

MV101 Power Slider Window Assembly

Service Procedures (24V motor)

**Sash Assembly Removal and installation
Belt Replacement / Adjustment
Maintenance of Lower Window Frame
Gear Motor replacement**

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Removal and installation of the sash assembly

Removal

- 1) Remove the Screen Assembly
- 2) Pull down on both release latches simultaneously and rotate the sash inwards approximately 10 degrees.(figure1)



Figure 1

- 3) Lift the sash up and out to disengage the bottom of the sash from the window frame. (Figure 2)



Figure 2

Installation

- 1) Align the leading edge of the slot on the lower cam block with the sash stop. Use the power toggle switch to obtain the correct alignment. (Figure 3)

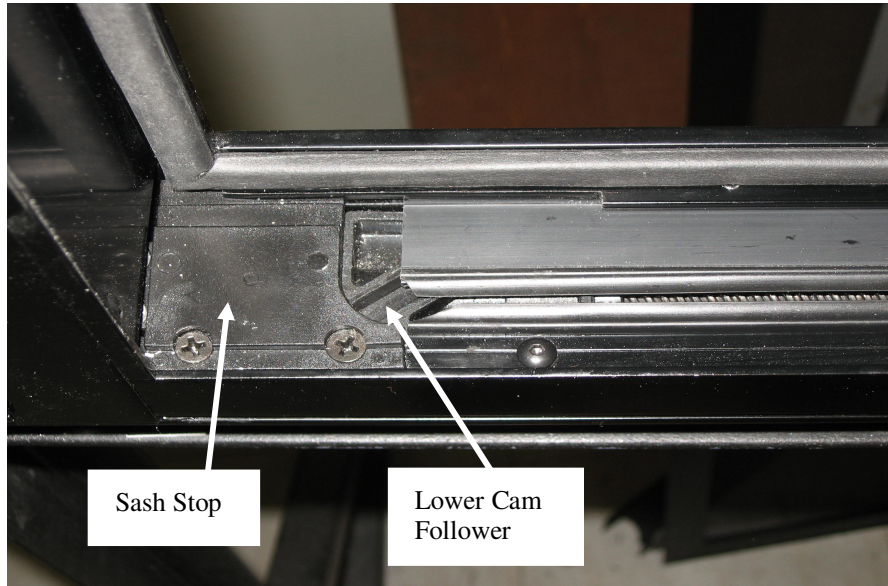


Figure 3

- 2) Position the left hand lower corner of the sash over the front cam block (Figure 4)

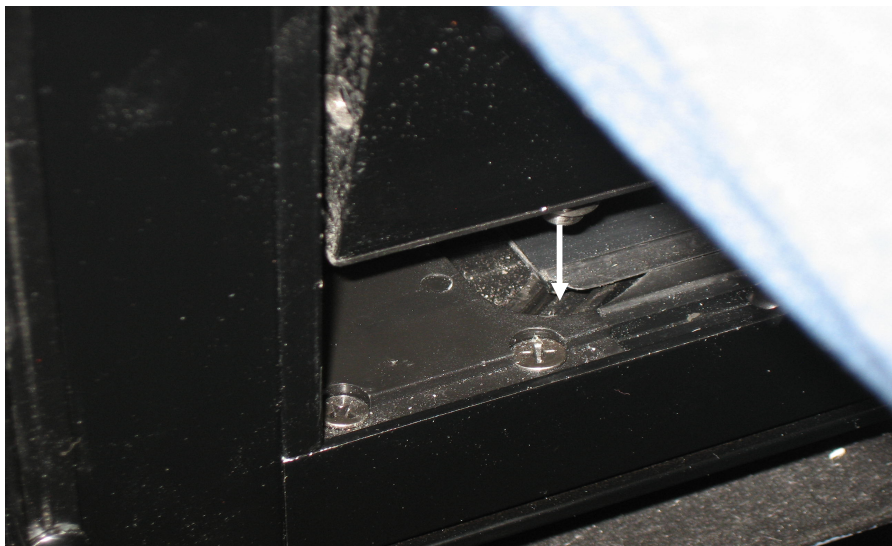


Figure 4

- 3) Engage the sash pin with the leading edge of the slot of the cam block. Do the same at the rear of the sash.
- 4) Pull down on the release latches and rotate the sash inwards until it is parallel with the window frame.
- 5) Release the latches to engage the latch pins with the upper cam blocks.

- 6) Confirm that both latches are in the closed (latched) position. The upper edge of the latch opening must be aligned with upper edge of the sash opening (Figure 5)

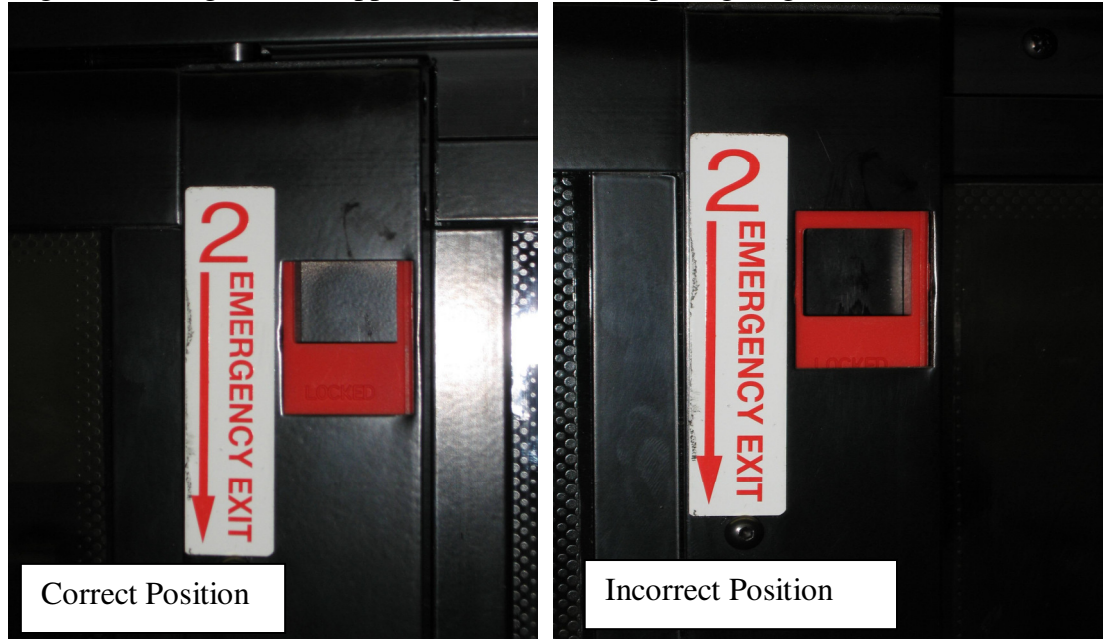


Figure 5

- 7) * Failure to confirm this step may lead to the sash becoming disengaged with the frame and could result in personal injury.
- 8) Operate the window to confirm that it opens and closes properly.
- 9) Install the screen assembly.

Belt replacement / adjustment

Tools Required:

- #2 Phillips screw driver
- 3/32" Allen wrench
- 5/32" Allen wrench
- 0 -20 lb. Force Gauge with a 2 1/2" x 1/2" x 1/8" thick bar attachment.

- 1) Sash is required to be in the closed position. Remove the screen assembly.
- 2) Remove electrical access cover and the right hand side jamb cover (Figure 6)

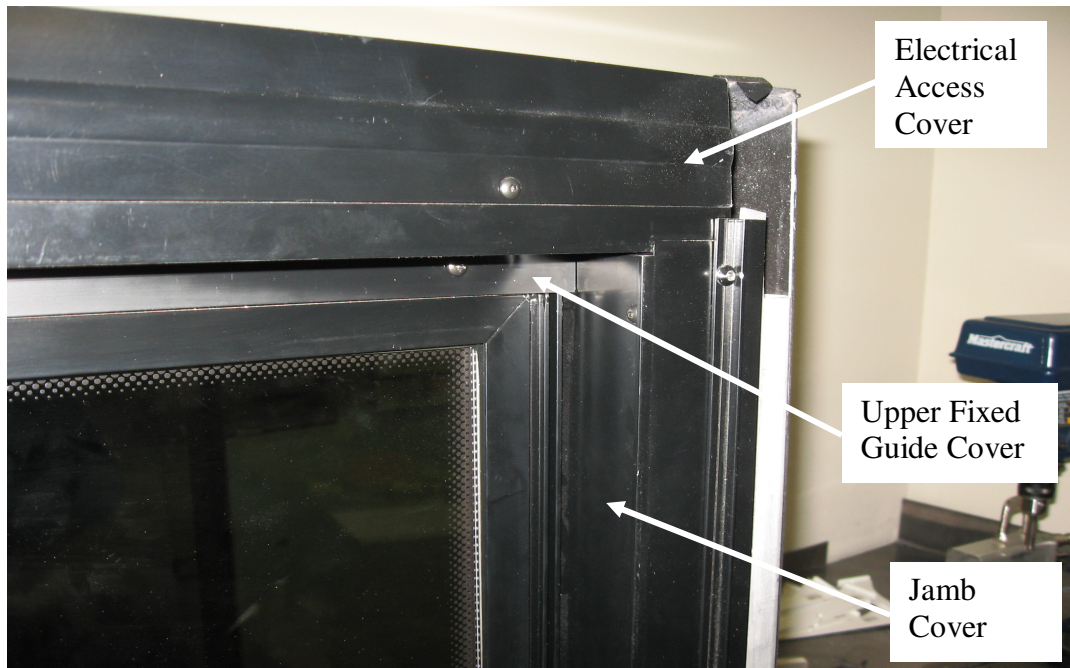


Figure 6

- 3) Remove the lower fixed guide cover and loosen the lower and the upper tensioner bracket (Figure 7)

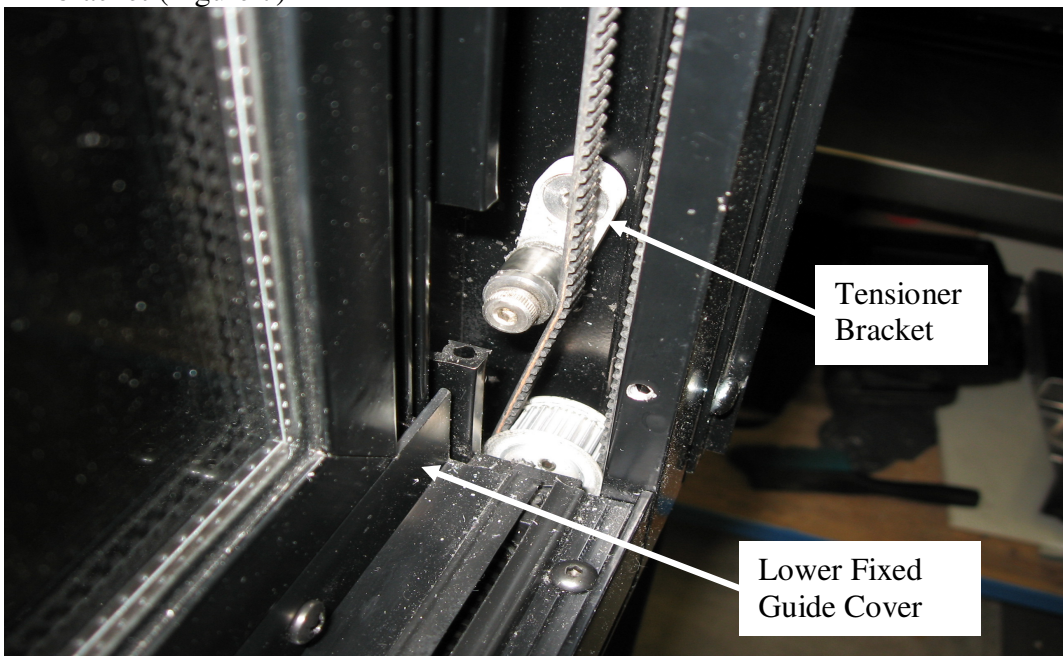


Figure 7

- 4) Remove the shaft support block and take note of its orientation. The shaft support block is not symmetrical. It must not be reversed when reinstalled or it will cause the shaft to bind (Figure 8)

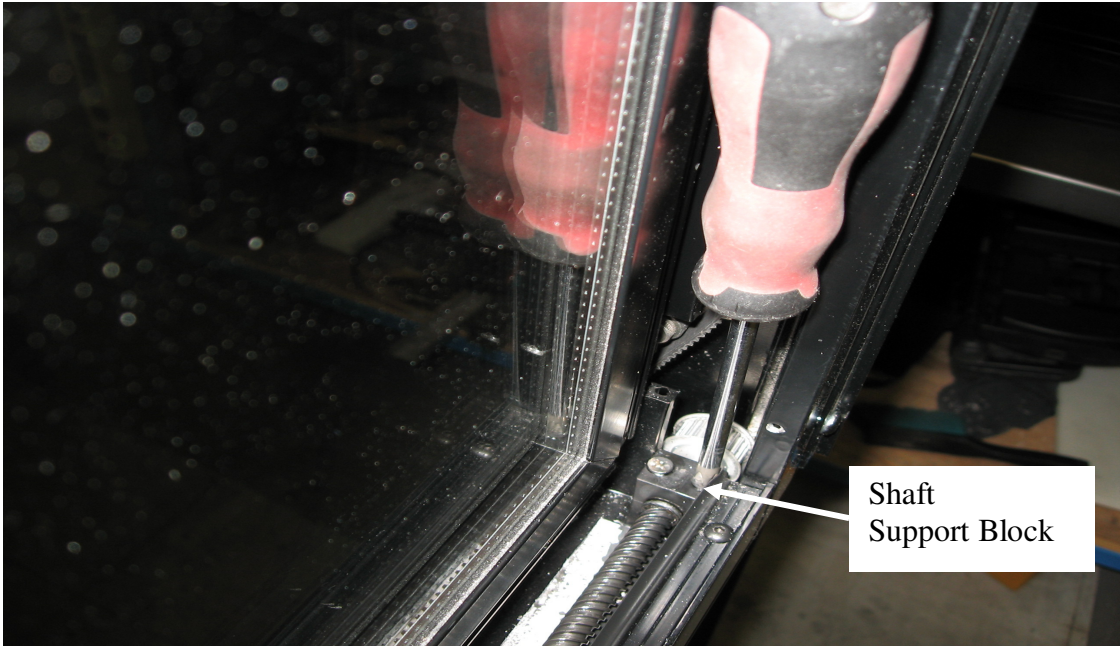


Figure 8

5) Remove the upper fixed guide cover. Loosen the upper tensioner bracket. Loosen the 2 screws that secure the upper support block. Back the screws off to the point where the last of the threads are engaged with the frame (Figure 9)

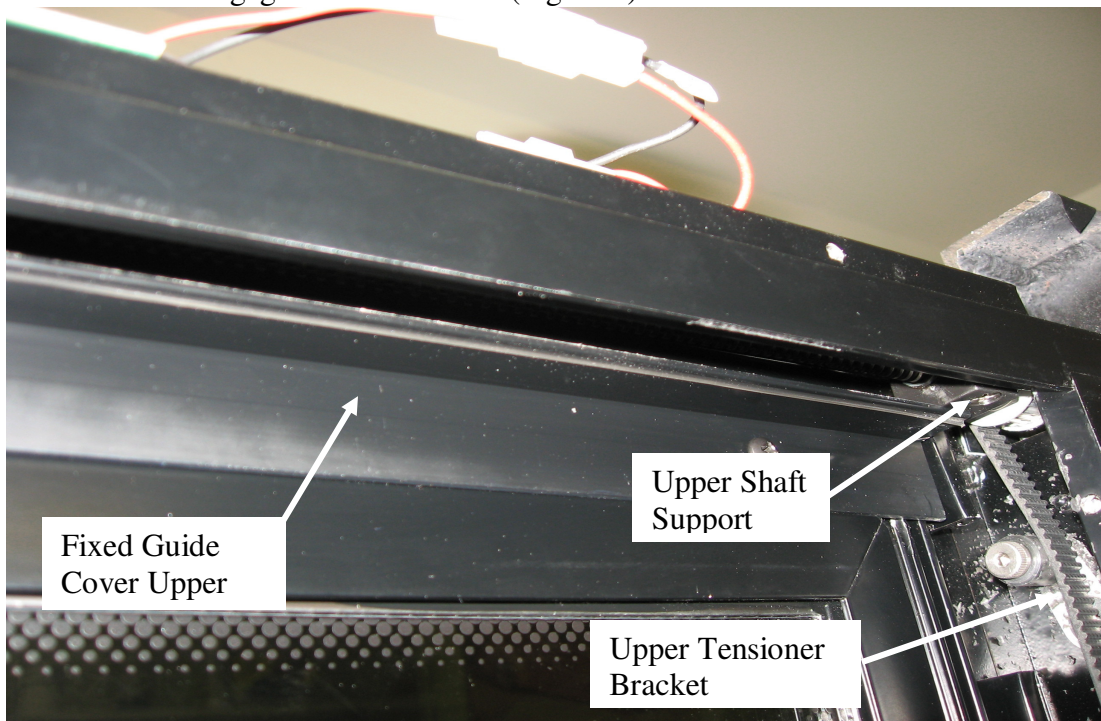


Figure 9

6) Slide the belt over the upper pulley as indicated in figure 10. Warning! It is important that the upper and lower shafts not be rotated during this procedure to maintain timing of the shafts.

- 7) Lift the lower shaft up and out of the shaft support block. Remove the belt from the lower pulley. A thin shim can be placed under the shaft to hold it up
Note: do not bend the shaft (Figure 11)

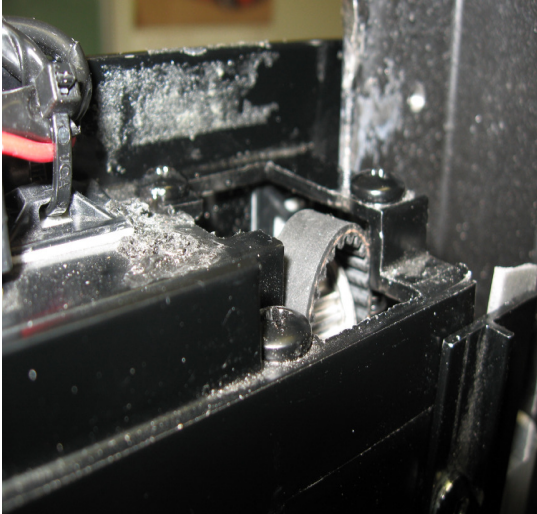


Figure 10

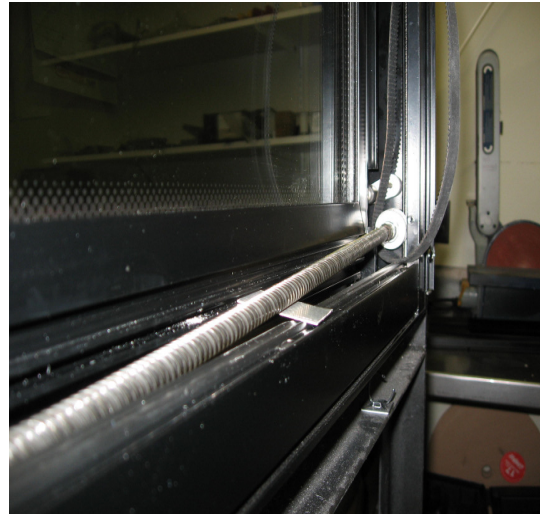


Figure 11

- 8) Reverse the above mentioned procedure to install the new belt. There are 2 washers on the drive shafts. They must be located on either side of the shaft support block as shown in figure 12
- 9) Apply a small quantity sealant to the screw threads and reinstall the screws
And the shaft support block. (Figure 13)
- 10) When installing the plastic guide covers avoid over tightening the screws to prevent the threads from being damaged.

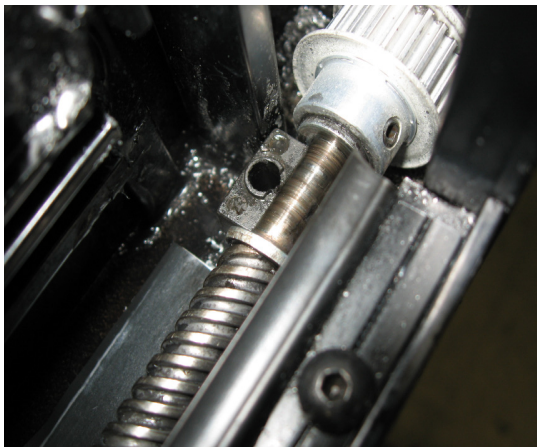


Figure 12

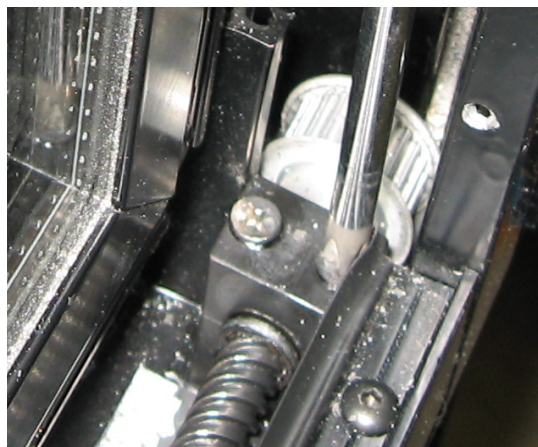


Figure 13

Adjusting the belt tension:

- 1) Rotate the tensioner bracket towards the belt until the belt is slightly deflected.
(Figure 14)
- 2) Do not fully tighten the screw at this stage. Apply the same procedure to the upper tensioner bracket.



Figure 14

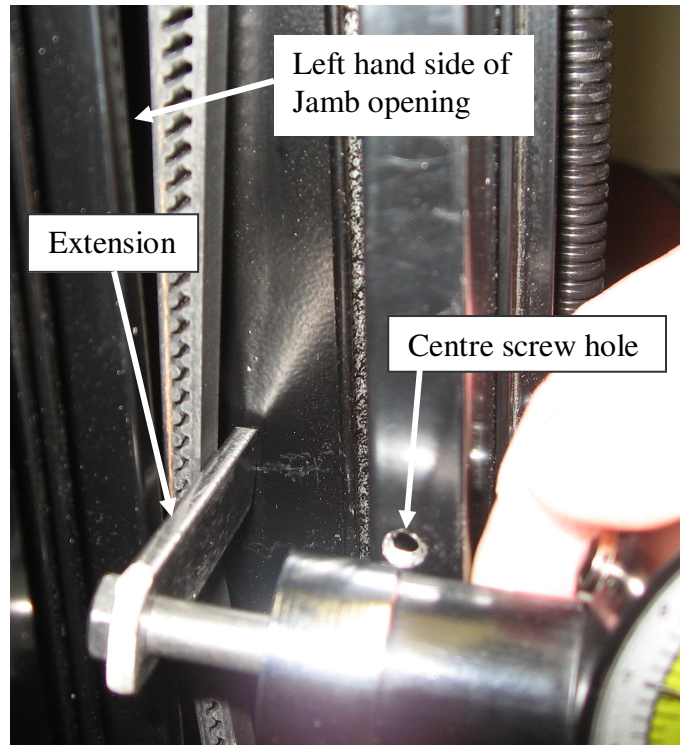


Figure 15

- 3) Use the centre screw hole of the jamb as a reference for the centre of the belt. Slide the extension of the force gauge behind the right hand side of the belt (figure 15)
- 4) Apply a force perpendicular to the belt and slowly deflect it until just before the flat of the extension makes contact with the left hand side of the jamb opening. Observe the reading on the gauge. Repeat the process one or two more times. If the readings are within 5 – 7 pounds the adjustment is correct. If the readings are below 5 pounds readjust the tensioner bracket until the correct reading is obtained. Tighten the upper and lower adjustment screw. It may be necessary to support the tensioner bracket while tightening the adjustment screw to prevent the tensioner bracket from moving.
- 5) Open and close the window sash to confirm that the window functions properly.
- 6) Reinstall the jamb cover, electrical access cover and the screen assembly.

Maintenance of Lower Window Frame Drainage Cavity

Tools Required:

- #2 Phillips screw driver
- 3/32 Allen wrench
- 5/64 Allen wrench

At some point in time it may be necessary to clean the interior channel of the lower frame. Depending on the operating conditions encountered, dirt may accumulate in this area and cause a drag on the drive system. If the window operation sounds strained or operates at a reduced speed or fails to close perform the following steps:

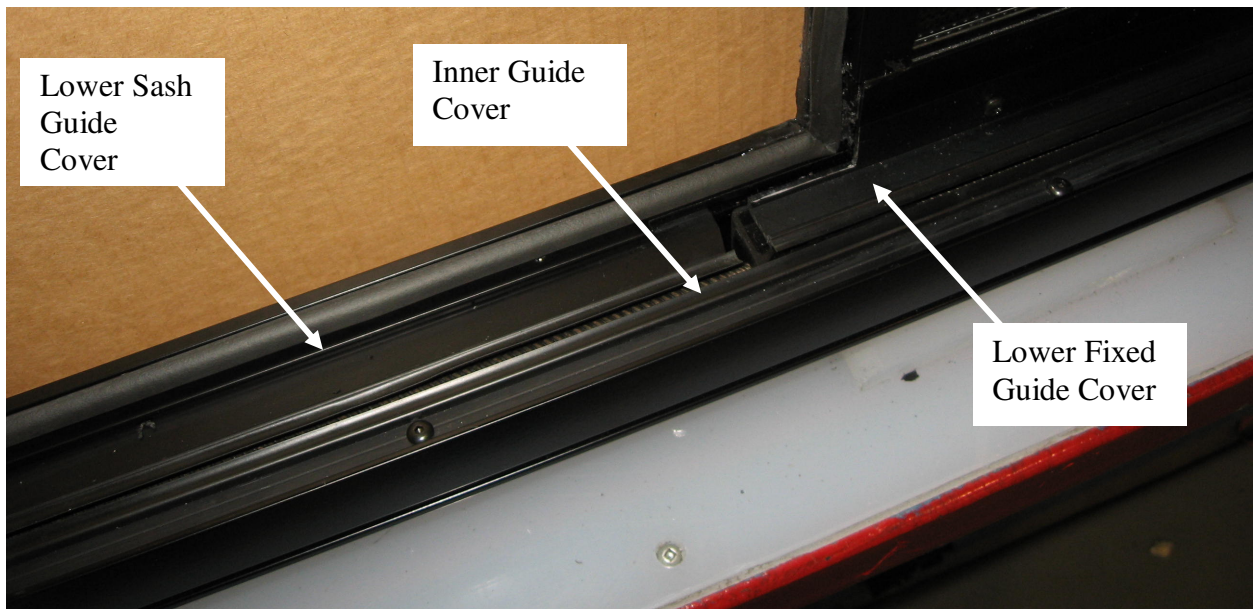


Figure 16

- 1) Remove the screen assembly followed by the sash assembly.
- 2) Remove the inner guide cover followed by the lower fixed guide cover and the lower sash guide cover (Figure 16)
- 3) Locate the 3 set screws that retain the sash guide cover. They will be partly obscured by the frame seal. Be careful not to damage the seal. Back each set screw out by approximately 3 turns and slide the sash guide cover out from the frame (Figure 17)



Figure 17

- 4) Locate the front lower cam block and clean out the slots with a stiff bristle-brush. A solution of liquid soap and water can be used to help loosen up any dirt accumulation (Figure 18)
- 5) Repeat the process for the rear lower cam block (Figure 19)



Figure 18



Figure 19

- 6) Inspect the area underneath the drive shaft and in particular the surface that the cam blocks contact. Clean these surfaces as well (Figure 20)
- 7) Inspect the drainage holes in the lower frame and insure that the holes are not obstructed. (Figure 21)

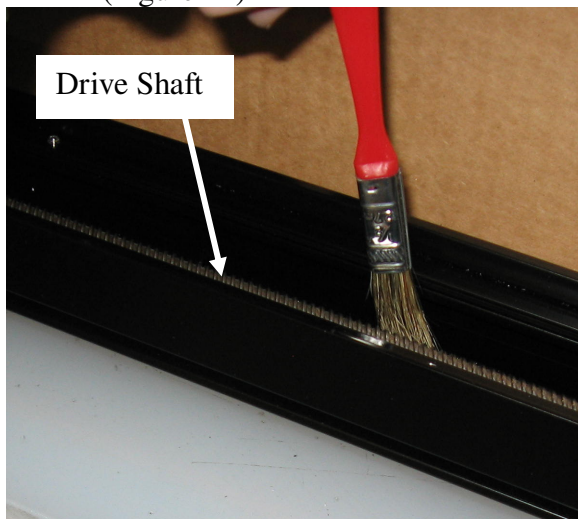


Figure 20

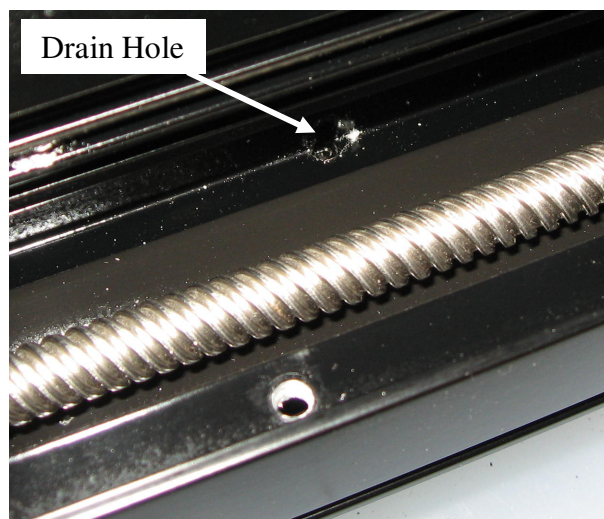


Figure 21

- 8) Reinstall the guide covers in the reverse order of removal.
- 9) When installing the lower sash guide cover, line up the set screw with the indentations in the plastic (Figure22)
- 10) Do not over tighten the fasteners that retain the plastic guide covers.

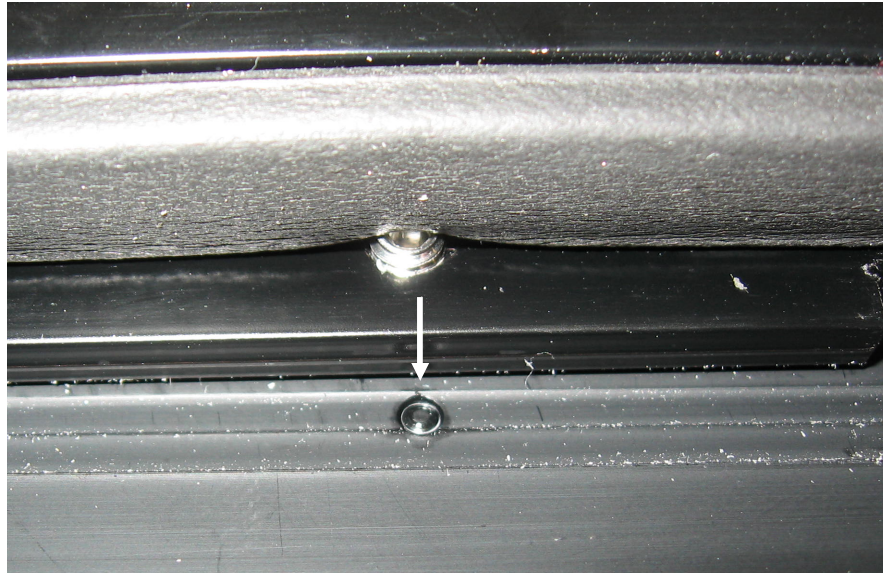


Figure 22

Gear Motor replacement

Tools Required:

- #2 Phillips screw driver
- 5/64" Allen wrench
- 3/32" Allen wrench

- 1) Remove the electrical access cover (Figure23) followed by the nylon pinion gear (Figure24)

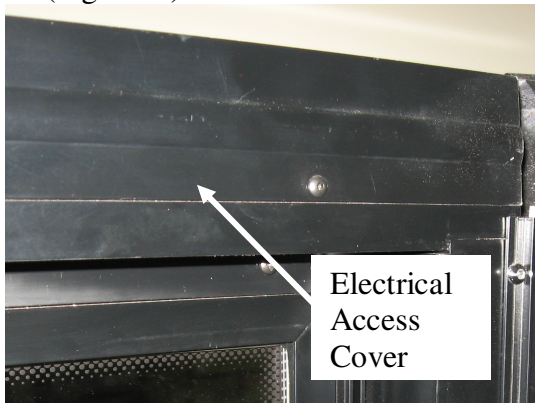


Figure 23

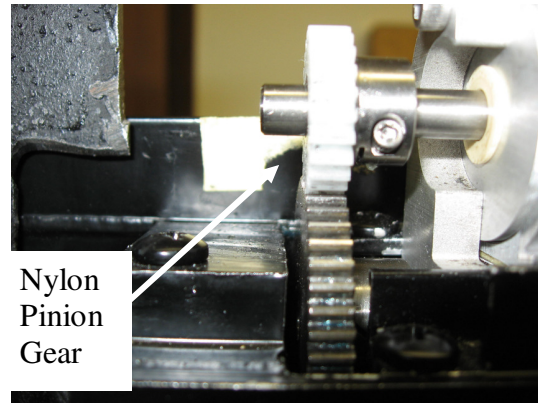


Figure 24

- 2) Disconnect the motor wiring harness at connection C2 (Figure25)

Note: There is a plastic cover (not shown) covering the nylon pinion gear. This cover can be removed and discarded. It is held in place with two way tape.

- 3) Loosen the 2 Phillip screws and slide the motor and output shaft from the motor mount (Figure 26)

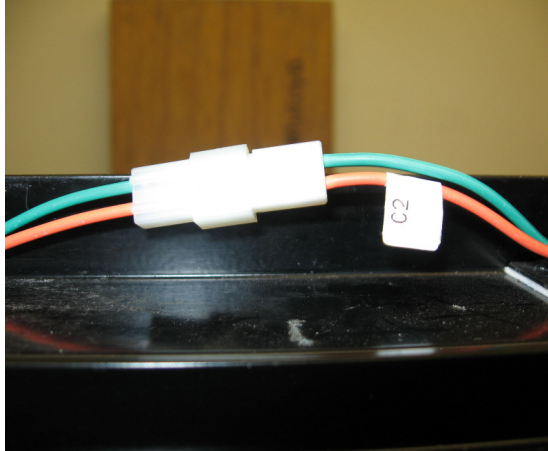


Figure 25

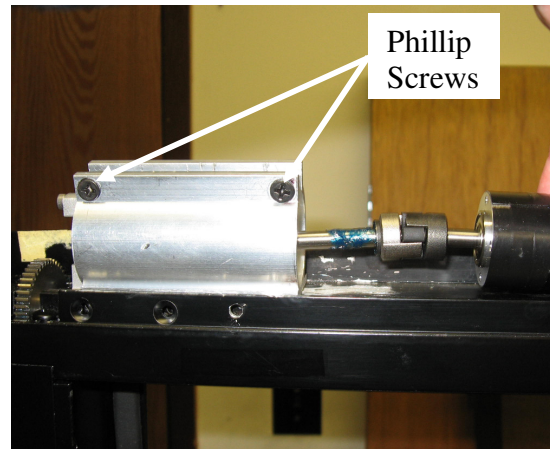


Figure 26

- 4) Clean the output shaft and inspect the rubber spider for wear (Figure 27)
- 5) If the parts are in good condition, apply a small quantity of high pressure (chassis) grease to the output shaft and reattach it to the gear motor (Figure 28)

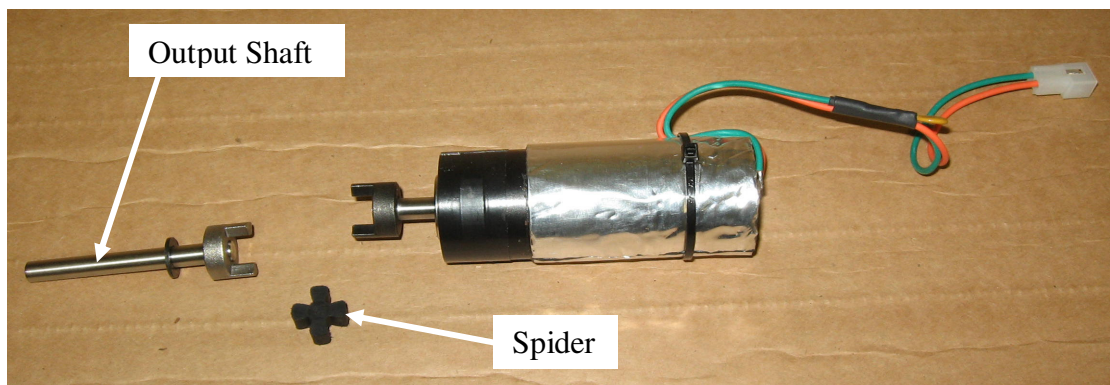


Figure 27

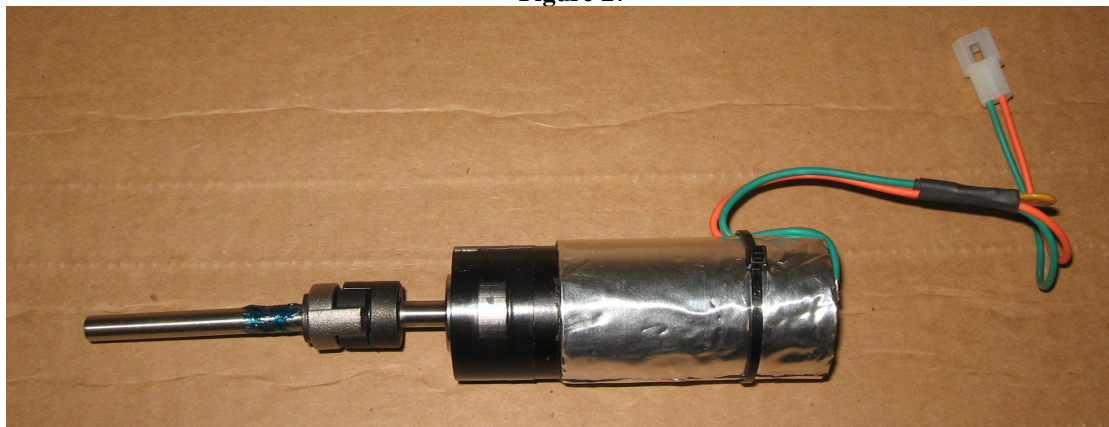


Figure 28

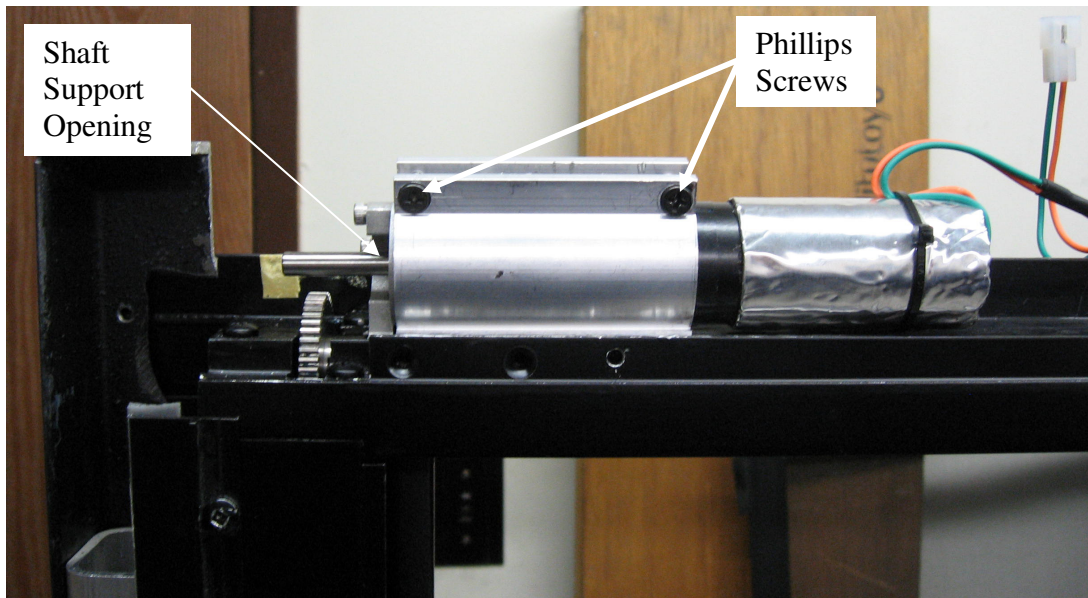


Figure 29

- 6) Slide the gear motor back into the motor mount being careful to align the shaft with the opening in the shaft support mount (Figure29)
- 7) Hold the motor in place and begin to tighten the two Phillips screws evenly. Do not apply force to the back of the motor while performing this procedure.
- 8) Once the screws are tight rotate the output shaft by hand to insure it isn't binding. A small amount of end play is required (0.020" max.) The end play is controlled by setting the depth of the gear motor within the motor mount.
- 9) Reinstall the nylon pinion gear. Align the outer face of the nylon pinion gear with the steel drive gear and tighten the lock screw. Do not over tighten the screw.
- 10) Reconnect the connection at C2 (Figure25)
- 11) Open and close the window sash 2 -3 times to confirm that the window functions properly.
- 12) Reinstall the electrical access cover and reinstall the screen assembly.