

ELECTRICALLY OPERATED WINDOWS.

The electrically operated windows, introduced on Rolls-Royce and Bentley cars, enable the windows to be raised or lowered, by both the passengers and the driver, with the minimum amount of effort.

This new feature is offered as an optional extra and can be installed if specified when ordering, but it cannot be fitted retrospectively.

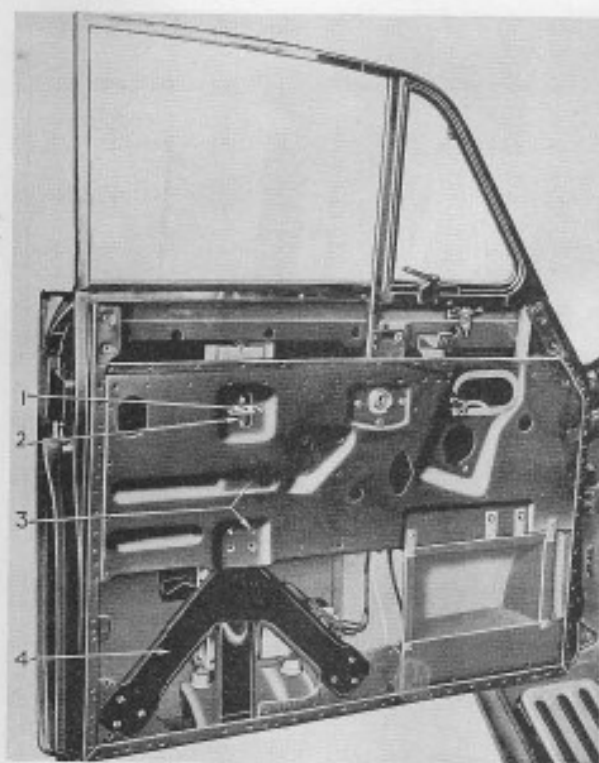


Fig.1. Left-hand front door with "trim" removed.

1. Mechanism stop.
2. Mechanism stop tongue.
3. Screw holes for arm rest slide.
4. Door brace.

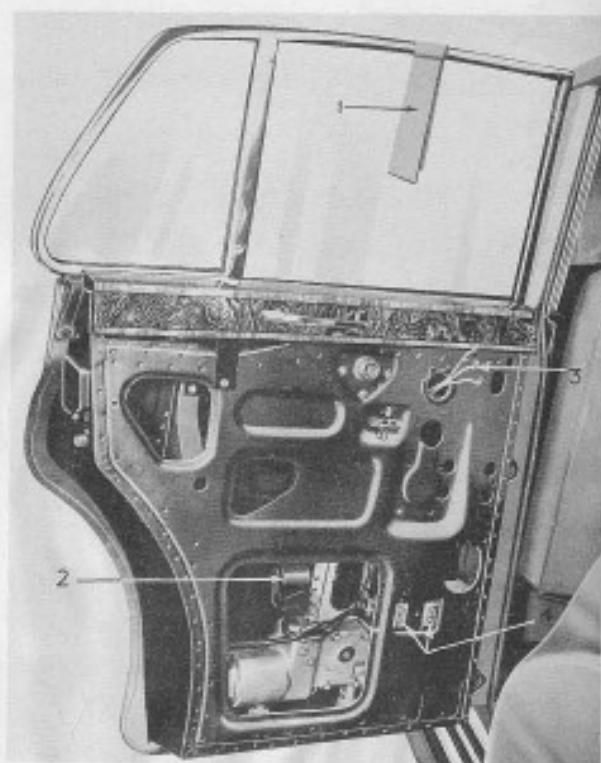


Fig.2. Left-hand rear door with "trim" removed.

1. Masking tape for securing window.
2. Lower buffer stop.
3. Cables for switch.
4. Retaining screws for check strap.

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Control.

Self-centering toggle switches, which are conveniently mounted on each door, control the up and down movement of the windows (see Fig.7); any desired window position may be obtained, as movement of the window will cease immediately on releasing the switch.

To enable all windows to be operated from the driving position, a set of four switches are mounted on the driver's door (see Fig.8).

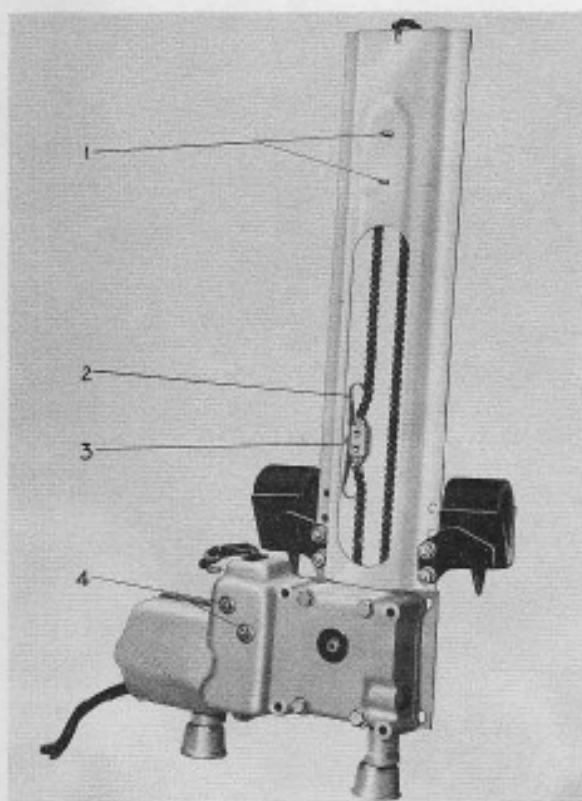


Fig.3. Motor and mechanism assembly for left-hand rear door.

1. Studs for upper flexible mounting.
2. Chain tension spring.
3. Special pick-up link.
4. Solenoid retaining nuts.

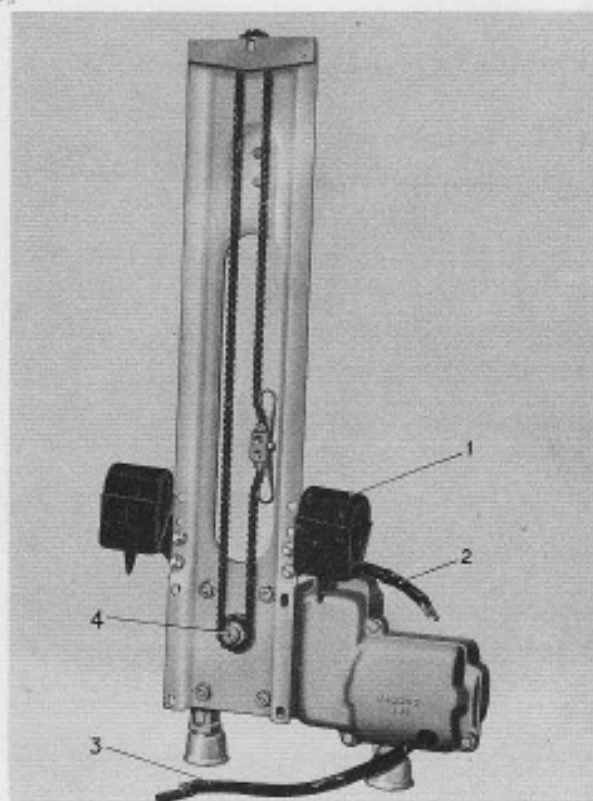


Fig.4. Reverse side of motor and mechanism for left-hand rear door.

1. Lower buffer stop.
2. Cables to solenoid.
3. Cables to electric motor.
4. Chain driving sprocket.

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Raising or lowering the window normally takes from 2 to 3 seconds, but this time may vary slightly due to prevailing conditions of the window channel felt, when the window reaches the end of its travel it is stopped by "stalling" against the special rubber buffers; the top buffer is incorporated in the window seal and the lower buffers are bolted to the chain casing.

Electric motor.

The window mechanism is actuated by means of an electric motor which is enclosed together with the drive and the brake mechanism inside a protective casing.

The electric motor is a reversible type unit, the direction of rotation being provided by dual field windings; incorporated in the motor is a thermostatically controlled cut-out.

This cut-out is provided to safeguard the motor against possible damage due to overloading should a window switch be held in the operating position

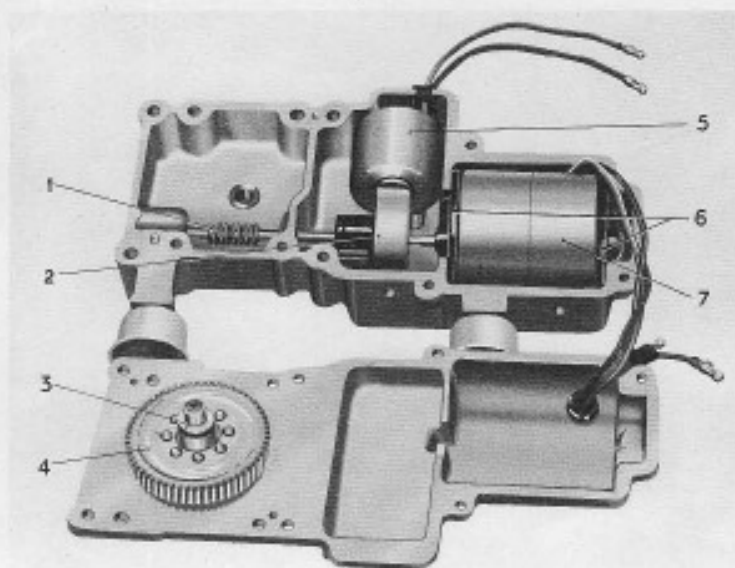


Fig.5. Motor and drive assembly with cover removed.

- | | |
|--------------------------------------|-------------------------------------|
| 1. Worm drive. | 4. Nylon worm wheel reduction gear. |
| 2. Flexible coupling and brake drum. | 5. Brake solenoid. |
| 3. Plain washer. | 6. Rubber shock washers. |
| 7. Electric motor. | |

Cont'd.....

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after the window has reached the fully open, or fully closed position.

The motor will heat up and the thermostatically controlled cut-out will break the circuit; after a wait of several seconds the circuit is automatically restored and the switch may again be effectively operated.

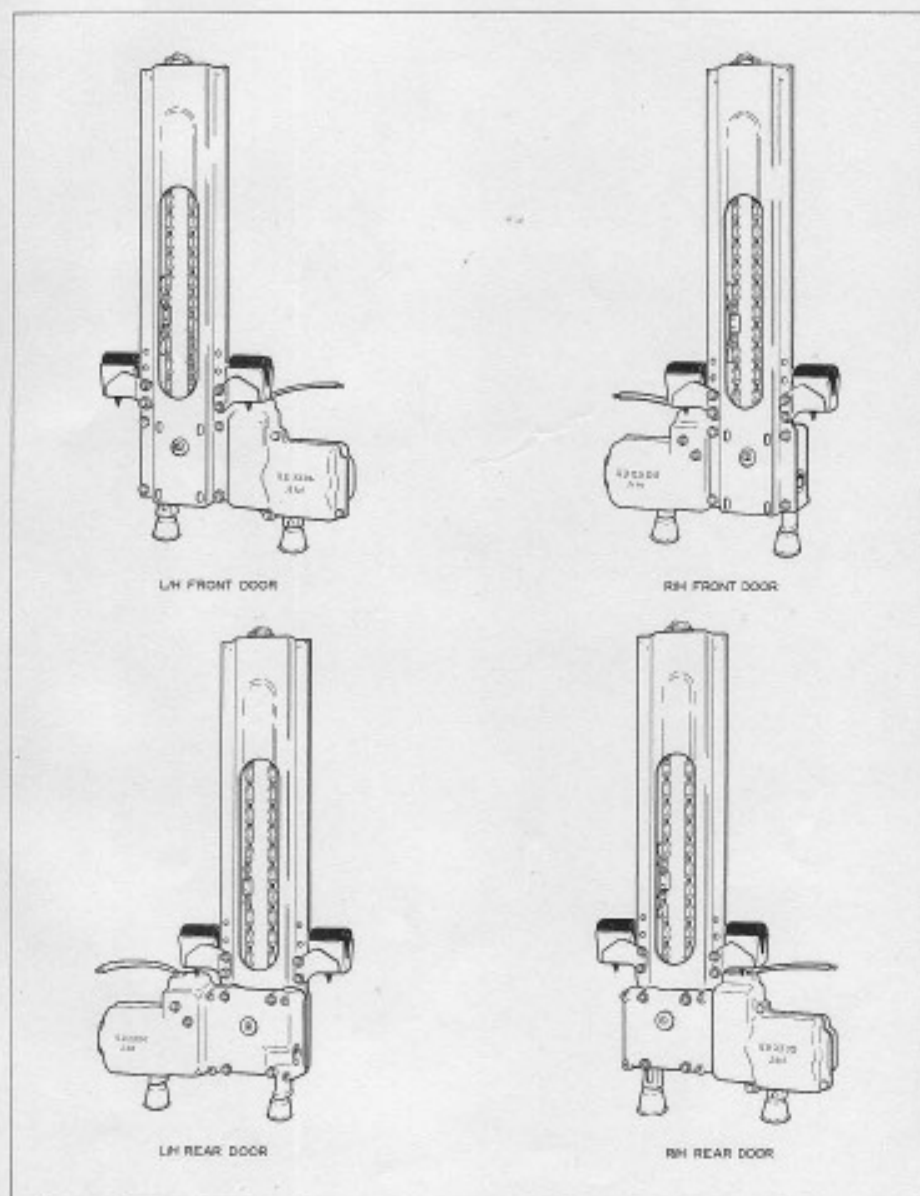


Fig.6. Motor and mechanism assembly showing the positions of mounting for all four doors.

Further protection for the motors is provided by four fuses situated in a fuse box which is mounted on the left-hand side of the dashboard.

No relay is necessary in the electrical circuit as the current for the motor is taken directly by the switches (see Fig.14).

Transmission.

The drive from the motor is transmitted to the mechanism through a flexible coupling which in turn drives a steel worm and nylon reduction gear.

A driving sprocket attached to the reduction gear spindle and an idler sprocket mounted on the upper end of the chain casing carries an endless chain; the chain is secured by means of a special "pick-up" link which is bolted to the window support channel, this link forms part of the chain and is secured by two special 90° links (see Fig.3).

A tensioning spring is secured to the pick-up link in order to take up any slackness in the chain and to prevent chain rattle.

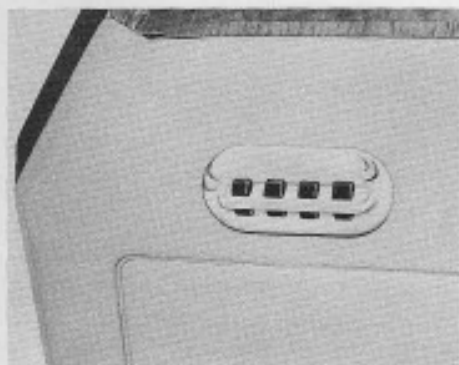


Fig.8. Driver's switches for electrically operated windows.



Fig.7. Passenger switch for electrically operated window.

Brake.

A brake which is built into the motor assembly, is provided to prevent the window moving once the operating switch has been released.

The brake mechanism consists of a solenoid, a coil spring and plunger and a brake drum; the brake drum forms an integral part of the flexible coupling.

When a switch is applied and the motor is operating, the solenoid, which is connected in parallel with the motor, becomes energised and the brake is released; on releasing the switch, the solenoid becomes de-energised and the brake is applied by means of the coil spring and plunger which contacts the brake drum (see Fig.13).

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TO REMOVE THE MOTOR AND MECHANISM ASSEMBLY.

Should it be necessary to remove the motor and mechanism assembly from the car, it is advisable before proceeding with this operation, to remove the fuses or disconnect the leads from the battery.

Front Doors.

Remove the arm rest from the door

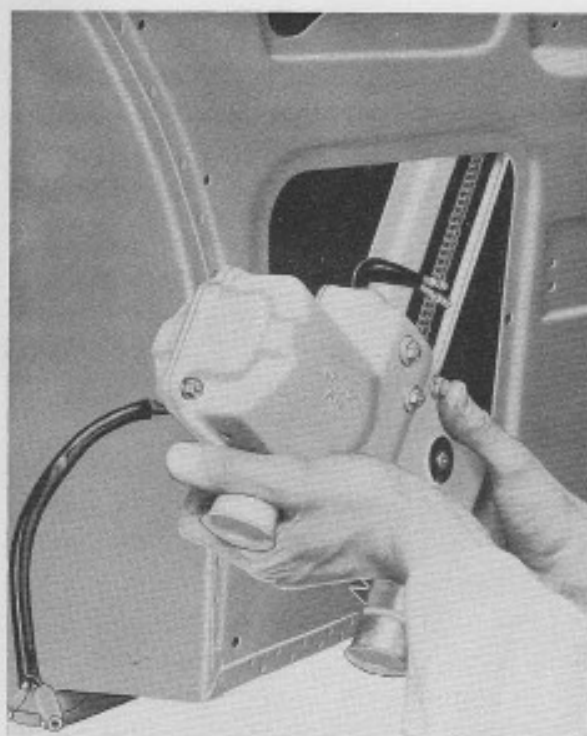


Fig.10. Method of removing mechanism from left-hand rear door.

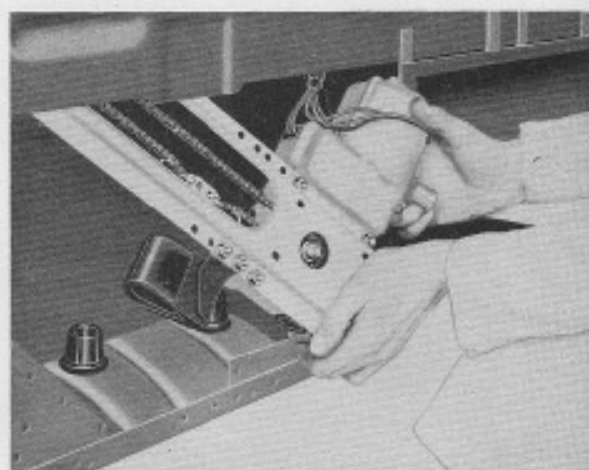


Fig.9. Method of removing mechanism from left-hand front door.

and detach the arm rest slide by removing the two retaining screws.

Note the angular position of the handle on the interior of the door to ensure that it is returned to its original position when refitting, then unscrew the escutcheon with a 'C' spanner and draw the handle from its splines.

Using a screwdriver, carefully ease the "trim" from the door, taking care not to damage the "trim", paintwork or the concealed spring fasteners, then disconnect the cables from the switch and remove the "trim".

Remove the retaining screws and

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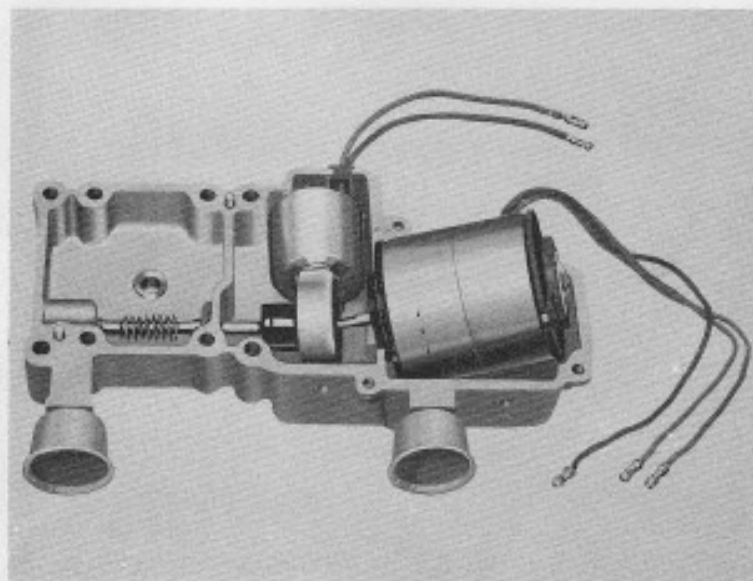


Fig.11. Method of removing electric motor from casing.

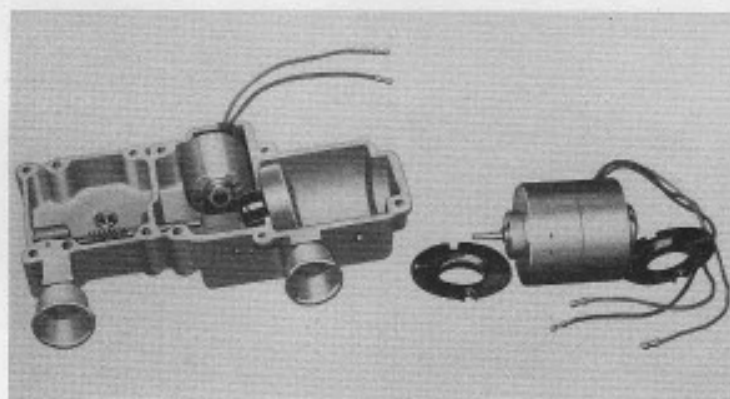


Fig.12. Electric motor removed and flexible coupling partly removed from casing.

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carefully ease off the finisher and its plate.

Carefully remove the plastic cover from the door inner panel.

By means of the snap connectors, disconnect the cables to the motor and the solenoid, then ensure that all cables are placed where they are not liable to impede the removal of the motor and mechanism assembly.

Unscrew the two 3/16 in. Allen screws which secure the chain pick-up link to the window support channel; these screws are located behind the mechanism (see Fig.18).

If not supported, the window will then be free to drop on to the lower buffer stops, therefore it should be secured to the window frame by means of masking tape as shown in Figure 2.

Unscrew the two 2 B.A. nuts and the two 2 B.A. setscrews then remove the rubber mounting and stop tongue; ensure that note is made of the number and position of the packing washers (see Fig.17).

Remove the retaining screws and detach the brace from the door (see Fig.1).

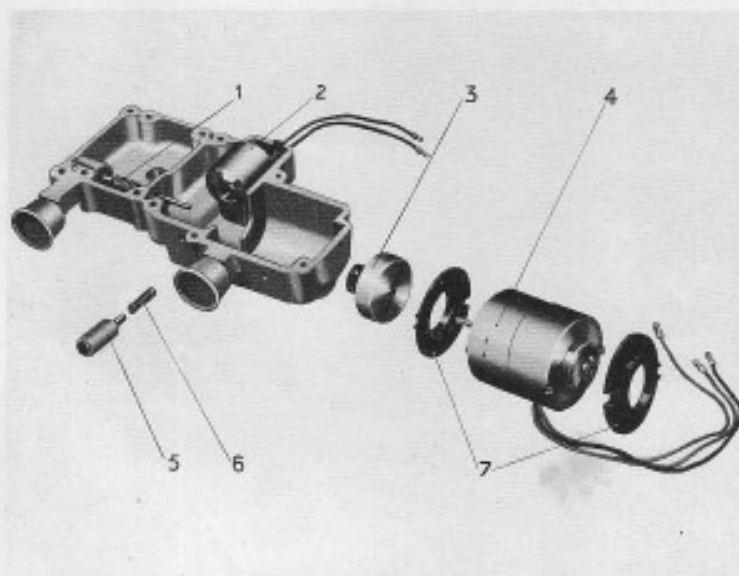


Fig.13. Exploded view of electric motor and drive assembly.

- | | |
|---|--------------------------|
| 1. Worm drive. | 4. Electric motor. |
| 2. Brake solenoid. | 5. Brake plunger. |
| 3. Flexible coupling and
brake drum. | 6. Brake plunger spring. |
| | 7. Rubber shock washers. |

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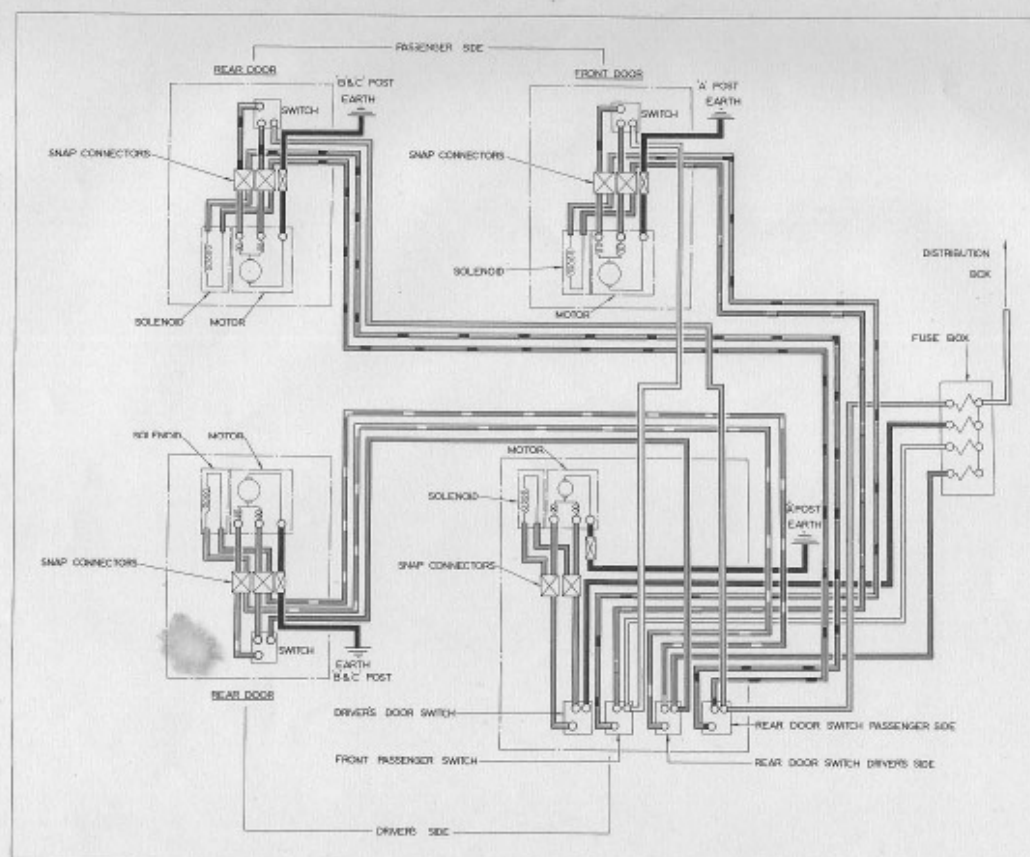


Fig. 14. Wiring diagram for electrically operated windows.

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To facilitate removal of the assembly, it will be necessary to remove one of the lower buffer stops from the chain casing as shown in Figure 9.

When working on the front left-hand door, remove the right-hand buffer stop and if working on the front right-hand door, remove the left-hand buffer stop, as seen when viewing the door from inside the car.

Remove the motor and mechanism assembly from the door in the manner shown in Figure 9.

Rear Doors.

The procedure for removing the motor and mechanism assembly from the rear doors is similar to that adopted for the front doors, but it is important that the following points are noted in order to facilitate removal of the assembly.

Detach the clip securing the electric cables to the door and place the cables in a position where they will not impede the removal of the assembly.

Disconnect and remove the check strap assembly from the door.

When working on the rear left-hand door, remove the left-hand buffer stop from the chain casing and if working on the rear right-hand door, remove the right-hand buffer stop, as seen when viewing the door from inside the car.

The assembly should then be removed from the door in the manner shown in Figure 10.

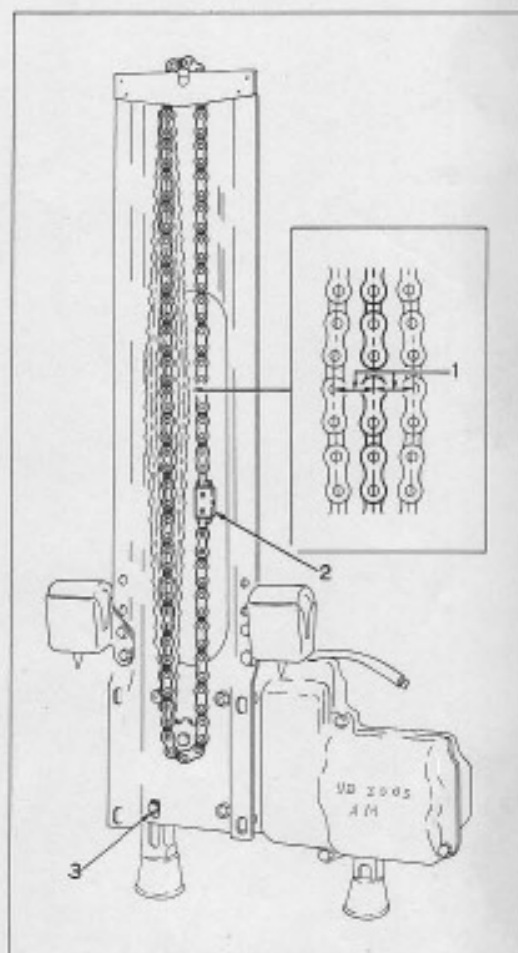


Fig.15. Method of adjusting chain tension.

1. Adjust chain tension to allow a maximum of 0.500 in. slack movement as shown.
2. Remove chain tension spring.
3. Elongated hole for obtaining adjustment.

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Electric Motor Assembly.

In the event of failure, it may be necessary to dismantle the motor assembly and should the fault be in the motor unit or the brake solenoid, the faulty unit should be returned for overhaul to Rolls-Royce Service Department, Hythe Road, Willesden, London, N.W.10.

The procedure for dismantling the motor assembly is as follows.

Remove the retaining bolts and detach the motor casing from the chain casing, then remove the remaining bolts which secure the cover to the casing and separate the casing and cover as shown in Figure 5.

Withdraw the motor unit from the casing by tilting it upwards while at the same time drawing it from the flexible coupling as shown in Figure 11; ensure that the rubber shock washers are retained.

If the flexible coupling is to be removed, ensure that the brake plunger and coil spring are not mislaid.

To remove the brake solenoid from the casing, unscrew the two nuts which secure it to the casing (see Fig.3).

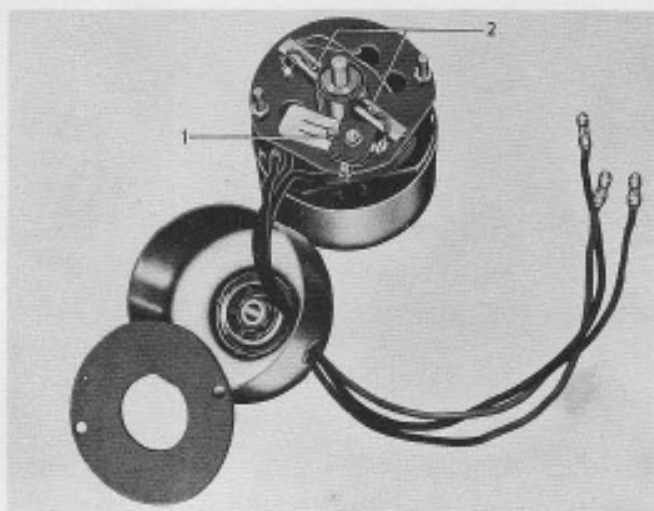


Fig.16. Electric motor with cover removed.

1. Cut-out.

2. Brushes.

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TO ASSEMBLE AND FIT THE MOTOR AND MECHANISM ASSEMBLY.

Reverse the procedure for removing and dismantling, noting the following points.

Lubricate the worm and reduction gear with Molytone 265 Grease.

The joint faces of the motor casing should be smeared with jointing compound prior to bolting the halves together.

The motor casing is bolted to the chain casing to form a unit which is mounted on rubber mountings to ensure quietness during operation; the motor casing may be attached to the chain casing in four different positions depending to which door the assembly is to be fitted (see Fig.6).

When attaching the motor assembly to the chain casing ensure that the chain is adjusted so that it has a slack movement of 0.500 in. each side of the chain centre line (see Fig.15).

Remove the tension spring from the "pick-up" link and adjust the chain tension by means of the elongated bolt holes in the chain casing as described in Figure 15, then refit the chain tension spring.

Adjust the mechanism stop tongue, by means of the elongated fixing holes, to obtain a gap at 'A' of between 0.015 in. and 0.030 in. with the window in the halfway position as shown in Figure 17.

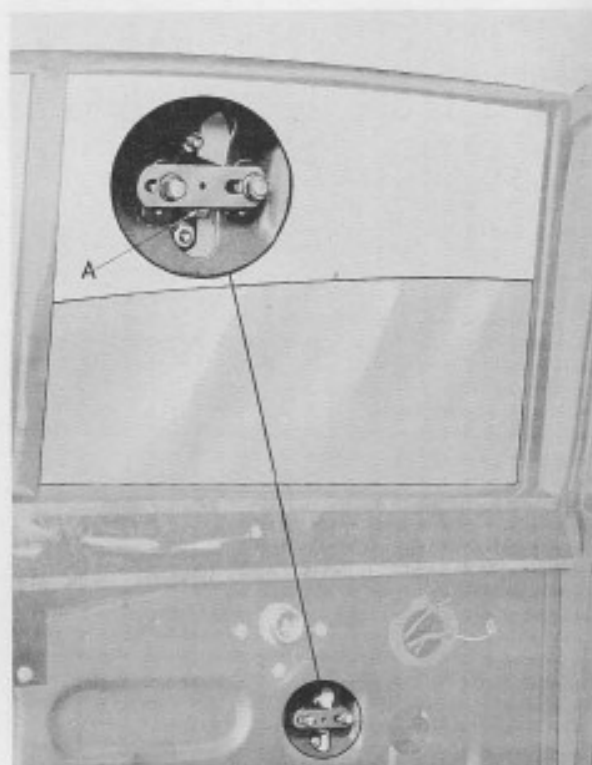


Fig.17. Adjustment for mechanism stop tongue.

Ensure that the switch cables do not foul the edges of the hole in the door inner panel, otherwise they may become damaged and result in 'shorting'.

Check that the correct gauge fuse

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wire is fitted in the fuse box, the specification for the fuse wire is 30 S.W.G. high conductivity tinned copper wire, diameter 0.0124 in. For stocks of fuse wire in America, 28 American or Brown and Sharps gauge, diameter 0.0126 in., is satisfactory.

Should further attention to the wiring be necessary, a wiring diagram is provided in Figure 14.

Before fitting the door "trim", ensure that the plastic cover is fitted and secured with upholsterers' solution.

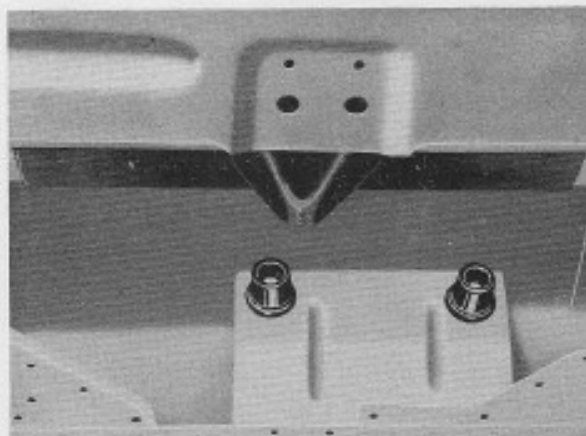


Fig.18. Lower flexible mountings for
mechanism and connection for
"pick-up" link.

CREAKS AND RATTLES FROM THE FACIA ON 'S' TYPE CARS.

Periodical surveys of body complaints recorded against 'S' type cars show that facia rattles and creaks constitute a high proportion of the total. From time to time various modifications have been introduced by Production and corrective measures taken in Service to improve the standard of body silence. The purpose of the following is to review the present state of knowledge in regard to eliminating creaks and rattles from the facia and its associated structure.

Creaks from Instrument Facia:

1. A major cause of creaks from the facia is contact with the capping rail. Remove facia panel by extracting the four 2BA counter-sunk screws. Using a fine cut file it is possible to give the facia adequate clearance at these points of contact. Great care must be taken in filing the facia as it is easy to lift the veneer from its backing, it is therefore essential to lift the file on its back stroke. Fig.1. illustrates the correct manner in which the file should be used.

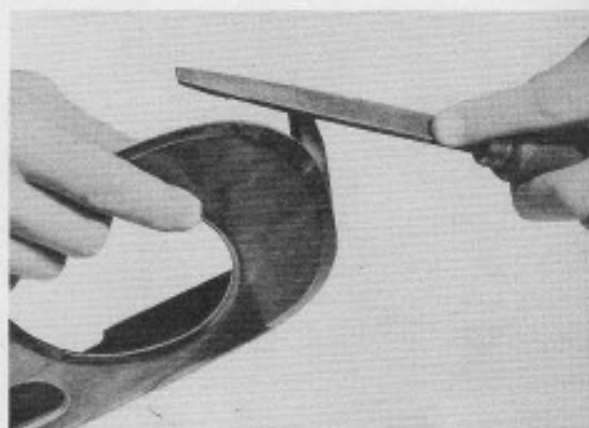


Fig. 1.

2. To remedy creaks from behind the instrument facia the following procedure should be adopted. Remove facia panel by extracting the four 2BA counter-sunk screws. Examine the points where the facia comes into contact with the instruments and instrument panel, as these points are often the cause of creaks. These can be eliminated by the application of "Aeroprene" UW-1792, to the inside of the instrument facia. The two pieces of "Aeroprene" lining should be stuck in position with "Bostik" 1261 adhesive.

Creaks and Rattles from behind Facia:

Additional felts to prevent creaks and rattles behind the instrument board are now fitted to current production 'S' Series cars. These felts may be fitted to cars in service in accordance with the following procedure:-

1. Speaker Duct: - Disconnect the battery. To fit the felt UW-1923 it is necessary to remove the following parts:- Instrument Facia UB-1007, Speedometer, Instrument Mounting Plate UD-1482 and disconnect the clock trip. Remove the instrument mounting plate, undo the four 2BA screws and two 2BA bolts which pass through the upper lip and screw into the capping rail.

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Obtain as much clearance as possible between the speaker duct and mounting plate without straining the wiring; if the mounting plate is held in this position it is then possible to fit the felt. Using 'Bostik' A. adhesive stick the felt with the 24" edge to the back of the duct, ensuring that the edges are folded over the back and sides and stuck securely. Before fitting, check that the felt has been relieved at the corners; see Fig. 2. In Fig. 3. the felt is shown in position.

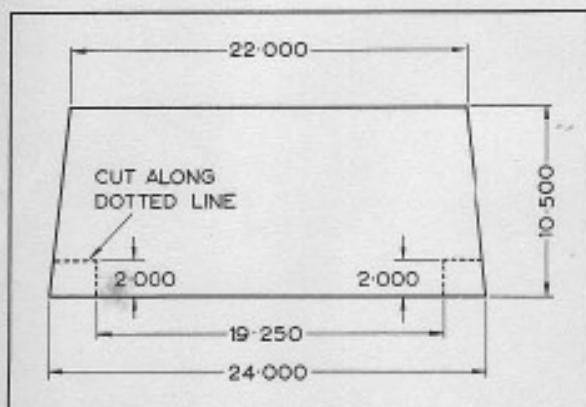


Fig. 2.

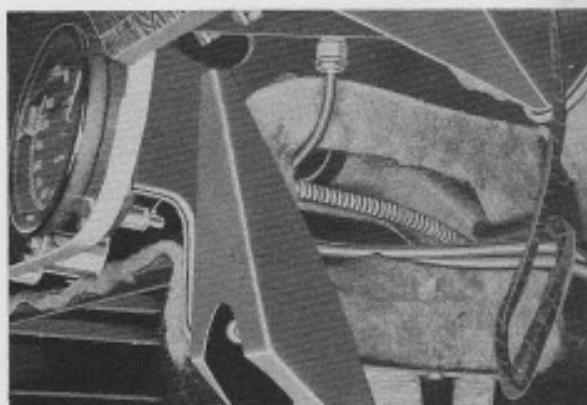


Fig. 3.

2. Demister Tubes - To fit the sewn felt sleeves UW-1926 and UW-1924, it is necessary to remove the following parts:- Demister and Heater cross Duct UD-1971, outer Demister Tubes UD-1341 and inner Demister Tubes UD-1342. The picnic tray should be pulled out as far as possible. Remove the heater and demister cross duct, slacken the three securing worm drive clips and push the larger duct into the smaller one allowing the L/H end of the duct to be lowered. Ease the demister tubes off the cross duct, and withdraw the large duct from the smaller leaving the latter still in position. The demister tubes can now be removed. Felts UW-1924 should then be fixed to the outer tubes UD-1341, likewise felts UW-1926, fixed to the inner tubes UD-1342, as shown in Fig.4. When the sewn felt sleeves are not

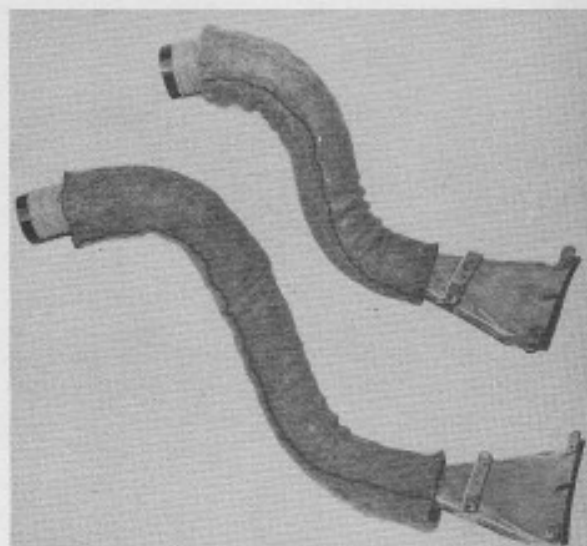


Fig. 4.

readily available, an alternative method of fixing the felts is to wrap them around their respective tubes, and using 'Bostik' A. stick at each end and along the over-lapping join; allowing $\frac{1}{2}$ " of tube protrusion at each end.

3. Cubby Boxes - The fitting of felts UW-1928 and UW-1929 necessitates removal of both cubby boxes. Remove the six 2BA cubby box securing screws, three of which secure the top of the box by passing through the front edge, these are easily seen inside the box. The remaining three securing screws are not visible but pass through the lower front edge of the box behind the fascia board. Repeat the process for removal of the other cubby box. Using 'Bostik' A. stick felt UW-1928 to cubby box (LH) UB-1235 and felt UW-1929 to box (RH) UB-1233, commencing from the top surface of each box and wrapping down the back and along the underside, ensuring that all edges adhere securely. Fig. 5. shows the felts in position. It should be noted that the felts are handed and therefore on L.H. drive cars the larger felt, UW-1929 is fitted to the box (LH) UB-1239 and the smaller felt UW-1928 is fitted to the box (RH) UB-1237.

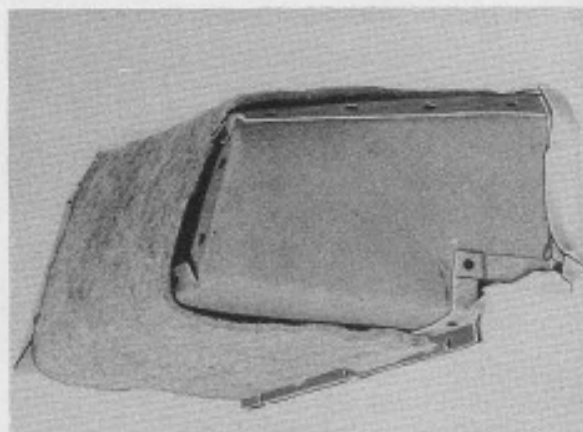


Fig. 5.

4. Instrument Sideplates - Fitment of the felts UW-1930 to the Instrument Sideplates 373/164 and 373/165, requires removal of both cubby boxes, the removal of which was dealt with in paragraph 3. Cut a rectangle 4" x 2" from each felt and slot the corners diagonally as shown in Fig. 6. Cut through from an outer edge to the hole in the centre, thus enabling the felt to be passed over the wiring and fixed in position with the inner edges of the felt wrapped over the edges of the sideplate and stuck securely with 'Bostik' A.

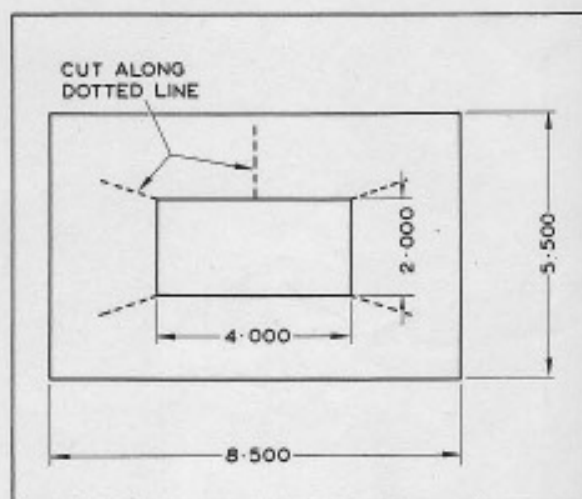


Fig. 6.

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5. Demister Nozzles - Removal of both cubby boxes and instrument mounting plate, in accordance with paragraphs 1 and 3, is necessary to enable the felts UW-1934, see Fig.7 to be fitted to the demister nozzles in the manner illustrated in Fig. 8. It is possible to stick the felts to the inner demister nozzles without disconnecting any wiring, if the instrument mounting plate is held away from the speaker duct. To fit the felts to the outer demister nozzles access may be gained through the cubby box apertures. 'Bostik' 'A' adhesive should be used for these felt applications.

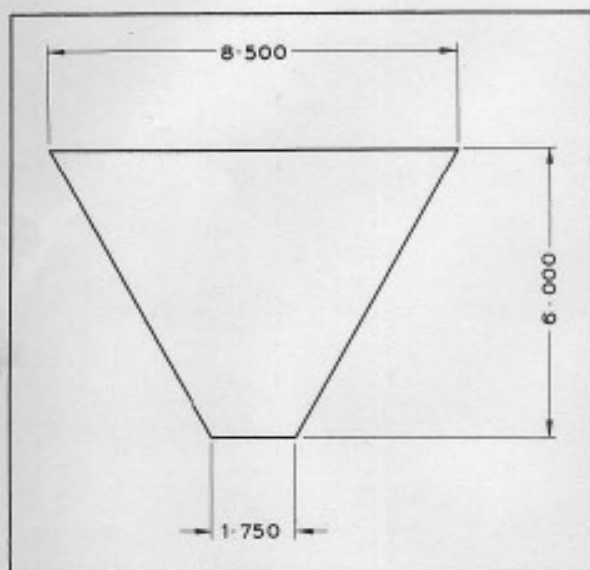


Fig.7.



Fig.8.

6. Speedo Cable & Trip Winders - It is practice on Production to fit sewn felt sleeves UW-1933 to the speedo cable and speedo trip, as shown in Fig. 9. In service it is intended to bind the speedo cable and trip with 1" strip felt. Fitting the felt necessitates removal of:- Instrument Facia, Speedometer, Clock and Speedo Trips. The Speedo Cable is disconnected at the drive end and the two retaining clips are slackened, enabling part of the cable to be drawn into the car interior. Bind the felt in a spiral fashion to cover 18" of the Speedo Cable and completely cover the clock and Speedo Trips.

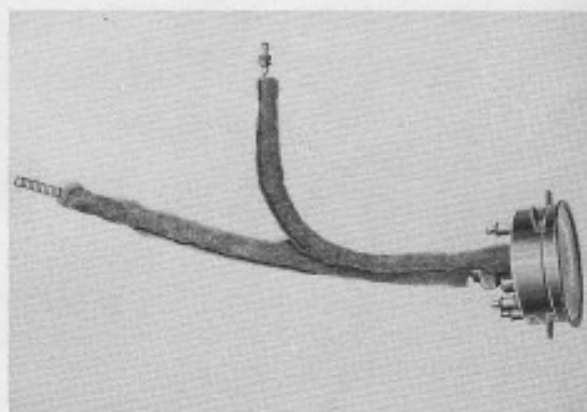


Fig. 9.

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Ensure that the ends of each felt are mitred, so that the first and last coils finish square with the axis of the cable, see Figs. 10 & 11. Finally, bind the end coils with insulation tape.

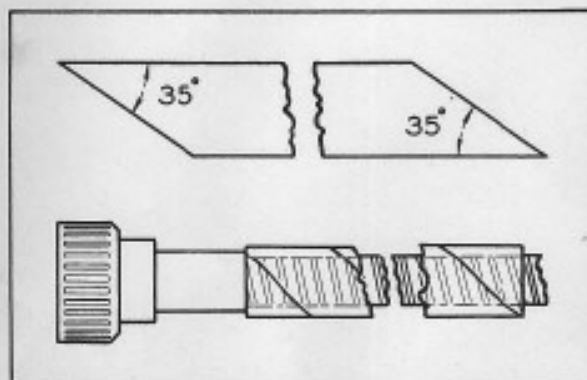


Fig. 10.

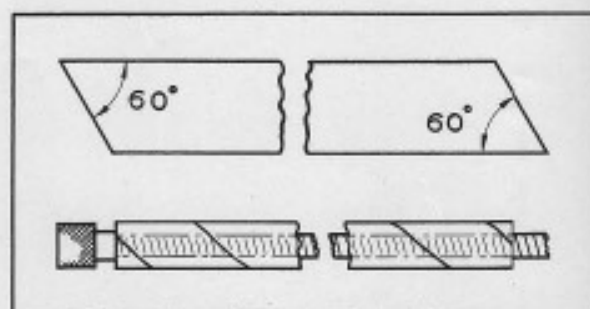


Fig. 11.

Sizes of Felts:

UW-1923 Speaker Duct	See Fig. 2.	1 off.
UW-1924 Demister Tubes	24.00" x 7.75"	2 off.
UW-1926 Demister Tubes	15.50" x 7.75"	2 off.
UW-1928 Cubby Box	16.00" x 7.50"	1 off.
UW-1929 Cubby Box	19.00" x 7.50"	1 off.
UW-1930 Instrument Side-plates	8.50" x 5.50"	2 off.
UW-1933 Trip Winders	13.00" x 2.00"	2 off.
UW-1934 Demister Nozzles	See Fig. 7.	4 off.
1" Strip Felt Speedo Cable	31.50" long.	1 off.
1" Strip Felt Speedo Trip	16.50" long.	1 off.
1" Strip Felt Clock Trip	16.50" long.	1 off.

FOR INFORMATION

Modified Acrylic Automotive Finishes
M900 and M901 Line

Modified Acrylic Finishes have recently been introduced on Rolls-Royce and Bentley cars in an endeavour to further improve their unpolished gloss retention under arduous service conditions, as compared to that normally associated with the long established nitro-cellulose finishes.

The standard metallic modified acrylic finishes, which have been produced following close co-operation between Rolls-Royce Ltd. and the Paint Manufacturers, may be distinguished from their predecessors by the increased particle size of the flake aluminium pigment used.

Refinishing Technique

Much the same techniques are required for the M 900 and M 901 line of modified acrylic finishes as for the normal nitro-cellulose finishes, except it is important that the practice of 'spotting-in' must be avoided and only complete panels should be sprayed out, taking care to avoid over-spraying on to the surrounding undamaged areas.

It is not permissible to refinish nitro-cellulose finishes with modified acrylic finishes, or vice versa, and it must be appreciated that both modified acrylic and nitro-cellulose finishes may be used on a car, according to the colour scheme specified by the customer.

Emphasis must also be placed on the use of the correct Thinners 851 - 732, when refinishing with modified acrylic materials.

At present, it is intended that supplies of M 900 and M 901 line materials, which should always be accompanied by an equal volume of 851 - 732 Thinner, will only be made available against orders on which Chassis Numbers are quoted.

Care and Maintenance of Paintwork

The maintenance instructions for care of the paintwork included in the Owners Handbook are generally applicable to modified acrylic finishes; but it is anticipated that much less frequent attention will be found necessary to maintain the high initial gloss of these finishes in all types of climate.

Introduction of Modified Acrylic Finishes

Porcelain White	-	I C I	M. 900-101	B-FD	517 onwards
				SJF	22, 56, 134, 166
				SKG	5, 11, 59,
				SLG	52, 102.
				SMH	61, 191, 195 onwards
				BLC	48.
Pacific Green	-	I. C. I.	M. 901-2570	B-FD	615 onwards
				SLG	4, 62, 96, 100 onwards
Tudor Grey	-	I. C. I	M. 901-2581	B-FD	237, 279 onwards
				SHF	193, 203, 215, 237,
				CLC	245 onwards.
Shell Grey	-	I. C. I.	M. 901-2582	B-FD	16 onwards.
				B-FD	227, 237, 249, 257 onwards.
				SLG	100
				SHF	195, 203, 213, 215,
				BLC	241, 245 onwards
Steel Blue	-	I. C. I	M. 901-2571	BLC	51
				CLC	11 onwards
				B-FD	153, 165, 167, 227 onwards.
				SGE	288
				SHF	107, 109, 131, 135,
Sand	-	I. C. I	M. 901-2559	B-FD	143, 159, 161, 183, 225,
				B-FD	233, 245, 249 onwards
				BLC	42
				CLC	25 onwards.
				B-FA	394
				B-FD	209 onwards
				SFE	339
				SHF	27, 125, 133, 137, 171,
				BLC	219, 223 onwards
				BLC	41, 50
				CLC	9 onwards

FOR INFORMATION

TRICO WINDSCREEN WASHER CONTROL VALVE

Prior to July 1956, the windscreen washer control valve, Part No. CD.539, was fitted with a valve seat giving metal to metal contact. Trouble was experienced with this control valve owing to the metal to metal seating having a tendency to leak, causing poor engine idling. To overcome this problem, the design was changed to incorporate a valve seat of natural rubber.

Further trouble was encountered in the form of intermittent or complete failure of the control valve to operate the windscreen washer. This failure was caused through damage of the natural rubber seat on the sharp edge of the valve seating. Accordingly, in February this year, the design of the control valve was changed to incorporate a Neoprene seat in place of natural rubber. To identify the modified control valve, it was marked with a spot of green paint on the side of the valve housing.

To date, this change has proved entirely satisfactory and it has been decided that this control valve will be supplied for all replacements. All control valves supplied will now have the Neoprene seat but they will not necessarily have the green identification mark.

Cancels previous Service
Bulletin dated 19.6.59

No. CB.128

FOR INFORMATION

INSTRUCTIONS FOR FITTING "IRVIN" SAFETY BELTS TO ROLLS-ROYCE AND BENTLEY CARS WITH STANDARD STEEL SALOON

DESCRIPTION

Requests have been made from time to time for safety belts to be fitted to Rolls-Royce and Bentley cars and as a result of these requests the "Irvin" single belt type is one which has now been approved.

This belt is designed to withstand shock loads of 3,000 pounds and can be fitted to both front and rear seats. It is intended for fixing solely to cars with METAL floors and must not be attached to a wooden floor or to the car seat.

The "Irvin" car safety belt comprises two sections of 2 in. wide nylon or terylene webbing and attached to each section is one part of the two-piece light alloy fixing buckle (see Fig. 3). The two parts of the buckle are designed so that they can easily be connected to form a continuous belt to hold the wearer securely in the seat and can be instantly disconnected either by the wearer or, in an emergency, by another person.

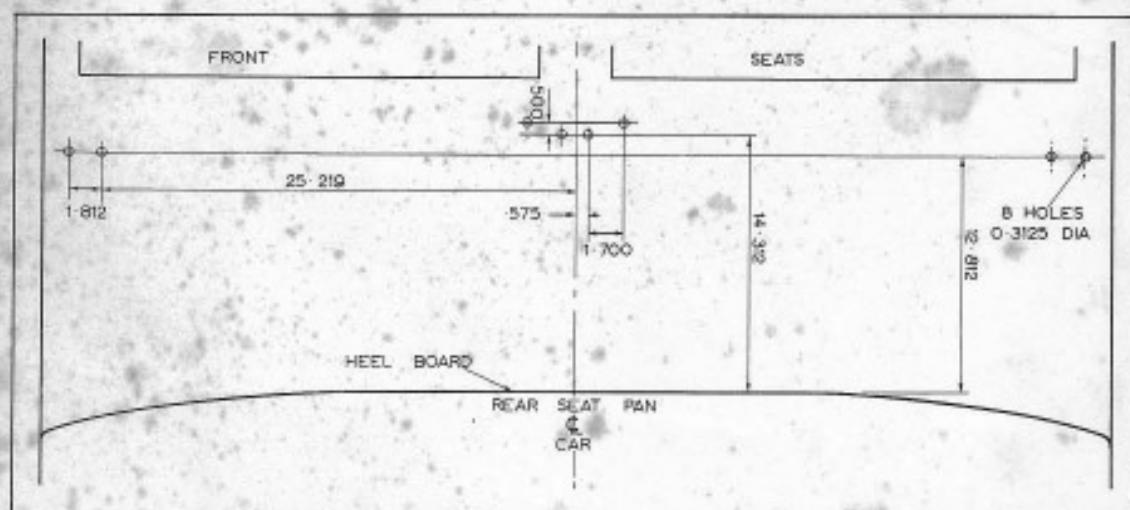


Fig.1. Diagram for drilling holes for front seat shackles.

INSTRUCTIONS FOR FITTING

FRONT SEATS

Preparation

In order to provide access for fitting the bolts which are to secure the L.H. outer shackles, it is necessary to modify the silencer heat shield; the procedure for modification differs slightly between cars of standard production and cars fitted with refrigeration.

Standard Production Cars

At a point situated directly beneath the mounting points for the L.H. outer shackles (see Fig. 1), cut an oval hole of sufficient dimensions to permit insertion of the stiffener plate.

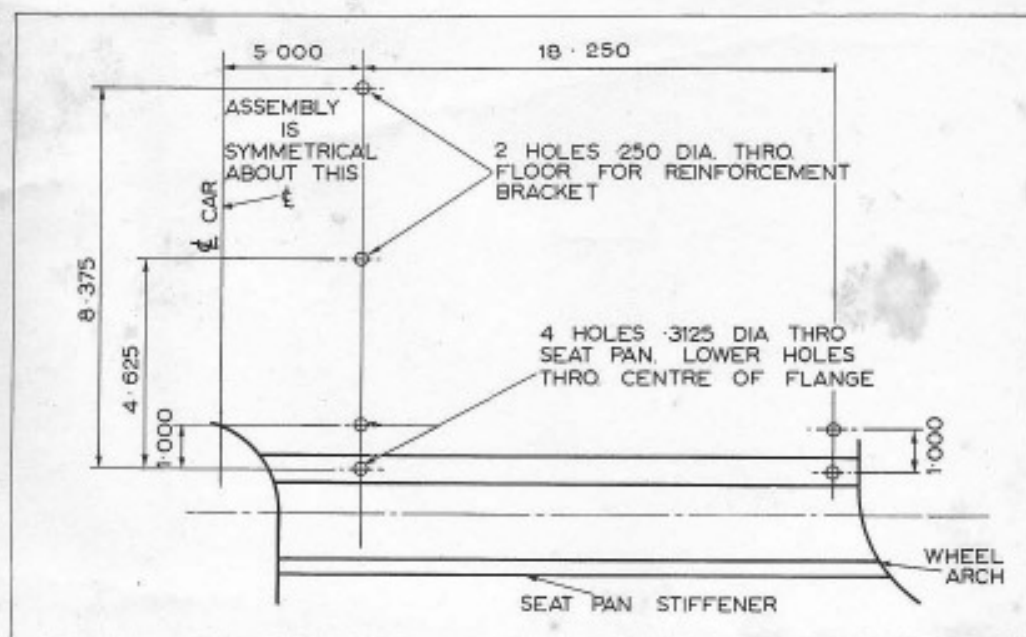


Fig. 2. Diagram for drilling holes for rear seat "U" bolts.

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In order to prevent subsequent ingress of water or loss of asbestos from the heat shield, the edges of these holes must be adequately sealed by means of "Bittak" sealing compound.

Refrigerated Cars

At a point situated directly beneath the mounting points for the L.H. outer shackles (see Fig.1), cut an oval hole of sufficient dimensions to permit insertion of the stiffener plates.

This hole must afterwards be covered with an aluminium plate which should be slightly "dished" to allow sufficient clearance for the shackle retaining nuts; this plate should be secured by means of six self-tapping screws and washers.

The under surface of the plate should be sealed with a coating of "Bittak" sealing compound.

Fitting

Move the front seats back to the fullest extent and drill four pairs of 5/16 in. diameter holes in the floor, following the diagram shown in Figure 1.

To ensure that the belts are fitted in the correct position, it is advisable to lay them on the seats in the position they will occupy when in use (see Fig. 3).

Fit the four shackles through the loops formed in the belts so that when they are secured to the floor, the shackles will slope forward.

Position the shackles with the appropriate holes and insert the 5/16 in. fixing bolts from inside the car, then fit the stiffeners to the bolts, under the floor and secure them with the nuts and washers (see Fig. 4).

Cut three slots in the carpet to accommodate the shackles, one for each outer shackle and one for both inner shackles; the edges of these slots should then be bound with leather to prevent fraying.

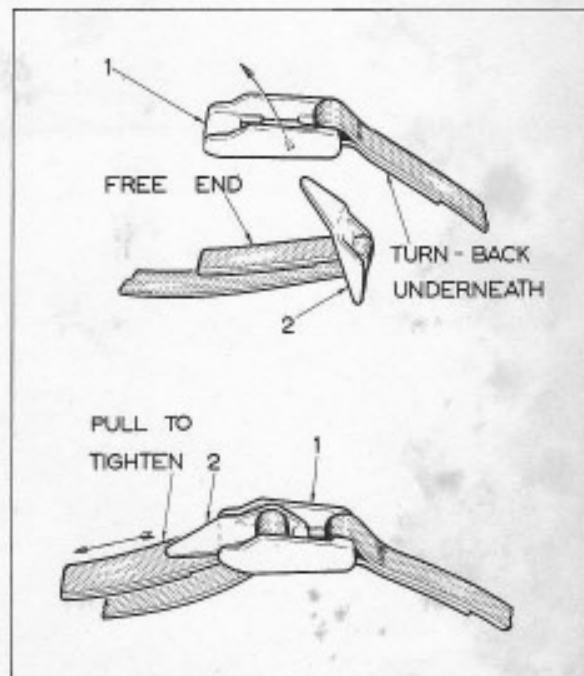


Fig. 3. Method of fixing buckle of safety belt.

1. Buckle housing. 2. Buckle tongue.

REAR SEATS

To enable the rear belts to be fitted it is necessary to remove the rear seats, squabs and centre arm rest.

Drill four pairs of 5/16 in. diameter holes and four 1/4 in. diameter holes in the rear seat pan as shown on the diagram in Figure 2.

Fit the stiffeners (UB.2429) and secure them with 1/4 in. bolts, washers and nuts. To clear the L.H. inner stiffener, it will be necessary to cut the rear silencer heat shield.

On Standard Cars the heat shield casing should be cut so as to allow sufficient metal for turning over in order to seal the asbestos.

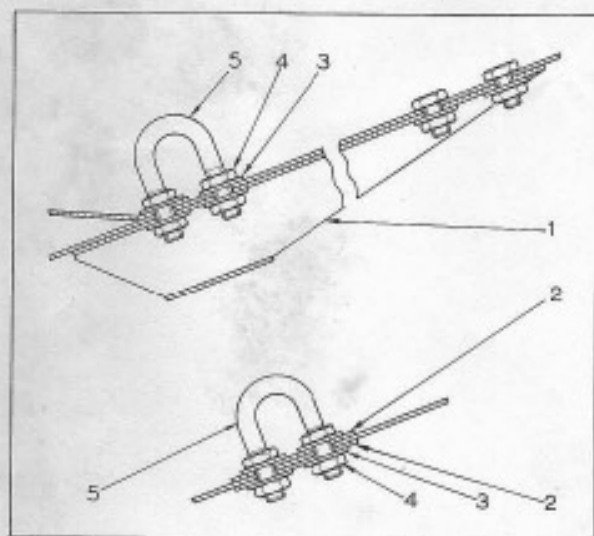


Fig. 5. Safety belt 'U' bolts for rear seats.

1. Reinforcement bracket.
2. Retaining plate.
3. Washer.
4. Nut.
5. 'U' Bolt.

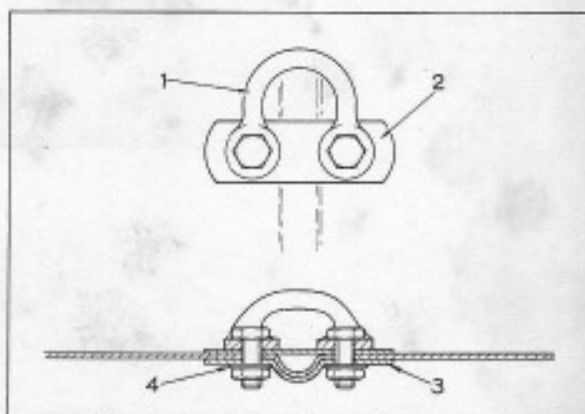


Fig. 4. Safety belt shackles for front seats.

1. Shackle.
2. Stiffener hinge.
3. Stiffener.
4. Washer.

This will not be necessary for heat shields fitted to Refrigerated Cars as they contain no asbestos, but after cutting, the edge of the shield should be turned up to seal against the seat pan and then secured by means of the fixing screws contained in the piece of metal already cut away.

Ensure that the belts are placed in the position they will occupy when being used (see Fig. 3), then thread the four 'U' bolts through the loops provided in the belts, position two 'U' bolts and the two reinforcement brackets (UB.2429) at the inner positions and two 'U' bolts and four retaining plates (UB.2428) at the outer positions, then secure them with washers and nuts (see Fig. 5).

Refit the centre arm rest, seats and squabs, allowing the belts to pass between the base of the seat and the squab.

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SPECIAL PARTS REQUIRED FROM ROLLS-ROYCE LTD. FOR 'IRVIN' BELTS

Front Seats:	UB. 2423	Shackle	4
	UB. 2424	Stiffener hinge	2
	UB. 2425	Stiffener	2
	UB. 2656	Belt	2
Rear Seats:	UB. 2427	'U' Bolt	4
	UB. 2428	Retaining Plate	4
	UB. 2429	Reinforcement Bracket	2
	UB. 2712	Belt	2

OTHER PARTS REQUIRED

Front Seats:	UA. 154/Z	5/16 in. Bolt	8
	UA. 302/Z	5/16 in. Nut	8
	UA. 1252/Z	Plain Washer	8
Rear Seats:	UA. 302/Z	5/16 in. Nut	16
	UA. 1252/Z	Plain Washer	16
	UA. 102/Z	1/4 in. Bolt	4
	UA. 301/Z	1/4 in. Nut	4
	UA. 1252/Z	Plain Washer	4

CARS FITTED WITH REFRIGERATION

CS. 31020/Z	Screw	6
K. 4401/Z	Washer	6