

Technical Bulletin



Model(s)	Year	Eng. Code	Trans. Code	VIN Range From	VIN Range To
Beetle	2012 - 2013	All	All	AT_CM600027	AT_DM621311

Condition

64 12 03 October 8, 2012 2028594 Supersedes V641201 dated March 23, 2012 to update repair procedure.

Window Enters Pinch Protection with No Obstructions Present

Customer may complain front window(s) will not go up all the way without entering pinch protection or they may have to hold the button continuously to get the window to close.



Note:

Window regulator motor is to be replaced on the driver AND passenger side.

Window regulator is only to be replaced if the window regulator motor axle guide is outside specification.

Window measurements should be performed on the driver and passenger side and adjusted as necessary.

Technical Background

Due to installation tolerances and window motor deficiencies, it is possible the window regulator motor may have excessive resistance causing pinch protection to activate.

Production Solution

Revised window regulator motor and optimized window regulator installation procedure.

Service



Note:

Window regulator motor is to be replaced on the driver AND passenger side.

Window regulator is only to be replaced if the window regulator motor axle guide is outside specification.

Window measurements should be performed on the driver and passenger side and adjusted as necessary.

1. Perform a visual inspection and run your hand around the window guide and window slot seals checking for any lumps, protrusions, tears, or abnormalities. Reposition or replace seals as necessary referencing the Repair Manual.
2. Remove window regulator motors as found in the Repair Manual.



3. Measure the window regulator motor axle guide hole as follows:

Special Tool SET855 is used as a go/no-go gauge to determine if the window regulator will need to be replaced due to excessive wear within the window regulator axle guide hole.

- Locate the window regulator axle guide hole as seen in Figure 1.

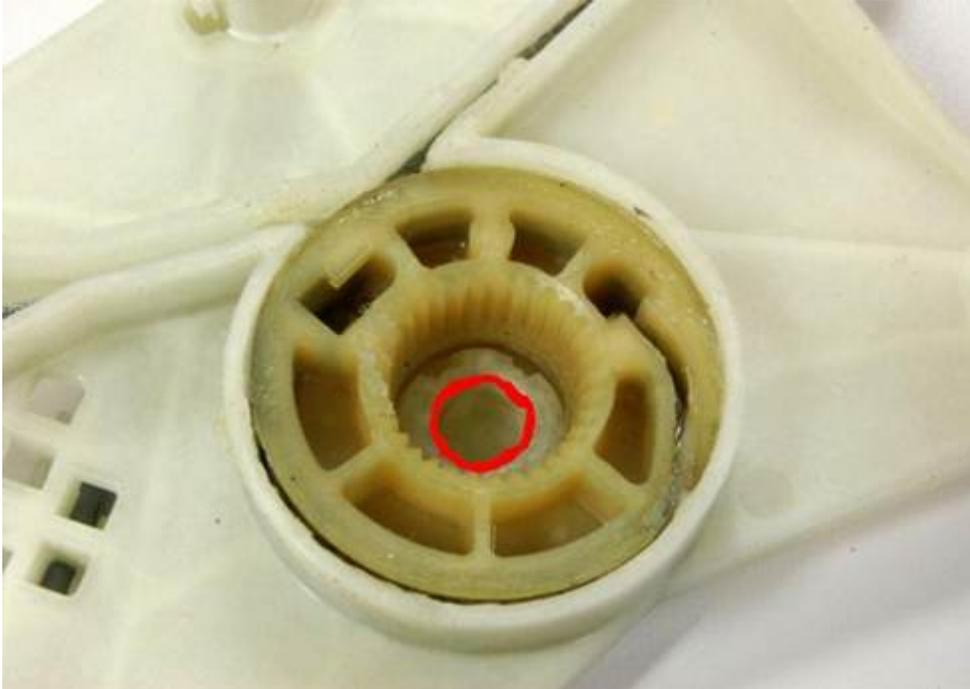


Figure 1



- Using very light pressure attempt to insert the Special Tool SET855 into the window regulator axle guide hole as seen in Figure 2 but do not force the tool into the hole.



Figure 2

- Twist the Special Tool SET855 slowly to see if the tool spins freely (tool would be sitting on top of the axle guide rim and not within the window regulator axle guide hole); or if the tool does not spin freely (the tool would have past the axle guide rim due to excessive wear).

4. If the Special Tool SET855 sits on top of the axle guide rim and spins freely the axle guide is within specification, refer to the Repair Manual for installation of window regulator motor.



Note:

Refer to Repair Manual when replacing the window regulator motor as a new torque sequence and specification is used!!!

5. If the Special Tool SET855 enters the axle guide and/or does not spin freely the axle guide is outside specification, refer to the Repair Manual for installation of a new window regulator before installing new window regulator motors.



6. Perform window regulator motor basic settings after new motors are installed:

- While sitting in the driver seat, switch ignition ON.
- Close door.
- Fully close window.
- Pull up on window switch for at least 2 seconds, release switch and then pull switch up momentarily.
- Automatic up/down function is now available.

7. Check and adjust window regulator and glass:

- Vehicle should be resting at normal ride height and sitting on a level surface before proceeding.
- Before checking window adjustment, door adjustment to the body should be checked and corrected. See Body Collision Repair Manual in ElsaWeb.

Window measurement/adjustment should be performed in the following sequence:

- Basic height adjustment
- Length-wise adjustment
- Tilt adjustment
- Front tilt home positioning
- Programming of door window positions

Height Measurement

- Lower window, place masking tape on window where indicated and raise window to full close position, as seen in Figure 3.

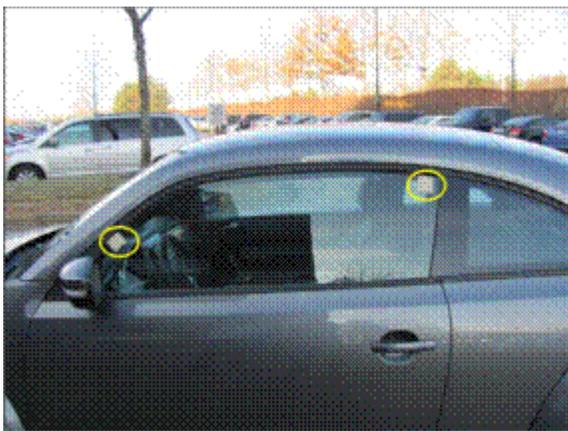


Figure 3

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- Using a pen or marker, scribe a line across the tape at the upper molding as seen in Figures 4 and 5.



Figure 4



Figure 5

- Roll window down enough to take an insertion depth (window seating) measurement as seen in Figures 6 and 7.



Figure 6



Figure 7

Position	Specification
Front Mark	7mm +/-1
Rear Mark	8mm +/-1

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If height is correct proceed to length-wise measurement.

If height is incorrect adjust the window following the procedure below.

- Lower the window all the way using the window switch.
- Once window is lowered all the way, press switch again to lower to end stop.
- Remove the front and rear caps on underside of door to access adjustment screws as seen in Figure 8 and 9.



Figure 8



Figure 9

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- Turn front and rear adjustment screws using a T30 in hole as seen in Figure 10 and 11 to move window up and down.



Tip:

1 full clockwise turn of adjustment screw will move window up 1mm. 1 full counterclockwise turn of adjustment screw will move window down 1mm.



Figure 10



Figure 11

- Use front and rear adjustment screws to correct window height by adjusting screws up or down and re-measuring until insertion depth is within specification
- Once insertion depth is within specification, window height adjustment is complete.
- Reinstall caps.

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Length-wise Measurement

- Verify length wise measurement by measuring the gap from the front glass rear edge to the rear glass front edge as seen in Figure 12 at top and bottom. Specification is 7mm +/-1mm



Figure 12

If length-wise measurement is within specification proceed to tilt measurement.

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If length-wise measurement is outside specification it must be adjusted as follows:

- Raise window to fully closed position.
- Remove front and rear screw caps (circled yellow) as seen in Figure 13 to access and loosen window clamp screws.
- Loosen front and rear window clamp screws using a T30.
- Remove access panel (circled blue) to gain entry to rear window regulator clamp.



Figure 13

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- Insert a 5mm allen wrench between the rear window clamp and window to set and maintain correct gap between clamp and glass as seen in Figure 14.

 Tip:

This is not needed for the front clamp.

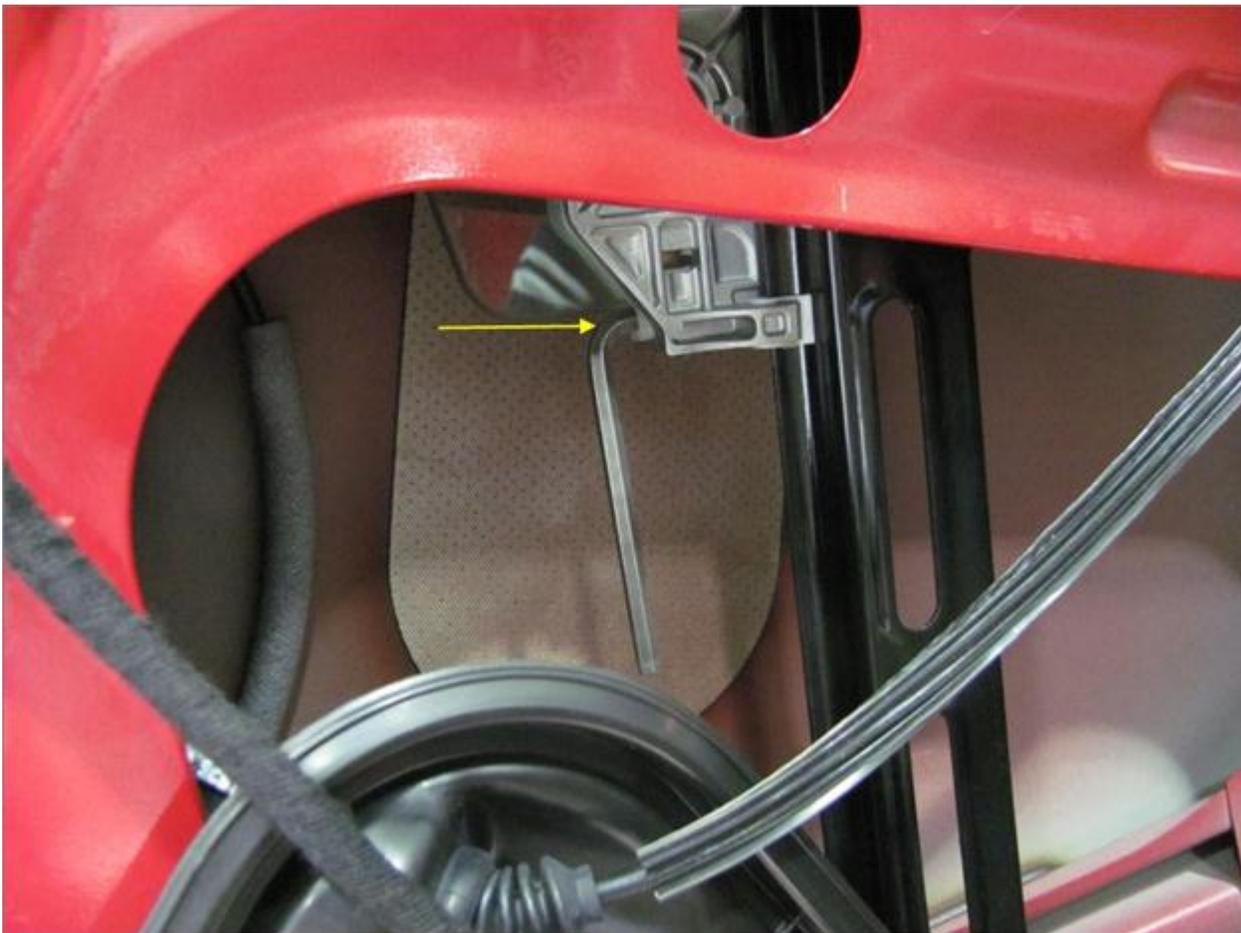


Figure 14

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- Glass can now be moved by hand forward or rearward to adjust gap to 7mm +/- 1 at top and bottom of glass as seen in Figure 15.



Figure 15

- Once measurement at top and bottom of gap is 7mm +/-1 at top and bottom of glass length-wise adjustment is complete.
- Torque window clamp screws to 6Nm, remove allen wrench, and reinstall caps



Tilt Measurement

- Verify tilt adjustment by using a straight edge placed flush with end of front door glass as seen in Figure 16.
- The area marked yellow must be flush or have a maximum gap of 1mm.

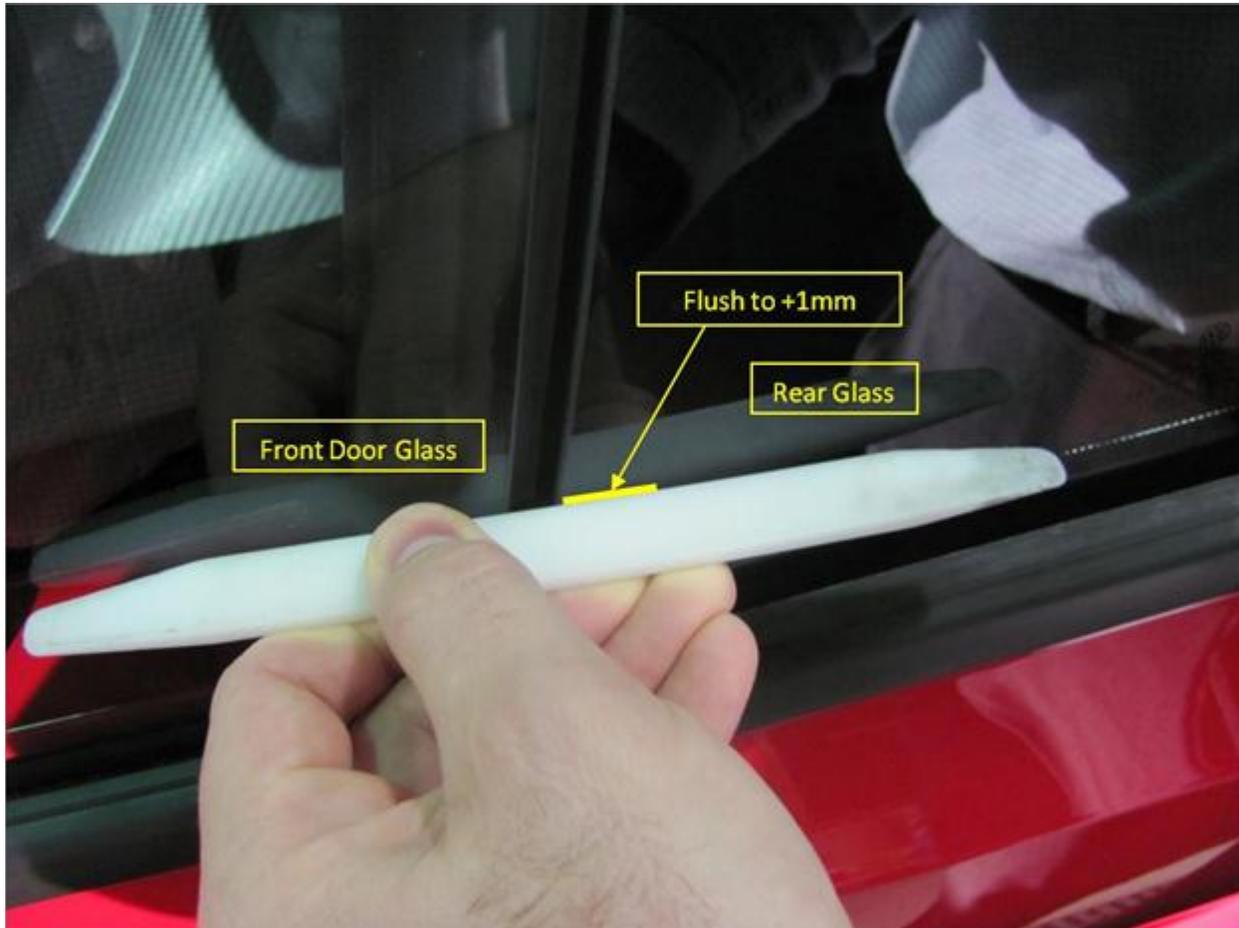


Figure 16

If tilt measurement is within specification proceed to front tilt home positioning.



If tilt measurement is outside specification perform adjustment as follows:

- Remove the (2) caps at bottom of door as seen in Figure 17 and 18 to access window regulator lock nuts



Figure 17



Figure 18

- Loosen front and rear window regulator lock nuts using a 10 mm deep socket in order to adjust glass to correct position by hand as seen in Figure 19 and 20.



Figure 19



Figure 20



Window regulator stud holes are slotted.

- Confirm the rear stud is in the center position of the slot.
- Torque front and rear regulator lock nuts to 8Nm once the rear stud is in the center position of the slot.
- Re-measure tilt specification.
- If tilt measurement is within specification, adjustment is complete.

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- If tilt measurement is still outside specification, remove the cap at top of door as seen in Figure 21 to access the tilt adjustment screw.



Figure 21



- Use a 10mm socket to loosen the lock nut fully before adjustment as seen in Figure 22.
- Using an E5 inverse torx socket, turn screw clockwise until snug.
- After screw is snug, turn screw 3 turns counterclockwise to set screw to factory setting.



Figure 22



- Re-measure tilt specification as seen in Figure 23

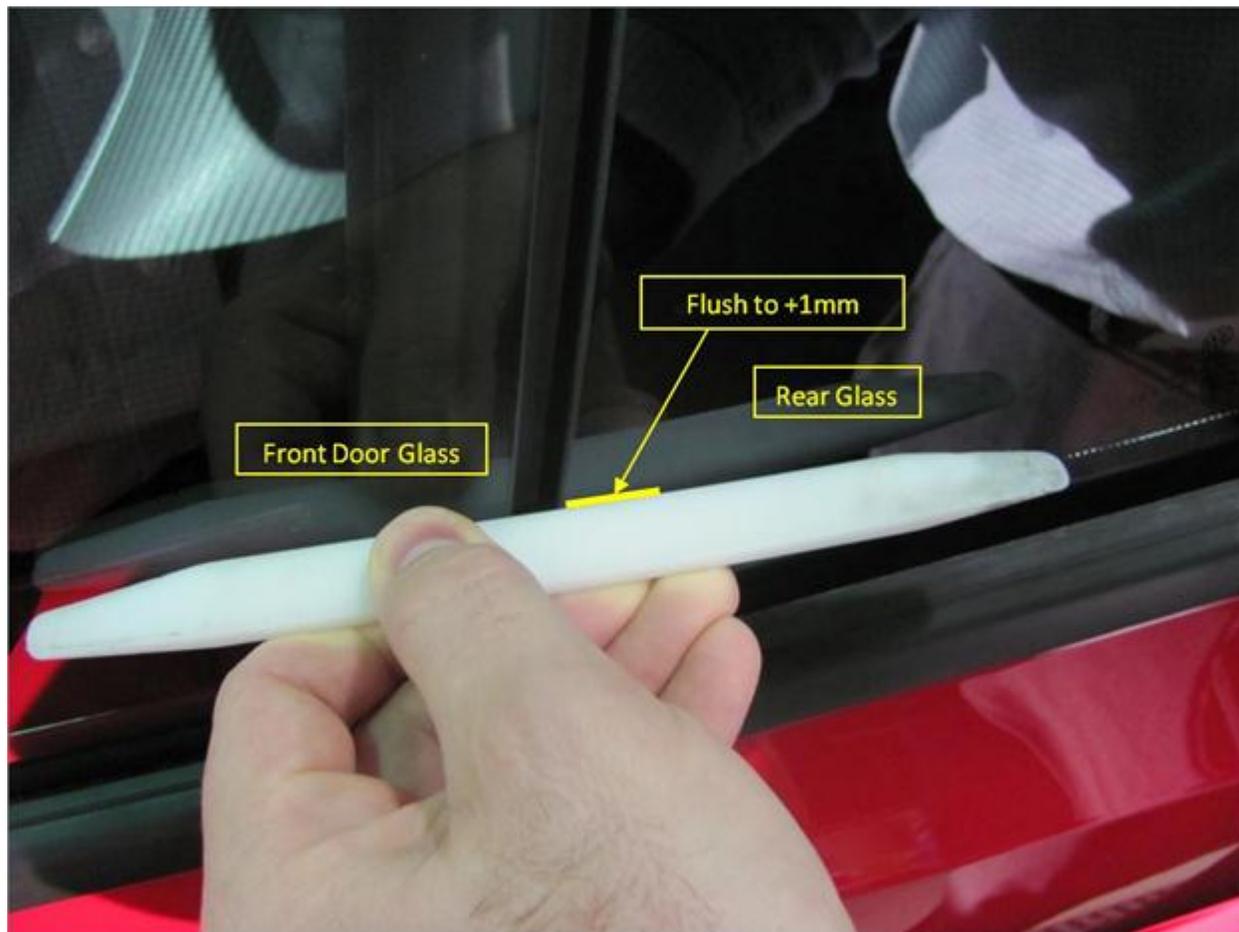


Figure 23

- Once tilt measurement is flush to +1mm, tilt adjustment is complete.
- If additional tilt adjustment is needed, continue to use upper tilt adjustment screw.
- Counterclockwise rotation of screw moves window inward.
- Clockwise rotation of screw moves window outward.



Lock nut must be torqued to 8Nm (71 In. lbs.) before installation of door panel.

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Front Tilt Home Positioning

After all measurements are within specification perform the following:

- Open the door and move the window to the fully up/closed position using the window switch
- Remove the larger cap under the door closest to the A pillar as seen in figure 17 to access the front window regulator lock nut. **DO NOT** remove any other caps under the door as no further adjustments are needed there.
- Loosen the lock nut
- Move the window to the fully down/open position using the window switch
- Moving the window down with the window regulator lock nut loose allows the regulator to find the optimal position
- Tighten the lock nut to 8Nm
- Reinstall cap

Perform window regulator motor basic settings as seen below:

- While sitting in driver seat, switch ignition ON.
- Close door.
- Fully close window.
- Pull up on window switch for at least 2 seconds, release switch, and then pull switch up momentarily.
- Automatic up/down function is now available.

Warranty

To determine if this procedure is covered under Warranty, always refer to the Warranty Policies and Procedures Manual ¹⁾					
Model(s)	Year(s)	Eng. Code(s)	Trans. Code(s)	VIN Range From	VIN Range To
Beetle	2012 - 2013	All	All	AT_CM600027	AT_DM621311
SAGA Coding					
Claim Type:			Use applicable Claim Type ¹⁾		
Service Number:	Damage Code	HST	Damage Location (Depends on Service No.)		
6453	0011	--	Use applicable when indicated in ElsaWeb (L/R)		
Parts Manufacturer	Beetle		3ME ²⁾		

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Labor Operation ³⁾ Remove and Install Door Panel (both sides):	70592000 = 70 TU	
Labor Operation ³⁾ : Remove and Install Window Motor (both sides)	64542099 = 20 TU	
Labor Operation ³⁾ : All Window Measurements (with adjustments)	64531699 = 80 TU (both sides)	
Front Window Regulator – one side		
Labor Operation ³⁾ :Front Window Regulator Remove and Install	64531950 = 40 TU	
Labor Operation ³⁾ :Front Door Window Remove and Install	64401950 = 20 TU	
Labor Operation ³⁾ :Rear View Mirror Remove and Install	66891950 = 10 TU	
Front Window Regulator – both sides		
Labor Operation ³⁾ :Front Window Regulator Remove and Install	64532099 = 70 TU	
Labor Operation ³⁾ :Front Door Window Remove and Install	64402099 = 40 TU	
Labor Operation ³⁾ :Rear View Mirror Remove and Install	66892099 = 20 TU	
Causal Part:	window regulator motor	
Diagnostic Time ⁴⁾		
GFF Time expenditure	01500000 = 00 TU max.	NO
Road Test	01210002 - 01210004	NO
Technical Diagnosis	0132xxxx = 30 TU max.	YES (includes visual inspection both sides and checking window measuring, no adjustment necessary, both sides)
Claim Comment: Input “As per Technical Bulletin 2028594” in comment section of Warranty Claim.		
<p>¹⁾ Vehicle may be outside any Warranty in which case this Technical Bulletin is informational only</p> <p>²⁾ Code per warranty vendor code policy.</p> <p>³⁾ Labor Time Units (TUs) are subject to change with ELSA updates.</p> <p>⁴⁾ Documentation required per Warranty Policy Procedures Manual.</p>		

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Required Parts and Tools

Part Description	Part No:	Quantity
Window Motor	See ETKA for latest	2
Window Regulator – as required	See ETKA for latest	1 or 2

Tool Description	Tool No:
Gauge	SET855