

INSTRUMENT PANELS AND COMPONENTS

3C

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CJ INSTRUMENT PANEL

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GENERAL

CJ instrument panels are of formed sheet metal construction and are reinforced with braces and fastened to adjacent body panels with screws.

A crash pad is available for CJ models and is attached to the instrument panel (fig. 3C-1).

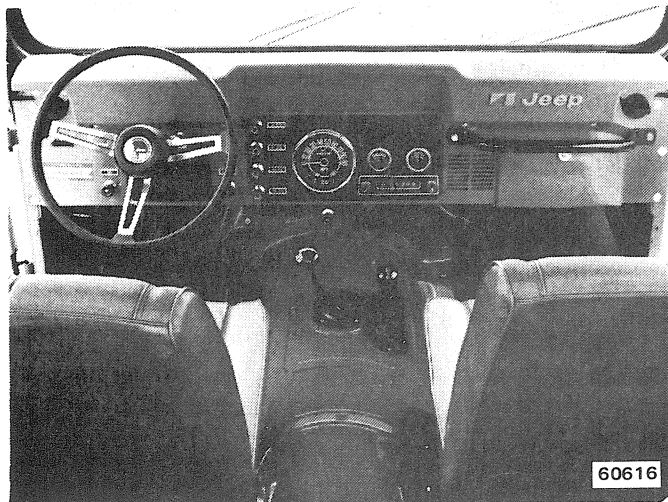


Fig. 3C-1 Instrument Panel

INSTRUMENT CLUSTER

Removal

NOTE: If equipped with air conditioning, remove screws attaching evaporator assembly to instrument panel and lower evaporator assembly.

- (1) Disconnect battery negative cable.
- (2) Disconnect speedometer cable.
- (3) Remove cluster attaching screws and remove cluster.
- (4) Mark bulb and wire connectors, and disconnect cluster electrical connectors and lamps.

Installation

- (1) Connect cluster lamps and electrical connectors.
- (2) Position cluster on instrument panel and install attaching screws.
- (3) Connect speedometer cable.
- (4) Connect battery negative cable.

INSTRUMENT PANEL

Removal

NOTE: If equipped with air conditioning, remove screws attaching evaporator assembly to instrument panel and lower evaporator assembly.

3C-2 INSTRUMENT PANELS AND COMPONENTS

- (1) Disconnect battery negative cable.
- (2) Remove screws attaching steering column bezel to instrument panel. Remove bezel.
- (3) Disconnect emergency brake bracket from instrument panel.
- (4) Disconnect speedometer cable.
- (5) Disconnect heater control cables from damper door levers.
- (6) Remove windshield clamp knobs and brackets.
- (7) Remove crash pad, if equipped.
 - (a) If equipped with a soft top, unsnap top snaps at windshield corners, unfasten straps at center and sides of front top support, lay top support back to rear, and release top from header retainer.
 - (b) If equipped with a hardtop enclosure, remove hardware attaching enclosure to windshield and rear quarter panels and support enclosure with wood blocking (fig. 3C-2).
 - (c) Fold windshield down onto hood.
 - (d) Remove screws attaching crash pad, if equipped, and remove crash pad.

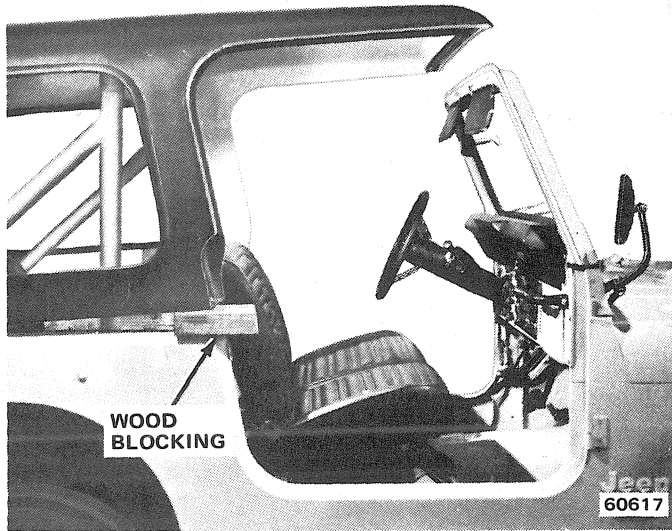


Fig. 3C-2 Hardtop Enclosure Supported with Wood Blocking

- (8) Disconnect all electrical connections.
- (9) Remove steering wheel.
- (10) Remove automatic transmission shift lever, if equipped.
 - (a) Place automatic transmission shift lever in Park.
 - (b) Drive out roll pin attaching shift lever to shift bowl and remove shift lever.
- (11) Remove instrument panel-to-dash panel attaching screws and remove instrument panel.

Installation

- (1) Position instrument panel in vehicle and install attaching screws.

- (2) Install automatic transmission shift lever, if equipped. Insert shift lever in shift bowl and install roll pin.
- (3) Install steering wheel.
- (4) Connect all electrical connections.
- (5) Install crash pad, if equipped.
 - (a) Position crash pad on instrument panel and install attaching screws.
 - (b) Raise windshield to upright position.
 - (c) If equipped with a hardtop enclosure, remove wood blocking supporting top and lower top onto body and windshield. Install hardware attaching top to windshield and rear quarter panels.
 - (d) If equipped with a soft top, engage top with header retainer, position top support in upright position and fasten center and side straps, and fasten top snaps at windshield corners.
- (6) Install windshield brackets and clamp knobs.
- (7) Connect heater control cables to damper door levers.
- (8) Connect speedometer cable.
- (9) Install emergency brake bracket to instrument panel.
- (10) Position steering column bezel on instrument panel and install attaching screws.
- (11) Connect battery negative cable.

CRASH PAD

Removal

- (1) If equipped with a soft top, unfasten top snaps at windshield corners, unfasten straps at center and sides of front top support, lay top support back to rear and release top from header retainer.
- (2) If equipped with a hardtop enclosure, remove hardware attaching top to windshield and rear quarter panels and support top with wood (fig. 3C-2).
- (3) Remove windshield clamp knobs and fold windshield down onto hood.
- (4) Remove screws attaching crash pad and remove crash pad.

Installation

- (1) Position crash pad on instrument panel and install attaching screws.
- (2) Raise windshield to upright position and install clamp knobs.
- (3) If equipped with a hardtop enclosure, remove wood blocking supporting top and lower top onto body and windshield. Install hardware attaching top to windshield and rear quarter panels.
- (4) If equipped with a soft top, engage top with header retainer, position top support in upright position and fasten center and side straps, and fasten top snaps at windshield corner.

GLOVE BOX ASSEMBLY

Removal

- (1) Remove glove box-to-instrument panel attaching screws.
- (2) Remove striker.
- (3) Compress glove box at the crease lines and remove box through opening.

Installation

- (1) Compress glove box at the crease lines and insert box in opening.
- (2) Install glove box-to-instrument panel attaching screws.
- (3) Install and adjust striker.

Glove Box Door and Hinge

Removal

The glove box door hinge mounting holes are elongated to provide adjustment. The hinge screws may be loosened and the door moved in the desired direction to fit the door opening.

- (1) Remove hinge-to-instrument panel attaching screws.
- (2) Remove door and hinge assembly.

Installation

- (1) Position door and hinge assembly on instrument panel.
- (2) Install hinge-to-instrument panel attaching screws.
- (3) Adjust door.

Striker Adjustment

The glove box door lock striker is attached to the instrument panel opening with sheet metal screws. The striker can be moved in or out for door closing adjustment.

INSTRUMENT ILLUMINATION

Instrument panel illumination is provided by three bulbs in the instrument cluster, six molded lamps in the instrument panel, and one bulb each in the voltmeter and oil gauge. Protection for the panel bulbs and lamps is provided by the 3-amp fuse located in the fuse panel. The 3-amp fuse is fed from the headlamp switch through a rheostat.

Do not pull on the bulb wires to remove the bulb socket. Grasp the socket and pull straight out.

To remove the molded lamps, remove the wire connectors. Squeeze the lamp together at the top and bottom to release the small retaining tabs. Push the lamp

through the panel (toward the steering wheel). To install the molded lamps, push into the panel until the retaining tabs snap into place.

SPEEDOMETER

A magnetic type speedometer is used on all CJ models. All speedometers are equipped with a ratchet device to prevent turning the odometer backward.

The following data is supplied for testing and calibrating the speedometer heads.

Speedometer Calibration

Shaft Speed (rpm)	Indication (mph)
333.3	20 ± 1.5
666.7	4.0 ± 1.5
916.7	55 ± 1.5

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Speedometer Head Replacement

Speedometer head replacement includes resetting the replacement odometer to the same mileage as the one removed, unless such setting conflicts with local ordinances.

- (1) Remove cluster.
- (2) Carefully uncrimp lip of outer bezel. Remove outer bezel, glass and glass retaining bezel.
- (3) Remove attaching screws from speedometer housing. Remove speedometer and face plate assembly.
- (4) On replacement speedometer, unhook odometer retaining clip. Twist and push down to disengage clip.
- (5) Remove odometer and set to proper mileage. Refer to Odometer Setting Procedures.
- (6) Install odometer.

NOTE: Check anti-backup spring for proper positioning.

- (7) Install retaining spring clip using needlenose pliers. Do not force clip against dial face.
- (8) Check all light guards for proper positioning. Install speedometer and face plate assembly. Install speedometer attaching screws and washers.
- (9) Remove all fingerprints and debris from inside surface of glass.
- (10) Install glass, glass retaining bezel and outer bezel. Carefully crimp outer bezel lip four places.
- (11) Install cluster.

Odometer Setting Procedure

The following procedure applies with the odometer removed from the speedometer head. Refer to figure 3C-3.

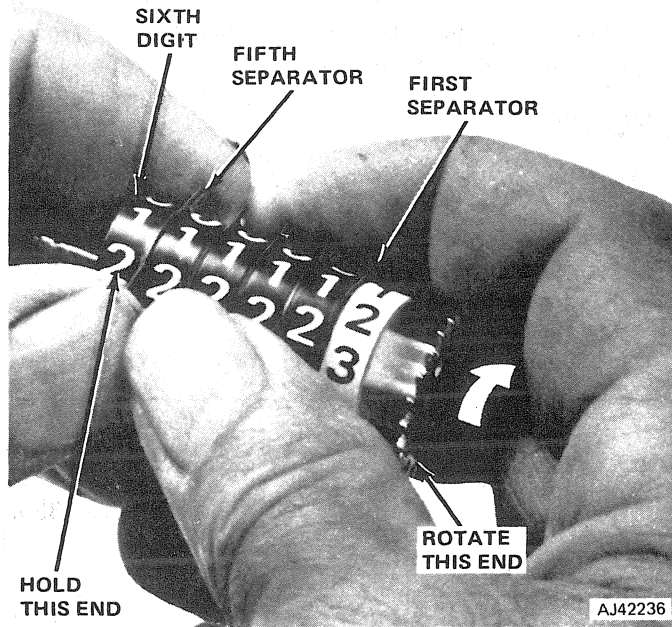


Fig. 3C-3 Advancing Odometer Reading (for Replacement Only)

Hold the fifth separator and rotate the last five numerals in their normal direction until the desired sixth digit is obtained. When the desired sixth digit is obtained, align the fourth separator in line with the fifth separator. Rotate the last four numerals, repeating the process until the desired total mileage is obtained. When installing the odometer, the separators must straddle a cross bar to maintain proper number alignment.

Speedometer Cable Inspection

Visually inspect cable for breaks, kinks, cracks, burns or other physical damage. Remove core from cable assembly and place on a flat surface in the form of an inverted U and then cross the open ends. Hold one end in the left hand, the other in the right hand. Twist one end, applying light finger pressure to the other end. If the core is satisfactory, the turning action will be smooth. A damaged core will react by jumping about on a flat surface.

The speedometer cable requires graphite grease for lubrication.

CLOCK

The clock is attached to the instrument panel by a retaining bracket secured with two screws. To reset the clock, pull out the adjustment knob and rotate. Hands of *fast running* clocks should be turned *backward*, and *slow running* clocks *forward*. Clock speed will then be corrected automatically after one or two adjustments.

CIGAR LIGHTER

The cigar lighter is attaching to the bottom of the instrument panel on all CJ models.

The lighter can be removed by removing the battery feed wire and ground wire and unscrewing the shell that surrounds the lighter.

The lighter circuit is protected with a 10-amp fuse located at the fuse panel.

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GENERAL

All Cherokee-Wagoneer-Truck instrument panels are of formed sheet metal construction and are reinforced with braces and fastened to adjacent body panels with bolts.

A vinyl-covered polyurethane crash pad is attached to the instrument panel on all models (fig. 3C-4).

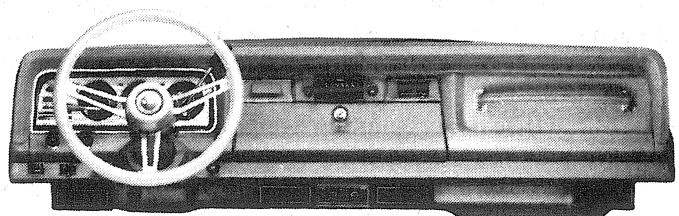


Fig. 3C-4 Instrument Panel

INSTRUMENT CLUSTER**Removal**

- (1) Disconnect battery negative cable.
- (2) Disconnect speedometer cable.
- (3) Cover steering column to prevent damaging paint.
- (4) Remove cluster attaching screws and tilt top of cluster toward interior of vehicle.
- (5) Mark electrical connectors and hoses, and disconnect electrical connectors and heater vacuum hoses.
- (6) Disconnect blend air door control cable.
- (7) Remove cluster.

Installation

- (1) Position cluster on instrument panel.
- (2) Connect blend air door control cable.
- (3) Connect electrical connectors and heater vacuum hoses.
- (4) Install cluster attaching screws.
- (5) Connect speedometer cable.
- (6) Connect battery negative cable.
- (7) Remove covering on steering column.
- (8) Check heater and gauge operation.

INSTRUMENT PANEL**Removal**

- (1) Disconnect battery negative cable.
- (2) Remove instrument panel crash pad, as outlined in this chapter.
- (3) Remove evaporator assembly and ducts, if equipped with air conditioning.
- (4) Remove instrument cluster.
- (5) Remove radio and amplifier fader switch, if equipped.
- (6) Remove parking brake lever assembly.
- (7) Remove air vent cables.
- (8) Disconnect electrical connectors and remove courtesy lights.
- (9) Disconnect defroster hoses.
- (10) Remove steering column trim panel.
- (11) Remove bolt from center of brace and lower steering column.
- (12) Remove instrument panel attaching screws and remove panel.

Installation

- (1) Position instrument panel and install attaching screws.
- (2) Raise steering column and install bolt in center of brace.
- (3) Install steering column trim panel.
- (4) Connect defroster hoses.
- (5) Connect electrical connectors and courtesy lights.

- (6) Install air vent cables.
- (7) Install parking brake lever assembly.
- (8) Install instrument cluster.
- (9) Install radio and amplifier fader switch, if removed.
- (10) Install evaporator assembly and ducts, if removed.
- (11) Install instrument panel crash pad.
- (12) Connect battery negative cable.

CRASH PAD**Removal**

- (1) Remove windshield and windshield weatherstrip to expose crash pad retaining screws at base of windshield (refer to Windshield Removal—Chapter 3N).
- (2) Remove instrument cluster.
- (3) Remove glove box.
- (4) Remove ashtray and retainer.
- (5) Remove radio, if equipped.
- (6) Remove crash pad-to-instrument panel attaching screws and nuts.

NOTE: *The nuts are accessible through the cluster, ashtray, and glove box openings.*

Installation

- (1) Position crash pad on instrument panel.
- (2) Install attaching screws and nuts.
- (3) Install radio, if equipped.
- (4) Install ashtray and retainer.
- (5) Install glove box.
- (6) Install instrument cluster.
- (7) Install windshield weatherstrip and windshield (refer to Windshield Installation—Chapter 3N).

GLOVE BOX ASSEMBLY**Removal**

- (1) Remove glove box-to-instrument-panel attaching screws.
- (2) Remove striker.
- (3) Remove lockout control switch, if equipped.
- (4) Move glove box down and out from rear of instrument panel.

NOTE: *On vehicles equipped with air conditioning, compress the glove box at the crease lines and remove box through opening.*

Installation

- (1) Position glove box in glove box opening.
- (2) Install glove box-to-instrument panel attaching screws.
- (3) Install lockout control switch, if removed.
- (4) Install and adjust striker.

Glove Box Door and Hinge

Removal

The glove box door hinge mounting holes are elongated to provide adjustment. The hinge screws may be loosened and the door moved in the desired direction to fit the door opening.

(1) Remove hinge-to-instrument panel attaching screws.

NOTE: On vehicles equipped with air conditioning, the evaporator housing must be lowered to obtain access to the hinge-to-instrument panel attaching screws.

(2) Remove door-to-hinge attaching screws.

(3) Remove hinges and glove box door.

Installation

(1) Position hinges on instrument panel and install attaching screws.

(2) Install door-to-hinge attaching screws.

(3) Adjust door.

Striker Adjustment

The glove box door lock striker is attached to the instrument panel opening with sheet metal screws. The striker can be moved in or out for door closing adjustment.

Lock Cylinder Replacement

The glove box lock assembly is inserted through the glove box door from the outside. The assembly is held in place by a screw through the lock clamp cup and into the lock case.

(1) Insert key in lock and rotate cylinder counterclockwise to expose the tumblers.

(2) Remove key and press retainer tumbler down.

(3) Insert key and remove lock cylinder.

(4) If replacement lock cylinder is being installed, insert original key into replacement cylinder and file tumblers flush with cylinder. Stake tumblers into cylinder.

(5) Press retainer tumbler down on lock cylinder and insert key in cylinder.

(6) Insert cylinder into lock case.

(7) Hold cylinder in place and remove key.

INSTRUMENT ILLUMINATION

Four bulbs provide lighting for the instrument cluster (fig. 3C-5) and two bulbs illuminate the heater control panel. Panel lights are fed from the fuse panel through the headlamp switch rheostat. To replace instrument cluster bulbs, reach up behind the cluster, twist the bulb socket counterclockwise (viewed from the rear) and pull out. To replace the heater control panel bulb, pry the bulb socket down to free the spring clip which attaches the socket to the panel.

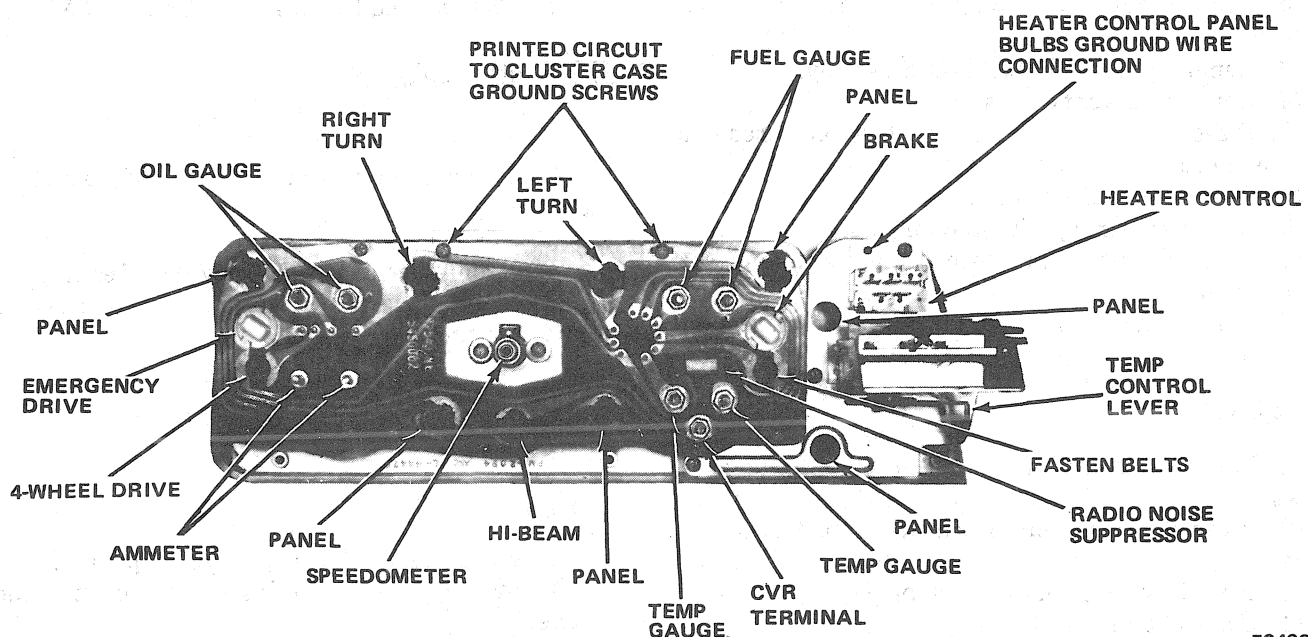


Fig. 3C-5 Instrument Cluster—Rear View

SPEEDOMETER

A magnetic type speedometer is used on all models.

All speedometers are equipped with a ratchet device to prevent turning the odometer backward.

The following data is supplied for testing and calibrating the speedometer heads.

Speedometer Calibration

Shaft Speed (rpm)	Indication (mph)
333.3	20 ± 1.5
666.7	4.0 ± 1.5
916.7	55 ± 1.5

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Speedometer Head Replacement

Speedometer head replacement includes resetting the replacement odometer to the same mileage as the one removed, unless such setting conflicts with local ordinances.

- (1) Remove cluster.
- (2) Remove printed circuit board attaching screws and separate cluster case from bezel.
- (3) Remove two speedometer attaching screws and speedometer.
- (4) Remove odometer retaining clip.
- (5) Remove odometer.
- (6) Install odometer assembly.

NOTE: Check anti-backup spring for proper positioning.

- (7) Install retaining spring clip.
- (8) Install speedometer head.
- (9) Install printed circuit board.
- (10) Install cluster.

Odometer Setting Procedure

This procedure applies with the odometer removed from the speedometer head. Refer to figure 3C-6.

Hold the fifth separator and rotate the last five numerals in their normal direction until the desired sixth digit is obtained. When the desired sixth digit is obtained, align the fourth separator in line with the fifth separator. Rotate the last four numerals, repeating the process until the desired total mileage is obtained. When installing the odometer, the separators must straddle a cross bar to maintain proper number alignment.

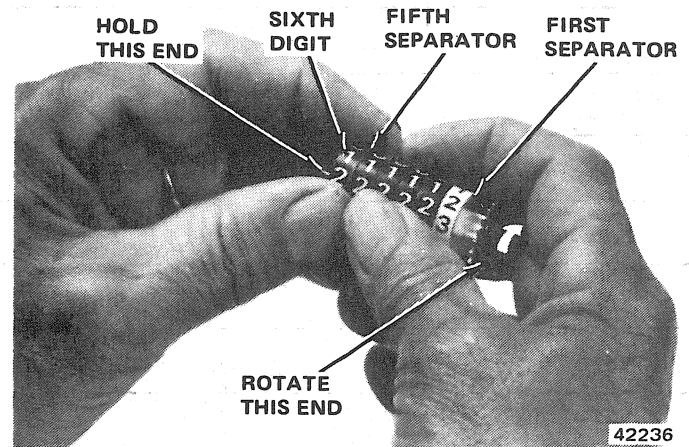


Fig. 3C-6 Advancing Odometer Reading (for Replacement Only)

Speedometer Cable Inspection

Visually inspect cable for breaks, kinks, cracks, burns, or other physical damage. Remove core from cable assembly and place on a flat surface in the form of an inverted U and then cross the open ends. Hold one end in the left hand, the other in the right hand. Twist one end, applying light finger pressure to the other end. If the core is satisfactory, the turning action will be smooth. A damaged core will react by jumping about on a flat surface.

The speedometer cable requires graphite grease for lubrication.

CLOCK

The clock is attached to the instrument panel with two nuts.

If the vehicle is not equipped with air conditioning, the clock may be removed by reaching behind the instrument panel and removing the nuts.

If the vehicle is equipped with air conditioning, access to the clock can be obtained by removing the glove box liner attaching screws and pulling down the top portion.

To reset the quartz clock, press left side of rocker bar to set hours. Press right side of rocker bar to set minutes.

CIGAR LIGHTER

The cigar lighter is mounted to the instrument panel on all models.

The lighter can be removed by disconnecting the battery feed wire and unscrewing the shell that surrounds the lighter.

The lighter circuit is protected with a 10-amp fuse located at the fuse panel.