BACKUP

Service Manual

LASER TALON

1991

Volume-2
Electrical

FOREWORD

This Service Manual has been prepared with the latest service information available at the time of publication. It is subdivided into various group categories and each section contains diagnosis, disassembly, repair, and installation procedures along with complete specifications and tightening references. Use of this manual will aid in properly performing any servicing necessary to maintain or restore the high levels of performance and reliability designed into these outstanding vehicles.

CHRYSLER CORPORATION

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GROUP/SECTION INDEX N00AA--

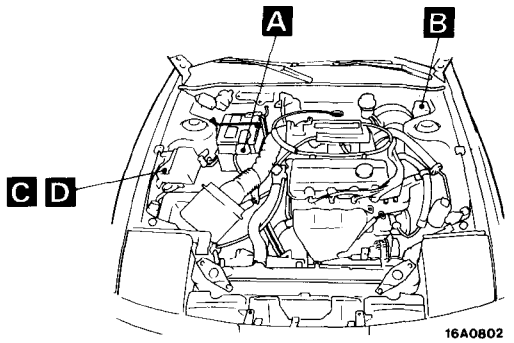
NOTE: For Engine, Chassis & Body, refer to Volume-I "Engine, Chassis & Body".

 Printed in U.S.A.

FUSIBLE LINK AND FUSE LOCATION

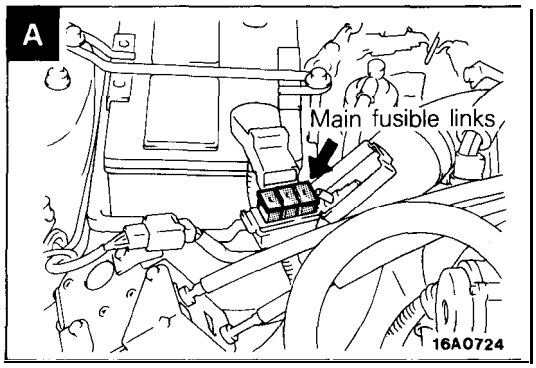
N08BA--

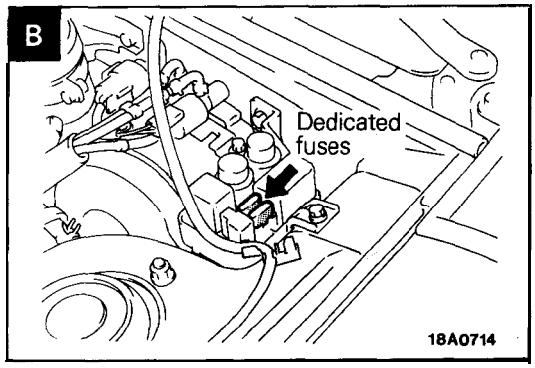
< Engine compartment >

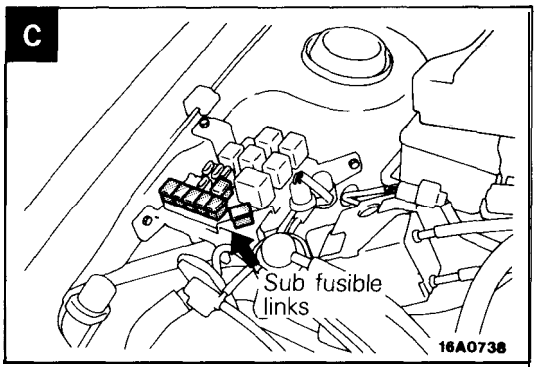


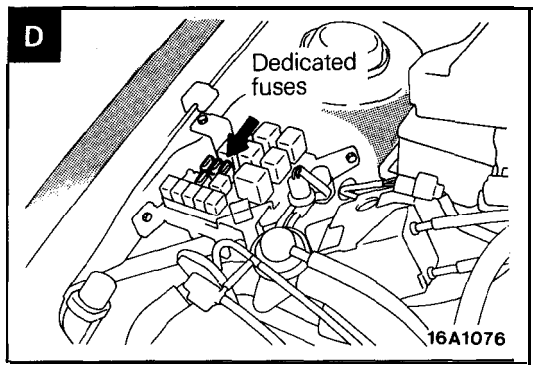
Name	Symbol
Dedicated fuses	B*, D
Main fusible links	A
Multi-purpose fuse block	E
Sub fusible links	C

NOTE
(1) • : Air conditioner equipped models.
(2) For details of fusible link and fuse, refer to P.8–8,9 and 10.
(3) The "Name" column is arranged in alphabetical order.









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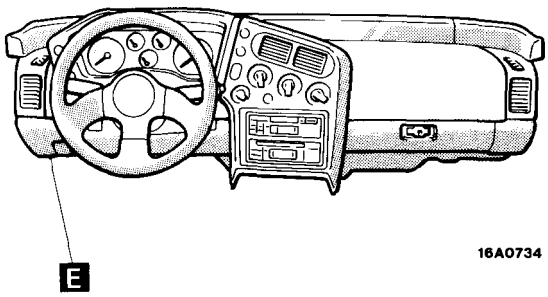
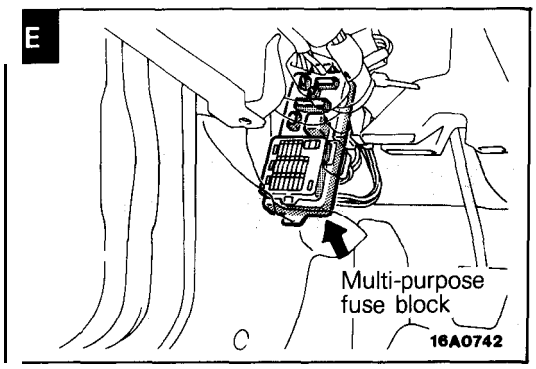


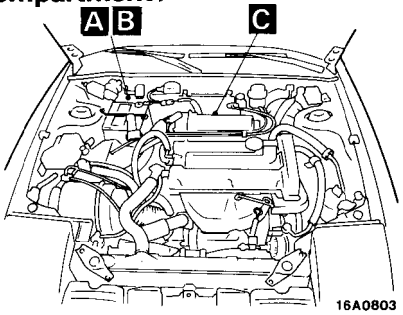


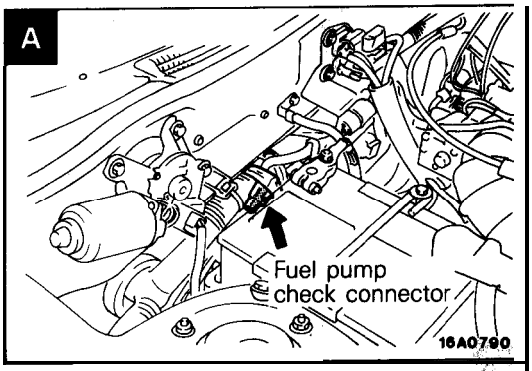
INSPECTION TERMINAL LOCATION

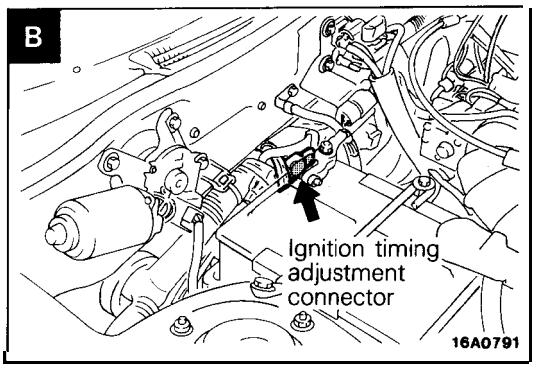
Name	Symbol	Name	Symbol
Fuel pump check connector	A	Self-diagnosis connector.	E
Ignition timing adjustment connector	B	Terminal for detecting the engine revolution speed <2.0L DOHC Engine>	C
Oxygen sensor check connector <2.0L DOHC Engine>	D		

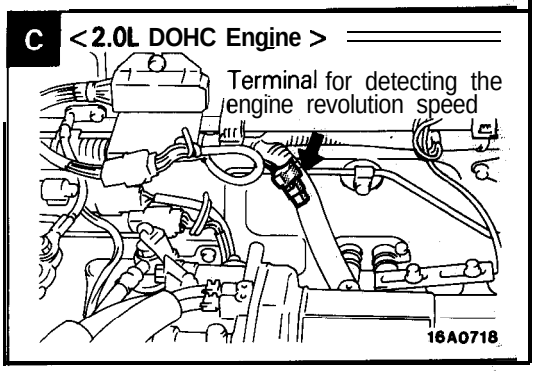
NOTE
The "Name" column is arranged in alphabetical order.

<Engine compartment>









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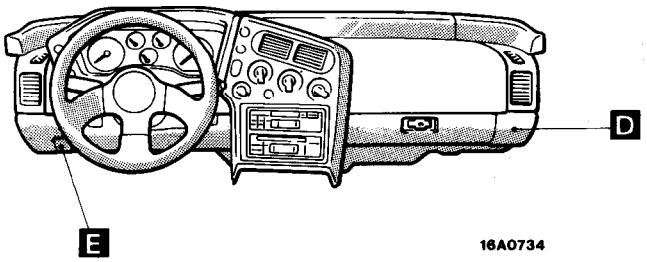
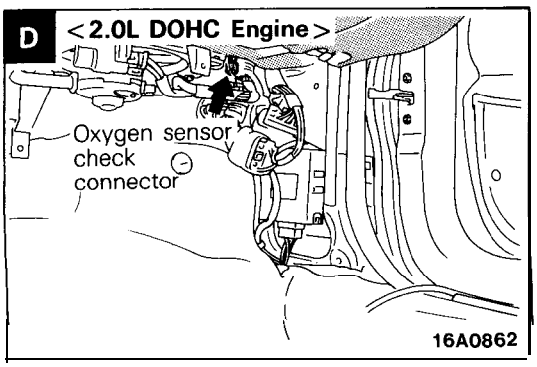
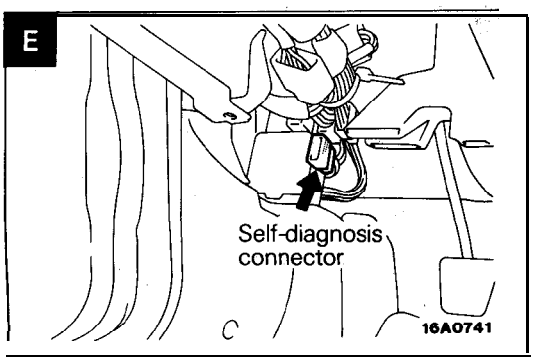
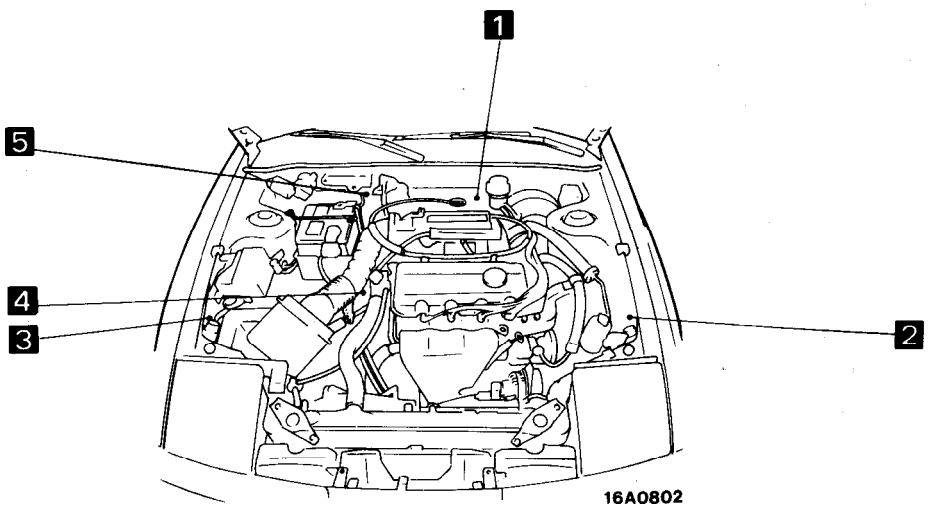


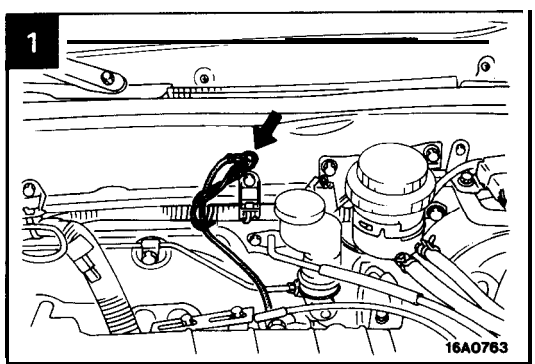


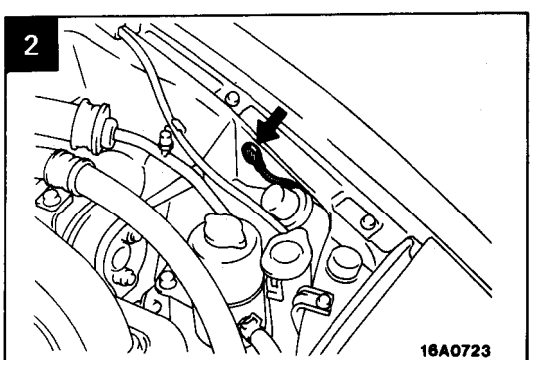


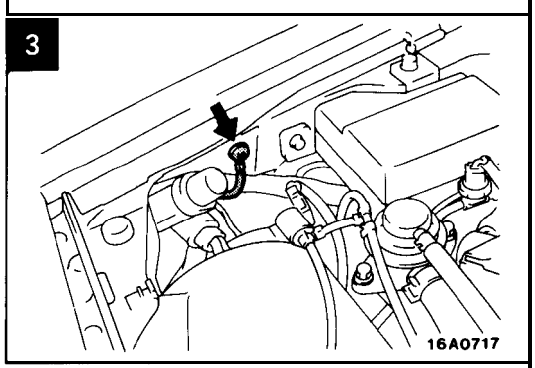
GROUNDING LOCATION

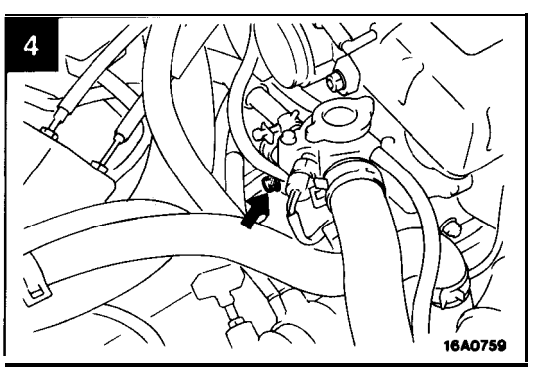
< Engine compartment >

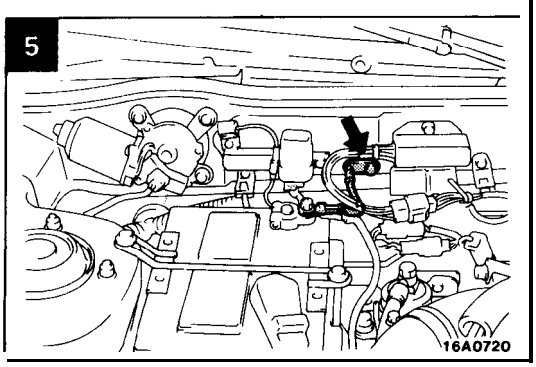












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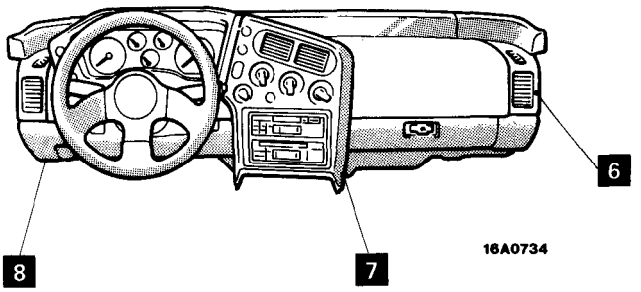

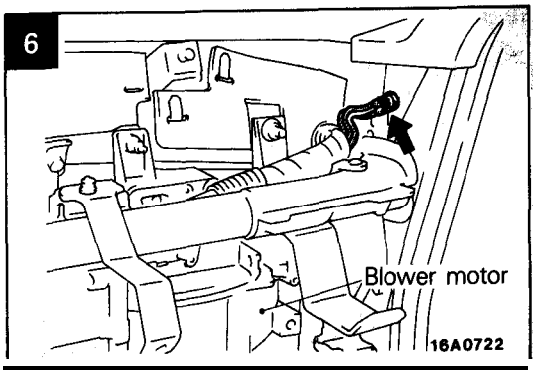

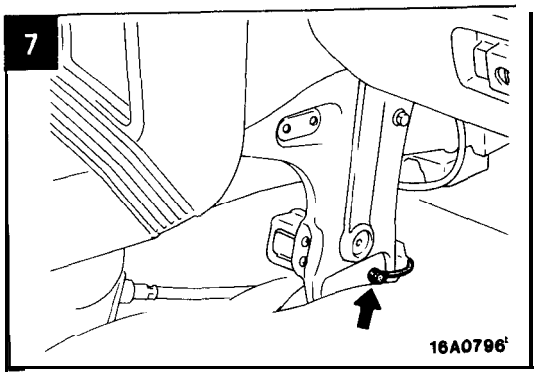

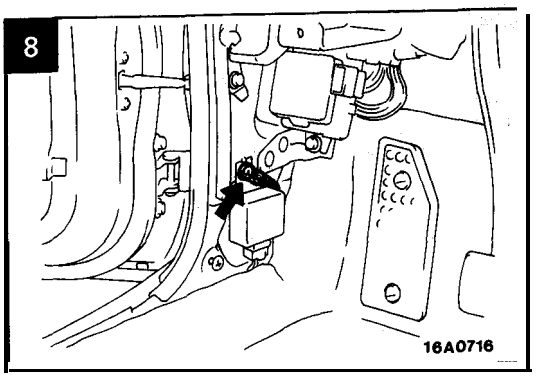

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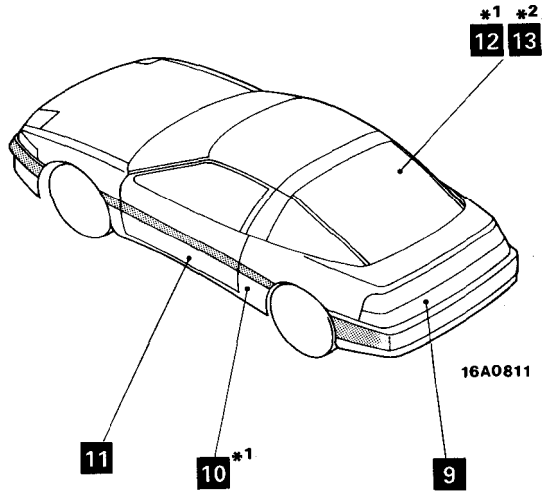
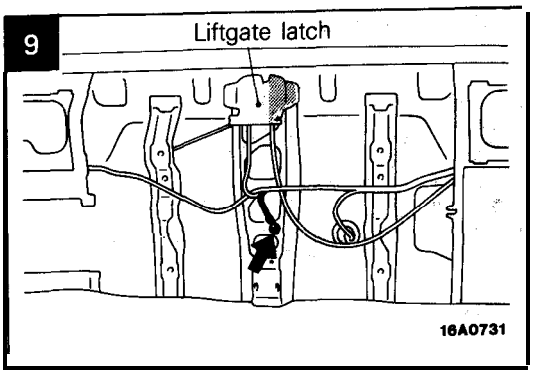
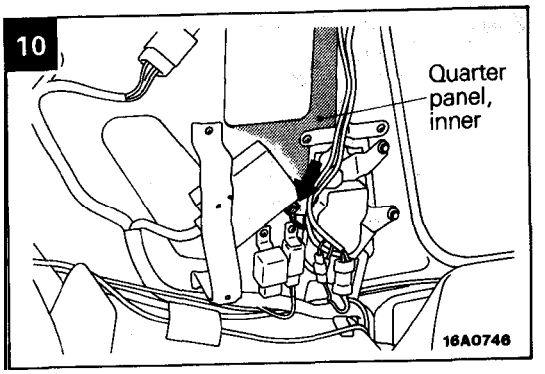
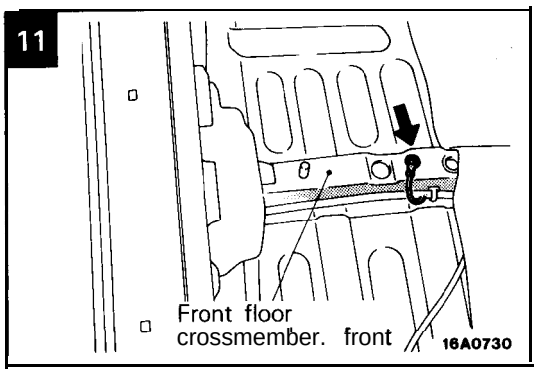
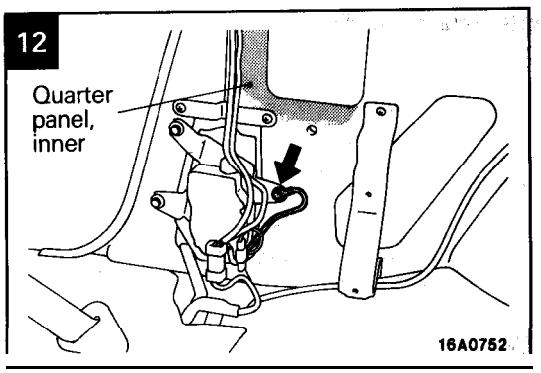


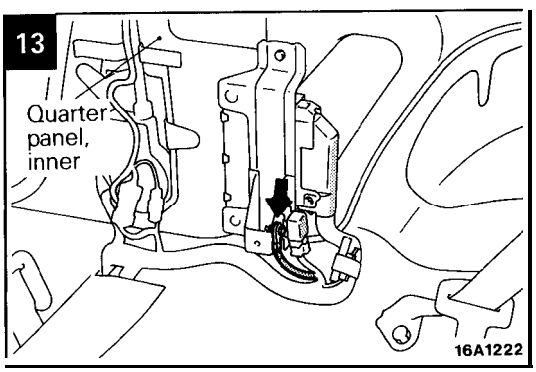




NOTE
(1) *1: Vehicles with automatic seat belt
(2) *2: Vehicles with ABS

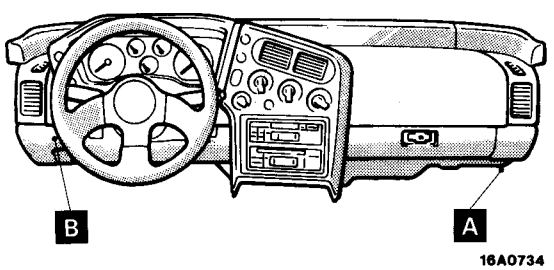






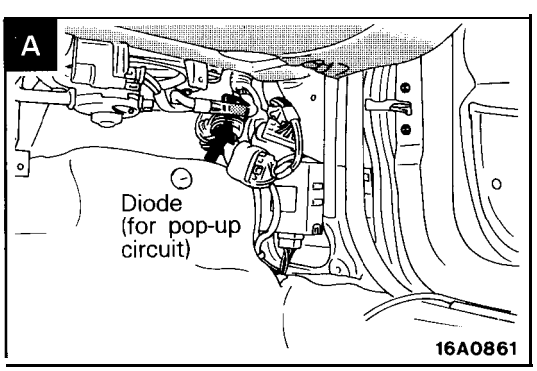
DIODE LOCATION

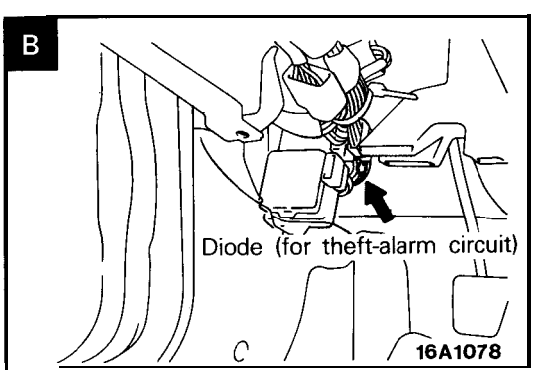
< Interior–Front section >



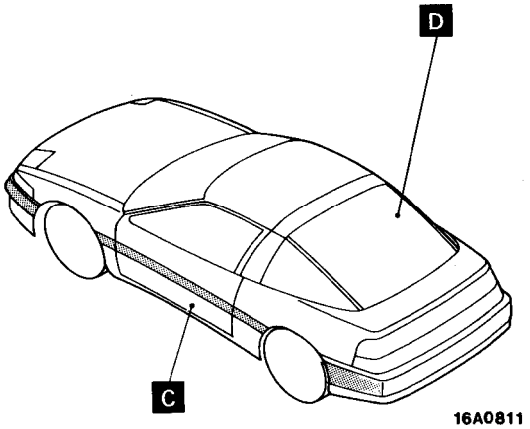
Name	Symbol
Diode (for ABS circuit)	D
Diode (for door ajar-warning circuit)	C
Diode (for pop-up circuit)	A
Diode (for theft-alarm circuit)	B

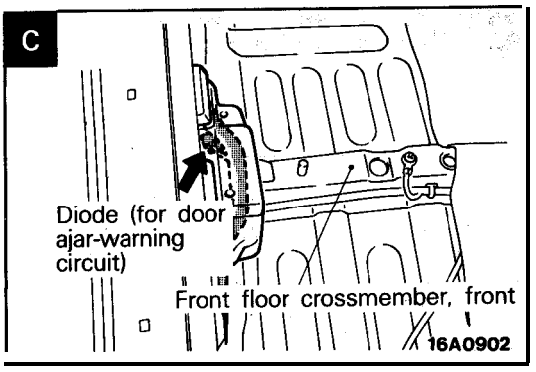
NOTE
The “Name” column is arranged in alphabetical order.

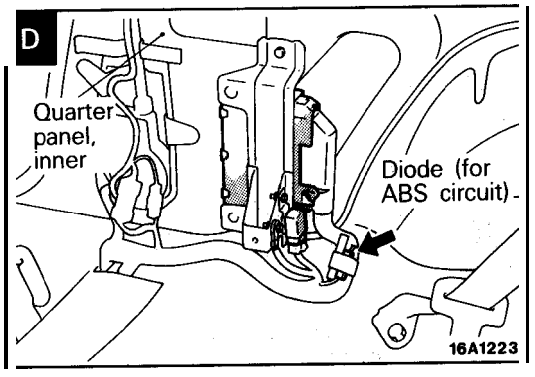




< Interior–Rear section >

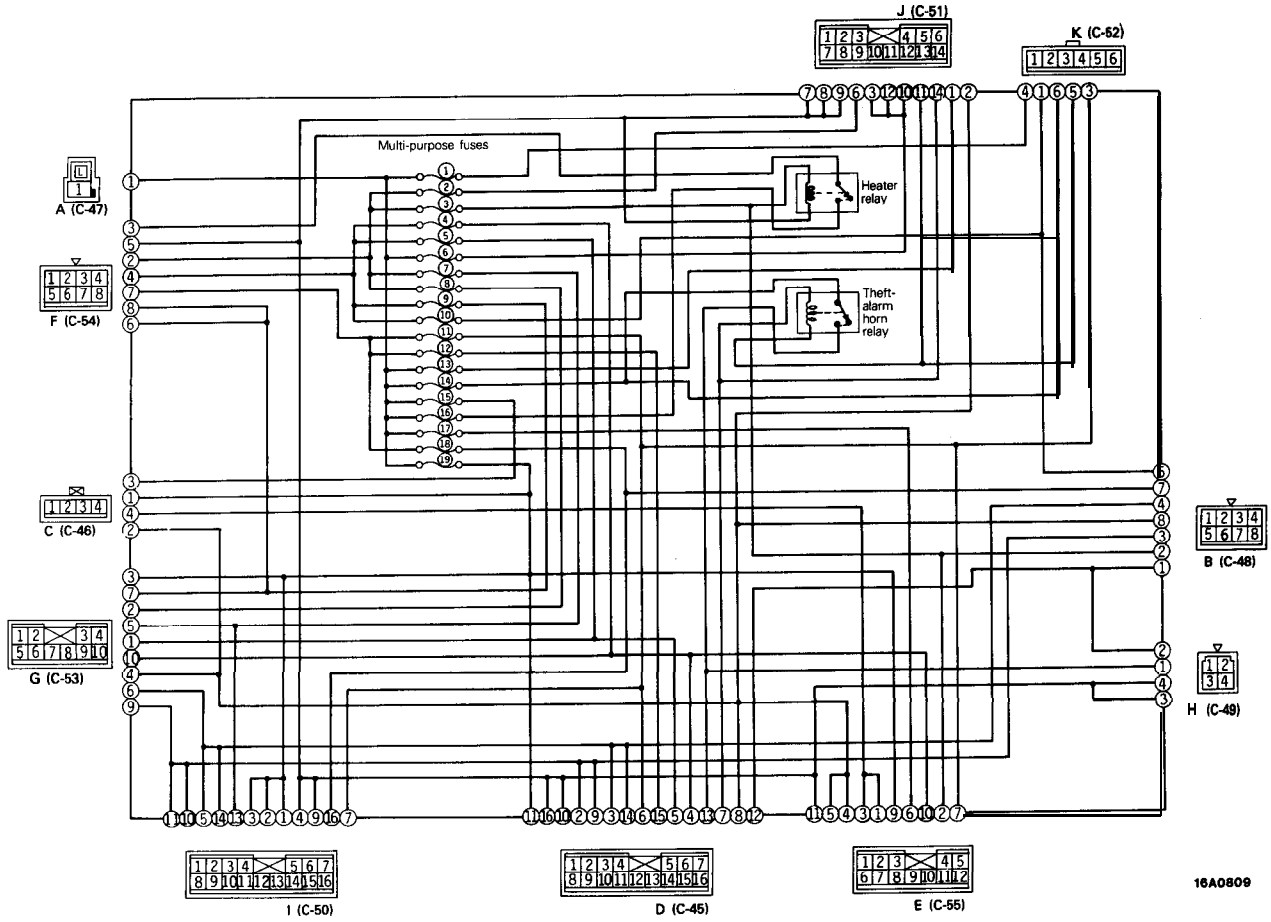


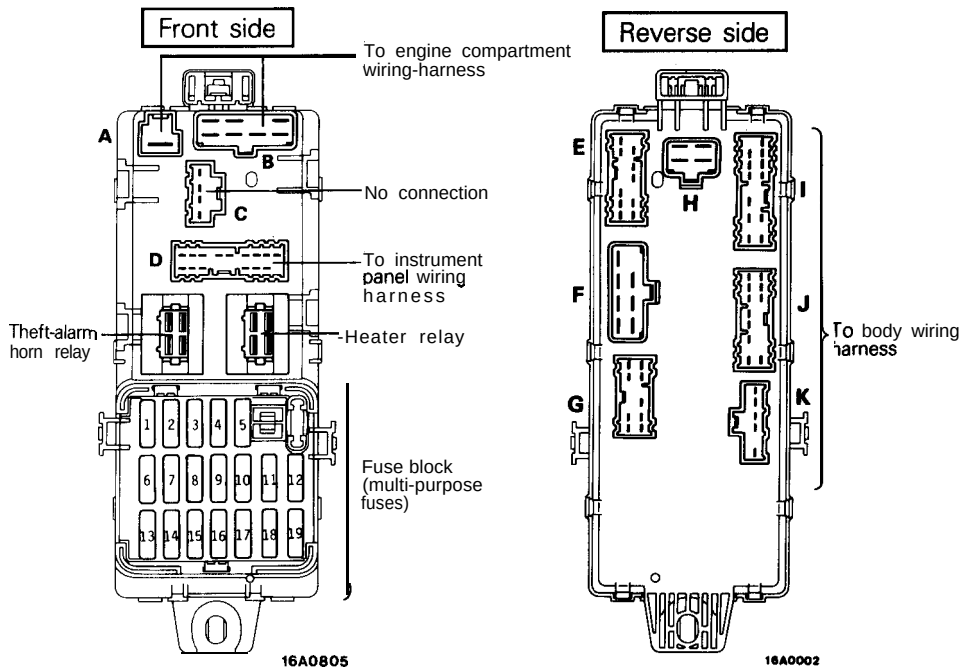




JUNCTION BLOCK

N08BC--





Remarks
(1) Same alphabets in the diagram indicate the counterparts of connectors.
(2) Terminals of the harness side connector are indicated in parentheses ( ).

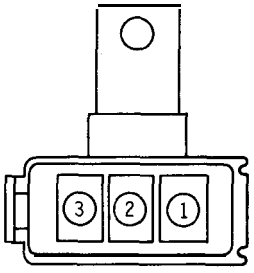
CENTRALIZED JUNCTION

N08BB--

MAIN FUSIBLE LINK (direct connection to battery's positive ⊕ terminal)

No.	Circuit	Housing color	Rated capacity (A)
1	MPI circuit	Blue	20
2	Radiator fan motor circuit	Pink	30
3	Ignition switch circuit	Pink	30
4	ABS circuit	Yellow	60

<Vehicles without ABS>



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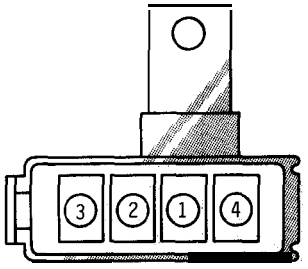
<Vehicles with ABS>



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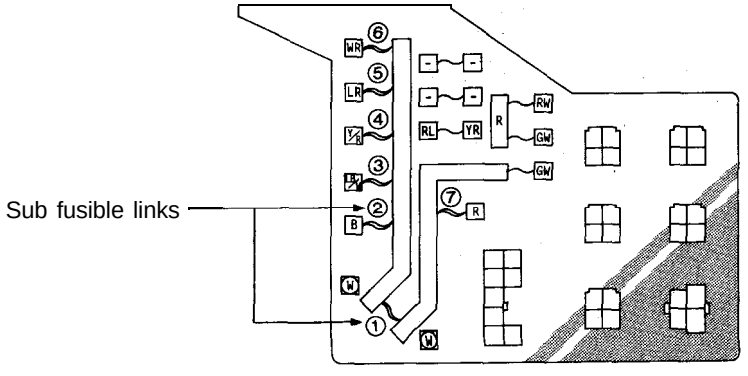
SUB FUSIBLE LINK (relay box inside engine compartment)

No.	Circuit	Housing color	Rated capacity (A)
1	Alternator circuit, sub fusible link ②, ③, ④, ⑤, ⑥	Black, Blue*	80, 100"
2	Defogger circuit	Green	40
3	Automatic seatbelt circuit, dedicated fuse ⑤ circuit	Pink	30
4	Pop-up circuit, Alternator circuit	Pink	30
5	Power window circuit	Pink	30
6	Multi-purpose fuse ①, ⑥, ⑬, ⑭, ⑮, ⑯, ⑰, ⑲, dedicated fuse ④ circuit	Green	40
7	Headlight circuit, dedicated fuse ①, ③, ⑥ circuit	Green	40

NOTE
* : <Vehicles for Canada>



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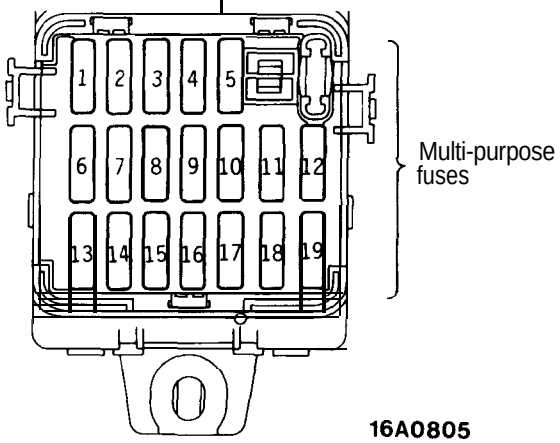
MULTI-PURPOSE FUSE (inside junction block)

Power supply circuit		No.	Rated capacity (A)	Load circuit
Battery		1	10	Automatic seatbelt control unit, key reminder switch, passing control relay, seatbelt warning buzzer, taillight relay, theft-alarm starter relay
Ignition switch	IG2	2	–	–
		3	10	Air conditioner control unit, air conditioner switch, defogger timer, heater relay, power window relay, transistor relay*, daytime running light relay 2*, ABS relay
	ACC	4	10	Radio
		5	15	Cigarette lighter, remote controlled mirror
Battery		6	15	Door lock relay, door lock control unit
Ignition switch	IG2	7	10	4-speed automatic transaxle control unit, auto-cruise control unit <A/T>, combination meter
		8	–	–
	ACC	9	15	Intermittent wiper relay, wiper motor, washer motor
		10	10	Headlight relay, horn, theft-alarm control unit, daytime running light relay 1 .
	IG1	11	10	Auto-cruise control unit, auto-cruise control actuator automatic seatbelt control unit, combination meter, theft-alarm control unit, seatbelt timer*
		12	10	Turn-signal and hazard flasher unit
Battery		13	–	–
		14	10	Theft-alarm horn relay
		15	–	–
		16	30	Blower motor
		17	15	Stop light
Ignition switch	IG1	18	10	Back-up light <M/T>, dome light relay
Battery		19	10	4-speed automatic transaxle control unit, dome light, door-ajar warning light, foot light, ignition key illumination light, luggage compartment light, MPI control unit, radio, security light, ABS relay

NOTE
* : <Vehicles for Canada >



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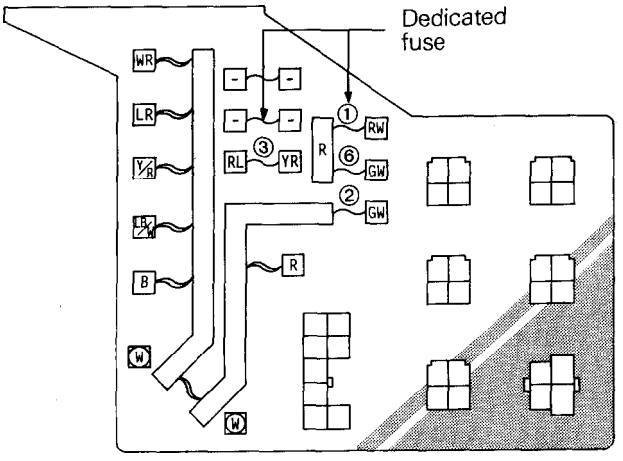
DEDICATED FUSE

Power supply circuit	No.	Rated capacity (A)	Housing color	Circuit
Sub fusible link ⑦	1	10	Red	Taillight circuit
Battery	2	10	Red	Hazard warning light circuit
Headlight relay	3	10	Red	Upper beam circuit
Sub fusible link ⑥	4	10	Red	Air conditioner magnetic clutch circuit
Sub fusible link ③	5	20	Yellow	Condenser fan motor circuit
Sub fusible link ⑦	6	15	Blue	Foglight circuit

<Engine compartment R.H. side relay box>



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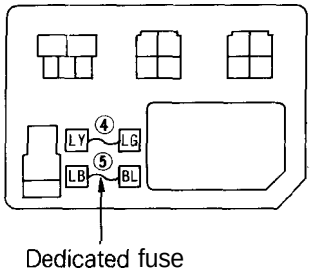
<Engine compartment L.H. side relay box (air conditioner equipped models)>



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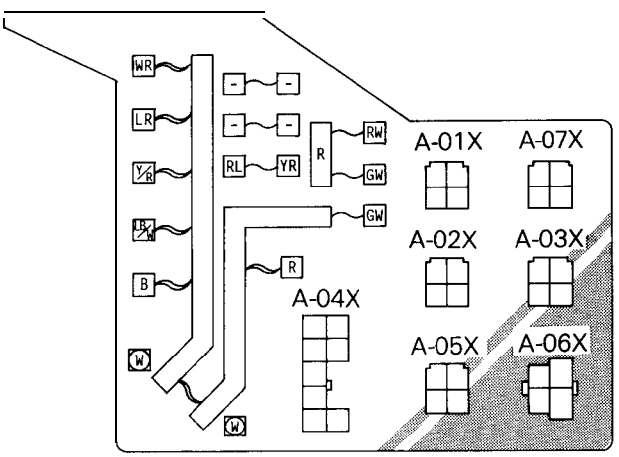
CENTRALIZED RELAY

Classification		Name	Classification		Name
Engine compartment R.H. side relay box	A-01X	Taillight relay	Engine compartment L.H. side relay box	A-17X	Condenser fan motor high-low changeover relay
	A-02X	Headlight relay		A-18X	Condenser fan motor relay
	A-03X	Radiator fan motor relay		A-19X	Magnetic clutch relay
	A-04X	Pop-up motor relay	Interior relay box	C-34X	Door lock relay
	A-05X	Power window relay		C-35X	Starter relay <M/T> Theft-alarm starter relay <A/T>
	A-06X	Alternator relay		C-36X	Defogger timer
	A-07X	Foglight relay		C-37X	Seatbelt timer*
				C-38X	Daytime running light relay 1*
				C-39X	Daytime running light relay 2*

NOTE
*: <Vehicles for Canada>

<Engine compartment R.H. side relay box>



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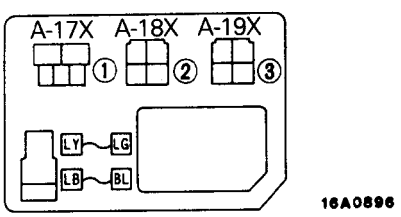
<Engine compartment L.H. side relay box (air conditioner equipped models)>



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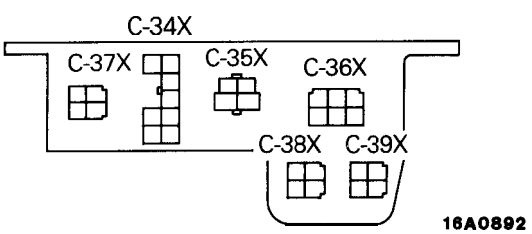
<Interior relay box>



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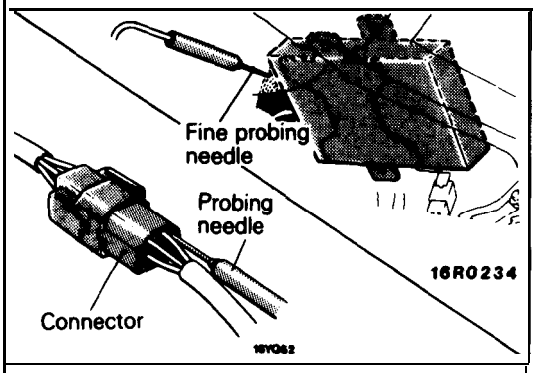
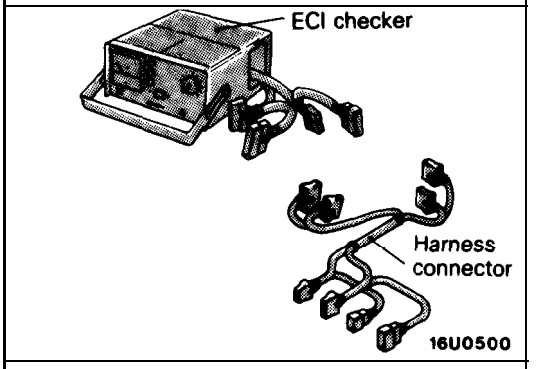
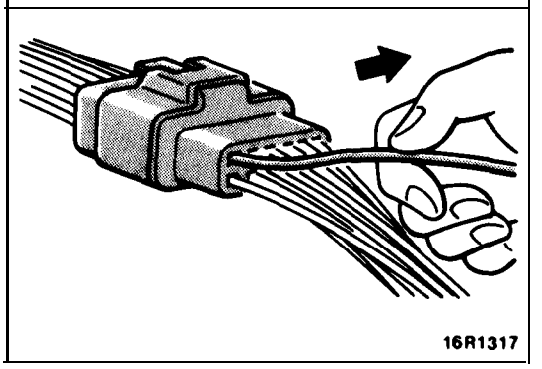






INSPECTION OF HARNESS CONNECTOR

N08CAAA

CONTINUITY AND VOLTAGE TEST FOR CONNECTOR

Following procedures shall be followed for testing continuity and voltage at connector in order to prevent improper contact and deterioration of waterproof in connector.

CONVENTIONAL (NON-WATERPROOF) CONNECTOR

Check shall be done by inserting a probing needle from harness side.

WATER PROOF CONNECTOR

Caution

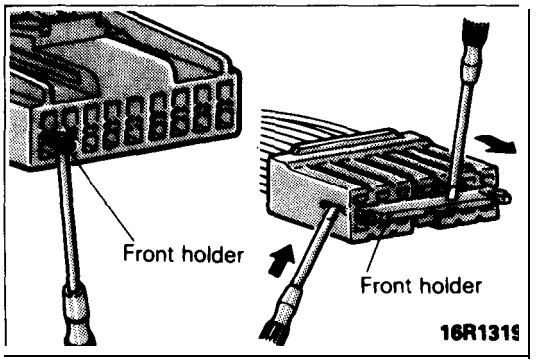
Do not insert probing needle from harness side as it will deteriorates waterproof and cause for rusting. To inspect the energized circuit, use the ECI checker.

CHECK FOR IMPROPER ENGAGEMENT OF TERMINAL

When terminal stopper of connector is out of order, engagement of male and female terminals becomes improper even when connector itself is engaged perfectly and terminal sometimes slips out to rear side of connector. Ascertain, therefore, that each terminal does not come off connector by pulling each harness wire.

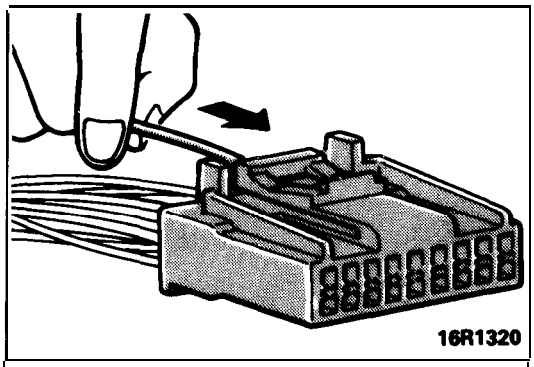
ENGAGING AND DISENGAGING OF CONNECTOR TERMINAL

Connector which gives loose engagement shall be rectified by removing female terminal from connector housing and raise its **lance to establish securer engagement. Removal of** connector housing and raise its lance to establish securer engagement. **Removal of connector terminal used for** ECI and ELC 4 A/T control circuit **shall be done in the following manner.**

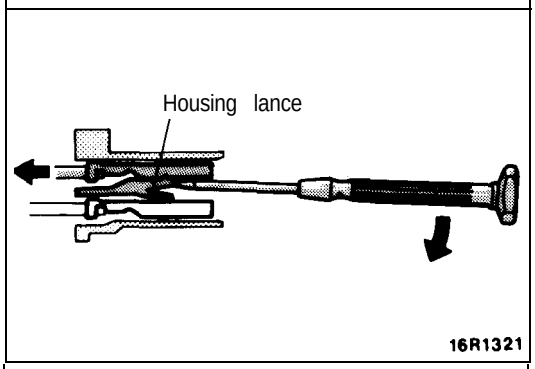


COMPUTER CONNECTOR

(1) Insert screwdriver [1.4 mm (.06 in.) width] as shown in the figure, disengage front holder and remove it.

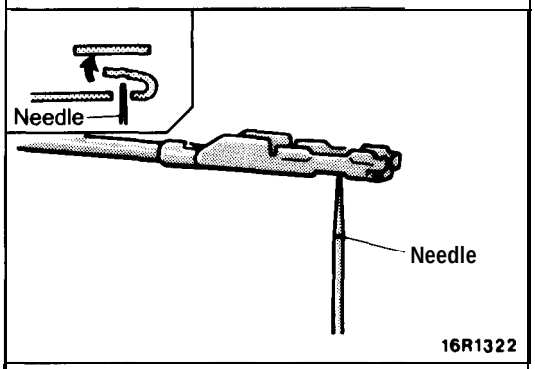


(2) Insert harness of terminal to be rectified deep into connector from harness side and hold it there.

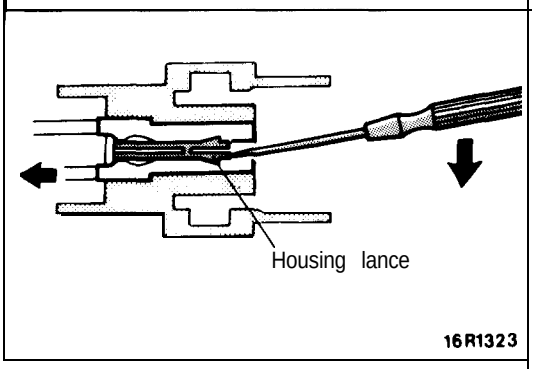


(3) Insert tip of screwdriver [1.4 mm (.06 in.) width] into connector in a manner as shown in the figure, raise housing lance slightly with it and pull out harness.

Caution
Tool No. 753787-1 supplied by AMP can be used instead of screwdriver.

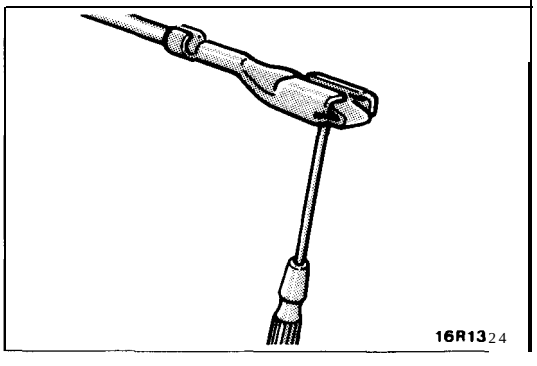


(4) Insert needle through a hole provided on terminal and raise contact point of male terminal.

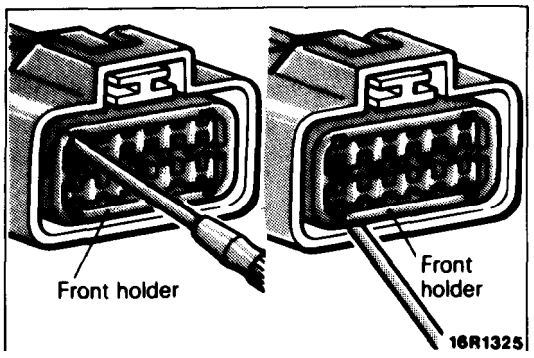


ROUND WATERPROOF CONNECTOR

(1) Remove waterproof cap by using a screwdriver.
(2) Insert tip of screwdriver [1.4 mm (.06 in.) or 2.0 mm (.08 in.) width] into connector in a manner as shown in the figure, raise **housing lance slightly with it and pull out harness.**

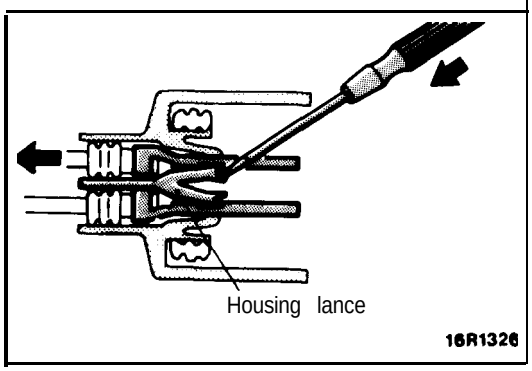


(3) Insert screwdriver through a hole provided on terminal and raise contact point of male terminal.

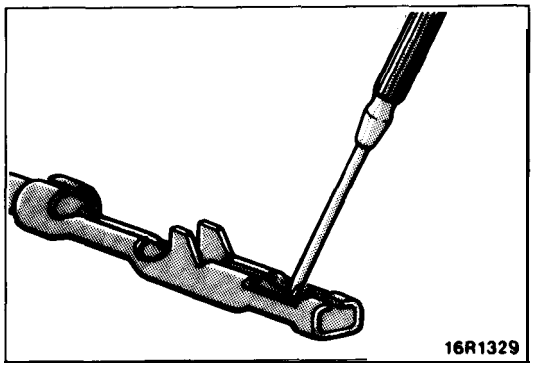


RECTANGULAR WATERPROOF CONNECTOR

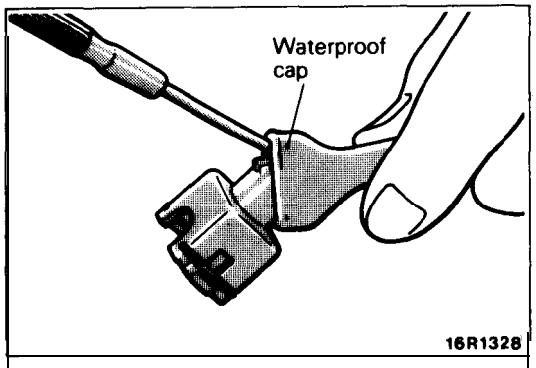
(1) Disengage front holder by using a screwdriver and remove it.



(2) Insert tip of screwdriver ("0.8 mm (.03 in.) width] into connector in a manner as shown in the figure, push it lightly to raise housing lancer and pull out harness.
- If right size screwdriver is not available, convert a conventional driver to suit the size.

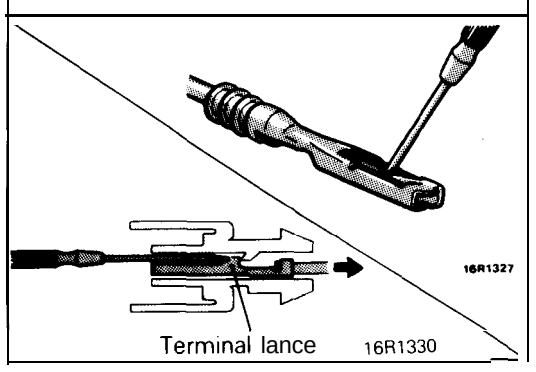


(3) Press contact point of male terminal down by holding a screwdriver [1.4 mm (.06 in.) width] in a manner as shown in the figure.



INJECTOR CONNECTOR

(1) Remove waterproof cap.



(2) Insert tip of screwdriver (1.4 mm (.06 in.) width] into connector in a manner as shown in the figure, press in terminal lance and pull out harness.
(3) Press contact point of male terminal down by holding a screwdriver [1.4 mm (.06 in.) width] in a manner as shown in the figure.

Caution
Correct lancer to be in proper condition before terminal is inserted into connector.

TROUBLESHOOTING

N08DAAC

The most important point in troubleshooting is to determine "Probable Causes". Once the probable causes are determined, parts to be checked can be limited to those associated with such probable causes. Therefore, unnecessary checks can be eliminated. The determination of the probable causes must be based on a theory and be supported by facts and must not be based on intuition only.

TROUBLESHOOTING STEPS

If an attempt is made to solve a problem without going through correct steps for troubleshooting, the problem symptoms could become more complicated, resulting in failure to determine the causes correctly and making incorrect repairs. The four steps below should be followed in troubleshooting.

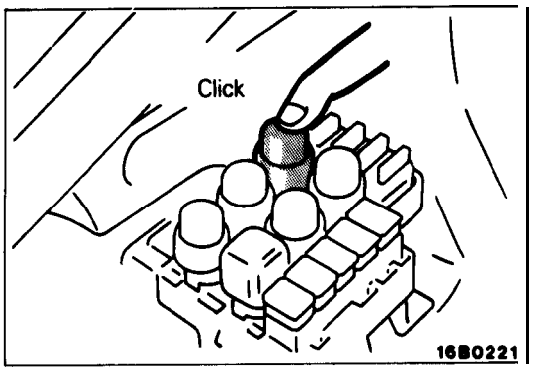
1 Observation of Problem Symptoms	Observe the symptom carefully. Check if there are also other problems.
2 Determination of Probable Causes	In determining the probable causes, it is necessary to check the wiring diagram to understand the circuit as a system. Knowledge of switches, relays and other parts is necessary for accurate determination. The causes of similar problems in the past must be taken into account.
3 Checking of Parts Associated with Probable Causes and Determination of Faulty Parts	Troubleshooting is carried out by making step by step checks until the true cause is found. Always go through the procedures considering what check is to be made where for the best results.
4 Repair and Confirmation	After the problems are corrected, be sure to check that the system operates correctly. Also check that new problems have not been caused by the repair.

INFORMATION FOR DIAGNOSIS

This manual contains the cable diagrams as well as the individual circuit drawings, operational explanations, and troubleshooting hints for each component required to facilitate the task of troubleshooting. The information is compiled in the following manner:

(1) Cable diagrams show the connector positions, etc., on the actual vehicle as well as the harness path.
(2) Circuit drawings show the configuration of the circuit with all switches in their normal positions.
(3) Operational explanations include circuit drawings of voltage flow when the switch is operated and how the component operates in reaction.
(4) Troubleshooting hints include numerous examples of problems which might occur, traced backward in a common-sense manner to the origin of the trouble. Problems whose origins may not be found in this manner are pursued through the various system circuits.

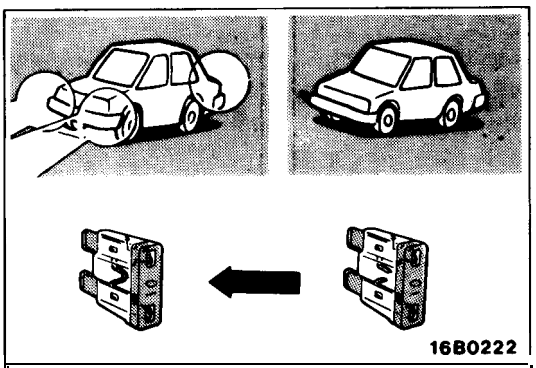
NOTE
Components of ECI, ETACS. ECS, etc. with ECU do not include 3 and 4 above. For this information, refer to a manual which includes details of these components.



INSPECTION

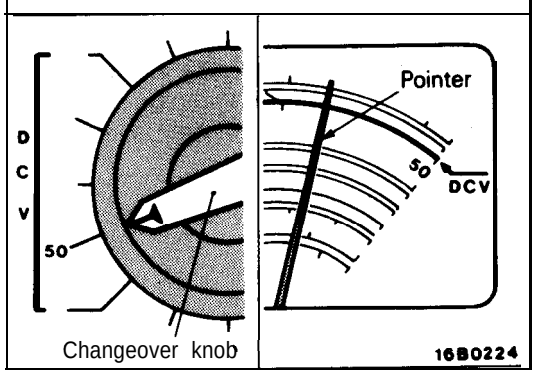
1. Visual and aural checks

Check relay operation, blower motor rotation, light illumination, etc. visually or aurally. The flow of current is invisible but can be checked by the operation of the parts.



2. Simple checks

For example, if a headlight does not come on and a faulty fuse or poor grounding is suspected, replace the fuse with a new one or ground the light to the body by a jumper wire to determine which part is responsible for the problem.



3. Checking with instruments

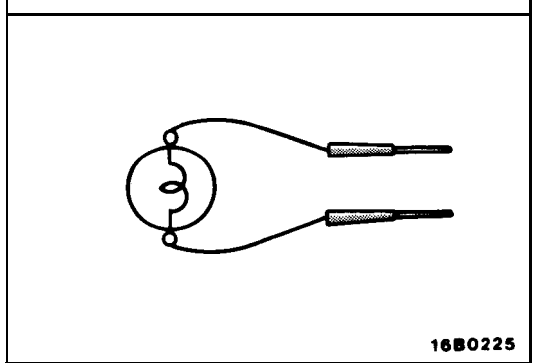
Use an appropriate instrument in an adequate range and read the indication correctly. You must have sufficient knowledge and experience to handle instruments correctly.

INSPECTION INSTRUMENTS

In inspection, make use of the following instruments.

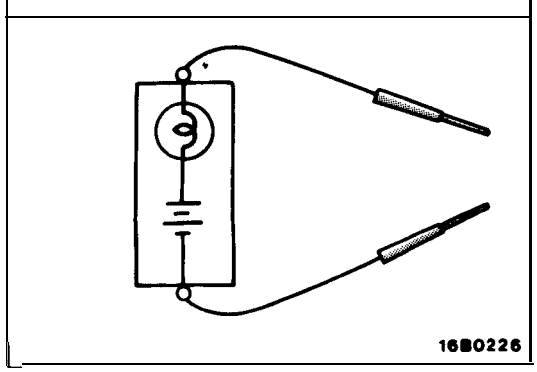
1. Test lights

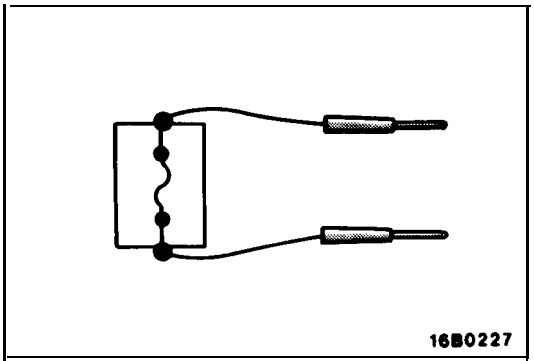
A test light consists of a 12V bulb and lead wires. It is used to check voltages or shortcircuits.



2. Self-power test light

A self-power test light consists of a bulb, battery and lead wires connected in series. It is used to check continuity or grounding.

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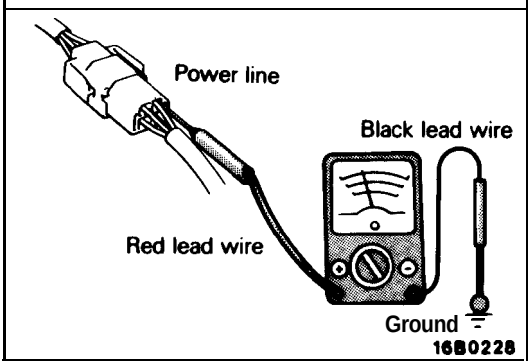
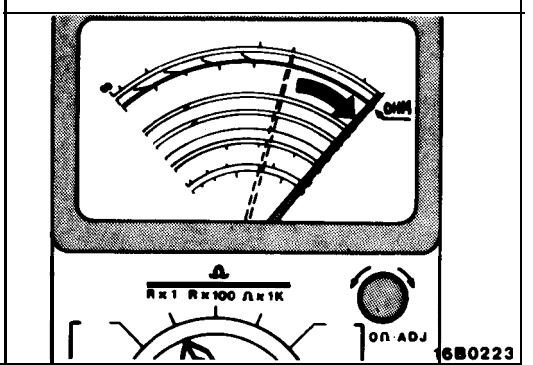
3. Jumper wire

A jumper wire is used to close an open circuit. Never use one to connect a power supply directly to a load.



4. Voltmeter

A voltmeter is used to measure the circuit voltage. Normally, the positive (red lead) probe is applied to the point of voltage measurement and the negative (black lead) probe to the body ground.



5. Ohmmeter

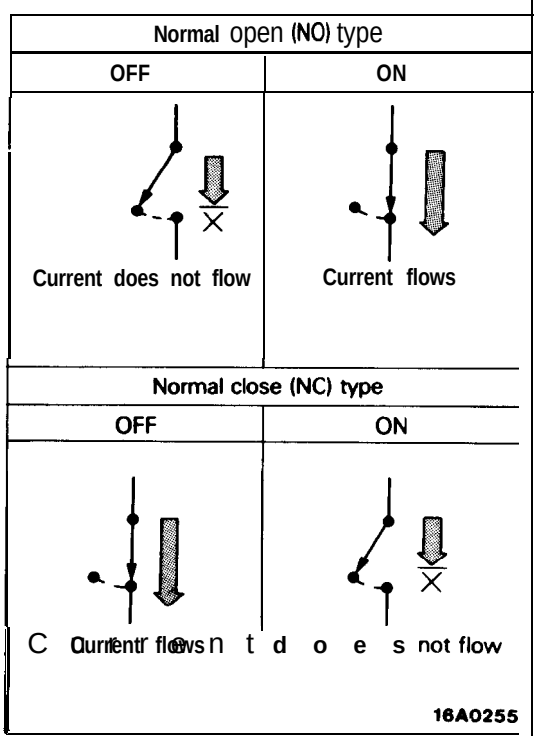
An ohmmeter is used to check continuity or measure resistance of a switch or coil. If the measuring range has been changed, the zero point must be adjusted before measurement.

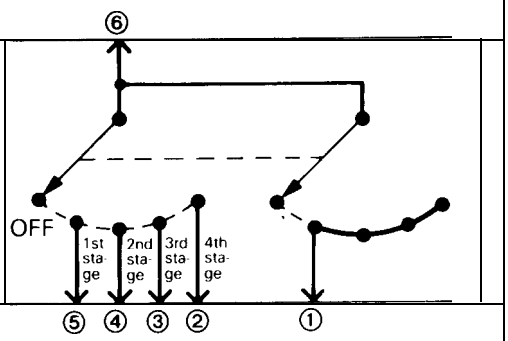
CHECKING SWITCHES

In a circuit diagram, a switch is represented by a symbol and in the idle state.

1. Normal open or normal close switch

Switches are classified into those which make the circuit open and those which make the circuit closed when off.





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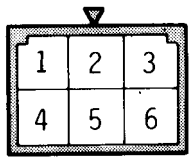

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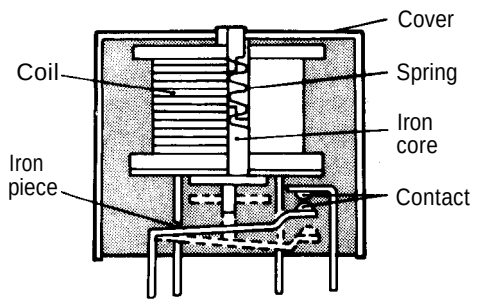
2. SWITCH CONNECTION

This figure illustrates a complex switch. The continuity between terminals at each position is as indicated in the table below.

Position \ Terminal No.	1	2	3	4	5	6
OFF						
1st stage	O				O	O
2nd stage	O			O		O
3rd stage	O		O			O
4th stage	O	O				O

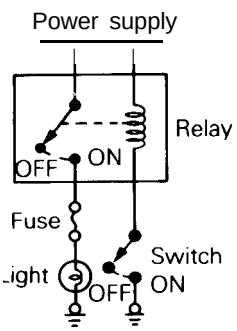
NOTE
O—O **denotes continuity between terminals.**



16B0231

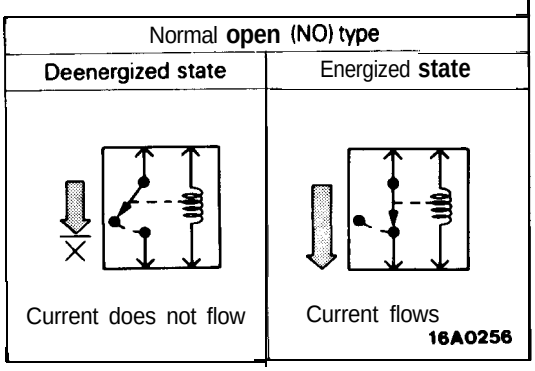
CHECKING RELAYS

1. When current flows through the coil of a relay, its core is magnetized to attract the iron piece, closing (ON) the contact at the **tip** of **the iron piece. When** the coil current is turned off, the iron piece is made to return to its original position by a spring, opening the contact (OFF).



16A0254

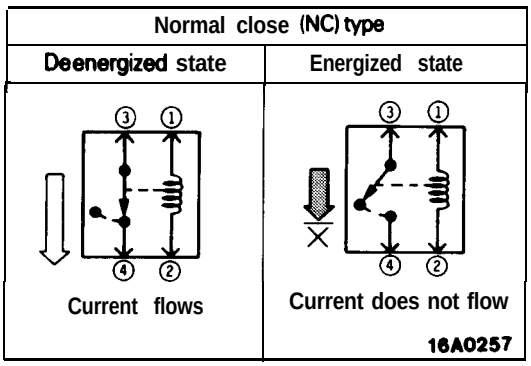
2. By using a relay, a heavy current can be turned on and off by a switch of small capacity. For example, in the circuit shown here, when the switch is turned on (closed), current flows to the coil of the relay. Then, its contact is turned on (closed) and the light comes on. The current flowing at this time to the switch is the relay coil current only and is very small.



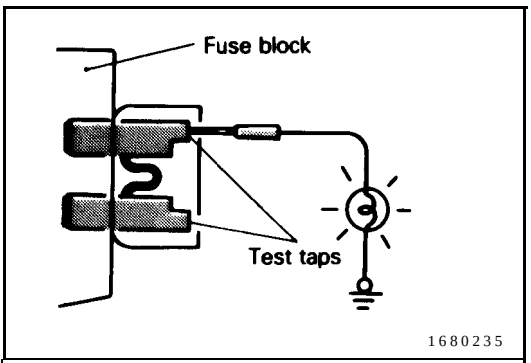
16A0256

3. The relays may be classified into the normal open type and the normal close type by their contact construction.

NOTE
The deenergized state means that no current is flowing through the coil and **the** energized state means that current is **flowing through the coil.**

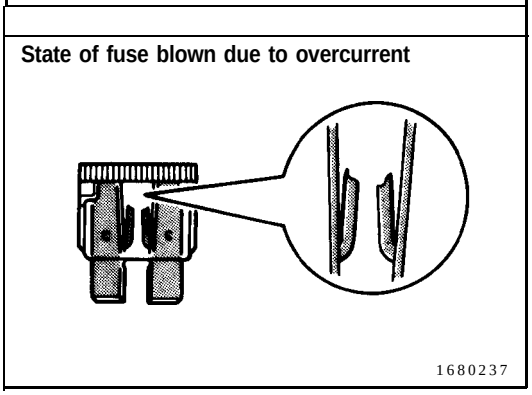


When a normal close type relay as illustrated here is checked, there should be continuity between terminals (1) and (2) and between terminals 3 and 4 when the relay is deenergized, and the continuity should be lost between terminals 3 and 4 when the battery voltage is applied to the terminals 1 and 2. A relay can be checked in this manner and it cannot be determine if a relay is okay or faulty by checking its state only when it is deenergized (or energized).



CHECKING FUSES

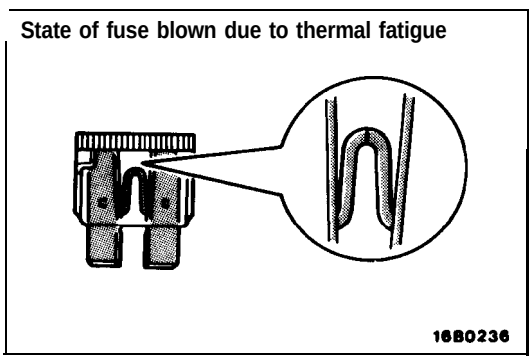
A blade type fuse has test taps provided to allow checking of the fuse itself without removing it from the fuse block. The fuse is okay if the test light comes on when its one lead is connected to the test taps (one at a time) and the other lead is grounded. (Change the ignition switch position adequately so that the fuse circuit becomes live.)



CAUTIONS IN EVENT OF BLOWN FUSE

When a fuse is blown, there are two probable causes as follows : One is that it is blown due to flow of current exceeding its rating. The other is that it is blown due to repeated on/off current flowing through it. Which of the two causes is responsible can be easily determined by visual check as described below.

(1) Fuse blown due to current exceeding rating
The illustration shows the state of a fuse blown due to this cause. In this case, do not replace the fuse with a new one hastily since a current heavy enough to blow the fuse has flowed through it. First, check the circuit for shorting and check for abnormal electric parts. Only after the correction of such shorting or parts, fuse of the same capacity should be used as a replacement. Never use a fuse of lager capacity than the one that has blown. If such a fuse is used, electric parts or wirings could be damaged before the fuse blows in the event **an overcurrent occurs again.**



(2) Fuse blown due to repeated current on/off
The illustration shows the state of a fuse blown due to **repeated** current on/off. Normally, this type of problem occurs after fairly long period of use and hence is less frequent than the above type. In this case, you may simply replace with a new fuse of the same capacity.