

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



Specifications

Torque wrench settings

| | Nm | lbf ft |
|--|----|--------|
| Bumper | 20 | 15 |
| Door hinge centre bolt | 15 | 11 |
| Door hinge-to-door bolt | 45 | 33 |
| Front seat belt pre-tensioner and reel | 40 | 30 |
| Front seat belt pre-tensioner shear bolt | 4 | 3 |

1 General information

The bodyshell is composed of pressed-steel sections which are welded together, although some use of structural adhesives is made. In addition, the front wings are bolted on.

The bonnet, door and some other panels vulnerable to corrosion are fabricated from zinc-coated metal. A coating of anti-chip primer, applied prior to paint spraying provides further protection.

Extensive use is made of plastic materials, mainly in the interior, but also in exterior components. The outer sections of the front and rear bumpers are injection-moulded from a synthetic material which is very strong, and yet light. Plastic components such as wheel arch liners are fitted to the underside of the

vehicle, to improve the body's resistance to corrosion.

2 Maintenance - bodywork and underframe

The general condition of a vehicle's bodywork significantly affects its value. Maintenance is easy, but needs to be regular. Neglect, particularly after minor damage, can lead quickly to further deterioration and costly repair bills. It is important also to keep watch on those parts of the vehicle not immediately visible, for instance the underside, inside all the wheel arches, and the lower part of the engine compartment.

The basic maintenance routine for the bodywork is washing - preferably with a lot of water, from a hose. This will remove all the loose solids which may have stuck to the

vehicle. It is important to flush these off in such a way as to prevent grit from scratching the finish. The wheel arches and underframe need washing in the same way, to remove any accumulated mud which will retain moisture and tend to encourage rust. Oddly enough, the best time to clean the underframe and wheel arches is in wet weather, when the mud is thoroughly wet and soft. In very wet weather, the underframe is usually cleaned of large accumulations automatically, and this is a good time for inspection.

Periodically, except on vehicles with a wax-based underbody protective coating, it is a good idea to have the whole of the underframe of the vehicle steam-cleaned, engine compartment included, so that a thorough inspection can be carried out to see what minor repairs and renovations are necessary. Steam-cleaning is available at many garages, and is necessary for the removal of the accumulation of oily grime,

which sometimes is allowed to become thick in certain areas. If steam-cleaning facilities are not available, there are some excellent grease solvents available, which can be brush-applied; the dirt can then be simply hosed off. Note that these methods should not be used on vehicles with wax-based underbody protective coating, or the coating will be removed. Such vehicles should be inspected annually, preferably just prior to Winter, when the underbody should be washed down, and any damage to the wax coating repaired using undershield. Ideally, a completely fresh coat should be applied. It would also be worth considering the use of such wax-based protection for injection into door panels, sills, box sections, etc, as an additional safeguard against rust damage, where such protection is not provided by the vehicle manufacturer.

After washing paintwork, wipe off with a chamois leather to give an unspotted clear finish. A coat of clear protective wax polish, will give added protection against chemical pollutants in the air. If the paintwork sheen has dulled or oxidised, use a cleaner/polisher combination to restore the brilliance of the shine. This requires a little effort, but such dulling is usually caused because regular washing has been neglected. Care needs to be taken with metallic paintwork, as special non-abrasive cleaner/polisher is required to avoid damage to the finish. Always check that the door and ventilator opening drain holes and pipes are completely clear, so that water can be drained out. Brightwork should be treated in the same way as paintwork. Windscreens and windows can be kept clear of the smeary film which often appears, by the use of a proprietary glass cleaner. Never use any form of wax or other body or chromium polish on glass.

3 Maintenance - upholstery and carpets

Mats and carpets should be brushed or vacuum-cleaned regularly, to keep them free of grit. If they are badly stained, remove them from the vehicle for scrubbing or sponging, and make quite sure they are dry before refitting. Seats and interior trim panels can be kept clean by wiping with a damp cloth and specialist cleaner. If they do become stained (which can be more apparent on light-coloured upholstery), use a little liquid detergent and a soft nail brush to scour the grime out of the grain of the material. Do not forget to keep the headlining clean in the same way as the upholstery. When using liquid cleaners inside the vehicle, do not over-wet the surfaces being cleaned. Excessive damp could get into the seams and padded interior, causing stains, offensive odours or even rot. If the inside of the vehicle gets wet accidentally, it is worthwhile taking some trouble to dry it out properly, particularly

where carpets are involved. *Do not leave oil or electric heaters inside the vehicle for this purpose.*

4 Minor body damage - repair

Repairs of minor scratches in bodywork

If the scratch is very superficial, and does not penetrate to the metal of the bodywork, repair is very simple. Lightly rub the area of the scratch with a paintwork renovator, or a very fine cutting paste, to remove loose paint from the scratch, and to clear the surrounding bodywork of wax polish. Rinse the area with clean water.

Apply touch-up paint to the scratch using a fine paint brush; continue to apply fine layers of paint until the surface of the paint in the scratch is level with the surrounding paintwork. Allow the new paint at least two weeks to harden, then blend it into the surrounding paintwork by rubbing the scratch area with a paintwork renovator or a very fine cutting paste. Finally, apply wax polish.

Where the scratch has penetrated right through to the metal of the bodywork, causing the metal to rust, a different repair technique is required. Remove any loose rust from the bottom of the scratch with a penknife, then apply rust-inhibiting paint to prevent the formation of rust in the future. Using a rubber or nylon applicator, fill the scratch with bodystopper paste. If required, this paste can be mixed with cellulose thinners, to provide a very thin paste which is ideal for filling narrow scratches. Before the stopper-paste in the scratch hardens, wrap a piece of smooth cotton rag around the top of a finger. Dip the finger in cellulose thinners, and quickly sweep it across the surface of the stopper-paste in the scratch; this will ensure that the surface of the stopper-paste is slightly hollowed. The scratch can now be painted over as described earlier in this Section.

Repairs of dents in bodywork

When deep denting of the vehicle's bodywork has taken place, the first task is to pull the dent out, until the affected bodywork almost attains its original shape. There is little point in trying to restore the original shape completely, as the metal in the damaged area will have stretched on impact, and cannot be reshaped fully to its original contour. It is better to bring the level of the dent up to a point which is about 3 mm below the level of the surrounding bodywork. In cases where the dent is very shallow anyway, it is not worth trying to pull it out at all. If the underside of the dent is accessible, it can be hammered out gently from behind, using a mallet with a wooden or plastic head. Whilst doing this, hold

a suitable block of wood firmly against the outside of the panel, to absorb the impact from the hammer blows and thus prevent a large area of the bodywork from being 'belled-out'.

Should the dent be in a section of the bodywork which has a double skin, or some other factor making it inaccessible from behind, a different technique is called for. Drill several small holes through the metal inside the area - particularly in the deeper section. Then screw long self-tapping screws into the holes, just sufficiently for them to gain a good purchase in the metal. Now the dent can be pulled out by pulling on the protruding heads of the screws with a pair of pliers.

The next stage of the repair is the removal of the paint from the damaged area, and from an inch or so of the surrounding 'sound' bodywork. This is accomplished most easily by using a wire brush or abrasive pad on a power drill, although it can be done just as effectively by hand, using sheets of abrasive paper. To complete the preparation for filling, score the surface of the bare metal with a screwdriver or the tang of a file, or alternatively, drill small holes in the affected area. This will provide a really good 'key' for the filler paste.

To complete the repair, see the Section on filling and respraying.

Repairs of rust holes or gashes in bodywork

Remove all paint from the affected area, and from an inch or so of the surrounding 'sound' bodywork, using an abrasive pad or a wire brush on a power drill. If these are not available, a few sheets of abrasive paper will do the job most effectively. With the paint removed, you will be able to judge the severity of the corrosion, and therefore decide whether to renew the whole panel (if this is possible) or to repair the affected area. New body panels are not as expensive as most people think, and it is often quicker and more satisfactory to fit a new panel than to attempt to repair large areas of corrosion.

Remove all fittings from the affected area, except those which will act as a guide to the original shape of the damaged bodywork (eg headlight shells, etc). Then, using tin snips or a hacksaw blade, remove all loose metal and any other metal badly affected by corrosion. Hammer the edges of the hole inwards, in order to create a slight depression for the filler paste.

Wire-brush the affected area to remove the powdery rust from the surface of the remaining metal. Paint the affected area with rust-inhibiting paint; if the back of the rusted area is accessible, treat this also.

Before filling can take place, it will be necessary to block the hole in some way. This can be achieved by the use of aluminium or plastic mesh, or aluminium tape.

Aluminium or plastic mesh, or glass-fibre matting, is probably the best material to use for a large hole. Cut a piece to the approximate size and shape of the hole to be filled, then

position it in the hole so that its edges are below the level of the surrounding bodywork. It can be retained in position by several blobs of filler paste around its periphery.

Aluminium tape should be used for small or very narrow holes. Pull a piece off the roll, trim it to the approximate size and shape required, then pull off the backing paper (if used) and stick the tape over the hole; it can be overlapped if the thickness of one piece is insufficient. Burnish down the edges of the tape with the handle of a screwdriver or similar, to ensure that the tape is securely attached to the metal underneath.

Bodywork repairs - filling and respraying

Before using this Section, see the Sections on dents, scratches, rust holes and gash repairs.

Many types of bodyfiller are available, but generally speaking, those proprietary kits which contain a tin of filler paste and a tube of resin hardener are best for this type of repair, which can be used directly from the tube. A wide, flexible plastic or nylon applicator will be found invaluable for imparting a smooth and well-contoured finish to the surface of the filler.

Mix up a little filler on a clean piece of card or board - measure the hardener carefully (follow the maker's instructions on the pack), otherwise the filler will set too rapidly or too slowly. Alternatively, a 'no-mix' filler can be used straight from the tube without mixing, but daylight is required to cure it. Using the applicator, apply the filler paste to the prepared area; draw the applicator across the surface of the filler to achieve the correct contour and to level the surface. As soon as a contour that approximates to the correct one is achieved, stop working the paste - if you carry on too long, the paste will become sticky and begin to 'pick-up' on the applicator. Continue to add thin layers of filler paste at 20-minute intervals, until the level of the filler is just proud of the surrounding bodywork.

Once the filler has hardened, the excess can be removed using a metal plane or file. From then on, progressively-finer grades of abrasive paper should be used, starting with a 40-grade production paper, and finishing with a 400-grade wet-and-dry paper. Always wrap the abrasive paper around a flat rubber, cork, or wooden block - otherwise the surface of the filler will not be completely flat. During the smoothing of the filler surface, the wet-and-dry paper should be periodically rinsed in water. This will ensure that a very smooth finish is imparted to the filler at the final stage.

At this stage, the 'dent' should be surrounded by a ring of bare metal, which in turn should be encircled by the finely 'feathered' edge of the good paintwork. Rinse the repair area with clean water, until all of the dust produced by the rubbing-down operation has gone.

Spray the whole area with a light coat of primer - this will show up any imperfections in the surface of the filler. Repair these imperfections with fresh filler paste or bodystopper, and once more smooth the surface with abrasive paper. If bodystopper is used, it can be mixed with cellulose thinners, to form a really thin paste which is ideal for filling small holes. Repeat this spray-and-repair procedure until you are satisfied that the surface of the filler, and the feathered edge of the paintwork, are perfect. Clean the repair area with clean water, and allow to dry fully.

The repair area is now ready for final spraying. Paint spraying must be carried out in a warm, dry, windless and dust-free atmosphere. This condition can be created artificially if you have access to a large indoor working area, but if you are forced to work in the open, you will have to pick your day very carefully. If you are working indoors, dousing the floor in the work area with water will help to settle the dust which would otherwise be in the atmosphere. If the repair area is confined to one body panel, mask off the surrounding panels; this will help to minimise the effects of a slight mis-match in paint colours. Bodywork fittings (eg chrome strips, door handles etc) will also need to be masked off. Use genuine masking tape, and several thicknesses of newspaper, for the masking operations.

Before commencing to spray, agitate the aerosol can thoroughly, then spray a test area (an old tin, or similar) until the technique is mastered. Cover the repair area with a thick coat of primer; the thickness should be built up using several thin layers of paint, rather than one thick one. Using 400-grade wet-and-dry paper, rub down the surface of the primer until it is really smooth. While doing this, the work area should be thoroughly doused with water, and the wet-and-dry paper periodically rinsed in water. Allow to dry before spraying on more paint.

Spray on the top coat, again building up the thickness by using several thin layers of paint. Start spraying at the top of the repair area, and then, using a side-to-side motion, work downwards until the whole repair area and about 2 inches of the surrounding original paintwork 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, using a paintwork renovator or a very fine cutting paste, blend the edges of the paint into the existing paintwork. Finally, apply wax polish.

Plastic components

With the use of more and more plastic body components by the vehicle manufacturers (eg bumpers, spoilers, and in some cases major body panels), rectification of more serious damage to such items has become a matter of either entrusting repair work to a specialist in this field, or renewing complete components. Repair of such damage by the

DIY owner is not really feasible, owing to the cost of the equipment and materials required for effecting such repairs. The basic technique involves making a groove along the line of the crack in the plastic, using a rotary burr in a power drill. The damaged part is then welded back together, using a hot air gun to heat up and fuse a plastic filler rod into the groove. Any excess plastic is then removed, and the area rubbed down to a smooth finish. It is important that a filler rod of the correct plastic is used, as body components can be made of a variety of different types (eg polycarbonate, ABS, polypropylene).

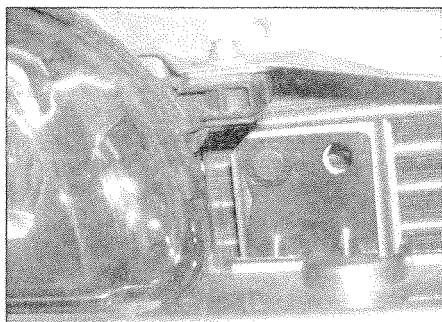
Damage of a less serious nature (abrasions, minor cracks etc) can be repaired by the DIY owner using a two-part epoxy filler repair material. Once mixed in equal proportions, this is used in similar fashion to the bodywork filler used on metal panels. The filler is usually cured in twenty to thirty minutes, ready for sanding and painting.

If the owner is renewing a complete component himself, or if he has repaired it with epoxy filler, he will be left with the problem of finding a suitable paint for finishing which is compatible with the type of plastic used. At one time, the use of a universal paint was not possible, owing to the complex range of plastics encountered in body component applications. Standard paints, generally speaking, will not bond to plastic or rubber satisfactorily, but specialist paints, to match any plastic or rubber finish, can be obtained from dealers. However, it is now possible to obtain a plastic body parts finishing kit which consists of a pre-primer treatment, a primer and coloured top coat. Full instructions are normally supplied with a kit, but basically, the method of use is to first apply the pre-primer to the component concerned, and allow it to dry for up to 30 minutes. Then the primer is applied, and left to dry for about an hour before finally applying the special-coloured top coat. The result is a correctly-coloured component, where the paint will flex with the plastic or rubber, a property that standard paint does not normally possess.

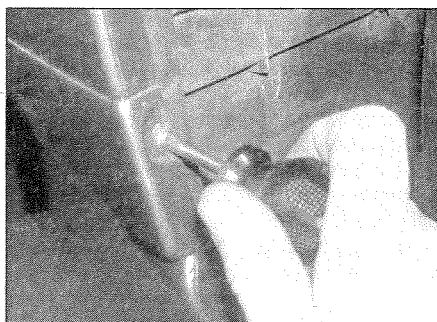
5 Major body damage - repair



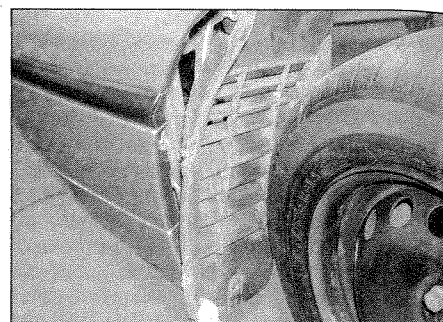
Where serious damage has occurred, or large areas need renewal due to neglect, it means that complete new panels will need welding-in, and this is best left to professionals. If the damage is due to impact, it will also be necessary to check completely the alignment of the bodyshell, and this can only be carried out accurately by a FIAT dealer using special jigs. If the alignment of the bodyshell is not corrected, the car's handling may be seriously affected. In addition, excessive stress may be imposed on the steering, suspension, tyres or transmission, causing abnormal wear or even complete failure.



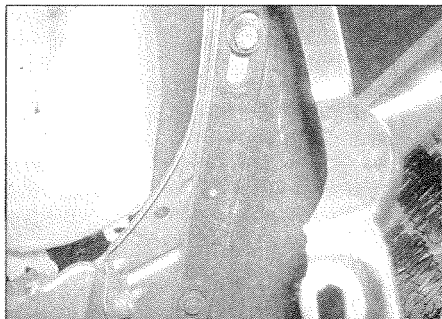
6.3 Front bumper upper mounting bolts



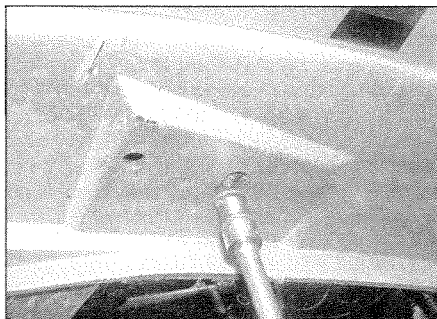
6.4a Undo the screws and remove the fixing studs ...



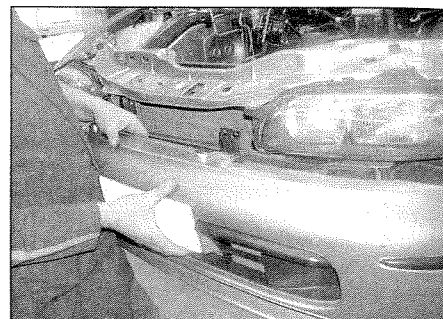
6.4b ... then remove the front sections of the wheel arch liners



6.5 Front bumper side mounting bolts



6.6 Unscrewing the front bumper lower mounting bolts



6.7 Removing the front bumper

6 Front bumper - removal and refitting

Removal

1 To improve access, apply the handbrake, then jack up the front of the vehicle and support it on axle stands (see *Jacking and vehicle support*). If necessary, remove both front roadwheels.

2 Where applicable, remove the front foglights with reference to Chapter 12, Section 6.

3 Unscrew the bumper upper mounting bolts located on the upper panel in front of the radiator (see *illustration*).

4 Undo the screws and extract the fixing

studs, then remove the front sections of the wheel arch liners for access to the front bumper mounting bolts (see *illustrations*). Ideally, a forked tool should be used to remove the studs.

5 Unscrew the bumper side mounting bolts (see *illustration*).

6 Unscrew the lower mounting bolts located along the bottom edge of the bumper (see *illustration*).

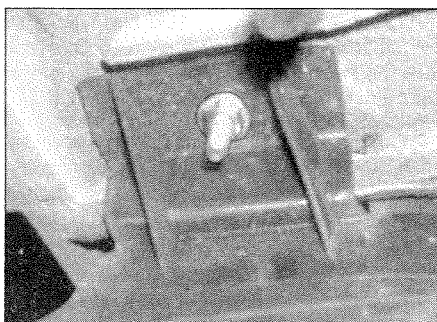
7 With the help of an assistant, withdraw the bumper from the front of the car (see *illustration*). Where applicable, disconnect the washer tubing and remove the headlight washer jets as described in Chapter 12, Section 17.

Refitting

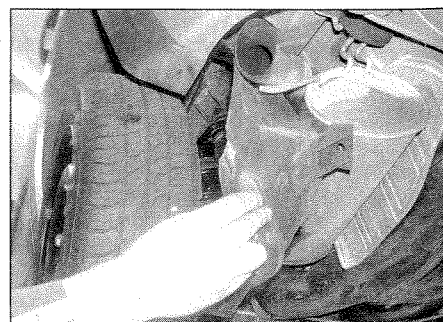
8 Refitting is a reversal of removal.



7.2a Undo the screws ...



7.2b ... and nuts ...



7.2c ... and remove the wheel arch liners from each side

7 Rear bumper - removal and refitting

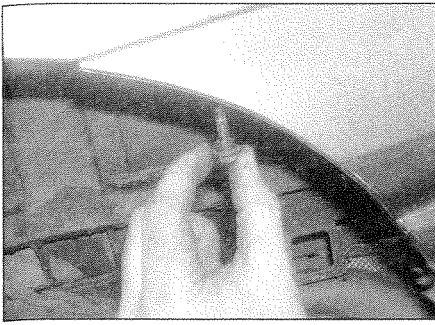
Removal

1 To improve access, chock the front roadwheels, then jack up the rear of the vehicle and support on axle stands (see *Jacking and vehicle support*). If necessary, remove both rear roadwheels.

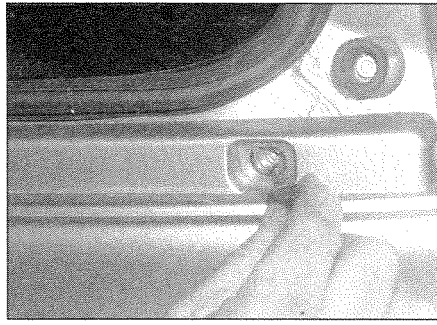
2 Undo the screws and nuts and remove the wheel arch liners from each side (see *illustrations*).

3 Working under the rear wheel arches, unscrew the bolts securing the rear bumper to the rear wings (see *illustration*).

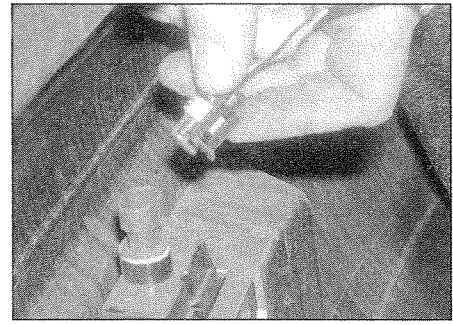
4 Raise the tailgate, then undo the screws



7.3 Removing the bolts securing the rear bumper to the rear wings



7.4 Removing the screws securing the upper edge of the bumper to the rear valance



7.5 Disconnecting the wiring from the rear number plate lights

securing the upper edge of the bumper to the rear valance (see illustration).

5 Disconnect the wiring from the rear number plate lights at the connector (see illustration).

6 Unscrew the remaining lower mounting bolts (see illustration).

7 With the help of an assistant, withdraw the bumper from the rear of the car (see illustration).

Refitting

8 Refitting is a reversal of removal.

8 Tailgate - removal and refitting



Removal

1 Make sure all lighting and electrical devices are switched off - note, however, that when the tailgate is open, the rear valance electrical interface for the rear wiper and number plate lights will be disconnected. Open the tailgate, then undo the screws securing the trim panel. Note on 5-door models that four of the screws are visible, and four are hidden beneath rubber pads. Prise out the buttons securing the panel to the tailgate lower edge, and withdraw the panel. On 3-door models, use a wide-bladed screwdriver to prise the clips free.

2 Disconnect the pipe from the rear screen washer connection near the rear wiper motor,

then tie a length of string to it. Where fitted, disconnect the wiring from the high-level brake stop light. Draw the pipe and wiring through the tailgate but leave the string in place for refitting. Disconnect the string.

3 Have an assistant support the tailgate in the open position.

4 Detach the upper ends of the support struts from the tailgate as described in Section 9.

5 Unscrew the bolts securing the hinges to the tailgate (see illustration), then lift the tailgate from the vehicle with the help of the assistant.

Refitting

6 Refitting is a reversal of removal, but check the adjustment as given in the following paragraphs.

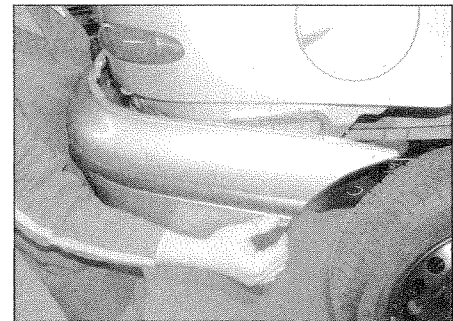
Adjustment

7 Close the tailgate **carefully**, in case the alignment is incorrect, which may cause scratching on the tailgate or the body as the tailgate is closed, and check for alignment with the adjacent panels. If the gap between the tailgate and surrounding bodywork is not equal, undo the screws and remove the access covers from the rear of the roof headlining for access to the hinge bolts (see illustrations). Loosen the bolts and reposition the tailgate, then tighten them again and refit the covers. **Note:** If the seal between the hinges and roof is broken during adjustment, it will be necessary to apply new sealant.

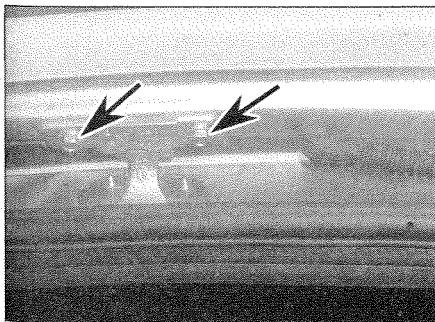
8 Check that the tailgate lock fastens and releases from the striker in a satisfactory manner. If adjustment is necessary, remove



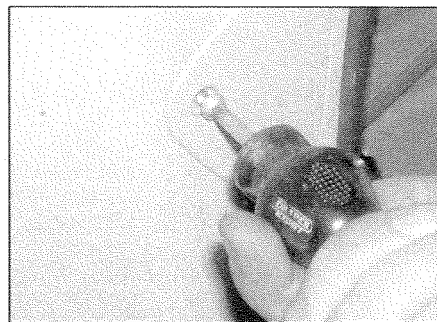
7.6 Removing the rear bumper lower mounting bolts



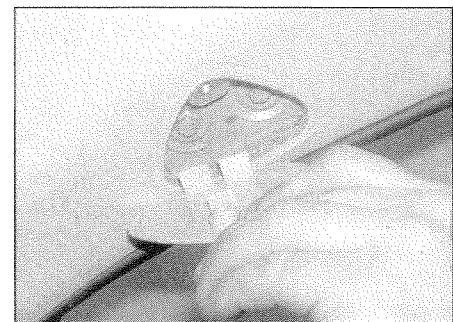
7.7 Removing the rear bumper



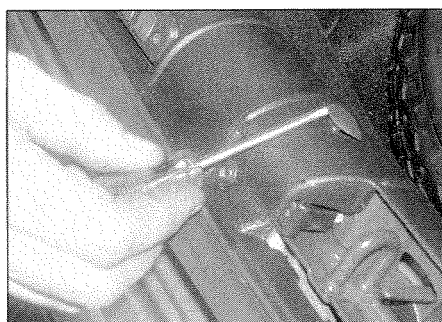
8.5 Tailgate hinge bolts



8.7a Undo the screws ...



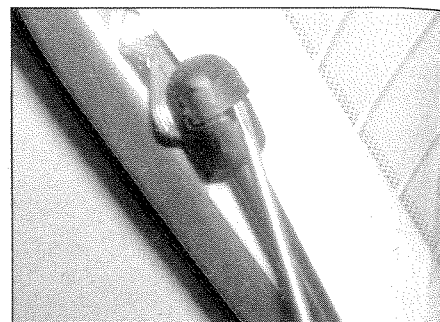
8.7b ... and remove the access covers to the tailgate hinge bolts



8.8a Remove the covers ...



8.8b ... and loosen the striker bolts with an Allen key



9.2 Lever off the spring clip securing the strut to the balljoint on the tailgate

the covers and loosen the striker mounting bolts then reposition (see illustrations). Tighten the mounting bolts on completion.

9 With the tailgate shut, check that it is held firm by the support rubber buffers located in the lower corners. If necessary, screw them in or out as appropriate.

9 Tailgate strut - removal and refitting



Removal

- 1 Open the tailgate and support it using suitable wooden props.
- 2 At the 'lower' end of each strut, lever off the

balljoint spring clip using a screwdriver (see illustration). Compress the strut slightly by hand and then prise the strut from the ball stud on the tailgate.



Warning: The strut may still be under tension and could extend suddenly once detached from its mountings.

3 At the 'upper' end of the strut, lever off the balljoint spring clip using a screwdriver, and release the strut from the ball stud on the body.

4 To remove the ball studs it will be necessary to remove the surrounding trim first, then unscrew the mounting bolts.

Refitting

5 Refitting is a reversal of removal.

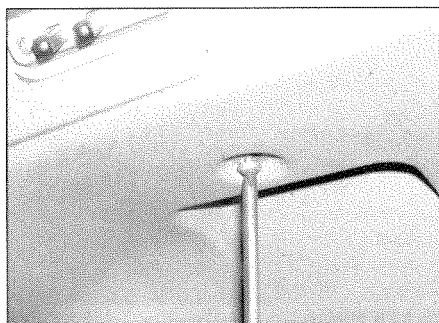
10 Tailgate lock components - removal and refitting



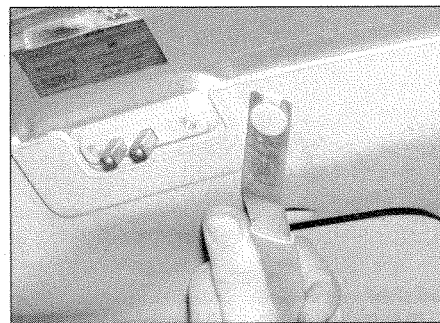
Lock

Removal

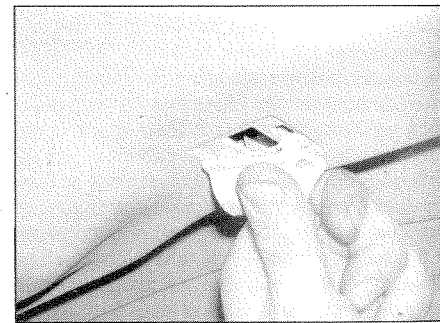
- 1 Open the tailgate, then undo the screws securing the trim panel. Note on 5-door models that four of the screws are visible, and four are hidden beneath rubber pads. Prise out the buttons securing the panel to the tailgate lower edge, and withdraw the panel (see illustrations). On 3-door models use a wide-bladed screwdriver to prise free the clips.
- 2 Unscrew the lock mounting bolts from the lower edge of the tailgate (see illustration).



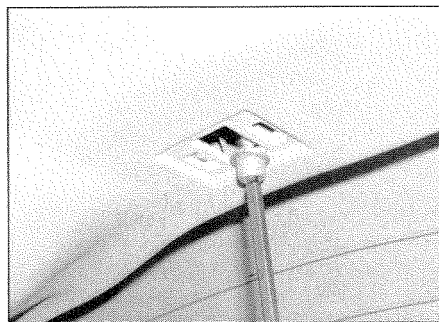
10.1a Undo the screws ...



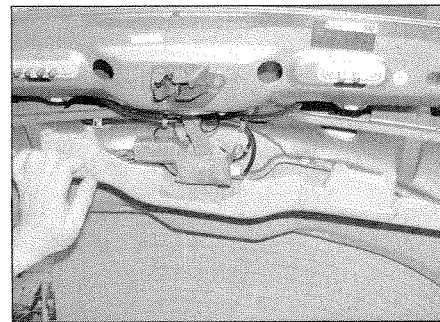
10.1b ... prise out the buttons ...



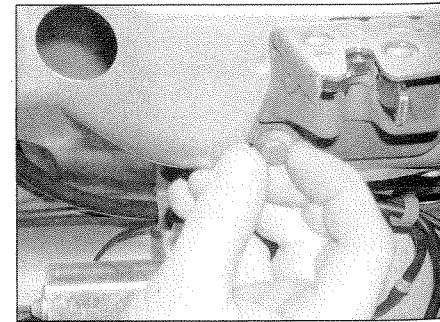
10.1c ... then remove the rubber pads ...



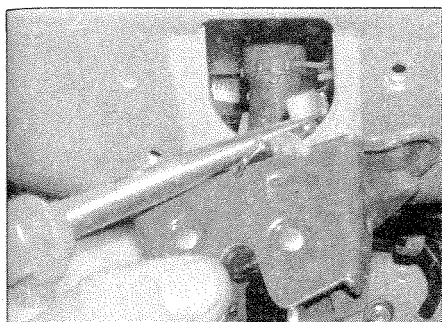
10.1d ... and undo the remaining screws



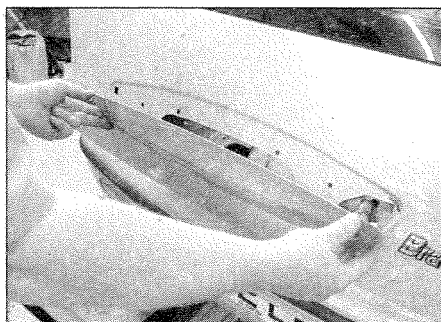
10.1e Removing the tailgate trim panel



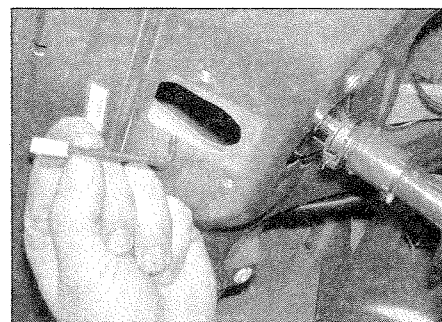
10.2 Unscrew the tailgate lock mounting bolts ...



10.3 ... then disconnect the lock barrel rod with a pair of pliers



10.6 Removing the handle from the tailgate on 3-door models



10.7a Disconnect the operating rod ...

3 Carefully withdraw the lock, then disconnect the lock barrel rod by releasing the clip accessible through the lock aperture (see illustration).

Refitting

4 Refitting is a reversal of removal.

Lock cylinder and barrel

Removal

5 Open the tailgate, then undo the screws securing the trim panel. Note that on 5-door models four of the screws are visible, and four are hidden beneath rubber pads. Prise out the buttons securing the panel to the tailgate lower edge, and withdraw the panel. On 3-

door models use a wide-bladed screwdriver to prise free the clips.

6 On 3-door models, remove the lock complete as described in paragraphs 1 to 3, then undo the screws/bolts and remove the tailgate handle by depressing the tabs and pressing the handle out from inside (see illustration).

7 On 5-door models, unscrew the lock cylinder mounting bolts, then withdraw the cylinder and barrel and at the same time disconnect the operating rod by releasing the clip. Alternatively, remove the lock complete, then disconnect the operating rod (see illustrations).

8 On 3-door models, unscrew the bolts and

remove the barrel assembly from the housing. On 5-door models, insert the key in the barrel, then extract the spring clip and withdraw the barrel from the housing (see illustrations).

Refitting

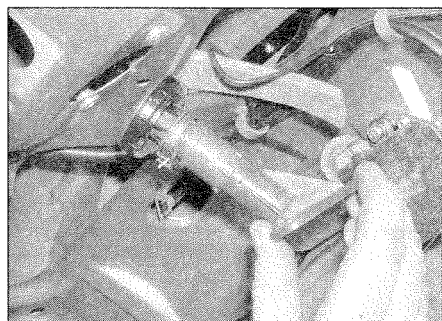
9 Refitting is a reversal of removal.

Striker plate

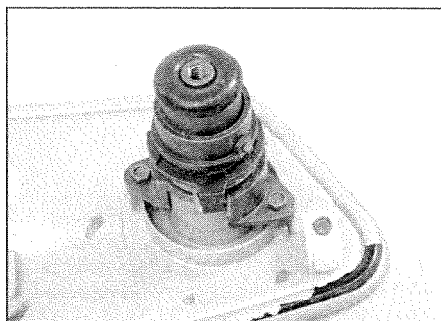
Removal

10 With the tailgate open, remove the trim from the rear valance in the luggage area (see illustrations).

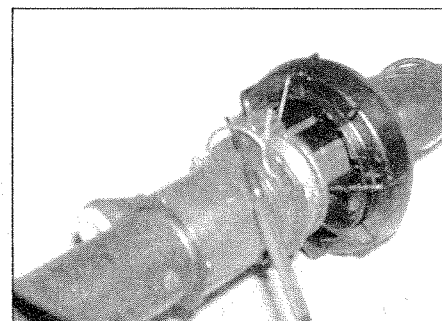
11 Outline the position of the striker with a pencil or marker pen, then unscrew and remove the mounting bolts, disconnect the



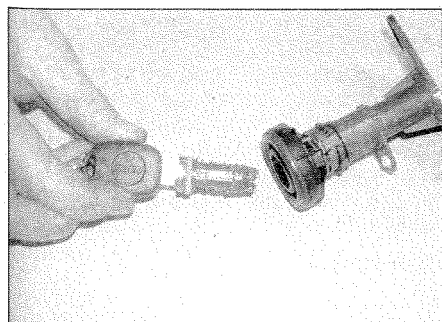
10.7b ... and remove the lock cylinder and barrel from the tailgate



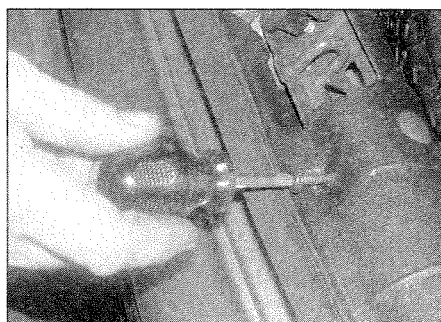
10.8a On 3-door models, unscrew the bolts to remove the barrel assembly



10.8b With the ignition key inserted, extract the spring clip ...



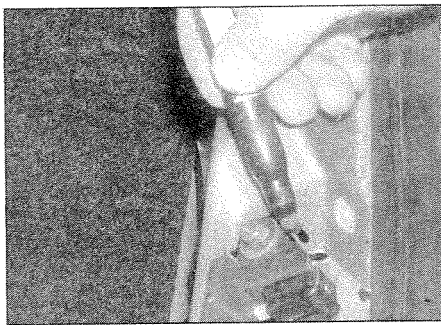
10.8c ... and withdraw the barrel from the housing



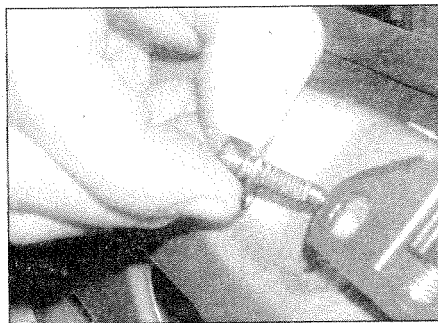
10.10a Undo the screws ...



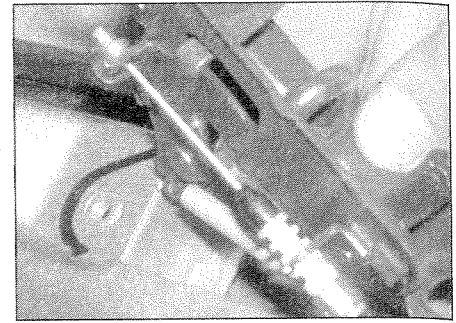
10.10b ... and remove the trim from the rear valance



10.11a Outline the position of the tailgate striker with a marker pen



10.11b Unscrew the mounting bolts ...



10.11c ... and disconnect the release cable

release cable, and remove it (see illustrations).

Refitting

12 Refitting is a reversal of removal, but check that the tailgate lock engages the striker correctly when the tailgate is closed. If necessary, reposition the striker by prising out the plastic covers, loosening and mounting bolts, then retightening them (see illustrations).

11 Bonnet - removal and refitting

Removal

Note: The help of an assistant is required for this work.

- 1 Open the bonnet and have the assistant support it.
- 2 Disconnect the washer jet hoses at the three way joint.
- 3 Mark the hinges and bolts in relation to each other using a soft pencil or marker pen, to facilitate refitting.
- 4 Support the bonnet on each side, using the shoulders, then unscrew the mounting bolts and lift it away from the car. Place the bonnet on a dust sheet to protect the paintwork.

Refitting

5 Refitting is a reversal of removal, using the markings made during removal to achieve the correct alignment. Check that the gap between

the bonnet and surrounding bodywork is identical all the way round. If necessary, loosen the hinge bolts and reposition the bonnet, then tighten the bolts. Check that the bonnet fastens and releases in a satisfactory manner. If necessary, adjust the bonnet lock components, as described in Section 12.

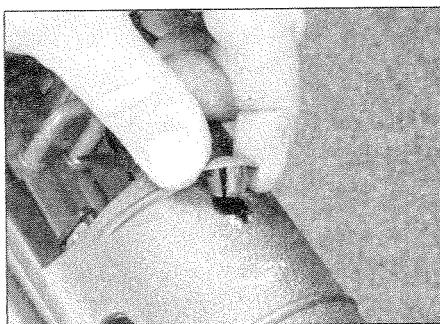
12 Bonnet lock and safety catch - removal and refitting

Removal

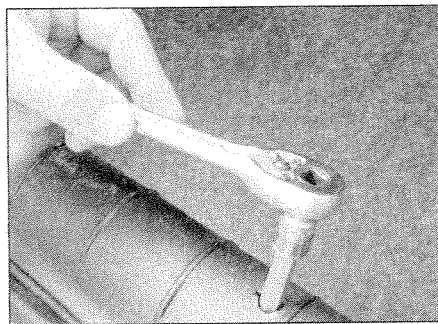
- 1 Secure the bonnet in the fully open position using the stay. Disconnect the release cable from the lock behind the engine compartment crossmember.
- 2 Unscrew the bolts and remove the lock from the crossmember.
- 3 To remove the safety catch from the bonnet, first mark its position with a soft pencil or marker pen, then unscrew the mounting bolts.

Refitting

4 Refitting is a reversal of removal. Make sure that the height adjustment pin on the safety catch enters the lock centrally. If necessary, loosen the bolts and reposition the safety catch, then retighten the bolts. With the bonnet closed, check that the front edge is level with the surrounding bodywork. If necessary, loosen the locknut and screw the height adjustment pin in or out as required, then retighten the locknut.



10.12a Remove the plastic covers ...



10.12b ... then loosen the striker mounting bolts to adjust the striker

Also check that the rubber buffers hold the front corners of the bonnet firmly - screw them in or out as required.

13 Bonnet release cable - removal and refitting

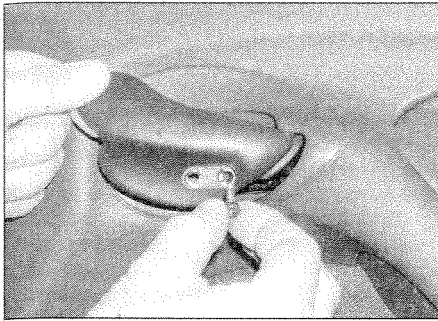
Note: This Section describes the removal of the bonnet release cable on 1.4 litre models. The procedure is similar on other models.

Removal

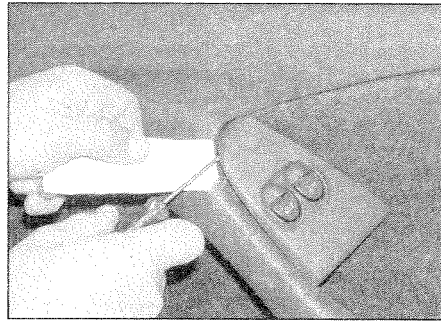
- 1 At the rear of the engine compartment, remove the air inlet duct from between the air cleaner and throttle housing. To do this, loosen the clip at the air cleaner end, then unscrew the nuts and lift the adapter from the throttle housing. Also disconnect the crankcase ventilation hose from the adapter.
- 2 Unscrew the nut and remove the relay unit protective cover, then unbolt the relay unit from the bulkhead and position it to one side.
- 3 Prise out the stud, and fold back the noise insulation from the right-hand side of the rear engine panel.
- 4 Unscrew the nut retaining the bonnet release cable to the bulkhead and remove the guide block.
- 5 Disconnect the bonnet release cable from the lock behind the engine compartment front crossmember, by unhooking the inner cable from the lever and releasing the outer cable from the lock housing.
- 6 Working around the engine bay, extract the cable from its securing clips. Also, release the cable from the clip located beneath the injection control unit on the bulkhead.
- 7 Working beneath the steering wheel, disconnect the inner cable from the release lever by first extracting the cap and moving the cable through the large hole. Also detach the outer cable from the support.
- 8 Tie a length of string to the cable, and withdraw it into the engine compartment. Untie the string and withdraw the cable from the car.

Refitting

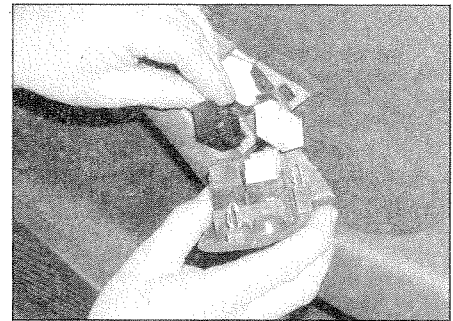
9 Refitting is a reversal of removal. On completion, close the bonnet to check that it locks securely. If necessary, adjust the lock as described in Section 12.



14.1 Removing the interior door handle from the operating lever



14.2a Prise out the electric window switch panel ...



14.2b ... and disconnect the wiring

14 Door inner trim panel - removal and refitting



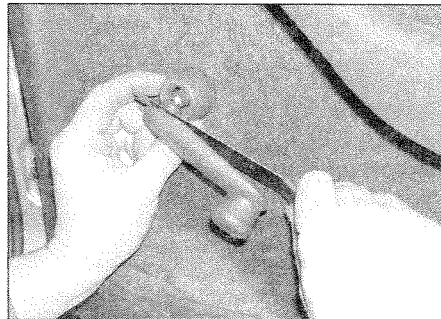
Removal

1 Undo the screws and remove the interior door handle from the operating lever (see illustration).

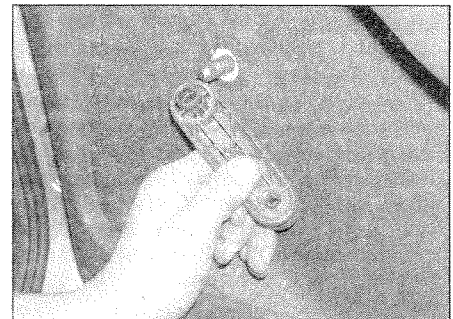
2 On the front doors of models with electric windows, use a screwdriver to carefully prise out the electric window switch panel from the trim panel, then disconnect the wiring. Use a piece of card or cloth to protect the panel while levering on it (see illustrations). On models with manually-operated windows, remove the handle as described for the rear door panel in the following paragraph.

3 On the rear doors, note the position of the window regulator handle when the window is shut, then release the spring clip securing the handle to the regulator shaft by drawing a piece of cloth behind the handle. This will release the spring clip and allow the handle to be removed from the splined shaft. Alternatively, obtain a special removal tool from a car accessory shop and release the spring clip by inserting the tool in line with the end of the handle (see illustrations).

4 Using an Allen key undo the screws securing the trim panel to the door (including the two middle ones on the front door). On the rear door, remove the cover for access to the screw located by the remove door handle (see illustrations).



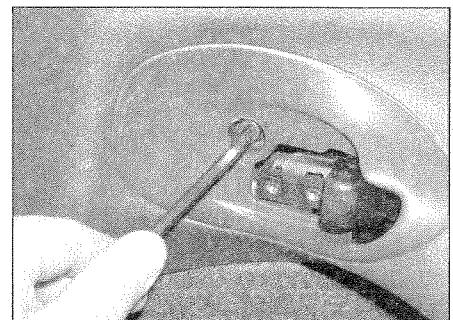
14.3a Using a special removal tool to release the rear door window regulator handle from its splined shaft



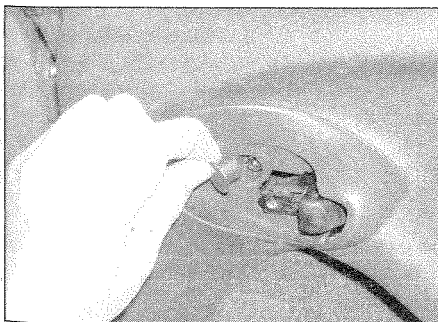
14.3b Showing the rear of the window regulator handle



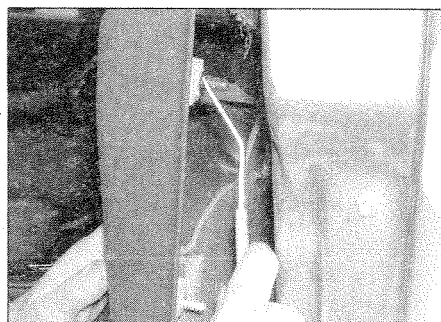
14.4a Removing the inner trim panel front screws ...



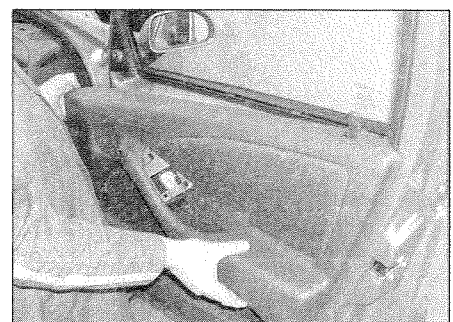
14.4b ... and middle screws (front door)



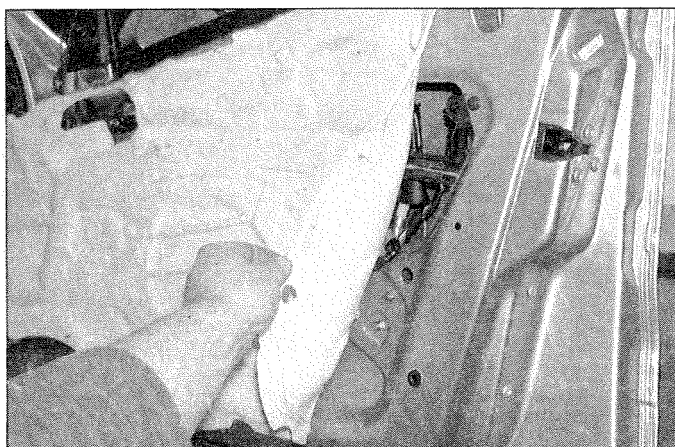
14.4c Removing the cover (rear door)



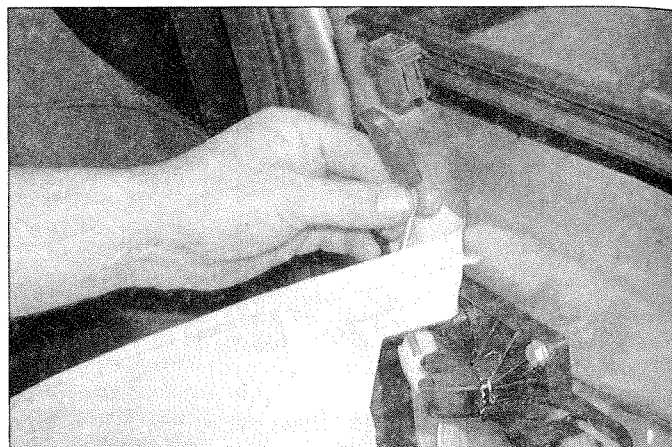
14.5a Using a special tool to prise the inner trim panel from the door



14.5b Lifting the inner trim panel from the door



14.7a Removing the plastic sealing sheet from the inside of the front door



14.7b On the rear door, release the plastic sealing sheet from the locking knob

7 If work is to be carried out on the door internal components, it will be necessary to remove the plastic sealing sheet from the inside of the door. First remove the loudspeaker from the door as described in Chapter 12. Starting at one corner of the sheet, carefully peel it away, using a sharp blade to cut the sealant bead where necessary. On the rear door, release the sheet from the locking knob by lifting the glass inner moulding (see illustrations). Store the detached sealing sheet such that it cannot become contaminated with dust, to allow it to be re-used later.

Refitting

8 Refitting is a reversal of removal, but press the sealing sheet firmly onto the door so that it is sealed all around its edges. If necessary, use new sealant.

15 Door - removal, refitting and adjustment

Removal

1 Open the door. On the front doors,

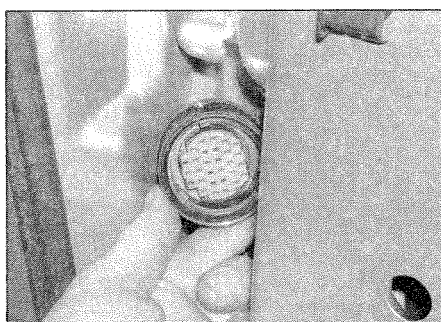
disconnect the wiring at the front edge of the door by turning the plug anticlockwise (see illustration).

2 Disconnect the check strap from the pillar by driving out the pivot pin (see illustrations). FIAT technicians use a special tool to do this, however a suitable punch may be used to remove it.

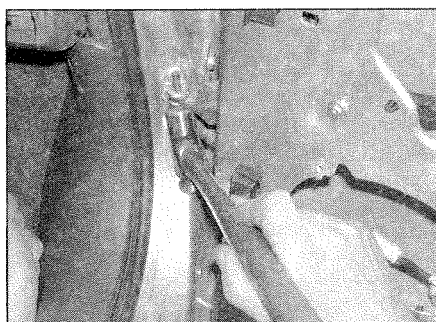
3 Unscrew and remove the hinge bolts and lift the door from the brackets on the body (see illustrations).

Refitting

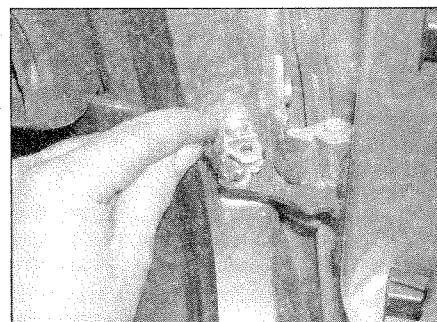
4 Refitting is a reversal of removal. On



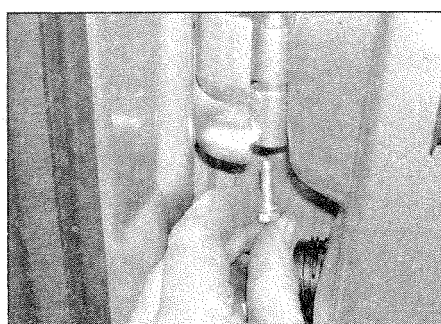
15.1 Disconnecting the wiring from the door



15.2a Tapping out the check strap pivot pin with a hammer



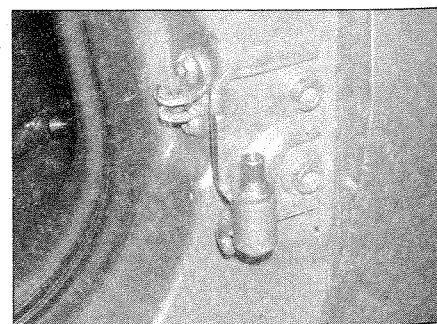
15.2b Removing the check strap pivot pin



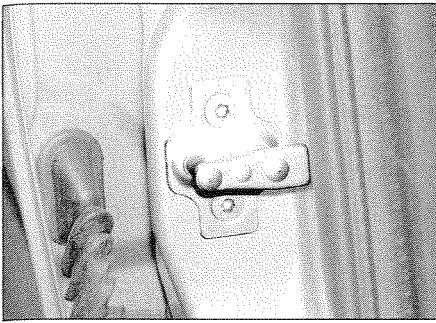
15.3a Removing the door hinge bolts



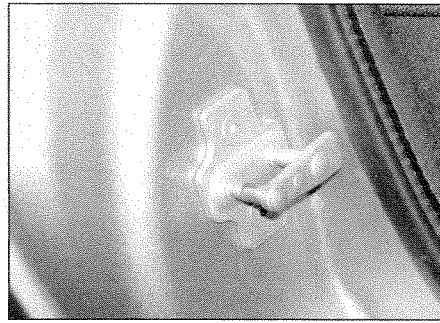
15.3b Upper hinge on body



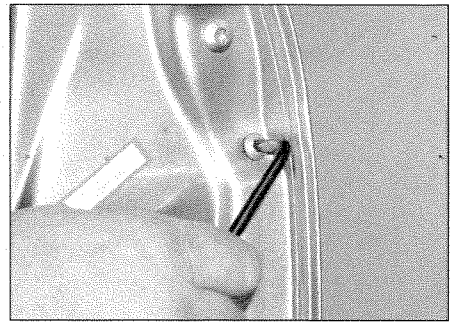
15.3c Lower hinge on body



15.6a Front door lock striker



15.6b Rear door lock striker



16.2a To remove the front door outer handle, unscrew the screw from the rear edge of the door ...

completion, tighten the hinge bolts to the specified torque. Check the adjustment of the door as follows.

Adjustment

5 Initially close the door carefully, in case the alignment is incorrect, which may cause scratching on the door or the body, and check the fit of the door with the surrounding panels. If adjustment is required, loosen the socket-headed hinge-to-door bolts then reposition the door as required and retighten the bolts to the specified torque. FIAT technicians use a special bent spanner to do this, due to the position of the bolts, however, it may be possible to make up a suitable tool locally.

6 Check the operation of the door lock. If

necessary, slacken the securing bolts, and adjust the position of the lock striker on the body pillar to achieve satisfactory alignment (see illustration). Tighten the bolts securely on completion.

16 Door handle and lock components - removal and refitting



Outer door handle

Removal

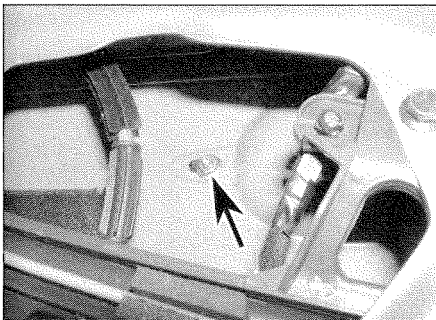
1 Refer to Section 14 and remove the door inner trim panel and sealing sheet.

2 Unscrew the handle securing screw from the rear edge of the door, then unscrew the nut securing the handle to the door, using a socket through the aperture in the inner door panel (see illustrations).

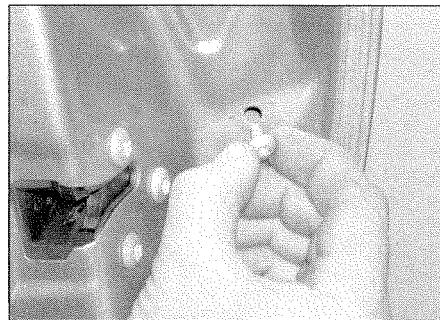
3 Carefully swivel out the front of the handle, then use a screwdriver release the clips and disconnect the operating rods from the handle. Alternatively, on the rear door release the plastic adjustment clip from the operating rod inside the door. Withdraw the handle from the door (see illustrations).

Refitting

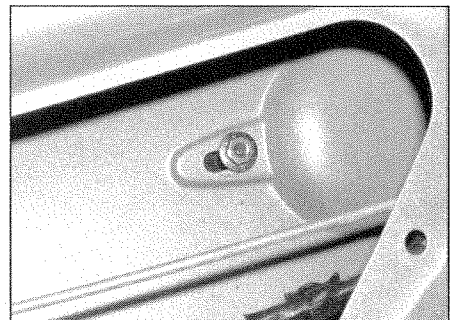
4 Refitting is a reversal of removal, but check



16.2b ... and the nut located through the aperture in the door panel



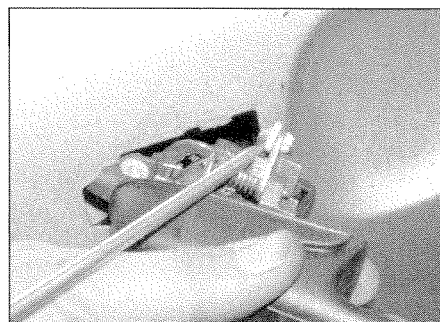
16.2c To remove the rear door outer handle, unscrew the screw from the rear edge of the door ...



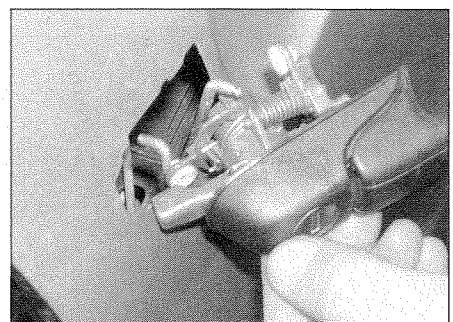
16.2d ... and the nut located through the aperture in the door panel ...



16.2e ... then swivel out the handle and release the plastic adjustment clip inside the door



16.3a Using a screwdriver ...



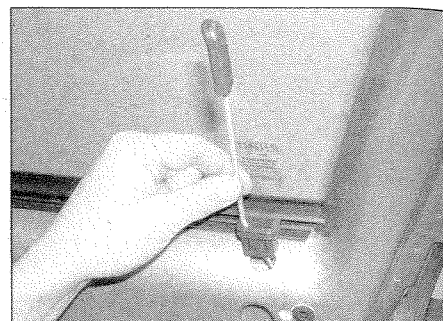
16.3b ... to disconnect the operating rods from the front door exterior handle



16.10 Removing the security cover from the front door lock operating rods



16.11 Removing the front door lock mounting screws



16.12a Removing the front door lock locking handle

the operation of the door lock before refitting the inner door panel. On the rear door, refit the handle then refit the plastic adjustment clip onto the operating rod.

Outer door lock barrel (driver's door)

Removal

5 Remove the outer door handle as described in paragraphs 1 to 3.

6 Insert the ignition key in the barrel, then carefully extract the retaining spring.

7 With the spring removed, withdraw the barrel from the handle.

Refitting

8 Refitting is a reversal of removal.

Door lock

Removal

9 Remove the outer door handle as described in paragraphs 1 to 3.

10 Undo the screws and remove the security cover from the operating rods (see illustration). If the screws do not unscrew from the inner nuts, the nuts may be turning in the plastic cover, in which case the cover should be pulled from them. After removing the cover, the nuts can be super-glued in position again for refitting.

11 From the rear edge of the door, unscrew and remove the three lock mounting screws (see illustration).

12 Release the clips and disconnect the operating rods (including the locking handle) from the lock. The remote inner door handle

operating rod can be disconnected from the inner handle. Disconnect the wiring plugs (after removing the cover on the front door) and withdraw the lock from inside the door (see illustrations).

Refitting

13 Refitting is a reversal of removal.

Inner door handle

Removal

14 Refer to Section 14 and remove the door inner trim panel and sealing sheet.

15 Unscrew the inner door handle mounting nuts, then withdraw the handle and disconnect the operating rod.

Refitting

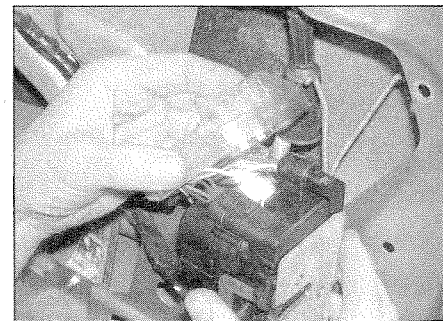
16 Refitting is a reversal of removal.



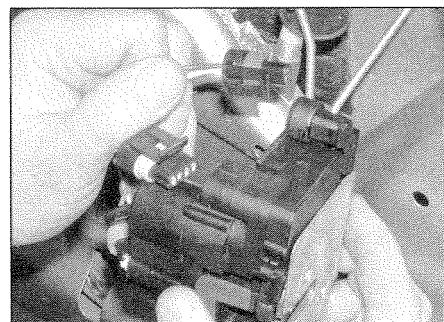
16.12b Disconnecting the remote inner door handle operating rod from the front door exterior handle



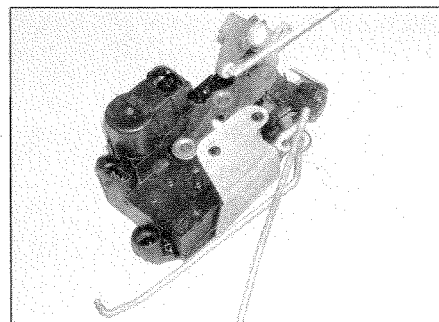
16.12c Disconnect the main wiring plug ...



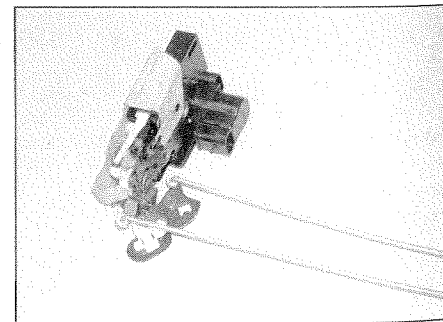
16.12d ... then remove the cover ...



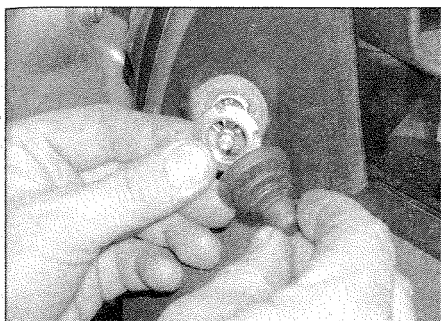
16.12e ... and disconnect the remaining wiring plug (front door)



16.12f The front door lock removed from the door



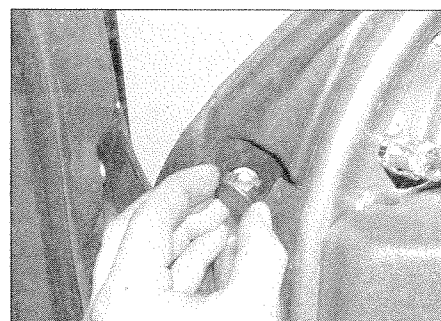
16.12g The rear door lock removed from the door



17.2 Removing the rubber boot and collar from the exterior mirror control knob



17.3 Removing the triangular trim



17.4a Remove the cover ...

17 Exterior mirror components - removal and refitting



Mirror assembly (manually operated)

Removal

- 1 Carefully remove the rubber boot from the exterior mirror control knob.
- 2 Unscrew the locking collar and release the control knob from the door (see illustration). Note that the collar has four cut-outs on its perimeter. If a suitable tool is not available to engage the collar, use a punch to loosen it.
- 3 Using a screwdriver, carefully prise the triangular trim from the inside of the door (see illustration).
- 4 Support the exterior mirror, then unscrew the mounting bolts and withdraw the mirror from the outside of the door. Note that one of the mounting bolts is located behind a cover on the front edge of the door (see illustrations).

Refitting

- 5 Refitting is a reversal of removal.

Mirror assembly (electrically operated)

Removal

- 6 With the front door open, carefully prise off the triangular trim on the inside of the mirror location.
- 7 Disconnect the wiring plug leading to the mirror.
- 8 Support the exterior mirror, then unscrew the mounting bolts and withdraw the mirror from the outside of the door. Note that one of the mounting bolts is located on the front edge of the door.

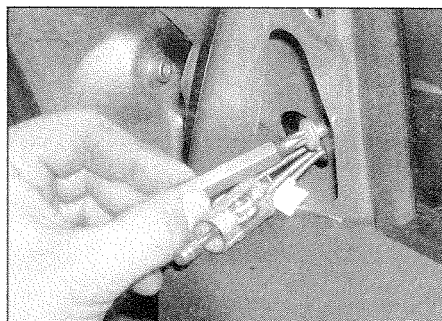
Refitting

- 9 Refitting is a reversal of removal.

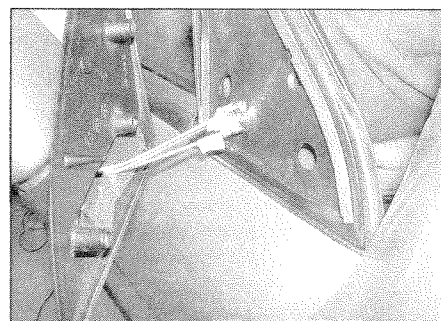
Mirror glass

Removal

- 10 Insert a suitable thin plastic or wooden



17.4b ... then unscrew the mounting bolts ...



17.4c ... and withdraw the mirror from the outside of the door

tool between the mirror glass and the mirror body, and carefully lever out the glass to release it from the securing clips (see illustrations).



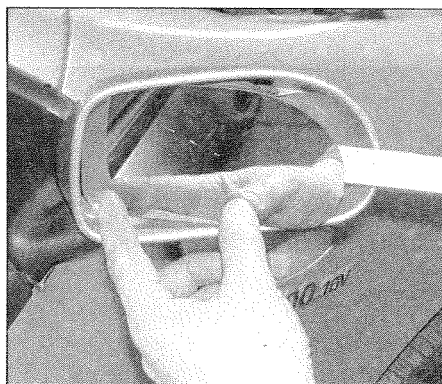
Warning: Protect your hands and eyes from glass splinters.

Refitting

- 11 Carefully push the glass into position to engage the securing clips.



To aid refitting, lightly grease the securing clips on the rear of the mirror glass.



17.10a Use a plastic or wooden tool to prise out the mirror glass



17.10b The mirror has securing clips attached to its rear surface

18 Door window glass and regulator - removal and refitting



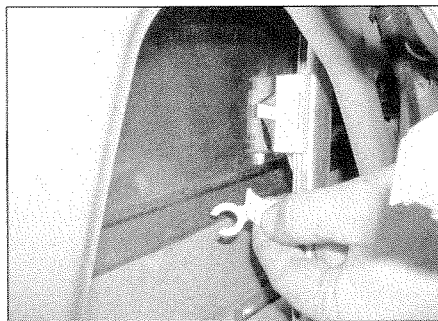
Front door window glass

Removal

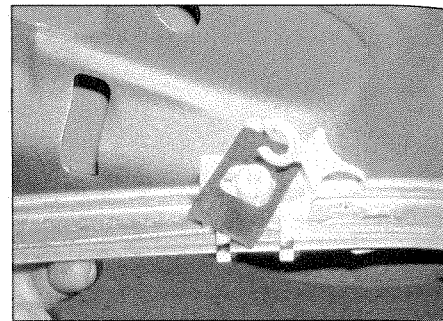
- 1 Switch on the ignition, then position the window glass half open.
- 2 Remove the door inner trim panel and the sealing sheet, as described in Section 14.
- 3 Working through the aperture in the door inner panel, pull down the plastic fastener clip and release the window glass from the pin on the regulator arm. The clip is on the end of a loop and a pair of pliers may be used to pull



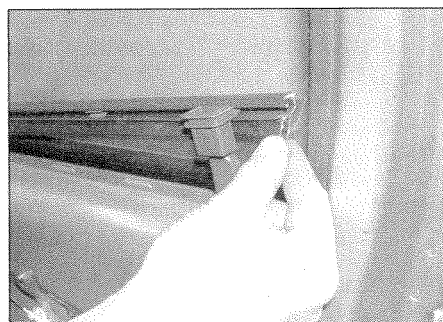
18.3a Using a pair of pliers to unclip the plastic fastener that secures the front window glass to the regulator mechanism



18.3b The plastic clip removed from the end of the plastic pin



18.3c The front window glass has a hole which engages with the plastic pin on the regulator mechanism



18.5a Remove the front door inner moulding ...



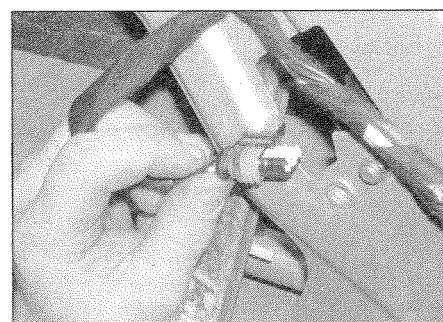
18.5b ... and outer moulding ...



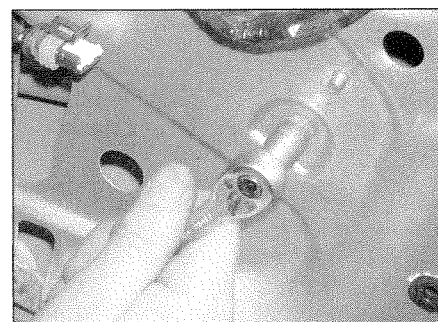
18.5c ... then pull up the rear window glass moulding from the rear guide channel



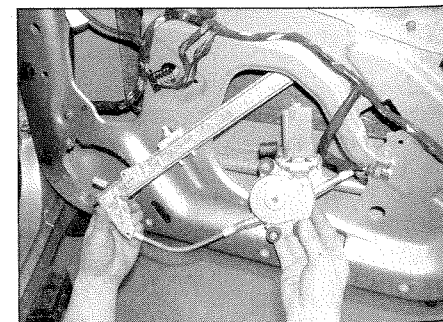
18.6 Tilt the front window glass forwards and remove it upwards



18.9a Disconnect the wiring ...



18.9b ... then unscrew the bolts ...



18.9c ... and withdraw the front door window regulator and motor

down the loop, however, take care not to break the plastic (**see illustrations**). If it is tight, spray the clip with a little WD-40 before removing the clip. Support the glass on a block of wood, or use adhesive tape to hold it in its raised position.

4 Unbolt and remove the security plate.

5 Carefully remove the inner and outer mouldings from the upper section of the door, then lower the window and pull up the rear window glass rubber guide moulding from the rear guide channel (**see illustrations**).

6 Tilt the window glass forwards and withdraw the upper rear corner of the glass from the outside of the door (**see illustration**).

Refitting

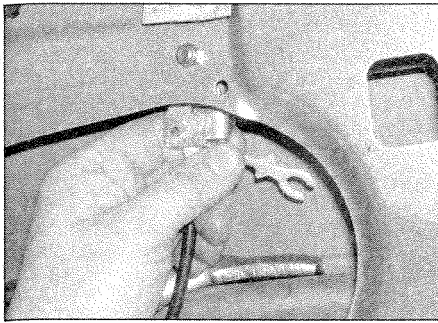
7 Refitting is a reversal of removal. Before refitting the inner trim panel, check the operation of the window by temporarily reconnecting the switch wiring and switching on the ignition.

Front door window regulator

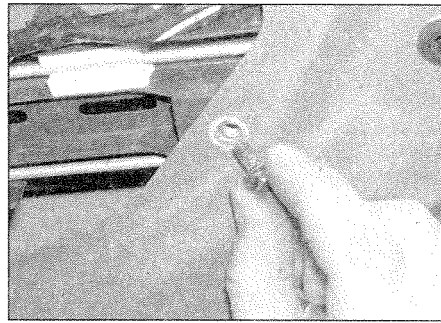
Removal

8 Remove the window glass as described in paragraphs 1 to 5.

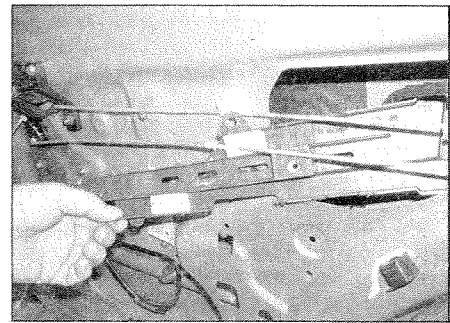
9 Disconnect the wiring from the motor on electrically-operated windows, then unscrew the 5 regulator mounting bolts, then withdraw the regulator complete with motor through the aperture in the door inner panel (**see illustrations**).



18.13 Disconnecting the plastic clip from the end of the plastic pin



18.14a Unscrew the bolts ...



18.14b ... and remove the security plate from the rear door

Refitting

10 Refitting is a reversal of removal.

Rear door window glass

Removal

11 Fully open the window and note the position of the regulator handle.

12 Remove the door inner trim panel and the sealing sheet, as described in Section 14.

13 Working through the aperture in the door inner panel, pull down the plastic fastener clip and release the window glass from the pin on the regulator arm (see illustration). If it is tight, spray the clip with a little WD-40 before removing the clip. Support the glass on a block of wood, or use adhesive tape to hold it in its raised position.

14 Unbolt and remove the security plate (see illustrations).

15 Remove the window glass rear guide channel by unscrewing the retaining bolts located on the rear edge of the door and on the inner panel (see illustrations).

16 Carefully remove the inner and outer mouldings from the upper section of the door. Unbolt the outer triangular plastic cover, then lower the window and pull up the rear window glass rubber guide moulding (see illustrations).

17 Lift the window glass and withdraw it from the outside of the door (see illustration).

Refitting

18 Refitting is a reversal of removal. Before refitting the inner trim panel, check the

operation of the window by temporarily refitting the regulator handle.

Rear door window regulator

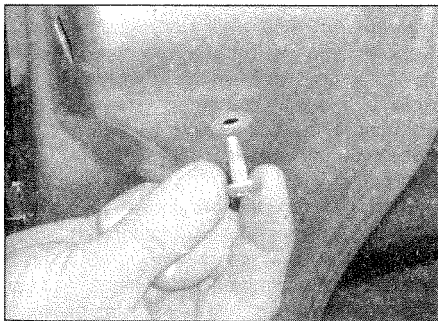
Removal

19 Fully open the window and note the position of the regulator handle.

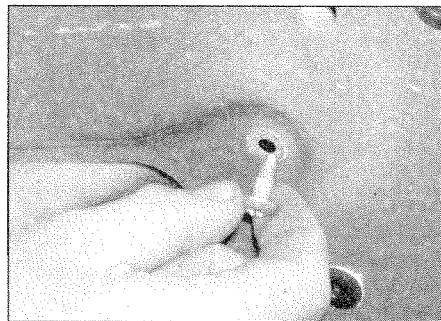
20 Remove the door inner trim panel and the sealing sheet, as described in Section 14.

21 Working through the aperture in the door inner panel, pull down the plastic fastener clip and release the window glass from the pin on the regulator arm. If it is tight, spray the clip with a little WD-40 before removing the clip. Support the glass on a block of wood, or use adhesive tape to hold it in its raised position.

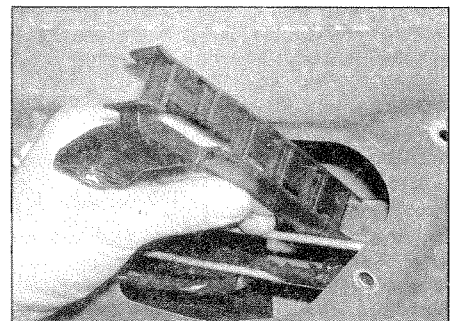
22 Unbolt and remove the security plate.



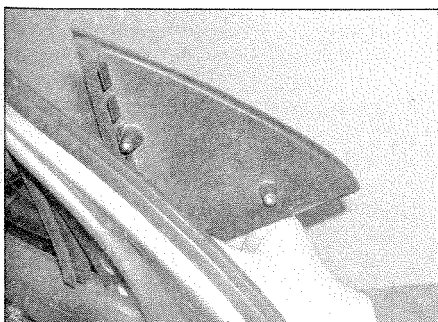
18.15a Unscrew the rear bolt ...



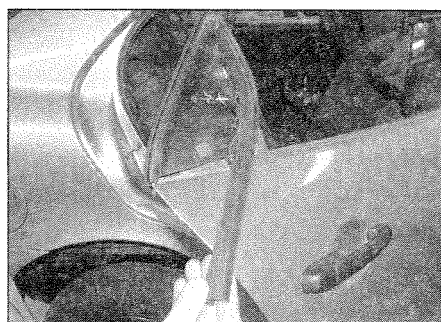
18.15b ... and inner panel bolt ...



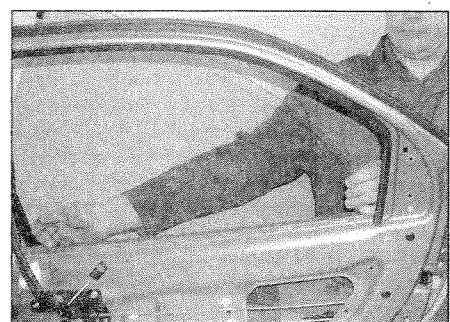
18.15c ... and remove the rear window glass rear guide channel from the door



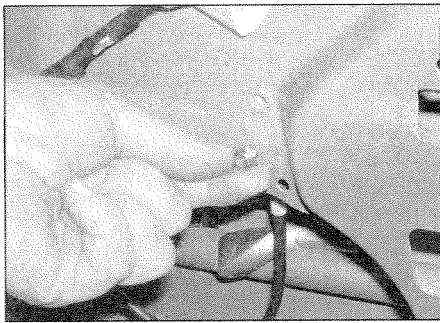
18.16a Remove the triangular plastic cover ...



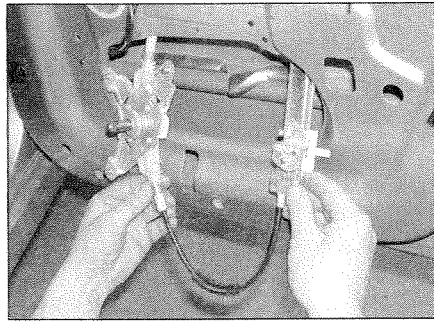
18.16b ... then pull up the rear window glass rubber guide moulding



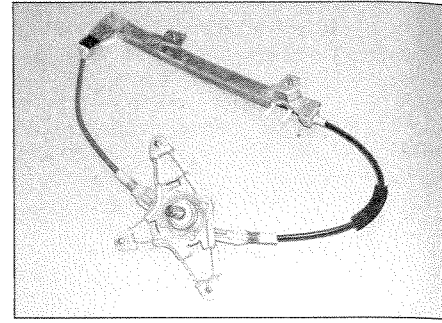
18.17 Removing the rear door window glass



18.23a Unscrew the mounting nuts . . .



18.23b . . . and withdraw the regulator through the aperture in the door inner panel



18.23c The rear door window regulator

23 Unscrew the 5 regulator mounting nuts, then withdraw the regulator through the aperture in the door inner panel (see illustrations).

Refitting

24 Refitting is a reversal of removal.

19 Seats - removal and refitting

Front seats

Removal

1 On models fitted with a side airbag and presence sensor in the front passenger seat, disconnect the battery (see *Disconnecting the battery*) then wait approximately 10 minutes before proceeding. This is necessary to ensure the airbag system is completely deactivated and safe.

2 The front seats are secured to the floorpan by four bolts. First, adjust the seat towards the rear of the car to gain access to the two bolts at the front, then unscrew and remove them (see illustration).

3 Adjust the seat fully forwards, then unscrew and remove the two rearmost bolts (see illustration).

4 Tilt the seat backwards for access to its underside. As applicable, disconnect the wiring from the seat heater, lumbar adjuster, and side airbag. Prise off the safety cap and

remove the connector flap, then disconnect the wiring.

5 Lift the seat out of the passenger area. Do not lift on the adjustment bar, otherwise the seat runners may be misaligned.

Refitting

6 Refitting is a reversal of removal. Note that the location pin on the rear of the mounting runner engages with a hole in the floor (see illustration). When reconnecting the battery on models with a side airbag and presence sensor, ensure there is no one inside the vehicle, as a precaution against accidental activation of the airbag. With the driver's door open, reach inside and turn on the ignition, then check the operation of the airbag warning light.

Rear seat backrest

Removal

7 Lower the rear seat backrest onto the cushion, then undo the row of screws securing the luggage compartment floor covering to the bottom of the backrest. Carefully prise out the buttons and fold back the floor covering.

8 At the outer lower corners, undo the two screws on each side securing the backrest to the brackets.

9 Lift the backrest from the passenger area.

Refitting

10 Refitting is a reversal of removal.

Rear seat cushion

Removal

11 Using an Allen key, unscrew and remove the bolts from the mounting brackets on the front edge of the cushion.

12 Lift the rear seat cushion and remove it from the passenger area.

Refitting

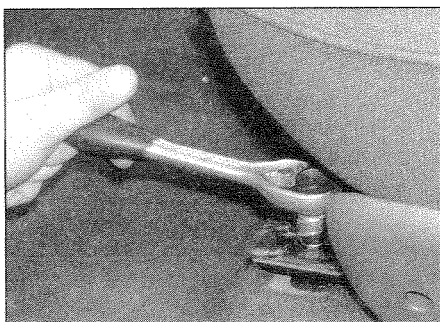
13 Refitting is a reversal of removal.

20 Seat belt components - precautions, removal and refitting

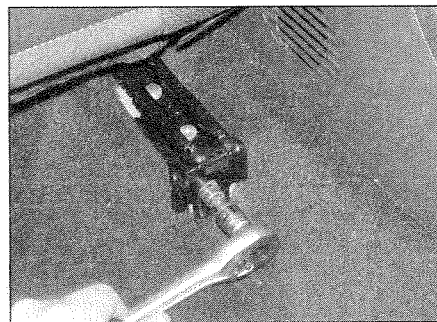
Precautions

1 All models covered in this manual are fitted with a front seat belt automatic tensioner system which is integrated in the reel. The tensioner is triggered by a frontal impact above a pre-determined force. Lesser impacts, including impacts from behind, will not trigger the system.

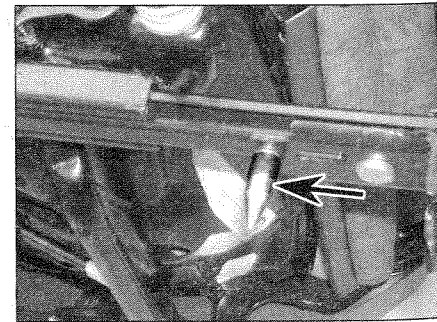
2 When the system is triggered, an internal mass moves to release a gas generator which is forced under spring tension against a percussion pin. This causes combustion of the pyrotechnic charge which forces a piston upwards to the top of the expansion chamber. Attached to the piston is a rod which is wrapped around the reel pulley at its other end, and this retracts and locks the seat belt



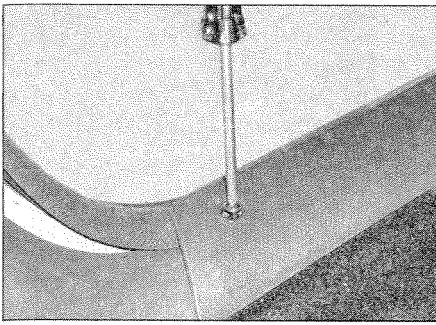
19.2 Unscrewing the front mounting bolts from the front seat



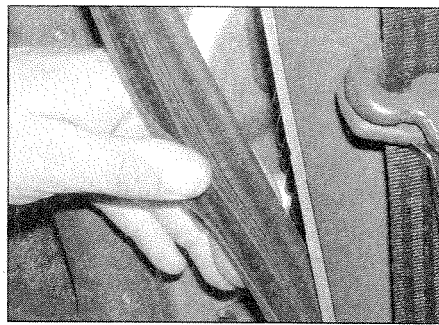
19.3 Unscrewing the rear mounting bolts from the front seat



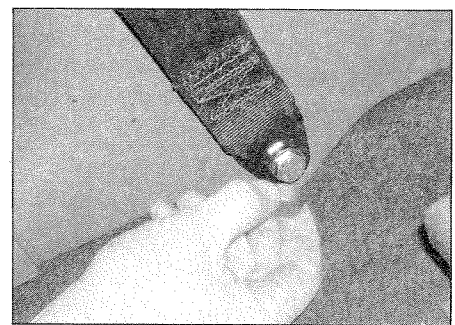
19.6 Location pin on the front seat mounting runner



20.11 Removing the door kick-panels



20.12 Pull the door weatherstrips away from the B-pillar



20.13a Prise off the cover ...

inertia reel in position, holding the front seat occupants firmly in position. Once the tensioner has been triggered, the seat belt will be permanently locked and the assembly must be renewed.

3 To prevent the risk of injury, note the following warnings before contemplating any work on the front seat belts.



Warning: If the seat belt/tensioner mechanism is dropped from a height of 1 metre or more, it must be renewed, even if it has suffered no apparent damage. Do not allow any solvents to come into contact with the tensioner cylinder. Do not subject the tensioner cylinder/inertia reel to any form of shock as this could accidentally trigger the mechanism. Do not subject the tensioner cylinder to temperatures in excess of 110°C

Front seat belts

Removal

3-door models

1 Undo the screws and remove the front door kick-panel. The front screw is located beneath the facia and the rear one is located at the bottom of the B-pillar.

2 At the base of the B-pillar undo the screw securing the trim, then prise off the covers, and unscrew the bolts securing the seat belt rail to the side panel.

3 On models with ABS, remove the rear seat cushion as described in Section 19, then disconnect the wiring leading to the rear ABS sensor.

4 Pull out the door weatherstrip from the rear side panel.

5 Undo the screws securing the rear side panel to the sill panel.

6 Prise off the cover and unscrew the bolt securing the seat belt to the floor.

7 Prise out the covers and unscrew the side trim screws. Also unbolt the rear seat lock. Withdraw the side trim.

8 Extract the clip and remove the guide pin from the B-pillar. Release the seat belt at the same time.

9 Break the plastic protective collar around the safety bracket with a screwdriver, and unbolt the bracket from the tensioner. **Note:** This will invalidate the manufacturer's guarantee. The bolt is of double-headed shear type and must be renewed together with the bracket. Note that as the bracket is removed, the tensioner will be locked to prevent accidental activation.

10 Unscrew the mounting bolt and withdraw

the tensioner from inside the B-pillar. Handle the unit very carefully and observe the warnings given at the beginning of this Section.

5-door models

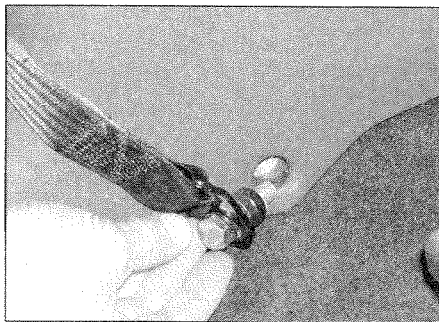
11 Undo the screws and remove the front and rear door kick-panels (see illustration). If preferred, the front panel front screw need not be removed.

12 Pull the front and rear door weatherstrips away from the B-pillar (see illustration).

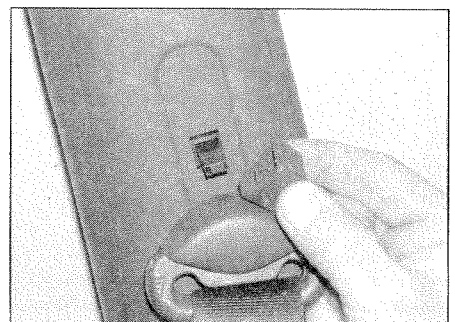
13 Prise off the cover and unscrew the bolt securing the seat belt to the inner sill panel (see illustrations).

14 Pull off the knob from the height adjustment mechanism, then prise off the cover and unscrew the nut securing the seat belt to the mechanism (see illustrations).

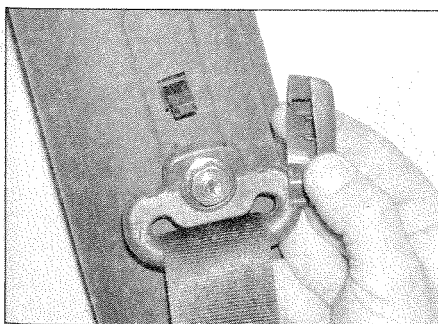
15 Remove the cover and undo the screw, then carefully prise the trim away from the B-pillar and release the seat belt from it (see illustrations).



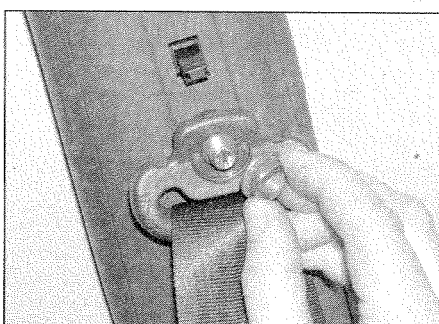
20.13b ... and unscrew the bolt securing the front seat belt to the inner sill panel



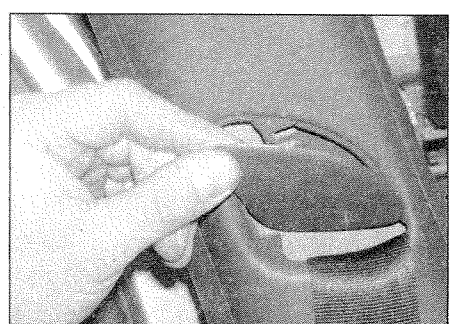
20.14a Remove the knob from the height adjustment mechanism ...



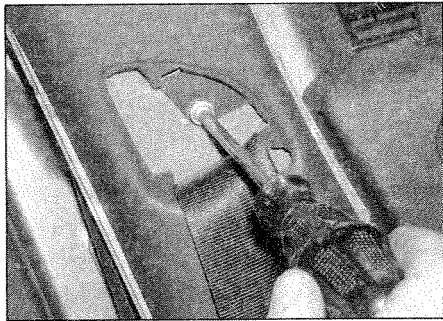
20.14b ... then prise off the cover ...



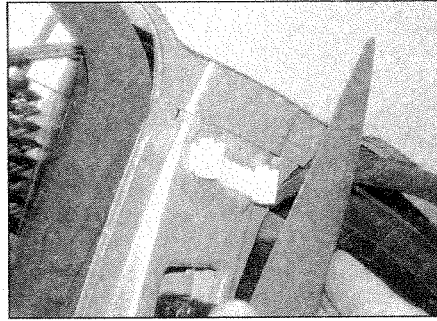
20.14c ... and unscrew the nut securing the seat belt to the mechanism



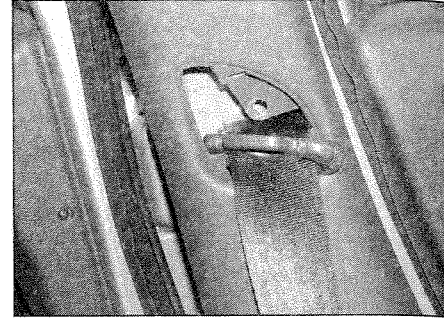
20.15a Remove the cover ...



20.15b ... undo the screw ...



20.15c ... prise away the trim ...



20.15d ... and release the seat belt from it

16 Extract the clip and remove the guide pin from the B-pillar (**see illustration**). Release the seat belt at the same time.

17 Break the plastic protective collar around

the safety bracket with a screwdriver (**see illustration**), and unscrew the reel mounting bolt which also secures the safety bracket.

Note: This will invalidate the manufacturer's

guarantee. The bolt is of double-headed shear type and must be renewed together with the bracket. Note that as the bracket is removed, the tensioner will be automatically locked to prevent accidental activation (**see illustration**).

18 Unscrew the three bolts and withdraw the reel/tensioner and bracket from the B-pillar (**see illustration**). Handle the unit very carefully and observe the warnings given at the beginning of this Section.

All models

19 To remove the stalk, unbolt it from the inside of the front seat (**see illustration**). There is no need to remove the plastic cover.

Refitting

20 Carefully locate the tensioner (and bracket on 5-door models) in the B-pillar, and tighten the mounting bolt(s).

21 Refit the safety bracket together with a new double-headed shear bolt. Tighten the shear bolt until its head breaks off. Tighten all remaining bolts securely.

22 The remaining procedure is a reversal of removal.

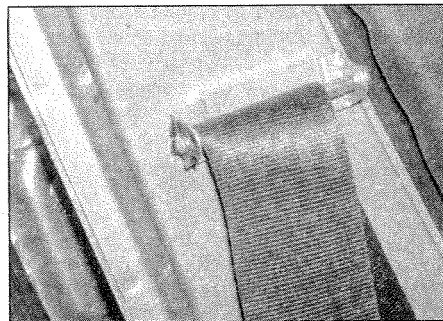
Rear seat belts

Removal

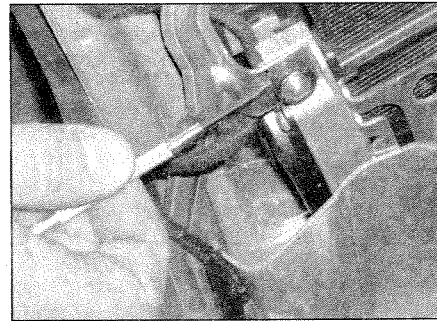
23 Fold the rear seat cushion forwards, then prise off the cover and unscrew the rear seat belt lower mounting bolt (**see illustration**).

24 Prise off the cover and unscrew the belt upper anchor mounting bolt (**see illustrations**).

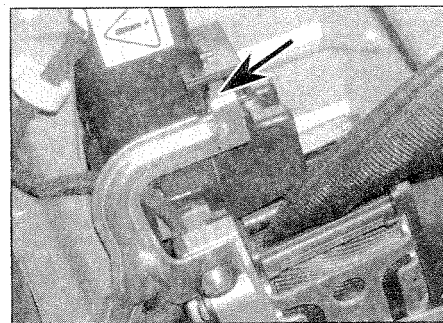
25 Carefully prise out the speaker grille from



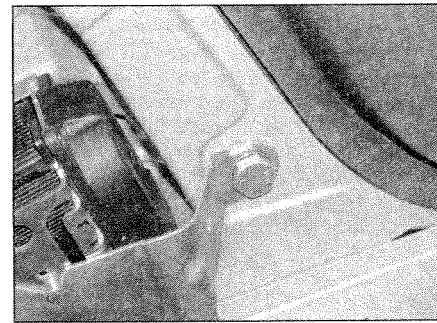
20.16 Seat belt and guide pin on the B-pillar



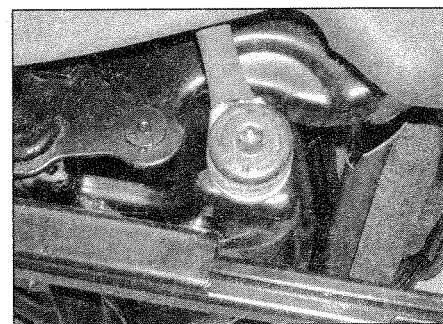
20.17a Breaking this plastic collar will invalidate the manufacturer's guarantee



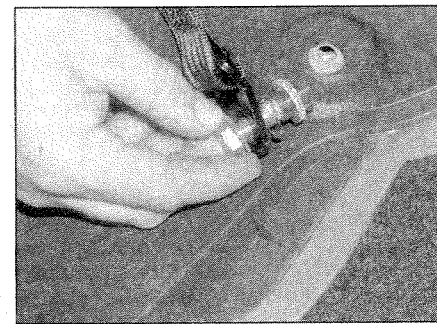
20.17b When the safety bracket is removed from the reel, the tensioner is automatically disarmed and locked



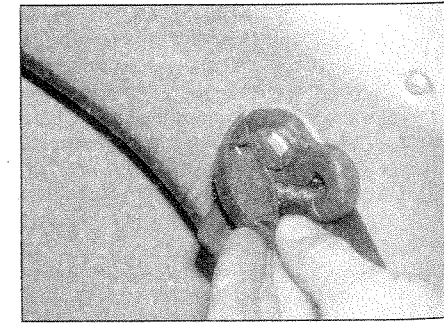
20.18 One of the bolts securing the reel and bracket to the B-pillar



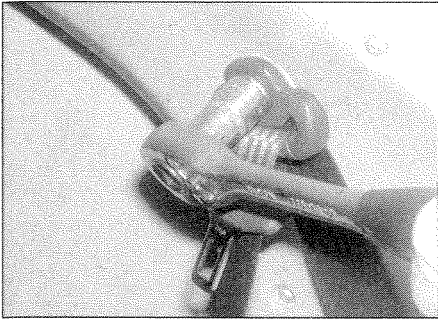
20.19 Seat belt stalk mounting bolt on the front seat



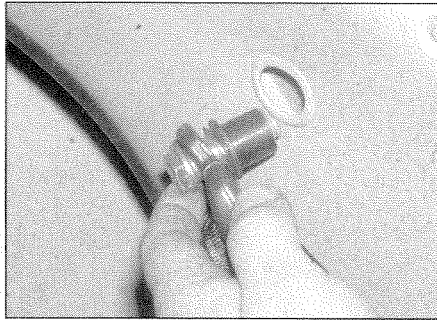
20.23 Unscrewing the rear seat belt lower mounting bolt



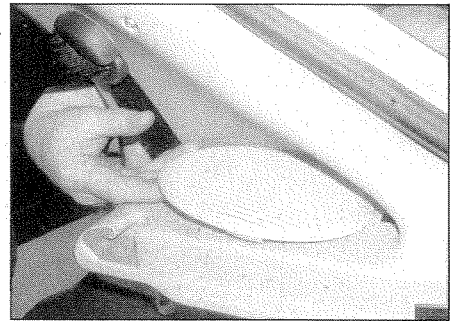
20.24a Prise off the cover ...



20.24b ... then unscrew the bolt ...



20.24c ... and remove the rear belt upper anchor mounting bolt



20.25 Removing the rear speaker grille

the side trim panel by depressing the tabs (see illustration).

26 Remove the trim panel for access to the rear seat belt reel mounting bolt (see illustration). Unscrew and remove the bolt.

27 Guide the seat belt through the hole in the rear pillar cover, and remove it complete with the reel (see illustration).

28 To remove the stalk, unbolt it from the rear floor panel beneath the rear seat cushion.

Refitting

29 Refitting is a reversal of removal, but tighten the mounting bolts securely.

21 Sunroof - general information

1 Due to the complexity of the sunroof mechanism, considerable expertise is needed to repair, replace or adjust the sunroof components successfully. Removal of the roof first requires the headlining to be removed, which is a complex and tedious operation, and not a task to be undertaken lightly. Therefore, any problems with the sunroof should be referred to a FIAT dealer.

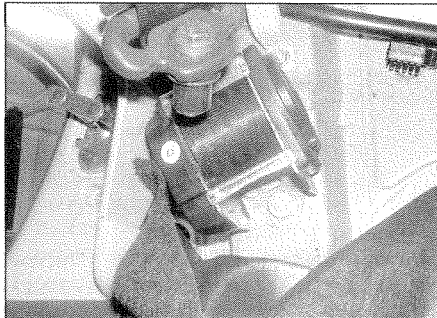
2 If the sunroof motor fails to operate, first check the relevant fuse. If the fault cannot be traced and rectified, the sunroof can be opened and closed manually as follows.

3 Carefully prise the small covers from the interior light/roof switch housing, and unscrew the two bolts.

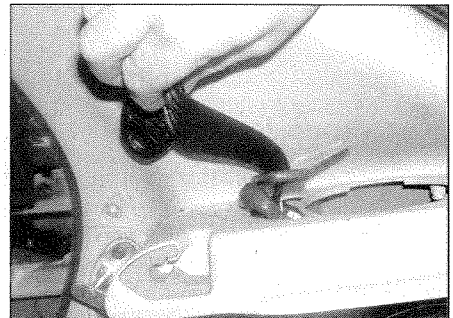
4 Remove the special key from the inside of the

courtesy light, then insert it in the drive and turn to move the roof as required (see illustrations). **5** If necessary, the sunroof motor may be removed after removing the interior light/roof switch housing by unscrewing the mounting

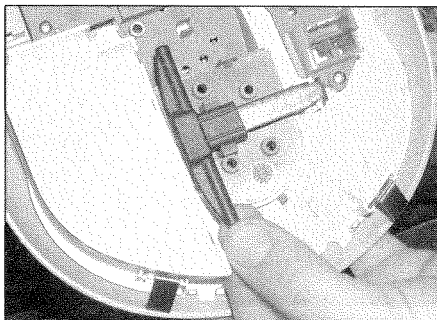
bolts/screws. The sunroof control relay is located next to the motor (see illustrations). Make sure that the motor gear is correctly engaged with the two cables before tightening the mounting bolts/screws.



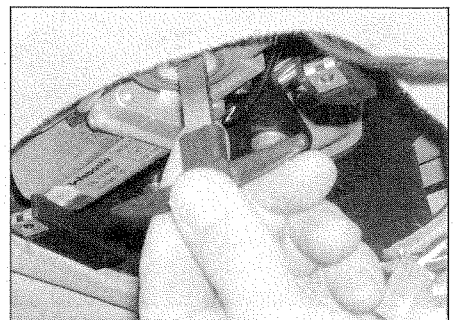
20.26 Rear seat belt reel



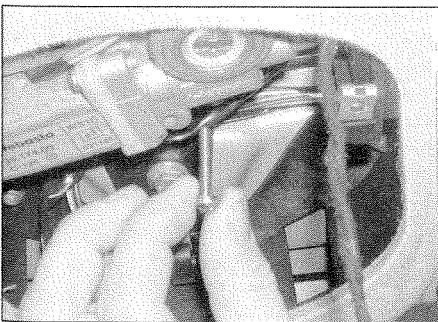
20.27 Guiding the rear seat belt through the hole in the rear pillar cover



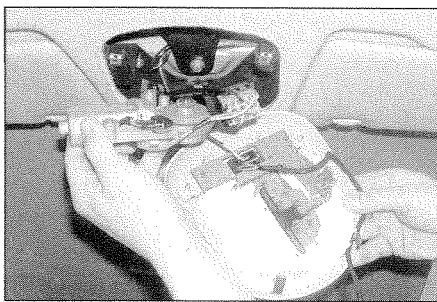
21.4a Remove the special key from the inside of the courtesy light ...



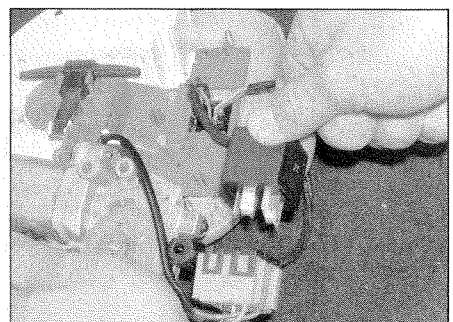
21.4b ... and insert it in the drive to move the sunroof



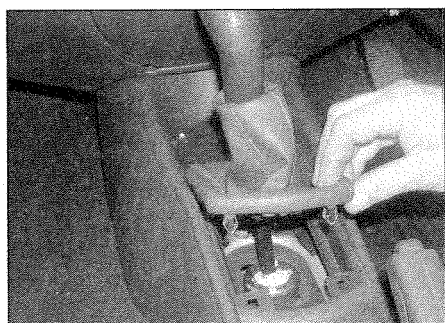
21.5a Remove the mounting bolts/screws ...



21.5b ... then lower the sunroof motor and interior light/roof switch from the headlining



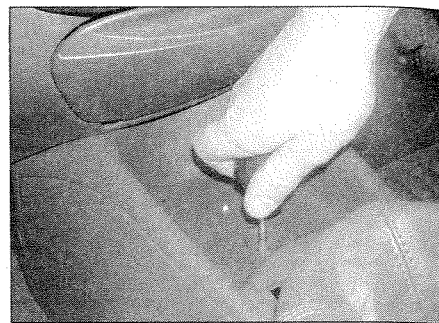
21.5c Removing the sunroof control relay



23.3 Releasing the gear lever gaiter from the floor



23.4a Remove the covering from the oddsments tray in the centre console ...



23.4b ... and undo the hidden screw

22 Windscreen, rear window glass, and fixed window - general information

1 These areas of glass are bonded in position with a special adhesive. Renewal is a difficult, messy and time-consuming task, which is beyond the scope of the home mechanic. Furthermore, the task carries a high risk of breakage; this applies especially to the laminated glass windscreen. In view of this, owners are strongly advised to have this sort of work carried out by one of the many specialist windscreen fitters.

23 Facia and centre console - removal and refitting

Removal

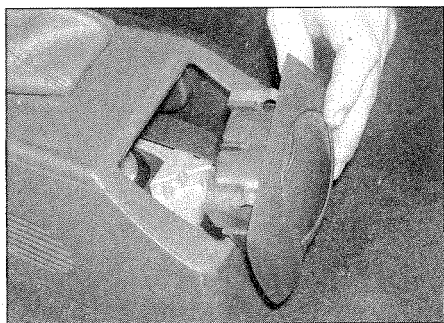
- 1 Disconnect the battery negative (earth) lead (see *Disconnecting the battery*).
- 2 Remove the combination switch from the top of the steering column as described in Chapter 12, Section 14. This procedure includes the removal of the steering wheel and shrouds.
- 3 Release the gear lever gaiter from the floor and pull it up the gear lever (see illustration).
- 4 Remove the covering from the oddsments

tray in the centre console, and undo the hidden screw (see illustrations).

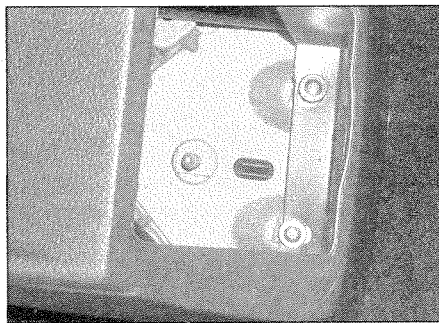
5 Prise the ashtray from the rear of the centre console, and undo the hidden screws (see illustrations).

6 Prise the electric rear view mirror switch panel or dummy panel from the centre console and unscrew the hidden screws. Disconnect the wiring where necessary (see illustrations).

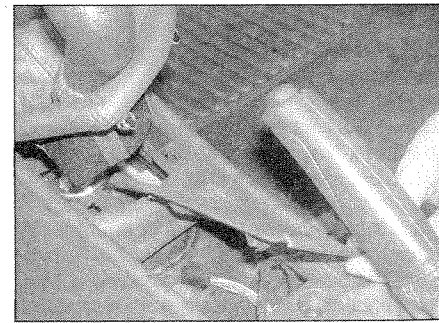
7 Release the fasteners (depress the central pins) and undo the screws, then remove the heater side covers. Release the handbrake lever gaiter and remove it from the lever, then withdraw the centre console over the handbrake lever, and remove from inside the car (see illustrations).



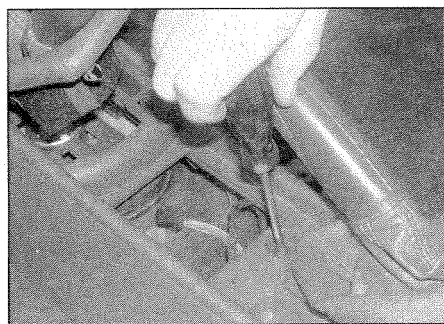
23.5a Remove the ashtray ...



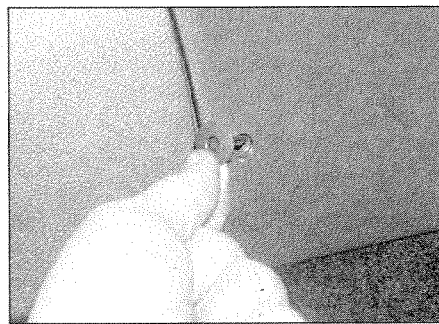
23.5b ... and undo the hidden screws



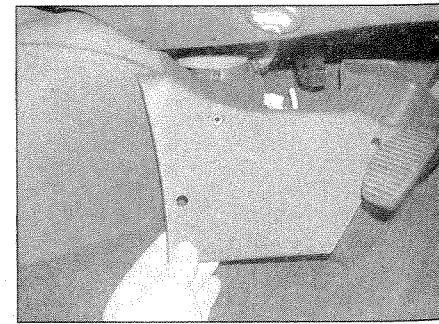
23.6a Remove the centre panel ...



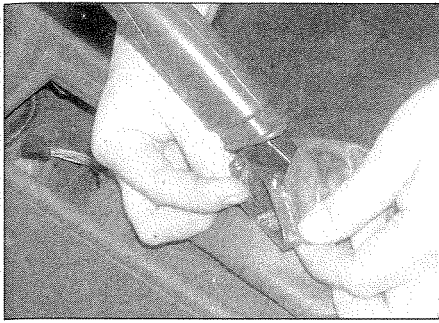
23.6b ... and unscrew the hidden screws



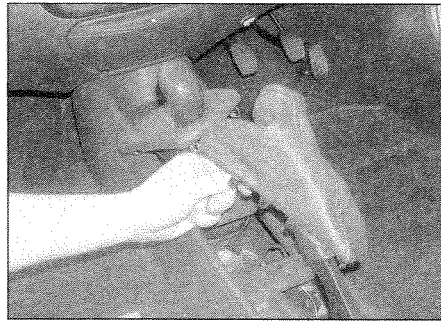
23.7a Release the fasteners and undo the screws ...



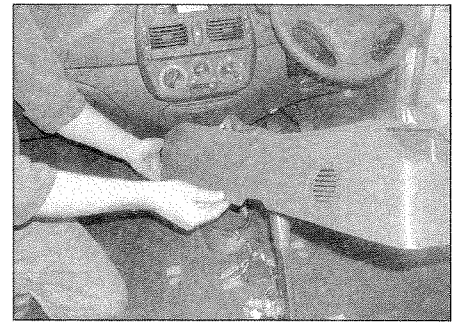
23.7b ... then remove the heater side covers



23.7c Release the handbrake lever gaiter . . .



23.7d . . . and remove it from the lever . . .



23.7e . . . then withdraw the centre console over the handbrake lever

8 Remove the cover from the fuse holder on the facia, then unscrew the facia mounting bolt accessible through the aperture.

9 Using an Allen key, unscrew the bolts and remove the cowl from the instrument panel. Note that the cowl incorporates the right-hand air vent, which has a securing screw accessed from below.

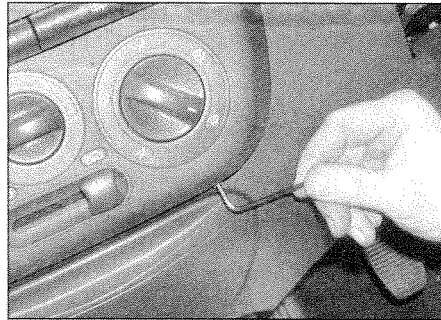
10 Undo the screws and withdraw the instrument panel from the facia sufficient to disconnect the rear-mounted wiring lugs. With the wiring disconnected, withdraw the instrument panel from the facia.

11 Remove the radio/cassette player as described in Chapter 12.

12 Open the ashtray, then unscrew the heater control panel surround mounting screws. There are two above the ashtray aperture and four in the radio aperture (see illustrations).

13 Carefully pull off the heater ventilation centre control knob (taking care not to drop the retaining spring clip), using a pair of pliers and a piece of card to protect the knob. Unscrew the panel mounting screw located beneath it (see illustrations).

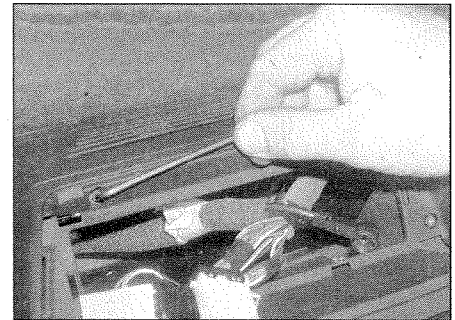
14 Using a small screwdriver, carefully prise out the small covers from each end of the facia switches located above the heater control knobs (see illustration). Also, prise out the cover at the centre of the switches and



23.12a Heater control panel surround mounting screws above the ashtray . . .

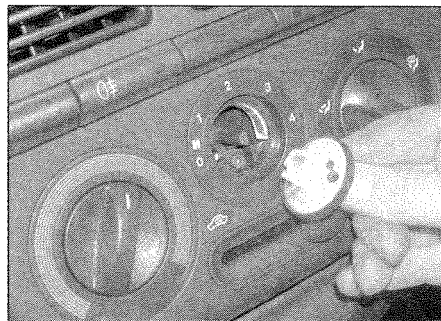
remove the hazard switch (see Chapter 12, Section 14).

15 Undo the screws and withdraw the switch



23.12b . . . and in the radio aperture

panel from the front of the facia. Disconnect the wiring and remove the switches from the facia (see illustrations).



23.13a Pull off the heater ventilation centre control knob . . .



23.13b . . . and undo the screw located beneath it



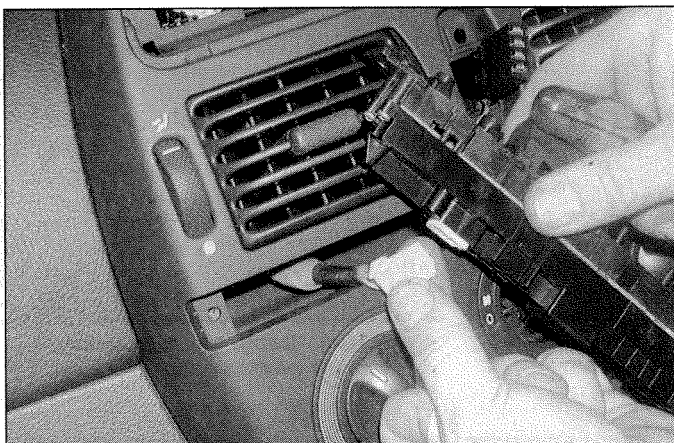
23.14 Prise out the small covers . . .



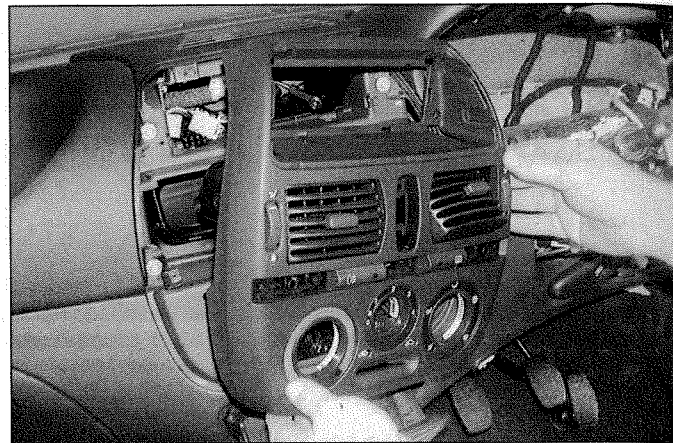
23.15a Undo the screws . . .



23.15b . . . and withdraw the switch panel from the front of the facia . . .



23.15c ... then disconnect the wiring



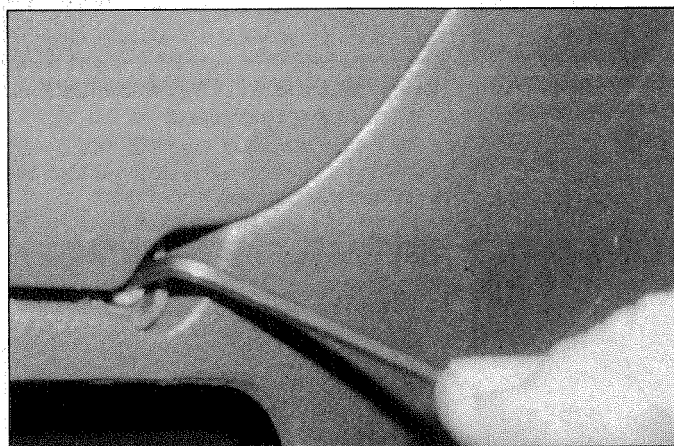
23.16 Withdrawing the heater control panel surround from the fascia

16 Withdraw the heater control panel surround from the fascia (**see illustration**).

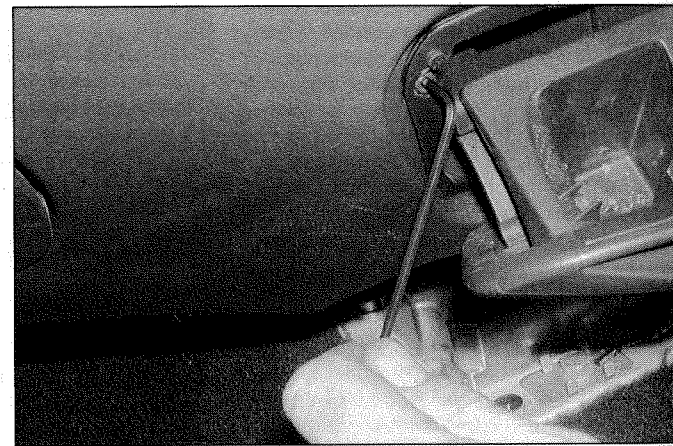
17 With the ashtray closed, undo the lower mounting screws, then open the ashtray lid

and unscrew the upper mounting screws. Withdraw the ashtray from the fascia and disconnect the wiring from the cigar lighter (**see illustrations**).

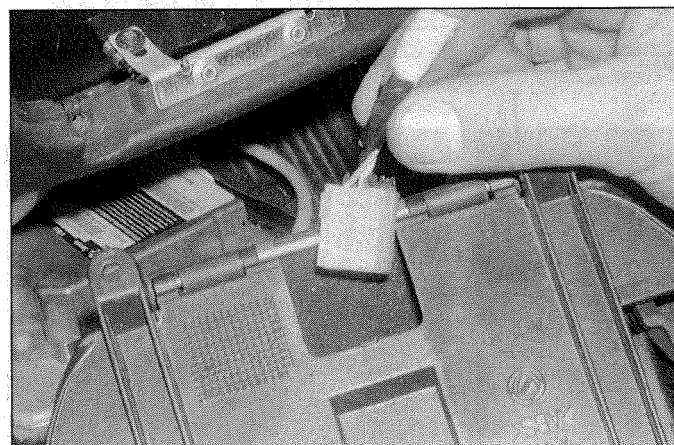
18 Working through the ashtray aperture, unscrew the fascia mounting screws securing the fascia to the heater housing (**see illustration**).



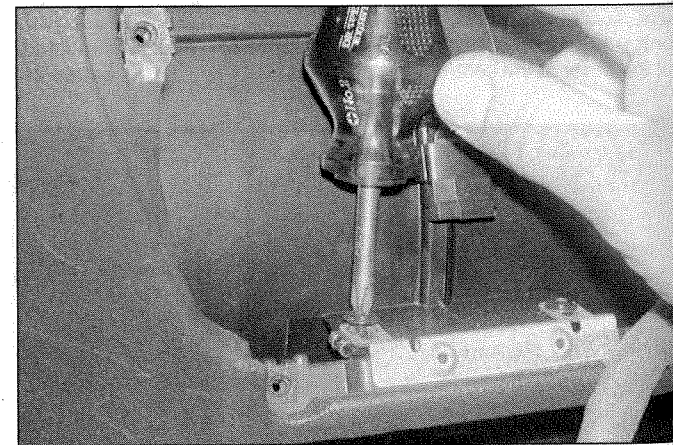
23.17a With the ashtray closed, undo the lower mounting screws ...



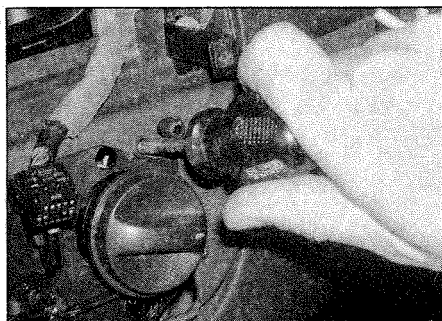
23.17b ... then open the ashtray and unscrew the upper mounting screws



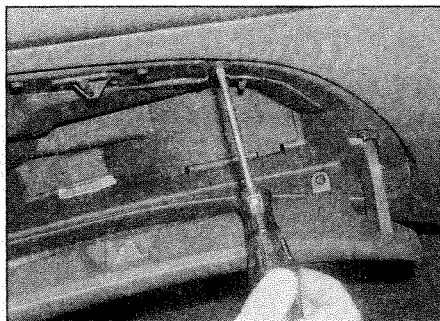
23.17c Disconnecting the wiring from the cigar lighter



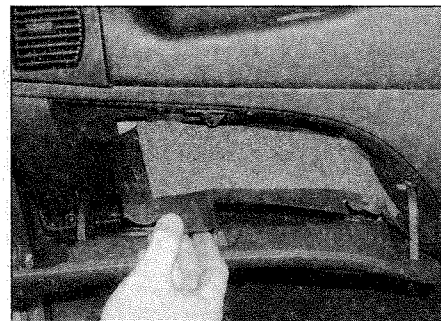
23.18 Working through the ashtray aperture, unscrew the fascia mounting screws securing the fascia to the heater housing



23.19 Removing the screws securing the heater controls to the fascia



23.20a Undo the screws ...



23.20b ... remove the trim ...

19 Undo the screws securing the heater controls to the fascia (see illustration). There are four screws.

20 Open the glovebox lid, then remove the upper trim from inside the glovebox. Unscrew the mounting bolts and withdraw the glovebox from the fascia (see illustrations).

21 Remove the left-hand side air vent from the end of the fascia, using a screwdriver in the glovebox aperture to unscrew the lower mounting screws (see illustrations).

22 Unscrew the fascia mounting bolts accessible through the vent and instrument panel apertures (see illustration).

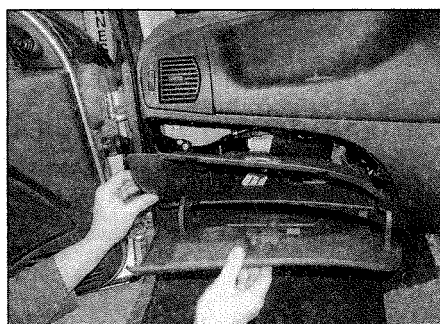
23 Unscrew the fascia lower mounting bolts at each end of the fascia (see illustration). If necessary for access to the bolts, undo the screws and remove the trim panels located on the outer sides of the footwells.

24 Carefully prise out the speaker grilles from both sides of the fascia, taking care not to damage the fascia material.

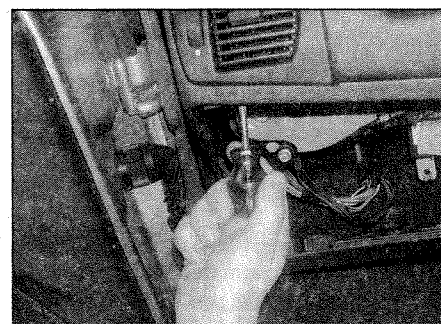
25 In the grille aperture on each side, unscrew the speaker mounting screws, withdraw the speakers, and disconnect the wiring.

26 With the speakers removed, unscrew the fascia mounting bolts now visible (see illustration).

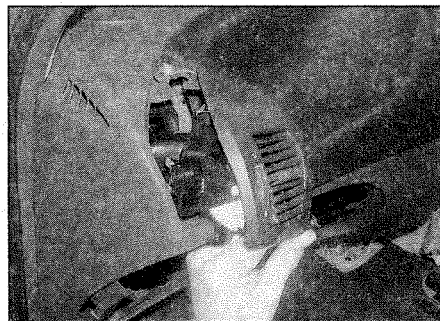
27 Unscrew the centre and top fascia mounting bolts (see illustrations).



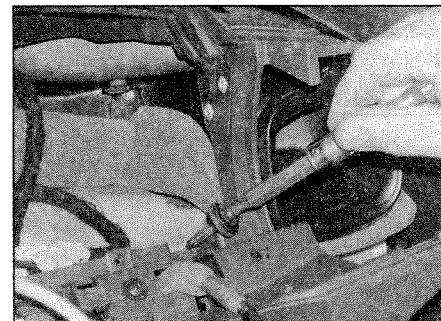
23.20c ... and withdraw the glovebox from the fascia



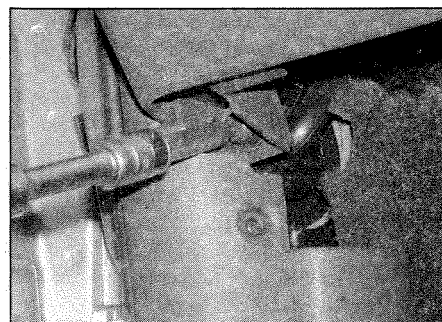
23.21a Undo the screws ...



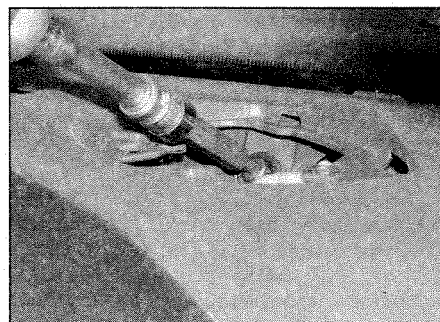
23.21b ... and remove the left-hand side air vent



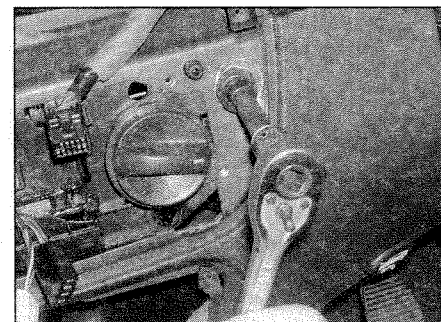
23.22 Removing the fascia mounting bolt located in the instrument panel aperture



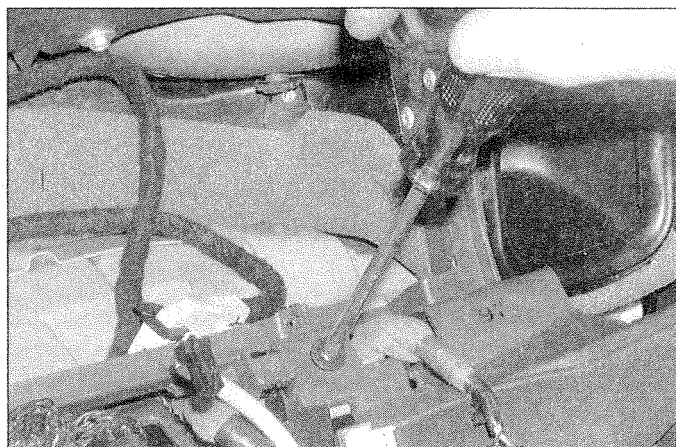
23.23 Removing the fascia lower mounting bolts



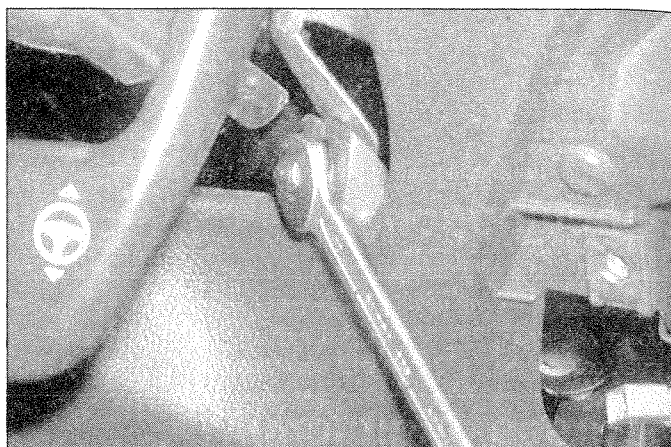
23.26 Unscrew the fascia mounting bolts in the speaker apertures



23.27a Unscrew the centre bolt ...



23.27b ... and the bolt in the instrument panel aperture



23.28 Removing the fascia-to-steering column bolt

28 Unscrew the bolts securing the fascia to the steering column (see illustration).

29 Unscrew the lower mounting nut located near the steering column. Also, unscrew the remaining side bolts and centre bolts (see illustrations).

30 With the help of an assistant, carefully withdraw the fascia from the bulkhead slightly. Check that nothing remains connected between the fascia and bulkhead, then withdraw it from one side of the car (see illustration).

Refitting

31 Refitting is a reversal of removal. On completion, reconnect the battery negative lead and check the operation of all controls, gauges and instruments disturbed during the

removal process, including the ventilation/heating system.

24 Glovebox - removal and refitting



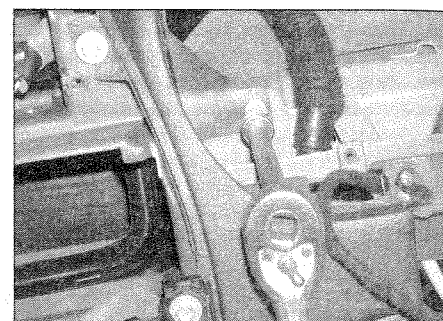
Removal

1 Open the glovebox lid, then on early models undo the two knobs and remove the upper trim from inside the glovebox.

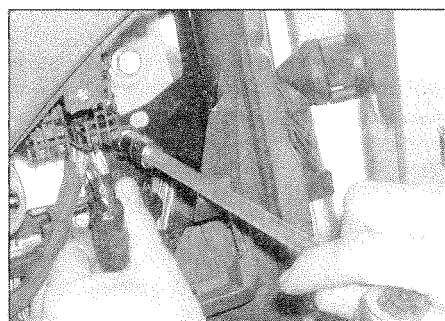
2 Unscrew the mounting bolts and withdraw the glovebox from the fascia.

Refitting

3 Refitting is a reversal of removal.



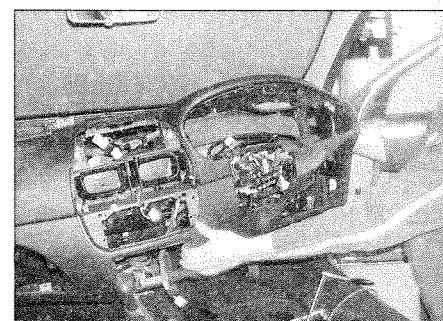
23.29a Bolt located in the radio aperture



23.29b Bolt located above the fusebox



23.29c Bolt located beneath the left-hand side of the fascia



23.30 Removing the fascia from the bulkhead