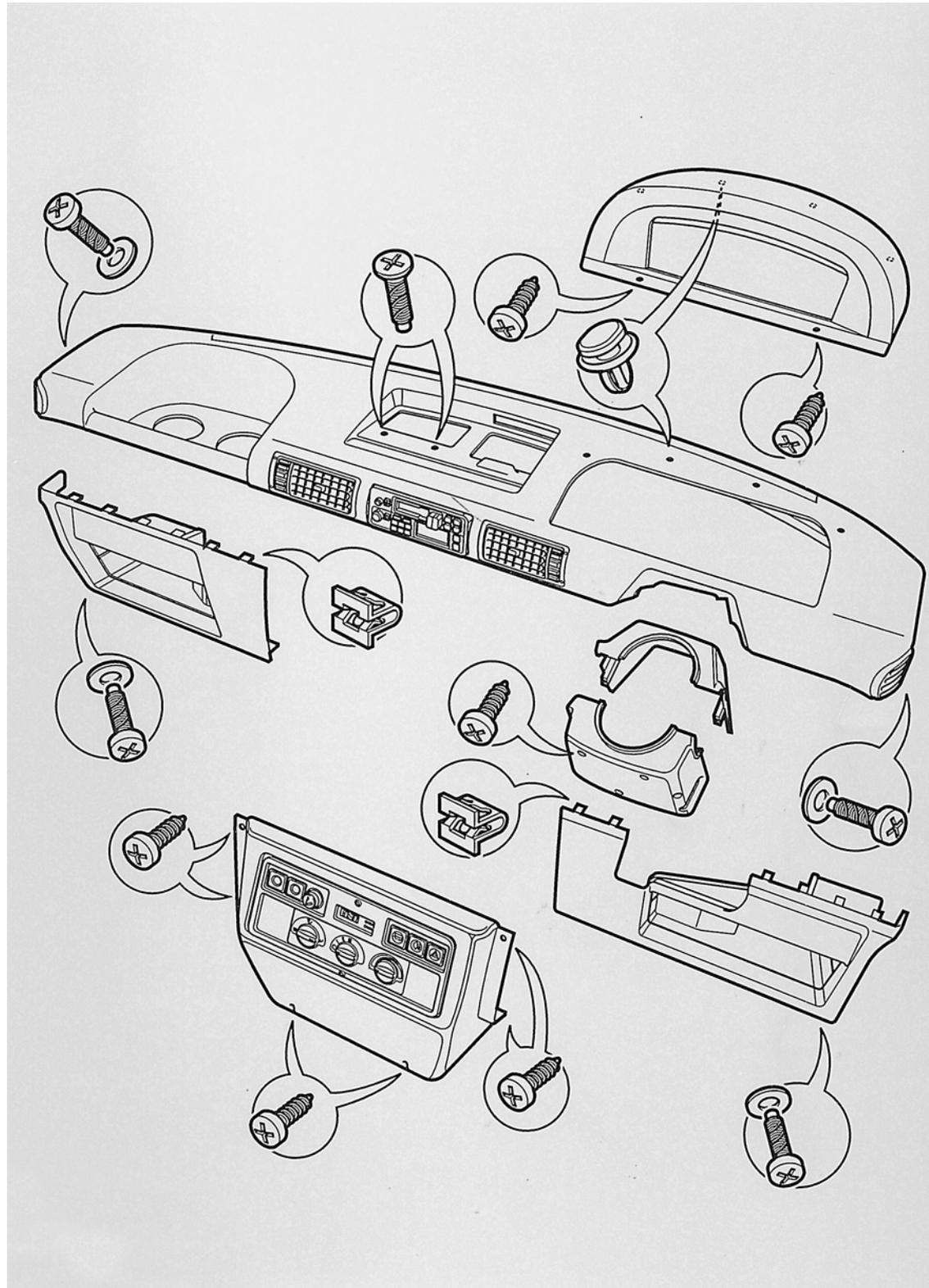


Service Workbook

Body

200, 400, Pilot & Convoy





BODY

Service Workbook

This Service Workbook covers the body and fittings of LDV models. It is primarily designed to assist skilled technicians in the efficient repair and maintenance of these vehicles, but can also be used as a reference workbook for training purposes.

This Service Workbook should always be consulted prior to servicing or repair work.

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INTRODUCTION

WARNINGS and **CAUTIONS** are given throughout this Service Workbook in the following form:



WARNING: Procedures which must be followed precisely to avoid the possibility of personal injury.

CAUTION: This calls attention to procedures which must be followed to avoid damage to components.

NOTE: This calls attention to methods which make a job easier to perform.

REFERENCES

References to the left or right hand side in this Service Workbook are made when viewing the vehicle from the rear.

GENERAL PRECAUTIONS

1. Look out for sharp edges to components and take the necessary precautions to avoid injury.
2. When working with glass always wear goggles and gloves.
3. Always use adhesives in a well ventilated area, and avoid inhalation of the fumes.
4. Avoid contamination of paintwork and trim by grease etc.
5. When working with knives or other sharp instruments, always cut away from yourself.
6. Make sure paintwork isn't damaged by clumsy handling of components and tools. Where possible use covers, masking etc.
7. Whenever fitting trim panels, new components etc, make sure attachment screws/components do not trap or foul electric wiring.
8. After making any repair to door latches/strikers or to seat belt mechanisms, care must be taken to check that the components operate in the correct manner.
9. Make sure that sealants are used for the correct application. Check the manufacturers instructions.
10. Make sure rubber seals and gaskets are in good condition and fitted correctly to prevent water ingress.
11. Make sure any solvents used for cleaning etc, are not corrosive or have an adverse effect on the materials to which they are applied.
12. When welding, check for close proximity of brake or fuel pipes, or any other components liable to be damaged by heat. Avoid inhalation of any fumes generated.



13. When disconnecting the vehicle battery, always disconnect the earth return (negative) cable first, and then the positive cable. On twin battery installations, disconnect both earth return (negative) cables first, and then the positive cables.
When reconnecting the battery(s), connect the positive cable(s) first, then the negative cable(s).
14. When marking around hinges etc. to provide alignment marks for ease of refitting, use a water soluble marker to avoid scratches or damage to paintwork.
15. All door latches (except sliding cab doors) have three positions; an 'open' position, a first 'initial lock' position and a second 'fully locked' position. Ensure the lock latch always closes to its second position.

REPAIRS AND REPLACEMENTS

When replacement parts are required, it is essential that only LDV parts are used.

SERVICE SUMMARY

Every 12,000 miles – (20,000 km) – 12 months

- Lubricate
 - all locks (not steering column lock).
 - all door hinges and front/side door check/sliding mechanisms.
(NOTE: Crew cab door hinges and 200 rear door hinges have grease fittings)
 - bonnet hinges and locks.
- Check
 - operation of bonnet lock
 - key locking operation of all door and tailgate locks.
 - condition and security of seats and seat belts.

BODY AND PAINTWORK MAINTENANCE



Only use vehicle washing areas that have environmentally friendly drainage systems.

- The bodywork should be washed frequently using plenty of water to soften dirt adhering to the surface; a hose should be used to wash the underside of the vehicle and inside the wheel arches. Use white spirit to remove grease and tar spots from the bodywork. Whilst still wet, wash the paintwork using a soft sponge and generous quantities of water containing car shampoo. Rinse thoroughly and dry off with a chamois leather.

CAUTION: Do not allow white spirit to remain in contact with paint surfaces. Wash off any traces of white spirit from paint surfaces.

- The underside of the vehicle should be washed frequently during the spring and winter months, using a water jet to remove accumulations of caked mud or debris. This is especially important during periods when salt has been used on the roads.

CAUTION: Do not steam clean the underside of the vehicle, wheel arches or box sections as this will remove the protective wax coating.

- Use only cold or lukewarm water to wash the vehicle. In very cold weather, hot water may cause degradation of the paint.

Seats and trim

- Plastic-faced or cloth upholstery should be cleaned with diluted upholstery cleaner. Clean nylon-faced upholstery with a brush or vacuum cleaner, and remove stains with Nylon Upholstery Cleaner. Use the cleaner with a patting action – do NOT rub.

Seat belts

- Seat belts should be cleaned by sponging with warm water and a non-detergent soap; allow to dry naturally – do NOT heat or expose to direct sunlight.

Door seals

- To prevent rubber seals on doors from freezing in cold weather, treat them with a rubber care product or silicone spray.

Glass

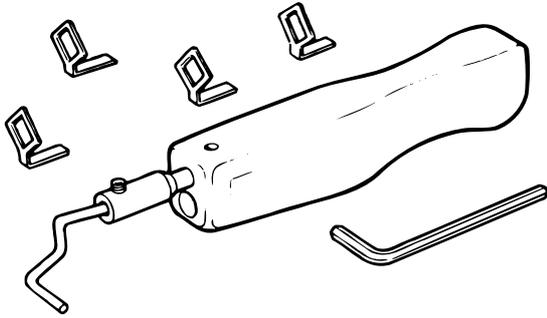
- The windscreen should be washed at frequent intervals with soapy water. Tar spots should be removed using white spirit, and the area re-washed.

Wiper blades

- Wash regularly with soapy water and dry with a soft lint-free cloth.

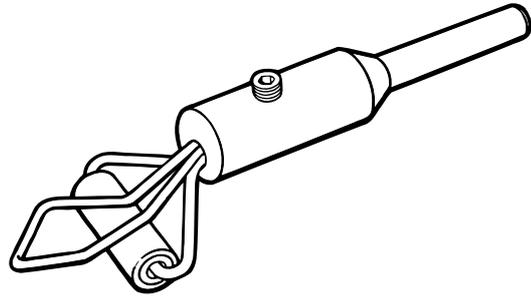
SPECIAL TOOLS

18G 468



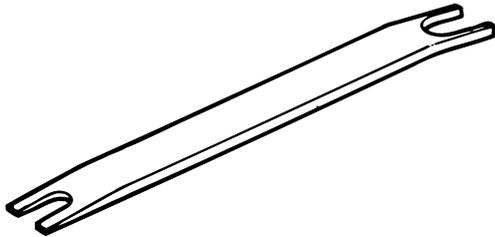
Rubber Moulding Glazing Tool

18G 468a



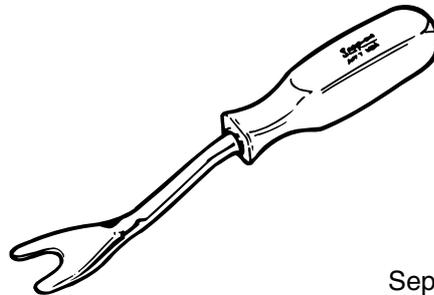
Adaptor - Rubber Moulding Glazing Tool
(used with 18G 468)

18G 1486



Separator

A177



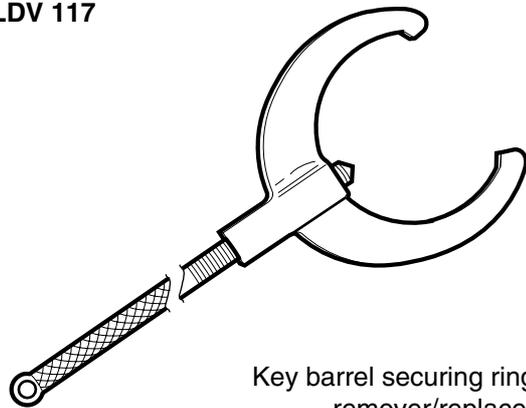
Separator
(alternative to 18G 1486
for trimboard removal)

MS 79A



Torx drive kit

LDV 117



Key barrel securing ring
remover/replacer



TORQUE WRENCH SETTINGS – 200, 400

DESCRIPTION	Nm	lbf.ft.
Bonnet hinges		
Hinge to bonnet	16–24	12–18
Hinge to body	16–24	12–18
Front door hinges		
Hinge to door	16–24	12–18
Hinge to 'A' post	16–24	12–18
Rear door hinges		
Hinge to door	16–24	12–18
Hinge to pillar	16–24	12–18
Spare wheel carrier		
Carrier to pillar	8–11	6–8
Carrier to floor	19–28	14–21
Strengthening pillars		
Pillar to headlamp support	19–28	14–21
Pillar to sideplate	36–53	27–39
Roofbow to cantrail	19–28	14–21
Bonnet locking platform	16–24	12–18
Rear seat to floor – bus	9.5–12	7– 9
Cab mounting bolts – 200 Series chassis cab	29–41	21–30
Threaded insert to headlamp surround	0.68–0.9	6–8 lbf.in.

GENERAL APPLICATIONS

Metric threads	M6 x 1	8–11	6–8
	M8 x 1,25	19–28	14–21
	M10 x 1,5	36–53	27–39
	M12 x 1,75	66–95	49–70
Imperial threads	1/4" UNF	8–12	6–9
	5/16" UNF	16–24	12–18
	3/8" UNF	34–46	25–34
	7/16" UNF	51.5–70.5	38–52
	1/2" UNF	81–108	60–80

RADIATOR GRILLE

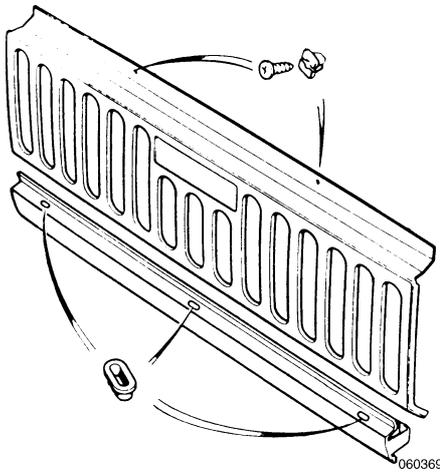


Fig.1 Radiator grille – 200

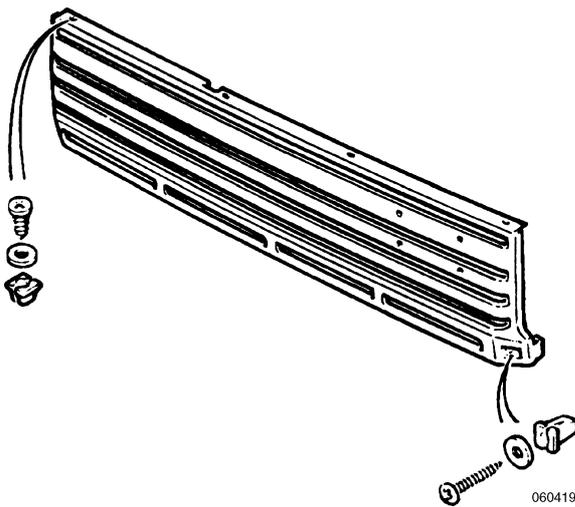


Fig.2 Radiator grille – 400

BUMPERS

200 Front Bumper

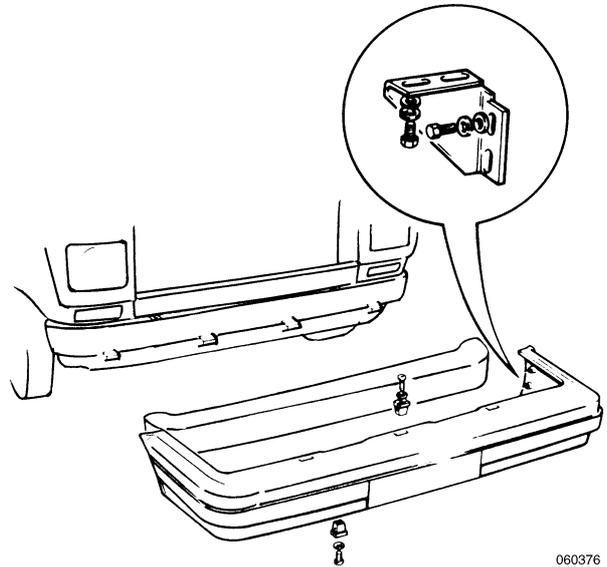


Fig.1 Front bumper – 200

NOTE: The support brackets to which the bumper ends are attached have slotted screw holes for both horizontal and vertical adjustment. Adjust the bumper corners on these brackets for correct alignment with the wing panels.

200 Rear Bumpers

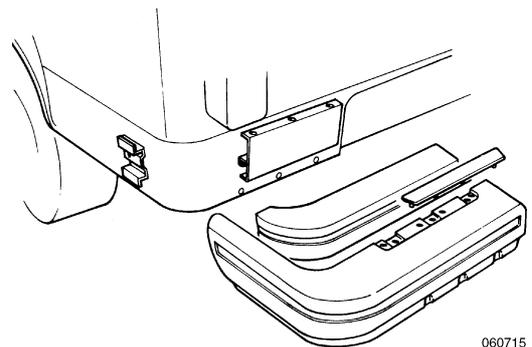


Fig.2 Rear bumper – 200

400 Front Bumper

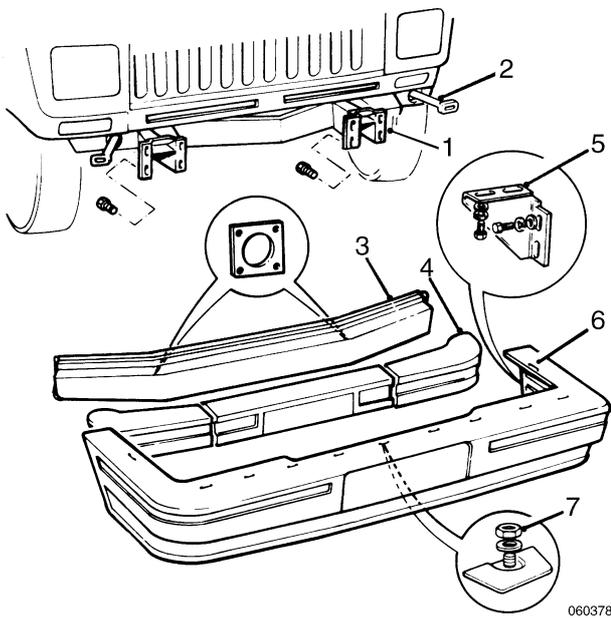


Fig.3 Front bumper – 400

1. Armature support
2. Strut
3. Armature assembly
4. Foam impact absorber
5. Bumper support bracket
6. Bumper moulding
7. Fixing plate – bumper moulding to armature

NOTES:

- If the bumper moulding is to be changed, first the bumper and armature must be removed from the vehicle as an assembly.
- The seven fixing plates located in the top of the bumper moulding are retained by barbs on the plates.
- Adjustment is provided by enlarged bolt and screw holes, in particular at the end support brackets, to align the bumper ends with adjacent body panels.

Rear Bumpers

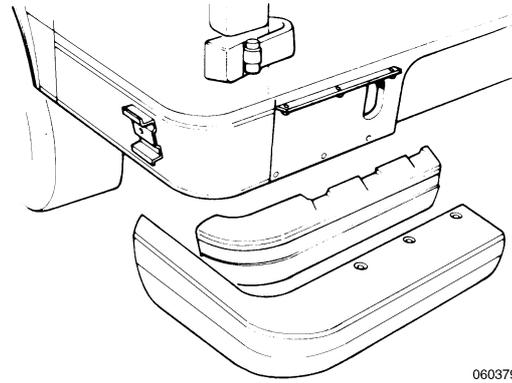
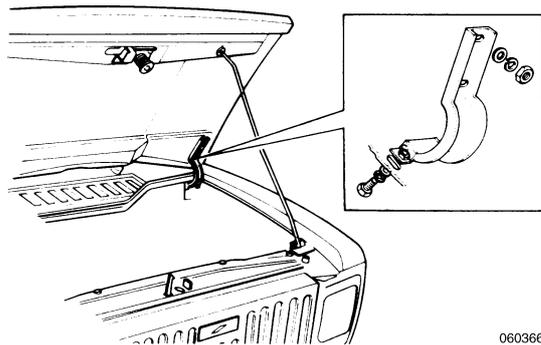


Fig.4 Rear bumper – 400

BONNET – 200 / 400

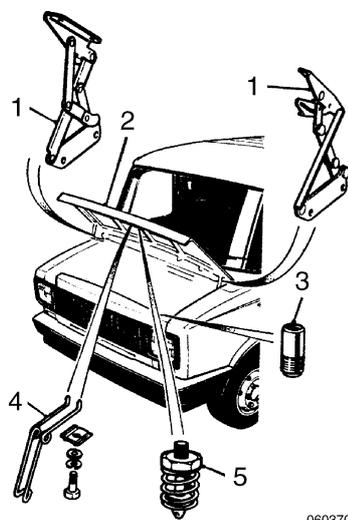
Remove / Refit

1. Place protection pads under the corners of the bonnet. Temporarily mark the fitted position of the hinges to assist when refitting. Disconnect the windscreen washer pipe.
2. Remove the bonnet.



060366

Fig.1 200 bonnet



060370

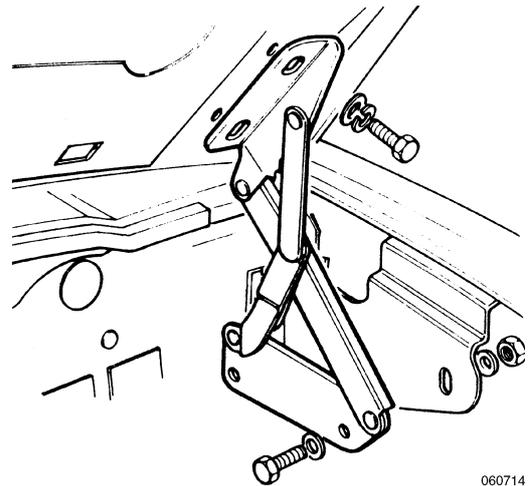
Fig.2 400 bonnet

1. Bonnet hinge
 2. Bonnet
 3. Locking platform buffer
 4. Safety catch
 5. Lock pin
3. Fit the bonnet, aligning the hinge marks made during removal. Check the fit of the bonnet in the aperture, adjusting at the hinges as necessary. Connect the windscreen washer pipe.

Adjustments

200 models

If vertical adjustment is necessary at the rear, the hinge attachment bolts are accessed under the fascia.



060714

Fig.3 400 bonnet hinge

400 models

The following adjustments are available.

NOTE: Before making any bonnet position adjustments, slacken the striker plate mountings to allow it to self-position after adjustment is made. If this is not done, the bonnet may jam in the closed position.

Rear of bonnet: –

Vertical – Hinge to body mountings.

Horizontal (sideways and fore and aft) – Bonnet to hinge mountings.

Front of bonnet: –

Vertical – Turn the lock pin up or down to align the front of the bonnet with the wing profile. If necessary unscrew slightly the rubber buffers at each end of the bonnet locking platform to take up excessive movement.

Check the position of the lock striker and tighten its securing nuts.

BONNET RELEASE MECHANISM

200 Models

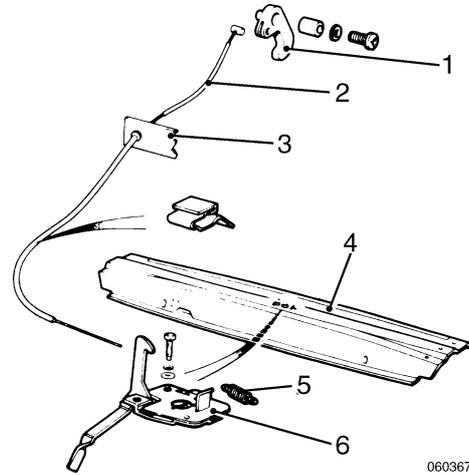


Fig.1 Bonnet release mechanism – 200

1. Release lever
2. Release cable
3. Bulkhead
4. Bonnet locking platform
5. Bonnet lock return spring
6. Bonnet lock

Adjust – 200

With the aid of an assistant, check that the release cable gives full open and full closed movement of the bonnet lock mechanism. Adjust the inner cable length if necessary; to do this, slacken the inner cable lock nut at the bonnet lock and adjust the position of the inner cable until its free play is eliminated. Tighten the lock nut and recheck the operation of the lock.

Bonnet Lock - 200

Remove

1. Release the bonnet release cable lock nut at the lock and pull the cable clear. Release the return spring from the lock.
2. Temporarily mark the position of the lock fixing bolts on the bonnet locking platform, and then remove the bolts to withdraw the lock.

Refit

3. Fit the lock by reversing the removal procedure. Align the fixing bolts to the marks made on the bonnet locking platform during removal.

NOTE: Before closing the bonnet, lower it carefully and observe the position of the lock pin relative to the lock. If it is not central, move the lock to the correct position before tightening the securing bolts.

Bonnet Lock Pin Adjustment - 200

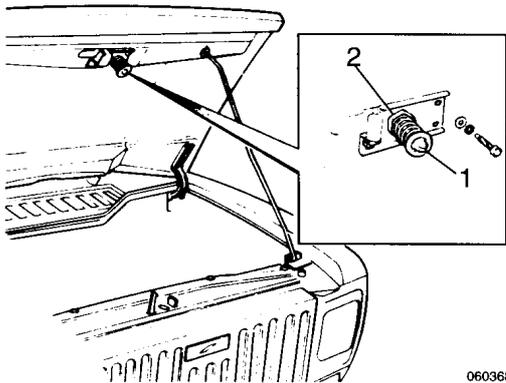


Fig.2 Bonnet lock pin - 200

- | | |
|-------------|----------------------|
| 1. Lock pin | 2. Lock pin lock nut |
|-------------|----------------------|
1. Slacken the lock pin locknut; adjust the length of the lock pin until the bonnet closes easily without rattling, and is in correct alignment with the wing profiles. Tighten the locknut.
 2. Check that there is no free movement at the front corners of the bonnet. If there is, progressively unscrew the rubber buffer at each end of the bonnet locking platform until the movement is eliminated.

400 Models

Bonnet Release Cable

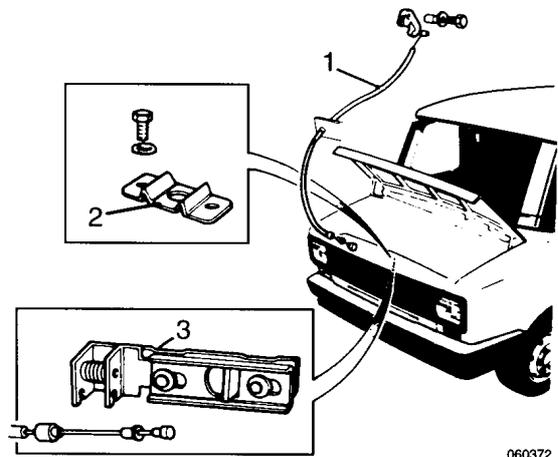


Fig.3 Bonnet release mechanism - 400

1. Release cable
2. Lock pin guide plate
3. Bonnet lock

Remove / Refit

1. Disconnect the battery(s), negative terminal(s) first.
2. Temporarily mark the position of the bonnet lock before removing it, then disconnect the inner cable from the lock. Unclip the outer cable.
3. Release the inner cable from the bonnet release handle and pull the outer cable clear from the bulkhead underbonnet.

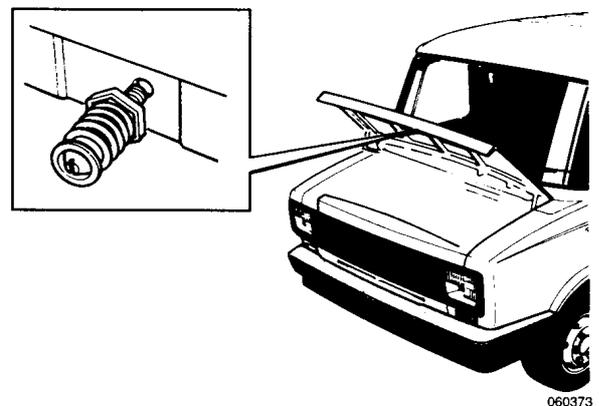


Fig.4 Bonnet locking pin - 400

4. To refit, reverse operations 1 - 3.

Check the adjustment of the lock striker plate to the lock pin and adjust as necessary.

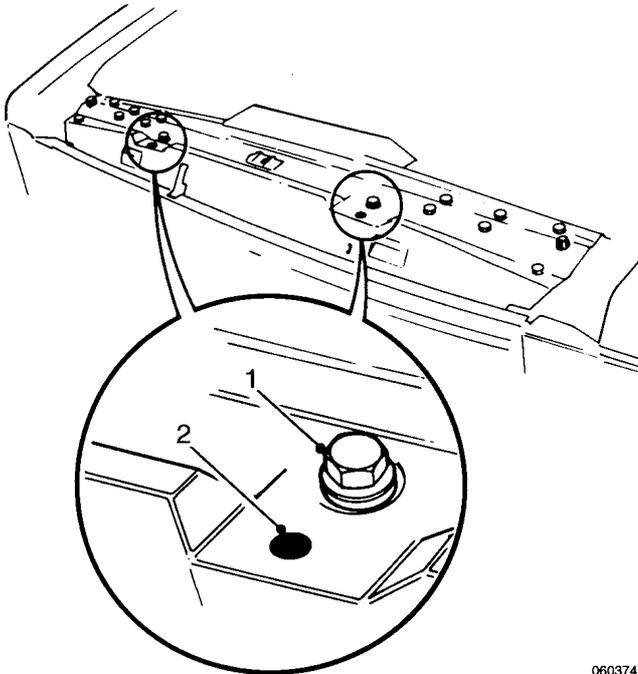
5. Reconnect the battery(s), positive terminal(s) first.

Bonnet Locking Platform - 400

Remove / Refit

1.
 - Remove the radiator grille.
 - Disconnect the horn cable.
 - Remove the 12 bolts retaining the platform to the inner wing valences.

2. Note the fitted position of the two bolts retaining the platform to the radiator top mounting bracket before removing them. Lift the platform clear, and disconnect the bonnet release mechanism if necessary.
3. Refitting is the reverse of operations 1 and 2, but particular attention must be paid to the following:
 - Ensure the two bolts securing the radiator top mounting are correctly located. See Fig.5.
 - Before closing the bonnet, check the alignment of the bonnet lock with the lock pin. Adjust the position of the lock if necessary. Check also that when the release cable is operated, the lock mechanism has a full open-and-closed movement.



060374

Fig.5 400 bonnet locking platform, radiator top mounting bolt locations

1. 2.5 Diesel & O2 Petrol engines
2. V8 engine

HINGED CAB DOOR – 200/400

Door Trim Panel

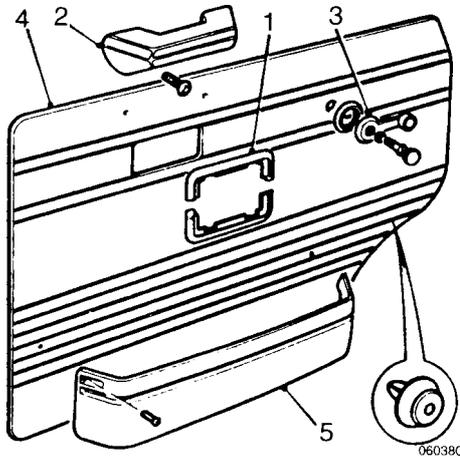


Fig.1 Door trim

1. Interior handle bezels
2. Door pull
3. Window regulator handle
4. Trim panel
5. Door bin

Remove and Refit

1. Remove the door pull screws to release the door pull. Remove the door bin screws (if fitted) to release the door bin.
2. Carefully slide out the two interior handle half bezels.

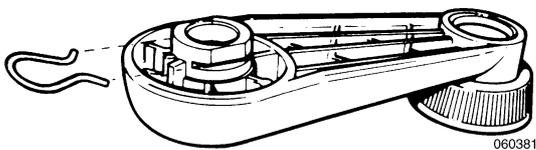


Fig.2 Regulator handle

3. To remove the window regulator handle, push in the door trim around the handle escutcheon and carefully withdraw the clip.

4. Release the trim panel securing studs and remove the panel assembly.

NOTE: Tool 18G 1486 (or Snap-on tool A 177) will be found useful to release the securing studs without damage.

5. Refitting is the reverse of operations 1 – 4.

Door and Hinges

Remove

1. Remove the door trim panel and peel back the plastic sealing sheet where it covers the hinge attachments.
2. Temporarily mark the position of the hinges on the door, support the door and detach it by removing the hinge securing bolts.

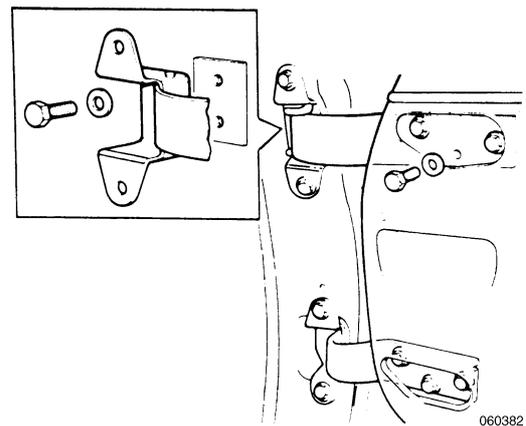


Fig.3 Door hinges

3. Temporarily mark the position of the hinges on the 'A' post before removing their securing bolts.

NOTE: The two inner bolts securing the upper hinge screw into a loose reinforcement plate at the 'A' post. On the left hand side this plate is reached by removing the cover which conceals the electrical relays and control units.

Refit

4. **CAUTION: Make sure the courtesy light wire is not trapped by the upper hinge.** Fit the hinges to the 'A' post, aligning the correlation marks made during removal.
5. Support the door and fit it to the hinges, aligning the correlation marks made during removal.
6. Before attempting to check the door clearances, temporarily mark and remove the lock latch striker plate.
NOTE: Do not allow the tapped striker fixing plate to fall down inside the 'B' post.
7. Carefully close the door examining the aperture around it for equal clearance and alignment with the body profile line. Adjust as necessary.
NOTE: Up and down movement of the door is made at the hinge-to-door fixing.
8. Examine the door for flush fitting to the 'A' post and front wing. Adjust as necessary.
NOTE: In and out movement of the door is made at the hinge-to-'A' post fixing.
9. **CAUTION: Do not adjust the striker too far in. The latch will not be able to turn to the second position when the door is closed.** Refit the door striker plate, aligning it by eye with the lock latch. Holding the exterior button depressed, carefully close the door; check for signs of "snagging" at the striker plate and adjust it vertically if necessary. Adjust the striker inwards horizontally until the door closes correctly to its second lock position, and the door panel is flush with the body.
10. Refit the plastic sealing sheet and the door trim panel.

Door Lock Latch

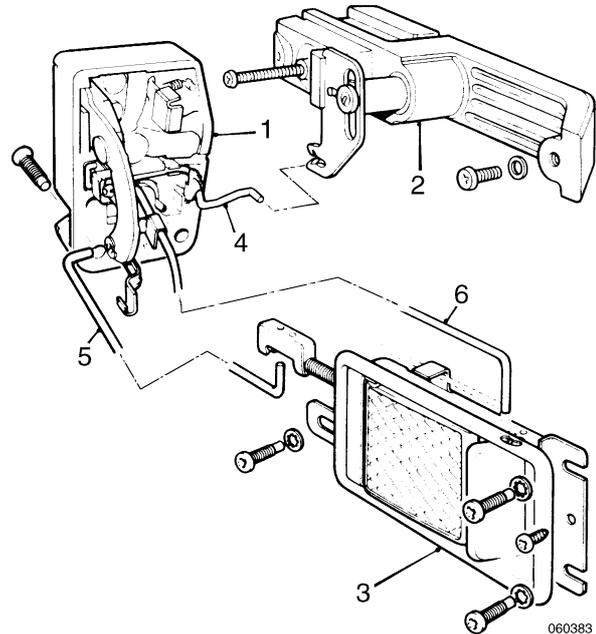


Fig.4 Lock mechanism

- | | |
|--------------------|----------------------------|
| 1. Lock latch | 4. Locking bar cross shaft |
| 2. Exterior handle | 5. Latch rod |
| 3. Interior handle | 6. Lock control rod |

Remove and refit

1. Remove the door trim panel, and the plastic sheet sealing the door aperture.
2. Unclip the retainers and detach the interior handle rods from the lock latch.
3. Remove the four screws securing the lock latch to the door. Unclip the exterior handle locking lever from the locking bar cross shaft on the lock latch and remove the latch.
NOTE: Take care not to break off the retaining lugs on the locking lever when detaching the cross shaft.
4. Refitting is the reverse of operations 1 – 3.
NOTE: Make sure the locking bar cross shaft locates into the locking lever on the exterior handle.

Exterior Handle

Remove and refit

1. Remove the door trim panel, plastic sealing sheet and door lock latch.
2. Remove the two screws securing the exterior handle to the door and manoeuvre the handle out of the door panel. Remove the gaskets.
3. Refitting is the reverse of operations 1 – 2, noting the following:

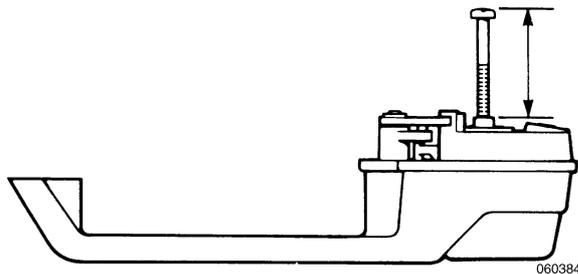


Fig.5 Exterior handle

- The length of the screw attached to the exterior release button is important to give correct opening of the door. The screw length is 36 mm protrusion from the button plunger.
- Make sure the locking bar cross shaft locates into the locking lever on the exterior handle.

Key Barrel

Remove/Refit

1. Remove the exterior door handle.
2. To remove the key barrel, first fit the key, then remove the retaining screw to detach the plastic top hat washer, locking lever and flat washer. Lift off the locking lever actuator and push the key barrel assembly out of its location sleeve.
NOTE: Instructions for dismantling the key barrel assembly are given in a separate section.
3. Refitting is the reverse of operations 1 and 2. Ensure the body of the key barrel is thoroughly greased before fitting, and note that the two guide channels in the barrel sleeve are different widths to ensure correct location in the handle.

Window Regulator

Remove and refit

Remove

1. Wind the drop glass down and remove the waist rail weatherstrips.
2. Wind the glass up and insert soft wedges to retain the glass in that position.
3. Remove the door trim panel and the plastic sheet sealing the aperture.
4. Remove the regulator securing screws, release the regulator arm from the glass lifting channel and remove the regulator from the door.

Refit

5. Lubricate the regulator mechanism, set the regulator arm to its highest position and position the regulator inside the door.
6. Engage the regulator arm in the glass lifting channel. Fit and tighten the securing screws.
7. Remove the wedges, temporarily attach the winding handle and check for smooth operation of the window.
8. Lower the glass and fit the two waist rail weather strips.
9. Fit the plastic sealing sheet and the door trim panel.

Drop Glass

Remove and refit

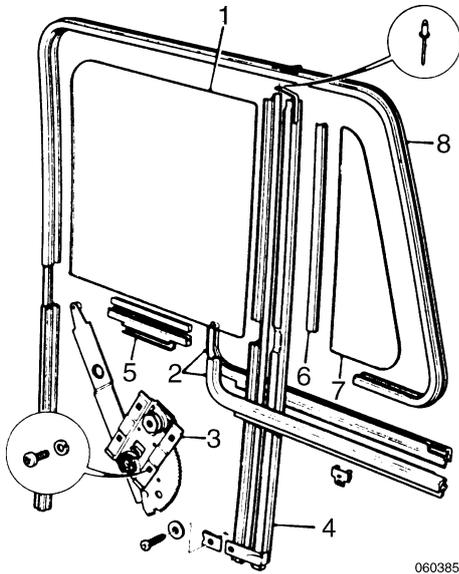


Fig.6 Drop glass and regulator

1. Drop glass
2. Waist rail weather strips
3. Door glass regulator
4. Front channel
5. Glass lifting channel
6. Fixed glass rubber
7. Fixed glass
8. Top/rear channel

Remove

1. With the drop glass down, remove the two waist rail weather strips, then raise the glass to its highest position.
2. Remove the door trim panel and the plastic sealing sheet.
3. Insert soft wedges to retain the drop glass up, and remove the drop glass regulator. Hold the glass to remove the wedges, then lower the glass to the bottom of the door.

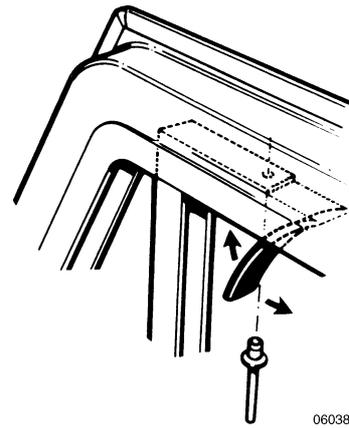


Fig.7 Front channel securing rivet

4. Locate and pull down the flap in the front end of the top channel to gain access to the rivet securing the upper end of the front channel. Drill out the rivet.
5. Remove the front channel lower securing screw and remove the front channel from the door.
6. Remove the fixed glass rubber, and raise and manoeuvre the drop glass from the door.
7. Prise the lifting channel and its glazing rubber from the glass.

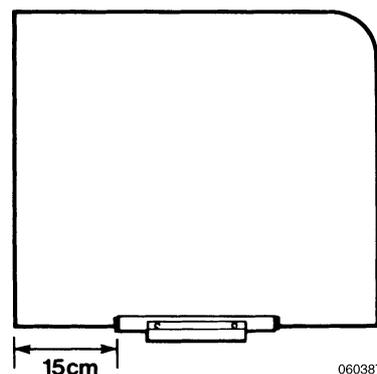


Fig.8 Lifting channel position

EXTERIOR MIRRORS – 200 / 400

Refit

8. Carefully position and fit the lifting channel and its glazing rubber to the drop glass, to the dimensions shown.
9. Fit the glass in the door, engaging it in the rear channel, and lower the glass to the bottom of the door. Fit the fixed glass rubber.
10. Fit the front channel, making sure it is correctly engaged in the fixed glass rubber. Secure the upper end of the front channel with a rivet, and reposition the flap in the top channel.
11. Position the front channel to the drop glass, then fit and tighten the channel securing screw at the lower end of the channel.
NOTE: The screw hole in the door panel is slotted for adjustment purposes. Adjust the channel to ensure the glass can move up and down freely but with minimum side play.
12. Raise the glass and insert soft wedges to hold it up.
13. Fit the drop glass regulator, remove the wedges, temporarily attach the winding handle and check for smooth operation of the window.
14. Fit the plastic sealing sheet and the door trim panel.

Fixed Glass

Remove and refit

To remove the fixed glass, carry out operations 1 – 6 of Drop Glass Removal. It is not necessary to remove the drop glass from the door.

Refitting is the reverse of the removal procedure.

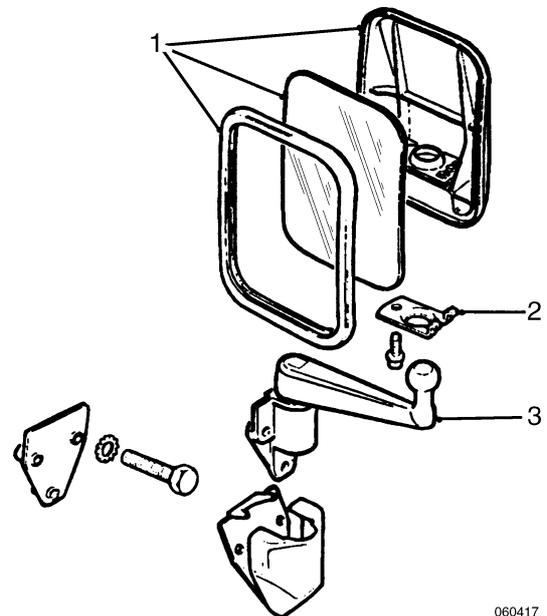


Fig.1 Exterior mirror

1. Mirror head
2. Clamp
3. Mounting arm

SLIDING CAB DOOR – 200/400

Remove and refit

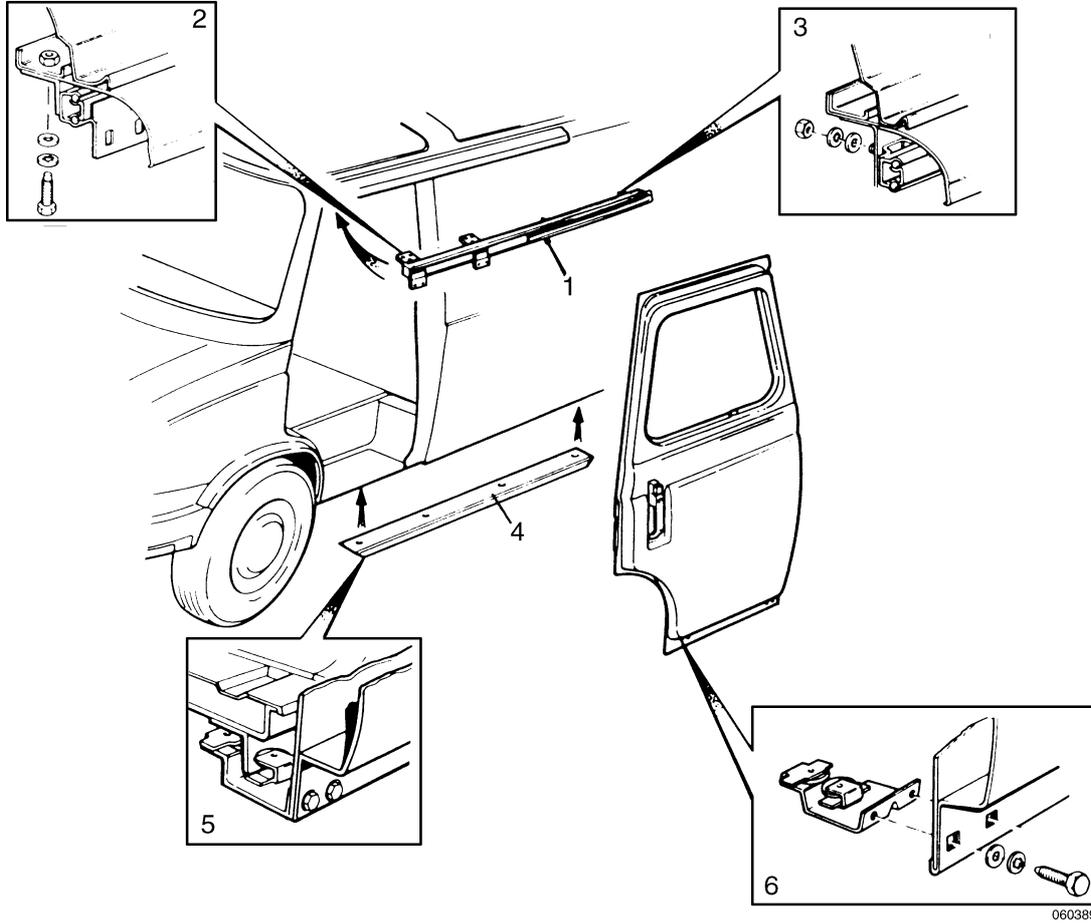


Fig.1 Sliding cab door

- | | |
|----------------------------------|----------------------------------|
| 1. Upper track | 4. Lower track |
| 2. Upper track – body attachment | 5. Lower roller bracket location |
| 3. Upper track – door attachment | 6. Lower track roller bracket |

Remove

1. Temporarily mark the position of the upper and lower brackets holding the door to its tracks. Remove the lower track roller brackets.
NOTE: The front roller bracket is the longer of the two.
2. Use a suitably padded jack to support the door whilst removing the upper brackets from the door. Lift the door off.

Refit

3. Use the jack to raise the door to allow the upper brackets to be fitted loosely. Then move the jack up or down slightly to align the profile line on the door with the body line before tightening the bolts. Remove the jack.
4. Fit the lower track roller brackets and tighten their bolts when the brackets are aligned with the lower track.
5. Check the door fit and adjust at the brackets if necessary.
6. Check the door shutting action at the striker plate. If necessary slacken the striker plate screws slightly and close the door to position the striker plate. Open the door and tighten the screws.

Upper Track

Remove and refit

1. Remove the door.
2. Remove the headlining finisher above the door, and the track cover and seal above the door aperture.
3. Temporarily mark the position of the brackets above the door before removing the nuts/bolts retaining the upper track to the body.
4. Refitting is the reverse of operations 1 – 3.
5. Check the door operation and adjust if necessary.

Lower Track

Remove and refit

NOTE: It is not necessary to remove the door.

1. Temporarily mark the position of the door attachment lower brackets. Remove the brackets noting that the front bracket is the longer of the two.
2. Temporarily mark the position of the lower track to the body before removing its attachment bolts.
3. Refitting is the reverse of operations 1 and 2.
4. Check the door operation and adjust if necessary.

Lower track roller bracket

Remove and refit

1. Temporarily mark the position of the bracket on the door, and then remove the two screws to release the bracket.
NOTE: The front bracket is the longer of the two.
2. To refit, align the bracket to the correlation marks and secure with the two screws. Check that the bracket rollers are parallel to the track and adjust the bracket position if necessary.
3. Operate the door throughout its travel; check that the rollers maintain contact with the lower track but without fouling. Adjust the bracket height if necessary.

Door lock

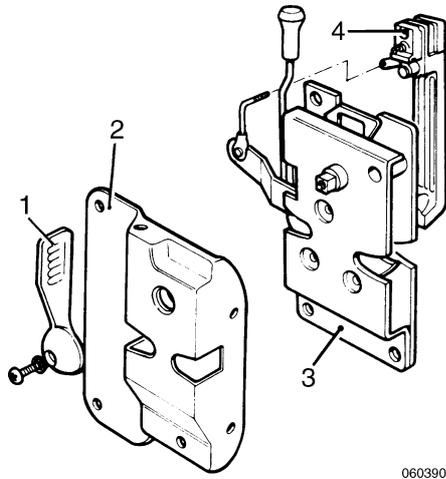


Fig.2 Sliding cab door lock latch

- | | |
|---------------------------|--------------------|
| 1. Interior handle | 3. Lock latch |
| 2. Lock latch cover plate | 4. Exterior handle |

Remove and refit

1. Unscrew the locking button, and remove the interior handle securing screw to release the handle.
2. Use a screwdriver to unclip the four clips retaining the lock latch cover to the door panel and release the cover.
3. Disconnect the link rod to the lock latch at the exterior handle, and remove the four screws retaining the lock latch to the door to release the latch.
4. Refitting is the reverse of operations 1 to 3.

Exterior handle

Remove and refit

1. Unscrew the locking button and the interior handle. Use a screwdriver blade to unclip the four clips retaining the lock latch cover.
2. Remove two screws to release the handle, capturing the retaining plate at the upper fixing.

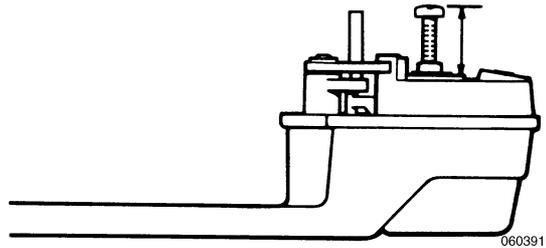


Fig.3 Exterior handle

3. Refitting is the reverse of operations 1 and 2. **NOTE:** Check the length of the adjustable push button screw which operates the lock latch; it should be 14mm.

Sliding Window

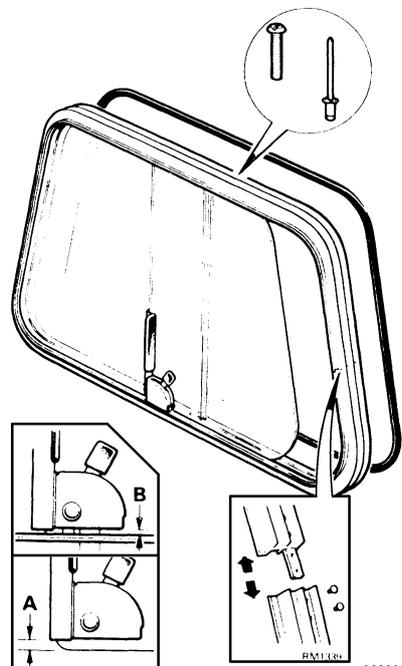


Fig.4 Sliding window

Remove

1. Remove the inside window finisher, then drill out the rivets securing the window frame to the door. Remove the window assembly from the door and the outer seal from the frame.
2. Remove the two screws retaining the fixed glass vertical channel to the frame. Drill out the two rivets retaining one end of the frame to the joint face, spread the frame slightly and remove both glasses.
3. The channel on the fixed glass and the finger pull on the sliding glass can be tapped off using a block of wood to prevent damage.

Refit

4. Insert the glazing rubber partially into the vertical channel and position the fixed glass, centrally on the channel. Cushion the glass and drive the channel into place using a block of wood.
5. Drive the catch and finger pull onto the sliding glass in a similar way, but make sure it is fitted to dimensions 'A' and 'B' shown in the illustration.

'A' 9mm (0.35 in)

'B' 3.8mm (0.15 in) min. with the catch engaged.

6. Complete the assembly by reversing operations 1 and 2.

CREW CAB DOOR – 400

Lock Latch Mechanism

Remove and Refit

The locking mechanism fitted to the crew cab door is similar to that fitted to the 400 side loading door, and procedures are also similar.

1. Remove the door trim panel using tool 18G 1486 (or Snap-on tool A 177).
2. Unclip the lock latch release linkage at the plastic block and remove the screws retaining the interior door handle. Release the handle by disconnecting the locking linkage, then unclip the locking linkage at the lock latch lever.
3. To remove the exterior handle, unclip the fastener retaining the push button linkage, then release the handle by removing its two retaining screws.
4. The lock mechanism is removed by releasing its three retaining screws and then turning the lock latch to the locked position to allow it to pass through the door aperture.
5. Refitting is the reverse of the removal procedure.

Locking key barrel

6. If it is required to change the key barrel it is not necessary to remove the exterior handle.

Remove the interior trim panel, then remove the key barrel retaining screw. Insert the key into the barrel and pull the barrel out. Note the position of the components fitted to the barrel for ease of reassembly.

SIDE LOADING DOOR – 200/400

Remove, refit and adjust

See Pilot / Convoy section.

Lock Latch Mechanism

Remove

1. Outside the vehicle (door open), remove the two screws retaining the lock latch to the rear of the door.
2. Inside the vehicle (door closed) remove the trim panel using tool 18G 1486 (or Snap-on tool A 177).
3. Disconnect the latch lower link at its connecting nylon block to the interior handle
4. Disconnect the linkage to the lock latch at the exterior handle.
5. Turn the lock latch to the locked position, remove the screw retaining the latch to the door inner panel and manoeuvre the latch out of the door.

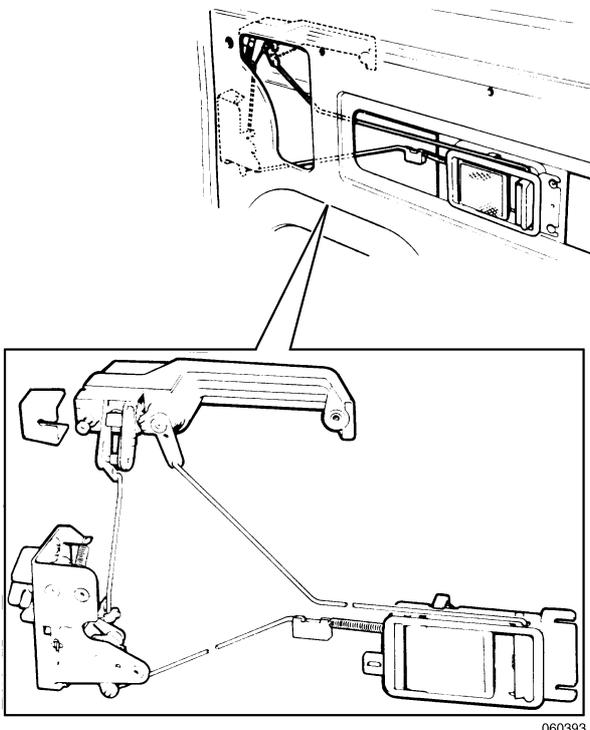


Fig.1 Side loading door locking mechanism

Refit

6. Refitting is the reverse of operations 1 to 4, noting the following:
 - a. Turn the lock latch to the locked position before fitting it.
 - b. Ensure the linkage to the exterior handle does not disengage whilst the latch is being fitted.
 - c. Check the locking operation before closing the door.

Exterior Handle & Key Barrel

Remove

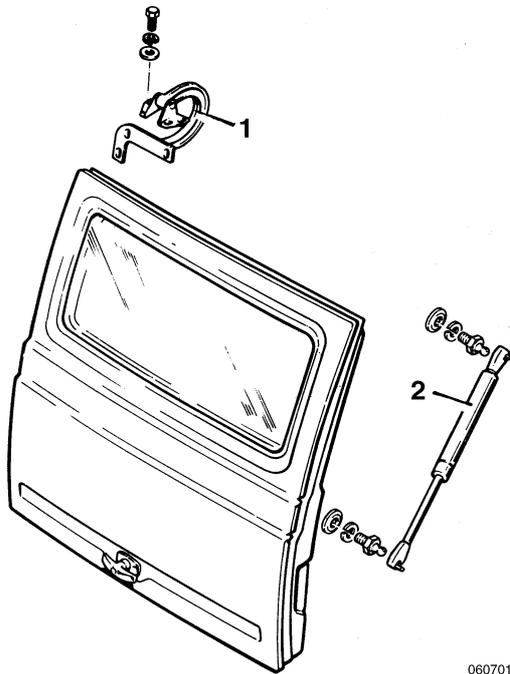
1. Inside the vehicle (door closed), remove the trim panel.
2. Unclip the upper control rod from the interior handle and unhook it from the locking lever on the exterior handle.
3. Release the operating rod to the lock latch at the exterior handle.
4. Remove the exterior handle front fixing screw, then loosen the rear screw sufficient to release the clamp plate. Remove the plate.
5. Slide the exterior handle forward to release it from the door panel, then lift the handle clear.
6. To remove the key barrel, first insert the key. Then remove the locking lever retaining screw, the plastic top hat washer, locking lever and flat washer. Lift off the locking lever actuator and push out the key barrel assembly.

To change the key barrel see separate section for details.

Refit

7. Refitting is the reverse of operations 1 to 6, but note the following:
 - a. Grease the body of the key barrel assembly before fitting.
 - b. The remote control operating rod is fitted to the centre hole of the three holes in the handle locking lever. If the lever has only two holes, fit the rod to the outer hole.

TAILGATE – 200



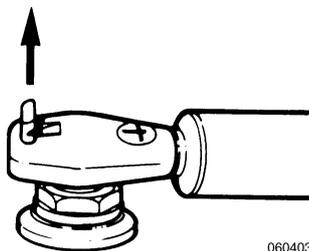
060701

Fig.1 200 tailgate

1. Hinge 2. Support strut

Remove

1. For ease of refitting, temporarily mark the hinge positions on the tailgate.
2. **WARNING: The tailgate is heavy and must be supported adequately when the strut is removed to prevent possible injury.**
Support the tailgate and disconnect the support struts – do this by partially withdrawing the safety clip at the ball socket, then pull the support strut from its ball pin.



060403

Fig.2 Disconnecting strut from ball spigot

3. **CAUTION: Do not attempt to dismantle or apply heat to the support struts.**
Remove the bolts securing the tailgate to the hinges and lift the tailgate clear.

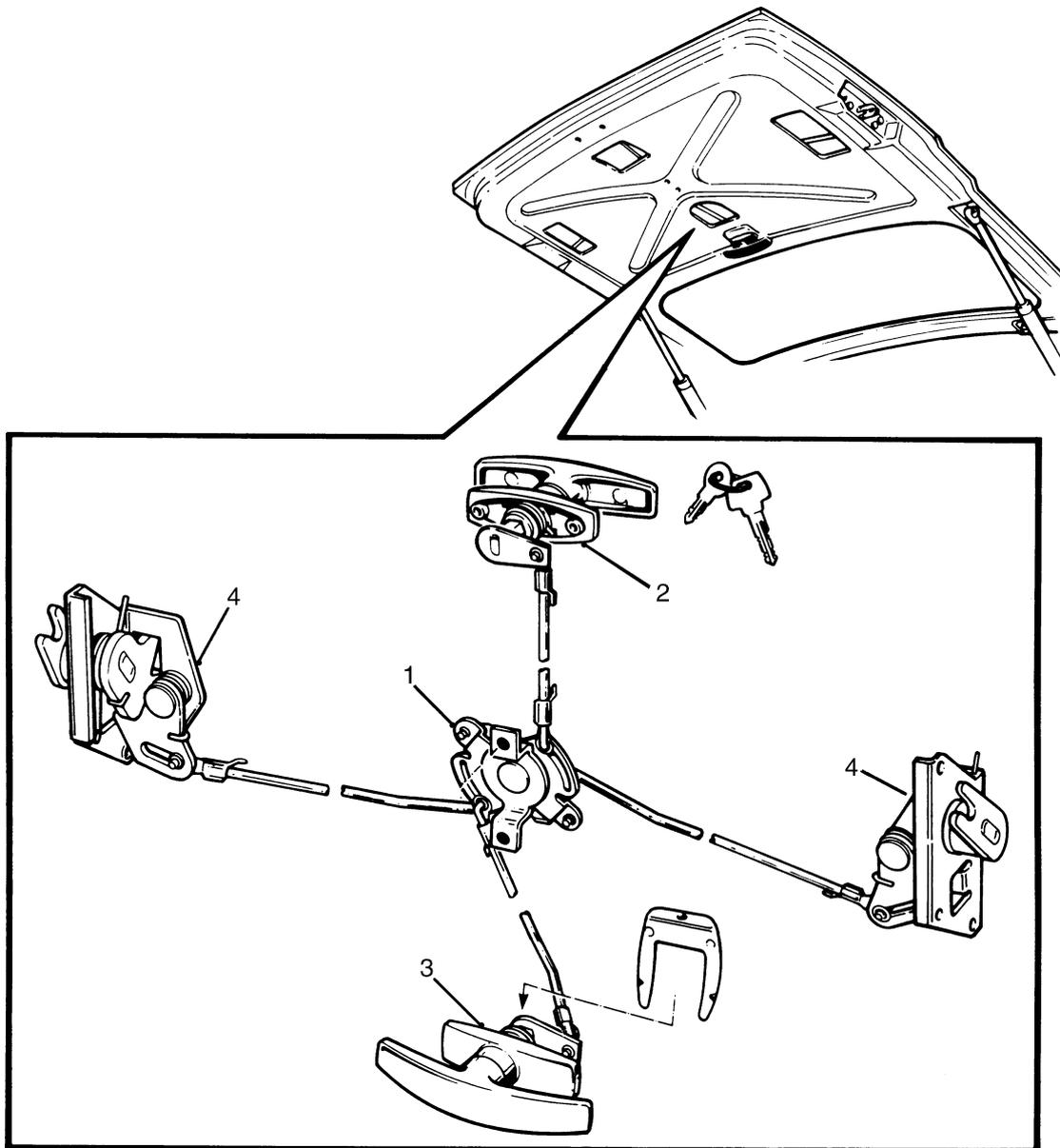
Refit

4. Temporarily mark the position of the latch strikers then remove the strikers. Fit the tailgate to the hinges and carefully check its fit into the body aperture. Adjust the tailgate vertically or horizontally until it fits squarely in its aperture before finally tightening the hinge bolts.

If the tailgate stands proud of the body aperture, it can be moved in at the hinge-to-body attachments.

5. Fit the support struts.
NOTE: The hydraulic cylinder end of the strut must be attached to the body.
6. Adjust the latch strikers as necessary.
 - The latch strikers are slotted to allow vertical adjustment.
 - Slots in the tailgate fitting allow horizontal adjustment of the latches.

Tailgate Locking Mechanism



060404

Fig.3 Tailgate locking mechanism

- | | |
|--------------------|--------------------|
| 1. Relay mechanism | 3. Interior handle |
| 2. Exterior handle | 4. Latch unit |

Remove

1. Remove the trim panel if fitted.

NOTE: Refitting will be made easier if careful note is taken of the fitted positions of all assemblies and of the link rods, prior to dismantling.

2. Exterior handle: Disconnect the link rod from the relay mechanism and remove two screws to release the handle.

NOTE: Instructions for changing the key barrel are given in a separate section 'Key barrel'.

3. Interior handle: Disconnect the link rod from the relay mechanism; extract the spring clip to release the handle.
4. Relay mechanism: Note the position of all four link rods before disconnecting them, then remove the two retaining screws to withdraw the relay mechanism.
5. Latch unit: Disconnect the appropriate link rod, mark the position of the latch unit to be removed, then remove the two retaining screws to release it.

Refit

6. Refitting of components is the reverse of operations 1 – 5.
NOTE: Refit the latches to the marks made prior to removal.
7. To check the operation of the mechanism; set the latches manually to the closed position, release using the handle and check that both latches release simultaneously. Check the operation of the lock and the closing action of the tailgate. Adjust the position of the latches and/or latch strikers if necessary.

REAR DOORS – 200

Check Stay

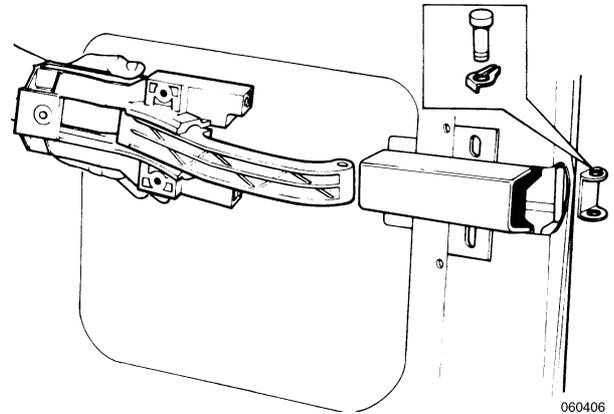


Fig.1 Rear door check stay

Door Remove and Refit

Special tool required: Torx drive kit MS 79A – FTX 40.

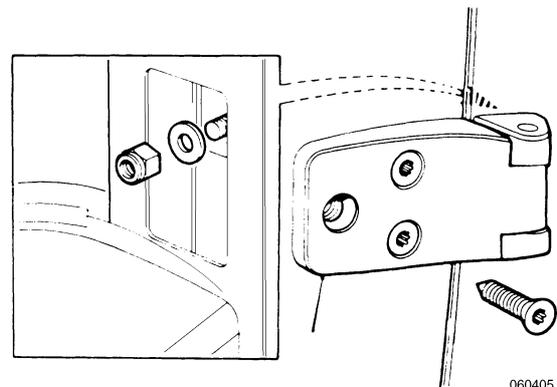


Fig.2 Rear door hinge

When removing / refitting either door, note the following:

- Temporarily mark the positions of the hinges before removal.
- The lower hinge has a packing piece between the hinge and the body.
- Sealing gaskets are fitted between component parts at the hinge attachment points. Apply sealant to the gaskets before fitting them.
- The hinges are adjustable vertically and horizontally in one plane only at their attachment points to the door. A Torx adaptor FTX 40 is required for these screws.
- Adjustment can be made at the striker plates to move the doors in and out at the centre.

Lock Mechanism – right hand door.

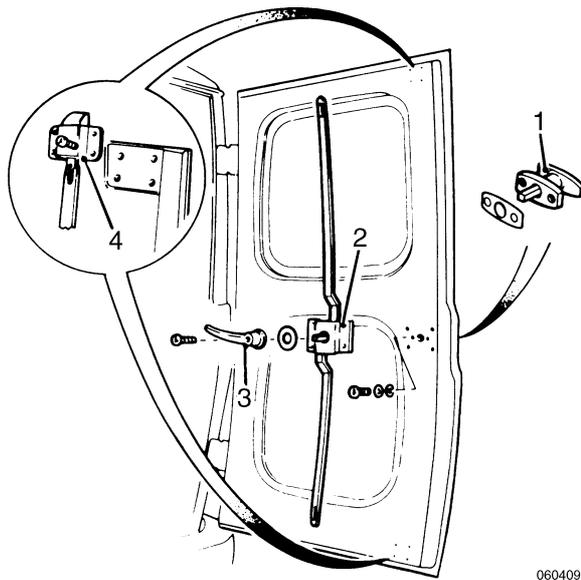


Fig.3 Locking mechanism, right hand door

1. Exterior handle
2. Locking mechanism
3. Interior handle
4. Lock latches

Remove

1. Remove the screws to release the upper and lower latches from the door inner panel. Turn each latch through 90° to release it from its link rod.
2. Remove the four screws retaining the central locking mechanism to the door panel.
3. If required, the exterior handle can now be released by removing its two retaining bolts.

Refit

4. Fit the exterior handle with its gasket, securing with two bolts.

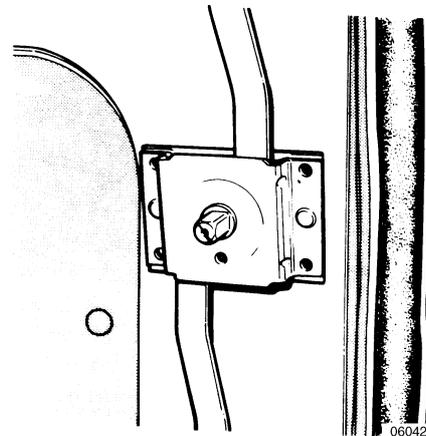
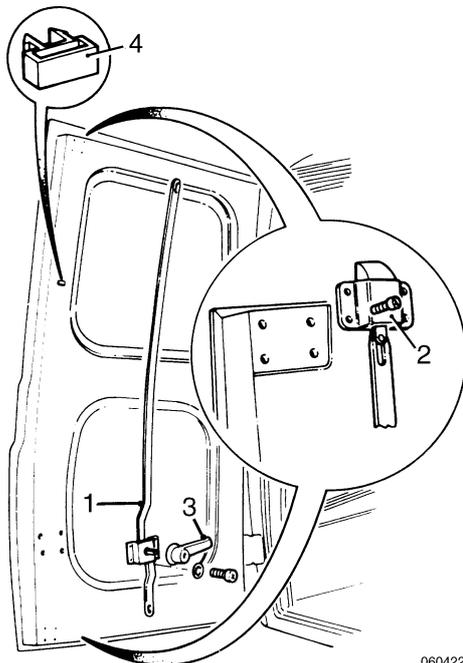


Fig.4 Link rod positions – right hand door

5. Position the rods as shown in the illustration, and check that the interior handle (if fitted) is in the 9 o'clock position. Fit the mechanism to the door panel, making sure it locates correctly over the exterior handle shaft. Secure the mechanism with its four screws.
6. Fit and secure the upper and lower lock latches.

Lock Mechanism – left hand door



060422

Fig.5 Locking mechanism, left hand door

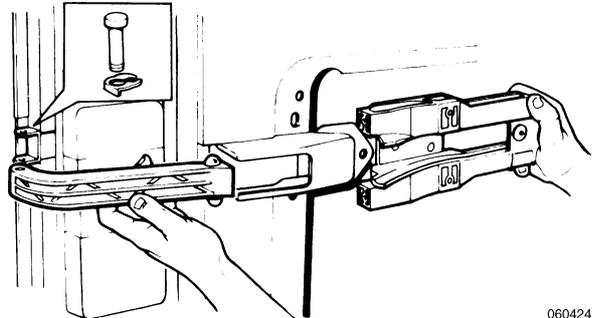
1. Locking mechanism
2. Lock latches
3. Interior handle
4. Upper link rod retaining clip

Remove and Refit

1. If desired, remove the retaining screw and release the interior handle.
2. Remove the securing screws to release the upper and lower latches from the door. Turn each latch through 90° to release it from its link rod.
3. Remove the four retaining screws to release the locking mechanism. Pull the mechanism downwards to clear the upper link rod from its retaining clip.
4. Refitting is the reverse of the removal procedure. When fitted, the interior handle should be in the 3 o'clock position.

REAR DOORS – 400

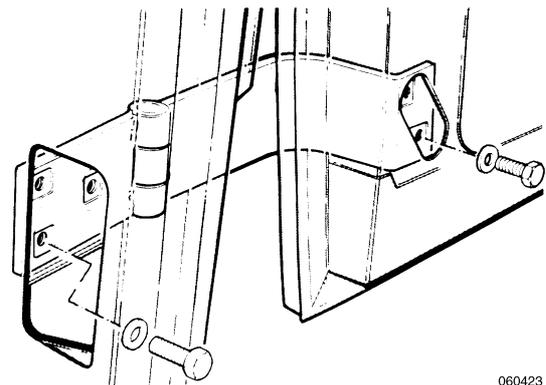
Check Stay



060424

Fig.1 Door check stay

Door remove, refit and adjust



060423

Fig.2 Door hinge

When removing / refitting either door, note the following:

- Temporarily mark the positions of the hinges before removal.
- Leave the hinge seals in position as protection against body damage.
- Adjustment is available at the hinges to ensure the doors fit correctly in the aperture.
- Adjustment can be made at the striker plates to move the doors in and out at the centre.

Lock Mechanisms

NOTE: The following information is based on high roof vehicles; standard roof vehicles use the same system, but without the incorporation of upper latches and strikers.

Right Hand Door Lock Mechanism

To remove lock

Remove the lock knob then remove three screws to detach the lock latch cover.

Remove four screws to release the lock latch. Detach the cable to the upper latch.

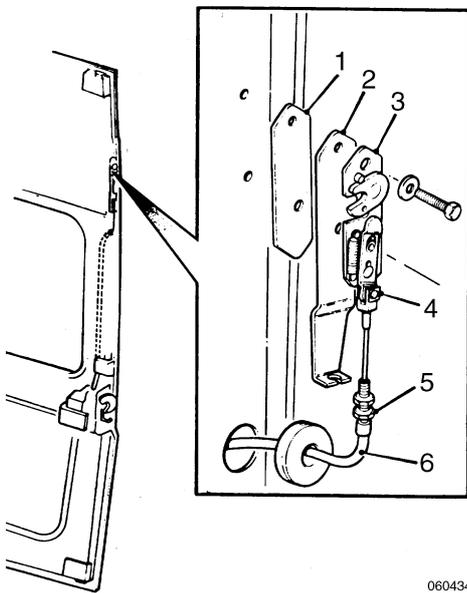


Fig.3 Right hand door upper latch

1. Spacer
2. Bracket
3. Upper latch
4. Clevis pin
5. Cable adjuster
6. Latch operating cable.

To remove upper latch

Remove the clevis pin clip. Temporarily mark the position of the upper latch before removing its two fixing bolts. Note that due to the position of the bolt holes in the spacer behind the latch bracket, it can only be fitted one way.

Remove the clevis pin and slacken the cable adjuster locking nut to release the upper latch.

To remove upper latch operating cable.

The cable can be detached from the lock mechanism without removing the lock, but it is easier if the lock is removed first.

It is not necessary to remove the upper latch completely, but the lower retainer bolt must be removed and the upper bolt slackened to enable the latch to be pivoted outwards and the cable yoke clevis pin removed.

Slacken the cable adjuster lock nut to release the cable. Release the grommet to allow the cable to be pulled out at the top.

To remove exterior handle

The lock latch must be removed to gain access to one of the two handle retaining screws. Remove both screws to release the handle, retaining the two sealing gaskets.

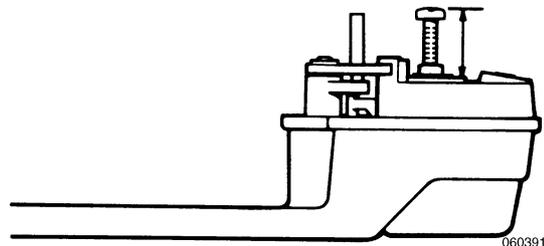


Fig.4 Exterior handle

To fit exterior handle

Before fitting the handle, check the height of the plunger screw; this height should be 14mm as shown in the illustration. Fit the handle with the two sealing gaskets and secure with two screws.

To fit upper latch operating cable

Make sure the grommet is positioned at the yoke end of the cable then insert the cable into the panel hole below the upper latch. Locate the grommet correctly in the hole.

To fit upper latch

Fit the cable yoke to the latch lever and secure with the clevis pin and clip.

Assemble the upper latch, latch bracket and spacer, making sure the spacer is fitted the correct way round. Position the assembly to the marks made prior to removal and secure with the two retaining bolts.

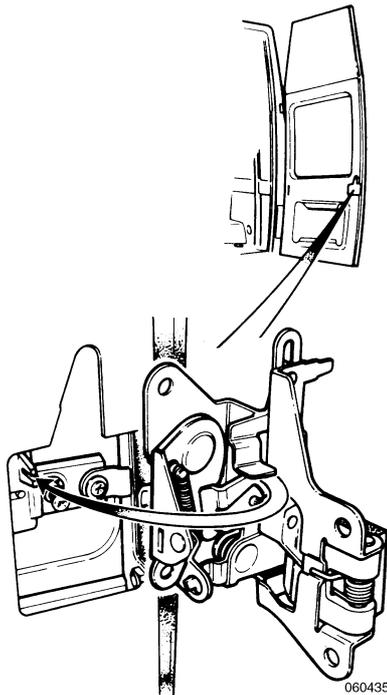


Fig.5 Door latch

To fit latch

Attach the cable to the latch mechanism then position the latch, ensuring the latch lever locates in the slot in the orange coloured lock slide on the interior handle.

Fit and tighten the four latch fixing screws, then refit the latch cover and press on the latch knob.

Key barrel

Remove/Refit

1. Remove the latch internal lock knob and remove the three screws to detach the latch cover.
2. Remove the latch.
3. Insert the key. Carefully remove the key barrel retaining screw to release the plastic top hat washer, locking lever and plain washer. Lift off the locking lever actuator and push out the key barrel assembly.

To change the key barrel see separate section for details.

4. Refitting is the reverse of operations 1 to 3. Ensure the key barrel assembly is thoroughly greased before fitting.

Left Hand Door Lock Mechanism

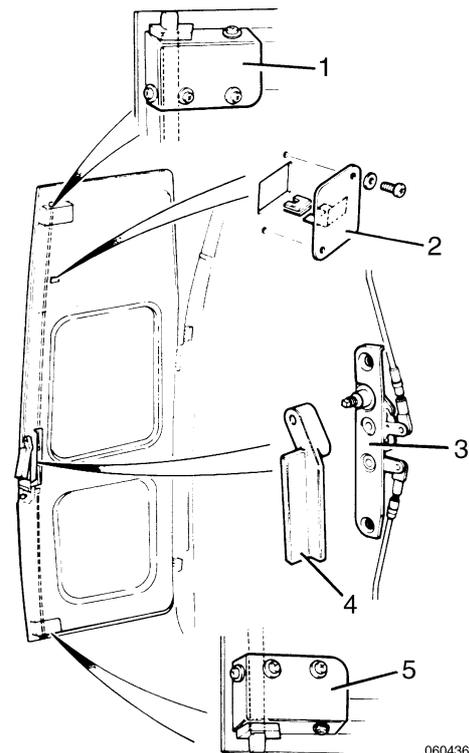


Fig.6 Left hand door lock mechanism

1. Upper alignment block
2. Upper rod guide bracket
3. Latch assembly
4. Latch operating handle
5. Lower alignment block

To remove latch assembly

1. Remove the three screws to detach the latch cover. Remove the latch operating handle.
2. Remove the circlips securing the upper and lower locking rods to the latch and release the rods from the latch pins.
NOTE: Retain the washers fitted between the rod yokes and the latch pins.
3. Remove the two screws securing the latch to detach it.

To remove upper locking rod

4. Remove the four screws retaining the alignment block at the top corner of the door and lift off the block. Remove the rod guide bracket.
5. Pull the rod down and out through the latch aperture, making sure the anti-rattle pads are not disturbed.

To remove lower locking rod

6. With the latch removed, the lower locking rod can be lifted out through the latch aperture. Make sure the anti-rattle pad is not disturbed.
NOTE: It is not necessary to remove the alignment block from the lower corner of the door.

Reassembly

7. Fit the lower locking rod down through the latch aperture and through the alignment block.
8. Fit the upper locking rod.

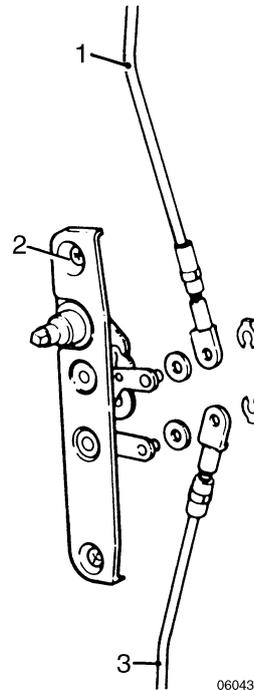


Fig.7 Left hand door latch

1. Upper locking rod
2. Latch
3. Lower locking rod
9. Fit the latch and secure with its two screws. Secure the two rod yokes with their 'C' clips, ensuring the plain washer is fitted between each latch pin and rod yoke.
10. Fit the alignment block to the top corner of the door.
NOTE: Ensure the door weatherstrip seal is not displaced when fitting the block.
11. Fit the upper rod guide bracket, making sure the rubber guide sleeve is first positioned correctly on the bracket.
12. Fit the latch handle.

13. Before attempting to close the door, check the rod adjustments as follows:

Hold the latch handle in the fully open position and check the protrusion of the upper and lower rods, which should be flush with the outer face of their respective guide rubbers on the abutment blocks.

If incorrect, rotate the appropriate adjuster at the yoke until the length is correct.

14. Fit the latch cover.

Door Adjustments

Left hand door

Carefully close the door and check for fit, particularly the mating contact between the alignment blocks at the upper and lower corners of the door and the guide blocks on the door aperture.

If necessary, adjust the height of the guide blocks to give a minimum working clearance using shims which are available in 3 thicknesses.

- 1mm
- 2mm
- 3mm

Adjust the guide blocks in or out until the door shuts correctly onto the door aperture seal when the latch handle is in the fully closed position.

Right hand door

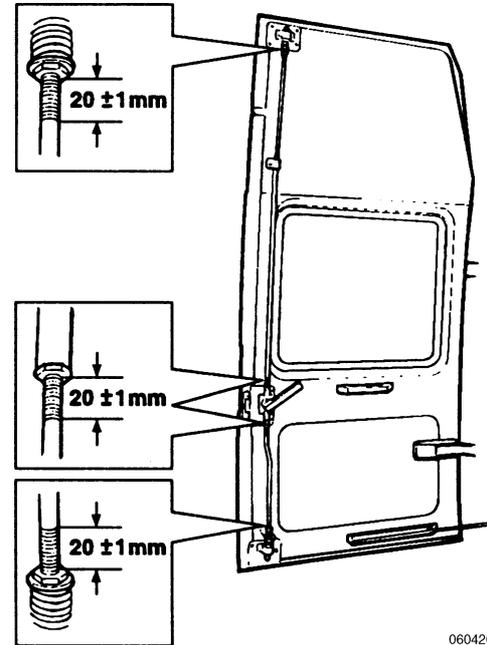
Before attempting to close the door, turn both strikers to the lock position and press the exterior handle release button. Both catches should release simultaneously; if not, adjust the upper latch movement at the cable adjuster and re-check.

Carefully close the door and check for fit as described for the left hand door. Guide block clearances are adjusted by shims in the same way.

Check that when the left hand door is fully closed, the right hand door closes flush with it. If not, slightly slacken the upper and lower striker plate screws on the left hand door, then firmly close the right hand door. Open it and tighten both sets of striker plate screws.

Recheck the fit and readjust one or both strikers as necessary.

OVERTON REAR DOOR LOCKS Optional fitment – 400 High Roof



060420

Fig.8 Overton rear door lock

Adjustment

Both door lock rod assemblies are adjustable at four points (see fig.8):

- At the inboard end of both rods where they thread into the lock handle assembly.
- At the outboard end of both rods where the threaded rod ends are fitted.

To adjust:

1. With the doors open, slacken each lock nut in turn and adjust to 20 ± 1 mm length of exposed thread.
2. With the door locks in the open position, check that the doors can be closed without the lock rod ends fouling the body panels, and check that the locking mechanisms operate correctly.
3. If a foul condition exists, adjust the appropriate rod length to clear.



KEY BARREL RENEWAL – 200/400

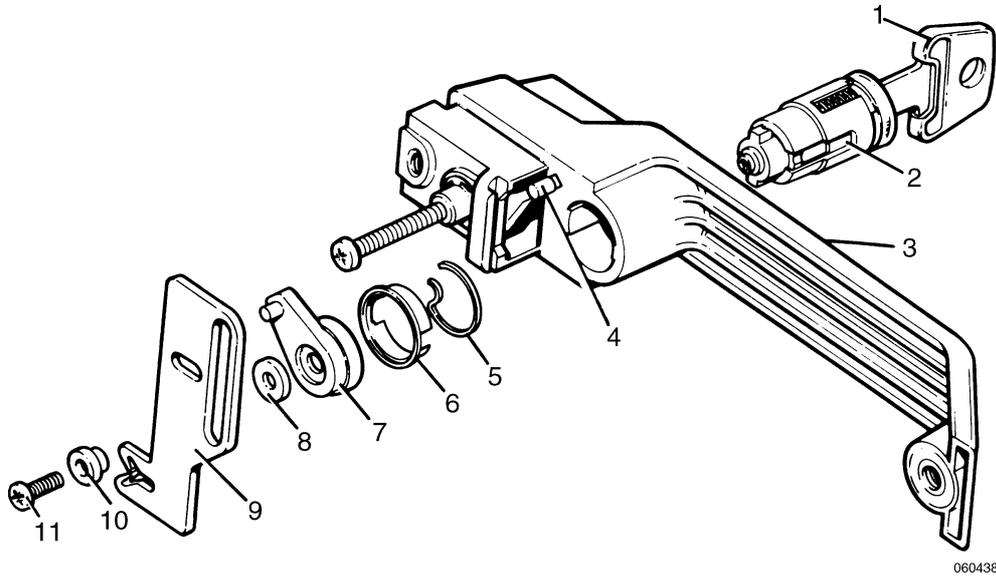


Fig.1 Door handle assembly
(push button handle)

- | | |
|------------------------|---------------------------------|
| 1. Key | 7. Locking lever actuator |
| 2. Key barrel assembly | 8. Plastic washer (flat) |
| 3. Outside handle | 9. Remote control locking lever |
| 4. Push button lock | 10. Plastic washer (top hat) |
| 5. Spring clip | 11. Retaining screw |
| 6. Location sleeve | |

Key Barrel Renewal (push button handle)
All handles except 200 rear door & tailgate.

On certain installations it is possible to remove the key barrel without disturbing the handle. However lack of access to the retaining screw, or if there is any likelihood that detached components may fall into inaccessible parts of the door, may necessitate removal of the handle from the door first.

For the purpose of the following description, it is assumed that the handle has been removed from the door.

NOTE: The design of remote control locking lever differs, depending on the particular installation. The illustration shows the type fitted to the hinged cab door.

Remove

NOTE: Note the relative position of each component as it is removed.

1. Insert the key into the barrel.
Remove the retaining screw, and lift off the top hat washer, the remote control locking lever, the flat washer and the locking lever actuator.
- NOTE:** It is possible to fit the locking lever either way round, but it must be refitted in the same position as before. The letter 'R' or 'L' is on either side of the lever, and note should be taken of the position before removal.
2. Push out the key barrel assembly.
 3. If necessary, withdraw the location sleeve and spring clip.
 4. **CAUTION: If the key is removed whilst the key barrel is exposed, the spring loaded tumblers in the barrel will become displaced.**
To remove the key barrel, depress the spring plunger to release the key barrel bush and retainer.

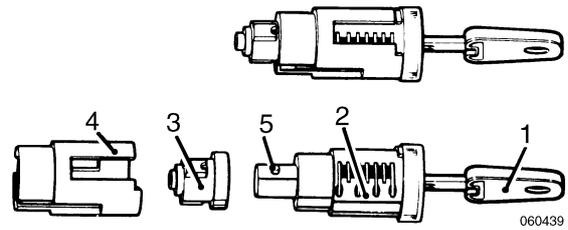


Fig.2 Key barrel assembly

- | | |
|------------------------|--------------------|
| 1. Key | 4. Key barrel bush |
| 2. Key barrel | 5. Spring plunger |
| 3. Key barrel retainer | |

Refit

5. Adequately lubricate all components prior to assembly, and ensure the key remains in position until the barrel bush has been secured in position.
6. Fit the key barrel retainer and bush into position on the barrel, noting the following:
 - a. The barrel must be fitted so that its longer leg reaches the pressed end cap of the barrel.
 - b. Check that the spring plunger locates positively in its location in the barrel retainer.

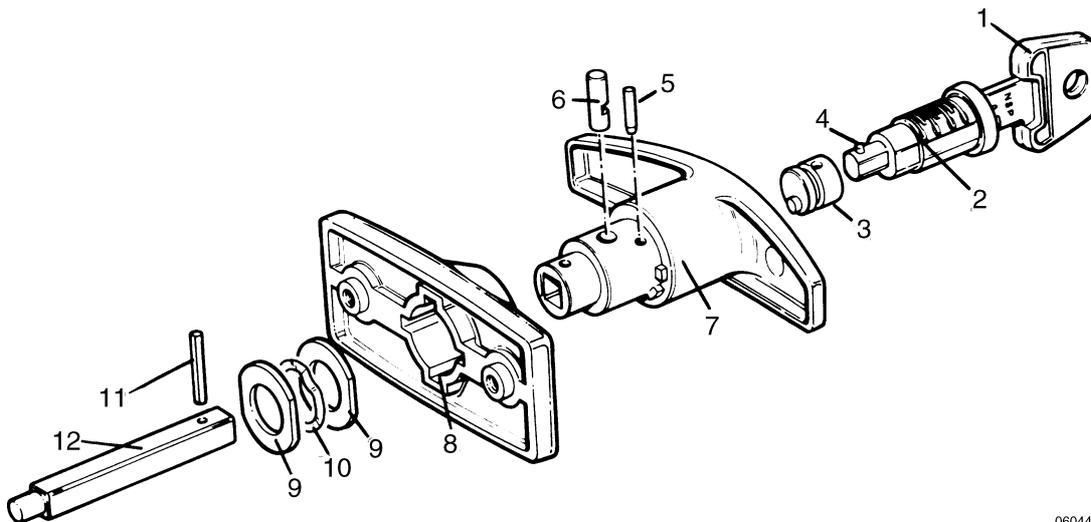
The key can now safely be withdrawn if desired.
7. If removed, fit the spring clip onto the location sleeve; make sure the indent on the clip locates in the larger of the two slots in the sleeve.
8. Fit the location sleeve into the handle, ensuring that the larger slot in the sleeve locates onto the larger of the two splines in the handle.
9. Holding the sleeve in position, carefully push the key barrel assembly into the handle, positioning the broader slot in the barrel bush over the broader spline in the handle. When pushing the barrel into position, use a small screwdriver to lift the indent on the spring clip onto the shoulder of the barrel retainer. With the barrel assembly in position, turn the key in both directions to check that the spring clip detent is working correctly.



10. Fit the locking lever actuator on to the barrel retainer, making sure that it locates correctly over the arm of the push button lock.
11. Fit the flat plastic washer, the remote control locking lever and the top hat washer, and retain with the end screw.
NOTE: Fit the locking lever the same way round as noted during dismantling.
12. Insert the key and turn it in both directions. Check that it operates smoothly, and that the handle push button locks and unlocks.

Key Barrel Renewal ('T' handle)
200 tailgate & rear door.

Both doors have a similar locking handle, the difference being in the type of shaft fitted to operate the locking mechanism. The handle shown in the illustration is that fitted to 200 rear door.



060440

Fig.3 Door handle assembly ('T' handle)

- | | |
|------------------------|-----------------|
| 1. Key | 7. Handle |
| 2. Key barrel | 8. Escutcheon |
| 3. Key barrel retainer | 9. Washer |
| 4. Spring plunger | 10. Wavy washer |
| 5. Retaining pin | 11. Roll pin |
| 6. Locking bar | 12. Shaft |

Remove

1. Remove the handle from the door.
2. Drift out the roll pin to release the shaft, together with the two flat washers and the wavy washer. Pull off the handle escutcheon.
NOTE: If the key barrel is in the locked position, the escutcheon cannot be removed. Turn the key to the unlocked position to retract the locking bar and free the escutcheon.
3. To remove the key barrel, fit the key then drift out the retaining pin.
NOTE: The retaining pin is the smaller diameter pin, offset to the centre line of the handle.
4. The key barrel can now be removed, together with the key barrel retainer.
NOTE: The locking bar is now loose, and should be captured to avoid loss.

CAUTION: If the key is removed whilst the barrel is exposed, the spring loaded tumblers will become displaced.
5. Depress the spring plunger to remove the key barrel retainer.

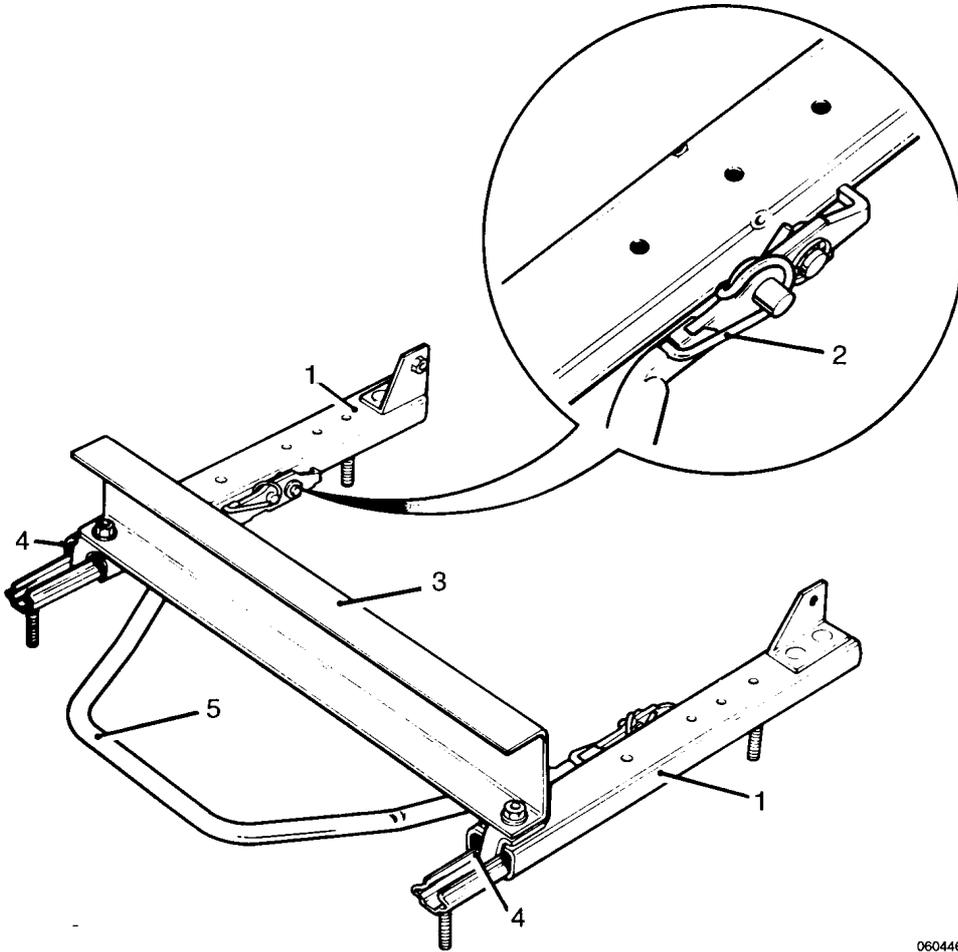
Refit

6. Adequately lubricate all components prior to assembly, and ensure the key remains in position until the barrel has been secured in the handle.
7. Snap the barrel retainer onto the barrel, ensuring the spring plunger locates correctly.
8. Push the locking bar into the handle; position it so that its cutaway can receive the extension on the end of the barrel retainer.
9. Fit the key barrel, locating the retainer extension in the locking bar cutaway, and secure the assembly with the retaining pin. Turn the key and check that the locking bar moves freely in and out of the handle.
10. Fit the escutcheon, the shaft and the two flat washers sandwiching the wavy washer, and secure with the roll pin.
11. Refit the handle to the door.

SEATS - 200/400

Replace

Drivers Seat Slides



060446

Fig.1 Seat slide assembly

- | | |
|--------------------------|--------------------|
| 1. Seat slide | 4. Stop bracket |
| 2. Spring | 5. Operating lever |
| 3. Seat mounting channel | |

1. Undo the four nuts holding the seat slides onto the support tubing, and lift off the seat complete with its slides.
2. To change a slide, release the tension on the operating lever spring by prising the spring arm out of its location in the operating lever.
3. Note the position of the stop bracket at the front of the slide for reassembly purposes, then remove the attachments securing the slide to the seat frame and front mounting channel. Pull the slide and release catch assembly clear of the operating lever.

4. Reassembly is the reverse of the dismantling procedure. Make sure the slides are correctly lubricated with grease before refitting in the vehicle.

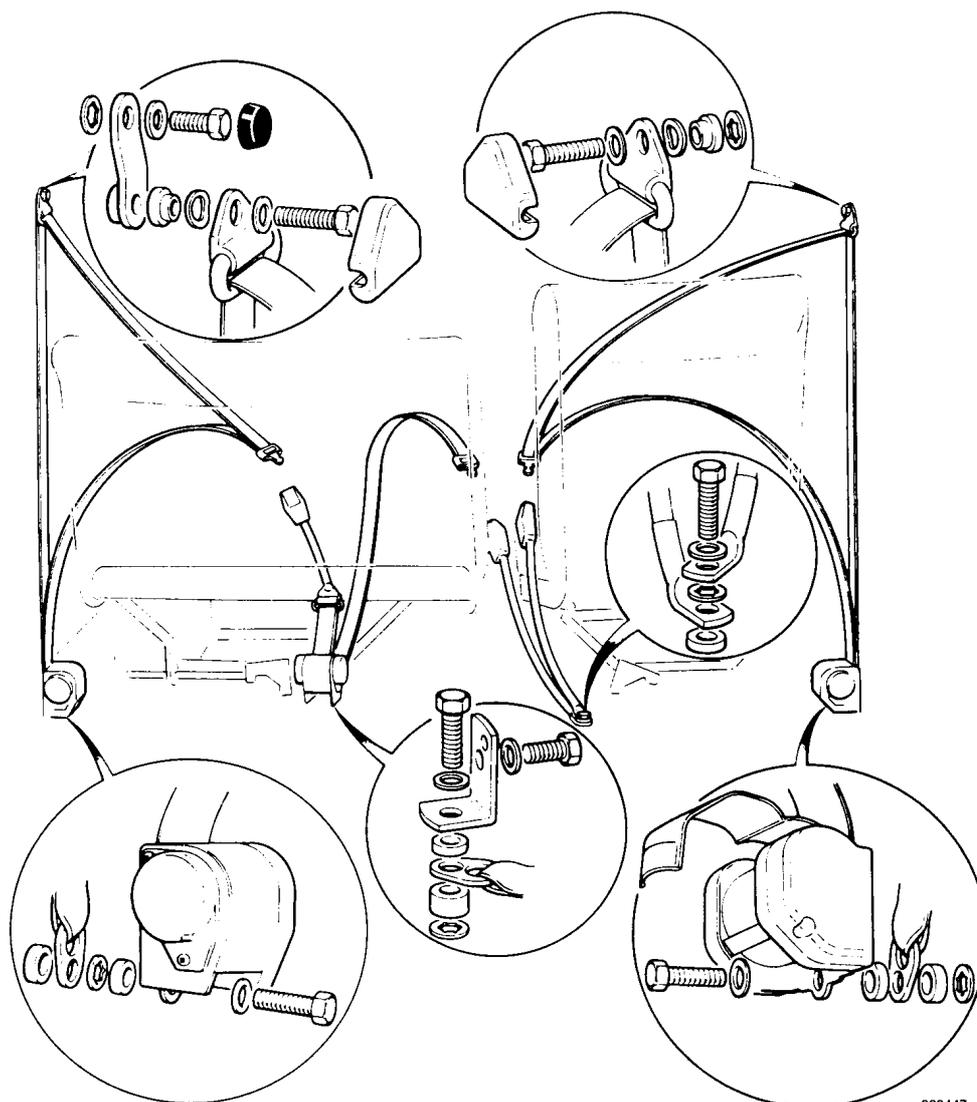
ISRI SEATS

See Part II 'Pilot and Convoy'.

SEAT BELTS - 200/400

Remove and refit

CAUTION: Seat belts are safety related components and it is important they are fitted correctly. Take note of any fitting instructions, and make sure all mounting points are assembled in the correct sequence.



060447

Fig.1 Seat belt attachments



Driver/single passenger seat belt

Remove

1. Unclip the reel closing panel at the bottom and hinge it up to gain access to the reel securing bolt. Remove the securing bolt.
2. Remove the cover from the pillar upper fixing point and remove the bolt securing the upper bracket.
3. Remove the bolt securing the cable assembly to the floor.

Refit

4. Reverse operations 1 - 3.

CAUTION

1. **Check that the fitted position of the reel is horizontal in both planes.**
2. **Make sure all attachment spacers, washers etc., are in their correct positions. Refer to the illustration if in doubt.**

Dual passenger seat belt

Remove

1. Remove the bolt retaining the driver and inner passenger cable assemblies to the floor.
2. Cut through the two ties which attach the floor mounted belt bracket to the rear of the passenger seat, and pull through the passenger belt and cable. Unbolt the reel from the bracket attached to the floor.
3. Unbolt the passenger reel and its upper belt mounting from the 'B' post.

Refit

4. Reverse operations 1 - 3.

CAUTION

1. **Check that the fitted position of the reels are horizontal in both planes.**
2. **Make sure all attachment spacers, washers etc., are in their correct location. Refer to the illustration if in doubt.**

NOTE: New ties will be required to secure the floor mounted belt bracket to the rear of the passenger seat.

WINDSCREEN - 200/400

Remove and refit

See Pilot and Convoy section.

HEADLINING (Cab fitting) - 200

The following instructions outline the procedure for a standard cab headlining. Model variants e.g. Minibus, follow a similar procedure, but during removal ensure the fitted position of components and the attachment methods are noted.

NOTE: Whenever working on a headlining, make sure hands and workwear are clean to avoid permanent soiling.

Remove

1. Disconnect the battery, negative terminal first.
2. Remove the windscreen.
3. Remove the sunvisors. Unclip the interior light and disconnect the leads, noting their positions.
4. Remove the headlining finisher strip at the rear of the cab, and detach both door aperture trims where they cover the headlining.

NOTE: If the headlining is to be re-used, make sure hands are clean before proceeding further.

5. Carefully detach the edges of the headlining from the body and detach the ends of the listing rails from their clips on the cantrail. Note the plastic cups between the listing rails and their location clips.
6. Remove the headlining assembly from the vehicle.
7. If the listing rails are removed from the headlining, they have differing lengths and curvatures and must be refitted in their original position.

NOTE: To assist re-assembly, the listing rails are colour coded with paint in the centre of each rail.

Make a note of each rail colour when it is removed to ensure correct reassembly and fitting of the new headlining.

Refit

A new headlining is supplied in a rectangular shape and has to be trimmed to size during fitting.

The basic fitting procedure is to position the front listing rail and, using this rail as a datum point, attach the headlining ahead of it to the windscreen aperture. Then fit the other rails and work rearwards. The full procedure is as follows:

8. Clean off all old adhesive from the body, and make sure hands are clean before commencing the fitting procedure.
NOTE: Dunlop 'Clean up' T559 can be used to remove old adhesive; then clean off any smears with white spirit.
9. Fit the listing rails to the headlining in the correct sequence by colour code.

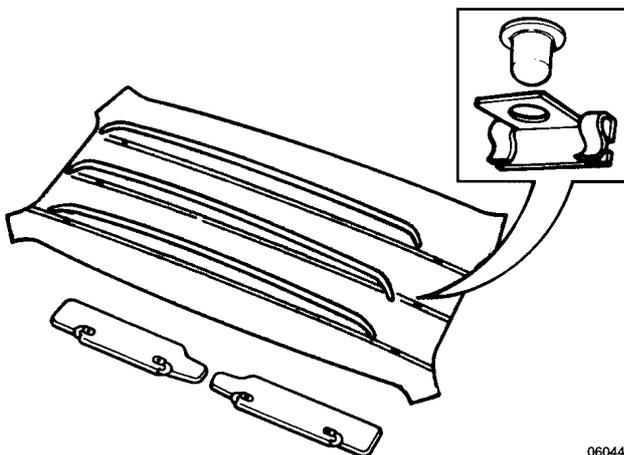


Fig.1 200 cab headlining

10. For centralisation purposes, measure and mark the centre line of the roof, and establish the centre line of the headlining. Do not mark the headlining with any substance that may stain it.

NOTE: The centre of a new headlining is identified by small cutaways at the front and rear edges.

It is supplied in a rectangular shape, surplus material is trimmed off during fitting.

11. Apply double sided adhesive tape to all body flanges to which the headlining must adhere. Alternatively use a suitable trim adhesive.

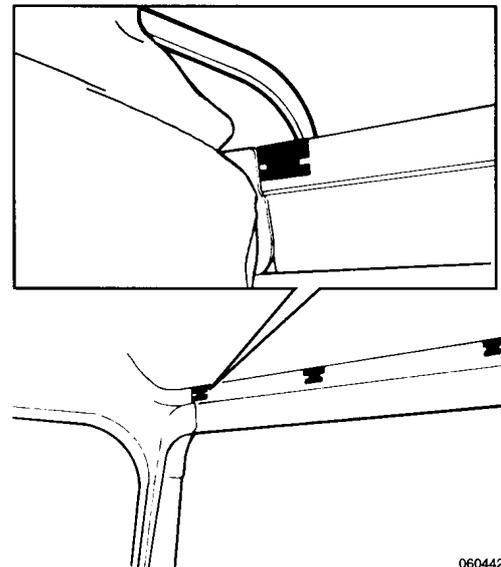


Fig.2 Front listing rail location

12. Check that the sunvisor fixings and the listing rail clips are in place. Position the two front listing rail clips so they abut against the flange on the cantrail at the rear of the 'A' post.
13. Start to fit the headlining by positioning the front listing rail in its clips, making sure the plastic insulators are fitted also. Centralise the headlining to the marks made earlier.

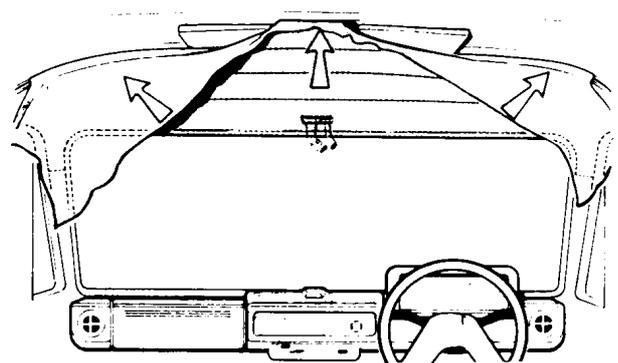


Fig.3 Fitting headlining

14. Keeping the front listing rail vertical, temporarily stick the front of the headlining to the centre of the windscreen aperture, and carefully stretch it outwards equally to the door apertures on both sides.



15. Progressively fit the other listing rails into their plastic insulators and cantrail clips, and temporarily stick the centre rear of the headlining to the centre of the roof stiffener. If necessary tap the listing rail clips forwards or backwards until the headlining is taut and the rails vertical.
16. Starting at the windscreen aperture smooth out all wrinkles and stick the headlining tautly to the flange. Continue progressively along both sides to the rear, trimming off surplus material. Fit the rear trim strip.
17. Locate the interior lamp mounting and carefully cut out an aperture to enable the lamp to be fitted. Fit the sun visors.
18. Refit the windscreen.
19. Reconnect the battery, positive terminal first.

HEADLINING (Cab fitting) - 400

Remove

1. Disconnect the battery(s), negative terminal(s) first.
2. Remove the windscreen.
3. Remove the sun visors and the interior lamps in the cab area.
4. Remove the side loading door upper rail finisher (if fitted) and detach the driver protection rails (if fitted).

NOTE: If the headlining is to be re-used, make sure the hands are clean before attempting to remove and refit it.

5. Detach the door aperture trim where it covers the headlining, and remove the retaining screws at the rear corners. Carefully detach the edges of the headlining from the body.
6. Release the ends of the listing rails from the cantrail and remove the headlining from the vehicle.
7. Withdraw the stiffeners from each end of the rear listing rail pocket, and withdraw all the listing rails. Make a note of the colour coding of each rail as it is withdrawn.

NOTE: The listing rails are different lengths/shapes and are colour coded in the centre for replacement. The listing rails also vary depending on the vehicle specification (eg. van, crew cab, minibus etc.)

Refit

The basic procedure is to fit the headlining from the rear. The rearmost listing rail abuts against a roof support which allows the headlining to be pulled forward to the windscreen aperture.

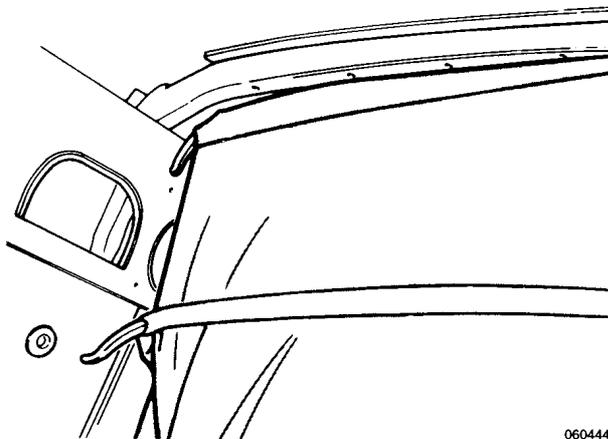
Proceed as follows:-

8. Remove all traces of the old adhesive from the body.
NOTE: Dunlop 'Clean up' T559 can be used to remove old adhesive; then clean off any smears with white spirit.

9. To assist in centralising the headlining, measure and mark the centre line of the roof. Guide holes in the front and rear of a new headlining indicate its centre line.

NOTE: If a new headlining is being fitted it is supplied in a rectangular shape. Surplus material is trimmed off after fitting.

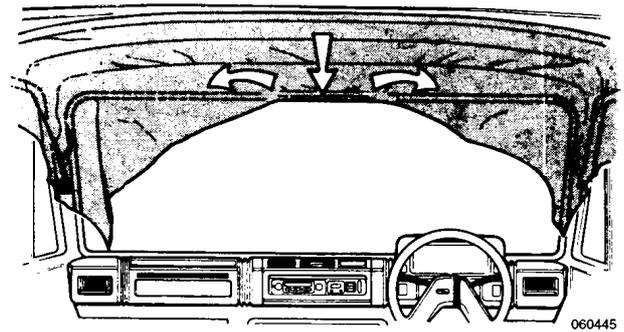
10. Fit the listing rails in the correct colour coded order to the pockets in the headlining.
11. Apply double sided adhesive tape (or a suitable trim adhesive) at all areas to which the headlining must be stuck.



060444

Fig.1 Rear listing rail location

12. Start the fitting procedure by locating the rear listing rail in the cantrail locations. Centralise the headlining to the marks made earlier.
13. Pull the headlining forward so that the rear listing rail butts against the roof support. Fit the other listing rails progressively, pull the lining forward until it is taut and attach it at the centre of the windscreen aperture.



060445

Fig.2 Fitting headlining

14. Check the centralisation, then keeping the headlining taut, attach it outwards from the centre of the screen aperture. Recheck the fit of the headlining.
15. Fit the stiffeners into each rear corner pocket. Position each one carefully to avoid rucking before fitting their retaining screws.
16. Moving progressively forward and keeping the headlining taut, attach it to the door apertures and finish it neatly at the 'A' and 'B' posts, trimming off all surplus material.
17. Locate the interior lamp locations and carefully cut through the material to fit the lamps. Refit the sun visors.
18. Refit the side loading door upper rail finisher (if fitted) and the drivers protection rails (if fitted).
19. Refit the windscreen and reconnect the battery(s), positive terminal(s) first.

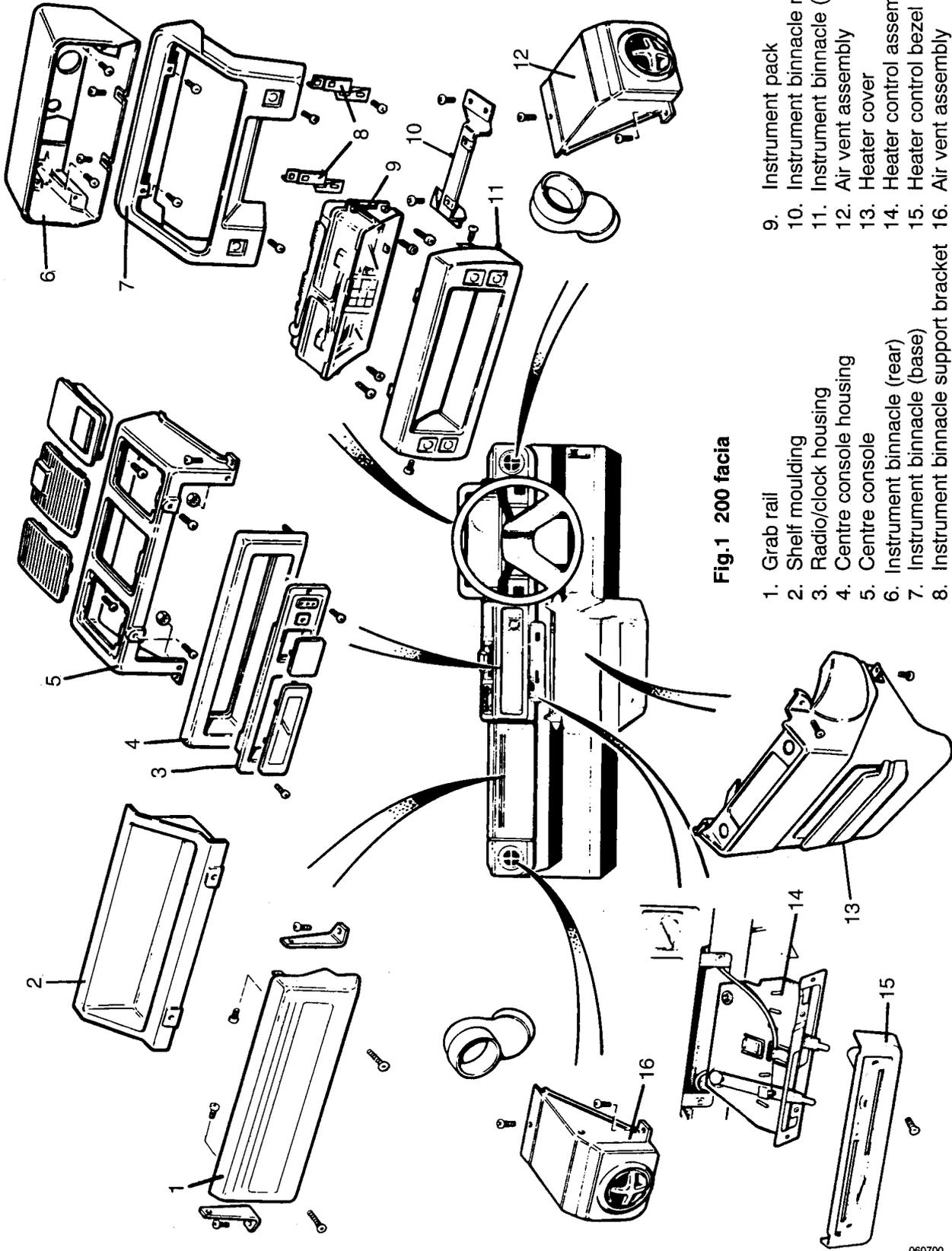


Fig.1 200 facia

- | | |
|--|--|
| 1. Grab rail | 9. Instrument pack |
| 2. Shelf moulding | 10. Instrument binnacle mounting bracket |
| 3. Radio/clock housing | 11. Instrument binnacle (front) |
| 4. Centre console housing | 12. Air vent assembly |
| 5. Centre console | 13. Heater cover |
| 6. Instrument binnacle (rear) | 14. Heater control assembly |
| 7. Instrument binnacle (base) | 15. Heater control bezel |
| 8. Instrument binnacle support bracket | 16. Air vent assembly |

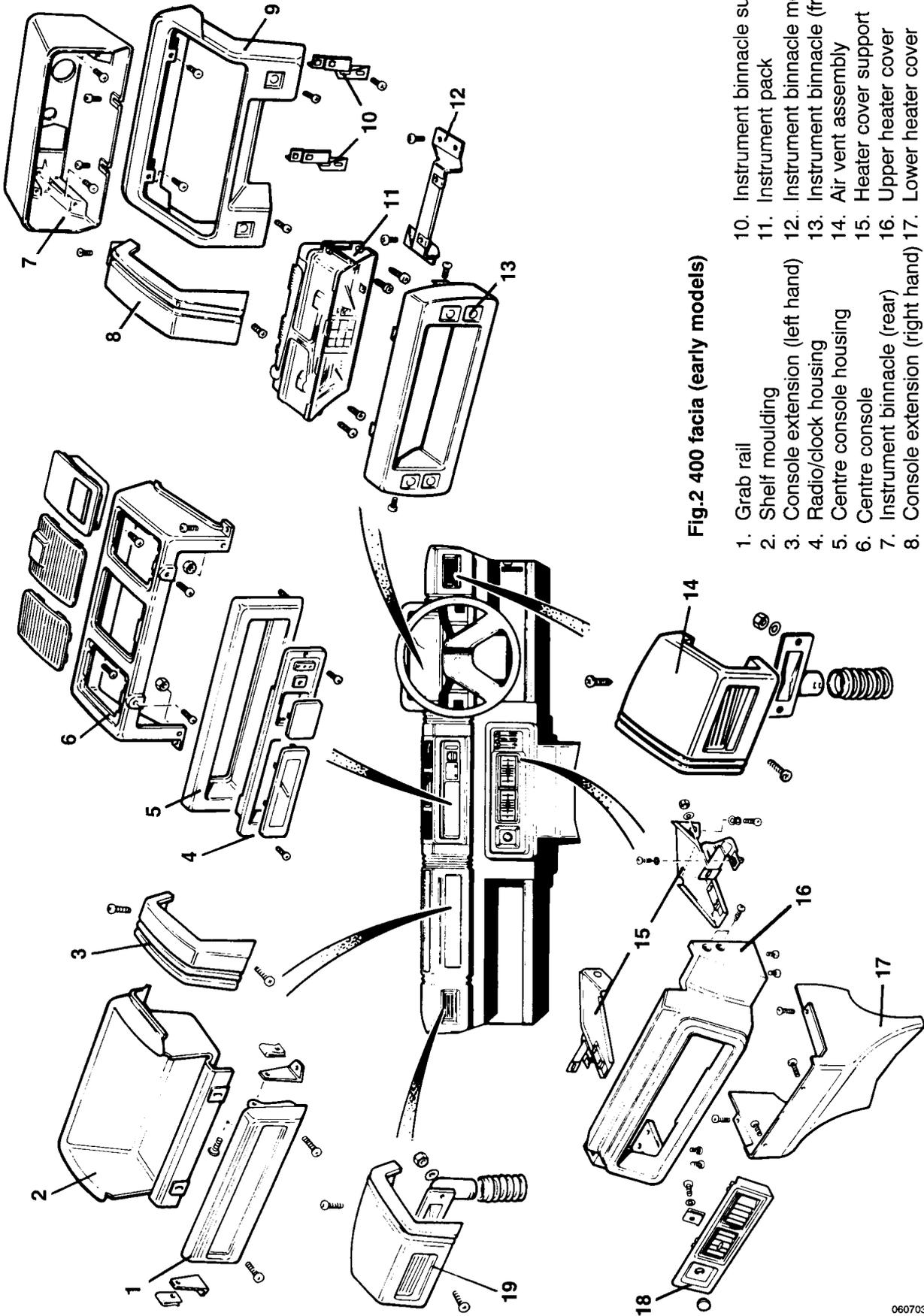


Fig.2 400 facia (early models)

- | | |
|-----------------------------------|--|
| 1. Grab rail | 10. Instrument binnacle support bracket |
| 2. Shelf moulding | 11. Instrument pack |
| 3. Console extension (left hand) | 12. Instrument binnacle mounting bracket |
| 4. Radio/clock housing | 13. Instrument binnacle (front) |
| 5. Centre console housing | 14. Air vent assembly |
| 6. Centre console | 15. Heater cover support |
| 7. Instrument binnacle (rear) | 16. Upper heater cover |
| 8. Console extension (right hand) | 17. Lower heater cover |
| 9. Instrument binnacle (base) | 18. Centre vent assembly |
| | 19. Air vent assembly |

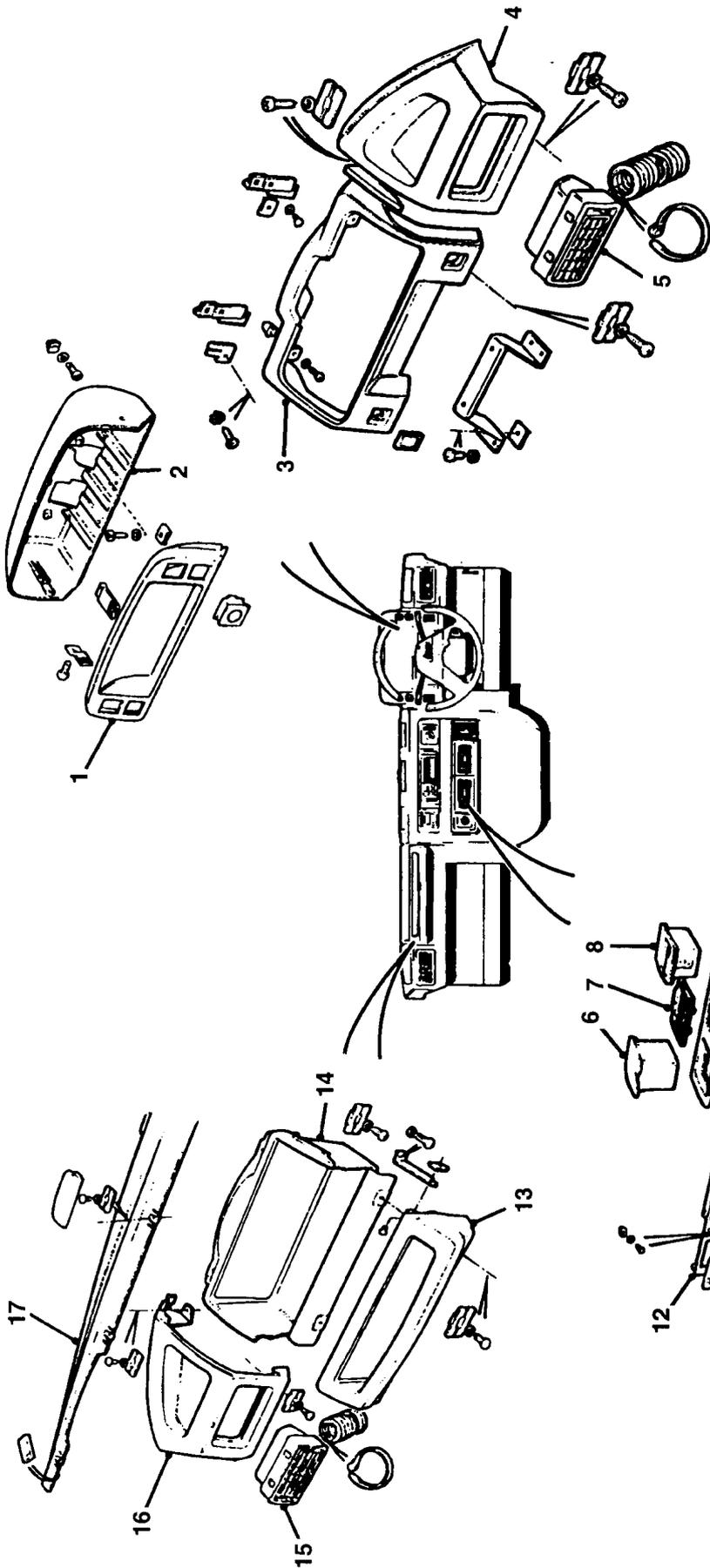


Fig.3 400 fascia (later models)

- | | |
|--------------------------------|-----------------------------|
| 1. Instrument binnacle - front | 10. Centre vent |
| 2. Instrument binnacle | 11. Switch panel (optional) |
| 3. Binnacle - base | 12. Radio / clock bezel |
| 4. Vent housing - RH | 13. Grab rail |
| 5. Vent - RH | 14. Shelf |
| 6. Cassette cover | 15. Vent - LH |
| 7. Fuse box cover | 16. Vent housing - LH |
| 8. Ash tray | 17. Top finisher |
| 9. Centre console | |

Centre console – 400 (later models)

Remove (See fig.3)

1. Disconnect the battery(s), negative terminal(s) first.
2. Remove the parcel shelf on either side of the centre console.
3. Remove the radio (if fitted).
4. To release the centre console:
 - a. Remove console securing screws:
 - three on either side
 - two on either side of radio location
 - two on top, through top finisher (unclip covers to access the screws).
 - b. Pull console clear, sufficient to allow disconnection of wires to:
 - heater controls illumination
 - clock
 - fan switch
 - cigar lighter
 - auxiliary switch panel (if fitted).
 - c. Remove the console.

Refit

5. Refitting is the reverse of the removal procedure, but note the following:
 - Ensure that electrical wires are not trapped.
 - Connect the battery(s), positive terminal(s) first.
 - If a key-coded radio is fitted it will require re-programming.

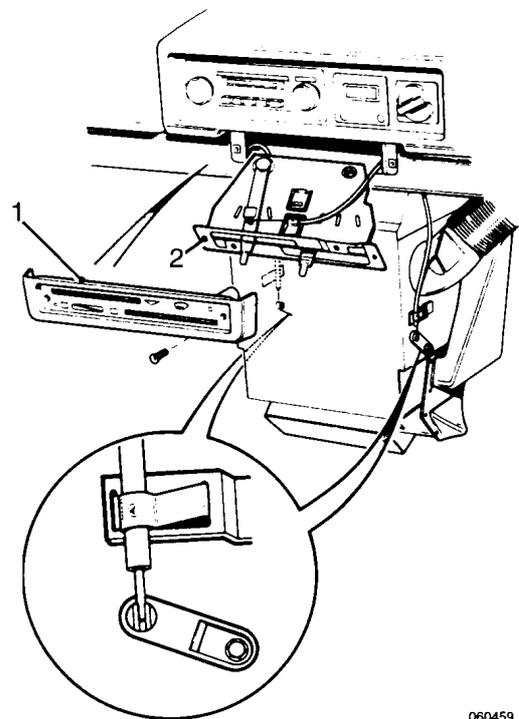
HEATING AND VENTILATION – 200

Heater Controls

Replacement/Adjustment

The removal and replacement of both cables is similar.

1. Disconnect the battery, negative terminal first.
2. Pull off the two heater control knobs and remove the two screws to release the finisher plate.



060459

Fig.1 Heater controls

1. Heater control bezel
2. Control assembly
3. Pull the control assembly clear of the fascia.
4. Unclip the cable to be replaced at its control lever and at its flap lever on the heater unit. Pull the cable clear.

5. Replacement is the reverse of removal, but after fitting the cable to its control lever, it should be fitted to its flap lever and then adjusted as follows:

Heater control cable

6. Fit the inner cable to its flap lever, and move the control knob to 'cold'. Pull the outer cable up until the flap is fully closed, then fit the cable retaining clip. Check that the flap moves to its correct positions throughout the travel of the control knob.

Distribution control cable

7. Move the control knob to the 'off' position, then fit the inner cable to its flap lever. Move the control knob to the 'down' position and move the flap lever to the down position, then fit the cable retaining clip.

Check that the flap moves to its correct positions throughout the travel of the control knob.

Heater/Blower motor

Remove, overhaul and refit

NOTE: On 200 vehicles the blower motor is fitted into the heater housing. To change the motor the heater must be removed from the vehicle.

Removal

1. Disconnect the battery, negative terminal first, and drain the cooling system.
2. Remove the screws to release the two parcel shelves from the heater cover.
3. Remove the four screws to release the heater cover and disconnect the cigar lighter. Pull off the air ducts to the fascia vents.
4. Disconnect the two control cables at their flaps, by first unclipping their retaining clips and then prise each cable out of its trunnion.

5. Disconnect the wiring to the blower motor.

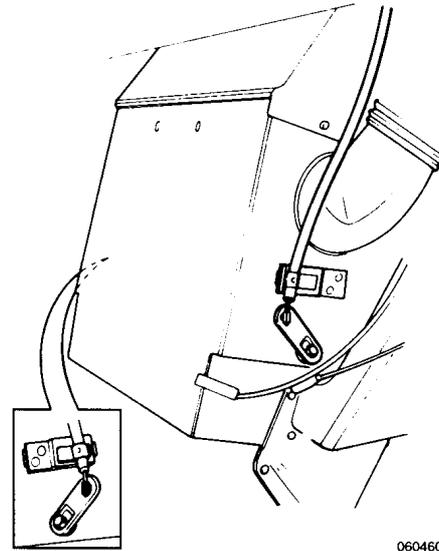


Fig.2 Control cable attachment

6. Underbonnet, disconnect the two heater hoses at the bulkhead.
7. With the aid of an assistant, remove the two nuts and bolts securing the heater unit to the bulkhead. Then remove the four nuts holding the heater to its mounting bracket and lift the heater clear. Drain any coolant remaining in the matrix into a container.

Overhaul

Blower Motor

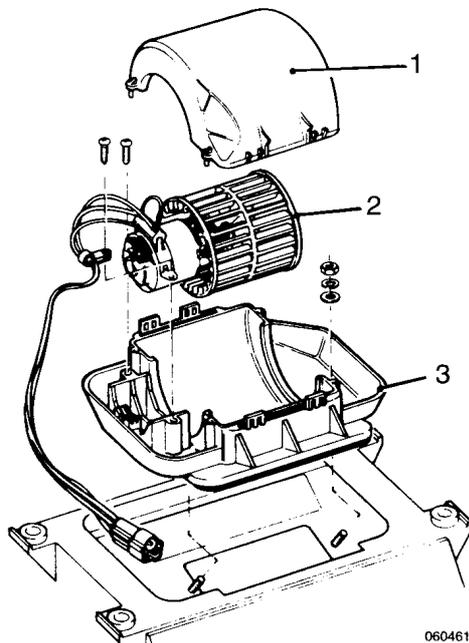


Fig.3 Blower motor

1. Motor housing cover
 2. Motor and fan assembly
 3. Motor housing
8. Remove the two nuts attaching the motor assembly to the heater housing and lift the assembly clear. Release the four clips to allow the motor housing cover to be removed then release the motor and fan assembly by removing the two screws retaining its clamp bracket to the housing.
 9. Disconnect the wiring at the multiplug, to enable the wires to be pulled out of the heater casing.
 10. Refitting of the blower motor assembly is the reverse of the above procedure.

Heater matrix

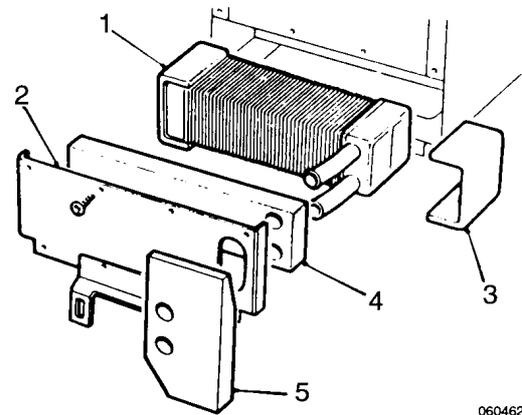


Fig.4 Removing heater matrix

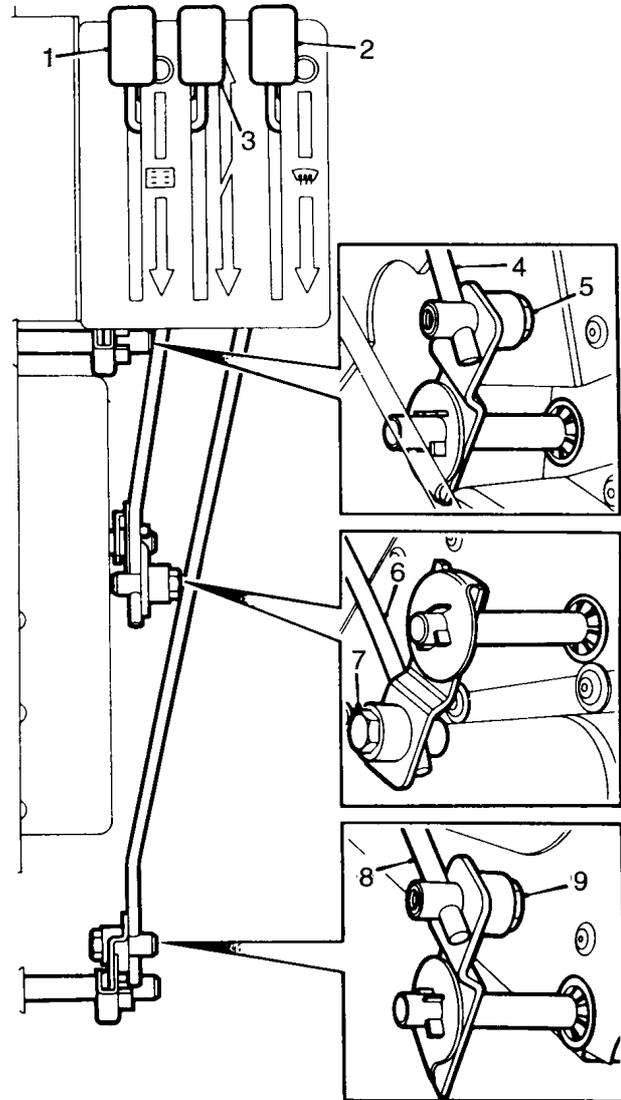
1. Matrix
 2. Matrix cover plate
 3. End packings
 4. Foam insulating pad
 5. Sealing block
11. Remove the sealing block from around the coolant pipes, remove the eight screws retaining the matrix cover plate and remove the plate and the insulating pad underneath it.
 12. Lift out the matrix, being careful not to damage the foam packings adhering to it. Note the insulation material under the matrix.
 13. If the matrix is to be renewed, note the position of the foam strips before carefully removing them. Use a suitable quality adhesive to position the strips on the replacement matrix.
 14. Refitting the matrix is the reverse of the removal.

Heater unit refitting

15. Before starting to replace the assembly, check that the two flaps pivot freely. Put a small quantity of grease on the flap pivot points.
16. Refitting of the heater unit is the reverse of the removal but the following points should be noted.
 - Before fitting the heater unit, make sure the draught excluder seal fitted around the aperture in the mounting bracket above it is in position, and does not become displaced during the fitting procedure.
 - Before fitting the two lowest heater securing bolts and nuts, make sure their spacers are correctly located.
 - Loosely fit all six securing nuts/ bolts, then tighten the four nuts at the mounting bracket first.
 - Adjust the two control cables as described in the section 'heater controls'.
 - Reconnect the battery, positive terminal first.

HEATING AND VENTILATION - 400

Heater Controls



060463

Fig.1 Heater controls

1. Face level air control
2. Air distribution control
3. Temperature control
4. Face level air control rod
5. Locking screw
6. Temperature control rod
7. Locking screw
8. Air distribution control rod
9. Locking screw

Controls adjustment

1. Remove the heater cover.
2. Move the face level air control to the 'OFF' (up) position. Check that the face level flap has fully closed; if not, adjust the length of its control rod to close the flap.
3. Move the air temperature control to the 'COLD' (up) position. Slacken the locking screw securing its control rod to the flap lever and turn the lever fully anti-clockwise to close the flap. Tighten the locking screw.
4. Move the air distribution control to the 'SCREEN' (centre) position. Slacken the screw securing its control rod to the flap lever. Rotate the lever to position the flap level with the bottom of the heater housing, and tighten the locking screw.

When the adjustment is correctly set, if the control is in the top position the distribution system is closed, in the central position air is directed to the windscreen and in the lower position to the vehicle interior.

5. Refit the heater cover.

Heater Assembly

Remove, overhaul, refit

Remove

1. Disconnect the battery, negative terminal first.
2. Position a drain tin to collect any coolant and release the heater inlet and outlet hoses at the bulkhead underbonnet. Plug the pipes to the heater to prevent coolant spilling into the vehicle interior.
3. Inside the vehicle, remove the heater cover, and disconnect the ducting from the air intake and to the demist tubes.
4. Remove the heater by releasing it at the four attachment points - two studs/nuts at the bulkhead, and two bolts/nuts at the fascia rail. Note the fibre sealing washers at the bulkhead fixings.

Heater Matrix

Remove and Refit

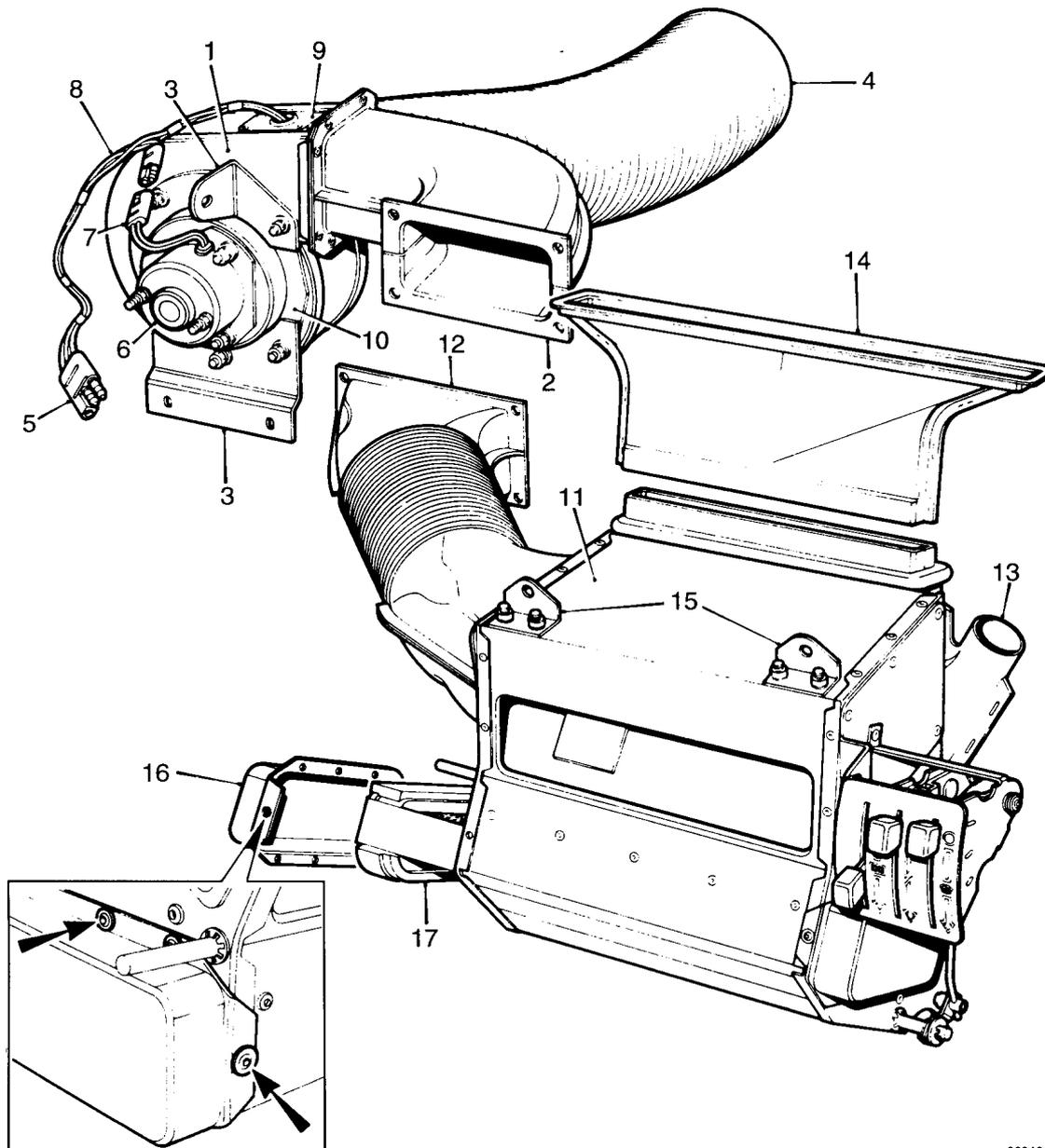
5. With the heater removed from the vehicle, disconnect the air distribution control rod at the flap end (L.H.D. vehicles only).
6. Use a 3 mm (1/8") drill (No.30) to remove the 7 rivets securing the matrix cover.

CAUTION: Take care when drilling the rivet at the end face to avoid going too deep and puncturing the matrix.

7. Lift off the end cover and draw out the matrix.
8. To refit, reverse the removal procedures, but ensure sealing type pop rivets are used.
9. Apply a small quantity of grease to all the flap spindles and trunnions, then check that the controls adjustments are correct. (see 'Controls adjustment').

Refit

10. Reverse the removal operations and refill the coolant system, ensuring there are no air locks into the heater.
11. Reconnect the battery, positive terminal first.

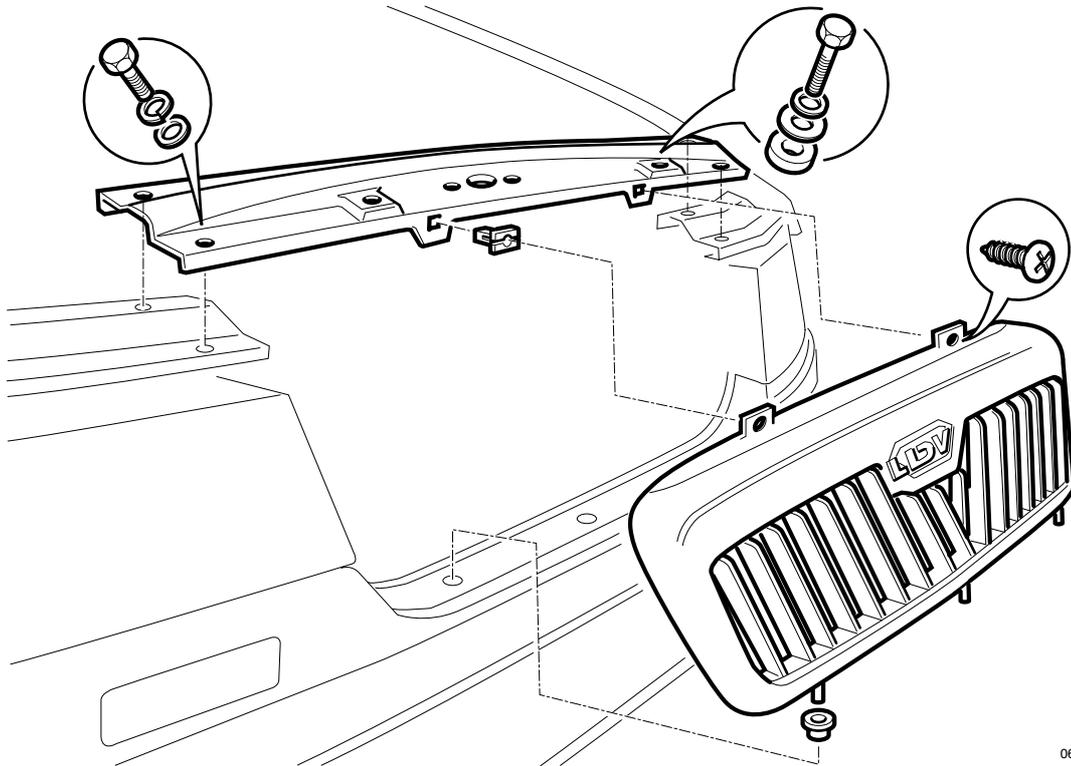


060464

Fig.2 Heater assembly

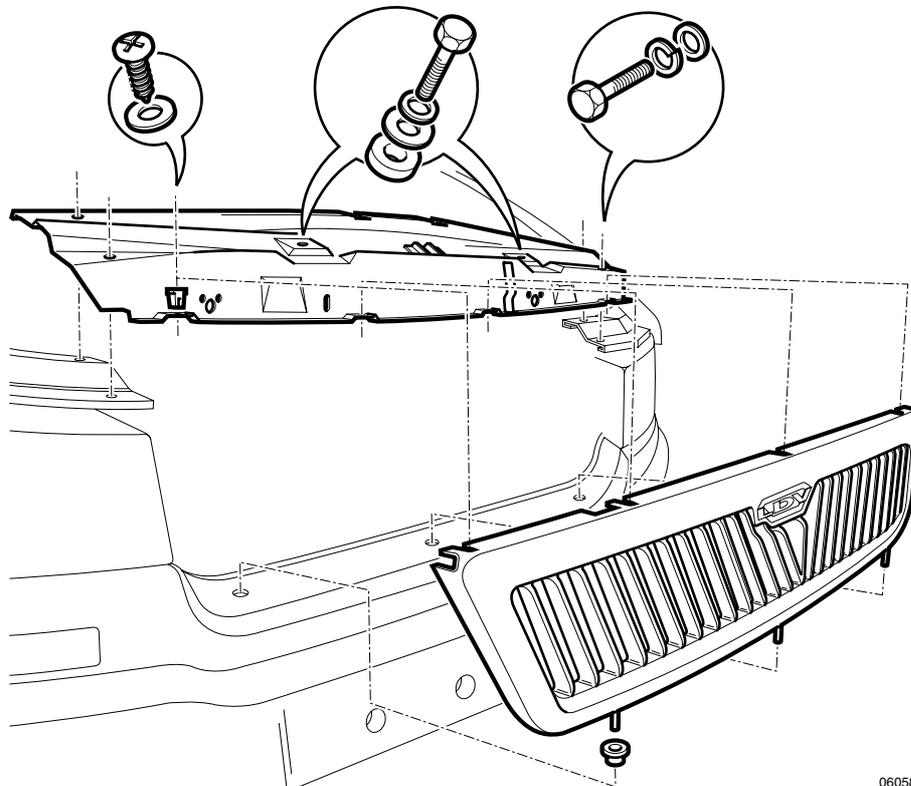
- | | |
|---------------------------|-------------------------|
| 1. Heater blower unit | 10. Blower cover |
| 2. Blower air outlet | 11. Heater assembly |
| 3. Blower brackets | 12. Heater air inlet |
| 4. Blower inlet duct | 13. Side demist tube |
| 5. Harness multiplug | 14. Demist duct |
| 6. Blower motor | 15. Facia rail brackets |
| 7. Blower motor multiplug | 16. Matrix cover |
| 8. Sub-harness | 17. Matrix |
| 9. Resistor unit | |

RADIATOR GRILLE



060589

Fig.1 Pilot Radiator Grille

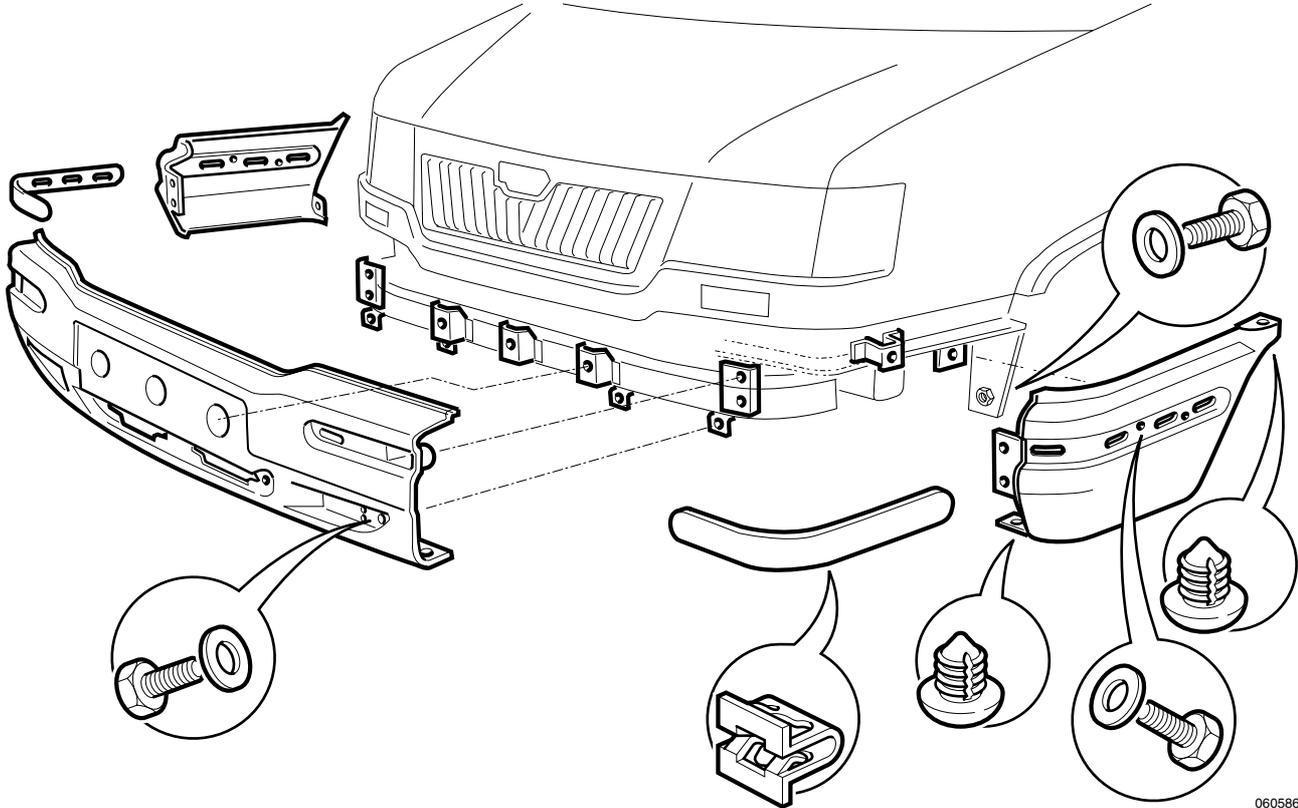


060588

Fig.2 Convoy Radiator Grille

BUMPERS

Front Bumper



060586

Fig.1 Pilot Front Bumper

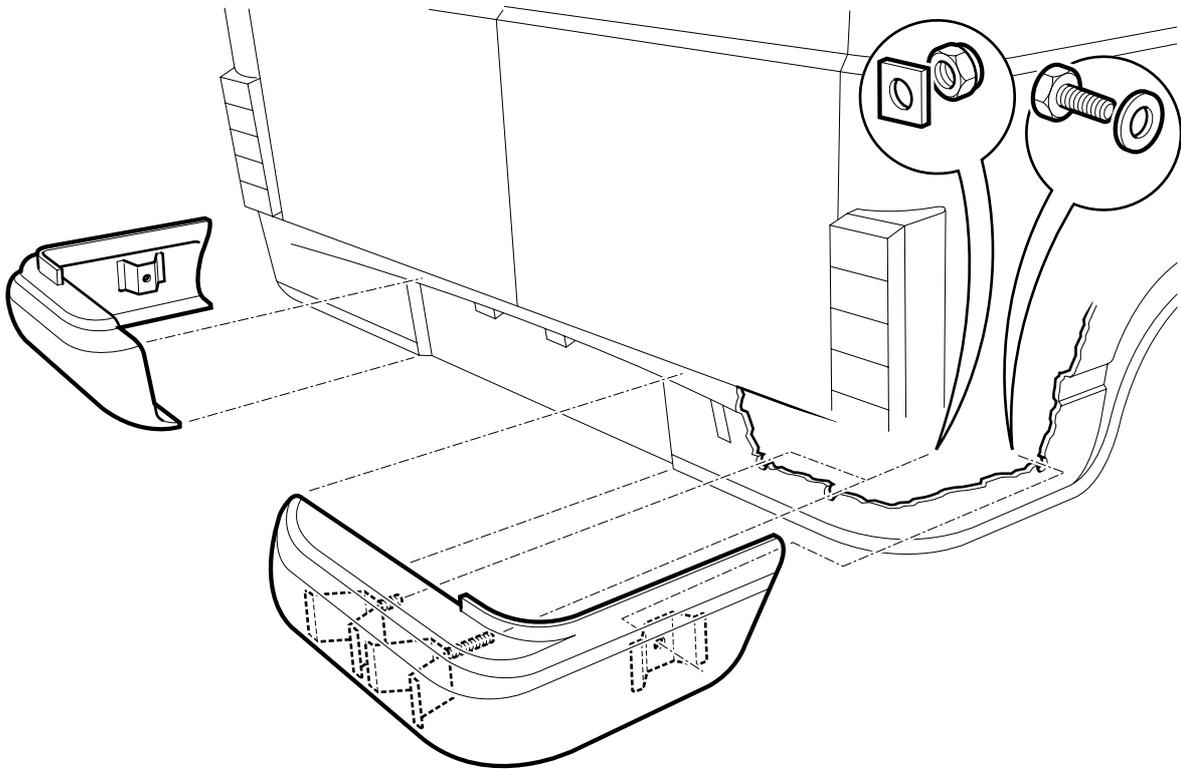
NOTE: Convoy is similar

Remove / Refit

The front bumper comprises 3 sections, and removal and refitting is straightforward.

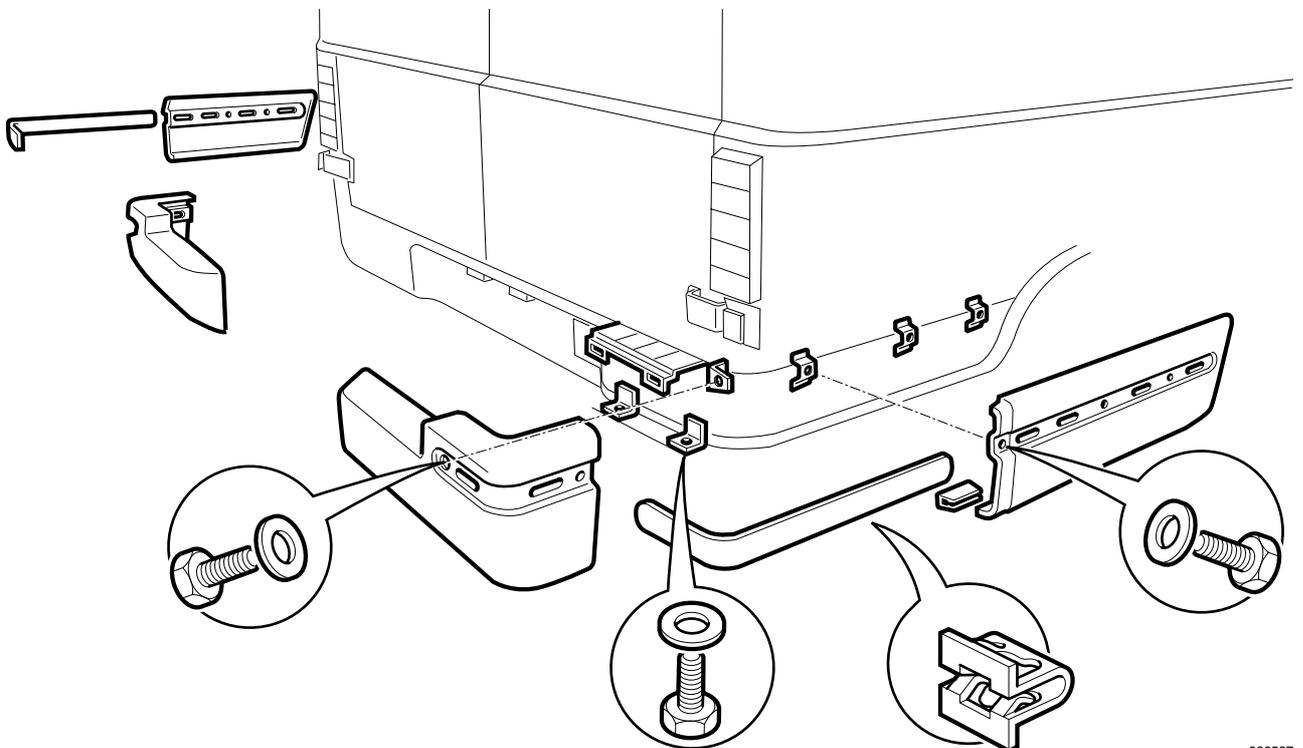
NOTE: To remove an outer section the appropriate bolt securing the outer end of the centre section must first be removed, and other bolts slackened.

Rear Bumpers



060585

Fig.2 Pilot Rear Bumpers



060587

Fig.3 Convoy Rear Bumpers
(Short wheelbase illustrated)

DOOR KEY LOCK BARREL

Tool required: LDV 117

Remove

1. Remove the door trim panel to gain access to the key lock barrel.

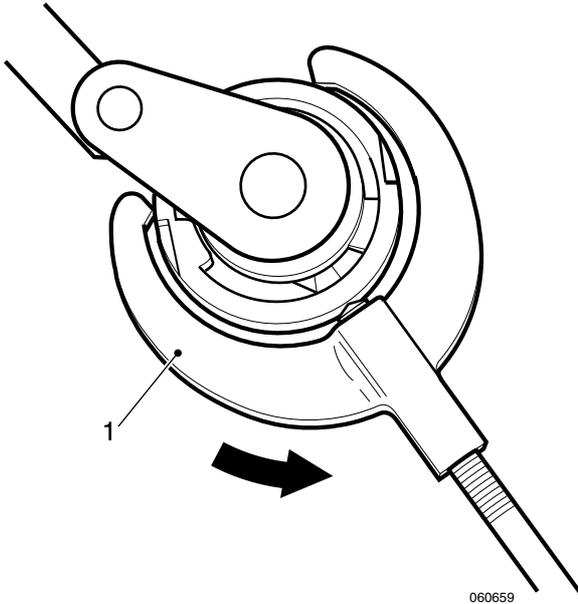


Fig.1 Removing Securing Ring

1. LDV 117
2. Position special tool LDV 117 over the barrel securing ring as illustrated and screw the handle in until its pointed end grips the ring firmly.
3. Turn the tool anti-clockwise (viewed from inside the door) to release the securing ring.
4. Note the position of the connecting link: manoeuvre the lock barrel clear of the door, releasing the link. Discard the securing ring.

Refit

5. Fit the lock barrel into the door, positioning a new securing ring and attaching the connecting link.
NOTE: The location channels in the door panel only allow the barrel to be fitted in one position.

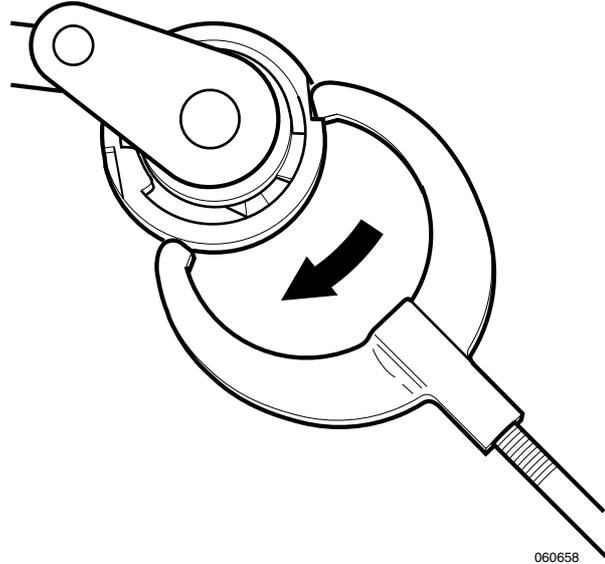
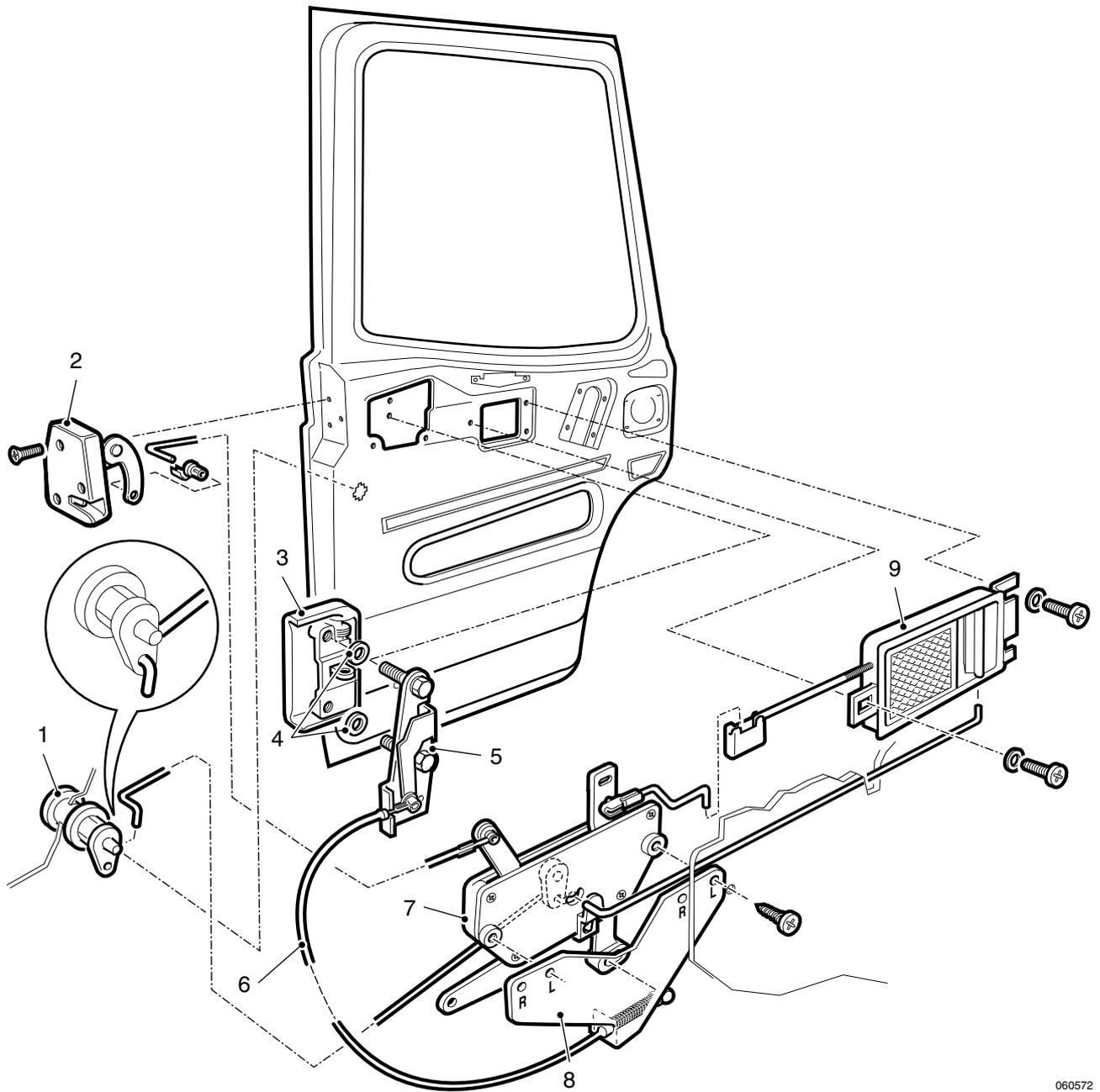


Fig.2 Fitting Securing Ring

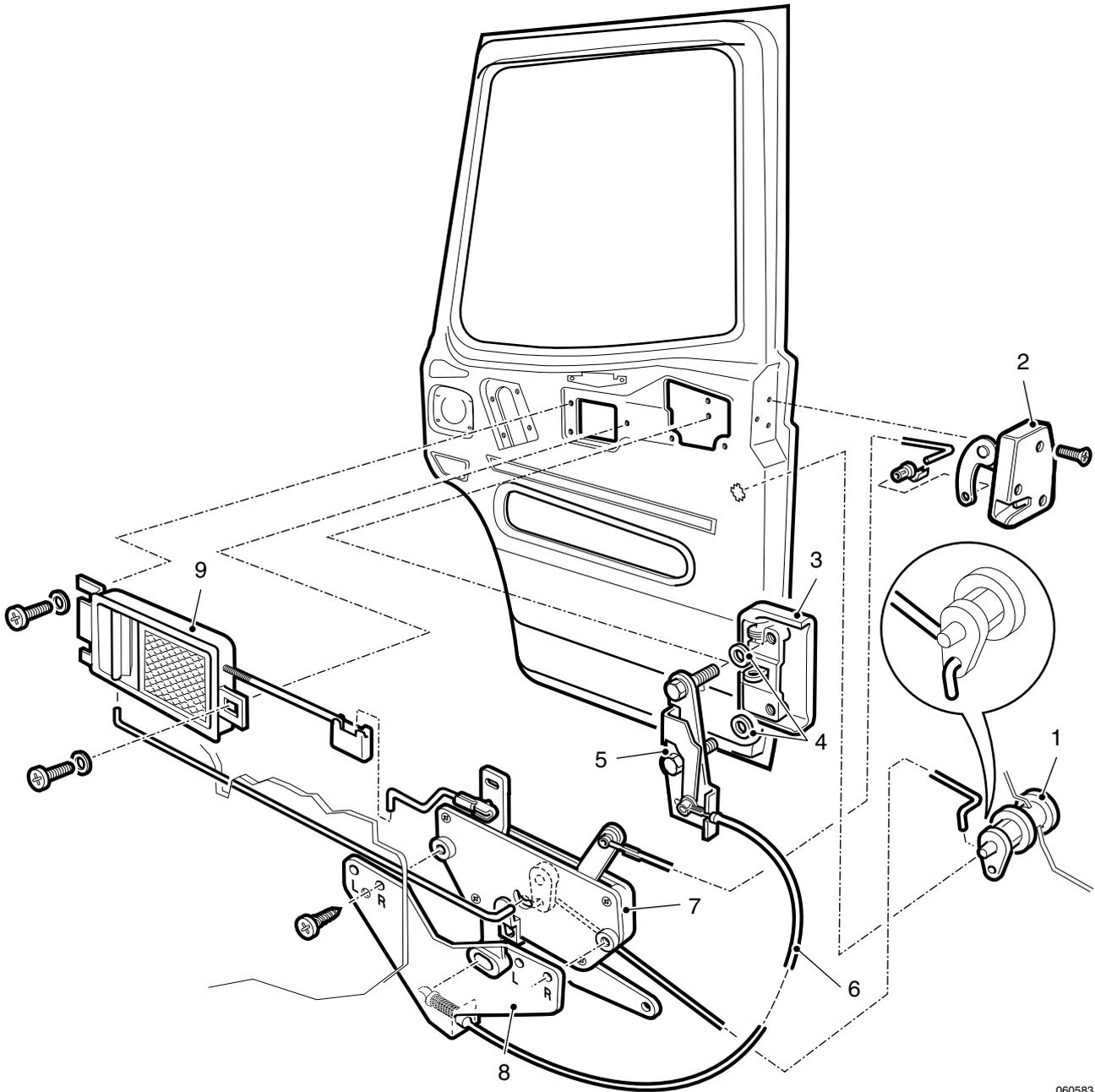
6. Fit the securing ring and tighten it firmly using tool LDV 117 as illustrated.
NOTE: If it is not possible to locate the tool as illustrated in fig.2, use as illustrated in fig.1 to tighten the ring.
7. Use the key to check for correct operation of the lock.
8. Refit the door trim etc.



060572

Fig.1 Left Hand Hinged Cab Door

- | | | |
|--------------------|---------------------|----------------------|
| 1. Key lock barrel | 4. Spacers | 7. Interface unit |
| 2. Lock latch | 5. Bell crank plate | 8. Cable end bracket |
| 3. Exterior handle | 6. Cable | 9. Interior handle |



060583

Fig.2 Right Hand Hinged Cab Door

- | | | |
|--------------------|---------------------|----------------------|
| 1. Key lock barrel | 4. Spacers | 7. Interface unit |
| 2. Lock latch | 5. Bell crank plate | 8. Cable end bracket |
| 3. Exterior handle | 6. Cable | 9. Interior handle |

HINGED CAB DOORS

Locking Mechanism

Remove

NOTE: Hinged cab door lock mechanism components are colour coded as follows:

Left hand door – Black
Right hand door – White

1. Remove the interior handle bezels and the window winder.
2. Remove the door pull and door capping, and the door bin (driver's side only). Release the trim panel by careful prising at each of the 11 securing clips. Disconnect the radio speaker, and peel back the plastic water deflector.

NOTE THE POSITION OF THE LINKAGES PRIOR TO DISMANTLING.

3. To remove the lock barrel:
 - Use special tool LDV 117 to release the securing ring (see section 'Door Key Lock Barrel').
 - Withdraw the barrel, disconnect the interface link and discard the securing ring.
4. To remove the exterior handle and the bell crank plate:
 - Wind the window fully up.
 - Disconnect the cable at the bell crank (if removing bell crank plate).
 - Remove the handle lower securing screw, capturing the spacer located between the bell crank and the door panel.
 - Wind the window down to within 50mm (2in.) of its lowest position and remove the regulator securing screws. Lower the glass and regulator (do not disengage regulator arm from glass channel).
 - The handle upper securing bolt can now be removed to detach the handle. Capture the spacer.

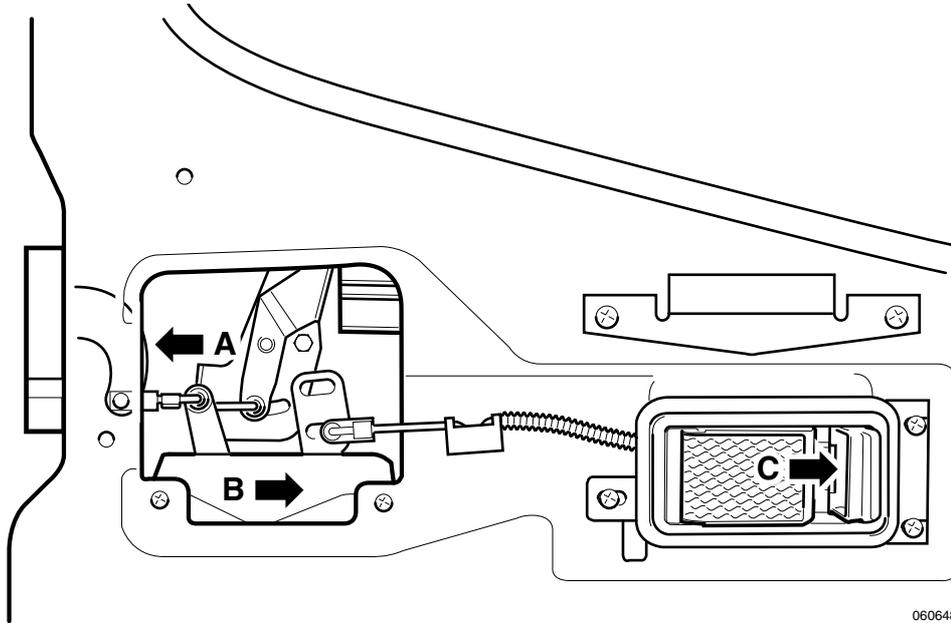
5. To remove the lock latch:
 - Disconnect the link to the interface.
 - Remove the 4 securing screws.
6. To remove the interface unit:
 - Note the position of the connecting links.
 - Disconnect the interior handle link at the connector.
 - Disconnect the lock latch link (If not already detached).
 - Remove the 2 securing screws.
 - Disconnect the interior lock link.
 - Manoeuvre the interface and the cable end bracket out of the door whilst detaching the lock barrel link and the cable (if not already detached).

Refit

7. Refitting is the reverse of the above, noting the following:
 - Ensure the spacers are refitted between the bell crank and the door panel.
 - Check the operation of the window after refitting the front channel lower securing screw.
 - When fitting the lock barrel use a new securing ring, tightening it using special tool LDV 117.
 - When attaching the interface, position the cable end bracket between it and the door inner panel. Use the screw holes marked 'L' on a left hand door, and holes marked 'R' on a right hand door.
 - When lock mechanism is fitted, adjust as follows:

Lock Mechanism Adjustment.

1. Slacken the interface unit and the interior handle securing screws.
2. Turn the lock latch to the 'lock' position.

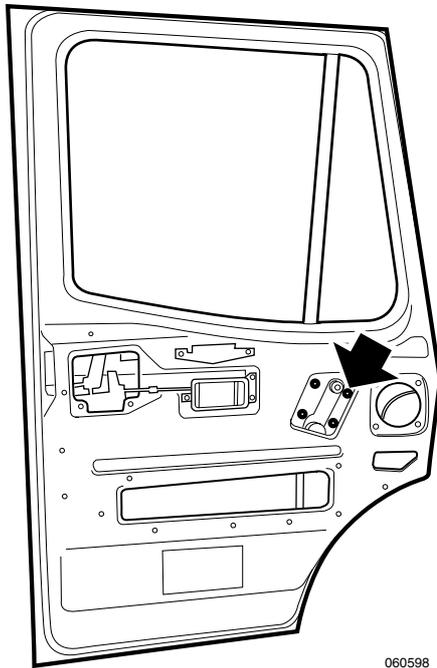


060648

Fig.3 Adjusting Lock Mechanism (L.H door shown)

3. While applying pressure (fig.3, A) on the latch operating arm towards the latch, slide the interface unit (fig.3, B) away from the latch just sufficient to eliminate free play in the latch link. Hold it in this position while tightening the interface screws.
4. Turn the interior lock flap to the unlock position and apply pressure on it (fig.3, C) away from the interface to eliminate free play in the linkage. Hold in this position while tightening the interior handle screws.
5. Check the operation of the interior and exterior locking mechanisms.

Window Regulator



060598

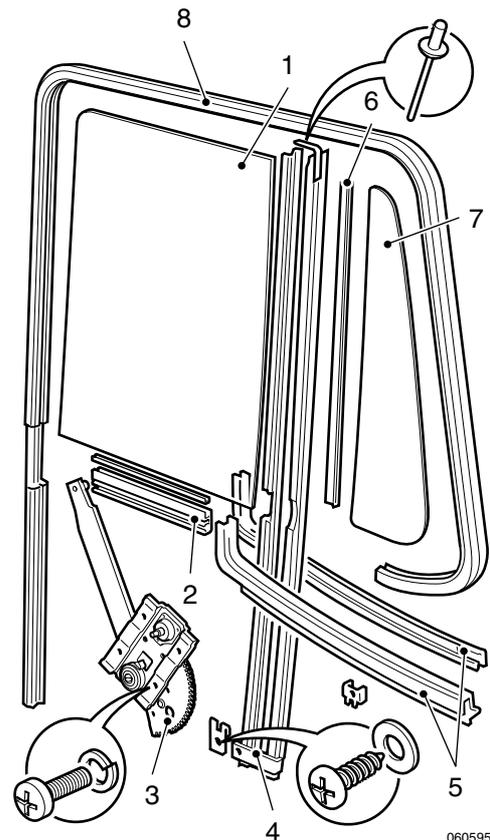
**Fig.4 Window Regulator
Securing Screws
Remove**

1. Remove the interior handle bezels and the window winder.
2. Remove the door pull and door capping, and the door bin (driver's side only). Release the trim panel by careful prising at each of the 11 securing clips. Disconnect the radio speaker, and peel back the water deflector.
3. Wind the glass fully up and use masking tape or similar to hold it in the 'up' position.
4. Remove the 4 screws (arrowed) securing the regulator.
5. Disconnect the regulator arm from the glass channel and manoeuvre the regulator out of the door lower aperture.

Refit

6. Refitting is the reverse of removal, ensuring the regulator arm locates correctly in the glass channel.
Check that the window operates correctly before refitting the door trim panel.

Drop Glass



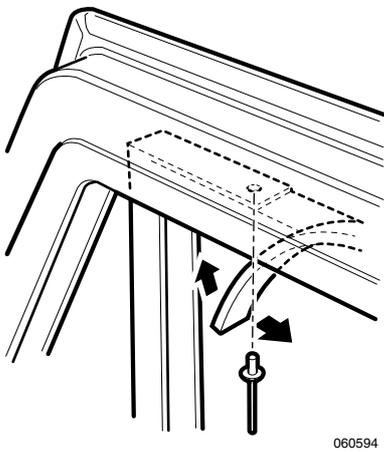
060595

Fig.5

1. Drop glass
2. Lifting channel
3. Regulator
4. Front channel
5. Weatherstrip
6. Fixed glass rubber
7. Fixed glass
8. Top/rear channel

Remove

1. Remove the interior handle bezels and the window winder.
2. Remove the door pull and door capping, and the door bin (driver's side only). Release the trim panel by careful prising at each of the 11 securing clips. Disconnect the radio speaker, and peel back the water deflector.
3. Lower the drop glass, remove the 4 regulator securing screws and detach the regulator arm from the lifting channel.
4. Remove the 2 weatherstrips.



060594

Fig.6 Front Channel Securing Rivet

5. Locate and pull down the flap in the front end of the top channel to gain access to the rivet securing the upper end of the front channel. Drill out the rivet.
6. Remove the screw securing the lower end of the front channel. Slide the channel down to clear its top mounting bracket, and manoeuvre to remove it down and out through the door lower aperture.
7. Remove the fixed glass rubber.
8. Remove the drop glass.
If required, carefully prise the lifting channel and its glazing rubber from the glass.

Refit

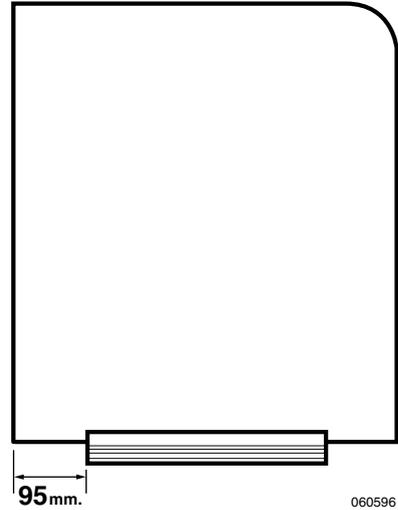
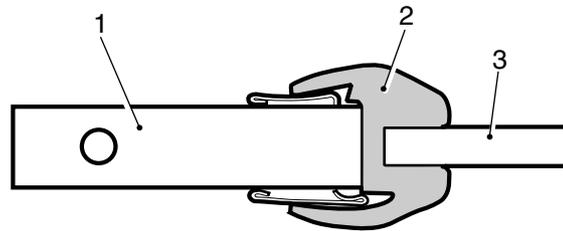


Fig.7 Lifting Channel Position

9. If removed, carefully position and fit the lifting channel and its glazing rubber to the drop glass, to the dimension shown.
10. Lower the drop glass into the door, engaging it into the rear channel.



060597

Fig.8 Fixed Glass Rubber

1. Front channel
2. Fixed glass rubber
3. Fixed glass

11. Fit the fixed glass rubber. It must be fitted as illustrated so that the flange on the front channel will locate in the slot in the rubber.
12. To fit the front channel, engage it in the fixed glass rubber and slide it upwards through the aperture in the top channel (soapy water may assist fitment).
13. Secure the upper end of the front channel with a rivet, and reposition the flap.
14. Position the front channel to the drop glass, then loosely fit the lower securing screw.
15. Fit the weatherstrips.
16. Raise the drop glass and hold in position with tape. Fit the regulator, engaging the arm in the glass channel and secure with 4 screws.
17. Lower the window. Adjust the position of the front channel to ensure the glass is free to move but with minimum play, and tighten the channel lower securing screw. Check the window for correct movement.
18. Refit the water deflector, trim panel (connecting radio speaker), door capping etc.

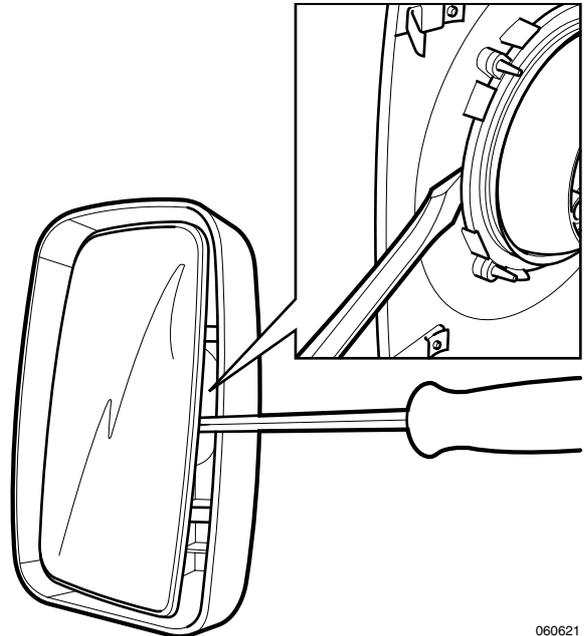
Fixed Glass

To remove the fixed glass, carry out operations 1 to 7 of Drop Glass Removal. It is not necessary to remove the drop glass from the door.

Remove the fixed glass.

Refitting is the reverse of the removal procedure as detailed in Drop Glass Refit.

EXTERIOR MIRROR



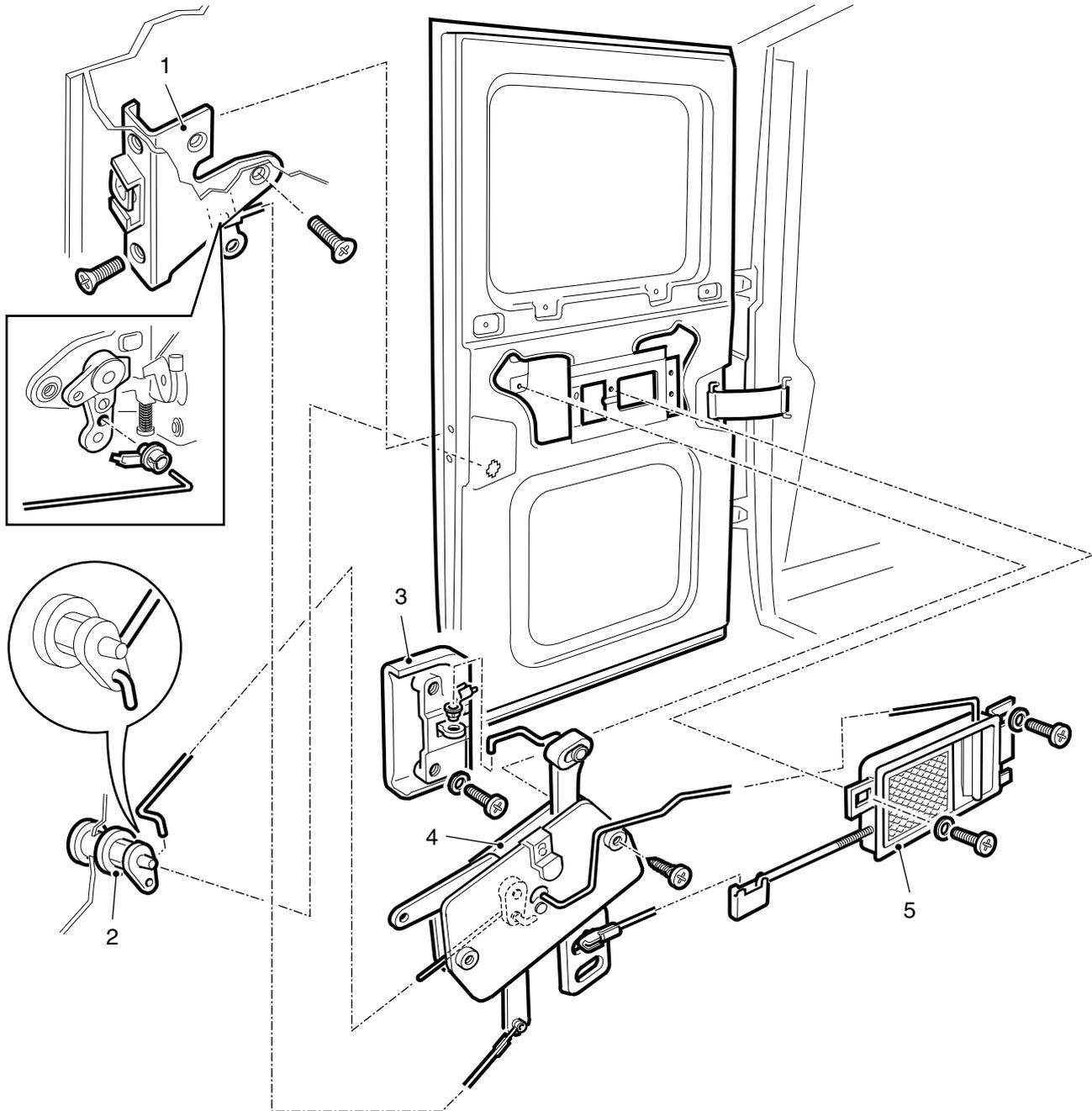
060621

**Fig.1 Exterior Mirror
Mirror Glass Remove**

1. Position glass as illustrated.
2. Insert a screwdriver blade between the glass mounting and the pivot as illustrated, and twist to release the glass.

Refit

3. Position the glass, locating its spigots into the mounting, and press into place.



060574

Fig.1 Crew Cab Door

- | | |
|-----------------------|--------------------|
| 1. Lock latch | 4. Interface unit |
| 2. Remote lock barrel | 5. Interior handle |
| 3. Exterior handle | |

CREW CAB DOOR

Locking Mechanism

Remove

NOTE: Crew cab door lock mechanism components are colour coded blue.

1. Remove the interior door pull and interior handle bezels, and disconnect the check strap. Carefully prise off the trim panel.

NOTE THE POSITION OF THE LINKAGES PRIOR TO DISMANTLING.

2. To remove the lock barrel:
 - Use special tool LDV 117 to release the securing ring (see section 'Door Key Lock Barrel').
 - Withdraw the barrel, disconnect the interface link and discard the securing ring.
3. To remove the lock latch:
 - Disconnect the link to the interface.
 - Turn the latch to the lock position, remove the 3 securing screws to detach the latch.
4. To remove the interface:
 - Note the position of the connecting links.
 - Disconnect the exterior handle link.
 - Disconnect the interior handle link at the connector.
 - Disconnect the interior lock link.
 - Disconnect the latch link (if not already detached).
 - Remove the 2 securing screws.
 - Manoeuvre the interface out through the aperture, detaching the lock barrel link (if not already detached).

5. To remove the exterior handle:
 - Disconnect the link to the interface (if not already disconnected)
 - Remove the 2 securing screws.
6. To remove the interior handle:
 - Disconnect the interior handle and lock links (if not already disconnected).
 - Remove the 3 securing screws.

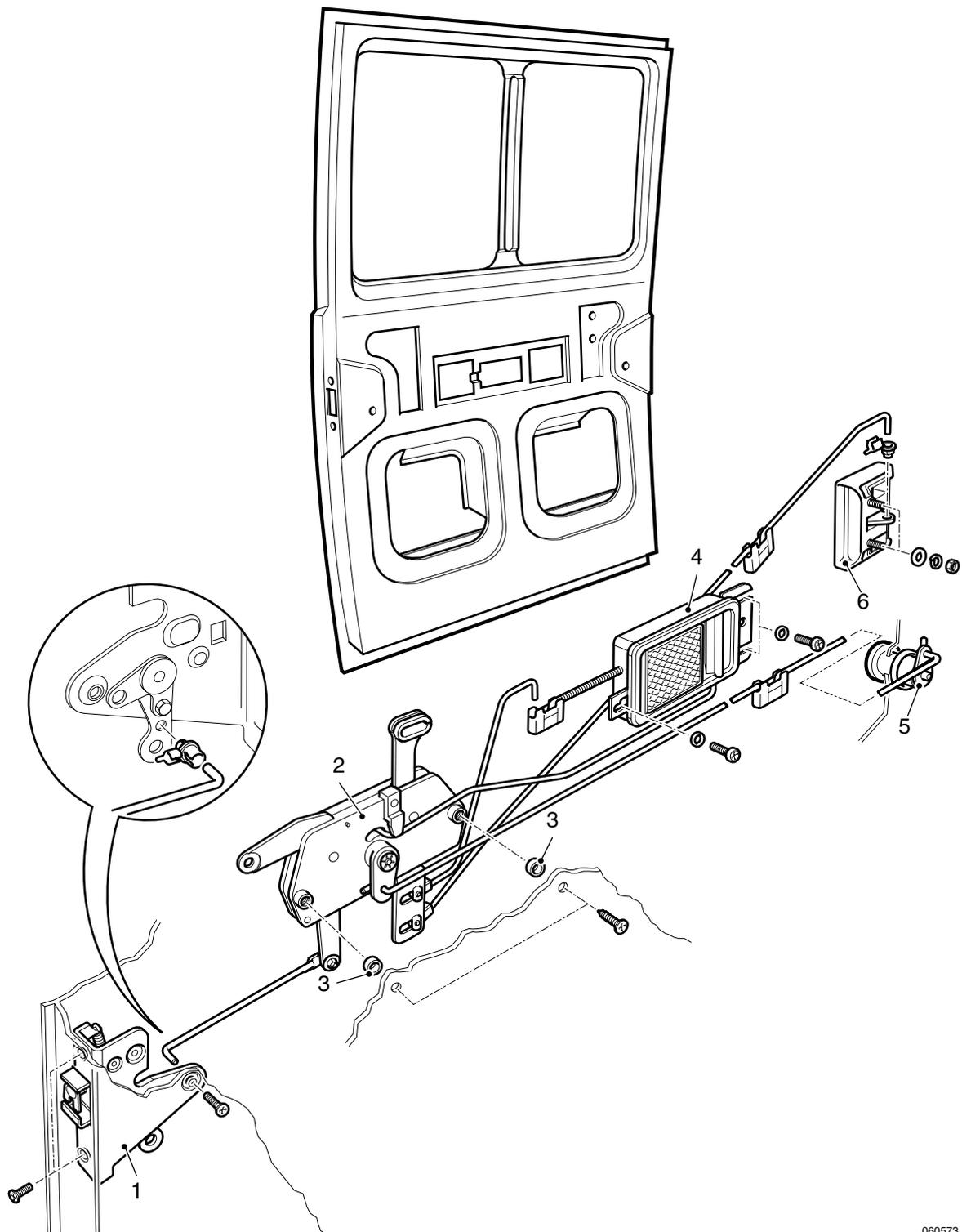
Refit

7. Refitting is the reverse of the above, noting the following:
 - When fitting the lock barrel use a new securing ring, and tighten it using special tool LDV 117.
8. The locking mechanism must be adjusted as follows:

Lock Mechanism Adjustment.

This adjustment is similar to the procedure detailed in 'Hinged Cab Doors – Lock Mechanism Adjustment'.

1. Slacken the interface unit and the interior handle securing screws.
2. Turn the lock latch to the 'lock' position.
3. While applying pressure on the latch operating arm towards the latch, slide the interface unit away from the latch just sufficient to eliminate free play in the latch link. Hold it in this position while tightening the interface screws.
4. Turn the interior lock flap to the unlock position and apply pressure on it away from the interface to eliminate free play in the linkage. Hold in this position while tightening the interior handle screws.
5. Check the operation of the interior and exterior locking mechanisms.



060573

Fig.1 Side Loading Door

- | | | | |
|----|----------------|----|-------------------|
| 1. | Lock latch | 4. | Interior handle |
| 2. | Interface unit | 5. | Remote key barrel |
| 3. | Spacers | 6. | Exterior handle |

SIDE LOADING DOOR

Locking Mechanism

Remove

NOTE: Side load door lock mechanism components are colour coded green.

1. Remove the interior handle bezels and carefully prise off the trim panel.

NOTE THE POSITION OF THE LINKAGES PRIOR TO DISMANTLING.

2. To remove the lock latch:
 - Disconnect the link to the interface.
 - Turn the latch to the 'lock' position and remove the 3 securing screws to release the latch.
3. To remove the exterior handle:
 - Disconnect the link to the interface at the connector.
 - Remove the handle securing nuts/washers to detach the handle.
4. To remove the lock barrel:
 - Disconnect the link to the interface at the connector.
 - Use special tool LDV 117 to remove the barrel securing ring (see section 'Door Key Lock Barrel'). Discard the securing ring.
5. To remove the interior handle:
 - Disconnect the interior handle link to the interface at the connector.
 - Remove the 3 securing screws to remove the handle, disconnecting the interior lock link to the interface.
6. To remove the interface:
 - Note the position of the connecting links.
 - Disconnect the link to the lock latch (if not already detached).
 - Disconnect the link to the lock barrel at the connector (if not already detached).
 - Disconnect the link to the exterior handle at the connector (if not already detached).
 - Disconnect the link to the interior lock flap (if not already detached).
 - Disconnect the interior handle link at the connector (if not already detached).
 - Remove the 2 securing screws, capturing the spacers.
 - Manoeuvre the interface out through the door aperture.



Refit

7. Refitting is the reverse of the above, noting the following:
 - When fitting the lock barrel, use a new securing ring and tighten it using special tool LDV 117.
 - Fit the lock latch and connect the link to the interface before securing the interface.
 - Position the interior handle link in the guide behind the interior handle location.
 - Position the lock barrel link in the channel behind the interior handle location.
 - Position the interior lock flap link in front of the interior handle location.
 - The interior handle link must run behind the interior lock flap link.
8. After fitting, the locking mechanism must be adjusted as follows:

Lock Mechanism Adjustment.

This adjustment is similar to the procedure detailed in 'Hinged Cab Doors – Lock Mechanism Adjustment'.

1. Slacken the interface unit and the interior handle securing screws.
2. Turn the lock latch to the 'lock' position.
3. While applying pressure on the latch operating arm towards the latch, slide the interface unit away from the latch just sufficient to eliminate free play in the latch link. Hold it in this position while tightening the interface screws.
4. Turn the interior lock flap to the unlock position and apply pressure on it away from the interface to eliminate free play in the linkage. Hold in this position while tightening the interior handle screws.
5. Check the operation of the interior and exterior locking mechanisms.

Door – remove, refit and adjust

Remove

The door has three mounting points – upper front, lower front and centre rear.

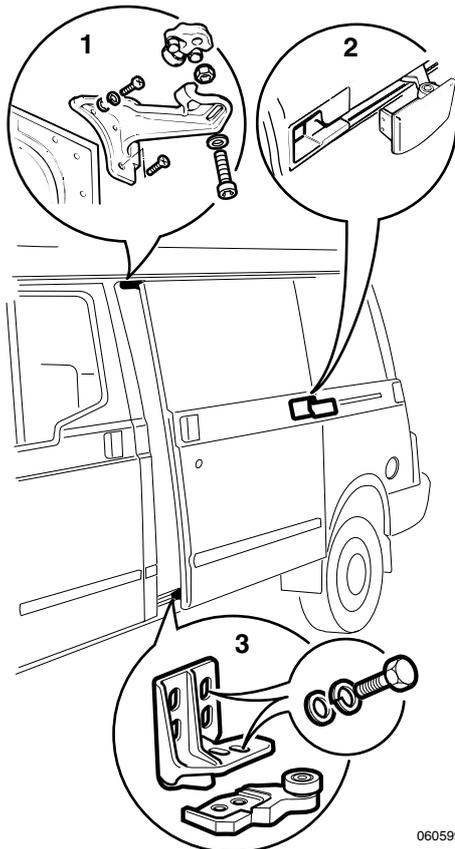


Fig.2 Side Loading Door Mounting Points

1. Upper mounting
2. Centre mounting
3. Lower mounting

1. To remove the door, partially open it and support the door on a suitably protected jack.

NOTE: All the mounting points, plus the door striker plate, and the buffer on the front face are adjustable, therefore it is recommended that each point is temporarily marked prior to removal for ease of refitting.

2. Remove the 2 screws and 2 nuts which secure the centre mounting bracket to the door and pull the bracket clear.
3. Remove the 4 lower mounting bracket securing bolts.
4. Remove the 3 upper mounting bracket securing screws.

Refit

The door is rehung by reversing the above procedures 1 – 4, aligning the marks made at the mountings. Final adjustment of the mountings, striker plate and buffer is then made as follows.

Adjust

Before starting to adjust the door, remove the buffer plate at the 'C' post and the lock striker plate at the 'D' post.

The door is adjusted at the mountings in two phases – vertically (up and down) and horizontally (in and out). The vertical adjustment is made first.

Vertical adjustment

Stage 1:

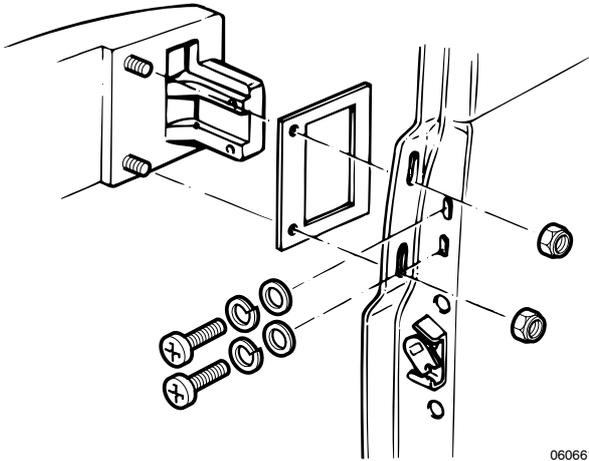


Fig.3 Centre Mounting

- Slacken the centre mounting and lift the rear of the door to align its profile (waist) line with the profile on the body panel.
- During adjustment, carefully move the door to its closed position to check alignment, but without damage to paintwork.

Stage 2:

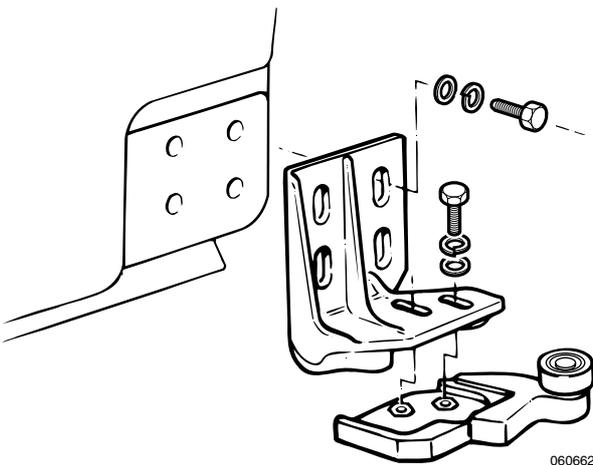


Fig.4 Lower Mounting

- Slacken the lower mounting vertical adjustment bolts.

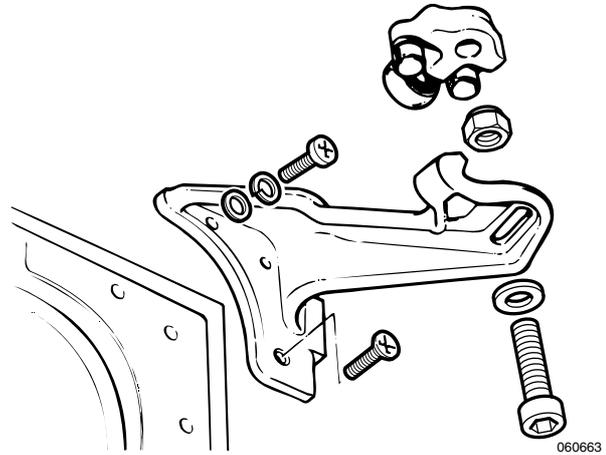


Fig.5 Upper Mounting

- Slacken the upper mounting lock nut and adjust the allen screw to move the front of the door up or down to align the profile line at the front.

Horizontal adjustment

Stage 3:

- Move the upper mounting in or out until it is flush with adjacent body panels when in the closed position. Tighten the lock nut.
- Slacken the horizontal adjustment bolts on the lower mounting to move the lower edge of the door in or out and achieve a flush fitting. Tighten the bolts.

Stage 4:

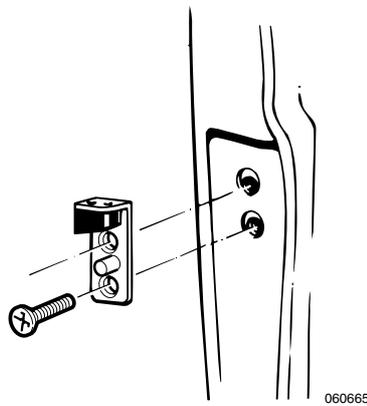


Fig.6 Striker Plate

- Fit the lock striker plate and align it by eye to the vertical position. Holding the exterior door handle open, slide the door to its closed position. If there are signs of 'snagging' at the striker plate, adjust it vertically until the door closes cleanly.
- Check the flush fitting of the rear of the door with the body panel – adjust the striker plate in or out until it fits correctly.

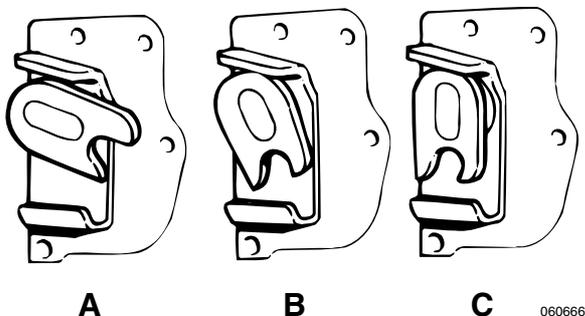


Fig.7 Lock Latch Positions

- A. Open position
- B. First lock position
- C. Second lock position

CAUTION: Make sure the striker is positioned horizontally to allow the lock latch two movements, i.e. first lock position and second lock position.

If the striker is adjusted too far in, the lock latch will only turn as far as the first position.

Stage 5:

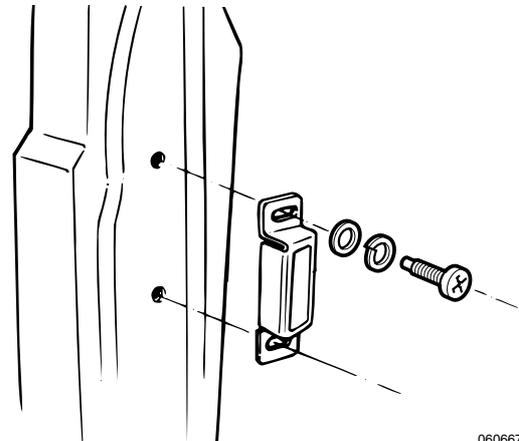


Fig.8 Buffer Plate

- Fit the buffer plate and tighten it finger tight. Close the door to allow the buffer to move the plate into its working position then tighten the screws. If the buffer is misaligned vertically with its plate, the buffer can be adjusted on the door.
- Finally recheck the position of the door and its ease of movement, then check that all components are securely tightened and refit the top rail trim.

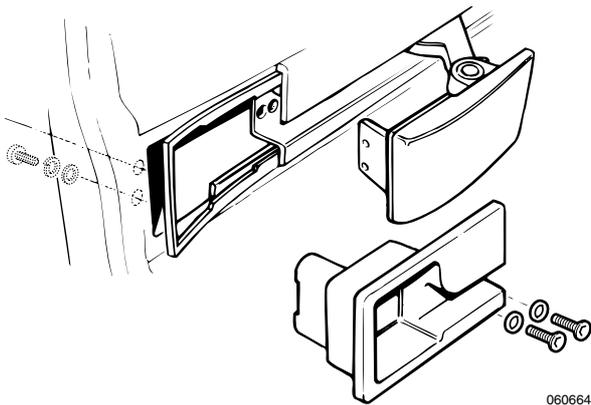
Door Mounting Attachments

Remove and refit

Centre mounting

Remove

1. Put masking tape down the outside edge of the 'D' post and down the inside rear edge of the door for protection against paint damage.
2. Mark the position of the buffer plate on the 'C' post then remove the plate.
3. Mark the position of the centre mounting on the door then support the door and remove the centre mounting bolts. Carefully shut the door on its lock without damaging the rear edge against the 'D' post.



060664

Fig.9 Centre Track – Front End Casting

4. To remove the front end casting of the centre track, remove two screws retaining it from inside the vehicle, and two screws from outside the vehicle.

Carefully prise out the front end casting without damaging the paintwork, and slide the centre mounting forward to remove it from the track.

Refit

5. Reverse operations 1 – 4
6. Adjust the mounting and the front buffer plate as detailed in the adjustment section.

Upper mounting

Remove

1. Remove the rearmost two clips retaining the top rail trim.
2. Suitably support the door.
3. Slacken the mounting lock nut, remove the allen screw to release the mounting.
4. Remove the buffer from the track.
5. Lift the door interior catch and slide the mounting rearwards and clear of the track.

Refit

Reverse operations 1 – 5, then adjust the mounting as detailed in the adjustment section.

Lower mounting

Remove

1. Remove the two bolts attaching the roller mounting to the bracket.
2. Drill out the two pop rivets locating the rear stop in the lower channel. Pull out the stop and remove the hinge.

Refit

3. Reverse operations 1 – 2, then adjust the mounting as detailed in the adjustment section.

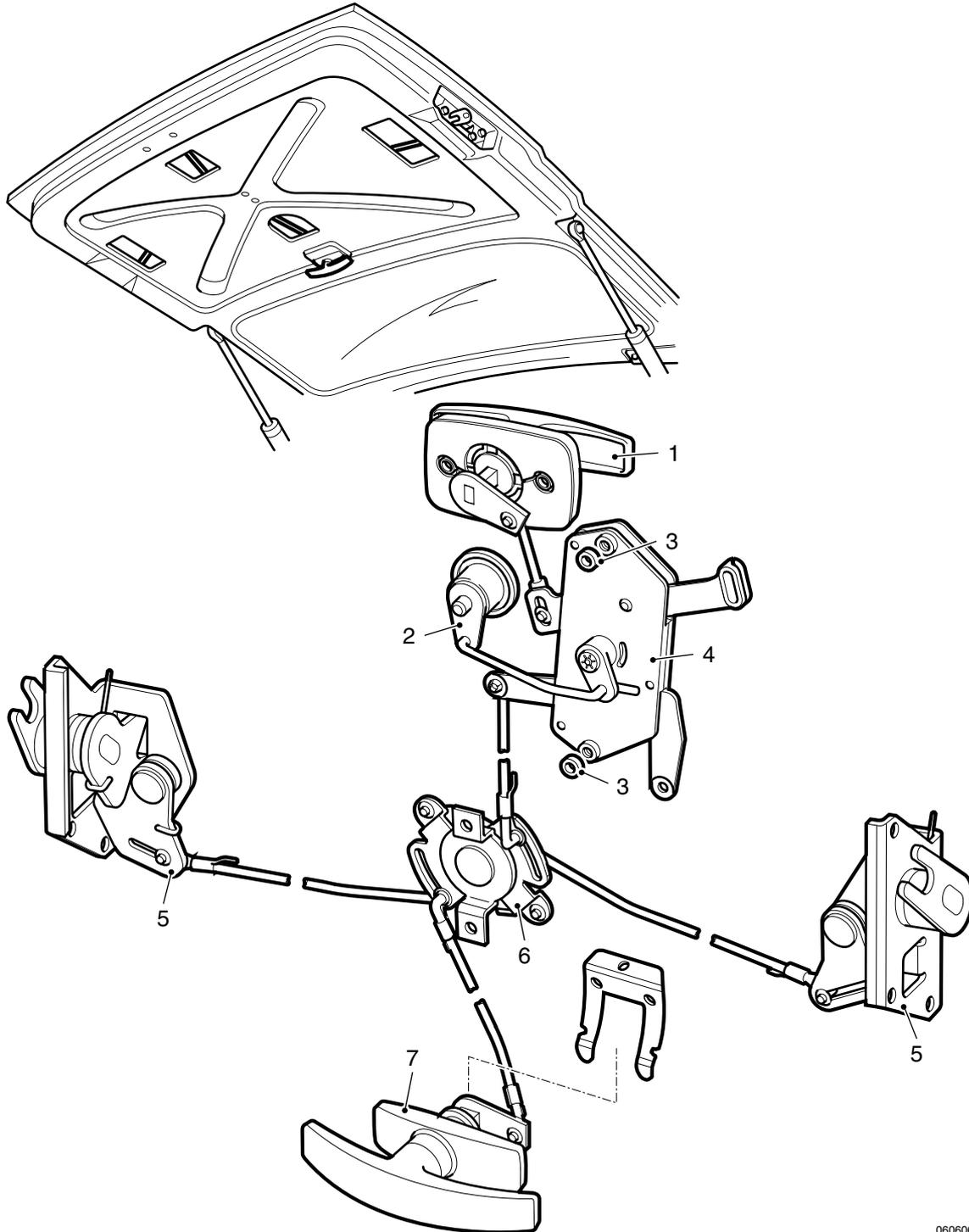
Centre mounting channel

Remove

1. Partly open the door and support it at the rear. Mark the position of the centre mounting, before removing the two screws to release it from the door. Close the door.
2. Remove the posidrive screws and nuts retaining the centre mounting channel to the body side.
3. Withdraw the channel complete with the centre mounting. Discard the channel seal.
4. Remove one of the channel end caps to release the centre mounting.

Refit

5. Refitting is the reverse of instructions 1 to 4. Use a new channel seal.
6. Check the operation of the door and, if necessary, adjust the mountings as described in the section on adjustment.



060606

Fig.1 Tailgate Locking Mechanism

- | | |
|--------------------|--------------------|
| 1. Exterior handle | 5. Lock latch |
| 2. Lock barrel | 6. Relay mechanism |
| 3. Spacers | 7. Interior handle |
| 4. Interface unit | |

TAILGATE – PILOT

Locking Mechanism

Remove

NOTE: Tailgate door lock mechanism components are colour coded pink.

1. Remove the trimboard.

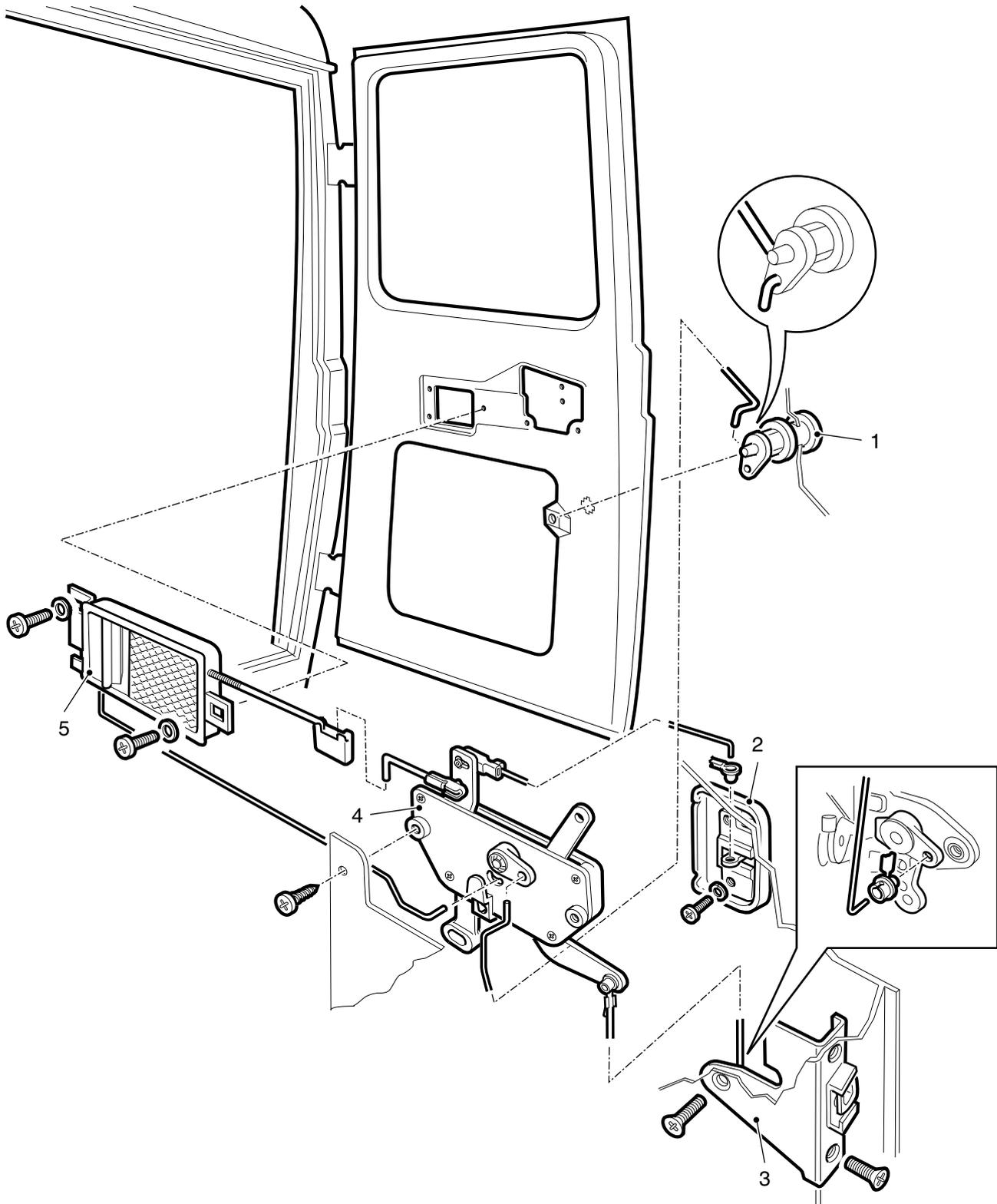
NOTE THE POSITION OF THE LINKAGES PRIOR TO DISMANTLING.

2. To remove the lock barrel:
 - Use special tool LDV 117 to release the securing ring (see section 'Door Key Lock Barrel').
 - Withdraw the barrel, disconnect the interface link and discard the securing ring.
3. To remove the exterior handle:
 - Disconnect the link to the interface.
 - Remove the 2 securing screws.
3. To remove the interior handle:
 - Disconnect the link to the relay.
 - Remove the securing clip and withdraw the handle.
4. To remove the relay mechanism:
 - Note the position of the link rods.
 - Disconnect the link rod to the interior handle (if not already disconnected).
 - Disconnect the link rod to the exterior handle (if not already disconnected).
 - Disconnect the link rod to the interface.
 - Remove the 2 relay securing screws.
 - Disconnect the latch link rods to the relay at the relay.

5. To remove a lock latch:
 - Disconnect the link rod to the relay.
 - Mark the position of the latch, remove 3 screws to release it.
6. To remove the interface:
 - Remove the lock barrel (if not already removed).
 - Disconnect the link rod to the exterior handle (if not already disconnected).
 - Disconnect the link rod to the relay (if not already disconnected).
 - Remove 2 screws securing the interface, capturing the spacers.

Refit

7. Refitting is the reverse of removal, noting the following:
 - Fit the lock latches, aligning the position marks made on removal.
 - Fit the relay and connect the latch links. Adjust the position of the relay to ensure both latches open together.
 - Fit the interface, with spacers.
 - Fit the exterior handle.
 - Fit the lock barrel using a new securing ring, and tighten it with tool LDV 117.
 - Fit the interior handle.
 - Check all the lock / unlock operations.



060570

Fig.1 Pilot Right Hand Rear Door

- | | |
|-----------------------|--------------------|
| 1. Remote lock barrel | 4. Interface unit |
| 2. Exterior handle | 5. Interior handle |
| 3. Lock latch | |

RIGHT HAND REAR DOOR – PILOT

Locking Mechanism

Remove

NOTE: Pilot rear door lock mechanism components are colour coded grey.

1. Remove the interior handle bezels and carefully prise off the trim panel.

NOTE THE POSITION OF THE LINKAGES PRIOR TO DISMANTLING.

2. To remove the lock barrel:
 - Use special tool LDV 117 to release the securing ring (see section 'Door Key Lock Barrel').
 - Withdraw the barrel, disconnect the interface link and discard the securing ring.
3. To remove the lock latch:
 - Disconnect the link to the interface.
 - Turn the lock latch to the 'lock' position and remove the 3 securing screws.
4. To remove the interface:
 - Note the position of the connecting links.
 - Disconnect the exterior handle link.
 - Disconnect the interior handle link at the connector.
 - Disconnect the interior lock and latch links (if not already detached).
 - Remove the 2 securing screws.
 - Manoeuvre the interface out through the lower aperture, detaching the lock barrel link (if not already detached).

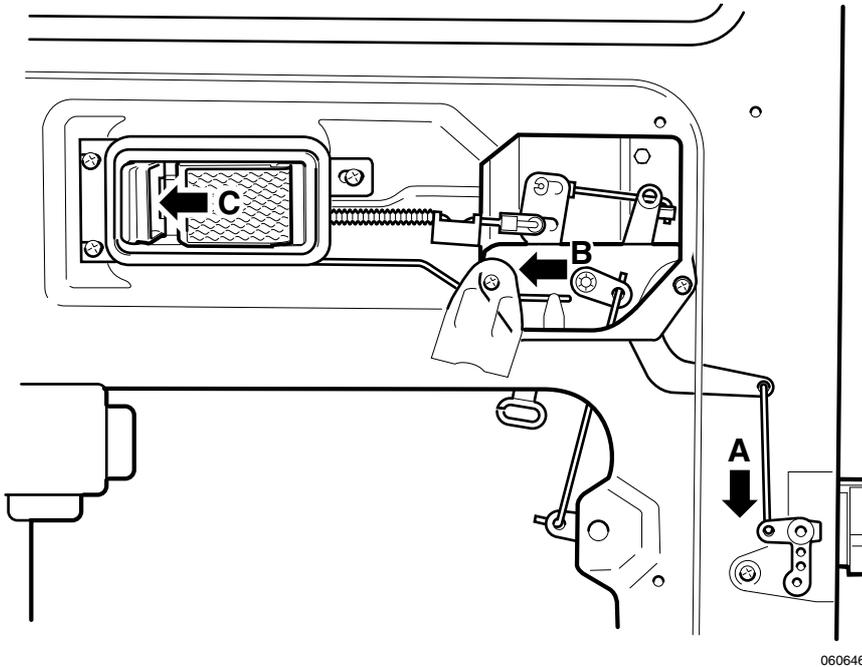
5. To remove the exterior handle:
 - Remove the interface securing screws (if not already removed) and allow the interface to drop down.
 - Disconnect the interface link (if not already detached).
 - Remove the 2 securing bolts.

Refit

6. Refitting is the reverse of the above, noting the following:
 - When fitting the lock barrel, use a new securing ring and tighten it using special tool LDV 117.
7. The locking mechanism must be adjusted as follows:

Lock Mechanism Adjustment.

1. Slacken the interface unit and the interior handle securing screws.
2. Turn the lock latch to the 'lock' position.

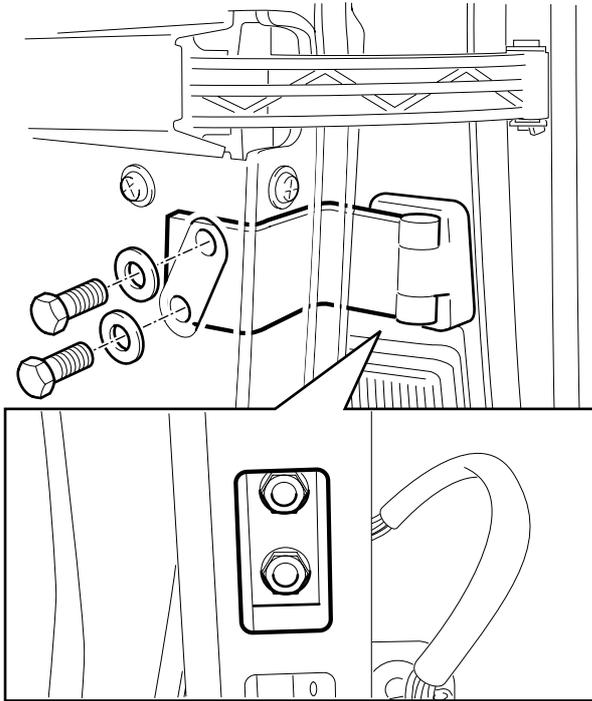


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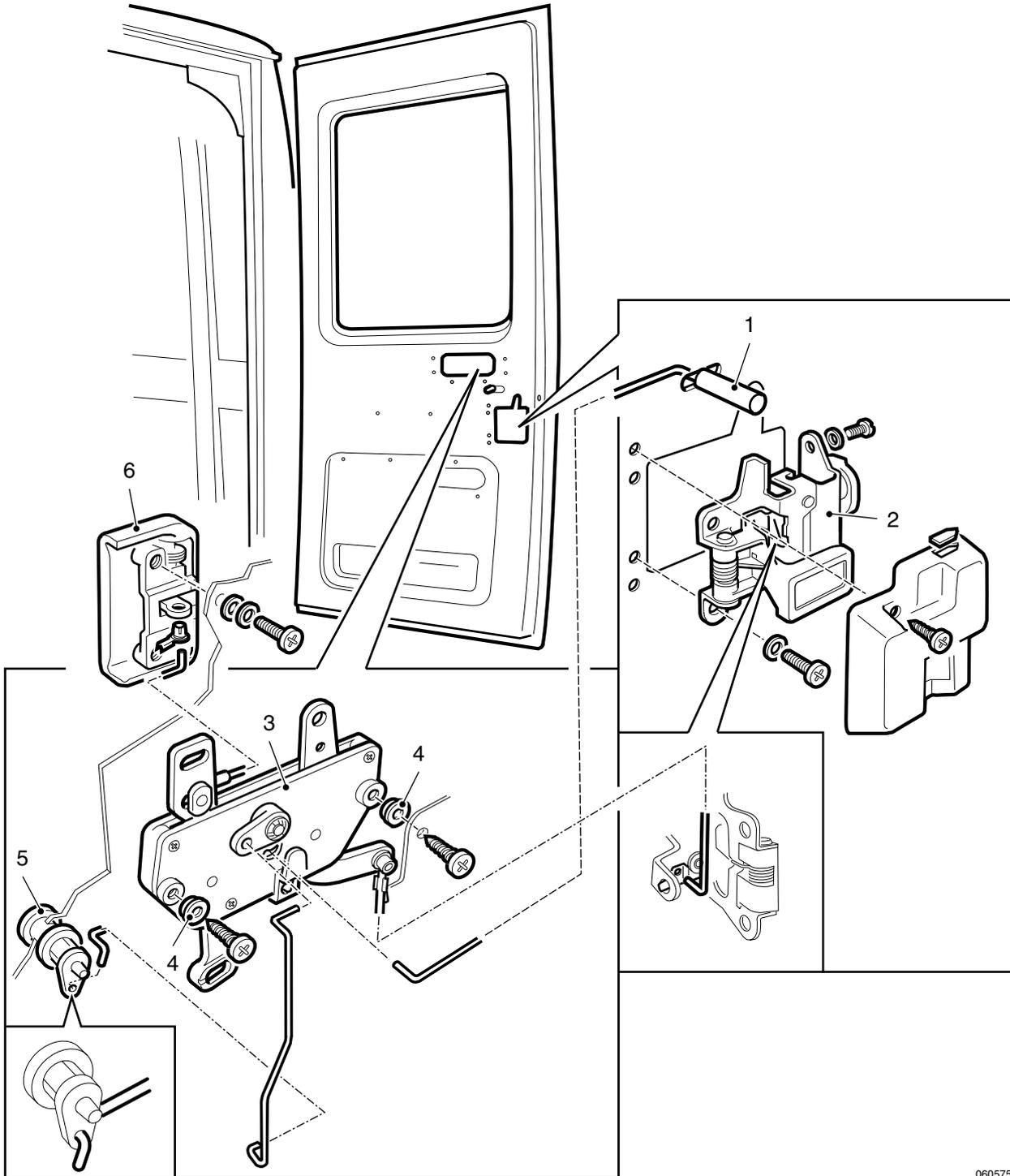
Fig.2 Adjusting Lock Mechanism

3. While applying downward pressure (fig.2, A) on the latch operating arm, slide the interface unit (fig.2, B) away from the latch just sufficient to eliminate free play in the latch linkage. Hold it in this position while tightening the interface screws.
4. Turn the interior lock flap to the unlock position and apply pressure on it (fig.2, C) away from the interface to eliminate free play in the linkage. Hold in this position while tightening the interior handle screws.
5. Check the operation of the interior and exterior locking mechanisms.

REAR DOOR HINGE – PILOT



060649



060575

Fig.1 Convoy Right Hand Rear Door

- | | |
|------------------------|-----------------------|
| 1. Interior lock knob | 4. Spacers |
| 2. Lock latch assembly | 5. Remote lock barrel |
| 3. Interface unit | 6. Exterior handle |

RIGHT HAND REAR DOOR – CONVOY

Locking Mechanism

Remove

NOTE: Convoy rear door lock mechanism components are colour coded red.

1. Remove the trim panel by careful easing of the securing studs.

NOTE THE POSITION OF THE LINKAGES PRIOR TO DISMANTLING.

2. To remove the lock barrel:
 - Use special tool LDV 117 to release the securing ring (see section 'Door Key Lock Barrel').
 - Withdraw the barrel, disconnect the interface link and discard the securing ring.
3. To remove the lock latch:
 - Remove the 4 Torx securing screws.
 - Release the cable (Hi-Loader doors only).
 - Disconnect the link to the interface.
4. To remove the exterior handle:
 - Remove the interior cover panel.
 - Disconnect the link to the interface.
 - Remove the interface securing screws (if not already removed) and allow the interface to drop down.
 - Remove the 2 securing bolts.

5. To remove the interface:

NOTE: For ease of removal, first remove the exterior handle and carefully prise off the badge panel.

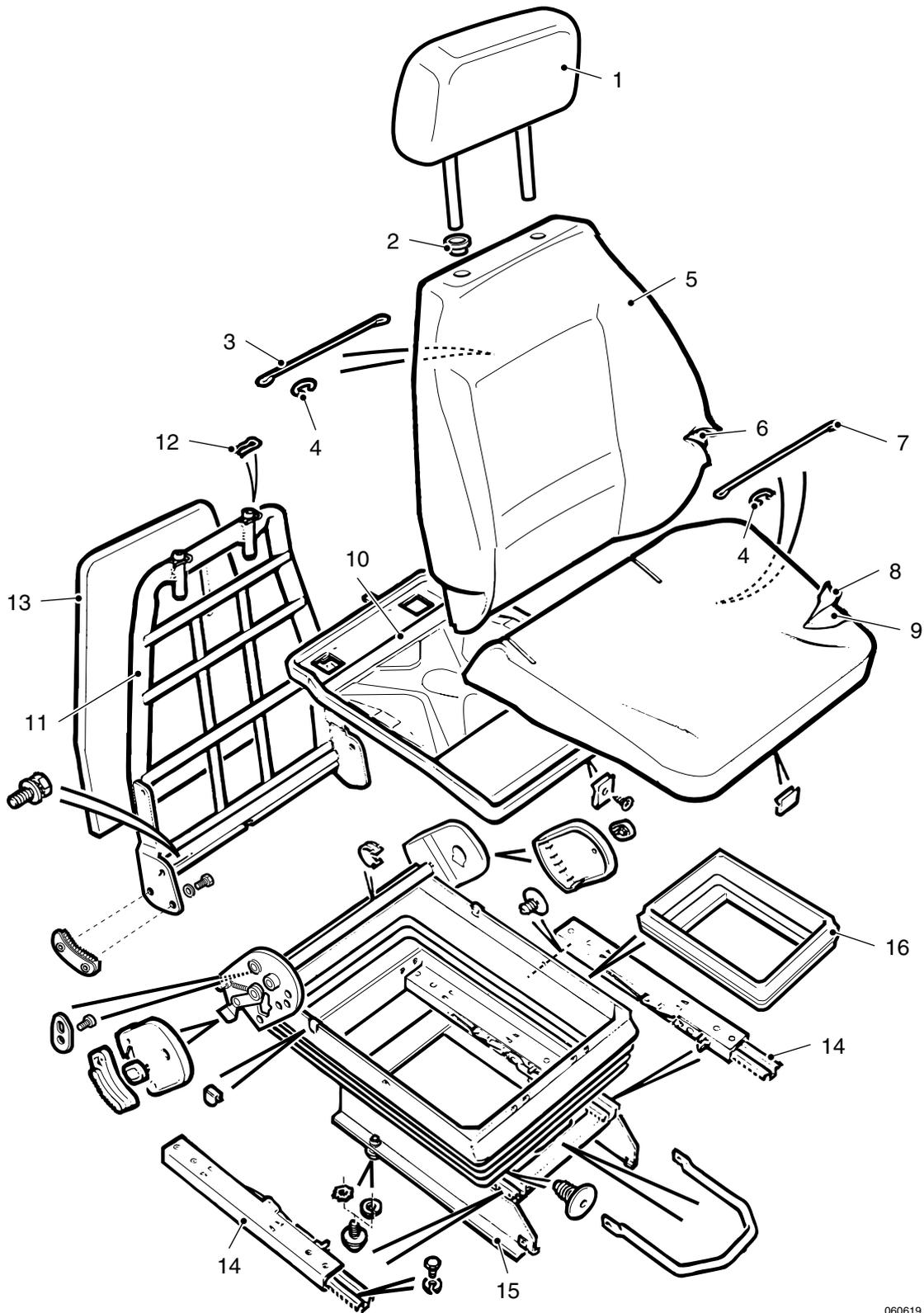
- Remove the interior cover panel (if not already removed).
- Note the position of the connecting links.
- Remove the lock latch (if not already removed) and disconnect the latch link.
- Disconnect the exterior handle link (if not already detached).
- Unscrew the interior lock knob.
- Remove the 2 securing screws, capturing the spacers.
- Manoeuvre the interface to release the interior lock link and remove through the lower aperture, disconnecting the lock barrel link.

Refit

6. Refitting is the reverse of the above, noting the following:
 - To fit the badge panel, remove the securing clips from the panel and fit them in the door. Then carefully press the panel into position.
 - When fitting the lock barrel, use a new securing ring and tighten it with tool LDV 117.
7. The lock mechanism must be adjusted as follows:

Lock Mechanism Adjustment.

1. Slacken the interface unit securing screws.
2. Turn the lock latch to the lock position.
3. Press the lock latch operating arm down, and hold it in that position while sliding the interface unit to the left just sufficient to eliminate free play in the latch linkage. Tighten the interface screws.
4. Check the lock / unlock operation.



060619

Fig.1 Driver's Seat (without height adjustment)

- | | | |
|------------------------------|-----------------------------|--------------------|
| 1. Head restraint | 7. Seat cover retaining rod | 13. Backing pad |
| 2. Guide cap | 8. Cushion cover | 14. Slide assembly |
| 3. Squab cover retaining rod | 9. Cushion foam | 15. Subframe |
| 4. Hog ring | 10. Seat pan | 16. Bellows |
| 5. Squab cover | 11. Squab frame | |
| 6. Squab foam | 12. Clip | |

SEATS

NOTE: All the following seat operations refer to the driver's seat. Other seat operations are similar, but not necessarily the same.

Seat Remove / Refit

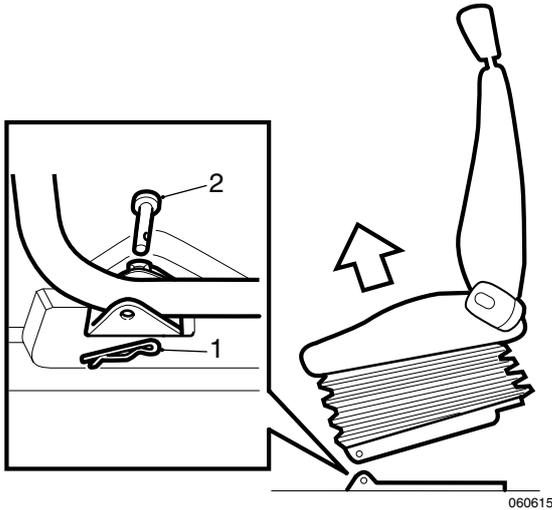


Fig.2 Removing Seat

1. Remove the seat frame securing bolts at the rear.
2. Remove the 'R' clips (fig.2, 1) at the front mounting brackets, and pull out the pins (2) to release the seat.
3. Refitting is the reverse of the removal procedure.

Head Restraint Remove / Refit

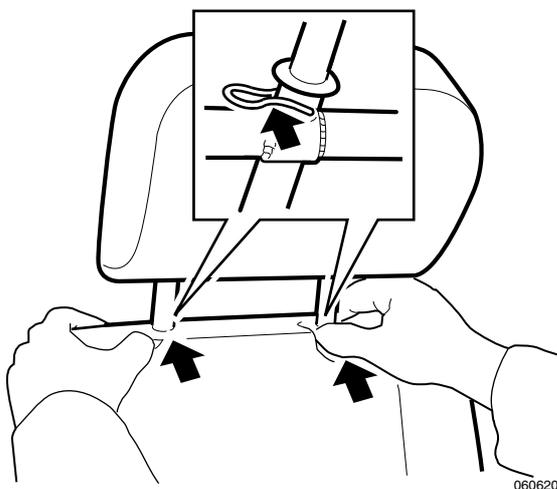


Fig.3 Removing Head Restraint

1. Exert thumb pressure on the head restraint retaining clips (see fig.3) while pulling the head restraint upwards clear of the squab.
2. To refit, locate the head restraint supports in their squab locations, then press downwards.

Seat Cushion & Cushion Cover Remove / Refit

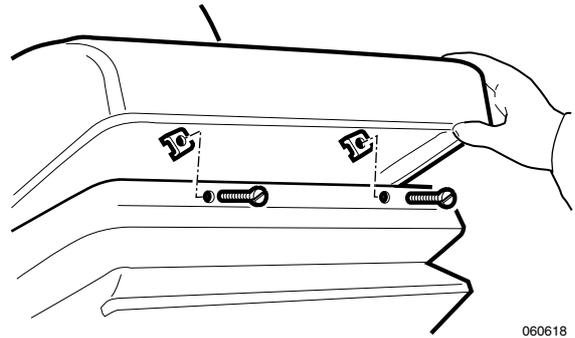
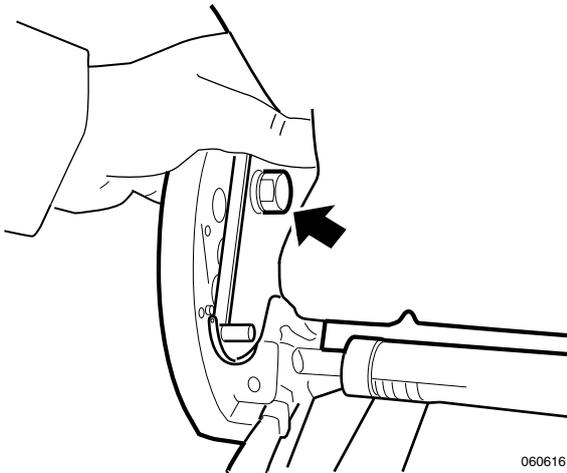


Fig.4 Cushion Securing Screws

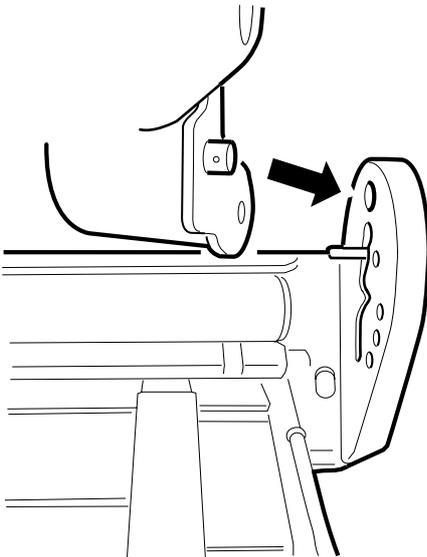
1. Remove the 2 screws securing the front of the cushion to the frame (fig.4), and lift the cushion clear.
2. Turn the 2 retaining tongues on the base of the cushion parallel with the side.
3. Release the cover from around the base of the cushion, and peel it back as far as the retaining rod (fig.1, 7) at the feature line.
4. Note the position of the rod and the hog rings before pulling out the rod to release the cover.
5. Refitting the cover is the reverse of removal, but ensure the retaining rod is located through all the hog rings and is positioned centrally to the cushion.
6. To refit the cushion, turn the 2 retaining tongues outwards and locate them under the frame. Drop the cushion into place and secure with the 2 screws.

Seat Squab & Squab Cover Remove / Refit



060616

Fig.5 Squab Securing Bolt

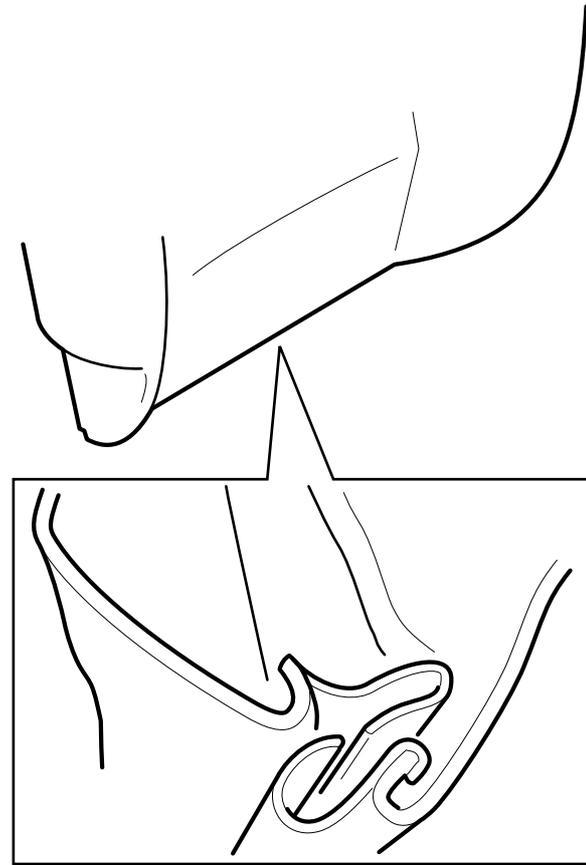


060617

Fig.6 Squab Securing Peg

The squab is secured to the frame by a bolt (fig.5) on one side, and by a peg (fig.6) on the opposite side.

1. Remove the head restraint (see fig.3).
2. To release the squab, remove the cushion (see Seat Cushion & Cushion Cover Remove / Refit, operation 1)
3. Remove the squab securing bolt (fig.5) and lift the squab clear.
4. Drift out the pin securing the lumbar support adjustment knob (if fitted).



060660

Fig.7 Releasing Squab Cover Fastening

5. Unclip the squab cover fastening at the lower end. (fig 7)
6. Peel back the squab cover as far as the retaining rod (fig.1, 3) at the feature line. Note the position of the rod and the hog rings before pulling out the rod to release the cover.
7. Refitting the cover is the reverse of the removal procedure, but ensure the retaining rod is located through all the hog rings and is positioned centrally to the seat.
8. To refit the squab, position the locating peg (fig.6) into the frame, and fit and tighten the securing bolt (fig.5).

WINDSCREEN – Pilot

Remove and refit

Special tools: 18G 468, 18G 468A, 18G 1486

⚠ WARNING: Wear protective goggles and gloves in case of glass breakage.

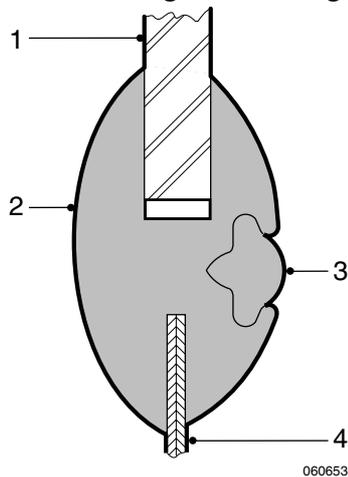


Fig.1 Section Through Glazing Rubber

1. Windscreen
2. Glazing rubber
3. Filler strip
4. Body aperture flange

Remove

1. Remove the wiper arms and blades, and remove the appliqué panel.
2. Locate one end of the windscreen glazing rubber filler strip, and pull the strip out of the rubber.
3. Insert a suitable wooden wedge between the glass and the glazing rubber and ease it all the way round to ensure the glass is free.
4. Remove the rear view mirror (if fitted).
5. Inside the cab exert steady pressure at one corner of the glass to ease it out of the glazing rubber, then continue to move round the edge of the glass until it is free. Place the glass on a soft, clean surface.
6. Remove the glazing rubber.

Inspection

7. Inspect the windscreen aperture for distortion, corrosion, high spots etc. and take corrective action as necessary. If the old glass is to be refitted, clean off foreign matter from the edges. If the glass has been broken, clean all glass fragments from the glazing rubber and inspect it for damage. Remove all glass particles from demister ducts and the vehicle interior using a vacuum cleaner.

Refit

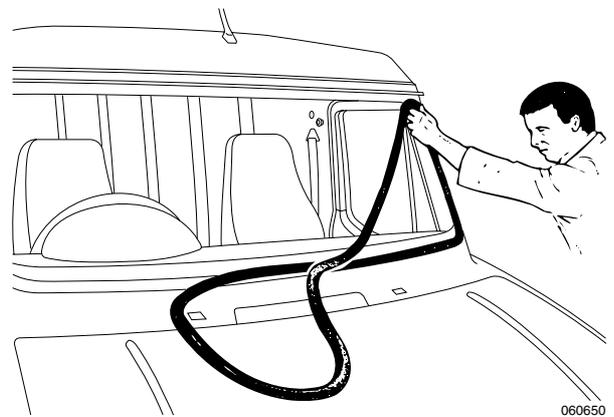
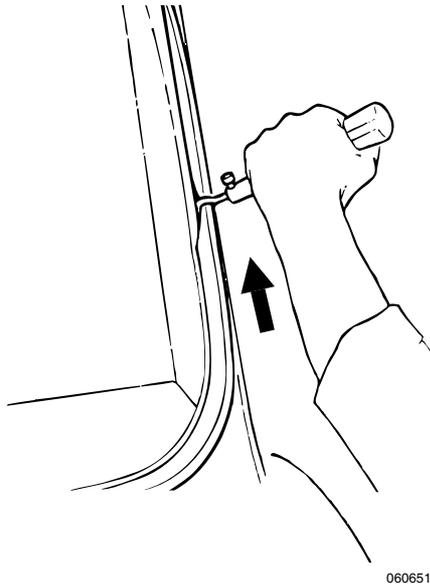


Fig.2 Fitting Rubber To Aperture

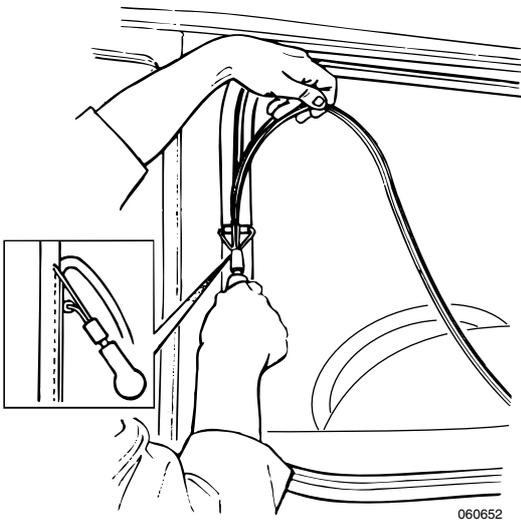
8. Fit the glazing rubber to the aperture flange, then apply soapy solution to the glass channel in the rubber and to the outer face of the rubber.
9. Centralise the glass to the aperture and fit it into the channel at the bottom of the glazing rubber.



060651

Fig.3 Using Tool 18G 468

10. Use glazing tool 18G 468 or similar to ease the outer lip of the rubber out and over the glass all the way round.



060652

Fig.4 Using Tool 18G 468A

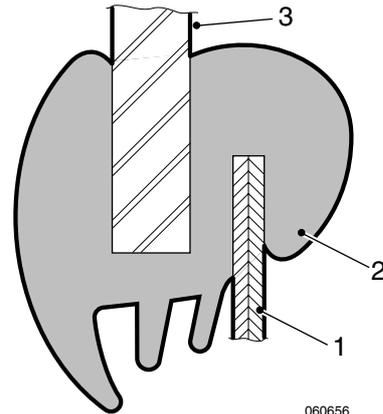
11. Use soapy solution to lubricate the filler strip and its channel. Starting at the bottom centre of the glazing rubber fit the filler strip using the glazing tool and adaptor 18G 468A. Allow an overlap of the strip ends before cutting the filler strip so that the joint is under pressure.
12. Clean off the screen.
Fit the appliqué panel.
Check that the wiper spindles are in the 'park' position before fitting the wiper arms and blades. Fit the rear view mirror.

WINDSCREEN – Convoy

Remove and refit

Special tool: 18G 1486

⚠ WARNING: Wear protective goggles and gloves in case of glass breakage.



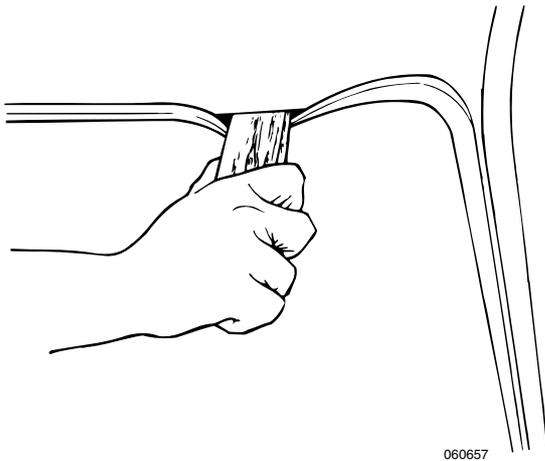
060656

Fig.1 Section Through Glazing Rubber

1. Windscreen
2. Glazing rubber
3. Body aperture flange

Remove

1. Inside the vehicle, remove the 'A' post finishers by pulling off the door aperture finishers at those areas.
2. Remove the wiper arms and blades; if tight, tool 18G 1486 can be used to free the arms from the spindles.
3. Remove the appliqué panel.
4. Outside the vehicle run a wooden wedge around the outside lip of the glazing rubber to break any adhesion to the body windscreen aperture.



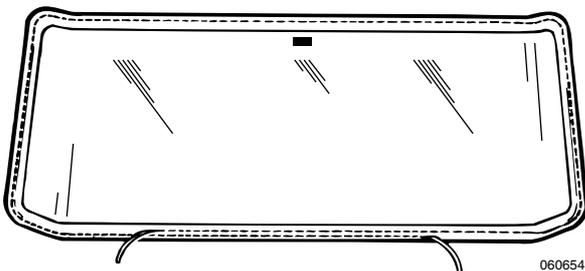
060657

Fig.2 Removing Windscreen

5. Commencing at one of the glass top corners, use the wooden wedge to lever the glazing rubber out round the aperture flange, and ease the glass and glazing rubber together out of the aperture.
6. Lay the glass on a non-scratch surface, detach the rubber and the rear view mirror from the glass (if fitted).

Refit

7. Ensure the sealing surface is clean and dry. If the windscreen has been broken, remove all glass particles from the glazing rubber and inspect it for damage. Remove all glass particles from the demister ducts and from the vehicle interior.



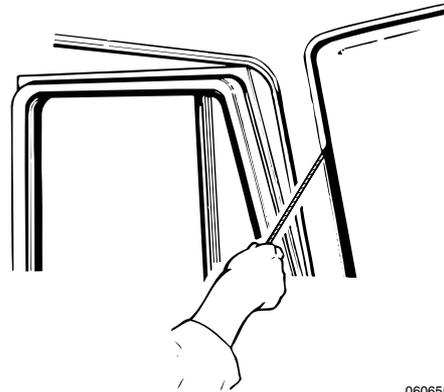
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Fig.3 Inserting Glazing Cord

8. Apply a soapy solution to the glazing rubber body flange groove. Insert a length of cord around the groove so the ends overlap at the bottom by at least half the glass width.

A short length of fuel pipe may be found useful to 'thread' the cord.

9. Check that the facia edge rubber finisher is correctly located, then position the glass squarely in the windscreen aperture, and with the ends of the cord inside the vehicle and lying on the facia.



060655

Fig.4 Installing Windscreen

10. With the aid of an assistant to press firmly against the glass from the outside, pull one end of the cord steadily inwards to pull the lip of the glazing rubber over the body flange. Do not disturb the facia edge finisher.

Use a pressure pad to strike the glass where necessary to settle it into the aperture.

NOTE: The windscreen is designed to be fitted without the use of sealant.

11. Fit the appliqué panel.
12. Check that the wiper spindles are in the 'park' position before fitting the wiper arms and blades, and the rear view mirror.
13. Refit the 'A' post finishers.



REAR DOOR GLASS – Pilot

Remove and Refit

The rear door glasses on Pilot models are located in the same way as the Convoy windscreen.

Therefore the procedure to remove/refit a rear door glass is similar to Convoy windscreen remove/refit, operations 4 to 10.

REAR DOOR GLASS – Convoy

Tools required: 18G 468, 18G 468A.

Remove and Refit

The rear door glasses on Convoy models are located in the same way as the Pilot windscreen, i.e. using a surround rubber with a rubber filler strip insert.

Therefore the procedure to remove/refit a rear door glass is similar to Pilot windscreen remove/refit, operations 2 to 11.

HEADLINING – Van (no partition)

Remove

1. Disconnect the battery(s), negative (earth) terminal(s) first.
2. Remove the side load door upper track finisher (if fitted).
3. Remove the 4 clips securing the headlining at the rear.
4. Remove the sun visors.
5. Convoy only – Remove the 'A' post finishers.
6. Carefully manoeuvre the headlining out, disconnecting the interior light wires.

It may first be necessary to ease off the door edge finisher at the top of the aperture on both sides.

Refit

7. Refitting is the reverse of the above.

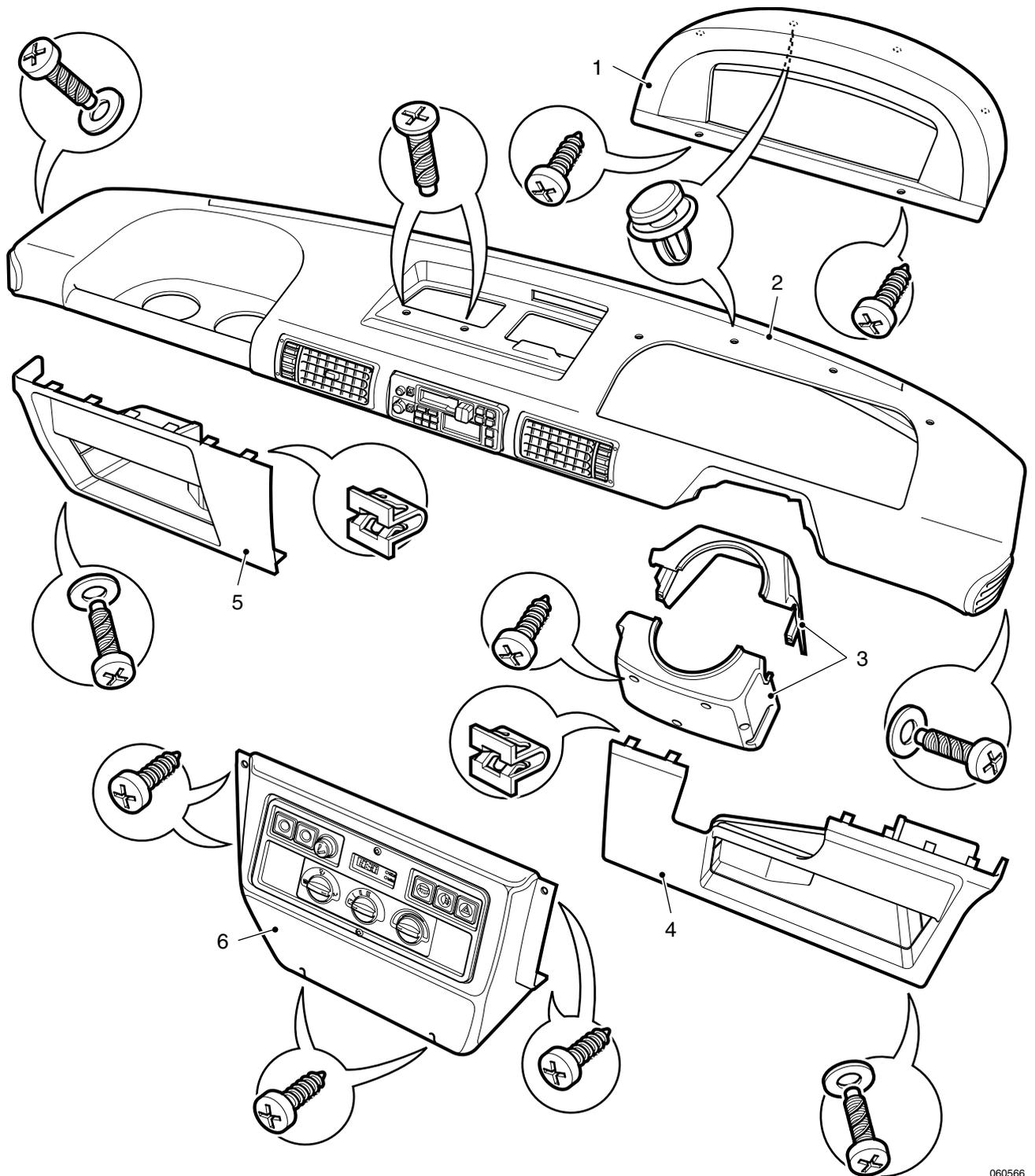


FIG.1 Facia

- | | |
|------------------------|-----------------------------------|
| 1. Instrument binnacle | 4. Lower facia – driver's side |
| 2. Facia | 5. Lower facia – passenger's side |
| 3. Column cowlings | 6. Centre console |

060566

LOWER FACIA PANELS

(See fig.1)

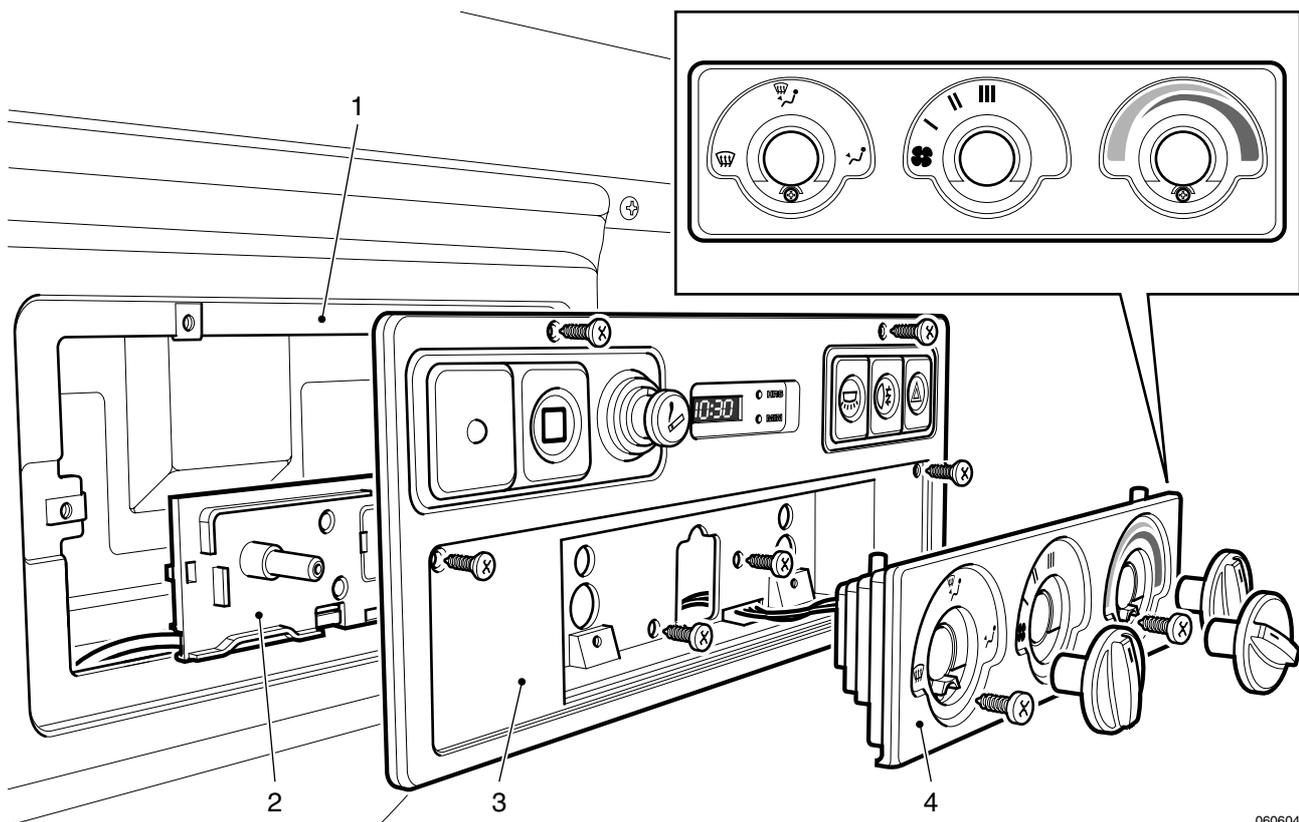
Remove

1. Slacken the 2 screws securing the panel at the lower corners.
2. Remove the panel by carefully easing it out of the clips securing it at the top.

Refit

3. Refitting is the reverse of the above.

CENTRE CONSOLE



060604

Fig.2 Centre Console

1. Centre console
2. Heater control mechanism
3. Control panel
4. Heater control display panel

Remove

1. Disconnect the battery(s), negative (earth) terminal(s) first.
2. Remove the left hand and right hand lower fascia panels.
3. Pull off the 3 heater control knobs. Remove the screws under the two outer knobs to detach the heater control display panel.

Disconnect the panel lighting multiplug.

4. Remove 2 screws to release the heater control mechanism.
5. Remove the 4 securing screws to release the centre console.
6. Note the position of the multiplugs before disconnecting them.

Refit

7. Refitting is the reverse of the above.

Centre Console Control Panel

To gain access to the following:

- Cigar lighter
 - Clock
 - Switches
 - Illumination bulbs (except heater control)
- Remove the panel securing screws and ease the panel rearwards.

INSTRUMENT BINNACLE

(See facia illustration – fig.1)

To release the instrument binnacle, remove 2 securing screws located above the steering column and carefully ease the binnacle upwards to release the 4 securing clips.



FACIA

(See facia illustration – fig.1)

Remove

1. Disconnect the battery(s), negative (earth) terminal(s) first.
2. Remove the lower facia panels.
3. Remove the steering wheel.
4. Remove the steering column cowlings.
5. Remove the instrument binnacle.
6. Pull off the 3 heater control knobs. Remove the screws under the two outer knobs to detach the heater control display panel.

Disconnect the panel lighting multiplug.

Remove 2 screws to release the heater control mechanism.

7. Remove the 4 securing screws to release the centre console, and pull it clear.
8. (Convoy only) Remove the 'A' post finishers.
9. Remove the 4 screws securing the facia – 2 screws by the fuse box and 1 at each end.
10. Manoeuvre the facia clear, at the same time disconnecting the radio and aerial.
NOTE: It may first be necessary to ease off the door aperture edge finishers above the facia on both sides to provide sufficient clearance.

Refit

11. Refitting is the reverse of the above, ensuring that when the facia is being positioned, the air ducts align and the sponge seal on the heater outlet to the fresh air ducts is not misplaced.

HEATER

Remove

1. Disconnect the battery(s), negative (earth) terminal(s) first.
2. Drain the coolant.
3. Remove the left and right hand lower facias.
4. Remove the centre console (see 'Centre Console Remove / Refit'), and disconnect the 2 heater control cables at the heater.

NOTE: It is not necessary to disconnect the multiplugs.

5.  **WARNING: If the coolant is hot the system will be pressurised. Place a thick cloth over the expansion tank filler cap, turn the cap slowly anti-clockwise to release the pressure and then carefully remove the cap.**

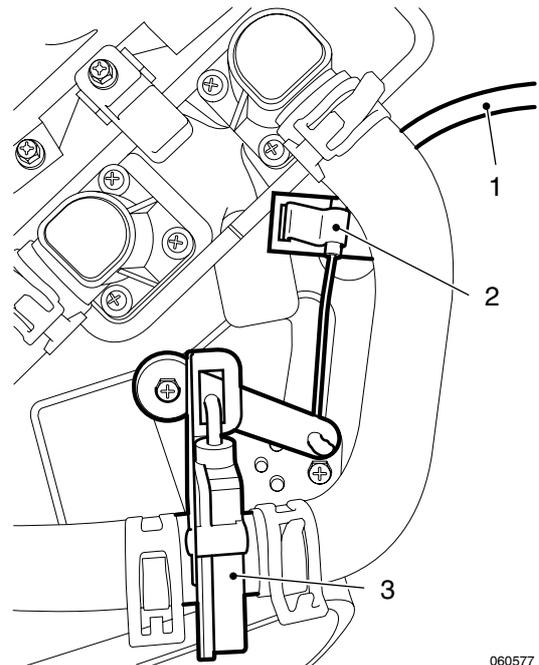
Position a suitable drain tray and release the 2 heater hoses.

6. Disconnect the air inlet duct to the heater.
7. To remove the heater, first remove the 2 screws securing the centre of the facia (adjacent to fuse box) and carefully ease it upwards to gain access to the 2 screws securing the heater to the bulkhead.
CAUTION: Ensure the binnacle does not foul the instrument panel.
Support the heater and remove the 4 securing screws to release it.

Refit

Refitting is the reverse of removal, but note the following:

- When locating the heater, ensure it aligns correctly with the screen air ducts under the facia, and that the sponge seal on the outlet to the fresh air vents is not displaced.
- Reconnect the heater controls as follows:



060577

FIG.1 Heat Control Valve

1. Cable
2. Cable securing clip
3. Heat control valve

HEAT CONTROL

- Manually move the heat control valve to the cold (up) position.
- Turn the heat control knob to 'Cold'.
- Connect the cable to the valve, eliminating any slack.
- Operate the control knob and check the movement of the valve. Adjust the outer cable position at its securing clip if necessary.

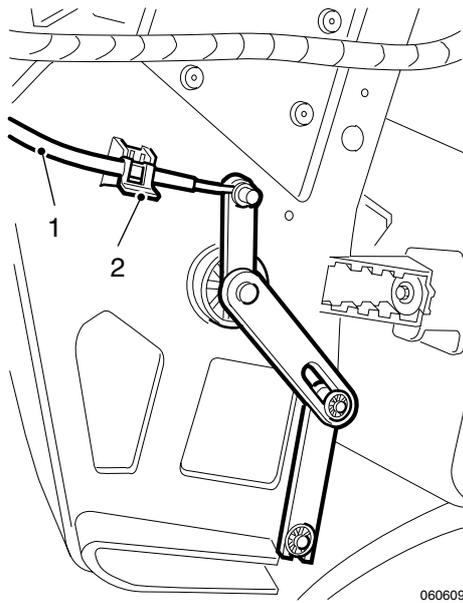


Fig.2 Distribution Control Lever

1. Cable
2. Cable securing clip

DISTRIBUTION CONTROL

- Manually move the distribution lever towards the rear of the vehicle.
- Turn the distribution control knob fully anti-clockwise.
- Connect the cable to the lever, eliminating any slack.
- Operate the control knob and check the movement of the lever. Adjust the outer cable position at its securing clip if necessary.
- To fill the cooling system:
 - Turn the heat control knob to 'hot' and fill the system with coolant, ensuring a 50% anti-freeze solution is maintained.
 - Run the engine and check for leaks. Top up the coolant with 50 % solution as necessary.

HEATER BLOWER ASSEMBLY

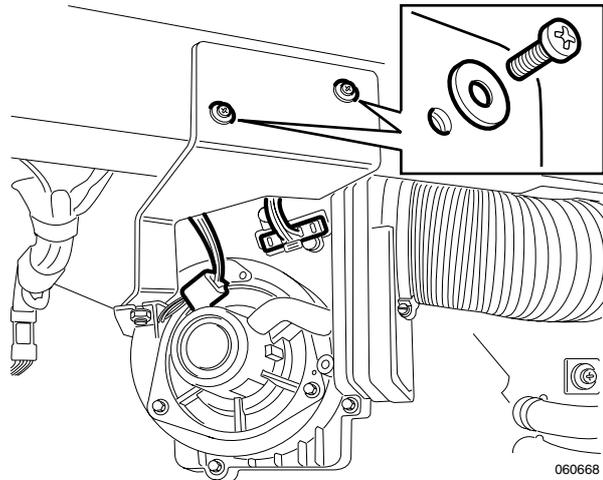


Fig.1 Pilot Heater Blower

Remove

1. Disconnect the battery(s), negative (earth) terminal(s) first.
2. Remove the passenger's side lower facia.
3. Disconnect the 2 blower motor multiplugs.
4. Slacken the clip securing the outlet duct to the heater.
5. Pilot models – Support the blower assembly while removing the 2 screws securing it to the facia support panel.

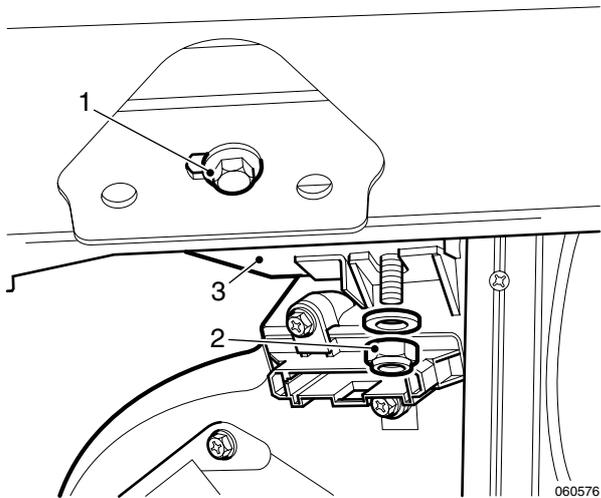


Fig.2 Convoy Heater Blower Mounting

Convoy models – Remove the bolt (1) and the nut (2). Support the blower assembly while removing the mounting bracket (3).

6. Ease the blower assembly clear of the air intake duct.

Refit.

7. Refitting is the reverse of removal, taking care to ensure the correct fitting of air ducts.

WIPER MOTOR – Pilot

Remove

1. Position the wipers in the park position (if possible).
2. Disconnect the battery, negative (earth) terminal first.
3. Remove the passenger's side lower facia panel.
4. Disconnect the heater blower multiplugs, detach the air ducting, remove the 2 securing screws to detach the heater blower assembly

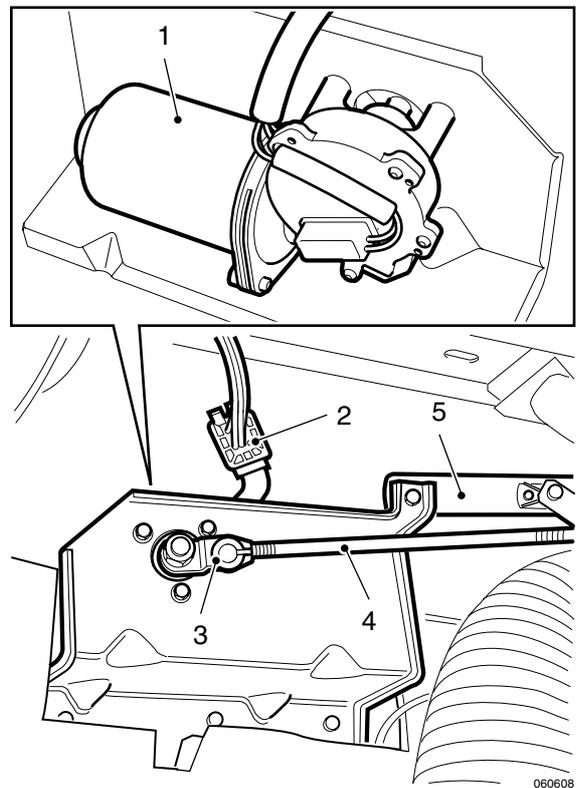


Fig.1 Wiper Motor

1. Wiper motor
2. Multiplug
3. Drive link
4. Drive arm
5. Reaction link

5. Disconnect the motor multiplug.
6. Disconnect the drive link from the wiper motor spindle.
7. Remove the 3 bolts securing the motor to its mounting bracket, and the nut securing the reaction link to the mounting bracket.
8. To release the wiper motor from the mounting bracket:
 - Underbonnet, remove the washer bottle from its mounting.
NOTE: Do not allow bottle to hang on pipe or wiring.
 - Remove the upper 5 mounting bracket securing nuts and slacken the 2 lowest nuts.
9. Inside the vehicle, the mounting bracket is now loose enough to allow the motor to be removed.

Refit

10. Fit and secure the motor to the mounting bracket (3 bolts).
11. Fit the reaction link to the mounting bracket, and secure the mounting bracket to the bulkhead.
12. Refit the washer bottle.
13. Connect the wiper motor multiplug.
14. Temporarily connect the battery (positive terminal first) and operate the wiper switch to set the motor in the 'Park' position. Switch off the ignition.

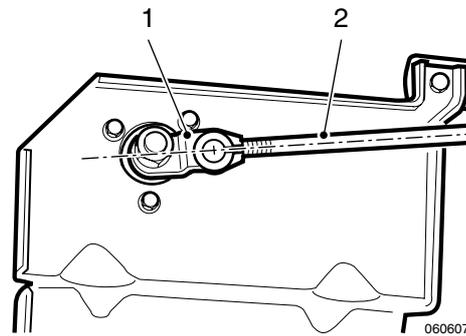


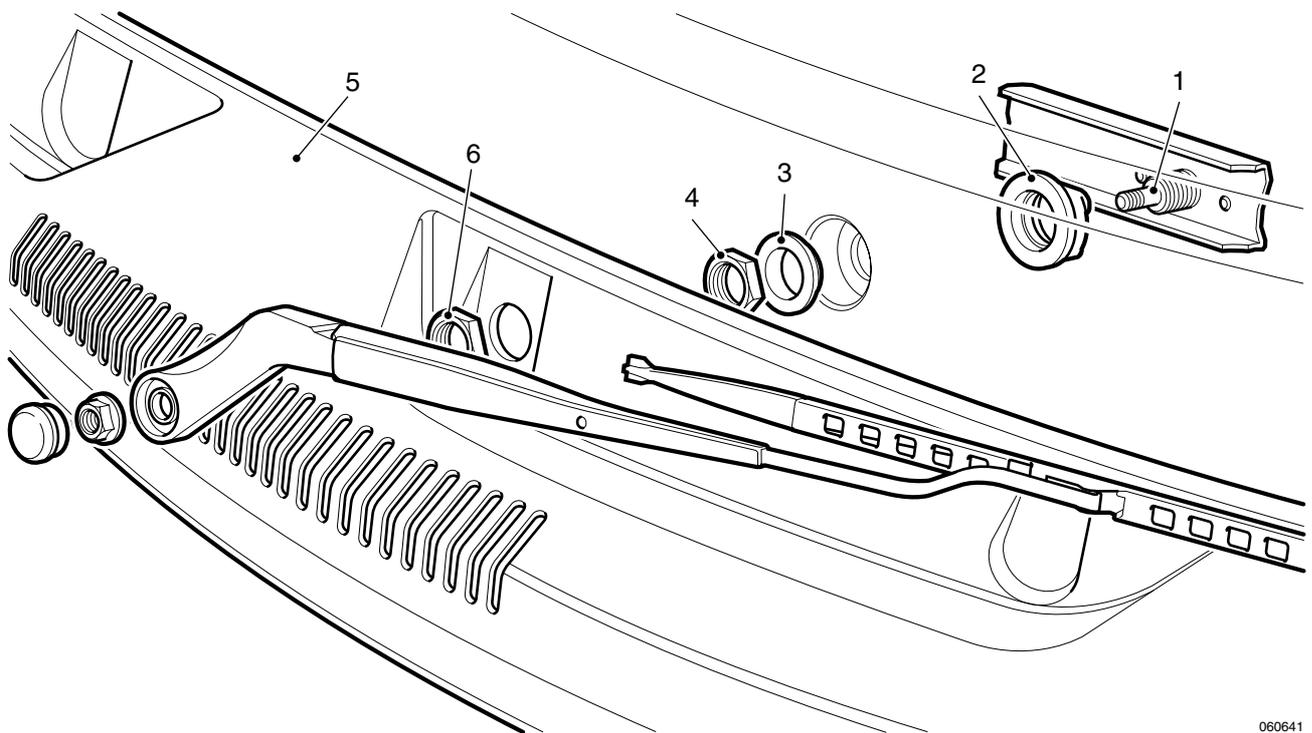
Fig.2 Position of Drive Link in 'park' Position.

1. Drive link
2. Drive arm
15. Check that the wiper arms are in the 'Park' position. Fit the drive link to the wiper spindle (nut and shakeproof washer), ensuring it aligns with the drive arm as illustrated.
16. Lift the wipers from the screen and operate the wiper switch to check satisfactory operation. Disconnect the battery.
17. Fit the heater motor assembly, connecting both air ducts and the multiplugs.
18. Refit the lower facia.
19. Connect the battery.

WIPER LINKAGE – Pilot

Remove

1. Position the wipers in the park position (if possible).
2. Disconnect the battery, negative (earth) terminal first.
3. Remove the passenger's side lower facia.
4. Disconnect the heater blower multiplugs, detach the air ducting, remove the 2 securing screws to detach the heater blower assembly
5. Disconnect the wiper motor multiplug, disconnect the drive link from the wiper motor, and remove the nut securing the reaction link to the motor bracket.
7. Underbonnet, remove the washer bottle from its mounting. Remove the wiper motor mounting bracket securing nuts, and remove the bracket together with the motor.



060641

Fig.3 Wiper Spindle And Arm

- | | |
|-------------------|----------------------|
| 1. Spindle | 4. Spindle inner nut |
| 2. Spacer | 5. Appliqué panel |
| 3. Sealing washer | 6. Spindle outer nut |

8. Remove:
 - Wiper arms.
 - Spindle outer nuts.
 - Appliqué panel.
 - Spindle inner nuts and sealing washers.
9. Manoeuvre the linkage out of the vehicle. Recover the spacers on the spindles.

Refit

10. Fit the spacers on the spindles and manoeuvre the linkage into position. Loosely secure with the sealing washers and spindle inner nuts.
11. Fit the wiper motor / mounting bracket to the bulkhead, checking that no wires are trapped, and the reaction link is connected.
12. Refit the washer bottle.
13. Tighten the spindle inner nuts. Fit the appliqué panel, taking care not to overtighten the spindle outer securing nuts.
14. Connect the wiper motor multiplug.
15. Temporarily connect the battery (positive terminal first) and operate the wiper switch to set the motor in the 'Park' position. Switch off the ignition.

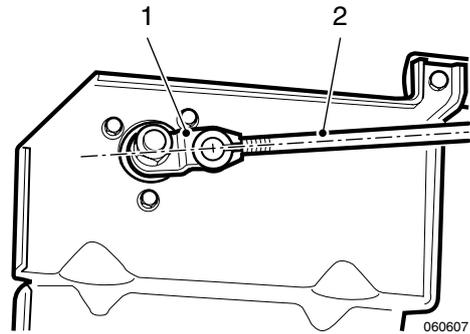


Fig.4 Position of Drive Link in 'Park' Position.

1. Drive link
2. Drive arm
16. Push the wiper linkage drive arm fully away from the motor, and fit the drive link to the motor spindle, checking its position is as illustrated.
17. Operate the wiper switch and check for smooth operation of the motor and the linkage, and for correct parking. Switch off the ignition.
18. Fit the wiper arms and blades in the 'Park' position. Check for correct operation and disconnect the battery.
19. Fit the heater motor assembly, connecting both air ducts and the multiplugs.
20. Refit the lower facia.
21. Connect the battery.

WIPER MOTOR – Convoy

Remove

1. Position the wipers in the park position (if possible).
2. Disconnect the battery(s), negative (earth) terminal(s) first.
3. Remove the passenger's side lower facia.

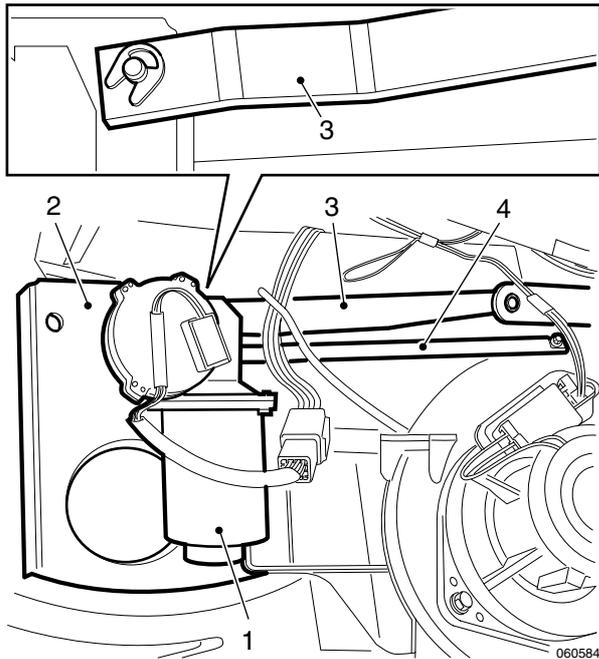


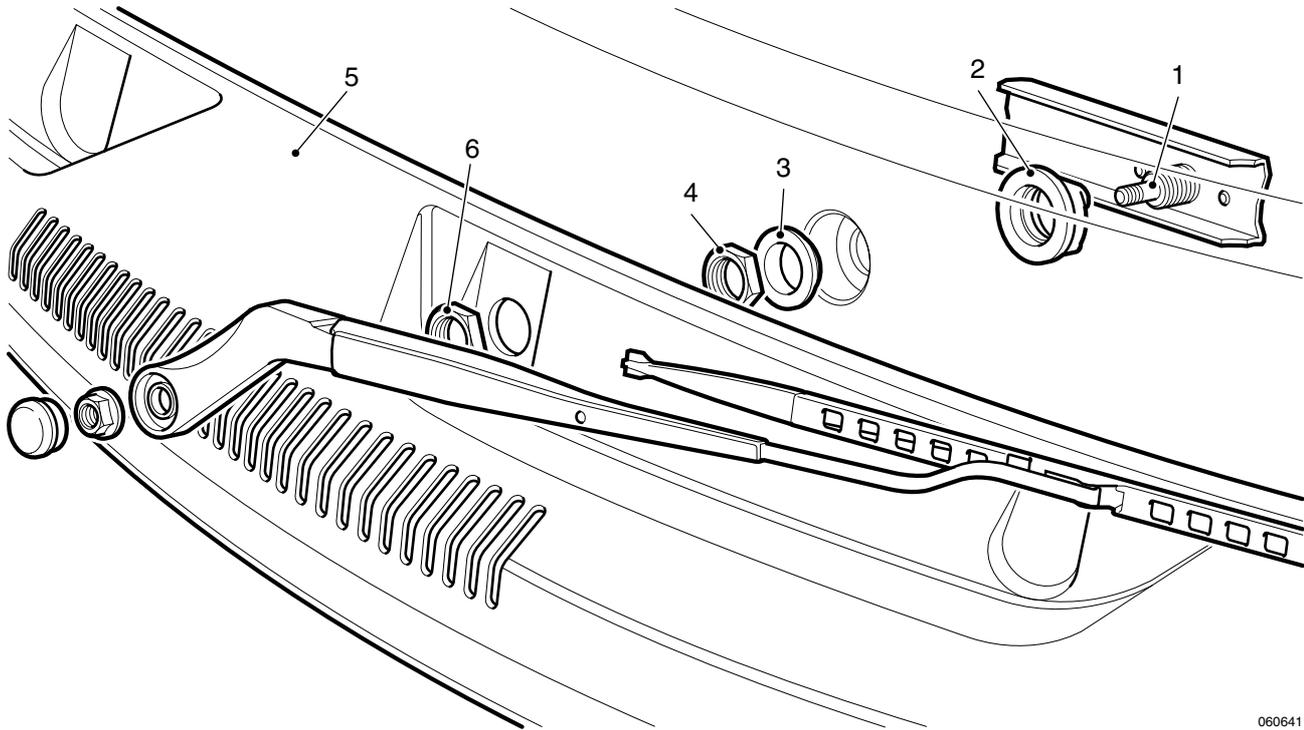
Fig.5 Wiper Motor

1. Wiper motor
2. Mounting bracket
3. Reaction link
4. Drive arm
4. Disconnect the motor multiplug.
5. Remove the 'C' clip to detach the reaction link from the mounting bracket.
6. Remove the 4 bolts/nuts securing the motor mounting bracket to the bulkhead and recover the sealing plate.
7. Remove securing nut and disconnect the drive arm link from the motor spindle.
8. Remove the 3 bolts securing the motor to its mounting bracket and remove the motor.

Refit

9. Secure the motor to its mounting bracket with 3 bolts.
10. Connect the multiplug.
11. Temporarily reconnect the battery. Operate the wiper switch to set the motor to its 'park' position. Disconnect the battery.
12. Manually position the wipers in the 'park' position.
13. Fit the drive arm link to the motor spindle and tighten its securing nut without moving the wipers from the 'park' position,
14. Fit the reaction link and secure with its 'C' clip.
15. Fit the motor mounting bracket to the bulkhead, ensuring the sealing plate is fitted, and tighten the nuts/bolts.
16. Connect the battery(s).
17. Lift the wipers from the screen and operate the wiper switch to check satisfactory operation.
18. Refit the lower facia panel.

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Fig.6 Wiper Spindle and Arm

- | | |
|-------------------|----------------------|
| 1. Spindle | 4. Spindle inner nut |
| 2. Spacer | 5. Appliqué panel |
| 3. Sealing washer | 6. Spindle outer nut |

Remove

1. Position the wipers in the park position (if possible).
2. Disconnect the battery(s), negative (earth) terminal(s) first.
3. Remove:
 - Wiper arms.
 - Spindle outer nuts.
 - Appliqué panel.
 - Spindle inner nuts and sealing washers.
4. Underbonnet, remove 4 nuts/washers securing the motor mounting bracket and recover the sealing plate.
5. Inside the vehicle, remove the passenger's side lower facia.
6. Disconnect the wiper motor multiplug.
7. Remove the 'C' clip to detach the reaction link from the mounting bracket.
8. Manoeuvre the motor and its linkage clear of the vehicle. Recover the spacers on the spindles.

Refit

9. Fit the spacers on the spindles and manoeuvre the linkage into position. Loosely secure with the sealing washers and spindle inner nuts.
10. Fit the wiper motor / mounting bracket to the bulkhead, checking that no wires are trapped. Fit the reaction rod and the 'C' clip.
11. Tighten the spindle inner nuts. Fit the appliqué panel, taking care not to overtighten the spindle outer securing nuts.
12. Connect the wiper motor multiplug.
13. Temporarily connect the battery (positive terminal first) and operate the wiper switch to set the motor in the 'Park' position. Switch off the ignition.
14. Fit the wiper arms and blades in the 'Park' position. Check for correct operation and disconnect the battery.
15. Fit the heater motor assembly, connecting both air ducts and the multiplugs.
16. Refit the lower facia.
17. Connect the battery(s), positive terminal(s) first.

