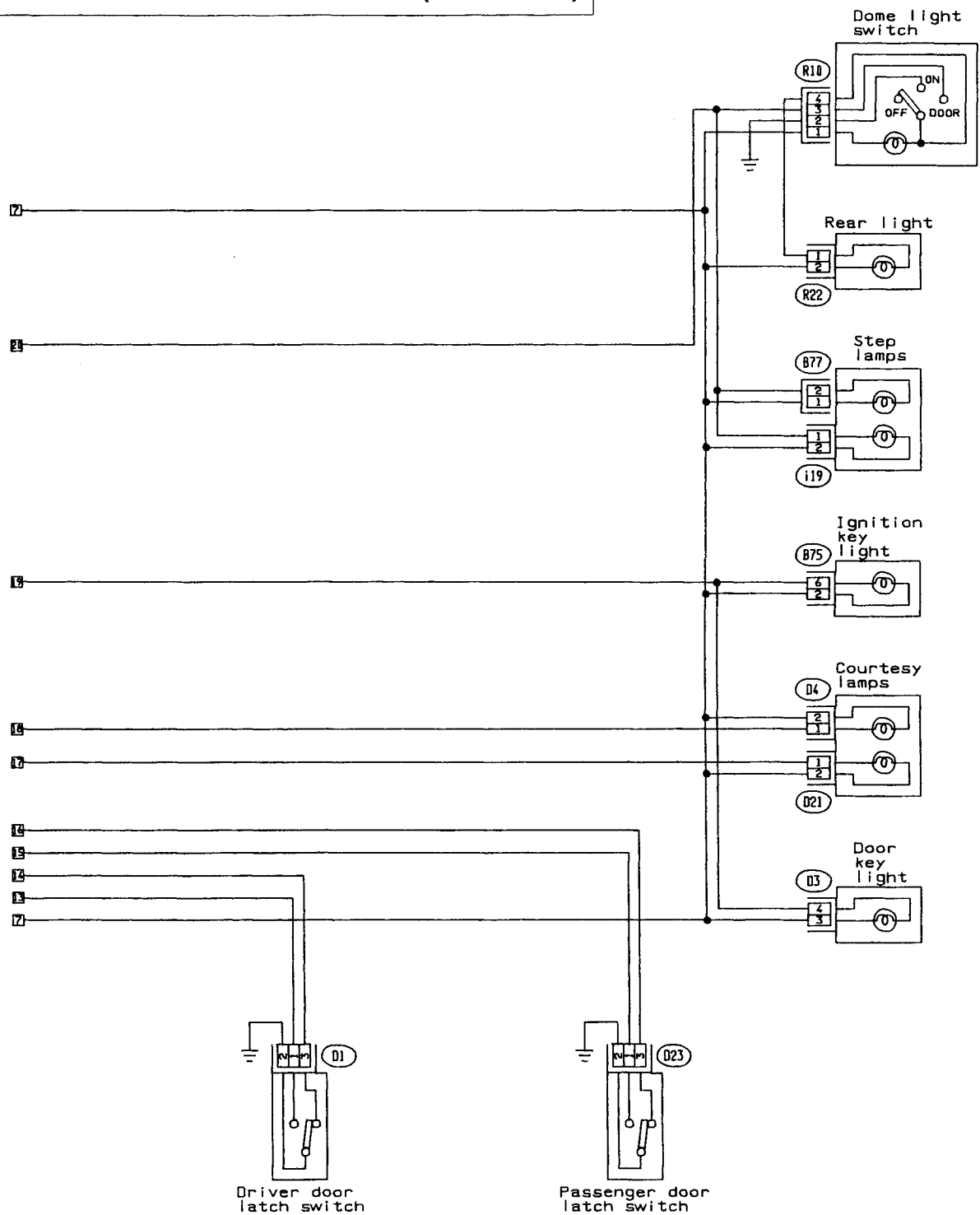
## H: SECURITY SYSTEM WIRING DIAGRAM (CONTINUED)



C6-094

Fig. 4

## H: SECURITY SYSTEM WIRING DIAGRAM (CONTINUED)



C6-095

## SECURITY SYSTEM CONNECTOR IDENTIFICATION

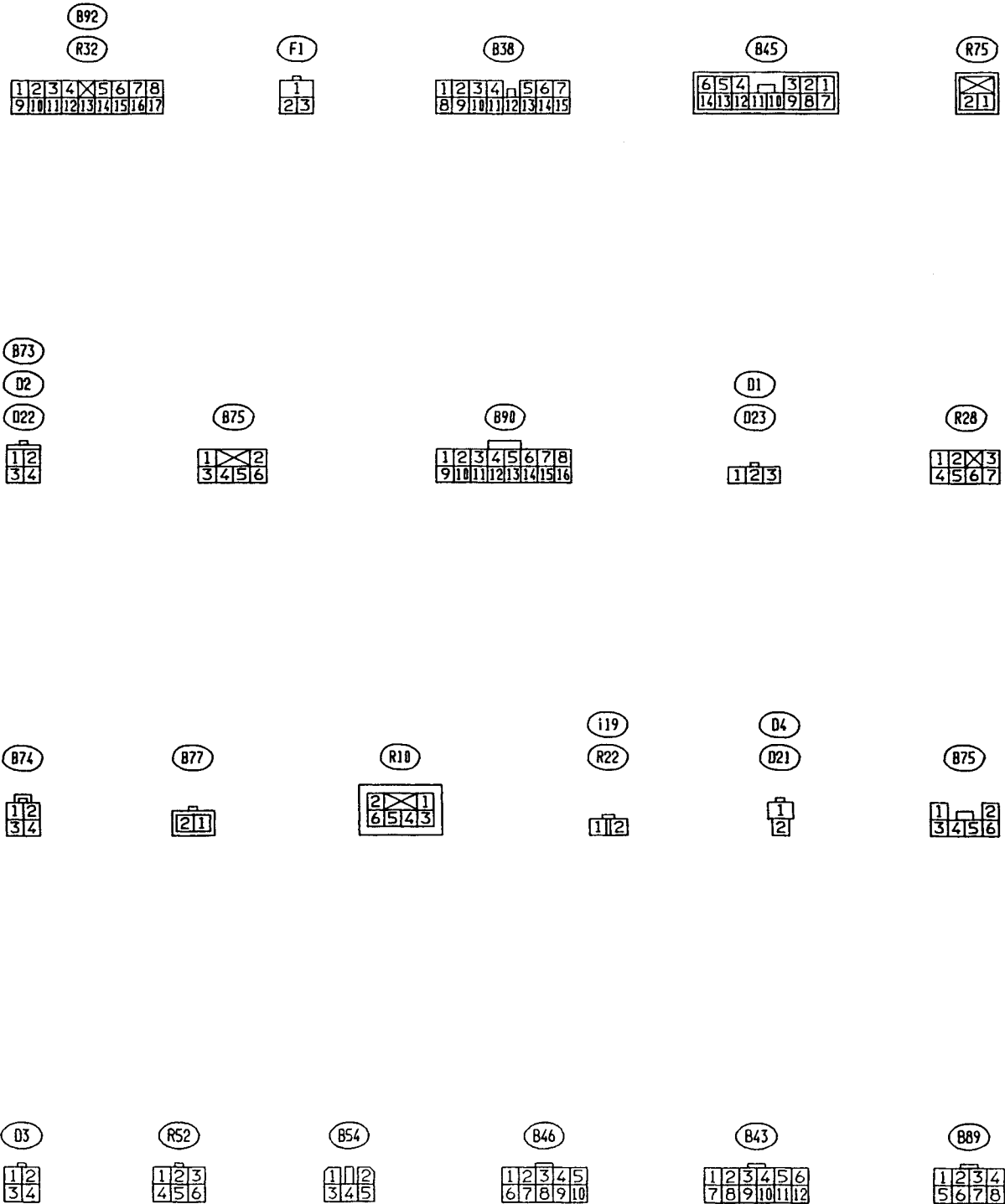
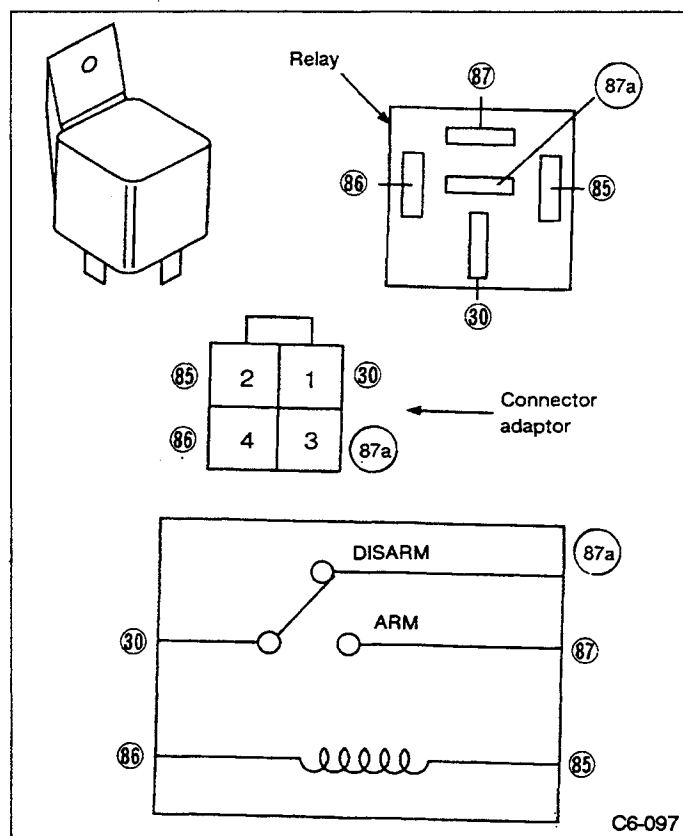


Fig. 6

C6-208

**I: SENSORS AND SWITCHES****1. STARTER INTERRUPT RELAY AND CONNECTOR ADAPTOR**

PIN	ARM	DIS. ARM
85	+ 12V	+ 12V
86	EARTH	OPEN
87a	OPEN	•
30	•	•
87	•	OPEN

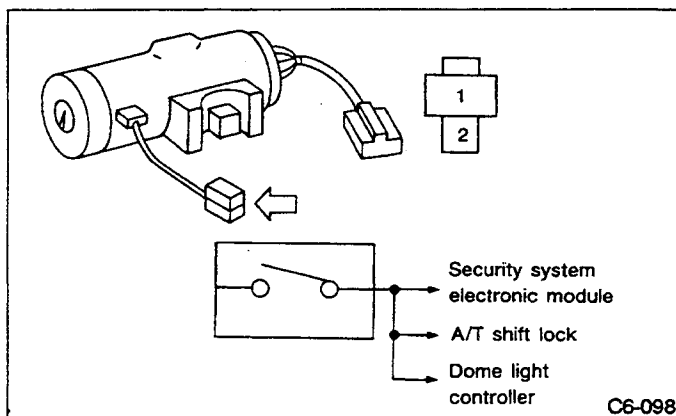
**2. KEY PLATE SWITCH**

Fig. 52

PIN	KEY IN	KEY OUT
1	+ 12V	+ 12V
2	+ 12V	OPEN

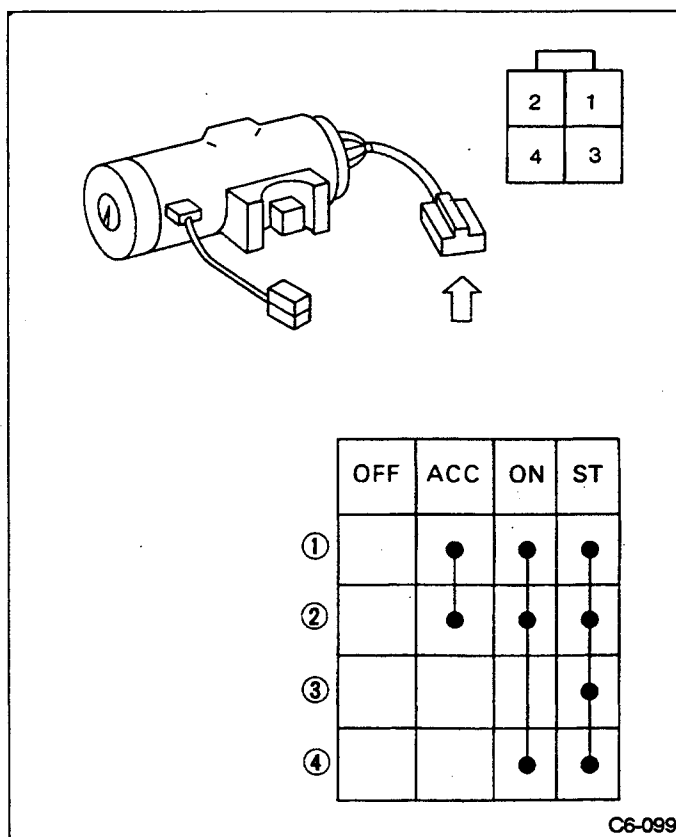
**3. IGNITION SWITCH**

Fig. 53

PIN	OFF	ACC	ON	ST
1	+ 12V	+ 12V	+ 12V	+ 12V
2	OPEN	+ 12V	+ 12V	+ 12V
3	OPEN	OPEN	OPEN	+ 12V
4	OPEN	OPEN	+ 12V	+ 12V

4. HORN BUTTON

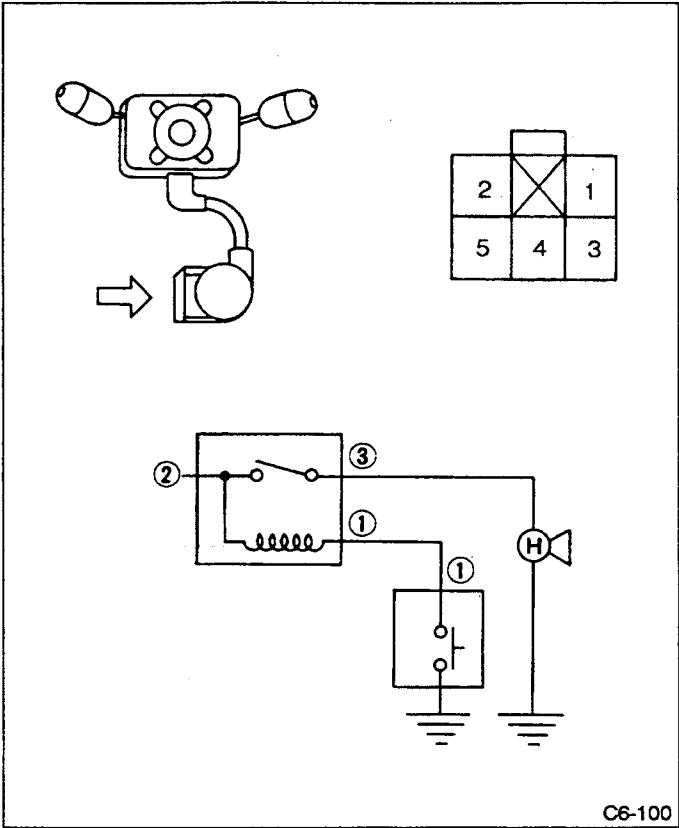


Fig. 54

5. SECURITY SWITCH

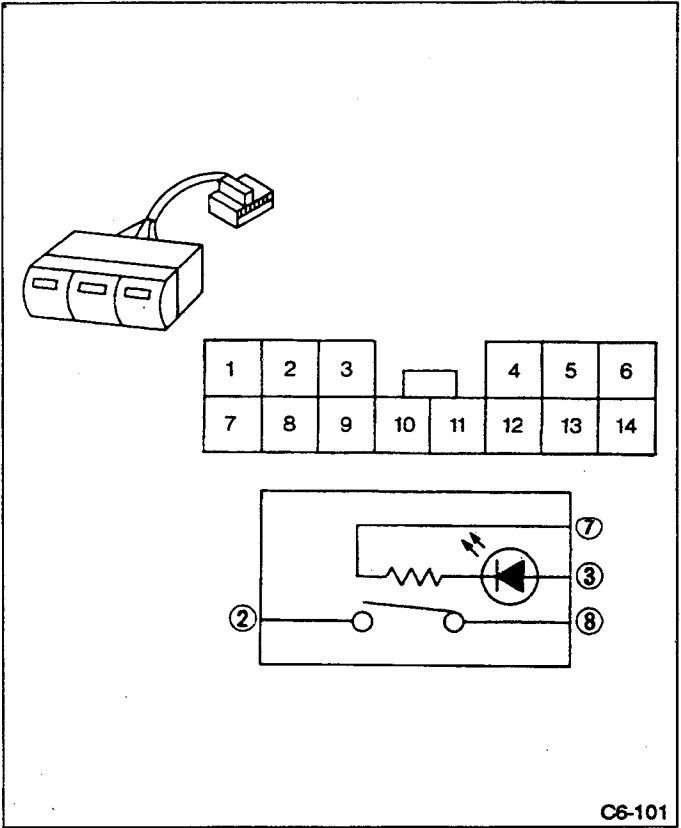


Fig. 55

PIN	HORN ON	HORN OFF	ALARM ON
1	EARTH	+ 12V	EARTH
2	+ 12V	+ 12V	+ 12V
3	+ 12V	OPEN	+ 12V
4	N/A	N/A	N/A
5	N/A	N/A	N/A

PIN	SYSTEM ON	SYSTEM OFF
2	EARTH	EARTH
8	EARTH	OPEN
7	LED CONTROL	
3	LED CONTROL	

## 6. DOME LIGHT SWITCH

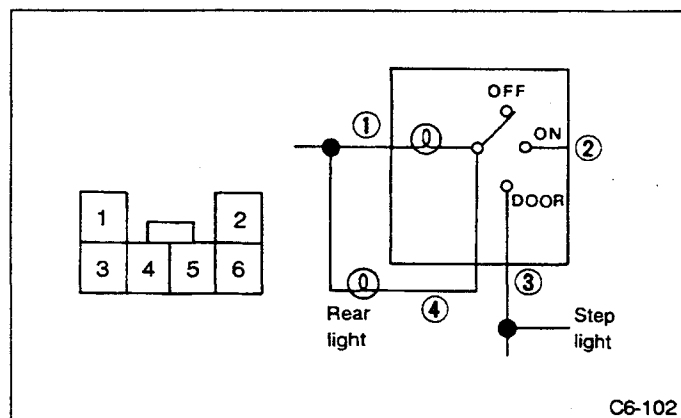


Fig. 56

PIN	OFF	ON	DOOR
1	+ 12V	+ 12V	+ 12V
2	EARTH	EARTH	EARTH
3	TIMER	TIMER	TIMER
4	OPEN	EARTH	TIMER
5			
6			

## 7. TRUNK LID SWITCH

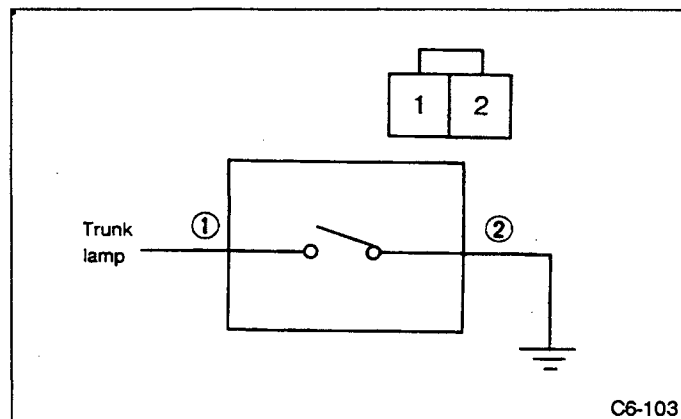


Fig. 57

PIN	TRUNK OPEN	TRUNK CLOSED
1	EARTH	OPEN
2	N/A	N/A

## 8. DOOR HANDLE SWITCH

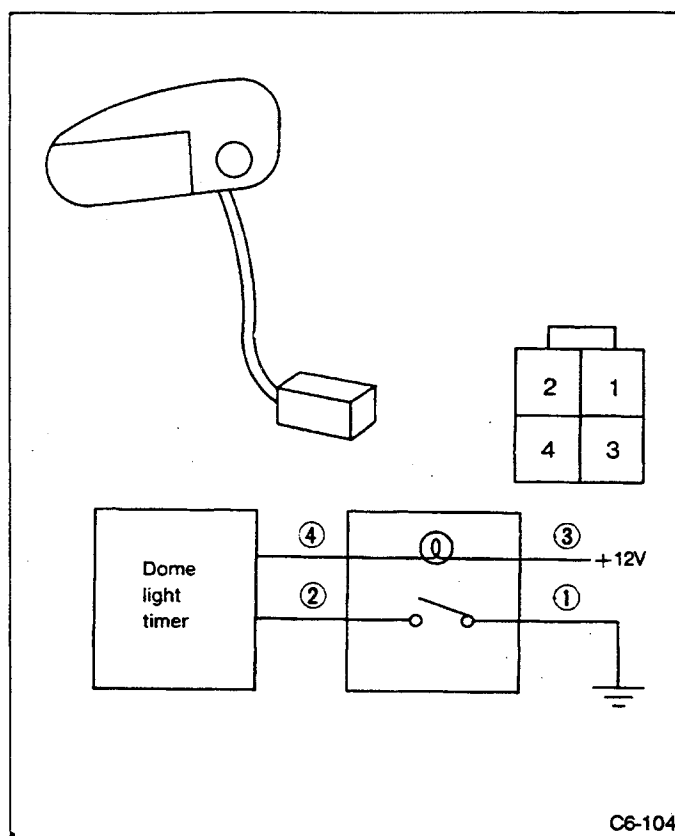


Fig. 58

PIN	HANDLE NEUTRAL	HANDLE UP
1	OPEN	EARTH
2	TIMER	
3	+ 12V KEY LIGHT	
4	TIMER	



9. DRIVERS DOOR LOCK ACTUATOR

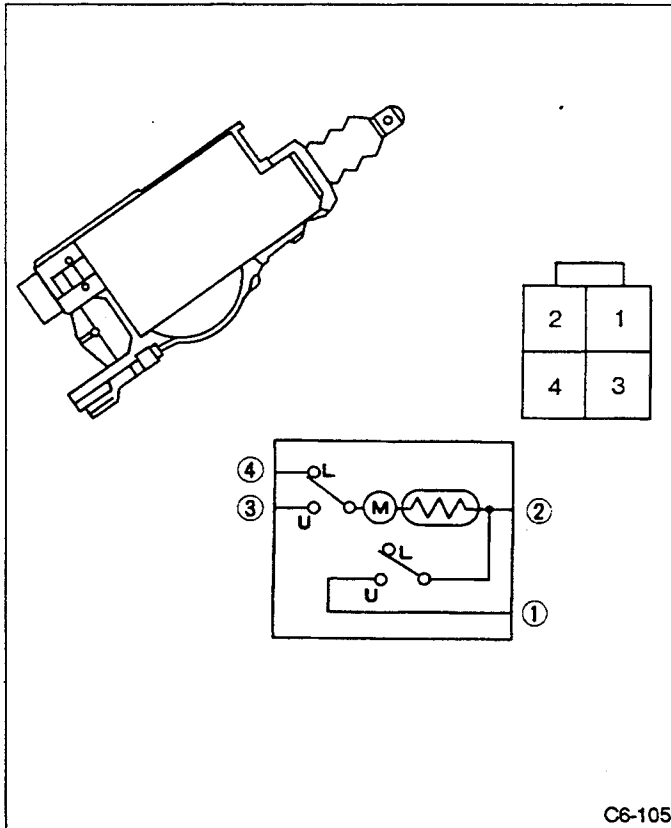


Fig. 59

PIN	LOCK	UNLOCK
1	OPEN	EARTH
2	EARTH	EARTH
3	EARTH	+ 12V
4	+ 12V	EARTH

10. PASSENGERS DOOR LOCK ACTUATOR

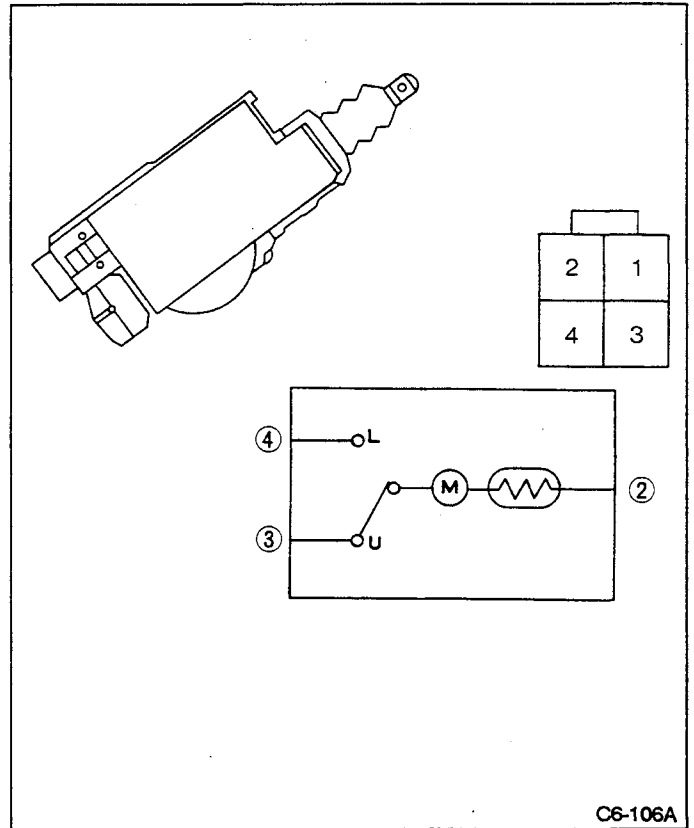


Fig. 60

PIN	LOCK	UNLOCK
1	OPEN	OPEN
2	EARTH	EARTH
3	+ 12V	EARTH
4	EARTH	+ 12V

11. DOOR LATCH SWITCHES

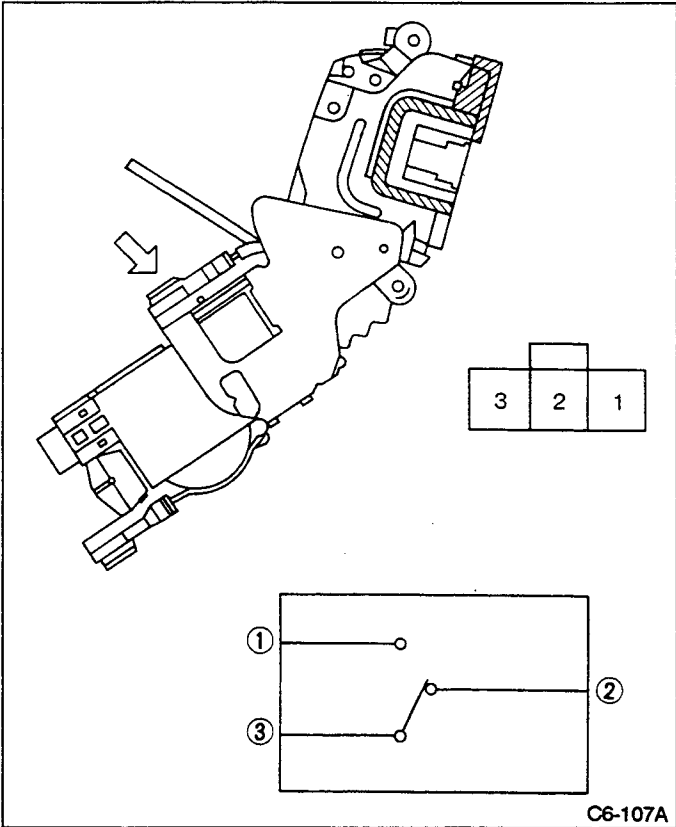
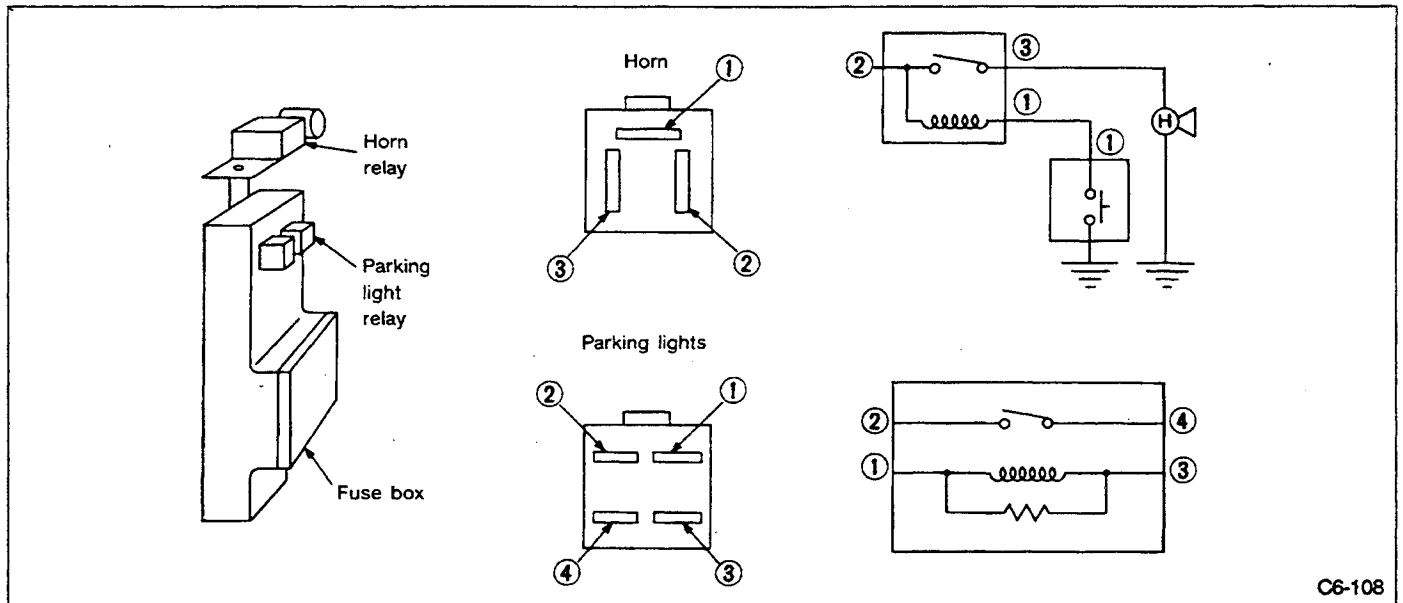


Fig. 61

DRIVERS			PASSENGERS		
PIN	LOCK	UNLOCK	PIN	LOCK	UNLOCK
1	EARTH	OPEN	1	OPEN	EARTH
2	EARTH	EARTH	2	EARTH	EARTH
3	OPEN	EARTH	3	EARTH	OPEN

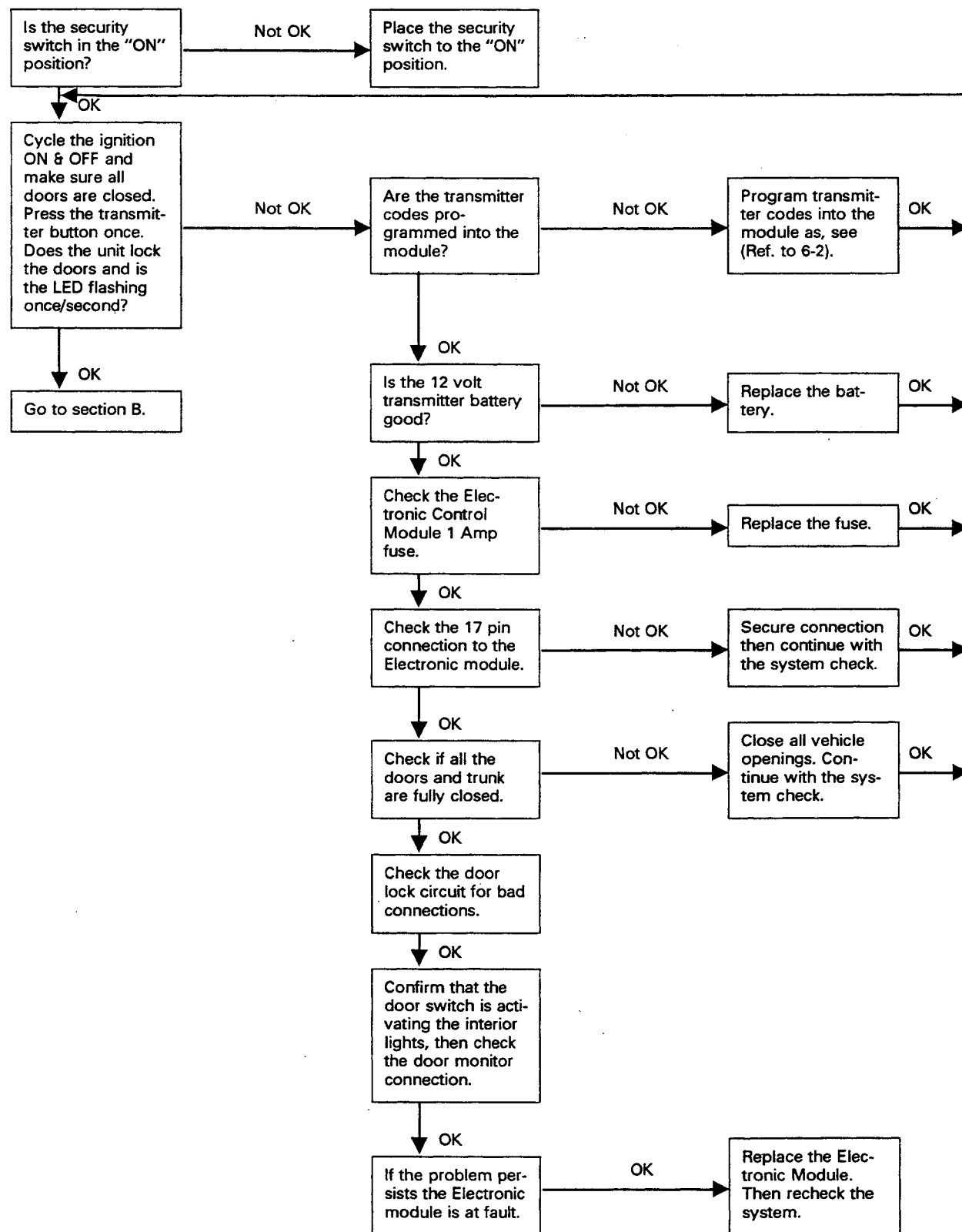
# 12. HORN AND PARKING LIGHT RELAYS



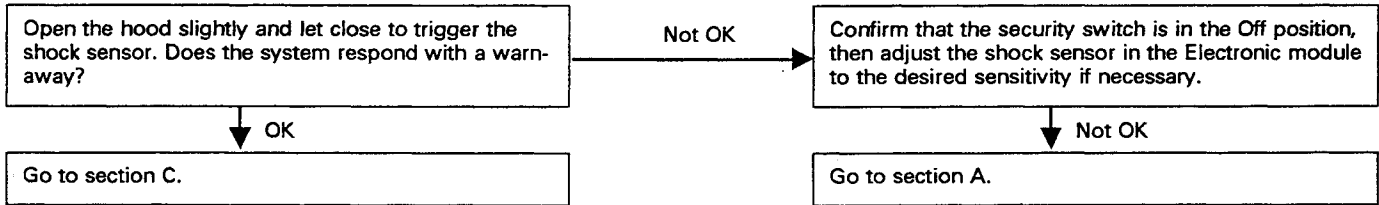
C6-108

Fig. 62

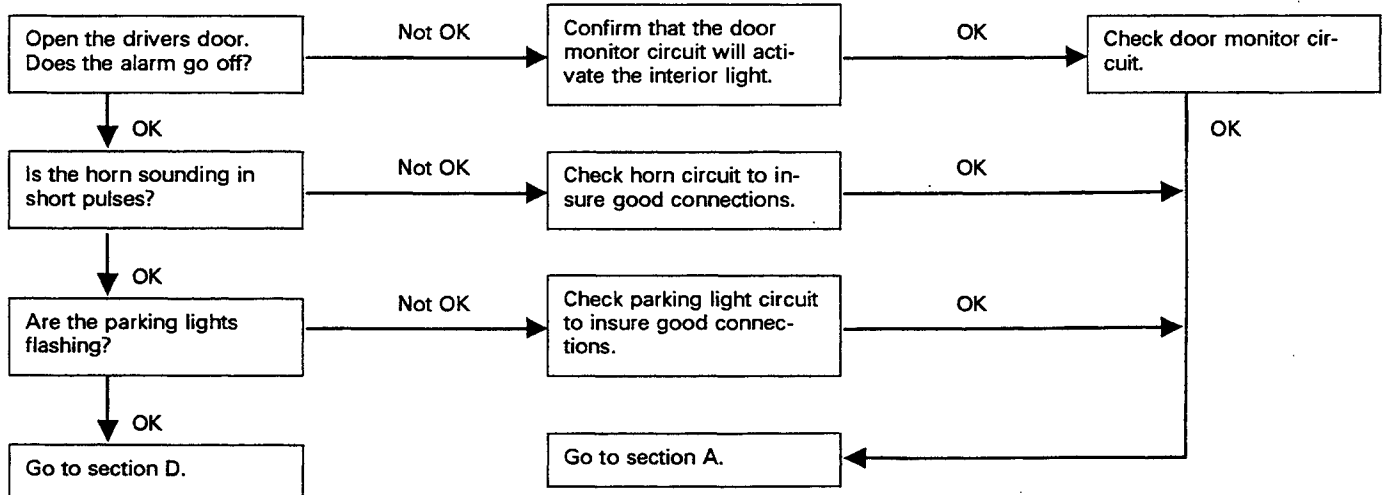
PIN	HORN OFF	HORN ON	ALARM ON	PIN	LIGHT OFF	LIGHT ON	ALARM ON
1	OPEN	EARTH	EARTH	1	IGN	IGN	+ 12V
2	+ 12V	+ 12V	+ 12V	2	OPEN	+ 12V	+ 12V
3	OPEN	+ 12V	+ 12V	3	OPEN	EARTH	EARTH
				4	+ 12V	+ 12V	+ 12V

**J: INSPECTION OF ACTIVE ARMING**

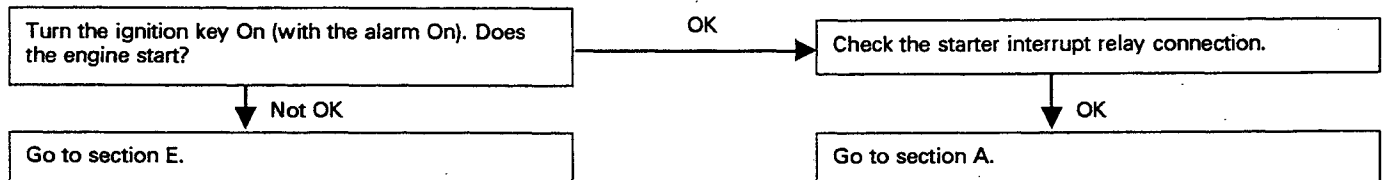
### K: INSPECTION OF SHOCK SENSOR

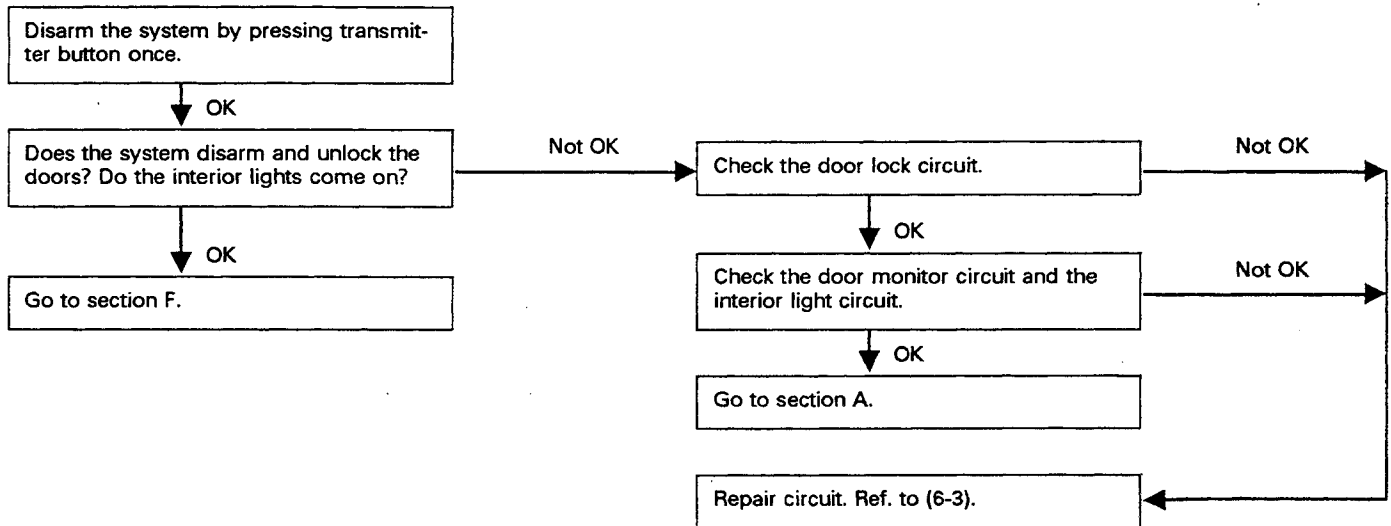
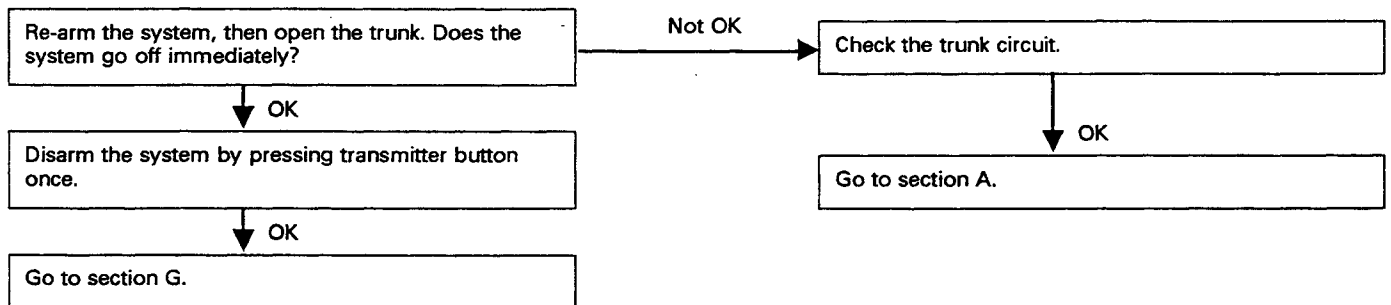


### L: INSPECTION OF DRIVER DOOR CIRCUIT



### M: INSPECTION OF STARTER CUT SYSTEM



**N: INSPECTION OF DOOR LOCK SYSTEM****O: INSPECTION OF TRUNK CIRCUIT****P: INSPECTION OF PASSENGER DOOR CIRCUIT**