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COMPLETE WINDOW ASSEMBLY REMOVAL AND INSTALLATION



| | | |
|-----------------------------|--|---|
| Product: |  | |
| Models & Styles: | MV140 & MV150: Tip-in over Fixed ¾ Egress MV141 & MV151: Tip-in over Fixed Non-Egress |  |
| | MV142 & MV152: Fixed over Fixed ¾ Egress MV143 & MV153: Fixed over Fixed Non-Egress |  |
| | MV144 & MV154: Full Fixed Egress MV145 & MV155: Full Fixed Non-Egress |  |
| | MV147 & MV157: Full Slider Non-Egress MV146 & MV156: Full Slider Egress |  |
| | MV148 & MV158: Fixed over Slider ¾ Egress MV149 & MV159: Fixed over Slider Non-Egress |  |
| | MV170: Slider over Fixed ¾ Egress MV171: Slider over Fixed Non-Egress |  |

This document provides step-by-step instructions on the proper procedure to install AROW's Evolution Framed Window Series.

WARNING: It is important to follow the instructions outlined in this document in order to avoid the following problems caused by improper installations:

- Damage to window frame and/or clamping
- Difficulty fitting the clamping to the window
- Poor clamping joint fit or joint overlaps instead of creating a clean butt joint
- Gaps between the clamping and the window
- Clamping bends near the mounting screws
- Twisting of the window frame and functional window issues such as latching of the tip in latch

For a video of this procedure, please visit our website www.arowglobal.com.

COMPLETE WINDOW ASSEMBLY REMOVAL AND INSTALLATION

MODELS – MV: 140 – 149, 150 – 159, 170 – 171



TOOLS REQUIRED:

- Butyl sealant
- Screws
- Cordless drill
- Plastic pry
- Rubber shims
- Torque wrench (45 in-lbs.)

PREPARING THE EXTERIOR SURFACE

1. Prior to installation, check the window openings and look for any obstructions on the exterior surface. The driver's window should also be checked to ensure the front bus mask isn't interfering with the window frame or window glazing.
2. Check the position of the exterior body panels around the window opening. Make sure that the edge of the body panel is properly aligned with the window opening tubes, ensuring optimal window seal performance.
3. Prepare the structural window opening by sealing all exterior body panel joints with a 0.25 in. bead of butyl sealant extending 1 in. on each side of the joint as shown in **Figure 1**.



Figure 1 - Butyl sealant on body panel joints.

PREPARING THE EXTERIOR SURFACE

1. Prepare the window for installation by removing the white foam packaging blocks from the bottom of the window frame. Then remove the clamping and check the window seal to ensure it hasn't moved from its factory installed position.
2. Place the window into the structural opening by setting the bottom of the window onto the structure and tilting the top of the window against the bus body.

WARNING: While moving the window into position, ensure that the window seal does not catch the edge of the structural opening. This could displace the seal and cause a water leak.

ALIGNING THE WINDOW

1. Position the window centered in the opening by adding shims under the window support blocks, from the inside of the bus, as needed. Refer to **Figure 2**.

WARNING: When positioning the window, do not shim or pry on any part of the frame except at the support block locations or within 6 in. of the frame corner. Max allowable distance between the window frame and top structural tube is 3/16 in. Shim up as needed.

2. Partially install the clamping with six (6) screws. It is recommended that the two bottom corners be installed first, followed by the two top corners and the two fasteners at the top center on both sides of the joint. Refer to **Figure 2**.

NOTE: Recommended clamping installation screw is a #10 x 1 in. Stainless Steel with #8 Torx Head (Self-Drilling).

The window should be secure but still moveable for adjustment of vertical and horizontal positioning.

3. After the horizontal and vertical alignment is achieved, complete the installation of the clamping by installing the remaining screws to 20 in. lbs.

NOTE: Low RPM drill to be used for initial fastener installation (approximately 100 RPMs)

4. After all screws have been installed, fully tighten screws to 45 in. lbs, starting at the top joint, alternating sides of the joint along the perimeter of the window as shown in **Figure 4**.

WARNING: Torque should be rechecked to ensure no screws were missed and/or none have become loose after adjacent screws were tightened.

5. As the seals of the window compress and permanently set over time, the torque value set at the time of installation will decrease.

For optimum window seal performance, the clamping screws should have an average minimum torque value of 20 in. lbs.

6. On egress style windows, upon completion of the installation, activate the egress handle and push the window open to an angle of approximately 60°. Release the window and let it swing inward and latch shut. Check to ensure that the window is properly latched.

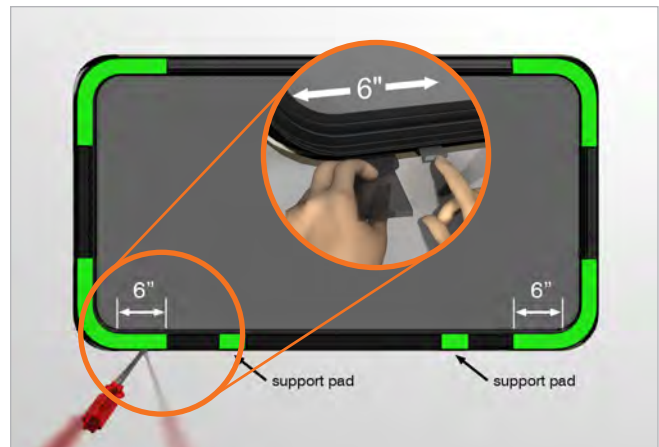


Figure 2 - Adding shims under window support pads.

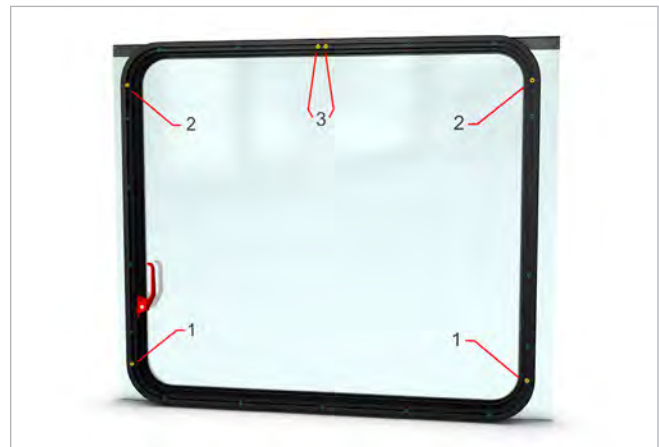


Figure 3 - Location of six (6) screws to be partially installed.

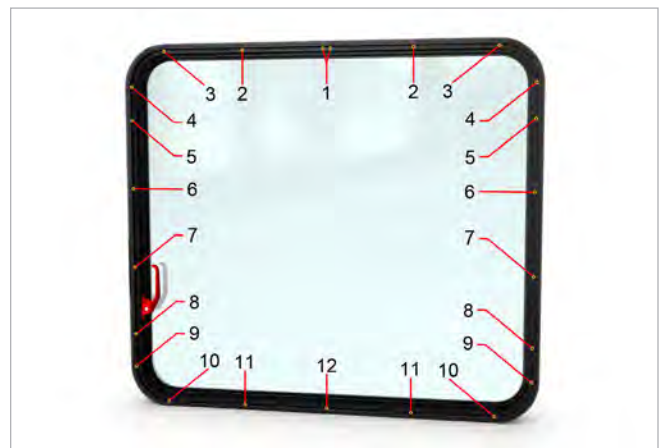


Figure 4 - Sequence for tightening clamping screws.

¾ EGRESS FRAME ASSEMBLY REMOVAL AND INSTALLATION



| | | |
|--|---|---|
| Product: |  | |
| Models & Styles: | MV140 & MV150: Tip-in over Fixed ¾ Egress |  |
| | MV142 & MV152: Fixed over Fixed ¾ Egress |  |
| | MV148 & MV158: Fixed over Slider ¾ Egress |  |
| | MV170: Slider over Fixed ¾ Egress |  |
| <p>This document provides step-by-step instructions on the proper procedure to remove and install the ¾ egress frame assembly on AROW's Evolution Framed Window Series.</p> <p>For a video of this procedure, please visit our website www.arowglobal.com.</p> | | |

¾ EGRESS FRAME ASSEMBLY

MODELS – MV: 140, 142, 148, 150, 152, 158, 170



TOOLS REQUIRED:

- 5/32 in. Allen wrench
- 3 ft. Prop rod

REMOVING THE FRAME ASSEMBLY FROM THE WINDOW ASSEMBLY (EGRESS WINDOW ONLY)

1. From the inside of the bus, activate the egress handle and prop the window open using the prop rod. **Ensure prop rod is securely positioned as injury can result if it falls out.**
2. Use the Allen wrench to remove the two (2) retaining screws from the transom, refer to **Figure 1**.
3. Remove the window assembly by rotating it a bit past 90°, then move the assembly towards the inside of the window to disengage the hinge, as shown in **Figure 2**.

INSTALLING THE FRAME ASSEMBLY INTO THE WINDOW ASSEMBLY (EGRESS WINDOW ONLY)

1. Holding the frame assembly slightly past 90°, engage the hinge on the frame assembly with the hinge detail on the transom. Refer to **Figure 3** for how the hinge engages.

If the assembly rotates down into place it is installed correctly.

WARNING: Hinge on frame assembly or transom can be damaged if extrusions are not properly engaged and an attempt is made to close the window.

2. Push out the frame assembly to approximately 80° degrees and secure in place with a prop rod. **Ensure prop rod is securely positioned as injury can result if it falls out.**
3. Install the two (2) 10-24 UNC x 3/16 in. long socket head cap screws into the underside of the sub-frame with the Allen wrench. See **Figure 1** for a reference.
4. After egress frame assembly is properly installed, rotate the egress frame to an angle of approximately 40° to 60° and release. The momentum should close the window.

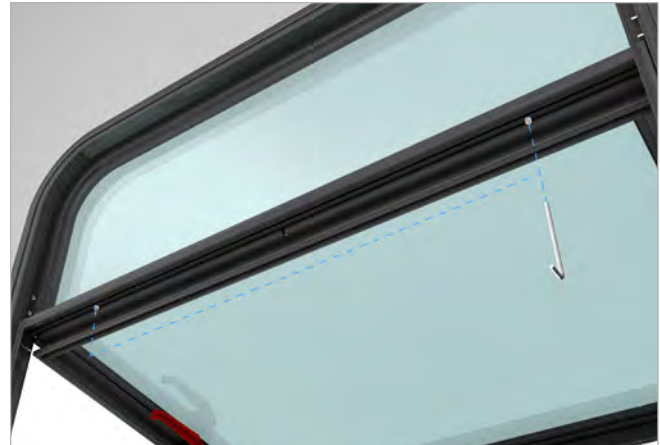


Figure 1 - Egress frame removal.



Figure 2 - Removal of egress assembly.

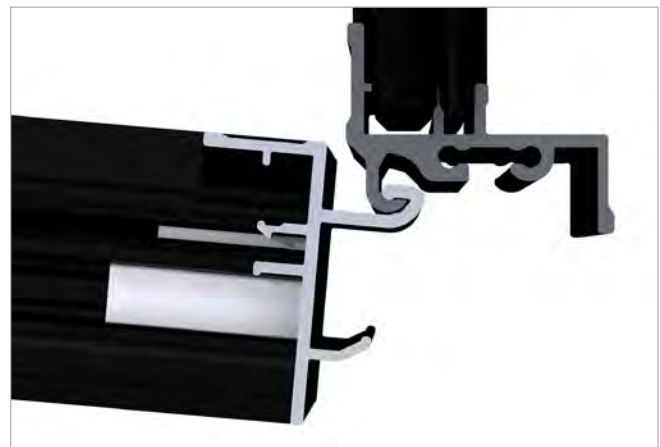





Figure 3 - Hinge engagement.

FULL EGRESS FRAME ASSEMBLY REMOVAL AND INSTALLATION



| | | |
|---|---|---|
| Product: |  | |
| Models & Styles: | MV144 & MV154: Full Fixed Egress |  |
| | MV146 & MV156: Full Slider Egress |  |
| <p>This document provides step-by-step instructions on the proper procedure to remove and install the egress assembly on AROW's Evolution Framed Window Series.</p> | | |

FULL EGRESS FRAME ASSEMBLY REMOVAL AND INSTALLATION



MODELS – MV: 144, 146, 154, 156

TOOLS REQUIRED:

- 5/32 in. Allen wrench
- 3 ft. Prop rod

REMOVING THE FRAME ASSEMBLY FROM THE WINDOW ASSEMBLY

1. From the inside of the bus, activate the egress handle and prop the window open using the prop rod. Ensure prop rod is securely positioned as injury can result if it falls out.
2. Use the Allen wrench to remove the two (2) retaining screws from the sub-frame. Refer to **Figure 1**.
3. Swing the egress frame assembly to approximately 90° and slide toward the window assembly to disengage the hinge.



Figure 1 - Removal of retaining screws under transom.



INSTALLING THE FRAME ASSEMBLY INTO THE WINDOW ASSEMBLY

1. Holding the frame assembly slightly past 90°, engage the hinge on the frame assembly with the hinge detail on the sub-frame.
2. If the assembly rotates down into place it is installed correctly.
3. Push out the frame assembly to approximately 80° and secure in place with a prop rod. Ensure prop rod is securely positioned as injury can result if it falls out.
4. Install the two (2) 10-24 UNC x 3/16 in. long socket head cap screws into the underside of the sub-frame with the Allen wrench. See **Figure 1** for a reference.
5. After egress frame assembly is properly installed, rotate the egress frame to an angle of approximately 40° to 60° and release. The momentum of the frame is normally sufficient to close the window.

WARNING: Hinge on frame assembly or sub-frame can be damaged if extrusions are not properly engaged and an attempt is made to close the window.

TIP-IN SASH ASSEMBLY REMOVAL AND INSTALLATION



| | | |
|---|---|---|
| Product: |  EVOLUTION FRAMED WINDOW SERIES | |
| Models & Styles: | MV140 & MV150: Tip-in over Fixed ¾ Egress MV141 & MV151: Tip-in over Fixed Non-Egress |  |
| This document provides step-by-step instructions on the proper procedure to remove and install the tip-in sash assembly on AROW's Evolution Framed Window Series. | | |

TIP-IN SASH ASSEMBLY REMOVAL AND INSTALLATION

MODELS – MV: 140, 141, 150, 151



TOOLS REQUIRED:

- 5/64 in. Allen wrench
- Phillips head screwdriver or drill

REMOVING THE TIP-IN SASH ASSEMBLY

1. Using Allen wrench, remove the center sash lock screw from the sash strike as shown in **Figure 1**.
2. Loosen the four (4) 8-32 x 1 in. long flat head screws enough to remove the gas springs from the retainers as shown in **Figure 2**.
3. Close the sash again and remove the four (4) 8-32 x 3/8 in. pan head screws from the sash stop, depicted as the blue dots in **Figure 2**.
4. Remove the sash and sash stop together as shown in **Figure 3**.
5. Rotate the sash stop down and out to remove it from the sash, shown in **Figure 4**.

INSTALLING THE TIP-IN SASH ASSEMBLY

1. To install the sash stop in the sash assembly, align the centering screw in the sash with the notch in the sash stop. Make sure to position the hinge properly and then roll it into place.
2. Before replacing the sash assembly into the window frame it is recommended that you apply Dolphin sealant to seal the pan head screws into place.
Once the assembly is back in the window frame install the four (4) 8-32 x 3/8 in. pan head screws into the sash stop.
3. Insert the gas springs into the retainers and tighten down the 8-32 x 1 in. long flat head screws.
4. Test to ensure sash is working properly.



Figure 1 - Remove only the center screw.



Figure 2 - Removal of gas springs from pan head screws.

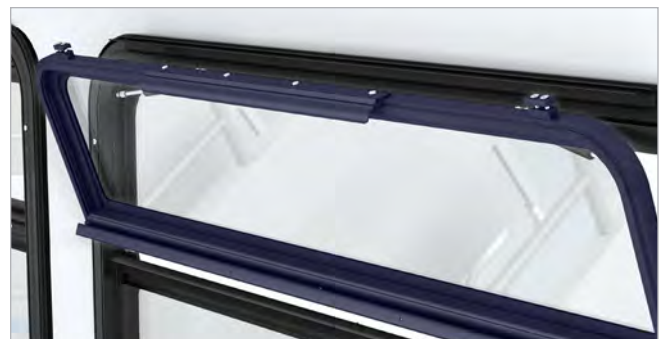


Figure 3 - Removal of sash and sash stop.



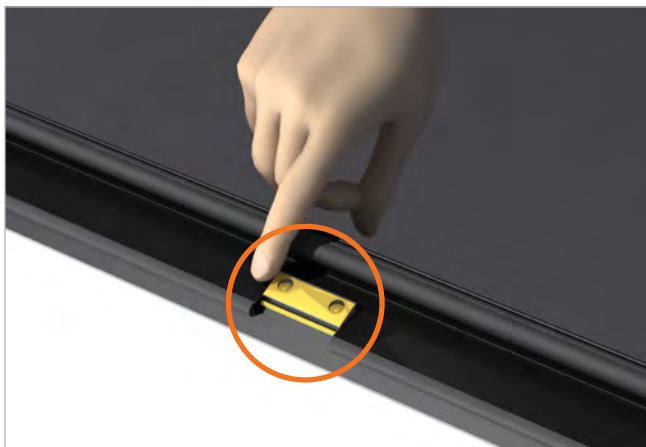
Figure 4 - Engagement of sash hinges.

EGRESS WINDOW CLOSING

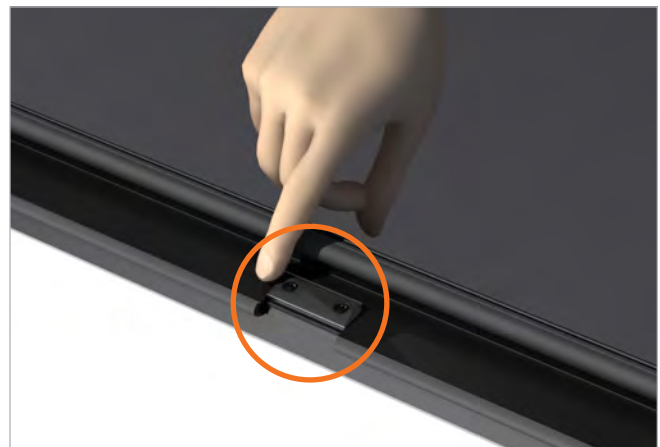


| | | |
|---|---|---|
| Product: |  | |
| Models & Styles: | MV140 & MV150: Tip-in over Fixed ¾ Egress |  |
| | MV142 & MV152: Fixed over Fixed ¾ Egress |  |
| | MV144 & MV154: Full Fixed Egress |  |
| | MV 146 & MV156: Full Slider Egress |  |
| | MV148 & MV158: Fixed over Slider ¾ Egress |  |
| | MV170: Slider over Fixed ¾ Egress |  |
| <p>This document provides step-by-step instructions on the proper procedure to clean and maintain the emergency release system (spring loaded emergency release latches) on AROW’s Evolution Framed Window Series (egress style window only).</p> | | |

NOTE: Check to see which release system you have before proceeding. If emergency release bar and latch strikes are gold proceed to next page (Style #1). If the emergency release bar and latch strikes are black proceed to ‘Style #2’ version of the procedure.



Gold release system requires Style 1 procedure.



Black release system requires Style 2 procedure.

STYLE #1: EGRESS WINDOW CLOSING

MODELS – MV: 140, 142, 144, 146 148, 150, 152, 154, 156, 158, 170



TOOLS REQUIRED:

- Lithium grease

EMERGENCY RELEASE SYSTEM MAINTENANCE

1. Check to see that the three (3) emergency release strikes and the frame locator blocks have a light coating of lithium grease applied to their contact surfaces, as shown in **Figure 1**.

NOTE: the window may have two (2) or three (3) egress strikes.

2. Check to ensure the egress handle and mechanism is in its closed position; the egress handle should be in the upright position.

NOTE: A damaged or faulty handle, broken spring, or broken cable could prevent the mechanism from returning to its closed position after the handle has been activated.

3. Push the frame assembly, applying force to the aluminum frame itself, so that it swings open to approximately 40° to 60° and quickly release; the momentum of the frame is normally sufficient to close the window.

This may need to be repeated up to five (5) times if the window is new or has not been operated for an extended period of time in order to seat the egress components.

4. If a new window, the frame locator blocks will have a self-adhesive rubber shim attached for installation purposes (shipping blocks) that must be removed, refer to **Figure 3**.

WARNING: These shims must be removed after the window is installed or the window may not close and latch correctly.

If the window fails to close after following these instructions contact a service technician. Faulty egress latch components, frame sizing, or the window installation may be the cause and must be determined by a technician.



Figure 1 - Lithium grease should be on all 3 strikes and locator blocks.

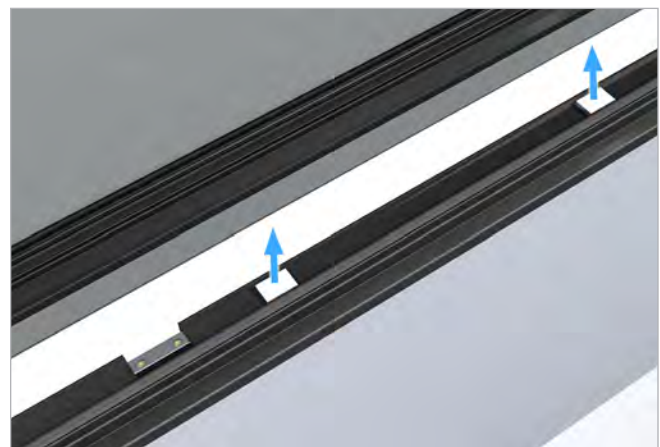


Figure 2 - Removal of shipping blocks.

STYLE #2: EGRESS WINDOW CLOSING

MODELS – MV: 140, 142, 144, 146 148, 150, 152, 154, 156, 158, 170



TOOLS REQUIRED:

- Dry film lubricant

EMERGENCY RELEASE SYSTEM MAINTENANCE

1. Check to see that the three (3) emergency release strikes and the frame locator blocks have a light coating of dry film lubricant (such as Spray & Slide by Royce) applied to their contact surfaces, as shown in **Figure 1**.

NOTE: the window may have two (2) or three (3) egress strikes.

2. Check to ensure the egress handle and mechanism is in its closed position; the egress handle should be in the upright position.

NOTE: A damaged or faulty handle, broken spring, or broken cable could prevent the mechanism from returning to its closed position after the handle has been activated.

3. Push the frame assembly, applying force to the aluminum frame itself, so that it swings open to approximately 40° to 60° and quickly release; the momentum of the frame is normally sufficient to close the window.

This may need to be repeated up to five (5) times if the window is new or has not been operated for an extended period of time in order to seat the egress components.

4. If a new window, the frame locator blocks will have a self-adhesive rubber shim attached for installation purposes (shipping blocks) that must be removed, refer to **Figure 3**.

WARNING: These shims must be removed after the window is installed or the window may not close and latch correctly.

If the window fails to close after following these instructions contact a service technician. Faulty egress latch components, frame sizing, or the window installation may be the cause and must be determined by a technician.



Figure 1 - Applying dry film lubricant to strikes.

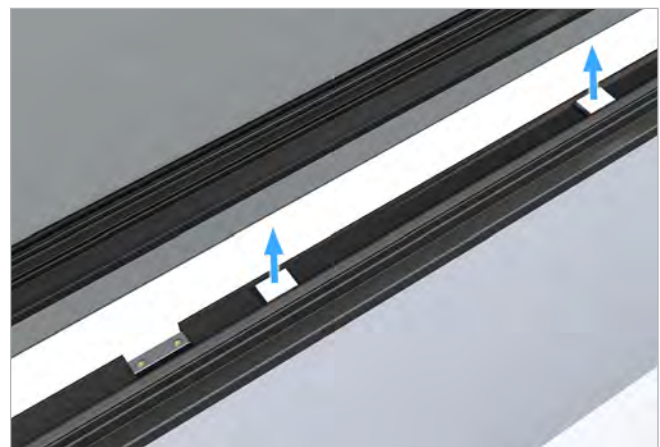


Figure 2 - Removal of shipping blocks.

WINDOW GLAZING REMOVAL AND INSTALLATION



| | | |
|---|--|---|
| Product: |  | |
| Models & Styles: | MV140 & MV150: Tip-in over Fixed ¾ Egress MV141 & MV151: Tip-in over Fixed Non-Egress |  |
| | MV142 & MV152: Fixed over Fixed ¾ Egress MV143 & MV153: Fixed over Fixed Non-Egress |  |
| | MV144 & MV154: Full Fixed Egress MV145 & MV155: Full Fixed Non-Egress |  |
| | MV147 & MV157: Full Slider Non-Egress MV146 & MV156: Full Slider Egress |  |
| | MV148 & MV158: Fixed over Slider ¾ Egress MV149 & MV159: Fixed over Slider Non-Egress |  |
| | MV170: Slider over Fixed ¾ Egress MV171: Slider over Fixed Non-Egress |  |
| <p>This document provides step-by-step instructions on the proper procedure to remove and install the window glazing on AROW's Evolution Framed Window Series.</p> <p>For a video of this procedure, please visit our website www.arowglobal.com.</p> | | |

WINDOW GLAZING REMOVAL AND INSTALLATION

MODELS – MV: 140 – 149, 150 – 159, 170 – 171



TOOLS REQUIRED:

- Glass cleaner
- Scissors

REMOVING THE SASH, UPPER & LOWER GLASS (BOTH EGRESS & NON-EGRESS WINDOWS)

1. Remove the interior glazing spline by pulling it away from the frame and continuing around the entire perimeter of the glass.
2. Remove the glass from the frame.
3. Prior to installing the new glazing spline, check the interior glazing spline for tears. If the glazing spline is split or torn, repair with a cyanoacrylate adhesive.

INSTALLING THE SASH, UPPER & LOWER GLASS (BOTH EGRESS & NON-EGRESS WINDOWS)

1. Put the new glass in against the outer glazing spline.
2. Spray glass cleaner onto the inner surface of the glazing spline and install the two mitered corners as shown in **Figure 1**.
3. At the round corners use scissors to cut five (5) notches in the glazing spline 1/2 in. deep and 3/4 in. to 1 in. apart as shown in **Figure 2**.

Work the spline into the channel and move along the vertical legs and around the corners.

4. Install the horizontal sections of the spline in at the center and work towards the corners.

NOTE: The Rapid Replacement window models have a spline that is one solid welded piece.

The standard model has the spline pushed together at the miter joint or top center of the frame.

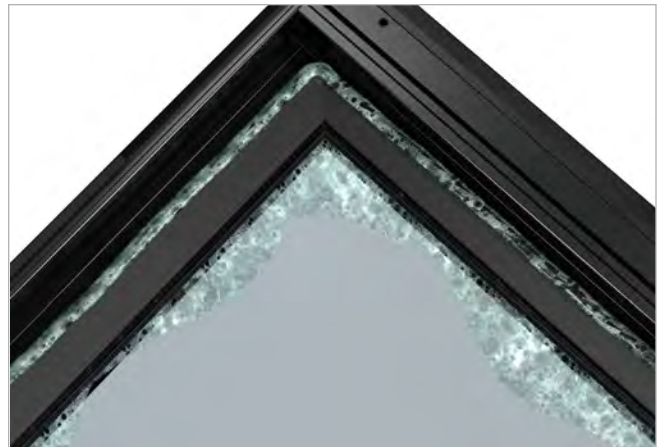


Figure 1 - Mitered corners.



Figure 2 - Five (5) notches in glazing spline.

ACRYLIC GRAFFITI PROTECTION SHIELD REMOVAL AND INSTALLATION



| | | |
|---|---|---|
| Product: |  | |
| Models & Styles: | MV150: Tip-in over Fixed ¾ Egress MV151: Tip-in over Fixed Non-Egress |  |
| | MV152: Fixed over Fixed ¾ Egress MV153: Fixed over Fixed Non-Egress |  |
| | MV155: Full Fixed Non-Egress |  |
| | MV157: Full Slider Non-Egress |  |
| | MV170: Slider over Fixed ¾ Egress MV171: Slider over Fixed Non-Egress |  |
| <p>This document provides step-by-step instructions on the proper procedure to remove and install the window glazing on AROW's Evolution Framed Window Series.</p> <p>For a video of this procedure, please visit our website www.arowglobal.com.</p> | | |

ACRYLIC GRAFFITI PROTECTION SHIELD REMOVAL AND INSTALLATION



MODELS – MV: 150 – 153, 155, 157, 170 – 171

TOOLS REQUIRED:

- Two (2) suction cups
- Small amount of glass cleaner

REMOVING THE PROTECTIVE ACRYLIC SHIELDS

1. Lubricate the glazing spline around the perimeter of the shield with glass cleaner.
2. Apply two suction cups on the shield, about one-third of the way in from both ends (**Figure 1**) and force the shield upward.
3. Bow the shield enough so that the bottom edge no longer engages with the frame.

Keep shield bowed, slide down and pull out of window as shown in **Figure 2**.

INSTALLING THE PROTECTIVE ACRYLIC SHIELDS

1. Lubricate the spline with glass cleaner.
2. Wipe off any excess lubricant that may be on the glass and shield.
3. Apply suction cups to shield as described in step 2 of shield removal.
4. Bow the shield enough to get the sides of the shield installed as well as the top.
5. Force the shield upward and install the bottom edge of the shield.
6. Force the shield downward as far as it will go. Center the shield left to right and ensure that no edges of the shield can be seen sticking outside the glazing spline.







Figure 1 - Placement of suction cups.



Figure 2 - Acrylic shield removal.

SASH STRIKES AND ROCKER LATCHES REMOVAL AND INSTALLATION



| | | |
|---|--|---|
| Product: |  | |
| Models & Styles: | MV147 & MV157: Full Slider Non-Egress MV146 & MV156: Full Slider Egress |  |
| | MV148 & MV158: Fixed over Slider ¾ Egress MV149 & MV159: Fixed over Slider Non-Egress |  |
| | MV170: Slider over Fixed ¾ Egress MV171: Slider over Fixed Non-Egress |  |
| This document provides step-by-step instructions on the proper procedure to remove and install the window glazing on AROW's Evolution Framed Window Series. | | |

SASH STRIKES AND ROCKER LATCHES REMOVAL AND INSTALLATION



MODELS – MV: 146 – 149, 156 – 159, 170 – 171

TOOLS REQUIRED:

- Philips Screw Driver
- Torque screw driver/wrench
- Pliers
- Dolphin sealant or equivalent sealant
- Replacement parts and fasteners
- Brake cleaner (as required)

REPLACING STRIKES

1. Slide sash window to a position that provides access to the broken strike as shown in **Figure 1**.
2. Remove the screws from strike and pull the strike away from the frame as shown in **Figure 2**; if necessary use pliers to remove the strike.

If the strike has a shim it will also need to be removed. (#3 in **Figure 2**)
3. Remove Dolphin sealant from frame, use brake cleaner if needed.
4. Apply Dolphin or equivalent sealant in a line on the frame and circling the screw holes. Refer to **Figure 3** for placement of Dolphin sealant.

NOTE: Do not apply sealant in the screw holes.

5. Attach new strike with fasteners (attach shim if necessary) as shown in **Figure 4**.

Tighten to a maximum torque of 6.25 in-lbs. Stop at a lower torque if the strike begins to bulge or deform.

WARNING: The use of powered screwdrivers on screws can lead to over tightening and breakage in the strike.

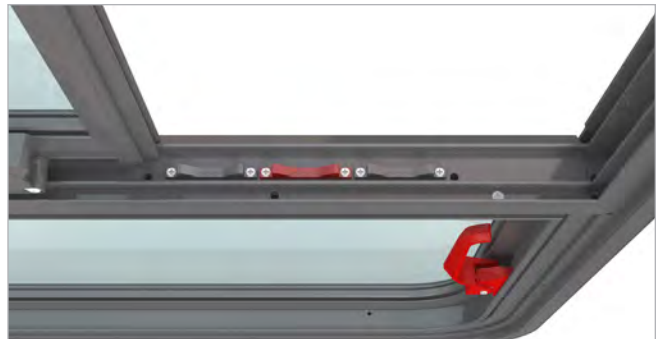


Figure 1 - Slide sash to a position which provides access to broken strike.



Figure 2 - Removal of broken strike.



Figure 3 – Application of Dolphin sealant.



Figure 4 – Installing new strikes.

REPLACING ROCKER LATCHES

1. Remove screws from rocker latch as shown in **Figure 5**, and pull the rocker latch away from the sash frame. Some force may be required, as the rocker handle is adhered to the extrusion.
2. Clean rocker latch, sash frame and slotted washers; remove as much Dolphin sealant as possible using brake cleaner if necessary.
3. Place slotted washers into the front of the new rocker latch as shown in **Figure 6**.
4. From the back side of the rocker latch, fill the slotted cavities about half full of Dolphin sealant or equivalent sealant.

Circle both slots and draw a connecting line with sealant. Refer to **Figure 6**.
5. Place the rocker latch on sash frame and loosely secure with fasteners, adjust latch so the sash movement is limited to 1/8 in. when in the closed position. Refer to **Figure 7**.

Tighten fasteners to a maximum of 25 in-lbs.



Figure 5 – Removal of rocker latch.




Figure 6 – Placement of washers and Dolphin sealant.



Figure 7 – Placement of rocker latch on sash frame.

ADJUSTING TIP-IN SASH LATCH STRIKE PLATE



| | | |
|---|---|---|
| Product: |  EVOLUTION FRAMED WINDOW SERIES | |
| Models & Styles: | MV140 & MV150: Tip-in over Fixed ¾ Egress MV141 & MV151: Tip-in over Fixed Non-Egress |  |
| This document provides step-by-step instructions on the proper procedure to adjust the tip-in sash latch strike plate after the Evolution Framed Window has been installed. | | |

NOTE: This procedure is only applicable to windows that were purchased before March 2016. Windows purchased after this date are self adjusting and DO NOT have any visible screws on the latch strike plate.

ADJUSTING TIP-IN SASH LATCH STRIKE PLATE

MODELS – MV: 140, 141, 150, 151



TOOLS REQUIRED:

- #2 Phillips head screwdriver

ADJUSTING THE TIP-IN SASH LATCH STRIKE PLATE

1. With the tip-in window in the closed position, inspect the latch mechanism and estimate the amount of adjustment needed.

Depress the tip-in latch handle and pull the window toward the interior of the bus opening the window.
2. Using a short #2 Phillips head screwdriver, loosen the two (2) machine screws securing the latch strike plate to the latch strike base. Refer to **Figure 1**.

Only loosen the screws enough to allow the latch strike to slide for adjustment; the screws securing the strike plate and base together are only 1/4 in. long.

WARNING: If the two (2) machine screws are unthreaded too far, the latch strike, fasteners, and spring washers could fall hitting the glass of the tip-in window and cause damage.

3. With the latch strike plate free to slide, adjust the two (2) set screws (**Figure 2**) on the face of the latch strike base to allow for proper latch engagement based on the estimations made in step 1.

Take care to set both set screws to the same distance so that there is uniform contact between latch and latch strike.

4. Move the latch strike plate so that the face of the plate is in contact with set screws (or the opposite face of the latch strike base if needed) and retighten the two (2) Phillips head machine screws.
5. Close the tip-in window and check for sufficient latch engagement.

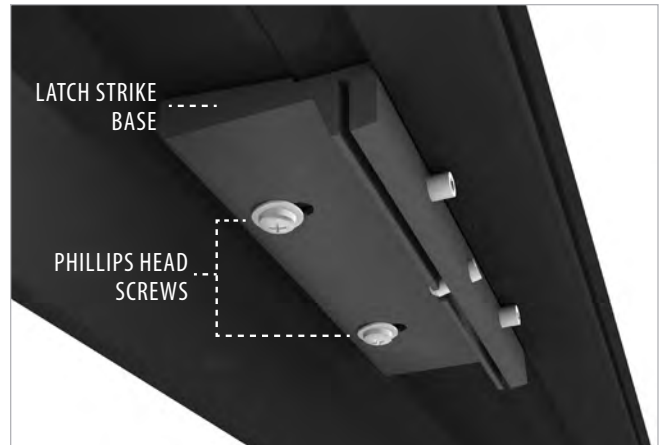


Figure 1 – Latch strike base and Phillips head screws.



Figure 2 – Location of set screws.

EMERGENCY RELEASE BAR ASSEMBLY REMOVAL AND INSTALLATION



| | | |
|---|---|---|
| Product: |  | |
| Models & Styles: | MV140 & MV150: Tip-in over Fixed ¾ Egress |  |
| | MV142 & MV152: Fixed over Fixed ¾ Egress |  |
| | MV144 & MV154: Full Fixed Egress |  |
| | MV 146 & MV156: Full Slider Egress |  |
| | MV148 & MV158: Fixed over Slider ¾ Egress |  |
| | MV170: Slider over Fixed ¾ Egress |  |
| <p>This document provides step-by-step instructions on the proper procedure to remove and install the emergency release bar assembly on AROW's Evolution Framed Window Series (egress style window only).</p> | | |

EMERGENCY RELEASE BAR ASSEMBLY REMOVAL AND INSTALLATION



MODELS – MV: 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 170

TOOLS REQUIRED:

- Phillips head screwdriver
- Needle nose pliers
- Small ball-peen hammer

REMOVAL OF EMERGENCY RELEASE BAR

1. Using the needle nose pliers remove each pin from the four (4) frame locator blocks.

Once the pins are removed detach the locator blocks from the frame. See **Figure 1** for location of locator blocks.

2. Using the Philips screw driver remove the fastener from the end of the bar (side of the window with egress handle). See **Figure 2** for location of fastener.
3. Detach the spring from the end of the bar (side of the window without egress handle). Refer to **Figure 2**.
4. Remove the emergency release bar assembly from the frame as shown in **Figure 3**.

INSTALLATION OF EMERGENCY RELEASE BAR

1. Installation is the reversal of removal.

NOTE: When installing the replacement emergency release bar, make sure the bar is properly seated in the frame, as shown in the picture below.

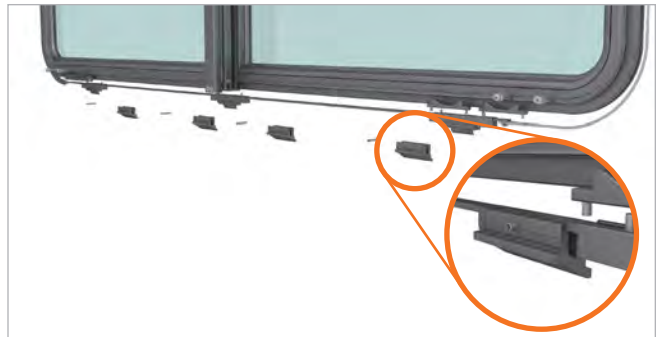


Figure 1 – Removal of pins and locator blocks from window frame.



Figure 2 – Detaching emergency release bar.



Figure 3 – Removal of emergency release bar.

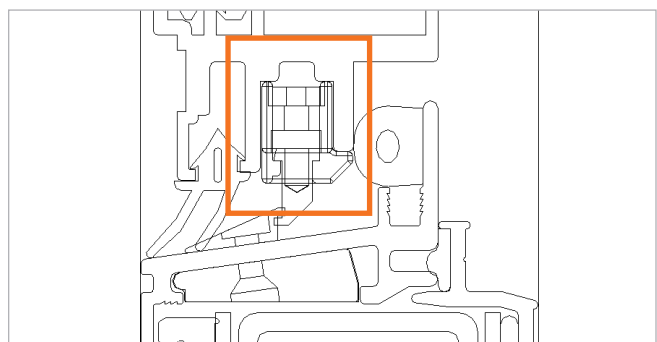


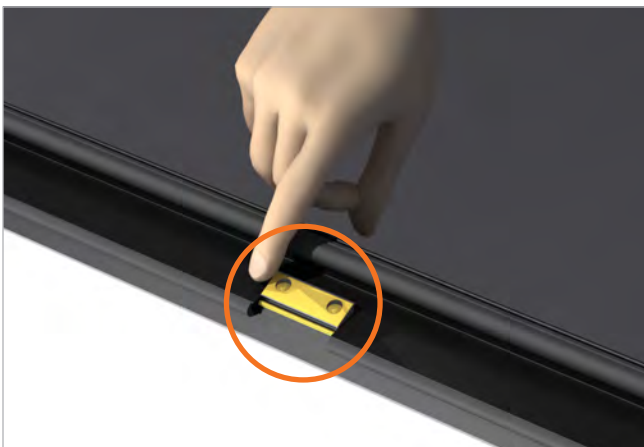
Figure 4 – Cross section of release bar.

EMERGENCY RELEASE SYSTEM MAINTENANCE

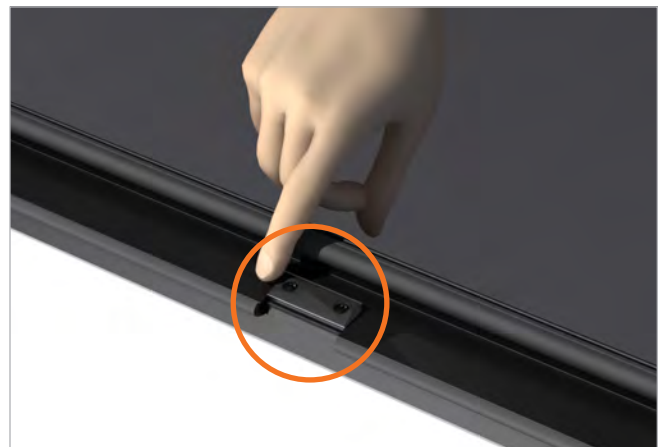


| | | |
|---|---|---|
| Product: |  | |
| Models & Styles: | MV140 & MV150: Tip-in over Fixed ¾ Egress |  |
| | MV142 & MV152: Fixed over Fixed ¾ Egress |  |
| | MV144 & MV154: Full Fixed Egress |  |
| | MV 146 & MV156: Full Slider Egress |  |
| | MV148 & MV158: Fixed over Slider ¾ Egress |  |
| | MV170: Slider over Fixed ¾ Egress |  |
| <p>This document provides step-by-step instructions on the proper procedure to clean and maintain the emergency release system (spring loaded emergency release latches) on AROW’s Evolution Framed Window Series (egress style window only).</p> | | |

NOTE: Check to see which release system you have before proceeding. If emergency release bar and latch strikes are gold proceed to next page (Style #1). If the emergency release bar and latch strikes are black proceed to ‘Style #2’ version of the procedure.



Gold release system requires Style 1 procedure.



Black release system requires Style 2 procedure.

STYLE #1: EMERGENCY RELEASE SYSTEM MAINTENANCE



MODELS – MV: 140, 142, 144, 146 148, 150, 152, 154, 156, 158, 170

TOOLS REQUIRED:

- Stiff bristle brush
- Air compressor
- Dry film lubricant
- Lithium grease

EMERGENCY RELEASE SYSTEM MAINTENANCE

1. Activate emergency release system by pulling the emergency release handle downward and pushing out on the window frame assembly, applying force to the aluminum frame itself.

NOTE: Do not push on glazing material, specifically acrylic shields.

2. With a stiff bristle brush, loosen and remove excessive build-up (e.g., road salt, dirt, etc.) on the emergency release bar, latches, return spring, and strikes as shown in **Figure 1**.
3. Depress and hold the emergency release handle and brush the sections of the emergency release bar previously hidden by the frame locator blocks. Refer to **Figure 2** for location of hidden sections.
4. Blow out all of the loosened build-up off all emergency release system components and sub-frame with compressed air.
5. Activate the plastic plunger of the emergency release latches several times by hand. If the plunger does not move freely, lubricate plunger with a dry film lubricant (such as Spray & Slide by Royce). Repeat if necessary. **Do not lubricate latches with grease.**
6. Apply a light coating of lithium grease to the top surface of the latch strikes as seen in **Figure 3**.

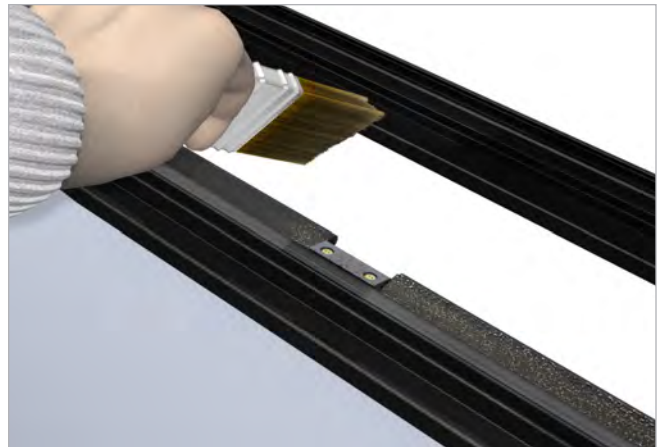


Figure 1 – Removal of build-up on strikes.



Figure 2 – Removal of build-up on emergency release bar.

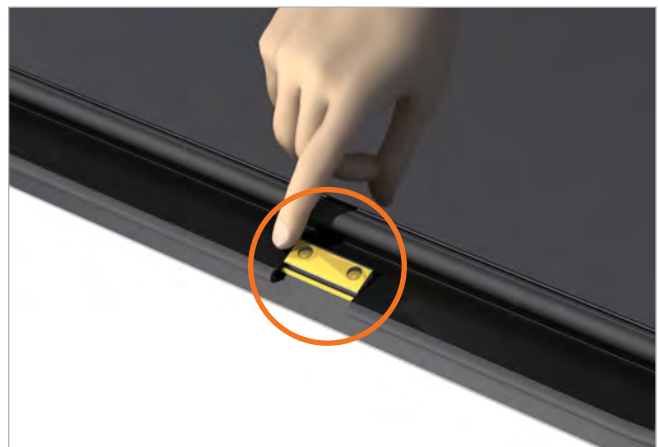


Figure 3 – Application of lithium grease to latch strikes.



7. Depress and release the emergency release handle two or three times to ensure that the system is operating properly.
8. To close the window, push the frame assembly, applying force to the aluminum frame itself, so that it swings open to approximately 45° to 60° and quickly release; the momentum of the frame is normally sufficient to close the window.

This may need to be repeated up to five (5) times if the window is new or has not been operated for an extended period of time in order to seat the egress components.

NOTE: The egress system should be maintained every 3 months or 10,000 miles, whichever comes first, to ensure consistent performance.

STYLE #2: EMERGENCY RELEASE SYSTEM MAINTENANCE



MODELS – MV: 140, 142, 144, 146 148, 150, 152, 154, 156, 158, 170

TOOLS REQUIRED:

- Stiff bristle brush
- Air compressor
- Dry film lubricant

EMERGENCY RELEASE SYSTEM MAINTENANCE

1. Activate emergency release system by pulling the emergency release handle downward and pushing out on the window frame assembly, applying force to the aluminum frame itself.

NOTE: Do not push on glazing material, specifically acrylic shields.

2. With a stiff bristle brush, loosen and remove excessive build-up (e.g., road salt, dirt, etc.) on the emergency release bar, latches, return spring, and strikes as shown in **Figure 1**.
3. Depress and hold the emergency release handle and brush the sections of the emergency release bar previously hidden by the frame locator blocks. Refer to **Figure 2** for location of hidden sections.
4. Blow out all of the loosened build-up off all emergency release system components and sub-frame with compressed air.
5. Activate the plastic plunger of the emergency release latches several times by hand. If the plunger does not move freely, lubricate plunger with a dry film lubricant (such as Spray & Slide by Royce). Repeat if necessary. **Do not lubricate latches with grease.**
6. Apply a light coating of dry film lubricant (such as Spray & Slide by Royce) to the top surface of the latch strikes as seen in **Figure 3**.

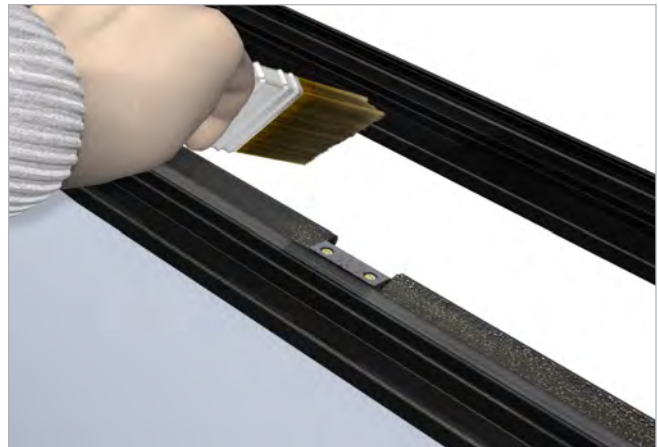


Figure 1 – Removal of build-up on strikes.



Figure 2 – Removal of build-up on emergency release bar.

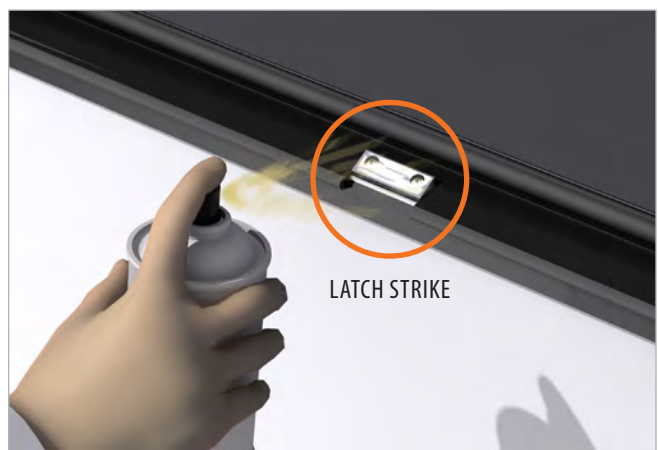


Figure 3 – Application of dry film lubricant to latch strikes.



7. Depress and release the emergency release handle two or three times to ensure that the system is operating properly.
8. To close the window, push the frame assembly, applying force to the aluminum frame itself, so that it swings open to approximately 45° to 60° and quickly release; the momentum of the frame is normally sufficient to close the window.

This may need to be repeated up to five (5) times if the window is new or has not been operated for an extended period of time in order to seat the egress components.

NOTE: The egress system should be maintained every 3 months or 10,000 miles, whichever comes first, to ensure consistent performance.

REPAIRING THE STRIPPED LOCKER LATCH MOUNTING SCREW ON THE HIGH-VIZ DRIVER WINDOW



| | | |
|--|--|---|
| Product: |  EVOLUTION FRAMED WINDOW SERIES | |
| Models & Styles: | MV121: High-Viz Driver Window |  |
| This document provides step-by-step instructions on the proper procedure to repair a stripped rocker latch mounting screw on the MV121 high-viz driver window. | | |

REPAIRING THE STRIPPED LOCKER LATCH MOUNTING SCREW ON THE HIGH-VIZ DRIVER WINDOW



MODEL – MV121

TOOLS REQUIRED:

- #2 Phillips screw driver bit
- #3 Phillips screw driver bit
- 1/4 in. Drill bit or mill
- #8 (ø0.199 in.) Drill bit
- Drill
- Loctite 243

ROCKER LATCH REMOVAL

1. Remove the two (2) 10-32 X 1.125 in. fasteners that secure the rocker latch to the window using a #2 Phillips bit, refer to **Figure 1**. Once removed, these screws can be discarded as they will not be re-used
2. Remove the rocker latch from the window as shown in **Figure 1**.

ROCKER LATCH INSTALLATION

1. Drill through the rocker latch mounting holes in the latch base with a #8 (ø0.199 in.) drill bit as shown in **Figure 2**.

NOTE: drilling too deep could potentially damage, or break the sash glass.

2. Using a 1/4 in. drill bit or mill, drill out the screw passage slots on the rocker latch enough so that the #12 screws provided will pass through the holes, refer to **Figure 3**.
3. Push the two (2) washers (AROW part number AR0011512) into the rocker latch casting slots. See **Figure 4** for a reference.
4. Apply Loctite to the two (2) 12-24 x 1.250 in. fasteners (AROW part number AR0011513).
Install the fasteners to a torque of 50 in-lbs.

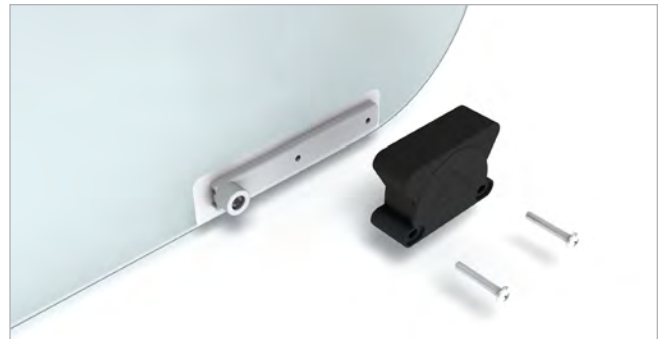


Figure 1 – Removal of fasteners and rocker latch.



Figure 2 – Drilling through aluminum latch mounting base.



Figure 3 – Drilling two (2) slots through rocker latch.



Figure 4 – Replacing rocker latch.