GROUP

ELECTRICAL DISTRIBUTION 18

(10000)

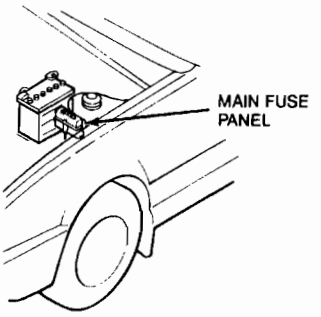
SECTION 18-01 Wiring and Circuit Protection

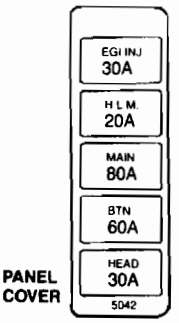
VEHICLE APPLICATION

Capri.

DESCRIPTION

The main fuse panel (high current) is located on the driver's side of the engine compartment. The fuses protect the circuits, as shown in the chart.





POSITION	DESCRIPTION	COLOR	CIRCUIT PROTECTED
EGI INJ	30 AMP MAIN	PINK	FUEL PUMP, FUEL INJECTORS, POWERTRAIN CONTROL MODULE (PCM)
HLM	20 AMP	BLUE	HEADLAMP LIFT MOTORS
MAIN	80 AMP MAIN	BLACK	CHARGING SYSTEM, AUDIO SYSTEM, CIGARETTE LIGHTER, AIR CONDITIONER, COOLING FAN SYSTEM, WIPER, WASHER, BACKUP LAMPS, METER AND WARNING LAMPS, KICK DOWN (A/T), REAR WINDOW DEFROSTER, IGNITION SYSTEM
BTN	60 AMP MAIN	YELLOW	CLOCK, STOPLAMPS, HORN, KEY BUZZER AND LAMP, INTERIOR LAMPS, LUGGAGE COMPARTMENT LAMPS, COURTESY LAMPS, DOOR LOCK CYLINDER LAMPS, SAFETY BELT WARNING, HEATER BLOWER MOTOR, OUTSIDE REMOTE CONTROL MIRRORS
HEAD	30 AMP MAIN	PINK	HEADLAMPS

K15020-B

The interior fuse panel, located under the LH instrument panel, protects the lower current circuits, including all vehicle accessories. Fuses are the plug-in type and are color coded by amp rating.

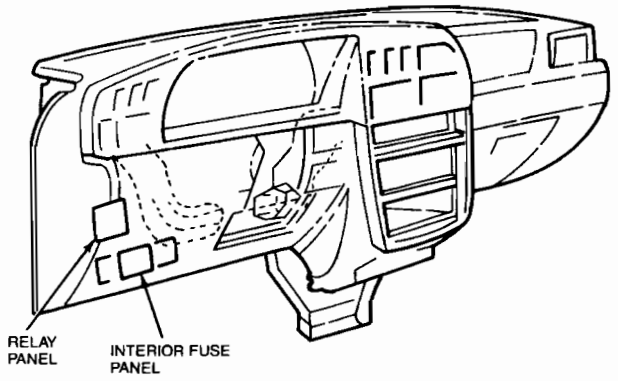
A plug-in type bimetal circuit breaker in the fuse panel protects the blower motor circuit.

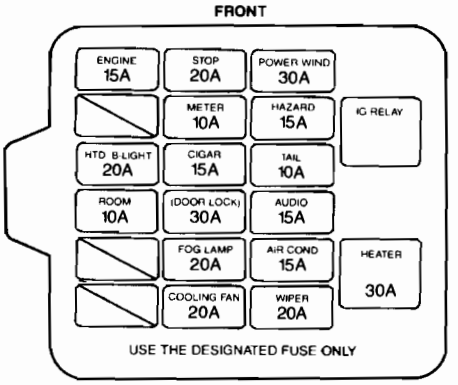
CAUTION: Never install a replacement fuse or circuit breaker with a higher amperage rating than is required. This will allow higher amounts of current to flow and may damage electrical wiring and components.

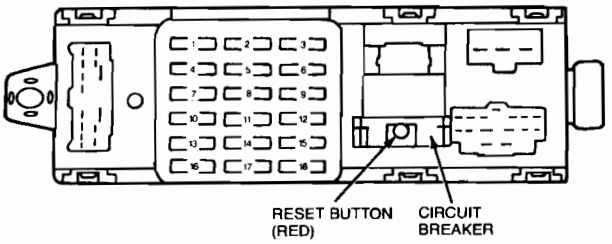
The relay panel is located above the fuse panel and contains the following relays:

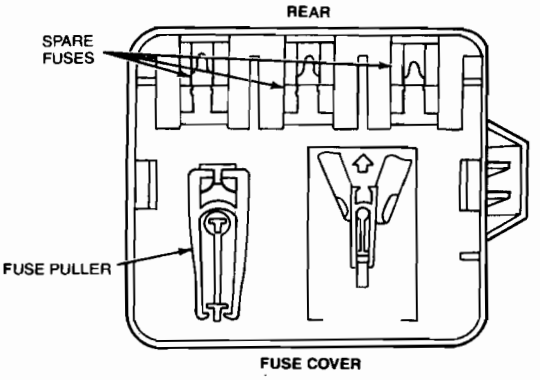
DESCRIPTION (Continued)

Turn signal / hazard warning flasher, door buzzer, entry timer, and safety belt warning.









LOCATION	AMP RATING	COLOR	CIRCUIT PROTECTED
1	15 Amp	Blue	Emission Control, Alternator, Power Steering Solenoid
2	20 Amp	Yellow	Stoplamp Switch, Horn Relay
3	30 Amp	Green	Damper Control Switch (Headlamp motor)
4	—	—	Blank
5	10 Amp	Red	Cooling Fan Relay, Meter, Speed Control, Safety Belt Warning Lamp, Combination Switch Kick Down Reverse Switch, Stoplight, Clutch Switch, Safety Belt Timer and Buzzer
6	15 Amp	Blue	Hazard Flasher
7	20 Amp	Blue	Heated Back Light
8	15 Amp	Blue	Cigarette Lighter, Remote Control Mirror
9	10 Amp	Red	Front Combination Lamp (LH, RH) Meter Illumination, Rear Combination Lamp (LH, RH) Idle up Control Unit, Panel Illumination Control
10	10 Amp	Red	Luggage Compartment Lamp, Clock, Interior Lamp, Ignition Key Reminder Buzzer, Entry Illumination, Courtesy Lamp, Door Key Illumination
11	30 Amp	Green	Door Lock Relay
12	15 Amp	Blue	Radio
13	—	—	Blank
14	20 Amp	Yellow	Fog Lamps
15	15 Amp	Blue	Air Conditioning
16	—	—	Blank
17	20 Amp	Yellow	Cooling Fan Motor
18	20 Amp	Yellow	Combination Switch—Front Wiper, Front Wiper, Washer Motor

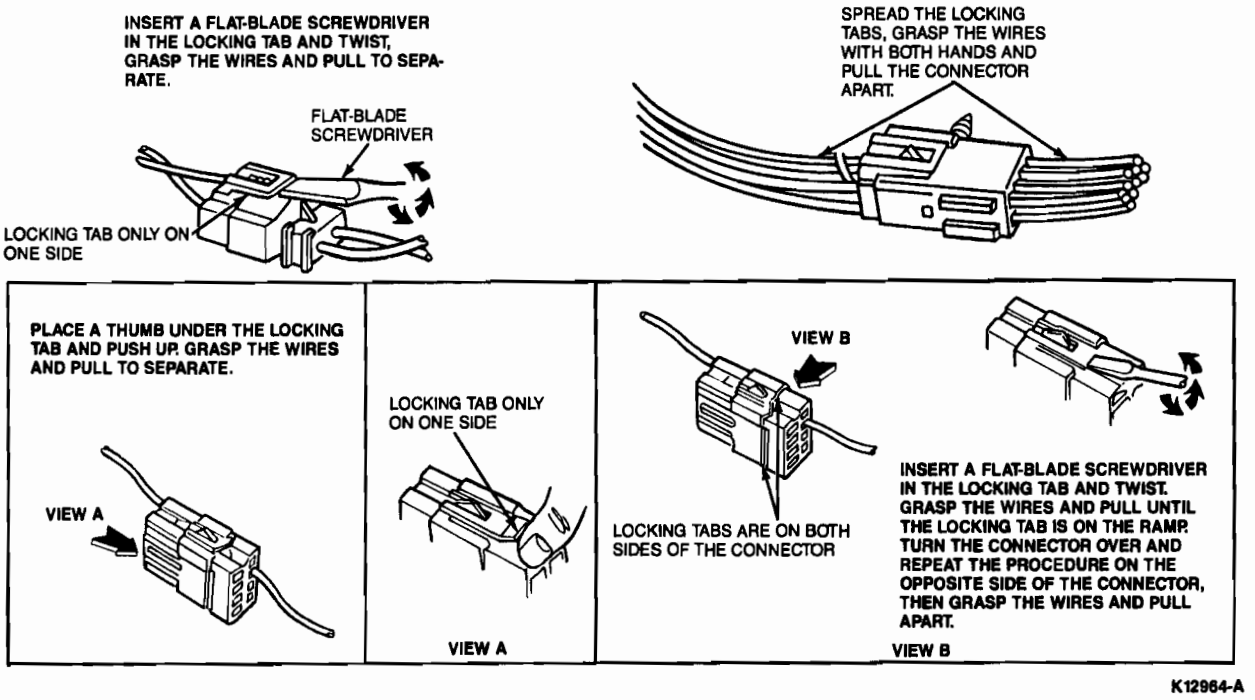
K15021-A

REMOVAL AND INSTALLATION

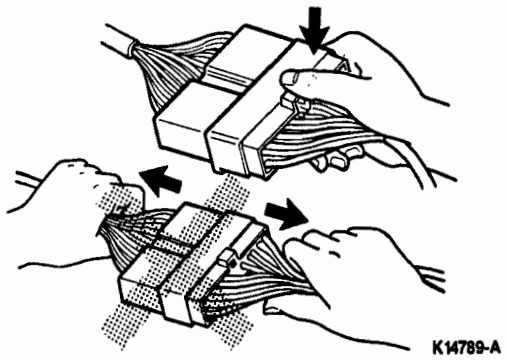
Connectors

The following illustration shows typical electrical connectors and their disengagements.

Inline Connectors



Bulkhead Connectors



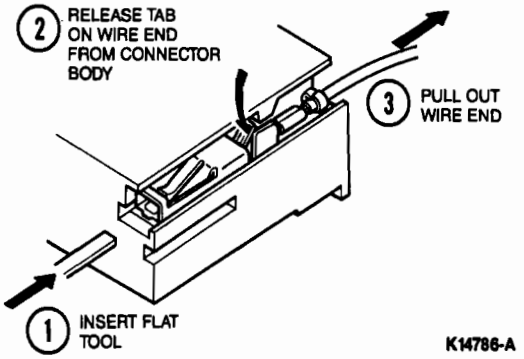
Wire Ends

Wire ends can be removed from connectors when required. The wire ends are held in place by either a tab moulded into the connector or a tab stamped into the wire end.

Insert a flat tool and depress tab to release wire end in either type of connector.

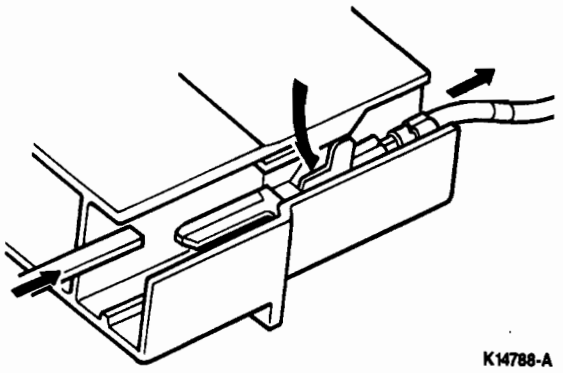
Install wire end and make sure tab is fully engaged.

Tab on Wire End—Female



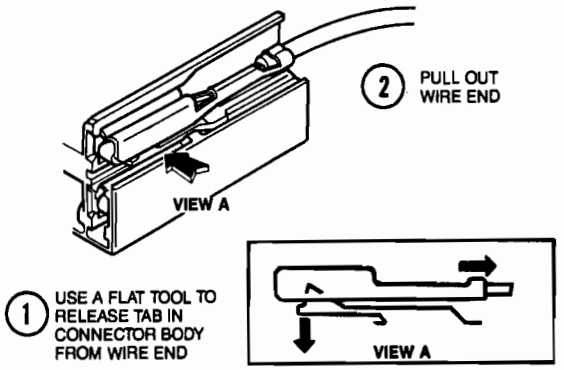
REMOVAL AND INSTALLATION (Continued)

Tab on Wire End—Male



K14788-A

Tab in Connector—Female or Male



K14787-A

Main Fuse Box

30 and 60 Amp Fuses

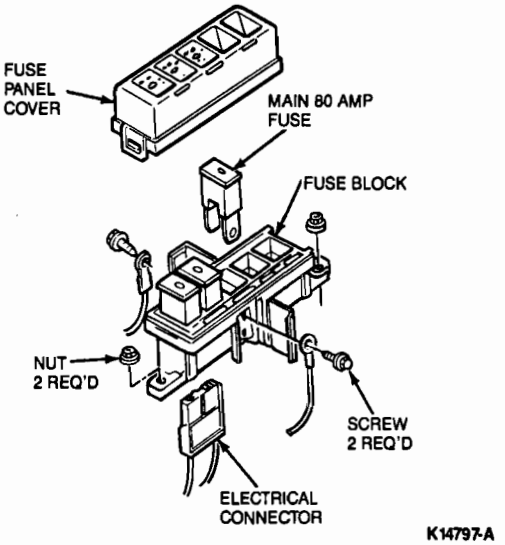
Removal and Installation

1. Disconnect negative battery cable.
2. Unhook lock tabs from main fuse box cover.
3. Pull 30 or 60 amp fuse from main fuse holder.
4. To install, reverse Removal procedure.

80 Amp Fuse

Removal

1. Disconnect negative battery cable.
2. Unhook lock tab from main fuse panel cover.
3. Remove nuts retaining main fuse panel to vehicle body. Remove main fuse panel assembly.
4. Open access cover on both sides of main fuse panel.
5. Remove bolts and terminal wire fastened to 80 amp fuse.
6. Pull 80 amp fuse from main fuse panel.



K14797-A

Installation

1. Install 80 amp fuse into main fuse panel.
2. Install terminal wires and bolts into 80 amp fuse and close side access covers.
3. Position main fuse panel assembly to vehicle body and install nuts.
4. Install main fuse panel cover.
5. Connect negative battery cable.

Circuit Breaker—Blower Motor

The blower motor circuit breaker unplugs from the fuse panel.

Fuse Panel, Interior

Removal

1. Disconnect negative battery cable.
2. Disconnect electrical connectors from front of fuse panel.
3. Remove retaining bolts from fuse panel.
4. Disconnect electrical connectors from back of fuse panel.

Installation

1. Connect electrical connectors to back of fuse panel.
2. Position fuse panel and install bolts.
3. Connect electrical connectors to front of fuse panel.
4. Connect negative battery cable.

REMOVAL AND INSTALLATION (Continued)

Fuse Link—Charging System

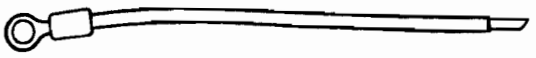
If it becomes necessary to replace a fuse link in a wiring assembly, make sure the replacement fuse link is a duplicate of one removed with respect to gauge, length and insulation. Original and Ford replacement fuse links have insulation that is flameproof. Do not fabricate a fuse link from ordinary wire because the insulation may not be flameproof.

WARNING: ALWAYS DISCONNECT BATTERY GROUND CABLE PRIOR TO SERVICING ANY FUSE LINK.

If a circuit protected by a fuse link becomes inoperative, inspect for a blown fuse link. If the fuse link wire insulation is burned or opened, disconnect the feed as close as possible behind the splice in the harness. If the damaged fuse link is between two splices (weld points in the harness), cut out the damaged portion as close as possible to the weld points.

NOTE: Some fuse links shown have an eyelet terminal for an 8mm (5 / 16 inch) stud on one end.

WIRING ASSEMBLY — FUSE LINK (WITH EYELET TERMINAL AND ONE END STRIPPED)



EA9AZ-14526-A — NO. 12 GAUGE WIRE — (GRAY INSULATION)

D3AZ-14A526-D — NO. 14 GAUGE WIRE — APPROX. 230mm (9 INCHES) LENGTH (GREEN INSULATION) AS REQ'D

D3AZ-14A526-E — NO. 16 GAUGE WIRE — APPROX. 230mm (9 INCHES) LENGTH (ORANGE INSULATION) AS REQ'D

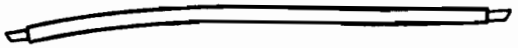
D3AZ-14A526-F — NO. 18 GAUGE WIRE — APPROX. 230mm (9 INCHES) LENGTH (RED INSULATION) AS REQ'D

D3AZ-14A526-G — NO. 20 GAUGE WIRE — APPROX. 230mm (9 INCHES) LENGTH (BLUE INSULATION) AS REQ'D

K15982-A

When an eyelet terminal is not required, use a fuse link, with insulation stripped from both ends.

WIRING ASSEMBLY — FUSE LINK (WITH INSULATION STRIPPED BOTH ENDS)



D3AZ-14A526-H — NO. 14 GAUGE WIRE — APPROX. 230mm (9 INCHES) LENGTH (GREEN INSULATION)

D3AZ-14A526-J — NO. 16 GAUGE WIRE — APPROX. 230mm (9 INCHES) LENGTH (ORANGE INSULATION) AS REQ'D

D3AZ-14A526-K — NO. 17 GAUGE WIRE — APPROX. 230mm (9 INCHES) LENGTH (YELLOW INSULATION) AS REQ'D (SPECIAL USED WITH AIR CONDITIONING SYSTEM)

D3AZ-14A526-L — NO. 18 GAUGE WIRE — APPROX. 230mm (9 INCHES) LENGTH (RED INSULATION) AS REQ'D

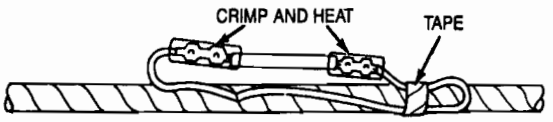
D3AZ-14A526-M — NO. 20 GAUGE WIRE — APPROX. 230mm (9 INCHES) LENGTH (BLUE INSULATION) AS REQ'D

K15983-A

Fuse Link

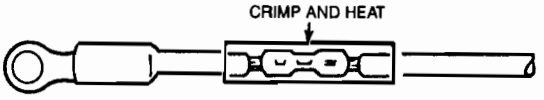
To service any fuse link in a multi-feed, or single circuit, use the following procedure:

1. Determine which circuit is damaged, its location and cause of blown fuse link. If damaged fuse link is one of three fed by common No. 10 or 12 gauge feed wire, determine specific affected circuit.
2. Disconnect battery ground cable.
3. Cut damaged fuse link from wiring harness and discard it. If fuse link is one of three circuits fed by single feed wire, cut it out of harness at each splice end and discard.
4. Identify and obtain proper fuse link and butt connectors for attaching fuse link to harness.
5. Strip wires 7.6mm (5 / 16-inch) and insert into proper size wire connector. Crimp and heat splice insulation until tubing shrinks and adhesive flows from each end of connector.



K15022-A

6. To service any fuse link which has an eyelet terminal on one end, such as the charging circuit, cut off open fuse link behind weld, strip approximately 12.7mm (1 / 2 inch) of insulation from cut end and attach appropriate eyelet fuse link to cut stripped wire with an appropriate size butt connector. Crimp and heat splice insulation until tubing shrinks and adhesive flows from each end of connector.



K15023-A

7. Connect battery ground cable and test system for proper operation.

   CAUTION: Do not mistake a resistor wire for a fuse link. The resistor wire is generally longer and has print stating "Resistor-do not cut or splice." When attaching a single No. 16, 17, 18, or 20 gauge fuse link to a heavy gauge wire, always double the stripped wire end of the fuse link before inserting and crimping it into the butt connector for positive wire retention.

REMOVAL AND INSTALLATION (Continued)

Wire Harness

Removal

NOTE: Tag all wires before removal to ensure proper installation.

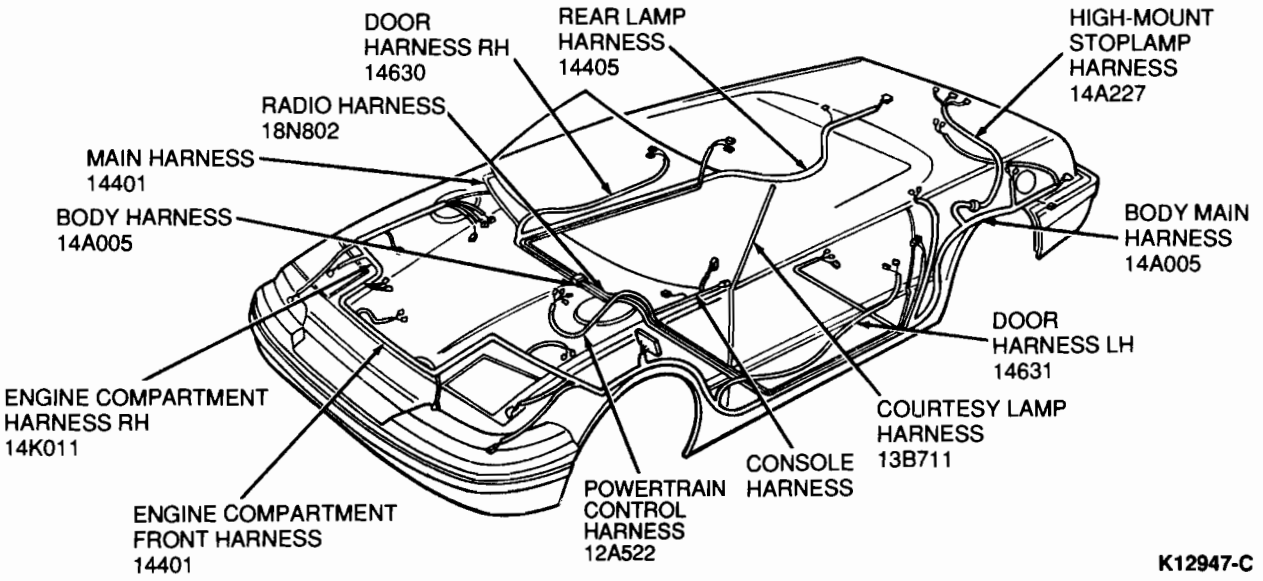
1. Disconnect negative battery cable.

   NOTE: Refer to Section 01-05 if it is necessary to remove any interior trim panels to gain access to the harness.
2. Disconnect all wiring harness connectors.
3. Disengage harness from all locators, straps and / or clips as necessary, including ground wire eyelets.
4. Remove harness from vehicle.

Installation

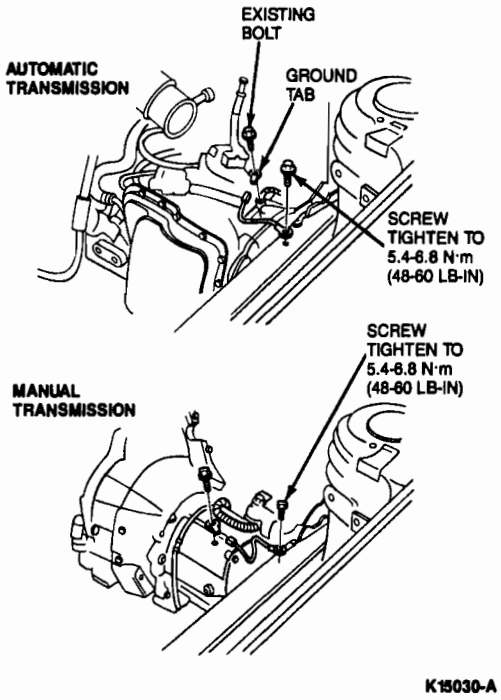
1. Position harness in vehicle. Make sure harness is engaged in all locators, straps and / or clips.
2. Connect all harness connectors to components or other harnesses as necessary.
3. Secure ground eyelets to body as necessary.
4. Connect negative battery cable. Check all applicable circuits for proper operation.

Vehicle Body Wiring Harnesses

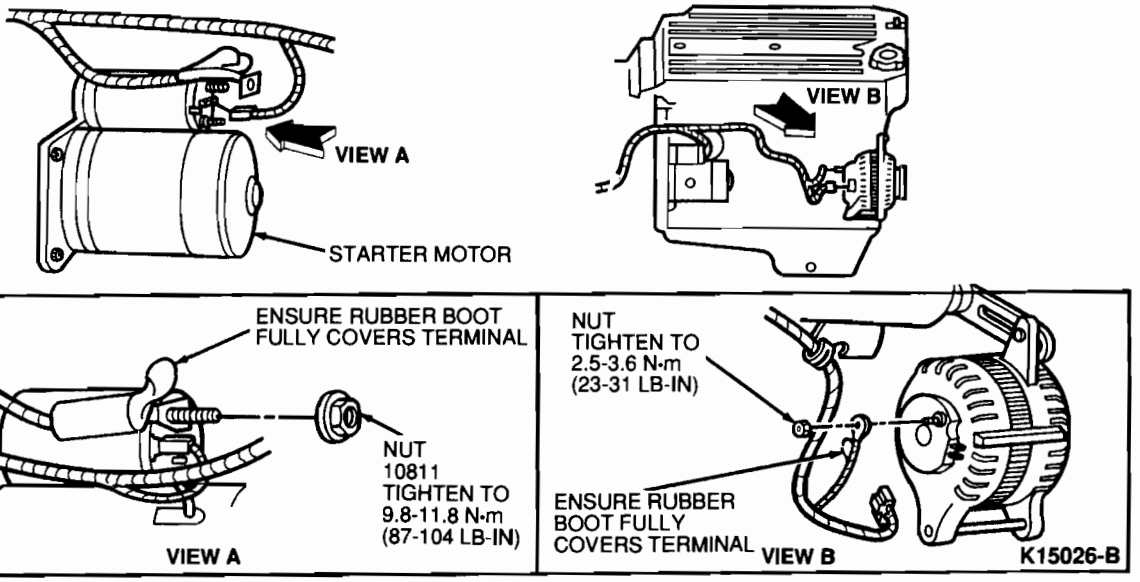


REMOVAL AND INSTALLATION (Continued)

Ground Cable

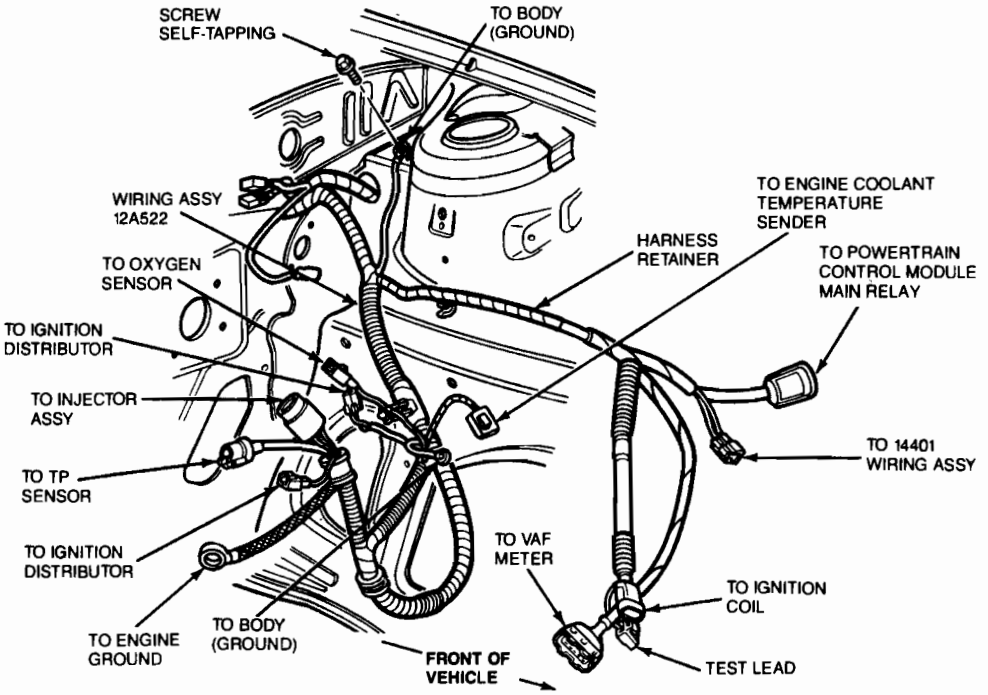


Starter and Generator Cables



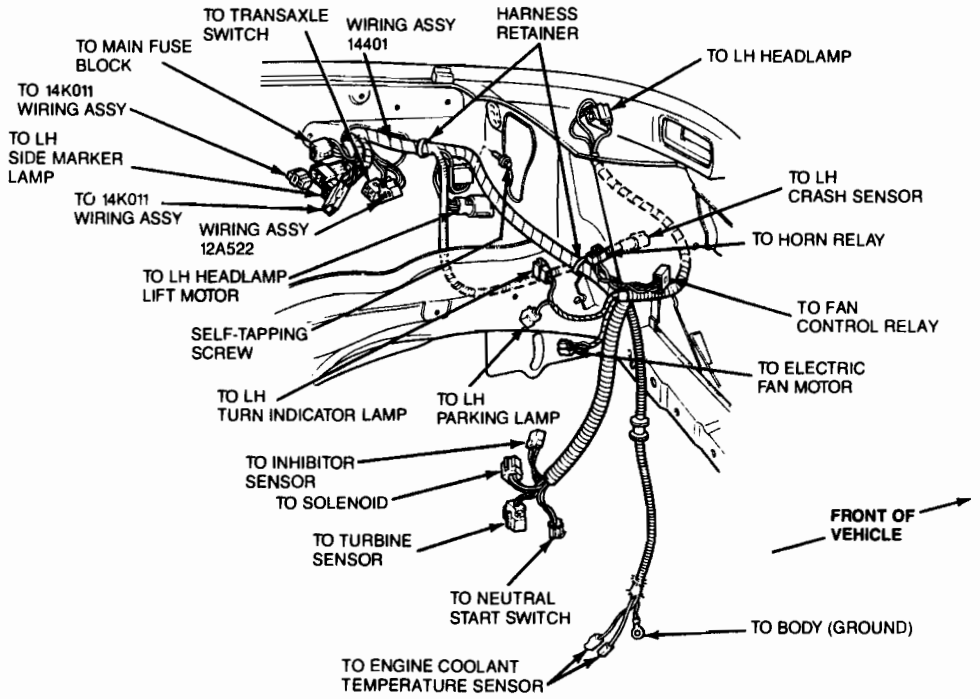
REMOVAL AND INSTALLATION (Continued)

Engine Compartment, LH



K15061-C

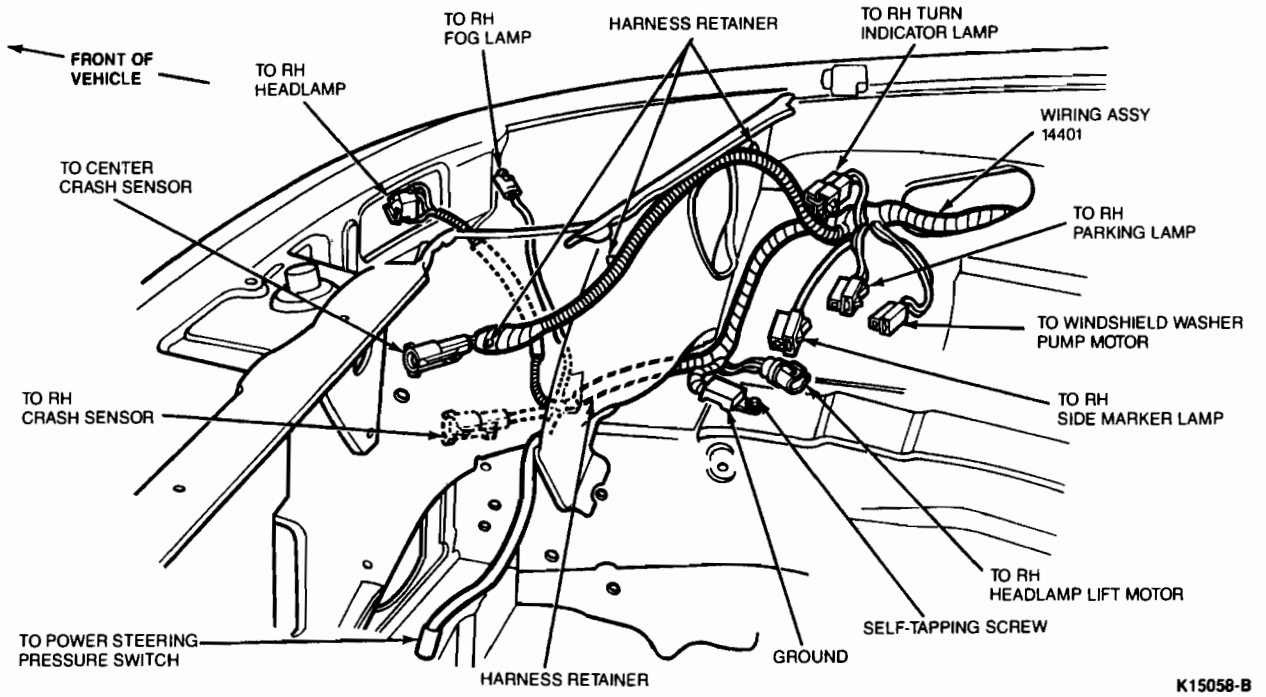
Engine Compartment, Front



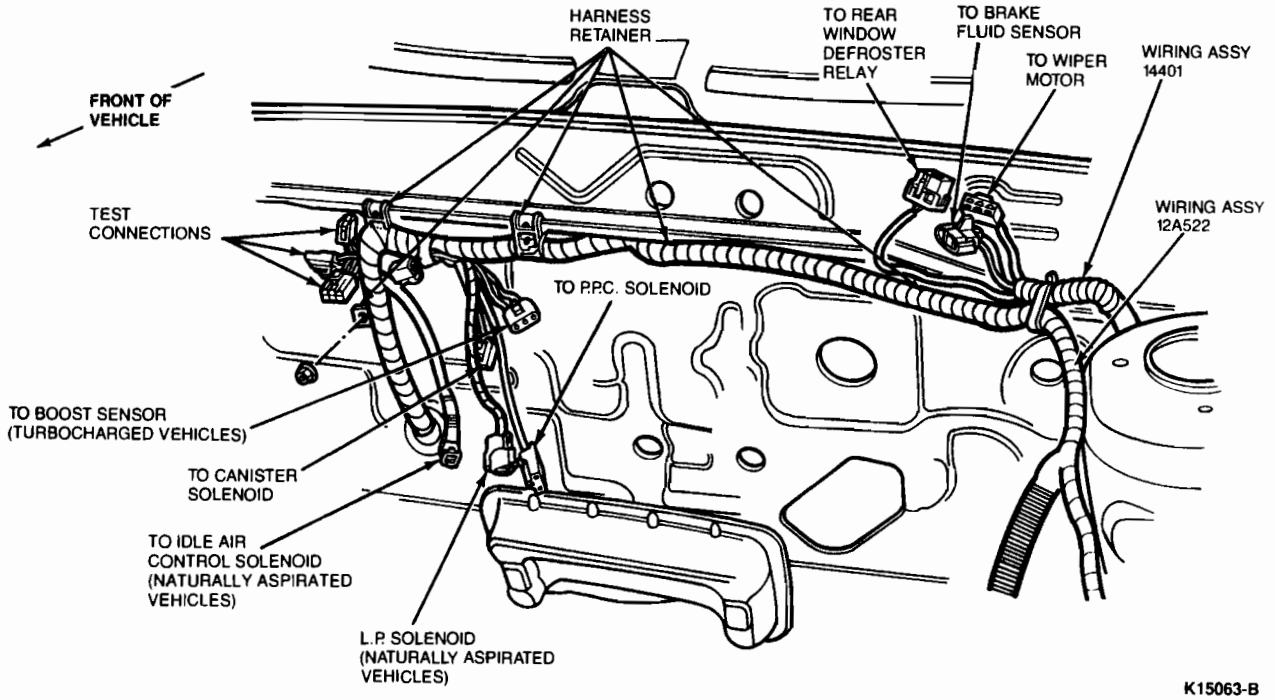
K15062-B

REMOVAL AND INSTALLATION (Continued)

Engine Compartment, RH

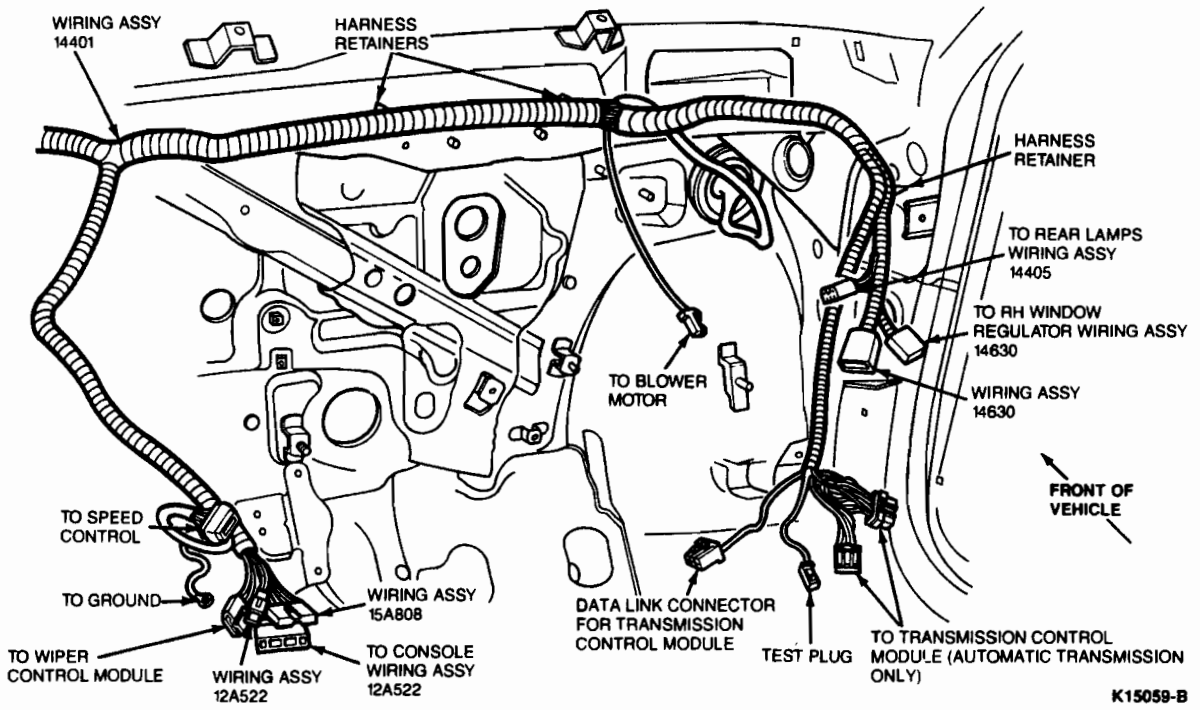


Dash Panel



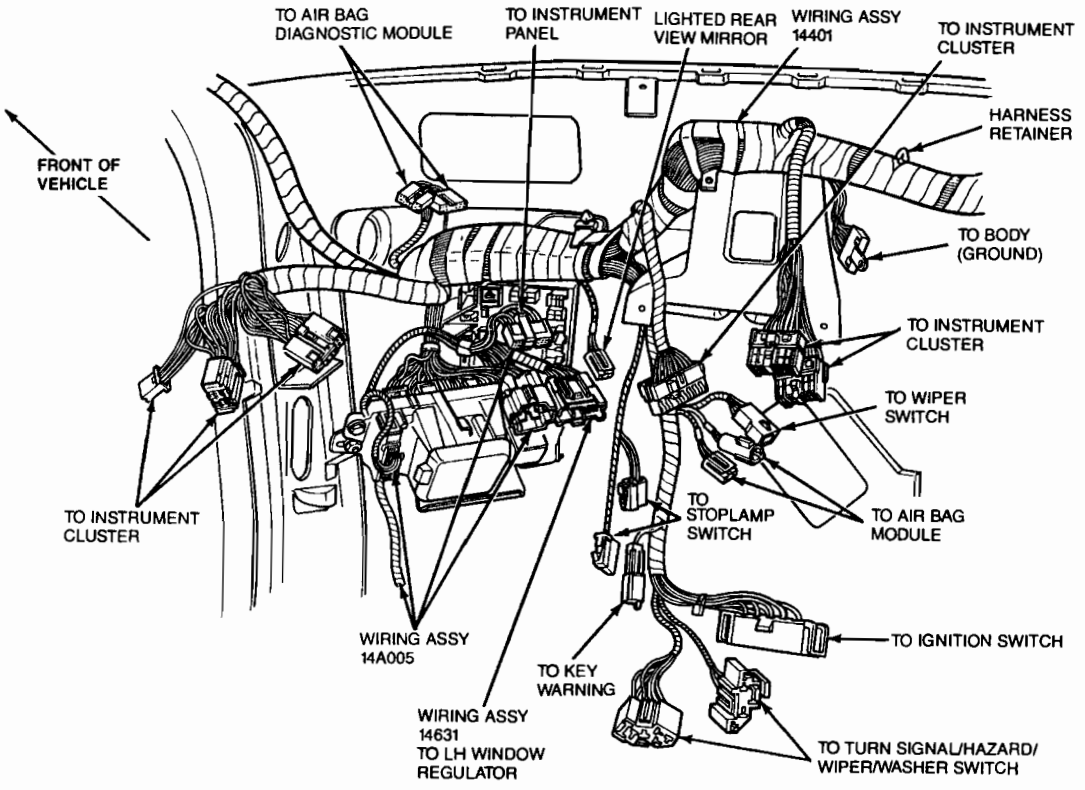
REMOVAL AND INSTALLATION (Continued)

Dash Panel, Interior

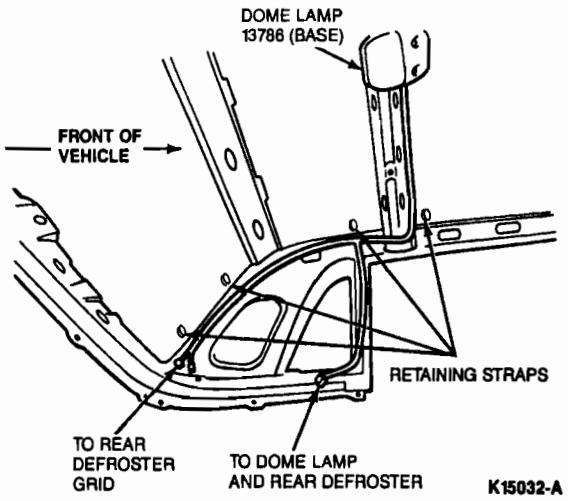


REMOVAL AND INSTALLATION (Continued)

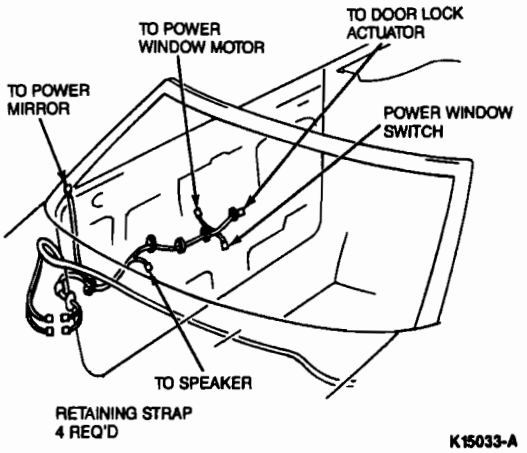
Instrument Panel



Hardtop

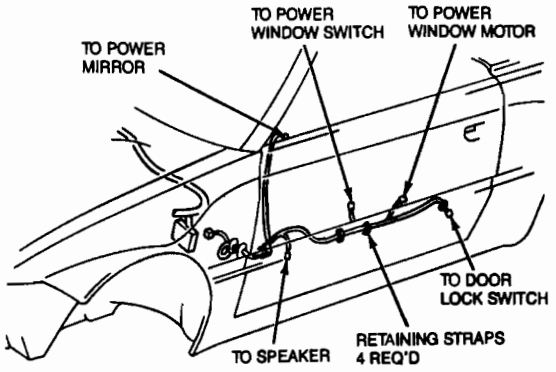


Door, RH



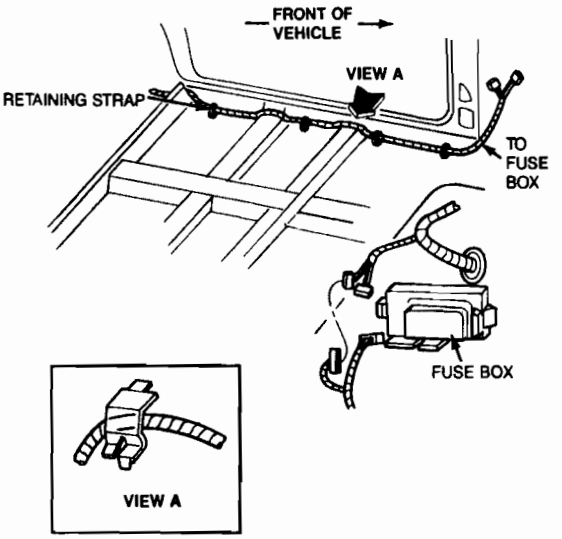
REMOVAL AND INSTALLATION (Continued)

Door, LH



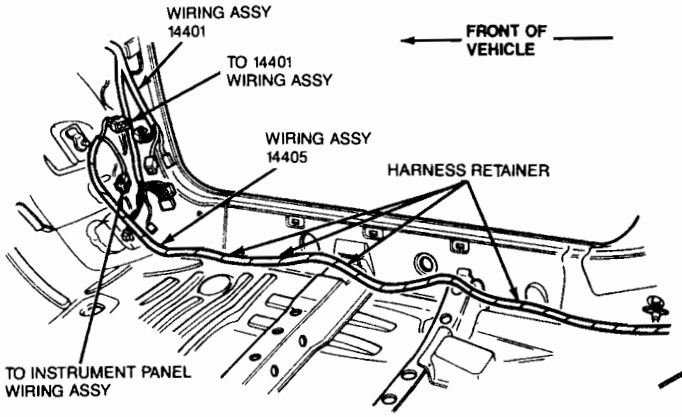
K15034-A

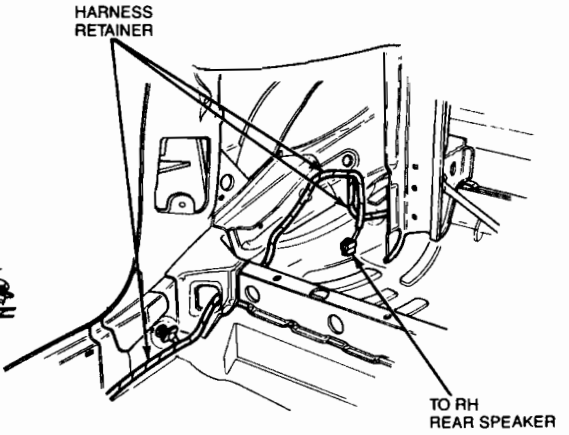
Floor, LH



K15035-A

Floor, RH

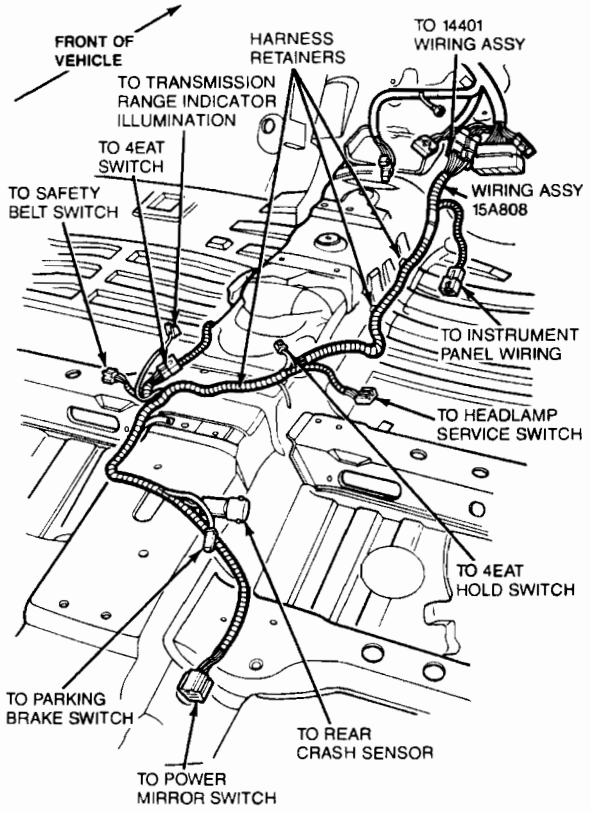




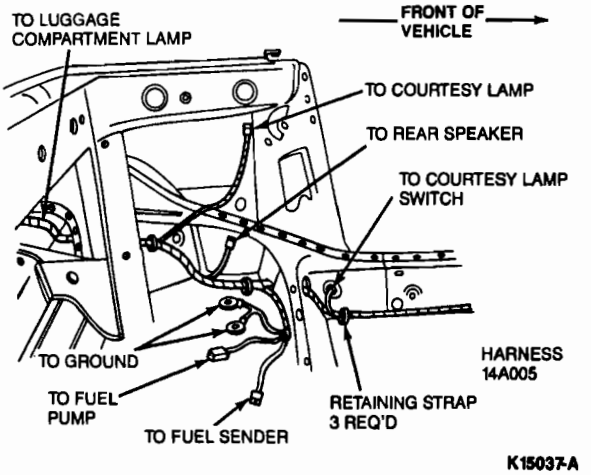
K15066-A

REMOVAL AND INSTALLATION (Continued)

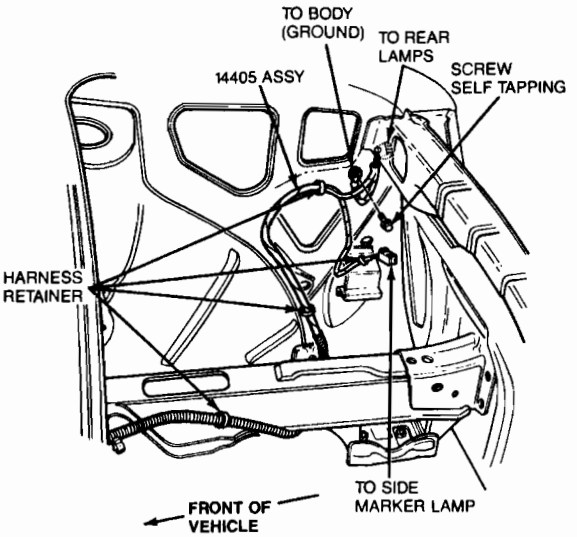
Floor, Center



Quarter Panel, LH

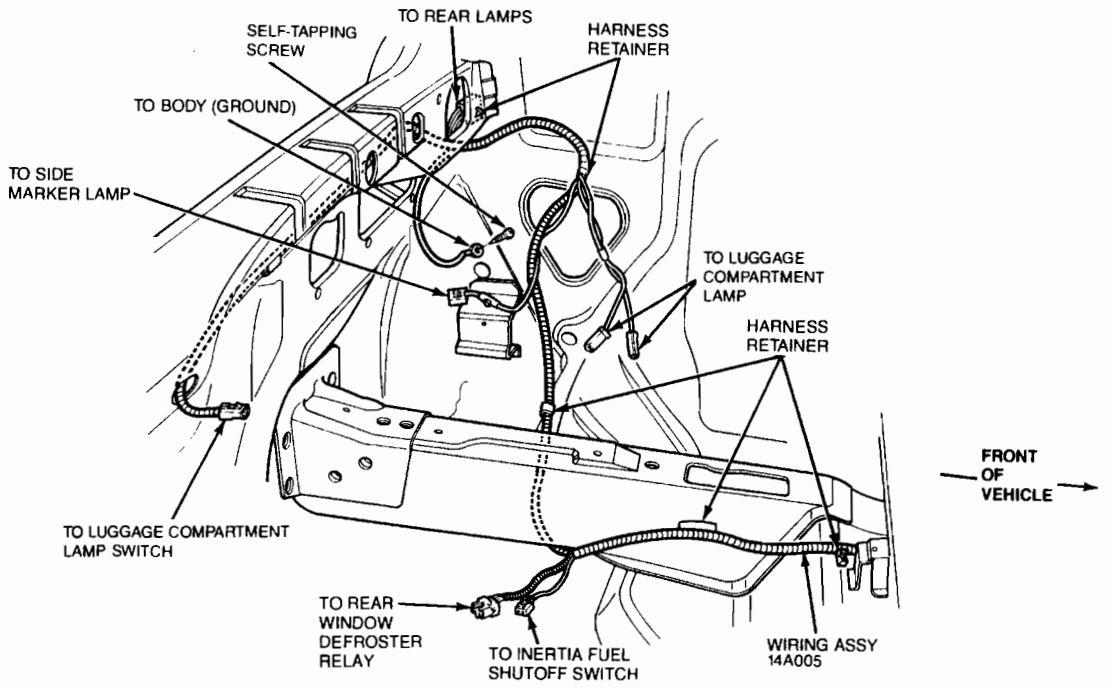


Quarter Panel, RH

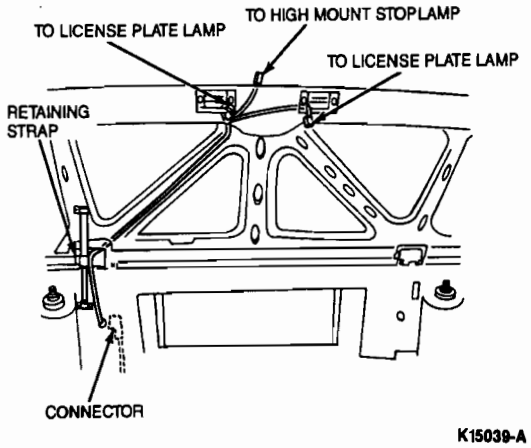


REMOVAL AND INSTALLATION (Continued)

Lamps, Rear



Deck Lid



SPECIFICATIONS

TORQUE SPECIFICATIONS

Description	N·m	Lb-In
Ground Strap-Screw	5.4-6.8	48-60
Starter Solenoid-Nut	9.8-11.8	87-104
Generator Output Stud-Nut	2.5-3.6	23-31

SPECIAL SERVICE TOOLS

Tool Number	Description
T67S-17018-A	Wire Crimping Tool

SECTION 18-04 Electrical Devices—Miscellaneous

VEHICLE APPLICATION

Capri.

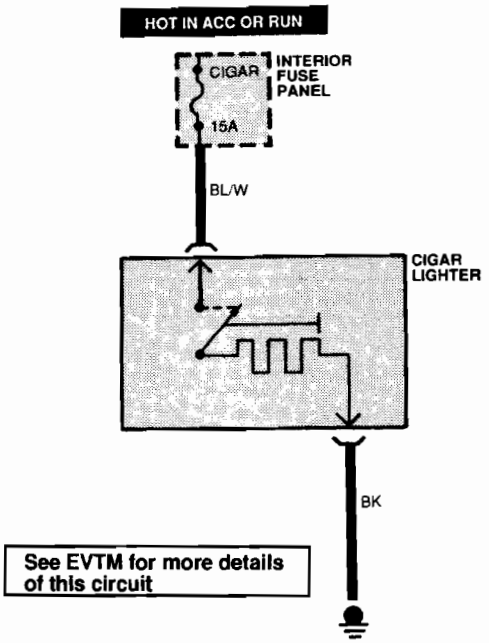
DESCRIPTION AND OPERATION

The cigar lighter is located in the floor mounted console to the left of the ash receptacle.

The cigar lighter element has a low resistance heating coil which operates similar to the coil used in a portable heater. When the lighter is pushed in, the circuit is closed and the current flows through the coil to ground. When sufficient heat is generated, the element will overcome the spring tension of the bimetal retaining fingers and be released.

DIAGNOSIS AND TESTING

Electrical Schematic—Cigar Lighter System



DIAGNOSIS AND TESTING (Continued)

System Inspection—Cigar Lighter System

1. Visually inspect the components of the cigar lighter system.

VISUAL INSPECTION CHART

Mechanical	Electrical
• Damaged Cigar Lighter Socket • Damaged Cigar Lighter Element	• Blown Fuse: • 15 amp CIGAR • Damage to Wiring Harness • Loose or Corroded Connections

2. Check the wiring harness for obvious signs of shorts, opens, bad connections or damage.
3. If the fault is not visually evident, determine the condition and refer to the following condition chart.

CONDITION CHART—CIGAR LIGHTER SYSTEM

CONDITION	POSSIBLE SOURCE	ACTION
• Lighter Not Working	• Fuse. • Circuit.	• Go to **A1.** • Go to **A2.**
• Lighter Not Working or Intermittent	• Cigar lighter socket ground. • Cigar lighter power supply.	• Go to **A5.** • Go to **A6.**

PINPOINT TEST A—CIGAR LIGHTER SYSTEM

TEST STEP		RESULT ▶	ACTION TO TAKE
A1	CHECK FUSE		
	• Locate interior fuse panel. • Check 15 amp CIGAR fuse. • **Is fuse OK?**	Yes ▶ No ▶	GO to **A4.** GO to **A2.**
A2	CHECK CIRCUIT		
	• Replace 15 amp CIGAR fuse. • Key ON. • Check 15 amp CIGAR fuse. • **Does fuse fail again?**	Yes ▶ No ▶	GO to **A3.** GO to **A4.**
A3	CHECK FOR SHORT TO GROUND		
	• Key OFF. • Locate and disconnect the interior fuse panel connector. • Disconnect the cigar lighter socket. • Measure resistance between BL / W wire at the interior fuse panel connector and ground. • **Is resistance greater than 10,000 ohms?**	Yes ▶ No ▶	GO to **A4.** SERVICE BL / W wire between cigar lighter and interior fuse panel.
A4	CHECK FOR CIGAR LIGHTER SHORT		
	• Key ON. • Cigar lighter element not engaged. • Check 15 amp CIGAR fuse. • **Is fuse OK?**	Yes ▶ No ▶	REPLACE cigar lighter element. SERVICE / REPLACE cigar lighter socket.
A5	CHECK CIGAR LIGHTER SOCKET GROUND		
	• Check to see if lighter mounting hardware is present and secure. • Disconnect cigar lighter socket. • Measure resistance between BK wire at cigar lighter connector and ground. • **Is resistance less than 5 ohms?**	Yes ▶ No ▶	GO to **A6.** INSTALL correct or missing hardware. If cigar lighter will not work, SERVICE BK wire between cigar lighter and ground.
A6	CHECK POWER SUPPLY TO CIGAR LIGHTER		
	• Key ON. • Disconnect cigar lighter socket. • Check for voltage on the BL / W wire at cigar lighter connector. • **Is voltage greater than 10 volts?**	Yes ▶ No ▶	GO to **A7.** SERVICE BL / W wire between cigar lighter socket and interior fuse panel.

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST A—CIGAR LIGHTER SYSTEM (Continued)

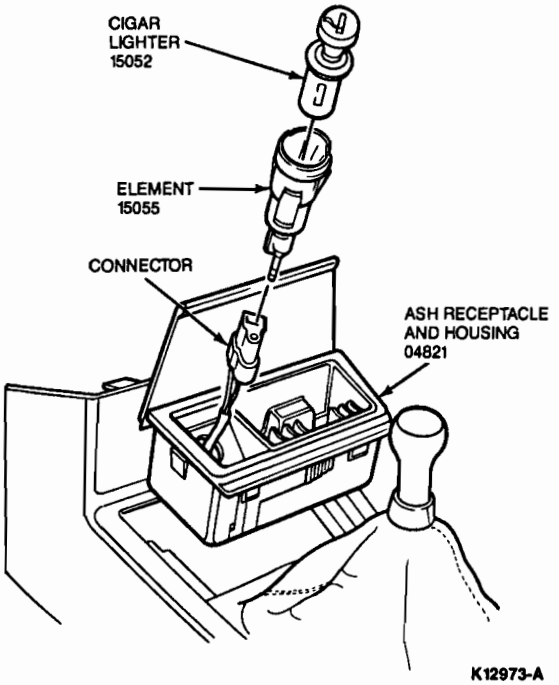
TEST STEP		RESULT ▶	ACTION TO TAKE
A7	CHECK CIGAR LIGHTER SOCKET		
	• Key ON. • Remove cigar lighter element from socket. • Check for voltage at the center contact inside the socket. • **Is voltage greater than 10 volts?**	Yes ▶ No ▶	REPLACE cigar lighter element. REPLACE cigar lighter socket.

REMOVAL AND INSTALLATION

Ash Receptacle and Cigar Lighter

Removal and Installation

1. Pull ash receptacle from console.
2. Remove cigar lighter and element.
3. Unplug connector from element.



4. To install, reverse Removal procedure.