

# HOODS 3G

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## CJ MODELS

### General

The CJ hood consists of an outer flanged panel with inner U-channels welded at the front and rear of the hood panel.

### Removal and Disassembly

- (1) Mark position of hinges on their respective mounting panels before removing hood.
- (2) Detach hood panel from hinges by removing attaching screws, lockwashers, and flat washers.
- (3) Disassembly of CJ hood is accomplished by removing hood prop rod, hood prop rod retainer clip, hood side catch brackets, footman loop, and windshield bumpers (fig. 3G-1).

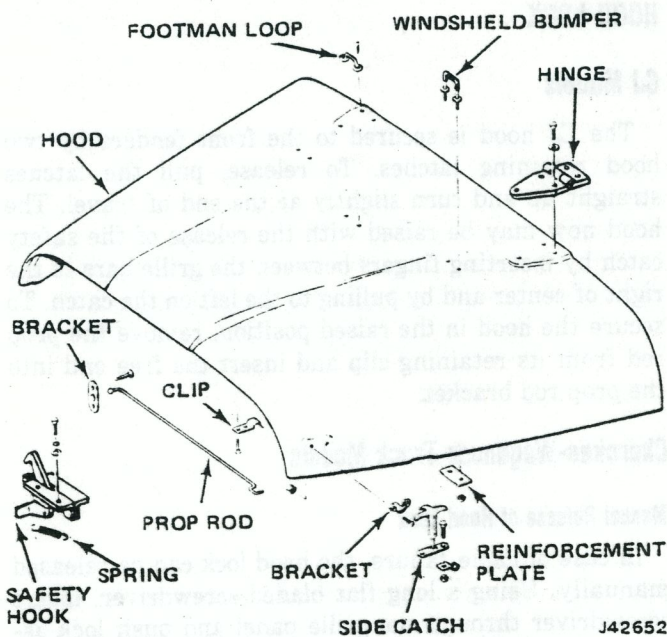


Fig. 3G-1 Hood and Related Parts—CJ Models

### Assembly and Installation

- (1) Finger-tighten related component parts and assemblies to hood panel.
- (2) Position hood panel assembly and align hinges with scribe marks on the respective mounting panels. Tighten all attaching screws.
- (3) Check hood alignment. Adjust if necessary.

### Alignment

The hood hinge mounting holes are oversized to permit adjustment when aligning the hood.

- (1) Loosen hinge mounting screws slightly on one side and tap hinge in opposite direction hood is to be moved.
- (2) Tighten screws.
- (3) Repeat procedure on opposite hinge.

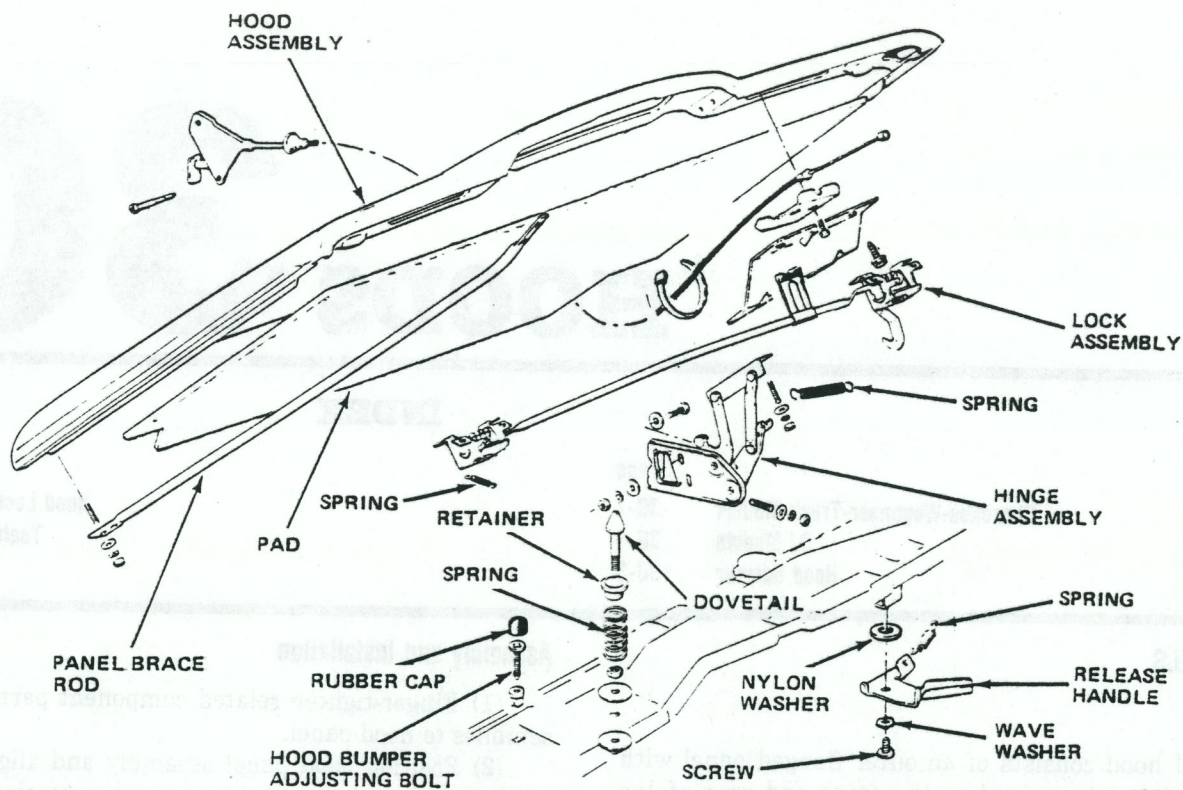
## CHEROKEE-WAGONEER-TRUCK MODELS

### General

The Cherokee, Wagoneer, and Truck hood consists of an outer flanged panel with reinforcements welded at front, rear and both sides.

### Removal and Disassembly

- (1) Mark position of hinges on their respective mounting panels before removing hood.
- (2) Disconnect hood release cable from lock assembly and remove cable support bracket and lower cable.
- (3) Remove tie straps from hood panel brace rod.
- (4) Detach hood panel from hinges by removing attaching screws, lockwashers, and flat washers.
- (5) Disassembly of hood is accomplished by removing hood lever lock assembly, left and right hood panel brace rods, and insulation pad (Cherokee and Wagoneer) cemented to hood panel (fig. 3G-2).



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Fig. 3G-2 Hood and Related Parts—Cherokee-Wagoneer-Truck Models

### Assembly and Installation

(1) Finger-tighten related component parts and assemblies to hood panel.

(2) If Cherokee or Wagoneer hood panel insulation pad has been removed, clean off all loose cement and pad particles from panel to ensure good adhesion when recemented.

(3) Position hood panel assembly and align hinges with scribe marks on respective mounting panels. Tighten all attaching screws.

(4) Position hood release cable on hood panel brace rod and attach with tie straps.

(5) Install cable assembly and cable support bracket. Tighten to 15 foot-pounds (20 N•m) torque.

(6) Attach cable end to lock assembly.

(7) Check hood alignment. Adjust if necessary.

### Alignment

The hood hinge mounting holes are oversized to permit adjustment when aligning the hood.

**NOTE:** If the hood must be moved to either side, the hood lock assembly and dovetail assembly must first be loosened.

(1) Loosen hinge mounting screws slightly on one side and tap hinge in opposite direction hood is to be moved.

(2) Tighten screws.

(3) Repeat procedure on opposite hinge.

(4) Hook lock assembly and dovetail assembly must be adjusted to ensure positive locking.

(5) Shim between hinge and hood with shims or flat washers at rear screw if hood is low in relation to the cowl top.

(6) Shim at front screw if hood is too high at cowl.

### HOOD LOCK

#### CJ Models

The CJ hood is secured to the front fenders by two hood retaining latches. To release, pull the latches straight up and turn slightly at the end of travel. The hood now may be raised with the release of the safety catch by inserting fingers between the grille bars to the right of center and by pulling to the left on the catch. To secure the hood in the raised position, remove the prop rod from its retaining clip and insert the free end into the prop rod bracket.

#### Cherokee-Wagoneer-Truck Models

##### Manual Release of Hood Lock

In case of cable failure, the hood lock can be released manually. Using a long flat bladed screwdriver, insert screwdriver through the grille panel and push lock assembly lever rearward.

## Hood Lock

The hood lock assembly incorporates two locks and two strikers. A safety catch is incorporated in the hood lock.

A cable-controlled inside hood lock release is standard on all models. It is located to the left of the parking brake handle and is operated by rotating the handle upward.

### Removal

- (1) Disconnect inside release cable from lock assembly.
- (2) Remove screws attaching lock assembly to hood panel.
- (3) Remove lock assembly.

### Installation

- (1) Position lock assembly on hood panel and install attaching screws.
- (2) Connect inside release cable.
- (3) Adjust lock.

### Inside Release Cable

#### Removal

- (1) Remove screws attaching inside release cable bracket to cowl side trim panel using Torx Bit Tool J-25359-C.

- (2) Disconnect hood release cable from lock assembly and remove cable support bracket (fig. 3G-2).
- (3) Remove hood cable tie straps.
- (4) Remove cable and rubber grommet from dash panel and remove cable.

### Installation

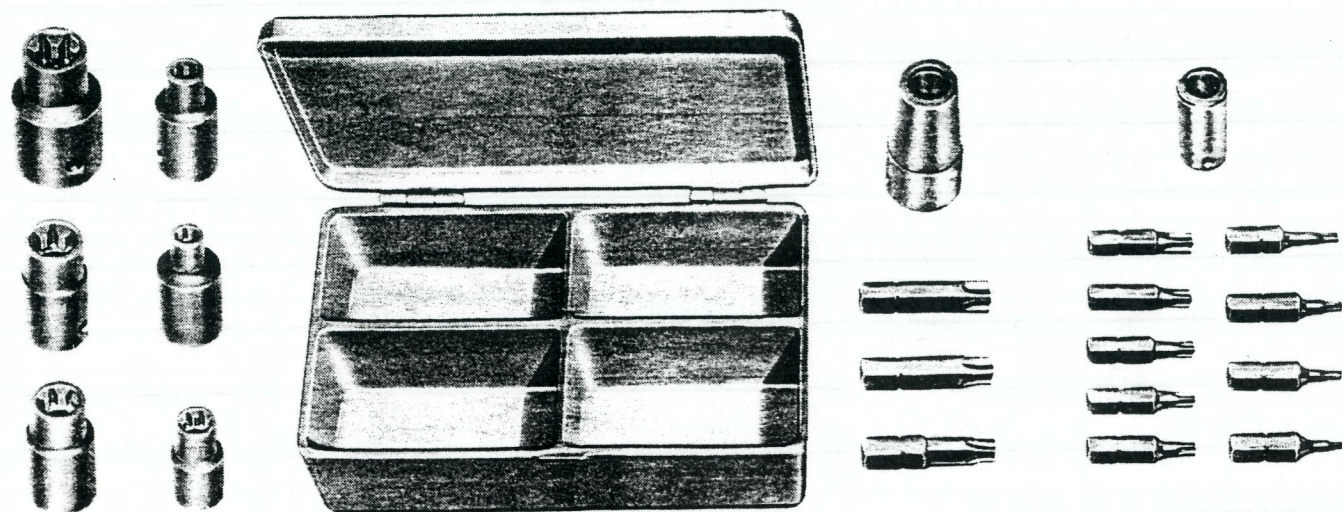
- (1) Place cable through dash panel and install rubber grommet.
- (2) Install screws attaching inside release cable bracket to cowl trim panel using Torx Bit Tool J-25359-C.
- (3) Route cable along hood brace rod and attach with tie straps.
- (4) Install cable assembly and cable support bracket tighten to 15 foot-pounds (20 N•m) torque.
- (5) Attach cable end to lock assembly.

## HOOD BUMPER

The hood bumpers on CJ models are located across the top of the radiator grille guard and are not adjustable.

The hood bumpers on the Cherokee, Wagoneer and Truck models are adjustable. Rubber caps must be removed to adjust the bumper screws.

### Tools



J-25359-C  
TORX BIT AND SOCKET SET



# LIFTGATES - TAILGATES

# 3H

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## CJ-7 LIFTGATES

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### SEALING SYSTEM

#### Rubber Sealer

The liftgate rubber sealer is made of molded latex foam with a smooth rubber skin on the outside.

Plastic retainers are used to retain the rubber sealer to the liftgate. Barbs on the retainers depress when inserted in the holes and spread when fully inserted.

#### Maintenance of Rubber Sealers

Cold weather may cause the rubber sealer to harden and lose resiliency. This may cause the liftgate to loosen in its opening, resulting in noise. When servicing, use a dampened cloth to clean rubber sealer. Clean dirt from all points where rubber sealer contacts the molded top and tailgate. Apply AMC Silicone Lubricant, or equivalent, to rubber sealer.

**CAUTION:** Do not use graphite, brake fluid, or wax on rubber sealer.

#### Replacement

Replacement rubber sealers are coated with powder to prevent stickiness in storage. Remove all powder with a cloth dampened with 3M General Purpose Adhesive Cleaner, or equivalent, before installation.

(1) Carefully remove rubber sealer from liftgate, using needlenose pliers to remove plastic retainers from liftgate panel holes.

(2) Remove dust, dirt and old sealer from rubber sealer, liftgate and enclosure.

(3) Install lower corner of sealer to liftgate first.

(4) Press retainers, starting at lower edge of liftgate, into liftgate panel holes.

(5) Apply a bead of 3M Auto Joint and Seam Sealer, or equivalent, around perimeter of liftgate between rubber sealer and liftgate flange to prevent water from passing seal and entering vehicle.

### WINDOW SYSTEM

#### Replacement

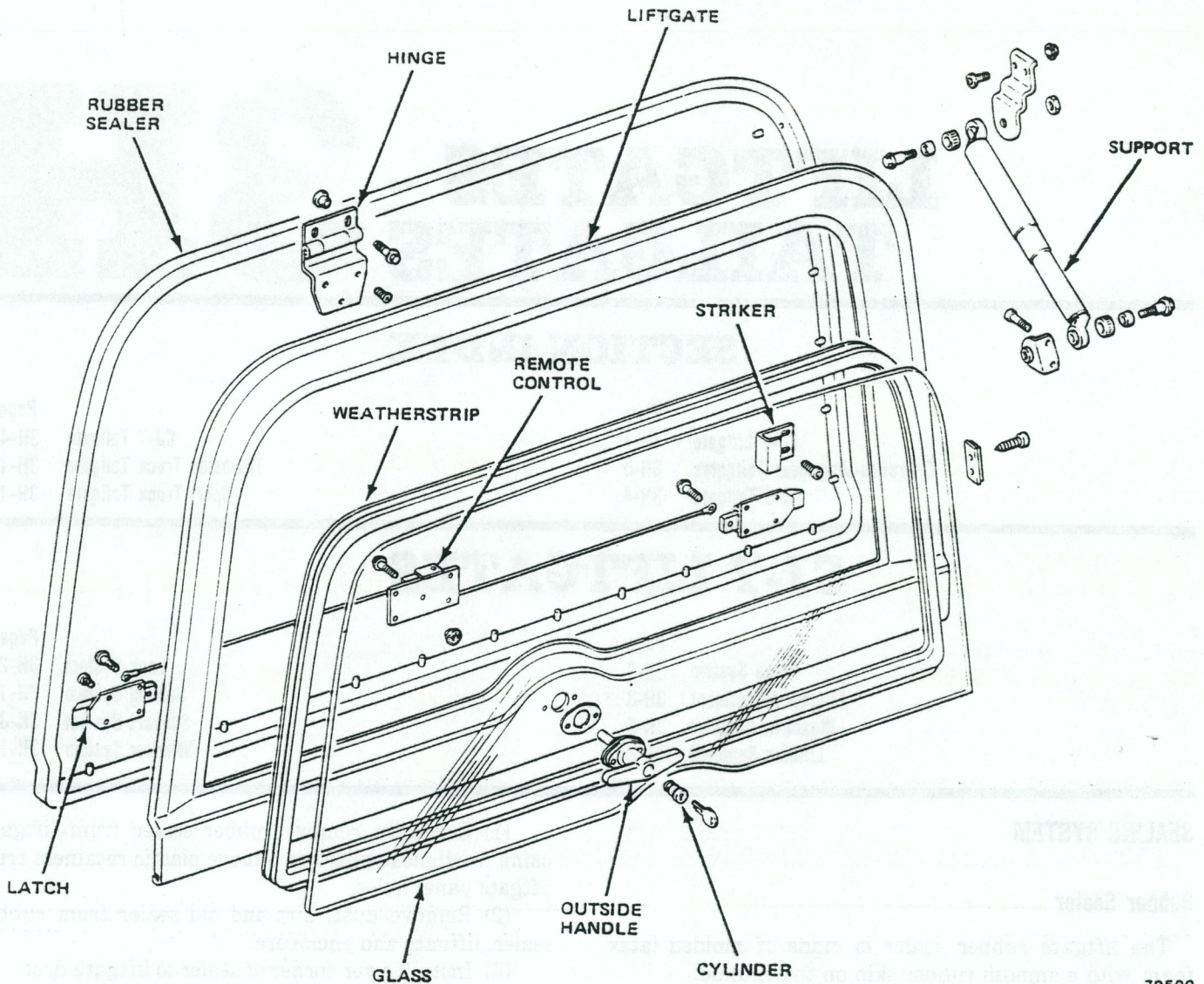
(1) Unlock rubber weatherstrip (fig. 3H-1) using wood wand or fiber stick.

(2) Use fiber stick to break seal between glass and rubber weatherstrip.

(3) Push glass and weatherstrip toward outside of vehicle and remove glass.

(4) Remove weatherstrip from liftgate opening.

(5) Inspect weatherstrip and clean sealer from glass cavity and flange cavity.



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Fig. 3H-1 Liftgate Components

**NOTE:** Inspect for uneven surfaces or irregularities in the opening flange that could cause stress damage to the glass.

(6) Before installing weatherstrip on glass, apply 3/16-inch bead of 3M Auto Bedding and Glazing Compound, or equivalent, in weatherstrip flange cavity using pressure-type applicator.

(7) With glass installed in weatherstrip and before installing glass and weatherstrip into opening, insert 1/4-inch cord completely around weatherstrip in flange cavity.

**NOTE:** The ends of the cord should hang out over the outside surface of the glass approximately in the center of the upper weatherstrip.

(8) Place glass and weatherstrip into position in window opening with ends of cord hanging outside vehicle.

(9) Pull on ends of cord to pull lip of weatherstrip over body panel. With cord removed, weatherstrip should be positioned correctly.

(10) Use wooden wand to lock weatherstrip.

(11) Using pressure-type applicator, apply 3M Windshield Sealer, or equivalent, between weatherstrip and glass on outside of glass around entire perimeter.

(12) Clean excess sealer from glass and exterior body surface.

(13) Test window for water leaks.

## LOCK SYSTEM

### Outside Handle Replacement

(1) Remove screws attaching remote control to liftgate using Torx Bit Tool J-25359-C.

(2) Remove nuts attaching outside handle to liftgate and remove handle.

**NOTE:** *The replacement outside handle is furnished without the lock cylinder. The lock cylinder is furnished uncoded without keys.*

(3) Code existing door lock key to replacement cylinder.

(a) Insert key in replacement cylinder.

(b) File tumblers until flush with cylinder body.

(c) Remove and install key, and check that tumblers are flush with body.

(d) Install cylinder in replacement outside handle.

(4) Position outside handle in liftgate and install attaching nuts.

(5) Position remote control on liftgate and install attaching screws using Torx Bit Tool J-25359-C.

### Remote Control Replacement

(1) Loosen screws attaching remote control cables to latch. Disconnect cables from screws.

(2) Remove screws attaching remote control (fig. 3H-1) to liftgate using Torx Bit Tool J-25359-C.

(3) Position remote control on liftgate and install attaching screws using Torx Bit Tool J-25359-C.

(4) Connect remote control cables to latch screws and tighten screws.

### Latch Replacement

(1) Loosen screws attaching remote control cable to latch. Disconnect cable from screw.

(2) Remove screws attaching latch (fig. 3H-1) to liftgate using Torx Bit Tool J-25359-C. Remove latch.

(3) Position latch on liftgate and install attaching screws using Torx Bit Tool J-25359-C.

(4) Connect remote control cable to latch screw and tighten screw.

### Striker Adjustment

The strikers provide durable retention points for the latches and prevent movement of the liftgate. Strikers may be moved in or out to compensate for body and enclosure variations. Use Torx Bit Tool J-25359-C for removal and adjustment.

### SUPPORT SYSTEM

#### Replacement

(1) Open liftgate, support to prevent closing.

(2) Remove screws attaching supports and remove supports.

(3) Install supports and attaching screws.

### HINGE SYSTEM

#### Replacement

(1) Open liftgate, support to prevent closing.

(2) Remove screws attaching supports to liftgate and fold supports downward.

**WARNING:** *Never remove supports with liftgate closed. The supports are under spring tension and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports.*

(3) Using Torx Bit Tool J-25359-C, remove screws attaching hinge to liftgate.

(4) Using Torx Bit Tool J-25359-C, remove screws attaching hinge to enclosure. Remove hinge from enclosure.

(5) Clean replacement hinge in suitable solvent and blow dry with compressed air.

(6) Color-coat hinge to match enclosure.

(7) Lubricate hinge with 3M 4-Way Spray lubricant, or equivalent.

(8) Position hinge on enclosure and install attaching screws, using Torx Bit Tool J-25359-C.

(9) Position liftgate on hinge and install hinge-to-liftgate attaching screws using Torx Bit Tool J-25359-C.

(10) Position supports on liftgate and install attaching screws.

### LIFTGATE REMOVAL

(1) Open liftgate, support to prevent closing.

(2) Remove screws attaching supports to liftgate and fold supports downward.

**WARNING:** *Never remove supports with liftgate closed. The supports are under spring tension and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports.*

(3) Using Torx Bit Tool J-25359-C, remove screws attaching hinges to liftgate and remove liftgate.

### LIFTGATE INSTALLATION

(1) Position liftgate on hinges and install hinge-to-liftgate attaching screws using Torx Bit Tool J-25359-C.

(2) Position supports on liftgate and install attaching screws.

(3) Check liftgate alignment. Adjust if necessary. (Refer to Liftgate Adjustment.)

### LIFTGATE ADJUSTMENT

(1) Open liftgate, support to prevent closing.

(2) Remove screws attaching supports to liftgate and fold supports downward (fig. 3H-1).

**WARNING:** *Never remove supports with liftgate closed. The supports are under spring tension and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports.*

(3) Using Torx Bit Tool J-25359-C, remove screws attaching latches to liftgate.

**NOTE:** *Do not disconnect remote control cables from latches.*

(4) Loosen screws, using Torx Bit Tool J-25359-C, attaching hinges.

(5) Close liftgate and shift liftgate to obtain desired gap (side-to-side).

(6) Open liftgate and tighten hinge-to-liftgate screws using Torx Bit Tool J-25359-C.

(7) Position latches on liftgate and install attaching screws using Torx Bit Tool J-25359-C.

(8) Position supports on liftgate and install attaching screws.

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## CJ-5 TAILGATE

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### GENERAL

The hinged tailgate is held in the closed, up position with hooks which pass through slotted brackets on the tailgate and on the body. The hinges are designed in such a way that the tailgate can be removed easily. The body half of the hinge is slotted and the tailgate half has a matching flat surface. However, to prevent accidental dropping of the tailgate, the flat surface on the left hinge pin is not in line with the flat surface on the right hinge pin.

### REMOVAL

(1) Rotate tailgate approximately 45 degrees from full up position and disengage right hinge.

(2) Rotate tailgate an additional few degrees and then disengage left hinge.

### INSTALLATION

(1) Hold tailgate at approximately 45 degrees from full up position and engage right hinge.

(2) Rotate tailgate an additional few degrees and then engage left hinge.

### ADJUSTMENT

(1) Loosen hinge attaching bolts and slide body half of hinge up, down, or to side as needed.

(2) Tighten bolts.

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## CJ-7 TAILGATE

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### GENERAL

The new tailgate is hinged at the bottom and held in the closed up position with dual latches. The tailgate is supported in the open position by two steel cables.

### REMOVAL

(1) Remove screws and wave washers attaching support cables to tailgate.

(2) With tailgate closed, remove screws attaching hinges to tailgate using Torx Bit Tool J-25359-C. Disengage latches and remove tailgate.

### INSTALLATION

(1) Position and align tailgate in body opening and engage latches.

(2) Install hinge attaching screws using Torx Bit Tool J-25359-C.

(3) Position support cables on tailgate and install attaching screws and wave washers.

### ADJUSTMENT

(1) Loosen hinge-to-body attaching screws and align tailgate to body opening.

(2) Tighten hinge attaching screws.

### HINGE REPLACEMENT

(1) Remove all hinge attaching screws using Torx Bit Tool J-25359-C and remove hinge.

(2) Clean replacement hinge in suitable solvent and blow dry with compressed air.

(3) Paint hinge to match body with Jeep exterior spray paint.



(4) Lubricate hinge with 3M 4-Way Spray lubricant or equivalent.

(5) Position hinge on body and tailgate and install attaching screws using Torx Bit Tool J-25359-C.

## RUBBER SEALER

The tailgate rubber sealer is made of molded latex foam with a smooth rubber skin on the outside.

Plastic retainers are used to retain the rubber sealer to the tailgate. Barbs on the retainers depress when inserted in the holes and spread when fully inserted.

## Maintenance of Rubber Sealers

Cold weather may cause the rubber sealer to harden and lose resiliency. This may cause the tailgate to loosen in the opening, resulting in vibration and noise. When servicing, use a dampened cloth to clean rubber sealer.

Clean dirt from all points where the rubber sealer contacts the body. Apply AMC Silicone Lubricant, or equivalent, to rubber sealer.

**CAUTION:** Do not use graphite, brake fluid, or wax on rubber sealer.

## Replacement

Replacement rubber sealers are coated with powder to prevent stickiness in storage. Remove all powder with a cloth dampened with 3M General Purpose Adhesive Cleaner, or equivalent, before installation.

(1) Carefully remove rubber sealer from tailgate using needlenose pliers to remove plastic retainers from tailgate panel holes.

(2) Remove dust and dirt from rubber sealer, tailgate, and body.

(3) Install lower corner of rubber sealer to tailgate first.

(4) Press plastic retainers into tailgate panel holes.

# CHEROKEE - WAGONEER TAILGATES

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## GENERAL

The tailgate is a horizontally hinged unit equipped with a manual or electrically operated window regulator. An access hole in the inner panel is for installing and servicing the window regulator and latch assemblies (fig. 3H-2).

The torque rods serve to counterbalance and assist in opening as well as closing the tailgate.

Tailgate hinges are accessible at the body side of the hinge for easier adjustment or replacement.

Tailgate weatherseal is body-mounted for better wind and water-leak resistance.

## ADJUSTMENT

Tailgate adjustment is similar to side door adjustments; proper alignment is obtained by changing the position of the hinges relative to the body and tailgate. On models equipped with carpeting, remove carpeting to gain access to hinge cover plates. Cherokee and Wagoneer vehicles have hinge cover plates in the body floor and tailgate for easy access to hinge screws (fig. 3H-2). The dovetail assemblies, which stabilize the tailgate and

function as an overslam bumper, are adjusted by bringing the dovetail studs into alignment with the dovetail cap. The dovetail studs are located on the body pillars near the striker plates, and are adjustable. The dovetail caps are located on the tailgate and are nonadjustable.

## Hinges

(1) Remove dovetail studs from body pillars.

(2) If equipped with carpeting, remove carpeting to gain access to hinge cover plates.

(3) Remove two body hinge cover plates.

(4) Loosen screws attaching hinges to body and adjust floating plates until lower portion of tailgate closes flush or underflush with body sheet metal to ensure proper compression of weatherseal. Tighten hinge screws to 15 to 20 foot-pounds (20 to 27 N•m) torque.

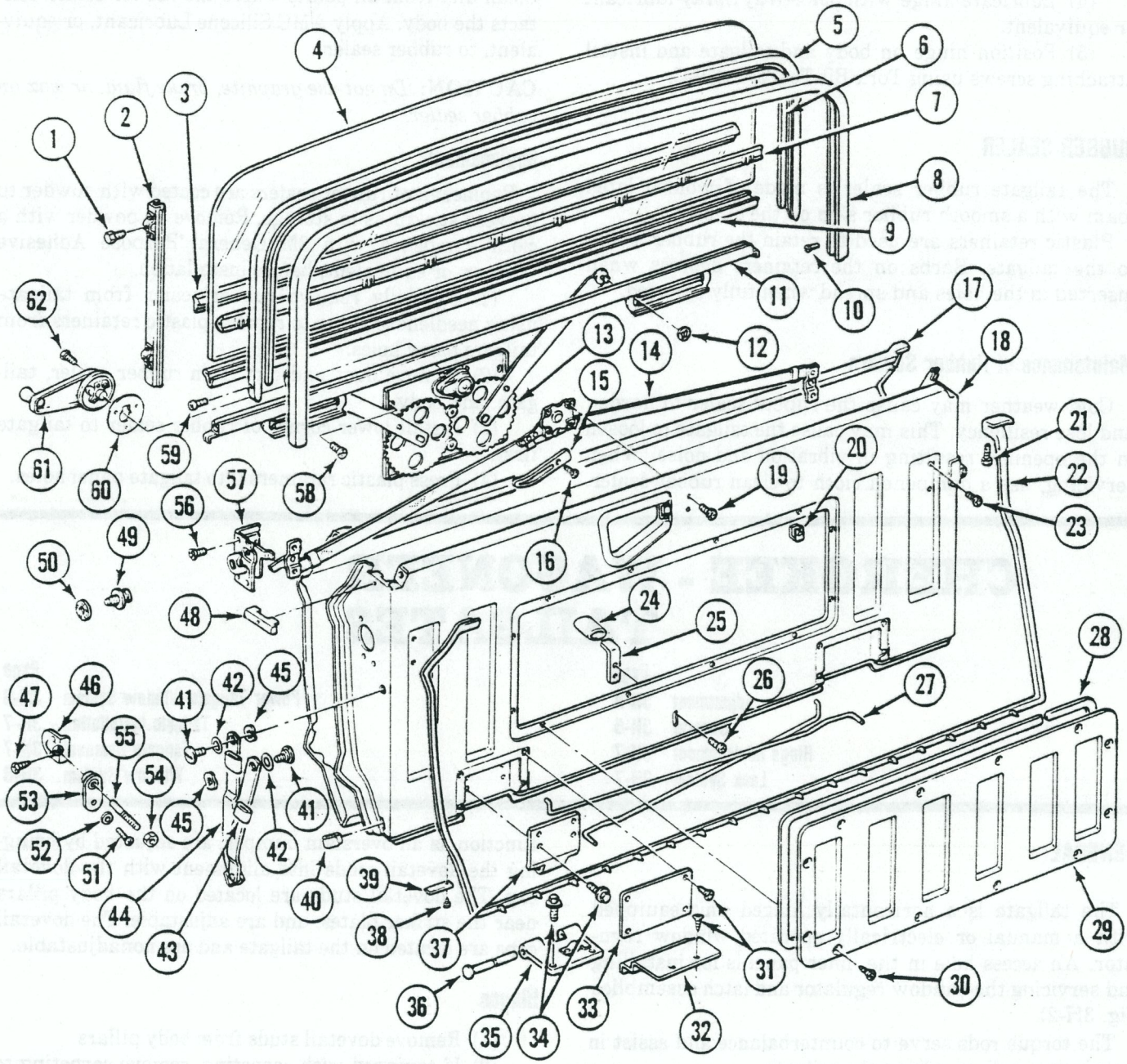
(5) Install body hinge cover plates and carpeting, if equipped.

(6) Install and adjust dovetail studs.

## Dovetail Assemblies

(1) Loosen dovetail stud locking nuts.

(2) Close tailgate into locks.



- |                      |                     |                         |                       |
|----------------------|---------------------|-------------------------|-----------------------|
| 1. HEXAGON SCREW     | 17. OUTER PANEL     | 33. COVER PLATE         | 49. TAILGATE STRIKER  |
| 2. LOWER CHANNEL     | 18. TAILGATE        | 34. HINGE SCREW         | 50. STRIKER WASHER    |
| 3. WEATHERSTRIP      | 19. MACHINE SCREW   | 35. BODY HALF HINGE     | 51. MACHINE SCREW     |
| 4. TAILGATE GLASS    | 20. SPEED NUT       | 36. HINGE PIN           | 52. LOCKWASHER        |
| 5. RUN CHANNEL       | 21. PLASTIC RIVET   | 37. TAILGATE HALF HINGE | 53. TAILGATE DOVETAIL |
| 6. UPPER CUSHION     | 22. TAILGATE SEALER | 38. PLASTIC RIVET       | 54. HEXAGON NUT       |
| 7. WEATHERSTRIP      | 23. MACHINE SCREW   | 39. DUST SEAL           | 55. DOVETAIL STUD     |
| 8. GLASS FRAME       | 24. BRACKET BUMPER  | 40. ARM BUMPER          | 56. MACHINE SCREW     |
| 9. CHANNEL SEALER    | 25. STOP BRACKET    | 41. SHOULDER BOLT       | 57. TAILGATE LATCH    |
| 10. TAPPING SCREW    | 26. MACHINE SCREW   | 42. SPRING WASHER       | 58. MACHINE SCREW     |
| 11. BOTTOM CHANNEL   | 27. TORQUE ROD      | 43. ARM SLEEVE          | 59. MACHINE SCREW     |
| 12. STUD RETAINER    | 28. COVER GASKET    | 44. SUPPORT ARM         | 60. HANDLE GASKET     |
| 13. WINDOW REGULATOR | 29. ACCESS COVER    | 45. LOCKWASHER          | 61. REGULATOR HANDLE  |
| 14. REMOTE CONTROL   | 30. TAPPING SCREW   | 46. DOVETAIL CAP        | 62. MACHINE SCREW     |
| 15. RELEASE HANDLE   | 31. TAPPING SCREW   | 47. TAPPING SCREW       |                       |
| 16. OVAL HEAD SCREW  | 32. COVER PLATE     | 48. END CAP             |                       |

Fig. 3H-2 Tailgate with Manual Regulator—Cherokee-Wagoneer Models

(3) Adjust dovetail studs, using Torx Bit Tool J-25359-C, into dovetail caps and tighten stud locking nuts.

(4) Check tailgate for proper alignment and adjustment. Be sure tailgate latches properly with strikers and dovetails align into caps.

### Striker Assemblies

(1) Loosen dovetail stud locking nuts.

(2) Latch forks should be aligned and nest in the center of the strikers.

(3) Add or remove striker shims to obtain this adjustment.

(4) Adjust strikers using Torx Bit Tool J-25359-C so latches engage strikers freely and tailgate fits flush with adjacent panels.

(5) Adjust dovetail studs.

### HINGE REPLACEMENT

(1) Open tailgate. If vehicle is equipped with cargo area floor covering, remove mouldings and place floor covering aside.

(2) Remove access hole cover plates from body and tailgate.

(3) Raise tailgate to vertical position to unload counterbalance torque rods, and pry rods from clip welded to body half of hinge.

(4) Using wax pencil, mark outline of existing hinge(s) on body and tailgate for reference.

(5) Support tailgate in horizontal position, remove screws attaching hinge(s), and remove hinge(s).

(6) Clean replacement hinge(s) in suitable solvent and blow dry with compressed air.

**CAUTION:** *Do not immerse hinge in solvent.*

(7) Color coat hinges to match body.

(8) Lubricate hinges with 3M 4-Way Spray lubricant, or equivalent.

(9) Install replacement hinge(s), being careful to align with wax pencil marks. Tighten screws to 15 to 20 foot-pounds (20 to 27 N•m) torque.

(10) Raise tailgate to vertical position and install counterbalance torque rods in welded clips on body half of hinges.

(11) Check tailgate alignment and adjust if necessary.

(12) Install access hole cover plates on body and tailgate and, if equipped, replace cargo area floor covering and mouldings.

### TAILGATE

#### Removal

(1) Remove carpeting from tailgate, if equipped.

(2) Remove tailgate access cover and disconnect wiring.

(3) Remove carpeting, if equipped, to gain access to hinge access hole cover plates.

(4) Remove hinge access hole cover plates on body.

(5) Close tailgate and drive out hinge pins.

(6) With tailgate in vertical position, counterbalance torque rods are unloaded and can be removed from clip which is attached to body half of hinge.

(7) Remove screws holding lower end of support arms to tailgate.

### Installation

(1) Attach support arms to tailgate and raise tailgate to vertical position in tailgate opening.

(2) Insert curved end of one torque rod in hole at bottom edge of tailgate and right-angle tapered end of rod in clip which is attached to body half of hinge. Attach other torque rod in same manner.

(3) Install hinge pins with head of pin on inboard side of hinge.

(4) Install hinge access hole cover plates on body.

(5) Install carpeting, if equipped.

(6) Connect wiring and replace tailgate access cover and carpeting, if equipped.

(7) Adjust tailgate.

### LOCK SYSTEM

#### Remote Control Replacement

(1) Lower tailgate and move tailgate glass to extreme out position so remote control assembly will be accessible. Tailgate glass should be supported to relieve stress on its lower edge.

(2) Remove carpeting from tailgate, if equipped.

(3) Remove access cover and tailgate release handle from remote control.

(4) Remove screws attaching center of remote control assembly.

(5) Remove screws from each end of remote control rods.

(6) Release lower edge of vinyl water shield on vehicle, if equipped.

(7) Pull rods down toward bottom of tailgate to obtain side clearance.

(8) Move remote control assembly toward side of tailgate and free remote control from latch opening in tailgate. Remove remote control assembly through access cover opening.

(9) Position remote control assembly in tailgate.

(10) Install screws attaching end of each remote control rod.

(11) Install screws attaching center of remote control assembly.

(12) Install tailgate access cover and carpeting, if equipped.

### Latch Replacement

(1) Lower tailgate and move tailgate glass to extreme out position so remote control assembly will be accessible. Tailgate glass should be supported to relieve stress on its lower edge.

(2) Remove carpeting from tailgate, if equipped.

(3) Remove access cover and remove screws attaching ends of remote control rods to tailgate.

(4) Remove screws attaching latch assemblies to ends of gate and remove latch assembly.

(5) Clean replacement latch in suitable solvent and blow dry with compressed air.

**CAUTION:** Do not immerse latch in solvent.

(6) Color coat latch to match body.

(7) Position latch assembly in tailgate and install attaching screws.

(8) Install access cover and carpeting, if equipped.

(9) Adjust striker, if necessary.

### WINDOW SYSTEM

#### Glass Replacement

Tailgate glass is operated by a double-arm window regulator which is connected directly to an outside window regulator handle. The complete window assembly will slide up and out of the run channels when the pins at the ends of the regulator arms are withdrawn from the slot in the lifter channel.

(1) Remove carpeting from tailgate, if equipped, and remove access cover on inside tailgate panel.

(2) Remove studs retainers from window regulator arm studs.

(3) Disconnect window regulator arm studs from bottom channel.

(4) Disconnect tailgate window defogger, if equipped.

(5) Remove tailgate glass assembly and discard.

(6) Check tailgate glass operating mechanism for bent or damaged components. Replace as necessary.

(7) Clean lower section of replacement tailgate glass with isopropyl alcohol or equivalent.

**NOTE:** Do not wipe or rub grid area when cleaning glass.

(8) Obtain replacement tailgate glass bottom sealer 3130418 and cut two pieces 53-1/2 inches long.

(9) Position one sealer on top of other with adhesive sides together forming a 0.090-inch thick strip 53-1/2 inches long. Firmly press together.

(10) Position glass with bottom edge facing up and top edge on cushion to prevent damage to glass.

(11) Remove release paper from one side of sealer. Starting at one end, center sealer over edge of glass. Lay sealer along complete bottom length of glass, keeping sealer centered over edge of glass.

**NOTE:** Do not wrap sealer around the bottom edge of the glass at this time.

(12) Remove second release paper from sealer and wrap sealer around bottom edge of glass.

(13) Install replacement bottom channel on glass by pressing or tapping channel into position.

**NOTE:** Ensure channel is fully seated on glass.

(14) Install glass and channel assembly in tailgate.

(15) Connect tailgate window defogger, if equipped.

(16) Connect window regulator arm studs to bottom channel.

**NOTE:** Retainers can be damaged when removed and their condition should be checked. When installing retainers, the tabs must be firmly locked in groove of stud. If difficulty is experienced when installing the retainers, they were probably damaged during removal and should be replaced.

(17) Install stud retainers on window regulator arm studs.

(18) Install access cover.

(19) Install carpeting, if equipped.

#### Regulator Replacement

(1) Remove carpeting from tailgate, if equipped, and remove access cover.

(2) Remove tailgate glass.

(3) Remove regulator by sliding dust cover aside and rotating handle until hole in handle is aligned with screws that attach handle assembly to tailgate. Remove attaching screws and handle.

(4) Remove screws that attach regulator assembly to tailgate.

(5) Remove regulator assembly through access cover opening.

(6) After installation and before access cover is replaced, raise and lower window to check that window fits properly. The window regulator can be adjusted by loosening attaching screws and moving regulator assembly in slotted screw holes until proper window adjustment is obtained.

(7) Adjust handle to be in vertical position when window is full up.

#### Glass Adjustment

The tailgate glass, when closed, must seat fully into the upper glass channel to obtain a positive seal at horizontal weatherstrip located at the top of the tailgate. If tailgate does not seat properly when closed, check the upper glass channel to be certain it is bottomed in the body opening, also check alignment of the tailgate glass run channel.

(1) If adjustment is necessary, loosen two cap-screws on either side panel of tailgate (fig. 3H-3).

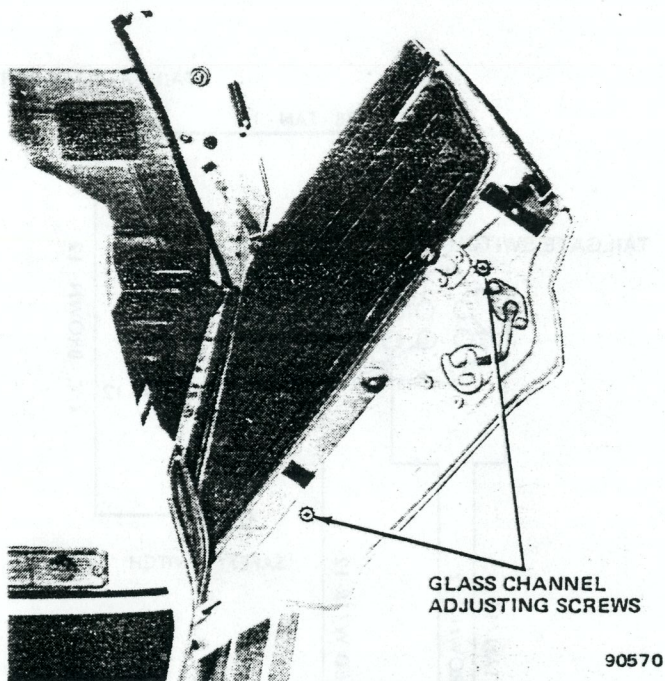


Fig. 3H-3 Glass Channel Adjustment

(2) Raise and lower glass several times with tailgate in closed position. This will align glass with channel.

(3) Open tailgate slightly and tighten adjusting screws with tailgate in vertical position.

## POWER TAILGATE WINDOW SYSTEM

### General

An electrically operated tailgate window is offered on Cherokee and Wagoneer models. When checking for tailgate window motor operation, be sure instrument panel switch black lead is properly grounded. The tailgate motor grounds through this switch. It is necessary to isolate the problem to one of the two operating circuits: (1) tailgate window operation from instrument panel switch and (2) tailgate window operation from tailgate window switch.

### Operation

#### Instrument Panel Switch

Current is supplied from battery to ignition switch to fuse panel, through a 30-amp circuit breaker (located in the fuse panel), and to instrument panel tailgate window switch (fig. 3H-4).

**NOTE:** If the vehicle is equipped with a tailgate window defogger, the defogger and tailgate switches are serviced as an assembly. They cannot be replaced separately. Both switches must be replaced when either is defective.

#### Tailgate Window Switch

Current is supplied directly to fuse panel, through a 30-amp circuit breaker, and to red w/tr (No. 46) wire of tailgate window switch (fig. 3H-4).

### Testing

#### Instrument Panel Tailgate Window Switch

**NOTE:** Be sure instrument panel tailgate window switch black lead is properly grounded. The tailgate motor grounds through this switch.

(1) Turn ignition switch to on position.  
 (2) Using 12-vdc test lamp, connect one end of test lamp to ground and place probe to red (No. 53) wire of switch. If lamp lights, voltage is present at switch. If lamp does not light, repair problem in feed circuit before proceeding.

(3) Place test lamp probe to brown (No. 47) wire of switch. Move switch to up position. If lamp lights, proceed to step (4). If lamp does not light, replace switch.

(4) Place test lamp probe to tan (No. 48) wire of switch. Move switch to down position. If lamp lights, proceed to Tailgate Window Switch Test. If lamp does not light, replace switch.

#### Tailgate Window Switch

**NOTE:** Be sure instrument panel tailgate window switch black lead is properly grounded. The tailgate motor grounds through this switch.

(1) Using 12-vdc test lamp, connect one end of test lamp to ground and place probe to red w/tr (No. 46) wire of tailgate window switch. If lamp lights, proceed to step (2). If lamp does not light, repair problem in feed circuit before proceeding.

(2) Place test lamp probe to tan (No. 48A) wire of tailgate switch. Turn tailgate window switch key to down position. If lamp lights, proceed to step (3). If lamp does not light, replace switch.

(3) Place test lamp probe to brown (No. 47B) wire of tailgate switch. Turn tailgate window switch key to up position. If lamp lights, proceed to next test. If lamp does not light, replace switch.

#### Tailgate Window Safety Switch

(1) Using 12-vdc test lamp, connect one end of test lamp to ground and place probe to brown wire of safety switch. Turn tailgate window switch to up position. If lamp lights, voltage is present at switch. If lamp does not light, repair feed circuits as necessary.

(2) Place test lamp probe to brown wire at switch. Turn tailgate window switch to up position and close safety switch. If lamp lights, proceed to next test. If lamp does not light, replace switch.

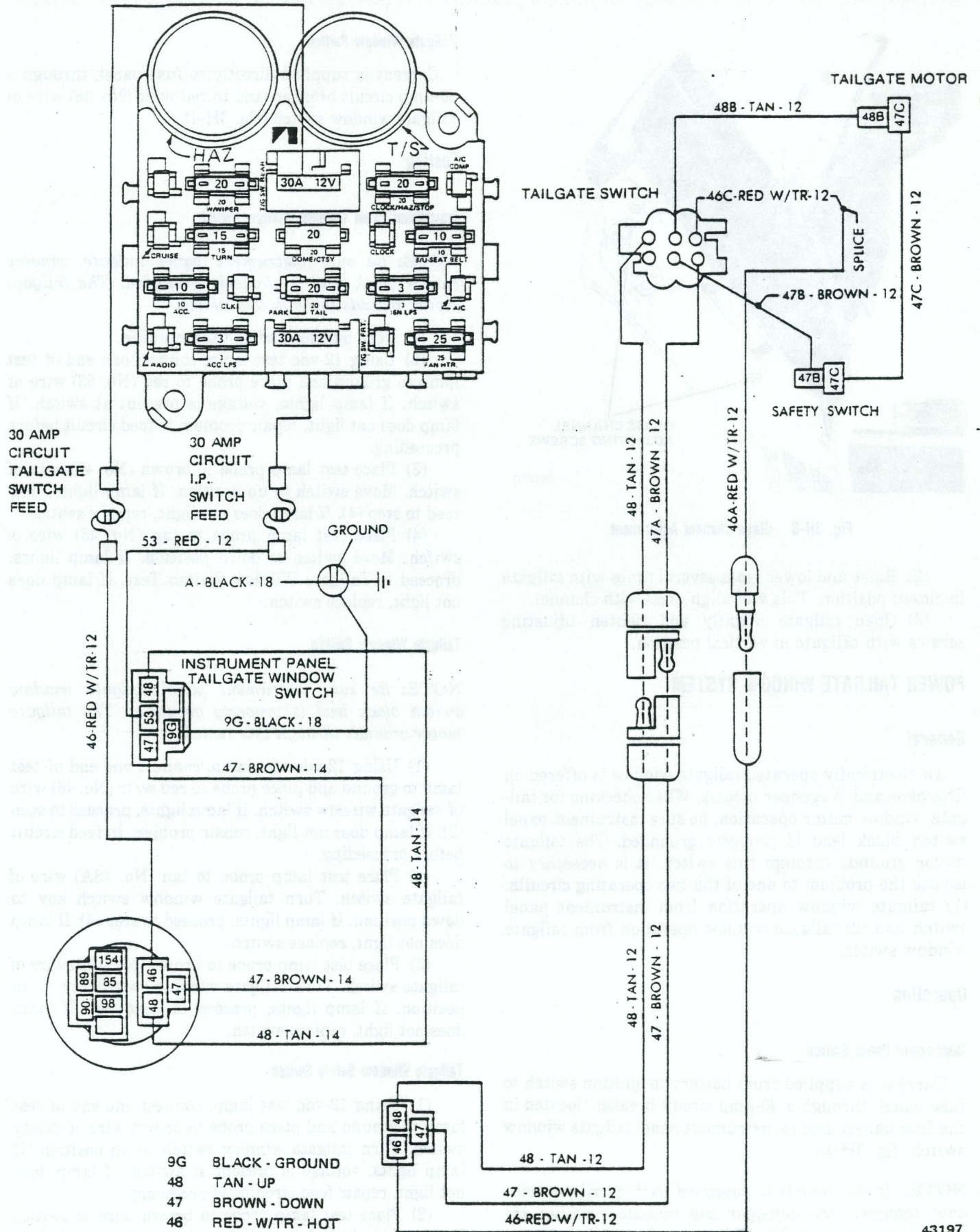


Fig. 3H-4 Power Tailgate Window Circuitry—Cherokee-Wagoneer Models

### Tailgate Window Motor

**NOTE:** Be sure instrument panel tailgate window switch black lead is properly grounded. The tailgate motor grounds through this switch.

(1) Using 12-vdc test lamp, connect one end of test lamp to ground and place probe to tan (No. 48B) wire at electrical motor. Close safety switch. Turn tailgate window switch to down position. If lamp lights and motor does not operate, replace motor. If lamp does not light, check feed circuit to motor and repair as necessary.

(2) Place test lamp probe to brown (No. 47C) wire at electric motor. Close safety switch. Turn tailgate window switch to up position. If lamp lights and motor does not operate, replace motor. If lamp does not light, check feed to motor and repair as necessary.

The ignition switch must be in either the accessory or ignition position to energize the window lift circuit.

The rear window control switch is located to the left of the steering column on the instrument panel. The switch is spring-loaded and will return to the neutral position.

The tailgate glass also can be lowered or raised, by inserting the ignition key in the tailgate lock. Turn the key to the left to lower and to the right to raise the tailgate glass.

After the glass has been lowered, the tailgate can be opened by lifting up on the tailgate latch release handle on the inside of the tailgate at the center.

**NOTE:** The tailgate safety switch is in series with the brown wire which feeds the up or down circuit of the tailgate motor. It prevents operation when the tailgate is open.

The proper assembly of all movable parts is important for satisfactory operation of the tailgate window.

The glass assembly must be in alignment in the tailgate and glass slide channels to operate with free movement. The window regulator teeth in all gears, the coil springs, and the bottom channel slide sections must be lubricated with 3M 4-Way Spray lubricant, or equivalent, to ensure proper operation of the glass when it is raised or lowered.

### Safety Switch

A safety switch, mounted in the upper left side of the tailgate, prevents operating the glass when the tailgate is in the open position to avoid possible damage to glass channels and regulator.

### Circuit Breakers

The electric tailgate regulator motor and wiring harness are protected by two 30-ampere circuit breakers located in the fuse panel.

### Instrument Panel Switch

The rear window switch is mounted at the lower left side of the instrument panel. For removal, remove knob

by depressing spring clip. Remove attaching screws. Disconnect wiring and remove switch.

### Wiring Harness

The tailgate circuit is a two-section wire harness: the body section, which is routed along the left side of the vehicle, and the section in the tailgate. The two harnesses are connected at the rear body crossmember.

Remove the tailgate access cover to gain access to the wiring harness.

### Key Lock

The tailgate key lock assembly is held in place by two special screws located under the key hole cover. Remove the screws using Torx Bit Tool J-25359-C.

### Window Switch

The tailgate window switch is mounted to the bottom side of the left regulator mounting support. It is fastened with two screws which are visible and accessible after the window regulator is removed.

### Regulator

#### Removal

- (1) Remove carpet from tailgate, if equipped.
- (2) Remove tailgate access cover plate.
- (3) Remove retainers attaching regulator arms to channel.
- (4) Disengage regulator arm pins from channel and raise glass.
- (5) Carefully support glass in the raised position.
- (6) Disconnect wiring harness from motor.
- (7) If regulator attaching screws are accessible, remove regulator attaching screws and regulator. If sector gears are covering attaching screws, proceed as follows:
  - (a) Remove motor attaching screws and disconnect motor drive from gear regulator.
  - (b) Grasp regulator arm as far outboard as access hole will allow.
  - (c) Push down on arm until holes in sector gears align with attaching screws and motor.
  - (d) While holding regulator in this position, wedge screw between meshing teeth, using other hand.
  - (e) Remove regulator attaching screws, regulator and motor.
- (8) Release spring tension by using large screwdriver to snap spring from under tension bracket.

#### Installation

- (1) Position spring on regulator and snap over tension bracket using large screwdriver.
- (2) Position motor on regulator and install attaching screws.

- (3) Position regulator in tailgate and install attaching screws.
- (4) Connect wiring harness to motor.
- (5) Position channel over regulator arm pins and install replacement retainers.
- (6) Install access cover plate.
- (7) Install carpet, if equipped.

**Motor**

**Removal**

- (1) Remove tailgate window regulator, as outlined above.
- (2) Remove motor attaching screws (fig. 3H-5) and motor from regulator.

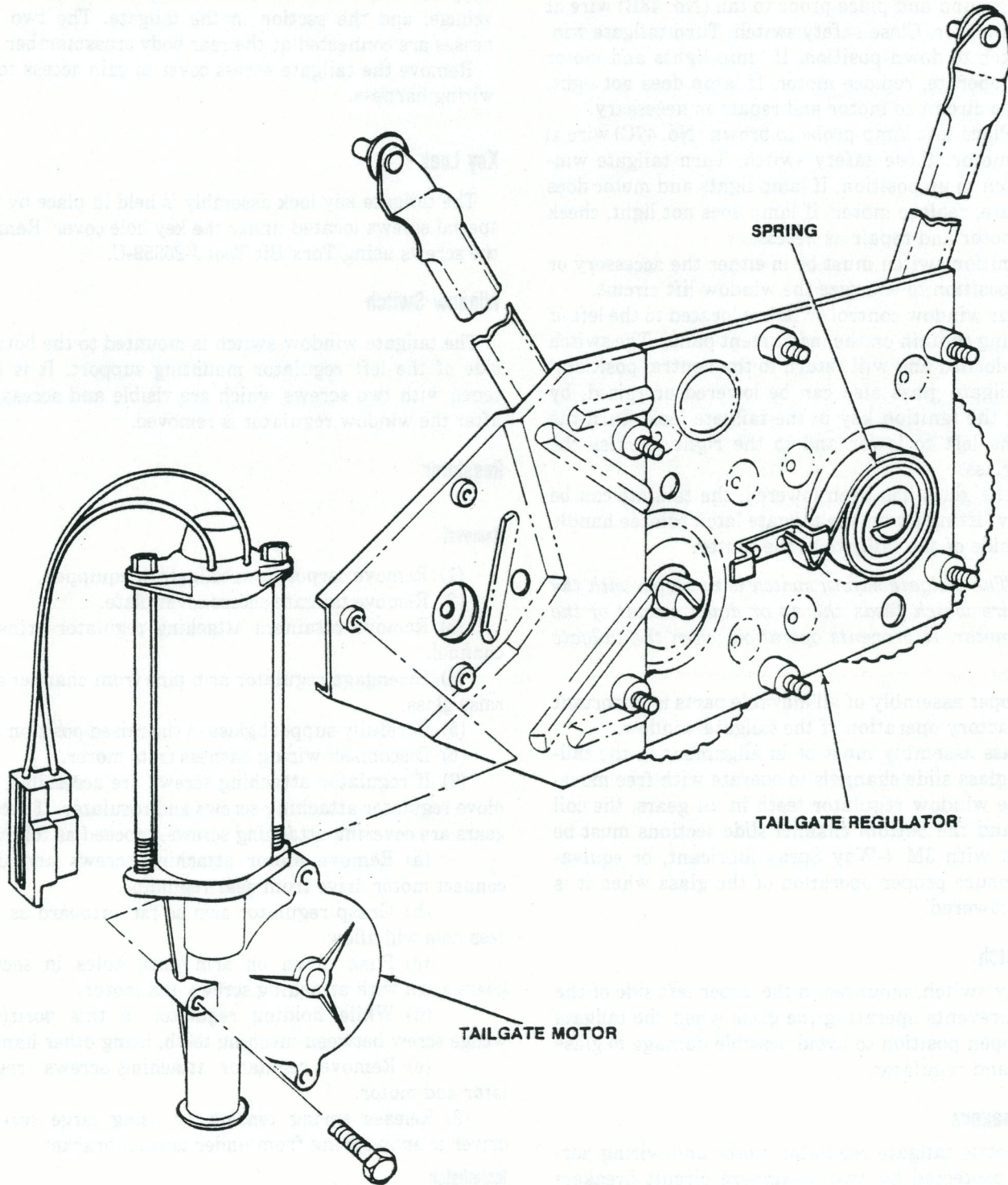


Fig. 3H-5 Power Tailgate Window Regulator and Motor



**Installation**

- (1) Position motor on regulator
- (2) Install motor attaching screws.
- (3) Install tailgate window regulator, as outlined above.
- (4) Check motor operation.

## TOWNSIDE TRUCK TAILGATE

**GENERAL**

The tailgate on the Townside pickup box is hinged at both sides. It is necessary to lower the tailgate for access to the cross-recessed countersunk attaching screws.

The tailgate on the pickup box is held in the up or closed position with spring-loaded latches at the top of the gate. A paddle handle, located in the center of the tailgate operates the latches at each side through connecting rods.

Pin type hinges are located on the sides of the pickup box. The hinge pin brackets are attached with cross-

recessed countersunk attaching screws and cage nuts for easier adjusting.

The left side hinge pin is a solid round bar. The right side pin is similar but with two flat surfaces which correspond with a notch and the two flat surfaces allow the tailgate to be removed quickly from the tailgate opening.

To remove, open and lower the tailgate. Remove the side supports and then raise the tailgate to about 45 degrees from horizontal. Disengage the right side hinge and move the tailgate to the right to disengage the left side hinge.

## SPORT TRUCK TAILGATE

**GENERAL**

The tailgate on the Sport Truck box is hinged at both sides. The hinges can be removed with the tailgate in either the closed or open position.

The tailgate is held in the open or closed position with a chain and hook assembly (fig. 3H-6).

**Removal**

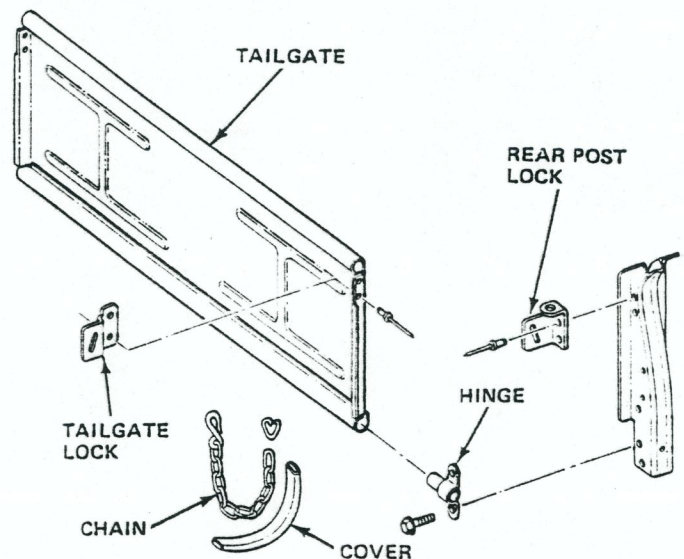
- (1) Disconnect chain assemblies (fig. 3H-6).
- (2) Support tailgate assembly.
- (3) Remove hinge attaching hardware.
- (4) Remove hinge assemblies.
- (5) Remove tailgate assembly.

**Installation**

- (1) Position tailgate and support.
- (2) Position hinge assemblies on tailgate and body.
- (3) Install hinge attaching hardware.

**NOTE:** Do not tighten attaching hardware until both hinges are positioned.

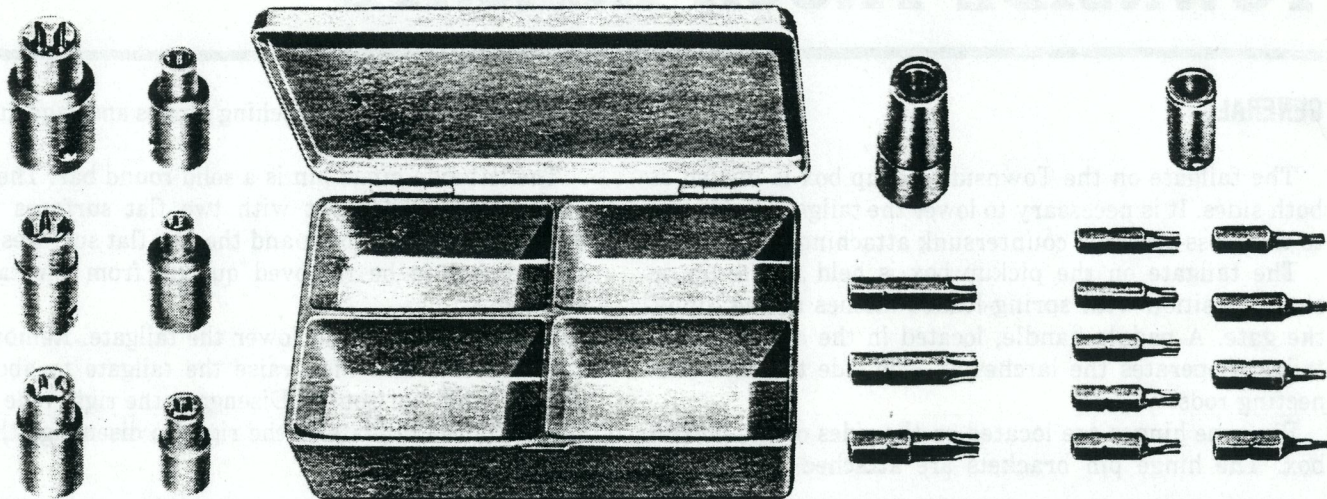
- (4) Align tailgate and tighten attaching hardware.
- (5) Connect chain assemblies.



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Fig. 3H-6 Tailgate Assembly—Sport Truck Model

Tools



J-25359-C  
TORX BIT AND SOCKET SET



Fig. 34-6 Tailgate Assembly—Sport Truck Model

The tailgate on the Sport Truck box is hinged at both sides. The hinges can be removed with the tailgate in either the closed or open position. The tailgate is held in the open or closed position with a chain and lock assembly (Fig. 34-6).

Removal

- (1) Disconnect chain assemblies (Fig. 34-6).
- (2) Support tailgate assembly.
- (3) Remove hinge attaching hardware.
- (4) Remove hinge assemblies.
- (5) Remove tailgate assembly.

Installation

- (1) Position tailgate and support.
- (2) Position hinge assemblies on tailgate and body.
- (3) Install hinge attaching hardware.

NOTE: Do not position attaching hardware until both

# DOORS

# 3J

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## CJ-7 WITH HARDTOP ENCLOSURE

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### DOOR TRIM

#### Window Regulator Handle

Window regulator handles are attached to the splined shaft of the window regulator with a 5/32-inch Allen head screw. To remove the handle, remove the screw and pull the handle straight off the shaft.

Install the handle with the knob forward, the handle horizontal and the glass all the way up.

#### Door Assist Handle

##### Removal

- (1) Remove screws attaching door assist handle using Torx Bit Tool J-25359-C.
- (2) Remove handle from door.

##### Installation

- (1) Position handle on door.
- (2) Install attaching screws using Torx Bit Tool J-25359-C.

#### Trim Panel

Trim panels consist of fiber board composition covered with a vinyl material. They are fastened to the door with spring clips inserted into holes in the door inner panel.

##### Removal

- (1) Remove door assist handle.
- (2) Remove window regulator handle.
- (3) Pry trim panel-to-door clips along sides loose with Trim Pad Depressor Tool J-2631-01 and remove panel.

##### Installation

- (1) Position trim panel on door and install clips in holes in inner door panel.

**NOTE:** To prevent creasing the trim panel cover, do not hammer or exert excessive force on the clips.

- (2) Install window regulator handle.
- (3) Install door assist handle.

## SEALING SYSTEM

### Water Shield

The water shield is attached to the door inner panel with adhesive. To remove water shield, use a putty knife between shield and door inner panel to break adhesive bond.

When installing water shield, be sure the slit lower portion is tucked inside the door panel at the access opening and that the shield is bonded securely to the door inner panel.

### Rubber Sealer

The door rubber sealer is made of molded latex foam with a smooth rubber skin on the outside.

Plastic retainers are used to retain the rubber sealer to the door below the belt line. Barbs on the retainer depress when inserted in the holes and spread when fully inserted. Above the belt line, the sealer is retained in a channel formed in the upper door frame.

### Maintenance of Rubber Sealers

Cold weather may cause the rubber sealer to harden and lose resiliency. This may cause the door to loosen in its opening, resulting in noise. When servicing, use a dampened cloth to clean rubber sealer. Remove dirt from all points where the rubber sealer contacts the body. Apply AMC Silicone Lubricant, or equivalent, to sealer.

**CAUTION:** Do not use graphite, brake fluid, or wax on rubber sealer.

### Replacement

Replacement rubber sealers are coated with powder to prevent stickiness in storage. Before installation, remove all powder with a cloth dampened in 3M General Purpose Adhesive Cleaner, or equivalent.

(1) Carefully remove rubber sealer from door using Weatherstrip Remover J-21104-01 to remove plastic retainers from panel holes. Remove upper portion from upper door frame with fingers or wooden wand.

(2) Remove dust and dirt from rubber sealer, door and body.

(3) Install upper front corner of sealer to door first using fingers or wooden wand to engage sealer into channel. Place inner shoulder of sealer in channel-to-window frame above belt line.

(4) Press retainers, starting at rear edge of door, into door panel holes.

## WINDOW SYSTEM

### Door Glass

#### Adjustment

One adjustment point is available which regulates the amount of effort required to raise and lower the door glass. The door glass division channel is adjustable fore and aft at the lower attachment point.

- (1) Remove door trim panel and water shield.
- (2) Loosen division channel lower adjusting screw and move division channel fore or aft to obtain desired door glass operation (fig. 3J-1).

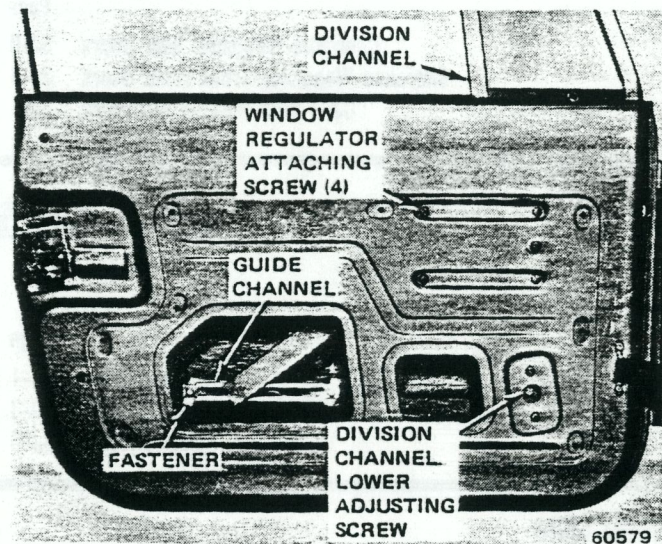


Fig. 3J-1 Door Glass Replacement—CJ Models

**NOTE:** Movement of division channel fore and aft reduces or increases free play between channels.

- (3) Tighten division channel lower adjusting screw.
- (4) Install water shield and door trim panel.

#### Removal

- (1) Remove door trim panel and water shield.
- (2) Remove glass down-stop.
- (3) Remove screws attaching guide channel to plastic fasteners. Remove guide channel and plastic fasteners.
- (4) Lower glass to bottom of door.
- (5) Remove division channel upper attaching screw and lower adjusting screw. Disengage front three inches of glass weatherstrip from upper door frame. Remove division channel.
- (6) Tilt glass toward hinge side of door and disengage from rear channel.
- (7) Pull glass up and out of door panel.

**Installation**

- (1) Lower glass into door with front of glass tilted down, while positioning glass into rear channel.
- (2) Install plastic fasteners into glass.
- (3) Slide glass down into bottom of door panel.
- (4) Lower division channel into door and position glass in channel.
- (5) Install upper attaching screw and lower adjusting screw. Engage weatherstrip in upper door frame.
- (6) Slide guide channel onto regulator arm and position channel on glass. Install attaching screws.
- (7) Install glass down-stop.
- (8) Check operation and adjustment.
- (9) Install water shield and door trim panel.

**Stationary Vent Window****Removal**

- (1) Remove door trim panel and water shield.
- (2) Lower glass to down-stop.
- (3) Remove division channel upper attaching screw and lower adjusting screw.
- (4) Disengage front three inches of weatherstrip from upper door frame. Lower division channel and tilt toward rear of door.
- (5) Remove stationary vent glass from weatherseal.

**Installation**

- (1) Install stationary vent glass into weatherseal.

**NOTE:** *It is necessary to seat front edge of weatherstrip into door frame. Then, seat vent glass into weatherstrip.*

- (2) Install division channel into door and position channel on glass.
- (3) Install upper attaching screw and lower adjusting screw.
- (4) Engage weatherstrip in upper door frame.
- (5) Water test and check for leaks.
- (6) If water leakage is evident, apply 3M Windshield Sealer, or equivalent, or realign weatherseal.
- (7) Check operation and adjustment of door glass.
- (8) Install water shield and door trim panel.

**Window Regulator****Removal**

- (1) Remove trim panel and water shield.
- (2) Lower glass to expose guide channel fasteners. Remove fasteners and guide channel. Raise window to full up position and apply masking tape to glass and over top of window frame.
- (3) Remove division channel lower adjusting screw.

- (4) Remove regulator attaching screws. Push division channel outward and remove regulator through access hole in inner door panel.

**Installation**

- (1) Position regulator in door and install attaching screws.
- (2) Remove masking tape from glass and lower glass.
- (3) Slide guide channel onto regulator arm and position channel on glass. Install attaching screws.
- (4) Install division channel lower adjusting screw.
- (5) Check operation.
- (6) Install water shield and door trim panel.

**LOCK SYSTEM****Outside Handle Replacement**

**NOTE:** *The replacement outside handle is furnished without the lock cylinder. The lock cylinder is furnished uncoded without the keys.*

- (1) Remove screws attaching outside door handle to door using Torx Bit Tool J-25359-C and remove handle.
- (2) Code existing door lock key to replacement cylinder.
  - (a) Insert key in replacement cylinder.
  - (b) File tumblers until flush with cylinder body.
  - (c) Remove and install key, check that tumblers are flush with body.
  - (d) Install cylinder in replacement outside door handle.
- (3) Install outside door handle on door and install attaching screws using Torx Bit Tool J-25359-C.

**Latch Replacement**

- (1) Remove screws attaching door latch to door using Torx Bit Tool J-25359-C and remove latch.
- (2) Lubricate door latch with 3M 4-Way Spray lubricant, or equivalent.
- (3) Position door latch on door and install attaching screws using Torx Bit Tool J-25359-C.

**HINGE SYSTEM**

**NOTE:** *When removing door or hinge DO NOT lose the plastic shims on the hinge pin.*

**Adjustments**

The doors are adjusted at the hinge mounting points on the body or door.

Enlarged holes are provided in the body, lower hinge only, for fore, aft and tilt adjustments. Enlarged holes are also provided in the door, upper and lower hinges, for up, down, fore, aft and tilt adjustments.

Prior to any door adjustment or alignment, the door latch must be removed to allow the door to close freely in proper alignment.

The door latch striker should be adjusted in or out to allow the door latch to be fully engaged. The door should be flush with the adjacent body panels.

### Replacement

**NOTE:** When removing door or hinge DO NOT lose the plastic shims on the hinge pin.

(1) Mark outline of existing hinge on body and door with wax pencil.

(2) Remove hinge-to-body screws and hinge-to-door screws using Torx Bit Tool J-25359-C and remove hinge.

**NOTE:** Upper hinge is part of windshield hinge assembly. When replacing, adequately support the windshield frame prior to removal and check alignment after installation.

(3) Clean replacement hinge in suitable solvent and blow dry with compressed air.

(4) Color-coat hinge to match body using Jeep exterior spray paint, or equivalent.

(5) Lubricate hinge with 3M 4-Way Spray lubricant, or equivalent.

(6) Position hinge on door, align carefully with wax pencil marks, and install screws using Torx Bit Tool J-25359-C.

(7) Position hinge on body, align carefully with pencil marks, and install screws using Torx Bit Tool J-25359-C.

(8) Check door alignment. Adjust if necessary. Refer to Door Adjustment.

## CHEROKEE - WAGONEER - TRUCK FRONT DOORS

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### DOOR TRIM

#### Window Regulator Handle

Window regulator handles are attached to the splined shaft of the window regulator with a 5/32-inch Allen head screw. To remove the handle, remove the screw and pull the handle straight off the shaft.

Install the handle with the knob forward, the handle horizontal and the glass all the way up.

#### Trim Panel

Trim panels consist of fiber board composition covered with a vinyl material. They are fastened to the door with spring clips inserted into holes in the door inner panel and screws along the bottom edge.

#### Removal

(1) Remove overlay on armrest, if equipped, and remove attaching screws and armrest.

(2) Remove window regulator handle, if equipped, and door latch remote control handle.

(3) Remove assist handle, if equipped.

(a) Remove woodgrain insert at both ends of assist handle.

(b) Remove attaching screws and assist handle.

(4) Remove power door lock/window bezel, if equipped.

(5) Remove trim panel attaching screws on bottom of trim panel.

(6) Pry trim panel-to-door clips along sides loose with tool J-2631-01 and remove panel.

(7) Loosen setscrew securing remote control mirror control cable to escutcheon, if equipped, and remove trim panel.

#### Installation

(1) Insert remote control mirror control cable in escutcheon and tighten setscrew, if equipped.

(2) Position trim panel on door and install clips in holes in inner door panel.

**NOTE:** To prevent creasing the trim panel cover, do not hammer or exert excessive force on the clips.

- (3) Install screws along bottom of trim panel.
- (4) Install window regulator handle, if equipped, and door latch remote control handle.
- (5) Install armrest and overlay.
- (6) Install assist handle, if equipped.
  - (a) Position assist handle and install attaching screws.
  - (b) Install woodgrain inserts.
- (7) Install power door lock/window bezel, if equipped.

## Replacement

- (1) Remove door trim panel.
- (2) If equipped with door mounted speaker, proceed as follows:
  - (a) Remove speaker grille and bezel from original panel.
  - (b) Cut speaker grille opening in replacement panel, following outline provided on backside of panel, with sharp knife.
  - (c) Install speaker grille and bezel on replacement panel.
- (3) If equipped with manual window regulator or remote mirror, cut opening(s) in replacement trim panel, following outline provided on backside of panel, with sharp knife.
- (4) If equipped with power window or power door locks, cut opening(s) in replacement trim panel following outline provided on backside of panel with sharp knife.
- (5) Transfer door trim panel attaching clips to replacement panel.
- (6) Install door trim panel.

## SEALING SYSTEM

### Water Shield

The water shield is attached to the door inner panel with adhesive. To remove water shield, use a putty knife between shield and door inner panel to break adhesive bond.

When installing water shield be sure the tab on the lower portion is tucked inside the door panel slit at the access opening and that the shield is bonded securely to the door inner panel.

### Rubber Sealer

The door rubber sealer is made of molded latex foam with a smooth rubber skin on the outside.

The door rubber sealer is attached to the body opening around the door opening.

## Maintenance of Rubber Sealers

Cold weather may cause the rubber sealer to harden and lose resiliency. When servicing, use a dampened cloth to clean rubber sealer. Remove dirt from all points where the rubber sealer contacts the door. Apply AMC/Jeep Silicone Lubricant, or equivalent, to a dampened cloth and apply to rubber sealer.

**CAUTION:** Do not use graphite, brake fluid, or wax on rubber sealer.

## Replacement

Replacement rubber sealers are coated with powder to prevent stickiness in storage. Before installation, remove all powder with a cloth dampened with 3M General Purpose Adhesive Cleaner, or equivalent.

- (1) Carefully remove rubber sealer from door opening.
- (2) Remove dust and dirt from rubber sealer, door and body opening.
- (3) Install upper front corner of sealer to body first.
- (4) Work rubber sealer onto flange completely around door opening.

## WINDOW SYSTEM

### Door Glass

#### Removal

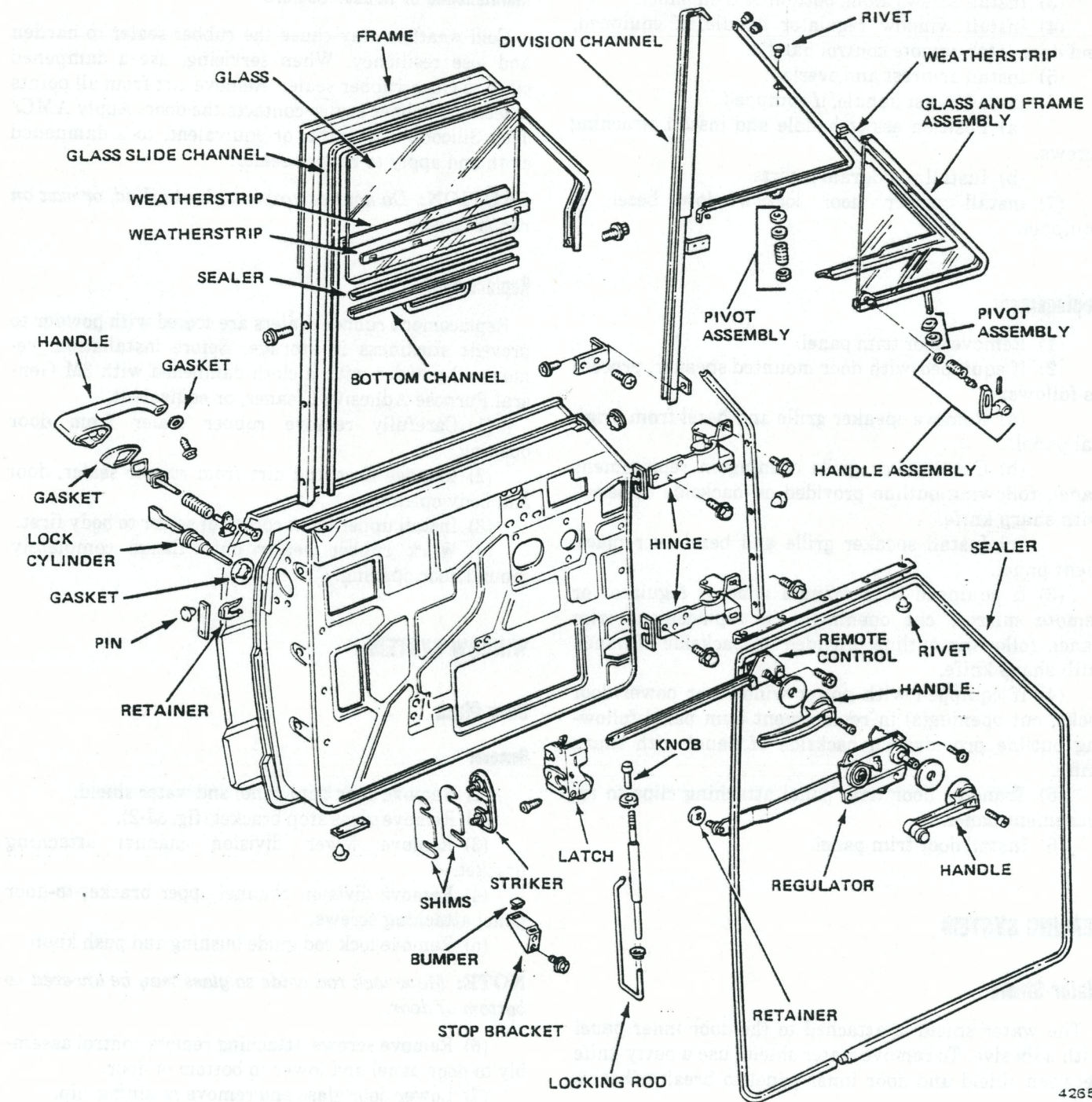
- (1) Remove door trim panel and water shield.
- (2) Remove glass stop bracket (fig. 3J-2).
- (3) Remove lower division channel attaching bracket.
- (4) Remove division channel upper bracket-to-door panel attaching screws.
- (5) Remove lock rod guide bushing and push knob.

**NOTE:** Move lock rod aside so glass may be lowered to bottom of door.

- (6) Remove screws attaching remote control assembly to door panel and lower to bottom of door.
- (7) Lower door glass and remove retaining clip.
- (8) Lower glass to bottom of door.
- (9) Push lower end of division channel toward front of door to release glass from channel.
- (10) Move glass toward front of door to release it from rear channel.
- (11) Rotate glass vertically 90° and guide it between inner and outer door panels.

#### Installation

- (1) Position door glass in lower section of door so bottom channel has recessed portion of guide groove toward outer door panel.



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Fig. 3J-2 Front Door—Cherokee-Wagoneer-Truck Models

(2) Position glass in rear channel and position front channel so glass can be inserted.

(3) Slide glass up channels and crank regulator arm down to align pin at end of regulator arm with slot in bottom channel.

(4) Install retainer on regulator arm.

(5) Position remote control assembly and install attaching screws.

(6) Position lock rod and install lock rod guide bushing to door panel.

(7) Install door lock push knob.

(8) Install upper and lower division bar attaching brackets.

(9) Install glass stop bracket.

(10) Check glass operation and adjustment.

(11) Install water shield and trim panel.



## Vent Window

### Removal

- (1) Remove door trim panel and water shield.
- (2) Remove door window glass.
- (3) Remove glass slide channel along top (fig. 3J-2).
- (4) Remove vent assembly attaching screws on leading edge of door frame and under base of vent weatherseal.
- (5) Move vent assembly toward rear of door, tipping it to clear upper door frame.
- (6) Pull ventilator assembly straight out until upper attaching bracket is above opening between outer and inner door panels.
- (7) Rotate vent assembly 90° to position lower attaching bracket on run channel to clear opening between door panels.
- (8) Remove vent assembly.

### Installation

- (1) Position vent assembly in door.
- (2) Install vent assembly attaching screws through door frame.
- (3) Install upper glass slide channel.
- (4) Install door window glass.
- (5) Install water shield and door trim panel.

## Window Regulator

### Removal

- (1) Remove door trim panel and water shield.
- (2) Lower glass and remove retainer attaching regulator arm to glass bottom channel (fig. 3J-2).
- (3) Raise and support glass.
- (4) Lower regulator arm and remove attaching screws.
- (5) Remove regulator through access hole in door.

### Installation

- (1) Install regulator in door and secure with attaching screws.
- (2) Position regulator arm in glass bottom channel.
- (3) Install retainer on regulator arm.
- (4) Remove glass support.
- (5) Install water shield and door trim panel.

## LOCK SYSTEM

### Outside Handle

#### Removal

- (1) Remove door trim panel and water shield.
- (2) Raise window to fully closed position.

- (3) Through opening in inner door panel, remove handle attaching screws and remove handle and gaskets.

#### Installation

- (1) Position gaskets and handle on door and secure with attaching screws.
- (2) Install water shield and door trim panel.

## Key Lock

### Removal

- (1) Remove rubber sealer along rear edge of door by prying out retaining pins to expose lock cylinder retainer (fig. 3J-2).
- (2) Using flat-bladed screwdriver, remove retainer.
- (3) Remove lock cylinder and extension rod from outside of door.

### Installation

- (1) Position lock cylinder in door, making sure extension rod is inserted in square hole in latch.
- (2) Install lock cylinder retainer.
- (3) Install rubber sealer with retaining pins.

### Lock Cylinder Coding

A lock cylinder service kit is available which includes an uncoded cylinder, housing and a dust cover.

Whenever a lock cylinder replacement is required, the uncoded service cylinder can be coded to match the existing key.

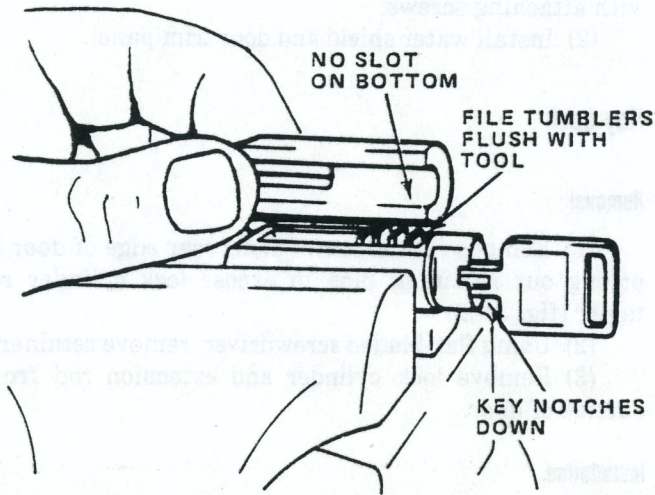
- (1) Remove lock cylinder from door.
- (2) Remove dust cover from original lock housing and remove lock cylinder and discard.
- (3) Insert original key into new uncoded service lock cylinder.
- (4) Press cylinder into special Door Cylinder Lock Tumbler Filing Fixture, Tool J-22977, with notched side of key up and long tumbler in slot (fig. 3J-3).
- (5) Hold filing fixture in vise and file tumblers flush with flat side of fixture. Use standard 5/8-inch, double-cut bastard file. Finish filing with smooth mill file.
- (6) Remove lock cylinder from fixture and insert cylinder into opposite end of fixture with notched side of key down (fig. 3J-3).

**NOTE:** This side of the fixture can be identified as the end without the double slot cut out (180° apart).

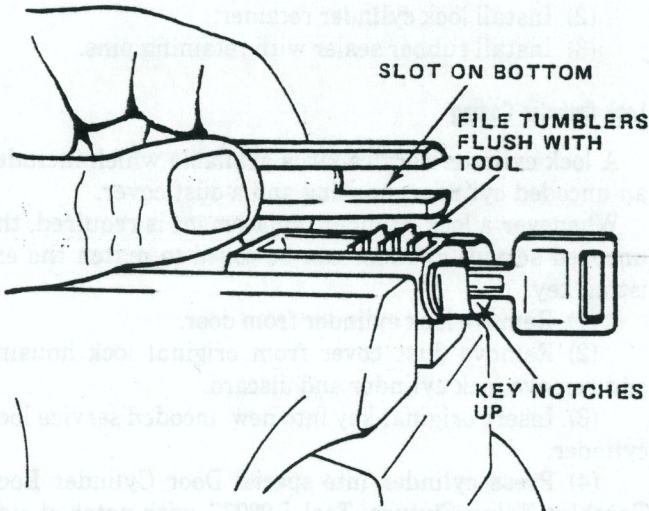
- (7) File tumblers flush with flat side of fixture.

**NOTE:** Utilize the filing fixtures as a test gauge. Remove the fixture from the vise and if the tumblers are filed correctly, the lock cylinder will turn in the fixture.

- (8) Insert new lock cylinder into lock housing.
- (9) Install new dust cap and crimp ends of cap over lock housing.
- (10) Install lock cylinder in door.



STEP 1



STEP 2

Fig. 3J-3 Filing Lock Tumblers

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### Latch and Remote Control

#### Removal

- (1) Remove door trim panel and water shield.
- (2) Remove lock cylinder.
- (3) Remove screws from door lock remote control (fig. 3J-2). Push control in and lower to bottom of door.
- (4) Disconnect remote control arm from door latch and remove remote control assembly through access hole at bottom of door.

- (5) Remove screws attaching door latch to door panel using Torx Bit Tool J-25359-C.
- (6) Push door latch in and turn it 90° to free it from lock lever rod and remove through lower access hole.

#### Installation

- (1) Connect lock lever rod to door latch.
- (2) Position door latch on door panel and install attaching screws using Torx Bit Tool J-25359-C.
- (3) Connect remote control arm to door latch. Position remote control on door inner panel and install attaching screws.
- (4) Install outside lock assembly.
- (5) Install water shield and door trim panel.

### Locking Rod

#### Removal

- (1) Remove door trim panel and water shield.
- (2) Remove door lock push knob.
- (3) Push nylon bushing (on rod) off bracket.
- (4) Loosen latch mounting screws using Torx Bit Tool J-25359-C and disengage locking rod.

#### Installation

- (1) Engage locking rod to latch and tighten latch mounting screws using Torx Bit Tool J-25359-C.
- (2) Install nylon bushing on bracket.
- (3) Install door lock push knob.
- (4) Install water shield and door trim panel.

### HINGE SYSTEM

#### Replacement

- (1) Remove trim panel and water shield.
- (2) Disconnect electrical harnesses inside door and remove harnesses.
- (3) Mark outline of existing hinges on body pillar and door for reference with wax pencil.
- (4) Position door in holding fixture.
- (5) Remove all hinge-to-body screws.
- (6) Remove door from vehicle.
- (7) Remove all hinge-to-door screws and remove hinges.
- (8) Clean replacement hinges in suitable solvent and blow dry with compressed air.

**CAUTION:** Do not immerse hinge in solvent.

- (9) Color coat hinges to match body.
- (10) Lubricate hinges with 3M 4-Way Spray lubricant, or equivalent.
- (11) Position hinges on door, being careful to align with scribe marks and install attaching screws. Tighten screws to 25 to 35 foot-pounds (34 to 47 N•m) torque.

(12) Position door in body opening and align hinges with scribe marks on body pillar. Install and tighten two outside screws, then install and tighten inner screw on each hinge. Tighten screws to 25 to 35 foot-pounds (34 to 47 N•m) torque.

(13) Remove door holding fixture.

(14) Position electrical harnesses inside door.

(15) Check door alignment. Adjust if necessary (refer to Door Adjustment).

(16) Connect electrical harnesses.

(17) Install water shield and trim panel.

### Door Adjustments

The doors are adjusted at the hinge mounting points on the body or door.

The slotted center hole is provided in the hinge for in or out adjustment on the pillars. The upper and lower holes in the hinge set the door outboard slightly. To adjust the door inboard, loosen the center screw and push the door open against door stop. Tighten the center screw after correct alignment has been achieved.

To adjust up or down or fore and aft, loosen the hinge attaching screws in the door and move the door to the desired position and tighten the screws.

Prior to any door adjustment or alignment, the adjustable striker must be removed to allow the door to close freely in proper alignment without striker interference.

The door lock striker is adjustable up, down, in or out and can be shimmed forward or back to hold the door in the properly aligned position.

The door latch striker should be set so that the latch enters the striker without binding, yet provides secure retention for the lock and prevents up and down or in and out movement of the door.

The striker should also be adjusted in or out to allow the door latch to be fully engaged. The door should be flush with the adjacent body panels.

**NOTE:** *It is possible to set the striker in so far that the door is closed tight but only the safety catch is engaged. This prevents locking the door with the pushbutton lock rod.*

### REMOTE CONTROL MIRRORS

#### Removal

(1) Remove door trim panel.

(2) Remove setscrew attaching mirror remote control assembly to trim panel escutcheon.

(3) Remove water shield paper.

(4) Remove screws attaching remote mirror-to-door panel using Torx Bit Tool J-25359-C.

**NOTE:** *Check and note routing of remote mirror control cables before removing assembly from door panel.*

(5) Remove remote mirror and gasket from door panel.

#### Installation

(1) Assemble remote mirror and gasket.

(2) Insert remote mirror control cables into door outer panel and duplicate routing of control cables into door inner panel as previously noted during removal.

(3) Install screws attaching remote mirror-to-door panel using Torx Bit Tool J-25359-C.

(4) Install setscrew attaching mirror remote control assembly to trim panel.

(5) Check mirror operation.

(6) Install water shield paper.

(7) Install door trim panels.

## CHEROKEE - WAGONEER REAR DOORS

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### DOOR TRIM

#### Window Regulator Handle

Window Regulator handles are attached to the splined shaft of the window regulator with a 5/32-inch Allen head screw. To remove the handle, remove the screw and pull the handle straight off the shaft.

Install the handle with the knob forward, the handle horizontal and the glass all the way up.

#### Trim Panel

Trim panels consist of fiber board composition covered with a vinyl material. They are fastened to the door with spring clips inserted into holes in the door inner panel and screws along the bottom edge.

**Removal**

- (1) Remove overlay on armrest, if equipped, and remove attaching screws and armrest.
- (2) Remove window regulator handle, if equipped, and door latch remote control handle.
- (3) Remove assist handle, if equipped.
  - (a) Remove woodgrain inserts at both ends of assist handle.
  - (b) Remove attaching screws and assist handle.
- (4) Remove power window bezel, if equipped.
- (5) Remove trim panel attaching screws on bottom of trim panel.
- (6) Pry trim panel-to-door clips along sides loose with Tool J-2631-01 and remove panel.

**Installation**

- (1) Position trim panel on door and install clips in holes in inner door panel.

**NOTE:** To prevent creasing the trim panel cover, do not hammer or exert excessive force on the clips.

- (2) Install screws along bottom of trim panel.
- (3) Install window regulator handle, if equipped, and door latch remote control handle.
- (4) Install armrest and overlay.
- (5) Install assist handle, if equipped.
  - (a) Position assist handle and install attaching screws.
  - (b) Install woodgrain inserts.
- (6) Install power window bezel, if equipped.

**Replacement**

- (1) Remove trim panel.
- (2) If equipped with manual window regulator, assist handle, or ash receiver:
  - (a) Cut opening(s) in replacement trim panel, following outline(s) provided on backside of trim panel, with sharp knife.
  - (3) If equipped with power windows, it will be necessary to cut opening for switch in replacement trim panel following outline provided on backside of trim panel with sharp knife.
- (4) Transfer door trim panel attaching clips to replacement panel.
- (5) Install door trim panel.

**SEALING SYSTEM****Water Shield**

The water shield is attached to the door inner panel with adhesive. To remove water shield, use a putty knife

between shield and door inner panel to break adhesive bond.

When installing water shield, be sure the tab on the lower portion is tucked inside the door panel slit at the access opening and that the shield is bonded securely to the door inner panel.

**Rubber Sealer**

The door rubber sealer is made of molded latex foam with a smooth rubber skin on the outside.

The rubber sealer is attached to the door body opening.

**Maintenance of Rubber Sealers**

Cold weather may cause the rubber sealer to harden and lose resiliency. This may cause the door to loosen in its opening, resulting in noise. When servicing, use a dampened cloth to clean rubber sealer. Clean dirt from all points where the rubber sealer contacts the body. Apply AMC Silicone Lubricant, or equivalent, to sealer.

**CAUTION:** Do not use graphite, brake fluid or wax on rubber sealer.

**Replacement**

Replacement rubber sealers are coated with powder to prevent stickiness in storage. Before installation, remove all powder with a cloth dampened with 3M General Purpose Adhesive Cleaner, or equivalent.

- (1) Carefully remove rubber sealer from door opening.
- (2) Remove dust and dirt from rubber sealer, door and body.
- (3) Install upper front corner of sealer to door opening first.
- (4) Complete installation of rubber sealer to remainder of door opening.

**WINDOW SYSTEM****Door Glass****Removal**

- (1) Remove door trim panel and water shield.
- (2) Remove glass stop bracket.
- (3) Remove division channel lower attaching bracket.
- (4) Lower door glass to obtain access to retainer.

(5) Remove retainer, disengage pin from slot in channel and lower glass to bottom of door (fig. 3J-4).

(6) Remove inner and outer belt weatherstrips.

(7) Remove upper glass slide channel.

(8) Remove stationary vent assembly attaching screws (fig. 3J-4).

(9) Tilt top of vent assembly forward approximately one inch.

(10) Push lower end of division channel toward rear of door to release glass.

(11) Move glass toward rear of door to release glass from front glass slide channel.

(12) Rotate glass 90° and guide glass between inner and outer door panels.

### Installation

(1) Position door glass in lower section of door so bottom channel has recessed portion toward inner door panel.

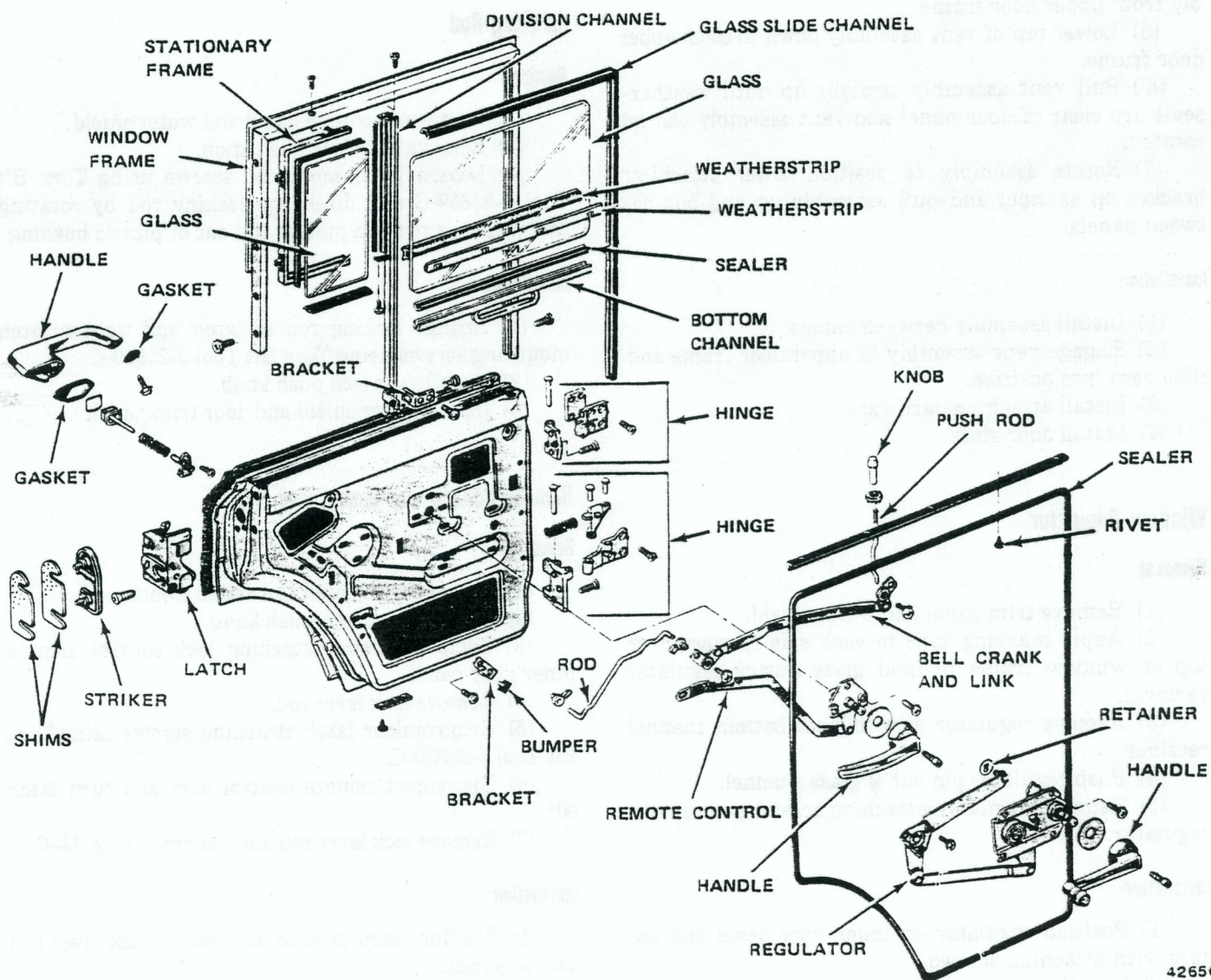
(2) Position door glass in front glass slide channel and push division channel over glass.

(3) Slide glass up and crank regulator arm down until pin on regulator arm can be inserted in slot of bottom channel.

(4) Install retainer.

(5) Position stationary vent assembly and install attaching screws.

(6) Install upper glass slide channel.



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Fig. 3J-4 Rear Door—Cherokee-Wagoneer Models

- (7) Install inner and outer belt weatherstrip.
- (8) Install division channel lower attaching bracket.
- (9) Install glass stop bracket.
- (10) Check operation of glass.
- (11) Install water shield and door trim panel.

### Vent Window

#### Removal

- (1) Remove door glass.
- (2) Apply soap solution under vent weatherstrip and along inner and outer door panels.
- (3) Slide vent assembly forward to center of door glass opening.
- (4) Push vent assembly down through opening between inner and outer door panels to disengage assembly from upper door frame.
- (5) Lower top of vent assembly down to clear upper door frame.
- (6) Pull vent assembly straight up until weather-seals are clear of door panel and vent assembly can be rotated.
- (7) Rotate assembly to position lower attaching bracket on channel and pull assembly up and out between panels.

#### Installation

- (1) Install assembly between panels.
- (2) Engage vent assembly in upper door frame and slide vent into position.
- (3) Install attaching hardware.
- (4) Install door glass.

### Window Regulator

#### Removal

- (1) Remove trim panel and water shield.
- (2) Apply masking tape to each side of glass over top of window frame to hold glass during regulator removal.
- (3) Remove regulator arm-to-glass bottom channel retainer.
- (4) Push regulator pin out of glass channel.
- (5) Remove regulator attaching screws and remove regulator.

#### Installation

- (1) Position regulator on inner door panel and secure with attaching screws.
- (2) Install regulator pin in bottom channel and install retainer.
- (3) Remove tape from glass.
- (4) Install water shield and door trim panel.

### LOCK SYSTEM

#### Outside Handle

##### Removal

- (1) Remove door trim panel and water shield.
- (2) Raise window to fully closed position.
- (3) Through opening in inner door panel, remove handle attaching screws and remove handle and gaskets.

##### Installation

- (1) Position gaskets and handle on door and secure with attaching screws.
- (2) Install water shield and door trim panel.

#### Locking Rod

##### Removal

- (1) Remove door trim panel and water shield.
- (2) Remove door lock push knob.
- (3) Loosen latch mounting screws using Torx Bit Tool J-25359-C and disengage locking rod by rotating metal clip on rod and pulling rod out of plastic bushing.

##### Installation

- (1) Engage locking rod to latch and tighten latch mounting screws using Torx Bit Tool J-25359-C.
- (2) Install door lock push knob.
- (3) Install water shield and door trim panel.

#### Remote Control and Lock Lever Rod

##### Removal

- (1) Remove trim panel and water shield.
- (2) Remove door lock push knob.
- (3) Remove screws attaching lock control arm to inner door panel.
- (4) Remove lock lever rod.
- (5) Remove door latch attaching screws using Torx Bit Tool J-25359-C.
- (6) Disconnect remote control arm and turn latch 90°.
- (7) Remove lock lever rod and bellcrank (fig. 3J-4).

##### Installation

- (1) Position latch in door and install lock lever rod and bellcrank.
- (2) Connect remote control arm to latch and turn latch 90°. Secure latch to door panel with attaching screws using Torx Bit Tool J-25359-C.
- (3) Install lock lever rod.

- (4) Position lock control arm on inner door panel and install attaching screws.
- (5) Install door lock push knob.
- (6) Install water shield and trim panel.

## HINGE SYSTEM

### Replacement—One Hinge

- (1) Scribe outline of hinge on body pillar and door for reference.
- (2) Position door in holding fixture.
- (3) Remove hinge screws using Torx Bit Tool J-25359-C and remove hinge. Retain shims.
- (4) Clean replacement hinge in suitable solvent and blow dry with compressed air.

**CAUTION:** Do not immerse hinge in solvent.

- (5) Color-coat hinge to match body.
- (6) Lubricate hinge with 3M 4-Way Spray lubricant, or equivalent.
- (7) Position hinge on door with original shims, being careful to align with wax pencil marks, and install screws using Torx Bit Tool J-25359-C. Tighten screws to 12 to 18 foot-pounds (16 to 24 N•m) torque.
- (8) Remove door holding fixture.
- (9) Check door alignment. Adjust if necessary. Refer to Door Adjustments.

### Door Removal

- (1) Remove trim panel and water shield.
- (2) Raise door glass to closed position.
- (3) Disconnect electrical harnesses inside door and remove harnesses.
- (4) Position door in holding fixture and using wax pencil scribe outline of hinges on door for reference.
- (5) Remove all hinge-to-door attaching screws using Torx Bit Tool J-25359-C.
- (6) Remove door from vehicle.

## Installation

- (1) Position door in body opening, being careful to align with wax pencil marks, and install screws using Torx Bit Tool J-25359-C. Tighten screws to 12 to 18 foot-pounds (16 to 24 N•m) torque.
- (2) Remove holding fixture.
- (3) Position electrical harnesses inside door.
- (4) Connect electrical harnesses.
- (5) Check door adjustment. Adjust if necessary. Refer to door adjustments.
- (6) Install water shield and trim panel.

## Door Adjustments

The doors are adjusted at the hinge mounting points on the body or door.

Floating plates are located in the body pillars to permit adjustment up, down, in or out. To adjust forward or back, add or remove shims between the hinge and hinge pillar.

Prior to any door adjustment or alignment, the adjustable striker must be removed to allow the door to close freely in proper alignment without striker interference.

The door lock striker is adjustable up, down, in or out and can be shimmed forward or back to hold the door in the properly aligned position.

The door latch striker should be set so that the latch enters the striker without binding, yet provides secure retention for the lock and prevents up and down or in and out movement of the door.

The striker also should be adjusted in or out to allow the door latch to be fully engaged. The door should be flush with the adjacent body panels.

**NOTE:** It is possible to set the striker in so far that the door is closed tight but only the safety catch is engaged. This will prevent locking the door with the pushbutton lock rod.

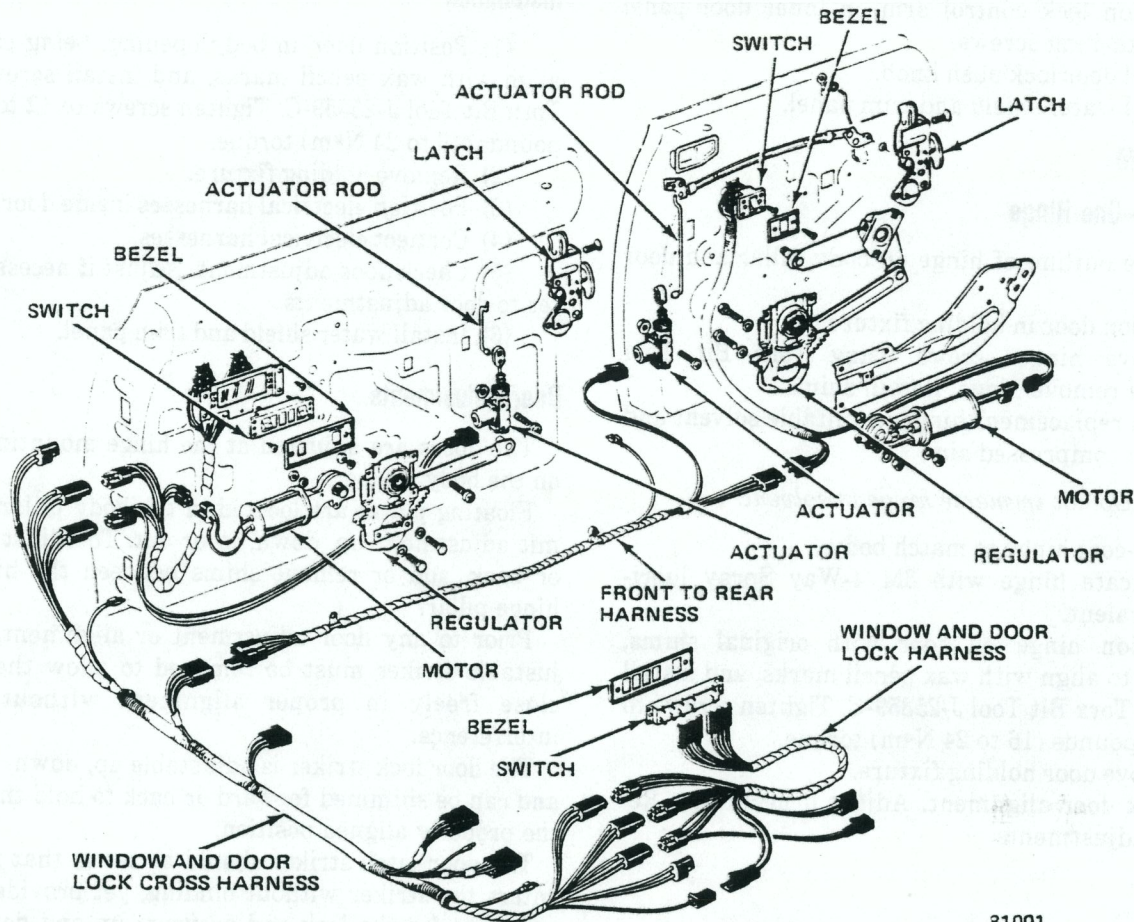
# ELECTRICALLY OPERATED WINDOWS

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Front Door Regulator and Motor	3J-15	Rear Door Regulator and Motor	3J-16
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## GENERAL

The window regulator motors (fig. 3J-5) are of a two-wire design, using polarity of the circuit to change motor rotation.

An individual control switch is provided for each side window and is mounted in the door trim panel. A complete set of control switches on the driver's door enables remote control operation of all side windows. The igni-



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Fig. 3J-5 Electrically Operated Door Windows and Door Locks

tion switch must be in the On position to operate the windows.

### CIRCUIT TESTS

A 30-amp circuit breaker, located in the fuse panel, is mounted at the far left side above the parking brake release handle (fig. 3J-6).

The circuit breaker (yellow and red wires) supplies power to the electric side windows when the ignition switch is in the On position. The black wires at the master control switch are the ground wires for the electric window circuits. They join in the harness and ground to the instrument panel harness ground circuit #9 at lower left corner of instrument panel.

**NOTE:** The control switches, motors and wiring harness can be checked using a 12-volt test lamp.

- (1) Remove escutcheon and housing.
- (2) Separate halves of terminal plate by releasing barbed retainer hooks to expose wire terminal ends.
- (3) Turn ignition switch to On position.
- (4) Connect one lead of test lamp to black wire and contact other lead to red terminal. Repeat this test procedure with second black wire in master switch.
  - (a) If lamp does not light, remove test lamp lead that was on black wire terminal and connect to chassis ground.
  - (b) If lamp lights at this point, an opening exists between master switch and ground.
  - (c) If lamp still does not light, check for defective circuit breaker or opening in red wire from circuit breaker to master switch.

### Circuit Breaker Test

- (1) Disconnect yellow wire from circuit breaker and connect test lamp between yellow wire and chassis ground.



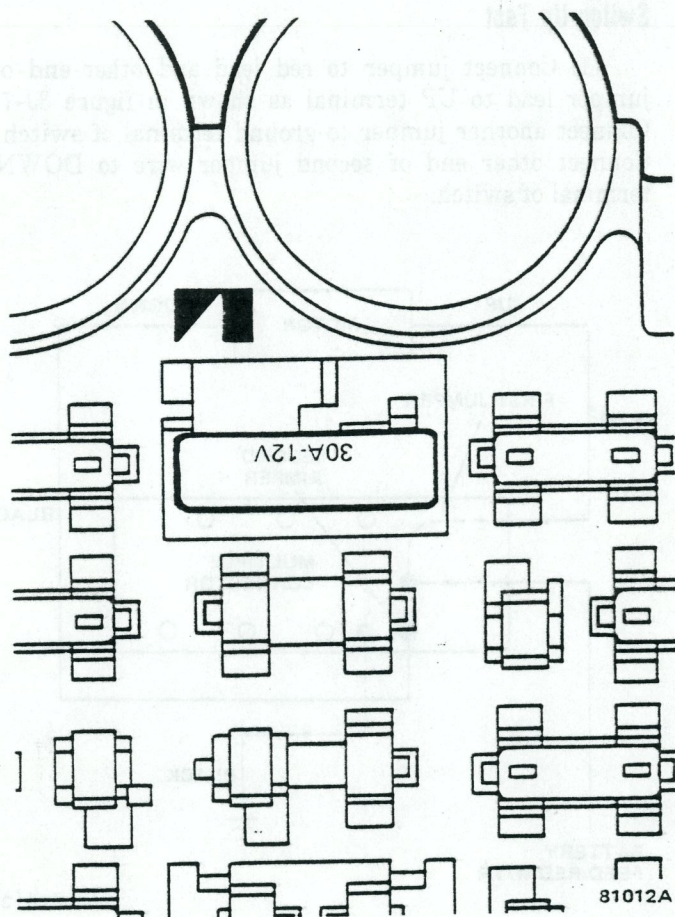


Fig. 3J-6 Circuit Breaker Location

(2) Turn ignition switch to On position. If lamp does not light, yellow wire has an open circuit or ignition switch is defective.

(3) Reconnect yellow wire to circuit breaker.

(4) Disconnect red wire from circuit breaker and connect test lamp to circuit breaker terminal and chassis ground. If lamp lights, circuit breaker is good. If lamp does not light, circuit breaker is defective.

### Control Switch and Motor Test

(1) Connect test lamp between terminals of yellow and orange wire.

(2) Operate control switch up and down for respective window. If lamp lights in UP and DOWN position, test indicates that yellow and orange wires of wire harness to that window and back again to master switch are not defective. It also indicates that individual door switch on master control is not defective.

(3) Disconnect white and green motor leads at terminal plate and connect these leads to green and white leads respectively.

(4) Operate master switch. If window goes up and down, motor is not defective but switch is defective. If motor does not operate, remove door trim panel and check connections and leads to motor. If motor operates, switch is defective.

**NOTE:** It may be possible that switch and motor both are defective.

### CONTROL SWITCH

#### Removal

**CAUTION:** Be sure ignition switch is in Off position.

- (1) Disconnect battery negative cable.
- (2) Remove retaining screws and escutcheon.
- (3) Remove switch housing screws. Pull switch out to expose wires.
- (4) Disconnect terminal plate from switch.
- (5) Depress retainer clips through holes in switch housing and remove switch.

#### Installation

- (1) Hold retainer clips in position on switch and slide switch into housing. Press retainer clips until they click into position.
- (2) Install terminal plate to switch and install housing in door.
- (3) Install escutcheon and retaining screws.
- (4) Connect battery negative cable.

### FRONT DOOR REGULATOR AND MOTOR

#### Removal

- (1) Raise window half-way up.
- (2) Disconnect battery negative cable.
- (3) Remove door trim panel and water shield.
- (4) Insert drift into hole in door inner panel or use masking tape to hold glass assembly in half-way position.
- (5) Remove regulator arm retainer clip and remove arm from bottom window channel.
- (6) Disconnect wires from motor.
- (7) Remove nuts and bolts from inner door panel to regulator and remove regulator and motor assembly.

#### Installation

- (1) Install replacement regulator in door.
- (2) Connect wires to motor.

- (3) Connect regulator arm to glass bottom channel and install clip.
- (4) Position regulator in inner door panel and install nuts and bolts.
- (5) Install screws attaching glass slide channel to inner door panel.
- (6) Remove tape or drift holding window.
- (7) Install water shield and trim panel. Connect negative battery cable.

## REAR DOOR REGULATOR AND MOTOR

### Removal

- (1) Raise the window half way up.
- (2) Disconnect battery negative cable.
- (3) Remove door trim panel and water shield.
- (4) Insert drift into hole in door inner panel or use masking tape to hold glass assembly in half-way position.
- (5) Remove regulator arm retainer clip and remove arm from bottom window channel.
- (6) Disconnect wires from motor.
- (7) Remove nuts and bolts from inner door panel to regulator and remove regulator and motor assembly.

### Installation

- (1) Install replacement regulator in door.
- (2) Connect wires to motor.
- (3) Connect regulator arm to glass bottom channel and install clip.
- (4) Position regulator in inner door panel and install nuts and bolts.
- (5) Install screws attaching glass slide channel to inner door panel.
- (6) Remove tape or drift holding window.
- (7) Install water shield and trim panel. Connect negative battery cable.

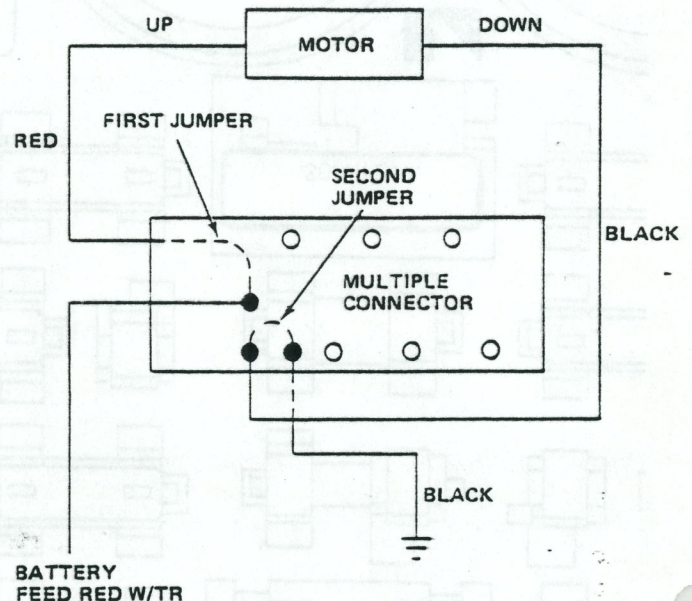
## SWITCH VOLTAGE TESTS

The following wiring test sequence determines whether or not voltage is continuous through the harness to switch.

Leave ignition switch in the On position. After removing the switch from the trim panel for testing purposes, carefully separate the multiple terminal block on the wiring harness from the switch body. Connect one lead of the test lamp lead to the red wire terminal and the other to ground. If the test lamp lights, the wiring circuit between the battery and switch is functional, proceed to check the continuity in the ground circuit (black wire). If the lamp does not light, check 30-amp main fuse (circuit breaker) or for a broken wire.

## Switch Up Test

- (1) Connect jumper to red lead and other end of jumper lead to UP terminal as shown in figure 3J-7. Connect another jumper to ground terminal of switch. Connect other end of second jumper wire to DOWN terminal of switch.



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Fig. 3J-7 Motor Switch UP Test

- (2) If motor runs, test verifies that voltage is available to motor. Switch must now be tested to make sure that voltage is passing through satisfactorily. Install switch body back on multiple connector and actuate switch. If motor fails to run, replace switch body. Each switch is tested in same manner.

- (3) If motor does not run after installing new switch, perform Window Motor Test.

## Switch Down Test

- (1) Connect jumper lead to red terminal lead and other end of jumper to DOWN terminal as shown in figure 3J-8. Connect another jumper to ground terminal of switch and other end of jumper wire to UP terminal of switch.

- (2) If motor runs, test verifies that voltage is available to motor. Install switch body back on multiple connector and actuate switch. If motor fails to run, replace switch body. Each switch is tested in same manner.

- (3) If motor does not run, perform Window Motor Test.

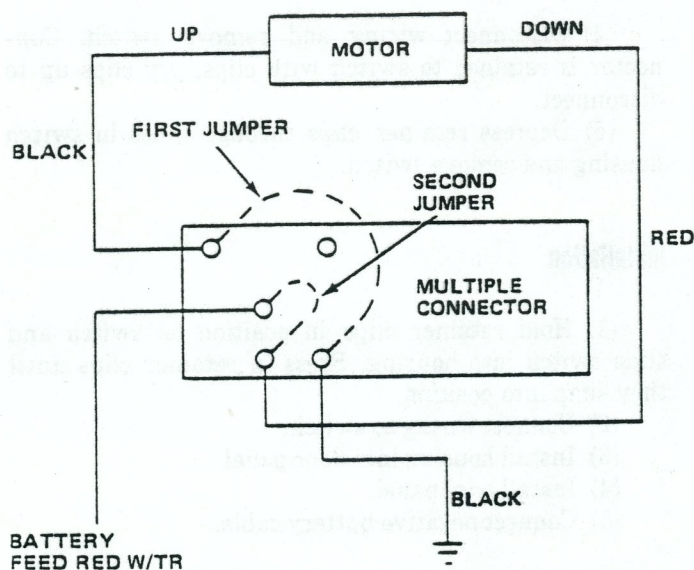


Fig. 3J-8 Motor Switch DOWN Test

### MOTOR TEST

- (1) Connect positive (+) lead (from a test battery) to either terminal.
- (2) Connect negative (-) lead (from test battery) to remaining motor terminal.
- (3) Motor should now rotate in one direction to either move window up or down.
  - (a) If window happens to already be in full up position and motor is connected so as to rotate in Up direction movement will be observed.

(b) Likewise, motor connected to Down direction rotation, no movement will be observed if window is already in full down position.

(4) Reverse battery leads (opposite to steps (1) and (2) and window should now move. If window does not move, remove motor. See below for motor removal from vehicle for bench test.

(5) If window moved completely up or down, motor should be reversed one more time (reverse leads to complete a full window travel inspection).

### MOTOR

#### Removal

- (1) Disconnect battery negative cable.
- (2) Remove door trim panel.
- (3) Remove motor attaching bolts and nuts.

**WARNING:** The regulator assembly is spring loaded. The door glass must be supported in the up position with the regulator arm connected to the lower glass slide channel. This prevents the regulator spring from unloading.

- (4) Disconnect lead wires from motor and remove motor.

#### Installation

- (1) Connect lead wires to motor.
- (2) Install motor in door panel.
- (3) Install door trim panel.
- (4) Connect battery negative cable.

## POWER DOOR LOCKS

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Switch	3J-18

### GENERAL

Door lock actuators are controlled by two rocker switches. To lock doors, push down on either switch. To unlock doors from inside the vehicle push upward on either switch.

The power door locks do not lock or unlock the doors from outside the vehicle. Insert the key into the lock cylinder to lock or unlock each individual door.

### CIRCUITRY

The power door lock operates with battery power and, therefore, is independent of the ignition switch.

A 30-amp circuit breaker mounted in the fuse block protects the circuit. Refer to wiring diagrams in the back of this manual for complete circuits. The front door harness runs from door to door and is secured to the dash panel with harness retainers.

On four-door models, the right and left rear door harnesses are connected to the front door harness at the top of the side-cowl panels. They are routed along the side sill to the B-pillar, then through the bottom of the B-pillar to the rear doors.

If the vehicle is equipped with power windows, the door lock wires become part of the combined wire har-

nesses. The wire routing still follows the above description.

### Circuit Breaker Test

Disconnect harness connector from fuse panel. Test fuse panel connection with test lamp. If lamp lights, battery voltage is present. If no battery voltage is present, remove circuit breaker and test with ohmmeter. If circuit breaker is OK then check for battery voltage at circuit breaker connection on fuse panel. If no battery voltage at fuse panel check for failure of fuse links in engine compartment.

### Switch Test

Test door switches for continuity with a self-powered Test Lamp J-21008, or ohmmeter. Continuity should exist between terminals at various switch positions as shown in figure 3J-9.

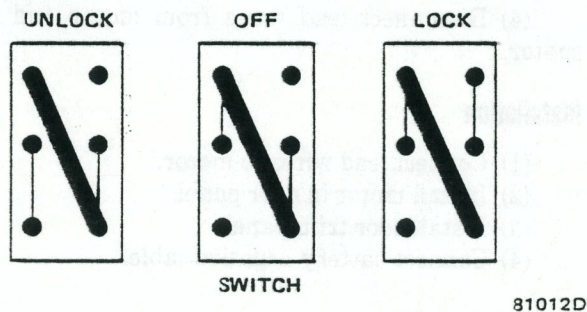


Fig. 3J-9 Continuity Test for Power Door Lock Switch

## SWITCH

### Removal

- (1) Disconnect battery negative cable.
- (2) Remove door trim panel.
- (3) Remove switch housing from inner door panel.

(4) Disconnect wiring and remove switch. Connector is retained to switch with clips, pry clips up to disconnect.

(5) Depress retainer clips through holes in switch housing and remove switch.

### Installation

(1) Hold retainer clips in position on switch and slide switch into housing. Press in retainer clips until they snap into position.

(2) Connect wiring to switch.

(3) Install housing into door panel.

(4) Install trim panel.

(5) Connect negative battery cable.

## ACTUATOR MOTOR

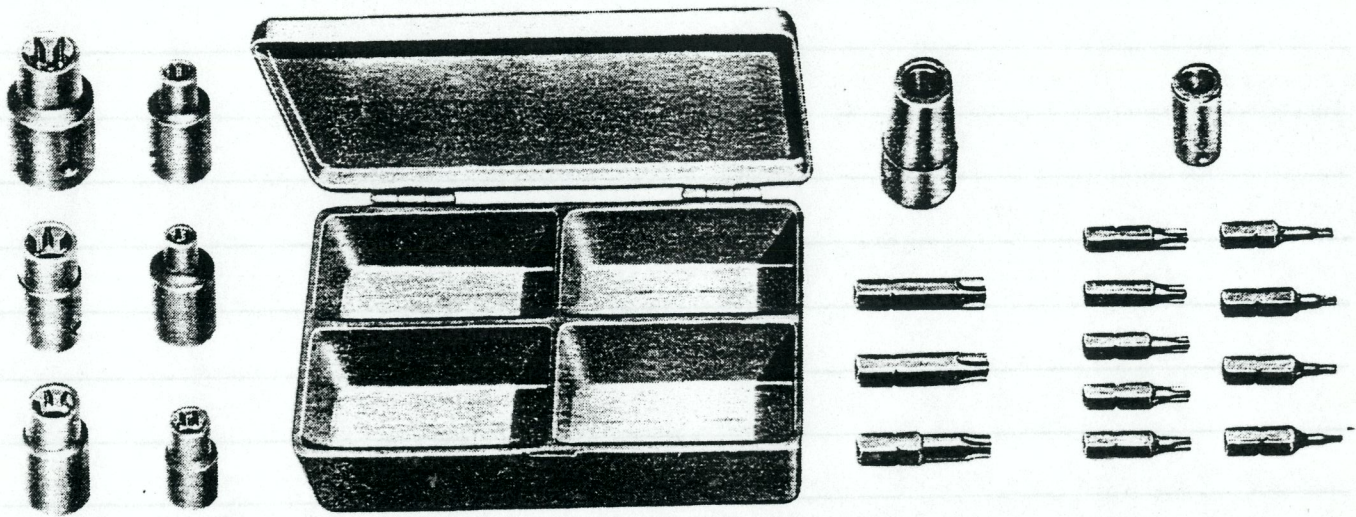
### Test

To test the actuator motor, attach an ammeter to the motor terminals and operate the door switch. Replace the actuator motor if current draw exceeds 8 amps at room temperature or if the actuator does not complete its travel in less than one second.

### Replacement

- (1) Disconnect battery negative cable.
- (2) Remove door trim panel.
- (3) Remove actuator motor by drilling out rivets attaching motor to door panel with a 1/4-inch drill bit.
- (4) Disconnect actuator rod from bellcrank.
- (5) Disconnect wires from actuator motor and remove actuator motor.
- (6) Connect wires to actuator motor and connect rod to actuator.
- (7) Install actuator in door panel using two 1/4-20 x 1/2-inch screws and locknuts or rivets and connect bellcrank rod to bellcrank.
- (8) Install door trim panel.
- (9) Connect battery negative cable.

Tools



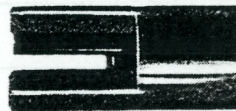
J-25359-C  
TORX BIT AND  
SOCKET SET



J-2631-01  
TRIM PAD DEPRESSOR



J-21104-01  
WEATHERSTRIP  
REMOVER



J-22977  
TUMBLER FILING  
FIXTURE



# REAR QUARTER 3K

## INDEX

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Pivot Vent Window—Cherokee	3K-1	Stationary Window—CJ-7 with Hardtop Enclosure	3K-2
Stationary Window—2-Door Cherokee	3K-2	Trim Panel	3K-1
Stationary Window—4-Door Cherokee-Wagoneer	3K-3	Tools	3K-4

## TRIM PANEL

**NOTE:** The metal trim panels are held in place with sheet metal screws. Remove all attaching screws to remove panel.

### Removal

- (1) Remove ash receiver, holder screws, and holder, if equipped.
- (2) Remove armrest metal overlay strip, if equipped, and remove attaching screws and armrest.
- (3) Remove trim panel screws at base of panel, if equipped.
- (4) Pry loose trim panel attaching clips, using Trim Pad Depressor J-2631-01 and remove panel.

### Installation

- (1) Inspect all panel attaching clips; replace any that are bent. To prevent damage to trim panel, do not hammer or exert excessive force on clips.
- (2) Install trim panel attaching screws, if equipped.
- (3) Install armrest and armrest metal overlay strip, if equipped.
- (4) Install ash receiver holder and ash receiver, if equipped.

## PIVOT VENT WINDOW—CHEROKEE MODELS

### Removal

- (1) Remove handle-to-frame attaching screws (fig. 3K-1).

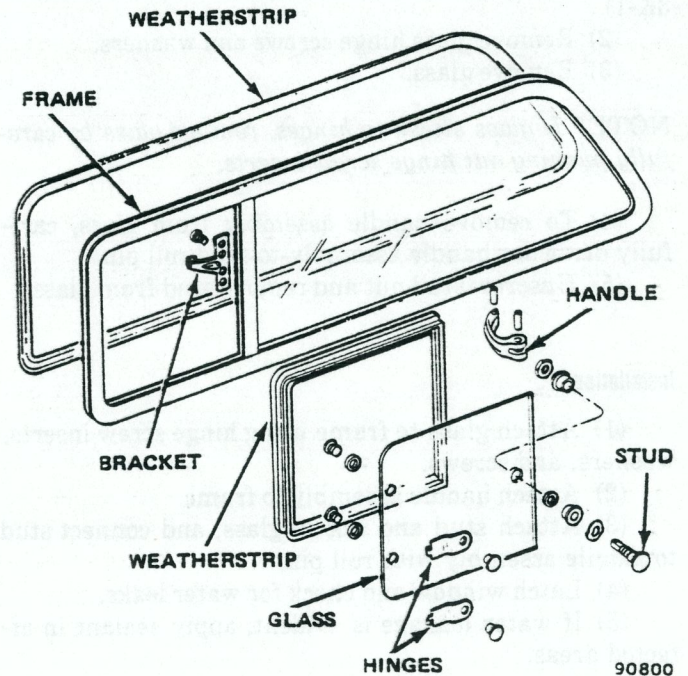


Fig. 3K-1 Rear Quarter Window—Cherokee Models

- (2) Remove glass hinge screws and washers.
- (3) Remove glass.

**NOTE:** If glass sticks to hinges, remove glass by carefully pushing out hinge screw inserts.

- (4) To remove handle assembly from glass, carefully drive out handle assembly-to-stud roll pin.

- (5) Unscrew stud nut and remove stud from glass.
- (6) Remove vent window weatherstrip.

### Installation

- (1) Install vent window weatherstrip.
- (2) Attach glass to frame using hinge screw inserts, washers, and screws.
- (3) Attach handle assembly to frame.
- (4) Attach stud and nut to glass, and connect stud to handle assembly with roll pin.
- (5) Latch window and check for water leaks.
- (6) If water leakage is evident, apply sealant in affected areas.

### Vent Window Glass

#### Removal

- (1) Remove handle-to-frame attaching screws (fig. 3K-1).
- (2) Remove glass hinge screws and washers.
- (3) Remove glass.

**NOTE:** *If glass sticks to hinges, remove glass by carefully pushing out hinge screw inserts.*

- (4) To remove handle assembly from glass, carefully drive out handle assembly-to-stud roll pin.
- (5) Unscrew stud nut and remove stud from glass.

#### Installation

- (1) Attach glass to frame using hinge screw inserts, washers, and screws.
- (2) Attach handle assembly to frame.
- (3) Attach stud and nut to glass, and connect stud to handle assembly with roll pin.
- (4) Latch window and check for water leaks.
- (5) If water leakage is evident, apply sealant in affected areas.

### STATIONARY WINDOW—2-DOOR CHEROKEE MODELS

#### Replacement

- (1) Remove inside spare tire, if equipped.
  - (a) Remove inside spare tire mount using Torx Bit Tool J-25359-C for top shoulder screw.
  - (b) Remove remaining screws from wheelhouse and D-pillar post.
- (2) Free weatherstrip-to-body flange (on inside of vehicles) as follows: starting at top corner, using fingers

or a wooden wand, pull weatherstrip down to clear flange while exerting an outward pressure on glass.

(3) Push window and weatherstrip toward outside of vehicle.

(4) Remove weatherstrip from glass and clean sealer from glass cavity using 3M General Purpose Adhesive Cleaner, or equivalent.

(5) Before installing glass in weatherstrip, apply 3/16-inch bead of 3M Windshield Sealer, or equivalent, in weatherstrip glass cavity using pressure type applicator and position glass weatherstrip.

(6) Lubricate weatherstrip with soapy water.

(7) Place window frame and weatherstrip into position in window opening.

(8) With weatherstrip body flange in proper position at bottom of window opening, use wooden wand and walk weatherstrip-to-body flange into position.

(9) Clean excess sealer from window frame.

(10) Check for water leaks.

(11) If water leakage is evident between weatherstrip and flange, apply 3M Auto Bedding and Glazing Compound, or equivalent, to affected areas and realign weatherstrip.

(12) Install inside spare tire bracket and torque to 25 foot-pounds (33 N•m).

(13) Install spare tire.

### STATIONARY WINDOW—CJ-7 MODELS WITH HARDTOP ENCLOSURE

#### Removal

- (1) Unlock rubber weatherstrip using wood wand or fiber stick.
- (2) Use fiber stick to break seal between glass and rubber weatherstrip.
- (3) Push glass and weatherstrip toward outside of vehicle and remove glass.
- (4) Remove weatherstrip from opening.

#### Installation

(1) Inspect weatherstrip and clean sealer from glass cavity and flange cavity using 3M General Purpose Adhesive Cleaner, or equivalent.

**NOTE:** *Inspect for uneven surfaces or irregularities in the opening flange that could cause stress damage to the glass.*

(2) Before installing weatherstrip on glass, apply 3/16-inch bead of 3M Auto Bedding and Glazing Compound, or equivalent, in weatherstrip glass cavity using pressure-type applicator.



(3) With glass installed in weatherstrip and before installing glass and weatherstrip into opening, insert 1/4-inch cord completely around weatherstrip in flange cavity.

**NOTE:** The ends of the cord should hang out over the outside surface of the glass approximately in the center of the upper weatherstrip.

(4) Place glass and weatherstrip into position in window opening with ends of cord hanging outside vehicle.

(5) Pull on ends of cord to pull lip of weatherstrip over body panel. With cord removed, weatherstrip should be positioned correctly.

(6) Use wooden wand to lock weatherstrip.

(7) Using pressure-type applicator, apply 3M Windshield Sealer, or equivalent, between weatherstrip and glass on outside of glass around entire perimeter.

(8) Clean excess sealer from glass and exterior body surface.

(9) Test window for water leaks.

(2) Push glass toward inside of vehicle.  
 (3) Remove weatherstrip from around glass and clean old sealer from glass cavity and flange cavity.

**Installation**

(1) Before installing glass in weatherstrip, apply 3/16-inch bead of 3M Windshield Sealer, or equivalent, in glass cavity completely around weatherstrip using pressure-type applicator (fig. 3K-2).

(2) With glass installed in weatherstrip and before installing glass and weatherstrip into opening, insert a 1/4-inch cord completely around weatherstrip in flange cavity.

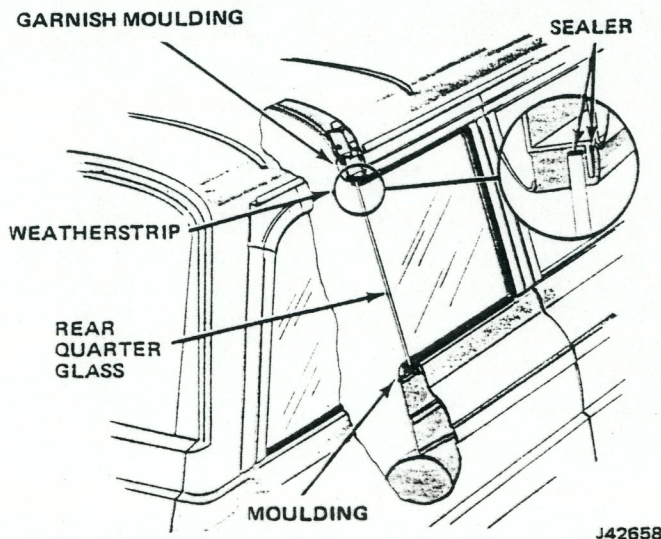
**NOTE:** The ends of the cord should hang out over the outside surface of the glass approximately in the center of the upper weatherstrip.

(3) Place glass and weatherstrip into position in window opening with ends of cord hanging outside vehicle (fig. 3K-3).

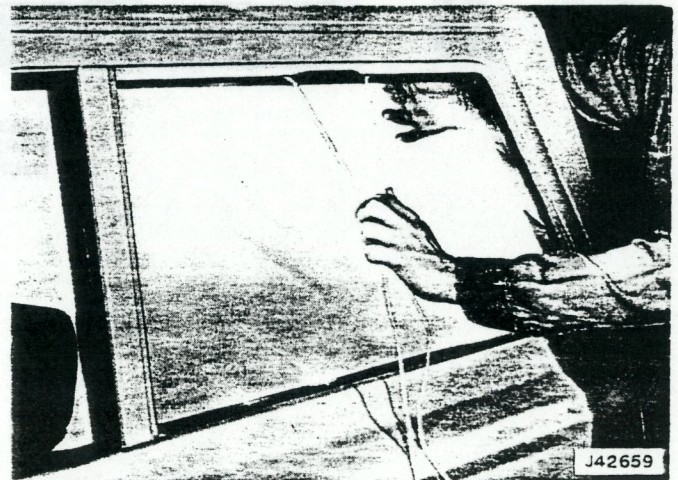
**STATIONARY WINDOW—4-DOOR CHEROKEE-WAGONEER MODELS**

**Removal**

(1) Remove interior garnish mouldings from around window and break seal loose between weatherstrip and body panels (fig. 3K-2).



**Fig. 3K-2 Rear Quarter Window—Cherokee-Wagoneer Models**



**Fig. 3K-3 Rear Quarter Window Installation**

(4) Pull on ends of cord to pull lip of weatherstrip over body panel. With cord removed, weatherstrip should be positioned correctly.

(5) Install interior garnish moulding.

(6) Apply bead of 3M Auto Bedding and Glazing Compound, or equivalent, from outside of vehicle between weatherstrip and body panels.

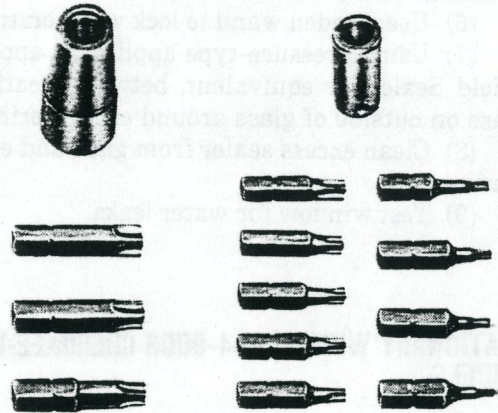
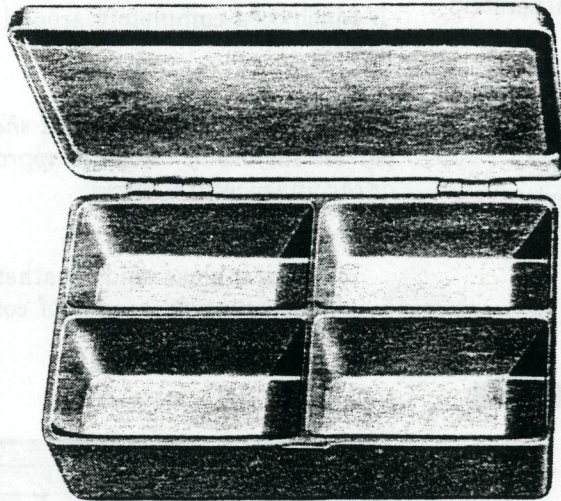
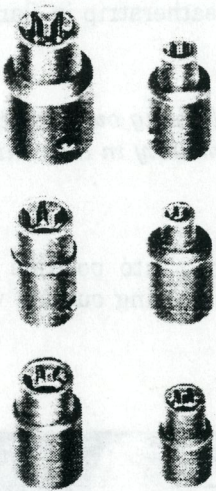
(7) Clean excess sealer from glass and exterior body surface.

(8) Test window for water leaks.

Tools

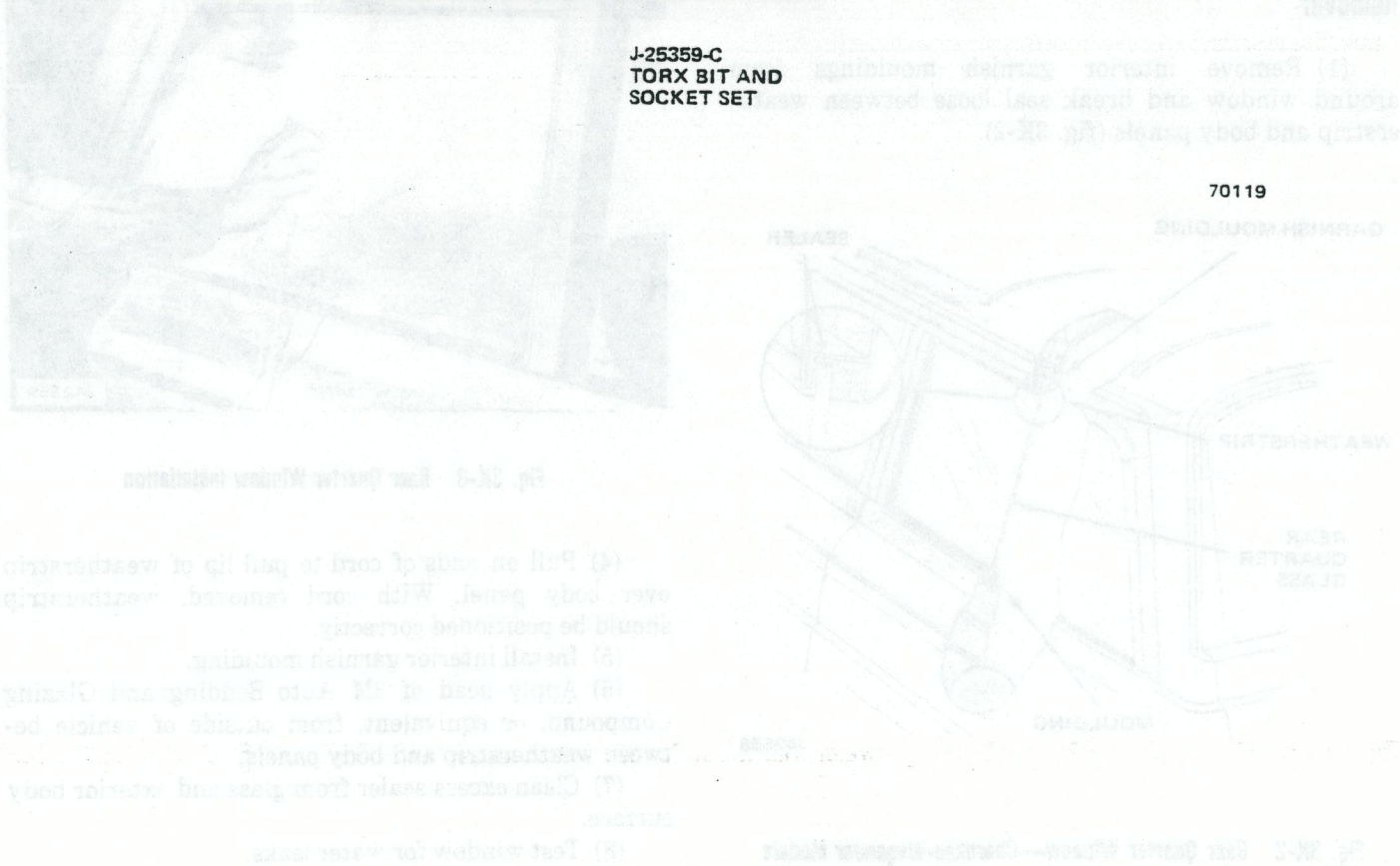


J-2631-01  
TRIM PAD  
DEPRESSOR



J-25359-C  
TORX BIT AND  
SOCKET SET

70119



# HARDTOP ENCLOSURE- SUN ROOF AND LUGGAGE RACKS

# 3L

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Power Sun Roof—Wagoner Limited	3L-7		

## HARDTOP ENCLOSURE

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Installation	3L-1	Repair	3L-1

### GENERAL

A lightweight, removable hardtop enclosure is available for CJ-7 models. The top is constructed of compression molded fiberglass. The hardtop enclosure and steel liftgate are painted with a special spatter finish.

### REMOVAL

- (1) Remove screws attaching hardtop enclosure to windshield frame (fig. 3L-1).
- (2) Remove nuts, washers and screws attaching hardtop enclosure to rear quarter panels.
- (3) Disconnect dome lamp, if equipped.
- (4) Remove hardtop enclosure from vehicle.

**CAUTION:** When removing hardtop enclosure, avoid damaging foam sealer installed between the hardtop enclosure and rear quarter panels.

### INSTALLATION

- (1) Inspect tabular windshield seal, bonded to hardtop enclosure, for damage. Replace if necessary.
- (2) Carefully position hardtop enclosure on vehicle.

**CAUTION:** When installing the hardtop enclosure, avoid damaging foam sealer installed between the hardtop enclosure and rear quarter panels.

- (3) Install screws, washers and nuts attaching hardtop enclosure to rear quarter panels.

- (4) Connect dome lamp, if equipped.
- (5) Install screws attaching hardtop enclosure to windshield frame.

### REPAIR

In the event of top damage, the following material will be required for use with these repair procedures:

- Paint Repair Kit (White)\*
- Paint Repair Kit (Nutmeg)\*
- Paint Repair Kit (Black)\*
- Structural Adhesive (3M Brand or equivalent)

\*The new paint repair kits are available from parts distribution centers. The paint repair kits consist of:

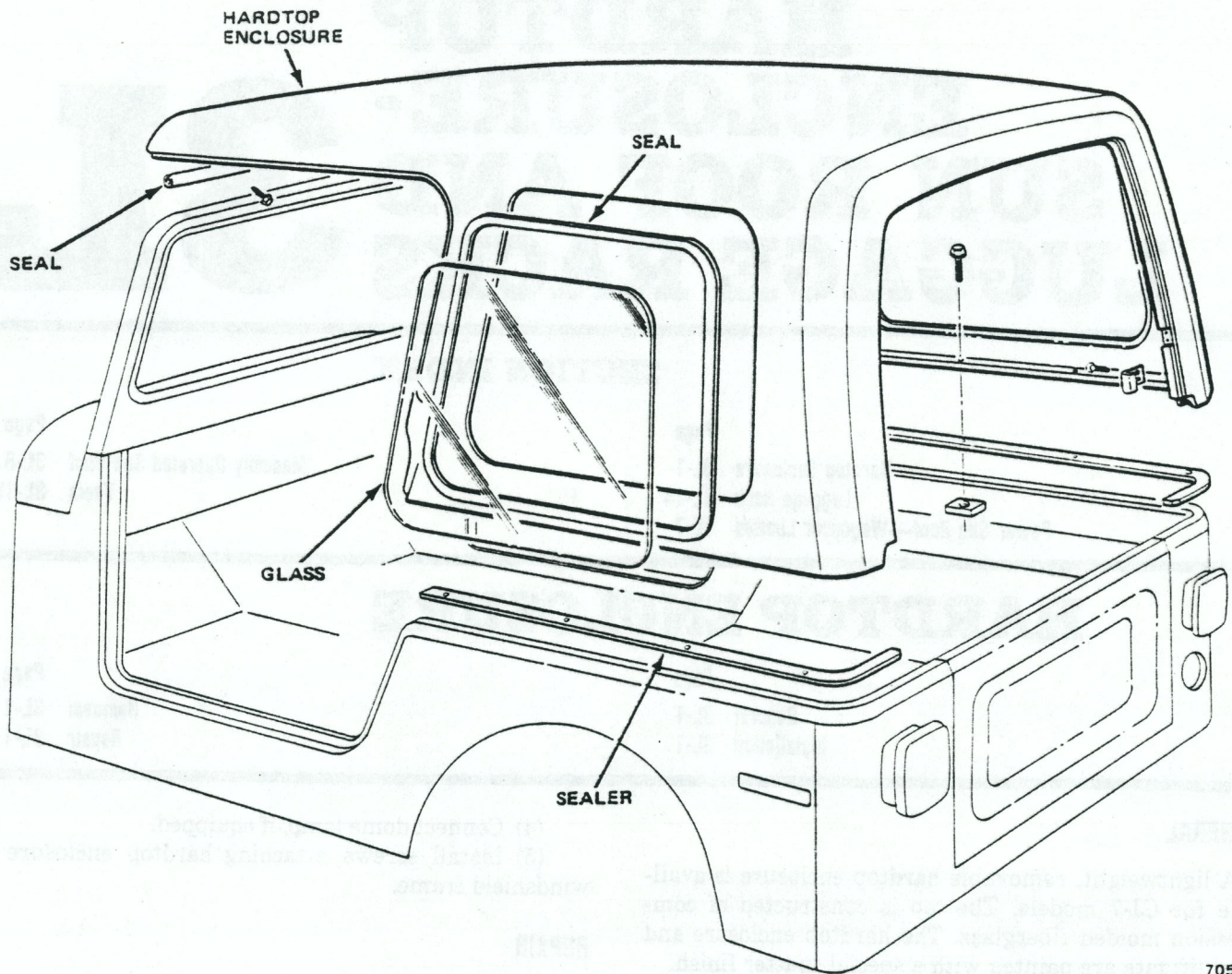
- Spatter Finish
- Base Coat
- Instruction Sheet

The following material will be required to repair the hardtop.

- Fiberglass mat or cloth
- Fiberglass resin and hardener
- Structural Adhesive (3M Brand or equivalent)
- Glazing Putty
- Aluminum Foil
- Plastic Spreader

### Hole Repair

- (1) Use grinder to remove paint and to outline damaged area.
  - (a) Use grade 24 disc for initial grinding.



70508

Fig. 3L-1 Hardtop Enclosure Removal

(b) Follow up with grade 50 disc to prevent coarse scratches from showing up in final finish.

**NOTE:** *If there are any cracks extending from hole it will be necessary to stop-drill crack(s) using 1/8-inch drill bit.*

(2) Position fiberglass mat or cloth on repair area, cut out piece, allow one inch extension beyond damaged area.

(3) Clean damaged area.

(4) Place fiberglass on piece of aluminum foil.

(5) Pour fiberglass resin into clean container.

(6) Mix appropriate amount of hardener with resin, according to manufacturer's instructions.

(7) Apply resin mixture to both sides of fiberglass.

(8) Lay fiberglass and aluminum foil over repair area, on outside. With plastic spreader, use firm pressure to remove air bubbles. Allow resin to cure.

(9) Remove aluminum foil from cured resin.

(10) Use air file or hand file board for shaping cured fiberglass resin.

(a) Use grade 24 paper for initial shaping.

(b) For shaping and sanding contour in fiberglass resin, use grade 180 paper.

(11) Repeat above step on inside of top.

(12) Mix Structural Adhesive, according to manufacturer's instructions, apply liberally to repair area on inside and outside of top.

(13) Use air file or hand file board for shaping hardened Structural Adhesive.

(a) For initial shaping, use grade 24 paper.

(b) For shaping and sanding contours in Structural Adhesive, use grade 220 paper.

(c) For finish sanding, use grade 320 paper.

(14) If necessary, apply glazing putty over repair area, according to manufacturer's instructions.

(15) Finish sanding repair area with grade 360 paper.

(16) Apply base coat and color coat (refer to Paint Repair Procedure).

### Broken Section Repair

(1) Use grinder to remove paint, from both sides, and to outline damaged area.

(a) Use grade 24 disc for initial grinding.

(b) Follow up with grade 50 disc to prevent coarse scratches from showing up in final finish.

(2) Bevel edges of break on both sides, using rotary file as shown in figure 3L-2.

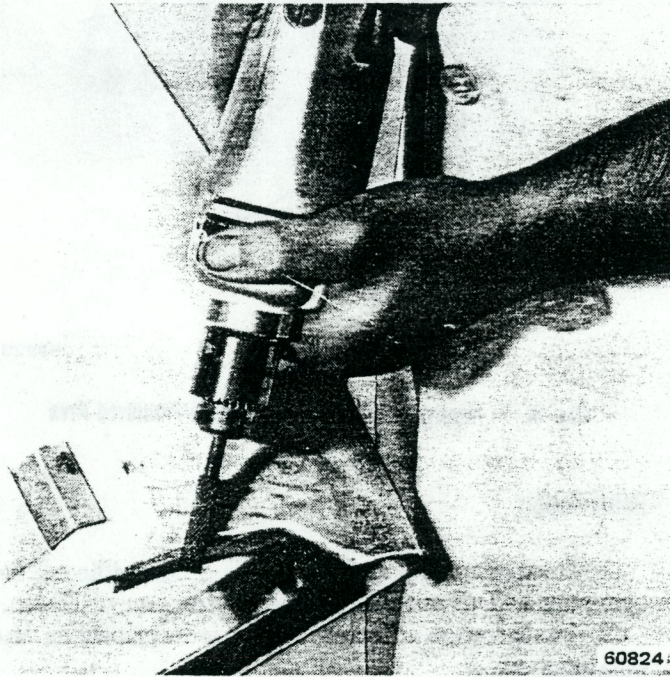


Fig. 3L-2 Beveling Edges of Broken Piece with Rotary File

**NOTE:** Edges should be beveled on the inside and outside of the enclosure to ensure sufficient surface area for bonding.

(3) Clamp broken piece into place leaving 1/16-inch gap along break line.

(4) Mix Structural Adhesive, according to manufacturer's instructions, apply liberally to break as shown in figure 3L-3.

(5) Use air file or hand file board for shaping of hardened Structural Adhesive.

(a) For initial shaping, use grade 24 paper.

(b) For shaping and sanding contours in Structural Adhesive, use grade 36 or 40 paper.

(c) For finish sanding, use grade 80 paper.

(6) Apply base coat and color coat (refer to Paint Repair Procedure).

### Fracture Repair

(1) Use grinder to remove paint, from both sides, and to outline damaged area.

(2) Stop-drill crack(s) using 1/8-inch drill bit as shown in figure 3L-4.

(3) Bevel edges of crack(s) on both sides, using rotary file.



Fig. 3L-3 Applying Structural Adhesive to Broken Piece and Enclosure

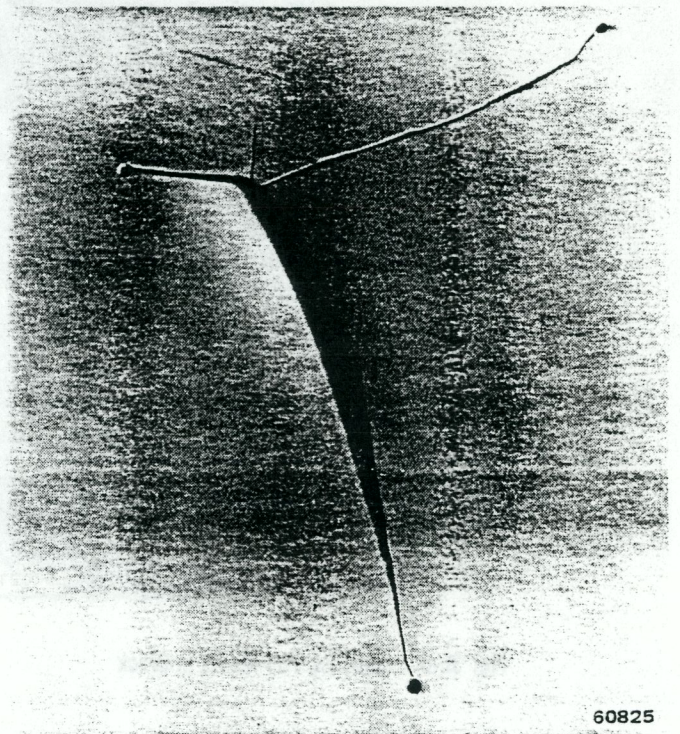


Fig. 3L-4 Stop-Drilling Cracks

**NOTE:** Edges should be beveled on the inside and outside of the enclosure to ensure sufficient surface area for good bonding.

(4) Cut along length of crack(s) using hacksaw blade as shown in figure 3L-5.

**NOTE:** On crack(s) 6 inches or longer it is advisable to countersink pop rivets along length of crack(s) as shown in figure 3L-6.

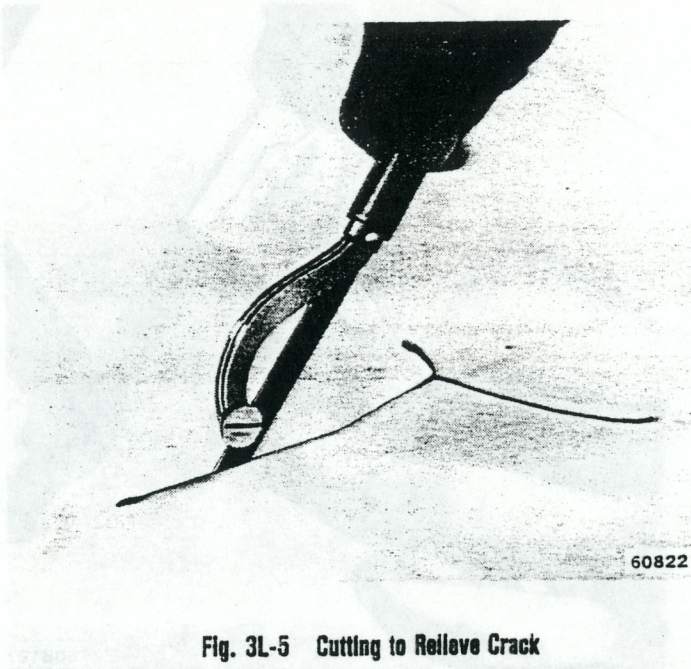


Fig. 3L-5 Cutting to Relieve Crack



Fig. 3L-7 Applying Structural Adhesive to Fractured Area

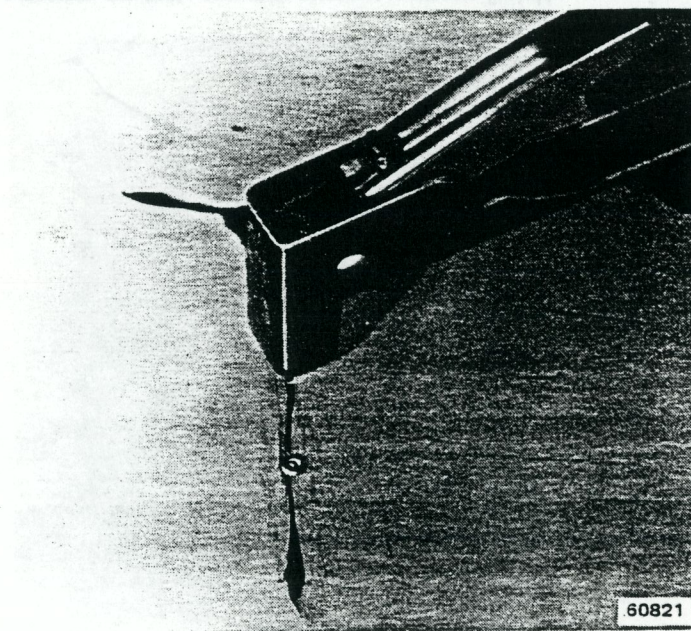


Fig. 3L-6 Installing Pop Rivets in Crack

(5) Mix Structural Adhesive, according to manufacturer's instructions, and apply liberally to crack(s) from inside and outside of enclosure as shown in figure 3L-7.

(6) Use air file or hand file board and sanding block for shaping of Structural Adhesive.

(a) For initial shaping, use grade 24 paper.

(b) For shaping and sanding contours in Structural Adhesive, use grade 220 paper on sanding block.

(c) For finish sanding, use grade 320 paper.

(7) Apply base coat and color coat (refer to Paint Repair Procedure).

### Paint Repair

(1) Clean repair area using wax and silicone remover such as DuPont Prep-Sol or Ditzler Acryli-Clean.

(2) Featheredge affected area as described in the following steps:

(a) For rough featheredging, use grade 80 disc on random disc sander.

(b) For final featheredging, use grade 180 disc on random disc sander or 220 grade paper on hand sanding block.

(3) Mix base coat same as any acrylic enamel paint using enamel reducer or lacquer thinner.

**NOTE:** One paint repair kit is sufficient to paint a complete top. Do not mix more paint than is necessary to cover the area being repaired. The spray equipment being used must be clean.

**CAUTION:** The solvents in this enamel will dissolve residual lacquers left in the cup or spray gun and may clog the gun or affect the finish surface.

**WARNING:** Vapor harmful—may cause lung irritation and allergic respiratory reaction. Use only with adequate fresh air ventilation.

(4) Spray test panel and adjust spray gun as necessary.

(5) Apply base coat to affected area and allow to dry to touch.

(6) Empty spray gun.

**NOTE:** In most cases, it is not necessary to reduce the texture coat. However, if you cannot achieve the desired texture finish it may be necessary to reduce slightly.

(7) Stir texture paint thoroughly.

(8) Spray test panel and adjust spray gun to obtain desired texture finish.

**NOTE:** Paint must be applied in the desired texture finish. This paint does not wrinkle or change texture during drying. In most cases, it is necessary to use a

pressure-feed type spray gun to produce a coarse enough texture.

(9) Spray affected area with texture color coat, starting in center and working to outside edges.

(10) Empty spray gun and fill cup with reducer.

(11) Spray reducer on edges of painted area to eliminate overspray and blend in repair.

(12) Bake for 30 minutes at temperature not to exceed 140°F or let air dry for 24 hours.

(13) Clean spray equipment thoroughly.

**NOTE:** Equipment must be cleaned immediately after use.

## MANUALLY OPERATED SUN ROOF

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### GENERAL

A manually operated sun roof as shown in figure 3L-8 is available on CJ models equipped with the hardtop option. The sun roof can be opened and locked in place or removed entirely. To remove the sun roof glass, pull the retaining rod and disconnect the latch handle assembly. Tilt the glass to an angle greater than 60 degrees, release bayonets from retainers, and remove glass. Safely stow the glass in storage compartment.

### CJ MODELS

#### Sun Roof Glass

The bayonets and handle assembly are retained by screws with circular water seals, and retaining nuts with washers.

#### Frame

##### Removal

- (1) Remove glass assembly.
- (2) Remove frame screw cover.
- (3) Remove attaching screws from clamp ring.
- (4) Remove clamp ring.
- (5) Push frame assembly outward and remove frame.

##### Installation

(1) Clean sun roof frame and roof panel contact surfaces using 3M General Purpose Adhesive Cleaner and Wax Remover, or equivalent.

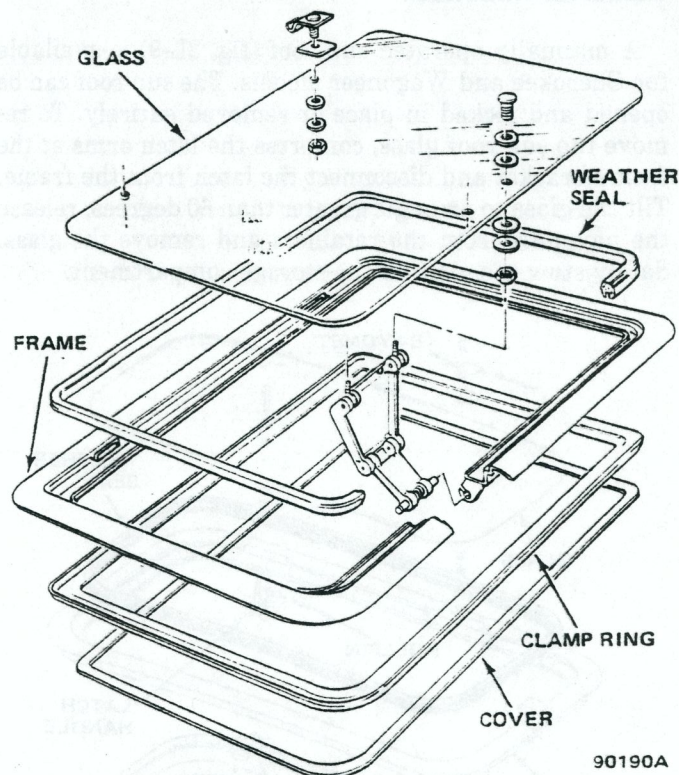


Fig. 3L-8 Sun Roof Component—CJ Models with Hardtop

(2) Apply bead of 3M Clear Super Silicone Sealer, or equivalent, on surface of outer roof panel, 1/8-inch from edge of opening.

(3) Install sun roof frame in roof panel.

(4) Position clamp ring over sun roof frame.

(5) Install attaching screws.

- (6) Wipe excessive sealer from roof panel.
- (7) Install screw cover.
- (8) Install glass assembly.

### Glass Frame Weatherseal

To remove the glass frame weatherseal use 3M Release Agent, or equivalent. Apply one application and allow several minutes for penetration. Apply a second application and allow several minutes for the adhesive bond to soften. Use a wooden wand or fiber stick to pry the weatherseal from sun roof glass frame. Clean weatherseal and adhesive residue from the frame channel with 3M General Purpose Adhesive Cleaner, or equivalent.

To install the replacement weatherseal, first apply a thin bead of 3M Super Weatherstrip Adhesive, or equivalent, to the glass frame locating channel. Using wooden wand or fiber stick, install weatherseal in sun roof glass frame. Apply a thin film of petroleum jelly on seal-to-glass contact surfaces.

### CHEROKEE-WAGONEER

A manually operated sun roof (fig. 3L-9) is available for Cherokee and Wagoneer models. The sun roof can be opened and locked in place or removed entirely. To remove the sun roof glass, compress the latch arms at the frame bracket and disconnect the latch from the frame. Tilt the glass to an angle greater than 60 degrees, release the bayonets from the retainers and remove the glass. Safely stow the glass in the storage compartment.

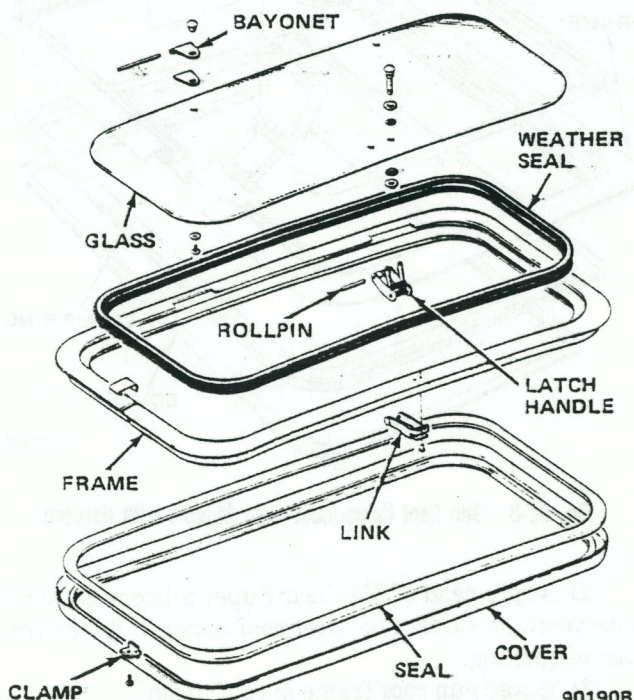


Fig. 3L-9 Sun Roof Components—Cherokee-Wagoneer Models

### Glass Frame Weatherseal

#### Removal

- (1) Remove glass assembly.
- (2) Apply 3M Release Agent, or equivalent, to weatherseal and allow several minutes for penetration.
- (3) Apply second application and allow several minutes for adhesive bond to soften.
- (4) Remove seal from frame.
- (5) Remove all residue from frame with 3M General Purpose Adhesive Remover, or equivalent.

#### Installation

- (1) Apply thin bead of 3M Super Weatherstrip Adhesive, or equivalent, in channel.
- (2) Install weatherseal in channel.
- (3) Apply thin film of petroleum jelly to seal and glass contact surfaces.
- (4) Install glass assembly.

### Frame

#### Removal

- (1) Remove frame cover (fig. 3L-9).
- (2) Remove headliner as described in Chapter 3P.
- (3) Remove sun roof glass.
- (4) Remove frame attaching screws and clamps.
- (5) Remove frame assembly.

#### Installation

- (1) Clean sun roof frame and roof panel contact surfaces using 3M General Purpose Adhesive Cleaner and Wax Remover, or equivalent.
- (2) Apply bead of 3M Clear Super Silicone Sealer, or equivalent, on surface of outer roof panel, 1/8-inch from edge of opening.
- (3) Install sun roof frame in roof panel.

**CAUTION:** Do not install retainers on roof panel indentations. Tighten attaching screws in a criss-cross pattern.

- (4) Install sun roof clamps and attaching screw. Tighten to 7 to 9 inch-pounds (0.79 to 1.02 N•m) torque.
- (5) Wipe excessive sealer from roof panel.
- (6) Install sun roof glass.

**NOTE:** Check sun roof for waterleaks.

- (7) Install headliner as described in Chapter 3P.
- (8) Install frame cover.



# POWER SUN ROOF — WAGONEER LIMITED

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## GENERAL

A power sun roof is available on Wagoneer Limited models (fig. 3L-10). The sun roof features a sliding glass panel operated by an electric motor and a manually operated sun screen. A nylon knit, one-piece headliner with bonded foam backing and a padded vinyl roof are standard with the optional sun roof.

The electric motor that operates the sliding glass panel is activated by a two-position switch mounted in the windshield header. The electric motor itself is mounted in the forward portion of the sun roof housing assembly. Electrical feed to the motor is through the A/C terminal of the fuse panel. Circuit protection is provided by the A/C terminal fuse and by a 20 amp, in-line fuse in a harness wire located just below the left A-pillar.

An additional feature of the sun roof is the ability to close the sliding glass panel manually if an electrical power failure should occur. A cranking tool is provided with the sun roof for this purpose.

A rubber drain hose is used at each corner of the sun roof housing. These hoses remove any water that may bypass the weatherstrip seal surrounding the roof opening. The forward hoses are routed downward through the A-pillars. The rearward hoses are routed downward through the D-pillars.

## HALO ASSEMBLY

### Removal

- (1) Open glass panel partially and remove halo assembly attaching screws (fig. 3L-11).
- (2) Grasp center of halo assembly and pull assembly downward to disengage front tabs from track.
- (3) Close glass panel fully, slide halo assembly forward, and remove assembly from vehicle (fig. 3L-12).

### Installation

- (1) Close glass panel and position rear portion of halo assembly on glass panel.

- (2) Open glass panel partially.
- (3) Install halo assembly attaching screws.

## GLASS PANEL

### Removal

- (1) Remove halo assembly. Refer to Halo Assembly Removal.
- (2) Close glass panel and remove outboard screws from front guide shoe assemblies (fig. 3L-13). Then loosen inboard screws and rotate guide shoes to disengage slide portion from track.
- (3) Release rear slide tension springs by rotating them to inboard position.
- (4) Remove screws attaching rear guide shoes and retainers to tabs in glass panel and remove retainers.
- (5) Working from outside of vehicle, raise front of glass panel and slide panel forward and out of vehicle.

### Installation

- (1) Position glass panel in vehicle.
- (2) Install rear guide shoes and retainer brackets on glass panel and install guide shoe and retainer bracket attaching screws.
- (3) Install rear slide tension springs (fig. 3L-13).

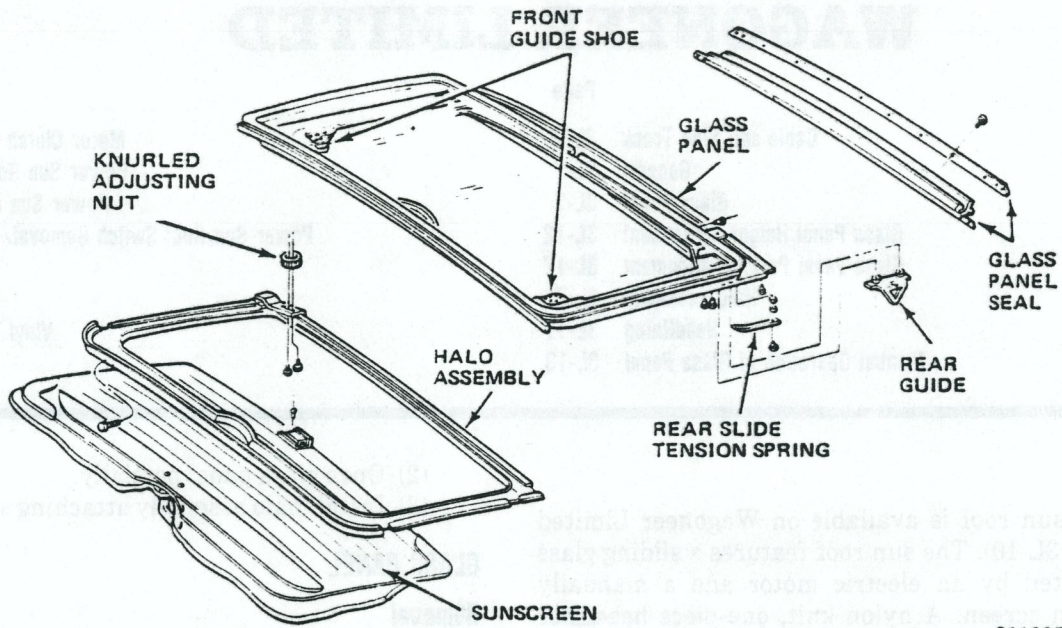
**NOTE:** Be sure the spring is positioned under the spring lock roller.

- (4) Engage slide portion of front guide shoe assemblies in track and install guide shoe attaching screws.
- (5) Install halo assembly. Refer to Halo Assembly Installation.

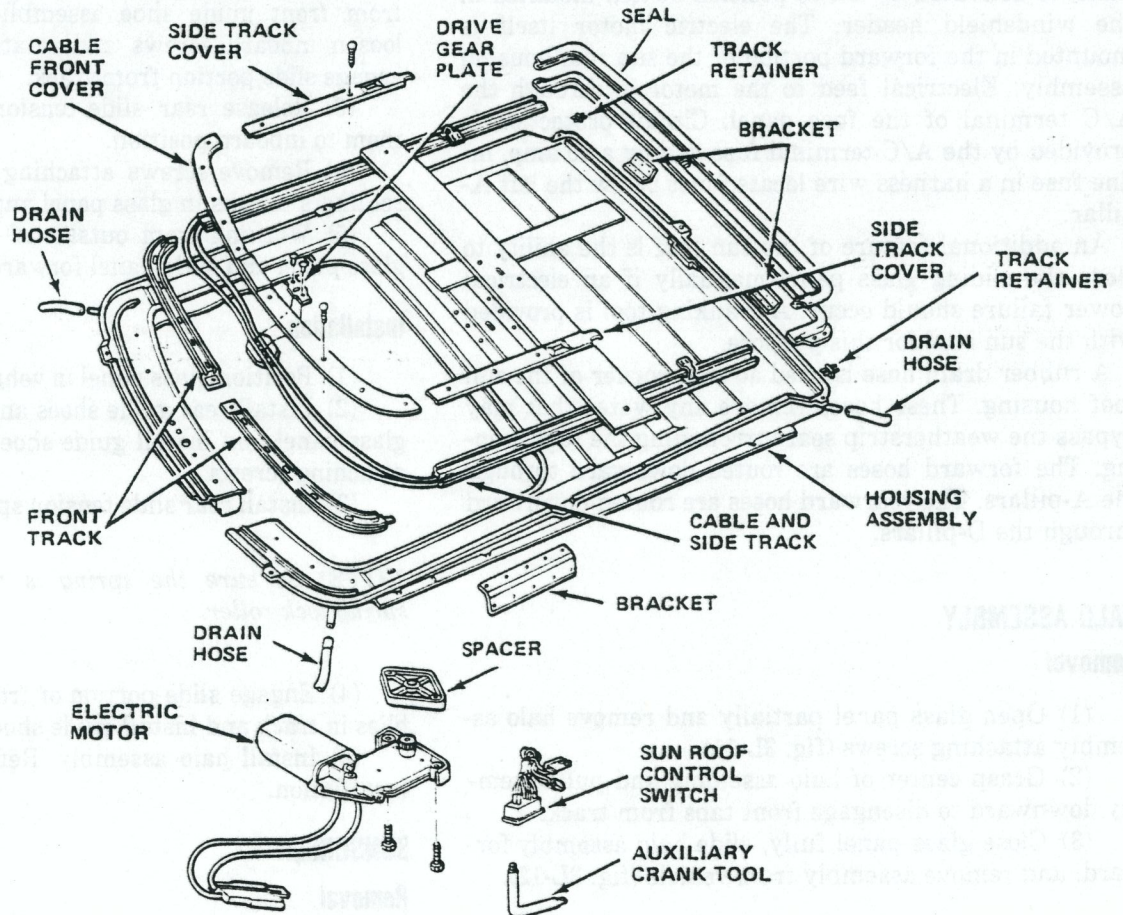
## SUNSCREEN

### Removal

- (1) Remove halo assembly and glass panel. Refer to Halo Assembly Removal and Glass Panel Removal procedures.
- (2) Open sunscreen fully.



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Fig. 3L-10 Power Sun Roof Assembly

(3) Working from outside of vehicle, push sunscreen upward at center of screen and slide screen forward and upward to remove it (fig. 3L-14).

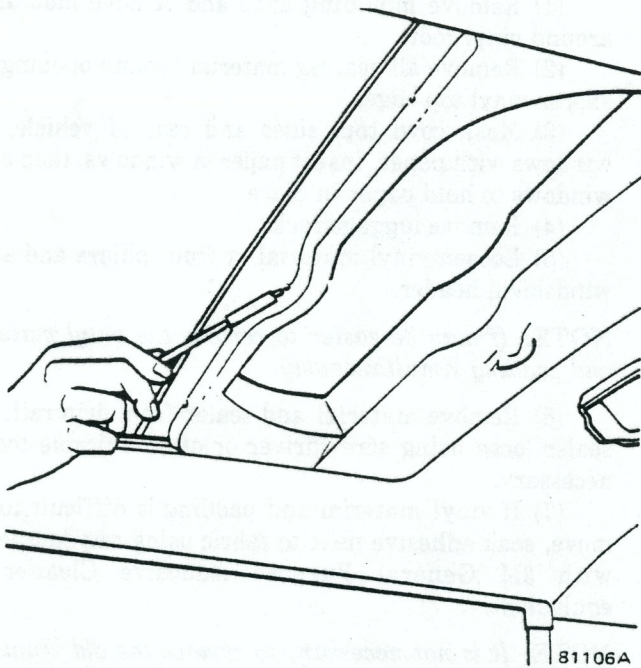


Fig. 3L-11 Removing/Installing Halo Assembly Attaching Screws

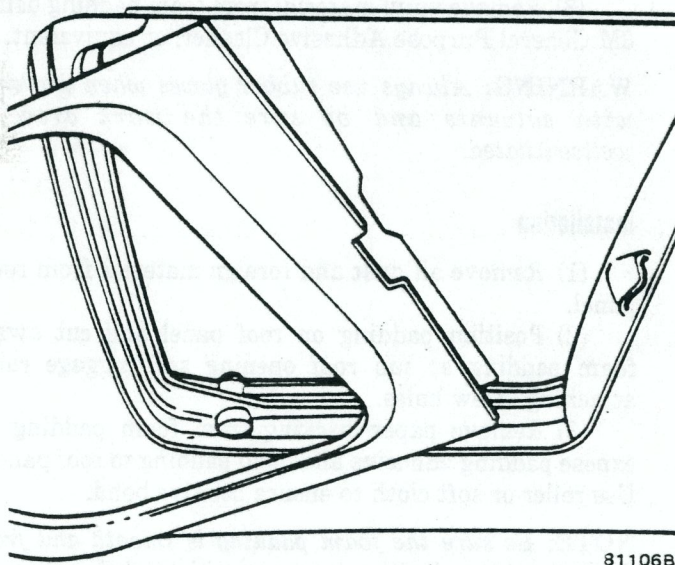


Fig. 3L-12 Removing/Installing Halo Assembly

**Installation**

- (1) Working from outside of vehicle, curve sunscreen upward at center of screen and slide screen rearward and downward into sun roof opening (fig. 3L-14).
- (2) Install glass panel and halo assembly. Refer to Glass Panel Installation and Halo Assembly Installation procedure.

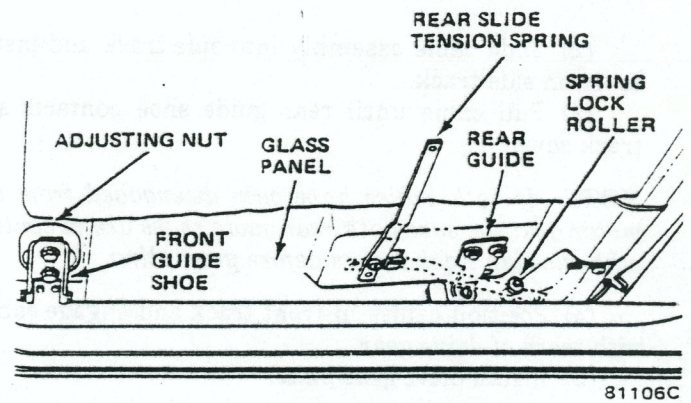


Fig. 3L-13 Front Guide Shoe and Rear Tension Spring

**CABLE AND SIDE TRACK**

**Removal**

- (1) Remove halo assembly, glass panel and sunscreen. Refer to removal procedures.
- (2) Remove screws that attach cable front cover and remove cover (fig. 3L-10).
- (3) Remove drive gear plate.
- (4) Remove side track cover screws and remove side track cover.

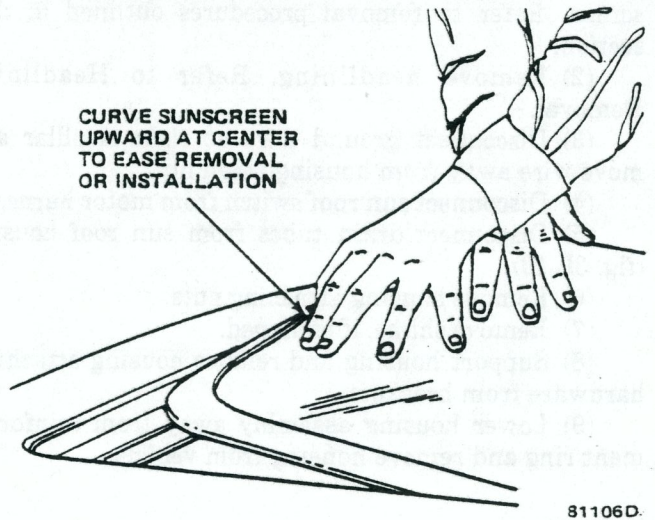


Fig. 3L-14 Sunscreen Removal/Installation

- (5) Disengage cable from front track and motor gear and remove cable by pulling it upward and outward.

**NOTE:** It may be necessary to reposition the front cable guide before the cable can be removed from the track.

- (6) Lift side track upward and remove side track.

**Installation**

- (1) Position side track in sun roof housing. Be sure track retainer is seated in hole at rear of housing (fig. 3L-10).

(2) Slide cable assembly into side track and install cover on side track.

(3) Pull cable until rear guide shoe contacts side track cover.

**NOTE:** *If both cables have been disengaged from the motor gear, be sure both rear guide shoes are in contact with the side track covers before proceeding.*

(4) Position cables in front track and engage cables with teeth of drive gear.

(5) Install drive gear plate.

**CAUTION:** *Do not operate the motor at this time as the cables could be damaged.*

(6) Install cable front cover.

(7) Install sunscreen, glass panel and halo assembly. Refer to installation procedures outlined in this section.

## **POWER SUN ROOF HOUSING**

### **Removal**

(1) Remove halo assembly, glass panel and sunscreen. Refer to removal procedures outlined in this section.

(2) Remove headlining. Refer to Headlining Removal.

(3) Disconnect ground wire at right A-pillar and move wire away from housing assembly.

(4) Disconnect sun roof switch from motor harness.

(5) Disconnect drain tubes from sun roof housing (fig. 3L-10).

(6) Remove housing attaching nuts.

(7) Remove shims, if equipped.

(8) Support housing and remove housing attaching hardware from brackets.

(9) Lower housing assembly away from reinforcement ring and remove housing from vehicle.

### **Installation**

(1) Position housing assembly in vehicle.

(2) Raise and support housing on reinforcement ring.

(3) Install shims, if equipped, and tighten housing attaching hardware.

(4) Connect drain tubes to housing assembly (fig. 3L-10).

(5) Connect sun roof switch to motor harness.

(6) Position ground wire on housing assembly and connect wire to right A-pillar.

(7) Install headlining. Refer to Headlining Installation.

(8) Install sunscreen, glass panel and halo assembly. Refer to Installation Procedures outlined in this section.

## **VINYL ROOF**

### **Removal**

(1) Remove moulding clips and remove mouldings around vinyl roof.

(2) Remove all sealing material around openings to expose vinyl top edges.

(3) Mask cowl top, sides and rear of vehicle, and windows with paper. Insert paper in windows, then close windows to hold paper in place.

(4) Remove luggage rack.

(5) Loosen vinyl material at front pillars and along windshield header.

**NOTE:** *If may be easier to remove the vinyl material and padding simultaneously.*

(6) Remove material and sealer from drip rail. Pry sealer loose using screwdriver or other suitable tool if necessary.

(7) If vinyl material and padding is difficult to remove, soak adhesive next to fabric using rag dampened with 3M General Purpose Adhesive Cleaner or equivalent.

**NOTE:** *It is not necessary to remove the old vinyl top adhesive. However, it is important that the roof surface be smooth and free of irregularities to prevent highlighting after a new cover is installed.*

(8) Remove vinyl material from foam padding using 3M General Purpose Adhesive Cleaner, or equivalent.

**WARNING:** *Always use rubber gloves when working with solvents and be sure the work area is wellventilated.*

### **Installation**

(1) Remove all dust and foreign material from roof panel.

(2) Position padding on roof panel and cut away foam padding at sun roof opening and luggage rack attaching screw holes.

(3) Remove paper backing from foam padding to expose padding adhesive and bond padding to roof panel. Use roller or soft cloth to ensure positive bond.

**NOTE:** *Be sure the foam padding is smooth and free from any irregularities to prevent highlighting after a new cover is installed.*

(4) Mark centerline of roof panel above windshield and rear window openings.

(5) Align center of vinyl cover with centerline mark above windshield and rear window.

(6) Secure cover to pinch weld flange at centerline locations with tape.

(7) Check cover for alignment at both sides and at roof extension panels.

(8) Fold cover in half at centerline.

(9) Apply smooth, even coat of 3M Vinyl Trim Adhesive or equivalent to 15-inch wide strip of one side of foam padding and to vinyl cover. Start at center when applying adhesive and work from front to rear.

**NOTE:** Allow the adhesive applied to the vinyl material and foam padding to dry until it is tacky to the touch.

(10) Bond cover to foam padding using a roller or soft cloth to ensure positive bond and to eliminate air pockets. Bond cover by starting at centerline and working toward side.

**NOTE:** To remove wrinkles caused by folding, keep the cover fabric taut while installing it.

(11) Apply adhesive to remainder of cover and foam padding and in drip moulding at side of cover being installed. Allow adhesive to dry until tacky.

(12) Apply smooth, even coat of adhesive to 15-inch wide strip of foam padding and to vinyl cover on opposite side of vehicle. Start at center and work from front to rear when applying adhesive. Allow adhesive to dry until tacky.

**NOTE:** When applying the cover to the foam padding, always work from the center to the outside to eliminate air pockets to ensure positive bonding.

(13) Brush adhesive onto cover, ledge of windshield, and rear window opening. Allow adhesive to dry until tacky before bonding.

(14) Work vinyl cover into crease line areas around roof using smooth fiber stick.

(15) Trim excess cover material from around drip rails, windshield and rear window.

(16) Trim vinyl material around sun roof opening and luggage rack attaching screw holes.

(17) Brush adhesive onto cover and ledge of sun roof opening. Allow adhesive to dry until tacky before bonding.

(18) Position and work vinyl cover into sun roof opening using smooth fiber stick.

(19) Install luggage rack.

(20) Apply bead of 3M Super Silicone Sealer (black preferred) or equivalent along top of windshield rubber weather strip and vinyl cover.

**NOTE:** It may be necessary to apply sealer to the drip rails also.

(21) Remove excess sealer using 3M General Purpose Adhesive Cleaner or equivalent and remove all masking tape and paper.

(22) Install mouldings and clips.

## HEADLINING

### Removal

(1) Remove sun visors, escutcheons and center support.

(2) Remove windshield moulding and end caps.

(3) Remove sun roof switch and disconnect switch wires.

(4) Remove sun roof opening trim welt and remove motor cap.

(5) Spray 3M Release Agent or equivalent, across headlining at windshield and around sunroof opening. Allow several minutes for release agent penetration.

**CAUTION:** When removing the headlining, use care to avoid separating the foam backing from the fabric. If the fabric begins to separate from the backing, make a second application of the release agent.

(6) Remove headlining from roof panel and sun roof opening.

(7) Remove headlining from side retainers.

(8) Remove lens from dome lamp. Remove screws attaching lamp to sun roof housing and remove lamp.

(9) Remove coat hooks.

(10) Remove lens from cargo lamp, then remove screws attaching cargo lamp to roof bow and remove lamp and switch.

(11) Remove tailgate opening moulding and end caps.

(12) Spray 3M Release Agent, or equivalent, across headlining at tailgate opening moulding. Allow several minutes for release agent penetration.

**CAUTION:** When removing the headlining, use care to avoid separating the foam backing from the fabric. If the fabric begins to separate from the backing, make a second application of release agent.

(13) Remove headlining from tailgate opening.

(14) Remove headlining from side retainers and slide headliner rearward and out of headlining brackets.

(15) Remove headlining from vehicle through tailgate opening.

### Installation

(1) Install headlining in vehicle through tailgate opening. Insert headlining in headlining brackets and slide headlining forward.

(2) Spray 3M General Trim Adhesive, or equivalent, across at roof panel at tailgate opening.

(3) Attach headlining to roof panel at tailgate opening and install tailgate opening moulding and end caps.

(4) Pull headlining forward. Install headlining up to coat hook locations along both sides using Installer Tool J-2772-C.

(5) Connect and install cargo lamp and lens.

(6) Connect and install cargo lamp switch.

(7) Spray 3M General Trim Adhesive, or equivalent, on sun roof opening flange.

(8) Install coat hooks.

(9) Pull headlining forward and attach it to sun roof opening flange.

(10) Install sun roof opening trim welt.

(11) Connect and install dome lamp and lens.

- (12) Place strip of masking tape across top of windshield at roof panel.
- (13) Spray 3M General Trim Adhesive, or equivalent, on roof panel along top of windshield.
- (14) Using sun visor holes as guides, pull headlining forward and attach it along windshield.
- (15) Install headlining along both sides using Installer Tool J-2772-C.
- (16) Connect and install sun roof switch.
- (17) Install windshield moulding and end caps, and motor cap.
- (18) Install sun visors, escutcheons and center support.
- (19) Remove masking tape.

### POWER SUN ROOF SWITCH REMOVAL/INSTALLATION

- (1) Pull switch downward and disconnect switch wires (fig. 3L-10).
- (2) Connect switch wires and install switch in switch opening.

### POWER SUN ROOF MOTOR

#### Removal

- (1) Open sun roof glass panel; then disconnect battery negative cable.
- (2) Remove sun visors, escutcheons, center support, and windshield moulding and end caps.
- (3) Remove sun roof switch and motor cap.
- (4) Spray 3M Release Agent, or equivalent, across headlining at windshield. Allow several minutes for release agent penetration.

**CAUTION:** *When removing the headlining, use care to avoid separating the foam backing from the fabric. If the fabric begins to separate from the backing, make a second application of the release agent.*

- (5) Pull front edge of headlining downward.
- (6) Remove motor mounting screws and remove motor.

#### Installation

- (1) Position motor in housing and install motor mounting screws.
- (2) Place strip of masking tape across top of windshield at roof panel.
- (3) Spray 3M General Trim Adhesive, or equivalent, on roof panel along top of windshield.
- (4) Pull headlining forward and attach it along windshield. Use sun visor holes as guides when attaching headlining.
- (5) Connect wires to sun roof switch and install switch and motor cap.
- (6) Install sun visors, escutcheons, windshield trim moulding and end caps, and center support.

- (7) Connect battery negative cable, and check sun roof operation.

**NOTE:** *If the motor slips and does not open and close the glass panel, the motor clutch located in the gear portion of the motor may have to be adjusted. Refer to Motor Clutch Adjustment.*

### MOTOR CLUTCH ADJUSTMENT

- (1) Remove motor cap to gain access to adjusting screw. Cap is located in headlining just above, and at center of windshield.
- (2) Loosen clutch plate adjusting screw jamnut using deep socket.
- (3) Tighten adjusting screw to 50 inch-pounds (5.6 N•m) torque.
- (4) Tighten jamnut and install motor cap.

### GLASS PANEL PARALLEL ALIGNMENT

**CAUTION:** *Do not operate the electric motor while the glass panel or cables are removed from the track as cable damage could occur.*

- (1) Open glass panel approximately 1/4 to 1/2 inch.
- (2) Determine how much forward edge of glass panel is out of parallel with forward edge of opening in roof panel and note variation.
- (3) Open panel approximately 8 inches to gain access to cable and drive gear mechanism.
- (4) Remove cable front cover and drive gear plate.
- (5) Remove one cable from track.
- (6) Move one side of glass panel slightly fore or aft as required to obtain parallel alignment with forward edge of roof panel opening (fig. 3L-15).
- (7) Install cable in front track and insert cable in drive gear teeth.
- (8) Install drive gear plate and cable front cover.
- (9) Position glass panel approximately 1/4 inch from fully closed position.
- (10) Check parallel alignment. Repeat steps (2) through (9) to obtain proper alignment if necessary.

### GLASS PANEL HEIGHT ADJUSTMENT

#### Adjusting Front of Panel

- (1) Remove halo assembly. Refer to Halo Assembly Removal.
- (2) Loosen front guide shoe attaching screws (fig. 3L-16).

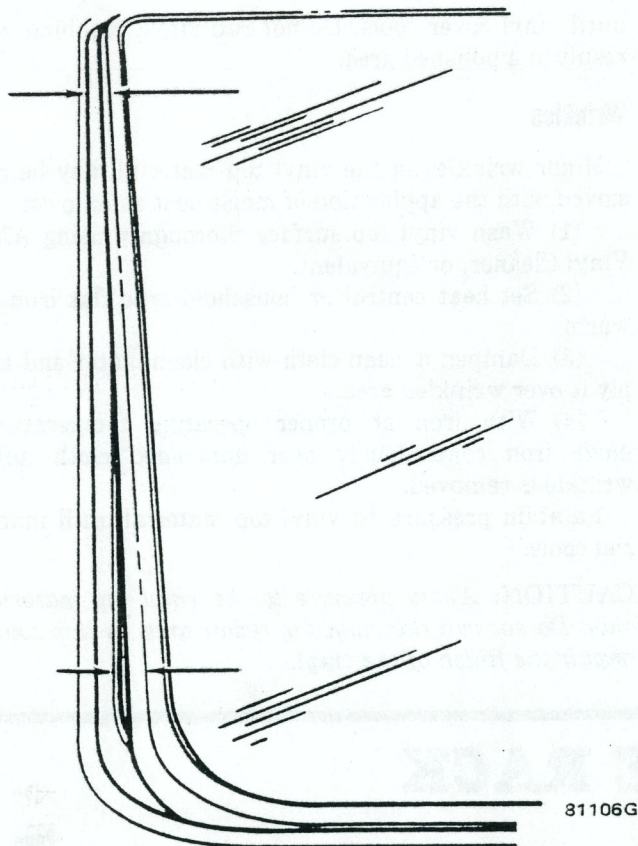


Fig. 3L-15 Glass Panel Parallel Alignment

(3) Turn knurled nut on each front guide shoe clockwise to lower glass panel or counterclockwise to raise panel and obtain desired height adjustment (fig. 3L-16).

(4) Tighten front guide shoe attaching screws to 20 inch-pounds (2.3 Nm) torque after adjusting panel height.

**CAUTION:** Do not adjust the glass panel too high as it could be damaged when the panel is opened or closed.

(5) Check glass panel alignment and operation in open and closed positions. Repeat steps (2) through (4) to obtain proper height if necessary.

(6) Install halo assembly. Refer to Halo Assembly Installation.

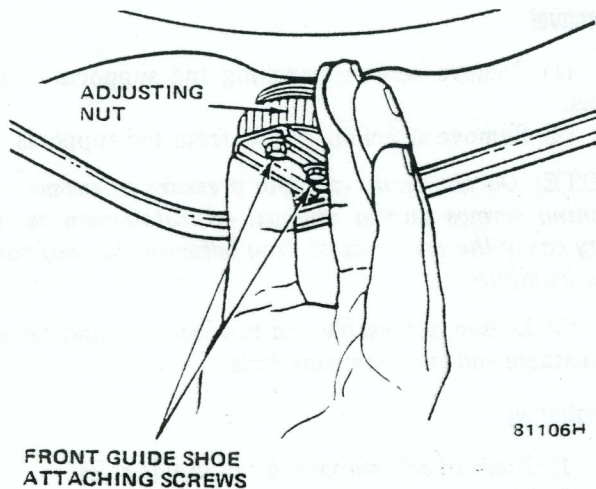


Fig. 3L-16 Glass Panel Front Height Adjustment

### Adjusting Rear of Panel

(1) Remove halo assembly. Refer to Halo Assembly Removal.

(2) Release rear slide tension spring and rotate spring to inboard position (fig. 3L-13).

(3) Loosen rear slide adjuster nut (fig. 3L-17) and raise or lower panel as required to obtain desired adjustment.

(4) Tighten rear slide adjuster nut to 30 inch-pounds (3.3 Nm) torque after completing adjustment.

(5) Install halo assembly. Refer to Halo Assembly Installation.

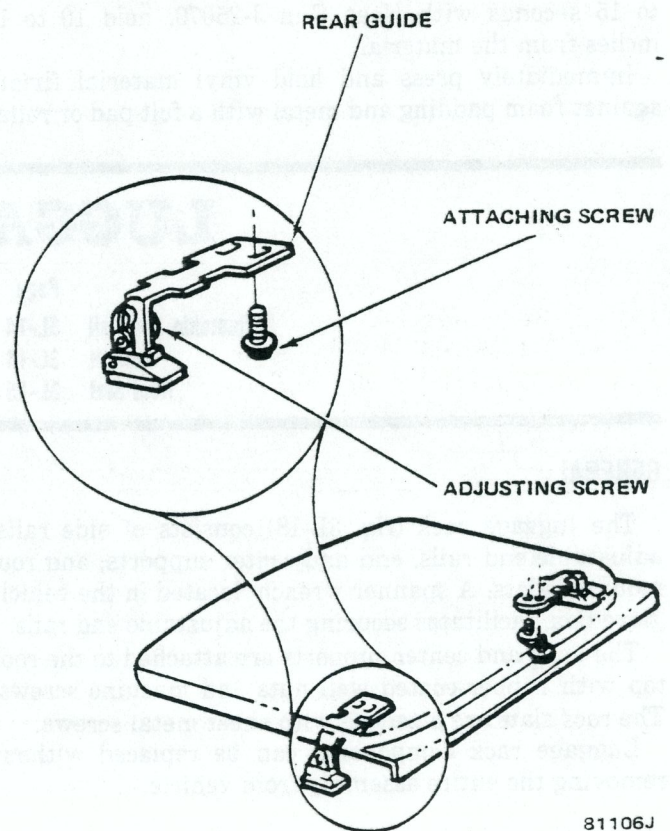


Fig. 3L-17 Glass Panel Rear Height Adjustment

### MANUAL OPERATION OF GLASS PANEL

If an electrical malfunction should ever occur, the glass panel can be opened or closed manually as follows:

(1) Remove small round motor cap located in center of windshield header near front edge of sun roof opening. Cap removal will provide access to motor driveshaft.

(2) Remove screw in driveshaft using flat bladed screwdriver or cranking tool blade end (located in glovebox).

(3) Rotate motor driveshaft using cranking tool. Rotate driveshaft clockwise to close glass panel, or counter-clockwise to open panel.

(4) Install screw in driveshaft and install access plug in windshield header after opening/closing glass panel.

## VINYL TOP REPAIR

### Bulges or Blisters

Bulges or blisters in the vinyl top indicate poor bonding or trapped air. They can be eliminated by piercing the bulge or blister to expel the air. Heat the area for 10 to 15 seconds with Heat Gun J-25070, held 10 to 15 inches from the material.

Immediately press and hold vinyl material firmly against foam padding and metal with a felt pad or roller

until vinyl cover cools. Do not rub vinyl. Rubbing will result in a polished area.

### Wrinkles

Minor wrinkles in the vinyl top material may be removed with the application of moist heat as follows:

(1) Wash vinyl top surface thoroughly using AMC Vinyl Cleaner, or equivalent.

(2) Set heat control or household-type flat iron to warm.

(3) Dampen a clean cloth with clean water and apply it over wrinkled area.

(4) With iron at proper operating temperature, move iron continuously over dampened cloth until wrinkle is removed.

Maintain pressure on vinyl top material until material cools.

**CAUTION:** Apply pressure to the vinyl top material only. Do not rub the vinyl top repair area as this could impair the finish of the vinyl.

# LUGGAGE RACK

	Page		Page
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Roof Slat	3L-15		

## GENERAL

The luggage rack (fig. 3L-18) consists of side rails, adjustable end rails, end and center supports, and roof mounted slats. A spanner wrench, located in the vehicle glove box, facilitates securing the adjustable end rails.

The ends and center supports are attached to the roof top with rubber-coated well nuts and machine screws. The roof slats are attached with sheet metal screws.

Luggage rack components can be replaced without removing the entire assembly from vehicle.

## SUPPORT

### Removal

- (1) Remove screw(s) attaching support to side rail.
- (2) Remove attaching screws from support.

**NOTE:** Do not apply extreme pressure to support attaching screws during removal or installation as this may cause the well nuts to drop between the roof panel and headliner.

- (3) Remove support and gasket from roof.

### Installation

- (1) Position support on side rail.
- (2) Position support and gasket on roof.
- (3) Coat screw threads with 3M Drip-Chek Sealer or equivalent, and install screws. Tighten screws to 28 inch-pounds (3 N•m) torque.
- (4) Install screw(s) attaching support to side rail.

## ADJUSTABLE END RAIL

### Removal

- (1) Remove screws attaching end supports to side rails.
- (2) Remove attaching screws from end supports.

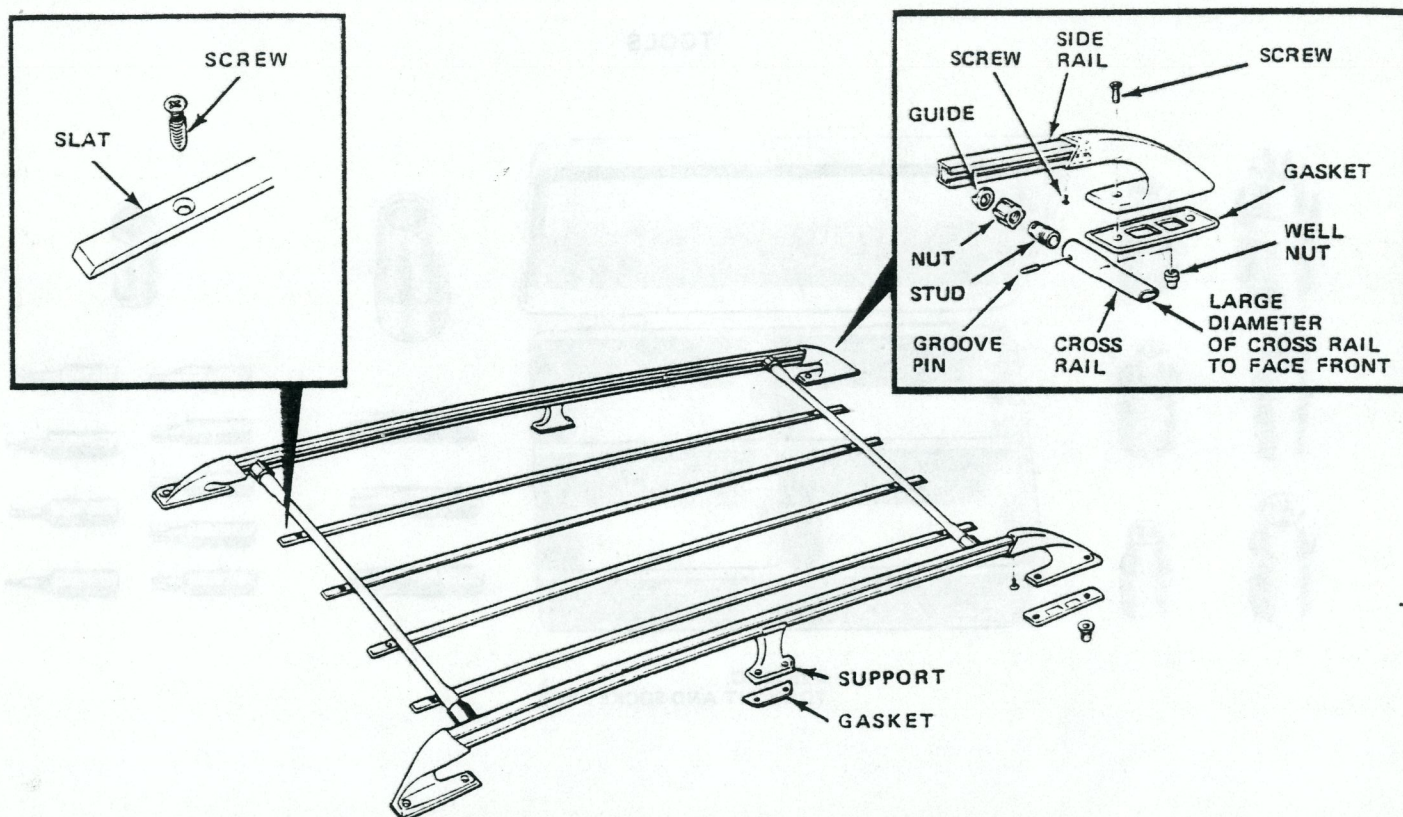
**NOTE:** Do not apply extreme pressure to support attaching screws during removal or installation as this may cause the well nuts to drop between the roof panel and headliner.

- (3) Loosen adjustable end rail locknuts and remove adjustable end rail from side rails.

### Installation

- (1) Position adjustable end rail in side rails.
- (2) Position end supports on side rails.





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Fig. 3L-18 Luggage Rack—Cherokee-Wagoneer Models

- (3) Position end supports and gaskets on roof.
- (4) Coat screw threads with 3M Drip-Chek Sealer or equivalent, and install screws. Tighten screws to 28 inch-pounds (3 N•m) torque.
- (5) Install screws attaching end supports to side rails.
- (6) Tighten adjustable end rail locknuts.

## SIDE RAIL

### Removal

- (1) Remove screws attaching side rail to supports.
- (2) Remove screws attaching end support to roof.

**NOTE:** Do not apply extreme pressure to support attaching screws during removal or installation as this may cause the well nuts to drop between the roof panel and headliner.

- (3) Remove end support and side rail.

### Installation

- (1) Position side rail on supports.
- (2) Position end support and gasket on roof.

- (3) Coat screw threads with 3M Drip-Chek Sealer or equivalent, and install screws. Tighten screws to 28 inch-pounds (3 N•m) torque.
- (4) Install screws attaching side rail to supports.

## ROOF SLAT

### Removal

- (1) Remove screws attaching roof slat to roof.
- (2) Remove roof slat.

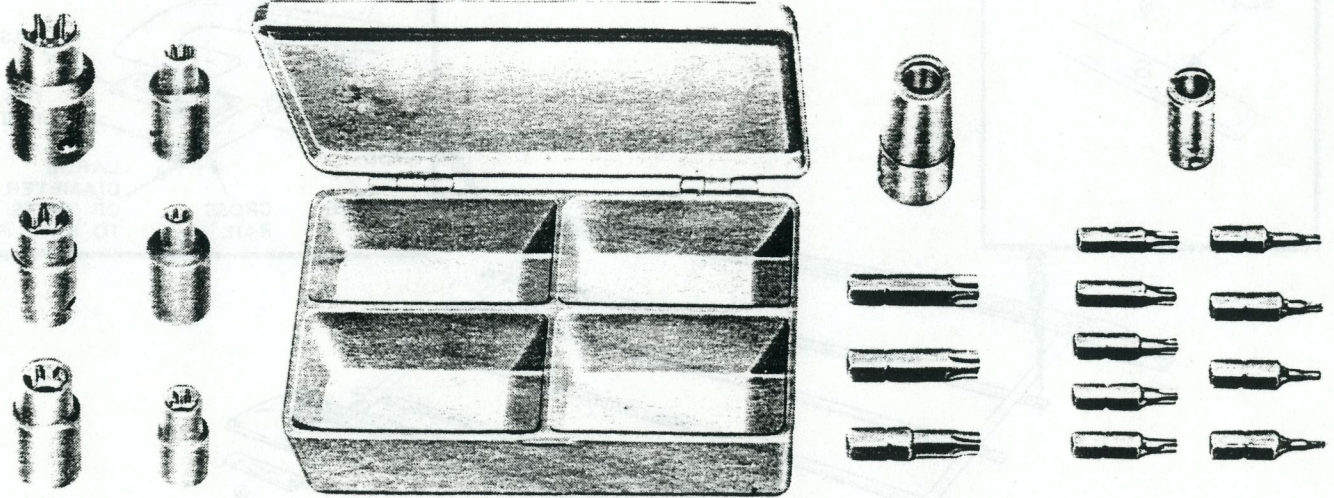
### Installation

**CAUTION:** Exercise care not to damage painted or vinyl surfaces.

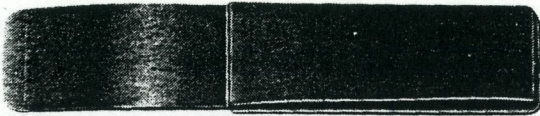
**NOTE:** Surface must be clean and dry for roof slat to adhere.

- (1) Position roof slat on roof panel.
- (2) Install screws attaching roof slat to roof.

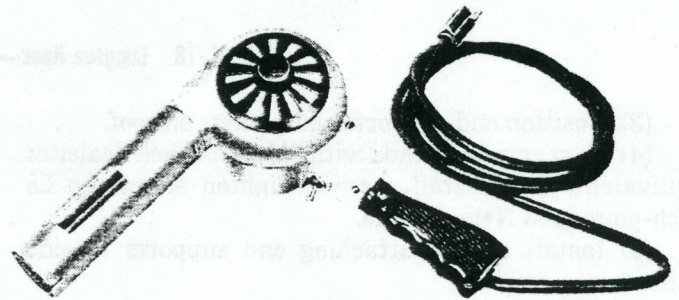
TOOLS



J-25359-C  
TORX BIT AND SOCKET SET



J-2772-C  
HEADLINING INSTALLER



J-25070  
HEAT GUN

# SEAT ASSEMBLIES

# 3M

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## FRONT SEATS

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### GENERAL

Bucket seats are standard on 2-door Cherokee and CJ models (fig. 3M-1) and optional on the Wagoneer, 4-door Cherokee, and Truck models. The passenger side bucket seat, except CJ, is adjustable fore and aft. On Cherokee 2-door and Truck models, the passenger side bucket seat has a forward tilting seat back for access to rear seat or tool storage area. A folding support for passenger side bucket seat on CJ models allows the whole seat to move forward for easier entry to the rear area.

On all Truck models, the bench seat back swings forward for access to the seat back storage area. The seat back locks automatically in the fully upright position to prevent it from tilting forward in the event of sudden stops. To release the seat back lock, pull up on the seat back release.

The fore-and-aft seat adjuster mechanism for Cherokee-Wagoneer-Truck models and left front CJ seats has a turnbuckle to allow for slight dimensional variances during production assembly of seats and seat support components. The turnbuckle permits the seat sliding and latching components to be adjusted for trouble-free operation. Adjustment of the turnbuckle is covered in this chapter.

All seat belts utilize quick-release buckle latches. Cherokee and Wagoneer models are equipped with three

sets of rear seat belts; the two outboard seat belt retractors are anchored on the wheelhousings.

### CJ BUCKET SEATS

The seats are removed by unfastening the supports and braces from the floorpan.

The left front seat frame attaches to the seat slides and the seat slides, in turn, attach to braces or supports which are fastened to the floorpan. The seat may be locked in the full forward position, or every half inch toward the full rear position, for a distance of approximately 2-1/2 inches on CJ-5 models and five inches on other models.

### Removal

- (1) Remove screws (fig. 3M-1) attaching supports and braces to floorpan.
- (2) Remove seat assembly from vehicle.

### Installation

- (1) Position seat assembly in vehicle.
- (2) Install screws attaching supports and braces to floorpan. Tighten screws to 15 foot-pounds (20 N•m) torque.

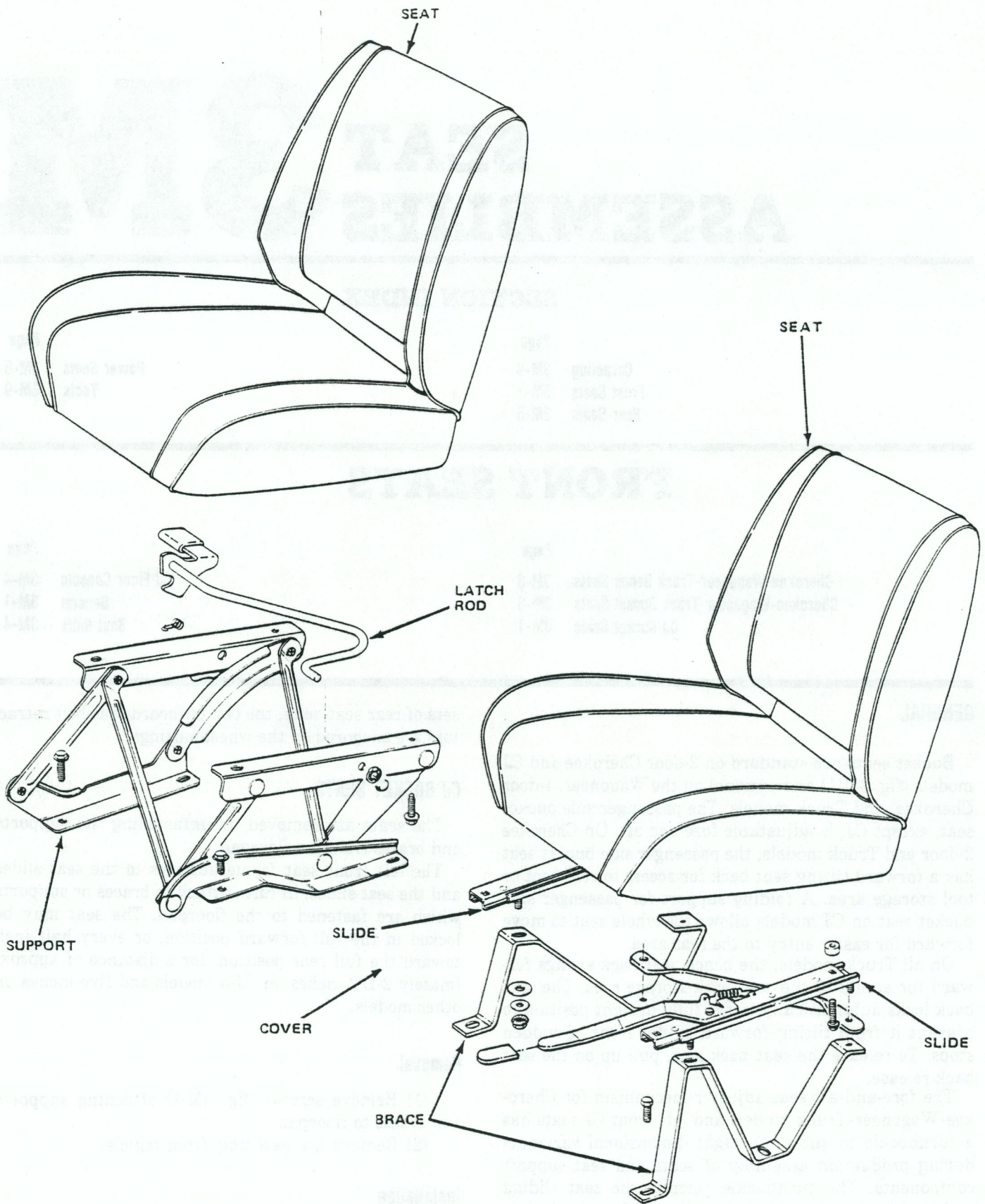


Fig. 3M-1 Bucket Seats—CJ Models

## CHEROKEE-WAGONEER-TRUCK BUCKET SEATS

The seats are removed by unfastening the supports and/or braces from the floorpan.

The front seat frame attaches to the seat slides and the seat slides, in turn, attach to braces or supports which are fastened to the floorpan. The seat may be locked in the full forward position, or every half inch toward the full rear position, for a distance of approximately five inches.

### Removal

- (1) Remove screws attaching supports to floorpan.
- (2) Remove seat assembly from vehicle.

### Installation

- (1) Position seat assembly in vehicle.
- (2) Install screws attaching supports to floorpan. Tighten screws to 20 foot-pounds (27 N•m) torque.

## Forward Tilting Seat Back Replacement—Cherokee and Truck Models

- (1) If equipped with center armrest, remove bucket seat from vehicle.
- (2) Remove screw attaching side wing panel-to-hockey stick using Torx Bit Tool J-25359-C.
- (3) Remove screws attaching hockey sticks to bottom frame using Torx Bit Tool J-25359-C.
- (4) Remove seat back.
- (5) Position seat back on bottom frame and install screws attaching hockey sticks to bottom frame using Torx Bit Tool J-25359-C.
- (6) Position side wing panel on outboard hockey stick and install attaching screw using Torx Bit Tool J-25359-C.
- (7) Install bucket seat in vehicle, if removed.

## Tilt Lock Pawl Assembly

### Removal

- (1) Remove forward tilting seat back.
- (2) Remove screw attaching release handle-to-latching rod using Torx Bit Tool J-25359-C and remove handle.
- (3) Remove screws attaching plastic bumpers using Torx Bit Tool J-25359-C and remove bumpers.
- (4) Unzip upholstery and pull back.
- (5) Remove spring retainers attaching latching rod (fig. 3M-2).
- (6) Remove rod, pawl, and spring from seat.

### Installation

- (1) Position pawl and spring in seat and install latching rod.
- (2) Install spring retainers attaching latching rod to seat.

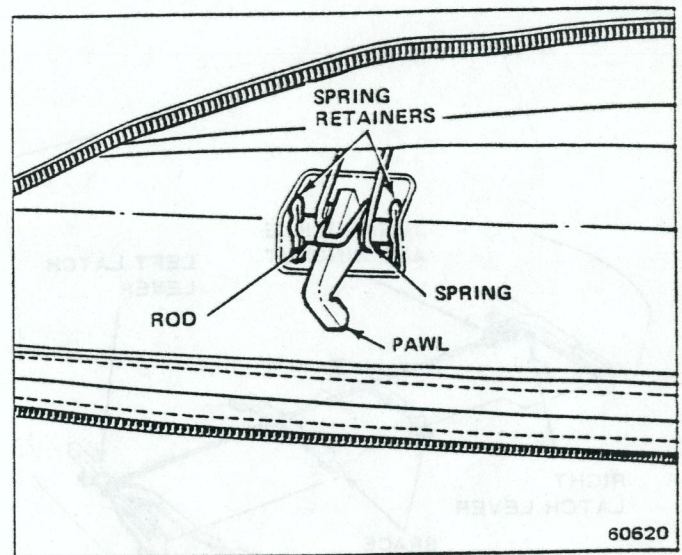


Fig. 3M-2 Tilt Lock Pawl Assembly

- (3) Pull upholstery over pad, zip up and tuck end of zipper under upholstery.
- (4) Position plastic bumpers on seat and install attaching screws using Torx Bit Tool J-25359-C.
- (5) Position release handle on latching rod and install attaching screw using Torx Bit Tool J-25359-C.
- (6) Install forward tilting seat back.

## CHEROKEE-WAGONEER-TRUCK BENCH SEATS

The seats are removed by unfastening the supports and/or braces from the floorpan.

The front seat frame attaches to the seat slides and the seat slides, in turn, attach to supports which are fastened to the floorpan. The seat may be locked in the full forward position, or every half inch toward the full rear position, for a distance of approximately five inches.

On bench seats and bucket seats, a latch wire connects the right and left spring-loaded locking levers, facilitating the simultaneous unlocking or locking of both seat adjusting slides.

### Removal

- (1) Remove screws attaching supports to floorpan.
- (2) Remove seat assembly from vehicle.

### Installation

- (1) Position seat assembly in vehicle.
- (2) Install screws attaching supports to floorpan. Tighten screws to 20 foot-pounds (27 N•m) torque.

### Adjustment

- (1) Locate turnbuckle under bench seat (fig. 3M-3). Loosen turnbuckle wingnut.

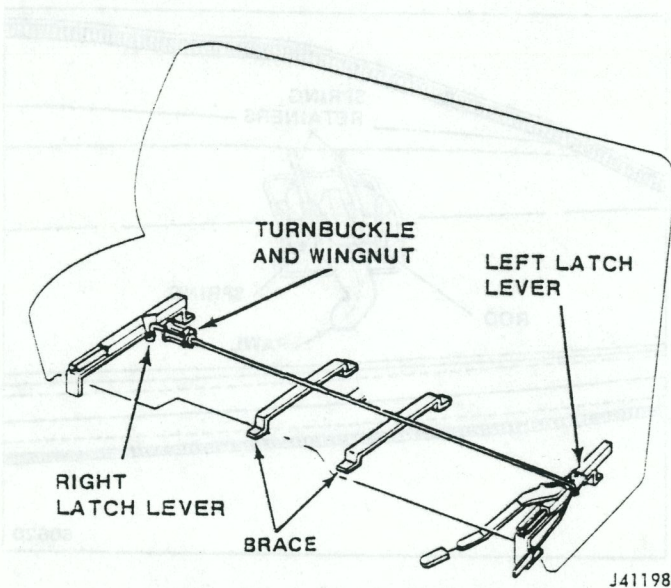


Fig. 3M-3 Front Seat Adjustment

- (2) Tighten turnbuckle until slack is removed from wire.
- (3) Back off turnbuckle three turns.
- (4) Secure wingnut up against turnbuckle.
- (5) Check for proper seat adjustment operation. If right side of seat will not release, increase tension by tightening turnbuckle. If right side of seat will not lock in place, decrease tension by loosening turnbuckle.

**CJ FLOOR CONSOLE**

The beverage container type floor console (fig. 3M-4), available only with bucket seat equipped models, is fabricated from molded plastic material. The floor console cover is provided with a lock and two depressions designed to hold beverage containers. The bottom of the floor console is equipped with a hole, in the rear, allowing ice water to drain onto the ground.

The oval head key is utilized to lock and unlock the cover.

**Removal**

- (1) Open console cover.
- (2) Remove screws attaching console to floorpan.
- (3) Remove console assembly from vehicle.

**Installation**

- (1) Position console assembly in vehicle.
- (2) Align drain hole with hole in floorpan and install attaching screws.
- (3) Close and latch console cover.

**Console Cover Seal**

The console cover seal is attached to the console. The foam seal may be replaced after opening the cover.

**Console Cover Lock**

**Lock Cylinder Removal**

- (1) Open console cover.
- (2) Remove screw attaching retainer to lock. Remove retainer from lock.
- (3) Remove lock, cylinder and key as unit from cover.
- (4) Manually set latch to simulate closed cover position, turn key and cylinder counterclockwise and lift out of lock.

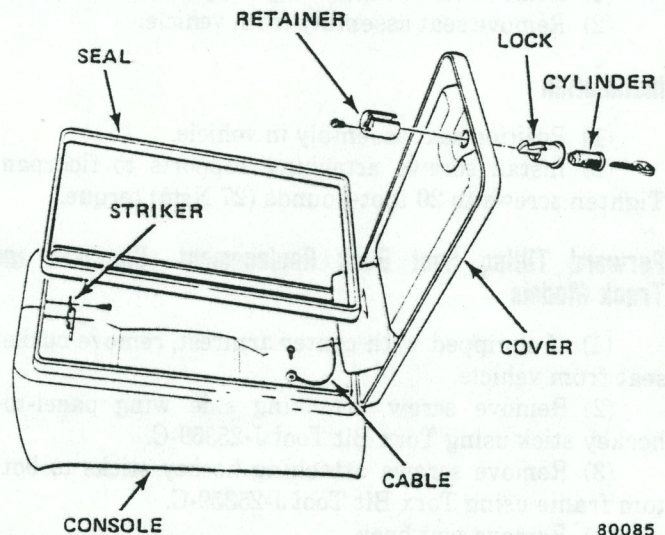


Fig. 3M-4 Floor Console Components

**Lock Cylinder Installation**

- (1) Manually set latch to simulate closed cover position.
- (2) Insert key and cylinder into lock and turn clockwise. Release latch and remove key.
- (3) Position assembled lock in cover and install retainer and attaching screw.

**SEAT BELTS**

**Removal**

- (1) Remove seat belt anchor bolt with Torx Bit Tool J-25359-C.
- (2) Remove seat belt.
- (3) Remove shoulder belt guide cover from guide, if equipped.
- (4) Remove guide bolt with Torx Bit Tool J-25359-C.
- (5) Obtain access to seat belt retractors by removing trim covers.
- (6) Remove seat belt retractors anchor bolts with Torx Bit Tool J-25359-C.
- (7) Remove seat belt retractor.
- (8) Inspect seat belt material for evidence of wear, cuts, or fraying. Replace as required.

**Installation**

(1) Install seat belt and seat belt retractor anchor bolts. Tighten to 25 to 35 foot-pounds (34 to 47 N•m) torque.

- (2) Position shoulder belt guide on B-pillar and install bolt with Torx Bit Tool J-25359-C.  
 (3) Install shoulder belt guide cover.  
 (4) Install seat belt retractor trim cover.

**REAR SEATS**

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CJ Seats	3M-5

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**CJ SEATS**

The rear seat assembly (fig. 3M-5) is mounted by bolts to supports which, in turn, are secured to the floorpan of the vehicle by bolts.

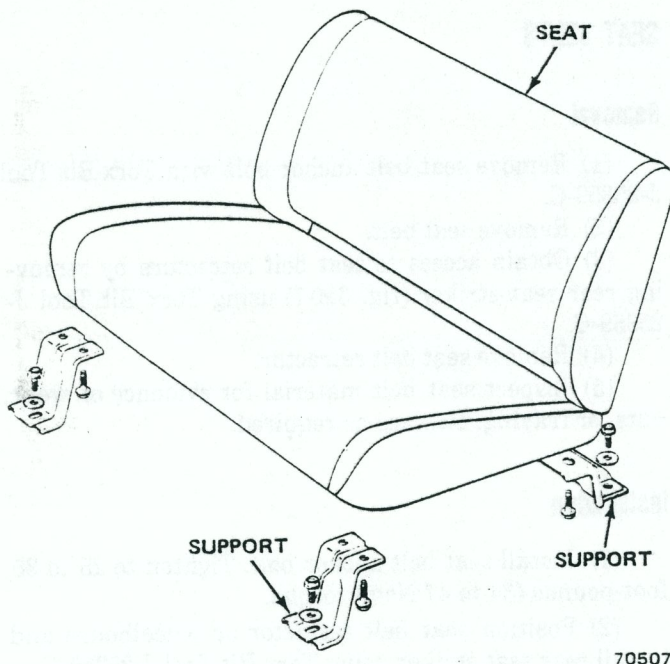


Fig. 3M-5 Rear Seat Assembly—CJ Models

All seats are of spring design and utilize padding and foam rubber in their construction.

**Removal**

- (1) Remove bolts attaching rear seat assembly to floorpan.
- (2) Remove rear seat assembly from vehicle.

**Installation**

- (1) Position rear seat assembly in vehicle.
- (2) Install bolts attaching rear seat assembly to floorpan.

**CHEROKEE-WAGONEER SEATS**

The full width rear seat is attached to the floorpan by two hinges to allow the seat to be folded forward or removed to provide an enlarged rear cargo area (fig. 3M-6).

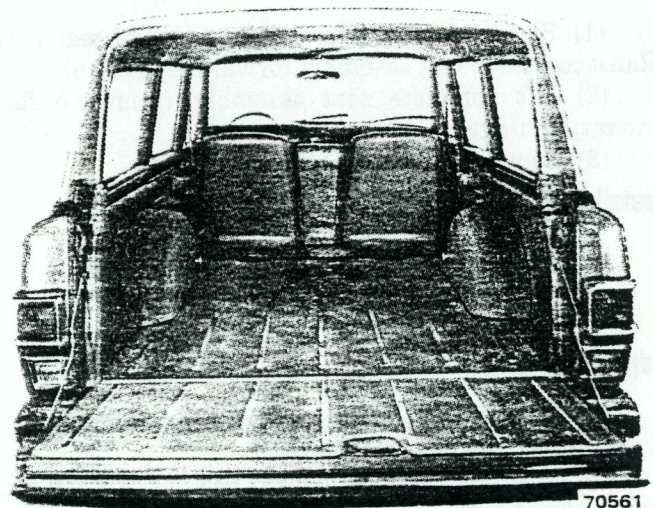


Fig. 3M-6 Rear Cargo Area with Rear Seat Removed

A latch on each side of the rear seat back engages a striker bolted into cage nuts on the rear wheelhouse panels. The cage nuts allow movement for striker adjustment.

To tilt the seat back forward, release the latch on the right side by raising the latch lever (fig. 3M-7) and simultaneously pulling the seat back forward.

A rear seat holding strap, attached to the right door pillar, prevents the seat from falling backward when the seat is in the folded position. An eye on the strap is engaged with the chrome plated stud to prevent the seat from falling backward. The strap should always be connected to the stud whenever the seat is in the folded position.

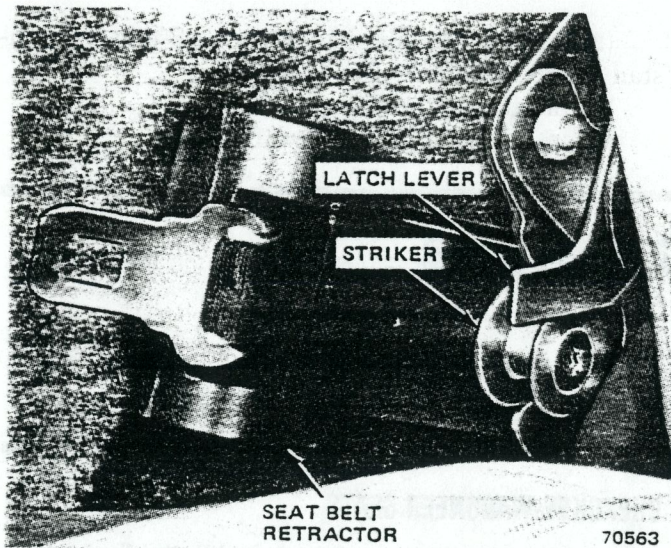


Fig. 3M-7 Rear Folding Seat—Latched Position

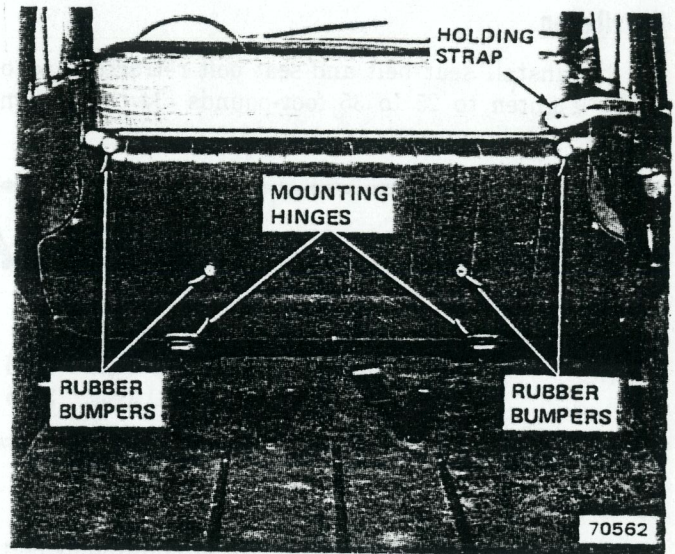


Fig. 3M-8 Rear Seat Assembly

**Removal**

- (1) Release latch at lower right side of seat back. Raise complete seat assembly forward (fig. 3M-8).
- (2) Lift complete seat assembly from two floor mounting hinges.
- (3) Remove seat assembly from vehicle.

**Installation**

- (1) Install seat assembly onto hinges.
- (2) Position seat back in proper location.
- (3) Secure seat back latch.

**Adjustment**

- (1) Tilt seat back forward and loosen striker bolt to allow forced movement of striker.
- (2) Raise seat back to upright position and tap striker into position for maximum latch/striker engagement.
- (3) Unlatch seat back carefully so as not to change striker position and tighten striker securely.
- (4) Check striker/latch operation.

**SEAT BELTS**

**Removal**

- (1) Remove seat belt anchor bolt with Torx Bit Tool J-25359-C.
- (2) Remove seat belt.
- (3) Obtain access to seat belt retractors by removing rear seat striker (fig. 3M-7) using Torx Bit Tool J-25359-C.
- (4) Remove seat belt retractor.
- (5) Inspect seat belt material for evidence of wear, cuts, or fraying. Replace as required.

**Installation**

- (1) Install seat belt anchor bolt. Tighten to 25 to 35 foot-pounds (34 to 47 N•m) torque.
- (2) Position seat belt retractor on wheelhouse and install rear seat striker using Torx Bit Tool J-25359-C.
- (3) Check striker/latch operation.

**POWER SEATS**

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Horizontal and Vertical Transmissions	3M-8

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Motor	3M-8
Seat Assembly	3M-8
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**GENERAL**

The power seats can be adjusted in six different directions up, down, forward, back, tilt forward, or tilt rearward.

The control switch is located on the lower outboard side of the seat. The front lever on the switch (fig. 3M-9) raises or lowers (tilts) the front of the seat, the center lever raises or lowers the complete seat by moving the



switch up or down. It also moves it forward or rearward by moving the switch forward or rearward. The rear lever raises or lowers (tilts) the back of the seat.

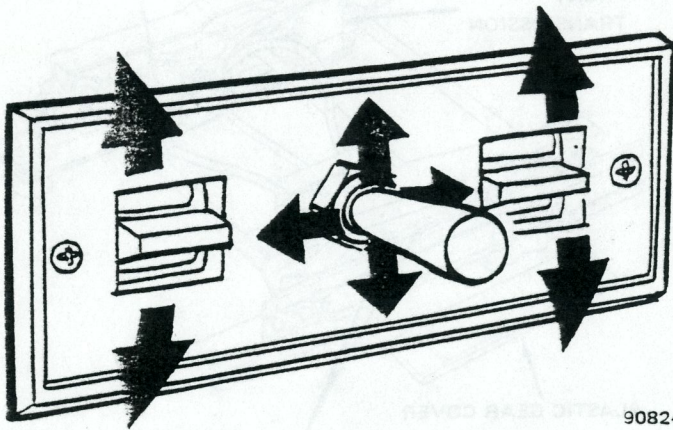


Fig. 3M-9 Power Seat Controls

A three armature permanent magnet reversible motor is coupled through cables to the rack and pinion assemblies located in the seat tracks, providing the various seat movements.

The electrical circuit is protected by a 30 amp circuit breaker located on the fuse panel on the inside of the cowl panel to the left of the steering column.

## SERVICING PROCEDURES

### Test

Before any testing is attempted, the battery should be fully charged and all connections and terminals cleaned and tightened to insure proper continuity and grounds.

With the dome light on, apply the switch in the direction of failure. If the dome light dims, the seat may be jamming. Check for binding. If the dome light does not dim, then proceed with the following electrical tests.

(1) Disconnect wiring harness at connector under seat. Connect 12 volt test lamp between red and black wire in female connector on harness. If test lamp lights, harness to seat is good. If test lamp does not light, check as follows:

- (a) Current at fuse panel circuit breaker.
  - (b) Continuity in red wire between fuse panel and harness connector under seat.
  - (c) Continuity in black wire and proper connection to ground.
- (2) Remove test lamp and connect harness.
  - (3) Remove switch from seat harness.
  - (4) To check rear motor, connect covered jumper wire between red terminal in center section (fig. 3M-10) and either light blue or orange connection in front section. Connect second covered jumper wire between black

terminal in center section and open connection in front section. If motor does not operate, reverse jumpers in front section. If motor still does not operate, either harness or complete three motor assembly may be defective.

(5) To check center motor, connect covered jumper wire between red terminal of center section and either white or tan connection in center section. Connect second covered jumper wire between black terminal in center section and open connection in center section. If motor does not operate, reverse white and tan jumpers. If motor still does not operate, either harness or complete three motor assembly should be replaced.

(6) To check front motor, connect covered jumper wire between red terminal in center section and either green or yellow connection in rear section. Connect second covered jumper wire between black terminal in center section and open connection in rear section. If motor does not operate, reverse jumpers in the section. If motor still does not operate, either harness or complete three motor assembly should be replaced.

(7) If all motors and seat operate properly this indicates that switch is bad and should be replaced.

For specific continuity checks, see Power Seat Wiring Diagram at back of this manual.

WIRE COLOR	FUNCTION
ORANGE	POWER SEAT - FRONT UP
LIGHT BLUE	POWER SEAT - FRONT DOWN
TAN	POWER SEAT - FORWARD
WHITE	POWER SEAT - REARWARD
LIGHT GREEN	POWER SEAT - REAR DOWN
YELLOW	POWER SEAT - REAR UP
BLACK	POWER SEAT - GROUND
RED W/O TR.	POWER SEAT - IGNITION FEED

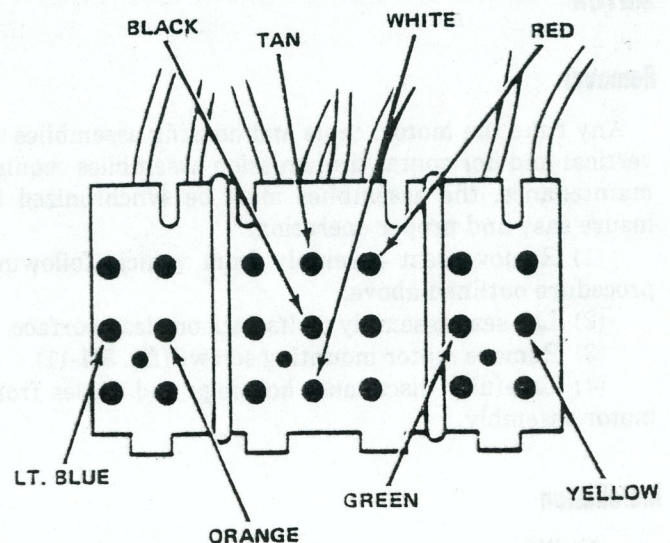


Fig. 3M-10 Electrical Test Locations—Driver's Side

## SEAT ASSEMBLY

### Removal

- (1) Disconnect battery negative cable.
- (2) Remove attaching nuts holding seat assembly to floorpan.
- (3) Tilt seat and disconnect wiring harness.
- (4) Remove seat assembly from vehicle.

### Installation

- (1) Position seat assembly in vehicle.
- (2) Connect wiring harness.
- (3) Install and tighten attaching nuts.
- (4) Connect battery negative cable and check seat operation.

## ADJUSTER

### Removal

- (1) Remove seat assembly from vehicle following procedure outlined above.
- (2) Lay seat on its back on clean surface.
- (3) Remove bolts attaching adjuster to seat assembly.

### Installation

- (1) Lay seat on its back on clean surface.
- (2) Position adjuster to seat assembly and install attaching bolts.
- (3) Install seat assembly following procedure outlined above.

## MOTOR

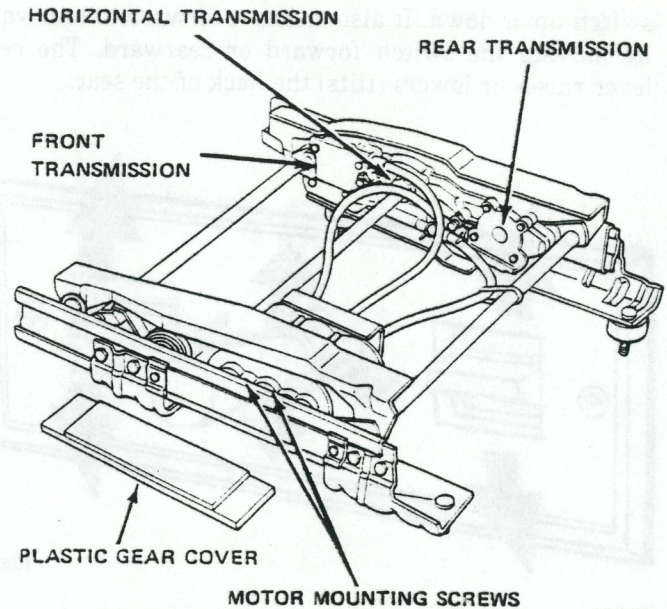
### Removal

Any time the motor, cable and housing assemblies or vertical and horizontal transmission assemblies require maintenance, the assemblies must be synchronized to insure easy and proper operation.

- (1) Remove seat assembly from vehicle following procedure outlined above.
- (2) Lay seat assembly on its back on clean surface.
- (3) Remove motor mounting screws (fig. 3M-11).
- (4) Carefully disconnect housings and cables from motor assembly.

### Installation

- (1) Place motor assembly into position.
- (2) Carefully connect cables and housings to motor assembly.



90826

Fig. 3M-11 Seat Track Assembly

- (3) Install mounting screws.
- (4) Install bolt holding motor assembly to adjuster.
- (5) Install seat assembly following procedure outlined above.

## CABLE AND HOUSING

### Removal

Any time the motor, cable and housing assemblies or vertical and horizontal transmission assemblies require maintenance, the assemblies must be synchronized to insure easy and proper operation.

It is recommended that any time a cable is to be replaced that the motor assembly be removed also for ease of replacement.

- (1) After motor has been disconnected, remove corbin clamp from cable housing then slide cable and housing out of connector.

### Installation

- (1) Insert cable and housing into connector and install corbin clamp.
- (2) Install motor assembly.

## HORIZONTAL AND VERTICAL TRANSMISSIONS

Transmissions are not removable and no maintenance is required. If transmission fails, replace entire seat adjuster assembly.

# CARPETING

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## FLOOR CARPET

The rear floor carpet is held in position by the seats, center console, seat belts, sill plates and other components.

When removing and installing the rear floor carpet it may be necessary to remove and install the above items.

## FRONT FLOOR CARPET

The front floor carpet is held in position by the seats, seat belts, sill plates and other components.

When removing and installing the carpet, it will also be necessary to remove and install the above items also.

When replacing the front floor carpet, position the carpet in the vehicle and cut the openings in the carpet using a sharp knife or razor blade for such things as the floor shifter, if equipped.

## REAR COMPARTMENT CARPET

The rear compartment carpet is fitted to the rear compartment and is held in position by the skid strip screws and rear seat.

The replacement carpet may require some modifications to accommodate these items.

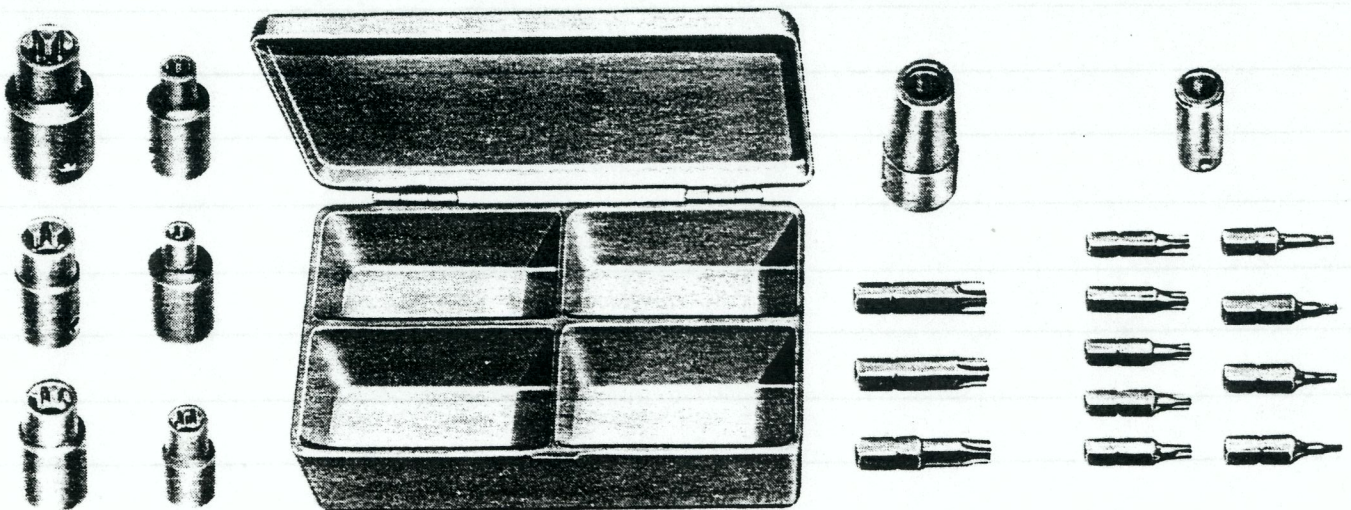
## WHEELHOUSE CARPET

The wheelhouse carpet is held in place by a combination of the trim panel and adhesive on the senior line vehicles.

When installing the wheelhouse carpet on the senior line vehicles apply 3M General Trim Adhesive, or equivalent to the backside of carpet before installing.

On CJ models the wheelhouse carpet is held in position by velcro strips.

## Tools



J-25359-C TORX BIT AND SOCKET SET

# NOTES

## INSTALLATION

1. The seat is held in position by the seat.

2. The seat is held in position by the seat.

3. The seat is held in position by the seat.

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30. The seat is held in position by the seat.

# WINDSHIELD - REAR WINDOW

# 3N

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## WINDSHIELD

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CJ Folding Windshield	3N-1	Tools	3N-7
CJ Windshield Glass	3N-2	Specifications	3N-6
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### GENERAL

The windshields on all models consist of two sheets of plate glass laminated together to form a one-piece safety glass.

All CJ windshields are retained in their openings by rubber weatherstrips (channels).

Cherokee-Wagoneer-Truck model windshields are bonded to the rubber weatherstrip and the rubber weatherstrip is bonded to the body opening to improve glass retention and sealing.

The safety type glass is designed with adequate clearance to prevent stress and strains. When replacing cracked glass resulting from causes other than a direct blow or a known instance of temporary misalignment, it is very important that the cause of the breakage be determined and the condition corrected.

The inside rear view mirror bracket for all models is bonded directly to the windshield glass with a polyvinyl-butyl compound through a heat-induction process.

Service replacement windshield glass may have the rear view mirror bracket bonded to the windshield glass. In this case, the mirror is simply transferred from the damaged windshield to the bracket on the replacement windshield.

If the replacement windshield does not have a bonded mirror bracket or if the bonded bracket has been lost, a service kit is available for bracket installation. The kit is available from your local parts distribution center and consists of a replacement bracket and a firm-setting, two-component adhesive. Installation instructions are included in the kit, and also in this section.

**NOTE:** Do not attempt to remount the original bracket. Use a new bracket kit.

### CJ FOLDING WINDSHIELD

The windshield and frame assembly may be lowered to the hood by removing the knobs at each side of the windshield. When in the lowered position, always secure the windshield by passing the strap at the top of the windshield through the footman loop on the hood and drawing the strap up firmly.

### Removal

- (1) Remove necessary top components from windshield frame.
- (2) Disconnect wiper motor wiring harness from switch.
- (3) Remove windshield hinge-to-frame attaching screws using Torx Bit Tool J-25359-C.
- (4) Remove windshield holddown knobs and remove windshield frame.

### Installation

- (1) Position windshield frame on vehicle and install windshield hinge-to-frame attaching screws using Torx Bit Tool J-25359-C.
- (2) Install windshield holddown knobs.
- (3) Connect wiper motor wiring harness to switch.
- (4) Install necessary top components to windshield frame.

**CJ WINDSHIELD GLASS****Removal**

- (1) Cover adjoining painted surfaces to protect finish.
- (2) Remove windshield wiper arms using wide blade screwdriver.
- (3) Remove inside rear view mirror from bracket.
- (4) Remove sun visors and defroster ducts.
- (5) Starting at top of windshield frame, pull glass weatherstrip away from flange while gently pushing out on glass.
- (6) Work entire weatherstrip from pinch weld flange and remove glass.

**Installation**

- (1) Using 3M Auto Bedding and Glazing Compound or equivalent, apply a 1/16-inch bead of sealer completely around weatherstrip in flange cavity.
- (2) Install weatherstrip on glass. Split in weatherstrip should be centered on bottom edge of glass.
- (3) Beginning at bottom of glass, work weatherstrip over flange using fiber or wooden wand.
- (4) Apply 3M Windshield Sealer or equivalent, between weatherstrip and outside of glass around entire perimeter.
- (5) Clean off excess sealer.
- (6) Install inside rear view mirror on bracket.
- (7) Install defroster ducts and sun visors.
- (8) Install windshield wiper arms.
- (9) Test windshield installation for water leaks.

**CHEROKEE-WAGONEER-TRUCK WINDSHIELD GLASS**

A self-curing urethane adhesive is used to bond the windshield glass to the rubber weatherstrip and the rubber weatherstrip to the body opening. This material provides the strength necessary to meet the FMVSS regulation covering windshield retention.

**NOTE:** FMVSS regulations require compliance to the standards throughout the life of the vehicle. Therefore, all windshields must be replaced with Windshield Glass Installation Kit (Urethane), Part Number 8128954, or equivalent, to assure compliance.

**Tools and Materials**

The following tools and materials are necessary for a windshield replacement:

- (1) Windshield glass installation kit consisting of the following components:
  - (a) Instruction sheets
  - (b) One six-ounce cartridge of urethane adhesive
  - (c) One pointed dispensing nozzle

- (d) Five daubers for applying glass and rubber cleaners and primers
- (e) Glass blackout primer
- (f) Rubber primer
- (g) Paint finish primer
- (h) Glass cleaner
- (i) Rubber cleaner
- (2) One six-ounce, hand-operated Adhesive Gun J-24811, or equivalent.
- (3) Electric Hot Knife J-24709-01, or equivalent.
- (4) Razor-blade type knife.
- (5) Masking tape.
- (6) Isopropyl alcohol (rubbing alcohol).
- (7) Clean wiping rags or paper towels.
- (8) Methyl-ethyl-ketone (MEK) or toluene.
- (9) Grow Chemical Solvent GS-35, or equivalent.

**NOTE:** Methyl-ethyl-ketone (MEK), toluol (toluene), and Grow Chemical Solvent GS-35 are usually available from chemical houses listed under SOLVENTS in the Yellow Pages of the telephone directory. If not available locally in small quantities, these solvents may be obtained from mail order chemical houses such as E. H. Sargent & Co. and Fisher Scientific, which have sales-service centers throughout the country. This is neither a complete list, nor a recommendation for the exclusive use of the chemical houses listed.

**Water Leaks**

Water leaks around windshields installed with urethane adhesive can be corrected without removing the windshield glass.

**NOTE:** If the windshield is structurally sound in the body opening, without large breaks in the bond, water leaks may be corrected by using a liquid butyl sealer such as 3M Windo-Weld Resealant or equivalent. When the windshield is not structurally sound in the body opening, the following procedure will apply and will require one Windshield Glass Installation Kit.

- (1) Remove windshield reveal moulding, if equipped.
- (2) Water test around the entire sealing area of windshield.
  - (a) Always begin water spray at lowest point and allow sufficient saturation before moving water spray upward.
  - (b) To best simulate normal conditions that cause water leaks, i.e., rain or washing, water test with a spray pattern rather than a heavy, solid stream of water which can create misleading symptoms.

**NOTE:** If leak is between windshield glass and rubber weatherstrip, or between rubber weatherstrip and body, carefully push outward on glass in area of leak to determine extent of leak. This operation should be performed while water is being applied to leak area. Mark extent of leak area.

(3) From outside body, clean dirt or foreign material from leak area with water; then completely dry area with compressed air.

(4) If leak is between glass and rubber weatherstrip, proceed as follows:

(a) Clean glass area to be resealed with windshield cleaner included in windshield installation kit.

(b) Using dauber, apply glass blackout primer to edge of glass, in leak area.

(c) Using a clean dauber, apply rubber primer to rubber weatherstrip, in leak area.

(d) Apply urethane adhesive, using pointed nozzle supplied with kit, in leak area.

(5) If leak is between rubber weatherstrip and body, proceed as follows:

(a) Using dauber as supplied in windshield installation kit, apply rubber primer to rubber weatherstrip, in leak area.

(b) Using clean dauber, apply paint finish primer, in leak area.

(c) Apply urethane adhesive in leak area using pointed nozzle supplied with kit.

(6) Water test windshield immediately using cold water spray. Allow water to spill over edge of glass and rubber weatherstrip. Do not direct hard stream of water on fresh urethane adhesive.

(7) Install all previously removed parts.

## Removal

(1) Cover adjoining painted surfaces to protect finish.

(2) Remove windshield wiper arms using wide blade screwdriver.

(3) On vehicles with stainless steel mouldings, perform the following steps.

(a) Remove moulding screws on top and bottom of side mouldings.

(b) Remove top corner moulding by lifting bottom and pulling outboard.

(c) Tip side mouldings toward center of vehicle and lift off.

(d) Remove top moulding.

(4) Slide center moulding clip to left or right and remove bottom mouldings. This will expose the locking type weatherstrip.

(5) Use wedge-shaped fiber or hardwood stick or wand as shown in figure 3N-1 to unlock weatherstrip as shown in figure 3N-2.

(6) Unlock rubber weatherstrip starting at bottom with fiber stick or wand as shown in figure 3N-3.

(7) Remove inside rear view mirror from bracket.

(8) Use razor-blade knife to cut rubber weatherstrip, in locking lip groove, between glass and body flange.

(9) Remove windshield glass from body opening.

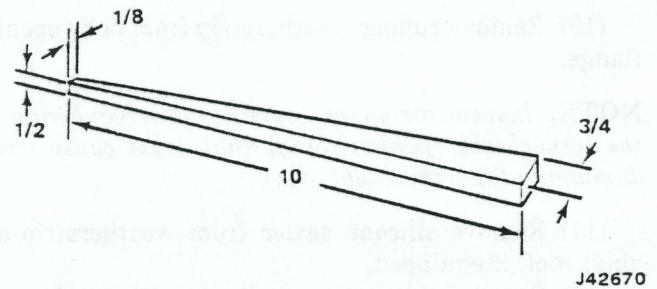


Fig. 3N-1 Wooden Wand Dimensions (Inches)

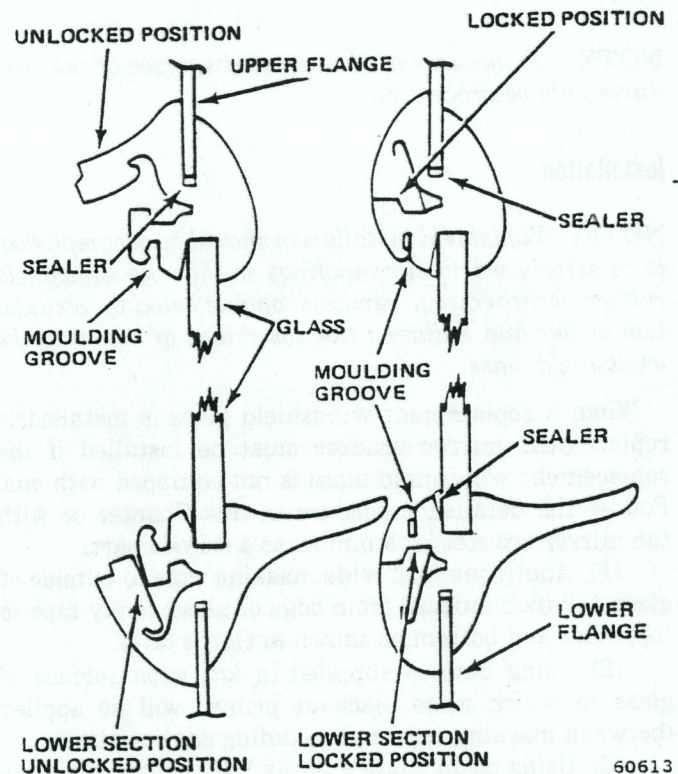


Fig. 3N-2 Windshield Weatherstrip Cross Section—Moulding Removed

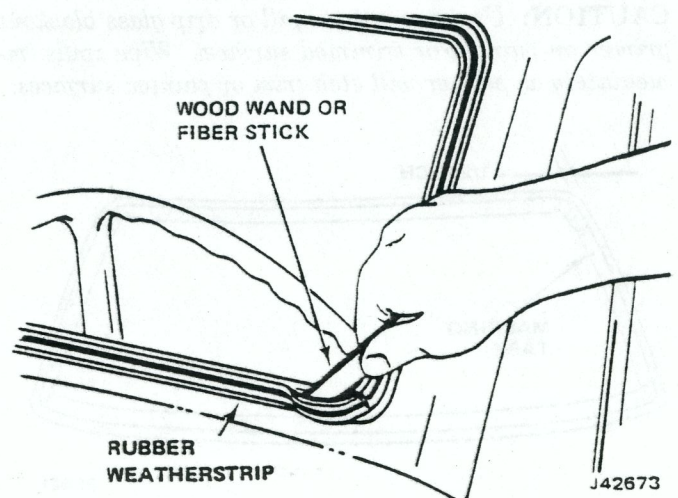


Fig. 3N-3 Unlocking Rubber Weatherstrip

(10) Remove rubber weatherstrip from body opening flange.

**NOTE:** *Inspect for uneven surfaces or irregularities in the windshield opening flange that could cause stress damage to the windshield glass.*

(11) Remove silicone sealer from weatherstrip and vinyl roof, if equipped.

(12) Remove old urethane adhesive from body opening flange using razor-blade type knife or Electric Hot Knife J-24709-01 equipped with the Plow-Type Blade J-24851.

**NOTE:** *Do not damage the painted surface of the body during above procedure.*

**Installation**

**NOTE:** *Windshield installation should be accomplished in relatively warm surroundings so that the windshield rubber weatherstrip remains pliable making installation easier and reducing the possibility of breaking the windshield glass.*

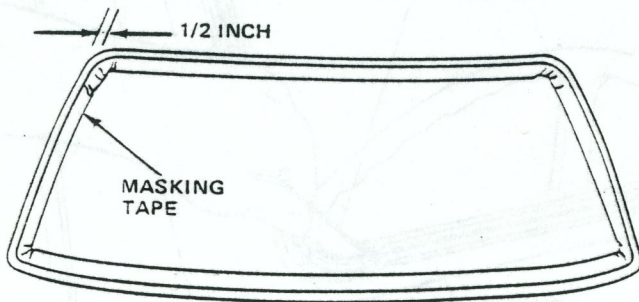
When a replacement windshield glass is installed, a replacement mirror bracket must be installed if the replacement windshield glass is not equipped with one. Follow the detailed procedure in this Chapter or with the mirror bracket kit supplied as a service part.

(1) Apply one-inch wide masking tape to outside of glass 1/2-inch inboard from edge of glass; apply tape to top, sides and bottom as shown in figure 3N-4.

(2) Using dauber supplied in kit, wipe surface of glass to which glass blackout primer will be applied (between masking tape and including edge of glass).

(3) Using clean dauber, apply 1/2-inch band of glass blackout primer around entire outside of glass and outer edge. Allow primer to dry for 10 minutes.

**CAUTION:** *Use care not to spill or drip glass blackout primer on painted or trimmed surfaces. Wipe spills immediately as primer will etch trim or painted surfaces.*



30421

**Fig. 3N-4** Installation of Windshield Glass Masking Tape

(4) Obtain replacement rubber weatherstrip. Using clean dauber, wipe glass cavity and body flange cavity clean.

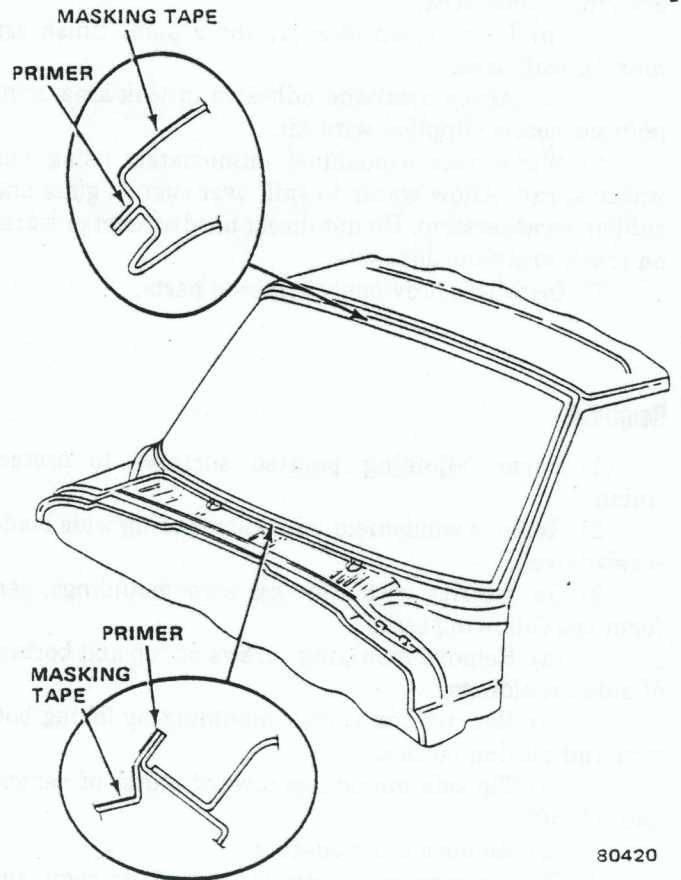
(5) Using another dauber, apply rubber primer around inside of glass cavity and body flange cavity. Allow primer to dry for 30 minutes.

(6) Using isopropyl alcohol dampened rag, wipe body opening flange clean and allow to dry.

(7) Apply 2-inch wide masking tape on outside of windshield opening at roof, A-pillars and cowl top to prevent damaging body paint.

(8) Using clean dauber or brush, apply paint finish primer to body opening flange as shown in figure 3N-5. Allow primer to dry for 25 minutes.

**NOTE:** *Do not use glass blackout primer on body opening flange.*



80420

**Fig.3N-5** Installing Body Opening Masking Tape and Primer

(9) Apply smooth, continuous bead of urethane adhesive material inside of rubber weatherstrip body flange cavity. Bead should be 1/8-inch in diameter.

(10) Install rubber weatherstrip on windshield opening flange.

(11) Apply liberal amount of soap and water solution to edge of windshield glass.

(12) Place 1/8-inch diameter cord in bottom glass cavity of rubber weatherstrip.



- (13) Remove masking tape from windshield glass.
- (14) With two men working on outside of vehicle, work windshield into upper glass cavity and into each side.
- (15) Position wooden wand (fig. 3N-1) under bottom of glass and lift windshield up and into lower glass cavity.
- (16) Check for equal side clearances.
- (17) Wipe soap and water solution from windshield glass and rubber weatherstrip.
- (18) Apply smooth, continuous bead of urethane adhesive material around entire outside edge of windshield glass and rubber weatherstrip. Bead should be 1/8-inch in diameter.
- (19) Use wooden wand to lock weatherstrip as shown in locked position (fig. 3N-2).

**NOTE:** Urethane adhesive material begins to cure after 15-minute exposure to air and moisture.

(20) Remove masking tape from body and apply 3M Super Silicone Sealer, or equivalent, along weatherstrip and vinyl roof, if equipped.

(21) Water test windshield immediately using cold water spray. Do not direct hard stream of water on fresh urethane adhesive material. If leaks are encountered, apply extra urethane adhesive material with pointed nozzle.

(22) Bottom mouldings are installed one at a time. To facilitate installation, place 1/8-inch diameter cord in weatherstrip moulding retaining groove along entire length of weatherstrip, leaving enough cord hanging out at each end to permit good grip on cord.

(23) Working first with either left or right bottom moulding, place moulding in groove.

(24) Starting at outside corner of weatherstrip, pull up on cord while lightly tapping top of moulding with rubber mallet. This will lock moulding in weatherstrip retaining groove. Continue process until moulding is installed in weatherstrip. Repeat process with other bottom moulding, again starting at outside corner.

(25) Install center moulding clip to cover gap between left and right bottom moulding.

(26) The one-piece top moulding is installed in same manner, except that moulding is tapped upward into retaining groove.

(27) Side and upper corner mouldings can then be inserted in retaining groove and secured by installing upper and lower screws.

(28) Clean excess urethane adhesive material from windshield, body and mouldings with cloth dampened with Grow Chemical Solvent GS-35, or equivalent.

(29) Install side moulding screws.

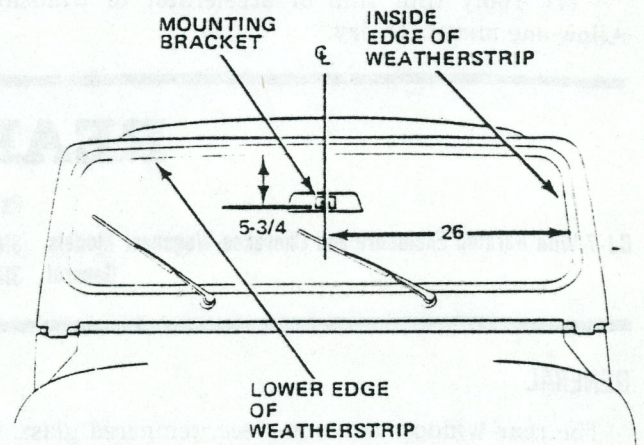
(30) Install windshield wiper arms.

(31) Install inside rear view mirror on bracket.

## REAR VIEW MIRROR BRACKET

### Installation

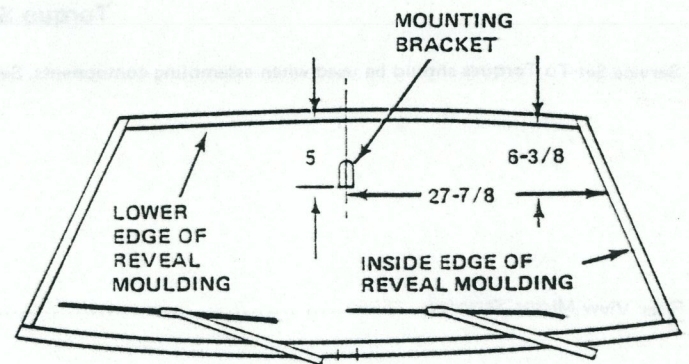
- (1) Locating windshield mounted rear view mirror bracket can be accomplished as shown in figures 3N-6 and 3N-7. Use wax pencil on outside of glass to locate mounting bracket.



60611

**Fig. 3N-6** Windshield Mounted Rear View Mirror Bracket Location (Inches)—CJ Models

- (2) If vinyl pad has remained on windshield glass, apply low heat with an Electric Heat Gun J-25070 until vinyl softens. Then, peel pad from glass using care not to scratch or mar glass surface.



J41066

**Fig. 3N-7** Windshield Mounted Rear View Mirror Bracket Location (Inches)—Cherokee-Wagoneer-Truck Models

- (3) Clean bracket mounting area of windshield glass thoroughly. Use mildly abrasive cleaning powder (Ajax, Comet, or equivalent) applied to clean cloth saturated with alcohol.

(4) Remove all traces of cleanser by wiping area with paper towel moistened with alcohol.

(5) Scuff bonding surface (the side without the 3/8-inch circular depression) of mirror bracket with clean piece of fine grit sandpaper. Apply alcohol to clean towel and wipe surface clean.

(6) Apply generous amount of accelerator (supplied with kit) to mirror bracket mounting surface. Allow five minutes to dry.

(7) Apply thin film of accelerator to windshield. Allow one minute to dry.

**CAUTION:** Do not touch surfaces to which accelerator has been applied or an imperfect bond could result.

(8) Apply one drop of adhesive at center of mirror bracket bonding surface. Use bottom of adhesive tube to distribute adhesive evenly over entire surface.

(9) Position bottom straightedge of bracket on horizontal line (fig. 3N-6 and 3N-7). Press bracket to glass and hold firmly for one minute. Be sure bracket is properly located as adhesive sets quickly.

## REAR WINDOW

	Page
CJ-7 With Hardtop Enclosure and Cherokee-Wagoneer Models	3N-6
General	3N-6

	Page
Truck Models	3N-6

### GENERAL

The rear window is a one-piece, tempered glass. The overall size of the glass varies with the different vehicles.

#### CJ-7 With Hardtop Enclosure and Cherokee-Wagoneer Models

For service replacement and adjustment of tailgate window glass, refer to Chapter 3H—Liftgates-Tailgates.

### Truck Models

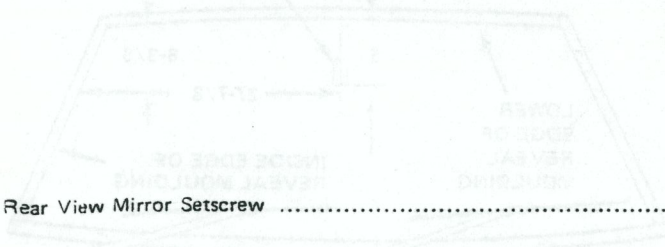
For service replacement of solid rear glass, refer to CJ Glass Removal or Installation.

The sliding rear window on J-10 and J-20 cabs which provides cab ventilation and ease of communication between passengers in the truck cab and camper body, is replaced as an assembly.

## SPECIFICATIONS

### Torque Specifications

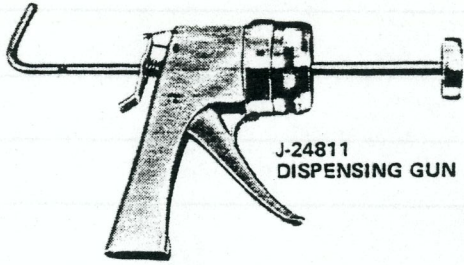
Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.



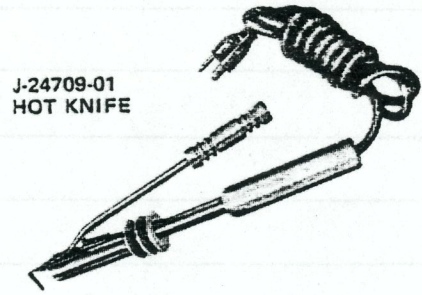
	USA (ft -lbs )		Metric (N-m)	
	Service Set-To Torque	In-Use Recheck Torque	Service Set-To Torque	In-Use Recheck Torque
Rear View Mirror Setscrew .....	15	12-20	2	1-2

All Torque values given in inch-pounds and newton-meters with dry fits unless otherwise specified.

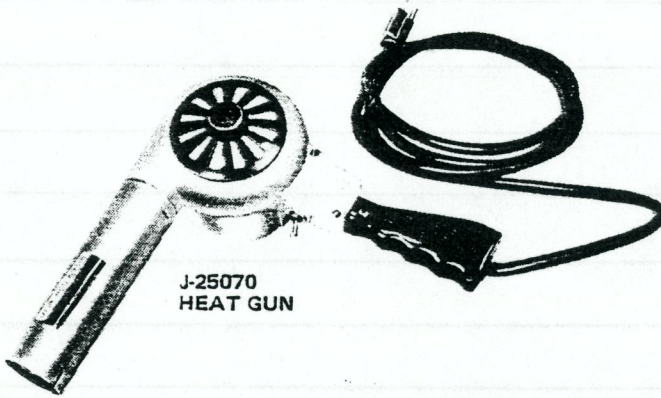
Tools



J-24811  
DISPENSING GUN



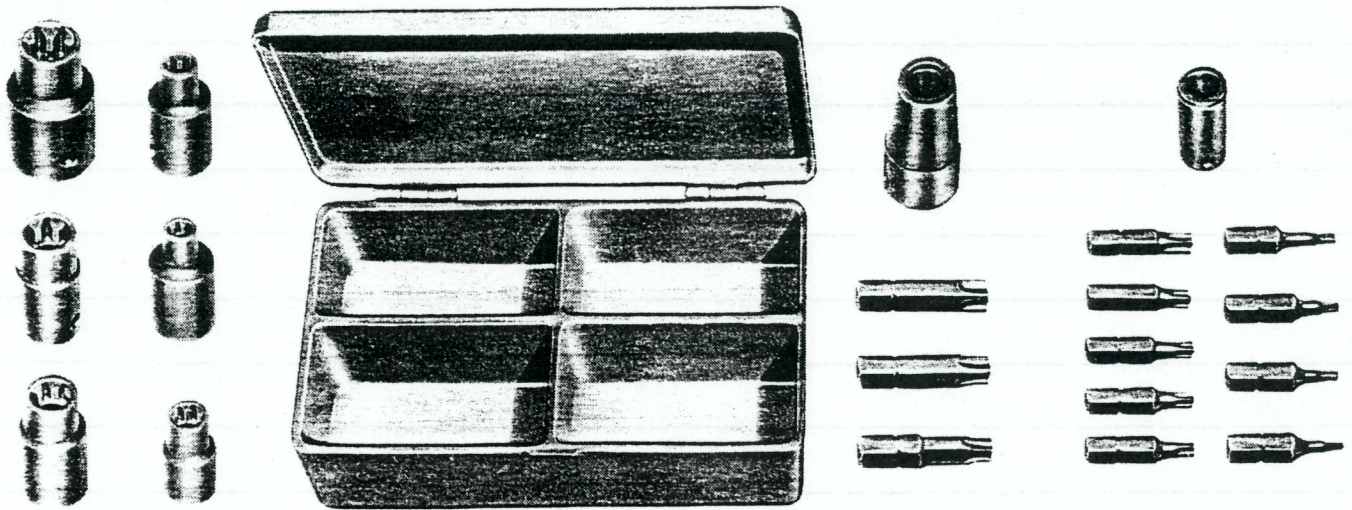
J-24709-01  
HOT KNIFE



J-25070  
HEAT GUN



J-24851  
PLOW-TYPE  
BLADE



J-25359-C  
TORX BIT AND SOCKET SET



# HEADLINING- EXTERIOR DECALS AND OVERLAYS

# 3P

## SECTION INDEX

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Exterior Woodgrain Overlays	3P-5	Tools	3P-9

## HEADLINING

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### GENERAL

The headlining used in Cherokee, Wagoneer and Truck models is made of laminated polystyrene backing board which is finished, depending on the model, with either a plastic coating, a soft vinyl covering or a close knit fabric. Lines scored into the backing board allow the headlining to be shaped to fit the contour of the roof while providing added strength for self-support.

**NOTE:** Information regarding the headliner used with the Wagoneer Limited power sun roof can be found in Chapter 3L.

### CHEROKEE-WAGONEER MODELS

#### Removal

- (1) Remove sun visors, escutcheons and center support.
- (2) Remove windshield moulding and end caps.
- (3) Remove rear opening moulding and end caps.
- (4) Remove plastic trim center moulding and end cap retainers.
- (5) Remove lens from dome lamp and cargo lamp. Remove screws attaching lamp to roof bows. Remove and disconnect cargo lamp switch.
- (6) Remove coat hooks.
- (7) If equipped with inside spare tire, proceed as follows:
  - (a) Remove inside spare tire.
  - (b) Remove upper bracket shoulder screw, using Torx Bit Tool J-25359-C.
- (8) Free rear headlining from J-moulding by pulling down carefully at center, while pushing up on either outside edge.
- (9) Push cargo lamp through die-cut opening in headlining.
- (10) Remove rear headlining through tailgate opening.
- (11) Free front headlining from J-moulding by pulling down carefully at center, while pushing up on outside edges.
- (12) Remove front headlining through tailgate opening.

#### Installation

- (1) Position front headlining in vehicle and insert left side into J-moulding.
- (2) Pull dome lamp through die-cut opening in headlining and align front headlining to vehicle roof.
- (3) Pull down carefully at center of front headlining and insert right side of headlining into J-moulding.
- (4) Position rear headlining in vehicle and insert left front headlining using sun visor and dome lamp holes and leading edge of headlining as guide. Adjust fore or aft as required.
- (5) Check alignment of rear headlining using trailing edge as guide. Adjust fore or aft as required.

(6) Secure dome lamp and cargo lamp to roof bows and install lamp lenses. Connect and install cargo lamp switch.

(7) Install plastic center mouldings and end cap retainers.

(8) If equipped with inside spare tire, proceed as follows:

(a) Position upper bracket on headlining and install shoulder screw, using Torx Bit Tool J-25359-C.

(b) Install spare tire.

(9) Install sun visors, escutcheons and center support.

(10) Install windshield moulding and end caps.

(11) Install rear opening moulding and end caps.

### Roof Bow Adjustment

Noise from the headlining may be caused by improperly adjusted roof bows.

(1) Remove headlining.

(2) Loosen roof bow attaching screws, using Torx Bit J-25359-C.

(3) Insert screwdriver through hole in roof bow and raise roof bow against roof panel.

(4) Tighten roof bow attaching screws using Torx Bit J-25359-C.

(5) Install headliner.

### TRUCK MODELS

#### Removal

(1) Remove sun visors and center support.

(2) Remove lens from dome lamp. Remove screws attaching dome lamp to rear window panel.

(3) Remove windshield moulding and end caps.

(4) Pull down carefully at center of headlining while pushing up on outside edges to disengage headlining from J-moulding.

(5) Push dome lamp through die-cut opening in headlining.

(6) Remove headlining from vehicle.

#### Installation

(1) Position headlining in vehicle and insert left side into J-mouldings.

(2) Pull dome lamp through die-cut opening and align headlining to vehicle roof.

(3) Pull down carefully at center of headlining while pushing up on right edge, and insert right side of headlining into J-moulding.

(4) Check alignment of headlining using sun visor and dome lamp holes and headlining leading edge as guides. Adjust fore and aft as necessary.

(5) Secure dome lamp to rear window panel and install dome lamp lens.

(6) Install windshield moulding and end cap.

(7) Install sun visors and center support.

## EXTERIOR DECALS

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### GENERAL

Exterior decals and stripes are made of tough, durable, weather-resistant solid vinyl and have a pressure-sensitive back. The pressure-sensitive back is protected by a paper backing which is removed at installation. The front (or face) of stripes and decals may be covered with an easy-release paper for protection at installation and during shipment or storage. The paper should be removed after installation.

### REPAIRS

Small nicks or scratches can be touched up with paint in much the same manner as painted surfaces. Proper color match can be obtained by mixing small amounts of appropriate paint colors, then applying it to the affected area of the decal.

To repair blisters or air bubbles, pierce them with a sharp needle or pin. Work the trapped air out through the pin hole and press the decal firmly against the panel. It may be necessary to preheat the panel slightly, with Heat Gun J-25070, to soften the adhesive. Heat also may be used to remove small wrinkles or irregularities.

### REPLACEMENT

#### Preparation

The temperature of the workroom should be between 65°F and 90°F. Decals should not be replaced in temperatures below 65°F.

The following equipment and materials are necessary for a quality installation:

- Woodgrain and Stripe Remover (3M, or equivalent)
- Adhesive Remover (3M, or equivalent)
- Liquid detergent (Joy, Vel, or equivalent)
- Wax and silicone remover (3M General Purpose Adhesive Cleaner, xylol, or equivalent)
- Isopropyl alcohol (rubbing alcohol)
- Squeegee (4 to 5 inches wide, plastic or hard rubber)
- Water bucket and sponge
- Sandpaper (No. 220, 360 or 400 wet or dry type)
- Heat Gun J-25070 or infrared heat bulb with extension cord
- Clean wiping rags or paper towels
- Sharp knife, single-edge razor blade or X-acto knife
- Scissors
- Sharp needle or pin
- Grease pencil

**Removal**

- (1) Clean repair surfaces, adjacent panels and openings as required.
- (2) Remove decal overlapping parts from affected panel.
- (3) Mask off area surrounding panel.
- (4) Scuff sand decal with 220 grade wet or dry sandpaper. Avoid cutting through and reclean decal.
- (5) Spray 3M Woodgrain and Stripe Remover, or equivalent, on flange area first. Then spray entire decal to be removed (fig. 3P-1). Move spray back and forth across entire decal in a smooth steady motion. Make sure entire decal is coated with remover.

**CAUTION:** Woodgrain and Stripe Remover from 3M is designed for use on acrylic enamel surfaces only.

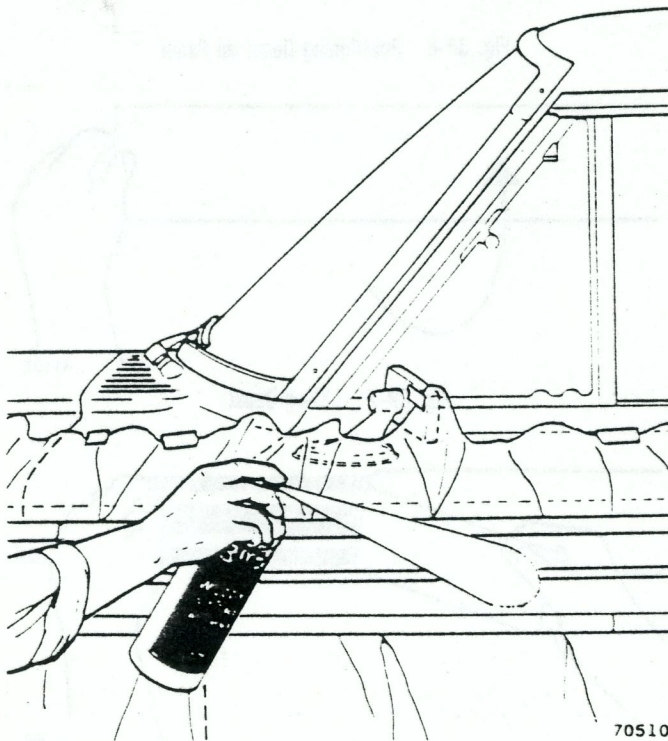
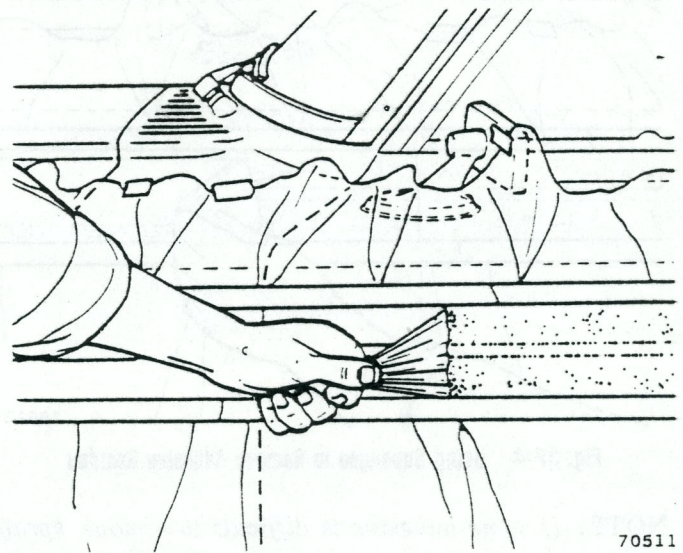


Fig. 3P-1 Spraying Remover on Decal

70510

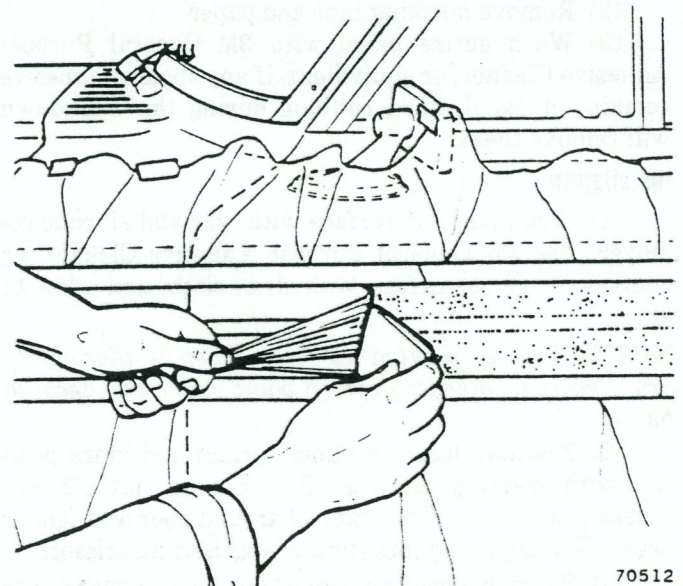
**WARNING:** Use 3M Woodgrain and Stripe Remover, or equivalent, only in a well-ventilated area. Observe manufacturer's warnings printed on label.

- (6) Spray entire panel again, this time moving the spray up and down the decal.
- (7) Allow remover to stay on decal for 20 minutes.
- (8) After 20 minutes, peel decal away from flange areas. Then, start in one corner and peel decal away from panel (fig. 3P-2). If there is any difficulty in peeling decal/overlay away from panel, use squeegee to assist in removal (fig. 3P-3).
- (9) Scrape all 3M Woodgrain and Stripe Remover from surface before proceeding.
- (10) After decal is removed, spray panel again with 3M Adhesive Remover, or equivalent, to remove any



70511

Fig. 3P-2 Peeling Decal from Panel



70512

Fig. 3P-3 Using Squeegee to Assist in Removal of Decal

## 3P-4 HEADLINING, EXTERIOR DECALS AND OVERLAYS

remaining adhesive. Use slow spray application and apply in uniform criss-cross pattern to obtain heavy coat.

**WARNING:** Use 3M Adhesive Remover, or equivalent, only in well-ventilated area. Observe manufacturer's warnings printed on label.

**CAUTION:** Leaving Remover on surface for too short or long a period may render product ineffective. Allow Remover to work on adhesive surface for three to five minutes.

(11) After five minutes, use squeegee to remove adhesive residue (fig. 3P-4).

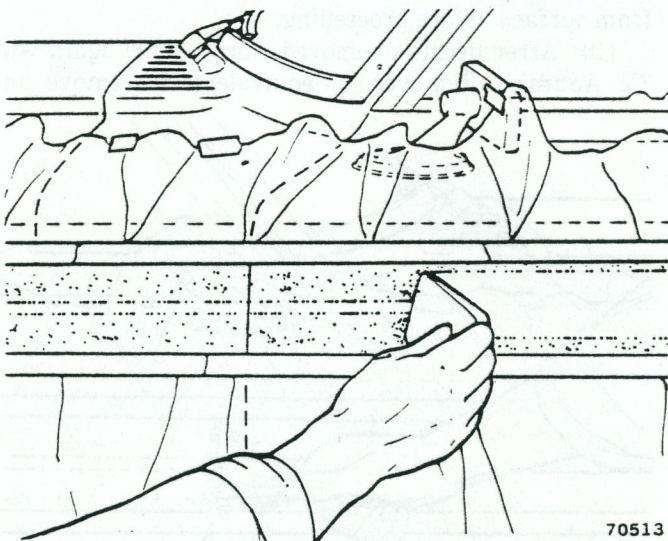


Fig. 3P-4 Using Squeegee to Remove Adhesive Residue

**NOTE:** If some adhesive is difficult to remove, spray additional remover on troublesome spots. Wait approximately two minutes and squeegee remaining spots. Repeat as necessary.

(12) Remove masking tape and paper.

(13) Wash entire panel with 3M General Purpose Adhesive Cleaner, or equivalent. If any spots of adhesive remain on panel, hard rubbing during the washdown will remove them.

### Installation

(1) Clean painted surface with wax and silicone remover. Use 3M General Purpose Adhesive Cleaner, or equivalent. Wipe surface with clean cloth, and allow to dry.

**NOTE:** Freshly painted surfaces must be thoroughly dry. Residual solvents in fresh paint may cause decal to blister.

(2) Position decal on panel surface and mark position with grease pencil (fig. 3P-5). Ensure that 1/2-inch excess is allowed to be wrapped around door and fender areas. Cut decal to approximate length using scissors.

(3) Position decal on panel and hold in place with small strips of masking tape (fig. 3P-6). Be sure decal is aligned with decals on adjacent panels.

(4) Lift decal using masking tape as hinges (fig. 3P-7).

(5) Remove approximately 6 inches of paper backing from one end (fig. 3P-8).

**NOTE:** To avoid pre-adhesion or stretching the decal, do not remove more than 6 inches of paper backing at one time.

(6) Fold decal back to aligned position. With firm strokes, squeegee decal to panel while removing paper backing (fig. 3P-9).

(7) Where possible, extend decal 1/2 inch beyond corners or edges (fig. 3P-10) and wrap firmly using finger pressure and squeegee. Avoid trapping air in these areas.

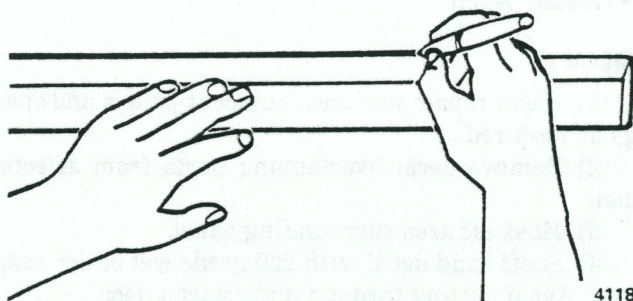


Fig. 3P-5 Marking Decal Position

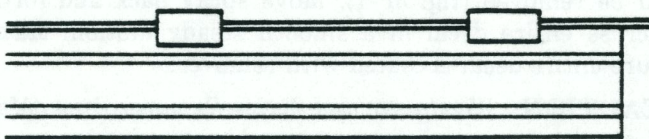


Fig. 3P-6 Positioning Decal on Panel

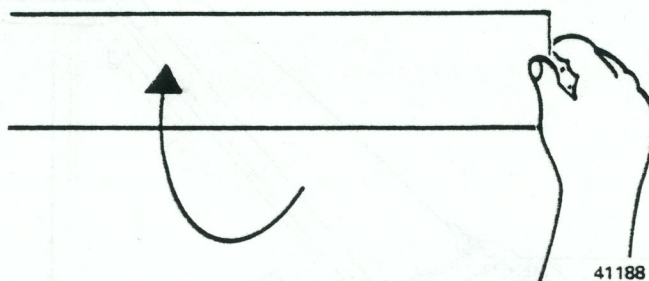


Fig. 3P-7 Lifting Decal

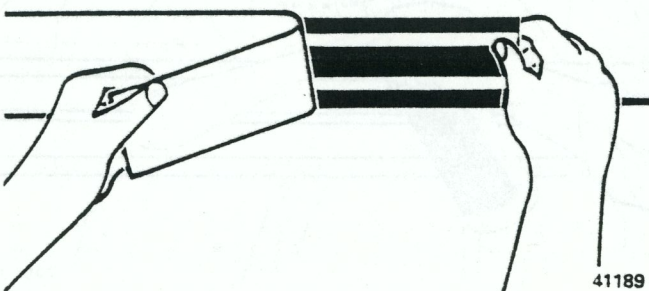


Fig. 3P-8 Removing Backing Paper



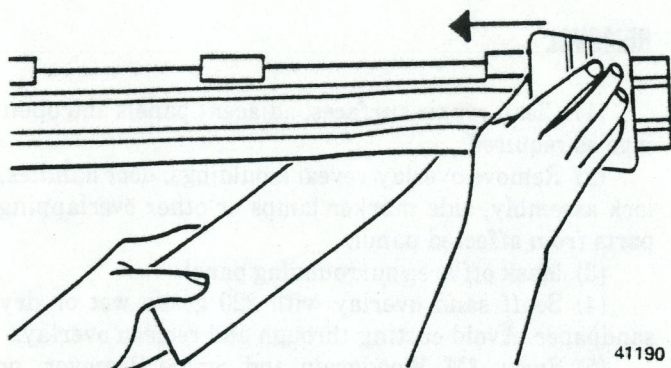


Fig. 3P-9 Installing Decal with Squeegee

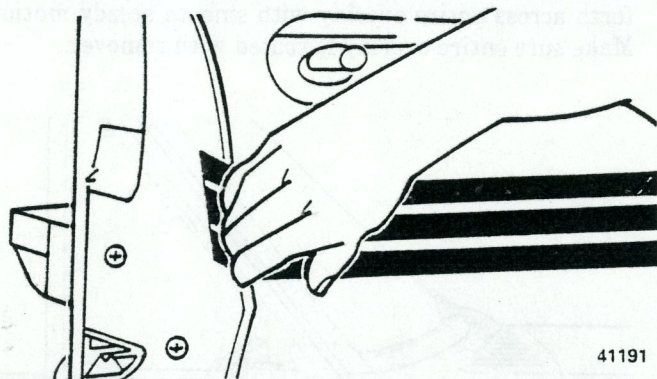


Fig. 3P-10 Installing Decal at Corners or Edges

(8) Remove easy-release paper from face of decal, if applicable.

(9) Inspect decal installation using reflected light to detect any irregularities that may have developed during installation. Remove all air or moisture bubbles.

(10) Install previously removed parts and clean up vehicle as required.

### Installation of Intricate Decals

For large, intricately shaped decals, the following procedure will simplify installation.

(1) The use of wetting solution assures better bond between decal and painted surface. Prepare supply of

wetting solution by thoroughly mixing two or three teaspoons of detergent (Joy, Vel, or equivalent) in one gallon of water.

**NOTE:** *Too much detergent reduces the effectiveness of the bond. DO NOT USE SOAP.*

(2) Place the decal on clean, flat surface with paper backing side up. Bend corner of decal toward the decorative face side, and with flick of finger, separate paper backing from decal. Hold decal firmly to surface of table and remove paper backing. Under hot, humid conditions, slight jerking motion aids in removing paper backing.

**CAUTION:** *Always remove the paper backing from the decal; never remove the decal from the backing as stretching may result.*

**NOTE:** *Hold decal in corners when removing paper backing as fingerprints adversely affect the adhesion.*

(3) Using clean sponge, apply ample wetting solution to decal adhesive and panel surface. The wetting solution permits ease of movement of decal while positioning it on panel surface.

(4) Immediately apply wetted decal to panel surface. Apply wetting solution to decorative face of decal to allow the squeegee to slip during application.

(5) Squeegee short section of decal at center. Lift right or left side of decal, position it straight and close to panel, and squeegee toward lifted edge. Avoid stretching decal at lifted end. Squeegee outward from center with firm, overlapping strokes.

(a) Lift upper area of decal (up to bonded area) and, working upward from bonded section at center, squeegee decal into place.

(b) Lift lower area of decal (up to bonded area) and, working downward from bonded section at center, squeegee decal into place.

**NOTE:** *If a wrinkle is trapped during squeegee operations, stop immediately. Carefully lift affected section. Align the section to the panel and remove wrinkle.*

## EXTERIOR WOODGRAIN OVERLAYS

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### GENERAL

Exterior woodgrain overlay panels are made of a tough, durable, weather-resistant, opaque cast vinyl and

have a pressure-sensitive back. The pressure-sensitive back is protected by a paper backing which is removed at installation. The woodgrain is embedded in the cast vinyl for a longer lasting, attractive appearance.

## REPAIRS

Small nicks, bruises or scratches can be touched up with paint in much the same manner as painted surfaces. Proper color match can be obtained by blending small amounts of appropriate paint colors, then spot-painting the affected area of the overlay.

To repair blisters or air bubbles, pierce them with a sharp needle or pin. Work the trapped air out through the pin hole and press the overlay firmly against the panel. It may be necessary to preheat the panel slightly with Heat Gun J-25070 to soften the adhesive. Heat also may be applied to remove small wrinkles, irregularities, or bridging which may occur in the corners of the fuel tank filler opening.

**NOTE:** *Whenever the material must be stretched, do not slit or cut the overlay. Simply apply heat and press or squeegee the overlay smoothly and firmly into place.*

## PREPARATION

Workroom temperature should be between 65°F and 90°F. Overlays should not be replaced in temperatures below 65°F.

The following equipment and materials are necessary for a quality overlay installation.

- Woodgrain and Stripe Remover (3M, or equivalent)
- Adhesive Remover (3M, or equivalent)
- Liquid detergent (Joy, Vel, or equivalent)
- Wax and silicone remover (3M General Purpose Adhesive Cleaner, or equivalent)
- Isopropyl alcohol (rubbing alcohol)
- Squeegee (4 to 5 inches wide, plastic or hard rubber)
- Water bucket and sponge
- Sandpaper (No. 220, 360 or No. 400, wet-or-dry type)
- Heat Gun J-25070 or infrared heat bulb and extension cord
- Clean wiping rags or paper towels
- Sharp knife or single-edge razor blade
- Scissors
- Sharp needle or pin
- Grease pencil

Prepare a supply of wetting solution by thoroughly mixing two or three teaspoons of detergent (Joy, Vel, or equivalent) in one gallon of water. The use of a wetting solution assures a better bond between overlay and painted surface. Too much detergent reduces the effectiveness of the bond. **DO NOT USE SOAP.**

Overlay replacement involving collision damage, or damage to underlying paint finish, requires that metal repair and refinish operations be completed before overlay is installed.

## REMOVAL

(1) Clean repair surfaces, adjacent panels and openings as required.

(2) Remove overlay reveal mouldings, door handles, lock assembly, side marker lamps or other overlapping parts from affected panel.

(3) Mask off area surrounding panel.

(4) Scuff sand overlay with 220 grade wet or dry sandpaper. Avoid cutting through and reclean overlay.

(5) Spray 3M Woodgrain and Stripe Remover, or equivalent, on flange area first. Then spray entire overlay to be removed (fig. 3P-11). Move spray can back and forth across entire overlay with smooth steady motion. Make sure entire overlay is coated with remover.

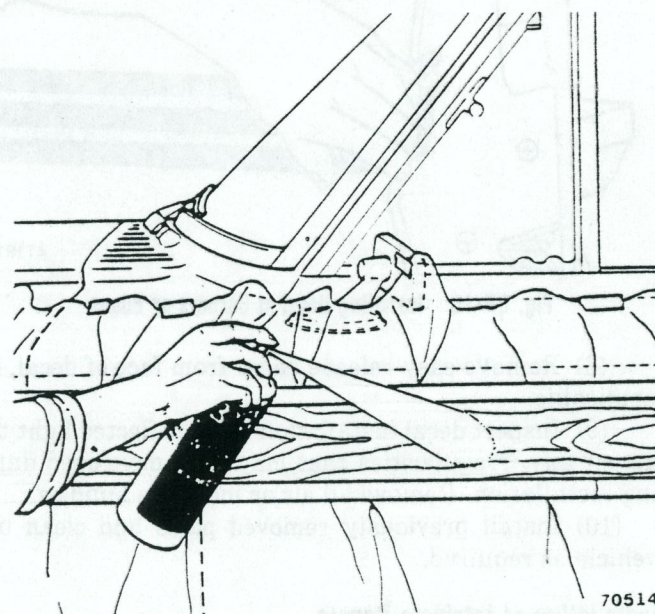


Fig. 3P-11 Spraying Remover on Overlay

**CAUTION:** *Woodgrain and Stripe Remover from 3M is designed for use on acrylic enamel surfaces only.*

**WARNING:** *Use 3M Woodgrain and Stripe Remover, or equivalent, only in a well-ventilated area. Observe manufacturer's warnings printed on label.*

(6) Spray entire panel again, this time moving spray up and down overlay.

(7) Allow remover to stay on overlay for 20 minutes.

(8) After 20 minutes, peel overlay away from flange areas. Then, start in one corner and peel overlay away from panel (fig. 3P-12). If there is any difficulty in peeling overlay away from panel, use squeegee to assist in removing it (fig. 3P-13).

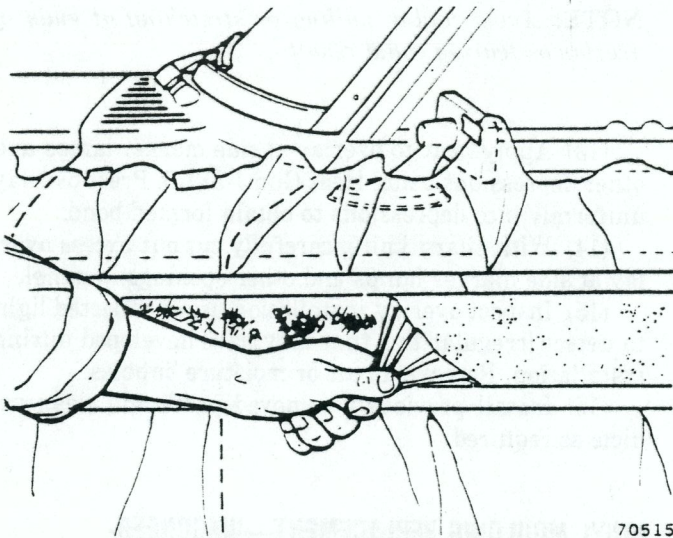


Fig. 3P-12 Peeling Overlay from Panel

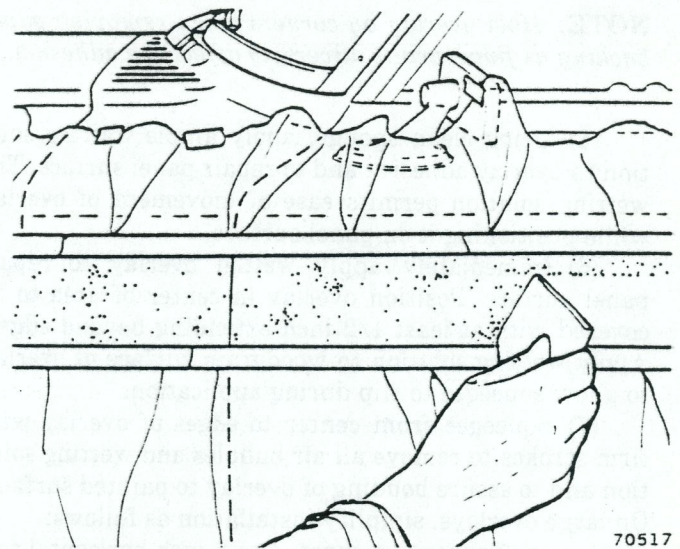


Fig. 3P-14 Using Squeegee to Remove Adhesive Residue

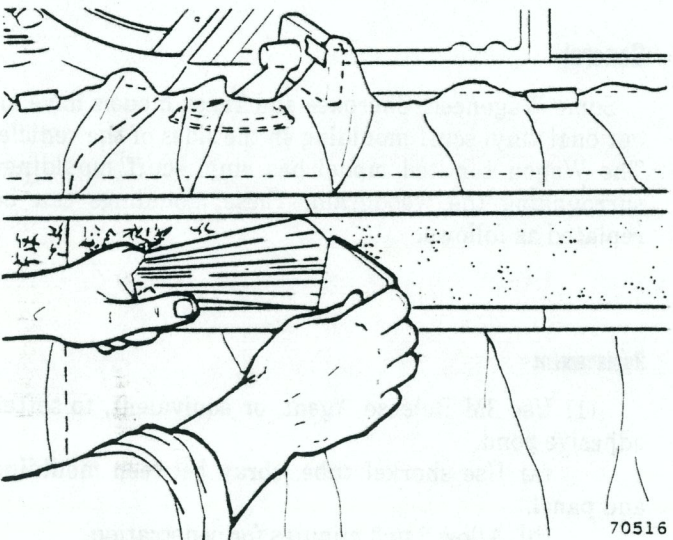


Fig. 3P-13 Using Squeegee to Assist in Removal of Overlay

(9) Scrape all Woodgrain and Stripe Remover from surface before proceeding.

(10) After overlay is removed, spray panel again with 3M Adhesive Remover, or equivalent, to remove any remaining adhesive. Use slow spray application and apply remover in uniform criss-cross pattern to obtain heavy coat.

**WARNING:** Use 3M Adhesive Remover, or equivalent, only in well-ventilated area. Observe manufacturer's warnings printed on label.

**CAUTION:** Leaving remover on surface for too short or long period may render product ineffective. Allow remover to work on adhesive surface for three to five minutes.

(11) After five minutes, use squeegee to remove adhesive residue (fig. 3P-14).

**NOTE:** If some adhesive is difficult to remove, spray additional remover on troublesome spots. Wait approximately two minutes and squeegee remaining spots. Repeat as necessary.

(12) Remove masking tape and paper.

(13) Wash entire panel with 3M General Purpose Adhesive Cleaner, or equivalent. If any spots of adhesive remain on panel, hard rubbing during the washdown will remove them.

## INSTALLATION

(1) Scuff-sand painted surface with 360 or 400 sandpaper by dry sanding. Freshly painted surfaces must be thoroughly dry. Residual solvents in fresh paint may cause overlay to blister.

(2) Clean painted surfaces with wax and silicone remover (3M General Purpose Adhesive Cleaner, or equivalent). Wipe surface with clean cloth and allow to dry.

(3) Position overlay on repair panel surface, and mark approximate outline on overlay with grease pencil. Ensure that 1/2-inch excess is allowed to be wrapped around the door and fender areas. With scissors, cut overlay to approximate size. Overlay should be cut so that upper and lower edges extend halfway into area covered by mouldings.

(4) Place overlay on clean, flat surface with protective paper backing side up. Bend corner of overlay toward decorative face side, and with flick of finger, separate paper backing from overlay. Hold overlay firmly to surface of table and remove paper backing. Under hot, humid conditions, slight jerking motion aids in removing paper backing.

**CAUTION:** Always remove the paper backing from the overlay; never remove the overlay from the backing as film stretching may result.

**NOTE:** Hold overlay by corners when removing paper backing as fingerprints adversely affect the adhesion.

(5) Using clean sponge, apply ample wetting solution to overlay adhesive and to repair panel surface. The wetting solution permits ease of movement of overlay while positioning it on panel surface.

(6) Immediately apply wetted overlay to repair panel surface. Position overlay in center of area to be covered with at least 1/2 inch extending beyond edges. Apply wetting solution to woodgrain surface of overlay to allow squeegee to slip during application.

(7) Squeegee from center to edges of overlay with firm strokes to remove all air bubbles and wetting solution and to assure bonding of overlay to painted surface. On large overlays, simplify installation as follows:

(a) Squeegee a short, 4 to 6-inch horizontal section of overlay at center of panel. Lift right or left side of overlay, position it straight and close to panel, and squeegee toward lifting edge. Avoid stretching overlay at lifted end; squeegee progressively from middle with firm, overlapping strokes.

(b) Lift upper area of overlay (up to bonded area) and, working upward from bonded section at center, squeegee overlay into place.

(c) Lift lower area of overlay (up to bonded area) and, working downward from bonded section at center, squeegee overlay into place.

**NOTE:** If a wrinkle is trapped during squeegee operations, stop immediately. Carefully lift affected section. Realign section to panel and progressively remove wrinkle. Do not lift overlay if only a few bubbles are trapped.

(8) Notch corner or curved edges of overlay where necessary and trim off excess material.

(9) Allow 1/2-inch extra material beyond edges that are to be wrapped around flange areas.

**CAUTION:** Use extreme care to avoid spilling isopropyl alcohol (rubbing alcohol) on trim or painted surfaces. Wipe spills immediately as alcohol will discolor trim or painted surfaces on prolonged contact.

(10) To activate adhesive, wipe adhesive side of overlay with isopropyl alcohol.

(11) Warm overlay at edges by passing heat source, such as Heat Gun J-25070, over surface to soften it.

(12) Firmly press overlay into position with fingertips, a cloth, and finally a squeegee, alternately warming and pressing it until complete adhesion is obtained.

**NOTE:** Avoid undue pulling or stretching at ends of overlay as tearing could result.

(13) Apply heat to overlay at side marker lamps and other depressions using Heat Gun J-25070. Press overlay uniformly into depressions to obtain formed bond.

(14) With sharp knife, carefully cut out excess overlay at side marker lamps and other openings in panel.

(15) Inspect overlay installation using reflected light to detect irregularities that may have developed during installation. Remove all air or moisture bubbles.

(16) Install previously removed parts and clean vehicle as required.

## VINYL MOULDING REPLACEMENT—WAGONEER-CHEROKEE AND TRUCK

### General

Some Wagoneer, Cherokee and Truck models have an optional vinyl scuff moulding on the sides of the vehicle. The Wagon Limited model has vinyl scuff mouldings surrounding the woodgrain. These mouldings can be replaced as follows.

### Replacement

(1) Use 3M Release Agent, or equivalent, to soften adhesive bond.

(a) Use shorkel tube, spray between moulding and panel.

(b) Allow 2 to 3 minutes for penetration.

(c) Spray second application and wait 3 minutes for adhesive bond to soften.

(2) Peel moulding from panel.

(3) Clean any adhesive residue from surface with cloth dampened with 3M General Purpose Adhesive Cleaner, or equivalent.

(4) To insure proper moulding alignment, stretch piece of string at desired level along panel and secure ends with tape.

(5) Position moulding on vehicle with backing tape attached, and cut to fit.

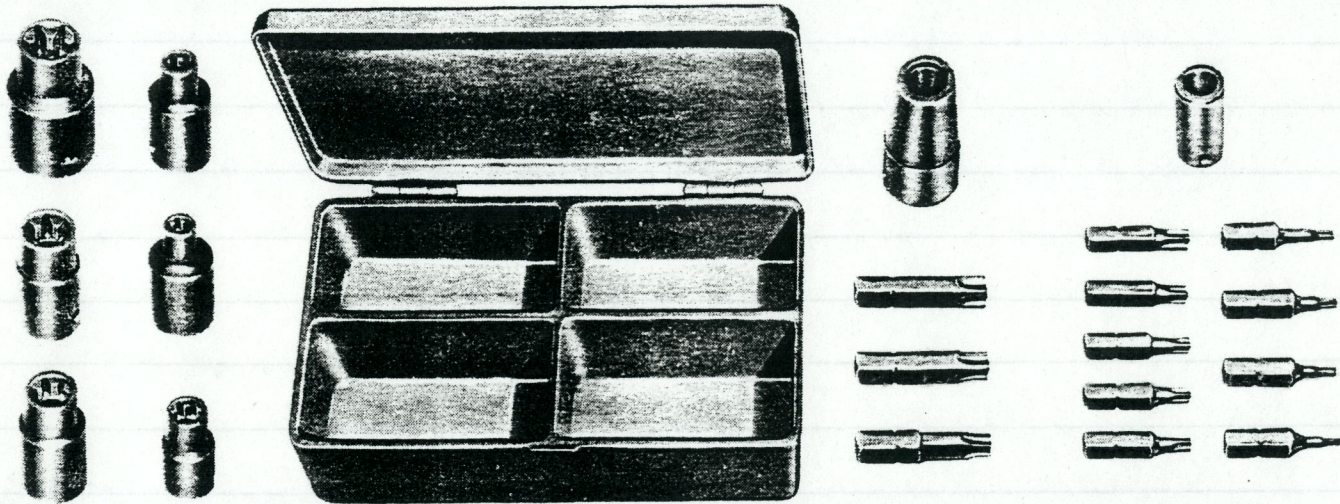
(6) Peel away backing tape and press moulding to panel with roller or heavy hand pressure, parallel with string.

(7) Remove string.

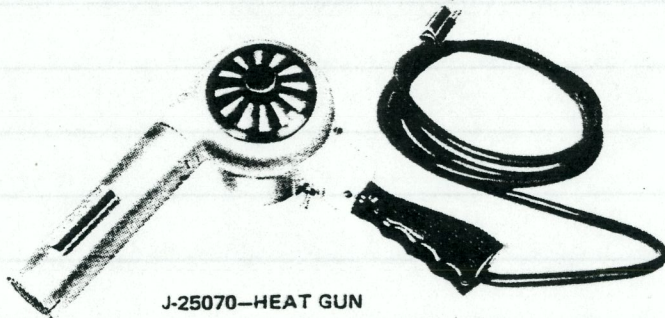
(8) Check moulding alignment and trim moulding with razor blade, if necessary.

(9) If moulding comes loose apply 3M Plastic and Emblem Adhesive, or equivalent, to moulding surface and press firmly to body.

Tools



J-25359-C—TORX BIT SET



J-25070—HEAT GUN

