Chapter 11
Bodywork and fittings

Contents

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 setting	Nm	lbf ft
Front seat rails to floor	20	15
Seat belt fixings	35	26

1 General description

The bodyshell and floorpan are of pressed steel, and form an integral part of the vehicle's structure, without the need for a separate chassis.

Various areas are strengthened, to provide for suspension, steering and engine mounting points, and load distribution.

Extensive corrosion protection is applied to all new vehicles. Various anti-corrosion preparations are used, including galvanising and PVC under-sealing. Protective wax is injected into the box sections and other hollow cavities.

Extensive use is made of plastic for peripheral components, such as the radiator grille, bumpers and wheel trims, and for much of the interior trim.

Interior fittings are to a high standard on all models, and a wide range of optional equipment is available throughout the range.

Except for the rear quarter windows, all fixed glass is bonded in position, using a special adhesive. Any work in this area should be entrusted to a Vauxhall dealer or glass replacement specialist.

2 Bodywork and underframe - maintenance 

The general condition of a vehicle's bodywork is the one thing that 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 that 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 that 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 removal of the accumulation of oily grime that sometimes is allowed to become thick in certain areas. 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 before winter, when the underbody should be washed down and any damage to the wax coating repaired. 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. Bright work should be treated in the same way as paint work. Windscreens and windows can be kept clear of the smeary film that often appears, by using a glass cleaner. Never use any form of wax or other body or chromium polish on glass.

3 Upholstery and carpets - maintenance

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. 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, 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 and 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 that 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 then 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.

Repair 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 that is about 8 in (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 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 that 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 good "key" for the filler paste.

To complete the repair see the Section on filling and re-spraying.

Repair 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 just as effectively. With the paint removed you will be able to gauge 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 (e.g. headlamp 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 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 using 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 and 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 re-spraying

Before using this Section, see the Sections on dent, deep scratch, rust holes and gash repairs.

Many types of bodyfiller are available, but generally those proprietary kits that contain a tin of filler paste and a tube of resin hardener are best for this type of repair. These 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. 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 filler surface. When 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 twenty-minute intervals until the level of the filler is just proud of the surrounding bodywork.

Once the filler has hardened, 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 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 the dust produced by the rubbing-down operation has gone.

Spray the whole repair 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 again smooth the surface with abrasive paper. If bodystopper is used, it can be mixed with cellulose thinners to form a thin paste that 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 that 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 miss-match in paint colours. Bodywork fittings (e.g. 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 beginning 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 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 in the centre of the repair area and then work outwards, with a side-to-side motion, 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 (e.g. bumpers, spoilers, and in some cases major body panels), repair 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 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 by 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 (e.g. 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 have a problem of finding a 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 come across in body component applications. Standard paints, generally, will not bond to plastic or rubber satisfactorily, but special paints are available 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 that consists of a pre-primer treatment, a primer and coloured top coat. Full instructions are normally supplied with a kit, but 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

Major impact or rust damage should only be repaired by a Vauxhall dealer or other competent specialist. Alignment jigs are needed for successful completion of such work, superficially effective repairs may leave dangerous weaknesses in the structure. Distorted components can also impose severe stresses on steering and suspension components with consequent premature failure.

6.5 Lifting the bonnet from the vehicle

6 Bonnet - removal and refitting

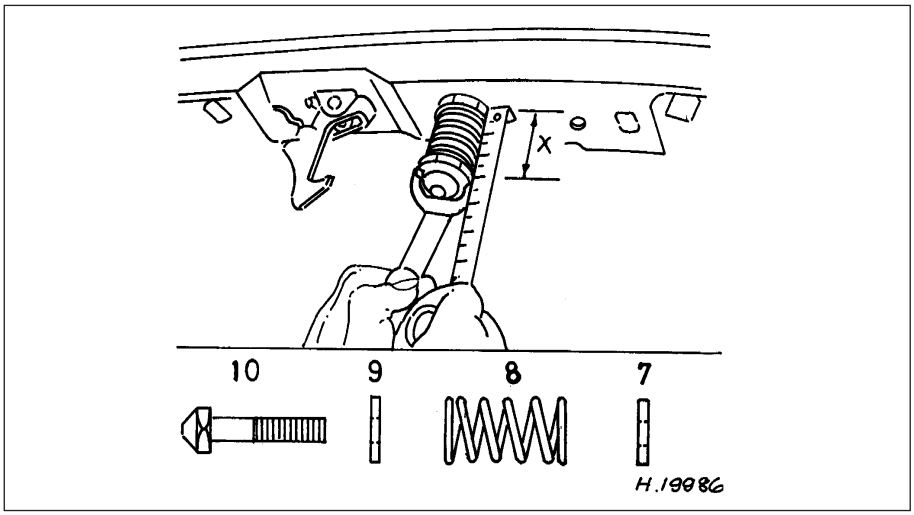
HAYNES HiNT ***To aid refitting mark the position of the bonnet before removal.***

Removal

1 Open the bonnet, and support it in the fully open position.
2 On models fitted with an underbonnet lamp, disconnect the battery negative lead, then prise the lamp from the bonnet and disconnect the wiring. If the bonnet is to be refitted, to aid routing of the wiring on refitting, tie a length of string to the end of the wiring. Then withdraw the wiring through the bonnet and untie the string, leaving it in position in the bonnet.
3 Similarly, disconnect the windscreen washer fluid hose from the connector in the bonnet, but tie the string to the connector, to prevent it from slipping into an inaccessible position in the bonnet.
4 Mark the position of the hinges on the bonnet.
5 With the help of an assistant, support the weight of the bonnet, then unscrew the securing bolts from the hinges, and lift the bonnet from the vehicle **(see illustration)**. If the bonnet is to be refitted, rest it carefully on rags or cardboard, to avoid damaging the paint.
6 If a new bonnet is to be fitted, transfer all the serviceable fittings (rubber buffers, lock striker, etc.), to it.
7 If desired, the bonnet hinges can be removed from the vehicle, after unscrewing the three bolts in each case securing them to the upper flanges of the front wings.

Refitting

8 Refitting is a reversal of removal, remembering the following points.
9 Align the hinges with the previously made marks on the bonnet.



6.11 Bonnet lock striker adjustment

7 Locknut 8 Spring 9 Washer 10 Striker pin

X = 40.0 to 45.0 mm (1.57 to 1.77 in) measured from bonnet panel to washer (9)

10 If the original bonnet is being refitted, draw the windscreen washer fluid hose, and where applicable, the underbonnet lamp wiring, through the bonnet using the string.
11 If the lock striker has been disturbed, adjust it to the dimension shown **(see illustration)**, then tighten the locknut.
12 If necessary, adjust the hinge bolts and the front rubber buffers until a good fit is obtained with the bonnet shut.

7 Bonnet lock components - removal and refitting

Removal

1 Open the bonnet, and support it in the fully open position.
2 The bonnet lock hook is riveted to the bonnet, and removal involves drilling out the rivet. Secure the hook assembly with a new rivet when refitting.
3 To remove the bonnet lock striker from the bonnet, loosen the locknut, then unscrew the striker and recover the washers and spring. When refitting, adjust the striker dimension as described in Section 6, paragraph 11, before tightening the locknut.
4 To remove the locking spring, disconnect the end of the bonnet release cable from the spring. Then unhook the end of the spring from the slot in the front body panel, and manipulate the spring out through the top of the panel, taking care not to damage the paint.

Refitting

5 Refitting is a reversal of removal.
6 On completion, close the bonnet and check that the lock and the bonnet release mechanism operate satisfactorily.

8 Bonnet lock release cable - removal and refitting

Removal

1 Open the bonnet, and support it in the fully open position.
2 Unscrew the release cable clip from the front body panel.
3 Disconnect the end of the release cable from the locking spring under the front body panel.
4 Disconnect the release cable from the release handle in the driver's footwell. If necessary, remove the release handle from its retainer for access to the cable end.
5 Pull the cable assembly through the grommet in the engine compartment bulkhead into the engine compartment.
6 Release the cable from any remaining clips and cable-ties, and withdraw it from the engine compartment.

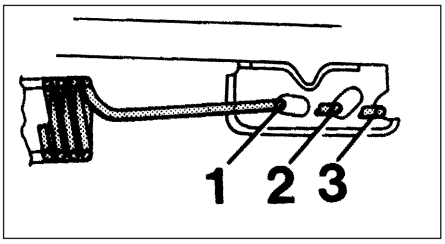
Refitting

7 Refitting is a reversal of removal, but ensure that the cable is correctly routed, and on completion check the release mechanism for satisfactory operation.

9 Boot lid (Saloon models) - removal and refitting

Removal

1 Open the bonnet lid fully.
2 On models with central locking, disconnect the battery negative lead then disconnect the wiring from the lock solenoid. If the boot lid is



9.6 Boot lid hinge counterbalance spring locations - Saloon models

1 Position for basic boot lid
2 Position for boot lid with outer plastic trim panel or spoiler
3 Position for boot lid with outer plastic trim panel and spoiler

to be refitted, tie a length of string to the end of the wiring. Then feed the wiring through the boot lid and untie the string, leaving it in position in the boot lid to assist refitting.

3 Mark the position of the hinges on the boot lid.

4 With the help of an assistant, support the weight of the boot lid, then unscrew the securing bolts from the hinges, and lift the boot lid from the vehicle. If the boot lid is to be refitted, rest it carefully on rags or cardboard, to avoid damaging the paint.

5 If a new boot lid is to be fitted, transfer all the serviceable fittings (rubber buffers, lock mechanism, etc.), to it.

6 If desired, the boot lid hinge counterbalance springs can be removed, but before unhooking them from the vehicle body, note their position so that they can be refitted in their original positions **(see illustration)**. Use a lever to unhook the springs.

Refitting

7 Refitting is a reversal of removal, remembering the following points.

8 Align the hinges with the precisely made marks on the boot lid.

9 Where applicable, draw the central locking solenoid wiring through the boot lid, using the string.

10 If necessary, adjust the hinge bolts and the rubber buffer until a good fit is obtained with the boot lid shut.

11 If necessary, adjust the position of the lock striker on the body, to achieve satisfactory lock operation.

12.6A Prise off the rear roof trim panel . . .

12.6B . . . for access to the tailgate hinge screws

10 Boot lid lock (Saloon models) - removal and refitting

Removal

1 Open the boot lid fully.

2 Unscrew the two securing screws, then withdraw the lock and disconnect the operating rod.

Refitting

3 Refitting is a reversal of removal, but if necessary adjust the position of the lock striker on the body, to achieve satisfactory lock operation.

11 Boot lid lock cylinder (Saloon models) - removal and refitting

Removal

1 Open the boot lid fully.

2 Unscrew the two securing nuts, then withdraw the lock cylinder complete with the housing, and disconnect the operating rods(s).

3 To remove the lock cylinder from the housing, insert the key into the lock, then extract the circlip and the operating lever assembly from the end of the lock cylinder, and withdraw the cylinder from the housing.

Refitting

4 Refitting is a reversal of removal, but check the operations of the lock on completion **(see illustration)**.

12 Tailgate (Hatchback models) - removal and refitting

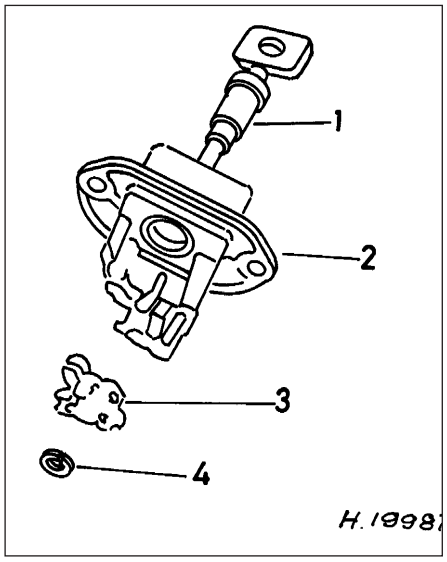
Removal

1 Open the tailgate fully.

2 Disconnect the battery negative lead.

3 Remove the securing screws, and withdraw the tailgate trim panels.

4 Disconnect all the relevant wiring now exposed, and disconnect the washer fluid hose.



11.4 Boot lid/tailgate lock cylinder components

1 Lock cylinder
2 Housing
3 Operating lever assembly
4 Circlip

5 If the original tailgate is to be refitted, tie string to the ends of all the relevant wires, and if necessary the washer fluid hose, then feed the wiring and the hose through the top edge of the tailgate. Untie the string, leaving it in position in the tailgate to assist refitting.

6 Prise off the rear roof trim panel, taking care not to break the securing clips, and lower the rear of the headlining slightly for access to the tailgate hinge securing screws **(see illustrations)**. Mark the hinge positions on the body.

7 Have an assistant support the weight of the tailgate, then disconnect the tailgate struts from their mounting balljoints, with reference to Section 15.

8 Ensure that the tailgate is adequately supported, then remove the hinge securing screws and withdraw the tailgate from the vehicle. If the tailgate is to be refitted, rest it carefully on rags or cardboard, to avoid damaging the paint.

9 If desired, the hinges can be removed from the tailgate by driving out the hinge pins.

10 If the tailgate can be moved up and down on its hinges due to wear in the hinge pins or their holes, it may be possible to drill out the holes and fit slightly oversize pins. Consult a Vauxhall dealer for further advice.

11 If a new tailgate is to be fitted, transfer all serviceable components to it.

Refitting

12 Refitting is a reversal of removal, remembering the following points.

13 Align the hinges with the previously made marks on the body.

13.1 Tailgate lock (trim panel removed)

14 If the original tailgate is being refitted, draw the wiring and washer fluid hose (where applicable) through the tailgate, using the string.
15 If necessary, adjust the hinge bolts and the rubber buffers, to obtain a good fit when the tailgate is shut.
16 If necessary, adjust the position of the lock striker on the body, to achieve satisfactory lock operation.

13 Tailgate lock (Hatchback models) - removal and refitting

Proceed as described in Section 10, but note that for access to the lock, the rear tailgate trim panel must be removed, after unscrewing the securing screws. Note also that the lock is secured by three screws **(see illustration)**.

14 Tailgate lock cylinder (Hatchback models) - removal and refitting

Proceed as described in Section 11, but note that for access to the lock cylinder, the rear tailgate trim panel must be removed after unscrewing the securing screws **(see illustration)**.

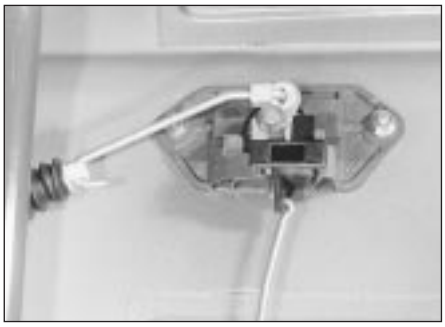
15 Tailgate strut (Hatchback models) - removal and refitting

Removal

1 Open the tailgate fully, and have an assistant support it.
2 Release the strut from its mounting balljoints by prising the spring clips a little way out **(see illustration)**, and pulling the strut off the balljoints. If the strut is to be re-used, do not remove the spring clips completely, and do not prise them out further than 6.0 mm (0.24 in).

Refitting

3 Refitting is a reversal of removal.



14.1 Tailgate lock cylinder housing - with central locking (trim panel removed)

16 Door - removal and refitting

Front door

Removal

1 The door hinges are welded onto the door-frame and the body pillar, so that there is no provision for adjustment or alignment.
2 To remove a door, open it fully and support it under its lower edge on blocks covered with pads of rag.
3 Where applicable, disconnect the battery negative lead, and disconnect the wiring connector from the front edge of the door. To release the connector, twist the locking collar, then pull the connector from the socket in the door **(see illustration)**.
4 Using a punch, drive the large roll pin from the door check arm pivot.
5 Remove the plastic covers from the hinge pins, then drive out the pins using a punch. Have an assistant support the door as the pins are driven out, then withdraw the door from the vehicle.

Refitting

6 Refitting is a reversal of removal, using a new check link roll pin.
7 If the door can be moved up and down on its hinges due to wear in the hinge pins or their holes, it may be possible to drill out the holes and fit slightly oversize pins. Consult a Vauxhall dealer for further advice.

16.3 Disconnect the wiring connector from the front edge of the door

15.2 Prising the spring clip from a tailgate strut balljoint

8 Door closure may be adjusted by altering the position of the lock striker on the body pillar, using an Allen key or hexagon bit.

Rear door

9 The removal and refitting procedure for rear doors is as described for front doors. Note that on models with central locking or electric windows, it will be necessary to remove the door inner trim panel, as described in Section 17, disconnect the wiring harness and feed it through the front edge of the door.

17 Door inner trim panel - removal and refitting

Front door

Removal

1 Prise the trim plate from the door lock button in the top rear edge of the door, then pull the lock button from the lock operating rod.
2 On models with manually operated windows, release the securing clip and remove the window regulator handle. To release the securing clip, insert a length of wire with a hooked end between the handle and the trim bezel on the door trim panel, and manipulate it to free the securing clip from the handle **(see illustration)**. Take care not to damage the door trim panel.
3 Prise the plastic surround from the door interior handle **(see illustration)**.

17.2 Window regulator handle securing clip

17.3 Remove the plastic surround from the door interior handle

4 Remove the seven trim panel securing screws that are located along the bottom edge of the door, and around the bottom edge of the armrest/hand grip. Release the door pocket clip, which is located below and to the rear of the door pocket, out of view.
5 The remaining nine plastic clips securing the trim panel to the door must now be released. This can be done using a screwdriver, but it is preferable to use a forked tool, to minimise the possibility of damage to the trim panel and the clips. The clips are located around the outer edge of the trim panel.
6 Once the clips have been released, pull the trim panel away from the door, and push the large clip at the rear of the door pocket rearwards to allow the trim panel to be withdrawn.
7 When working on the driver's door of models with electric door mirrors, it will be necessary to disconnect the mirror switch wiring connectors as the trim panel is withdrawn. Disconnect the battery negative lead before disconnecting the connector, and note the position of the connector in the bracket at the top of the door **(see illustration)**.
8 Similarly on models with door-mounted kerb lights, prise out the lamp and disconnect the wiring.
9 The plastic insulating sheet can be removed from the door after removing the loudspeaker (referring to Chapter 12 if necessary), and the door trim panel rear securing clip, which is attached to the door by a single screw. Take care not to damage the sheet.

17.7 Mirror switch wiring connector in bracket at top of door

10 The door pocket can be removed from the door trim panel by the three securing screws that are accessible from the rear of the trim panel, and releasing the single clip.
11 If desired, the door assist handle can be prised free from the door trim panel. Take care not to damage the securing clips.

Refitting

12 Refitting is a reversal of removal, remembering the following points.
13 If the plastic insulating sheet has been removed from the door make sure that it is refitted intact, and securely glued to the door. If the sheet is damaged or detached, rainwater may leak into the vehicle or damage the door trim.
14 Where applicable, ensure that the door mirror switch wiring connector is correctly positioned in its bracket before refitting the trim panel.
15 Ensure that all the trim panel securing clips engage as the panel is refitted, and if any of the clips were broken during removal, renew them on refitting.

Rear door

Removal

16 Proceed as described in paragraphs 1 to 3 inclusive.
17 On models with a door-mounted electric window operating switch, disconnect the battery negative lead, then carefully prise the switch from the door trim panel and disconnect the wiring plug.
18 Remove the three trim panel securing screws. Two are located under the interior handle surround, and the third is situated at the base of the door assist handle.
19 Proceed as described in paragraph 5.
20 Once the securing clips have been released, pull the trim panel away from the door **(see illustration)**.
21 If desired, the plastic insulating sheet can be removed from the door by peeling it back from the door skin. Take care not to damage the sheet.
22 If desired, the door assist handle can be prised free from the door trim panel. Take care not to damage the securing clips.

Refitting

23 Refitting is a reversal of removal, remembering the following points.

17.20 Removing a rear door inner trim panel

24 If the plastic insulating sheet has been removed from the door, make sure that it is refitted intact, and securely glued to the door. If the sheet is damaged or detached, rainwater may leak into the vehicle or damage the door trim.
25 Where applicable, ensure that the electric window switch wiring is routed so that it does not foul the window regulator mechanism.
26 Ensure that all the trim panel securing clips engage as the panel is refitted, and if any of the clips were broken during removal, renew them on refitting.

18 Door interior handle - removal and refitting

Removal

1 Remove the door inner trim panel, as described in Section 17.
2 Slide the handle assembly rearwards to free it from the door, then unhook the operating rod, and withdraw the assembly.

Refitting

3 Refitting is a reversal of removal, but check the mechanism for satisfactory operation before refitting the door inner trim panel, then refit the trim panel with reference to Section 17.

19 Door exterior handle - removal and refitting

Front door

Removal

1 Remove the door inner trim panel, as described in Section 17.
2 Peel back the plastic insulating sheet sufficiently to gain access to the exterior handle.
3 Unscrew the two nuts securing the exterior handle to the door.
4 When working on the driver's door of models with central locking, unclip the microswitch from the rear edge of the exterior handle assembly.
5 Release the two lower retaining clips, then manipulate the exterior handle assembly through the outside of the door, and disconnect the operating rods.

Refitting

6 Refitting is a reversal of removal, but check the operation of the mechanism before refitting the door inner trim panel, and refit the trim panel with reference to Section 17.

Rear door

Removal

7 Fully lower the window, then continue as described in paragraphs 1 and 2.

20.2 Extract the circlip from the end of the lock cylinder . . .

20.3A . . . then withdraw the lock cylinder using the key . . .

20.3B . . . and recover the lever assembly

8 Pull the weatherstrip from the rear edge of the window aperture, then unscrew the now exposed window rear guide rail securing screw. Note that the screw is of the Torx type.
9 Unscrew the remaining window rear guide rail securing screw (Torx type) which is accessible through the inner door skin, then withdraw the guide rail from the door. The weatherstrip can be left attached to the guide rail, in which case position the guide rail to one side out of the way, taking care not to damage the vehicle paintwork.
10 Reach in through the aperture in the rear of the door, and unclip the plastic shield from the door lock.
11 Unscrew the three Torx type lock securing bolts from the rear edge of the door, and lower the lock assembly inside the door.
12 Unscrew the two nuts securing the exterior handle to the door.
13 Release the two lower retaining clips, then manipulate the exterior handle through the outside of the door, and disconnect the operating rods.

Refitting

14 Refitting is a reversal of removal, but check the operation of the door lock, handle and window regulator mechanisms before refitting the door trim panel, and refit the trim panel with reference to Section 17.

20 Door lock barrel - removal and refitting

Removal

1 Remove the door exterior handle, as described in Section 19.
2 Insert the key into the lock, then extract the circlip from the end of the lock cylinder **(see illustration)**.
3 Withdraw the lock cylinder using the key, and recover the lever assembly **(see illustrations)**.

Refitting

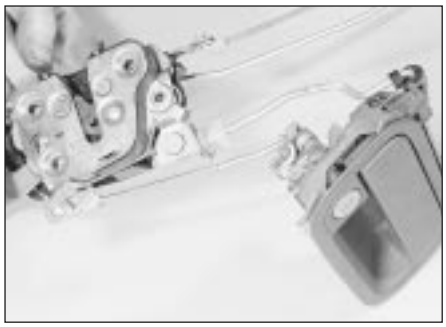
4 Refitting is a reversal of removal, but check the operation of the door lock, handle and window regulator mechanisms before refitting the door trim panel, and refit the trim panel with reference to Section 17.

21 Door lock - removal and refitting

Front door

Removal

1 Remove the door inner trim panel, as described in Section 17.
2 Unscrew the door trim panel rear securing clip, and peel the plastic insulating sheet back from the rear end of the door. Take care not to damage the sheet.
3 Working through the apertures in the door, disconnect the operating rods from the interior and exterior handles, and release the clips on the door, where applicable **(see illustration)**.
4 Reach in through the lower door aperture and unclip the plastic shield from the lock.
5 On models with central locking, lower the window half way. Disconnect the battery negative lead and working through the lower aperture in the door, disconnect the wiring plug from the central locking motor. Note that a clip must be depressed to release the wiring plug.
6 Unscrew the three Torx bolts securing the lock assembly to the rear edge of the door. Then manipulate the lock assembly (complete with central locking motor, where applicable, and operating rods), around the window regulator mechanism and out through the lower door aperture **(see illustration)**.



21.3 View of removed door lock and exterior handle assembly, showing operating rod attachments

Refitting

7 Refitting is a reversal of removal, but check the operation of the door lock, handle, and window regulator mechanisms before refitting the door trim panel, and refit the trim panel with reference to Section 17. If the lock operation is not satisfactory, note that the exterior handle operating rod can be adjusted by turning the knurled plastic adjuster wheel at the end of the rod **(see illustration)**.

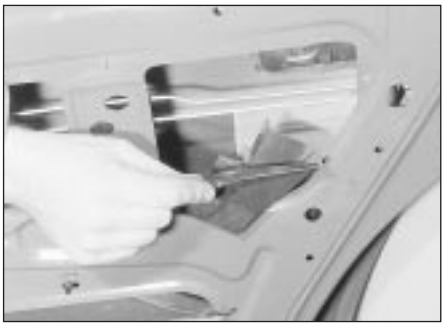
Rear door

Removal

8 Fully lower the window, then remove the door inner trim panel and the plastic insulating sheet, as described in Section 17.
9 Working through the apertures in the door, disconnect the operating rods from the interior and exterior handles, and from the lock button bellcrank.

21.6 Removing the lock assembly - model with central locking

21.7 Exterior handle operating rod adjuster wheel (arrowed) at lock end of rod



21.12 Unclip the plastic shield from the lock

10 Pull the weatherstrips from the rear edge of the window aperture, then unscrew the now-exposed window rear guide rail securing screw. Note that the screw is of the Torx type.
11 Unscrew the remaining window rear guide rail securing screw (Torx type), which is accessible through the inner door skin, then withdraw the guide rail from the door. The weatherstrip can be left attached to the guide rail, in which case position the guide rail to one side out of the way, taking care not to damage the vehicle paintwork.
12 Reach in through the aperture in the rear of the door, and unclip the plastic shield from the lock **(see illustration)**.
13 On models with central locking, disconnect the battery negative lead (if not already done) and disconnect the wiring plug from the central locking motor. Note that a clip must be depressed to release the wiring plug.
14 Unscrew the three Torx bolts securing the lock assembly to the rear edge of the door. Then manipulate the lock assembly (complete with central locking motor, where applicable, and operating rods), around the window regulator mechanism and out through the lower door aperture.

Refitting

15 Proceed as described in paragraph 7.

22 Door check arm - removal and refitting

Removal

1 Open the door fully, then using a punch, drive the roll pin from the door check arm pivot.
2 Remove the door inner trim panel, as described in Section 17.
3 Working at the front edge of the door, unscrew the two bolts securing the check arm to the door, then withdraw the check arm through the inside of the door.

Refitting

4 Refitting is a reversal of removal, but use a new roll pin to secure the check arm to the pivot.

24.2 Upper rear quarter trim panel removed, exposing rear quarter window securing nut (arrowed)

23 Windscreen and rear window - removal and refitting

1 Except for the rear quarter windows, all fixed glass is bonded in position, using a special adhesive.
2 Special tools, adhesives and expertise are required for successful removal and refitting of glass fixed by this method. Such work must therefore be entrusted to a Vauxhall dealer or a windscreen specialist.
3 The same remarks apply if sealing of the windscreen or other glass surround is necessary.

24 Rear quarter windows - removal and refitting

Removal

1 Remove the upper rear quarter trim panel, as described in Section 36.
2 Have an assistant support the quarter window from outside the vehicle, then unscrew the plastic securing nuts, and push the window from the body **(see illustration)**.

Refitting

3 Refitting is a reversal of removal, but ensure that the seal on the rear of the glass is seated correctly against the body as the window is fitted.

25.4 Window upper guide rail plastic end stop (arrowed)

25 Door window - removal and refitting

Front door

Removal

1 Fully lower the window, then remove the door inner trim panel and the plastic insulating sheet, as described in Section 17.
2 Unscrew the window rear guide rail securing bolt from the rear edge of the door, then manipulate the guide rail out through the lower aperture in the door.
3 Pull the weatherstrips from the inside and outside lower edge of the window aperture.
4 Pull the plastic end stop from the window upper guide rail **(see illustration)**.
5 Remove the two screws securing the lower guide rail to the door, and lower the guide rail **(see illustration)**.
6 Manipulate the window regulator mechanism as necessary, and tilt the window glass forwards until it can be withdrawn from outside the door through the window aperture.

Refitting

7 Refitting is a reversal of removal, but adjust the angle of the lower guide rail by means of the two securing screws until smooth operation of the window is achieved. Refit the door inner trim panel with reference to Section 17.
8 On models with electric windows, on completion, the electronic control system must be programmed as follows.
9 Close all the doors, and switch on the ignition.
10 Close each window in turn, using the relevant switch, and when each window has fully closed, continue to keep the switch depressed for at least five seconds.

Rear door

Removal

11 Fully lower the window, then remove the door inner trim panel and the plastic insulating sheet, as described in Section 17.

25.5 Window lower guide rail securing screws (arrowed)

25.12 Unscrewing the window rear guide securing screw

25.13A Remove the remaining securing screw . . .

25.13B . . . then withdraw the guide rail from the door

12 Pull the weatherstrip from the rear edge of the window aperture, then unscrew the now exposed window rear guide rail securing screw **(see illustration)**. Note that the screw is of the Torx type.

13 Unscrew the remaining window rear guide rail securing screw (Torx type), which is accessible through the inner door skin, then withdraw the guide rail from the door **(see illustrations)**. The weatherstrip can be left attached to the guide rail, in which case position the guide rail to one side out of the way, taking care not to damage the vehicle paintwork.

14 Pull the weatherstrips from the inside and outside lower edge of the window aperture **(see illustration)**.

15 Manipulate the window regulator mechanism as necessary, and tilt the window glass forwards until it can be withdrawn from outside the door through the window aperture **(see illustration)**.

Refitting

16 Refitting is a reversal of removal, but refit the door inner trim panel with reference to Section 17.

17 On models with electric windows, on completion the electronic control system must be programmed, as described in paragraphs 9 and 10.

26 Door window regulator - removal and refitting

Front door

Removal

1 Lower the window halfway, then remove the door inner trim panel and the plastic insulating sheet, as described in Section 17.

2 Support the window in the half-open position by placing a wooden prop under it, ensuring that the prop is clear of the regulator mechanism.

3 Drill out the rivets securing the regulator mechanism to the door, using an 8.5 mm (0.34 in) diameter drill. Take care not to damage the door panel.

4 Pull the plastic end stop from the window upper guide rail.

25.14 Pulling the inside weatherstrip from the window aperture

25.15 Withdrawing the window glass from the door

5 Remove the two screws securing the lower guide rail to the door, and lower the guide rail.

6 On models with electric windows, disconnect the battery negative lead (if not already done), then disconnect the wiring plug from the central locking motor.

7 Carefully manipulate the window regulator assembly out through the lower aperture in the door.

Refitting

8 Refitting is a reversal of removal, remembering the following points.

9 Ensure that the regulator arms are correctly positioned in the guide rails before securing the regulator assembly to the door **(see illustration)**.

10 Secure the regulator assembly to the door, using new rivets.

11 Adjust the angle of the lower guide rail by means of the two securing screws, until smooth operation of the window is achieved.

12 Refit the door inner trim panel with reference to Section 17.

13 On models with electric windows, on completion, the electronic control system must be programmed, as described in Section 25, paragraphs 9 and 10.

Rear door

Removal

14 Proceed as described in paragraphs 1 to 3 inclusive, and paragraphs 6 and 7.

Refitting

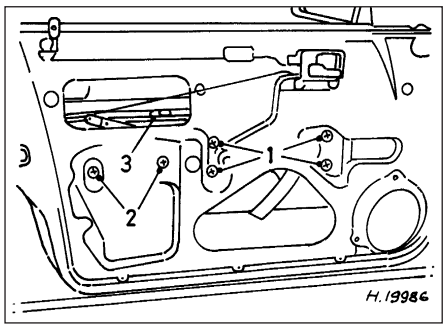
15 Refitting is a reversal of removal, remembering the following points.

16 Ensure that the regulator arm is correctly positioned in the guide rail before securing the regulator assembly to the door.

17 Secure the regulator assembly to the door, using new rivets.

18 Check the regulator mechanism for satisfactory operation before refitting the door trim panel, then refit the panel with reference to Section 17.

19 On models with electric windows, on completion, the electronic control system must be programmed, as described in Section 25, paragraphs 9 and 10.



26.9 Front door window regulator and guide components

1 Regulator mechanism securing rivets
2 Lower guide rail securing screws
3 Upper guide rail and stop

27.2 Removing the mirror glass - electric mirror (mirror removed)

27.6 Removing the mirror trim panel . . .

27.7A . . . for access to the mirror securing screws

27.7B Withdraw the mirror and disconnect the wiring plug

27.8 Locating the weather seal on the mirror housing

27 Door mirror - removal, overhaul and refitting

Glass renewal

1 If desired, the mirror glass can be removed for renewal without removing the mirror. On models with electric mirrors, disconnect the battery negative lead.
2 Carefully prise the glass from its balljoints using a screwdriver, and where applicable, disconnect the heater wires from the glass. Take care, as the glass is easily broken if forced **(see illustration)**.
3 To refit, simply push the glass onto the balljoints, ensuring that the heater wires are connected (where applicable).

27.10 Mirror motor securing screws (arrowed)

Mirror - removal and refitting

4 On models with electric mirrors, disconnect the battery negative lead.
5 On models with manually adjustable mirrors, pull off the interior adjuster lever.
6 Prise the mirror trim panel from the inside front edge of the door **(see illustration)**.
7 Extract the three now-exposed securing screws, and withdraw the mirror assembly from the door. On models with electric mirrors, disconnect the wiring plug **(see illustrations)**.
8 Refitting is a reversal of removal, but ensure that the rubber weather seal is correctly located on the mirror housing **(see illustration)**.

Electric motor removal and refitting

Removal

9 Remove the mirror glass, as described previously in this Section.
10 Extract the three motor securing screws, and disconnect the wiring plug, then withdraw the motor **(see illustration)**.

Refitting

11 Refitting is a reversal of removal, but ensure that the wiring is routed behind the motor, to avoid interfering with the adjustment mechanism.

28 Bumpers - removal and refitting

Front bumper

Removal

1 Remove both headlamps, as described in Chapter 12.
2 The bumper is removed as a complete assembly with the front trim panel, therefore on models with front foglamps, disconnect the foglamp wiring plugs. On DOHC and 1993-on models remove the radiator grille panel, as described in Section 29. Also remove the water deflector if fitted.
3 The bumper is secured by a single bolt at each end, and by clips. It is possible to unscrew the right-hand securing bolt with the air cleaner assembly in place. Using an open-ended spanner, but if desired the air cleaner assembly can be removed for improved access, as described in Chapters 4A or 4B, as applicable.
4 Remove the left and right-hand bumper securing bolts from the body side panels behind the headlamp apertures **(see illustration)**.
5 Release the bumper retaining clips from the body by pushing each end of the bumper towards the front of the vehicle, then pulling the end of the bumper out from the wing **(see illustration)**.

28.4 Unscrewing the right-hand front bumper securing bolt (air cleaner removed)

28.5 Front bumper retaining clips released from body

28.8A Remove the trim panel . . .

28.8B . . . to expose the bumper securing nuts

6 Carefully withdraw the bumper from the vehicle.

Refitting

7 Refitting is a reversal of removal.

Rear bumper

Removal

8 Remove the rear trim panel from the luggage compartment by prising up the top edge to release the clips, then lift the panel upwards to free it from the lower locating tags. The bumper retaining nuts are now exposed **(see illustrations)**.

9 Note that the bumper is removed as a complete assembly with its lower trim panel.

10 Disconnect the battery negative lead, then prise the number plate lamp from the bumper, and disconnect the wiring.

11 Unscrew the bumper retaining nuts, and recover the washers. On DOHC models, the bumper securing nuts are accessible from underneath the vehicle.

12 Where fitted, remove the special locking rivets, one each side, securing the bumper to the wheel arch.

13 Additional clips may be present on the underside of the bumper which must also be removed.

14 Release the bumper retaining clips at the front edges of the bumper by tapping the centre pin through the expanding clip, using a pin punch or similar. The pin will drop out as it is pushed through - recover it for refitting.

15 Push each end of the bumper towards the rear of the vehicle, then pull the end of the bumper from the rear wing.

29.1 Freeing a radiator grille panel retaining clip using a screwdriver

16 Carefully withdraw the bumper from the vehicle, taking care not to strain the number plate lamp wiring.

Refitting

17 Refitting is a reversal of removal. The expanding clips at the front edges of the bumper are secured by pushing the pin into the clip until flush.

29 Radiator grille panel - removal and refitting

All SOHC models

Removal

1 With the bonnet fully open and supported, pull the upper edge of the grille panel forwards and free the retaining clips using a screwdriver. Then lift the panel to release the lower locating lugs from their grommets in the lower body front panel **(see illustration)**.

Refitting

2 Refitting is a reversal of removal, but ensure that the lower locating lugs seat correctly in their grommets, and take care not to push the grommets from their holes in the body front panel.

DOHC and 1993-on models

Removal

3 Extract the three screws securing the grille panel to the body front panel, then lift the grille panel to release the lower locating lugs from their grommets in the lower body front panel.

Refitting

4 Refitting is a reversal of removal, with reference to paragraph 2.

30 Windscreen cowl panel - removal and refitting

Removal

1 Remove the wiper arms, referring to Chapter 12, if necessary.

2 Disconnect the washer fluid hose from the reservoir, and feed it through the cowl panel, noting its routing as a guide to refitting. Be prepared for fluid spillage.

3 Where applicable, disconnect the battery negative lead, then disconnect the underbonnet lamp wiring plug and feed it through the cowl panel, noting its routing as a guide to refitting.

4 Working from one end of the cowl panel, carefully prise the panel from the body. Care must be taken, as the panel is easily damaged.

Refitting

5 Refitting is a reversal of removal, ensuring that the panel is correctly seated along its length, and that the washer fluid hose, and where applicable the underbonnet lamp wiring, is correctly routed.

31 Wheel arch liners - general

1 The plastic wheel arch liners are secured by a combination of self-tapping screws and plastic clips. Removal and refitting is self explanatory, remembering the following points **(see illustration)**.

2 Some of the securing clips may be held in place using a central pin, which must be tapped out to release the clip.

3 The clips are easily broken during removal, and it is advisable to obtain a few spare clips for possible use when refitting.

31.1 Removing a wheel arch liner

34.2A Extract the four securing screws . . .

34.2B . . . and withdraw the guide rail plastic surround

34.4 Prising a plastic trim strip from the guide rail

4 Certain models may have additional underbody shields and splashguards fitted, which may be attached to the wheel arch liners.

32 Engine undershield (DOHC models) - removal and refitting

Removal

1 Apply the handbrake, then jack up the front of the vehicle, and support on axle stands (see "*Jacking and Vehicle Support*").
2 Extract the two securing screws, and remove the oil filter access panel.
3 Working around the edges of the splash shield, remove the self tapping screws that secure the shield to the body, noting that some of the screws also secure the wheel arch liners.
4 With the help of an assistant, pull the shield from the vehicle, and place it to one side to avoid damage.

Refitting

5 Refitting is a reversal of removal.

33 Fuel filler flap - removal and refitting

Removal

1 Open the flap for access to the four screws securing the flap to the rear wing.

34.6 Lifting the glass panel from the roof aperture

2 Remove the securing screws, and withdraw the flap.

Refitting

3 Refitting is a reversal of removal.

34 Sunroof components - removal and refitting

Note: *The sunroof is a complex piece of equipment consisting of a large number of components. It is strongly recommended that the sunroof mechanism is not disturbed unless necessary. If the sunroof mechanism is faulty, or requires overhaul, consult a dealer for advice.*

Glass panel

Removal

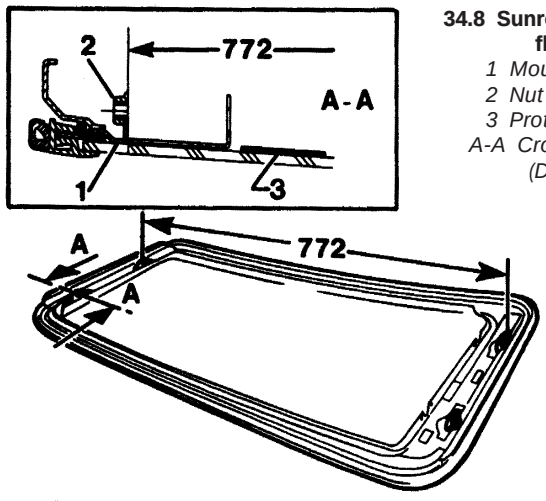
1 Push the sunshade fully rearwards, and open the glass panel halfway.
2 Extract the four securing screws from the front edge of the guide rail plastic surround, and withdraw the surround down through the sunroof aperture **(see illustrations)**.
3 Move the glass panel forward, and open it to its tilt position.
4 Prise the plastic trim strips from the guide rails, to expose the glass panel securing screws **(see illustration)**.

34.5 Loosening a glass panel securing screw

5 Extract the three securing screws from each guide rail, and where applicable, recover the lockwashers **(see illustration)**.
6 Carefully lift the glass panel from the roof aperture, taking care not to damage the vehicle paintwork **(see illustration)**.

Refitting

7 Refitting is a reversal of removal, remembering the following points.
8 Before refitting the glass panel, measure the distance between the mounting flanges. Bend the flanges if necessary to achieve the desired dimension **(see illustration)**.



34.8 Sunroof glass panel mounting flange dimension
1 Mounting flange
2 Nut
3 Protective foil
A-A Cross-section cutting point
(Dimensions in mm)

9 Where applicable, ensure that the glass panel securing screw lockwashers engage with the locating pins on the guide rails.
10 Before fully tightening the glass panel securing screws, close the panel, and adjust its position to give the dimensions shown **(see illustration)**.
11 If a new glass panel has been fitted, peel off the protective foil on completion of adjustment.
12 Take care when refitting the guide rail plastic surround, as it is fragile. Adjust the open position of the glass panel as required to fit the surround without damaging it.

Gutter

Removal

13 Remove the glass panel, as described previously in this Section.
14 Extract the two securing screws (Allen or Torx type), then lift the gutter from the roof aperture.

Refitting

15 Refit the gutter to the roof aperture at an angle, pushing it up to the stop on both sides until the retaining lugs engage with the gutter guides.
16 Refit and tighten the securing screws, then refit and adjust the glass panel as described earlier in this Section.

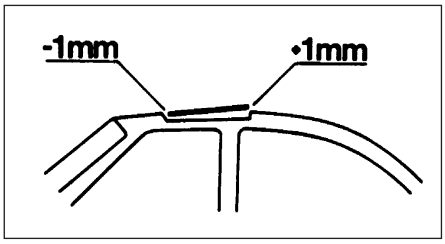
Sunshade

Removal

17 Remove the glass panel and the gutter, as described previously in this Section.

34.22A Extract the securing screws . . .

34.22B . . . then withdraw the trim panel from the roof . . .



34.10 Sunroof glass panel fitting position

18 Carefully prise the four sunshade spring clips out of the roof guides using a plastic or wooden implement to avoid damage, then withdraw the sunshade from the guides **(see illustration).**

Refitting

19 Refitting is a reversal of removal, but ensure that the spring clips engage correctly with the roof guides.

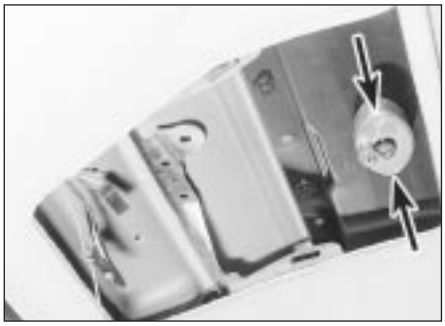
Crank drive

Removal

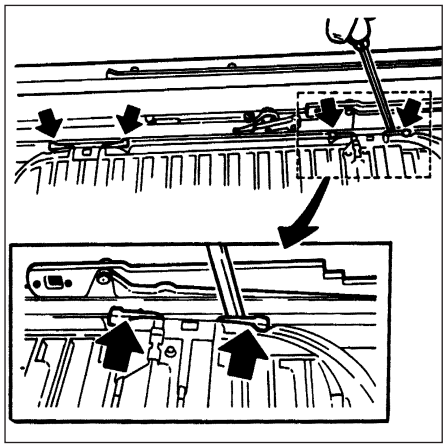
20 Prise out the trim and unscrew the crank handle securing screw. Prise the crank from the drive spindle.
21 Disconnect the battery negative lead, then prise the courtesy lamp from the roof trim panel, and disconnect the wiring.
22 Remove the two trim panel securing screws, and withdraw the trim panel from the roof **(see illustrations)**.
23 Extract the two securing screws, and remove the crank drive assembly **(see illustration)**.

Refitting

24 Refitting is a reversal of removal, remembering the following points.
25 Before finally refitting the crank handle, the crank drive must be adjusted as follows.
26 Temporarily refit the crank handle, and position it so that it faces forwards, then depress the locking button.
27 Remove the crank handle and turn the crank drive pinion anti-clockwise by hand as far as the stop.
28 Refit the crank handle so that it faces directly forwards, then tighten the securing screw and refit the trim.



34.23 . . . to expose the crank drive - securing screws arrowed



34.18 Sunshade spring clip locations (arrowed)

35 Interior trim panels - general

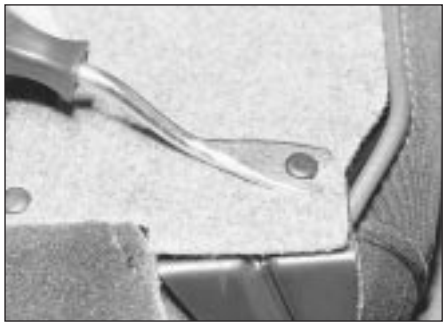
1 The various interior trim panels are secured by a variety of screws and plastic clips.
2 Where press-fit plastic fasteners are used, it is advisable to use a forked tool similar to that shown to remove them, to avoid damage to the clips and the trim panel **(see illustration)**.
3 Removal and refitting of most of the trim panels is self-explanatory but in all cases, care must be taken, as the panels are easily damaged by careless handling and the use of sharp instruments to release clips.

36 Interior trim panels - removal and refitting

Sill trim panel

Removal

1 When working on the passenger side of models fitted with ABS, extract the three securing screws and remove the cover from the ABS control module. Note that two of the screws are covered by plastic caps, which must be prised out to expose the screws.



35.2 Forked tool being used to remove clip from rear seat back trim

36.2 Sill trim panel removed to expose securing clips

2 The sill trim panel can be removed by simply prising it upwards to release the securing clips from the floor **(see illustration)**.

Refitting

3 Refitting is a reversal of removal, but ensure that the panel is correctly seated with its top edge located under the sill weatherstrip.

Footwell side trim panel

Removal

4 Release the front end of the sill trim panel from the floor, as described previously.
5 Prise the footwell side trim panel from the footwell **(see illustration)**. If necessary, pull the weatherstrip from the edge of the door aperture.

Refitting

6 Refitting is a reversal of removal, but ensure that the trim panels are correctly seated under the weatherstrip.

36.11 . . . then pull the lower trim panel from the pillar

36.5 Removing the driver's footwell side trim panel

Front body pillar trim panel

Removal

7 Prise the trim panel from the body pillar to release the six retaining clips. If necessary, pull the weatherstrip from the edge of the pillar.

Refitting

8 Refitting is a reversal of removal, but ensure that the trim panel is correctly seated under the weatherstrip.

Centre body pillar trim panels

Removal

9 Remove the sill trim panel, as described previously in this Section.
10 Prise the weatherstrips from the sides of the body pillar **(see illustration)**.
11 Pull the lower trim panel from the pillar to release the retaining clips **(see illustration)**.
12 With the lower trim panel removed, the upper trim panel can be withdrawn in the same way after unbolting the upper seat belt mounting. Prise off the trim to expose the upper seat belt mounting bolt, then unscrew the bolt and recover the spacer.

Refitting

13 Refitting is a reversal of removal, but ensure that the trim panels are seated correctly under the weatherstrips.

Rear quarter trim panels

14 Prise off the trim and unbolt the seat belt upper mounting from the body pillar. Recover the spacer.
15 Pull back the weatherstrip from the rear edge of the rear door aperture. On Hatchback models, remove the parcel shelf.

36.10 Pull the weatherstrip from the sides of the body pillar . . .

16 Remove the screws securing the upper rear quarter trim panel to the body. Note that all the screws are of the Torx type. When working on the right-hand side of Hatchback models, it will be necessary to open the first-aid kit/warning triangle cover flap in the luggage compartment for access to some of the screws.
17 Withdraw the upper seat quarter trim panel carefully, taking care not to damage surrounding panels **(see illustration)**. Where applicable, disconnect the wiring from the loudspeaker.
18 With the upper rear quarter trim panel removed, the lower trim panel can be removed.
19 The lower rear quarter trim panel is secured by a variety of screws, nuts and clips, depending upon model. Removal and refitting of the panel is self-explanatory, remembering the points made in Section 35. Note that the rubber stop must be removed from the seat catch before the trim panel can be withdrawn **(see illustrations)**.

Luggage compartment rear trim panel

20 Prise the trim panel from the rear of the luggage compartment to release the securing clips.
21 Refitting is a reversal of removal.

Tailgate trim panels (Hatchback models)

22 The tailgate trim panels are secured by screws, and removal and refitting are self-explanatory. Note that the lower side panel securing screws also secure the rear panel.

36.17 Withdrawing the upper rear quarter trim panel - Hatchback model

36.19A Removing the rubber stop from the seat catch

36.19B Withdrawing the lower rear quarter trim panel - Hatchback model

37.2 Releasing a footwell trim panel securing clip

37 Facia panels - removal and refitting

HAYNES HiNT ***Before removing any of the facia panels, the battery negative lead should be disconnected, as several permanently live feed wires are routed behind the facia.***

Footwell trim panels

Removal

1 The lower footwell trim panels on the driver's and passenger sides are secured by turnbuckle type plastic clips.

37.7 Removing the column adjuster lever

37.5A Remove the four securing screws from the fusebox aperture . . .

2 To remove a panel, use a screwdriver to turn the heads of the clips through 90° **(see illustration)**, then withdraw the panel from the facia.

Refitting

3 Refitting is a reversal of removal.

Driver's side lower facia panel

Removal

4 Open the flap covering the fusebox to expose the four lower facia panel securing screws.

5 Remove the four screws, then lower the panel and pull it towards the driver's door to release the two securing clips. Withdraw the panel from the facia **(see illustrations)**.

Refitting

6 Refitting is a reversal of removal.

37.9A Prise out the covers . . .

37.5B . . . then withdraw the lower facia panel

Steering column shrouds

Removal

7 On models with an adjustable tilt steering column, move the column to its fully raised position, then unscrew the adjuster lever **(see illustration)**.

8 Turn the steering wheel as necessary to expose one of the front steering column shroud securing screw covers.

9 Prise out the cover, and remove the column shroud securing screw, then turn the steering wheel to enable the remaining cover and screw to be removed **(see illustrations)**.

10 Remove the three securing screws from the underside of the lower column shroud, then remove the lower and upper shrouds **(see illustrations)**.

37.9B . . . then remove the front column shroud securing screws

37.10A Remove the three lower column shroud securing screws . . .

37.10B . . . then remove the lower . . .

37.10C . . . and upper shrouds (steering wheel removed)

37.13 Removing the instrument panel lower trim panel

Refitting

11 Refitting is a reversal of removal, but make sure that the column switch gaiters engage in the cut-outs in the upper shroud.

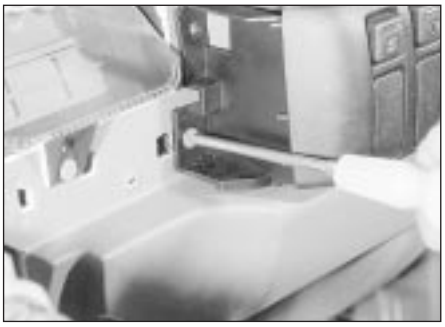
Instrument panel lower trim panel

Removal

12 Remove the steering column shrouds, as described previously in this Section.
13 The panel is secured by clips at either end, which must be released by pulling the ends of the panel from the facia **(see illustration)**. This is a tricky operation, as to release both ends, the panel must be bent slightly at its centre. Take great care, as the panel is easily broken.

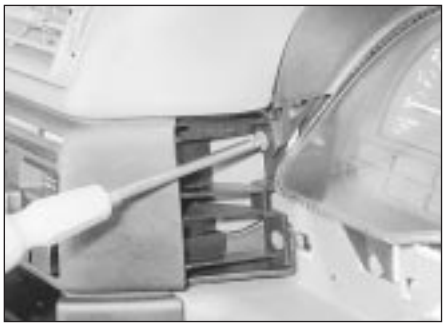
Refitting

14 Refitting is a reversal of removal.



37.20 Removing the lower left-hand lighting switch panel securing screw

37.22 Disconnecting the wiring plugs from the lighting switches



37.16 Unscrewing the left-hand instrument panel upper trim panel securing screw

Instrument panel upper trim panel

Removal

15 Remove the instrument panel lower trim panel, as described previously in this Section.
16 Extract the two now-exposed lower trim panel securing screws, one from each end of the panel, noting that the left-hand screw also secures the heater control panel **(see illustration)**.
17 Withdraw the panel from the facia **(see illustration)**.

Refitting

18 Refitting is a reversal of removal.

Lighting switch panel

Removal

19 Remove the instrument panel upper and lower trim panels, as described previously in this Section.
20 Remove the remaining securing screw from the left-hand side of the lighting switch panel **(see illustration)**.
21 Pull the lighting switch panel from the facia, to release the securing clips at the right-hand end.
22 Ensure that the battery negative lead has been disconnected, then disconnect the wiring plugs from the switches, and withdraw the switch panel **(see illustration)**.

Refitting

23 Refitting is a reversal of removal.

37.29A Right-hand securing lug (arrowed) behind heater control panel

37.17 Withdrawing the instrument panel upper trim panel

Radio/oddments tray panel

Removal

24 Remove the radio, as described in Chapter 12.
25 Remove the lower and upper instrument panel trim panels, as described previously in this Section.
26 Remove the lower securing screw from the right-hand side of the heater control panel.
27 Remove the clock or trip computer, as applicable, from the facia referring to Chapter 12, if necessary.
28 Remove the two now-exposed heater control panel securing screws from the clock/trip computer aperture.
29 Carefully manipulate the heater control panel forwards within the limits of the control cable travel, then manipulate the radio/oddments tray out from the facia. This is a tricky operation, as the radio/oddments tray securing lugs rest behind the heater control panel securing lugs **(see illustrations)**. Take care not to strain the heater control cables.
30 With the radio/oddments tray removed, the radio support tray can be removed if desired by unscrewing the two securing screws, then sliding the tray forwards to disconnect the wiring and aerial plugs **(see illustrations)**.

Refitting

31 Refitting is a reversal of removal, taking care not to damage the heater control components as the radio/oddments tray is manipulated into position.

37.29B Manipulating the radio/oddments tray from the facia

37.30A Slide the radio support tray from the facia . . .

37.30B . . . then disconnect the wiring and aerial plugs

37.32 Prise the side trim panels from the oddments tray . . .

37.33A . . . then release the lower retaining clips . . .

37.33B . . . and withdraw the oddments tray

37.34 Prise out the glovebox lamp and disconnect the wiring

37.35A Extract the upper . . .

37.35B . . . and lower glovebox securing screws . . .

37.35C . . . then withdraw the glovebox

Glovebox assembly

Warning: If an airbag is fitted, read the warning in Chapter 12, before starting work.

Removal

32 Carefully prise the side trim panels from the passenger's oddments tray, using a screwdriver **(see illustration)**.

33 Open the glovebox, then using a screwdriver, release the two lower retaining clips at the rear of the oddments tray, and withdraw the oddments tray from the facia **(see illustrations)**.

34 Where applicable, prise out the glovebox lamp, and disconnect the wiring **(see illustration)**.

35 Extract the two upper and two lower securing screws, then withdraw the glovebox assembly from the facia **(see illustrations)**.

Refitting

36 Refitting is a reversal of removal, but where applicable, feed the wiring through the glovebox lamp aperture as the assembly is offered into position.

38 Centre console - removal and refitting

Rear section

Removal

1 Prise the trim panel from the front of the rear centre console section to expose the front securing screw **(see illustration)**.

2 Extract the front securing screw **(see illustration)**.

3 Release the gaiter from the rear of the handbrake lever grip, then pull the grip from the front of the handbrake lever **(see illustration)**.

38.1 Prise the trim panel from the centre console . . .

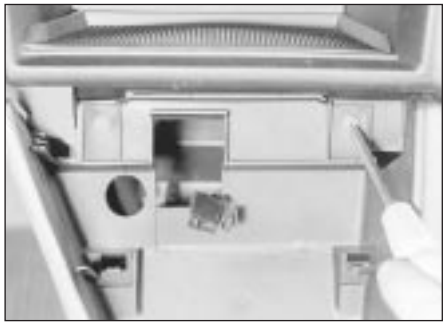
38.2 . . . then extract the front securing screw

38.3 Pull the grip from the handbrake lever

38.4 Pull the cassette storage box from the console . . .

38.5 . . . then extract the rear securing screw

38.11 Disconnecting the wiring plugs from the cigarette lighter



38.12 Extract the two centre console-to-facia securing screws

4 Pull the cassette storage box or the rubber mat, as applicable, from the rear of the centre console to expose the rear securing screw **(see illustration)**.
5 Extract the rear securing screw **(see illustration)**, then withdraw the rear centre console section upwards, feeding the gaiter over the handbrake lever.
6 Where applicable, ensure that the battery negative lead has been disconnected, then disconnect the wiring plug(s) from the electric window and/or trip computer switches.

Refitting

7 Refitting is a reversal of removal.

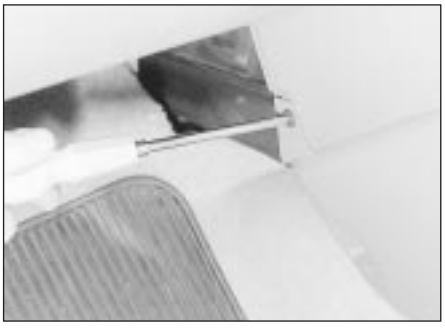
Front section

Removal

8 Remove the rear centre console section, as described previously in this Section.
9 Remove the gearchange lever, as described in Chapters 7A or 7B, as applicable.
10 Disconnect the battery negative lead, if not already done.
11 Pull the ashtray assembly from the centre console, and disconnect the wiring plugs from the cigarette lighter **(see illustration)**.
12 Extract the two now-exposed screws securing the centre console to the facia **(see illustration)**.
13 Working at either side of the centre console, remove the two lower centre console-to-facia securing screws, and the two centre console-to-floor bracket securing screws **(see illustration)**.
14 The front centre console section can now be withdrawn.

Refitting

15 Refitting is a reversal of removal, but feed the cigarette lighter wiring through the aperture in the centre console as the centre console is offered into position.



38.13 Unscrewing a side centre console-to-facia securing screw

39.2 Removing a grab handle securing screw

39 Headlining - removal and refitting

Removal

1 Where applicable, remove the sunroof crank drive, as described in Section 34.
2 Remove the grab handles from the sides of the roof **(see illustration)**.
3 Remove the sunvisors. On models with illuminated sunvisor vanity mirrors, disconnect the battery negative lead, then pull the lamp wiring from the roof as the sunvisor is withdrawn and disconnect the wiring plugs.
4 On models without a sunroof, disconnect the battery negative lead (if not already done), then prise the courtesy lamp and its trim panel from the roof and disconnect the wiring.
5 Open the doors, and prise the weatherstrips from the tops of the door apertures.
6 Remove the front body pillar and centre body pillar trim panels, as described in Section 36.
7 Loosen the upper edge of the rear quarter trim panels, referring to Section 36 if necessary.
8 On Hatchback models, open the tailgate, and prise the rear trim panel from the roof.
9 With the help of an assistant, lower the headlining from the roof, and withdraw it through the tailgate on Hatchback models or through one of the door apertures on Saloon models.

40.1 Withdrawing the outer seat rail trim

40.2 Remove the trim from the rear edge of the inner seat rail

40.3 Removing a front seat rail securing bolt, washer and backplate

Refitting

10 Refitting is a reversal of removal, but where applicable, refit the sunroof crank drive, as described in Section 34.

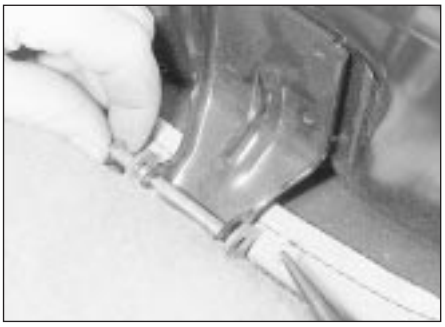
40 Seats (without tensioners) - removal and refitting

Warning: Refer to Section 43, if seat belt tensioners are fitted.

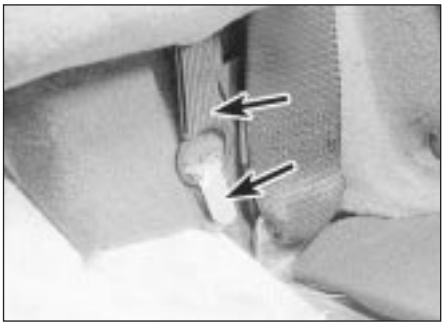
Front seats

Removal

1 Remove the single securing screw from the front edge of the outer seat rail trim, then withdraw the trim **(see illustration)**.



40.7 Removing a rear seat cushion hinge pin - SOHC models



40.19 Seat back-to-body panel securing strap and lug (arrowed)

2 Unclip the trim from the rear edge of the inner seat rail **(see illustration)**.
3 Remove the four bolts that secure the seat rails to the floor, then withdraw the seat, complete with rails. Recover the washers and backplates **(see illustration)**.
4 If desired, the seat can be separated from the rails for attention to the adjustment mechanism.

Refitting

5 Refitting is a reversal of removal. Note that the manufacturers recommend the use of new bolts to secure the seat rails to the floor.

Rear seat cushion (all SOHC models)

Removal

6 Fold the seat cushion forwards, to expose the hinge pins at the front edge of the cushion.
7 To remove a hinge pin, extract the circlip from the end of the pin, and withdraw the pin from the hinge **(see illustration)**.
8 With the hinge pins removed, the seat cushion can be withdrawn from the vehicle.

Refitting

9 Refitting is a reversal of removal.

Rear seat cushion (DOHC models)

Removal

10 Reach under the seat cushion, and pull the grab handles at either end to release the cushion from the catches on the vehicle floor.
11 Withdraw the complete cushion from the vehicle, through one of the rear doors.

40.21 Extracting a hinge-to-seat back securing screw

Refitting

12 Refitting is a reversal of removal. Push the seat cushion into position until the securing catches lock.

Rear seat back (one-piece type)

Removal

13 Fold forwards or remove the rear seat cushion, as applicable, then fold down the seat back.
14 Where applicable, bend up the lugs on the body panel, and disconnect the two rubber straps securing the ends of the seat back to the body panel.
15 Carefully remove the securing clips, and pull back the trim covering the hinges on the seat back.
16 Extract the screws securing the hinges to the seat back, then withdraw the seat back from the vehicle.

Refitting

17 Refitting is a reversal of removal, but ensure that, where applicable, the rubber strap securing lugs are bent back against the body panel, to avoid fouling the seat cushion.

Rear seat back (split type)

Removal

18 Fold forwards or remove the rear seat cushion, as applicable.
19 Where applicable, bend up the lug on the body panel, and disconnect the rubber strap securing the relevant section of the seat back to the body panel **(see illustration)**.
20 Carefully remove the securing clips, and pull back the trim covering the hinge on the seat back.
21 Extract the screws securing the hinge to the seat back **(see illustration)**.
22 Working at the central pivot of the two seat back sections, prise back the seat cushions from the centre bracket, to expose the securing nut and bolt. Note that the bolt passes through both seat back sections **(see illustration)**.
23 Unscrew and remove the nut and bolt, then carefully withdraw the seat back.

Refitting

24 Refitting is a reversal of removal, but ensure that, where applicable, the rubber strap securing lugs are bent back against the body panel, to avoid fouling the seat cushion.

40.22 Rear seat cushion pulled back to expose seat back hinge nut and bolt - split type rear seat back

41 Seat belts - removal and refitting

Note: *For details on mechanical seat belt tensioners, refer to Section 42.*

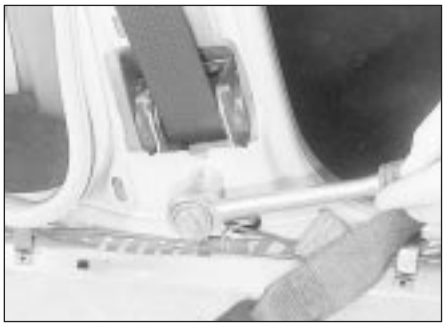
Front seat belt

Removal

1 Open both front and rear doors, and prise the weatherstrips from the edge of the centre body pillar.
2 Prise off the pillar lower trim panel to expose the inertia reel unit.
3 Unscrew the securing bolt, and tilt the inertia reel unit from the body pillar **(see illustration)**.
4 Prise off the trim and unbolt the seat belt upper mounting from the body pillar. Recover the spacer.
5 Similarly, unbolt the seat belt lower mounting, then withdraw the seat belt assembly from the vehicle.
6 If desired, the seat belt stalk can be unbolted from the seat frame, and the upper mounting height adjuster (where applicable) can be unbolted from the body pillar (Torx bolts), after prising off the pillar upper trim panel.

Refitting

7 Refitting is a reversal of removal, but note that, when refitting the height adjuster, the arrows should be uppermost, pointing towards the vehicle roof. Ensure that the belt is fitted untwisted.



41.3 Unscrewing a front seat belt inertia reel securing bolt

Rear seat belt

Removal

8 Fold the rear seat cushion forwards, or remove it, as applicable, for access to the seat belt lower mountings. Prise up the carpet to expose the mounting bolts, and unscrew the relevant bolt(s) from the floor **(see illustrations)**.
9 Prise off the trim, and unbolt the seat belt upper mounting from the body pillar. Recover the spacer **(see illustration)**.
10 Open the relevant rear door, and pull back the weatherstrip from the rear of the door aperture.
11 On Hatchback models, remove the screws securing the upper rear quarter trim panel to the body. Note that all the screws are of the Torx type, and when working on the right-hand side, it will be necessary to open the first-aid kit/warning triangle cover flap in the luggage compartment for access to some of the screws. Withdraw the trim panel carefully, taking care not to damage surrounding panels.
12 Detach the front edge of the lower rear quarter trim panel from the body. The panel is secured by clips on Saloon models, and by screws on Hatchback models.
13 Pull the lower rear quarter trim panel away from the body sufficiently to gain access to the seat belt inertia reel unit **(see illustration)**.

41.8 Rear seat belt lower side mounting - Hatchback model

14 Unscrew the securing bolt, and lift the inertia reel unit from the body panel, then withdraw the seat belt assembly from the vehicle.
15 If desired, the upper seat belt mounting height adjuster can be unbolted from the body pillar (Torx bolts), after removing the upper rear quarter trim panel **(see illustration)**.

Refitting

16 Refitting is a reversal of removal, but note that, when refitting the height adjuster (where applicable), the arrows should be uppermost, pointing towards the vehicle roof. Ensure that the belt is fitted untwisted.

42 Seat belt tensioners - general

1 All 1993-onwards Cavalier models are equipped with mechanical front seat belt tensioners which automatically tighten the front seat belts in the event of a head-on collision. The mechanically operated device ensures that the seat belt remains close to the body, thus preventing the wearer from sliding out, under the belt, during impact **(see illustration)**.
2 The tensioner system consists of a powerful preloaded spring, contained in a cylinder, which is released in the event of severe impact. The spring pulls back the seat belt by means of a bowden cable and fulcrum mechanism attached to the belt stalk, mounted on the seat frame.

41.9 Removing a rear seat belt upper mounting from the body pillar - Hatchback model

41.13 Rear seat belt inertia reel unit location - Hatchback model

41.15 Upper rear quarter trim panel removed, to expose upper seat belt mounting height adjuster

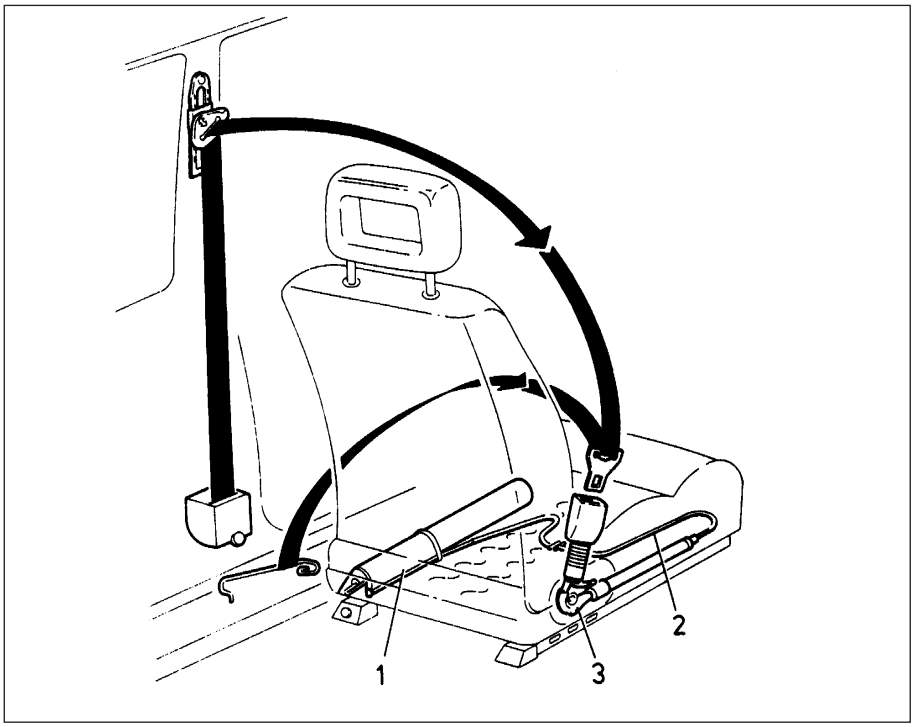
3 The tensioner assembly, fitted to the underside of the front seat, is maintenance free and, once triggered, must be replaced as a complete unit.
4 Due to the specialist safety related nature of the seat belt tensioner system, replacement must be entrusted to a suitably equipped Vauxhall dealer.

43 Front seats (with seat belt tensioners) - removal and refitting

Warning: The seat belt tensioners fitted to the front seat assemblies may cause injury if triggered inadvertently. Before carrying out any work on the front seats, a safety fork must be inserted into the seat belt tensioner cylinder, to prevent the possibility of the tensioner being triggered (see paragraphs 7 and 8 below). Seats should always be transported and installed with the safety fork in place. If a seat is to be disposed of, the tensioner must be triggered before the seat is removed from the vehicle, by inserting the safety fork, and striking the tensioner cylinder sharply with a hammer. If the tensioner has been triggered due to a sudden impact or accident, the unit must be renewed, as it cannot be reset. Due to safety considerations, tensioner renewal should be entrusted to a Vauxhall dealer.

Removal

1 Remove the single securing screw from the front edge of the outer seat rail trim, release the rear retaining lug and remove the trim rearwards.
2 Unclip the trim from the rear edge of the inner seat rail.



42.1 Mechanical seat belt tensioner system

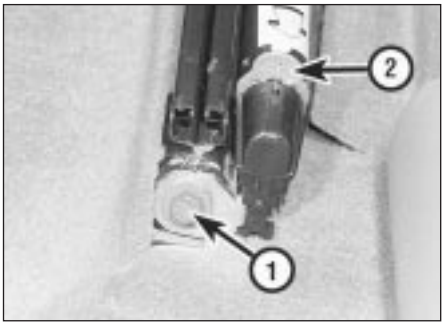
1 Spring *2 Bowden cable* *3 Fulcrum mechanism*

3 Locate the plastic safety fork for the seat belt tensioner, which is usually taped to the outside of the tensioner spring cylinder.
4 Insert the fork into the aperture provided at the rear of the spring cylinder, ensuring that the fork engages securely **(see illustration)**.
5 Remove the four bolts which secure the seat rails to the floor, then withdraw the seat complete with rails **(see illustration)**. Recover the washers and backplates.
6 Seek the advice of a Vauxhall dealer if there is any doubt about the condition of the seat belt tensioner assembly.

Refitting

7 Refitting is a reversal of removal. Note that the manufacturers recommend the use of new bolts to secure the seat rails to the floor. Tighten the bolts to the specified torque wrench settings (see Specifications) in the order - rear inner, front inner, rear outer, front outer.

43.4 Inserting the safety fork into the aperture in the seat belt tensioner spring cylinder



43.5 Front outer seat rail fixings
1 Securing bolt
2 Seat belt tensioner safety fork (inserted in the spring cylinder)