11

BODY

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1 General information

WARNING:

The models covered by this manual are equipped with Supplemental Restraint Systems (SRS), more commonly known as airbags. Always disable the airbag system before working in the vicinity of any airbag system components to avoid the possibility of accidental deployment of the airbags, which could cause personal injury (see Chapter 12).

The vehicles covered by this manual are built with body-on-frame construction. The frame is a hydroformed, ladder-type, consisting of C-shaped center rails welded to boxed front and rear sections, with both welded-in and bolt-in crossmembers.

The Pick-up body is in two separate sections, the cab and the bed, while the SUV body incorporates the cab, back-seat area and cargo compartment in one unitized structure.

Certain components are particularly vulnerable to accident damage and can be unbolted and repaired or replaced. Among these parts are the hood, doors, seats, tailgate, liftgate, bumpers and front fenders.

Only general body maintenance practices and body panel repair procedures within the scope of the do-it-yourselfer are included in this Chapter.

2 Body - maintenance

1 The condition of your vehicle's body is very important, because the resale value depends a great deal on it. It's much more difficult to repair a neglected or damaged body than it is to repair mechanical components. The hidden areas of the body, such as the wheel wells, the frame and the engine compartment, are equally important, although they don't require as frequent attention as the rest of the body.

2 Once a year, or every 12,000 miles, it's a good idea to have the underside of the body steam cleaned. All traces of dirt and oil will be removed and the area can then be inspected carefully for rust, damaged brake lines, frayed electrical wires, damaged cables and other problems. The front suspension components should be greased after completion of this job.

3 At the same time, clean the engine and the engine compartment with a steam cleaner or water-soluble degreaser.

4 The wheel wells should be given close attention, since undercoating can peel away and stones and dirt thrown up by the tires can cause the paint to chip and flake, allowing rust to set in. If rust is found, clean down to the bare metal and apply an anti-rust paint.

5 The body should be washed about once a week. Wet the vehicle thoroughly to soften the dirt, then wash it down with a soft sponge and plenty of clean, soapy water. If the surplus dirt is not washed off very carefully, it can wear down the paint.

6 Spots of tar or asphalt thrown up from the road should be removed with a cloth soaked in tar remover or kerosene lamp oil.

7 Once every six months, wax the body and chrome trim. If a chrome cleaner is used to remove rust from any of the vehicle's plated parts, remember that the cleaner also removes part of the chrome, so use it sparingly.

3 Vinyl trim - maintenance

Don't clean vinyl trim with detergents, caustic soap or petroleum-based cleaners. Plain soap and water works just fine, with a soft brush to clean dirt that may be ingrained. Wash the vinyl as frequently as the rest of the vehicle. After cleaning, application of a high-quality rubber and vinyl protectant will help prevent oxidation and cracks. The protectant can also be applied to weather-stripping, vacuum lines and rubber hoses, which often fail as a result of chemical degradation, and to the tires.

4 Upholstery and carpets - maintenance

1 Every three months remove the floormats and clean the interior of the vehicle (more frequently if necessary). Use a stiff whiskbroom to brush the carpeting and loosen dirt and dust, then vacuum the upholstery and carpets thoroughly, especially along seams and crevices.

2 Dirt and stains can be removed from carpeting with basic household or automotive carpet shampoos available in spray cans. Follow the directions and vacuum again, then use a stiff brush to bring back the "nap" of the carpet.

3 Most interiors have cloth or vinyl upholstery, either of which can be cleaned and maintained with a number of material-specific cleaners or shampoos available in auto supply stores. Follow the directions on the product for usage, and always spot-test any upholstery cleaner on an inconspicuous area (bottom edge of a backseat cushion) to ensure that it doesn't cause a color shift in the material.

4 After cleaning, vinyl upholstery should be treated with a protectant.

➡Note: Make sure the protectant container indicates the product can be used on seats - some products may make a seat too slippery.

CAUTION:

Do not use protectant on vinyl-covered steering wheels.

5 Leather upholstery requires special care. It should be cleaned regularly with saddlesoap or leather cleaner. Never use alcohol, gasoline, nail polish remover or thinner to clean leather upholstery.

6 After cleaning, regularly treat leather upholstery with a leather conditioner, rubbed in with a soft cotton cloth. Never use car wax on leather upholstery.

7 In areas where the interior of the vehicle is subject to bright sunlight, cover leather seating areas of the seats with a sheet if the vehicle is to be left out for any length of time.

5 Body repair - minor damage

PLASTIC BODY PANELS

The following repair procedures are for minor scratches and gouges. Repair of more serious damage should be left to a dealer service department or qualified auto body shop. Below is a list of the equipment and materials necessary to perform the following repair procedures on plastic body panels.

Wax, grease and silicone removing solvent
Cloth-backed body tape
Sanding discs
Drill motor with three-inch disc holder
Hand sanding block
Rubber squeegees
Sandpaper
Non-porous mixing palette
Wood paddle or putty knife
Curved-tooth body file
Flexible parts repair material

Flexible panels (front and rear bumper trim)

1 Remove the damaged panel, if necessary or desirable. In most cases, repairs can be carried out with the panel installed.

2 Clean the area(s) to be repaired with a wax, grease and silicone removing solvent applied with a water-dampened cloth.

3 If the damage is structural, that is, if it extends through the panel, clean the backside of the panel area to be repaired as well. Wipe dry.

4 Sand the rear surface about 1-1/2 inches beyond the break.

5 Cut two pieces of fiberglass cloth large enough to overlap the break by about 1-1/2 inches. Cut only to the required length.

6 Mix the adhesive from the repair kit according to the instructions included with the kit, and apply a layer of the mixture approximately 1/8-inch thick on the backside of the panel. Overlap the break by at least 1-1/2 inches.

7 Apply one piece of fiberglass cloth to the adhesive and cover the cloth with additional adhesive. Apply a second piece of fiberglass cloth to the adhesive and immediately cover the cloth with additional adhesive in sufficient quantity to fill the weave.

8 Allow the repair to cure for 20 to 30 minutes at 60-degrees to 80-degrees F.

9 If necessary, trim the excess repair material at the edge.

10 Remove all of the paint film over and around the area(s) to be repaired. The repair material should not overlap the painted surface.

11 With a drill motor and a sanding disc (or a rotary file), cut a "V" along the break line approximately 1/2-inch wide. Remove all dust and loose particles from the repair area.

12 Mix and apply the repair material. Apply a light coat first over the damaged area; then continue applying material until it reaches a level slightly higher than the surrounding finish.

13 Cure the mixture for 20 to 30 minutes at 60-degrees to 80-degrees F.

14 Roughly establish the contour of the area being repaired with a body file. If low areas or pits remain, mix and apply additional adhesive.

15 Block sand the damaged area with sandpaper to establish the actual contour of the surrounding surface.

16 If desired, the repaired area can be temporarily protected with several light coats of primer. Because of the special paints and techniques required for flexible body panels, it is recommended that the vehicle be taken to a paint shop for completion of the body repair.

STEEL BODY PANELS

See photo sequence

Repair of minor scratches

17 If the scratch is superficial and does not penetrate to the metal of the body, repair is very simple. Lightly rub the scratched area with a fine rubbing compound to remove loose paint, then use a wax-and-grease remover (available at auto parts stores) to clean the area. Rinse the area with clean water.

18 Apply touch-up paint to the scratch, using a small brush. Continue to apply thin layers of paint until the surface of the paint in the scratch is level with the surrounding paint. Allow the new paint at least two weeks to harden, then blend it into the surrounding paint by rubbing with a very fine rubbing compound. Finally, apply a coat of wax to the scratch area.

19 If the scratch has penetrated the paint and exposed the metal of the body, causing the metal to rust, a different repair technique is required. Remove all loose rust from the bottom of the scratch with a pocketknife, then apply rust inhibiting paint to prevent the formation of rust in the future. Using a rubber or nylon applicator, coat the scratched area with glaze-type filler. If required, the filler can be mixed with thinner to provide a very thin paste, which is ideal for filling narrow scratches. Before the glaze filler in the scratch hardens, wrap a piece of smooth cotton cloth around the tip of a finger. Dip the cloth in thinner and then quickly wipe it along the surface of the scratch. This will ensure that the surface of the filler is slightly hollow. The scratch can now be painted over as described earlier in this Section.

Repair of dents

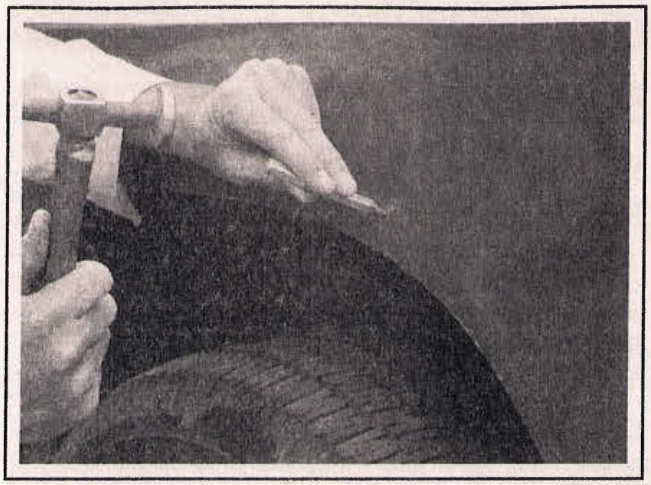
20 When repairing dents, the first job is to pull the dent out until the affected area is as close as possible to its original shape. There is no point in trying to restore the original shape completely as the metal in the damaged area will have stretched on impact and cannot be restored to its original contours. It is better to bring the level of the dent up to a point that is about 1/8-inch below the level of the surrounding metal. In cases where the dent is very shallow, it is not worth trying to pull it out at all.

21 If the backside of the dent is accessible, it can be hammered out gently from behind using a soft-face hammer. While doing this, hold a block of wood firmly against the opposite side of the metal to absorb the hammer blows and prevent the metal from being stretched.

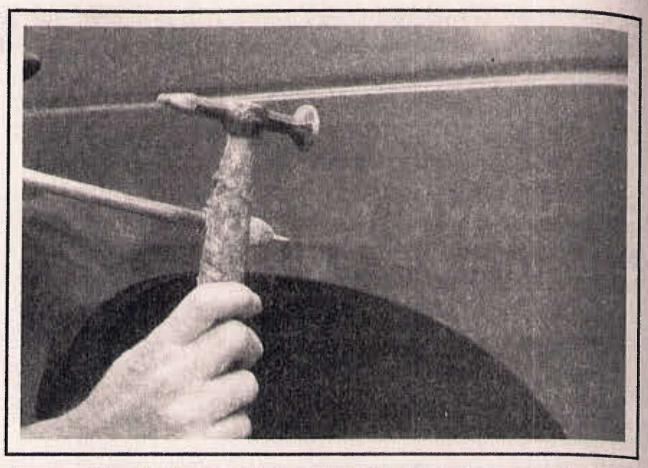
22 If the dent is in a section of the body which has double layers, or some other factor makes it inaccessible from behind, a different technique is required. Drill several small holes through the metal inside the damaged area, particularly in the deeper sections. Screw long, self-tapping screws into the holes just enough for them to get a good grip in the metal. Now pulling on the protruding heads of the screws with locking pliers can pull out the dent.

23 The next stage of repair is the removal of paint from the damaged area and from an inch or so of the surrounding metal. This is easily done with a wire brush or sanding disk in a drill motor, although it can be done just as effectively by hand with sandpaper. To complete the preparation for filling, score the surface of the bare metal with a screwdriver or the tang of a file or drill small holes in the affected area. This will provide a good grip for the filler material. To complete the repair, see the Section on filling and painting.

These photos illustrate a method of repairing simple dents. They are intended to supplement Body repair - minor damage in this Chapter and should not be used as the sole instructions for body repair on these vehicles.

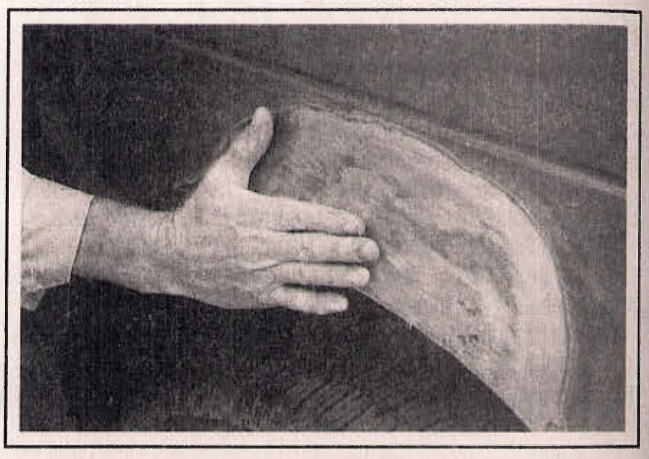


1 If you can't access the backside of the body panel to hammer out the dent, pull it out with a slide-hammer-type dent puller. In the deepest portion of the dent or along the crease line, drill or punch hole(s) at least one inch apart . . .

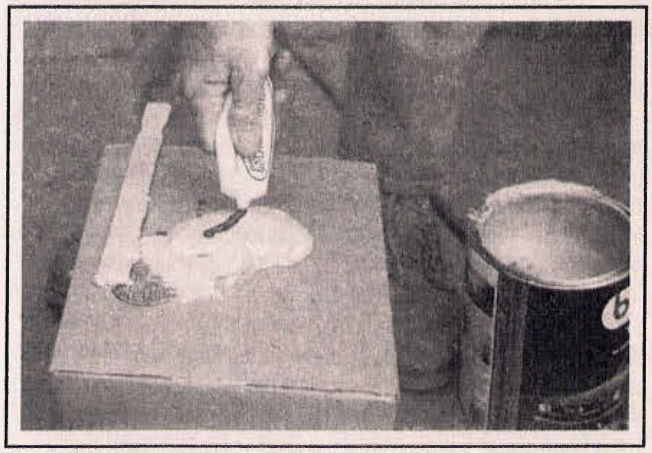


2 . . . then screw the slide-hammer into the hole and operate it. Tap with a hammer near the edge of the dent to help 'pop' the metal back to its original shape. When you're finished, the dent area should be close to its original contour and about 1/8-inch below the surface of the surrounding metal

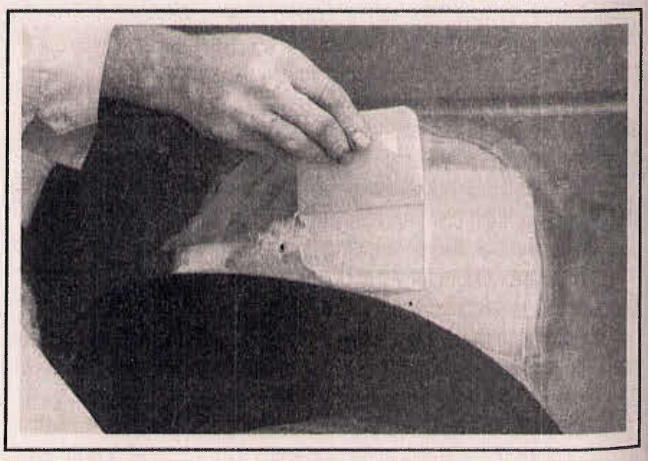
3 Using coarse-grit sandpaper, remove the paint down to the bare metal. Hand sanding works fine, but the disc sander shown here makes the job faster. Use finer (about 320-grit) sandpaper to feather-edge the paint at least one inch around the dent area



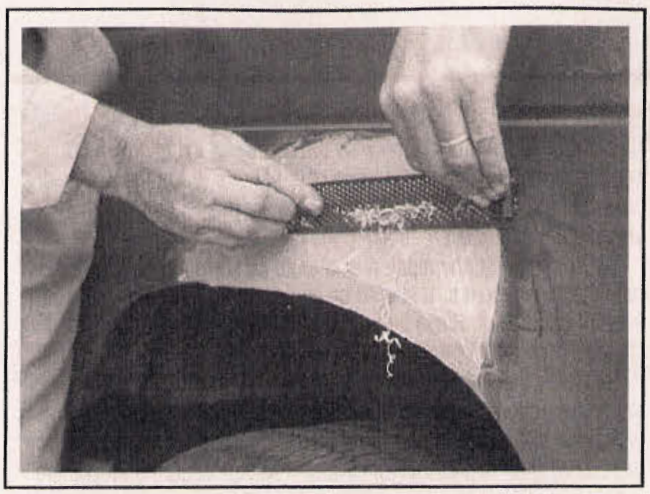
4 When the paint is removed, touch will probably be more helpful than sight for telling if the metal is straight. Hammer down the high spots or raise the low spots as necessary. Clean the repair area with wax/silicone remover



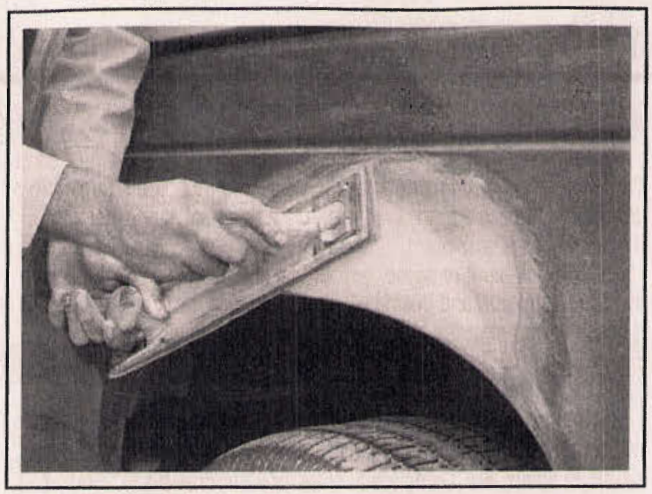
5 Following label instructions, mix up a batch of plastic filler and hardener. The ratio of filler to hardener is critical, and, if you mix it incorrectly, it will either not cure properly or cure too quickly (you won't have time to file and sand it into shape)



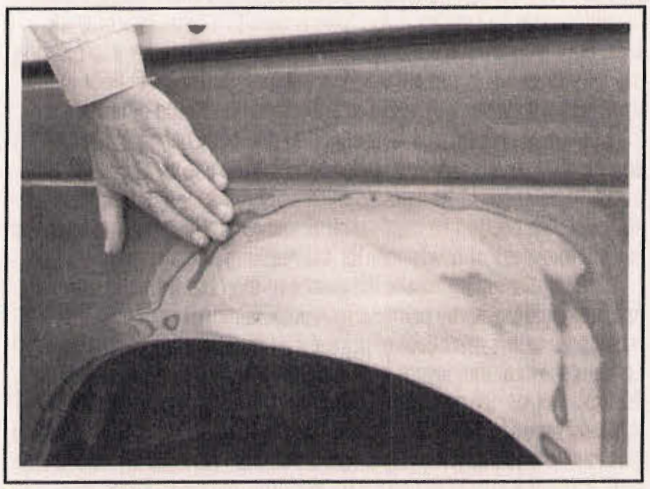
6 Working quickly so the filler doesn't harden, use a plastic applicator to press the body filler firmly into the metal, assuring it bonds completely. Work the filler until it matches the original contour and is slightly above the surrounding metal



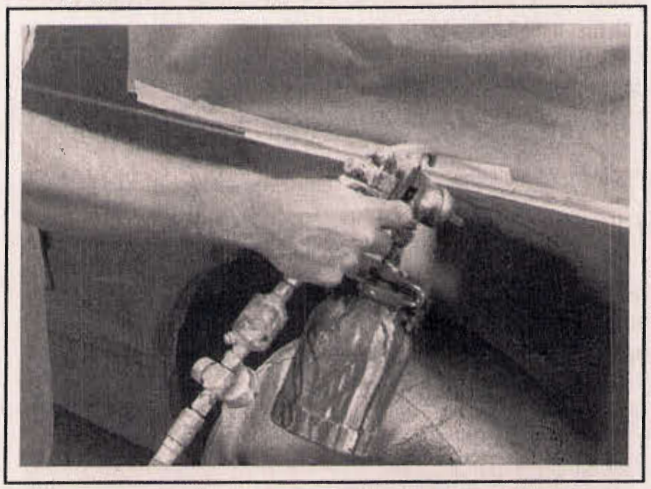
7 Let the filler harden until you can just dent it with your fingernail. Use a body file or Surform tool (shown here) to rough-shape the filler



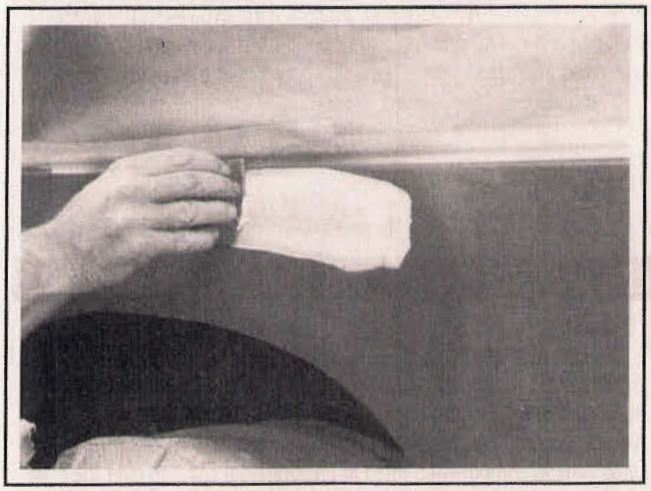
8 Use coarse-grit sandpaper and a sanding board or block to work the filler down until it's smooth and even. Work down to finer grits of sandpaper - always using a board or block - ending up with 360 or 400 grit



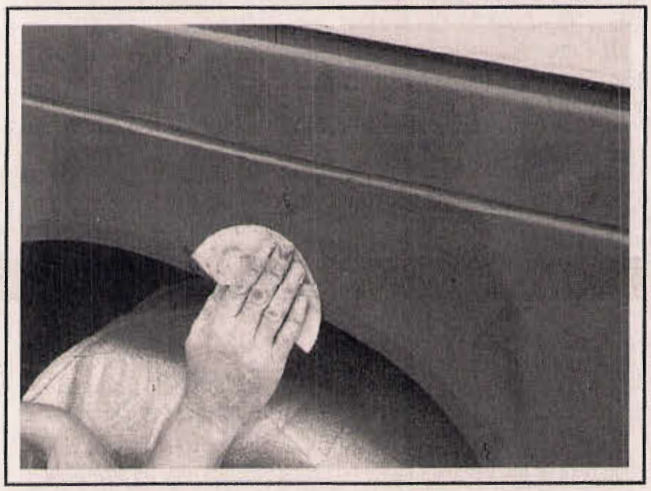
9 You shouldn't be able to feel any ridge at the transition from the filler to the bare metal or from the bare metal to the old paint. As soon as the repair is flat and uniform, remove the dust and mask off the adjacent panels or trim pieces



10 Apply several layers of primer to the area. Don't spray the primer on too heavy, so it sags or runs, and make sure each coat is dry before you spray on the next one. A professional-type spray gun is being used here, but aerosol spray primer is available inexpensively from auto parts stores



11 The primer will help reveal imperfections or scratches. Fill these with glazing compound. Follow the label instructions and sand it with 360 or 400-grit sandpaper until it's smooth. Repeat the glazing, sanding and respraying until the primer reveals a perfectly smooth surface



12 Finish sand the primer with very fine sandpaper (400 or 600-grit) to remove the primer overspray. Clean the area with water and allow it to dry. Use a tack rag to remove any dust, then apply the finish coat. Don't attempt to rub out or wax the repair area until the paint has dried completely (at least two weeks)

Repair of rust holes or gashes

24 Remove all paint from the affected area and from an inch or so of the surrounding metal using a sanding disk or wire brush mounted in a drill motor. If these are not available, a few sheets of sandpaper will do the job just as effectively.

25 With the paint removed, you will be able to determine the severity of the corrosion and decide whether to replace the whole panel, if possible, or repair the affected area. New body panels are not as expensive as most people think and it is often quicker to install a new panel than to repair large areas of rust.

26 Remove all trim pieces from the affected area except those which will act as a guide to the original shape of the damaged body, such as headlight shells, etc. Using metal snips or a hacksaw blade, remove all loose metal and any other metal that is badly affected by rust. Hammer the edges of the hole in to create a slight depression for the filler material.

27 Wire-brush the affected area to remove the powdery rust from the surface of the metal. If the back of the rusted area is accessible, treat it with rust inhibiting paint.

28 Before filling is done, block the hole in some way. This can be done with sheet metal riveted or screwed into place, or by stuffing the hole with wire mesh.

29 Once the hole is blocked off, the affected area can be filled and painted. See the following subsection on filling and painting.

Filling and painting

30 Many types of body fillers are available, but generally speaking, body repair kits which contain filler paste and a tube of resin hardener are best for this type of repair work. A wide, flexible plastic or nylon applicator will be necessary for imparting a smooth and contoured finish to the surface of the filler material. Mix up a small amount of filler on a clean piece of wood or cardboard (use the hardener sparingly). Follow the manufacturer's instructions on the package, otherwise the filler will set incorrectly.

31 Using the applicator, apply the filler paste to the prepared area. Draw the applicator across the surface of the filler to achieve the desired contour and to level the filler surface. As soon as a contour that approximates the original one is achieved, stop working the paste. If you continue, the paste will begin to stick to the applicator. Continue to add thin layers of paste at 20-minute intervals until the level of the filler is just above the surrounding metal.

32 Once the filler has hardened, the excess can be removed with a body file. From then on, progressively finer grades of sandpaper should be used, starting with a 180-grit paper and finishing with 600-grit wet-or-dry paper. Always wrap the sandpaper around a flat rubber or wooden block, otherwise the surface of the filler will not be completely flat. During the sanding of the filler surface, the wet-or-dry paper should be periodically rinsed in water. This will ensure that a very smooth finish is produced in the final stage.

33 At this point, the repair area should be surrounded by a ring of bare metal, which in turn should be encircled by the finely feathered edge of good paint. Rinse the repair area with clean water until all of the dust produced by the sanding operation is gone.

34 Spray the entire area with a light coat of primer. This will reveal any imperfections in the surface of the filler. Repair the imperfections with fresh filler paste or glaze filler and once more smooth the surface with sandpaper. Repeat this spray-and-repair procedure until you are satisfied that the surface of the filler and the feathered edge of the paint are perfect. Rinse the area with clean water and allow it to dry completely.

35 The repair area is now ready for painting. Spray painting must be carried out in a warm, dry, windless and dust free atmosphere. These conditions can be created if you have access to a large indoor work area, but if you are forced to work in the open, you will have to pick the day very carefully. If you are working indoors, dousing the floor in the work area with water will help settle the dust that would otherwise be in the air. If the repair area is confined to one body panel, mask off the surrounding panels. This will help minimize the effects of a slight mismatch in paint color. Trim pieces such as chrome strips, door handles, etc., will also need to be masked off or removed. Use masking tape and several thickness of newspaper for the masking operations.

36 Before spraying, shake the paint can thoroughly, then spray a test area until the spray painting technique is mastered. Cover the repair area with a thick coat of primer. The thickness should be built up using several thin layers of primer rather than one thick one. Using 600-grit wet-or-dry sandpaper, rub down the surface of the primer until it is very smooth. While doing this, the work area should be thoroughly rinsed with water and the wet-or-dry sandpaper periodically rinsed as well. Allow the primer to dry before spraying additional coats.

37 Spray on the top coat, again building up the thickness by using several thin layers of paint. Begin spraying in the center of the repair area and then, using a circular motion, work out until the whole repair area and about two inches of the surrounding original paint is covered. Remove all masking material 10 to 15 minutes after spraying on the final coat of paint. Allow the new paint at least two weeks to harden, then use a very fine rubbing compound to blend the edges of the new paint into the existing paint. Finally, apply a coat of wax.

6 Body repair - major damage

1 Major damage must be repaired by an auto body shop specifically equipped to perform body and frame repairs. These shops have the specialized equipment required to do the job properly.

2 If the damage is extensive, the body must be checked for proper alignment or the vehicle's handling characteristics may be adversely affected and other components may wear at an accelerated rate.

3 Due to the fact that all of the major body components (hood, fenders, etc.) are separate and replaceable units, any seriously damaged components should be replaced rather than repaired. Sometimes the components can be found in a wrecking yard that specializes in used vehicle components, often at considerable savings over the cost of new parts.

7 Hinges and locks - maintenance

Once every 3000 miles, or every three months, the hinges and latch assemblies on the doors, hood and trunk should be given a few drops of light oil or lock lubricant. The door latch strikers should also be lubricated with a thin coat of grease to reduce wear and ensure free movement. Lubricate the door and trunk locks with spray-on graphite lubricant.

8 Windshield and fixed glass - replacement

Replacement of the windshield and fixed glass requires the use of special fast-setting adhesive/caulk materials and some specialized tools and techniques. These operations should be left to a dealer service department or a shop specializing in glasswork. On SUV models, the fixed glass also includes the quarter windows.

9 Radiator grille - removal and installation

Refer to illustrations 9.1, 9.2 and 9.4

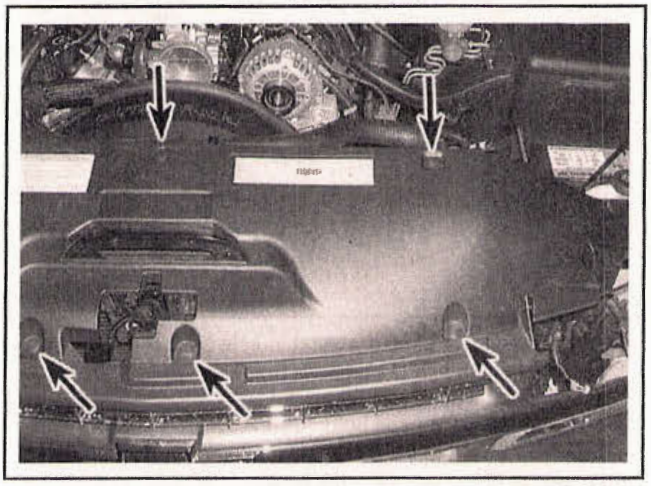
1 Open the hood and remove the plastic panel over the radiator (see illustration).

2 Remove the mounting screw at the hood latch, then at either side of the bottom of the grille, use a Phillips screwdriver to turn the fasteners a quarter-turn, releasing the fasteners from the radiator support (see illustration).

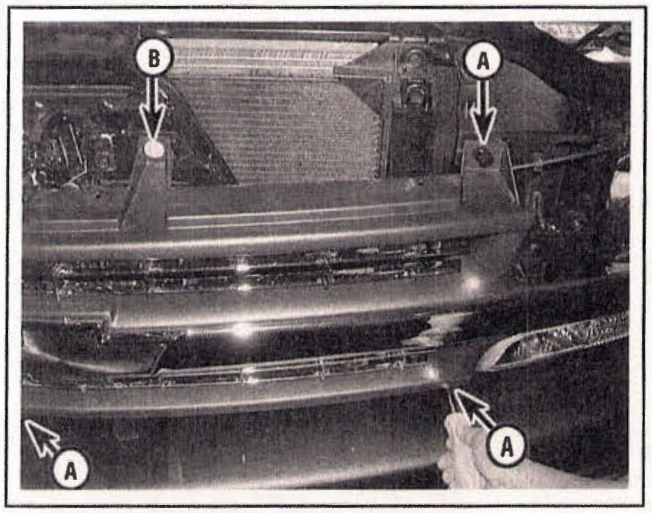
3 Refer to Chapter 12 and remove the headlight housings.

4 At each end of the grille, pull forward sharply to disengage the large clip at the left and right ends of the grille (see illustration). Lift out the grille.

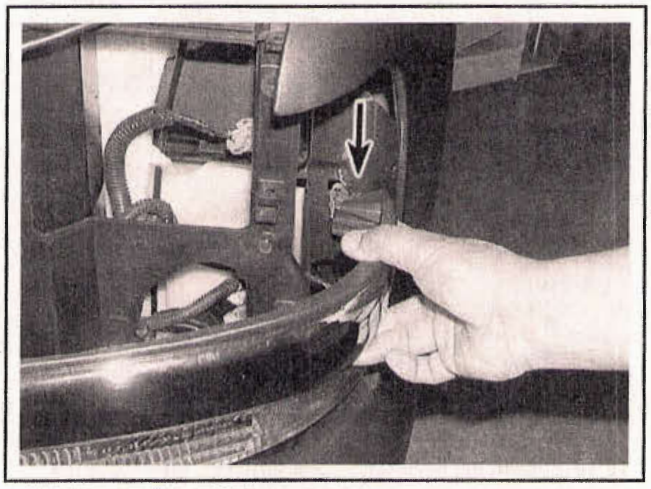
5 Installation is the reverse of removal. Next to each of the quarter-turn fasteners are plastic alignment pins that should be started in their holes in the radiator support before twisting the fasteners.



9.1 Remove the plastic pushpins (arrows) and lift off the radiator panel



9.2 Twist the quarter-turn fasteners (A) with a screwdriver, then remove the screw (B) securing the top of the grille to the hood latch mechanism



9.4 With the headlight housings removed, squeeze the large grille-to-body clip (arrow) on each end and withdraw the grille

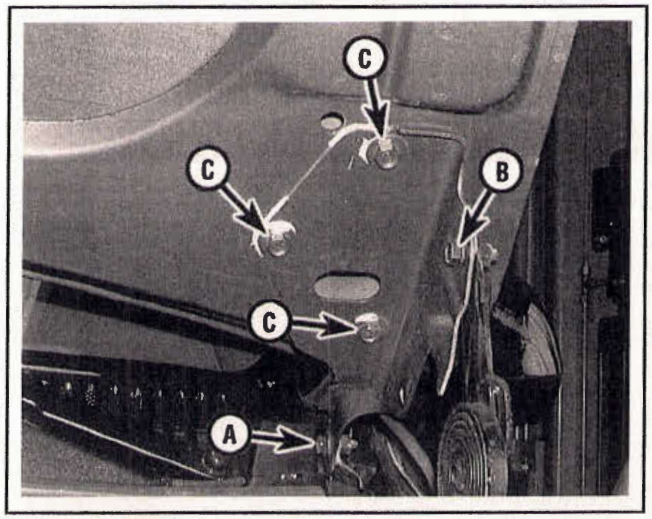
10 Hood - removal, installation and adjustment

Refer to illustrations 10.2, 10.10 and 10.11

Note: The hood is heavy and somewhat awkward to remove and install - at least two people should perform this procedure.

REMOVAL AND INSTALLATION

1 Use blankets or pads to cover the cowl area of the body and the fenders. This will protect the body and paint as the hood is lifted off.



10.2 With the help of an assistant to hold the hood, remove the rear retaining bolt (A), and the hinge spring bolt (B) from each hinge plate and lift off the hood/hinges - only remove the hinge-to-hood bolts (C) if the hood or hinges are to be replaced (and, if you do that, be sure to mark the relationship of the hinges to the hood)

2 Scribe alignment marks around the hinge flanges to insure proper alignment during installation (paint or a permanent-type felt-tip marker also will work for this) (see illustration).

3 Disconnect the electrical connector at the underhood light, and the ground wire lug attached to the rear of the hood.

4 Have an assistant support the weight of the hood. Remove the hinge-to-hood bolts.

Note: Unless the hood or hinges are to be replaced, only remove the one bolt at the rear of each hinge and the hinge-to-hinge bracket bolt, not the hinge bracket-to-hood bolts. Hood realignment will be much easier because the original hinge-to-hood relationship is maintained.

5 Lift off the hood.

6 Installation is the reverse of removal.

ADJUSTMENT

7 Fore-and-aft and side-to-side adjustment of the hood is done by moving the hood in relation to the hinge flanges after loosening the bolts.

8 Scribe or trace a line around the entire hinge plate so you can judge the amount of movement.

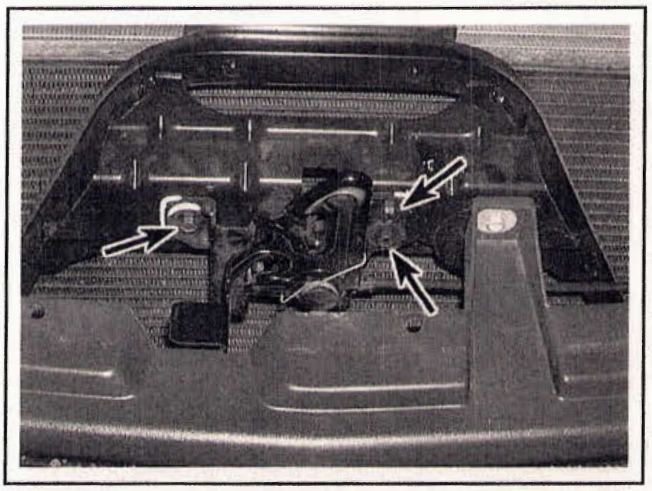
9 Loosen the nuts and move the hood into correct alignment. Move it only a little at a time. Tighten the hinge nuts and carefully lower the hood to check the alignment.

10 Remove the plastic radiator cover (see Section 9), and adjust the hood latch so the hood closes securely (see illustration).

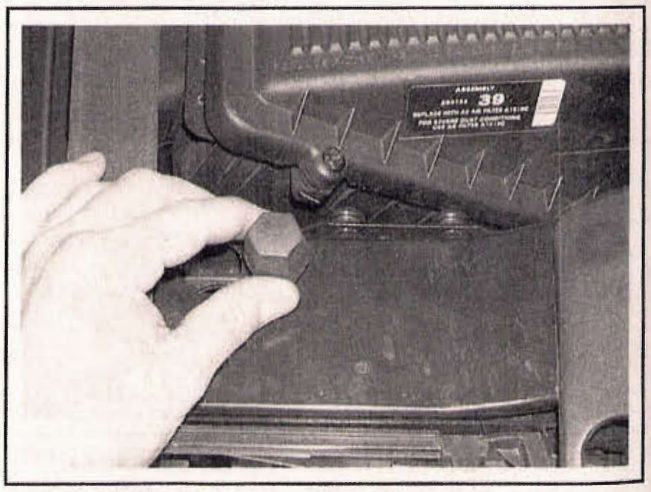
11 Adjust the hood bumpers on the radiator support so the hood is flush with the fenders when closed (see illustration).

12 The safety catch assembly on the hood itself can also be adjusted fore-and-aft and side-to-side after loosening the bolts.

13 The hood latch assembly, as well as the hinges, should be periodically lubricated with white lithium-base grease to prevent sticking and wear.



10.10 Loosen the hood latch bolts (arrows), then move the latch as necessary to adjust the hood-closed position



10.11 Twist the rubber bumpers in-or-out to make fine adjustments to the hood closed height

11 Hood latch and release cable - removal and installation

WARNING:

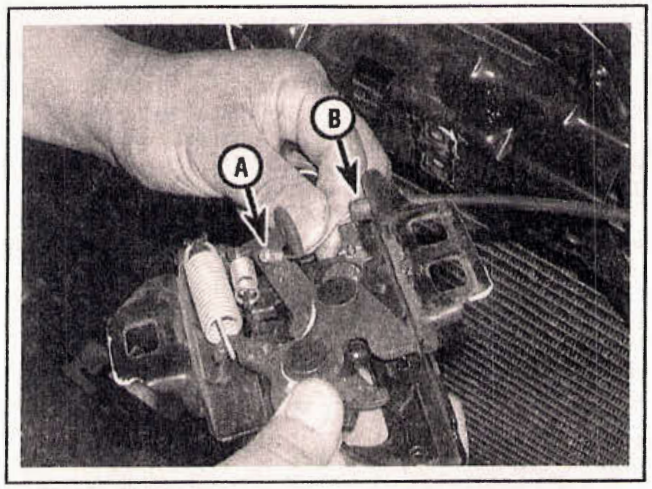
The models covered by this manual are equipped with Supplemental Restraint Systems (SRS), more commonly known as airbags. Always disable the airbag system before working in the vicinity of any airbag system components to avoid the possibility of accidental deployment of the airbags, which could cause personal injury (see Chapter 12).

LATCH

Refer to illustration 11.1

1 Remove the bolts and detach the latch assembly (see illustration 10.10). Unhook the spring and use pliers to detach the cable end from the latch (see illustration).

2 Installation is the reverse of removal. Adjust the latch so the hood engages securely when closed and the hood bumpers are slightly compressed (see Section 10).



11.1 To disconnect the cable from the hood latch mechanism, pry the cable ferrule (A) out of the latch assembly and use pliers to disengage the cable housing end (B) from its slot in the latch

RELEASE CABLE

Refer to illustrations 11.5a, 11.5b and 11.6

3 Disconnect the release cable from the hood latch assembly as described in Step 1.

4 Unclip the release cable from the engine wiring harness. Attach a length of wire to the cable to assist with the installation of the new cable.

5 Working in the passenger compartment, remove the driver's kick panel to expose the hood latch release cable and handle (see illustrations).

Note: On late models, it will be necessary to remove the electrical center to gain access to the release cable. Remove the center cover by removing the center bolt and releasing the side bails (clips). Remove the side clips on each side of the electrical center and slide the assembly out of the retaining grooves. Position the electrical center off to the side.

6 Use pliers to pull the cable housing end from the tab on the handle frame (see illustration).

Note: If the handle assembly itself must be replaced, remove the one mounting bolt and remove the handle from the cowl.

7 Trace the cable forward to the grommet where the cable goes through the firewall and pry the grommet out of the firewall. Pull the handle and cable rearward into the passenger compartment.

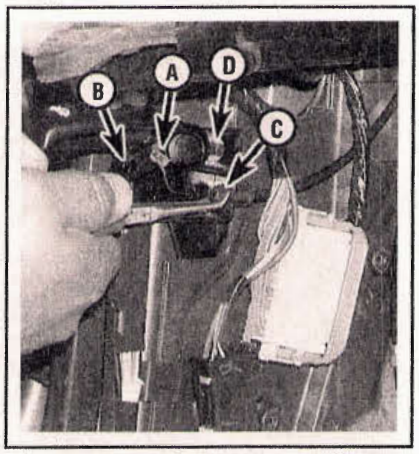
8 Disconnect the guide wire from the old cable and fasten it to the new cable.

9 With the new cable attached to the wire, pull the wire back through the firewall until the new cable reaches the latch assembly. Make sure that the grommet is properly seated on both sides of the hole in the firewall. Push on the grommet with your fingers from the passenger compartment side to seat the grommet in the firewall correctly.

10 The remainder of installation is the reverse of removal.

11.5a Firmly grasp the door sill trim and pull it up

11.5b Pull out the driver's kick panel while guiding the release handle through the opening



11.6 Work the cable housing end (A) out of the notch (B), then use pliers to twist the housing end (C) out of the bracket - to detach the hood latch release cable handle, remove the retaining nut (D)

12 Bumpers - removal and installation

WARNING:

The models covered by this manual are equipped with Supplemental Restraint Systems (SRS), more commonly known as airbags. Always disable the airbag system before working in the vicinity of any airbag system components to avoid the possibility of accidental deployment of the airbags, which could cause personal injury (see Chapter 12).

1 Bumpers on all models are chrome-plated steel, with black or color-coded plastic upper and lower trim panels.

FRONT BUMPER

Refer to illustrations 12.4a and 12.4b

2 Support the bumper with a jack or jackstand. Disconnect the electrical connectors at the fog lights, if equipped.

3 Refer to Section 9 and remove the radiator grille.

4 With an assistant supporting the bumper, remove the bolts/nuts retaining the bumper to the frame (see illustrations).

5 Disconnect any wiring harnesses or any other components that would interfere with bumper removal and detach the bumper.

6 Installation is the reverse of removal. Tighten the retaining bolts to 63 ft-lbs.

REAR BUMPER

Refer to illustrations 12.9a and 12.9b

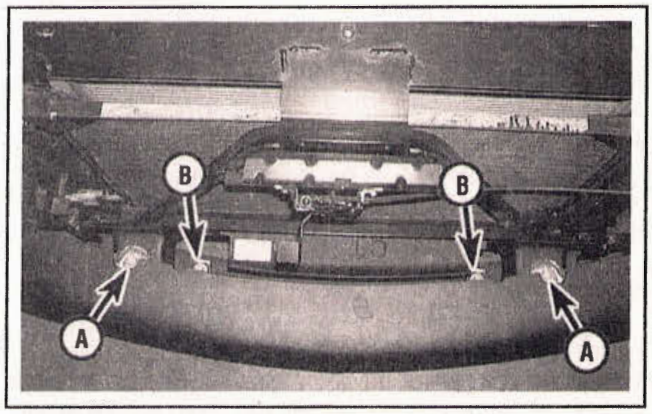
7 Support the bumper with a jack or jackstand.

8 Disconnect the license plate light.

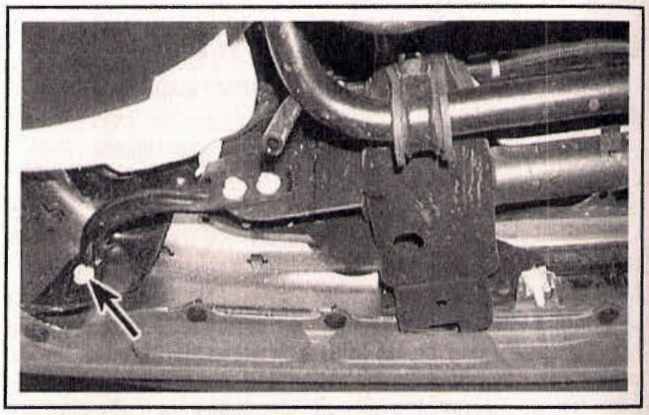
9 With an assistant supporting the bumper, remove the bolts, nuts and stud plates retaining the bumper to the frame (see illustrations).

Note: On models with a locking access hole for the spare-tire-lowering handle, pull the bumper straight back until the plastic tube on the back of the bumper clears the metal tube.

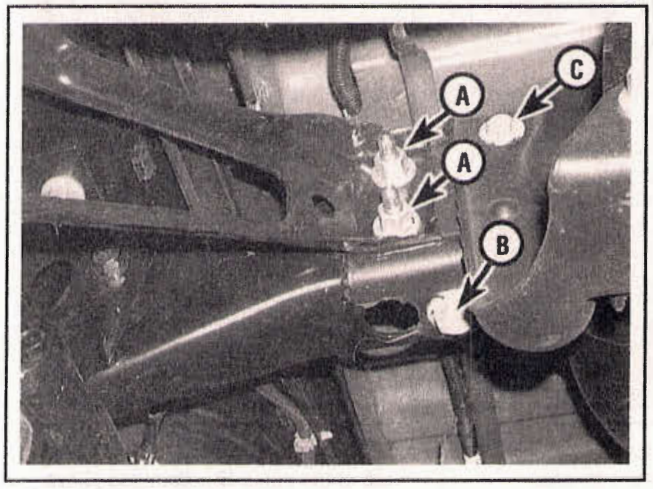
10 Installation is the reverse of removal. Tighten the plate nuts to 66 ft. lbs, the lower frame rail bolts to 74 ft. lbs, and side frame rail bolt to 30 ft. lbs.



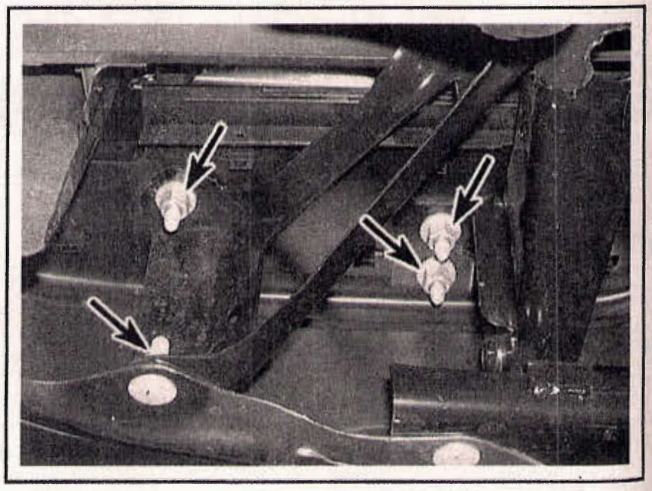
12.4a With the grille removed, there is access to the upper bumper mounting bolts (A) - also remove these two lower bolts (B)



12.4b From below, remove the one bolt (arrow) on each side at the bumper brace



12.9a Remove these bolts and nuts (arrows, right side shown) to remove the rear bumper with its brackets attached - A are the plate nuts, B is the lower frame rail bolt and C is the side frame rail bolt



12.9b If the bumper alone is to be removed, remove these nuts (arrows)

13 Front fender - removal and installation

Refer to illustrations 13.5, 13.6a, 13.6b, 13.7, 13.8 and 13.10

WARNING:

The models covered by this manual are equipped with Supplemental Restraint Systems (SRS), more commonly known as airbags. Always disable the airbag system before working in the vicinity of any airbag system components to avoid the possibility of accidental deployment of the airbags, which could cause personal injury (see Chapter 12).

1 Disconnect the negative cable from the battery.

CAUTION:

On models equipped with the Theftlock audio system, be sure the lockout feature is turned off before performing any procedure which requires disconnecting the battery (see the front of this manual).

Loosen the wheel lug nuts, raise the vehicle, support it securely on jackstands and remove the front wheel.

2 Refer to Section 9 and remove the radiator grille.

3 Refer to Section 10 and remove the hood. Remove the hood spring from the side of the vehicle from which you are removing the fender.

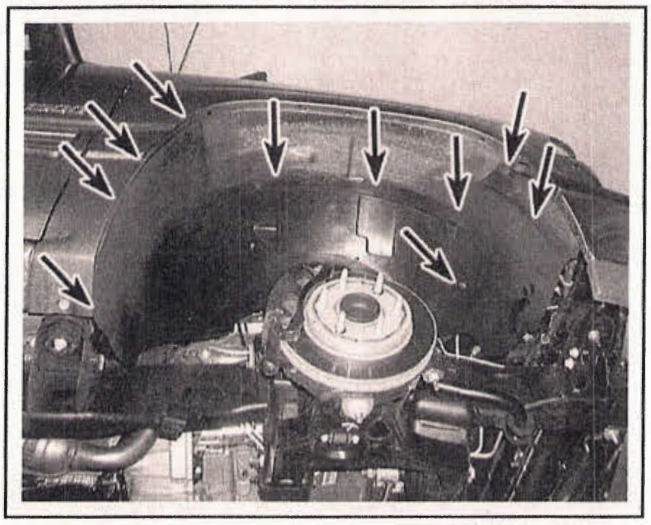
4 Refer to Section 14 and remove the side panel of the cowl cover, on the side from which you are removing the fender.

5 Pry out the plastic rivets, remove the screws and remove the inner fenderwell liner (see illustration).

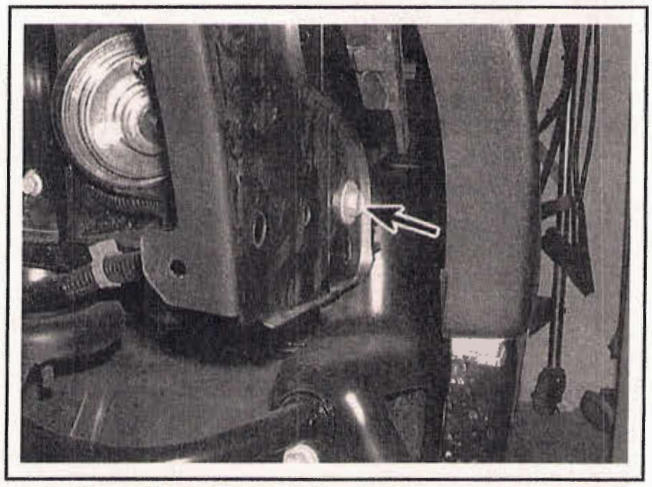
6 From below, remove the fender bolt at the front of the fender opening and the bolt at the rocker panel (see illustrations).

7 Open the door and remove the fender-to-cowl bolts in the doorjamb (see illustration).

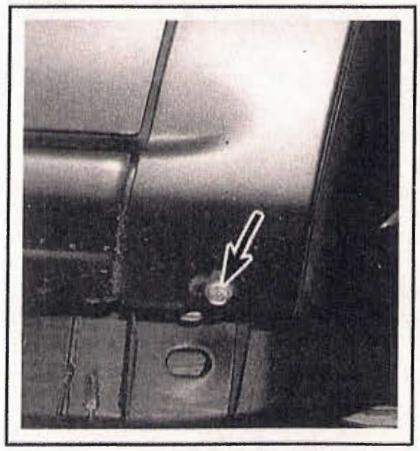
8 If removing the left fender, remove the battery and battery tray (see Chapter 5), and remove the bolts securing the Power Distribution Center (PDC). Set the PDC aside without disconnecting the electrical cables. Also remove the pencil brace at the front (see illustration). Also disconnect the hood release cable from the clips on the fender, and disconnect the windshield washer hose.



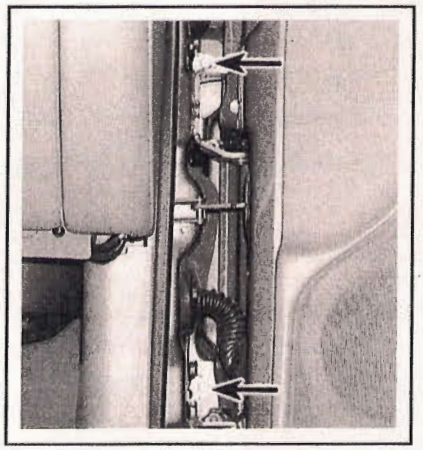
13.5 Remove the plastic pins (arrows) and the fenderwell liner



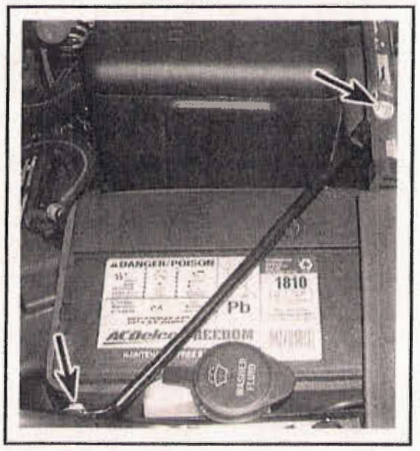
13.6a With the fender liner removed, remove this bolt at the front (arrow) . . .



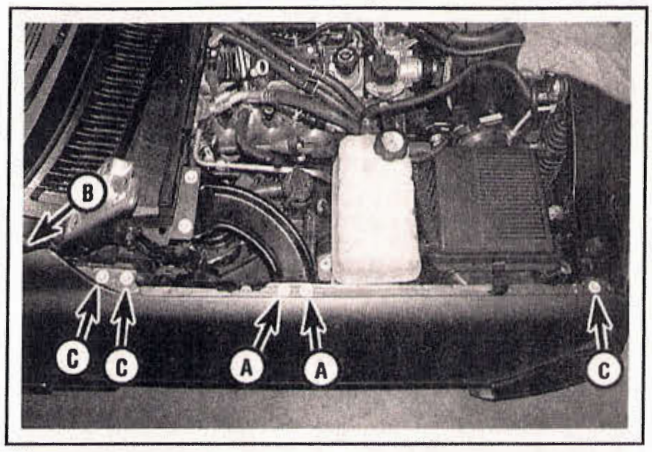
13.6b . . . and the lower bolt (arrow) securing the bottom-rear of the fender to the rocker panel



13.7 Remove these fender bolts (arrows) in the door jamb



13.8 Unbolt the pencil brace bolts (arrows) at the front of the left fender



13.10 At the top of each fender, remove the brace bolts (A), the upper cowl-to-fender bolt (B), and the fender-to-body bolts (C)

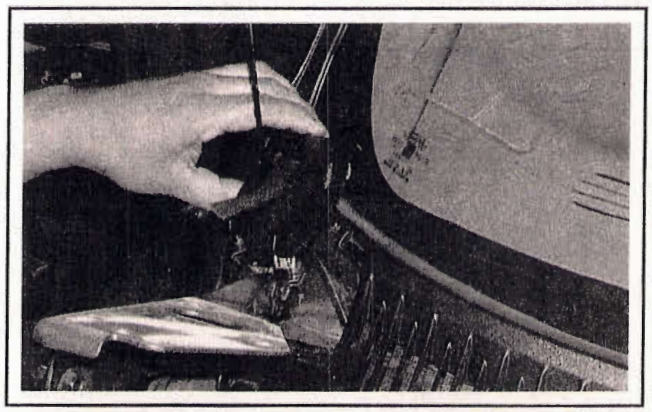
9 If removing the right fender, unbolt and set aside the air filter box and the radiator surge tank (see Chapter 3).

10 Remove the upper fender mounting bolts (see illustration).

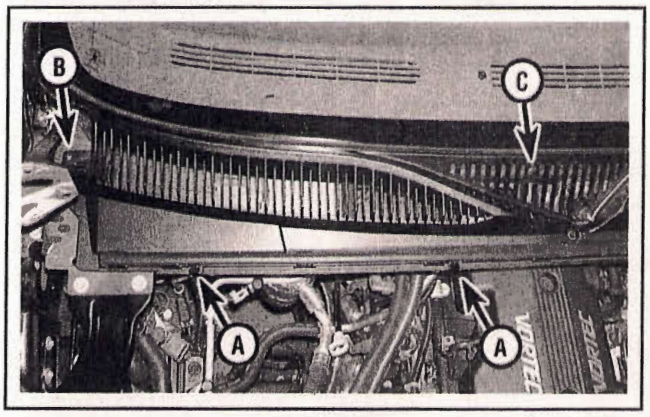
11 Detach the fender. It's a good idea to have an assistant support the fender while it's being moved away from the vehicle to prevent damage to the surrounding body panels.

12 Installation is the reverse of the removal procedure. Tighten all nuts, bolts and screws securely.

14 Cowl cover - removal and installation



14.3 The end sections of the cowl cover snap in place without fasteners



14.4a Remove the plastic clips (A, right side of cowl shown), the Torx screw (B), and the plastic pushpin (C)

Refer to illustrations 14.3, 14.4a and 14.4b

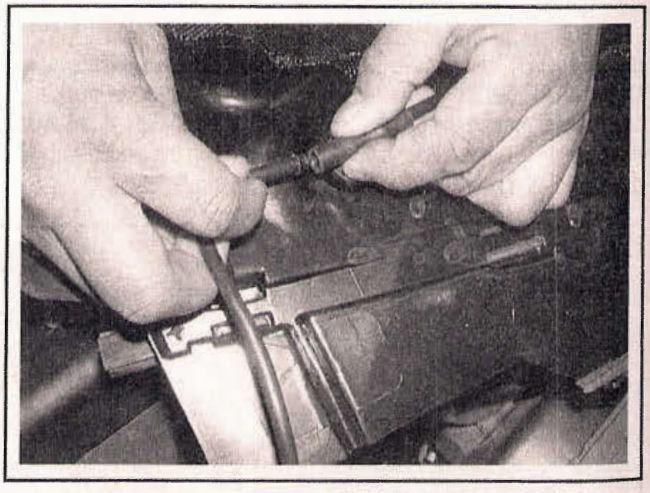
1 Mark the position of the windshield wiper blades on the windshield with a wax marking pencil.

2 Remove the wiper arms (see Chapter 12).

3 At each side of the cowl, pull the side plates of the cowl cover up and off (see illustration).

4 Remove the cowl grille retainers, disconnect the windshield washer hoses and detach the cowl grille from the vehicle (see illustrations).

5 Installation is the reverse of removal. Make sure to align the wiper blades with the marks made during removal.



14.4b Once the cowl cover is raised, disconnect and plug the hose from the windshield washer reservoir (attached to bottom of cowl cover)

15 Door trim panels - removal and installation

CONVENTIONAL DOORS (PICK-UP AND SUV)

Refer to illustrations 15.2a, 15.2b, 15.3a, 15.3b, 15.3c, 15.3d, 15.5 and 15.6

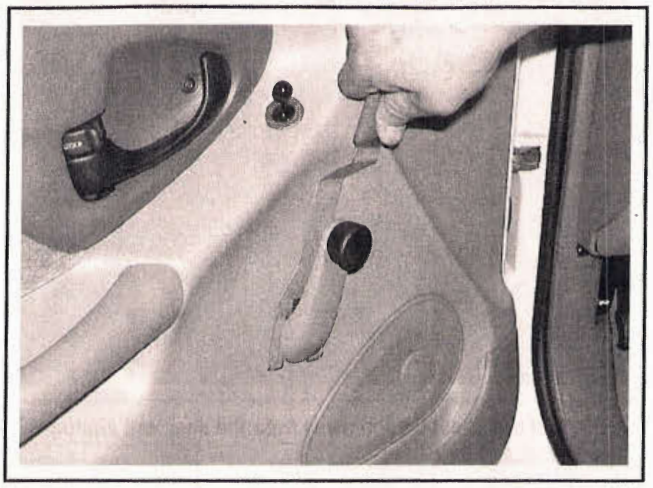
1 On models with power door locks and/or power windows, disconnect the cable from the negative terminal of the battery (see Chapter 1).

CAUTION:

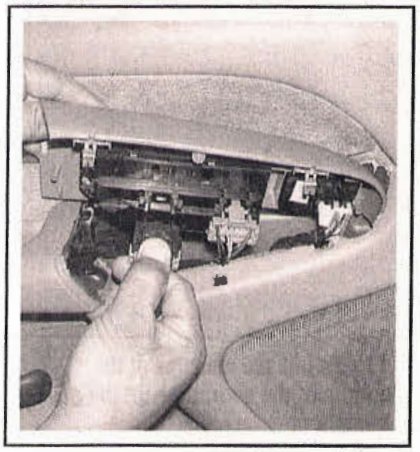
On models equipped with the Theftlock audio system, be sure the lockout feature is turned off before performing any procedure which requires disconnecting the battery (see the front of this manual).

2 On manual window models, remove the window crank (see illustration). On power-window models, pry the power switch assembly out of the door panel with a flat-bladed trim tool (see illustration).

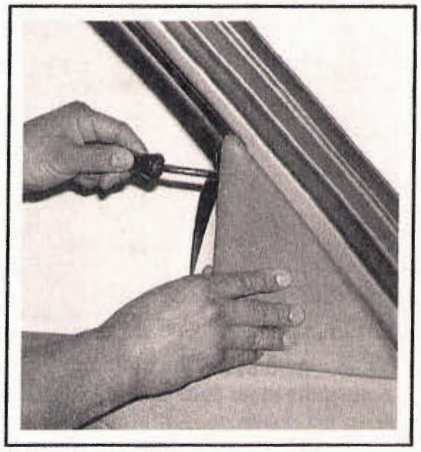
3 Remove all door trim panel retaining screws and door pull/armrest assemblies (see illustrations).



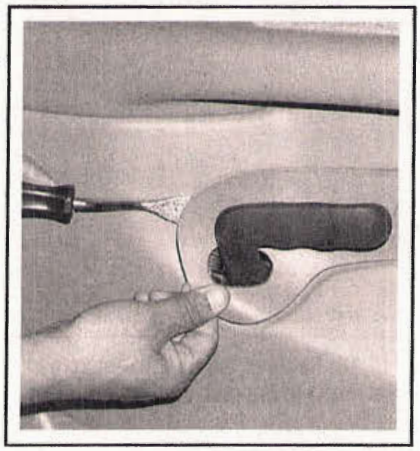
15.2a Use a hooked tool or a special window crank removal tool like this one to remove the retaining clip, then detach the window crank handle



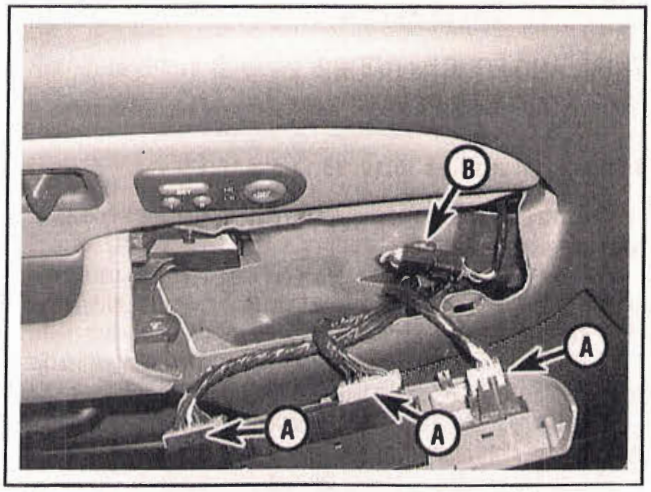
15.2b Pry up the power window switch assembly and disconnect the electrical connectors



15.3a Use a trim tool to pry out the trim panel covering the outside mirror mount



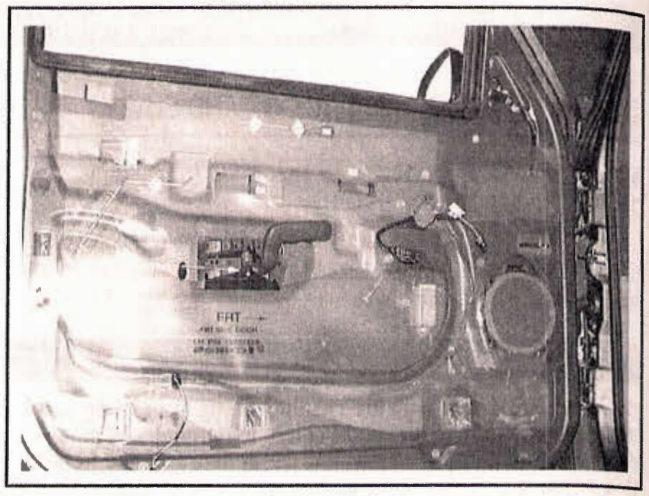
15.3b Use a trim tool to carefully pry out the trim around the inside door handle



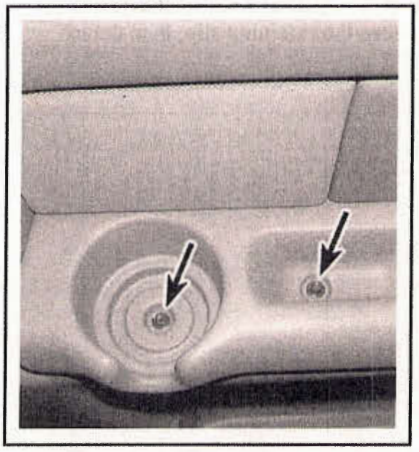
15.3c Disconnect the electrical connectors at the window switch panel (A) and for the seat heater switch (B)

15.3d Remove the mounting screws (arrows), then lift the door panel straight up and off

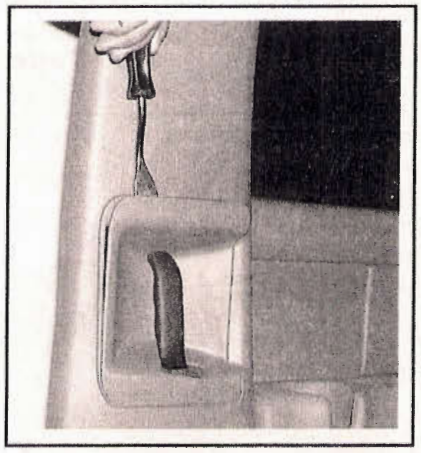
15.5 Pull the panel up and away from the door and unplug the electrical connectors



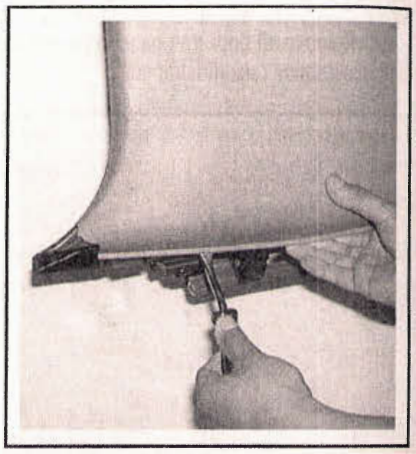
15.6 Peel the water deflector carefully away from the door, taking care not to tear it



15.10 Remove the door panel screws (arrows) in the pick-up third door



15.11 Carefully pry the trim from around the inner door handle



15.12 Release the clips at the bottom of the door, then lift the panel straight up

➡Note: Some models are equipped with more than two door panel retaining screws. Locate the caps that cover the screws and remove all the door panel retaining screws before removing the door panel.

4 Pull upward and outward at the same time to release the door panel from the clips on the door.

5 Once all of the clips are disengaged, raise the trim panel up and off the door. Disconnect any wiring harness connectors and remove the trim panel from the vehicle (see illustration). Most models have courtesy lights to disconnect (see Chapter 12), while some have optional heated-seat switches that have to be pried out with a trim tool.

6 For access to the inner door, carefully peel back the plastic water-shield (see illustration).

7 Prior to installation of the door panel, be sure to reinstall any clips in the panel which may have come out during the removal procedure and remain in the door itself.

8 Connect the wiring harness connectors and place the panel in position on the door. Press the trim panel straight against the door (slightly higher than the final position) until the clips on the trim panel align with all the holes in the door, then push down on the panel until the clips are seated.

9 Install the armrest/door pulls, screws and the window crank. Connect the negative battery cable.

THIRD AND FOURTH DOORS (EXTENDED-CAB PICK-UPS)

▶ Refer to illustrations 15.10, 15.11 and 15.12

10 In the door pull and cupholder cavities, remove the two door panel screws (see illustration).

11 Use a flat-bladed trim tool to pry out the plastic trim panel around the inside door handle for the third (or optional fourth) door (see illustration).

12 Use the trim tool to work all around the lower portion of the door panel, to release the clips (see illustration).

13 Pull straight up and out on the door panel to release its inner tabs from the slots in the door.

14 Installation is the reverse of the removal procedure.

16 Door - removal and installation

Refer to illustrations 16.3a, 16.3b and 16.6

1 Remove the door trim panel (see Section 15). Disconnect any electrical connectors and push them through the door opening so they won't interfere with door removal. Leave the wiring harness boot attached to the door but disconnected from the body.

2 Place a jack under the door or have an assistant on hand to support it when the hinge bolts are removed.

Note: If a jack is used, place a rag between it and the door to protect the door's painted surfaces.

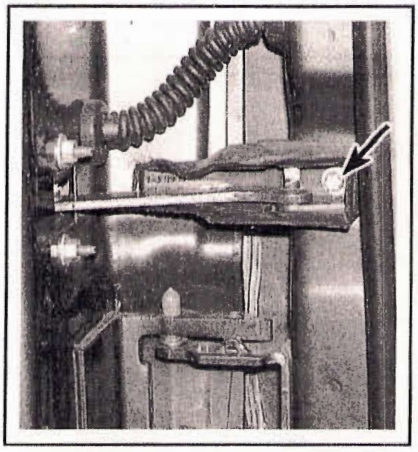
3 Remove the fasteners and carefully lift off the door (see illustrations).

Note: The hinges separate into two halves. Each hinge half is welded to the door or the cowl, and they are not adjustable. If a hinge needs to be replaced, the work should be performed at a body shop.

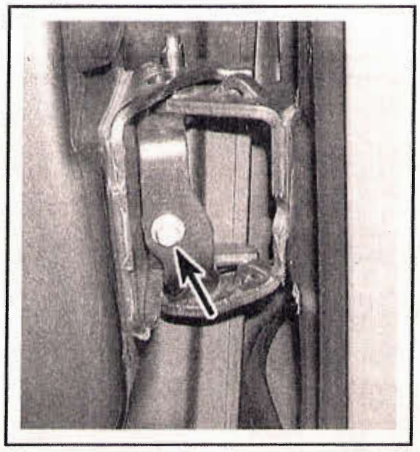
4 Installation is the reverse of removal.

5 Rear doors on SUV models are removed and installed as described above for front doors, except that the door is attached to the body "B" pillar and the pillar trim must be removed before removing the door.

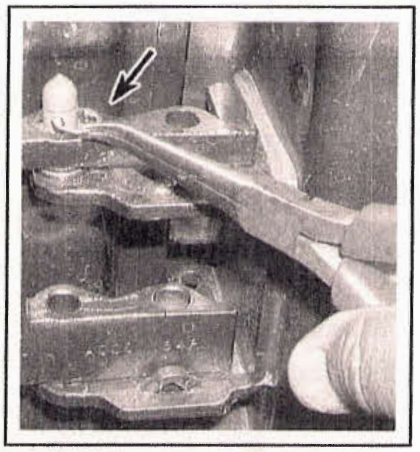
6 On pick-up models with the right-rear access door (or optional left-rear access door), the door hinges do not have bolts, but rather two pins. To remove the door, follow the Steps above, but remove the clips on the upper door hinge pins, the move the door straight up until the door half of the hinges clear the body (see illustration). Installation is the reverse of the removal procedure. After lowering the door hinges back onto the pins, replace the clips on the top pins.



16.3a Remove the Torx door retaining strap bolt (arrow)



16.3b With the door supported, remove the two hinge bolts (arrow indicates bolt in lower hinge) and lift the door off



16.6 On pick-up third or fourth doors, the hinges pivot on pins, remove the C-clip (arrow) at each hinge and lift the door straight up off the pins

17 Door latch, lock cylinder and handles - removal and installation

LATCH

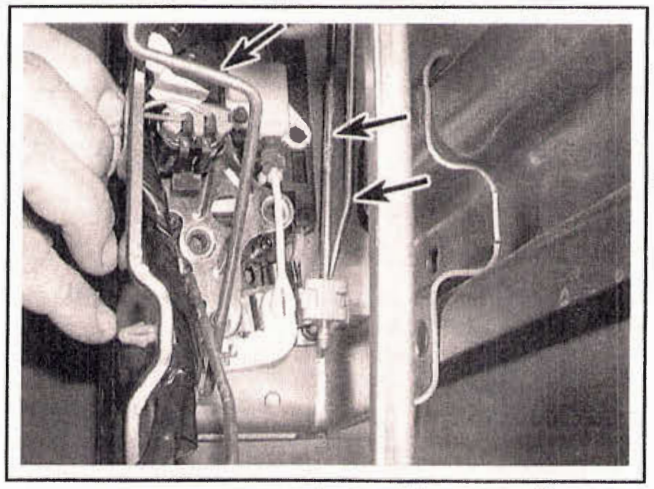
Standard doors (pick-up and SUV)

Refer to illustrations 17.2 and 17.3

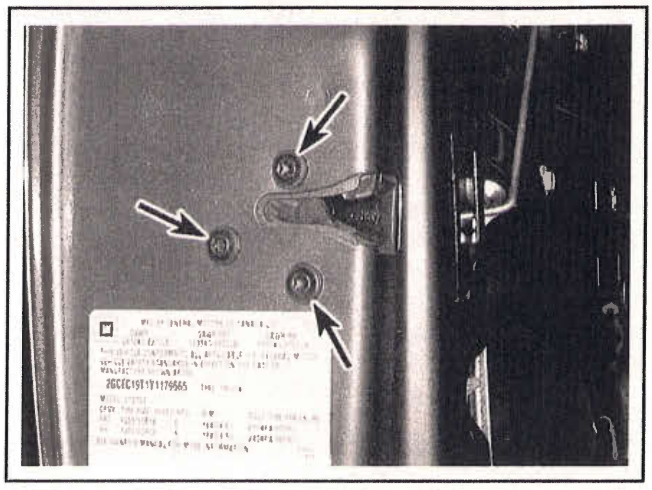
1 Raise the window completely and remove the door trim panel and watershield (see Section 15).

2 Rotate the plastic retaining clips off, then detach the latch rods from the lock cylinder, outside handle and inside handle (see illustration).

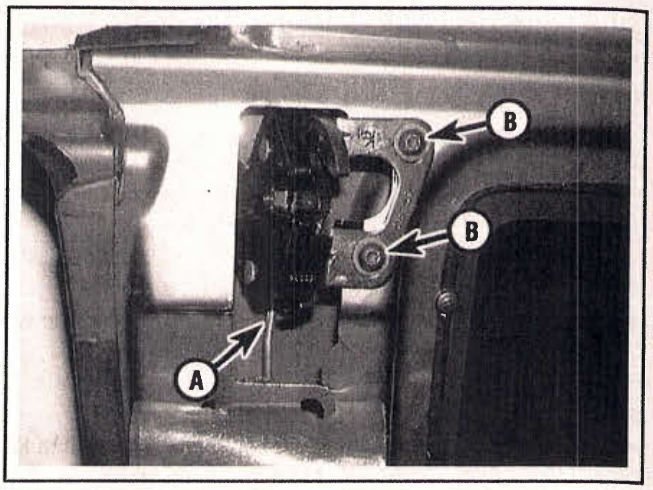
Note: It may be easier to reach the lock cylinder rod clip when the rubber access plug is removed from the door (see below for outside handle).



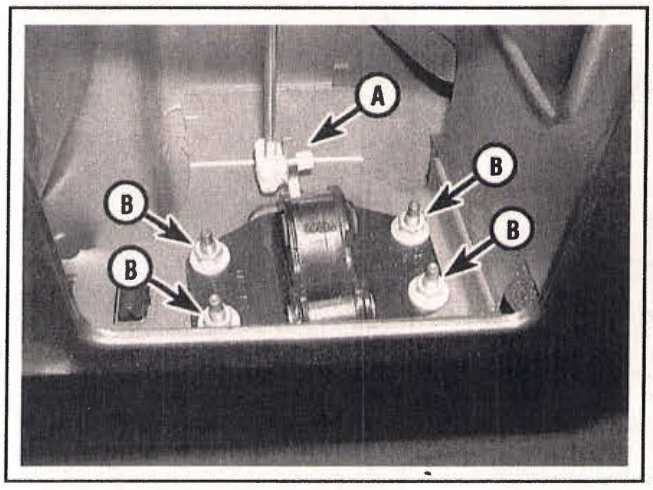
17.2 Detach the latch rods (arrows) at the latch, working through the opening in the door



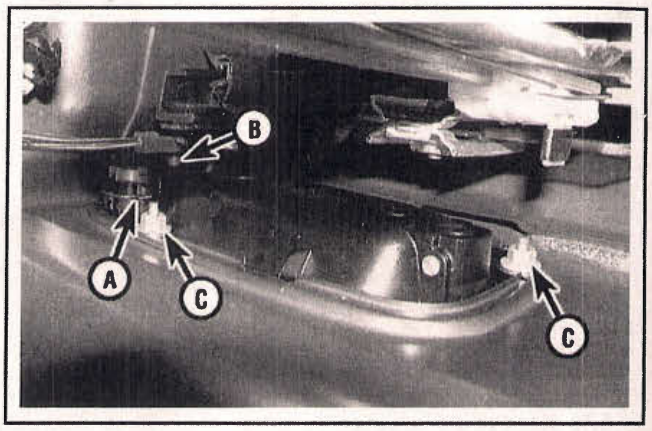
17.3 Door latch mounting screws (arrows) are Torx-head fasteners



17.7a Disconnect the linkage rod (A), then remove the bolts (B) to remove the upper latch



17.7b Disconnect the linkage rod (A), then remove the nuts (B) to remove the lower latch



17.9 Pry off the lock cylinder retaining clip (A) and slip the cylinder out of the back of the handle assembly, then disconnect the rod (B) - C indicates the handle retaining nuts (this view is looking up inside door)

3 Remove the three Torx-head mounting screws (it may be necessary to use an impact-type screwdriver to loosen them), then remove the latch from the door (see illustration). If possible, disconnect the rods while the latch is in the door, if not, pull the latch out with the rods attached, then disconnect the rods and electrical connectors.

4 Installation is the reverse of the removal procedure. Check the door to make sure it latches and unlatches properly.

Third and fourth doors (extended-cab pick-ups)

Refer to illustrations 17.7a and 17.7b

5 The third (rear) door on the right side of extended-cab pick-ups (and the optional fourth door on the driver's side) has two latches, one at the top and one at the bottom. The door handles attach to a central mechanism that has rods going to both latches.

6 To remove either of the latches, see Section 16 for removal of the door panel and plastic weathershield.

7 Disconnect the rods at each latch, then remove the latch mounting bolts (see illustrations).

8 Installation is the reverse of the removal procedure.

LOCK CYLINDER

Refer to illustration 17.9

9 Remove the outside door handle (see below). Disconnect the link, use a screwdriver to push the key lock cylinder retainer off and withdraw the lock cylinder from the door handle (see illustration).

10 Installation is the reverse of removal.

OUTSIDE HANDLE

Refer to illustrations 17.11 and 17.12

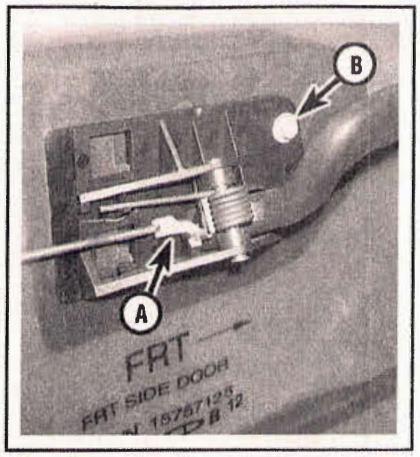
11 Disconnect the outside handle link from the latch, remove the mounting nuts and detach the handle from the door (see illustration 17.9). One nut can only be reached by removing a rubber plug in the rear jamb of the door (see illustration).

12 On third and fourth doors, remove the handle mounting screws in the front jamb of the door and pull the handle assembly out (see illustration).

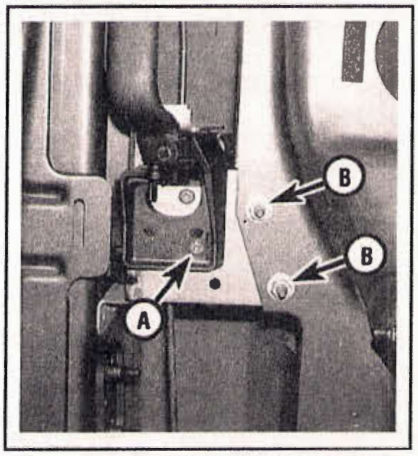
13 Place the handle in position, attach the link and install the nuts. Tighten the nuts securely.

17.11 Remove the plug to gain access to the upper mounting nut of the outside door handle through this hole (arrow)

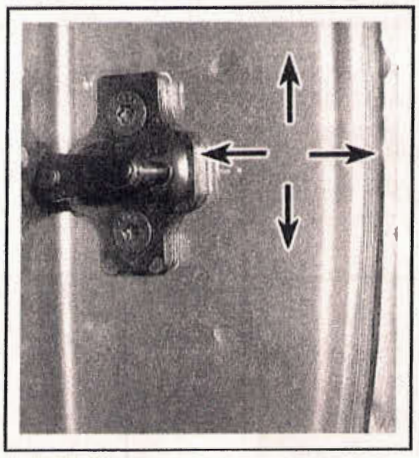
17.12 On third and fourth pickup doors, remove the two screws (arrows) and pull out the "outside" handle



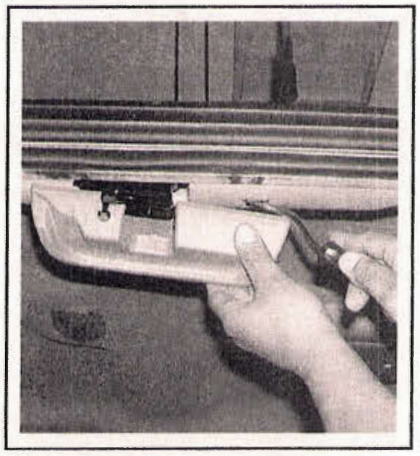
17.15 Release the lock rod clip (A), then remove the inside handle mounting bolt (B)



17.16 The third door inside handle is retained by one bolt (A) - the nuts (B) secure the handle bracket



17.17 The latch striker on the door jamb can be adjusted slightly up/ down or in/out



17.19a Use a trim tool to remove this panel . . .

INSIDE HANDLE

➧ Refer to illustrations 17.15 and 17.16

14 Follow the Steps in Section 16 to remove the door trim panel.

15 On standard doors, disconnect the latch rod from the handle assembly, then remove the mounting bolt (see illustration).

16 On third and fourth doors (extended-cab pick-ups), remove the one mounting bolt and take out the handle assembly (see illustration).

LATCH STRIKERS

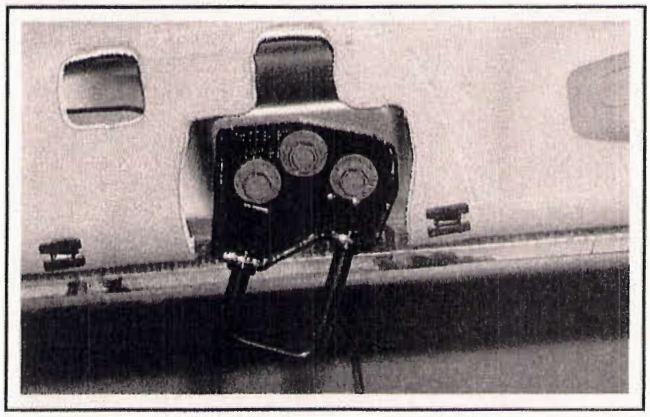
➧ Refer to illustrations 17.17, 17.19a and 17.19b

17 To make minor door adjustments for latch alignment, the bolts on the latch striker (which is mounted opposite the latch) can be loosened and the striker moved slightly (see illustration). Retighten the striker mounting bolts and check for proper latch operation.

➡Note: The striker can be moved up-and-down, or left-and-right to make adjustments.

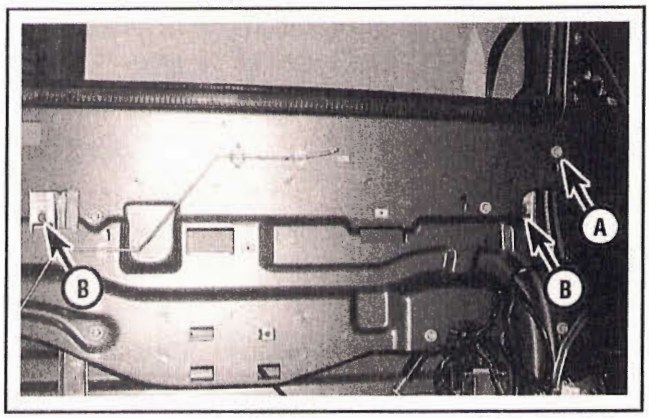
18 The third and fourth doors on extended-cab pick-ups have two latches, and thus two strikers, one above and one below the door. The bottom striker is in the rocker panel.

19 The striker for the upper latch is attached to the vehicle's roof. To access it for removal or adjustment, remove the trim piece around it (see illustrations).



17.19b . . . to access the upper striker for third and fourth pick-up doors

18 Door window glass - removal and installation



18.4 Remove the run channel bolt (A), then align the window so that the bolts (B) at the glass track can be loosened

Refer to illustration 18.4

1 Remove the door trim panel and watershield (see Section 15). Removal and installation of the window glass is essentially the same for front and rear (SUV) doors.

2 Lower the glass until the glass track bolts are visible in the door openings.

3 Remove the bolt from the front window glass channel, to allow the channel to move away from the glass.

4 Loosen the two bolts retaining the glass to the window regulator track (see illustration).

5 Lift the glass up and out of the door through the glass opening.

6 To install, lower the glass into the door, slide it into position and tighten the nuts.

7 The remainder of installation is the reverse of removal.

19 Door window glass regulator - removal and installation

Refer to illustration 19.3

WARNING:

Do not remove the electric motor from the regulator assembly. The motor is available only as an integral unit with a new regulator.

1 Remove the door trim panel and watershield.

Note: The procedure is the same for both front and rear (SUV) door regulators.

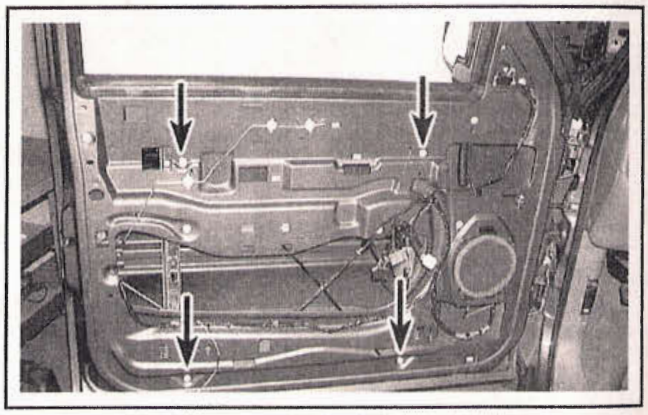
2 Remove the door window glass (see Section 18).

3 The window regulator assembly consists of two guides and cables. Remove the window regulator mounting bolts (see illustration). When withdrawing the assembly from the door, push the two guides toward each other to "collapse" the assembly for easier removal. The rear door regulator on SUV models is removed in much the same manner as for the front door regulator.

4 On power window equipped models, unplug the electrical connector.

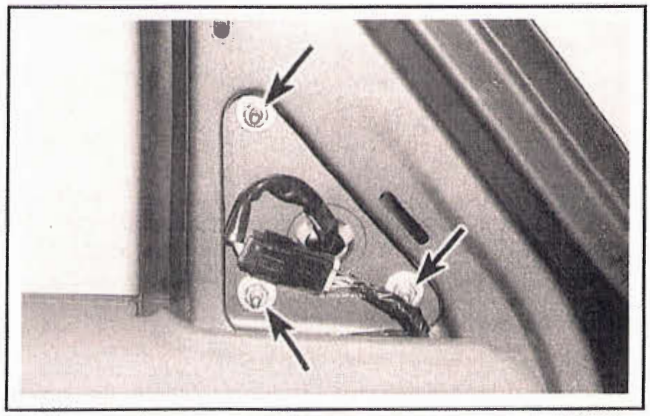
5 Remove the regulator from the door.

6 Installation is the reverse of removal.



19.3 Door window regulator mounting bolt locations (arrows)

20 Mirrors - removal and installation



20.3 Remove the three outside mirror mounting nuts (arrows); on power models (shown), disconnect the electrical connector

Refer to illustrations 20.3 and 20.6

OUTSIDE MIRRORS

1 Remove the upper corner interior trim panel by pulling it straight off until the clips release from the door (see illustration 15.3a).

2 On power mirrors, unplug the electrical connector.

3 Remove the nuts and detach the mirror from the door (see illustration).

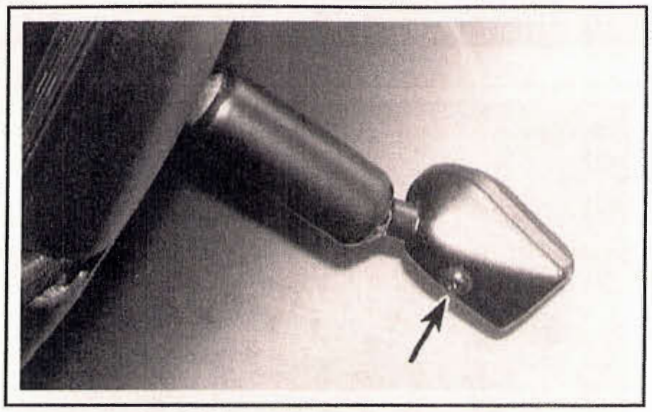
4 Installation is the reverse of removal.

INSIDE MIRROR

5 Remove the setscrew, then slide the mirror up off the support base on the windshield (see illustration).

6 Installation is the reverse of removal.

7 If the support base for the mirror has come off the windshield, it can be reattached with a special mirror adhesive kit available at auto parts stores. Clean the glass and support base thoroughly and follow the directions on the adhesive package, allowing the base to bond overnight before attaching the mirror.



20.5 Remove the setscrew and slide the inside mirror from the support base

21 Tailgate (pick-up models) - removal and installation

Refer to illustrations 21.1, 21.2 and 21.4

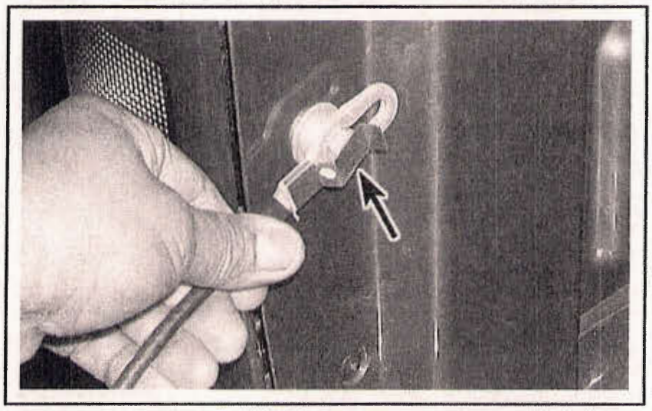
1 Open the tailgate and detach the retaining cables (see illustration). On 2001 and later models, remove the bolt at the lower right tailgate hinge.

2 Lower the tailgate until the flat on the right side hinge-pin aligns with the slot in the hinge pocket. Lift the tailgate out of the pocket (see illustration). With the help of an assistant to support the weight, withdraw the left hinge pin from the body and remove the tailgate from the vehicle.

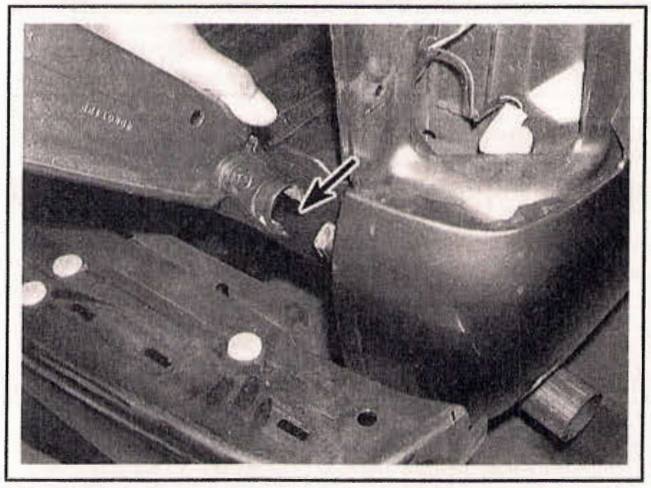
3 Installation is the reverse of removal.

Note: Apply some white grease to the mating parts of the tailgate hinge assembly before installation.

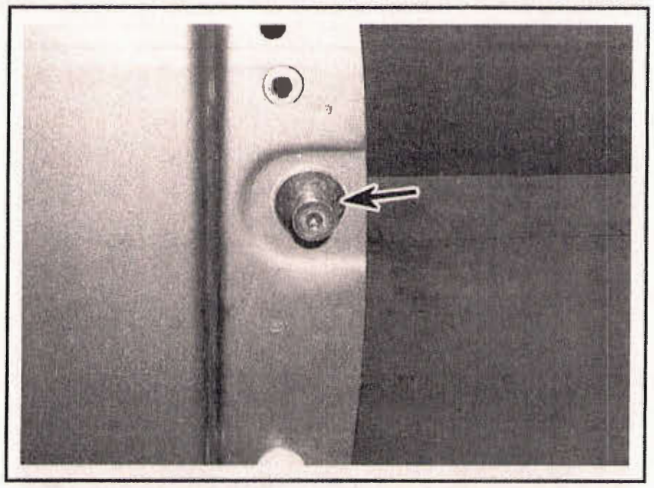
4 If alignment is necessary, the latches (one on each side) can be loosened and moved (see Section 22), and/or the latch striker pins can be moved slightly for best tailgate fit (see illustration).



21.1 Lift the spring retainer (arrow) up and slide the cable end off the pin

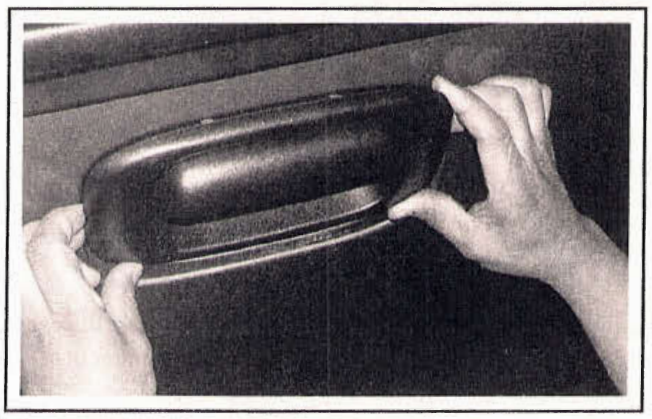


21.2 Lower the tailgate enough to align the open area (arrow) on the right side hinge pin pocket with the straight sides of the pin, then lift the tailgate and slide it to the right and off the vehicle



21.4 The tailgate latch strikers (right side shown) can be loosened with a male Torx bit to adjust their position slightly

22 Tailgate latch and handle (pick-up models) - removal and installation



22.1 Pry the tailgate latch bezel out and down

Refer to illustrations 22.1, 22.2, 22.3 and 22.4

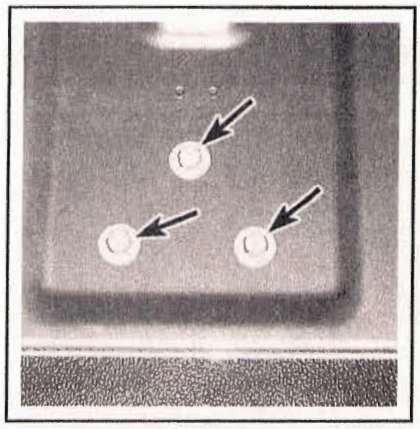
1 Use a small screwdriver or trim tool to pry off the handle escutcheon. Once the bottom is pried out, pull the escutcheon down and away from the tailgate (see illustration). If a screwdriver is used, cover the tip with electrical tape to prevent scratching the paint.

2 From the bed side of the tailgate, remove the handle mounting bolts (see illustration).

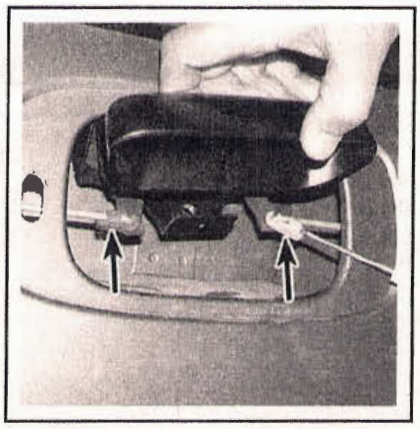
3 Rotate the plastic retaining clips off the control rods and detach the rods from the handle (see illustration).

4 Remove the bolts and withdraw the latch from the end of the tailgate (see illustration).

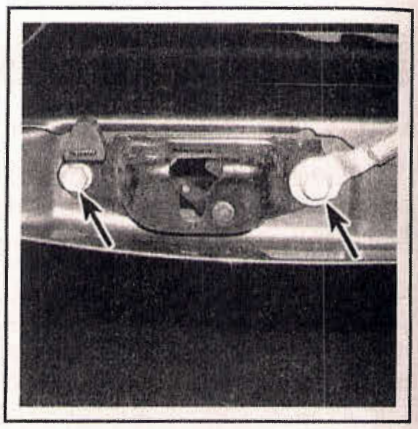
5 Installation is the reverse of removal. Tighten all fasteners securely.



22.2 Tailgate handle mounting bolts (arrows)

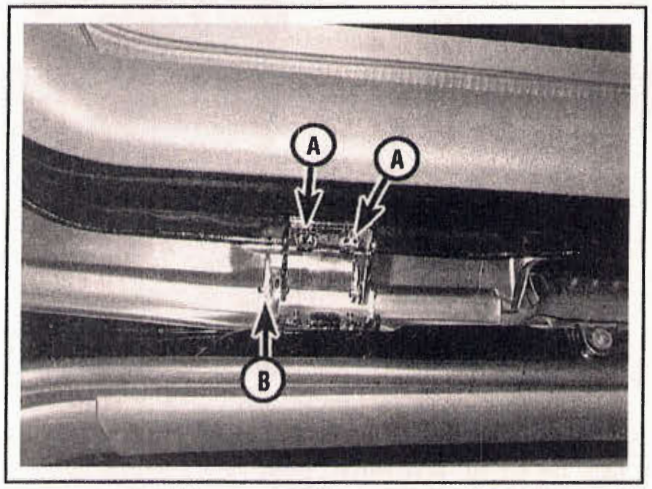


22.3 Rotate the plastic retaining clips (arrows) off the control rods and detach the rods from the handle



22.4 Remove the tailgate latch mounting bolts (arrows) and withdraw it with the control rod

23 Liftgate and liftgate glass (SUV models) - removal and installation



23.4 Remove the liftgate hinge-to-body mounting bolts (A, left side shown) - B indicates the C-clip securing the liftgate glass hinge

LIFTGATE

Refer to illustration 23.4

WARNING:

The liftgate is heavy and awkward to hold. At least two people should perform this procedure.

1 Open the liftgate and support it fully in this position. Use a trim tool to remove the interior molding above the liftgate.

2 Disconnect the electrical connectors for the liftgate and disconnect the washer fluid hose.

3 Detach the support struts at the liftgate (see Section 24).

4 Remove the liftgate hinge-to-body mounting bolts (see illustration). Remove the bolts while at least one assistant, preferably two, helps you hold the liftgate.

5 Installation is the reverse of the removal procedure.

LIFTGATE GLASS

6 Disconnect the electrical connector for the rear window defogger.

7 Open the liftgate and remove the C-clip at the left end of each liftgate hinge (see illustration 23.4).

8 Now close the liftgate. With an assistant to help, open the liftgate glass and slide it to the left, until the glass hinge slides off the pins on the liftgate hinges. The liftgate glass hinges are part of the rear glass assembly.

9 Installation is the reverse of the removal procedure. Make sure the C-clips snap firmly into place in the grooves in the hinge pins.

24 Liftgate panels, lock cylinder, latch and support struts (SUV models) - removal and installation

INTERIOR TRIM PANELS

Refer to illustrations 24.1, 24.2a, 24.2b and 24.2c

1 Open the liftgate glass, then remove the plastic pushpins securing the trim panel to the liftgate glass latch (see illustration).

2 Remove the assist strap, then use a trim tool to pry out the plastic fasteners on the trim panel (see illustrations). The upper trim panel must be removed first for access to the lower (larger) liftgate trim panel.

3 The lower panel must be pulled straight up (towards the liftgate glass) until it is free of the tabs on the liftgate. Do not pull outward, or the plastic clips on the back of the panel may break.

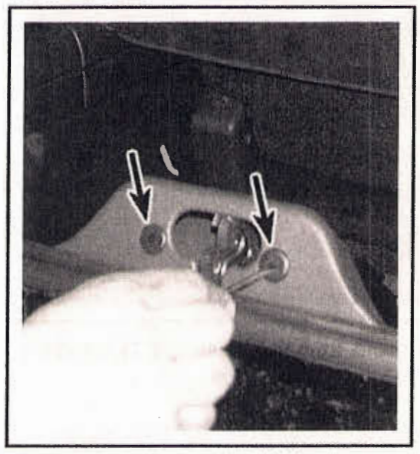
4 Installation is the reverse of the removal procedure.

LOCK CYLINDER

Refer to illustrations 24.6, 24.7 and 24.8

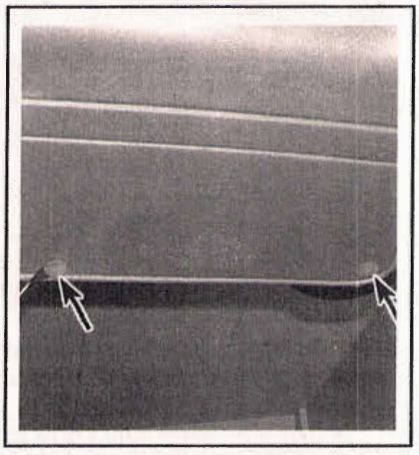
5 Remove the trim panels from the liftgate (Steps 1 through 3).

6 Where the lock cylinder extends through the latch assembly, remove the C-clip and the lock cylinder lever (see illustration).

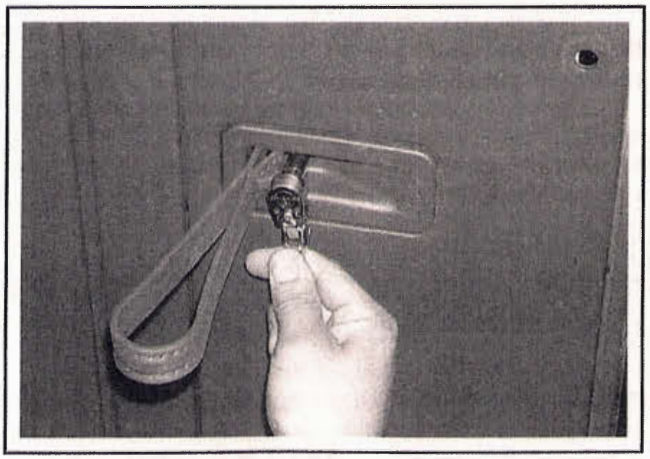


24.1 Remove the two pushpins (arrows) at the liftgate glass latch - pry up the center pins at each fastener to remove them

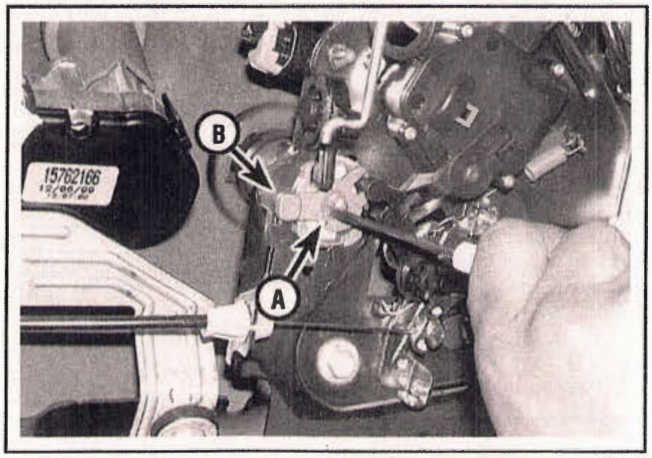
24.2a Pry with a trim tool around the edges of the upper liftgate trim panel until it can be removed



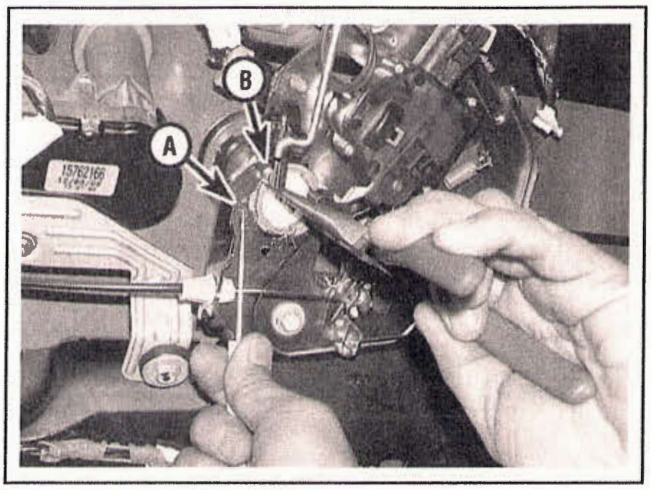
24.2b Pry out the plastic fasteners around the lower liftgate trim panel



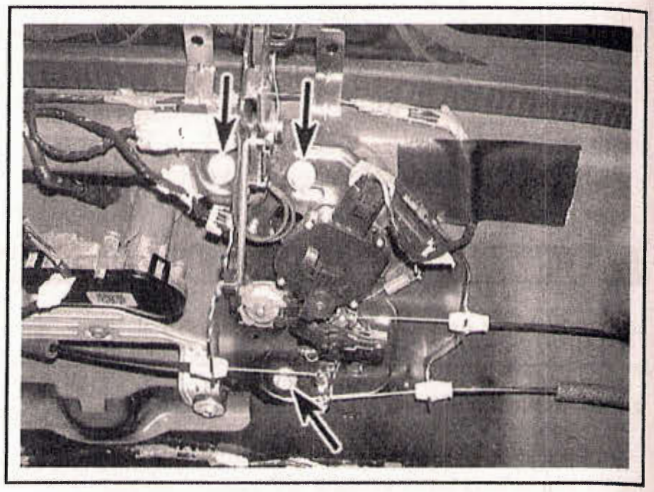
24.2c Remove the Torx screw securing the assist strap in the center of the lower trim panel



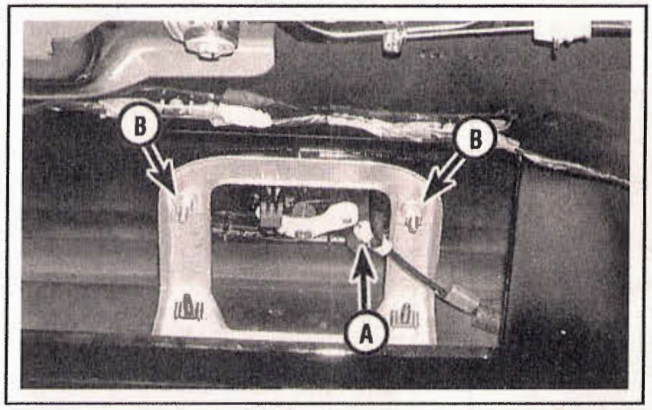
24.6 Pry out the C-clip (A) at the latch end of the lock cylinder, then remove the lock cylinder lever (B)



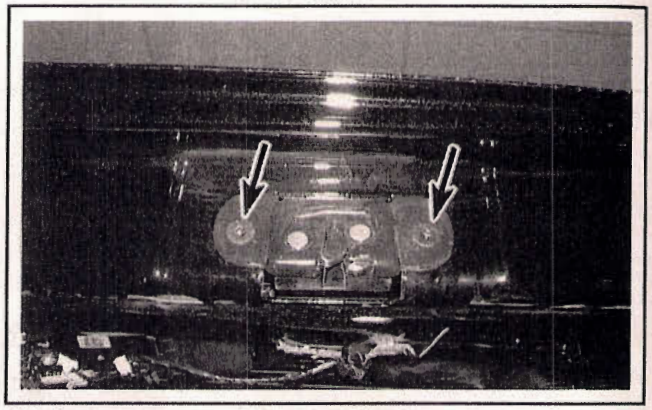
24.7 Use an awl to depress the spring-loaded pin (A) while using pliers to twist the lock cylinder until the tabs (B indicates one) align with the notches in the latch plate



24.8 Remove the three bolts (arrows) to pull the latch operating assembly away from the liftgate



24.11 Disconnect the cable end (A) from the handle assembly, then remove the two mounting nuts (B)



24.14 Remove the two bolts from below (arrows) to remove a liftgate latch

7 Twist the lock cylinder at the interior end until its tabs align with the notches in the latch plate (see illustration).

8 Remove the three bolts securing the latch assembly to the liftgate (see illustration). Pull the latch away from the liftgate enough to reach behind and extract the lock cylinder.

➡Note: None of the rods or cables attached to the latch assembly need to be disconnected to extract the lock cylinder.

9 Installation is the reverse of the removal procedure.

OUTSIDE HANDLE

◗ Refer to illustration 24.11

10 Remove the trim panels (see Steps 1 through 3).

11 Remove the handle-to-latch cable, then the mounting nuts (see illustration).

12 Installation is the reverse of the removal procedure.

LATCHES

◗ Refer to illustration 24.14

13 Remove the interior liftgate panels (see Steps 1 through 3). The latching system for the liftgate is somewhat complex. There are two latches, mounted to the bottom edge of the liftgate, where it meets the body sill. At the middle of the liftgate is the latch operating assembly, which is connected by one cable to the outside handle. When that handle is pulled, the single cable pulls the central mechanism via cables to each of the two latches.

14 To remove a latch, disconnect the cable to the latch from inside the liftgate. From the bottom of the liftgate, remove the two latch mounting bolts (see illustration).

15 To remove the latch operating assembly, mark and disconnect the three cables and the electrical connector, then refer to Steps 5 through 8 to remove the assembly from the liftgate (see illustration 24.8).

16 Installation is the reverse of the removal procedure.

SUPPORT STRUTS

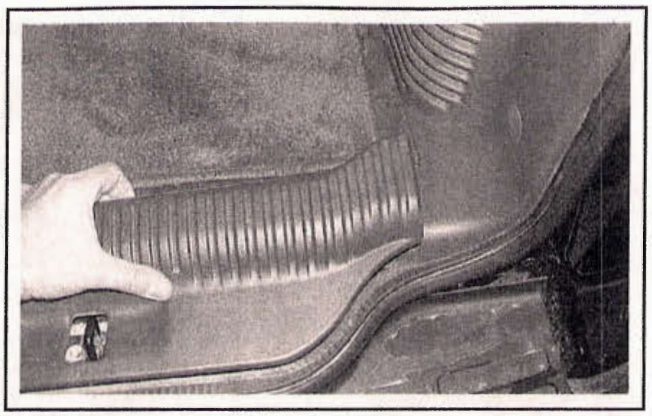
◗ Refer to illustration 24.18

17 There are two support struts for the liftgate, and two separate struts to support the glass. Open the liftgate (or liftgate glass) and prop it securely in the full open position.

18 Release the small clip at each end of the strut, then pull the strut from the mounting ball (see illustration).

19 Installation is the reverse of the removal procedure.

24.18 Detach either end of the liftgate support strut by pulling out the retainer clip with a small screwdriver, then pull the strut from the ball-stud (liftgate strut shown, liftgate glass strut similar)



24.21 Pry up and then pull up the liftgate sill trim plate to access the strikers

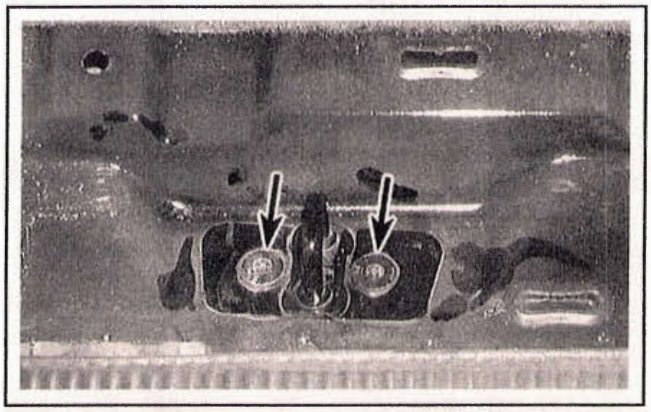
STRIKER

Refer to illustration 24.21 and 24.22

20 The closing position of the liftgate can be adjusted slightly by moving either or both of the liftgate strikers.

21 To access the strikers, use a trim tool to pry beneath the edge of the sill trim plate (see illustration).

22 Loosen the striker mounting bolts, move the striker slightly, retighten the bolts and check the liftgate closing (see illustration).



24.22 Striker mounting bolts (arrows, left striker shown) - make a reference mark around the edges of the striker before repositioning it for adjustment

25 Center console - removal and installation

WARNING:

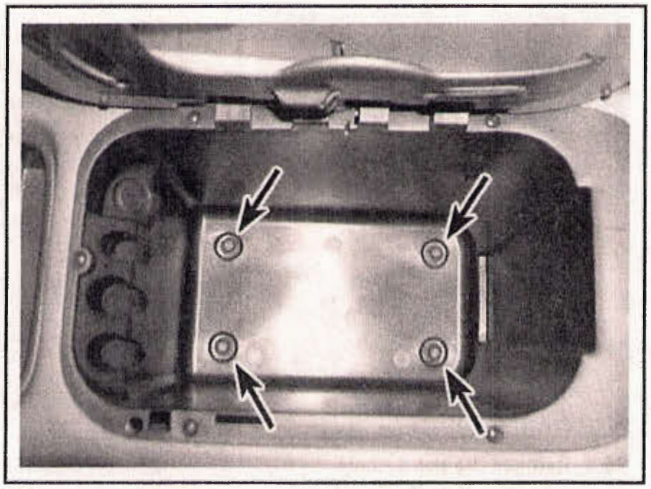
The models covered by this manual are equipped with Supplemental Restraint Systems (SRS), more commonly known as airbags. Always disable the airbag system before working in the vicinity of any airbag system components to avoid the possibility of accidental deployment of the airbags, which could cause personal injury (see Chapter 12).

CENTER FLOOR CONSOLE

Refer to illustrations 25.1, 25.2a, 25.2b, 25.2c, 25.3, 25.4a and 25.4b

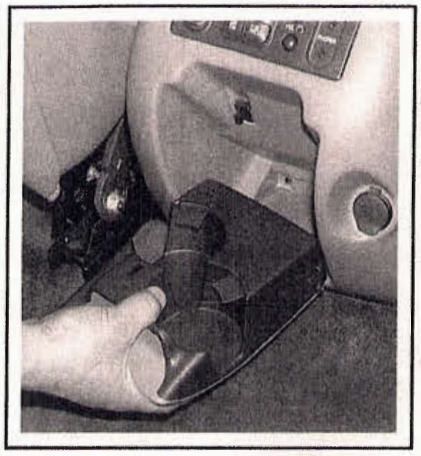
1 On all models, open the console lid and remove the bolts securing the console to the floor bracket (see illustration).

Note: If the console bracket must be removed, or you are working on a model with the deluxe console, the front seats will have to be removed first for access.



25.1 Remove the four screws (arrows) in the bottom of the console storage area

25.2a Pull up the cupholder insert, then remove these two screws (arrows)



25.2b On SUV models, tilt the cupholder at the rear of the console down and lift the lower corners free of the console . . .

25.2c . . . to expose the two console mounting screws (arrows)

2 Remove the front cupholder and the screws in the cavity (see illustration). At this point, the main portion of the console can be removed on pick-up models. On SUV models, radio controls are mounted at the rear of the console, and the rear portion of the console must be unbolted (see illustrations). Disconnect the electrical connectors from the radio control and power-point socket (see Chapter 12).

3 To remove the trim bezel between the front console extension and the instrument panel, remove the screws and pry out the upper part of the bezel (see illustration).

CAUTION:

When pulling on the bezel, do not grip it by the CD compartment door. It can break off.

➡Note: On Denali models, pull of the bezel at the front of the console. Remove the screws and the Driver's Information Center and CD player, if applicable. This gives access to the console-to-dash extension fasteners.

4 With the bezel off, remove the storage bin, then the screws holding the console extension to the instrument panel (see illustrations).

5 Unplug any electrical connectors and remove the console from the vehicle.

6 Installation is the reverse of removal.

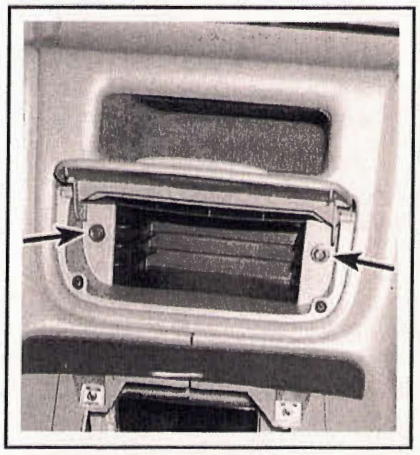
OVERHEAD CONSOLE

Refer to illustration 25.8

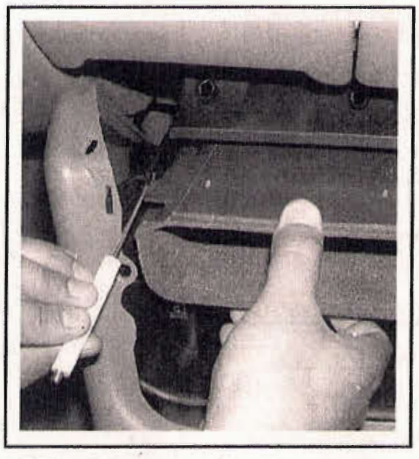
7 Disconnect the negative battery cable (see Chapter 1).

CAUTION:

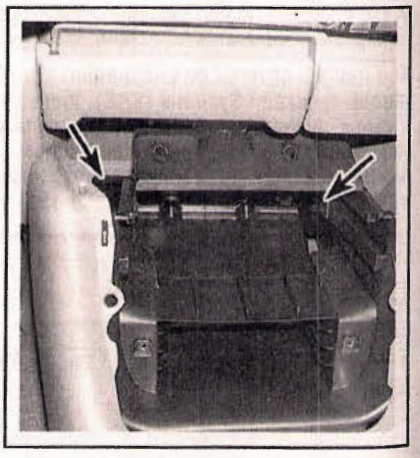
On models equipped with the Theftlock audio system, be sure the lockout feature is turned off before performing any procedure which requires disconnecting the battery (see the front of this manual).



25.3 Remove the two screws (arrows) and pull up the bezel with the CD compartment - don't pull on the CD compartment door



25.4a Pull backward on the storage bin, while using a small screwdriver to depress the clips on each side of the bin

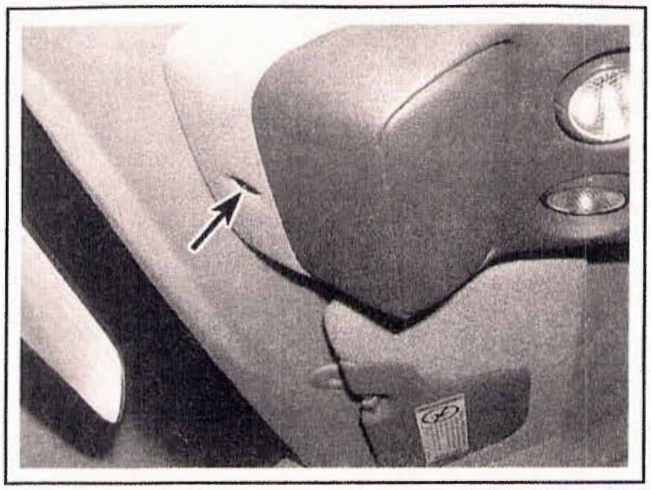


25.4b With the bin removed, you can access the two extension-to-dash screws (arrows), using a long 1/4-in-drive extension and a "flex" socket

8 Remove the retaining screw at the front, pull the front of the console down and then toward the rear to detach the rear clips. On models with a full-length, one-piece overhead console, remove the screw at the front, lower the front down and move the console toward the windshield to release the clip at the rear. Unplug the electrical connector and lower the console (see illustration). SUV models may have rear HVAC controls in the overhead console. If so, disconnect those connectors as well.

9 SUV models may have a second overhead console over the second set of seats. This console is removed in the same manner as the front overhead console.

10 Installation is the reverse of removal.



25.8 After removing the front bolt (arrow), pull evenly down on both sides at the front of the overhead console, then slide it rearward to disengage from the clips in the roof - do not pull the whole console straight down or the rear clips could be broken

26 Dashboard trim panels - removal and installation

WARNING:

The models covered by this manual are equipped with Supplemental Restraint Systems (SRS), more commonly known as airbags. Always disable the airbag system before working in the vicinity of any airbag system components to avoid the possibility of accidental deployment of the airbags, which could cause personal injury (see Chapter 12).

INSTRUMENT CLUSTER BEZEL

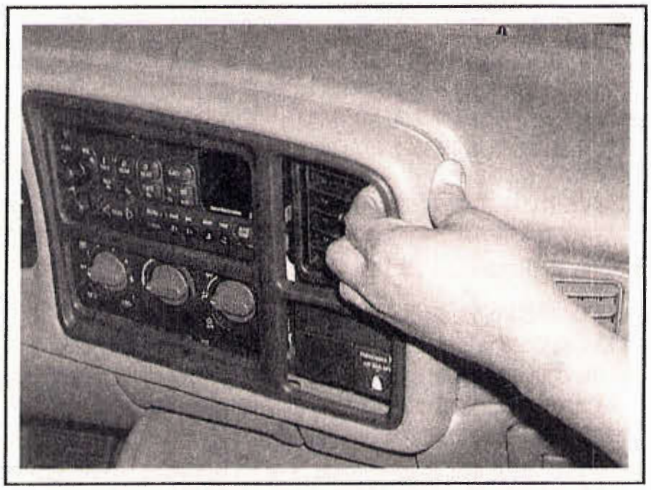
Refer to illustration 26.3

1 With the wheels blocked, apply the parking brake and lower the shift lever as far as possible.

2 On models equipped with tilt steering columns, tilt the steering wheel down as far as possible.

3 Grasp the bezel securely and pull out gently to detach the retaining clips from the instrument panel (see illustration).

4 Installation is the reverse of removal.



26.3 Grasp the cluster bezel securely and pull out gently to detach the clips

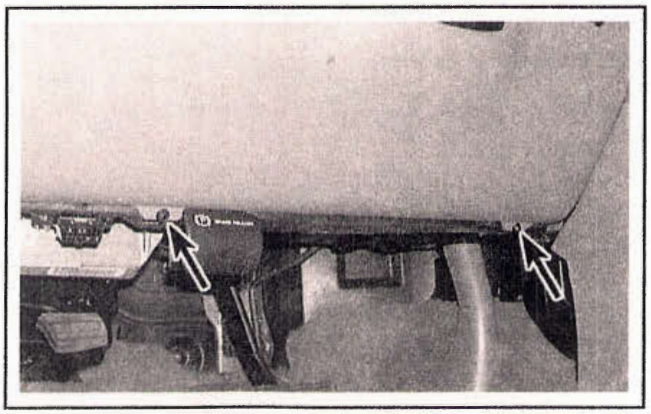
KNEE BOLSTER

Refer to illustrations 26.7 and 26.8

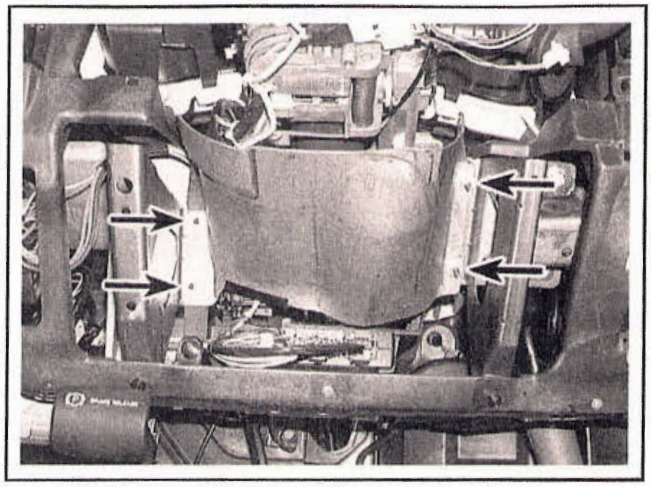
5 Remove the cover over the fuse/relay box at the left end of the dash.

6 Refer to Steps 1 through 3 and remove the instrument cluster trim bezel.

7 Remove the screws securing the driver's knee bolster and pull it outward away from the dash (see illustration).



26.7 The knee bolster is held in place by screws (arrows) at the bottom, and clips at the top



26.8 Knee bolster reinforcement plate mounting nuts (arrows)

8 If the knee bolster reinforcement panel needs to be removed for any reason, remove the four nuts and take down the panel (see illustration).

9 Installation is the reverse of removal.

CENTER AND RIGHT-SIDE AIR OUTLETS

10 Push the swivel part of the outlet as far to the left as possible, then push the whole outlet to the left and pull out from the dash to release it from the clips.

11 Installation is the reverse of removal.

GLOVE BOX

♦ Refer to illustration 26.14

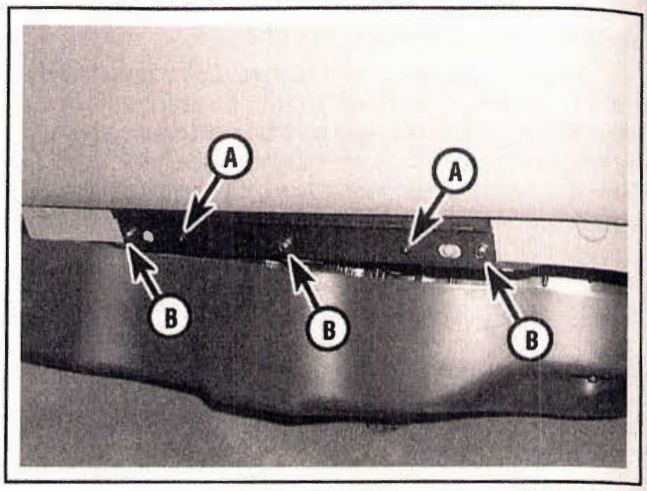
12 Open the glove box door.

13 Squeeze the two sides of the glove compartment bin together and pull the door down until the bumpers on the bin have cleared the stops.

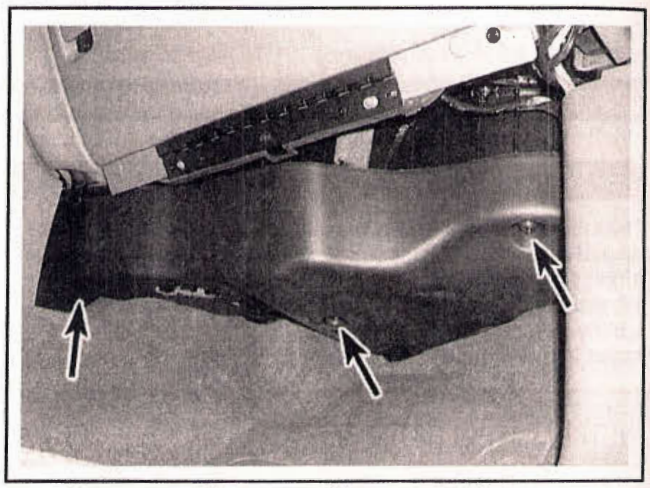
14 Remove the screws along the bottom hinge of the glove box door and remove the glove box (see illustration).

➡Note: If the glove compartment is to be replaced, rivets will have to be drilled out along the hinge, since the glove box is part of the lower instrument panel cover. If the glove box is being removed for access behind it, just remove the whole lower trim panel with the glove box (see Section 28), without removing the rivets.

15 Installation is the reverse of removal.



26.14 Drill out the two rivets (A), then remove the screws (B) along the bottom of the glove box hinge



26.16 Remove the three screws (arrows) to drop the lower right sound insulator panel

LOWER RIGHT SOUND INSULATOR PANEL

♦ Refer to illustration 26.16

16 To access components under the right side of the instrument panel, remove the three screws and remove the lower sound panel from the vehicle (see illustration).

27 Steering column covers - removal and installation

Refer to illustration 27.2

WARNING:

The models covered by this manual are equipped with Supplemental Restraint Systems (SRS), more commonly known as airbags. Always disable the airbag system before working in the vicinity of any airbag system components to avoid the possibility of accidental deployment of the airbags, which could cause personal injury (see Chapter 12).

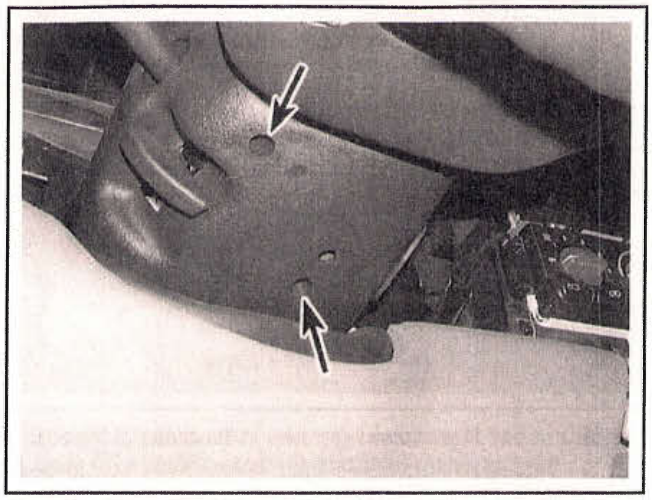
1 If equipped with a tilt-column, remove the tilt lever by pulling it sharply straight out from the column. It's held in by prongs.

2 Remove the screws and detach the lower half of the steering column cover (see illustration).

Note: Some 2002 models have screws retaining the column covers, others are retained only by clips. Always check for the presence of clips before pulling the covers off.

3 Pull the upper column cover straight up and off.

4 Installation is the reverse of removal.



27.2 With the tilt lever removed, remove these screws (arrows) and pull down the lower steering column cover

28 Instrument panel and cowl support structure - removal and installation

WARNING:

The models covered by this manual are equipped with Supplemental Restraint Systems (SRS), more commonly known as airbags. Always disable the airbag system before working in the vicinity of any airbag system components to avoid the possibility of accidental deployment of the airbags, which could cause personal injury (see Chapter 12).

Note: This procedure is lengthy and difficult, even for an experienced mechanic. Due to the number of electrical connections, fasteners used, and the various safety systems involved, we don't recommend instrument panel removal for the home mechanic.

1 Turn the front wheels to the straight-ahead position and lock the steering column, then disconnect the negative battery cable (see Chapter 1).

CAUTION:

On models equipped with the Theftlock audio system, be sure the lockout feature is turned off before performing any procedure which requires disconnecting the battery (see the front of this manual).

2 Disable the airbag system (see Chapter 12).

INSTRUMENT PANEL TRIM PADS

Refer to illustrations 28.9a, 28.9b, 28.9c, 28.10, 28.12a, 28.12b and 28.12c

3 Remove the dashboard trim panels (see Section 26).

4 Remove the heater and air conditioning control assembly (see Chapter 3).

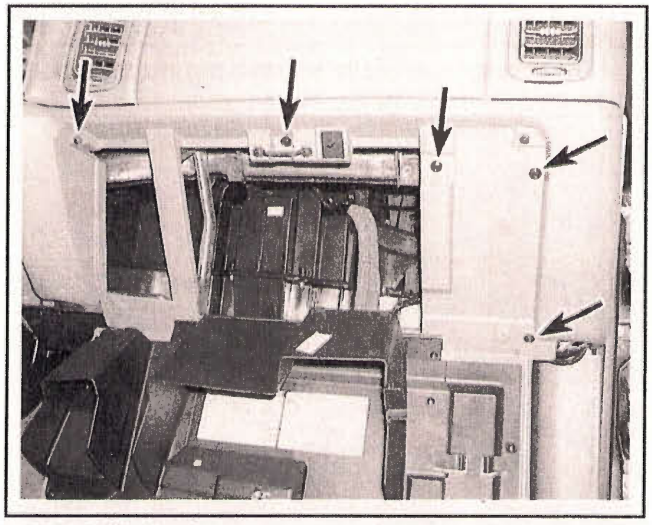
5 Refer to Chapter 12 and remove the stereo, instrument cluster, both switch modules, and disconnect the electrical connectors from the fuse box at the left end, and the electrical junction box on the right end of the instrument panel.

6 Refer to Chapter 10 and remove the steering wheel and column.

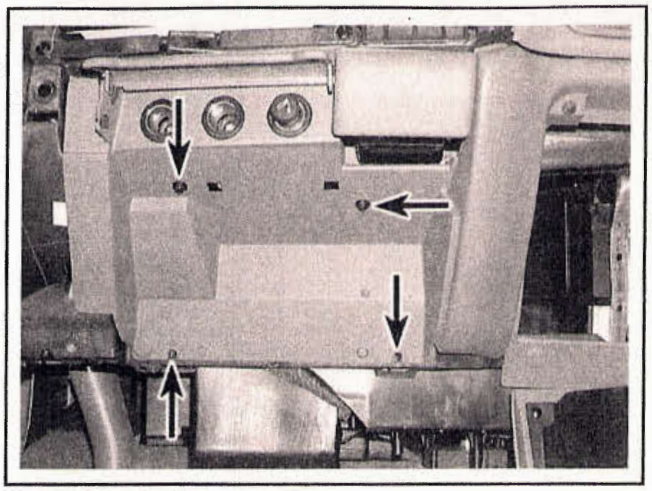
7 Remove the center console (see Section 25).

8 Open the glove compartment, then push in the sides to release the tabs, allowing the glove box to hang straight down on its hinge.

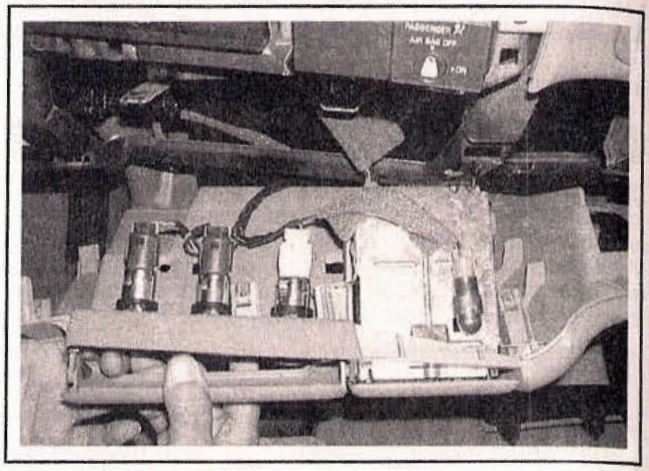
9 Remove the screws, then remove the glove box and lower dash trim panel as one unit (see illustrations).



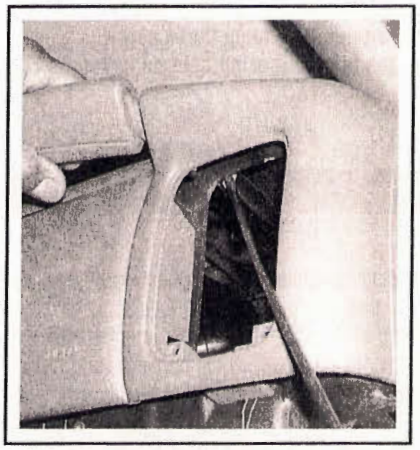
28.9a With the glove compartment down, remove these screws (arrows) from the lower dash trim panel . . .



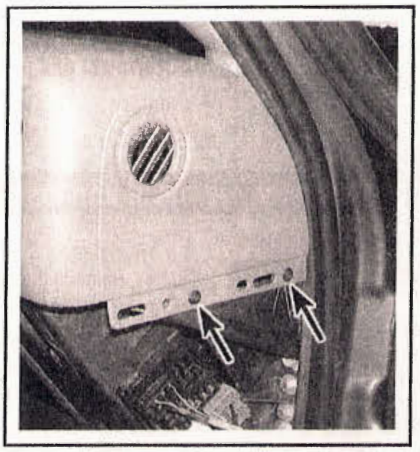
28.9b . . . and these screws (arrows) at the center of the dash



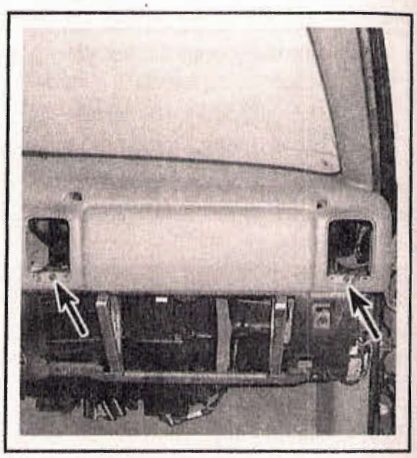
28.9c With the lower dash trim panel pulled away, disconnect the electrical connectors



28.10 Through the air duct holes, use a pry tool to push out the ends of the dashboard grab bar



28.12a Remove the trim pad screws (arrows, right-side shown) at each end of the instrument panel



28.12b Remove the screws (arrows) in the duct openings

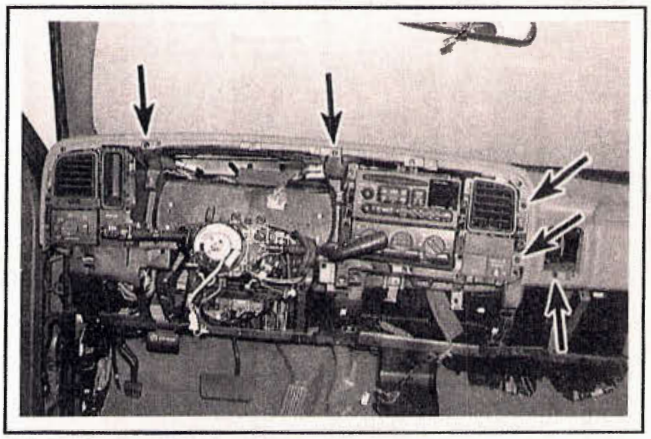
10 Twist the center and right-side air ducts to the side, then pull them out of the dash. Through the holes left by the air ducts, push in the clips at each end of the dashboard grab bar and remove the bar (see illustration).

11 Use a trim tool to remove the windshield post interior trim strips.

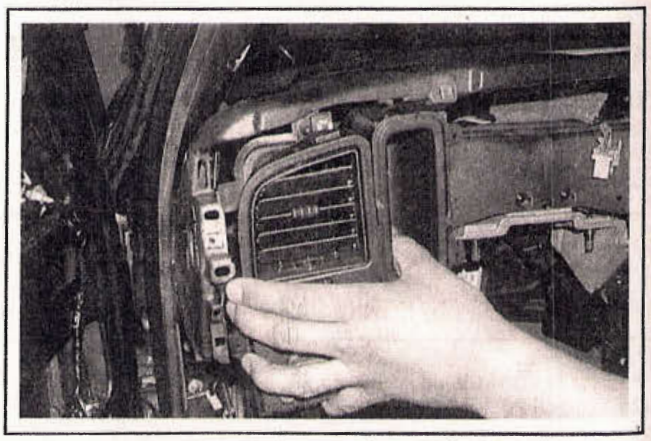
12 Remove the upper instrument panel trim pad retaining screws (see illustrations).

13 When lifting off the top trim pad, disconnect any electrical connectors.

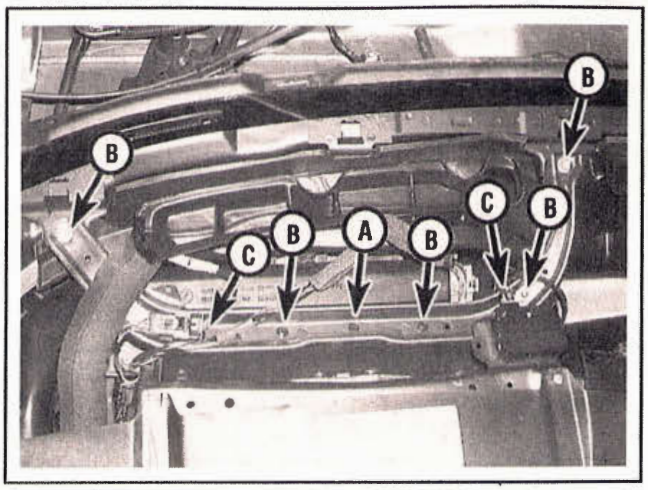
14 Installation is the reverse of removal.



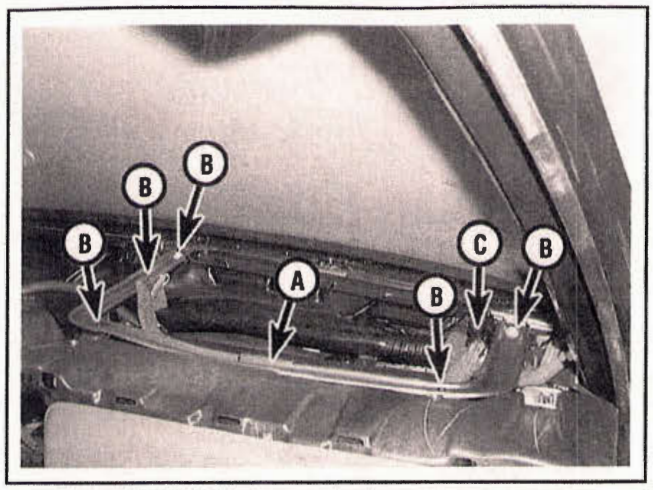
28.12c Remove these screws (arrows) around the instrument cluster area



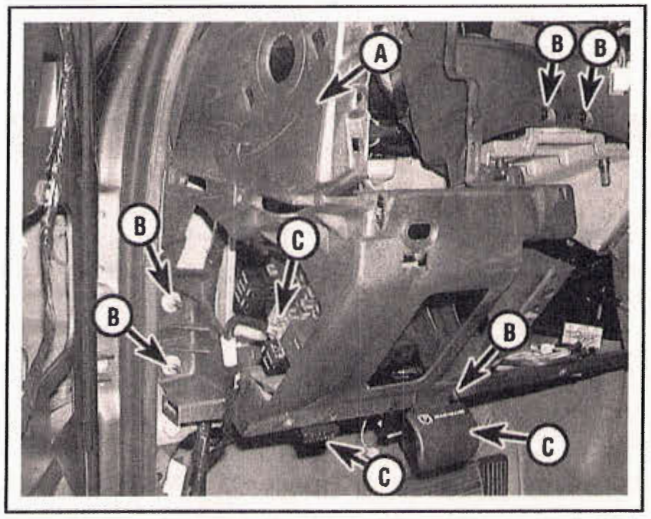
28.16 Pull the air duct module (left side shown) out of the instrument panel framework



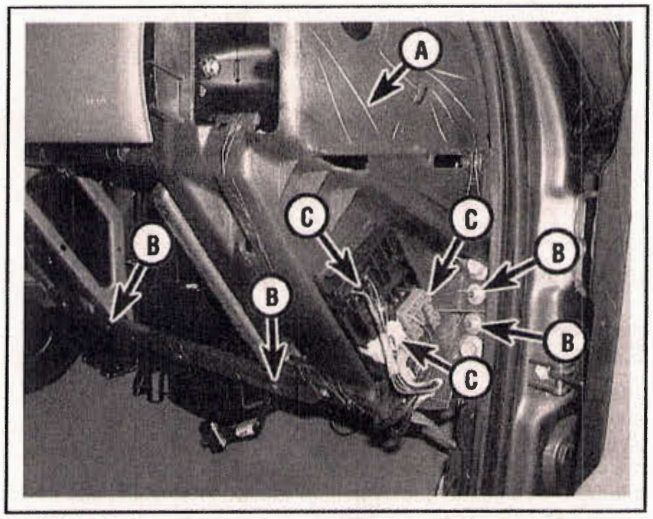
28.17a At the left upper instrument panel bracket (A), remove the bolts (B) and disconnect the electrical connectors (C) - this view is looking down on the dash through the windshield



28.17b To remove the right upper bracket (A), remove the bolts (B) and disconnect the electrical connectors (C)



28.19a Instrument panel framework (A) fasteners at the left end - B are the nuts/bolts, C are components to be removed



28.19b Instrument panel framework (A) fasteners at the right end - B are the nuts/bolts, C are electrical connectors to be disconnected

COWL SUPPORT STRUCTURE

♦ Refer to illustrations 28.16, 28.17a, 28.17b, 28.19a, 28.19b, 28.19c, 28.19d and 28.20

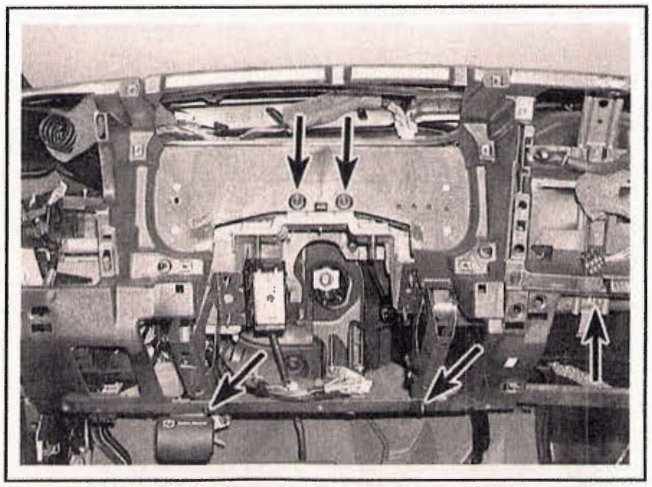
15 Behind the instrument panel trim pads is a complicated, unitized structure that supports the body's cowl, the steering, the heating/air conditioning modules and other components. Refer to Chapter 3 and disconnect the coolant and refrigerant lines from the evaporator and heater core.

16 Refer to Chapter 12 and remove the passenger-side airbag. Remove the vents and any switch assemblies still attached (see illustration).

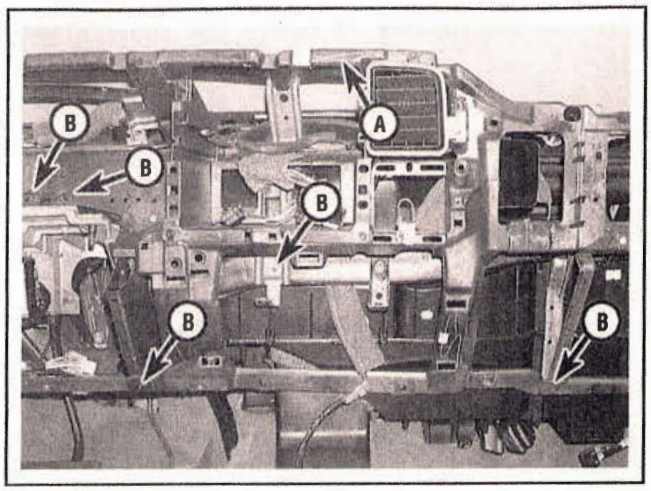
17 Remove the bolts at the two upper instrument panel brackets (see illustrations).

18 Remove the parking brake release handle from under the dash, and mark and disconnect any electrical connectors not yet disconnected.

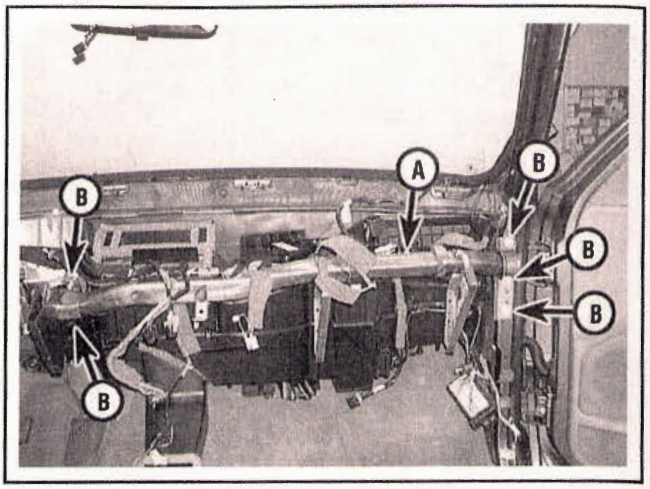
19 Remove the fasteners holding the instrument panel framework to the cowl support (see illustrations).



28.19c At the driver's side, remove these screws (arrows) and remove the framework



28.19d At the center of the instrument panel framework (A), remove these screws (B)



28.20 Remove the cowl support tube (A) by removing the mounting bolts (B)

20 Remove the support tube-to-cowl bolts at each side (see illustration).

21 Installation is the reverse of the removal procedure. Do not reconnect electrical power until you are certain that no harnesses have been pinched, all fasteners are tight and no connectors have been overlooked.

29 Seats - removal and installation

FRONT BUCKET SEAT (ALL MODELS)

Refer to illustrations 29.2a and 29.2b

WARNING:

The models covered by this manual are equipped with Supplemental Restraint Systems (SRS), more commonly known as airbags. Always disable the airbag system before working in the vicinity of any airbag system components to avoid the possibility of accidental deployment of the airbags, which could cause personal injury (see Chapter 12).

1 Buckets seats are offered on all models, with an option of a center bucket seat when a floor console is not installed. On SUV models, the second row of seats may be a "60/40" bench-type or a pair of buckets seats with armrests. The second-row bucket seats are removed in the same manner as described here for the front bucket seats.

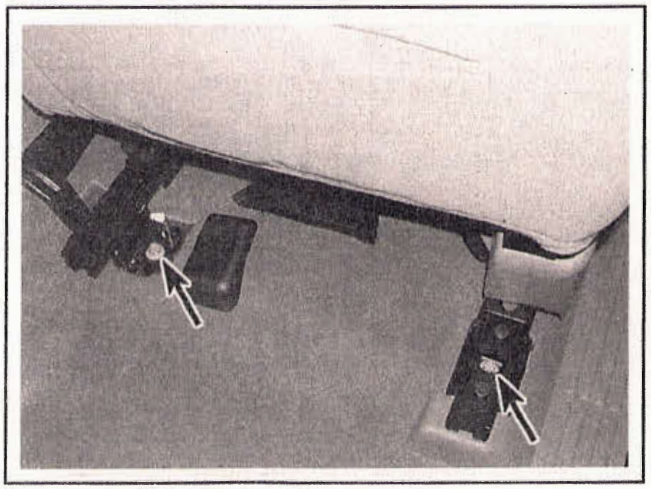
2 Remove the seat track-to-floor bolts and remove the front seats (see illustrations).

3 If the center front bucket seat is to be removed, its mounting bolts are accessible only when the other two bucket seats are removed first.

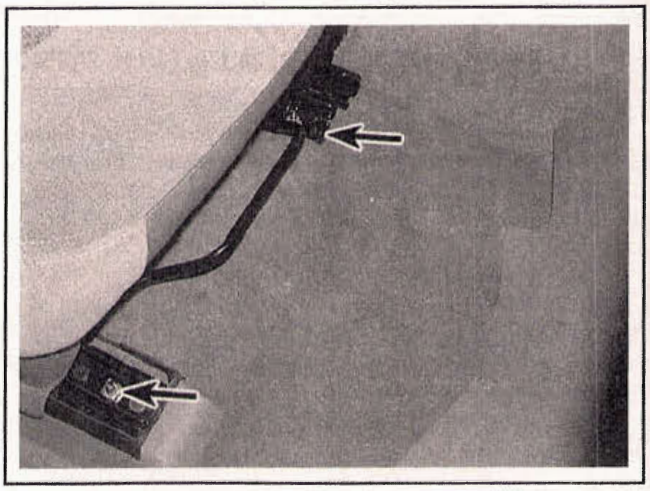
BENCH REAR SEAT (PICK-UP MODELS)

Refer to illustration 29.5

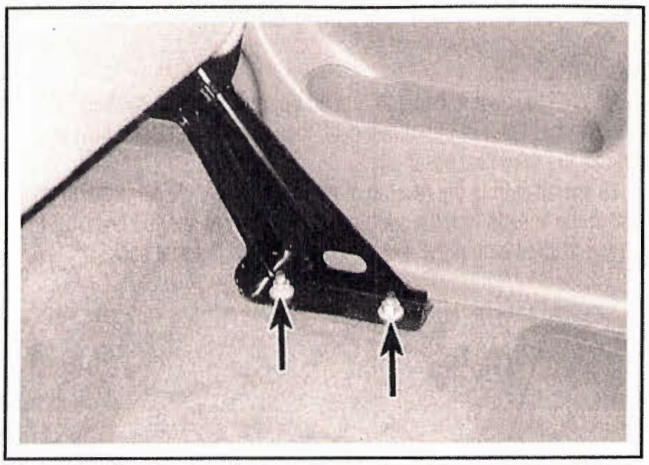
4 The seat back and seat bottom on pick-up rear seats are part of



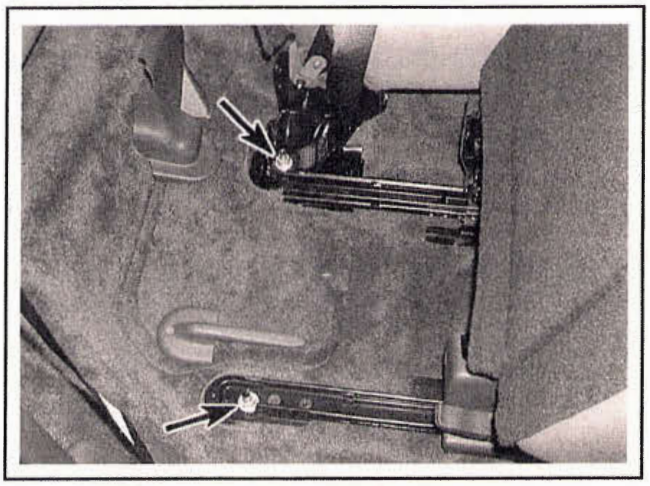
29.2a With the seat moved forward, remove the rear mounting bolts (arrows)



29.2b Remove the front bolt (arrows) from the front seat



29.5 On pick-up models, remove the nuts (arrows) securing the rear seat assembly brackets to the floor (left side bracket shown here)



29.7b Slide the right seat forward, then remove these rear mounting nuts (arrows)

an assembly that is removed or installed intact.

5 Remove the lower seat bracket-to-floor bolts and lift the rear seat assembly up and out (see illustration).

➡Note: This is an awkward procedure, have an assistant help you.

6 Installation is the reverse of the removal procedure.

2ND SEAT (SUV MODELS)

♦ Refer to illustrations 29.7a, 29.7b and 29.8

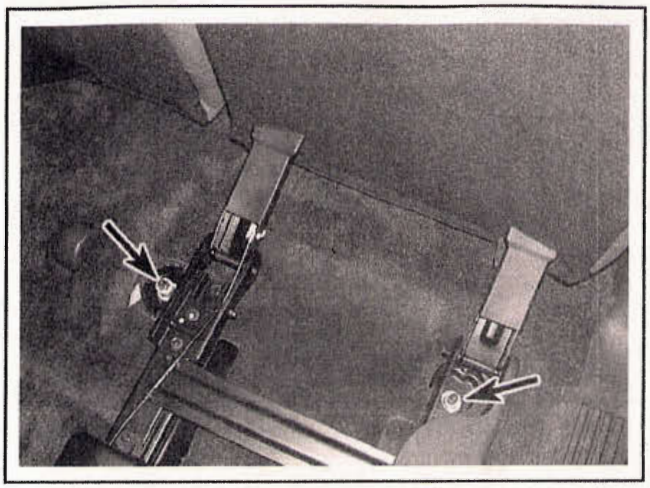
7 Fold the right-side middle seat forward, then remove the mounting bolts (see illustrations).

8 Fold the left-side seat bottom forward to access the remaining mounting nuts (see illustration).

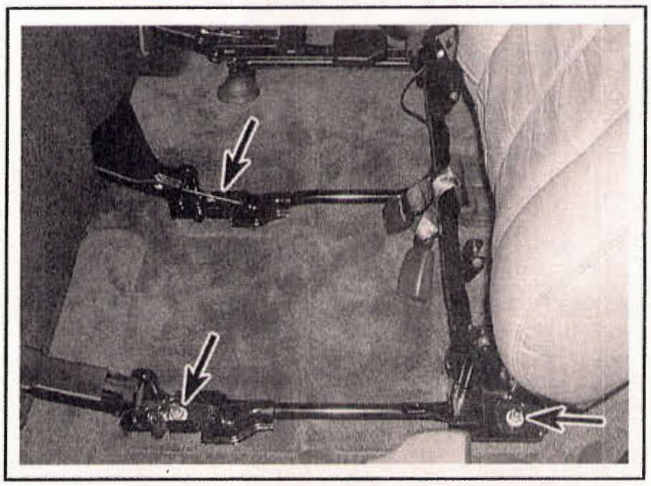
9 Remove the seat assembly as a unit.

➡Note: This is a job for two people.

10 Installation is the reverse of removal.



29.7a Flip the right-side seat bottom forward on the SUV second seat, then remove these front mounting nuts (arrows)

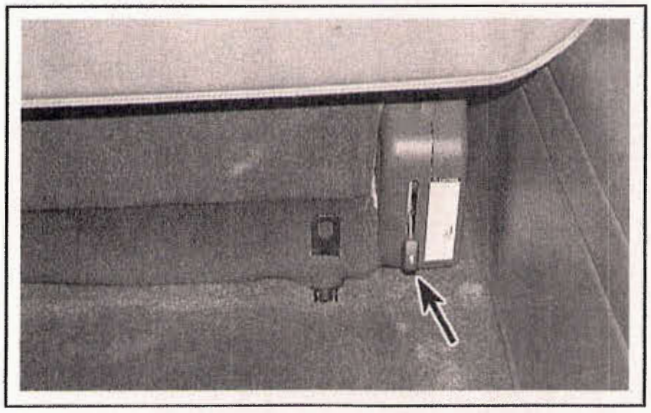


29.8 With the left side flipped forward, remove these mounting nuts (arrows) and remove the middle seat as a unit

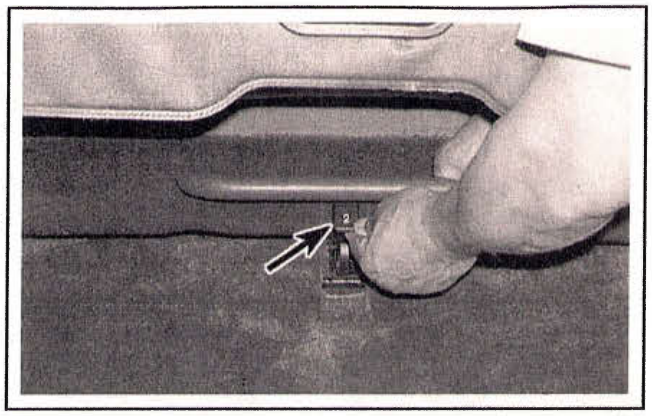
3RD SEAT (SUV MODELS)

♦ Refer to illustrations 29.11a and 29.11b

11 Pull up the lever (arrow) marked "1", then the lever marked "2"



29.11a Pull up lever "1" (arrow) at the right side of the third seat to flip the seatback down



29.11b Pull lever "2" (arrow) at the center of the seat to flip the folded seat forward

(see illustrations).

12 With the seat folded and flipped up, pull the lever marked "3" at the lower center of the folded seat, then have an assistant help you remove the third seat assembly.

13 Installation is the reverse of removal. Once the seat is set in position in the vehicle, roll the seat into the floor pockets, pull lever "3" to set the latch, then flip the seat down and tilt up the seat back.