450 SERIES
SLIDING GLASS DOOR
ASSEMBLY AND
INSTALLATION INSTRUCTIONS

450 DOOR CONFIGURATIONS

NOTE:
WHEN READING ASSEMBLY STEPS, REFERENCE THE CONFIGURATION TYPE (ie. OX, XO, OXX, X0X, XOX, OXXO) AND APPLY ONLY THE STEPS NOTED FOR YOUR DOOR CONFIGURATION.
IMPORTANT:
BEFORE STARTING THE INSTALLATION OF THE DOOR, PLEASE READ THROUGH THE INSTRUCTIONS. VERIFY THAT YOU HAVE THE REQUIRED PARTS FOR YOUR DOOR CONFIGURATION AND ANY OPTIONAL PARTS THAT MAY BE REQUIRED FOR YOUR PARTICULAR INSTALLATION. IF YOU ARE USING OPTIONAL PARTS FOR YOUR DOOR CONFIGURATION, REFER TO THE “OPTIONAL COMPONENTS ASSEMBLY” ON THE FACING PAGE FOR INSTRUCTION PRIOR TO STARTING.

NOTE: IN THE FOLLOWING STEPS TO ASSEMBLY, THE OX AND OOX CONFIGURATION INSTRUCTIONS SHOWN ARE THE SAME FOR THE XO AND XOO CONFIGURATIONS.

## REQUIRED PARTS

<table>
<thead>
<tr>
<th>Part</th>
<th>QTY</th>
<th>Configurations</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILL - EX2230</td>
<td>1</td>
<td>OX, OOX, OXO, OXXO</td>
</tr>
<tr>
<td>HEAD - EX2222</td>
<td>1</td>
<td>OX, OOX, OXO, OXXO</td>
</tr>
<tr>
<td>JAMB - EX2223</td>
<td>2</td>
<td>OX, OOX, OXO, OXXO</td>
</tr>
<tr>
<td>LOCK STILE COVER - EX2212</td>
<td>1</td>
<td>OX, OOX, OXO, 2-OXXO</td>
</tr>
<tr>
<td>NAIL-FIN CORNER SEAL</td>
<td>2</td>
<td>(Do Not Remove) - LA0218MM</td>
</tr>
<tr>
<td>SILL TRACK COVER - EX2213</td>
<td>1</td>
<td>OX, OOX, OXO, OXXO</td>
</tr>
<tr>
<td>DUST PLUG - VA5105MI</td>
<td>3</td>
<td>(Shipped Installed)</td>
</tr>
<tr>
<td>SASH BUMPER - HA0165MI</td>
<td>1</td>
<td>OX, OOX, OXO, 2-OXXO</td>
</tr>
<tr>
<td>JAMB RETAINER CLIP - EX2208</td>
<td>1</td>
<td>OX, 3-OXO, 2-OXXO</td>
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<tr>
<td>FIXED PANEL L-CLIP - FA0210CP</td>
<td>2</td>
<td>OX, OXXXO, 3-OXXO, 4-OXXO</td>
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<tr>
<td>SILL WEEP COVER - IM0522CV</td>
<td>2</td>
<td>OX, 3-OXXO &amp; OXO, 4-OXXO (greater than or = to 12” wide)</td>
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<tr>
<td>LOCK COVER - VA5102</td>
<td>2</td>
<td>OX, OOX, OXO, OXXO</td>
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<tr>
<td>STOP BLOCK - VA0315SB</td>
<td>2</td>
<td>QTY = 2-OOX</td>
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## OPTIONAL PARTS

<table>
<thead>
<tr>
<th>Part</th>
<th>QTY</th>
<th>Configurations</th>
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<tr>
<td>4” FRAME EXTENDER - EX2207 OR EX225</td>
<td>3</td>
<td>OX, XO, OXO, OXXO</td>
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<tr>
<td>6” FRAME EXTENDER - EX0416</td>
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<td>XO, OX, OXO, OXXO</td>
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<tr>
<td>SILL EXTENDER - EX2210</td>
<td>1</td>
<td>XO, OX OXO, OXXO</td>
</tr>
<tr>
<td>3 PANEL ADAPTER EX9042 &amp; EX2223</td>
<td>QTY = 1-OXO, 1-OOX</td>
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## FASTENERS

<table>
<thead>
<tr>
<th>Fastener Type</th>
<th>OX</th>
<th>OOX</th>
<th>OXO</th>
<th>OXXO</th>
</tr>
</thead>
<tbody>
<tr>
<td>#6 x 1”</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>#8 x½” (PAINTED)</td>
<td>10</td>
<td>5</td>
<td>19</td>
<td>15</td>
</tr>
<tr>
<td>#8 x⅜”</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>#8 x 1-1/2”</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>#8 x 2-1/2”</td>
<td>2</td>
<td>2</td>
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</tbody>
</table>
OPTIONAL COMPONENTS ASSEMBLY

DETAIL 1  USED ON ALL CONFIGURATIONS

FRAME EXTENDER ASSEMBLY:
The frame extenders may come factory attached. If so, refer to assembly step 1, otherwise, slide the head extender and jamb extenders into the frame. Use the #6 x 1" fasteners to secure.

DETAIL 2  USED ON ALL CONFIGURATIONS

MOUNTING THE Z-FIN:

1st
Slide the head Z-fin (mitered at both ends) onto the head.

2nd
Slide the jamb Z-fins (mitered at the tops) onto the jamb.

3rd
Assemble the frame per step 1, making sure the miters are tight.

4th
Crimp the bottoms of the Z-fin at the jamb next to the sill with a pair of crimping pliers or wire cutters to prevent slipping.

NOTE:
2" NAIL-FIN EX2009 SHIPS PRE-INSTALLED

ATTACHING SILL EXTENDER:
Snap the sill extender EX2210 onto the sill prior to assembling the frame.
STEP 1  USED ON ALL CONFIGURATIONS

NOTE: SEE DETAIL 1 & 2 UNDER “OPTIONAL COMPONENTS ASSEMBLY” FOR OPTIONAL PARTS TO BE INSTALLED PRIOR TO FRAME ASSEMBLY.

FRAME ASSEMBLY:
WITH THE FRAME PARTS LAID OUT ON CARDBOARD OR NEWSPAPER, AND THE EXTERIOR FACING UP, FASTEN THE FRAME TOGETHER AT THE CORNERS WITH (2) #8 X 1 ½” SCREWS AT EACH CORNER. TIGHTEN SCREWS ALL THE WAY TO ENSURE A PROPER SEAL. THEN APPLY SILICONE AT THE HEAD/JAMB CORNERS, FROM THE BASE OF THE FRAME TO THE OUTERMOST EDGE OF THE NAIL FIN CONNECTION. ALSO INSTALL THE LOCK COVERS ON THE OUTSIDE OF THE JAMB SO THAT THEY COVER THE HOLES FOR THE LOCK STRIKE. SEE PICTURE AT STEP 5 FOR CORRECT ORIENTATION.

NOTE: BOTH JAMBS HAVE BEEN PUNCHED FOR THE LOCK STRIKE TO ALLOW FOR REVERSAL OF DOOR AFTER INSTALLATION. REVERSING DOOR HANDING WILL REQUIRE NEW DOOR PANELS OR MAY VOID THE MILGARD WARRANTY.

STEP 2  USED ON ALL CONFIGURATIONS

NAIL FIN CORNER SEAL:

STEP 3  USED ON ALL CONFIGURATIONS

NOTE: FOR DOORS 6’0” WIDE USE (1) TUBE OF SEALANT, WIDER DOORS USE (2) TUBES OF SEALANT

SILL SEALANT APPLICATION:
APPLY 2 TO 3 3/8” BEADS OF CONSTRUCTION SEALANT ON THE FLOOR FROM JAMB TO JAMB DIRECTLY UNDER SILL. RUN ADDITIONAL SEALANT ACROSS EACH END OF THE WALL SILL PLATE SO THE BOTTOM CORNERS OF THE DOOR FRAME WILL BE BURIED IN SEALANT.
PLEASEREFERENCE AAMA 2400 FOR NEW CONSTRUCTION AND AAMA 2410 FOR RETRO INSTALLATIONS.
STEP 4  USED ON ALL CONFIGURATIONS

ASSEMBLED FRAME INSTALLATION:
Prior to installing frame, run a 3/8” continuous bead of construction sealant around rough opening within 1/2” of edge. Put the frame into the opening and push securely into place so that the nail fin embeds into sealant.
Please reference AAMA 2400 for new construction and AAMA 2410 for retro installations.

TO TEMPORARILY HOLD FRAME IN OPENING:
1. APPLY CAULKING/SEALANT
2. USING A WIDE/FLAT HEAD NAIL, TACK THROUGH THE HEAD NAIL-FIN INTO THE HEADER.
3. VERIFY SILL IS LEVEL, SHIMMING AS REQUIRED.
4. VERIFY JAMBS ARE PLUM; LEAVING 1/4” CLEARANCE ON EACH SIDE.
5. MEASURE FRAME DIAGONALLY FOR SQUARENESS. NEXT,
6. NAIL JAMB AND SILL NAIL FINS WITH WIDE/FLAT HEAD GALV. NAILS AT 8” O.C. MAX.
7. COVER NAIL FINS WITH 9” MIN. FLASHING PAPER IN WATERBOARD FASHION.
8. FINALLY INSTALL THE WEEP COVERS TO THE WEEP HOLES LOCATED AT EACH END OF THE SILL.

STEP 5  USED ON ALL CONFIGURATIONS

FIXED PANEL INSTALLATION OX, OXO, OXXO:
Install the dust plugs, top and bottom, in the interlock of the fixed panel. Set the fixed panel into position from the outside of the frame by inserting the top and swinging the bottom in, setting it into the groves in the sill and push it tight against the jamb.

FIXED PANEL INSTALLATION OOX:
Install the dust plugs, top and bottom, in the interlock of the fixed panel. Insert the stop blocks in the top and bottom of the jamb where the fixed panel butts against. Set the fixed panel into position from the inside of the frame by inserting the top and swinging the bottom in, setting it into the groves in the sill and push it tight against the jamb.
STEP 6  
*USED ON OX, OXO, OXXO; FOR OOX, PROCEED TO STEP 7*

**SECURING FIXED PANEL TO JAMB:**

1. Using one piece fixed panel retainer clip, provided, secure the fixed panel.
2. Install the retainer clip with (4) #8 x 1/2” self-tapping screws provided in the door kit as shown. Center the door stopper between the head and jamb.
3. Attach clip using the #8 x 3/4” self-tapping screws.
4. Refer to configuration diagrams on the last page for all door stop placements.

STEP 7  
*USED ON OOX ONLY; OTHER CONFIGS PROCEED TO STEP 8*

**SECURING FIXED PANEL TO JAMB:**

1. Install stop blocks at the top and bottom of frame jamb using a piece of tape to hold them in place.
2. Slide the fixed panel against the stop blocks.
3. Use (4) #8 x 3/4” screws to secure fixed panel to frame.
**STEP 8**  
**USED ON ALL CONFIGURATIONS**

**L-CLIP INSTALLATION:**
INSTALL AN L-CLIP AT THE TOP OF EACH FIXED PANEL BY TURNING THE BASE TOWARDS THE CENTER OF THE DOOR AND FASTEN TO THE HEAD AND STILE WITH (2) #8 x 1/2" SCREWS.

INSTALL AN L-CLIP AT THE BOTTOM OF EACH FIXED PANEL BY TURNING THE BASE UNDERNEATH THE STILE AND PUSHING IT AS FAR TO THE INSIDE AS POSSIBLE AND LIFTING UPWARD AS SHOWN SO THAT IT HOOKS IN THE SILL. FASTEN THROUGH THE FLANGE TO THE STILE WITH (1) #8 x 1/2" PAINTED SCREW.

*DO NOT FASTEN BOTTOM L-CLIP TO THE SILL!*

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**STEP 9**  
**USED ON OXO ONLY; OTHER CONFIGS PROCEED TO STEP 10**

**3-PANEL ADAPTER INSTALLATION:**
**STEP 10**  
**USED ON ALL CONFIGURATIONS**

**VENT PANEL INSTALLATION:**
1. SET VENT PANEL INTO POSITION FROM INSIDE OF FRAME BY INSERTING TOP FIRST AND SWINGING IN BOTTOM.
2. OPERATE VENT PANEL TO VERIFY ROLLERS ARE CORRECTLY RIDING ON TRACK; SHOULD SLIDE SMOOTHLY.
3. INSERT #2 PHILIP SCREW-DRIVER INTO HOLES AT EACH BOTTOM END OF VENT TO ADJUST HEIGHT OF VENT PANEL.
4. ADJUST SO LOCK STILES PARALLEL JAMB AND INTERLOCKS. ON A 4-PANEL OXXO DOOR, ADJUST BOTH VENT PANELS SO THAT THE LOCK HANDLES AND INTERLOCKS LINE UP.

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**STEP 11**  
**FOR KEYED LOCKS ONLY (OPTIONAL) - ALREADY INSTALLED**

**INSTALLING THE LOCK KEY CYLINDER:**
1. TRIM THE PIN DOWN SO THAT IT PROTRUDES 5/8” FROM THE END OF THE CYLINDER.
2. HOLDING THE LOCK CYLINDER SO THE PIN IS FACING YOU (AS SHOWN), TURN PIN ALL THE WAY CLOCKWISE UNTIL IT STOPS.
3. ORIENT THE LOCK CYLINDER TO THE EXTERIOR PULL HANDLE AS SHOWN, AND INSERT LOCK CYLINDER AS SHOWN. MAKE SURE THE PIN IS STILL ROTATED ALL THE WAY CLOCKWISE.
STEP 12  
**USED ON ALL CONFIGURATIONS - ALREADY INSTALLED**

**DOOR LOCK INSTALLATION:**
PLACE THE MORTISE LOCK UNIT INTO THE LOCK STILE MAKING SURE THAT THE LOCK IS SITTING SQUARELY IN THE LOCK CAVITY. USING THE EXTERIOR PULL AND MOUNTING PLATE, ASSEMBLE AS SHOWN. PLACE THE TWO M4 x 40MM COUNTERSUNK SCREWS THROUGH THE MOUNTING PLATE AND SCREW THEM INTO THE EXTERIOR PULL. BEFORE TIGHTENING SCREWS, INSTALL THE LOCK STYLE COVER.

**NOTE:** IF USING THE KEYED LOCK, MAKE SURE THE PIN GOES THROUGH THE CENTER LOCK HOLE OF THE MORTISE LOCK.

STEP 13  
**USED ON ALL CONFIGURATIONS**

**DOOR HANDLE INSTALLATION:**
PLACE THE SNIB THOUGH THE MOUNTING PLATE AND INTO THE CENTRAL SQUARE IN THE LOCK UNIT. ENSURE THAT THE SNIB IS SITTING FULLY IN THE LOCK UNIT.

**NOTE:** THE SNIB CAN BE INSTALLED IN TWO DIFFERENT POSITIONS. PRESS IN THE ANTI-SLAM PIN AND CHECK THE OPERATION OF THE LOCK TO ENSURE THAT THE SNIB IS IN THE CORRECT POSITION BEFORE CONTINUING. ALSO, IF USING A KEYED LOCK, THE SNIB MUST FIT OVER THE PIN, THEREFORE THE PIN MUST BE CENTERED IN THE LOCK HOLE BEFORE THE SNIB CAN BE INSERTED PROPERLY.


THE LOCK AND HANDLE ARE NOW INSTALLED. PRESS IN ANTI-SLAM OPERATION OF THE LOCK BEFORE CONTINUING.
STEP 14  *USED ON OX, OOX, OXO ONLY*

**STRIKE AND LOCK ADJUSTMENT:**

1. WITH PANEL ADJUSTED; ENGAGE LOCK BEAKS. IN LOCK JAMB, CENTER STRIKE WITH LOCK BEAKS.
2. HOLD STRIKE INPLACE AND SECURE STRIKE USING SUPPLIED SHORT CENTER SCREW.
3. TIGHTEN THE CENTER SCREW, BEING CAREFUL NOT TO OVER TIGHTEN.
4. CHECK TO MAKE SURE THE DOOR LOCKS PROPERLY.
5. THEN INSERT SHIMS BETWEEN THE WALL AND THE DOOR FRAME UNDER THE STRIKE AS SHOWN.
6. NEXT, INSERT THE TWO 2-1/2" SCREWS INTO THE TOP AND BOTTOM HOLES OF THE STRIKE.
7. FINALLY, INSTALL THE FINISH CAP OVER THE CENTER SCREW.
STEP 15  USED ON ALL CONFIGURATIONS

REVERSING THE 450 DOOR

ANY REVERSING OF DOOR HANDING NOT PERFORMED BY A MILGARD EMPLOYEE MAY VOID THE MILGARD WARRANTY

2 PANEL: XO OR OX MODELS - 6' 8" AND 6' 10"

1. REMOVE THE VENT PANEL
   • ADJUST WHEELS AT EACH END OF THE PANEL UP INTO RAIL FOR CLEARANCE.
   • LIFT PANEL UP INTO THE HEAD AND PULL THE BOTTOM OUT OF THE SILL TOWARDS THE INTERIOR OF THE BUILDING.

2. REVERSE THE ROLLERS
   • UNSCREW THE ROLLERS FROM THE BOTTOM RAIL.
   • LAYING THE PANEL ON THE INTERLOCK SIDE, RE-ATTACH THE ROLLERS ON THE OTHER END WITH A POWER DRIVER UNTIL SCREWS ARE FIRMLY SEATED

3. REMOVE FIXED PANEL
   • REMOVE SILL COVER WITH A FLAT HEAD SCREW DRIVER.
   • REMOVE CLIPS AT TOP AND BOTTOM OF INTERLOCK AND RETAINER CLIP AT JAMB.
   • PULL PANEL TOWARDS CENTER OF DOOR AND LIFT UP AND OUT TOWARDS EXTERIOR OF BUILDING.

4. RE-INSTALL FIXED PANEL
   • CARTWHEEL PANEL 180 DEGREES.
   • RE-INSTALL ON OPPOSITE SIDE OF FRAME BY REVERSING THE INSTRUCTIONS IN STEP 3

5. SWITCHING THE STRIKE
   • REMOVE LOCKING STRIKE FROM JAMB AND ATTACH TO OTHER JAMB IF DOOR IS ALREADY INSTALLED. IF YOU ARE ASSEMBLING THE DOOR FROM THE START SIMPLY SWITCH THE JAMBS WITHOUT REMOVING THE STRIKE.
   • RE-ATTACH THE RETAINER CLIP AND BUMPER OVER THE UNPUNCHED HOLES AT THE FIXED JAMB.

6. RE-INSTALL VENT PANEL
   • MAKING SURE THE ROLLERS ARE ON THE BOTTOM, AND THE LOCK IS TOWARDS THE JAMB, RE-INSTALL BY REVERSING STEP 1.
   • READJUST WHEELS TO LINE STILES U WITH THE JAMBS AND INTERLOCK AND LOCK HANDLE. ADJUST STRIKE FOR PROPER LOCK OPERATION. (SEE STEP 13).

3-PANEL: OXO MODELS - 6' 8" TO 7' 0" - (DOORS OVER 7' 0" ARE NOT REVERSIBLE)

1. FOLLOW STEPS 1-4 ABOVE, REVERSING BOTH FIXED PANELS
2. CARTWHEEL THE 3-PANEL ADAPTER ASSEMBLY 180 DEGREES AND RE-ATTACH TO FIXED PANEL PER STEP #9.
3. FOLLOW STEP #6 ABOVE.