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  - Front door window, assembly overview
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  - Over coming resistance with excess force limitation
  - Power window regulator with comfort system
  - Tools
  - **Window, adjusting**
Tools

- V.A.G 1474 A Cutting device for bonded windows
- V.A.G 1344 Suction cups
- V.A.G 1351 Cutting tool
- V.A.G 1755 Window removal kit
- V.A.G 1628 Caulk gun
Tools

- VAG 1561 A Electric cutter
- VAG 1561/8 Cutting blade
- VAG 1561/10 Cutting blade
Materials

- 2K window adhesive D 004 300 05 2
- Activator AMV 161 000 02 1
- Glass primer/prime primer D 009 200 02 1
- Cleaning solution D 009 401 04 1
- Primer applicator D 009 600 25 1
- Adhesive remover D 002 000 10 1

1) Materials are stored in the box D 004 700.
2) Observe curing time ⇒ Page 64-25.
Windshield, assembly overview

1 - Windshield
   - Removing windshield ⇒ Page 64-6
   - Installing windshield ⇒ Page 64-9

2 - PUR adhesive sealant
   - Cross section of bead: Width = 7 mm (0.27 in.), Height = 11 mm (0.43 in.) (including pre-coating, residual material on window glass and window flange)
   - Curing time ⇒ Page 64-25

3 - Dimension a = 4 mm (0.15 in.)

4 - Sealing lip (component part of pre-coating)
5 - A - pillar
6 - Trim
7 - Windshield adjuster
   ✴ 443 845 631 A

**CAUTION!**

*Part numbers listed in this manual are for reference only. Always check with your parts department for the latest part number information.*

8 - Cover
9 - PUR adhesive sealant
   ✴ Center in area dimension b = 130...170 mm (5.1 in...6.7 in.)
Windshield, removing

- Remove A pillar trim.

⇒ Repair Manual, Body-Interior, Repair Group 70 A - pillar trim, removing and installing

- Remove both sun visors

- With sliding cover from M.Y. 2000

![Diagram of the windshield system]

- Release sun visor - 1 - from mount - 2 -.
- Remove cover - 6 -.
- Remove bolt - 5 -.
- Release sun visor mount - 4 - and separate connector - 3 -.
- Remove cover - 7 -.
- Remove screws - 8 - and remove mount - 2 -.
- Pull rear edge of trim - 1 - downward from headliner and unhook trim at front edge.
- Disconnect interior light connector - 2 -.

- Press interior rear-view mirror - 1 - downward at an angle off retaining plate (spring clip in mirror base).
- Remove wiper arms, M8 hexagon nuts = 20 Nm (15 ft lb).
- Remove plenum cover
- Loosen sealing lip in upper area of windshield with a plastic wedge and spray in cleaning solution D 009 401 04 (as substitute for lubricant).
- Place cutting thread in window flange with help of tube (cutting wire may also be used).
- If gap is too small guide cutting thread on outside and push under lip with a plastic wedge.
- Pull cutting thread end through adhesive sealing material into vehicle interior with an awl (from VAG 1474 A).

- Secure inner end of thread to reel VAG 1654.
- Pull other end of thread into vehicle and counter hold with VAG 1351. handle
- Place reel VAG 1654 in Position "I".
- Move reel according to position required and cut windshield free.
- Press cutting thread against glass with plastic wedge during cutting process, in order to have clearance at window flange and instrument panel.
Windshield, installing
Preparing old, undamaged, window for installation ⇒ Page 64-21.
Preparing new windshield for installation ⇒ Page 64-22.
Preparing body flange for windshield installation ⇒ Page 64-23.
Installation instructions ⇒ Page 64-24.
Curing time ⇒ Page 64-25.
1 - Side window
   - Removing side window ⇒ Page 64-11
   - Installing side window ⇒ Page 64-14

2 - Ceramic layer

3 - PUR adhesive sealant
   - Cross section of bead: Width = 7 mm (0.27 in.) Height = 11 mm (0.43 in.) (including, residual material on glass and flange)
   - Curing time ⇒ Page 64-25

4 - Sealing lip
- Component part of pre-coating
- Qty. 2
- Cut from glass before removing
Undamaged side window, removing

- Removing side trim
  ⇒ Repair Manual, Body-Interior, Repair Group 70 A - pillar and side panel trim, removing and installing
- Removing B pillar trim
  ⇒ Repair Manual, Body-Interior, Repair Group 70 A - pillar and side panel trim, removing and installing
- Removing side support for luggage compartment cover and removing C pillar trim
  ⇒ Repair Manual, Body-Interior, Repair Group 70 A - pillar and side panel trim, removing and installing

- Two locating pins - arrows - are attached to window in area of C pillar. Cut through these pins with a knife and pull out through body before separating adhesive bead.
- Insert plastic wedge between sealing lip and window flange.
- Loosen sealing lip from window flange all around and spray in cleaning solution D 009 401 04 (as substitute for lubricant).
- Pull cutting thread through adhesive material into vehicle interior with awl (from VAG 1474).

**Note:**

*When pushing through adhesive bead - 1 - do not punch through sealing lip on front edge of glass.*

- Guide cutting thread between lip and window flange with help of tube - 1 - (If cutting thread should break cutting wire can also be used).
- If gap is too small guide cutting thread on outside and press under lip with plastic wedge.
- Place cutting thread around side window.
- Secure end of thread to reel VAG 1654.
- Reel VAG 1654A can be used instead of reel VAG 1654.
- One suction cup can be removed from the reel as shown in illustration. This allows reel to be guided closer to window flange.
- Pull second thread end into vehicle and counter hold with pulling handle from VAG 1351.
- Move reel according to position required and cut windshield free.
- Press cutting thread against glass with plastic wedge during cutting process, in order to have clearance at window flange.
Side window, installing
Preparing old undamaged window for glazing ⇒ Page 64-21.
Preparing new window for installation ⇒ Page 64-22.
Preparing body flange for window installation ⇒ Page 64-23.
Installation instructions ⇒ Page 64-24.
Curing time ⇒ Page 64-25.
**Volkswagen New Beetle**  
**Body - Exterior**  
Flush bonded windows (Page 64-15)

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**Rear window, assembly overview**

1 - Rear window  
- Removing rear window ⇒ [Page 64-16](#)  
- Installing rear window ⇒ [Page 64-20](#)  

2 - Ceramic layer  
3 - Dimension a = 4.5 mm (0.177 in.)  
4 - Sealing lip  
- Component part of pre-coat  

5 - PUR adhesive sealant  
- Cross section of bead: Width = 7 mm (0.27 in.) Height = 11 mm (0.43 in.) (includes
pre-coat, residual material on window glass and window flange)

- Curing time ⇒ Page 64-25

6 - Trim

7 - Rear window defroster contact
Undamaged rear window, removing

Note:

*Cutting the adhesive with an electric cutter is not recommended, since the adhesive bead on the outer edge of the lid melts, particularly on top, but also on the sides about the width of the flange. When cutting from the outside there is a risk that the protruding sealing lip will be damaged.*

- Removing rear lid trim

⇒ Repair Manual, Body-Interior, Repair Group 70 Rear lid trim, removing and installing

- Pull off connections for rear window defroster and press connecting tabs onto window.

- Loosen sealing lip from window flange with plastic wedge and spray in cleaning solution D 009 401 04 (as substitute for lubricant).

**CAUTION!**

*Part numbers listed in this manual are for reference only. Always check with your parts department for the latest part number information.*
- Pull cutting thread through adhesive material into vehicle interior with awl (from VAG 1474).

**Note:**
*When pushing through adhesive bead do not punch through sealing lip - 1 - on glass edge.*
- Place cutting thread in window flange with help of tube (cutting wire may also be used).
- If gap is too small guide cutting thread on outside and push under the lip with a plastic wedge.

**Note:**
*Place cutting thread deep enough in order to avoid damaging sealing lip and/or spacing lip.*

- Place cutting thread - 1 - around glass flange, hook in over upper corner of lid and pull tight.

Due to curvature of lid, it is not possible to install cutting thread on side and upper edge in glass flange.
- Secure an end of thread to reel VAG 1654.
- Reel VAG 1654A can be used instead of reel VAG 1654.
- One suction cup can be removed from the reel as shown in illustration. This allows reel to be guided closer to window flange.
- Pull second thread end into vehicle and counter hold with handle from VAG 1351.
- Place reel VAG 1654 in Position "I".

\[\text{Diagram}1\]

- Move reel according to position required and cut windshield free.
- Press cutting thread against glass with plastic wedge during cutting process, in order to have clearance at window flange.
- When cutting, cutter thread is pushed into upper edge of glass into flange. If necessary, it should be guided or the fit between lid and glass should be corrected.

\textit{WARNING!}
\textit{Always wear protective goggles and leather gloves.}
Broken rear window, removing

**WARNING!**
Always wear protective goggles and leather gloves.

- Protect body and interior against damage from glass splinters.
- Remove pieces of glass up to adhesive sealing material.
- Pull off connectors for rear window defroster and antenna.
- Cover flange - 2 - all round with reinforced adhesive tape.
- Cut through adhesive sealing material (with remainder of glass) in window opening with electric cutter and blade VAG 1561/10 (with stop roller).
Rear window, installing
Preparation of the old undamaged window for installation ⇒ Page 64-21.
Preparation of the new window for installation ⇒ Page 64-22.
Preparation of the body flange for installation ⇒ Page 64-23.
Installation instructions ⇒ Page 64-24.
Undamaged window, preparing for installation

Notes:

- When re-using an undamaged window, cut back residual adhesive to 1 ... 2 mm (0.039...0.078 in.) just before re-installation. Do not damage primer or ceramic coating.
- Residual material serves as adhesion base for newly applied adhesive sealing compound.

WARNING!

Do not prime adhesive surface and do not treat with a cleaning solution. Keep adhesive surface free of dirt and grease.

Exception: If bonding is not performed immediately after cutting back, the remaining residual material must be activated with activator AMV 181 800 02.
New window, preparing for installation

New windows are supplied pre-coated with PUR. The pre-coating consists of items 1, 2 and 3.
1- Sealing lip
2- Spacing lip
3- Area for application of adhesive bead
4- Window glass
- Rub down pre-coating with a lint-free dry cloth.

**WARNING!**
*Do not prime pre-coat and do not treat with cleaning agent.*

- Apply a thin coat of activator AMV 181 800 02 only on pre-coat -2- of window using applicator -1- D 009 500 25 (felt ball with wire).
- Allow activator to air dry for at least 10 minutes.

**Note:**
*Activator must not have contact with paint, otherwise paint finish will be damaged.*
Body flange, preparing for glass installation

- Cut back remaining material on window flange with scraping blade VAG 1561/8, but do not remove completely.

**WARNING!**
*Activator must not have contact with paint, otherwise paint finish will be damaged.*

**Notes:**

- Remaining material is required as a base for good adhesion of new adhesive material. Keep dirt and grease off adhesive surfaces. Exception: If bonding is not performed immediately after cutting back the remaining material, it must then be activated.
- If the window flange has been repaired or partially replaced, after painting, the area concerned must be cleaned and primed again.
Installation instructions

- Apply adhesive material (continuous bead) to pre-coating-1-, applicator at right angle to window.

**WARNING!**

*Window must be installed within 10 minutes, otherwise adhesive properties of sealant will be impaired.*

- With help of two double suction cups (VAG 1344) install glass in window opening, center and press in onto spacing lip.
- Position side glass, from front and rear glass from top with protruding sealing lip.
  - Windshield trim line ⇒ [Page 64-4](#).
  - Rear window trim lines ⇒ [Page 64-15](#).
- Secure windshield during curing time with windshield/window adjusters (443 845 631 A).
- Replace stickers (e.g. for airbag).
- Secure rear window glass in position with adhesive tape during the curing process.
- Remove excess adhesive from glass.

**Curing time**

- Curing time: from installing window to returning vehicle to use. During curing time vehicle must stand on a level surface at room temperature >15 °C (59° F).

<table>
<thead>
<tr>
<th>Window</th>
<th>Window adhesive</th>
<th>Curing time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windshield</td>
<td>300 004 05</td>
<td>4 hours</td>
</tr>
<tr>
<td>Side glass</td>
<td>300 004 05</td>
<td>1 hour</td>
</tr>
<tr>
<td>Rear glass</td>
<td>300 004 05</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

**WARNING!**

*Only use vehicle after curing time is completed.*
Touching up paint damage

Paint composition is to be restored according to specifications. If necessary, perform corrosion protection.

The following repair method is suitable for paint finish damaged in area which is not visible:

- Painting over twice (wet-on-wet) with glass/paint primer D 009 200 02 - air drying time = approx. 10 minutes.
Cleaning off excess adhesive material

- It is recommended to use adhesive remover D 002 000. 10 as a cleaning solution. Application of this product requires conformance with safety precautions.

**WARNING!**

Glass which has just been installed should not be pressed outward while cleaning from inside of vehicle.

- First clean painted surface with a dry cloth. Remove remaining adhesive with adhesive remover D 002 000. 10.

- Cleaning plastic trim: Allow adhesive to cure (approx. one hour) and then peel off.
Tools

Special tools and equipment
- T 10011 Socket
Front door window, assembly overview

1 - Window channel
   - Pushed onto flange

2 - Door window
   - Removing ⇒ Page 64-32
   - Adjusting ⇒ Page 64-33

3 - Door

4 - Outer window channel
   - Pushed onto flange

5 - Window slot seal
- Pushed onto flange

6 - Trim
7 - Screw
8 - Spring clip
9 - Bolt
   ♦ 20 Nm (15 ft lb)
10 - Window slot seal
   ♦ Pushed onto flange
11 - Assembly carrier
   ♦ Removing and installing ⇒ Page 64-34
   ♦ Window regulator is part of assembly carrier
12 - Crank drive for manually operated windows
   ♦ Fastened to assembly carrier form the back with bolt
13 - Motor for window regulator - V15 -

- Is screwed onto assembly carrier from the back with bolt
14 - Bolt
- 8 Nm (71 in. lb)

15 - Cover

16 - Bolt
- 10 Nm (89 in. lb)
Front door window, removing
- Removing front door trim

⇒ Repair Manual, Body-Interior, Repair Group 70 Door trim, removing and installing

- Carefully pry out covers - 1 - .
- Lower window until clamp bolts are accessible.

**Note:**
If a Diagnostic Trouble Code is detected with the power window motor, remove motor to move window down.
- Loosen bolts - 2 - and press clamps apart.
- Lower window regulator.

- Lift rear of window and take out forward, in direction of arrow.
Window, adjusting

- The window clamping jaws must be positioned in assembly opening.
- Press window - 3 - into window guide - arrow - and tighten clamps with bolts - 4 - 10 Nm (89 in. lb).
  - Check function.
Door assembly carrier, removing and installing
The window regulators, door lock and loudspeaker are fastened to the assembly carrier.
The door lock can only be removed with the assembly carrier.
The assembly carrier can only be removed when the window clamping brackets of the window regulator are removed. To do this, lower the window to the height of holes in assembly carrier and loosen clamping brackets.
If power windows cannot be lowered interrogate Diagnostic Trouble Codes (DTC) first, use address word 46 with VAG 1551.
⇒ Repair Manual, Body-On Board Diagnostic (OBD), Repair Group 01
Correct any DTC before continuing.
If a power window DTC is found, then proceed as described on page 64-35.
Removing
- Remove front door trim
  ⇒ Repair Manual, Body-Interior, Repair Group 70 Door trim, removing and installing.
- Remove lock cylinder housing ⇒ Page 57-13.

- Remove clip - 1 - from door handle.

- Carefully pry out cover - 1 -. 
- Lower window until securing bolts are accessible.

Note:
If a Diagnostic Trouble Code is detected with the power window motor, remove motor to move window down
- Loosen bolts - 2 - and press clamps apart.
- Push window upward and secure in position (e.g. with adhesive tape).
- Remove hood release lever ⇒ Page 55-7.
- Remove lower A-pillar trim.

- Disconnect multi-pin connector - 1 - on A-pillar -2-.

- Take cover -1- out of body opening for wiring harness -2- in the inner A pillar.
- Remove wiring harness at boot - 1 - between door and A - pillar from A - pillar.

- Disconnect outside mirror wire harness connector - arrow - and unhook wire at component.
- Remove bolt - 1 - and unhook wiring harness guide piece - 2 - from door.
- Route wiring harness with boot through door.
- Remove bolts - 2 - torque: 20 Nm (15 ft lb).

- Remove bolts - arrows - . Pull top of assembly carrier off door, lift and take out of door toward hinges.
- Turn assembly carrier and pull connector off door lock.
Installing

- Pull lock rod -1- in direction of arrow.
- Tension (move) spring - 2 - which is on door lock, in direction of arrow with a screwdriver and hook it into locking lever.

*Note:*
*Inserting lock lever in place locks the lock.*
BODY - EXTERIOR

Door windows (Page 64-40)

- Install assembly carrier in door.

- Loosely install bolts 1-11. Tighten bolts in sequence, to specified torque. 8 Nm (71 in. lb).

- Press window -3- into window guide -arrow- and tighten clamps with bolts -4- 10 Nm (89 in. lb)

- Complete installation in reverse sequence.

- Check function.
Power window regulator with comfort system

With the introduction of the comfort system power windows, the window regulators are equipped with automatic opening and closing features.

The switch for the front window automatic opening and closing functions is located in the driver's door controls. The switch for the driver's and front passenger's door is equipped with a two level function.

If switch is pushed or pulled to the first detent the front windows open or close as long as the switch is being operated.

If the switch is briefly pressed or pulled to the 2nd detent the front windows will open or close automatically.

There is also a switch in the front passenger's door, but it is not equipped with the two level function.

All power windows are equipped with an excess force limitation system. Closing the window will be automatically terminated when an object blocks the closing window path.

This is not valid when closing the window from the outside with an ignition key, then the excess force limitation system is not operative.
**Function of window regulator with ignition switched on**

**Opening**

Switch in driver's door

- Press front section of switch down to 1st detent. The window will open as long as the switch is being operated.

- Press of front switch briefly down to 2nd detent. The window will open automatically (automatic fully opening system).

- If switch is operated again window will stop immediately.

Switch in front passenger's door

- Press lower surface of switch. Window will open as long as switch is being operated.
Closing

Switch in driver's door
- Pull front section of switch up to first detent. The window will close as long as the switch is being operated.
- Pull front section of switch briefly up to 2nd detent. Window will close automatically (automatic fully closing system).
- If switch is operated again the window will stop immediately.

Switch in front passenger's door
- Press upper surface of switch. The window will close as long as it's being operated.
Window regulator, function with ignition switched off

Window regulators can be operated for approx. 10 minutes after switching ignition off, as long as the driver's or front passenger's door have not been opened.

The automatic closing function is inoperative when closing the front windows.

If the driver's or front passenger's door window meets excessive resistance or an object during the closing sequence (excessive force limitation) the window will open again immediately.

In this case the window can only be closed again when the ignition is switched on.

The windows can be opened and closed from the exterior on vehicles with a central locking system. The key must be held in the lock or unlock position.
Automatic opening and closing, adjusting

Note:

Automatic opening and closing features for the driver's and front passenger's windows do not function after disconnecting and reconnecting vehicle battery.

To reactivate this feature after reconnecting the battery proceed as follows:

- Lock vehicle from outside using driver's or passenger's door.

Ensure doors and windows are closed completely.

- Unlock vehicle and lock vehicle again at driver's or passenger's door. When doing this hold key for at least one second in the lock position.

The automatic opening and closing functions for the driver's and passenger's window is reactivated.

If there is an inoperative power window this will be signified by switch illumination in the driver's and passenger's door.

All lights in the door trim will flash for approx. 15 seconds after switching on the ignition.
Over coming resistance with excess force limitation

- Prerequisite: Automatic opening and closing is OK.
- Ignition switched on.

- Close window with power window switch (automatic closing).
If the driver's or front passenger's window is impeded because it is tight or through an object during the closing sequence (force limitation intervention) the window will open immediately.

- After the window has opened the switch must be lifted or pressed and held within 5 seconds.
If the window is impeded again because it is tight or through an object, the window will stop immediately (force limitation intervention).

- After the window has stopped the switch must be operated within 5 seconds again to close the window.

The window will now close with excess force limitation intervention beyond the obstruction.
Ignition switched off.
If the window in the driver's or passenger's door is impeded because it is tight or by a path obstruction during the closing sequence (force limitation intervention) the window will open immediately.
Operations using the interior window regulator switch is now blocked.
If the ignition is switched on and the switch pressed (window closed) within one minute of opening the window the window will close without automatic closing.