

Section S6

CENTRE DIVISION

(Long Wheelbase Cars)

Electrically operated division glass —To remove (see Figs. S61 and S62)

1. Remove the front seats and rear seat cushion (see Section S2, Front seat – To remove).
2. Remove the eight screws securing the two side cover panels to the front of the division; remove the panels.
3. Remove the division glass electric motor assembly (see Chapter M – Electrical System).
4. Prop up the division glass in the fully raised position.
5. Attach a strong piece of string, approximately 5 ft. (1.52 m.) long, centrally on the loop of the tensioning cord, then unwind the glass tensioning cord from the two hooks on the support channel, keeping a firm grip on the loop of the cord. Firmly holding the free end of the string against the pull of the tension roller, release the tensioning cord then allow the cord and string to coil round the roller as it unwinds.

When the tension has been released, indicated by the roller ceasing to rotate, lift the socket end (left-hand side) of the roller out of the slotted bracket, then detach the ratchet end (right-hand side) from the pawl bracket (see Fig. S62); remove the tension roller.

6. Remove the six $\frac{7}{8}$ in. A/F bolts and nuts securing the lower edge of the top roll panel to the division.
7. It is necessary to remove one of the two perspex end windows from the division to enable the division glass to be removed.

Remove either the left-hand or right-hand end window as follows, the removal procedure being the same for both windows.

8. Remove the $\frac{7}{8}$ in. A/F bolt, nut and thick washers securing the side trim panel and one end of the top roll panel to the bracket on the division.
9. Open the rear door and remove the screw in the side of the division end trim panel (see Fig. S66);

withdraw the panel sufficiently to disconnect the electrical leads to the interior lamp switch then remove the panel.

Note the colour codes of the leads to ensure correct assembly.

10. Remove the prop and lower the division glass onto its stops.
11. Detach the felt strip from the upper channel then remove the Phillips headed screw securing the upper end of the channel to the end window mounting block on the cantrail (see Fig. S61).
12. Remove the Phillips headed screw from the cantrail trim above the end window; carefully ease the cantrail trim away from mounting block on the cantrail.

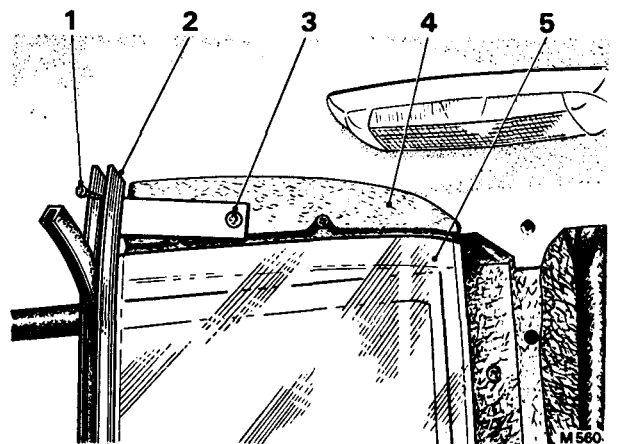


FIG. S61 POSITION OF THE DIVISION END WINDOW SECURING SCREWS

- 1 Screw—upper channel to mounting block
- 2 Upper channel
- 3 Screw - steady strip
- 4 Mounting block
- 5 End window

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13. Remove the two screws securing the upper channel steady strip to the mounting block on the cantrail, between the front and rear sections of the cantrail trim; remove the steady strip.

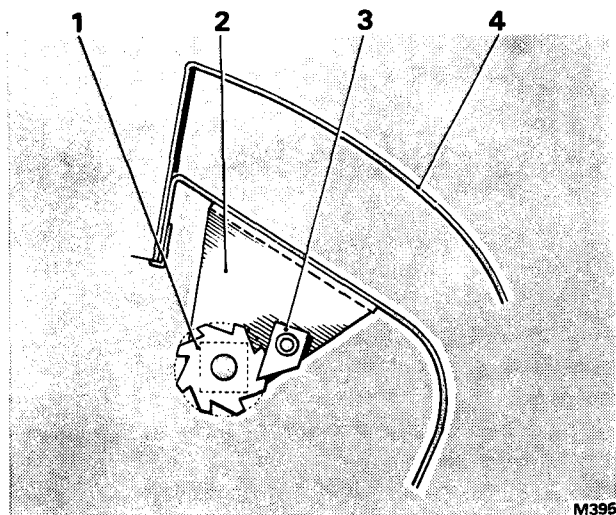


FIG. S62 TENSION ROLLER SHOWING THE PAWL ATTACHED TO THE ROLLER BRACKET

- 1 Ratchet wheel
- 2 Roller bracket
- 3 Locking pawl engaged in ratchet wheel
- 4 Division top roll panel

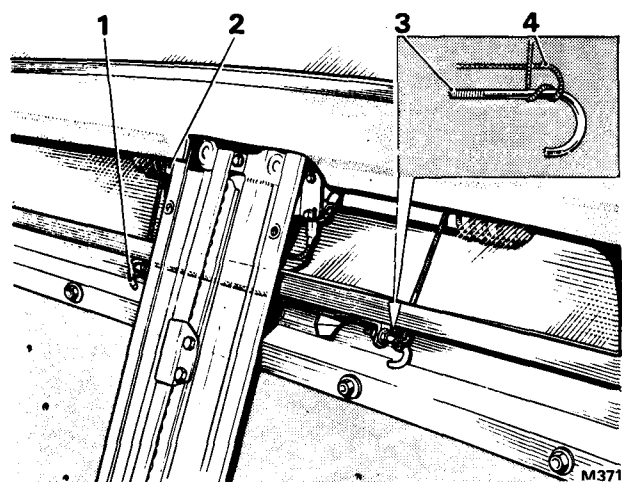


FIG. S63 METHOD OF ATTACHING THE ROLLER CORD TO THE DIVISION GLASS PICK-UP PLATE

- 1 Cord attached to hooked bolt
- 2 Tension roller
- 3 Hooked bolt
- 4 Tension cord

14. Remove the seat belt anchorage bolt and the Phillips screw from the centre pillar trim pad; remove the trim pad.

15. Remove the $\frac{7}{16}$ in. A/F bolt and nut securing the division glass upper channel to the division; remove the division end window together with its seal channel and the division glass upper channel.

16. Remove the $\frac{7}{16}$ in. A/F bolt and nut securing the end of the roll panel (same end noted in Operation 8) to the division; gently lift the freed end of the roll panel just clear of the division to enable the glass to be removed more easily.

17. Slide the division glass upward until it is clear of the lower channels, then move it sideways out of the undisturbed upper channel; remove the glass from the division.

Two people will be required for this operation, one to support each side of the glass; care must be taken to avoid damage to the glass and to the polished wood finisher on the division.

18. Until ready to refit the glass, secure the freed end of the roll panel to the division with a nut and bolt to prevent the panel becoming distorted.

Electrically operated division glass—To fit
(see Figs. S62, S63, S64 and S65)

1. Fit the division glass and perspex end window by reversing the procedure given for removal (see *Electrically operated division glass – To remove, Operations 8 to 18 inclusive*), then proceed as follows.

2. Check that the glass will move smoothly in the channels.

If necessary, slacken the channel securing nuts, re-align the channels until the glass moves smoothly then tighten the nuts.

3. Prop up the division glass in the fully raised position.

4. Fit and set the tension roller as follows (Operations 5 to 10 inclusive).

5. Ensure that the cord is attached securely to the roller with the two screws; renew the cord if it is damaged or frayed.

6. Attach a 5 ft. (1,52 m.) length of strong string midway along the loop of the tensioning cord. Holding the string at 90° to the roller to take up the slack in the cord, rotate the roller away from the string (anti-clockwise when viewed on the ratchet end of the roller) until the cord is wound onto the roller (see Fig. S64); the point where the string is attached to the cord should now be approximately half-way along the roller. Continue to rotate the roller until there are ten complete coils of the string around the roller.

7. Fit the roller to the brackets on the division; ensure that the pawl attached to the right-hand bracket is securely engaged in the ratchet wheel on the roller. (see Fig. S62).

8. Pull the free end of the string attached to the roller cord, thereby causing the roller to rotate; keep a firm grip on the string as increasing resistance will be felt as the string unwinds off the roller and the tension is applied. Continue to pull on the string until the looped centre of the roller cord can be grasped, then attach the cord to each of the two hooks on the division glass pick-up plate as shown in Figure S63; ensure that the centre of the cord (point where the string is attached) is mid-way between the hooks. Remove the string from the cord.

9. Remove the prop from under the division glass and check that the tension roller is working correctly by lowering and raising the glass by hand.

Increasing resistance should be felt as the glass is lowered; light hand pressure should be sufficient to raise the glass.

10. If the glass requires other than light pressure to raise it, the assistance of the tension roller can be increased by turning the squared adjuster on the end of the shaft (opposite end to the ratchet wheel) using a spanner. Turn the adjuster clockwise, when viewed on the adjuster end of the roller, $\frac{1}{8}$ th. of a turn only at a time; ensure that the pawl on the right-hand bracket remains in contact with the ratchet wheel while turning the adjuster. This last point is important as damage could occur due to the sudden release of tension if the pawl becomes dis-engaged from the ratchet wheel; it would also entail removing the roller and starting the fitting and setting procedure again.

11. Lightly smear the rollers on the division glass pick-up bracket with Molytone 265 grease or its equivalent then fit the division glass motor assembly (see Chapter M - Electrical System).

12. Before the side cover panels are fitted to the division, set the glass travel stop switches (see Fig. S65) by slackening the switch securing screws and adjusting the position of the switch on its elongated holes as follows.

- (a) Set the 'up' travel stop switch so that it operates when the top edge of the glass is just making contact with the head lining.
- (b) Set the 'down' travel stop switch so that it operates when the pick-up plate on the lower edge of the glass is just making contact with the felt covered stops on the division.

13. Tighten the travel stop switch securing screws when the switch is adjusted correctly.

14. Fit the division side panels and front seats by reversing the procedure given for removal.

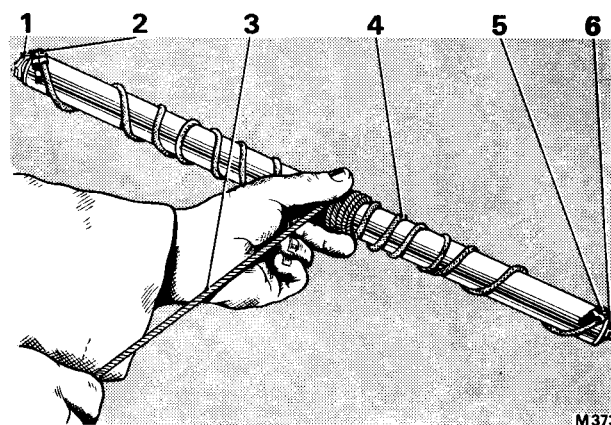


FIG. S64 TENSION ROLLER READY TO FIT

- 1 Ratchet wheel
- 2 Screw securing cord to roller
- 3 String attached to tension roller cord
- 4 Roller cord
- 5 Screw securing cord to roller
- 6 Squared adjuster

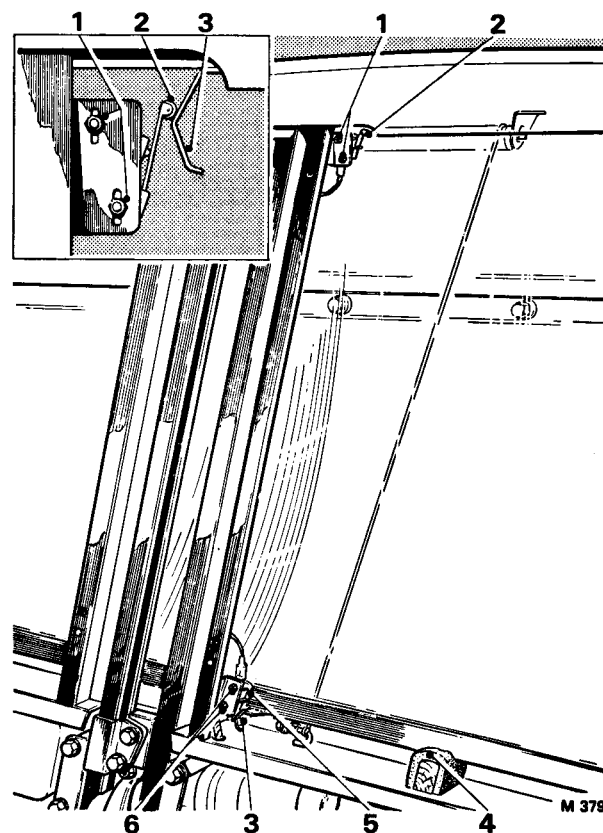


FIG. S65 DIVISION GLASS STOP SWITCHES

- 1 Securing screws—upper stop switch
- 2 Upper switch contact roller
- 3 Switch actuating bracket attached to window pick-up plate
- 4 Felt covered window stop (2 off)
- 5 Lower stop switch contact
- 6 Securing screws—lower stop switch

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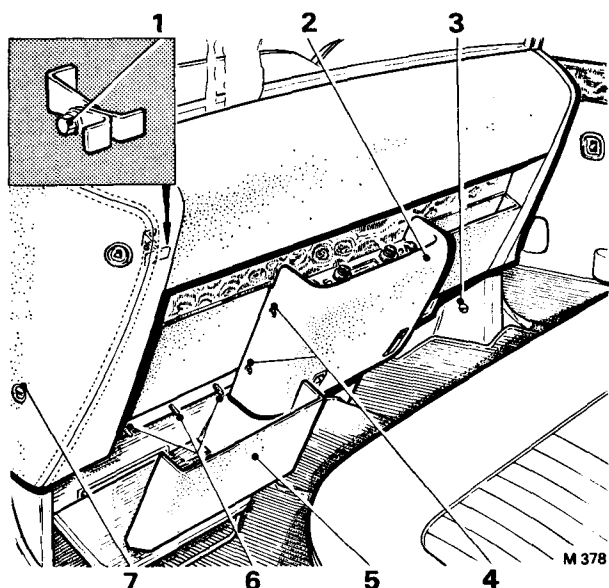


FIG. S66 POSITION OF THE DIVISION CONSOLE MOUNTING SCREWS

- 1 Bolt securing top roll and side trim panel to division
- 2 Division console
- 3 Screw-division to centre pillar
- 4 Console mounting screws
- 5 Magazine pocket (shown removed)
- 6 Magazine pocket securing studs
- 7 Screw securing side trim panel

Division console—To remove
(see Fig. S66)

Remove the three 2 B.A. nuts securing each magazine pocket to the division; the nuts are situated beneath the lower edge of the pockets.

Remove the pockets.

2. Support the console and remove the four screws securing the console to the division; the screws are situated in recessed holes in each side of the console.

3. Remove the console sufficiently to gain access to the electrical connections; disconnect the leads noting their colour code to ensure correct assembly.

4. Remove the console.

Division console—To fit

To fit the console reverse the procedure given for removal.

Centre division—To remove
(see Fig. S67)

1. Remove the division glass screen (see *Electrically operated division glass - To remove, on Page S63*).

2. Remove the remaining perspex end window from the division following the same procedure given for removing the other end window (see *Electrically operated division glass - To remove, Operations 8 to 15 inclusive*).

3. Remove the remaining $\frac{7}{16}$ in. A/F bolts and nuts securing the top roll panel to the division; remove the panel.

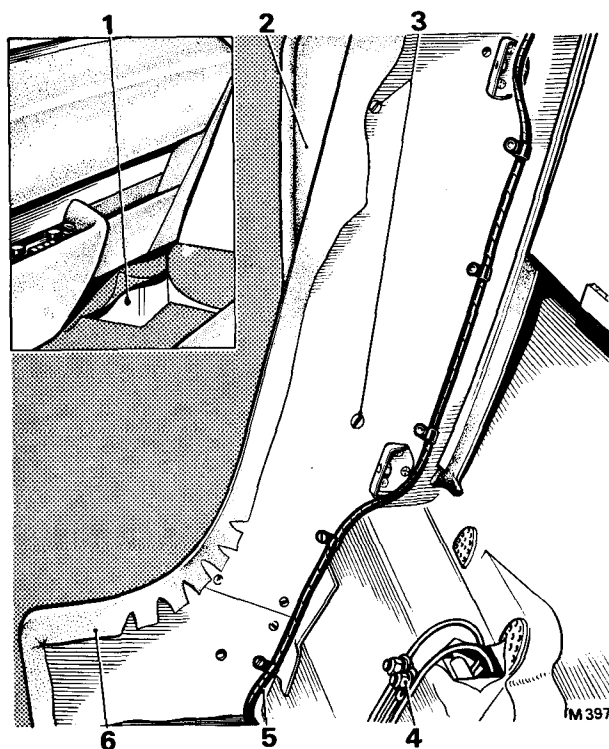


FIG. S67 SCREWS SECURING THE DIVISION TO THE BODY CENTRE PILLAR

Inset shows the location of the lower screw in the rear compartment

- 1 Lower screw—division to centre pillar
- 2 Body centre pillar
- 3 Upper screws (2 off)—division to centre pillar
- 4 2 B.A. nuts securing the rear foot rest spring clip
- 5 Electrical loom to the rear roof lamp switch
- 6 Centre division frame

4. Remove the rear console from the division (*see Division console - To remove, on Page S66*).

5. Detach the roof lamp switch looms from each side of the division by removing the screws securing the loom clips to the division (*see Fig. S67*).

6. Detach the looms at the centre of the division at the terminal connections and remove the screws securing the rear console loom clips and division glass motor loom clips to the division; carefully draw the rear console loom forward clear of the division.

7. Remove the six countersunk-headed screws securing the two angled brackets, situated one at each end of the division upper frame; remove these two brackets.

8. Detach the felt trim from the lower front edge of the division to expose the ten self-tapping screws securing the division to the car floor; remove the screws.

9. Remove the rear seat cushion.

10. Remove the front seat belt anchorage bolts if front seat belts are fitted; the bolts are situated in the rear compartment, one on each side of the floor

tunnel and one adjacent to the base of each centre pillar.

Remove the seat belts.

11. Remove the six countersunk-headed screws securing the division to the centre pillars; the two upper screws on each side are situated at the front of the division (*see Fig. S67*), the lower screw on each side is at the rear of the division (*see Fig. S66*).

12. Ease the division rearward until it is clear of the centre pillars; remove the division through the rear door aperture.

Centre division—To fit

To fit the centre division reverse the procedure given for removal noting the following points.

1. Secure the felt trim, sealing the front of the division to the car floor, with Bostik adhesive 1261 or its equivalent.

2. Before fitting the front cover plates to the division, check that the division glass can be operated satisfactorily and the stop switches are set correctly (*see Electrically operated division glass - To fit*).

Section S7

POWER OPERATED HOOD SYSTEM (Convertible Cars)

Introduction

The hood on the Rolls-Royce Silver Shadow and Bentley T series Convertible with coachwork by H. J. Mulliner, Pard Ward Limited, is power operated; electro-hydraulic equipment is provided to enable the hood to be raised and lowered.

The source of the power is an electric motor connected to the car battery and driving a hydraulic pump operating through solenoid valves. This equipment together with the hydraulic fluid reservoir, is situated behind a trim panel between the rear spring housings in the forward section of the luggage compartment (see Fig. S70).

The hood folding mechanism itself is operated by hydraulic rams in each rear quarter; the rams are connected to the folding framework of the hood behind the rear quarter windows (see Fig. S76).

Information concerning the Everflex hood and head lining is given in Section S10 - Miscellaneous Trim.

Information concerning the electrical part of the system is given in Chapter M - Electrical System.

GENERAL

Controls

A switch to operate the hood is situated on the facia panel of cars prior to Car Serial Number 6001, and on the centre console panel of cars after Car Serial Number 6000. The power operated hood system is wired through the handbrake warning lamp and will only operate when the handbrake is applied; therefore it is necessary to switch on the ignition and apply the handbrake before the switch will raise or lower the hood. The hood can be operated whether the engine is running or stationary.

For additional information on the electrical part of the system refer to Chapter M - Electrical System.

To lower the hood

1. Ensure that the handbrake is applied and 'Neutral' is selected then switch on the ignition.
2. Release the two safety catches securing the hood to the top rail of the windscreen (see Fig. S68).
3. Press the rear part of the hood operating switch (lower part on facia mounted switches) until the hood is fully lowered; release the switch.

A cover is provided to fit over the hood well to protect the retracted hood. The cover is secured over the well by press studs and when not required it is stored in a bag in the luggage compartment.

To raise the hood

1. Remove the hood cover (if fitted).
2. Ensure that the handbrake is applied and 'Neutral' is selected then switch on the ignition.
3. Press the front part of the hood operating switch (upper part on facia mounted switches) until the hood is fully raised; release the switch.
4. Fasten the two safety catches to secure the hood to the top rail of the windscreen.

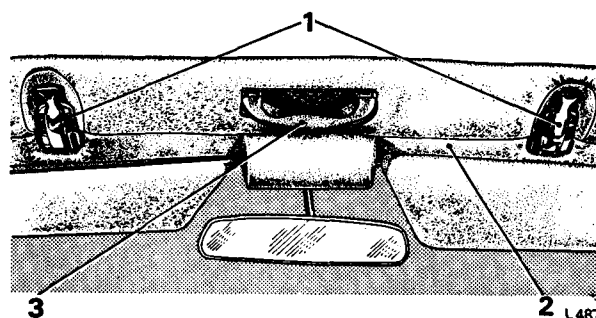
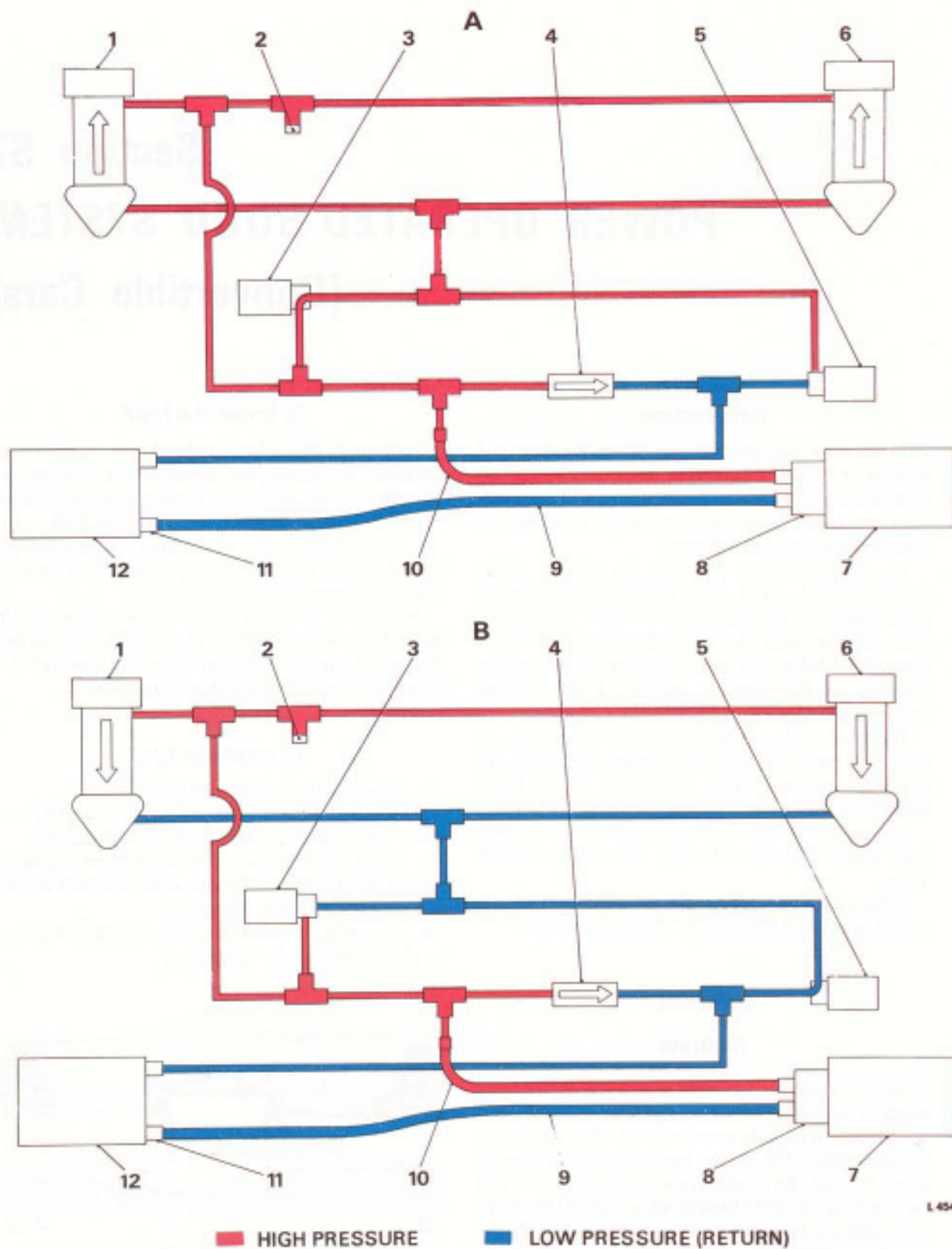


FIG. S68 POSITION OF THE HOOD SAFETY CATCHES

- 1 Hood safety catches
- 2 Top rail of windscreen
- 3 Hood handle

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FIG. S69 DIAGRAM OF THE HYDRAULIC CIRCUIT – RAISING AND LOWERING

- | | | | |
|-------------------|-----------------------|-------------------------|-----------------------------|
| A Raising | 1 Left-hand ram | 5 'Down' solenoid valve | 9 Nylon tube |
| B Lowering | 2 Test connection | 6 Right-hand ram | 10 Flexible hose |
| | 3 'Up' solenoid valve | 7 Pump motor | 11 Filter/outlet connection |
| | 4 Relief valve | 8 Pump | 12 Fluid reservoir |

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Emergency operation of the hood

Should the power operated hood become inoperative it may be raised or lowered manually by exerting steady pressure on both sides of the hood side frames, at the forward end. Resistance will be felt as the fluid is forced out of the rams.

Power operation

The electric motor of the power operated hood system runs off the car battery through a solenoid operated switch mounted adjacent to the motor (see Fig. S71). The power operated hood system will not operate if the battery voltage falls below 9 volts, therefore it is essential that the battery is maintained in a fully charged condition.

When the hood operating switch is pressed, the electric motor drives the pump through a small tongue and slot coupling. The pump supplies hydraulic fluid to the system and two solenoid valves direct the flow of fluid to the rams according to the direction of travel required. Both valves are identical and are open in the 'rest' or de-energised position. Figure S69 illustrates the position of both valves in the hydraulic circuit.

An eye bolt in the upper end of each ram piston is coupled to the folding framework of the hood. To extend (raise the hood) high pressure fluid is supplied to both sides of the ram piston. To retract (lower the hood) high pressure fluid is supplied to the annulus side only, the lower connection being open to the reservoir.

Lowering the hood (see Fig. S69). When the switch is pressed to lower the hood, the pump supplies fluid to the system at approximately 1 000 lb/sq. in. (70,31 kg/sq. cm.) and the 'Up' solenoid valve is energised to close that side of the system. Pressure is thus applied to the upper side of the ram pistons which are pressed back into their cylinders thereby retracting the hood and exhausting the fluid from the lower end of the rams through the 'Down' (de-energised) solenoid valve into the reservoir.

Raising the hood (see Fig. S69). When the switch is pressed to raise the hood, the pump supplies fluid to the system at approximately 1 500 lb/sq. in. (105,46 kg/sq. cm.) and the 'Down' solenoid valve is energised to close the return to the reservoir.

Fluid is supplied to both sides of the ram pistons but, as the pressure is applied over a greater area on the lower surface of each piston, the pistons are pressed upwards, thus raising the hood.

Hydraulic system

The hydraulic circuit is self-bleeding and does not require any venting operation. Each time the hood mechanism is operated the hydraulic fluid passes under pressure around the system and any air entering the system is returned to the reservoir where it escapes through the vent hole in the filler cap.

The reservoir is filled initially with a high grade mineral oil. Filling or topping-up the reservoir must be carried out with the hood fully lowered and an approved fluid (see Chapter D, Section D4, *Approved Lubricants*) must be used. **Under no circumstances must a castor oil base fluid (i.e. brake fluid, etc.) be used or added to the system.**

When disconnecting any hydraulic connection, immediately blank off the open ports to prevent loss of fluid and ingress of dirt.

The hydraulic system has proved to be very reliable in service and failure of the hood to raise or lower is rarely caused by a fault in the hydraulic system. A more likely cause of such a failure is that the mechanical linkage of the hood folding framework has become strained or that one of the pivot points is stiff due to lack of lubrication. Therefore, before attempting any service work on the hydraulic equipment, the mechanical links in the folding frame of the hood must first be checked and any fault corrected.

The following is a brief description of each unit in the hydraulic system.

Fluid reservoir

Fluid is drawn out of the reservoir through a gauze filter in the outlet connection and returned via the $\frac{1}{4}$ in. (6,35 mm.) outer diameter metal pipe.

The recommended fluid level is to the 'Full' mark on the dipstick attached to the filler cap. It is important that filling or topping-up the reservoir is only carried out with the hood fully retracted (open).

The pump and motor unit

The 12 volt electric motor is directly coupled through a small tongue and slot coupling to the pump.

The pump comprises three radial plungers, each being spring-loaded and reciprocating in its own liner. The plungers are operated by a central camshaft through a concentric bearing ring (see Fig. S72).

Fluid entering the liner is forced past a spring-loaded disc valve into a common annulus in the end housing and out into the hydraulic circuit. The disc valves are the non-return type and prevent fluid flowing back through the pump.

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Solenoid valves

(see Fig. S69)

Two identical solenoid valves are fitted and are open in the 'rest', or de-energised, position. By energising (closing) the appropriate valve, fluid is directed to the rams so that they extend or retract as required.

A coil is fitted to one end of the valve body (see Fig. S73). When the coil is energised, it attracts the armature and valve assembly towards a pole piece in the end of the valve body, against the resistance of the spring. The cone of the valve is then in contact with the valve seat and prevents fluid flowing through the valve.

When the coil is de-energised, by releasing the hood operating switch, the spring in the armature returns it to its normal open position.

Hydraulic rams

(see Fig. S69)

Two identical rams are fitted and they operate on the differential double-acting principal.

To extend the rams, fluid is supplied to both sides of the piston and as the piston base area is greater than the annulus area the ram will extend.

To retract the rams, fluid is delivered to the annulus area only the base connection being open to the reservoir.

Relief valve

(see Fig. S69)

The function of the line relief valve is to control the maximum pressure allowable in the hydraulic system. The valve opens at 2 000 lb/sq. in. (140,62 kg/sq. cm.).

Excessive pressure in the system will cause the cone valve to move off its seating in the valve body against the resistance of the spring, and allow fluid to exhaust to the reservoir.

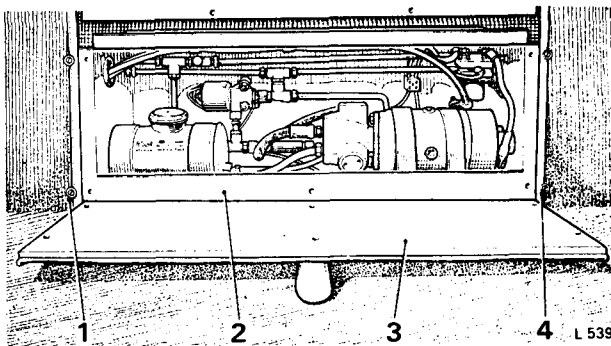


FIG. S70 ACCESS TO THE POWER PACK UNIT

- 1 Screw securing left-hand panel (4 off)
- 2 Power pack assembly
- 3 Centre access panel (shown removed)
- 4 Screw securing right-hand panel (4 off)

Hood folding mechanism

A system of links moving in prescribed arcs, enables the whole of the roof framework to fold down into the rear quarter.

The complicated part of the movement to arrange is the raising of the front part of the hood and the 'breaking' of the pivot joint in the side cantrail over the door windows when the system is operated to lower the hood. This movement is governed by a control link in the quarter behind the trim panel, operating through leverage on a triangle of links in the first cantrail joint. If any of these components become damaged or strained resulting in mis-alignment, the hood will not move properly and will possibly 'jam' preventing the hood from opening or closing.

Alternatively, the pivot points in any part of the folding mechanism may become dry through lack of lubrication creating undue pressure in the hydraulic system and causing the relief valve to open. Refer to Hood folding mechanism - Fault diagnosis, on Page S78 and also the Fault Diagnosis chart at the end of this Section for possible causes of trouble and the action to be taken.

SERVICING

Hydraulic components

Faulty units in the hydraulic system should be replaced on a service exchange basis and not dismantled for repair. However, in the event of urgent attention being required further information in addition to the removal and fitting procedure is given.

Hood mechanism

If the mechanical linkage in the hood folding mechanism becomes damaged or strained out of alignment it may be possible to rectify by following the instructions on Page S78 under Hood folding mechanism - Fault diagnosis. In certain cases, however, it may be necessary to replace the whole mechanical framework of the hood. This involves removing not only the head lining and the Everflex hood but also the 'wiggling' (i.e. the hair padding between the head lining and the hood). Fitting the 'wiggling' to retain the smooth contour of the hood is a highly specialised operation and this should be borne in mind if replacing the whole framework of the hood is contemplated.

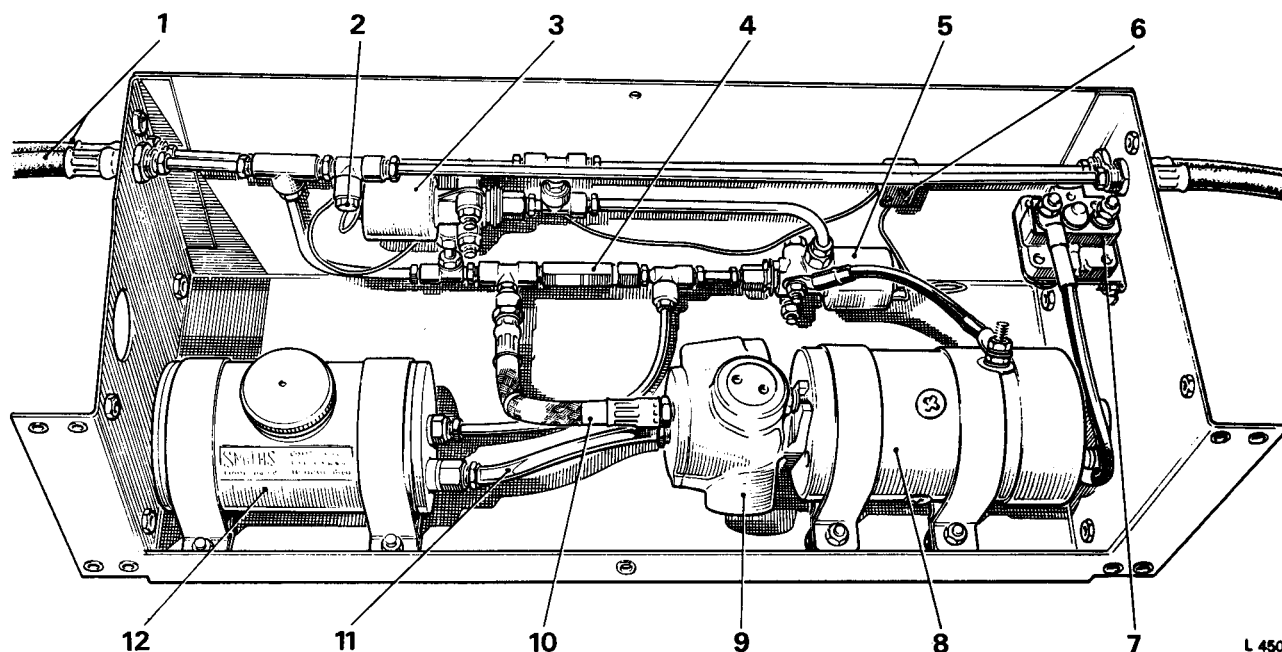


FIG. S71 COMPONENTS IN THE POWER PACK UNIT

- | | | |
|--------------------------|-----------------------------|--------------------|
| 1 Hoses to left-hand ram | 5 'Down' solenoid valve | 9 Hydraulic pump |
| 2 Test connection | 6 Electrical junction block | 10 Flexible hose |
| 3 'Up' solenoid valve | 7 Motor solenoid switch | 11 Nylon tube |
| 4 Relief valve | 8 Pump motor | 12 Fluid reservoir |

Fluid reservoir—To remove

1. Lower the hood as described on Page S69.
2. Remove the carpet from the luggage compartment floor.
3. Remove the six screws securing the centre trim panel in the forward section of the luggage compartment (see Fig. S70).
4. Disconnect the flexible pipe at the 'Tee' junction (see Fig. S71) and place the free end of the pipe in a suitable container. Blank off the open end of the 'Tee' connection.
5. Operate the hood switch to pump all the fluid out of the reservoir.
6. Disconnect the battery leads.
7. Remove the screws securing the two side panels in the forward section of the luggage compartment.
8. Remove the four 2 B.A. setscrews on each side of the power pack box which secure the box to the car body.
9. Carefully draw the power pack assembly into the luggage compartment.
10. Disconnect the fluid supply and return pipes from the reservoir. Blank off the open ends of the hydraulic pipes to prevent ingress of dirt.
11. Remove the four nuts and bolts securing the fluid reservoir retaining straps to the power pack box; remove the reservoir and retaining straps.

Fluid reservoir—To fit

To fit the reservoir reverse the procedure given for removal noting the following points.

1. After fitting the battery leads fill the reservoir with fresh approved fluid.
2. Operate the hood switch intermittently for about ten seconds to purge all air from the system, then operate the switch normally several times to ensure that the hood opens and closes correctly and that fluid does not leak from the pipe connections.
3. Finally, check the level of fluid in the reservoir and top-up to the 'FULL' mark on the dipstick if necessary.

Fluid filter—To remove

1. Remove the centre trim panel in the front of the luggage compartment and drain the fluid from the reservoir (see *Fluid Reservoir - To remove, Operations 1 to 5 inclusive*).
2. Disconnect the nylon outlet tube from the hexagonal outlet connection on the reservoir (see Fig. S71).
3. Unscrew the hexagon outlet connection from the reservoir and remove together with the integral filter tube.

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Fluid filter—To fit

To fit the filter, reverse the procedure given for removal noting the following point.

1. Before fitting the power pack access panel connect the battery leads and carry out the reservoir filling procedure described under Fluid reservoir - To fit, Operations 1 to 3 inclusive.

Hydraulic pump

The hydraulic pump should normally be changed for a service exchange unit, but in case urgent attention is required further details are given as follows.

The pump does not require regular attention as all moving parts are continually immersed in hydraulic fluid. Except through oil seal failure trouble should not be experienced with the camshaft other than normal operational wear. If, however, a seizure does occur at the camshaft, the camshaft and bearing ring must be renewed as a set.

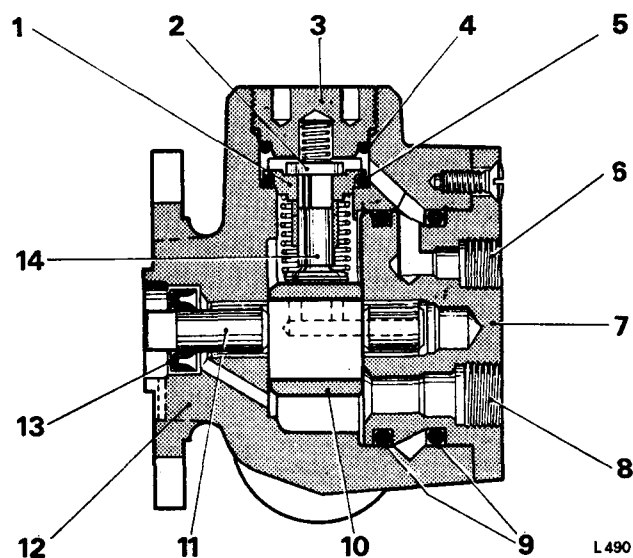


FIG. S72 SECTIONAL VIEW OF THE PUMP

- 1 Liner
- 2 Disc valve
- 3 Cylinder plug
- 4 'O' ring—plug
- 5 'O' ring—liner
- 6 High pressure fluid outlet
- 7 End cover assembly
- 8 Fluid inlet from reservoir
- 9 'O' rings—end cover
- 10 Bearing ring
- 11 Camshaft
- 12 Pump body
- 13 Shaft oil seal
- 14 Plunger

Unless trouble with the camshaft is definitely suspected attempts to dismantle the pump should not be made.

If a pump is dismantled, great care must be taken to maintain absolute cleanliness of all components and to avoid damage to the camshaft oil seal. Leakage from the camshaft oil seal will necessitate renewal of the pump.

All dismantled metal parts must be cleaned with thinners or a similar fluid and all interior components must be smeared with clean approved fluid before assembly.

When removing a pump plunger, always retain each plunger with its respective liner (*see Fig. S72*). Never fit a new plunger in an old liner or vice versa. When necessary renew them as a set together with a new disc valve.

If after prolonged use a disc valve becomes 'dished' or embedded with particles of swarf, etc., it must be renewed.

Hydraulic pump—Fault diagnosis

- A. Failure of the pump to hold pressure could be due to one or more of the following causes.
 - (i) **Leakage at the disc valves.**
Remove the cylinder plugs and examine the valves and seals for dishing or wear; renew the valve if necessary.
 - (ii) **Leakage at the 'O' rings.**
Remove the 'O' rings and examine for damage; renew 'O' rings if necessary.
 - (iii) **Leak under liners.**
Remove the liner and examine the sealing faces between the liner and pump body for wear. Fit a new liner if necessary or renew the pump.
- B. An external leakage of fluid could be due to either of the following causes.
 - (i) **Leakage from the 'O' rings.**
If leakage is from a cylinder plug, remove the plug; renew the 'O' ring and also the plug if necessary.
If the leakage is from the end housing, remove the housing and renew the 'O' rings.
 - (ii) **Leakage from the camshaft oil seal.**
A leakage past the camshaft oil seal will necessitate renewal of the pump.
- C. Failure of the pump to deliver maximum pressure although operating at maximum speed could be due to one or more of the following causes.
 - (i) **One or more of the plungers being seized in the liner bore.**
 - (ii) **A broken plunger return spring.**

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(iii) **Leakage at one or more of the disc valves.**

In the case of (i), (ii) or (iii), remove the cylinder plugs and renew components as necessary.

(iv) **Seizure of the cam bearing.**

If the cam bearing is found to be seized remove the camshaft and renew the camshaft and bearing ring as a set.

D. If the pump overheats or becomes noisy the cause may be due to either of the following causes.

In either case the pump must first be removed from the motor.

(i) **A worn or damaged tongue and slot coupling.**

If the coupling is found to be worn or damaged, renew the coupling. Also check the mating tongue and slot on the pump motor and the pump for wear or damage; renew either or both units if necessary.

(ii) **Seizure of the drive shaft.**

The drive shaft should rotate freely when the drive end is turned with the aid of pliers, if the pump shaft will not rotate freely (with the aid of pliers), dismantle the pump and examine the journal bearing bushes; renew the pump body or end housing, if the bushes are damaged or severely worn. Also, examine the cam ring (*see Fig. S72, item 10*) and renew if scored or worn.

E. A continuous delivery of foamy fluid indicates that air is being drawn into the pump body. Check all inlet pipe connections for tightness and if the fault persists, examine the pump shaft oil seal for leakage. If the seal is leaking, fit a new pump.

Hydraulic pump—To remove

1. Disconnect the battery leads.
2. Remove the six screws securing the centre trim panel in the forward section of the luggage compartment (*see Fig. S70*); remove the panel.
3. Disconnect the nylon tube and flexible hose from the pump (*see Fig. S71*) and blank off the open ends to prevent loss of fluid and ingress of dirt.
4. Remove the two setscrews securing the pump to the electric motor; remove the pump, retaining the coupling. Note the relative position of the pump to the motor to ensure correct assembly.

If difficulty is experienced in gaining access to the lower pump setscrew, remove the four nuts securing the pump motor retaining straps (*see Fig. S71*), disconnect the electrical cables from the motor and remove the pump and motor together. Note the position of the cables to ensure correct assembly.

To fit hydraulic pump to motor

1. Fit the coupling into the drive end of the motor armature shaft.
2. Pack the coupling with grease.
3. Locate the spigot of the pump in to the motor end plate.
4. Position the pump on the motor and rotate the pump until the slots in the flange are in line with the tapped holes of the motor end plate.
5. Carefully remove the pump from the motor without rotating the armature shaft.
6. Screw one setscrew complete with a plain and a spring washer two or three threads into the motor end plate.
7. Locate the flange of the pump under the plain washer.
8. Fit the remaining setscrew complete with a spring and plain washer.
9. Carefully tighten each setscrew in turn ensuring that the pump spigot is located in the motor.

Hydraulic pump—To fit

To fit the pump, reverse the procedure given for removal noting the following point.

1. Before fitting the power pack access panel, top-up the fluid reservoir with approved fluid and test the system as described on Page S73 (*see Fluid reservoir – To fit, Operations 1 to 3 inclusive*).

Solenoid valve—Fault diagnosis

A. Complete failure of the valve to operate may be due to an electrical fault. The wiring, switches and solenoid coils should therefore be checked for continuity (*see Chapter M – Electrical System*).

B. If a mechanical fault is suspected check that the solenoid valve is being energised, movement inside the valve can be felt when the hood switch is operated.

Note The lead to the pump motor must be disconnected while this test is being carried out.

C. Failure of the valve to release (open) could be due to the bobbin being jammed (*see Fig. S73*). Dismantle the valve and examine; check that the armature release spring is free.

D. Failure of the valve to hold pressure may be due to a damaged valve or valve seat (*see Fig. S73*). To remedy this, remove the valve and inspect the valve seat for score marks; renew one or both components if necessary.

E. Leakage of fluid past the coil casing or the valve seat adjuster could be due to damaged 'O' rings. Dismantle the valve and fit new 'O' rings.

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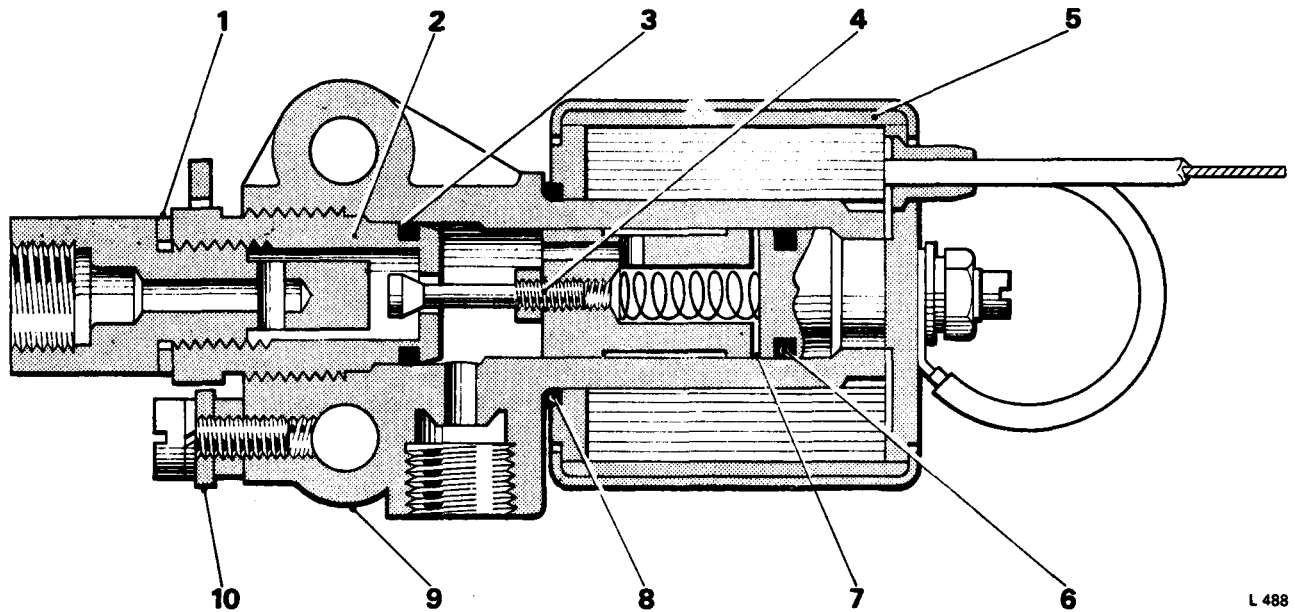


FIG. S73 SECTIONAL VIEW OF A SOLENOID VALVE

- | | | |
|-----------------------|-----------------------|------------------------|
| 1 Sealing washer | 4 Valve | 8 'O' ring—coil |
| 2 Valve seat adjuster | 5 Coil assembly | 9 Valve body |
| 3 'O' ring—adjuster | 6 'O' ring—pole piece | 10 Lock plate—adjuster |
| | 7 Air gap | |

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Solenoid valve—To remove

The removal procedure is identical for both valves.

1. Disconnect the battery leads.
2. Remove the six screws securing the centre trim panel in the luggage compartment (see Fig. S70); remove the panel.
3. Disconnect the appropriate electrical lead from the junction block (see Fig. S71).
4. Disconnect the two hydraulic pipes from the solenoid valve and blank off the open ends of the pipes.
5. Remove the two nuts and washers securing the valve to the bolts in the power pack casing, remove the valve.

Note On early cars it will be necessary to draw the power pack assembly into the luggage compartment (see *Fluid reservoir - To remove, Operations 7 to 10 inclusive*) as the valve securing bolts on these cars are not fitted with lock-nuts as they are on later cars.

Solenoid valve—To fit

To fit the solenoid valve, reverse the procedure given for removal noting the following.

1. Before fitting the centre trim panel, carry out the

filling and topping-up procedure described on Page S73 (see *Fluid reservoir - To fit, Operations 1 to 3 inclusive*).

Relief valve—To remove

1. Disconnect the battery leads.
2. Remove the centre trim panel in the luggage compartment.
3. Disconnect the hydraulic pipe from each end of the valve and blank off the open ends of the pipes.
4. Remove the relief valve.

Relief valve—To dismantle
(see Fig. S74)

Because the valve is not externally adjustable, it is not advisable to dismantle this unit unless a hand pump and pressure gauge is available. If the necessary equipment is available proceed as follows.

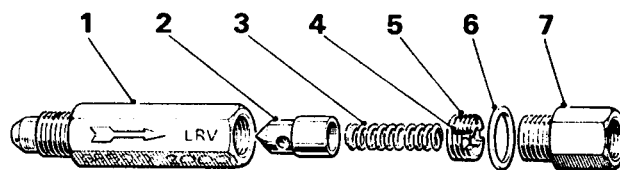
1. Unscrew the hexagon adaptor from the valve body.
2. Using a suitable screwdriver remove the threaded internal adjuster from inside the relief valve body; remove the pressure spring and cone-seated valve.

Note Nylon strips, inset into the threads of the adjuster, provide a self-locking effect.

Relief valve—To assemble and set

Clean all parts with thinners or a similar fluid prior to assembly then proceed as follows.

1. Ensure that the valve and seat are clean and undamaged; renew parts as necessary.
2. Fit the valve, spring and adjuster into the valve body, ensuring that the spring is located correctly in the valve and the adjuster.
3. Using a screwdriver, screw the adjuster in as far as possible then unscrew for 3 or 4 turns.
4. Connect a hand pump and gauge to the cone-shaped end of the valve body, holding the open end of the valve over the supply tank.
5. Apply pressure and screw the threaded adjuster in or out until a pressure of 2 000 lb/sq. in. (140,62 kg/sq. cm.) is required to open the valve.
6. Remove the hand pump and fit the hexagon adaptor to the valve body using a new sealing washer.



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FIG. S74 EXPLODED VIEW OF THE RELIEF VALVE

- 1 Valve body
- 2 Cone valve
- 3 Spring
- 4 Adjusting piece
- 5 Nylon locking strip
- 6 Washer
- 7 Adaptor

ing the rear seat cushion, seat backrest and the main quarter trim panel. If a ram is faulty a replacement unit should be fitted, but if a ram is dismantled, extreme care must be taken to prevent damage occurring to the hard chrome finish on the ram piston.

Relief valve—To fit

To fit the relief valve, reverse the procedure given for removal noting the following.

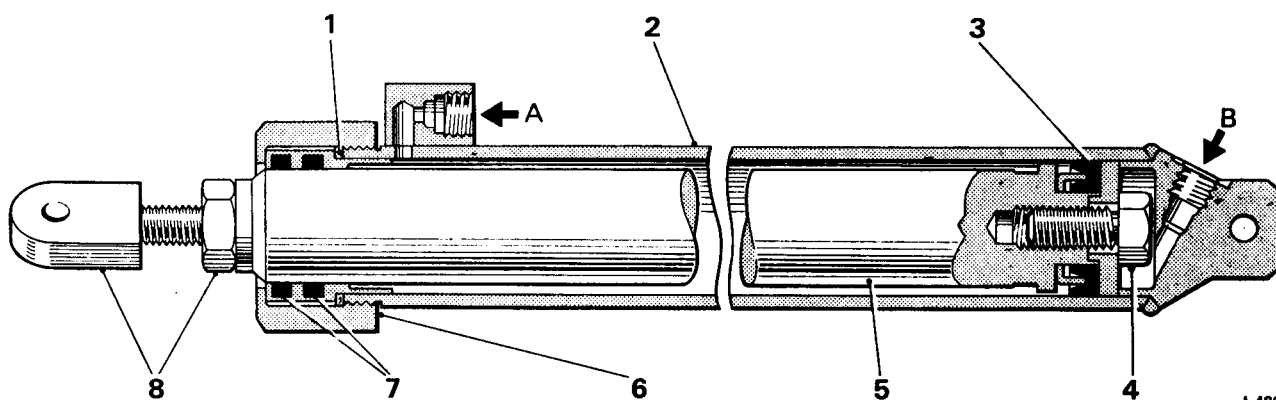
1. Before fitting the centre trim panel, top-up the fluid reservoir and test the hydraulic system as described on Page S73 (see *Fluid reservoir—To fit, Operations 1 to 3 inclusive*).

Hydraulic rams

The two hydraulic rams are situated one in each quarter and are connected to the power pack assembly by flexible hoses. Access to a ram is gained by remov-

Hydraulic ram—Fault diagnosis

- A. Failure of a ram to retract may be due to a faulty oil seal. Dismantle the ram and fit a new seal.
- B. Leakage of fluid past the threads of the bearing retainer (see Fig. S75) would be due to a faulty sealing washer. Remove the bearing retainer and fit a new sealing washer.
- C. Leakage of fluid past the piston and bearing would be due to a faulty 'O' ring. Dismantle the ram sufficiently to gain access to the 'O' rings and renew the 'O' rings.



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FIG. S75 SECTIONAL VIEW OF A HYDRAULIC RAM

- | | | |
|--------------------------------------------------|-----------------------------------|-------------------------|
| A Fluid connection to annulus side of ram | 1 Sealing washer—bearing retainer | 5 Piston |
| B Fluid connection to base of piston | 2 Ram body | 6 Bearing retainer |
| | 3 Piston seal | 7 'O' rings—piston |
| | 4 Gland support screw | 8 Eye bolt and lock-nut |

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Hydraulic ram—To remove

The removal procedure for each ram is identical.

1. Lower the hood as described on Page S69.
2. Disconnect the battery leads.
3. Remove the rear seat cushion and backrest (see Section S2, *Rear seat - To remove*).
4. Remove the rear quarter trim panel (see Section S5, *Quarter window - To remove, Operations 4 to 9 inclusive*).
5. Disconnect the two flexible hoses from the ram and blank off the open ends of the hoses.
6. Remove the split pin from the nut and remove the nut and bolt securing the ram eye bolt to the head links of the folding mechanism.
7. Remove the bolt and nut securing the ram to the car body; remove the ram.

Hydraulic ram—To fit

To fit a ram reverse the procedure given for removal noting the following points.

1. Before fitting the quarter panel and the power unit access panel, top-up the fluid reservoir with approved fluid and test the system as described on Page S73 (see *Fluid reservoir - To fit, Operations 1 to 3 inclusive*).
2. If the hood ram has been renewed and the hood will not raise fully when the system is operated, proceed as follows.

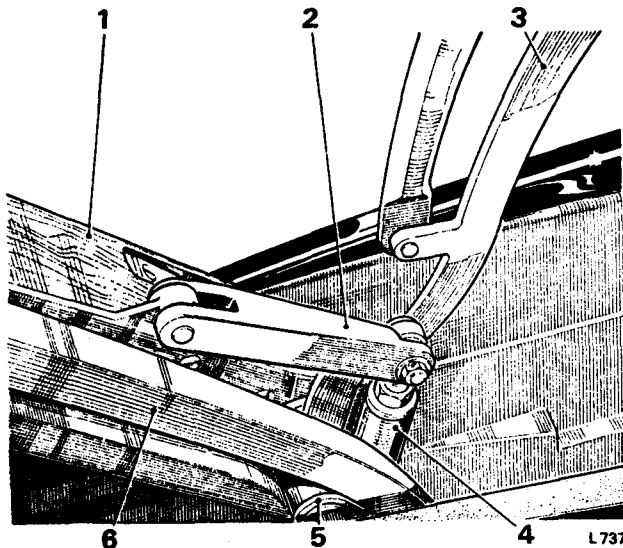


FIG. S76 HOOD LINKAGE TO RAM

- 1 Hood pillar
- 2 Link—ram to main headplate
- 3 Rear cross-member
- 4 Ram
- 5 Main mounting bracket
- 6 Main link—bracket to cantrail

Remove the bolt securing the ram eye bolt to the head link. Secure the hood to the windscreen upper rail with the safety catches. Slacken the bolt and nut securing the ram to the body; do not remove the bolt. Slacken the ram eye bolt lock-nut (see Fig. S76) and adjust the length of the eye bolt until the bolt securing the eye bolt to the head link can be fitted; fit and tighten the bolt. Tighten the eye bolt lock-nut and the bolt securing the ram to the car body.

Hood folding mechanism—Fault diagnosis

The main reasons for the folding framework not operating correctly are damage, mis-alignment of the linkage and lack of lubrication at the pivot points.

A. Typical evidence of slight mis-alignment is when the front of the roof will lift approximately 4 to 6 inches (10 to 15 cm.) but the side cantrail joints will not 'break' and the system then stalls with the hydraulic pump exhausting through the relief valve.

B. If the hood motor is heard to be operating when the switch is pressed but the hood will not move, or will only move a few inches, then the linkage should be checked as follows before investigating a possible hydraulic fault.

- (i) Move the hood manually to the half-way position by exerting a steady pressure on the hood side frames at the forward end.
- (ii) Pull back the hood and headlining and visually check the front part of the mechanical linkage for a broken pivot bolt or a broken or strained link.
- (iii) Remove the wood finishers from the quarter pillars and pull back the head lining in the quarters. Visually check the rear part of the mechanical linkage for a broken bolt or a broken or strained link.
- (iv) Lubricate all pivot points with oil or light grease, ensuring that this does not get onto the hood or head lining.
- (v) If a pivot bolt or link is found to be broken it must be renewed.
- (vi) The alignment of the various components of the folding mechanism has to be extremely accurate if the hood is to operate correctly. It is possible for damage to occur to the folding mechanism, putting it out of alignment, if a heavy weight is placed on the hood when in either the raised or lowered position (i.e. someone standing or sitting on the hood). If damage has occurred, putting the pivot points out of alignment, it will be extremely difficult to reset the links and visually re-align them to restore them to their correct dimensions. In the event of not being able to obtain the correct alignment the whole side assembly of the hood, on one or both sides as necessary, will have to be replaced as follows.

Hood folding mechanism side assembly**—To remove****(see Fig. S76)**

The removal procedure is the same for both side assemblies; if one side only is damaged it will only be necessary to remove that side.

1. Remove the hood outer covering (refer to Section S10 – Miscellaneous Trim).
2. Remove the rear seat cushion and back rest (refer to Section S2).
3. Remove the quarter panel and the wooden finishers from around the rear quarter window.
4. Remove the wood finisher from the hood pillar and detach the head lining from the pillar.
5. Detach the head lining from the hood peak rail sufficiently to gain access to the screws securing the peak rail to the cantrail; remove these screws and detach the cantrail from the hood peak rail.
6. Disconnect the hood cross-members from the cantrail.
7. Remove the bolt securing the hood rear cross-member to the main head plate on the main mounting bracket (see Fig. S76).
8. Remove the split pin from the nut and remove the nut and bolt securing the link to the ram eye bolt (see Fig. S76).
9. Remove the bolts securing the main hood mechanism mounting brackets to the quarter panels (see Fig. S76); remove the side assembly.

Hood folding mechanism side assembly**—To fit**

To fit the new side assembly reverse the procedure given for removal noting the following points.

1. Lubricate the pivot points after assembly.
2. The damaged hood mechanism which has been replaced because it is out of alignment can be returned to the factory for repair and re-use as a service replacement unit.

MAINTENANCE**Hydraulic system**

Periodically, remove and clean the filter in the fluid reservoir outlet connection (see Fluid filter – To remove, on Page S73).

Every 24 000 miles (40 000 km.) or 2 years whichever is the earlier, fully lower the hood then check the level of fluid in the reservoir. Top-up if necessary to the 'FULL' mark on the dipstick with an approved fluid (see Chapter D, Section D4, Approved Lubricants).

Under no circumstances must a castor oil based fluid (i.e. brake fluid, etc.) be used in the hydraulic system.

Folding hood mechanism

Regularly, clean all accessible head pivot points and lubricate with oil or light grease with the head partly open. Care must be taken to ensure that the head fitting is left free from excess grease or oil to prevent staining the head lining.

FAULT DIAGNOSIS-GENERAL

SYMPTOM	POSSIBLE CAUSE	ACTION
1. Electro-hydraulic equipment not functioning when the hood switch is operated	<ol style="list-style-type: none"> (a) The battery voltage has fallen below 9 volts (b) The solenoid switch for the pump motor is faulty (c) Faulty hood operating switch (d) Faulty fuse (e) Faulty electric motor (f) Break in electrical wiring (g) Incorrectly tightened or dirty electrical connections 	<ol style="list-style-type: none"> 1. (a) Recharge the battery (see Chapter M – Electrical System) (b) Check the solenoid windings and switch contacts for continuity (see Chapter M – Electrical System) (c) Check the switch contact for continuity (see Chapter M – Electrical System) (d) Renew fuse if faulty (see Chapter M – Electrical System) (e) Check and repair or renew motor if necessary (see Chapter M – Electrical System) (f) Check wiring for continuity and rectify as necessary (see Chapter M – Electrical System) (g) Check connections, clean and tighten as necessary (see Chapter M – Electrical System)

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SYMPTOM	POSSIBLE CAUSE	ACTION
2. The power unit is working correctly but the hood will not open or close	2. (a) Broken pivot pin or link in the hood folding mechanism, pivot points binding or seized due to mis-alignment or lack of lubrication (b) Both solenoid valves are not operating (c) Lack of hydraulic fluid	2. (a) Check the mechanism and rectify as necessary (<i>see Hood folding mechanism - Fault diagnosis, on Page S78</i>) (b) Check the wiring, switch and solenoid coil for continuity (<i>see Chapter M - Electrical System</i>) If correct, check solenoid valves for mechanical fault (<i>refer to Solenoid valve - Fault diagnosis, on Page S75</i>) (c) Check the level of fluid in the reservoir and top-up if necessary (<i>see Fluid reservoir - To fit, on Page S73</i>) If topping-up is required check also for fluid leaks in system and rectify as necessary
3. The hood will not open although the pump is working	3. (a) Fault in the hood folding mechanism (<i>see 2(a)</i>) (b) The 'UP' solenoid valve is not closing (c) The piston gland seal in a hood ram is leaking (d) Lack of hydraulic fluid	3. (a) Same actions as noted under 2(a) (b) Check the wiring, switch contacts and solenoid valve coil for continuity and repair or renew components as necessary (<i>see Chapter M - Electrical System</i>) If a mechanical fault is suspected, check that the solenoid valve is being energised (<i>see Solenoid valve - Fault diagnosis, on Page S75</i>) If the valve is faulty, renew or repair (c) Renew ram or fit new seal (<i>see Hydraulic ram - Fault diagnosis, on Page S77</i>) (d) Same action as noted for 2(c)
4. The hood will not close although the pump is working	4. (a) Fault in the hood folding mechanism (<i>see 2(a)</i>) (b) The 'DOWN' solenoid valve is not closing (c) The piston gland seal in a hood ram is leaking (d) Lack of hydraulic fluid	4. (a) Same action as noted for 2(a) (b) See action noted under 3 (b) for the 'UP' solenoid valve and repeat for the 'DOWN' valve (c) Same action as noted for 3(c) (d) Same action as noted for 2(c)
5. The hood opens and closes very slowly	5. (a) Fault in the hood folding mechanism (<i>see 2(a)</i>) (b) Faulty pump (c) The relief valve is leaking (d) The filter in the fluid reservoir outlet connection requires cleaning	5. (a) Same action as noted for 2(a) (b) Renew or repair pump (<i>see Hydraulic pump - Fault diagnosis, on Page S74</i>) (c) Remove and dismantle the relief valve as described on Page S76. Check that the cone valve and valve seat are clean and free from damage. Renew or repair valve if faulty Check that the valve blows off at the correct pressure and reset if necessary (<i>see Relief valve - To assemble and set, on Page S77</i>) (d) Remove and clean the filter (<i>see Fluid filter - To remove, on Page S73</i>)

Section S8

ACCIDENT REPAIRS

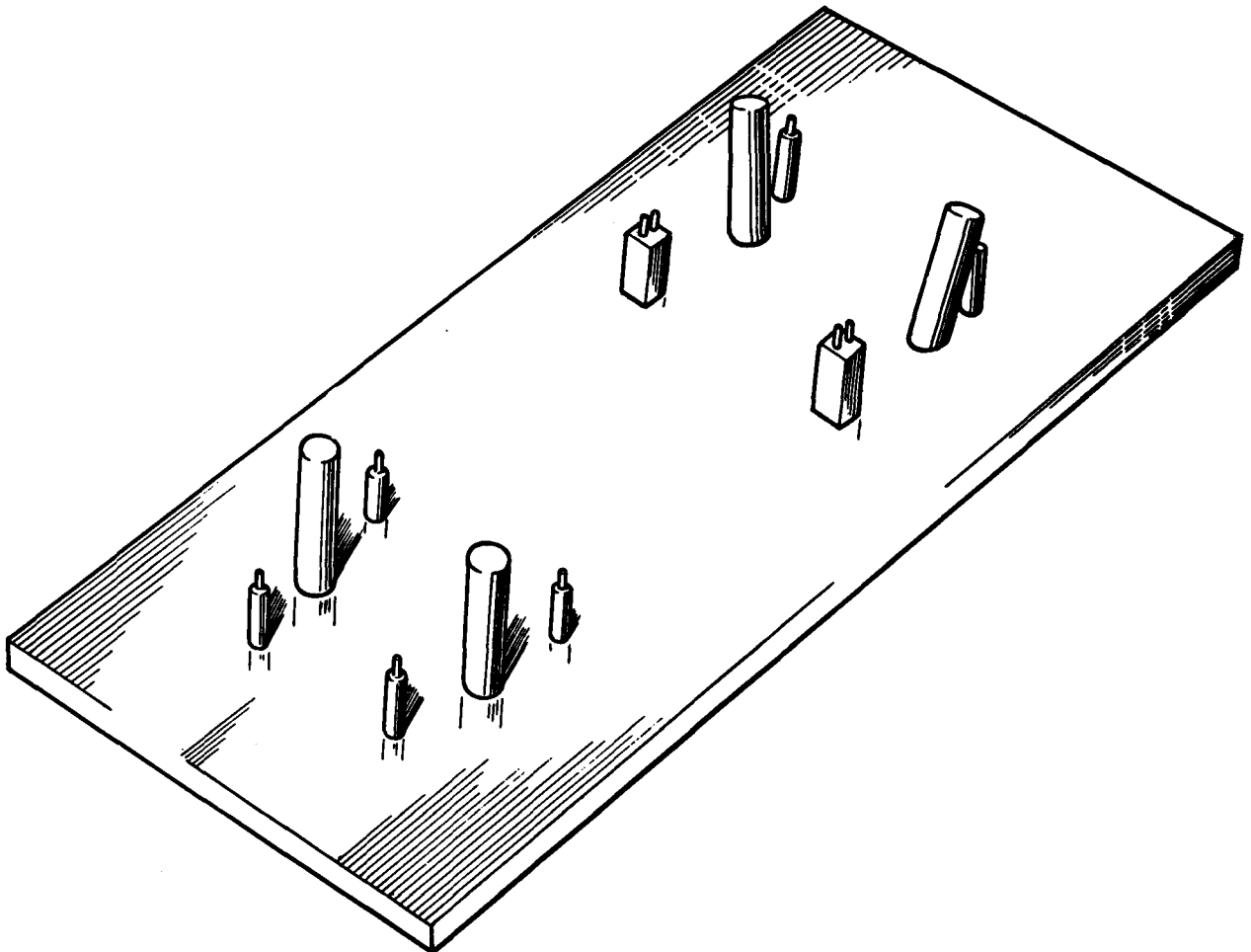
General

Body repairing is a very specialised trade and under no circumstances should repairs be contemplated by an inexperienced person. This Section has been written to assist the specialist.

Before attempting to carry out any work on the body, time will be well spent estimating the extent of the damage and the section(s) requiring renewal. When estimating, reference to all the illustrations in this Section and to the Parts List, (Publication T.S.D.

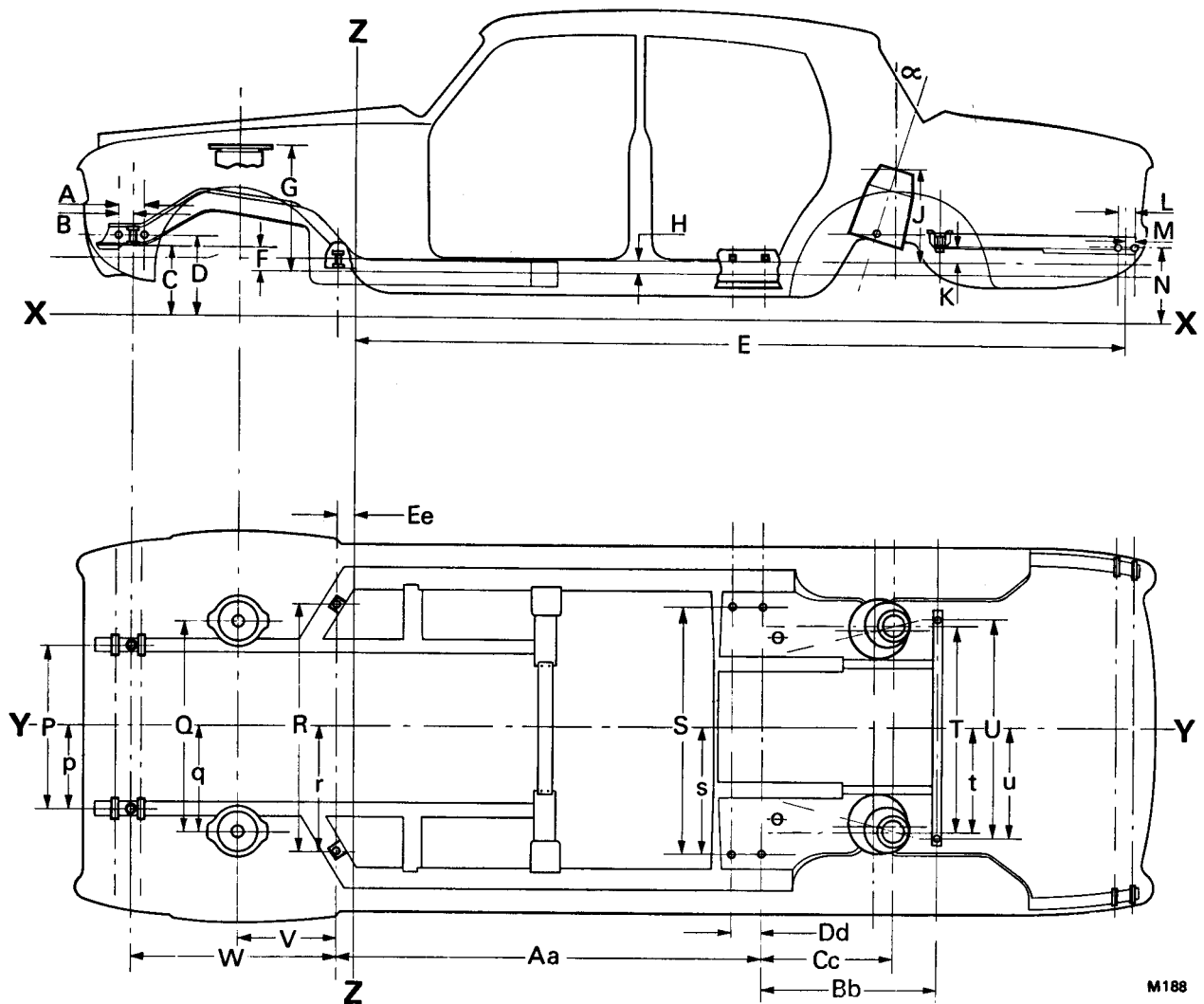
2201) will be necessary to ensure that the damaged portion of the body can be repaired, also to familiarise oneself with the various parts available.

Usually, the majority of damage can be rectified without removing major units from the body, however, if the damage is extensive, the units should be removed as described in the appropriate Chapter of this Workshop Manual, e.g. reference should be made to Chapter H, Section H2 for removal of the engine and front sub-frame.



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FIG. S77 SUGGESTED BODY MOUNTING FIXTURE



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FIG. S78 BODY MOUNTING POINT DIMENSIONS (4-Door Saloon and Long Wheelbase Cars)

A	4 1/4 in. (10,80 cm.)	R	43 13/32 in. ± 1/16 in. (110,25 cm. ± 1,59 mm.)
B	2 7/8 in. (6,15 cm.)	r	21 45/64 in. ± 1/32 in. (55,13 cm. ± 0,79 mm.)
C	11 3/32 in. (28,97 cm.)	S	45 3/8 in. ± 1/16 in. (115,25 cm. ± 1,59 mm.)
D	12 3/32 in. (31,04 cm.)	s	22 1/16 in. ± 1/32 in. (57,63 cm. ± 0,79 mm.)
E	{ 140 in. (356,60 cm.)—4-Door Saloon 144 in. (365,76 cm.)—Long Wheelbase Saloon	T	38 1/8 in. ± 1/16 in. (96,84 cm. ± 1,59 mm.)
F	3 17/32 in. ± 1/32 in. (8,97 cm. ± 0,79 mm.)	t	19 1/16 in. ± 1/32 in. (48,42 cm. ± 0,79 mm.)
G	2 1 7/8 in. ± 1/32 in. (54,93 cm. ± 0,79 mm.)	U	39 in. ± 1/16 in. (99,06 cm. ± 1,59 mm.)
H	1 1/2 in. ± 1/32 in. (3,18 cm. ± 0,79 mm.)	u	19 1/2 in. ± 1/32 in. (49,53 cm. ± 0,79 mm.)
J	17 13/32 in. ± 1/32 in. (43,93 cm. ± 0,79 mm.)	V	18 3/4 in. ± 1/16 in. (47,39 cm. ± 1,59 mm.)
K	3 27/32 in. ± 1/32 in. (9,01 cm. ± 0,79 mm.)	W	37 33/64 in. ± 1/16 in. (96,08 cm. ± 1,59 mm.)
L	4 1/4 in. (10,80 cm.)	Aa	{ 77 1/2 in. ± 1/16 in. (196,85 cm. ± 1,59 mm.) —4-Door Saloon 81 1/2 in. ± 1/16 in. (207,01 cm. ± 1,59 mm.) —Long Wheelbase Saloon
M	1 1/4 in. (3,18 cm.)	Bb	28 15/16 in. ± 1/16 in. (71,31 cm. ± 1,59 mm.)
N	13 3/4 in. (34,25 cm.)	Cc	22 33/64 in. ± 1/16 in. (58,22 cm. ± 1,59 mm.)
P	31 in. ± 1/16 in. (78,74 cm. ± 1,59 mm.)	Dd	5 13/16 in. ± 1/16 in. (14,76 cm. ± 1,59 mm.)
p	15 1/2 in. ± 1/32 in. (39,37 cm. ± 0,79 mm.)	Ee	1 11/32 in. (3,41 cm.)
Q	38 1/16 in. (97,00 cm.)	alpha	15° 40'
q	19 3/32 in. ± 1/32 in. (48,50 cm. ± 0,79 mm.)	theta	4° 40'

Dents and minor damage

Dents and minor damage to the outer skin should be rectified as follows.

1. Surround the area affected by damage with masking tape and felt.
2. Gain access to the inner side of the damaged

panel, e.g. in the case of the doors, remove the door trim, etc., as explained in Section S1 of this Chapter.

3. Using conventional hand tools, beat out the dents and other damage.

4. Using a suitable paint stripper (i.e. Synstrip or its equivalent) remove the paint from the damaged area.

5. Clean the damaged area then polish using emery paper.

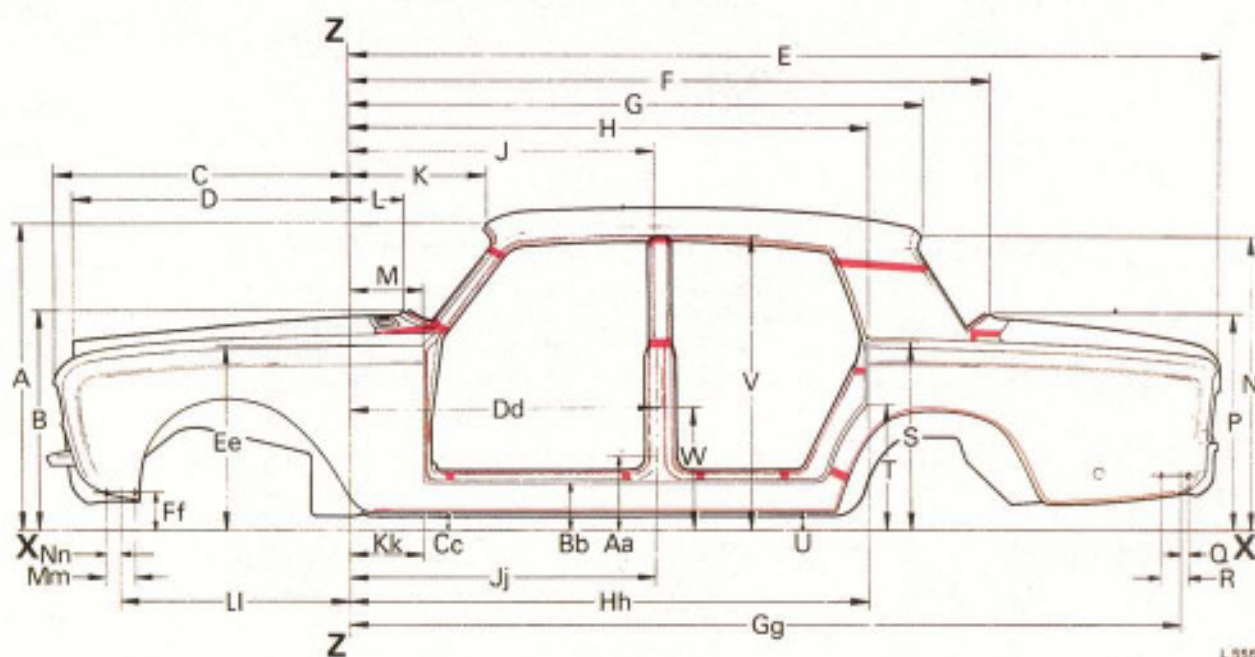


FIG. S79 SIDE ELEVATION OF BODY
(4-Door Saloon and Long Wheelbase Cars)

A	52 $\frac{17}{32}$ in. (132,76 cm.)	Q	1 $\frac{1}{2}$ in. (3,18 cm.)
B	37 $\frac{1}{4}$ in. (95,72 cm.)	R	4 $\frac{1}{2}$ in. (10,80 cm.)
C	48 $\frac{1}{2}$ in. (123,98 cm.)	S	33 $\frac{1}{2}$ in. (85,73 cm.)
D	46 in. (116,84 cm.)—to rear face of radiator shell	T	23 $\frac{3}{8}$ in. (59,85 cm.)
E	{ 145 $\frac{17}{32}$ in. (370,44 cm.)—4-Door Saloon 149 $\frac{17}{32}$ in. (383,60 cm.)—Long Wheelbase Saloon	U	3 $\frac{7}{8}$ in. (9,48 cm.)
F	{ 107 $\frac{1}{4}$ in. (273,84 cm.)—4-Door Saloon 111 $\frac{1}{4}$ in. (284,00 cm.)—Long Wheelbase Saloon	V	50 $\frac{1}{4}$ in. (128,14 cm.)
G	{ 95 $\frac{17}{32}$ in. (243,56 cm.)—4-Door Saloon 99 $\frac{17}{32}$ in. (253,26 cm.)—Long Wheelbase Saloon	W	22 $\frac{13}{32}$ in. (56,63 cm.)
H	{ 87 $\frac{1}{2}$ in. (221,54 cm.)—4-Door Saloon 91 $\frac{1}{2}$ in. (231,69 cm.)—Long Wheelbase Saloon	Aa	15 $\frac{3}{16}$ in. (38,58 cm.)
J	51 $\frac{1}{8}$ in. (129,70 cm.)	Bb	9 in. (22,86 cm.)
K	23 $\frac{1}{2}$ in. (59,37 cm.)	Cc	3 $\frac{7}{8}$ in. (9,84 cm.)
L	8 $\frac{5}{8}$ in. (20,68 cm.)	Dd	50 $\frac{3}{32}$ in. (128,67 cm.)
M	12 $\frac{3}{16}$ in. (32,46 cm.)	Ee	32 $\frac{1}{2}$ in. (81,92 cm.)
N	50 $\frac{1}{4}$ in. (128,71 cm.)	Ff	12 $\frac{1}{32}$ in. (32,64 cm.)
P	37 $\frac{3}{16}$ in. (94,34 cm.)	Gg	{ 140 in. (356,60 cm.)—4-Door Saloon 144 in. (365,76 cm.)—Long Wheelbase Saloon
		Hh	{ 87 $\frac{1}{2}$ in. (221,54 cm.)—4-Door Saloon 91 $\frac{1}{2}$ in. (231,69 cm.)—Long Wheelbase Saloon
		Jj	50 $\frac{1}{4}$ in. (128,15 cm.)
		Kk	12 $\frac{1}{2}$ in. (32,39 cm.)
		Ll	39 $\frac{1}{2}$ in. (99,58 cm.)
		M	4 $\frac{1}{2}$ in. (10,80 cm.)
		Nn	2 $\frac{1}{4}$ in. (6,15 cm.)

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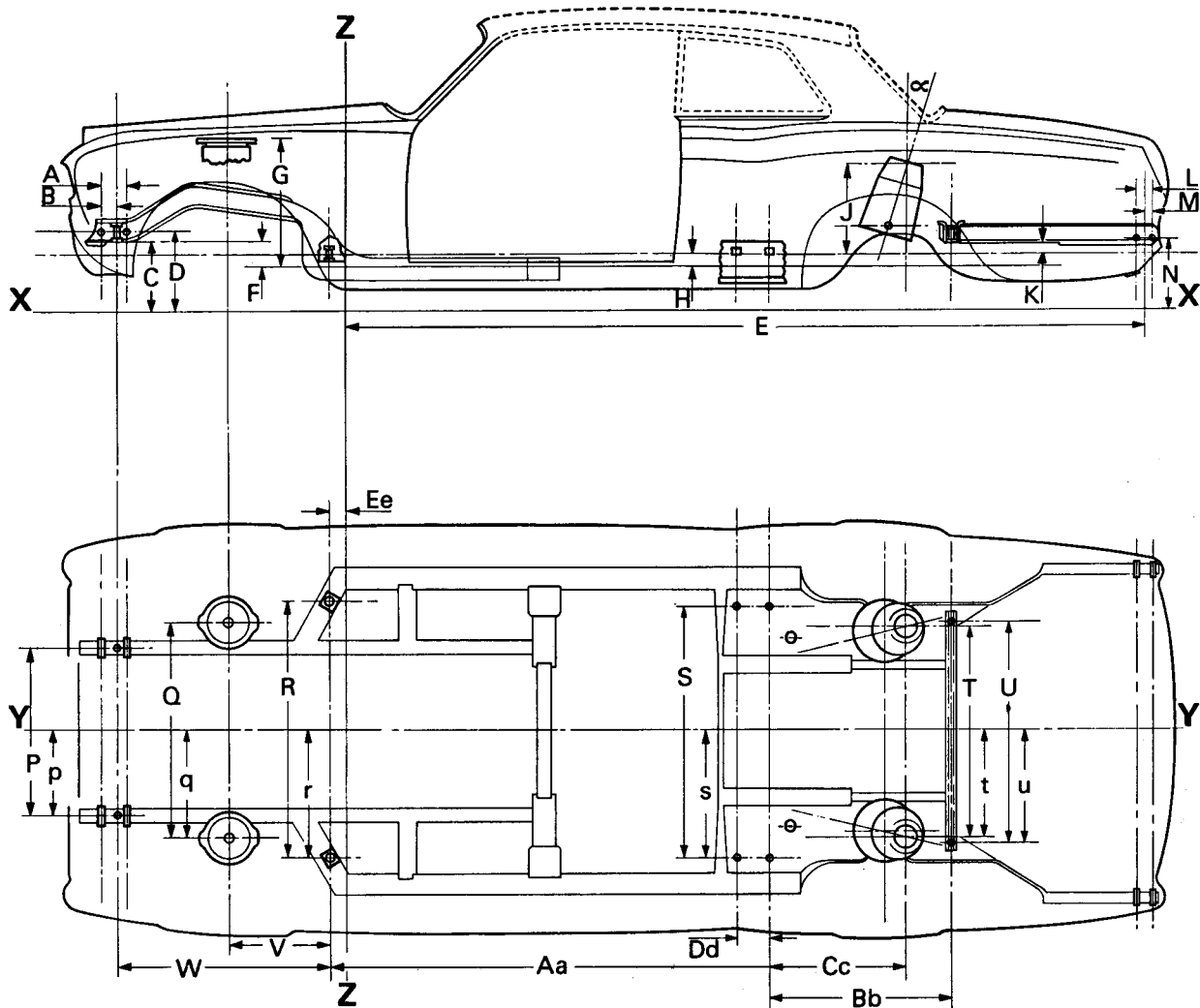


FIG. S80 BODY MOUNTING POINT DIMENSIONS
(2-Door Saloon and Convertible Cars)

A	4½ in. (10,80 cm.)
B	2¼ in. (6,15 cm.)
C	11½ in. (28,97 cm.)
D	12¾ in. (31,04 cm.)
E	140 in. (356,60 cm.)
F	3½ in. ± ½ in. (8,97 cm. ± 0,79 mm.)
G	21⅝ in. ± ⅜ in. (54,93 cm. ± 0,79 mm.)
H	1½ in. ± ⅜ in. (3,18 cm. ± 0,79 mm.)
J	17½ in. ± ½ in. (43,93 cm. ± 0,79 mm.)
K	3¾ in. ± ⅜ in. (9,01 cm. ± 0,79 mm.)
L	4½ in. (10,80 cm.)
M	1½ in. (3,18 cm.)
N	13¼ in. (34,25 cm.)
P	31 in. ± ⅜ in. (78,74 cm. ± 1,59 mm.)
p	15½ in. ± ⅜ in. (39,37 cm. ± 0,79 mm.)
Q	38¾ in. (97,00 cm.)
q	19¾ in. ± ½ in. (48,50 cm. ± 0,79 mm.)

R	43½ in. ± ⅜ in. (110,25 cm. ± 1,59 mm.)
r	21½ in. ± ⅜ in. (55,13 cm. ± 0,79 mm.)
S	45⅝ in. ± ⅜ in. (115,25 cm. ± 1,59 mm.)
s	22¼ in. ± ⅜ in. (57,63 cm. ± 0,79 mm.)
T	38⅝ in. ± ⅜ in. (96,84 cm. ± 1,59 mm.)
t	19⅝ in. ± ⅜ in. (48,42 cm. ± 0,79 mm.)
U	39 in. ± ⅜ in. (99,06 cm. ± 1,59 mm.)
u	19½ in. ± ⅜ in. (49,53 cm. ± 0,79 mm.)
V	18¼ in. ± ⅜ in. (47,39 cm. ± 1,59 mm.)
W	37¾ in. ± ⅜ in. (96,08 cm. ± 1,59 mm.)
Aa	77½ in. ± ⅜ in. (196,85 cm. ± 1,59 mm.)
Bb	28½ in. ± ⅜ in. (72,31 cm. ± 1,59 mm.)
Cc	22¾ in. ± ⅜ in. (58,22 cm. ± 1,59 mm.)
Dd	5½ in. ± ⅜ in. (14,76 cm. ± 1,59 mm.)
Ee	1½ in. (3,41 cm.)
α	15° 40'
θ	4° 40'

6. Fill in the depressions using a suitable filler or body-solder; when using body-solder a raw linseed oil should be used as a lubricant. It should be borne in mind that body solder is not suitable for the doors, bonnet or boot lid as these are made from light alloy.

7. When the filler is dry, smooth off the surface using a draw file and sanding disc and finish with wet and dry abrasive paper.

8. Inspect the area under repair to ensure that the contours of the outer skin are followed perfectly and that there are no depressions or raised areas.

9. Paintspray the repaired area; prior to spraying, mask or remove the rubber seals and chromium strips, etc., to prevent over-spraying.

10. When carrying out paintwork rectification it may be necessary to place the car in a drying oven operating at high temperatures. At these temperatures the seals in the air conditioning system may adopt a permanent 'set' if the air conditioning controls are in the fully open or fully closed positions.

Therefore, before placing the car in a drying oven, carry out the following procedure.

- (i) Switch on the ignition.
- (ii) Pull the 'UPPER' and 'LOWER' heater switch controls out two notches from the closed position.

(iii) Turn the 'UPPER' and 'LOWER' heater switch controls clockwise two notches from the fresh air position.

(iv) Withdraw the control knob on the fascia adjacent to each circular outlet to fully open the flap in each outlet.

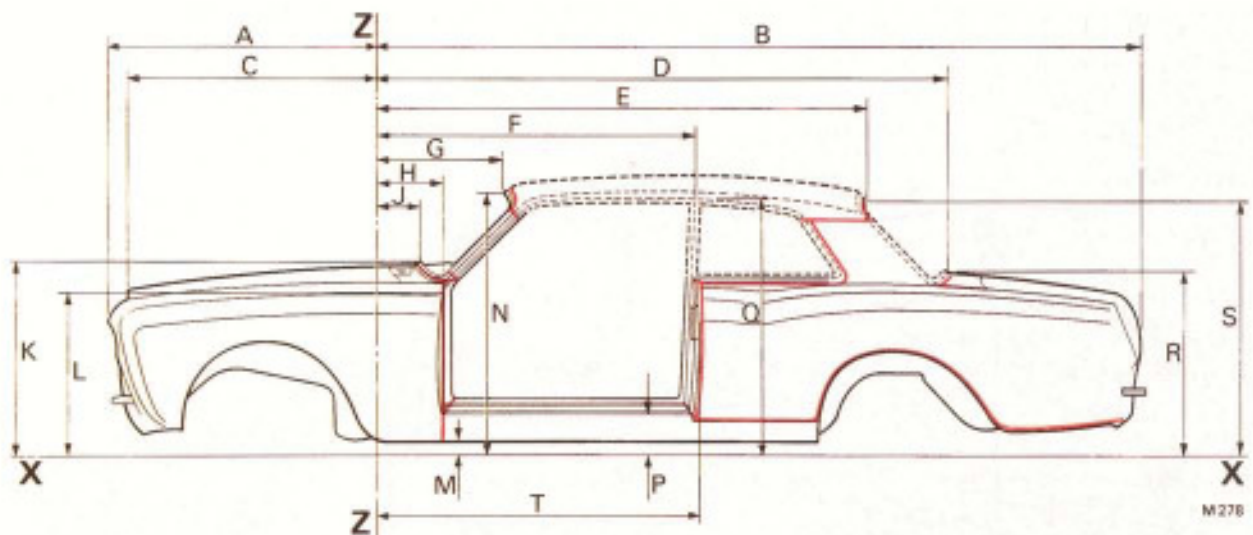
(v) Fully open the rectangular flap in the centre of the fascia, or in the centre console as applicable.

(vi) Fully open the flap in the driver's side scuttle wall, and also the flap in the passenger's side scuttle wall if fitted, by withdrawing the control knob(s) on the fascia.

(vii) Switch off the ignition.

Note Long Wheelbase cars with a centre division are fitted with duplicate heater switch controls in the front and rear compartments.

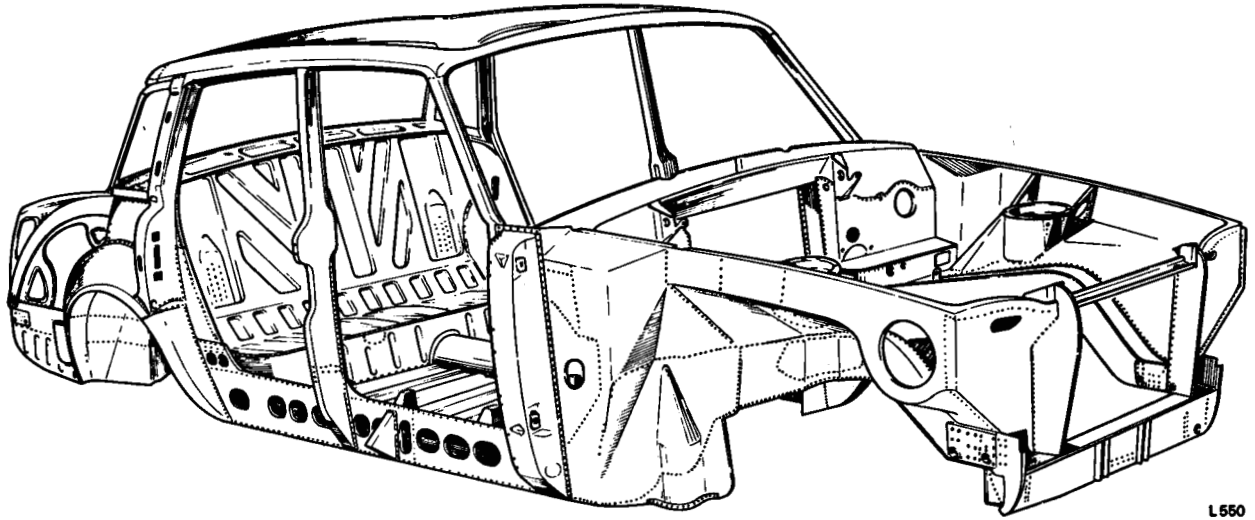
Therefore, when carrying out items (ii) and (iii) of the procedure on these cars, operate the heater switch controls that are energised, e.g. with the 'HEATER' change-over switch on the centre console panel in the position marked 'FRONT', operate the heater switch controls on the front compartment fascia.



**FIG. S81 SIDE ELEVATION OF BODY
(2-Door Saloon and Convertible Cars)**

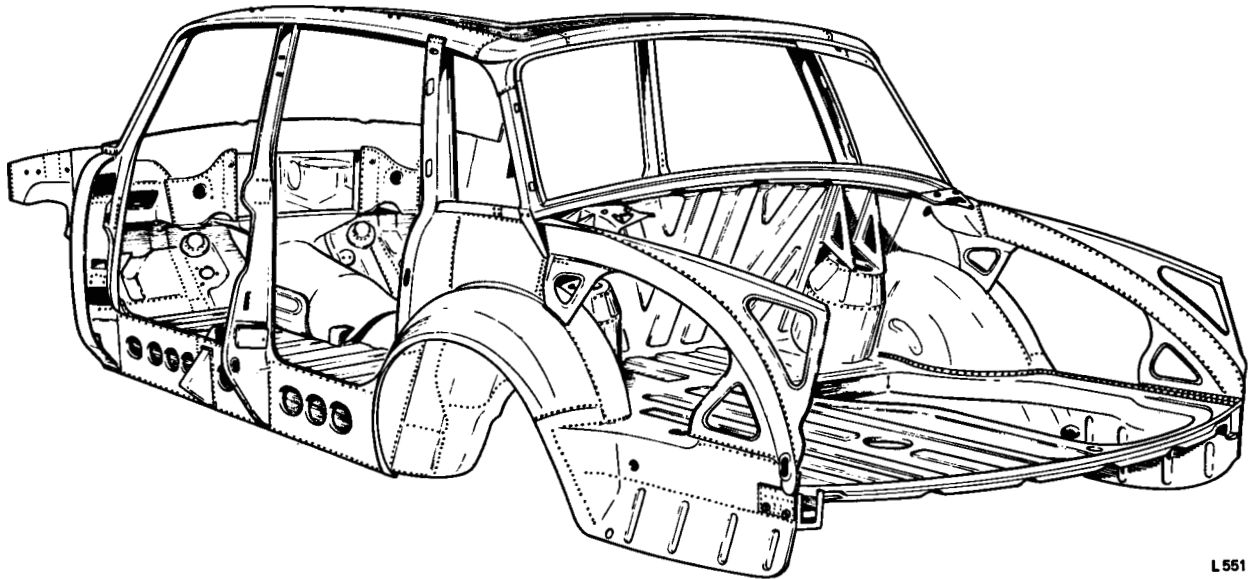
A $48\frac{1}{2}$ in. (126,30 cm.)	K $37\frac{3}{8}$ in. (94,46 cm.)
B $145\frac{1}{2}$ in. (380,68 cm.)	L 32 in. (81,28 cm.)
C $45\frac{1}{2}$ in. (116,20 cm.)	M $3\frac{1}{2}$ in. (9,84 cm.)
D $108\frac{1}{2}$ in. (275,67 cm.)	N $51\frac{7}{8}$ in. (130,65 cm.)
E $93\frac{1}{2}$ in. (237,49 cm.) — Saloon only	P $9\frac{1}{2}$ in. (23,17 cm.)
F $61\frac{1}{2}$ in. (156,85 cm.) — Saloon only	Q $49\frac{1}{8}$ in. (126,84 cm.) — Saloon only
G $27\frac{1}{8}$ in. (63,18 cm.)	R $36\frac{1}{2}$ in. (91,76 cm.)
H $71\frac{1}{2}$ in. (20,16 cm.)	S $50\frac{7}{8}$ in. (128,11 cm.) — Saloon only
J $12\frac{1}{8}$ in. (32,70 cm.)	T $61\frac{1}{2}$ in. (156,69 cm.)

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FIG. S82 THREE-QUARTER FRONT VIEW OF BODY (4-Door Saloon Cars)



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FIG. S83 THREE-QUARTER REAR VIEW OF BODY (4-Door Saloon Cars)

Major damage—To check

If damage to the body is more than superficial proceed as follows.

1. Remove the front and rear sub-frames from the body as described in Chapter H.
2. Check the body mounting point dimensions given in Figures S78 and S80.

To check these dimensions, use a checking fixture similar in design to the one shown in Figure S77 noting the following points.

3. It is essential that the working surface (i.e. datum line xx) used to secure the mounting posts, is perfectly flat and square (preferably on a steel surface table), otherwise it will be impossible to carry out an accurate dimensional check.

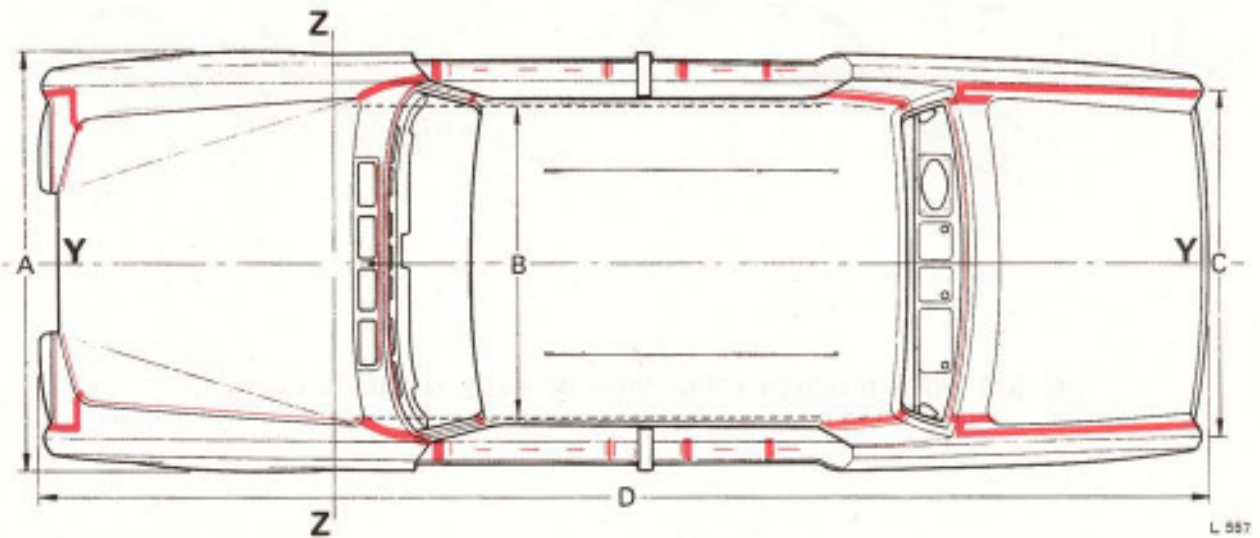


FIG. S84 PLAN VIEW OF BODY (4-Door Saloon and Long Wheelbase Cars)

- | | |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| A 70½ in. (179,71 cm.) | C 58½ in. (148,27 cm.) |
| B 57½ in. (145,10 cm.)—dimension to underneath edge of sill | D { 195½ in. (497,52 cm.)—4-Door Saloon
199½ in. (507,68 cm.)—Long Wheelbase Saloon |

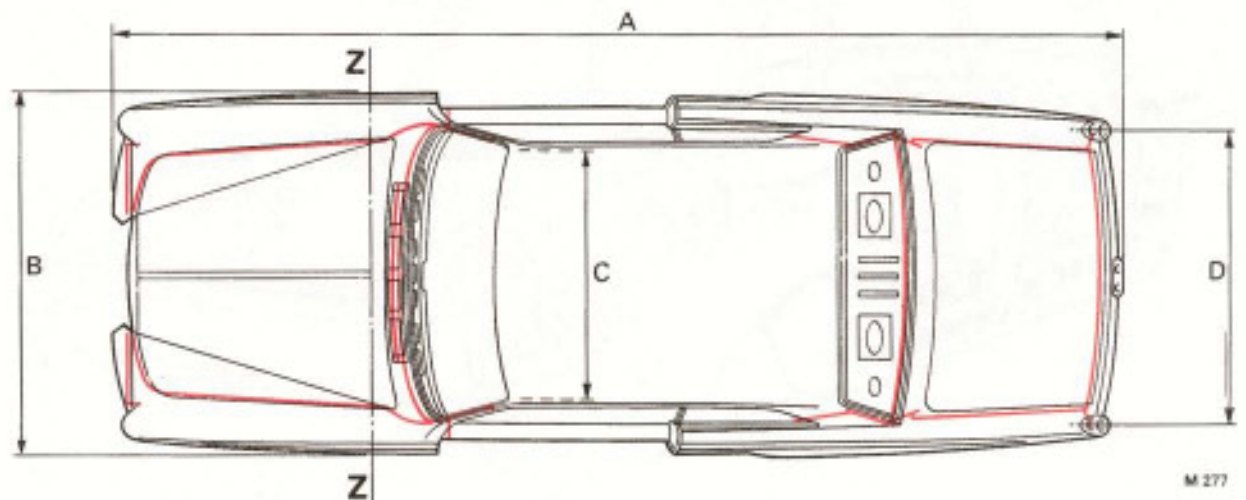
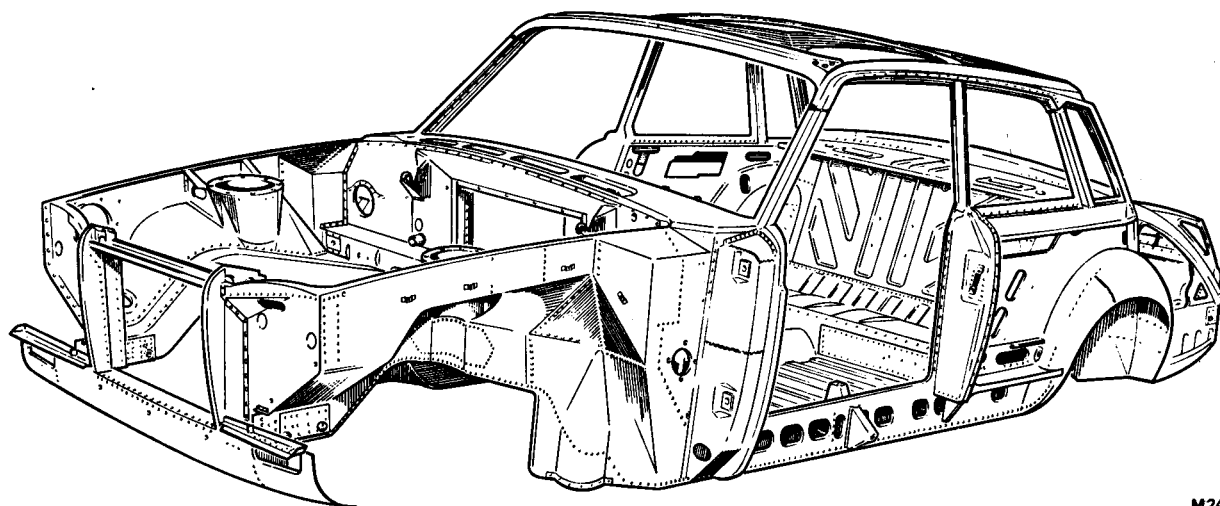


FIG. S85 PLAN VIEW OF BODY (2-Door Saloon and Convertible Cars)

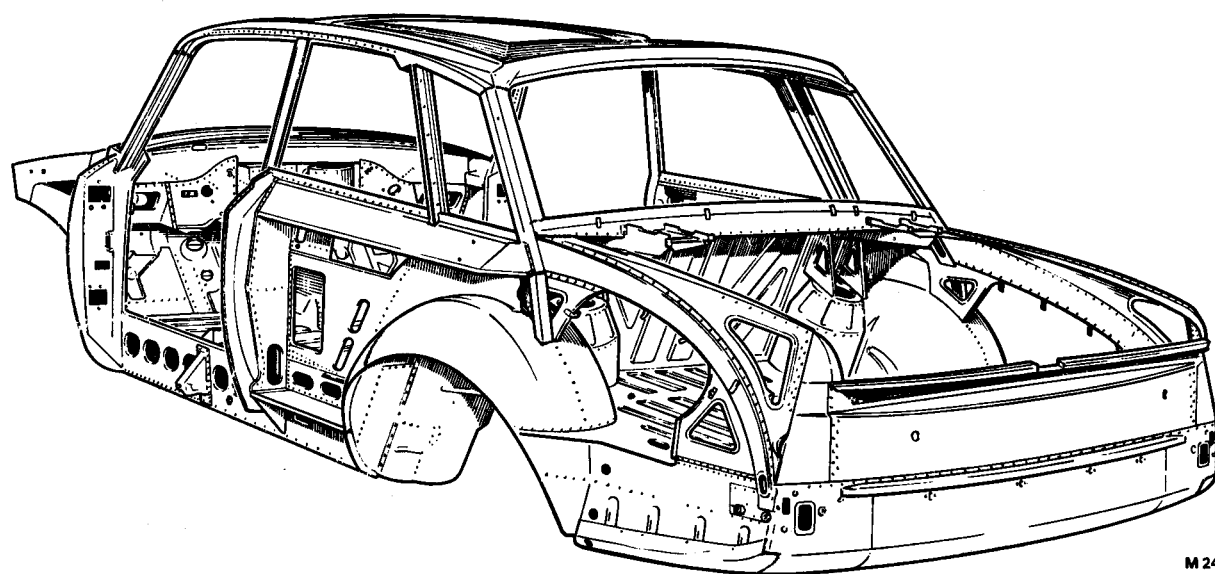
- | | |
|--------------------------------|-------------------------------|
| A 198½ in. (504,35 cm.) | C 57½ in. (144,78 cm.) |
| B 71½ in. (182,56 cm.) | D 59½ in. (150,81 cm.) |

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FIG. S86 THREE-QUARTER FRONT VIEW OF BODY (2-Door Saloon Cars)



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FIG. S87 THREE-QUARTER REAR VIEW OF BODY (2-Door Saloon Cars)

4. The posts should be machined to dimensions which will enable the various points to be checked. As a temporary fixture the posts can be machined from hard wood, but for a more permanent fixture, stronger materials should be used.

5. When the feet are made, they should be secured to the surface table in their respective positions within the limits given in Figures S78 and S80.

6. Place the body on the fixture and rectify any mis-alignment using body clamps.

Note The full surface areas used to mount the sub-frames should be flat and square to their respective centre lines to within $\frac{1}{8}$ in. (0,79 mm.).

7. The advantage of making a strong and permanent fixture is that the body may be welded whilst in position, provided that the welding is not in the immediate vicinity of the posts.

8. If the extent of the damage necessitates the renewal of a portion or complete panel(s), member(s) or section(s), reference should be made to Figures S79, S81, S84, S85, S88, S89, S92 and S93, bearing in mind that if a new member(s) is fitted, the body mounting points must be checked.

Note The relation of the datum lines, xx, yy and zz to each other and to the body, are identical in each of the dimensional illustrations.

Welded seams and joints

In addition to giving dimensional information, Figures S79, S81, S84, S85, S88, S89, S92 and S93 indicate by a coloured line, where possible, the location of the outer skin welded joints. It has been considered unnecessary to point out with illustrations the frame welding joints as they should be immediately apparent to an experienced body builder once the skin panels have been removed. However, as a guide to the construction of the frame Figures S82, S83, S86, S87, S90 and S91 are also included.

To separate sections that have been spot welded together proceed as follows.

1. Carefully locate the points where fusion has taken place.

2. Drill the centre of each spot weld using a $\frac{3}{8}$ in. (4,76 mm.) diameter drill.

It should not be necessary to drill through both layers of sheet metal.

3. When the drilling operation is complete separate the sections with the aid of a thin, sharp chisel.

Weld repairs

When welding, in addition to the usual techniques and precautions, the following points should be borne in mind.

1. Disconnect both leads of the battery before any form of welding is carried out (see Chapter M – Electrical System.)

2. Where spot welds have been opened up and it is impossible to re-spot weld, the use of side tacking and plug welding can be used as an alternative.

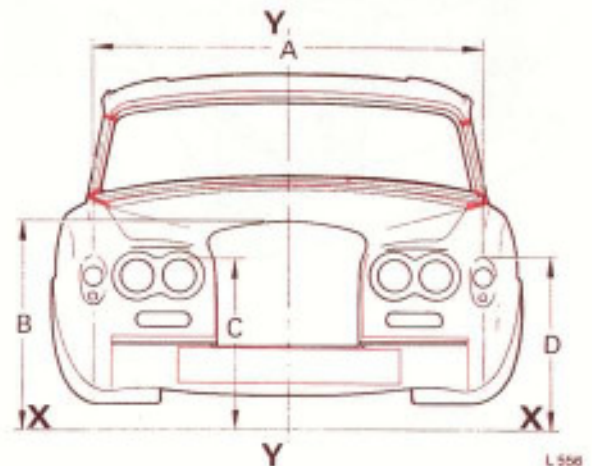


FIG. S88 FRONT VIEW OF BODY (4-Door Saloon and Long Wheelbase Cars)

- A 59½ in. (150,50 cm.)
 B { 32¼ in. (82,31 cm.)—Bentley T
 32¾ in. (83,11 cm.)—Silver Shadow
 C 25½ in. (65,88 cm.)
 D 26½ in. (66,36 cm.)

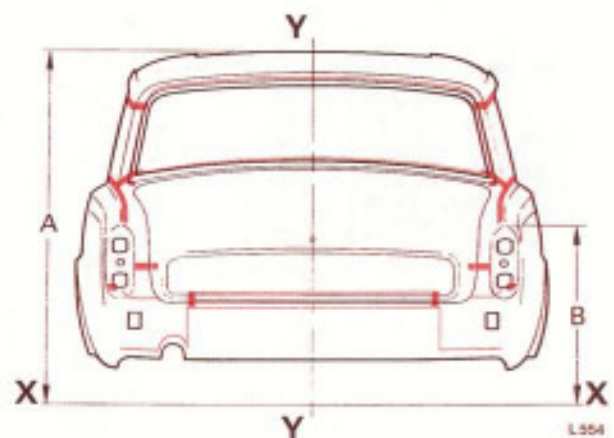
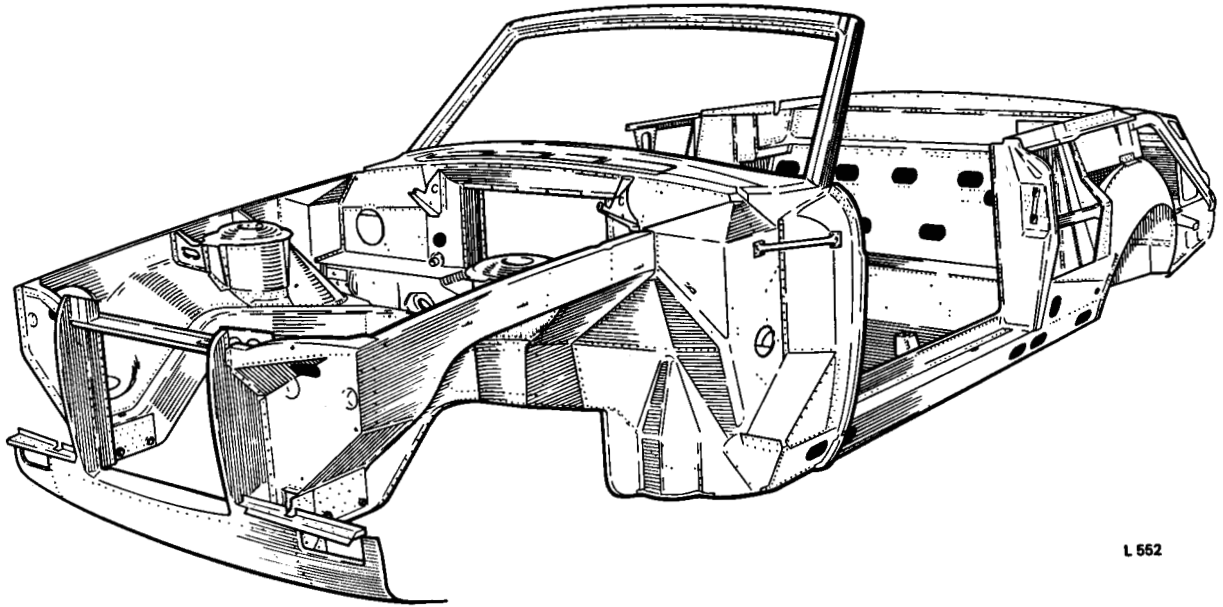


FIG. S89 REAR VIEW OF BODY (4-Door Saloon and Long Wheelbase Cars)

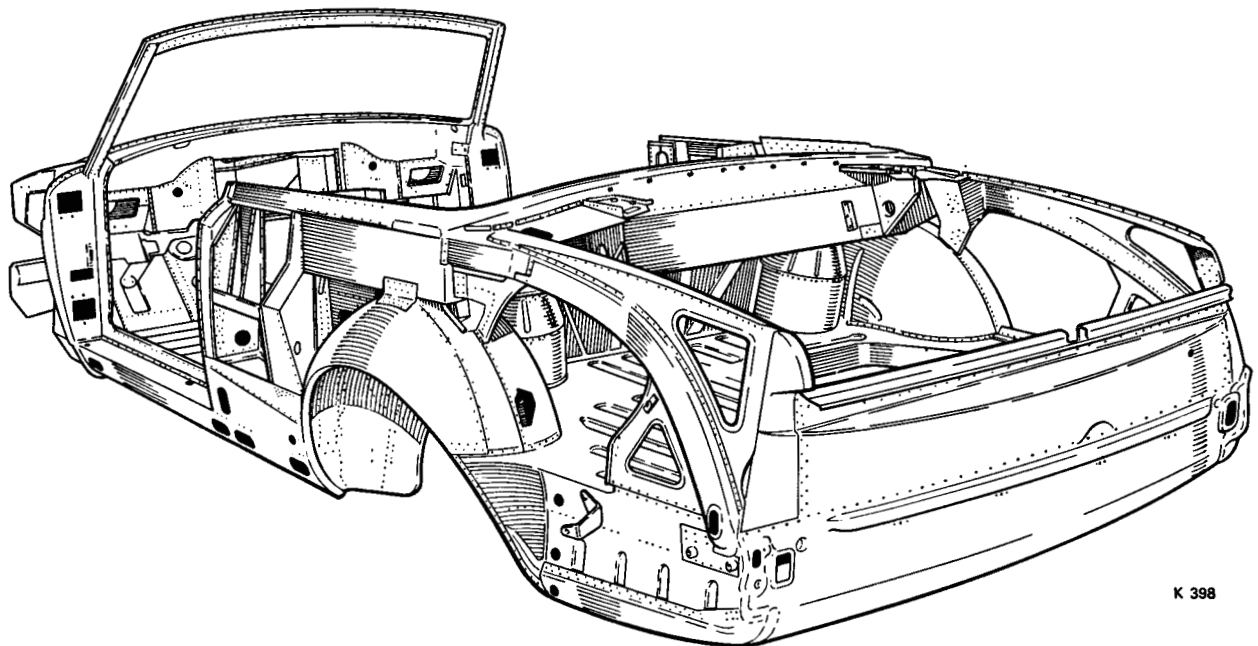
- A 56 in. (142,24 cm.)
 B 27¾ in. (70,84 cm.)

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FIG. S90 THREE-QUARTER FRONT VIEW OF BODY (Convertible Cars)



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FIG. S91 THREE-QUARTER REAR VIEW OF BODY (Convertible Cars)

3. When gas welding Birmabright (i.e. doors, luggage boot lid and bonnet) use Birmabright BB3 welding rod or its equivalent, together with a suitable flux; a soft flame is essential.

4. When gas welding the steel body, use welding rod to B.S. Specification 1453/A1.

5. If welding is necessary in the vicinity of the fuel tank, it is of the utmost importance that strict fire precautions are taken.

6. Where a replacement panel is to be fitted which forms part of an aperture, for example a door aperture, an undamaged component should be temporarily fitted into position and used as a template to ensure that the panel is fitted in its best possible position.

7. A radiator grille should be used when fitting new wings.

8. In some cases due to welding difficulties or shortage of time, it may be advantageous to remove only part of the damaged panel or member and replace it by an identical section cut from a new panel or member. For example, if the centre door pillar requires renewal but the damage has not affected the extreme ends of the pillar, the pillar should be cut at arrows A as shown in Figure S95, and the new pillar cut to suit and gas welded in position (see Operation 6).

If the repair is not carried out in this manner, the head lining would have to be removed, also, there would be a very great danger that the roof would buckle and distort in the vicinity of the door pillar, due to the heat from the welding torch. In any event the roof or part of the roof would have to be sprayed.

9. After welding, depressions, etc., should be dealt with in a similar manner to that already described for minor damage (see *Dents and minor damage*, on Page S83).

Fitting replacement body panels and members to Long Wheelbase cars

The body shell of the Long Wheelbase car is very similar to that of the 4-Door Saloon the main differences being in the reduced rear window area and the extra length of the Long Wheelbase body. This additional length comprises an extra section, 4 in. (10,16 cm.) long, inserted into the Long Wheelbase body just rearward of the body centre pillar.

As shown in the current Parts List catalogue (publication T.S.D. 2201, Section L), body panels, wings, frame members, etc., are available for replacement when required. Most of these parts are common to both the Long Wheelbase Saloon and the 4-Door Saloon and the specialist body repairer, following

the accepted practice of removing the unwanted section and welding the new section into position should have no problems when replacing these parts (see *Welded seams and joints* and *Weld repairs*, in this Section).

However, if it becomes necessary to replace a section of a Long Wheelbase body which includes the area where the 'extra 4 in. (10,16 cm.)' has been inserted, for example a roof panel, floor panel, sill member or a complete body side member, difficulties

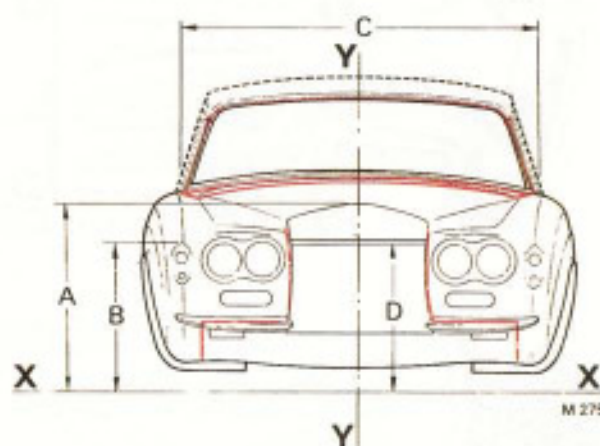


FIG. S92 FRONT VIEW OF BODY (2-Door Saloon and Convertible Cars)

- A 32½ in. (81,28 cm.)
- B 26½ in. (66,36 cm.)
- C 59⅞ in. (151,29 cm.)
- D 25½ in. (65,40 cm.)

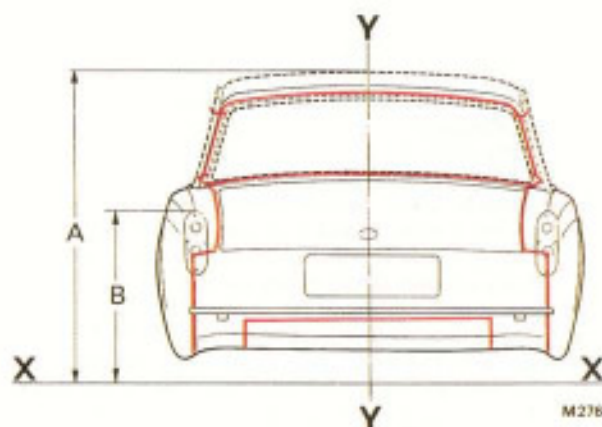
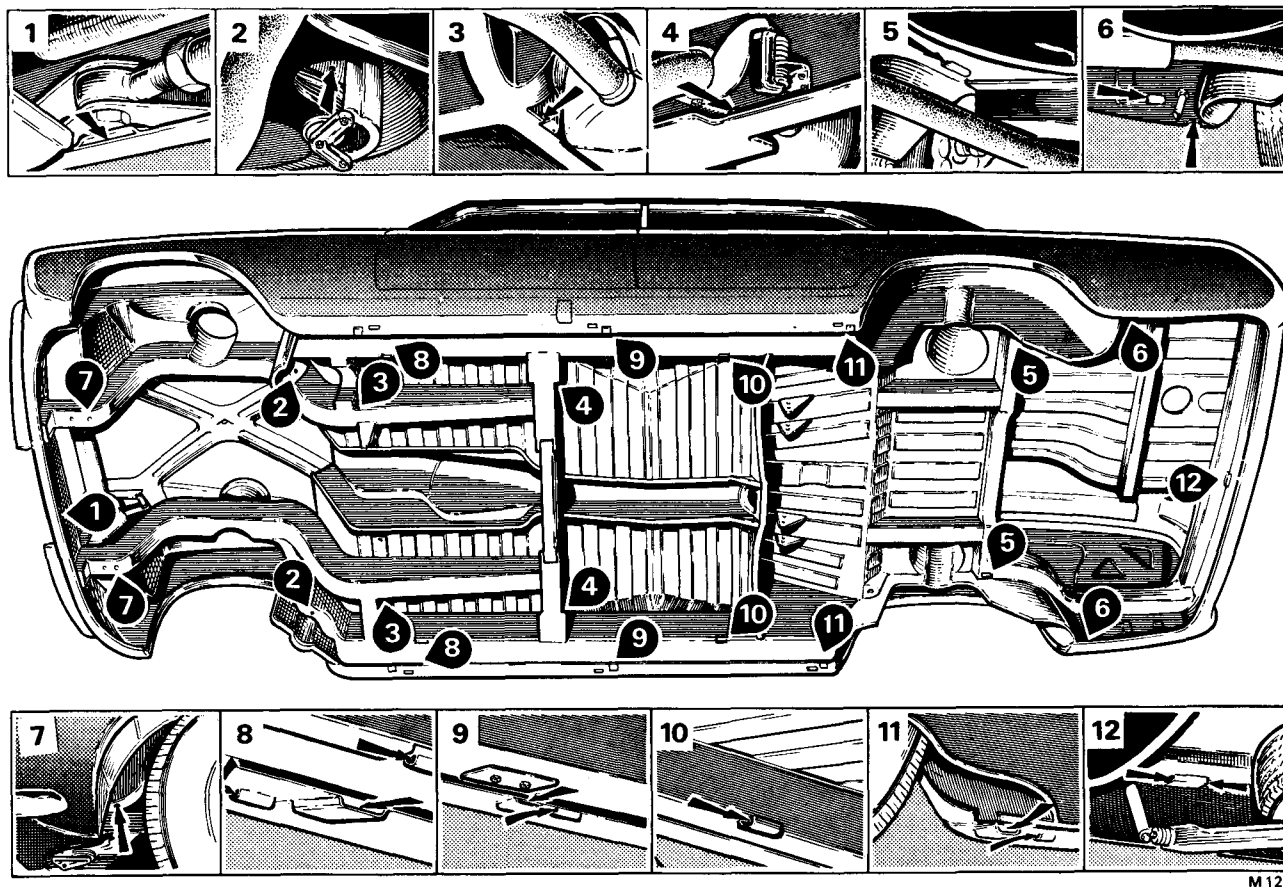


FIG. S93 REAR VIEW OF BODY (2-Door Saloon and Convertible Cars)

- A { 54½ in. (139,54 cm.)—Convertible
- 53½ in. (137,00 cm.)—2-Door Saloon
- B 30½ in. (77,15 cm.)

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FIG. S94 POSITION OF THE BODY DRAIN HOLES (4-Door Saloon Car Illustrated)

Note The numbered symbols on the main illustration indicate position of the drain holes and the most convenient direction in which to view them.

The arrows on the insets indicate the drain holes.

- 1 Single drain hole located on the lower edge of the body front sill, immediately below the bolt which secures the panhard rod.
 - 2 Two circular drain holes located adjacent to the top of the front sub-frame rear mounting point. Inset 2 shows the right-hand drain hole.
 - 3 Two drain holes, one in each side member. The left-hand hole is located adjacent to the front inboard corner of the exhaust silencer box (see inset 3); the right-hand hole is obscured by the brake actuator box shield.
 - 4 Two drain holes in the central body cross-member. The left-hand hole is located adjacent to the exhaust flexible mounting (see inset 4); the right-hand hole is obscured by one of the fuel pump suppressors.
 - 5 Two drain holes located immediately above the outer rear corners of the final drive cross-member; inset 5 shows the left-hand drain hole.
 - 6 Double drain points located in the lower edge of each tonneau inner panel, rearward of the rear wheel arches; inset 6 shows the left-hand drain holes.
- Note** On 2-Door Saloon and Convertible cars there are three additional drain holes in each inner panel.
- 7 Two circular drain holes located one in each body side member, rearward of the front sub-frame front mounting point; inset 7 shows the left-hand drain hole.
 - 8 Triple drain points on each side of the body, approximately 14 in. (35 cm.) rearward of the front wheel arches. The two outer holes are located on the lower edge of the sill panels; the inner drain hole is located on the body side member. Inset 8 shows the left-hand drain holes.
 - 9 Two double drain points located on the lower edges of the body sill outer panels approximately 7 in. (18 cm.) rearward of the jacking flaps; inset 9 shows the left-hand drain holes.
 - 10 Two drain holes located on the body side members, mid-way between the central cross-member and the rear wheel arches; inset 10 shows the left-hand drain hole.
 - 11 Two double drain points located on the lower edges of the body sill outer panels just forward of the rear wheel arches; inset 11 shows the left-hand drain holes.
 - 12 Double drain point located mid-way along the rear sill inner panel, adjacent to the point where the spare wheel platform lowering bolt tube emerges from the luggage compartment floor.

may arise as these parts are obtainable only in dimensions to suit the standard wheelbase car.

To achieve the additional length when replacing these parts (i.e. roof panel, floor panel, sill members, etc.) on a Long Wheelbase Saloon body therefore, it would be necessary to obtain the section suitable for the 4-Door Saloon and, if possible, fabricate it in position using part of the original section. In cases where it is not possible to incorporate part of the original section it will be necessary to obtain double quantities of the section or sections required so that the extra 4 in. (10,16 cm.) can be removed from one section and welded into the other section to obtain the required length.

Great care must be taken when marking the sections to be fabricated to ensure that the dimensions given in Figures S79, S84, S88 and S89 are maintained. In most cases replacement of sections which require fabrication involve the rear door aperture. It will be helpful therefore if the rear door is used as a template and positioned in the aperture during the repair.

It is possible to obtain rear door panels for the Long Wheelbase car.

Body sealing

As a precaution against rust and corrosion, the underneath part of the body must, where necessary, be prepared and undersealed in the usual manner noting the following points.

1. Any seams that have been disturbed during the repair should be re-sealed using Bostik sealer 1222 or its equivalent prior to undersealing.
2. Ensure that any grommets, removed from the body underframe during repair, are replaced.
3. On completion of the body undersealing, ensure that the body drain holes are free from obstructions; Figure S94 shows the location of the body drain holes.

Note Although the shape of the drain holes on Coachbuilt (2-door) cars vary slightly from those shown in Figure S94, they should easily be located by reference to this illustration as the body drain holes are in the same relative position on both 2-Door and 4-Door cars. However, 2-Door cars also have six additional drain holes; these are located three in each rear tonneau panel, rearward of the drain holes shown in item 6.

4. Finally, water test the body to ensure that the body sealing is satisfactory.

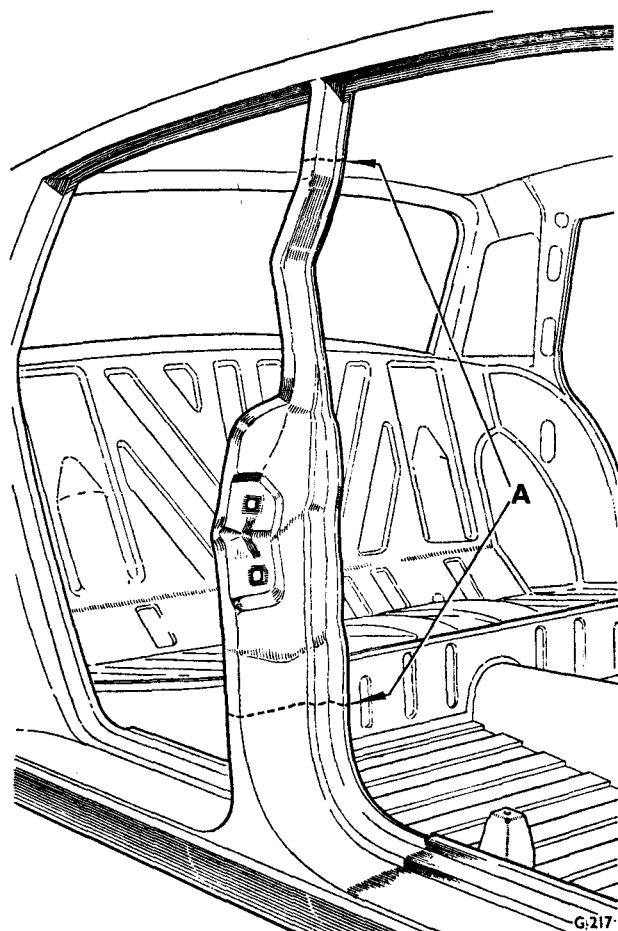


FIG. S95 CUTTING A DAMAGED SECTION FROM A BODY CENTRE PILLAR (4-Door Saloon or Long Wheelbase Cars)

A Arrows indicate line of cut

Paintwork

It will be noticed that no mention has been made throughout this Section as to the procedure for painting Rolls-Royce and Bentley cars. The reason for this being that painting is a complex subject and beyond the scope of this Workshop Manual. It is therefore suggested that the method of painting be left to the people concerned. However, the following points **must** be noted before commencing any paintwork rectification.

1. It must be stressed that in order to achieve the high quality finish expected, the need for meticulous attention to detail is essential.
2. Before any paintwork rectification is carried out the original paintwork specification of the car **must** be checked.

This is important in order to ensure that the correct paint and thinners is used.

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3. Each paint manufacturer develops thinners to suit individual requirements of the finisher produced. It is essential therefore that the correct amount of the specified thinners is used with each paint otherwise a poor finish may result.

4. The original paintwork specification of a car will be found in the handbook for that particular car.

Should difficulties arise, and advice be needed, information can be obtained from the Paint and Plastics Laboratory, Rolls-Royce Motors Limited, Crewe.

Section S9

SEAT BELTS

General

Seat belts are now a mandatory requirement in many countries including the United Kingdom and seat belt anchorage points are provided on all Rolls-Royce Silver Shadow and Bentley T Series cars.

When seat belts are not fitted at the works the threaded anchorage points are blanked off with anchorage bolts or nylon plugs; on 4-Door Saloon and Long Wheelbase cars, the holes in the sill channel for mounting the automatic seat belt reel mechanism are blanked off with grommets.

When seat belts are required, lap and diagonal belts are fitted for the front seat occupants and either lap belts only or lap and diagonal belts are fitted for the rear seat occupants; the rear seat lap belts can be fitted in sets of two or three, as required.

From January 1971, Britax automatic seat belts are fitted as standard equipment for the front seat occupants on all cars, except Long Wheelbase cars fitted with a centre division, when seat belts are required and local regulations permit the use of Britax belts. When front seat belts are required on Long Wheelbase division cars, Britax static lap and diagonal belts are fitted.

On earlier cars Britax automatic or static seat belts were fitted, as required. However, before the automatic belt could be fitted to very early 4-Door Saloon and Long Wheelbase cars, modification to the sill was necessary (*see Sill—To modify, in this Section*).

Precautions

The following points must be noted when carrying out any work or servicing on the seat belts.

1. Do not alter the fittings or mountings of the seat belts in any way.
2. Replace any seat belt that has been subjected to stress arising from a severe accident and carefully inspect all anchorage points.
3. Replace any seat belt that is cut, frayed or damaged.
4. Do not replace part of a seat belt; if one section of the belt is damaged, fit a new complete seat belt.

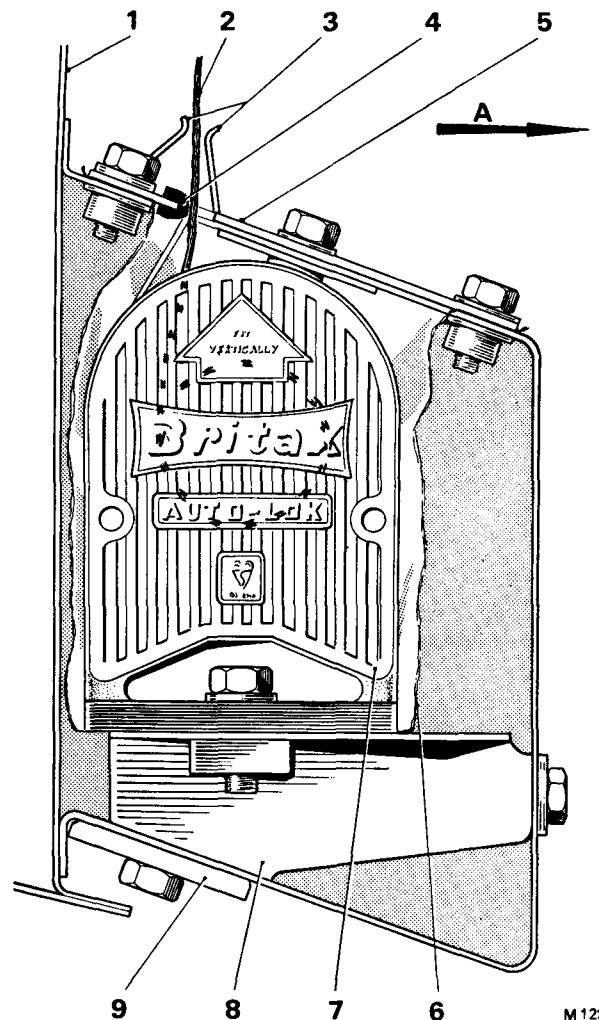


FIG. S96 INSTALLATION OF THE EARLIER BRITAX AUTO-LOK REEL MECHANISM IN THE SILL (4-Door Saloon and Long Wheelbase Non-division Cars)

- A Arrow points to centre of car
- 1 Body centre pillar panel
- 2 Belt webbing
- 3 Belt guide brackets
- 4 Flange finisher
- 5 Sill cover plate
- 6 Polythene sheath
- 7 Reel assembly
- 8 Reel support beam
- 9 Stiffener

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5. Do not use a bleach or dye on the webbing as this may impair the efficiency of the seat belt; if the webbing requires cleaning, sponge with a mild soap and water solution.

6. Keep the seat belt away from any sharp corners or protrusions.

7. On cars fitted with the automatic front seat belt, ensure that the movement of the webbing from the reel unit to the upper anchorage is not hampered or trapped in any way.

8. Torque tighten the special $\frac{7}{16}$ in. diameter UNF seat belt anchorage bolts to between 21 lb. ft. and 23 lb. ft. (2,903 kgm. and 3,179 kgm.); when tightening the bolts securing the reel unit mounting brackets, on cars fitted with the automatic front seat belt, refer to the appropriate torque figures shown in Chapter P – Torque Tightening Figures.

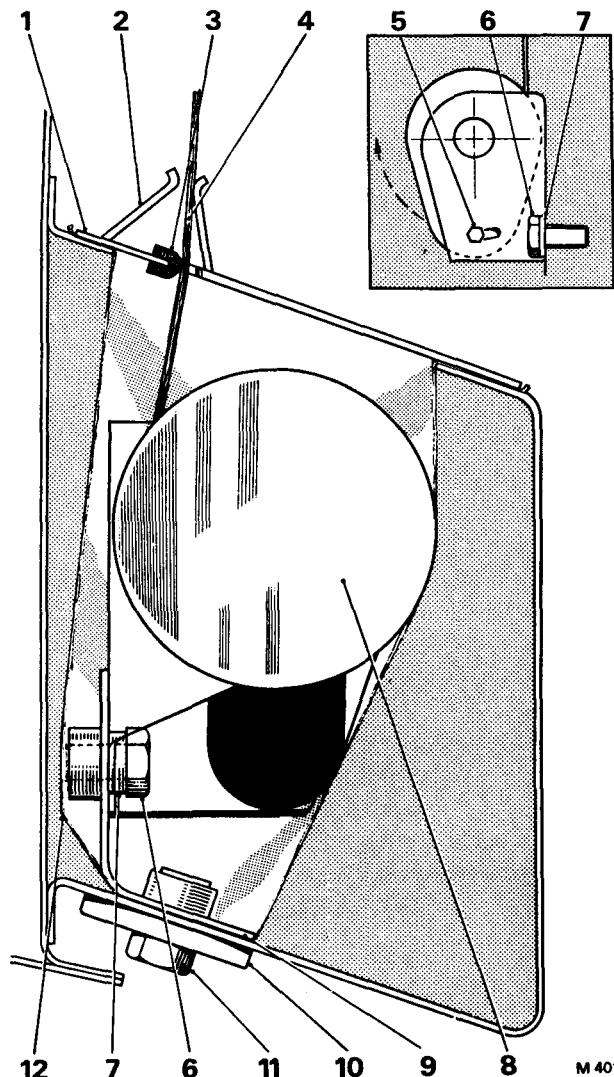


FIG. S97 INSTALLATION OF THE LATER BRITAX AUTOLOK III REEL MECHANISM IN THE SILL (4-Door Saloon and Long Wheelbase Non-division Cars)

- 1 Sill cover plate
- 2 Guide brackets
- 3 Flange finisher
- 4 Belt webbing
- 5 Locking screw
- 6 Setscrew—reel mechanism to mounting bracket
- 7 Spacer
- 8 Reel mechanism
- 9 Mounting bracket
- 10 Backing plate
- 11 Setscrew—mounting bracket to sill (2 off)
- 12 Polythene sheath

Britax automatic front seat belt—To remove

4-Door Saloon and Long Wheelbase non-division cars

1. Operate the front seat controls so that the seat is in its most forward position.

2. Remove the carpets from the rear compartment; do not remove the carpet trim from the transmission tunnel.

3. Remove the four self-tapping screws securing the small trim strip at the foot of the body centre pillar; remove the strip.

4. Remove the anchorage bolt securing the end lug of the reel belt to the sill cover plate.

5. Remove the anchorage bolt securing the free running bracket on the reel belt to the body centre pillar; carefully retain the distance pieces and washers with the anchorage bolt.

On cars fitted with the Autolock III seat belt it will first be necessary to remove the button from the bracket cover to gain access to this anchorage bolt (see Fig. S99); to remove the button, insert the tip of a small screwdriver into the recess at the bottom of the button then gently lever the button out of the bracket cover.

6. Slacken the sill finisher screws then remove the body centre pillar trim pad by gently levering the trim pad clips free from the pillar.

7. Remove the ten $\frac{7}{16}$ in. A/F setscrews securing the cover plate to the sill; lift the cover plate from the sill, sliding the plate along the reel belt.

If the original seat belt is to be fitted again, the belt can remain threaded through the cover plate. If it is necessary to separate the plate and belt however, first remove the two self-tapping screws securing the belt guide plates to the cover plate then remove the guide plates and the flange finisher from the cover plate. Finally, remove the belt from the cover plate via the small cut-out channel.

8. Working underneath the car, remove the setscrews securing the reel unit, polythene bag and support bracket assembly into the sill channel.

Note that on cars fitted with the Autolok III seat belt this assembly is secured by two $\frac{1}{2}$ in. A/F setscrews (see Fig. S97), while on cars fitted with the earlier Auto-lok seat belt the assembly is secured by two $\frac{1}{2}$ in. A/F setscrews and two $\frac{7}{16}$ in. A/F setscrews (see Fig. S96).

9. From inside the car, lift the reel unit and support bracket assembly through the aperture in the car floor and out of the sill channel.

10. Lift the carpet trim and remove the anchorage bolt securing the short inboard section of the belt to the transmission tunnel; carefully retain the distance piece and washers with the anchorage bolt.

If a stiffener and sheath is fitted to this section of the safety belt, remove the nut and screw securing the tag of the sheath to the stowage bin (Autolok III type belt only).

11. To remove the reel unit from its support bracket proceed as follows.

(a) **Cars fitted with the earlier type Auto-lok seat belt** (see Fig. S96). Remove the two $\frac{1}{2}$ in. A/F setscrews securing the reel unit and the polythene bag to the support bracket then lift the reel unit out of the polythene bag.

(b) **Cars fitted with the Autolok III seat belt** (see Fig. S97). First remove the reel unit and its support bracket from the polythene bag then remove the small screw situated on the side of the reel casing. Rotate the drum of the reel unit, in its casing, until access can be gained to the bolt securing the reel unit to its support bracket; remove this bolt together with the distance piece and separate the reel unit from the mounting bracket. Rotate the drum of the reel unit to its original position in its casing then fit the small screw.

Britax automatic front seat belt—To remove

Coachbuilt cars

1. Operate the front seat to its most forward position.

2. Disconnect the battery leads.

3. Remove the carpet from the rear compartment.

4. Remove the rear seat cushion and backrest (see Section S2).

5. Remove the anchorage bolt securing the upper bracket on the reel belt to the quarter panel mounting point; if the anchorage bolt is the hooked type, first detach the bracket from the hook and slacken to the lock-nut.

6. Remove the quarter panel.

7. Remove the nut securing the end bracket on the reel section of the belt to the stud on the lower face of the reel support bracket; remove the belt bracket from the stud, carefully retaining the nut, washers and distance piece.

8. Remove the two $\frac{1}{2}$ in. A/F bolts and nuts securing the reel unit to the support bracket; remove the reel unit noting the finisher plate fitted between the reel and support bracket.

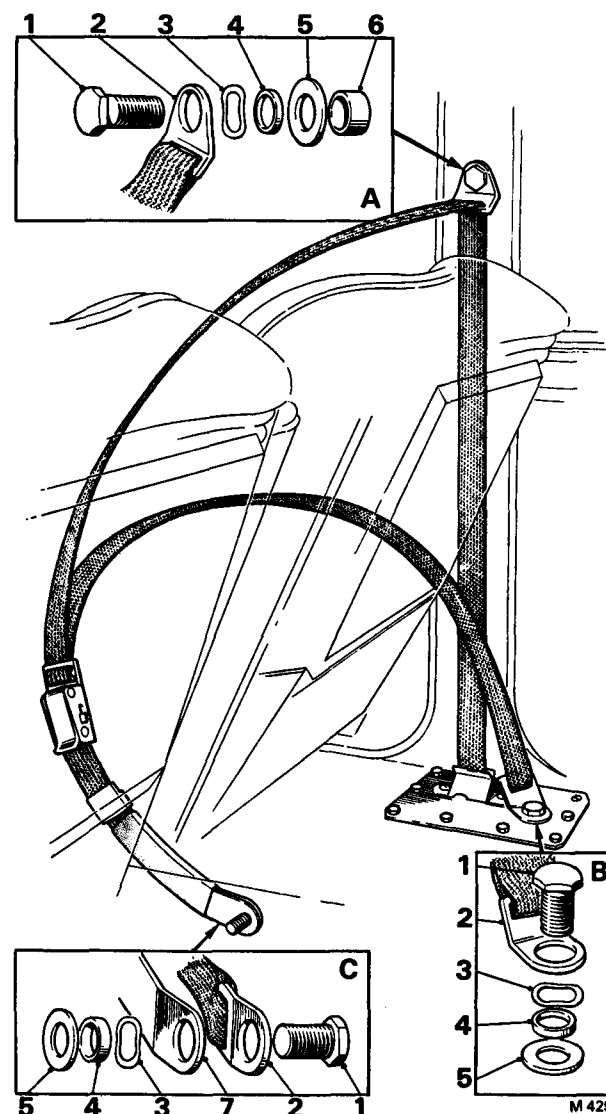


FIG. S98 FRONT SEAT BELT MOUNTINGS—EARLY BRITAX AUTOMATIC SEAT BELT (4-Door Saloon and Long Wheelbase Non-division Cars)

- A Centre pillar mounting
- B Sill cover plate mounting
- C Transmission tunnel mounting
- 1 Anchorage bolt
- 2 Seat belt bracket
- 3 Waved washer
- 4 Distance piece
- 5 Chromed washer
- 6 Distance piece
- 7 Belt stiffener (if fitted)

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9. Remove the anchorage bolt securing the short inboard section of the seat belt to the transmission tunnel; carefully retain the washers and distance piece with the anchorage bolt.

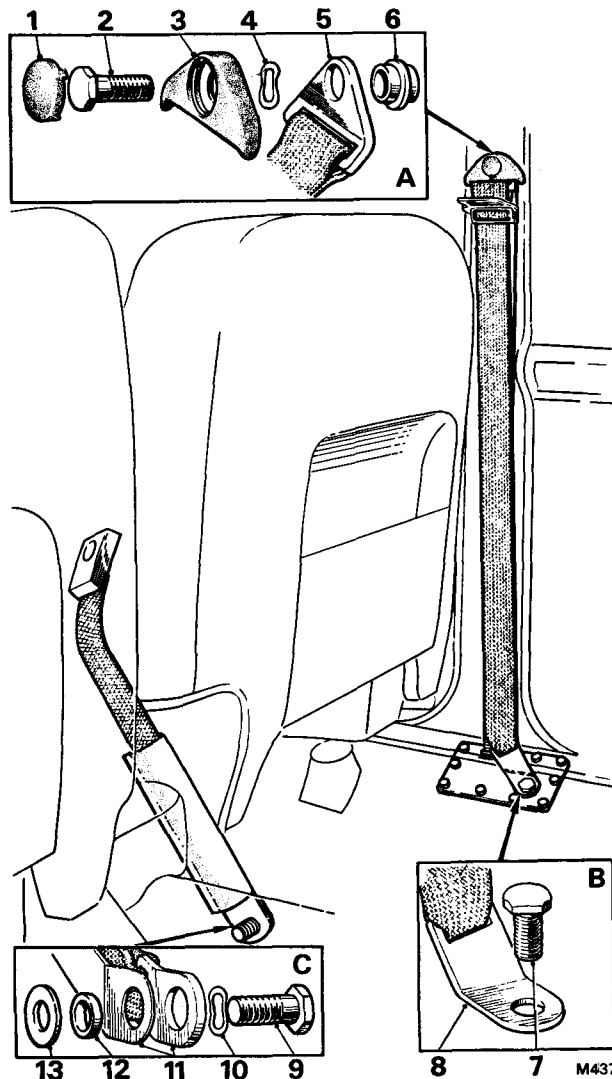


FIG. S99 FRONT SEAT BELT MOUNTINGS—LATER TYPE BRITAX AUTOMATIC SEAT BELT (4-Door Saloon and Long Wheelbase Non-division Cars)

- A Centre pillar mounting
- B Sill plate mounting
- C Transmission tunnel mounting
- 1 End cap—bracket cover
- 2 Anchorage bolt
- 3 Bracket cover
- 4 Waved washer
- 5 Seat belt bracket
- 6 Double-shouldered distance piece
- 7 Anchorage bolt
- 8 Seat belt bracket
- 9 Anchorage bolt
- 10 Waved washer
- 11 Seat belt bracket and stiffener
- 12 Distance piece
- 13 Washer

Britax automatic front seat belt—To fit

To fit the automatic seat belt reverse the procedure given for removal noting the following points.

4-Door Saloon and Long Wheelbase non-division cars

1. When fitting the reel unit to the support bracket ensure that the following conditions are complied with.

- (a) Cars fitted with the earlier type Auto-lok seat belt (see Fig. S98). Ensure that the two $\frac{1}{2}$ in. A/F setscrews securing the reel unit to the support bracket pass through the polythene bag (see Fig. S96); tighten the setscrews to between 16 lb. ft. and 18 lb. ft. (2,212 kgm. and 2,488 kgm.).
- (b) Cars fitted with the Autolok III seat belt (see Fig. S99). Ensure that the distance piece is fitted under the head of the bolt securing the reel unit to the support bracket and also that the mounting lug of the reel unit is located between the two protrusions on the support bracket; tighten the bolt to between 21 lb. ft. and 23 lb. ft. (2,903 kgm. and 3,179kgm.).

Ensure also that the small screw on the side of the reel casing is positioned at the end of the slot furthest away from the back face of the casing as shown in Figure S97; tighten this screw to between 24 lb. in. and 48 lb. in. (0,276 kgm. and 0,553 kgm.).

2. Ensure that the neck of the polythene bag is trapped between the sill and the cover plate, sealing the reel unit inside the bag.

3. Ensure that the backing plate is fitted to the two setscrews securing the reel support bracket to the lower face of the sill channel.

4. Ensure that the webbing between the reel unit and the upper anchorage is free from twist and that the webbing runs off the outboard side of the reel unit.

5. Tighten the special $\frac{7}{16}$ in. diameter UNF anchorage bolts in the sill cover plate, centre pillar and transmission tunnel to between 21 lb. ft. and 23 lb. ft. (2,903 kgm. and 3,179 kgm.).

Coachbuilt cars

6. Tighten the special $\frac{7}{16}$ in. diameter UNF anchorage bolts, the nut securing the end lug of the reel belt and the lock-nut on the hooked anchorage bolt (if fitted) to between 21 lb. ft. and 23 lb. ft. (2,903 kgm. and 3,179 kgm.).

All cars

7. After fitting the reel unit to its support bracket, check that the webbing can be pulled easily from the reel; note that the construction of the belt makes it sensitive only to crash conditions, fierce braking and hard cornering.

8. When fitting the anchorage bolts refer to Figures S98, S99 and S100 which show the seat belts in position and the order of assembly of the bolts, distance piece and washers (when fitted) in the belt mounting brackets.

9. If the belt is fitted with a cranked mounting bracket, ensure that the crank is pointing away from the anchorage point.

10. When fitting the waved washer to any of the anchorage points (see Figs. S98, S99 and S100) ensure that the washer fits over the distance piece and is not trapped between the face of the distance piece and the bracket (or washer).

Sill and channel—To modify

Early Standard and Long Wheelbase non-division cars only

Early 4-Door Saloon and Long Wheelbase non-division cars were not provided with the cut-out in the sill to accommodate the reel unit of the Britax Automatic front seat belt. To enable the Britax Automatic seat belt shown in Figure S98 to be fitted to these early cars the sill and channel can be modified as follows. The seat belts together with the necessary brackets, etc., are supplied in kit form (see *Parts List publication T.S.D. 2201*) and can be obtained from Rolls-Royce Motors Limited, Crewe.

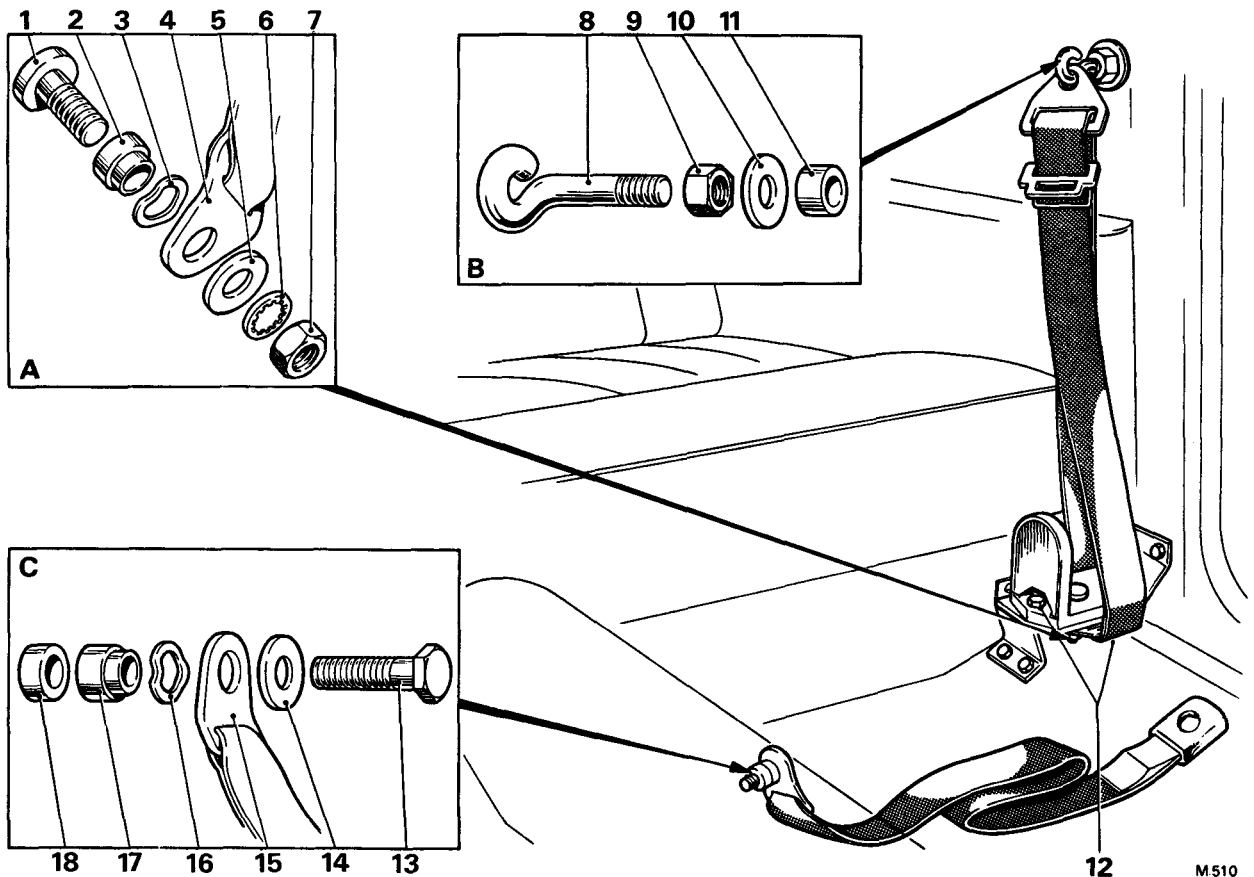


FIG. S100 FRONT SEAT BELT MOUNTING—BRITAX AUTOMATIC SEAT BELT (Coachbuilt Cars)

- | | |
|-------------------------------------------------|---------------------------------------------------------------|
| A Reel mounting bracket anchorage | 9 Nut |
| B Quarter panel anchorage | 10 Chromed washer |
| C Transmission tunnel anchorage | 11 Distance piece |
| 1 Stud (brazed to reel mounting bracket) | 12 Bolt (2 off) securing reel unit to mounting bracket |
| 2 Shouldered distance piece | 13 Anchorage bolt |
| 3 Waved washer | 14 Chromed washer |
| 4 Belt bracket | 15 Belt bracket |
| 5 Chromed washer | 16 Waved washer |
| 6 Shake-proof washer (if fitted) | 17 Shouldered distance piece |
| 7 Nut | 18 Distance piece |
| 8 Hooked bolt | |

Chapter S

1. Remove the front seats (see Section S2).
2. Remove the carpets and the floor insulation material in the vicinity of the sill.
3. Mark out the section of the sill to be removed and the ten holes to be drilled, working to the dimensions shown in Figure S101, note that these dimensions are taken from the centre of the existing seat belt anchorage point (see Fig. S101, item 2).
4. Drill a series of small holes just inside the scribed lines of the section to be removed, then join these holes using a small saw or file; remove the unwanted section of the sill.
5. Carefully file the edges of the aperture to its final shape.
6. Drill the ten holes around the aperture (see Fig. S101), using a 0.462 in. (10.32 mm.) diameter drill; remove any drilling swarf and filings from the sill channel.
7. Coat any bare metal with a zinc rich primer.
8. Fit the backing plates (supplied with the seat belt kit) to the underside of the sill and align the spot welded nuts on the backing plates with the ten drilled holes; secure each backing plate to the floor with two pop rivets to facilitate assembly.

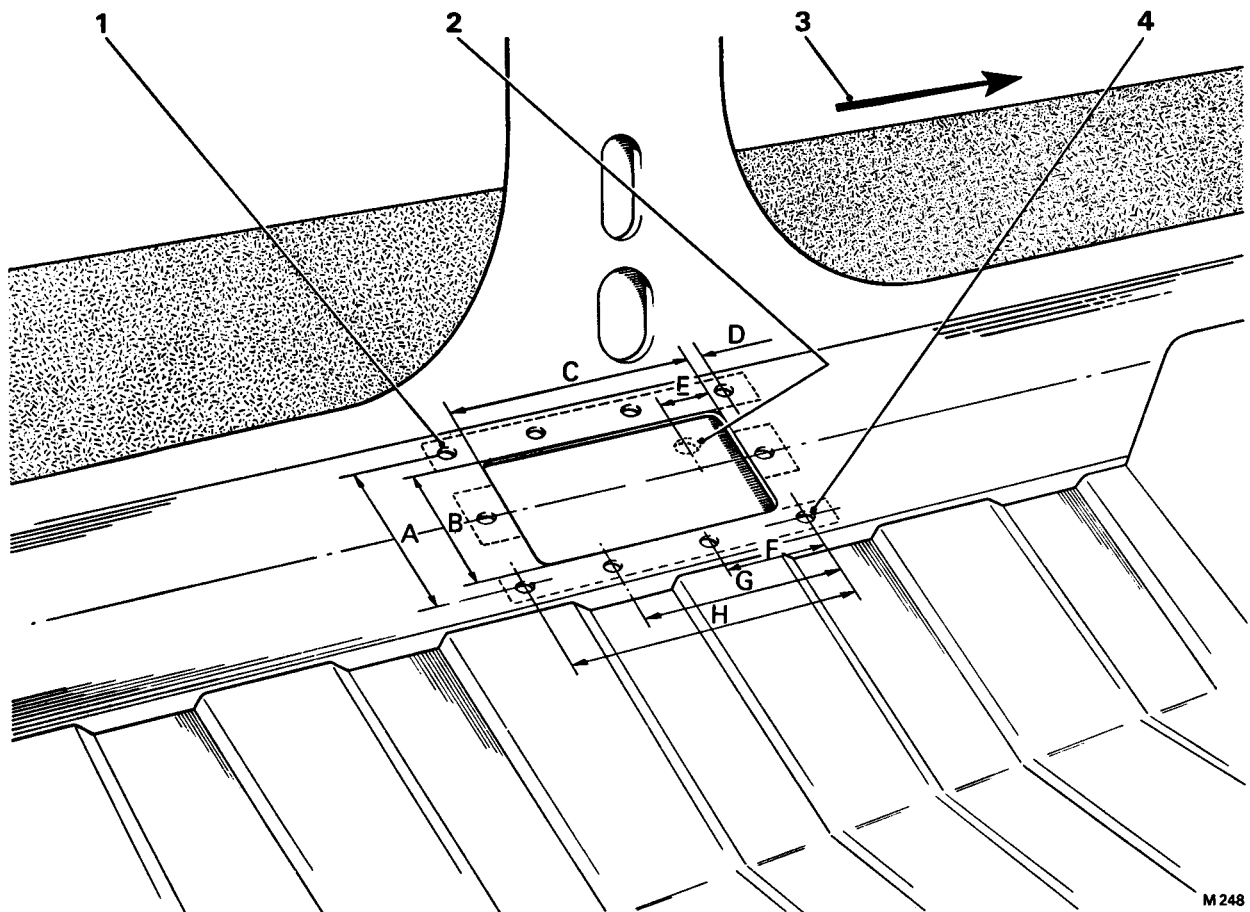


FIG. S101 DRILLING DIMENSIONS FOR THE SILL FLOOR (Early 4-Door Saloon and Long Wheelbase Non-division Cars)

Note Dimensions shown are for the left-hand sill floor, dimensions for the right-hand side are symmetrically opposite.

- | | |
|---------------------------------|---------------------------------------------------------|
| A 3.500 in. (8,890 cm.) | G 4.625 in. (11,747 cm.) |
| B 2.875 in. (7,350 cm.) | H 6.250 in. (15,875 cm.) |
| C 5.625 in. (14,290 cm.) | 1 Hole for countersunk-headed screw |
| D 0.312 in. (7,900 mm.) | 2 Original seat belt anchorage point |
| E 1.250 in. (3,175 cm.) | 3 Arrow pointing to front of car |
| F 2.312 in. (5,870 cm.) | 4 Ten holes each 0.4062 in. (10,32 mm.) diameter |

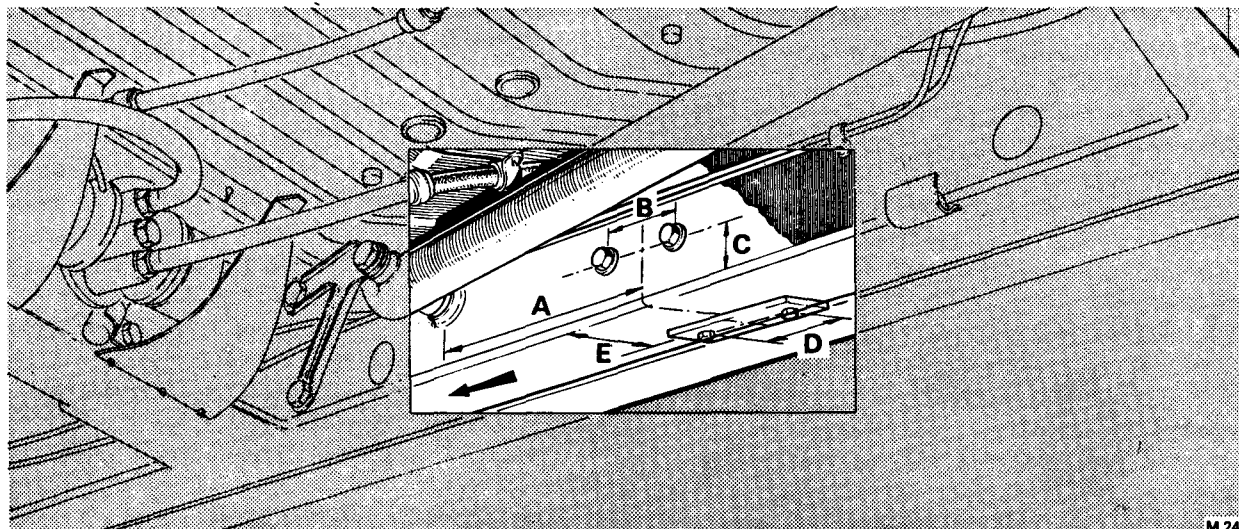


FIG. S102 DRILLING DIMENSIONS FOR THE SILL CHANNEL (Early 4-Door Saloon and Long Wheelbase Non-division Cars)

Note Dimensions shown are for the right-hand sill channel, dimensions for the left-hand channel are symmetrically opposite. The **bold** arrow is pointing to the front of the car.

A 7.187 in. (18,256 cm.)—front datum line taken from the centre of torque tube mounting bolt
B 1.875 in. (3,762 cm.)

C 1.720 in. (8,865 cm.)
D 1.975 in. (5,016 cm.)
E 3.344 in. (8,494 cm.)

9. To facilitate drilling the sills remove the two torque tubes connecting the rear sub-frame to the body sills; scribe correlation marks around the washers and note the position of the washers on the mounting bolts to ensure correct assembly.

10. Mark the position of the four holes to be drilled in the sill channel working to the dimensions shown in Figure S102, noting that the centres of these holes have been taken from the centre of the torque tube front mounting point.

Note that Figure S102 illustrates a right-hand sill when facing towards the front of the car; the dimensions for a left-hand sill are symmetrically opposite.

11. Drill the four holes in each sill channel using a 0.375 in. (9,525 mm.) diameter drill; remove any drilling swarf from the channels then coat the edges of the holes with a zinc rich primer.

12. Fit the two torque tubes to their original positions.

13. The Britax automatic front seat belt assembly shown in Figure S98 can now be fitted (*see Britax automatic front seat belt - To fit, in this Section*).

Note that it will be necessary to cut slots in the carpet and floor insulation, and to cut the carpet away from the centre pillar, in order to allow unrestricted movement of the belt; the cut edges of the carpet should be bound with leather to prevent fraying.

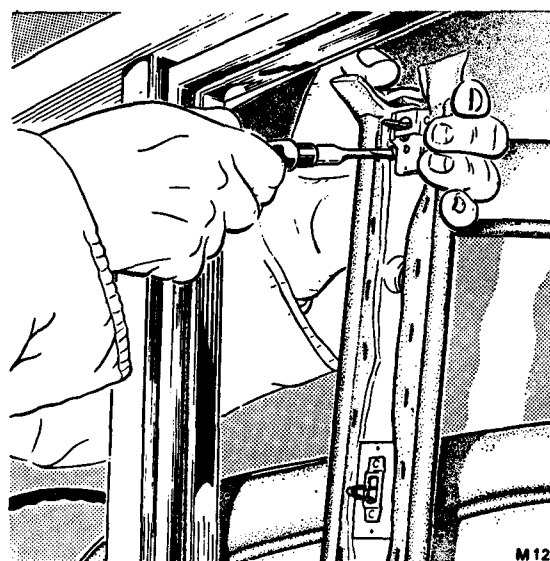


FIG. S103 FITTING A FRONT SEAT BELT STORAGE CLIP TO THE CENTRE PILLAR TRIM PANEL

Note Only required with early type static seat belt

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Front seat static belt—To remove

- 1.(a) Long Wheelbase cars fitted with a centre division. Disconnect the battery leads.
- (b) All cars except Long Wheelbase cars with a centre division. Operate the front seat to its most forward position.

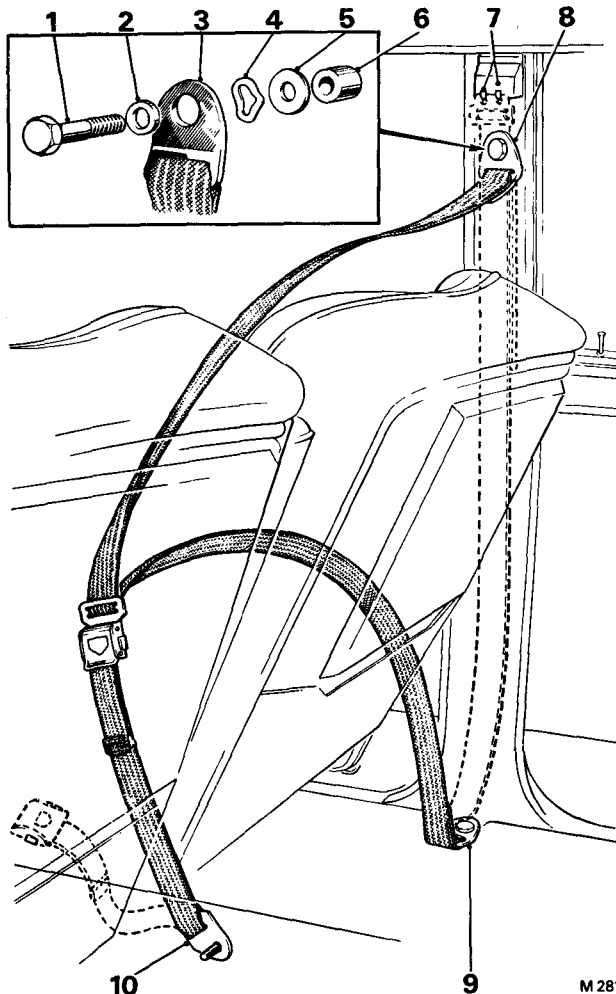


FIG. S104 FRONT SEAT STATIC BELT MOUNTINGS (Britax early type belt with 'Lyfe-Lok' buckle)

- 1 Anchorage bolt
- 2 Distance piece
- 3 Seat belt bracket
- 4 Waved washer
- 5 Chromed washer
- 6 Distance piece
- 7 Stowage clip and block
- 8 Centre pillar mounting—items 1, 2, 3, 4, 5 and 6 required
- 9 Body sill mounting—items 1, 2, 3, 4 and 5 required
- 10 Transmission tunnel mounting—items 1, 2, 3, 4 and 5 required

2. Remove the carpets from the rear compartment; do not remove the carpet trim from the transmission tunnel.

3. Remove the bolts securing the safety belt lugs to (i) the transmission tunnel, (ii) the sill (or cover plate) at the rear of the front seat and (iii) the body centre pillar on 4-door cars or the rear quarter panel on 2-door cars; carefully retain any distance piece(s) or washer(s) with their respective anchorage bolt.

Note that on some later static type seat belts the lap strap and the shoulder strap are separate straps, each having its own buckle but secured at the inboard (short) section of the belt by the same anchorage bolt.

4. Remove the seat belt from the car, noting the following.

- (a) Long Wheelbase cars fitted with a centre division. Remove the belts towards the front of the car carefully guiding the webbing and lugs through the slots in the division. To facilitate assembly, tie a length of string to the lug before removal then, having removed the belt from the division, untie the string leaving the string threaded through the slot in the division.
- (b) 4-Door Saloon and Long Wheelbase cars on which the inboard section of the bolt is fitted with a metal stiffener and sheath. Before the inboard section of the belt can be removed, it will first be necessary to remove the nut and screw securing the tag of the stiffener sheath (if fitted) to the stowage bin.

Front seat static belt—To fit

To fit the front seat static type belt reverse the procedure given for removal noting the following points.

1. On 4-Door Saloon and Long Wheelbase cars fitted with a sill cover plate, ensure that the ten $\frac{7}{8}$ in. A/F screws securing the sill cover plate are correctly torque tightened (see Chapter P, Torque Tightening Figures) before fitting the sill anchorage bolt.

2. When fitting the $\frac{7}{8}$ in. diameter UNF seat belt anchorage bolts, refer to Figure S104; this shows an early Britax seat belt in position and the order of assembly of the anchorage bolts, distance pieces and washers in the belt mounting lugs.

Where a waved washer is fitted, ensure that it fits over the distance piece and is not trapped by the face of the distance piece; finally tighten the anchorage bolts to between 21 lb. ft. and 23 lb. ft. (2,903 kgm. and 3,179 kgm.).

3. On Long Wheelbase cars fitted with a centre division, ensure that any electrical connections are not inadvertently disconnected while threading the inboard section of the belt through the slots in the division.

Rear seat belt—To remove

1. Remove the rear seat cushion (see Section S2)
2. Two methods of securing the seat belt to the rear seat pan have been used; to disconnect the belt from the seat pan anchorage proceed as follows.
 - (a) **Shackle type belt lug anchorage** (see Fig. S105). On belts with this type of anchorage, remove the screw (or the nut and bolt in some cases) securing the shackle on each end of the lap belt to the eye bolt in the seat pan.
 - (b) **Belt lugs bolted directly to the rear seat pan** (see Fig. S106). Remove the bolts securing the belt lugs to the seat pan. Note that when three sets of rear belts are fitted, the two inner bolts each secure two sections of a seat belt.
3. If a diagonal belt is fitted, remove the bolt securing the upper lug of the belt to the anchorage point at the rear of the seat backrest; carefully retain the distance piece(s) and washers with the anchorage bolt.
4. Remove the rear seat belt.

Rear seat belt—To fit

To fit the rear seat belt reverse the procedure given for removal noting the following points.

1. When fitting a lap and diagonal seat belt, secure the upper lug of the diagonal strap to its anchorage as shown in Figure S105 noting the correct order of assembly for the distance pieces and washers; ensure that the crank of the lug is uppermost and that the waved washer is not trapped by the small distance piece.

Tighten the anchorage bolt to between 21 lb. ft. and 23 lb. ft. (2,903 kgm. and 3,179 kgm.) and ensure that the lug will swivel about its anchorage.

2. On cars fitted with seat belts having shackle type belt lug anchorages (see Fig. S105), ensure that the screws securing the shackles to the eye bolts in the rear seat pan are at right angles to the centre line of the car.

3. On cars where the seat lap belts are bolted directly to the rear seat pan, refer to Figure S106 which shows the correct positioning of the belt lugs when three rear seat lap belts are permitted.

When the lugs are positioned correctly, tighten the anchorage bolt to between 21 lb. ft. and 23 lb. ft. (2,903 kgm. and 3,179 kgm.); ensure that the belts are not twisted.

Note When three sets of lap belts are fitted, the belts from a double anchorage point must be of the same end fixing, i.e. either two buckle sections together or two tongue sections.

Britax automatic seat belt—To adjust

1. Initially, adjust the tongue on the reel section of the seat belt so that it hangs just below the upper anchorage point when the belt is fully retracted; on belts incorporating a tongue stop, adjust the position of the tongue stop so that it holds the tongue in the required position.

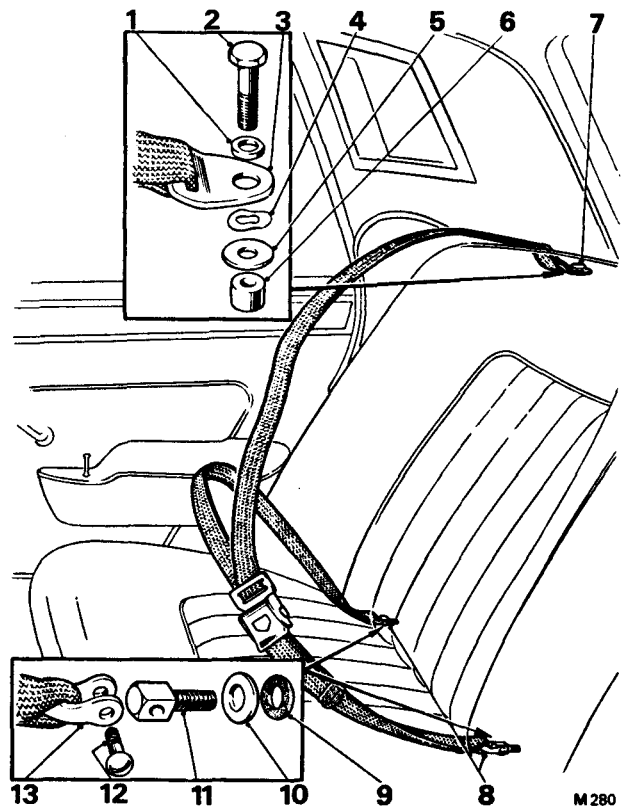


FIG. S105 BRITAX LAP AND DIAGONAL REAR SEAT BELT IN POSITION (Early 4-Door Saloon Cars)

- 1 Distance piece
- 2 Anchorage bolt
- 3 Seat belt bracket
- 4 Waved washer
- 5 Chromed washer
- 6 Distance piece
- 7 Upper anchorage point—shoulder strap
- 8 Rear seat pan anchorage points—lap straps
- 9 Rubber washer
- 10 Washer
- 11 Eye bolt
- 12 Screw (nut and bolt fitted to later belts)
- 13 Shackle

Chapter S

2. Sit in the car and fasten the seat belt; check that the belt is not twisted.

3. **Short inboard section of the Seat Belt** (strap with buckle attached).

Note If this section of the seat belt is the semi-rigid type fitted with a stiffener, no adjustment is required and the following does not apply.

Operate the front seat to the required position, then adjust the short inboard section of the seat belt so that the clasp is level with the side of

the hip adjacent to the centre line of the car: this adjustment is carried out as described for static seat belts (see *Static seat belt – To adjust, Operation 1*).

4. **Reel section of the Seat Belt** (lap and diagonal strap). No adjustment of the reel section of the belt is required as the design of the reel always keeps the webbing comfortably in position across the body; this allows complete freedom of movement until fierce braking, hard cornering or crash conditions activate the reel locking mechanism.

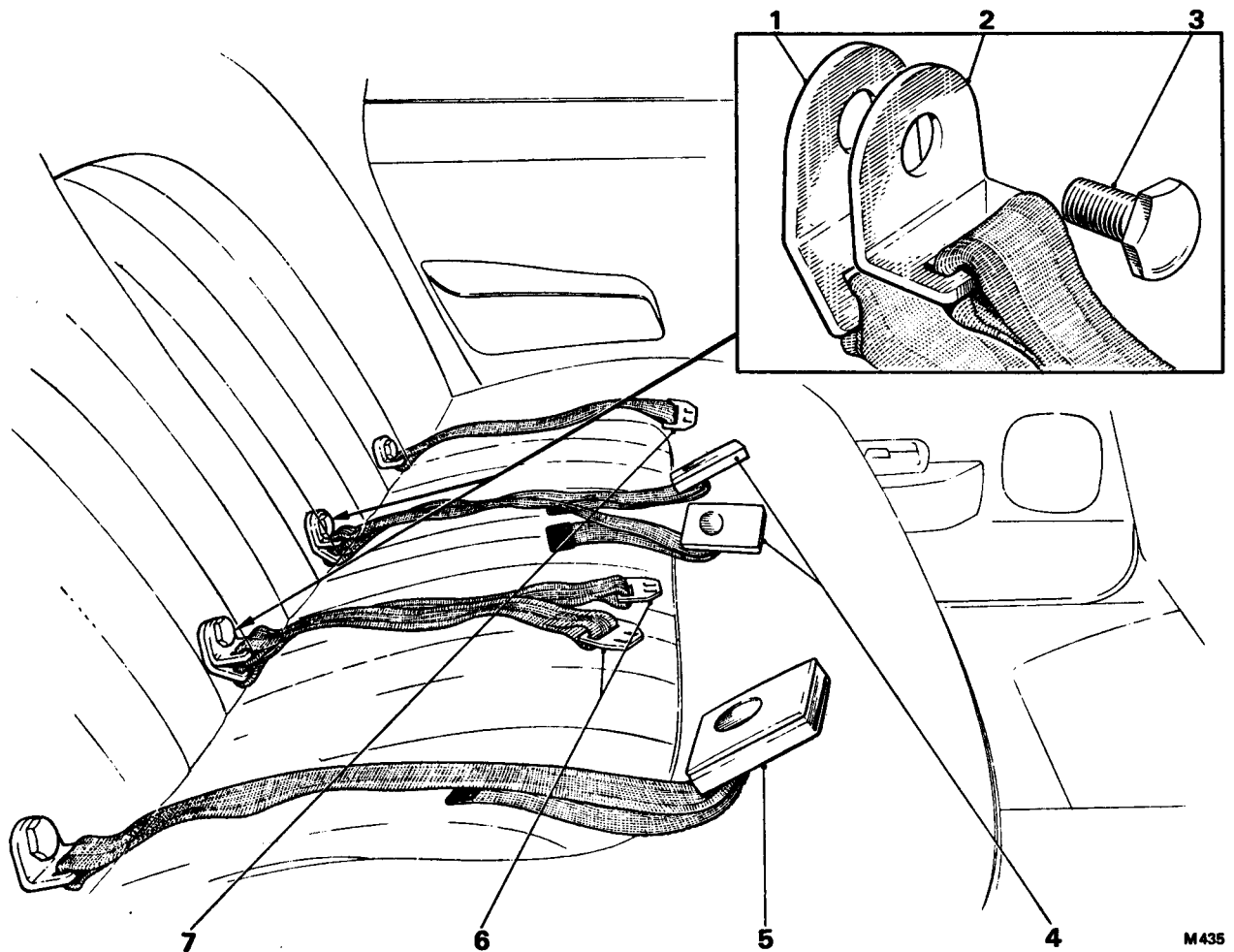


FIG. S106 LATER TYPE BRITAX REAR SEAT LAP BELTS IN POSITION

Note Illustration shows mountings when **three** seat belts are permitted

- 1 Seat belt bracket
- 2 Seat belt bracket
- 3 Anchorage bolt

- 4 Mounting point—two buckle sections of a belt
- 5 Mounting point—one buckle section of a belt
- 6 Mounting point—two tongue sections of a belt
- 7 Mounting point—one tongue section of a belt

Static seat belt—To adjust

1. Adjustment is provided on the buckle section of the seat belt. Two types of buckle fastener are employed on Britax seat belts and the method of adjustment is different on each. To adjust one of these seat belts proceed as follows.

- (a) **'Lyfe-Lok' buckle** (see Fig. S104). To lengthen the belt, grip the two arrowed finger pieces on the sides of the buckle with the thumb and forefinger and pull firmly upwards.

To shorten the belt, pull the loose end of the webbing.

- (b) **'Press-button' buckle** (see Fig. S106). To lengthen the belt, lift the lower end of the buckle until it is at 90° to the webbing when it will slide along the webbing quite freely.

To shorten the belt, pull the loose end of the webbing.

When adjusting the seat belt the following points should be noted.

2. Before adjusting the front seat belts, operate the seat to the required position.
3. The buckle should always rest on the side of the hip.
4. The belt should be adjusted so that the hand will just pass between the webbing and the chest of the diagonal belt; the lap belt should be reasonably tight.

Britax automatic seat belt—To test

1. Fasten and adjust the seat belt (see *Automatic seat belt - To adjust*).

Fit a 'g' meter to the front windscreen for carrying out tests 2 and 4; zero the meter with the car stationary on a level surface.

2. **Acceleration.** Accelerate the car at a rate increasing to 0.2 g.; ensure that the belt does not lock.

3. **Cornering.** Make a sharp 'U' turn to the left; check that the belt locks and subsequently releases on completion of the turn.

Repeat the test on a similar right-hand turn.

4. **Deceleration.** Brake progressively from 40 m.p.h. (64 k.p.h.); check that the belt locks at a figure between 0.2 g. and 0.6 g. and subsequently releases.

5. With the car stationary, lean forward to the maximum extent that the webbing permits then return to the normal sitting position; check that the belt remains in contact with the body during this movement and during subsequent normal driving movements (e.g. operating the handbrake).

6. Release the buckle and allow the belt to retract; check that the belt retracts until the tongue is about 6 in. (15.2 cm.) from the upper anchorage point and that with a small push on the tongue the belt retracts completely.

7. If, after checking that the belt is fitted correctly, the belt fails any of these test conditions, fit a new seat belt.

Section S10

MISCELLANEOUS TRIM

Top roll—To remove

4-Door Saloon and Long Wheelbase cars

1. Remove the screws securing the lower parcel shelf below the facia; to gain access to one of these screws it will be necessary to remove the polythene plug from the inboard wall of the parcel shelf.

Remove the parcel shelf.

2. Unscrew the knurled nut securing the main fuse box cover and fully lower the fuse box.

3. Remove the four screws securing the trim pocket around the handbrake lever; remove the trim pocket.

4. Remove the $\frac{7}{16}$ in. A/F setscrew securing each side leg of the top roll to the facia panel.

5. On later cars (see Fig. S108), remove the polished wood facia as follows.

Remove the small grub screw securing each air outlet control knob to its spindle and remove both knobs. Remove the screws securing the two sections of the polished wood facia; remove the polished wood facia.

6.(a) Early cars (see Fig. S107). Remove the screws located under the protruding edge of the top roll.

(b) Late cars (see Fig. S108). Remove the setscrews securing the top roll to the instrument board; also remove the two $\frac{7}{16}$ in. A/F nuts and washers situated above the door aperture inside the lockable cubby box.

7. Remove the top roll.

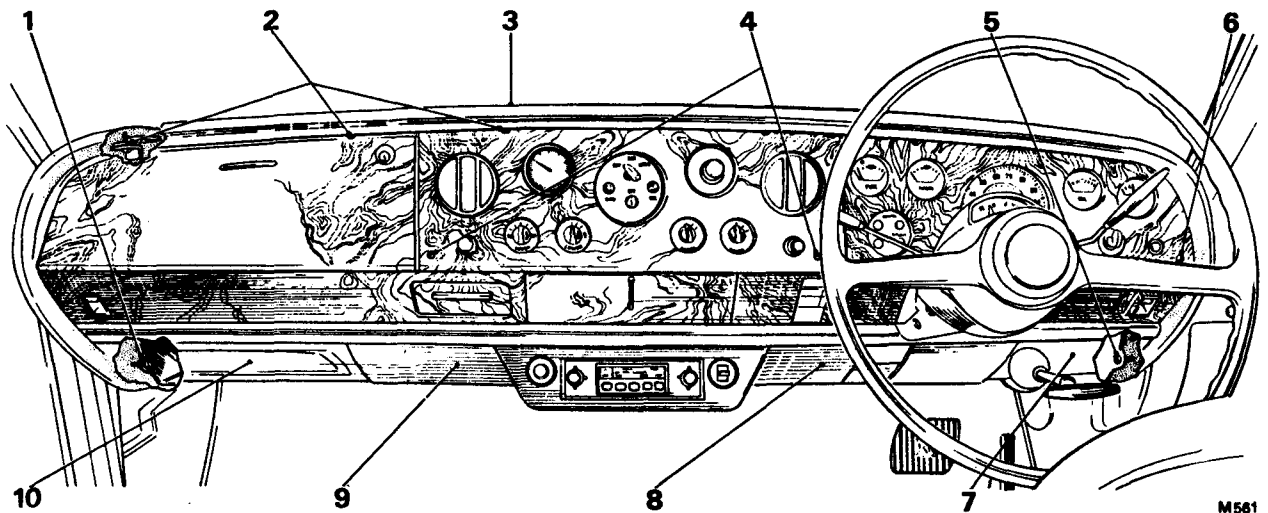


FIG. S107 VIEW OF TYPICAL FACIA TRIM (4-Door Saloon and Long Wheelbase Cars Prior to Car Serial Number 6001)

- 1 Screw securing side leg of top roll
- 2 Screws—top roll to facia brackets (6 off)
- 3 Top roll
- 4 Screws securing centre facia panel
- 5 Screw securing side leg of top roll

- 6 Screw securing end facia panel
- 7 Trim panel surrounding handbrake lever
- 8 Trim panel surrounding bonnet release lever
- 9 Left-hand lower trim panel
- 10 Parcel shelf

Chapter 5

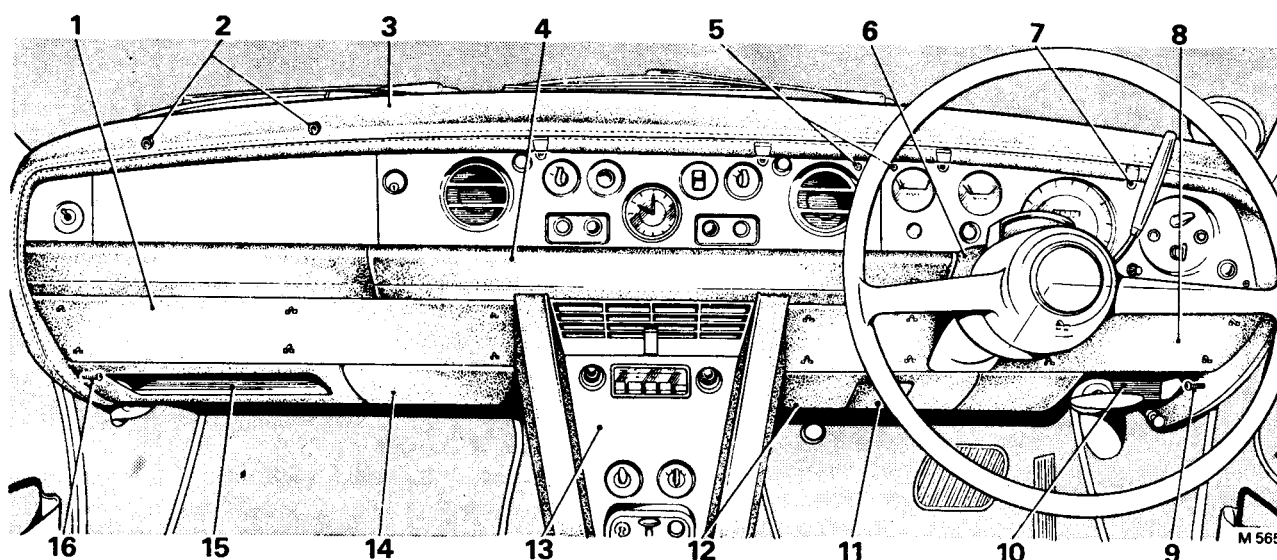


FIG. S108 VIEW OF TYPICAL FACIA TRIM (4-Door Saloon and Long Wheelbase Cars after Car Serial Number 6000)

- | | |
|------------------------------------------------------|-------------------------------------------|
| 1 Knee trim pad | 9 Screw securing side leg of top roll |
| 2 Nuts securing top roll to instrument panel (2 off) | 10 Handbrake lever trim panel |
| 3 Top roll | 11 Knee trim pad |
| 4 Lower roll | 12 Trim panel around bonnet release lever |
| 5 Screws securing polished wood facia | 13 Centre console |
| 6 Steering column cowl fairing trim | 14 Lower trim panel |
| 7 Screw—top roll brackets to instrument panel | 15 Parcel shelf |
| 8 Knee trim pad | 16 Screw securing side leg of top roll |

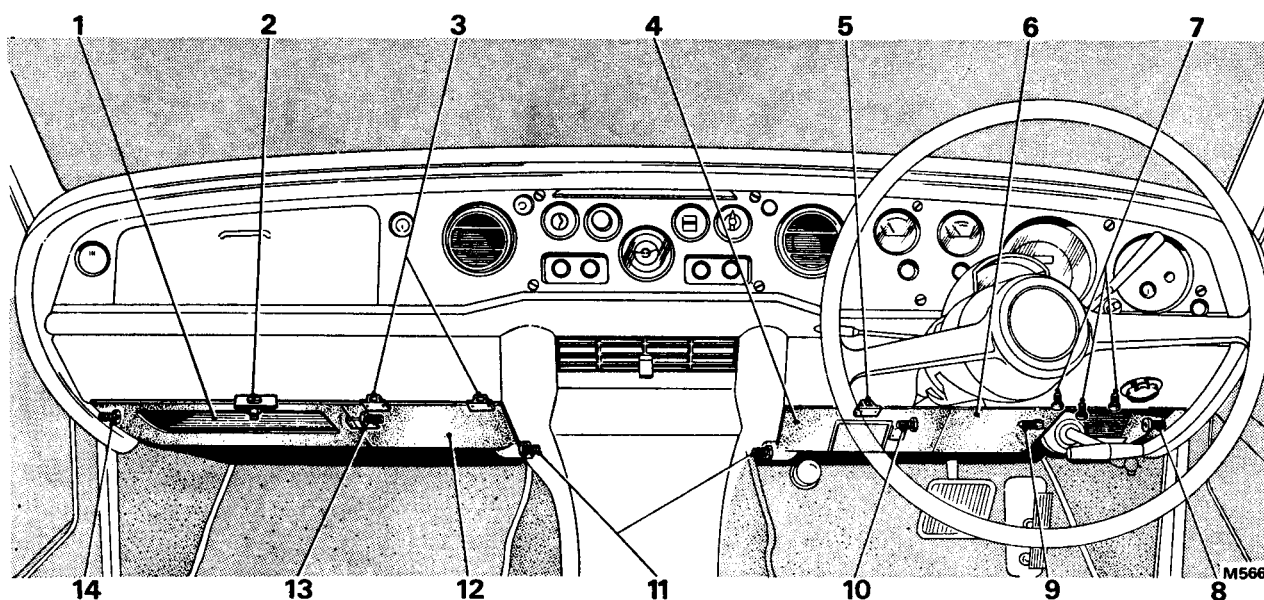


FIG. S109 LOWER FACIA TRIM PANELS

- | | |
|------------------------------------------------------|-------------------------------------------------------------------|
| 1 Parcel shelf | 9 Fusebox retaining screw |
| 2 Screw—parcel shelf to support bracket | 10 Setscrew securing trim panel to facia bracket |
| 3 Locating bracket—lower trim panel | 11 Setscrews securing trim panels to centre console |
| 4 Trim panel around bonnet release lever | 12 Lower trim panel |
| 5 Trim panel locating bracket | 13 Setscrew securing parcel shelf and trim panel to facia bracket |
| 6 Fusebox cover | 14 Screw securing parcel shelf and side leg of top roll |
| 7 Screws securing handbrake lever trim panel | |
| 8 Screw securing trim panel and side leg of top roll | |

Top roll—To remove**Coachbuilt cars**

1.(a) **Cars prior to Car Serial Number 6001.** Remove the six screws situated underneath the protruding edge of the top roll; draw the roll away from the windscreen to disengage the clips securing the front edge and remove the top roll.

To remove the trim panel situated between the top roll and the windscreen, remove the screws securing the rear edge of the panel; draw the panel away from the windscreen to disengage the front edge of the panel from its retaining clips and remove the panel.

(b) **Cars after Car Serial Number 6000.** To remove the top roll follow the same procedure described for late 4-Door Saloon and Long Wheelbase cars (see *Top roll—To remove, Operations 1, 2, 3, 4, 5 and 6(b)*).

Top roll—To fit**All cars**

To fit the top roll reverse the procedure given for removal.

Instrument board—To remove**4-Door Saloon and Long Wheelbase cars**

1. Disconnect the battery leads.
2. Remove the top roll above the facia (see *Top roll—To remove, in this Section*).
- 3.(a) **Early cars not fitted with a front centre console** (see *Fig. S107*). Remove the radio receiver mounted below the facia (see *Chapter M—Electrical System*).
- (b) **Late cars fitted with a front centre console** (see *Fig. S108*). Slacken the centre console assembly and move it away from the facia (see *Centre console—To remove, Operations 1 to 6 inclusive, in this Section*).
4. Remove the two 2 B.A. screws securing each of the two trim panels below the facia; one pad is adjacent to the bonnet catch operating lever, the other pad is adjacent to the lower parcel shelf.

Remove both pads in a downward direction to disengage the brackets on the back of each pad from the lugs on the facia (see *Fig. S109*).

5. Remove the small trim pad (if fitted) situated between the steering column and the facia; lift the pad upwards out of the spring retaining clip.

6. **On early cars not fitted with a centre console** (see *Fig. S107*), remove the screws securing the two sections of the polished wood facia; remove the facia.

7. **On late cars fitted with a centre console** (see *Fig. S108*), remove the three trim pads situated below the lower roll; the pads are secured to the facia by spring type upholstery clips and a wedge-shaped removal tool will be required.

On cars fitted with a 'PARKING' switch, it will be necessary to remove the switch knob and escutcheon before the trim pad adjacent to the steering column can be removed. To remove the knob, depress the spring plunger in the shank of the knob then remove the knob; remove the two screws securing the switch escutcheon and remove the escutcheon.

8. Disconnect the electrical leads to the instruments, lamps, switches, etc., on the instrument board (see *Chapter M—Electrical System*); in view of the numerous electrical connections involved, it is advisable to label each one as it is disconnected to facilitate assembly.

9. Disconnect the drive cable from the speedometer (see *Chapter M—Electrical System*).

10. **On early cars not fitted with a front centre console** (see *Fig. S107*), remove the two $\frac{7}{16}$ in. A/F nuts securing the lower edge of the instrument board to the mounting brackets; the nuts are situated under the lower edge of the facia behind the two outer lugs for the lower trim pads (see *Operation 4*).

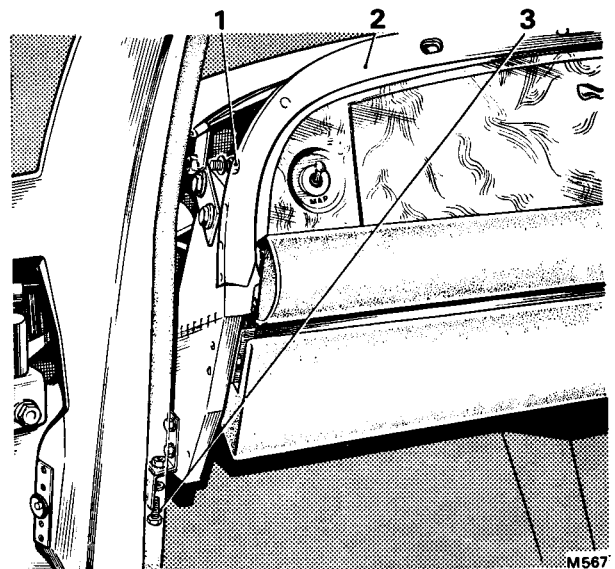


FIG. S110 POSITION OF THE SETSCREWS SECURING LEFT-HAND SIDE OF THE INSTRUMENT BOARD

Note Position of right-hand screws symmetrically opposite

- 1 Setscrew—upper bracket to body bracket
- 2 Instrument board
- 3 Setscrew—lower bracket to body bracket

Chapter 5

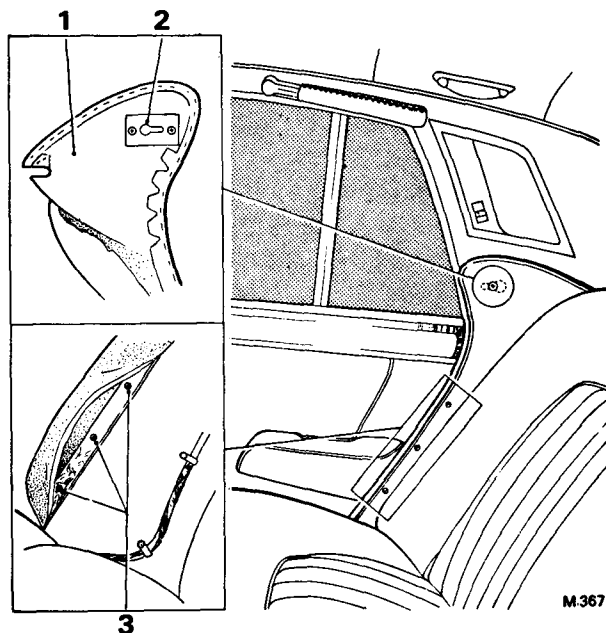


FIG. S111 POSITION OF THE REAR CHEEK PAD SECURING SCREWS (4-Door Saloon and Long Wheelbase Non-division Cars)

- 1 Cheek pad
- 2 Slotted bracket attached to rear of cheek pad
- 3 Wood screws (3 off)

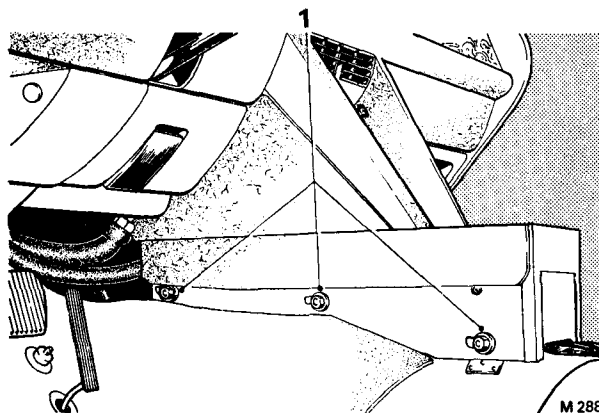


FIG. S112 POSITION OF THE CENTRE CONSOLE MOUNTING SCREWS (4-Door Saloon and Long Wheelbase Cars)

Note Left-hand side securing screws illustrated; the right-hand side securing screws are symmetrically opposite

- 1 Setscrews (6 off) securing console to transmission tunnel

11. Remove the eight $\frac{7}{16}$ in. A/F setscrews securing the instrument board to the car; four of these setscrews secure the board to the two centre mounting brackets, the other four setscrews secure the outer ends of the board to the side scuttle brackets (see Fig. S110).

Two assistants will be required to support the instrument board as the setscrews are removed.

12. Carefully remove the instrument board from the car.

Instrument board—To fit

To fit the instrument board reverse the procedure given for removal noting the following points.

- 1. Before fitting the instrument board check that the rubber seal is in position on the two outlets from the air conditioning unit under the facia.
- 2. Before fitting the top roll check the operation of the lamps, switches, instruments, etc., on the instrument board.

Cheek pad—To remove

To remove the cheek pad fitted below the rear quarter panel on 4-Door Saloon and Long Wheelbase cars (see Fig. S111), proceed as follows noting that the removal procedure is the same for both cheek pads.

- 1. Remove the rear seat and backrest (see Section S2, Rear seat - To remove, in this Chapter).
- 2. Detach the leather trim of the cheek pad from the body; the trim is secured with adhesive and also, on late cars, with tacks and clips.
- 3. Lift back the leather trim of the cheek pad to expose the three screws securing the pad to the body; remove the three screws.
- 4. Grip the lower part of the cheek pad and free it from its position between the draught welt and the seat valance; as the lower part of the cheek pad is being lifted, ease the upper part of the pad away from the quarter panel then move it forward approximately $\frac{3}{4}$ in. (19,05 mm.) until the slotted bracket attached to the inside of the cheek pad is felt to free itself from the head of the Phillips screw (see Fig. S111).

Remove the cheek pad.

Cheek pad—To fit

To fit the cheek pad reverse the procedure given for removal noting the following point.

- 1. Use Dunlop adhesive L107 or its equivalent to secure the cheek pad leather trim to the body.

Centre console—To remove (see Fig. S112)

4-Door Saloon and Long Wheelbase cars from Car Serial Number 6000

1. Remove the front seats (see Section S2, Front seat – To remove, in this Chapter).
2. Lift out the ashtray at the rear of the centre console.
3. Remove the stowage bin (see Stowage bin – To remove, in this Section).
4. Disconnect the bonding cable and the earthing leads secured to the transmission tunnel by removing the 2 B.A. nut and washer; this nut is situated in the ashtray well at the rear of the centre console.
5. Remove the six $\frac{7}{8}$ in. A/F setscrews securing the centre console to the transmission tunnel.
6. The centre console can now be moved away from the fascia sufficiently for fascia components (the instrument board for example) to be removed.
However, if it is required to move the centre console any distance from the fascia or remove it completely from the car, proceed as follows.
7. Remove the trim pad from each side of the centre console; a wedge-shaped tool will be required to free the spring type upholstery clips securing the pads.
8. Disconnect the centre console electrical looms at the terminal blocks on the forward end of the console and also at the switch connections where necessary (see Chapter M, Electrical System); disconnect any bonding leads from the transmission tunnel.
9. Disconnect the aerial lead from the radio mounted in the console.
10. On Long Wheelbase cars fitted with a centre division, it will be necessary to disconnect the looms to the centre division electrical components and also to disconnect the rear radio aerial at the junction block on the centre console side trim pad, if the centre console is to be removed from the car.
11. Remove the centre console.

Centre console—To remove

Coachbuilt cars after Car Serial Number 6000

1. Disconnect the battery leads.
2. Lift back the carpet trim to expose the two feet on each side of the console; remove the self-tapping screws securing the feet to the car floor.
3. Disconnect the electrical looms to the switches and the cigar lighter mounted in the console.
4. Remove the centre console assembly.

5. Remove the radio receiver (see Chapter M – Electrical System).
6. Remove the screws securing the trim panels on each side of the radio console (see Fig. S113); remove the trim panels.
7. Remove the screws securing the radio console and the air conditioning outlet grille to the lower face of the instrument panel.
8. Remove the setscrews securing each side of the radio console to the transmission tunnel; remove the console, detaching any looms which may be clipped to the console.

Centre console—To fit

All cars after Car Serial Number 6000

To fit the centre console reverse the procedure given for removal noting the following point.

1. When fitting the centre console ensure that none of the electrical looms are trapped between the console and the transmission tunnel.

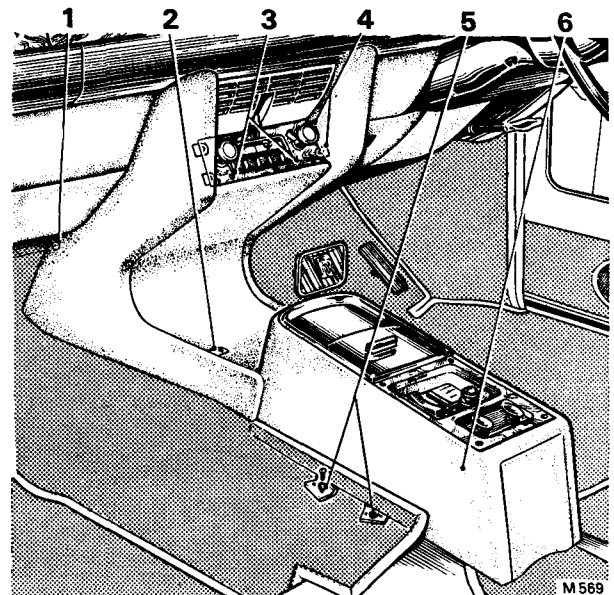


FIG. S113 VIEW OF TYPICAL CENTRE CONSOLE TRIM (Coachbuilt Cars)

- 1 Side trim panel securing screw
- 2 Screw securing side and centre trim panels
- 3 Screws securing centre trim panel to radio console
- 4 Screws securing side trim panel to radio console
- 5 Centre console mounting feet
- 6 Centre console

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Stowage bin—To remove

To remove the stowage bin fitted between the front seats on 4-Door Saloon and Long Wheelbase cars proceed as follows.

Early cars (see Fig. S114)

1. Disconnect the battery leads.

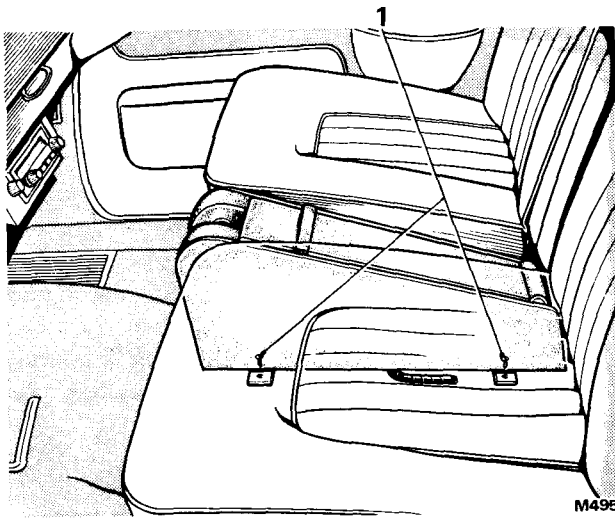


FIG. S114 METHOD OF SECURING THE STOWAGE BIN (4-Door Saloon and Long Wheelbase Cars prior to Car Serial Number 6001)

- 1 Screw (4 off)

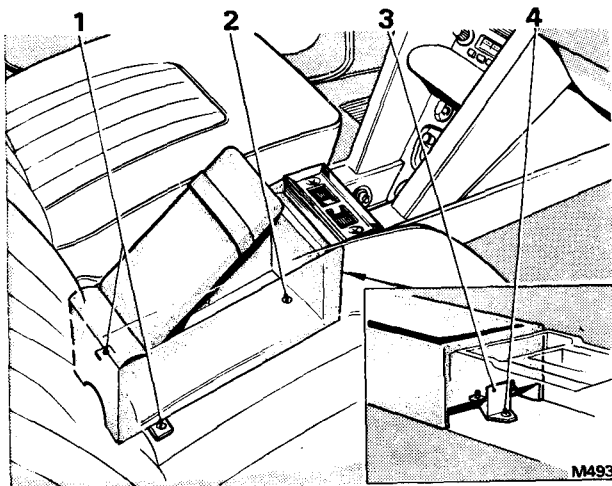


FIG. S115 METHOD OF SECURING THE STOWAGE BIN (4-Door Saloon and Long Wheelbase Cars after Car Serial Number 6000)

- 1 Screw—rear feet (2 off)
- 2 Screw—when bin is fitted with a lid
- 3 Bracket } when bin is not fitted with a lid
- 4 Screw }

2. Remove the front seat cushions.
3. Lift back the carpet to expose the feet of the stowage bin then remove the screws securing the feet to the transmission tunnel; there are two feet on each side of the stowage bin.
4. Disconnect the seat switch loom plug and socket and detach the clip securing the loom to the seat mechanism.
5. Remove the stowage bin together with the wiring loom.

Late cars fitted with a centre console (see Figs. S115 and S116)

1. Remove the front seat cushions.
2. Lift back the carpet to expose the feet of the stowage bin then remove the screws securing the feet to the transmission tunnel; there is one foot on each side of the bin.

Note that on Long Wheelbase cars fitted with a centre division these screws also secure the clips for the division electrical looms.

3. The front end of the stowage bin may be retained by either a screw or a spring clip; if the front radio receiver is mounted into the centre console the bin will be retained by a screw, if the front radio is mounted between the console ashtray and the stowage bin the bin will be retained by a spring clip.

To detach the front end of the stowage bin proceed as follows.

- 4.(a) **Radio mounted into the centre console** (see Fig. S115). If a padded lid is fitted to the stowage bin, lift the lid then remove the Phillips screws situated at the forward end of the stowage recess.

If a padded lid is not fitted to the stowage bin, lift out the ashtray at the rear of the centre console then remove the Phillips screw situated at the bottom of the ashtray recess in the centre console.

- (b) **Radio mounted between the centre console ashtray and the stowage bin** (see Fig. S116). Grip the stowage bin and pull towards the rear of the car to disengage the spring clip.

5. Remove the stowage bin noting that on some late cars fitted with front seat belts, it will be necessary to detach the inner belt sheath strap (if fitted) before the bin can be removed from the car; to detach the sheath strap, remove the screw securing the strap to the stowage bin.

Stowage bin—To fit

To fit the stowage bin reverse the procedure given for removal.

Head lining—To remove**4-Door Saloon and Long Wheelbase cars**

1. Disconnect the battery leads.
2. Remove the trim surrounding the windscreen until the edge of the head lining above the windscreen is exposed; refer to the basic procedure described for removing the windscreen (see Section S3, Windscreen - To remove, in this Chapter).
3. On early cars, remove the sun visors and also the hazard warning lamp (if fitted); these items are not included in the removal procedure referred to in Operation 2.

To remove the sun visors, first remove the ten self-tapping screws securing the sun visor pivot brackets and the retention brackets to roof; remove the sun visors.

To remove the hazard warning lamp refer to Chapter M - Electrical System.

4. Remove the trim surrounding the rear window until the edge of the head lining is exposed; refer to the basic procedure described for removing the rear window (see Section S3, Rear window - To remove, in this Chapter).

5. On 4-Door Saloon cars after Car Serial Number 6910 (also including 6901 and 6860), remove the following items of interior trim as these are not covered in the removal procedure referred to in Operation 4.

Remove the cheek pads, rear parcel shelf trim pad, vanity mirrors and the rear quarter/cantrail trim panels following the removal procedure described for earlier cars (see Section S3, Rear window - To remove, All 4-Door Saloon and Long Wheelbase cars prior to Car Serial Number 6911 (excluding 6901 and 6860), Operations 4 to 7 inclusive).

6. On Long Wheelbase cars after Car Serial Number 6599 (i.e. cars with smaller rear window), remove the following items of trim as these are not covered in the removal procedure referred to in Operation 4.

- (a) **Non-division cars.** Remove the cheek pads, rear parcel shelf trim pad, rear vanity mirrors and the rear quarter/cantrail trim panels following the procedure described for 4-Door Saloon cars in Operation 5.
- (b) **Cars fitted with a centre division.** Remove the cheek pads and the rear cold air outlet ducts (see Chapter C, Section C10, Outlet ducts - To remove, Operations 7 and 8). Remove the rear parcel shelf trim pad, using a wedge-shaped tool to free the upholstery clips securing the trim pad to the rear bulkhead.

On both division and non-division cars, remove the trim pad surrounding the rear window as follows.

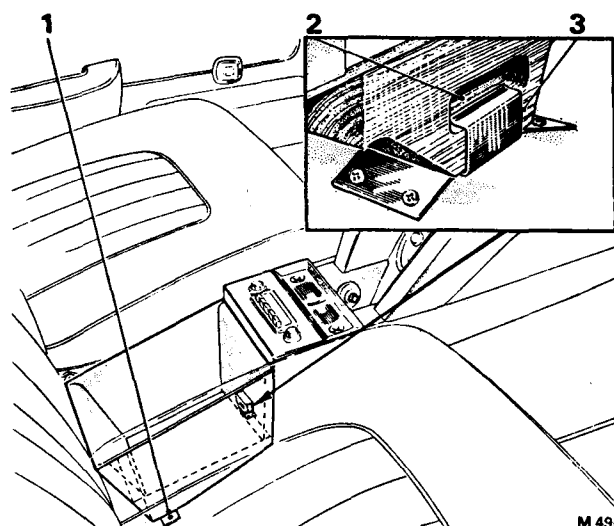


FIG. S116 METHOD OF SECURING THE STORAGE BIN WHEN A TAPE PLAYER IS FITTED INTO THE FRONT CENTRE CONSOLE (4-Door Saloon and Long Wheelbase Cars)

- 1 Screw—rear feet (2 off)
- 2 Recessed block on front of bin
- 3 Spring retaining clip attached to transmission tunnel

Detach the pad trim from around the sides and the lower edge of the rear window aperture and turn back to expose the seven self-tapping screws securing the trim pad; remove these seven screws. Detach the spring type upholstery clips securing the upper edge of the trim pad and remove the pad.

7. Remove the screws securing the various fittings on the cantrail trim panels, i.e. the front brackets for windscreen side finisher pads, the rear compartment hand pulls (if fitted) and the coat hooks (if fitted).

On Long Wheelbase cars fitted with a centre division, it will also be necessary to remove both perspex end windows and the screen upper channels from the division (see Section S6, Electrically operated division glass - To remove, Operations 1 to 15 inclusive).

8. Remove the cantrail trim pads using a wedge-shaped tool to free the spring type upholstery clips; the trim pads are secured to the door draught welts with staples and, unless it is required to remove the trim pads completely from the car, the trim pads should be moved carefully to one side.

9. Remove the roof lamps as follows, the removal procedure being the same for each roof lamp.

Pull the lens cover from the lamp; the cover is only retained by a spring clip. Remove the two screws securing the lamp body to the roof then lower the lamp body sufficiently to gain access to the electrical connections; disconnect the Lucar connections and remove the lamp body.

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10. Remove the clips, drive nails and screws securing the head lining to the roof; free the extremities of the head lining where it is secured with adhesive.

On Long Wheelbase cars after Car Serial Number 6599 (i.e. cars with smaller rear window),

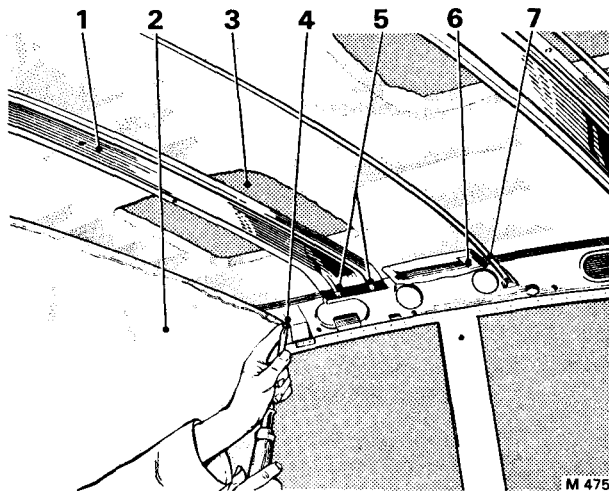


FIG. S117 FITTING A HEAD LINING LISTING BAR (4-Door Saloon and Long Wheelbase Cars)

- 1 Roof bow
- 2 Head lining
- 3 Anti-drum pad
- 4 Listing bar securing screw
- 5 Roof bow securing screws
- 6 Roof lamp mounting bracket
- 7 Listing bar

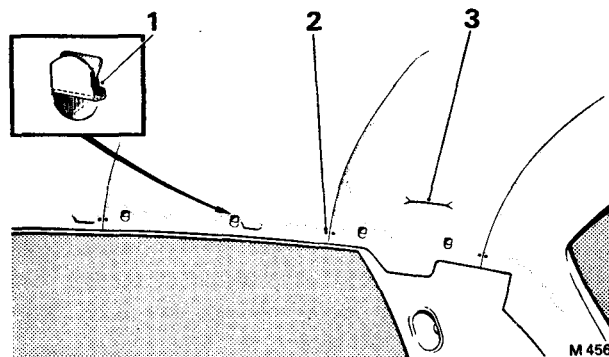


FIG. S118 POSITION OF THE HEAD LINING SECURING CLIPS AND TACKS (4-Door Saloon and Long Wheelbase Cars)

- 1 Retaining clips
- 2 Drive nails
- 3 Slit in head lining for roof lamp

detach the head lining from around the fourteen rear window glass retaining brackets by carefully trimming around each bracket with a sharp knife; do not disturb the fourteen retaining brackets unless the rear window is to be removed also.

11. Remove the self-tapping screw securing each end of the rearmost listing bar to the car roof; remove the listing bar from the loop in the head lining.

12. Pull the head lining forward to the next listing bar then temporarily replace the rearmost listing bar and screws.

Note Listing bars are individually matched to the body therefore this operation should be carried out immediately after withdrawing each bar from the head lining.

13. Continue to remove each listing bar in turn, repeating Operations 11 and 12 until the head lining is free then remove the head lining.

Head lining—To remove

2-Door Saloon cars

1. Disconnect the battery leads.
2. Remove the trim surrounding the windscreen until the edge of the head lining above the windscreen is exposed; refer to the basic procedure described for removing the windscreen but do not remove the windscreen (*see Windscreen—To remove, Coachbuilt cars*).
3. On cars prior to Car Serial Number 6001, remove the sun visors and also the hazard warning lamp if fitted; these items are not included in the removal procedure referred to in Operation 2.

To remove the sun visors, first remove the screws securing the brackets on each end of the sun visors to the roof then remove the sun visors.

To remove the hazard warning lamp, refer to Chapter M – Electrical System.

4. Remove the rear seat cushion and backrest (*see Section S2*).

5. Remove the screws securing the wood finishers on the cantrail, around the rear quarter windows and around the rear window; remove the wood finishers.

6. Remove the screws securing the rear parcel shelf trim pad then detach the loose trim at the front of the pad from the rear bulkhead; this trim is secured with adhesive.

Remove the parcel shelf trim pad.

7. Detach the trim on the lower edge of the cantrail/rear quarter panel and lift to expose the tacks securing the panel to the body; the trim is secured to the body with adhesive.

Lift the tacks and remove the cantrail/rear quarter trim panel.

8. Remove the tacks securing the trim on each end of the trim panel above the rear window; finally remove this panel following the same procedure described in Operation 7 for removing the cantrail/rear quarter trim panel.

9. Remove the lens cover of the three roof lamps. To remove the cover from the two rectangular roof lamps, first remove the two screws securing each of the covers; to remove the circular roof lamp lens cover, unscrew the cover in an anti-clockwise direction.

Remove the screws securing each lamp to the roof then disconnect the electrical leads to each lamp; remove the three roof lamps.

10. Remove the tacks and staples securing the extremities of the head lining to the body.

11. Detach the head lining from the roof listing bars following the same procedure described previously for 4-Door Saloon and Long Wheelbase cars (see *Head lining—To remove, 4-Door Saloon and Long Wheelbase cars, Operations 11, 12 and 13*).

Head lining—To fit

All cars except Convertibles

To fit the head lining reverse the procedure given for removal noting the following points.

1. Before commencing to fit the head lining, check the tightness of the screws securing the roof stays and anti-drum pads (see *Fig. S117*); tighten the screws if necessary.

2. When fitting the listing (see *Fig. S117*) bars do not fully tighten the securing screws until all the listing bars are in position.

3. To avoid wrinkles in the head lining, ensure that each end of the loops, through which the listing bars are fitted, are gripped between the roof and the end of the listing bar.

4. After fitting the head lining to the listing bars, secure the outer edges of the head lining as follows.

(a) **4-Door Saloon and Long Wheelbase cars.** Fix the extremities of the head lining to the body with Dunlop S1127 adhesive or its equivalent. Secure the head lining at each end of the listing bars with two drive nails, one each side of the listing bar, ensuring that the head lining is free from wrinkles. Using a sharp knife, trim the surplus material from the head lining; make shallow 'V' shaped cut-outs in the material where it fits into the rear window and windscreen aperture. Cut holes in the sides of the head lining to align with the clip holes in the body pressing along the cantrail (see *Fig. S118*); fit the retaining clips.

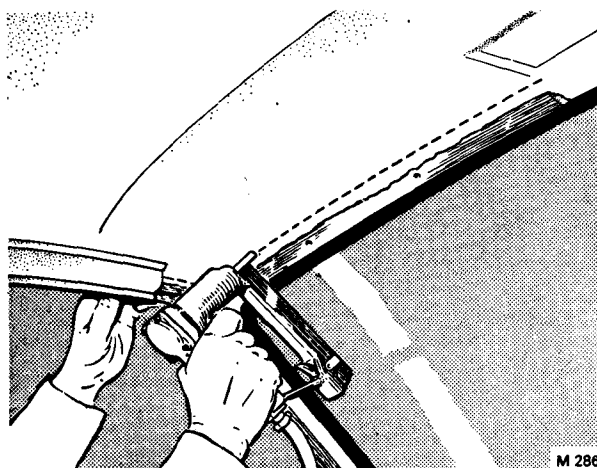


FIG. S119 SECURING THE HEAD LINING TO THE ROOF (2-Door Saloon Cars)

(b) **2-Door Saloon cars.** Secure the head lining at each end of the listing bar with two drive nails, one each side of the listing bar. Using a staple gun (see *Fig. S119*), secure the head lining to the wooden fillets along the sides of the roof, above the windscreen and over the rear window; ensure that the head lining is free from wrinkles, and that the staples will not be visible when the trim panels around the sides of the head lining are fitted. (see *Fig. S120*).

5. It will be necessary to slit the new head lining at the appropriate positions to accommodate the roof lamp electrical leads (see *Fig. S118*).

6. **On 2-Door Saloon cars,** secure the trim of the cantrail/rear quarter trim panel and the trim of the panel above the rear window, to the body, using Dunlop L107 adhesive.

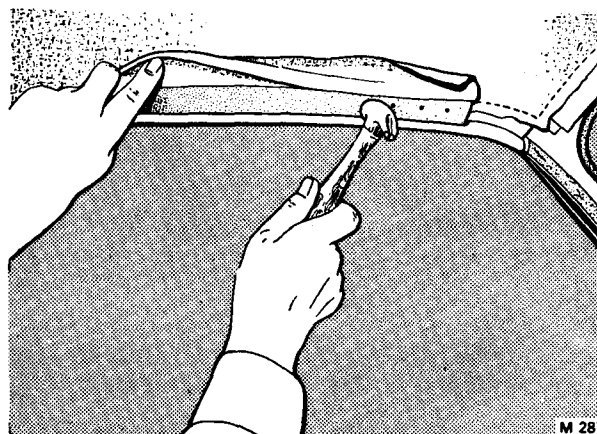


FIG. S120 SECURING THE CANTRAIL TRIM PANEL (2-Door Saloon Cars)

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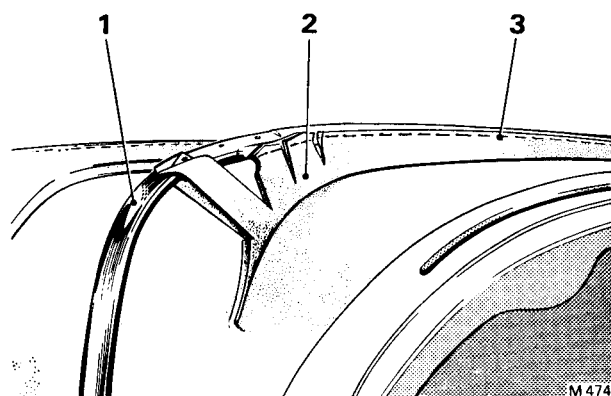


FIG. S121 METHOD OF SECURING THE HEAD LINING TO A HOOD CROSS-STICK (Convertible Cars)

Note The 'wiggling' and outer covering are omitted for clarity

- 1 Cross-stick
- 2 Raised flap of head lining
- 3 Line of securing staples (tacks were used on some cars)

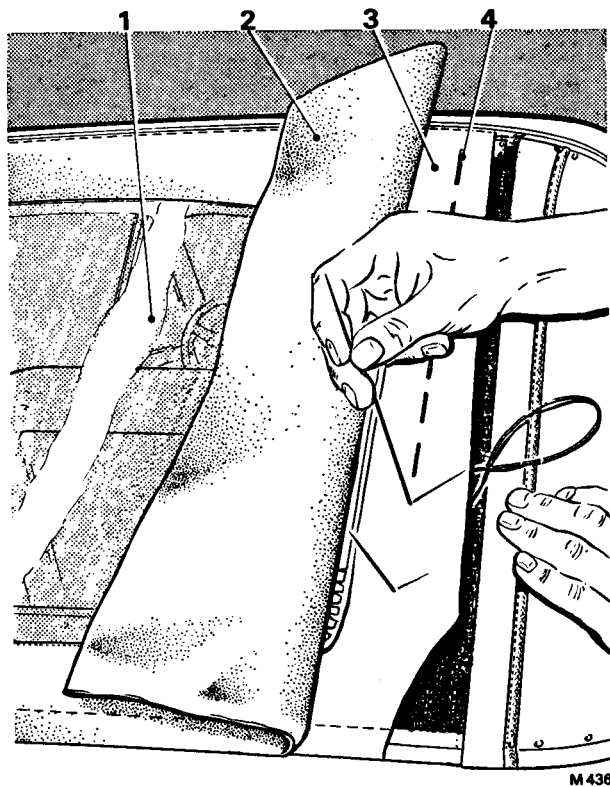


FIG. S122 SECURING THE HEAD LINING TO THE BACKLIGHT TRIM (Convertible Cars)

- 1 Backlight
- 2 Backlight outer trim
- 3 Backlight inner trim
- 4 Line of securing stitches

Head lining—To remove

Convertible cars

1. Lower the electrically operated rear quarter windows then release the hood safety catches; partly raise the hood.

2. Disconnect the battery leads.

3. Remove the screws securing the hood safety catches to the hood peak; remove the safety catches retaining any packing pieces with its respective catch.

4. Remove the screws securing the trim panel to the hood peak; on cars after Car Serial Number 6000, also remove the crash padding from the hood peak.

5. Remove the rear seat and backrest (*see Section S2*).

6. Remove the screws securing the polished wood finishers on each hood pillar; remove both finishers.

7. Carefully detach the head lining from the hood pillars; the head lining is secured to the pillars with tacks and adhesive.

8. Remove the screws securing the trim panel to the base of the hood stowage well. Using a suitable wedge-shaped tool to free the spring upholstery clips, remove the trim panel.

9. Carefully detach the trim panel from the rear wall of the hood well; the panel is secured with adhesive and care will be necessary to avoid damaging the panel during removal.

10. Detach the head lining from the sides of the hood well.

11. Unscrew the press stud fasteners from the welt finisher on the rear edge of the hood; carefully prise the welt finisher from the body.

12. Mask the body along the rear edge of the hood outer covering then lightly mark the position of the hood backlight vertical seams onto the masking tape.

This is to ensure correct positioning of the hood covering when fitting the head lining.

13. Carefully detach the rear edge of the hood outer covering from the body then fold the hood covering forward as far as the rear cross-stick assembly (*see Fig. S47*).

14. Detach the head lining from the backlight trim surround by removing the stitches down each side of the backlight trim.

15. Remove the tacks securing the head lining to each side of the rear cross-stick assembly.

16. Pull the rear of the head lining towards the front of the car to expose the line of staples (or tacks) securing the head lining to the cross-stick situated immediately forward of the rear cross-stick assembly (*see Fig. S121*); remove these staples (or tacks) and detach the head lining from the cross-stick.

17. Detach the head lining from the remaining cross-sticks by repeating the procedure described in Operation 16.

18. Using a sharp knife, or similar tool, detach the head lining from the hood peak by carefully cutting the head lining level with the rear edge of the hood peak; **do not cut the 'wiggling' or hood outer covering while carrying out this operation.**

Removing the head lining invariably means that a new head lining is to be fitted; therefore cutting the head lining free from the hood peak is suggested as the most practicable method in order to avoid disturbing the 'wiggling' and hood outer covering.

19. Remove the head lining from the car but do not discard it as it may be required as a pattern to produce a new head lining.

Head lining—To fit

Convertible cars

To fit the head lining reverse the procedure given for removal noting the following points.

1. If the original head lining is used as a pattern to produce a new head lining, ensure that the new head lining is approximately 3 in. (7.62 cm.) longer, at the front end; this extra length is to compensate for the portion lost by cutting the head lining during removal.

2. West of England cloth is used for the head lining.

3. When fitting the head lining to the cross-sticks, first fully raise the hood by hand. Attach the head lining to the hood peak and to the rear stick assembly with temporary tacks, altering the position as required until the most satisfactory position is obtained; remove the temporary tacks securing the head lining to the rear stick assembly. Secure the head lining to the cross-sticks with staples or tacks, starting at the hood peak and working rearward (see Fig. S121).

4. Use a water-proof thread, such as Terylene Thread 30/3, to secure the backlight trim to the head lining and 'wiggling'.

5. Use Dunlop L107 adhesive or its equivalent, to secure the head lining to the hood pillars and the sides of the hood well.

6. Use Evo-stik adhesive to secure the rear edge of the hood outer covering to the car body.

7. Use a mastic filler to seal between the hood outer covering and the welt finisher.

8. When the head lining is fitted, remove any surplus material protruding below the lower edge of the hood peak.

Hood outer covering—To remove

Convertible cars

1. Release the hood safety catches then partly open the hood.

2. Using thick clean felt or a similar protective material, cover the paintwork on the rear decking panel and along the sides of the body adjacent to the hood outer covering quarter panels.

3. Remove the screws securing the polished wood finisher on each hood pillar; remove both finishers.

4. Carefully detach the hood outer covering from the pillars.

5. Remove the screws securing the hood tensioning cable bracket on each hood pillar.

6. Lift one side flap of the hood outer covering to expose the front end of the hood tensioning cable (see Fig. S123); remove the screw locking the cable nipple in the slotted channel then detach the cable from the bracket. Withdraw the cable from the tunnel in the side of the hood outer covering.

Remove the tensioning cable from the other side of the hood in a similar manner.

7. Remove the press-stud fasteners from the finisher welt on the rear edge of the hood; using a screwdriver, carefully lever the finisher welt from the body.

8. Mask the body along the rear edge of the hood outer covering; using a soft pencil lightly mark the position of the hood vertical seams at each side of the backlight, onto the masking tape.

9. Detach the rear edge of the hood outer covering from the body.

10. Remove the screws securing the closing plate and rubber seal to the lower edge of the hood peak; remove the closing plate and seal.

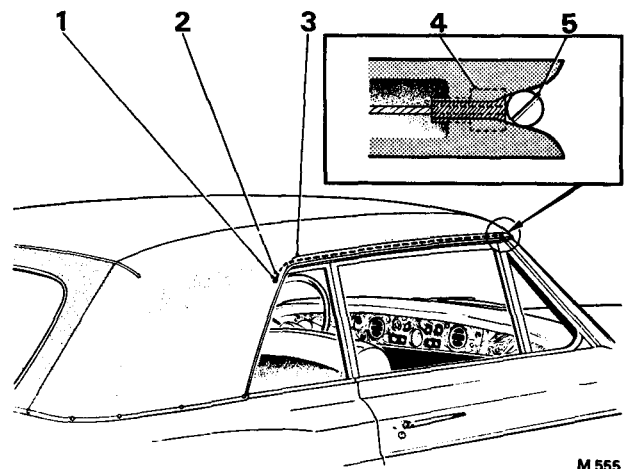


FIG. S123 HOOD OUTER COVERING SIDE TENSION CABLE (Convertible Cars)

- 1 Screw—cable to hood pillar
- 2 Cable
- 3 Tunnel in underside of covering
- 4 Soldered nipple
- 5 Locking screw

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11. Carefully detach the hood outer covering from the hood peak. The hood outer covering is secured to the peak with adhesive and it is recommended that a solvent such as Evo-stik Cleaner is used to soften the adhesive before attempting to remove the covering from the peak.
12. Using a screwdriver, carefully lever the Everflex covered strip out of its channel in the top of the hood rear cross-stick assembly. Carefully remove the staples (or tacks) securing the hood outer covering into the channel; note the position and spacing of the staples (or tacks) to facilitate assembly.
13. Remove the hood outer covering.

Hood outer covering—To fit

To fit the hood outer covering reverse the procedure given for removal noting the following points.

1. When fitting the hood outer covering, align the reference marks made during removal; also, ensure

that the two seams in the hood covering are each 21 in. (53,3 cm.) from the centre line of the roof. Use **tack** to temporarily secure the corners of the covering until the correct position is obtained.

2. When securing the hood outer covering to the hood peak, rear cross-stick, body and hood pillar, tension the covering to remove any fullness or wrinkles.

3. Use Evo-stik adhesive to secure the hood outer covering to the hood peak and centre pillars.

4. When fitting the hood outer covering to the channel in the rear cross-stick assembly, ensure that the front edge of the hood covering overlaps the rear edge to prevent water leakage.

5. After fitting the tensioning cables, fully raise the hood and secure the hood catches, then check that the side flaps of the hood outer covering are held taut by the cables.

Any slackness in the side flaps can be rectified by re-positioning the tensioning cable brackets on the hood pillars.

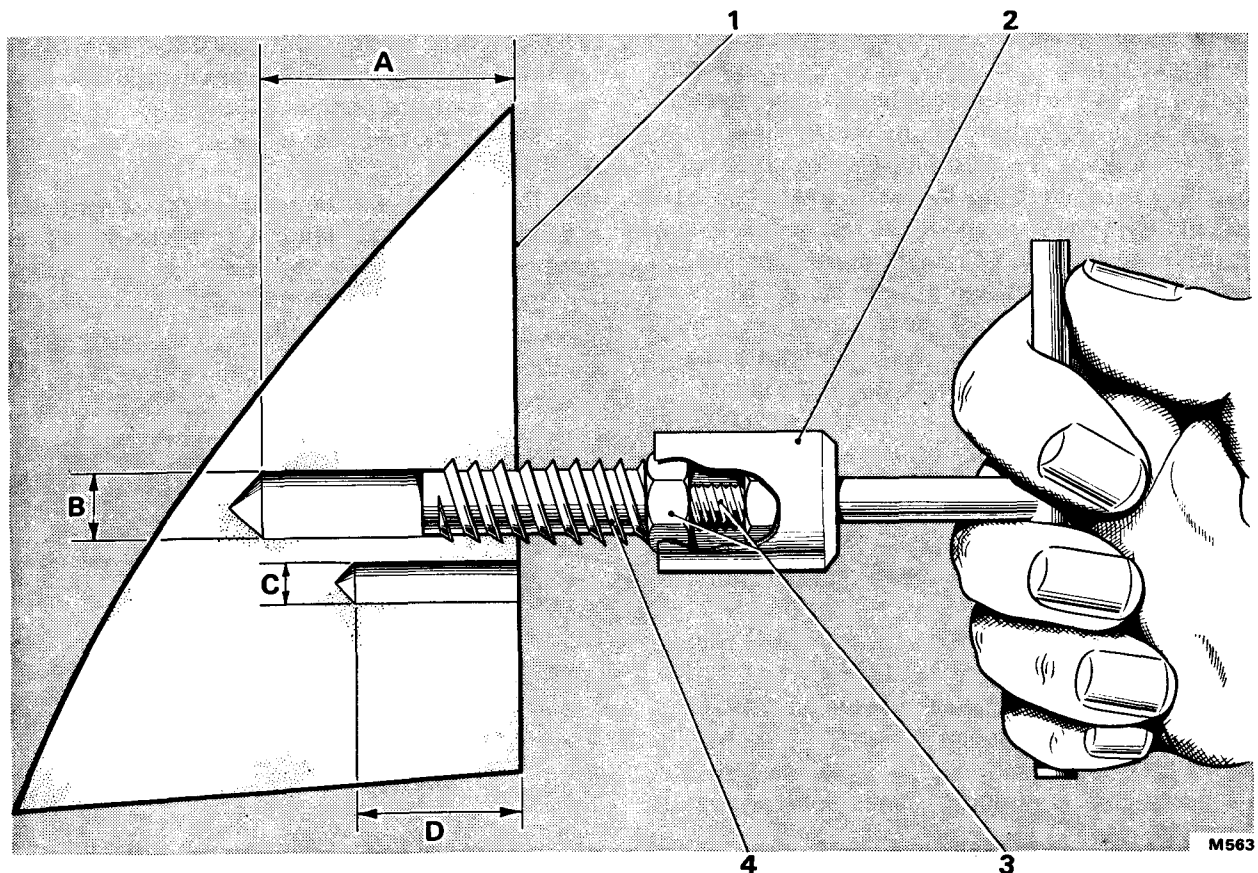


FIG. S124 HOOD CATCH MODIFICATION—DRILLING DIMENSIONS AND METHOD OF FITTING THE BRASS INSERT

- A** 1.125 in. (28,575 mm.)
- B** 0.312 in. (7,937 mm.) diameter
- C** 0.109 in. (2,768 mm.) diameter
- D** 0.625 in. (15,875 mm.)

- 1** Rear face of hood peak rail
- 2** 'Tee' spanner, engaged on the 2 B.A. setscrew and lock-nut
- 3** 2 B.A. setscrew and lock-nut
- 4** Brass insert (part number CBD 2904)

Head rail catches—To modify

Applicable to Convertible cars prior to Car Serial Number CRX 6596.

Complaints of wind noise, rattles or rain leaks on the above Convertible cars may stem from the wood screws, which secure the safety catches of the folding hood to the hood head rail, coming loose after a period in service. An effective and permanent cure for this has been devised and should be applied in such cases of complaint.

The modification entails replacing the upper wood screw in each head rail catch with a 2 B.A. screw, screwed into a brass insert fitted in the head rail, and replacing the lower wood screws with longer, 1.50 in. (3,81 cm.) wood screws. The necessary parts to enable this modification to be carried out are contained in Kit Number 10, obtainable from Rolls-Royce Motors Limited, Crewe.

To carry out this modification proceed as follows.

1. Lower the hood.
2. Remove the three wood screws holding each safety catch to the hood head rail and remove the catches.
3. Remove any packing pieces which may be fitted under the catches.
4. Remove the head rail padding (if fitted), by taking out the screws holding it in position.
5. Using the two lower wood screws as attachments, fit the guide plate provided in the modification kit to the head rail.
6. Fit a 0.312 in. (7,937 mm.) diameter drill with a stop, and drill out the upper centre screw hole to a depth of 1.25 in. (2,857 cm.) as shown in Figure S124.

This depth is critical and extreme care must be taken to ensure that the drill stop is fitted correctly.

Note As only 0.125 in. (3,175 mm.) of wood remains between the bottom of the hole and the outside of the hood after drilling, it is recommended that this operation be carried out using a hand drill rather than an electric one since the action of the latter tends to be too vigorous.

7. Remove the guide plate and clean away all drill cuttings from the hole.
8. Take one of the brass inserts (CBD 2904) and ensure that the 2 B.A. setscrew and lock-nut, fitted to the end opposite the lead-in (see Fig. S124), is well engaged with the threads in the insert.
9. Smear the buttress thread of the insert with a suitable lubricant such as Molytone 265 grease.
10. Using a 'Tee' spanner, engaged with the lock-nut rather than the head of the setscrew (see Fig. S124), screw the insert squarely into the 0.312 in. (7,937 mm.) diameter hole drilled out in the head rail until it is

flush with the rear face of the head rail; remove the setscrew and lock-nut.

11. Repeat Operations 5 to 10 inclusive on the upper centre screw hole of the other hood safety catch.
12. Drill out the remaining two screw holes for each head rail catch with a 0.109 in. (2,768 mm.) diameter drill to a depth of 0.625 in. (15,875 mm.) (see Fig. S124).
13. Clean away all drill cuttings which may be remaining.
14. Fit the head rail padding when applicable (see Operation 4).
15. Fit the head rail safety catches, and distance pieces where applicable, using chrome plated 2 B.A. raised head screws in the top holes and 1.50 in. (3,81 cm.) long, chrome plated wood screws in the lower holes.
16. Tighten all the screws firmly and evenly.
17. Raise the head and secure the safety catches.

Spare wheel platform—To remove

1. Turn the spare wheel platform lowering bolt anti-clockwise and fully lower the platform.
2. Remove the spare wheel from the platform.
3. Scribe the outline of the large washer, at the platform rear pivot assembly, onto the lowering tube bracket; remove the rear pivot bolt, nut and large washer and lower the rear end of the platform.
4. Remove the two ½ in. A/F pivot bolts and nuts together with the large washers securing the platform at the two forward pivot points; remove the platform.

If difficulty is encountered when removing the outer pivot bolt due to its close proximity to the car body, slacken the two ½ in. A/F setscrews and the 7/8 in. A/F nut and bolt securing the outer mounting bracket to the body; the head of the 7/8 in. A/F bolt is located under the carpet and trim in the luggage compartment.

5. To remove the lowering bolt and tube, first slacken the ½ in. A/F lock-nut on the lower end of the bolt then remove the lock-nut, full nut and plain washer; unscrew the bolt from the tube.

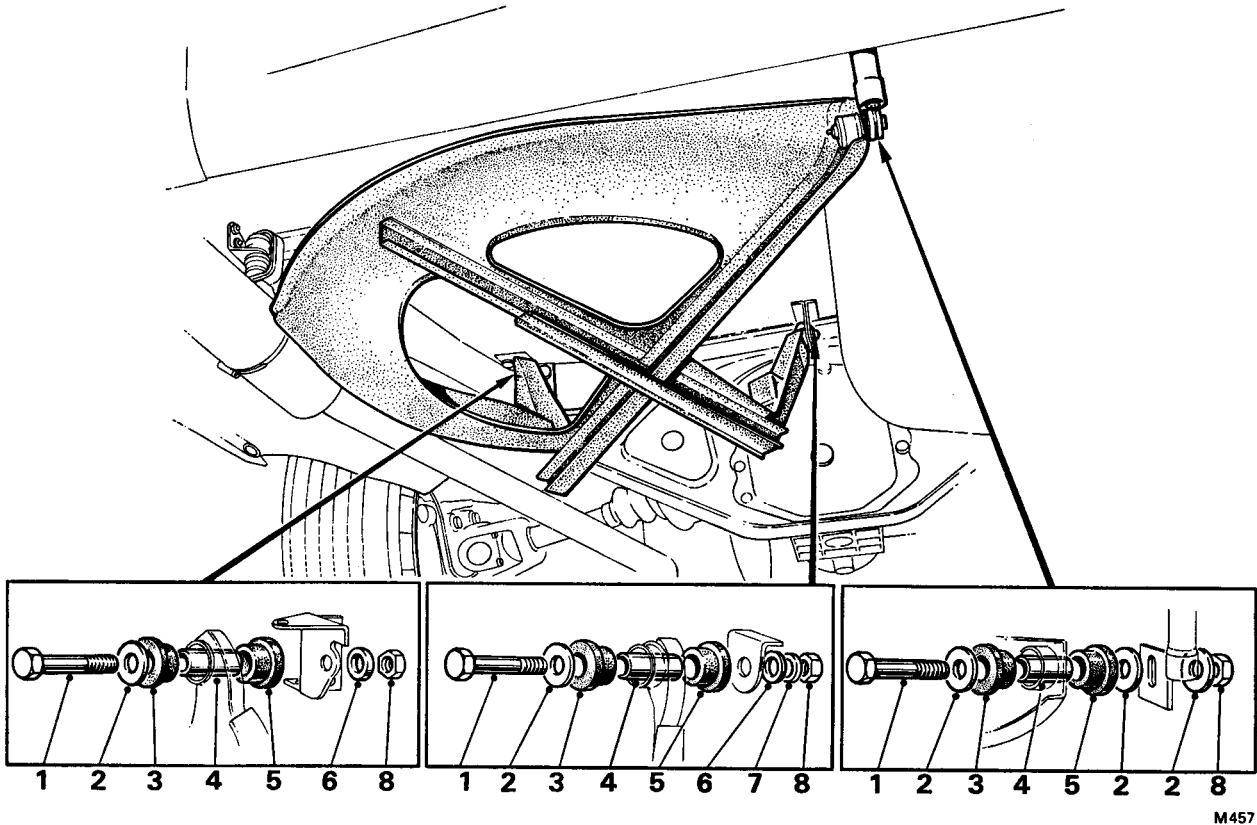
Note that the bolt is removed from inside the luggage compartment while the tube is removed from underneath the car.

**Spare wheel platform—To fit
(see Figs. S125 and S126)**

To fit the spare wheel platform reverse the procedure given for removal noting the following points.

1. Lubricate the platform lowering bolt and also the three ½ in. A/F pivot bolts with Rocol MTS 1000 grease or its equivalent, prior to fitting.

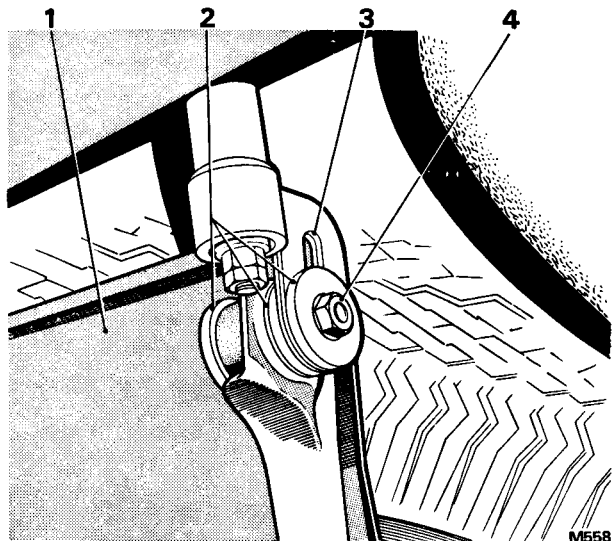
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FIG. S125 SPARE WHEEL CARRIER MOUNTINGS

- | | | | |
|-------------------------|-----------------|------------------|----------------|
| 1 Bolt | 3 Rubber bush | 5 Rubber bush | 7 Plain washer |
| 2 Large diameter washer | 4 Distance tube | 6 Spacing washer | 8 Nut |



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FIG. S126 SPARE WHEEL CARRIER ADJUSTMENT POINT

- 1 Spare wheel carrier
- 2 Large diameter washer (3 off)
- 3 Adjustment slot in tube lowering bracket
- 4 Bolt

2. Check the condition of the rubber bushes in the platform pivot points and fit new bushes if necessary.
3. Ensure that the rubber bushes, distance tubes and large washers are fitted correctly at the three pivot points (see Fig. S125).
4. Do not tighten the two front pivot bolts until the rear pivot bolt has been fitted, then tighten all three pivot bolts; when tightening the rear bolt ensure that the correlation marks made during removal are correctly aligned.
5. After fitting the spare wheel and tightening the lowering bolt, check that the spare wheel is held firmly in position. If any slackness is present, adjust as follows (see Fig. S126).

Slacken the platform lowering bolt four or five complete turns. Slacken the platform rear pivot bolt and nut then move the bolt and platform upward in the slotted hole of the bracket attached to the lowering bolt tube; tighten the pivot bolt and nut in this new position. Tighten the lowering bolt and check that the spare wheel is now held securely.

Radiator shell—To remove

1. Working underneath the car, remove the three $\frac{7}{16}$ in. A/F nuts securing the bottom of the radiator shell to the mounting brackets.
2. Lift the bonnet, then remove the four $\frac{7}{16}$ in. A/F setscrews securing the top of the radiator shell to the deflector panel; support the radiator shell assembly before removing the last setscrew.
3. Lift the radiator shell assembly until the lower end is clear of the front bumper then remove from the car.

Radiator shell—To fit

To fit the radiator shell assembly reverse the procedure given for removal noting the following point.

1. Before fitting the radiator shell, ensure that the two rubber strips are in position on the outer edges of the shell.

Use Bostik adhesive 89AA or its equivalent to secure the rubber strips to the shell. Remove any surplus adhesive using Bostik cleaner 6001.

Radiator shell—To dismantle

1. To remove the grille from the radiator shell proceed as follows.
 - (a) **Rolls-Royce Silver Shadow radiator.** Remove the six $\frac{7}{16}$ in. A/F nuts and plain washers securing the grille to the radiator shell; remove the grille from the shell.
 - (b) **Bentley T Series radiator.** Remove the eight 2 B.A. setscrews securing the triangular shaped bottom plate to the radiator shell; remove the plate.

Remove the six $\frac{7}{16}$ in. A/F setscrews securing the lower edge of the grille to the shell.

Remove the four $\frac{7}{16}$ in. A/F setscrews securing the two grille upper support brackets to the shell; remove the grille together with the brackets from the shell.

2. To remove the mascot, slacken the socket headed screw securing the mascot to the clamping boss on the radiator shell; access to this screw is through the central hole in the upper rear face of the radiator shell (see Fig. S127).

When a mascot is not required, cars are fitted with a chromed finisher, comprising a button and spring on Silver Shadow cars and a motif on Bentley T Series cars. To remove the finisher, follow the same procedure described for removing the mascot; note that the spring fitted under the button on Silver Shadow cars will eject the button when the socket headed screw is slackened.

3. To remove the mascot clamping boss from the shell, first remove the mascot then proceed as follows.

- (a) **Rolls-Royce Silver Shadow radiator.** Remove the four 2 B.A. setscrews securing the clamping boss to the shell; these screws are situated on the inner face of the shell.

Remove the clamping boss.

- (b) **Bentley T Series radiator.** Using a screwdriver, remove the two 2 B.A. screws securing the clamping boss to the shell; remove the clamping boss.

4. To remove the winged 'B' badge fitted to the front of the Bentley T Series radiators, first remove the two 2 B.A. nuts and the washers securing the badge to the shell then remove the badge; the nuts are situated on the inner face of the shell and there is a shakeproof washer and a waved washer under each nut.

Do not attempt to remove the Rolls-Royce badge fitted to the front of the Silver Shadow radiator.

Radiator shell—To assemble

To assemble the radiator shell assembly reverse the procedure given for removal noting the following point.

1. When fitting the mascot, or finisher, to the radiator shell ensure that the socket headed screw locates correctly in the recess on the mascot, or finisher.

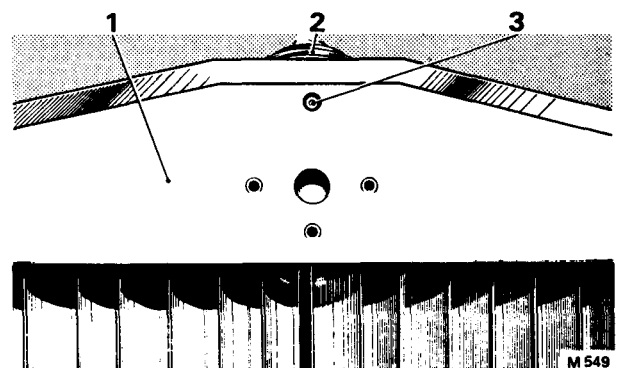


FIG. S127 POSITION OF THE RADIATOR MASCOT SECURING SCREW

- 1 Rear face of radiator shell
- 2 Mascot
- 3 Mascot securing screw

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Front bumper—To remove

1. Support the front bumper, then remove the four nuts, bolts and washers securing the bumper spring brackets to the mounting brackets attached to the body side members; note that on late cars it will not be necessary to remove the four bolts from the mounting brackets, as these bolts are trapped in position on the mounting brackets with a locking plate secured by a $\frac{7}{16}$ in. A/F setscrew.

2. Carefully remove the bumper to avoid damaging the paintwork.

Rear bumper—To remove

1. Using a ring spanner, slacken the two $\frac{9}{16}$ in. A/F setscrews securing the legs of the bumper to the forked mounting bracket on each side of the body; the setscrews are situated to the rear of the forked mounting brackets between the legs of the bumper and the rear wings.

2. Support the bumper, then remove the four nuts, bolts and washers securing the bumper spring brackets to the mounting brackets attached to the body side members (see *Front bumper – To remove, Operation 1*).

3. Carefully remove the bumper to avoid damaging the paintwork.

Front bumper—To fit

To fit the front bumper reverse the procedure given for removal.

Rear bumper—To fit

1. Fit the bumper to the forked mounting brackets on each side of the body but do not fully tighten the setscrews.

2. Secure the rear bumper spring brackets to the mounting brackets on the body using the four nuts, bolts and washers; tighten the nuts.

3. Check that the gap between the body and the front edge of the bumper is between 2.328 in. and 2.453 in. (5,913 cm. and 6,230 cm.) midway along the bumper as shown in Figure S128.

If adjustment of the bumper is required, slacken the setscrews securing the mounting brackets to the body then move the bumper until the correct gap is obtained between the bumper and the body; ensure that the two over-riders are an equal distance from the body and tighten the mounting bracket to body setscrews.

4. Finally, tighten the two setscrews in the forked brackets on each side of the car.

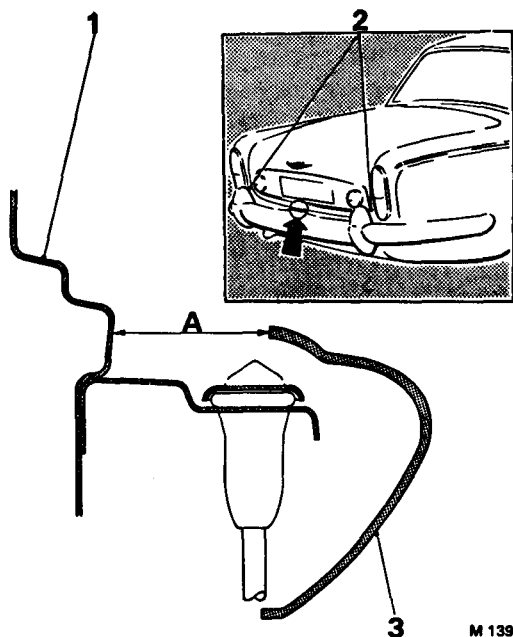


FIG. S128 REAR BUMPER TO BODY CLEARANCES (4-Door Saloon Illustrated)

A 2.328 in. to 2.453 in.
(5,913 cm. to 6,231 cm.)

- 1** Rear body panel
- 2** Over-rider to body gap—
to be equal at these
points
- 3** Rear bumper

Fixed type rear view mirror—To fit

When it is required to fit a fixed type rear view to the front door of a 4-Door Saloon or Long Wheelbase car not previously fitted with such a mirror, proceed as follows.

Note that kits of these mirrors, together with the necessary screws, etc., can be obtained from Rolls-Royce Motors Limited, Crewe. The mirrors are available for either right-hand or left-hand front doors and with either plain or convex glass (see *Parts List publication T.S.D. 2201*).

- 1. Disconnect the battery leads.

2. Dismantle the driver's door until the black dust cloth is removed (see Section S1, Door trim - To remove).

3. Note the position of the lock-nut on the sill control rod. Slacken the nut, then unscrew and withdraw the control rod.

4. Remove the setscrews securing the waist rail finisher and carefully withdraw the finisher assembly.

5. Remove the existing striker plate and gently ease out the rubber vent seal in the vicinity of the lower rear corner.

6. Unscrew the small nut, remove the washer and bolt which passes through the base of the channel. Collect the frame to waist connector.

7. Drill out and remove the rear hank bush (see Fig. S129).

8. Position the tapping block in the channel and fit the frame to waist connector; the two assemblies are located by a new setscrew which passes through the connector and channel frame and screws into the front (underside) of the tapping block (see Fig. S129).

9. Fit the new striker plate securing it with the two countersunk screws. The front screw fits into the original hank bush, while the rear one passes through the hole in the vent frame and screws into the tapping block.

10. Using the striker plate as a guide, drill through the inner section of the window frame into the hole through the tapping block; this will then provide a suitable guide for drilling the outer section of the frame. Repeat the operation for the second hole.

11. Any rough edges around the two holes should now be removed and the complete area cleaned with the aid of compressed air.

12. Offer the mirror into position and secure with the two Allen screws provided.

13. Before replacing the rubber vent seal, it will be necessary to cut away small sections along the base; this is to allow the seal to seat properly in the channel and around the tapping block. The rubber vent seal should then be glued into the channel using a small quantity of Bostik Cement 2402 parts 1 and 2.

14. When refitting the waist rail finisher it will be necessary to cut two recesses in the underside to accommodate the heads of the Allen screws.

15. To assemble the remainder of the door reverse the procedure given for removal (see Section S2, Door trim - To fit).

16. Finally, connect the battery leads.

Adjustable door-mounted driving mirror — To remove (see Fig. S130)

1. Fully lower the electrically operated window.
2. Disconnect the battery leads.
3. Remove the door trim panel and the polished wood finisher (see Section S1, Door trim - To remove, in this Chapter).
4. Remove the two 2 B.A. screws securing the adjustable mirror control unit mounting bracket to the door.
5. Remove the 2 B.A. screws securing the waist channel to the door; remove the waist channel.
6. Remove the cable retaining band from around the control unit (see Fig. S130, item 7), then disconnect the cables from the control unit; remove the control unit.
7. Remove the screw securing the cowl and mirror assembly to the stem.

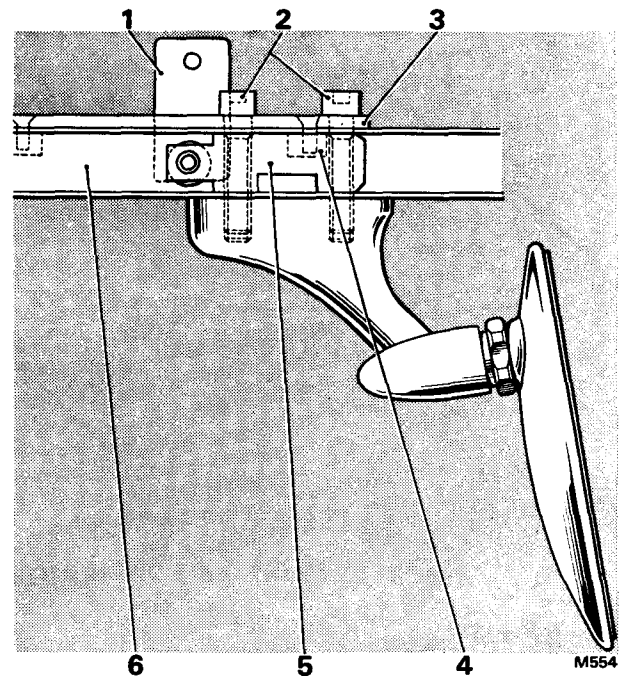


FIG. S129 METHOD OF FITTING A FIXED DRIVING MIRROR TO THE FRONT DOOR (Early 4-Door Saloon and Long Wheelbase Cars)

- 1 Frame to waist connector
- 2 Allen screws (2 off)
- 3 New striker plate
- 4 Hank bush to be removed
- 5 Tapping block
- 6 Window channel

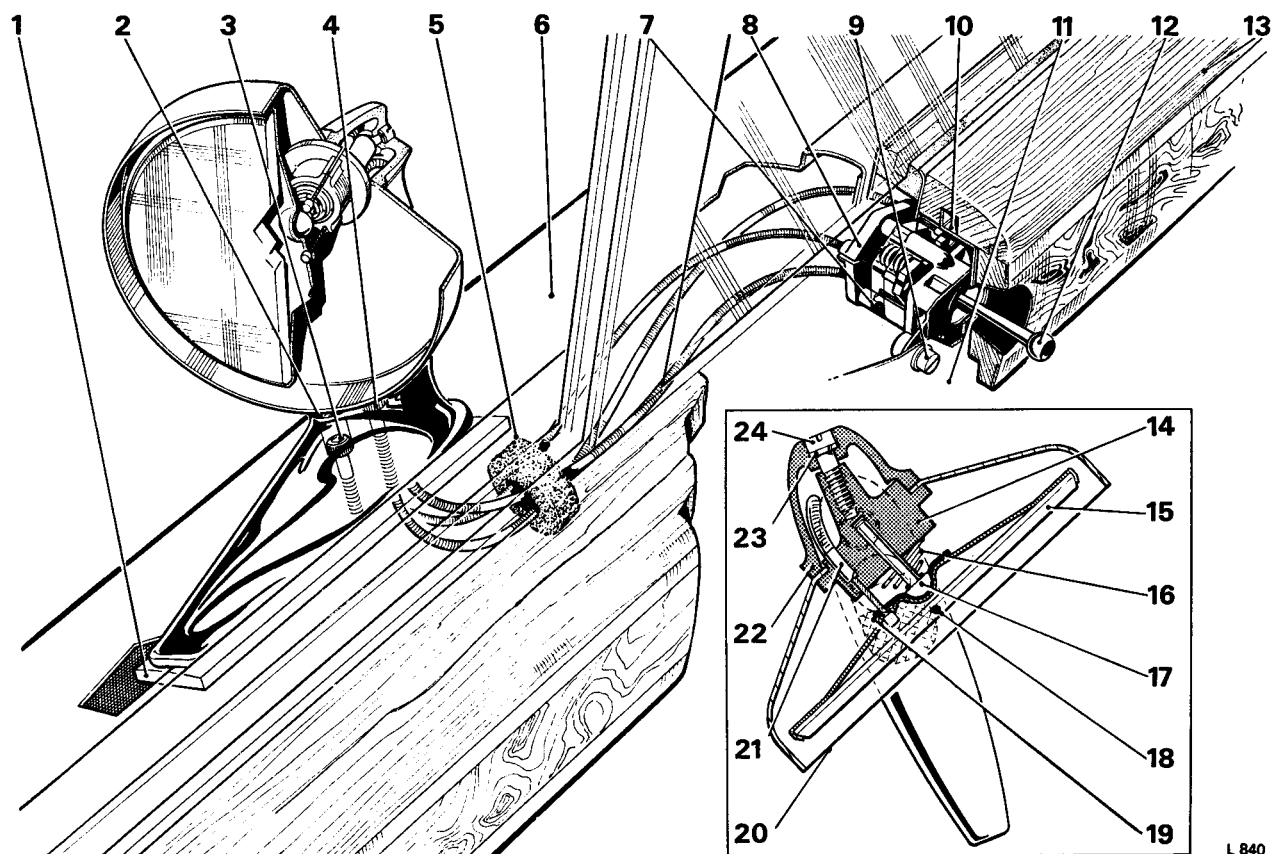
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8. Remove the cowl and mirror assembly from the stem, carefully guiding the cables through the aperture in the door and out of the stem; remove the cowl from the mirror assembly.

On later type adjustable mirrors, the cables can be disconnected from the mirror without first disconnecting them from the control unit, thus enabling the mirror and cowl to be removed from the door

without disturbing the door trim, control unit, etc. (Operations 1 to 6 inclusive).

To remove the mirror and cowl assembly only on these later type adjustable mirrors, carry out Operation 7 then detach the cables from the slotted holes in the backplate; remove the mirror and cowl assembly.



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FIG. S130 ADJUSTABLE DOOR-MOUNTED DRIVING MIRROR—PICTORIAL VIEW

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> 1 Stiffener 2 Damper (shown cross-hatched on inset) 3 Screw—stem to door (short) 4 Screw—stem to door (long) 5 Anti-rattle sleeve—control cables (not fitted to early type mirror) 6 Door outer panel 7 Cable retaining band (if fitted) 8 Control unit assembly 9 Screw—control unit bracket to door (2 off) 10 Waist channel (4-Door Saloon and Long Wheelbase cars only) 11 Door inner panel 12 Control knob | <ul style="list-style-type: none"> 13 Polished wood finisher 14 Sleeve—pivot assembly 15 Mirror 16 Conical spring 17 Pivot pin 18 Drain hole—lower edge of cowl (not to be obscured by damper) 19 Retaining plate (not fitted to early type mirror) 20 Cowl 21 Cables (3 off) 22 Stem 23 Washer 24 Screw securing cowl and mirror assembly to stem |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

9. To remove the pivot sleeve from the mirror, press the pivot sleeve towards the mirror against the pressure of the conical spring (*see Fig. S130, item 16*) then disconnect the cables from the pivot sleeve; release the pressure on the conical spring then remove the pivot sleeve, spring and pivot pin from the mirror.

10. To remove the stem, remove the two socket-headed screws securing the stem to the door and remove the stem.

Adjustable door-mounted driving mirror —To fit

To fit the adjustable driving mirror to the door reverse the procedure given for removal noting the following points.

1. Ensure that the cables are fitted into their correct locations on the pivot sleeve and control unit.

The cable locations are identified by the letters 'R', 'Y' and 'G' embossed on the pivot sleeve and the control unit adjacent to the locations.

Fit the cable bearing the red coloured sleeve into the location marked 'R', the cable bearing the yellow coloured sleeve into the location marked 'Y' and the cable bearing the green coloured sleeve in the location marked 'G'.

2. When fitting the cowl and mirror assembly to the stem ensure that the following conditions are complied with.

- (i) the damper is in position on the stem (*see Fig. S130, item 2*).
- (ii) the cables are not trapped.
- (iii) the flange on the pivot sleeve locates correctly in the slot on the stem.
- (iv) the drain hole (*see Fig. S130, item 18*) is located at the bottom of the cowl and is not obstructed by the damper.

3. Finally, when the mirror is fitted, check that the mirror is square to the cowl, both laterally and vertically, with the control knob in the central position. Check also that full mirror movement is obtainable (i.e. that the mirror bottoms on the cowl in any direction). If either of these conditions do not exist check the following.

- (i) the cables are not kinked.
- (ii) the cables and their sheaths are correctly located in the control unit and the pivot sleeve.

If either of the check conditions are still unobtainable, renew the mirror and cable assembly.

MAINTENANCE

Paintwork

The paint which is used on all Rolls-Royce and Bentley cars is of the highest quality, but even so it is unable to withstand 'weathering' indefinitely without some care and attention.

Weathering occurs gradually and can be recognised by a slight surface film which results in a reduction of the gloss and a tendency to show rain spot marks. This can be overcome and the paintwork restored to its original condition by suitable maintenance polishing.

The thermo-plastic types of nitrocellulose lacquers used on Rolls-Royce and Bentley cars readily respond to friction polishing, due to the surface flow encouraged by the heat generated during the polishing process.

The period of time during which the restored paintwork will remain in good condition will vary according to the type of exposure to which it is subjected. If the paintwork is polished every three months, this should be sufficient for the average British climate; under more severe conditions such as are encountered in other parts of the world, however, and even in places in the British Isles which enjoy more than average sunshine, more frequent polishing may be necessary.

If regular polishing is not carried out, the original gloss will become obscured and 'rain-spotting' may reach objectionable proportions. Therefore, friction emulsion polishing should be carried out as soon as the gloss begins to fade and not left until the paintwork has become too dull and dirty.

Cleaning and polishing of Paintwork

The following points must be noted when cleaning and polishing the paintwork.

1. Always wash the paintwork with clean cold water; apply the water with a sponge and remove with a chamois leather.
2. Under no circumstances should any attempt be made to remove dirt or mud when dry.
3. Automatic car washers are not recommended as, due to the detergents and methods used, the paintwork may become stained or slightly scratched.
4. Always wash the paintwork prior to polishing.
5. Polishing should not be carried out in a dusty, gritty atmosphere. Grit, which is present in an atmosphere such as may be found outdoors where the ground surface is loose, is harder than the surface of the paint, and scratching will result.
6. Friction emulsion polishing should be employed whenever possible; merely polishing with a solid wax polish is not sufficient and an excessive build-up of wax polish can induce its own type of 'rain-spotting'.

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7. A slight discoloration may appear on the polishing cloth when using a friction emulsion polish. This should cause no concern as it is a weathered product of the paint and is no longer an essential part of the paint film.

8. The Formula 2 polish and the Formula 3 sealer supplied with the car when new should be used regularly to enable the initial high quality finish to be maintained; further supplies of the polish and sealer can be obtained from Rolls-Royce Motors Limited.

Leather upholstery—To clean

The leather upholstery can usually be cleaned by wiping over with a damp cloth.

More obstinate marks or ingrained dirt can be removed using a mild (neutral) soap and water, however, **caustic soaps and detergents should not be used.**

A concentrated cleaning agent (e.g. Decosol) can also be used provided it is used strictly in accordance with the instructions printed on the container; the cleaner must not be used in its concentrated form.

On no account should 'quick' cleaners be used as such agents, whilst removing dirt very effectively, may cause damage to the surface finish of the leather.

To clean the leather upholstery using a concentrated cleaning agent (e.g. Decosol), proceed as follows noting that if soap and water is used instead the procedure is very similar.

1. Make up a solution consisting of one part of cleaner to twelve parts of warm water.

2. Immerse a soft clean cloth in the solution then wring out the cloth.

3. Using the damp cloth, lightly rub the surface to be cleaned; avoid 'over-wetting' and change the surface of the cloth frequently.

If necessary, a small brush such as a nail brush can be used to remove dirt which has become ingrained in seat cushions or the top and corners of the seat backrest; to avoid damaging the leather, ensure that the brush is not too 'hard'.

4. Using a fresh cloth and clean water, repeat Operations 2 and 3 in order to remove any residue.

5. Thoroughly dry the cleaned surface with a soft cloth.

Leather upholstery—To preserve

An occasional application of Connolly's Hide Food will preserve the upholstery.

This compound should be applied with a clean soft cloth, then polished with a second clean dry cloth.

Leather upholstery—To restore

If the surface of the leather has been scratched or abraded, the affected parts should be treated with a Coloured Lacquer.

In certain cases it will suffice to 'touch-in' the damaged parts with the lacquer using a suitable brush or swab.

If it becomes necessary to treat an entire surface proceed as follows.

1. Ensure that the conditions are warm and dry; this will prevent blushing on the finished work.

2. Thoroughly clean and dry the area to be treated (*see Leather upholstery – To clean, in this Section*).

3. Ensure that the lacquer is well stirred, then pour a small quantity into a shallow container.

4. Dip a swab of stockinette into the lacquer, then apply evenly and sparingly to the leather; if necessary a further coat can be applied after the first has dried.

5. To obtain a more even finish, a second coat can be applied with a spray gun; add Cellulose Thinners to the lacquer to achieve an even flow through the gun.

Cloth upholstery

Cloth upholstery should be brushed regularly to remove dust. A soft brush should be used and the use of a vacuum cleaner is approved.

Everflex roof covering—To clean

Everflex is used for the hood outer covering on Convertibles; this material is also used to cover the roof panel on Long Wheelbase cars (and certain other Saloons when fitted as a special request item).

To clean the Everflex material wash with clean cold water.

To remove ingrained dirt, wash the material with a solution of water and **mild** detergent such as Teepol. If necessary, a soft bristled brush may be used to work the detergent and water solution into the material; brush in a fore-aft direction along the line of the stitching and **not across** the material. Afterwards, wash with clean cold water to remove any residue.

When the Everflex material is dry, it may be treated with Formula 3 sealer. To ensure a good finish, the maximum amount of solvent and the minimum amount of wax suspension are required; this is obtained by **not** shaking the container.

Under no circumstances must solvents, polishes or detergents (other than those specified) be applied to the Everflex material.

Section S11

WORKSHOP TOOLS

<i>Tool Number</i>	<i>Description</i>
RH 7674	Circlip Pliers—Rear Door lower Hinge Pin and Lock Bolt Roller.