

Chapter 11

Bodywork and fittings

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Degrees of difficulty

Easy, suitable for novice with little experience



Fairly easy, suitable for beginner with some experience



Fairly difficult, suitable for competent DIY mechanic



Difficult, suitable for experienced DIY mechanic



Very difficult, suitable for expert DIY or professional



1 General information

These models feature a “unibody” construction, using a floor pan with front and rear frame side rails which support the body components, front and rear suspension systems and other mechanical components. Certain components are particularly vulnerable to accident damage and can be unbolted and repaired or replaced. Among these parts are the body mouldings, bumpers, front wings, bonnet and boot lids and all glass.

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 tyres 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 solvent.

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 tyres.

4 Upholstery and carpets - maintenance



1 Every three months remove the carpets or mats and clean the interior of the vehicle (more frequently if necessary). Vacuum the upholstery and carpets to remove loose dirt and dust.

2 Leather upholstery requires special care. Stains should be removed with warm water and a very mild soap solution. Use a clean, damp cloth to remove the soap, then wipe

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again with a dry cloth. Never use alcohol, petrol, nail polish remover or thinner to clean leather upholstery.

3 After cleaning, regularly treat leather upholstery with a leather wax. Never use car wax on leather upholstery.

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

5 Body repair - minor damage



Repair of minor scratches

1 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 and built-up wax. Rinse the area with clean water.

2 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.

3 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 pocket knife, 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

4 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 which 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.

5 If the back side 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.

6 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 the dent can be pulled out by pulling on the protruding heads of the screws with locking pliers.

7 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 done with a wire brush or sanding disc 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 subsection on filling and painting later in this Section.

Repair of rust holes or gashes

8 Remove all paint from the affected area and from an inch or so of the surrounding metal using a sanding disc 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.

9 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 refit a new panel than to repair large areas of rust.

10 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.

11 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.

12 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.

13 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

14 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.

15 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.

16 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.

17 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.

18 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.

19 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 which would otherwise be in the air. If the repair area is confined to one body panel, mask off the surrounding panels. This will help minimise the effects of a slight mismatch in paint colour. 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.

20 Before spraying, shake the paint can thoroughly, then spray a test area until the



9.2a Use a small screwdriver to prise the clip out of its locking groove, then detach the end of the strut from the mounting stud



9.2b The boot lid support strut requires prising out a locking pin to detach it from the locating stud

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.

21 Spray on the top coat, again building up the thickness by using several thin layers of paint. Begin spraying at the top of the repair area and then, using a side-to-side motion, work down 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 workshop specifically equipped to perform unibody repairs. These workshops have the specialised 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 most of the major body components (bonnet, front wings, etc.) are separate and replaceable units, any seriously damaged components should be replaced rather than repaired. Sometimes the

components can be found in a scrapyards that specialises 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, bonnet and boot 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 boot locks with spray-on graphite lubricant.

8 Windscreen and fixed glass - replacement



Replacement of the windscreen and fixed glass requires the use of special fast-setting adhesive/caulk materials and some specialised tools. It is recommended that these operations be left to a dealer or a workshop specialising in glass work.

9 Bonnet and boot lid support struts - removal and refitting



1 Open the bonnet or boot lid and support it securely.

2 Using a small screwdriver, detach the retaining clips at both ends of the support strut. Then pry or pull sharply to detach it from the vehicle (see illustrations).

3 Refitting is the reverse of removal.

10 Bonnet - removal, refitting and adjustment



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

Removal and refitting

1 Use blankets or pads to cover the wings and the area in front of the bonnet. This will protect the body and paint as the bonnet is lifted off.

2 Make marks or scribe a line around the bonnet hinge to ensure proper alignment during refitting.

3 Disconnect any cables or wires that will interfere with removal.

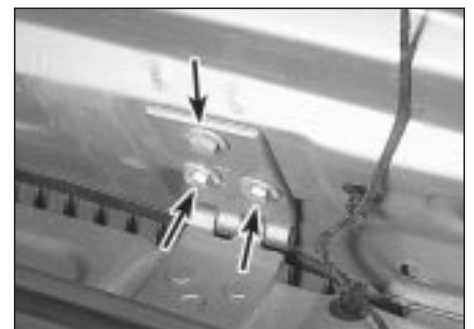
4 Have an assistant support the bonnet. Remove the hinge-to-bonnet screws or bolts (see illustration).

5 Lift off the bonnet.

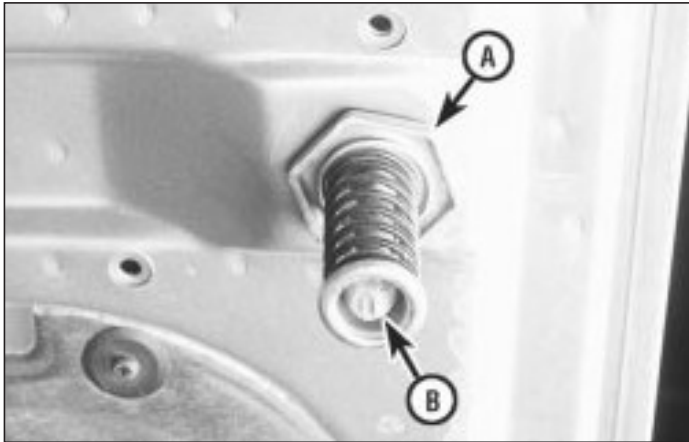
6 Refitting is the reverse of removal.

Adjustment

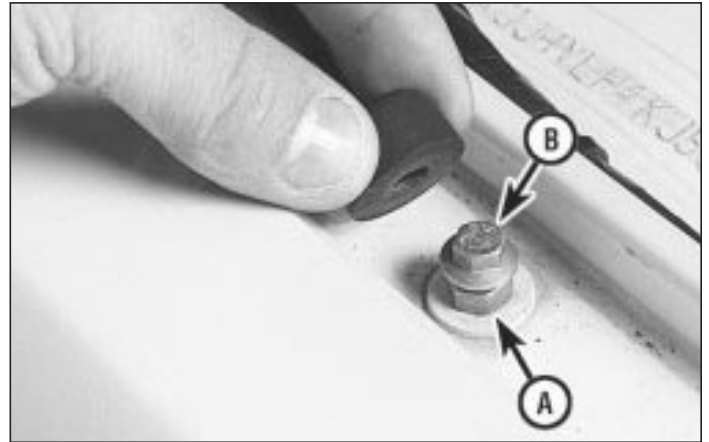
7 Before the bonnet can be adjusted properly, both bonnet striker assemblies



10.4 With the help of an assistant to hold the bonnet, remove the retaining bolts (arrowed) from each hinge plate, then lift off the bonnet



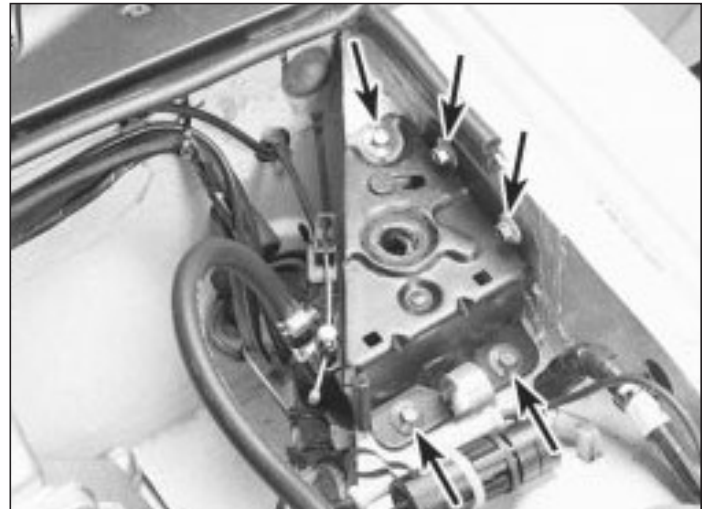
10.11 Adjust the position of the bonnet striker by loosening the locknut (A), then adjust the height of the bonnet striker (B) by turning it in or out with a screwdriver



10.12 Remove the rubber bumper then loosen the locknut (A) - adjust the bonnet bumper bolt (B) in or out so the bonnet is flush with the wings in the closed position



11.1 Remove the cable retaining bolt(s) (arrowed) then disengage the cable from the latch assembly



11.2 Bonnet latch retaining bolts (arrowed) are located on both sides of the engine compartment

which are located on the inside of the bonnet must first be loosened to allow correct alignment of the bonnet.

8 Fore-and-aft and side-to-side adjustment of the bonnet is done by moving the bonnet in relation to the hinge plates after loosening the bolts.

9 Scribe or trace a line around the entire hinge plate to judge the amount of movement.

10 Loosen the nuts or bolts and move the bonnet into correct alignment. Move it only a little at a time. Tighten the hinge bolts or nuts and carefully lower the bonnet to check the alignment.

11 After the bonnet has been aligned properly with the cowl and front wings, the height and position of the bonnet striker assembly should be adjusted to provide positive engagement with the latch assembly (see illustration).

12 Adjust the bonnet bumpers on the wings so the bonnet is flush with the wings when closed (see illustration).

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

11 Bonnet release latch and cable - removal and refitting



Latch

1 Disconnect the bonnet release cables by removing the cable retaining bolts and disengaging the cable from the latch assembly (see illustration).

2 Scribe a line around the latches to aid alignment when refitting, then detach the retaining bolts from the inner footwell (see illustration) and remove the latch.

3 Refitting is the reverse of removal.

Cable

4 Disconnect the bonnet release cable as described in (Section 11).

5 Detach all cable retaining clips located in the engine compartment.

6 Working in the passenger compartment, remove the driver's side kick panel surrounding the bonnet release lever. Pull the release lever forward and detach the release cables from the handle and bracket assembly (see illustration).



11.6 Remove the driver's side kick panel to access the bonnet release cables from the passenger compartment

7 Attach a piece of thin wire or string to the end of the cables to help aid the refitting process.

8 Working in the engine compartment, pull the cables and grommet out of the bulkhead until you can see the wire or string. Ensure that the new cable has a grommet attached then remove the old cable from the wire or string and replace it with the new cable.

9 Working from passenger compartment pull the wire or string back through the bulkhead.

10 Refitting is the reverse of removal. **Note:** Push on the grommet with your fingers from the engine compartment to seat the grommet in the bulkhead.

12 Radiator grille - removal and refitting



1 Using a Phillips screwdriver, detach the right and left hand grille inserts from the grille assembly (see illustration). **Note:** The grille can be removed without removing the inserts, but reaching the mounting screws from above is quite difficult.

2 Working through the grille insert openings, remove the retaining screws securing both ends of the grille frame (see illustration).

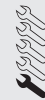
3 Pull the grille frame forward and remove it from the vehicle.

4 Refitting is the reverse of removal.



12.1 Removing one side at a time, remove the grille insert retaining screws (arrowed) - tilt the top edge of the grille insert forward, then lift up and out to remove it

13 Front spoiler - removal and refitting



1 Working on the left side of the vehicle, remove the front spoiler lower cover (see illustration).

2 Remove the screws securing the front air dam panels in the left and right wheel openings (see illustration), then detach the air dam panels from the vehicle. **Note:** It will probably be necessary to turn the wheels to the right and left for access to the screws.

3 Detach the retaining bolts securing the sides of the spoiler (see illustration).

4 Working through the grille area of the



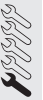
12.2 Working through the grille insert openings, remove the retaining screws from each edge of the grille frame

spoiler, detach the retaining screws securing the front of the spoiler (see illustration).

5 Pull the spoiler forward and detach it from the vehicle.

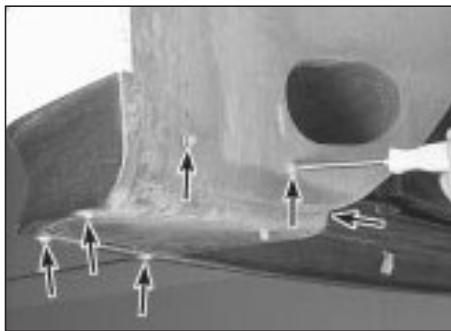
6 Refitting is the reverse of removal.

14 Bumpers - removal and refitting

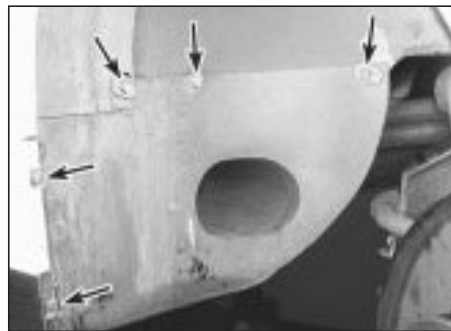


1 Detach the direction indicator and side marker light assemblies from the bumper(s) (see illustrations).

2 Disconnect all wire harness connectors attached to the bumper or light assemblies that would interfere with removal.



13.1 Working underneath the vehicle, remove the screws (arrowed) securing the front spoiler lower cover



13.2 Working in the front wheel openings, remove the screws (arrowed) securing the front air dam panels



13.3 The retaining bolts (arrowed) securing the sides of the front spoiler are located behind the bumper



13.4 Working through the grille area of the spoiler, remove the screws (arrowed) retaining the front of the spoiler



14.1a Depress the retaining clips on each side of the side marker lamp assemblies, then gently prise forward to remove it . . .



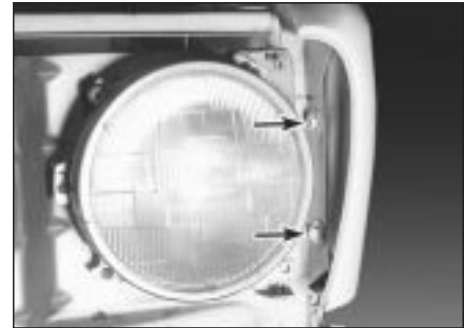
14.1b . . . then detach the direction indicator assemblies from the bumper in the same manner



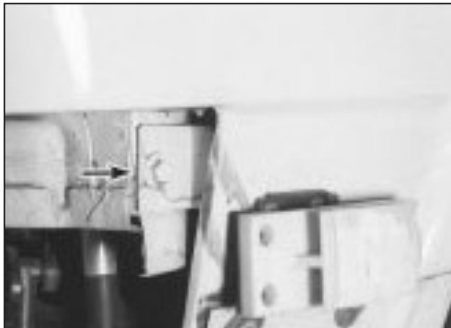
14.3 Remove the two retaining bolts from the bottom of the bumper, then remove the bumper from the vehicle



15.4 Remove the bolts (arrowed) securing the inner wing splash shield



15.7a Detach the wing retaining bolts (arrowed) at the front of the wing



15.7b Remove the wing-to-radiator support bolt (arrowed)



15.7c Working in the wheel opening, remove the wing-to-rocker panel bolt (arrowed)



15.7d Remove the wing-to-door pillar bolt (arrow; lower bolt not visible)



15.7e Detach the bolts along the top of the wing

- 3** Remove two bumper retaining bolts located on the bottom side of the bumper (see illustration). Pull the bumper assembly out and away from the vehicle to remove it.
- 4** Refitting is the reverse of removal.

15 Front wing - removal and refitting



- 1** Loosen the front wheel nuts. Raise the vehicle, support it securely on axle stands and remove the front wheel.
- 2** Remove the front bumper assembly (see Section 14).
- 3** Remove the front spoiler (see Section 13).

- 4** Detach the inner wing splash shield (see illustration).
- 5** On 1988 and 1989 models, remove the coolant overflow reservoir located behind the splash shield (see Chapter 3).
- 6** On models with round headlights, remove the headlight bezel. On models with composite headlights (1992 Vanden Plas, all 1993 and later models), remove the headlight (see Chapter 12).
- 7** Remove the wing mounting bolts and nuts (see illustrations).
- 8** Detach the wing. It's a good idea to have an assistant support the wing while it's being moved away from the vehicle to prevent damage to the surrounding body panels.
- 9** Refitting is the reverse of removal.

16 Boot lid - removal, refitting and adjustment



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

Removal and refitting

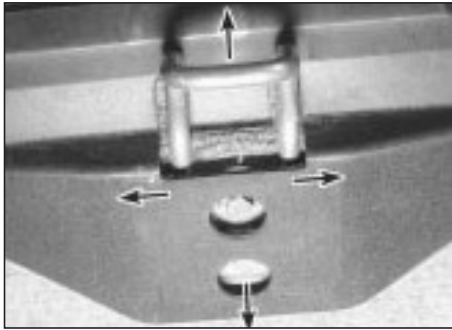
- 1** Open the boot lid and cover the edges of the boot compartment with pads or cloths to protect the painted surfaces when the lid is removed.
- 2** Disconnect any cables or wire harness connectors attached to the boot lid that would interfere with removal.
- 3** Make alignment marks around the hinge mounting bolts with a marking pen.
- 4** While an assistant supports the boot lid, remove the lid-to-hinge bolts on both sides and lift it off (see illustration).
- 5** Refitting is the reverse of removal. **Note:** When refitting the boot lid, align the lid-to-hinge bolts with the marks made during removal.

Adjustment

- 6** Fore-and-aft and side-to-side adjustment of the boot lid is done by moving the bonnet in relation to the hinge plate after loosening the bolts or nuts.
- 7** Scribe a line around the entire hinge plate as described earlier in this section so you can judge the amount of movement.



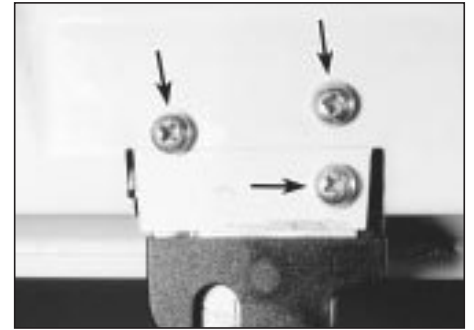
16.4 With the help of an assistant to hold the boot lid, remove the retaining bolts and lift off the boot lid



16.9 Loosen the bolts and move the striker assembly as necessary to adjust the boot lid flush with the quarter panels in the closed position



16.10 Turn the bump stops in or out so the boot lid is flush with the rear wings when in the closed position



17.2 Remove the retaining screws (arrowed), then unclip the lock rod and disconnect any electrical connections

8 Loosen the bolts or nuts and move the boot lid into correct alignment. Move it only a little at a time. Tighten the hinge bolts or nuts and carefully lower the boot lid to check the alignment.

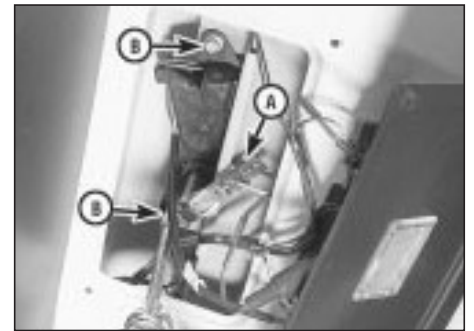
9 If necessary after refitting, the entire boot lid striker assembly can be adjusted up and down as well as from side to side on the boot lid so the lid closes securely and is flush with the rear quarter panels. To do this, scribe a line around the boot lid striker assembly to provide a reference point. Then loosen the bolts and reposition the striker as necessary (see illustration). Following adjustment, retighten the mounting bolts.

10 Adjust the bump stops on the boot lid so the boot lid is flush with the rear wings when closed (see illustration).

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



17.6 Detach the clips securing the boot lamp finish panel



17.7 Disengage the lock rod (A), then remove the lock cylinder retaining bolts (B)

17 Boot lid latch and lock cylinder - removal and refitting



Boot lid latch

1 Open the boot and scribe a line around the boot lid latch assembly for a reference point to help aid the refitting procedure.



18.2 Lift the air duct-to-body seal to access the trim panel retaining screw (arrowed)



18.3a Remove the trim cover . . .



18.3b . . . then detach the inside handle retaining screw and bezel

2 The boot lid latch is retained by three Phillips-head screws (see illustration). For adjustment procedures, see Section 16.

3 Disengage the lock rod from the latch.

4 Disconnect all electrical connectors and remove the latch.

5 Refitting is the reverse of removal.

Boot lock cylinder

6 Remove the plastic clips securing the boot light finish panel (see illustration).

7 Looking upward through the boot lid access hole, remove the lock rod and lock cylinder retaining bolts (see illustration).

8 Disconnect all electrical connections and remove the lock cylinder assembly.

9 Refitting is the reverse of removal.

18 Door trim panel - removal and refitting



1 Disconnect the negative cable from the battery.

Caution: If the stereo in your vehicle is equipped with an anti-theft system, make sure you have the correct activation code before disconnecting the battery

2 On front door trim panels, remove the retaining screw located under the air duct door seal (see illustration).

3 Remove the inside handle trim bezel (see illustrations).



18.4 Gently prise out the clips securing the wood finish panel



18.5 Detach the screws located behind the wood finisher panel, then remove the upper portion of the door trim panel

4 Detach the wood finishing panel (**see illustration**).

5 Unscrew the inside lock knob, then remove the remaining screws securing the upper half of the door trim panel and detach it from the vehicle (**see illustration**).

6 Detach the screw from the top edge of the lower door trim panel (**see illustration**).

7 Pry out the courtesy lamp lens, then detach the retaining screw from inside the lamp housing (**see illustrations**).

8 Remove the armrest trim cover, then detach the retaining screws from behind the cover (**see illustrations**).

9 Insert a wide putty knife, a screwdriver or a special trim panel removal tool between the

trim panel and the head of the retaining clips to disengage the retaining clips along the outer edges of the door panel (**see illustration**). Pry only at the clip locations or the panel could be damaged.

10 Once all of the clips are disengaged, detach the trim panel, unplug any electrical connectors and remove the trim panel from the door by gently pulling it up and out.

11 For access to the inner door, peel back the watershield, taking care not to tear it. To refit the trim panel, first press the watershield back into place. If necessary, add more sealant to hold it in place.

12 Refitting is the reverse of removal.

19 Door - removal, refitting and adjustment



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

Removal and refitting

1 Raise the window completely in the door, then disconnect the battery negative cable.

Caution: If the stereo in your vehicle is equipped with an anti-theft system, make sure you have the correct activation code before disconnecting the battery.



18.6 Detach the screws along the top edge of the lower trim panel



18.7a Prise out the courtesy lamp lens



18.7b Remove the retaining screw from inside the lamp housing



18.8a Push up on the bottom to detach the armrest/pull handle trim cover



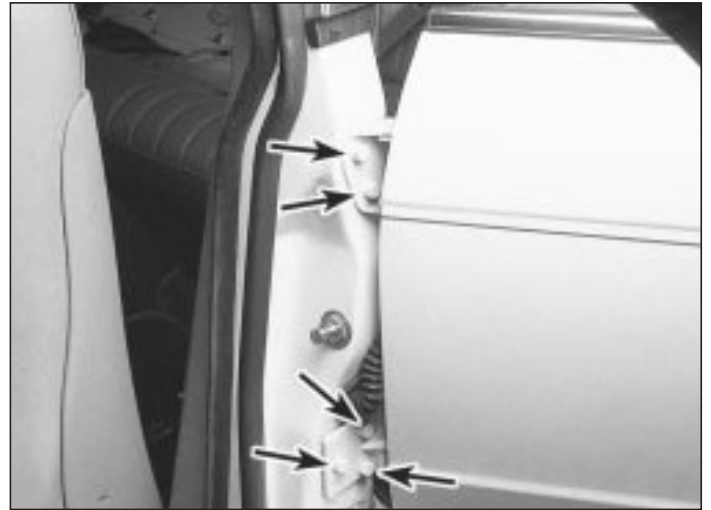
18.8b Remove the screws behind the armrest/pull handle trim cover



18.9 Disengage the retaining clips along the outer edge of the door trim panel



19.7a Work through the door access hole (arrowed) to remove the hinge-to-door retaining nuts from inside the door



19.7b Open the front door to access the rear door hinge-to-body bolts (arrowed)

2 Open the door all the way and support it on jacks or blocks covered with rags to prevent damaging the paint.

3 Remove the door trim panel and water deflector as described in Section 18.

4 Unplug all electrical connections, ground wires and harness retaining clips from the door. **Note:** *It is a good idea to label all connections to aid the reassembly process.*

5 From the door side, detach the rubber conduit between the body and the door, then carefully pull the wiring harness through the conduit hole and remove it from the door.

6 Mark around the door hinges with a pen or a scribe to ease alignment during reassembly.

7 On front doors, work through the door access hole to remove the hinge-to-door nuts. On rear doors the hinge-to-body bolts are more accessible and can be removed by simply opening the front door and removing the bolts (see illustrations).

8 Have an assistant hold the door, remove the bolts or nuts and lift the door off.

9 Refitting is the reverse of removal.

Adjustment

10 Having proper door to body alignment is a critical part of a well functioning door

assembly. First check the door hinge pins for excessive play. **Note:** *If the door can be lifted (1/16-inch or more) without the car body moving, the hinges should be replaced.*

11 Door-to-body alignment adjustments are made by loosening the hinge-to-body or hinge-to-door bolts and moving the door. Proper body alignment is achieved when the top of doors are parallel with the roof section, the front door is flush with the wing, the rear door is flush with the rear quarter panel and the bottom of the doors are aligned with the lower rocker panel. If these goals can't be reached by adjusting the hinge-to-body or hinge-to-door bolts, body alignment shims may have to be purchased and inserted behind the hinges to achieve correct alignment.

12 To adjust the door closed position, scribe a line or mark around the striker plate to provide a reference point. Check that the door latch is contacting the centre of the latch striker. If not, adjust the up-and-down position first.

13 Finally, adjust the latch striker position, so the door skin is flush with the rear door (front) or rear quarter panel (rear) and provides positive engagement with the latch mechanism (see illustration).

20 Door latch, lock cylinder and handles - removal and refitting



Door latch

1 Raise the window, then remove the door trim panel and watershield as described in Section 18.

2 Working through the large access hole, disengage the outside door handle-to-latch rod and the inside handle-to-latch cable (see illustration).

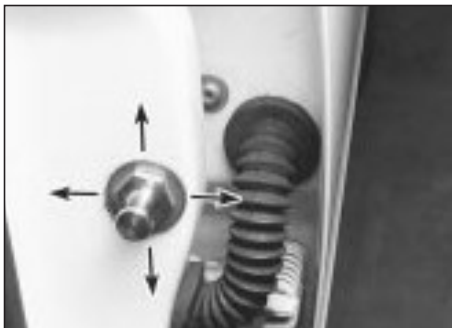
3 All door locking rods are attached by plastic clips. The plastic clips can be removed by unsnapping the portion engaging the connecting rod and then by pulling the rod out of its locating hole.

4 Remove the screws securing the latch to the door (see illustration), then remove the latch assembly from the door.

5 Refitting is the reverse of removal.

Outside handle and door lock cylinder

6 To remove the outside handle and lock cylinder assembly, raise the window then



19.13 Adjust the door lock striker by loosening the hex nut and gently tapping the striker in the desired direction



20.2 Detach the outside handle-to-latch rod (A), then remove the inside handle-to-latch cable (B)



20.4 Remove the latch screws (arrowed) from the end of the door, and pull the latch assembly through the access hole.



20.7 The outside handle retaining nuts (arrowed) can be reached through the access hole in the door



20.8 Detach the plastic clip securing the lock rod

remove the door trim panel and watershield as described in Section 18.

7 Working through the access hole, detach the outside handle retaining nuts (see illustration), then pull the handle away from the door.

8 Disengage the plastic clip that secures the outside handle-to-latch rod (see illustration).

9 Remove the handle and lock cylinder assembly from the vehicle.

10 Refitting is the reverse of removal.

Inside handle and cable

11 Remove the door trim panel as described in Section 18 and peel away the watershield.

12 Detach the inside handle-to-latch cable (see illustration 20.2).

13 Remove the inside handle retaining bolts (see illustration).

14 Pull the handle and cable assembly free and remove them from the door.

15 Refitting is the reverse of removal.

21 Door window glass regulator - removal and refitting



1 To remove the window regulator assembly, raise the window to its full upright position, then remove the door trim panel and watershield as described in Section 18.

2 Tape the window to the door glass frame to secure the window in the full upright position.


3 Remove the regulator and motor mounting bolts (see illustration).

4 Disconnect the electrical connector from the window regulator motor.

5 Slide the equaliser arms out of the window glass channel and remove the regulator and motor assembly through the service hole in the door frame.

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If the motor or regulator needs replacing, it will be necessary to lock the sector gear to the regulator backplate. This can be done by fastening the sector gear to the backplate with a bolt inserted through one of the holes in the backplate and sector gear and secured with a nut. If none of the holes line up, drill a hole through the backplate and sector gear.

 **Warning:** The regulator arms are under pressure and can cause serious injury if the motor is removed without locking the sector gear. The motor and regulator can now safely be separated.

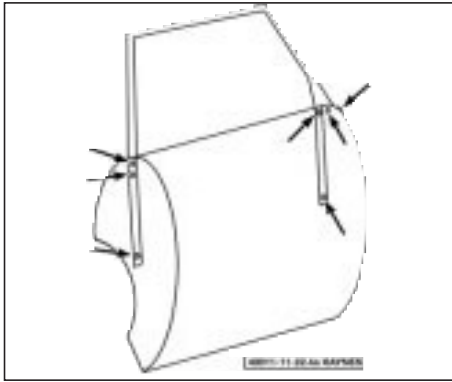
6 Refitting is the reverse of removal.



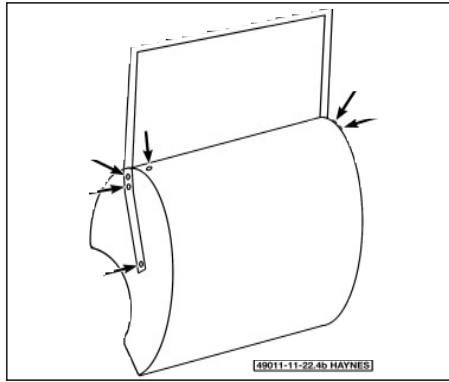
20.13 After removing the cable from the latch assembly, detach the handle retaining bolts, then pull the handle and cable assembly free from the vehicle



21.3 Detach the window regulator bolts (arrowed)



22.4a Front door window frame screws



22.4b Rear door window frame screws



22.5 After removing the window frame retaining screws, pull the window and frame assembly up and out to remove it



23.2 Remove the trim cover retaining screws



23.4 Disconnect the electrical connector, then detach the three mirror retaining screws and remove the mirror from the vehicle

22 Door window glass - removal and refitting



- 1 Raise the window to its full upright position, then remove the door trim panel and watershield as described in Section 18.
- 2 Tape the window to the door glass frame to secure the window in the full upright position.
- 3 Detach the regulator assembly (Section 21) and lower it to the bottom of the door.
- 4 Remove the window frame retaining bolts (see illustrations).
- 5 Remove the window frame and glass assembly by pulling it up and out (see illustration).
- 6 Refitting is the reverse of removal.

23 Outside mirrors - removal and refitting



- 1 Raise the window to the fully closed position and remove the upper half of the door trim panel (see Section 18).
- 2 Detach the trim cover retaining screws (see illustration).

- 3 Disconnect the wiring plug from the mirror.
- 4 Remove the three mirror retaining screws and detach the mirror from the vehicle (see illustration).
- 5 Refitting is the reverse of removal.

24 Centre console - removal and refitting



Floor console

- 1 Disconnect the negative battery cable.



24.2 Carefully prise out the gear selector trim bezel

Caution: If the stereo in your vehicle is equipped with an anti-theft system, make sure you have the correct activation code before disconnecting the battery.

- 2 Pry out the gear selector trim bezel (see illustration).
- 3 Open the console compartment and remove the screws securing the ash tray. Pull the ash tray back towards the compartment to remove it (see illustrations).
- 4 Working through the ash tray opening, detach the plastic wingnuts securing the rear edge of the radio trim bezel (see illustration).
- 5 Apply the handbrake, then move the gear



24.3a Open the console compartment to access the ash tray screws (arrowed)



24.3b Pull the ash tray towards the rear of the vehicle to remove it - don't pull it straight up



24.4 Working through the ash tray opening, remove the radio trim bezel wingnuts (arrowed) located under the trim bezel



24.7 After removing the centre trim panel, detach the air conditioning duct



24.8 Remove the retaining screws in the air conditioning duct opening



24.9 Remove the plastic screws (arrowed) from each side of the console



24.13 Remove the plastic screw, then pull the overhead console down and unplug the electrical connectors

selector towards the rear of the vehicle. Pull up on the rear half of the radio trim bezel while gently detaching the clips securing the front, then remove the bezel from the vehicle.

6 Remove the radio and heater control assembly (see Chapter 12).

7 Remove the dashboard centre trim panel (see Section 26), then remove the centre air conditioning duct from the vehicle (see illustration).

8 Remove the retaining screws located in the air conditioning duct opening (see illustration).

9 Remove the plastic screws securing the lower front section of the console (see illustration).

10 Unplug any electrical connectors that will interfere with the removal of the console.

11 Pull the console towards the rear of the vehicle, then lift the console up over the shift lever and remove it from the vehicle.

12 Refitting is the reverse of removal.

Overhead console

13 Remove the plastic screw securing the overhead console, then carefully pull the console out of the headliner (see illustration).

14 Disconnect the electrical connectors from the lights.

15 Refitting is the reverse of removal.

25 Instrument cluster housing - removal and refitting



Warning: Later models are equipped with airbags. To prevent the accidental deployment of the airbag, which could cause personal injury or damage to the airbag system, DO NOT work in the vicinity of the steering column or instrument panel. The manufacturer recommends that, on airbag equipped models, the following procedure should be left to a dealer service department or other repair workshop because of the special tools and techniques required to disable the airbag system.

1 Disconnect the negative battery cable.



25.4 Working in the knee bolster opening, remove two retaining screws from each end of the instrument cluster housing



25.5 Pull outward on the instrument cluster housing and unplug the electrical connectors from the backside

Caution: If the stereo in your vehicle is equipped with an anti-theft system, make sure you have the correct activation code before disconnecting the battery.

2 Remove the drivers side knee bolster (see Section 26).

3 Place the steering wheel in the full rearward position. If the vehicle is equipped with a tilt column, place the steering wheel in the lowest position.

4 Remove the instrument cluster housing screws (see illustration).

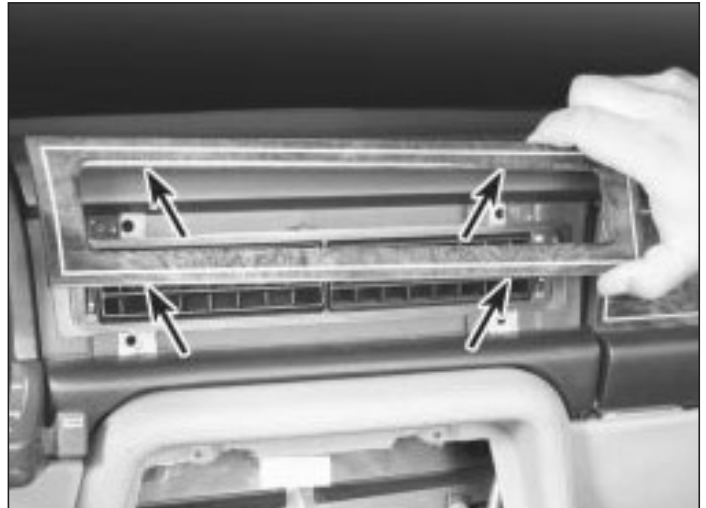
5 Pull the instrument cluster housing outward to access the electrical connections on the backside (see illustration).

6 Disconnect all electrical connections from the backside of the cluster housing and remove the housing from the vehicle.

7 Refitting is the reverse of removal.



26.2 Remove the retaining screws along the outer edge of the knee bolster, then remove it from the vehicle



26.5 Grasp the centre trim panel with both hands, then unsnap the retaining clips (arrowed) from the dashboard assembly

26 Dashboard trim panels - removal and refitting



Warning: Later models are equipped with airbags. To prevent the accidental deployment of the airbag, which could cause personal injury or damage to the airbag system, DO NOT work in the vicinity of the steering column or instrument panel. The manufacturer recommends that, on airbag equipped models, the following procedure should be left to a dealer service department or other repair workshop because of the special tools and techniques required to disable the airbag system. **Caution:** If the stereo in your vehicle is equipped with an anti-theft system, make sure you have the correct activation code before disconnecting the battery

Knee bolster

- 1 Knee bolsters are located on the lower half of the instrument panel on the driver and passenger sides of the vehicle. The removal of these covers will allow access to a variety of electrical, heating and air conditioning components.
- 2 Detach the retaining screws along the edges of the knee bolster (see illustration).
- 3 Pull outward on the lower edge of the knee bolster and detach it from the vehicle.
- 4 Refitting is the reverse of removal.

Centre trim panel

- 5 Carefully pull outward to detach the centre trim panel from the instrument panel (see illustration).
- 6 Refitting is the reverse of removal.

Glove box

- 7 Detach the passenger side knee bolster as described in Steps 2 and 3.

- 8 Remove the glove box door hinge bolts (see illustration).
- 9 Open the glove box door, then detach it from the vehicle.
- 10 Detach the heater duct and the relay mounting panel from the bottom of the glove box.
- 11 Detach the remaining screws securing the upper edge of the glove box (see illustration).
- 12 Disconnect the lamp from the glove box and remove the assembly from the vehicle.
- 13 Refitting is the reverse of removal.

27 Steering column cover - removal and refitting



Warning: Later models are equipped with airbags. To prevent the accidental deployment of the airbag, which could cause



26.8 With the passenger side knee bolster removed, unscrew the glove box door hinge bolts



26.11 Remove the screws along the top edge (arrowed), pull the glove box out and remove the lamp assembly



27.2 Pull off the knob from the instrument panel rheostat



27.3 Remove the lower steering column cover screws

personal injury or damage to the airbag system, DO NOT work in the vicinity of the steering column or instrument panel. The manufacturer recommends that, on airbag equipped models, the following procedure should be left to a dealer service department or other repair workshop because of the special tools and techniques required to disable the airbag system.

- 1 Remove the steering wheel (Chapter 10)
- 2 Remove the knob from the rheostat (dimmer) for the instrument panel lights (see illustration).
- 3 Remove the lower steering column cover screws (see illustration), then detach the lower cover.
- 4 Working through the lower cover opening, remove the four screws securing the upper half of the cover, then pull the cover forward and out to remove it (see illustration).
- 5 Refitting is the reverse of removal.

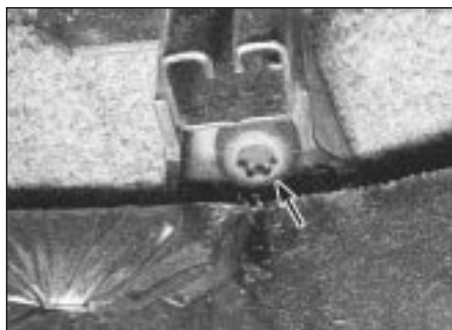
28 Cowl cover - removal and refitting



- 1 Remove the windscreen wiper arms (see Chapter 12).



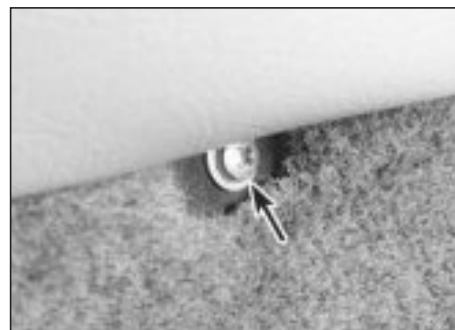
28.2 Remove the screws (arrowed) located along the top of the cowl cover



29.2 Use a Torx bit to remove the front seat retaining bolts (arrowed)



27.4 Remove the four screws securing the upper half of the steering column cover



29.5 Detach the screws (arrowed) along the lower edge of the seat cover

- 2 Remove the retaining screws located along the top of the cowl cover (see illustration).
- 3 Lift the cowl cover up slightly, then detach the electrical connectors and the spray nozzle hoses from the backside of the cowl cover.
- 4 Detach the cowl cover from the vehicle.
- 5 Refitting is the reverse of removal.

29 Seats - removal and refitting



Front seat

- 1 Position the seat all the way forward or all the way to the rear to access the front retaining bolts.
- 2 Detach any bolt trim covers and remove the retaining bolts (see illustration).
- 3 Tilt the seat upward to access the underneath, then unplug any electrical connectors and lift the seat from the vehicle.
- 4 Refitting is the reverse of removal.

Rear seat

- 5 Remove retaining screws at the lower edge of the seat cushion (see illustration). Then lift up on the front edge and remove the cushion from the vehicle.
- 6 Detach the retaining bolts at the lower edge of the seat back.
- 7 Lift up on the lower edge of the seat back to release the clips securing the top. Then remove it from the vehicle.
- 8 Refitting is the reverse of removal.