



This guide contains procedures for common user serviceable repair tasks found on wood patio doors. If a condition arises that is not covered in this guide, please contact us for professional help. This product guide covers our current JELD-WEN Custom, Premium and Builders Series patio doors as well as our historical products with the following names: Pozzi, Caradco, Norco and Wenco. For help identifying your patio door model, refer to your product purchase paperwork or call us for additional help.

Do-It-Yourself

Technician



## INTRODUCTION

Sliding/Gliding patio doors consist of at least two side-by-side panels, one may be a stationary panel and at least one is an operating panel (options also include multiple panel patio doors with three or more panels). The operating panel(s) slide back and forth horizontally to open and close. An insect screen is mounted on the exterior side of the operating panel(s). Swinging patio doors swing out on side hinges and may have single-panel or double-panel configurations.

### CONTACT US

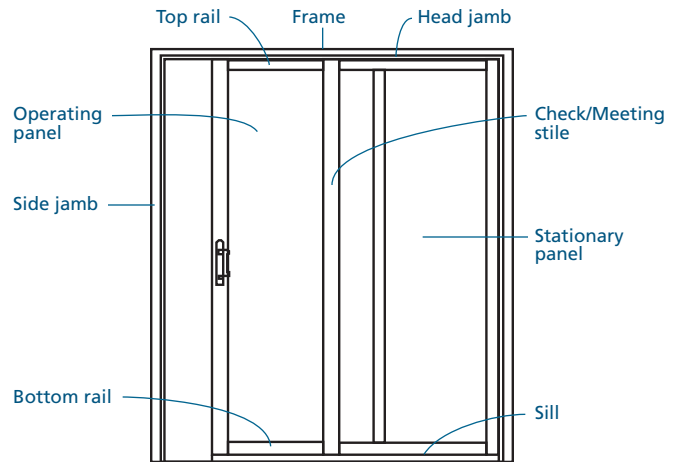
For questions, feel free to contact us by phone or email:

- Email: [customerserviceagents@jeld-wen.com](mailto:customerserviceagents@jeld-wen.com)
- Phone: 1-(800)-JELD-WEN/1-(800)-535-3936

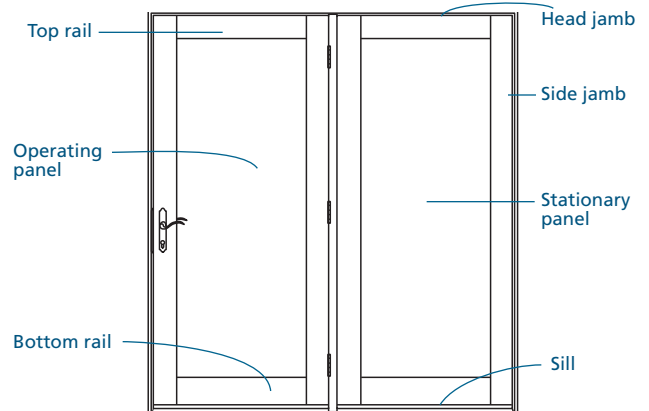
### TABLE OF CONTENTS

Precautions and Safety .....	2
Needed Tools & Materials.....	2
Basic information & Screen Removal & Installation.....	2
Panel Removal & Installation for Sliding/Gliding Panels .....	3
Panel Removal & Installation for Swinging Panels .....	6
Hardware Replacement & Adjustment.....	6
Screw Hole Repair & Hardware Alignment .....	6
Blinds Between the Glass.....	6
Sliding/Gliding Roller Adjustment & Replacement .....	7
Lock Replacement & Adjustment.....	7
Swinging Lock Handing Change .....	9
Hinge Adjustment for Swinging Doors.....	10
Weatherstrip Replacement.....	12
Sliding/Gliding Doors .....	12
Swinging Doors .....	14
Check for Proper Installation.....	15
Troubleshooting Operational Problems .....	16
Glossary.....	19

### SLIDING PATIO DOOR ANATOMY



### SWINGING PATIO DOOR ANATOMY



The advice offered herein can be done by a homeowner with some mechanical aptitude. If you are unsure, it is recommended that you hire a trained service provider such as a competent and licensed construction contractor or building professional. JELD-WEN disclaims any and all liability associated with the use and/or provision of these instructions. Any reliance upon the information or advice is at the risk of the party so relying. The information contained herein may be changed from time to time without notification.

## PRECAUTIONS & SAFETY

- Follow all manufacturers' instructions and labels.
- Use proper and safe equipment and precautions when cleaning and servicing the exterior side of patio doors above ground level.
- Insect screens are not security devices and will not prevent a child, other person, or pet from falling through.
- Use sharp tools with care to avoid damage to wood surfaces.

- Use extra care when driving screws near glass unit to avoid breakage.
- Use caution when tightening screws to avoid stripping the screw holes.
- Panel removal can be awkward and could cause physical injury or product damage; we recommend the help of a second person.

## NEEDED TOOLS & MATERIALS

### NEEDED TOOLS

**Note!** Each tool is not required for every task.

- #2 Phillips head screwdriver
- Flat head screwdriver
- Hammer
- Rubber mallet
- Nail set/punch
- Open end wrenches
- Tape measure
- Level
- Utility knife
- Putty knives
- Allen wrenches
- Power drill with bits
- 1" brad nail or small staple and nail gun
- Chisel
- Gloves
- Pliers/side cutters

### NEEDED MATERIALS

- String
  - Tape
  - Pencil & paper
  - Scissors
  - Brad nails
  - Shims
  - #8 x 5" screws
  - Replacement parts
- For Hardware Replacement:
- Wooden toothpicks or dowels
  - Wood glue
  - Wood putty
  - Fine sandpaper
  - Finishing supplies
  - Silicone sealant

## BASIC INFORMATION & SCREEN REMOVAL & INSTALLATION

### HANDING

Entry swinging patio doors (one panel) open from either the left or the right. Swinging patio doors with two or more panels open in many combinations.

### INSECT SCREEN REMOVAL, INSTALLATION & ADJUSTMENT

#### SLIDING SCREENS

It may be helpful to remove insect screen before other panel(s). Adjustment screws are located at each corner of the door screen and may be located on the end of the screen or on the face. Face adjustment screws can either be on top of the lower rail or accessed through a hole as shown.

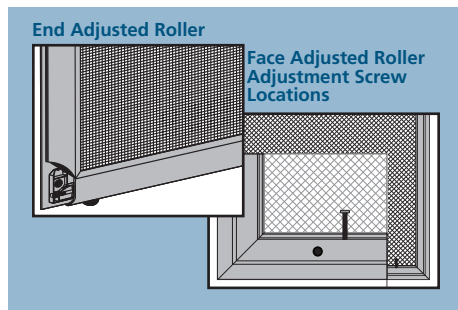
1. Retract the rollers into the door by turning all four adjustment screws.

**Note!** If door screen has weatherstrip covering adjustment screw, pull out only enough to expose screw, then press back into kerf (the groove that holds the weatherstrip) after adjustment.

2. Grip both sides of the screen and lift up and over the screen track (if needed, use putty knife to help lift rollers over track) and remove.

#### Installation

1. Grip both sides of door screen.
2. Position top of door screen in head screen channel.
3. Lift screen and set it on the sill screen track so rollers ride on top of track.
4. Adjust the rollers as explained below.



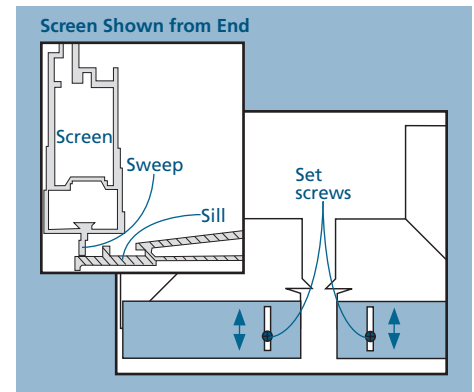
#### Roller Adjustment

1. The ideal adjustment for a door screen is as low as possible but just high enough to avoid drag. Adjustment screws are located at each corner of the door screen. Turn the adjustment screw in quarter turn increments until the correct adjustment is achieved. Some rollers will require opposing rotations to move the roller in the same direction as the other rollers.
  - If screen door is flush to side jamb but needs to be raised or lowered, adjust both bottom rollers the same amount and in the same direction.
  - If door screen top touches side jamb first, extend the roller closest to the side jamb, and retract the roller farthest from the side jamb.
  - If door screen bottom touches side jamb first, retract the roller closest to the side jamb, and extend the roller farthest from the side jamb.
  - Adjust top rollers if needed.

2. Test operation.
3. Readjust as needed.

#### SWINGING SCREENS

Door sweeps should just contact the sill. Adjust up or down by loosening the set screws at each end of the panel and moving the sweep as needed. Retighten the set screws when finished.



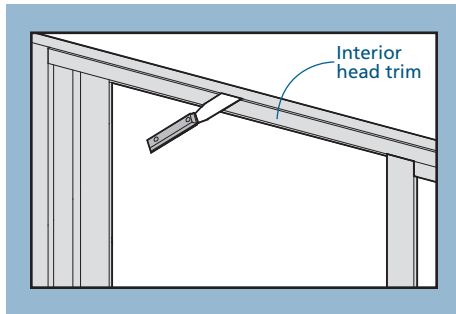
SLIDING/GLIDING PATIO DOOR PANEL REMOVAL & INSTALLATION

Because panel removal can be awkward and could cause physical injury or product damage, we recommend the help of additional people. Removing the operating panel may be easier if the rollers are first retracted, lowering the panel.

**OPERATING PANEL**

**CUSTOM & POZZI DOORS**

1. Close and lock the operating panel.
2. Gently remove interior head trim with small prying tool being careful not to damage the wood.

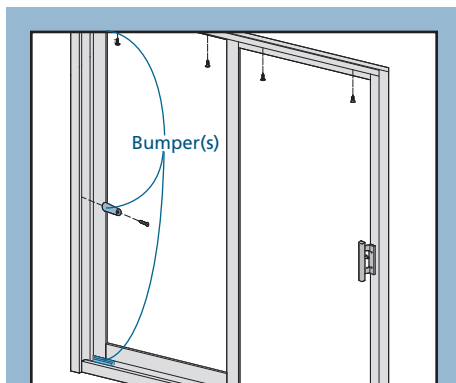


**Note!** Do not remove nails from trim unless necessary. This makes replacement easier.

3. Remove the operating panel by sliding it away from the side jamb. Tilt the top of the panel to the interior and lift up and over the sill track.

**NORCO, CARADCO FRENCH VIEW/FRENCH MANOR, TRADITION PLUS AND SITELINE EX**

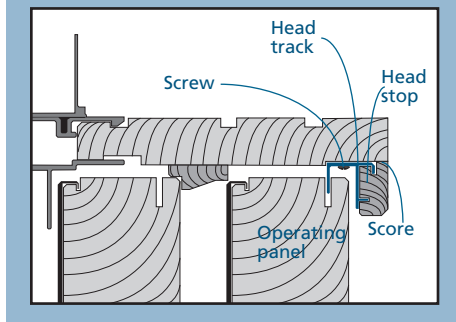
1. Remove bumper(s). Some doors have a bumper in the stationary panel side jamb and some will have one in the head and sill. This will allow the operating panel to open wide enough to gain access to the screws in the head track.



2. Unlock and open door all the way and remove the exposed screws from the head track with a Phillips screwdriver.

**Premium Tradition Plus Doors**

3. Close and lock operating panel to prevent it from falling out of the frame opening.
4. Remove screws from opposite side of the head track.



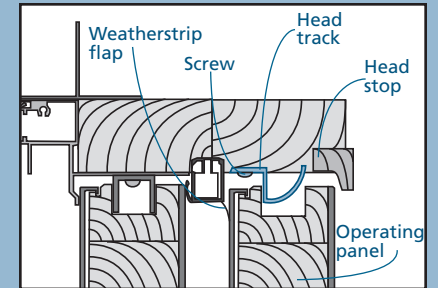
5. Unlock operating panel and carefully slide open. For Sitaline EX doors, lower the panel by adjusting the rollers up into the panel. The head track can now be pulled out from above the operating panel.
6. Tilt the top of the panel toward the interior (the head track will be sitting on top of the panel), and lift the head track from the top of the panel.
7. Lift the panel up and over the sill track.
8. Lay operating panel on a flat surface with interior side facing up.
9. For bi-parting panels, repeat process for passive panel.
10. To reinstall panel, perform removal steps in reverse order.

**Note!** When reinstalling the Sitaline EX head parting stop, make sure the weatherstrip flap goes down as shown above.

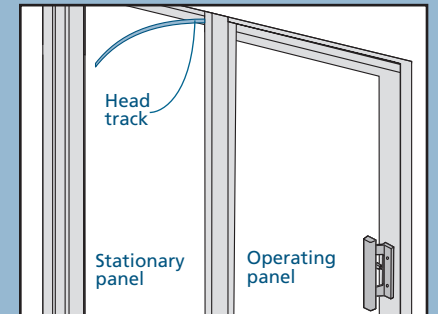
**CARADCO SLIDING PATIO DOOR**

1. Close and lock operating panel.
2. Unscrew and remove head stop.
3. Carefully unlock panel and slide away from side jamb.
4. Tilt top of panel to the interior and lift up and over sill track.
5. To install panel, perform these steps in reverse order.

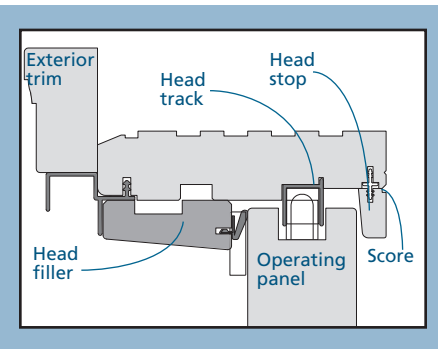
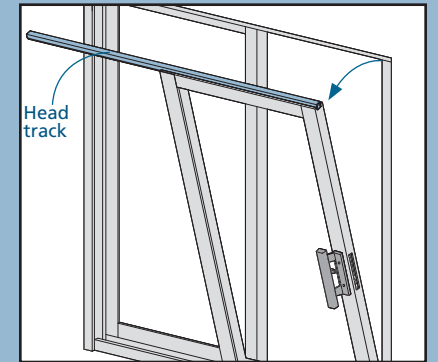
**Premium Sitaline EX Doors**



**Premium Sitaline EX Doors**



**Premium Tradition Plus and Caradco French View/French Manor Doors**



SLIDING/GLIDING PATIO DOOR PANEL REMOVAL & INSTALLATION - CONTINUED

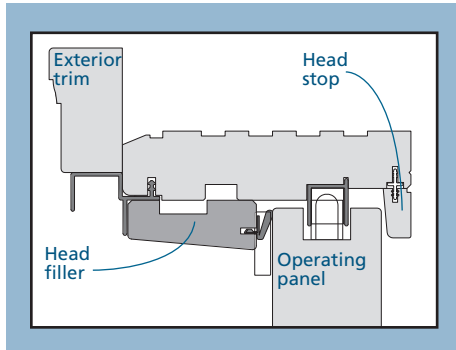
**STATIONARY PANEL**

**POZZI (PRE-1996)**

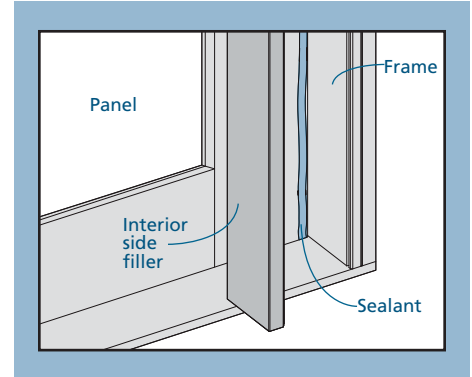
**Note!** Operating panel must be removed first. The head stop should already be removed.

From interior,

1. Unscrew and remove the head filler from operating panel side of head jamb.
2. Unscrew and remove the head and sill brackets.
3. Slide panel away from jamb, press bottom towards exterior while lifting up, then remove to interior.
4. To reinstall the panel, perform these steps in reverse order.



4. Use a putty knife to remove the interior side filler. The interior side filler is nailed at 18" intervals with two, side by side nails at each location.
5. Cut the sealant joint between the stationary panel and the side jamb.
6. Slide the stationary panel towards the center of the unit and remove.

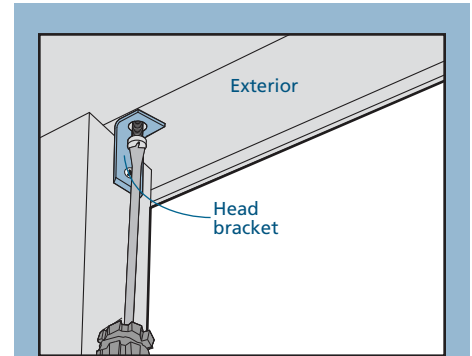


7. To reinstall the panel, perform these steps in reverse order.

**SITELINE EX & NORCO SLIDING STATIONARY PANEL**

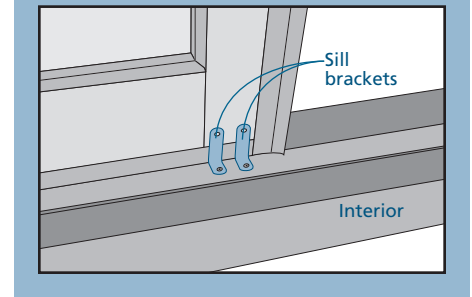
From interior:

1. Remove operating panel.
2. Unscrew and remove head and sill brackets. For the sill brackets, remove only the screws on the panel end of the brackets. Norco doors (pre 1995) use a "W" bracket fastened to the side jamb and interior face of the stationary panel.



From exterior:

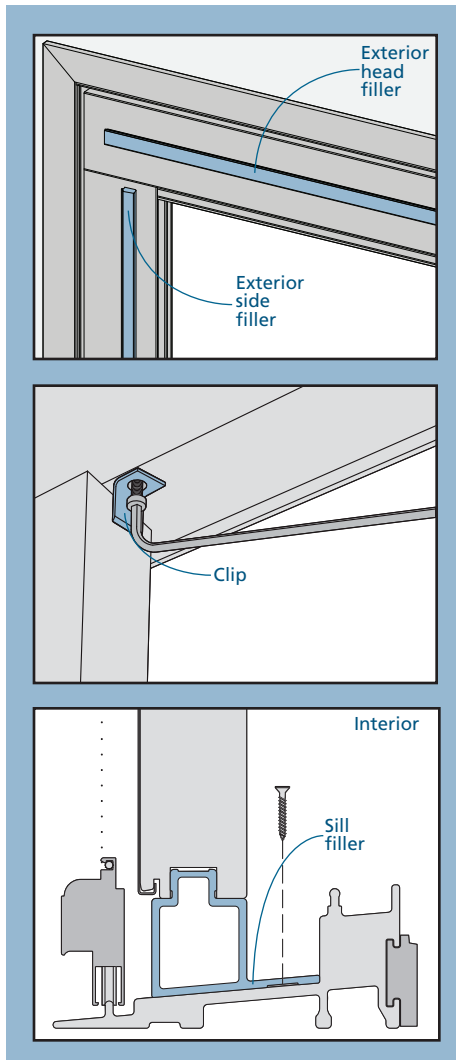
3. Slide panel away from side jamb while supporting it on both sides. Siteline panels must be slid all the way toward the operating panel jamb.
4. Lift and swing bottom of panel to exterior and remove.
5. To reinstall the panel, perform these steps in reverse order.



**CUSTOM (1996-PRESENT)**

Removal

1. Unscrew and remove the exterior side and head filler located on the exterior track of the operating panel side and head jamb.
2. Unscrew the stationary panel clip in the head jamb located at the top of the stationary panel. This clip was concealed by the exterior head filler.
3. Remove the screws in the sill filler on the interior side of the stationary panel.

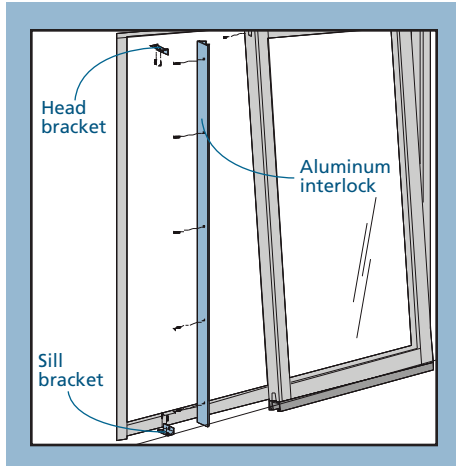


SLIDING/GLIDING PATIO DOOR PANEL REMOVAL & INSTALLATION - CONTINUED

**TRADITION PLUS & CARADCO SLIDING STATIONARY PANEL EXCEPT FRENCH VIEW/FRENCH MANOR**

From interior:

1. Remove operating panel.
2. Unscrew and remove head and sill brackets.
3. Unscrew and remove security angles (the brackets fastened to the sill and interior face (shown) or edge of the panel).
4. Unscrew and remove aluminum interlock.
5. Remove screws from around panel (these screws are visible and go through the vinyl stop around the interior side of the stationary panel).

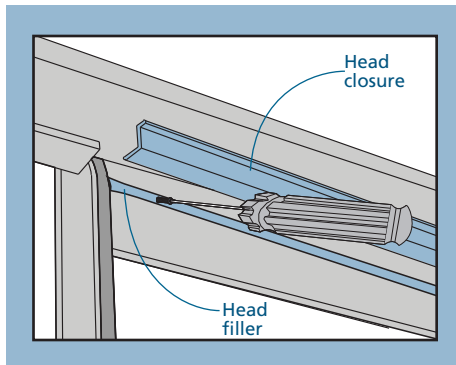


From exterior:

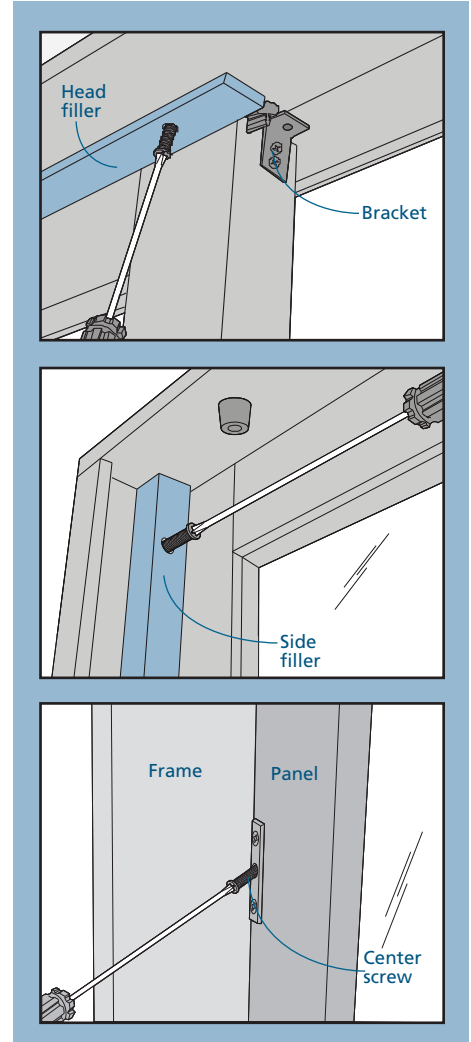
6. Slide panel away from side jamb while supporting it on both sides.
7. Lift and swing bottom of panel to exterior and remove.
8. To reinstall the panel, perform these steps in reverse order.

**PREMIUM & CARADCO FRENCH VIEW/FRENCH MANOR STATIONARY PANEL**

1. Remove operating panel.
2. For clad: With putty knife, pry from one edge and remove plastic head closure on the operating panel side.
3. Unscrew and remove head filler from operating panel side of head jamb.



4. Unscrew and remove stationary aluminum interlock from stationary panel stile.
5. Remove head and sill Allen head bolts from stationary panel brackets.
6. Unscrew and remove stationary panel head filler strip from stationary panel side of head jamb.
7. Unscrew and remove stationary panel head bracket.
8. Unscrew and remove stationary side filler strip.
9. Unscrew and remove center screw only from each stationary jamb-to-stile bracket.
10. Slide panel away from jamb, press bottom towards exterior while lifting up, then remove to interior.
11. To reinstall the panel, perform these steps in reverse order.



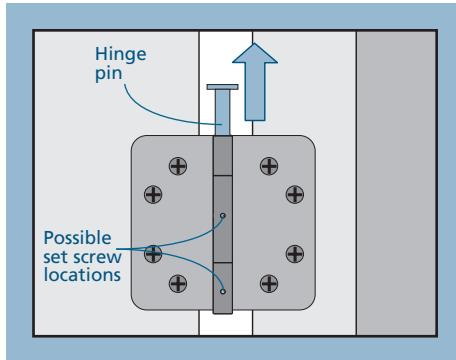
## SWINGING PATIO DOOR PANEL REMOVAL & INSTALLATION

Because panel removal can be awkward and could cause physical injury or product damage, we recommend the help of additional people.

### OPERATING PANEL

All inswing doors will have a removable hinge pin. Some (typically outswing hinges only) may have a set screw on the barrel that will have to be loosened to allow the pin to come out. Standard hinges have the set screw in the center of the barrel, outswing adjustable hinges have the set screw on the bottom. If the hinge is on an outswing door and does not have a set screw, the pin is not removable and the hinges will need to be removed to remove the panel.

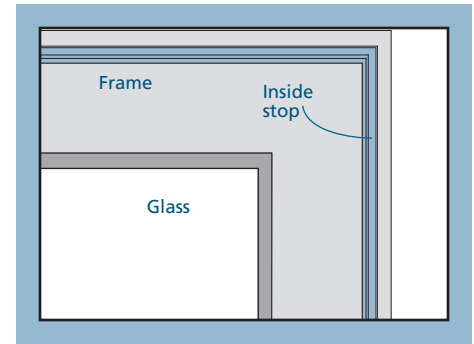
1. Open panel about half way and hold steady with the help of a second person.
2. With a small screwdriver or nail punch and hammer, drive hinge pin from bottom hinge, then top hinge.
3. For French View outswing, remove center hinge by removing screws from hinge on door panel.
4. For all other door models, remove hinge pin from center hinge, then remove panel.
5. To install panel, perform removal steps in reverse.



### INSWING STATIONARY PANEL - NORCO & SITELINE EX ONLY

Score (cut) any paint joining wood parts before removing them.

1. Remove inside stop by gently prying with a putty knife. Set aside for reinstallation.
2. Remove the screws that are now exposed from underneath the inside stop.
3. The panel can now be removed to the interior.



### Installation

1. Place the new panel into the frame.
2. Lift and shim the bottom of the new panel above the threshold until it is even with the other panel(s).
3. Drive screws through the pre-drilled holes, securing the panel to the frame.
4. Reinstall the inside stops and tack into place.

## HARDWARE REPLACEMENT & ADJUSTMENT

**Note!** Hardware styles have changed over the years and may vary slightly from the illustrations in this document.

### HARDWARE TYPES

- Metal hardware offers functionality, aesthetic appeal and resistance to corrosion but is not totally corrosion proof.
- Plastic hardware offers high resistance to the elements however, over time it can deteriorate from ultraviolet light, heat, cold, and chemical exposure.
- Brass hardware has a special protective film to reduce/eliminate polishing and requires special care.
- See our complete Care and Maintenance document at [www.jeld-wen.com](http://www.jeld-wen.com) for more information on cleaning and lubricating hardware.

Screw hole repair and hardware alignment, or realignment, are common tasks for any hardware replacement component. Follow these instructions if screw holes become stripped and/or if hardware no longer functions properly due to misalignment.

### SCREW HOLE REPAIR

1. Cut wooden toothpicks or appropriate sized wood dowel to fit screw hole just below wood surface.
2. Fill screw hole with wood glue.
3. Insert toothpicks or dowel; let dry.
4. Fill to surface with wood putty; let dry.
5. Sand smooth and refinish; let dry.
6. Drill new pilot hole.

### HARDWARE ALIGNMENT

Misalignment can happen if screws have become stripped and cannot be tightened. This alignment will create new screw holes.

1. Remove hardware.
2. Repair screw holes according to the procedure above.
3. Mark new screw holes as follows:
  - Lay hardware in position and hold in place.
  - If replacing a lock, turn latch to lock position to engage keeper.
  - Mark new screw locations through screw holes.
  - Remove hardware and set aside.
4. Drill pilot holes with 1/16" drill bit at new marked screw hole positions no deeper than screw length.
5. Install hardware.
6. Test operation; if not operating properly, call us for assistance.

### BLINDS BETWEEN THE GLASS

For easiest operation, keep the slats in a fully open position while operating.

### ADJUSTMENTS

1. If the operator comes off of the track, hold the operator at a sharp angle to the glass and reinsert the two legs under the track opening.
2. Re-couple the operator magnets.

### RE-COUPLE OPERATOR MAGNETS

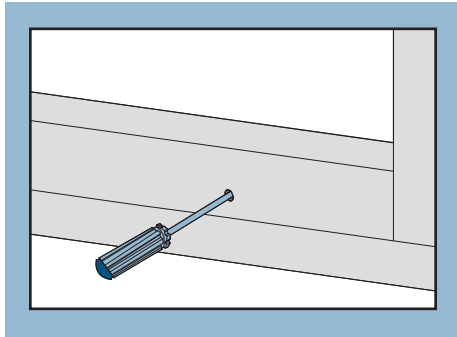
1. Slide the operator past the half-way engagement point until the first click.
2. Continue to the full engagement point until the second click.

HARDWARE REPLACEMENT & ADJUSTMENT - CONTINUED

**SLIDING/GLIDING ROLLER ADJUSTMENT & REPLACEMENT**

**Note!** Adjusting door too high may allow water and air leakage. Adjusting rollers too low can cause panel to drag on lower track. Adjust rollers just high enough to clear sill track and keep the weatherstrip hidden when the door is closed. You may need to raise one roller and lower the other. Check by almost closing the door and looking for an even, parallel gap.

1. Adjustment holes are located at both lower ends of the operating panel(s). Remove small plastic plugs from each hole (if present).
2. Open operating panel enough to compare with frame jamb.
3. Lift the panel to take the weight off of the roller and turn the adjustment screw in 1/4 turn increments with a screwdriver (do not use a power driver). Some panels will have a (+) or a (-) sign in the adjustment hole. If a sign is not present, or it is a (+), clockwise rotations will lower the panel, and counterclockwise rotations will raise the panel. Opposite adjustments apply to the (-) sign.
4. Adjust as needed until interlocks, grid patterns, and jambs line up.
5. Test the operating panel for proper operation.
6. Re-apply the small plastic caps over the roller adjustment screw holes if applicable.



**ROLLER ASSEMBLY REPLACEMENT**

1. Remove operating panel and lay on flat surface.
2. At the bottom of the panel, remove both Phillips screws from roller assembly.
3. Remove roller assembly.
4. Install new roller assembly in the same place.

**LOCK REPLACEMENT & ADJUSTMENT**

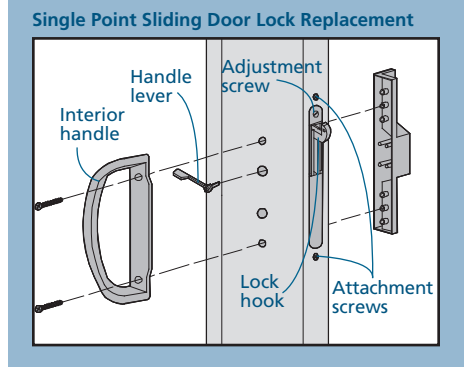
Locking mechanisms have changed over time and can be very complex. The following instructions provide basic lock servicing procedures, but cannot fully explain every possible situation. For help with identifying your lock type and for specific instructions not found here, please contact us.

**SINGLE-POINT SLIDING DOOR HANDLE & LOCK REPLACEMENT**

Compare replacement handle set or lock to your existing hardware to make sure you have the correct new hardware.

When removing screws and parts, keep track of their exact locations for reinstallation.

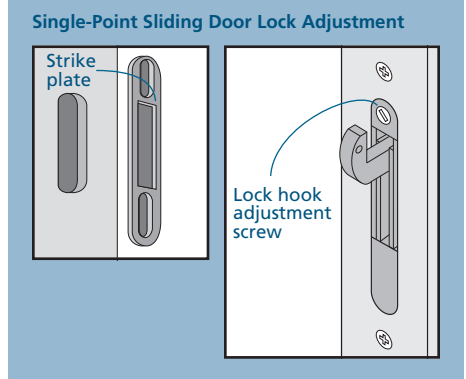
1. Remove screws from the interior handle.
2. Remove handles (interior and exterior), the interior lock lever and the exterior keyway lock.
3. Remove the attachment screws from the lock assembly in the door edge.
4. Remove the lock assembly.
5. To install, reverse these instructions.



**SINGLE-POINT SLIDING DOOR LOCK ADJUSTMENT**

Make horizontal adjustment as follows:

1. Open panel and locate the lock assembly.
2. Use a small screwdriver to turn the adjustment screw located on the face of the lock.
3. Turn the screw counterclockwise to reduce the length of the latch hook. Turn screw clockwise to lengthen the latch hook.



4. If necessary, shims can be ordered and placed behind the strike plate. Please contact us.

Make vertical adjustments as follows:

1. Loosen the keeper screws.
2. Adjust keeper up or down to align with lock strike and retighten screws.

HARDWARE REPLACEMENT & ADJUSTMENT - CONTINUED

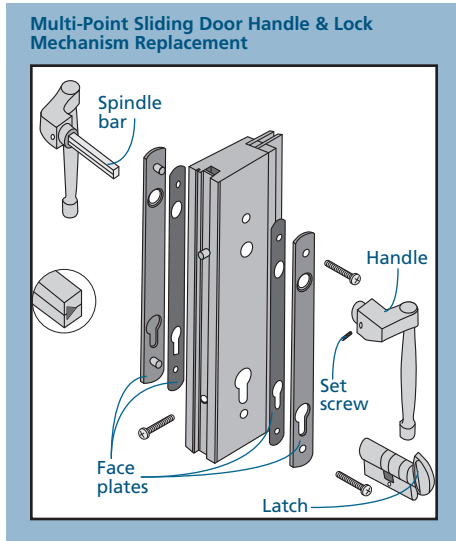
**MULTI-POINT SLIDING DOOR HANDLE SET REPLACEMENT**

When removing screws and parts, keep track of their exact locations for reinstallation. To replace, follow instructions included with the new handle set. Compare replacement components to existing hardware to verify you have the correct replacement part(s).

1. Open panel.
2. Loosen set screw with 4mm allen wrench from interior or exterior handle (only one handle, not both).
3. Remove handles.

**Note!** One handle will remain attached to the spindle bar.

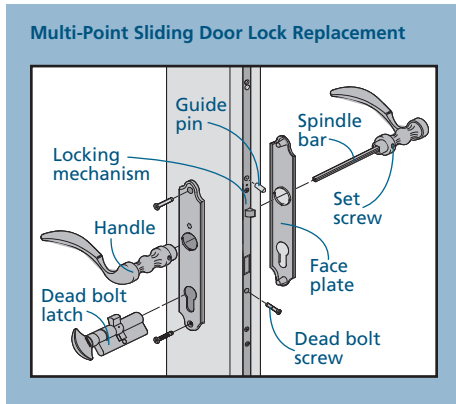
4. Slide spindle bar and other handle out of panel.
5. Remove the screw in the panel edge to remove the dead bolt latch if present. If there is no attachment screw, the dead bolt latch is fixed to the faceplate and will remove with it.
6. From the interior, unscrew and remove both face plates (they are connected with the same screw).
7. Unscrew and remove the locking mechanism.
8. To install, reverse these instructions.



**MULTI-POINT SLIDING LOCK ADJUSTMENT**

**Note!** This procedure only applies to doors with a continuous strike plate. For all others, or for help identifying your specific product, please contact us.

1. Insert the guide pin that came with the door (or available from your supplier) into the hole in the locking mechanism above the latch. Screw it in by hand.
2. Gently close the door. The guide pin should enter a keeper hole in the keeper. If not, loosen the screws in the keeper and move the keeper up or down to align with the guide pin. Compare replacement handle set or lock to your existing hardware to make sure you have the correct new hardware. When removing screws and parts, keep track of their exact locations for reinstallation.



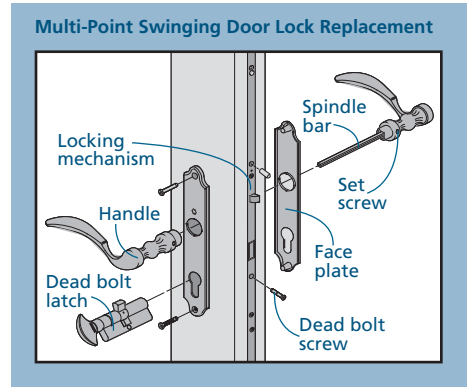
**MULTI & SINGLE-POINT SWINGING DOOR HANDLE SET REPLACEMENT**

When removing screws and parts, keep track of their exact locations for reinstallation. To replace, follow instructions included with the new handle set. Compare replacement components to existing hardware to verify you have the correct replacement part(s).

1. Open panel.
2. Loosen set screw with 4mm allen wrench from interior or exterior handle (only one handle, not both).
3. Remove handles.

**Note!** One handle will remain attached to the spindle bar.

4. Slide spindle bar and other handle out of panel.
5. Remove the screw in the panel edge to remove the dead bolt latch if present. If there is no attachment screw, the dead bolt latch is fixed to the faceplate and will remove with it.
6. From the interior, unscrew and remove both face plates (they are connected with the same screw).
7. Unscrew and remove the locking mechanism.
8. To install, reverse these instructions.



**SWINGING PASSIVE PANEL LOCK REMOVAL**

**Note!** When removing screws and parts, keep track of their exact locations for reinstallation.

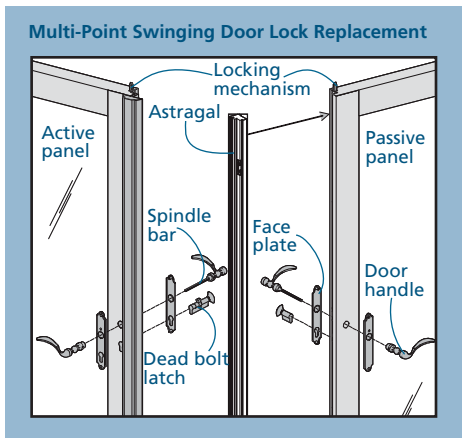
1. Follow the removal steps in the MULTI & SINGLE-POINT SWINGING DOOR HANDLE SET REPLACEMENT section above.
2. If the door has a passive panel with an astragal, remove all hardware from astragal.
3. Unscrew and remove astragal (if weatherstrip is stapled to the bottom of the astragal, pry the staples out to remove it) to get to the locking mechanism underneath.
4. Unscrew and remove locking mechanism.

4. Unscrew and remove locking mechanism.

**New Lock Installation**

**Note!** Align all new parts to the existing screw holes in door panel, and place the same screws in their previous locations.

1. Install lock mechanism with top flush to top edge of panel.
2. Reinstall astragal (if applicable).
3. Install remaining hardware to previous locations following removal steps in the Multi-Point Lock Replacement section above in reverse order.
4. Test door and lock operation. If not operating properly, check screws to make sure they are not too tight.
5. Remove and reinstall if necessary.



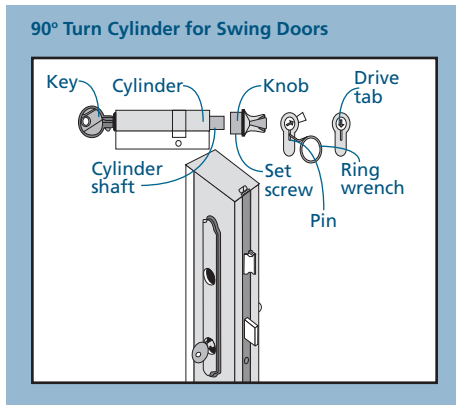


HARDWARE REPLACEMENT & ADJUSTMENT - CONTINUED

**SINGLE & MULTI-POINT SWINGING DOOR 90° TURN CYLINDER**

**Removal**

1. Remove cylinder screw.
2. Loosen set screw on knob and remove knob from body of cylinder.
3. The arrow and drive tab must be pointing down. If the tab cannot be rotated to this position, push the pin down with the ring wrench to disengage the stops and turn the cylinder shaft until the arrow and drive tab is pointing down.
4. Hold the cylinder shaft in this position and remove the cylinder body from the door.



**Installation**

1. Loosen set screw on knob and remove knob from body of cylinder.
2. The arrow and drive tab must be pointing down to install the cylinder into the lock mechanism. If the tab cannot be rotated to this position, push the pin down with the ring wrench included to disengage the stops and turn the cylinder shaft until the arrow and drive tab is pointing down.
3. Hold the cylinder shaft in this position and insert the cylinder body into the door so the tab on the cylinder is inside of the lock.
4. Rotate the shaft that the thumb turn attaches to so that the top of the post moves toward the edge of the door or insert the key into the cylinder and rotate so the top of the key moves towards the edge of the door. This will extend the deadbolt. If the post or key is rotated the wrong direction, it will rotate approximately 120° and lock up where it cannot be rotated in either direction. If this happens, push the pin down with the ring wrench included to disengage the stops and turn the key in the opposite direction until the deadbolt extends.
5. Fix knob horizontally on cylinder shaft with set screw hole on the bottom.
6. Tighten set screw and install cylinder screw.

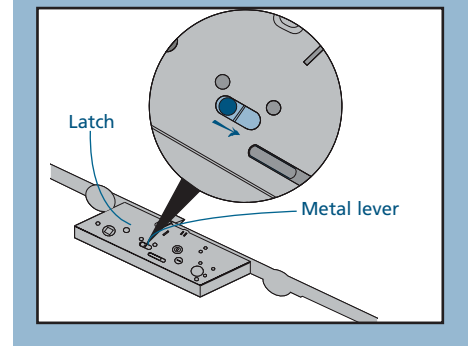
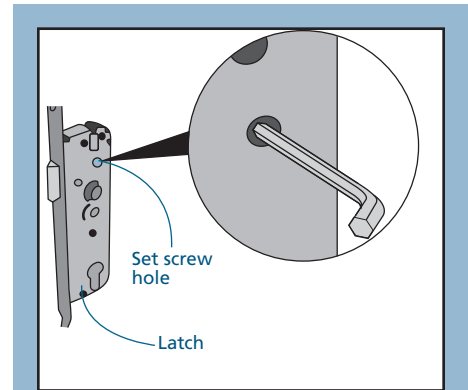
**SWINGING PATIO DOOR LOCK HANDING CHANGE**

Change handing if the lock latch is not facing the right direction for your patio door. To determine handing, hold locking mechanism up to the active panel in correct position. If the flat side of the latch is facing the jamb, change the handing.

**CARADCO FRENCH MANOR/FRENCH VIEW AND TRADITION PLUS**

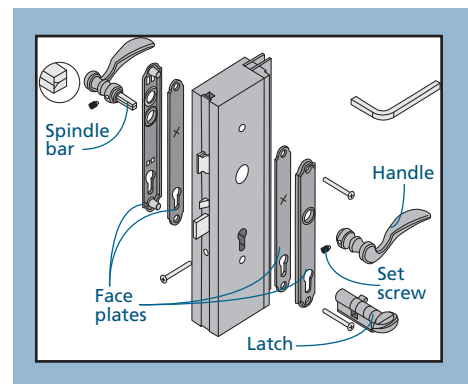
For the French Manor, if you need to change the handing, you will need a new astragal assembly and sweeps. For the French View, you will need a new astragal assembly. Call us to order.

1. Locate latch release on side of mechanism behind the latch. Depending on the door model, it will either be a set screw or a metal lever.
2. If the latch release is a set screw, remove set screw from hole in side of mechanism (may be clearly marked) with 2mm or 5/64" Allen wrench. Remove lock latch, rotate 180°, and reinsert.
3. If the latch release is a metal lever, insert small screwdriver in slot and move metal lever as shown. Latch should pop out. With fingers, rotate latch 180°, and press back into place until latch automatically locks back in.



**NORCO & SITELINE EX**

Single point and Multi-point handing can be changed by simply pulling the tapered latch out slightly and rotating 180°.



HARDWARE REPLACEMENT & ADJUSTMENT - CONTINUED

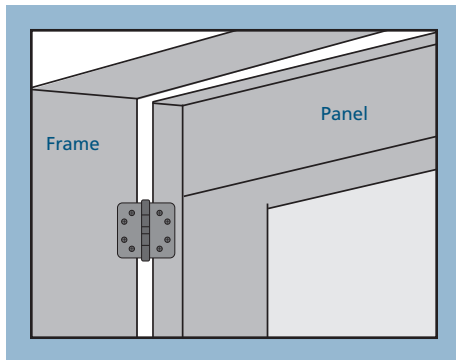
**SWINGING DOOR HINGE ADJUSTMENT**

Proper adjustment of a swinging door panel occurs when there are even sight lines both vertically and horizontally, and there is sufficient contact between the weatherstrip and the frame and to prevent the panel(s) from rubbing and allow the panel(s) to operate, seal, latch and lock smoothly.

Correct improper alignment by making adjustments to the hinge adjustment screws, 1/4 turn at a time, and then checking for proper alignment.

**STANDARD NON-ADJUSTABLE HINGE**

Make horizontal adjustments by deepening the hinge rout depth on frame with a chisel and adding hinge shims (thin plastic or wood plates) behind the necessary hinge plate(s). The hinge should be flush with the wood surface. Call us to order hinge shims.

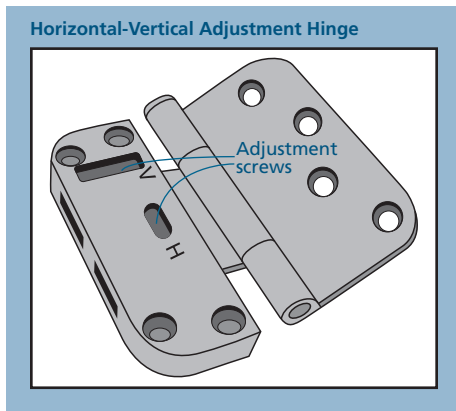


**HISTORICAL INSWING ADJUSTABLE HINGE**

There are two types of inswing adjustable hinges: H (Horizontal) and H-V (Horizontal-Vertical). The H hinge allows horizontal adjustment, and an H-V hinge allows both horizontal and vertical adjustment. A panel has one H hinge at the bottom, one H hinge at the top, and one H-V hinge in the center.

**Vertical Adjustment**

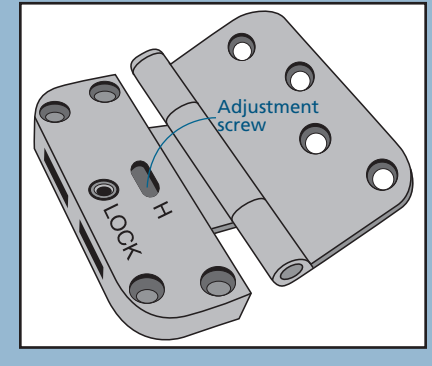
With 1/4" open-end wrench, turn screws counter-clockwise in "V" slot in H-V hinge at center to move panel up or down to desired position. If the door panel needs to go up or down in the opening, adjust the vertical (V) hinge.



**Horizontal Adjustment**

1. With 5/32" allen wrench, turn "LOCK" screws counter-clockwise in each H hinge to unlock
2. With allen wrench, one hinge at a time, turn screw in "H" slot in all three hinges to move panel side to side to desired position
3. Gently re-tighten "LOCK" screws in H hinges to maintain adjustment.

**Horizontal Adjustment Hinge**



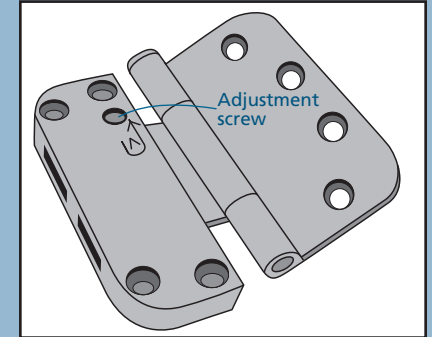
**CURRENT INSWING ADJUSTABLE HINGE**

Each door panel will have one vertically adjustable hinge (middle or lower middle) and the rest will be horizontally adjustable hinges. Never use a power screwdriver to make adjustments, adjust only by hand with a 3/32" allen wrench. Make adjustments in 1/4 turn increments and check position. Stop rotating the adjustment screw once the door is at its desired location or if the screw becomes tight or stops turning. This indicates the top or bottom end of the adjustment, do not continue or you will damage the hinge.

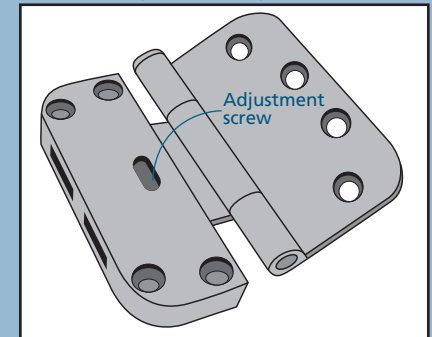
**Vertical Adjustment**

Remove the weight from the hinge by slightly lifting panel with a pry bar or similar tool. Rotate the vertical adjustment screw clockwise or counter-clockwise to raise or lower the door. The door will move in the direction of the arrow next to the adjustment screw corresponding to the direction of the screw rotations.

**Vertical Adjustment Hinge**



**Horizontal Adjustment Hinge**



**Horizontal Adjustment**

Rotate the adjustment screw in each hinge equally. Clockwise rotations reduce the reveal of the door at the hinge side and counter-clockwise rotations increase the reveal of the door at the hinge side.

To tilt the door:

Adjust the top hinge the opposite direction of the bottom hinge.

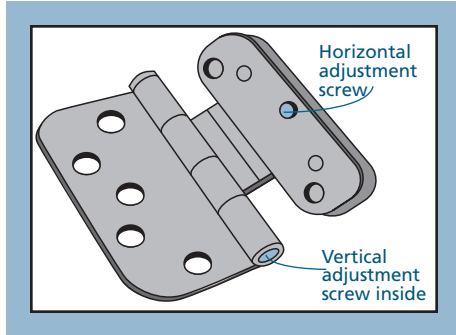
HARDWARE REPLACEMENT & ADJUSTMENT - CONTINUED

**OUTSWING ADJUSTABLE HINGE**

The outswing adjustable hinge has a horizontal and a vertical adjustment.

**Horizontal Adjustment**

1. To move the door closer to the hinge side jamb, turn horizontal adjustment screw of each hinge clockwise; adjust horizontal screw for each hinge the same amount.
2. To move the door away from the hinge side jamb, turn horizontal adjustment screw of each hinge counterclockwise; adjust horizontal screw for each hinge the same amount.
3. For uneven reveal, adjust either the top or bottom horizontal adjustment screw until reveal is even.



**Vertical Adjustment**

Adjustment screw is located at the bottom of the hinge inside the barrel.

To lift the door:

1. Turn vertical adjustment Allen screw of the top hinge clockwise; do not adjust up beyond the top indicator line on the hinge leaf.
2. Tighten (clockwise) vertical adjustment screws of the other hinges to evenly distribute door load.

To lower the door:

1. Starting with bottom hinge, turn vertical adjustment screw for each hinge counterclockwise to back out the screw slightly (maybe a couple rotations); DO NOT remove screw from hinge.

**Note!** When you get to the top hinge, the door will start to lower.

2. Adjust top hinge to desired height.
3. Tighten (clockwise) vertical adjustment screws of the other hinges to evenly distribute door load.

## WEATHERSTRIP REPLACEMENT

### ORDERING NEW WEATHERSTRIP

Dust pads, weatherstrip gaskets and other weatherstrip placement are critical to water and air infiltration control. Check placement and quality of weatherstrip.

Sliding door weatherstrip is usually located around the perimeter of the operating panel(s), and in interlocks. Some doors have weatherstrip around the frame where the operating panel(s) are when normally closed.

Swinging doors will have weatherstrip in the frame where the operating panel(s) are when normally closed and attached to the bottom of the operating panel where it contacts the threshold.

1. Determine amount needed by measuring each piece to be replaced. Note the location on the door of each type of weatherstrip.
2. For each type of weatherstrip, add all measurements, then add an additional 10%.
3. Round up to the nearest foot.
4. Fill out the following table.

Information for Ordering Replacement Weatherstrip	
Product Identification	
Weatherstrip Location	
Weatherstrip Type	
Color	
Amount Needed	

5. Some weatherstrip may not be easily replaceable, please call us for recommendations and to order new weatherstrip.

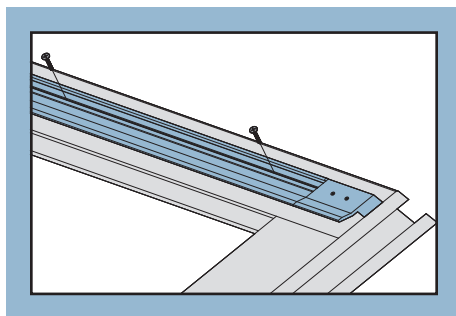
### SLIDING/GLIDING PATIO DOOR WEATHERSTRIP REPLACEMENT

#### INTERLOCK WEATHERSTRIP REPLACEMENT

The interlocks are vertical strips running down the stationary and operating panel meeting stiles. When the door closes, the interlocks join together. There is a strip of weatherstrip located in the interlock of either panel that allows a weather tight seal between the interlocks when the door is closed.

#### Removal

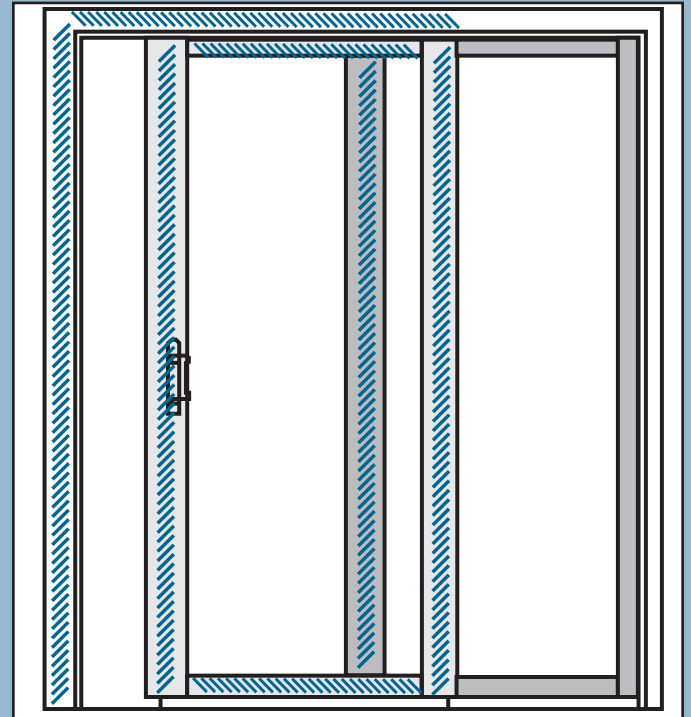
1. Remove operating panel.
2. For custom doors only, remove interlock attachment screws and remove interlock.
3. Remove old seal.



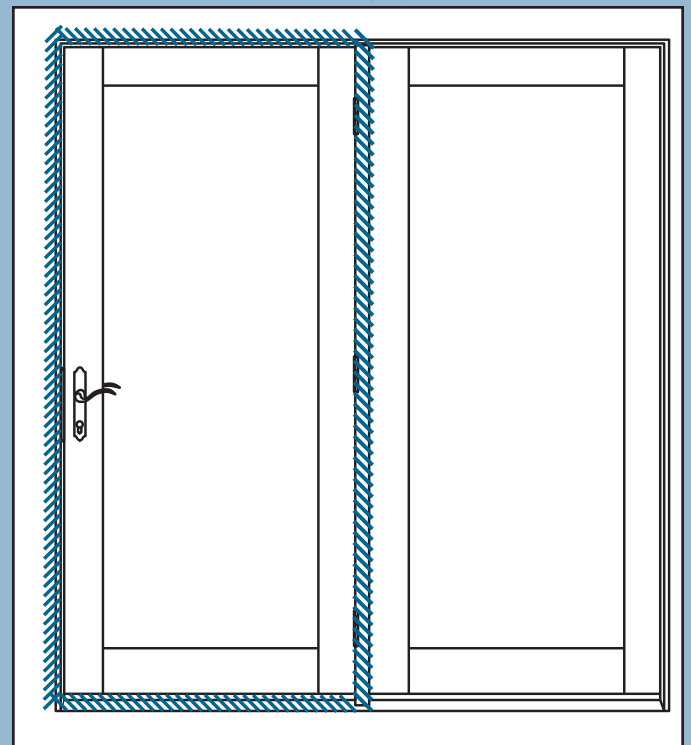
#### Replacement

1. Cut new interlock seal to length.
2. For custom doors, slide all the way to the end of the interlock. Replace interlock; tighten interlock attachment screws.
3. For all other doors, press into kerf in the same position as the old seal.
4. Replace operating panel.
5. Check for proper operation.

Possible Weatherstrip Locations on Sliding Doors



Possible Weatherstrip Locations on Swinging Doors



WEATHERSTRIP REPLACEMENT - CONTINUED

**SLIDING DOOR SILL ANGLE SEAL REPLACEMENT (CUSTOM & POZZI DOORS ONLY)**

Replace the angle and angle seal as a single unit. The angle holds the angle seal (weatherstrip) which runs along the bottom of the operating panel and blocks air from entering the structure at the sill.

**Removal**

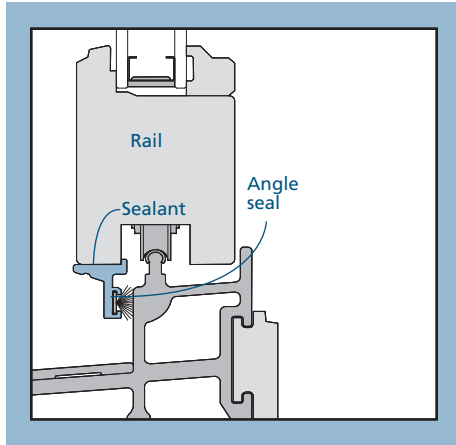
1. Call us to order a new angle and angle seal.
2. Remove operating panel.
3. Locate angle at bottom of operating panel.
4. Remove screws with Phillips screw driver. Save screws for reinstallation.
5. Pry angle off.

**Note!** There is sealant between the angle and the rail.

6. Clean old sealant off rail with putty knife.

**Replacement**

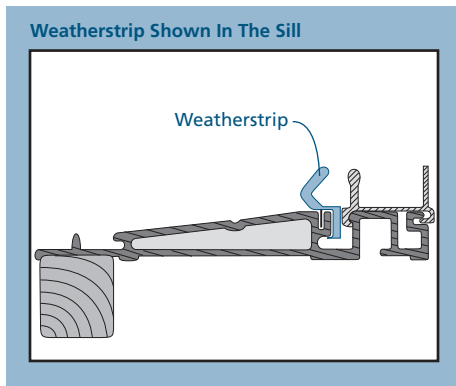
1. Place a bead of silicone sealant on horizontal face of new angle (where old sealant was laid).
2. Attach new angle and secure with screws.
3. Replace operating panel.
4. Check for proper operation.
5. Remove and replace if necessary.



**SLIDING DOOR SILL WEATHERSTRIP REPLACEMENT (PREMIUM DOORS ONLY)**

The sill weatherstrip either runs along the bottom of the operating panel or along the sill and blocks air from entering the structure at the sill.

1. Remove panel if necessary to access weatherstrip.
2. Pry old weatherstrip out with a putty knife.
3. Trim new weatherstrip to fit and press into the same location as the old weatherstrip.
4. Check for proper operation.
5. Remove and replace if necessary.



**EXTERIOR SIDE & HEAD FRAME FILLER WEATHERSTRIP**

Exterior side filler weatherstrip runs vertically on the operating door side jamb. Exterior head filler weatherstrip runs horizontally at the operating panel head jamb. When replacing both weatherstrips, install the exterior head filler first.

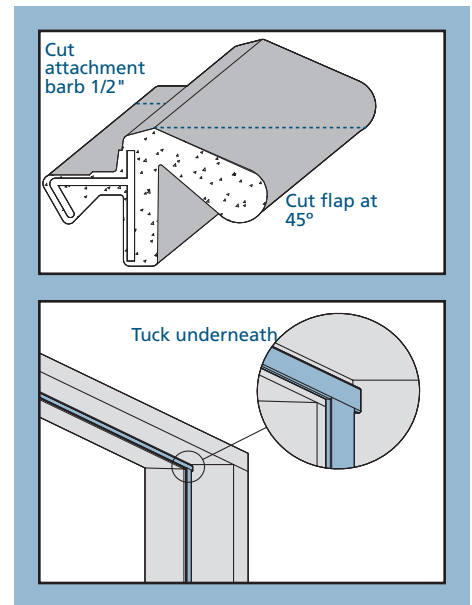
When replacing the lock jamb frame weatherstrip on the Manor and French View patio doors that were manufactured before June 2001, the lock keeper must be removed to access the weatherstrip. When replacing the header weatherstrip on the Sliding/Gliding door, the head stop and operating panel must be removed to access the weatherstrip.

**Removal**

1. Open operating panel.
2. Grip weatherstrip and gently pull out of kerf.

**Replacement**

1. Cut new weatherstrip to length.
2. Cut the top end of the side filler weatherstrip to create a better seal when installed as follows:
  - a. Cut the flap downward at a 45° angle.
  - b. Cut the attachment barb (stiff, reinforced leg that fits the kerf) back 1/2".
  - c. Work attachment barb into the kerf from one end to the other.
  - d. Tuck the top of the weatherstrip underneath the head filler weatherstrip.
  - e. Reinstall panel and check operation.
3. If painting after weatherstrip removal, make sure paint is completely dry before installing new weatherstrip.



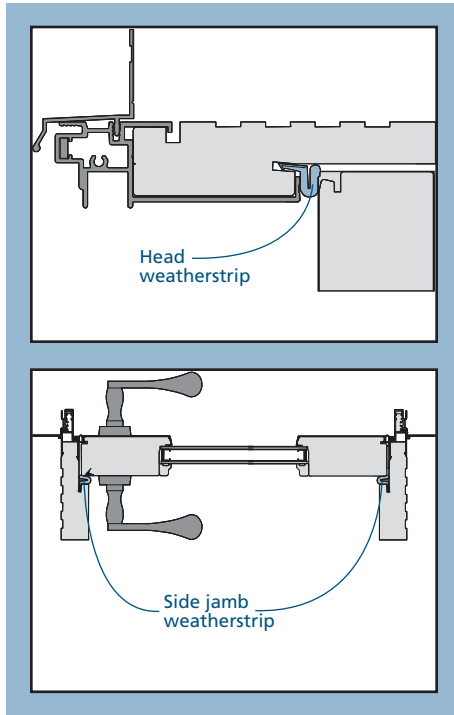
WEATHERSTRIP REPLACEMENT - CONTINUED

**SWINGING PATIO DOOR WEATHERSTRIP REPLACEMENT**

**FRAME/THRESHOLD/ASTRAGAL/MULLION WEATHERSTRIP**

When replacing both the side and the head weatherstrip in the frame, install head weatherstrip first. Threshold weatherstrip fits into a kerf in the exterior side of the sill on outswing patio doors. Astragal weatherstrip runs vertically along the astragal (between the two panels of a French style inswing or outswing patio door) or mullion (between the operating panel and the non-operating panel).

1. Open operating panel.
2. Grip weatherstrip and gently pull out of kerf.



When replacing frame weatherstrip, if applicable, trim and overlap the new weatherstrip in the same way as the old weatherstrip.

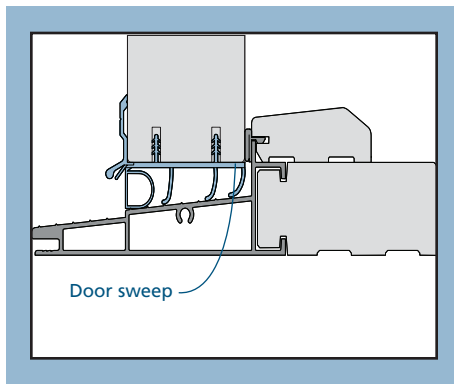
1. Cut new weatherstrip to length.
2. Work the attachment barb into the kerf from one end to the other.

**DOOR SWEEP**

The door sweep fits underneath the operating door panel and fills the gap between the sill and the panel. Due to continual contact with the sill, the door sweep may lose its shape and cease to provide an effective seal.

1. Remove operating panel.
2. Lay panel on flat work surface.
3. Remove staples in door sweep with needle nose pliers or side cutters.

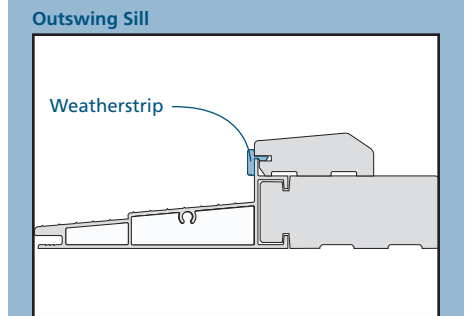
4. Pull door sweep loose by starting at one end and working to the other.
5. Clean old sealant off rail with putty knife.
6. Trim new door sweep to same length as the existing one.



7. Cover face (the side with the kerf) of new door sweep with silicone sealant.
8. Work attachment barbs into kerfs from one end of the panel to the other.
9. Secure sweep to the door panel with staples and wipe off sealant squeeze-out. Reinstall panel.

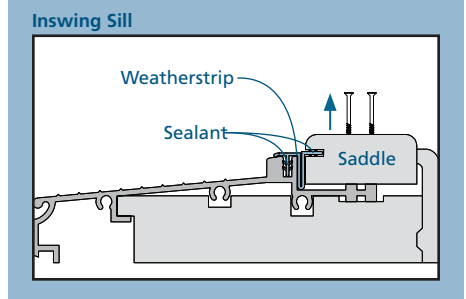
**SILL WEATHERSTRIP**  
**Outswing**

1. Open operating panel all the way.
2. Grip weatherstrip and gently pull out of kerf.
3. Cut new weatherstrip to length.
4. Work the attachment barb into the kerf from one end to the other.



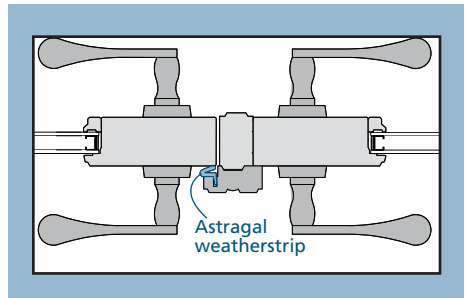
**Inswing**

1. Open operating panel all the way.
2. Unscrew threshold screws in saddle.
3. Lift up saddle; grip weatherstrip and gently pull out of kerf.
4. Work the attachment barb into the kerf at saddle and in sill.
5. Apply silicone sealant to each end of the weatherstrip.
6. Tighten adjustment screws in saddle.



**ASTRAGAL WEATHERSTRIP**

1. Open door all the way.
2. Locate the accessible weatherstrip.
3. Grip weatherstrip and gently pull out of kerf.
4. Cut new weatherstrip to length.
5. Work the attachment barb into the kerf from one end to the other.



## PROPER PATIO DOOR INSTALLATION

- Proper installation is essential for keeping patio doors operating smoothly. If a patio door fails to operate properly, an inspection is necessary to determine if it was installed correctly.
- A contractor or installer can assist in determining the cause of a patio door being “out of specification” and possibly correct it. Patio door problems due to improper installation are usually not covered by the manufacturer’s warranty. For installation instructions, contact us or your supplier.
- The specifications and measurements referenced in this guide are taken from ASTM E2112 Standard Practice for Installation of Exterior Windows, Doors and Skylights.

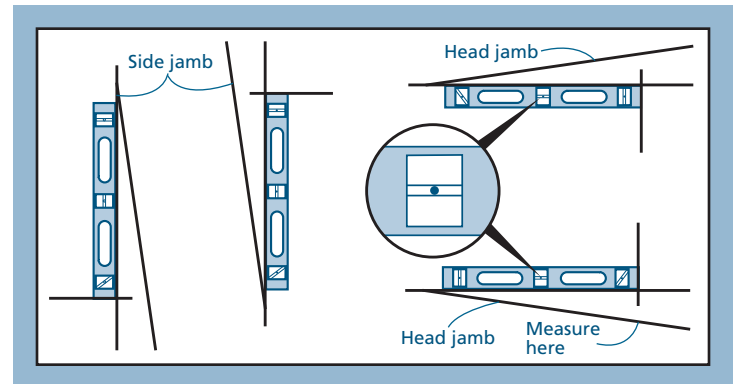
**Note:** These instructions do not address inspection for proper “water tightness” or flashing. A “water tight” inspection requires removal of the exterior siding around the patio door. Seek professional assistance regarding this issue.

### LEVEL INDICATOR

Accurate measurements are essential in determining level and plumb. Most carpenters’ levels have several bubble level indicators, making it possible to measure all parts of the patio door.

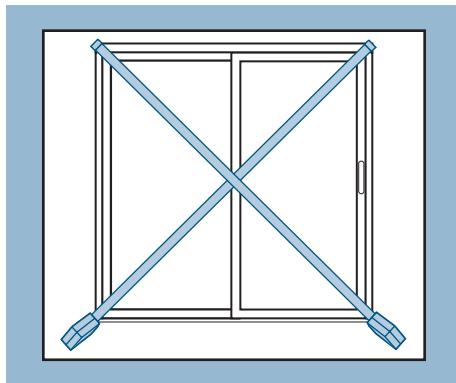
Examine the horizontal indicator. If the bubble is centered between the lines of the indicator, it is level.

If the bubble is not exactly centered, measure how far “out of level” or “out of plumb” by maneuvering the end of the level until the bubble is exactly centered. Measure the farthest gap between the level and the surface. On a 2’ level, the gap must not exceed 1/16”, or on a 4’ level (or longer), the gap must not exceed 1/8”, or the surface is out of level/plumb.



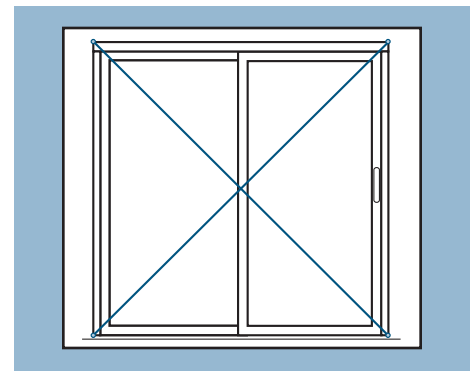
### SQUARE

Measure frame/panel from top left to bottom right corner and from top right to bottom left corner. If measurements differ by 1/8” for patio doors up to 20 sq. ft. or 1/4” for patio doors larger than 20 sq.ft., unit is out-of-square.



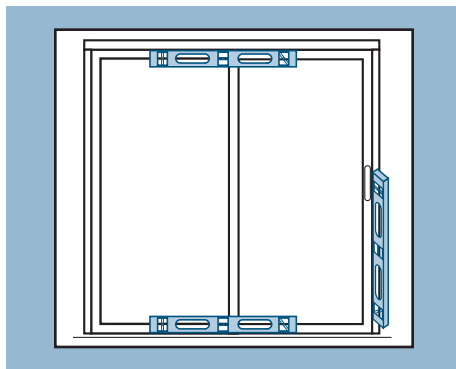
### FRAME TWISTS

Attach two pieces of string to frame/panel, corner to corner. If there is a gap between strings at center point larger than 1/8” for patio doors up to 4’ wide or high, or 3/16” for patio doors larger than 4’ wide or high, the frame is not flat. Repeat by switching strings and re-measuring.



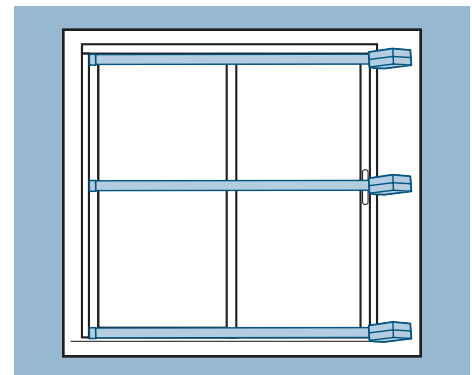
### LEVEL AND PLUMB

For plumb, place level against each side jamb or use a plumb bob. For level, place level against head jamb and sill.



### PROPER SHIMMING

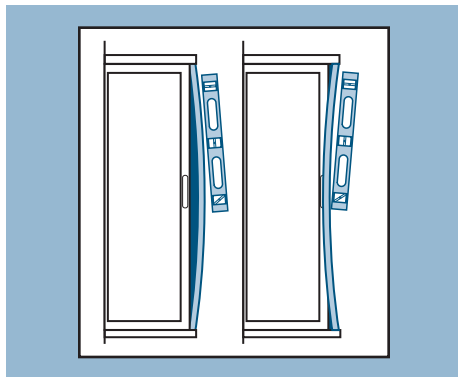
Measure width of frame at top, center, and bottom. If any two measurements differ more than 1/16”, the frame is over or under shimmed. Repeat process and measure height of frame.



PROPER PATIO DOOR INSTALLATION - CONTINUED

**STRAIGHT SIDE JAMBS**

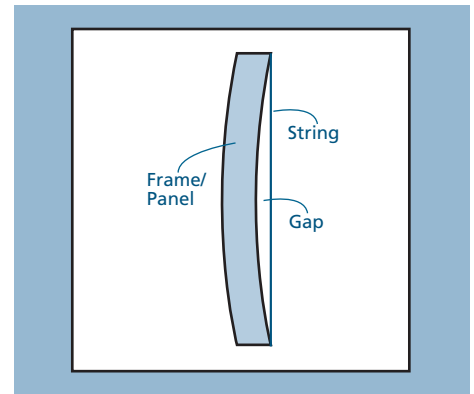
Place level against inside of side jamb. Look for gaps anywhere between level and side jamb. Repeat steps for other side jamb.



**FRAME/PANEL BOW**

Inspect interior and exterior frame jambs, or stiles/rails of panel (not glass) to determine if bowed.

1. Cut piece of string slightly longer than height of frame or panel.
2. Pull tightly and stretch string to upper and lower corners of jambs, or, stiles or rails of panel. Tape securely.



3. Look for gap between string and frame or panel. If gap measures more than 1/16" at any point, the panel is bowed.

TROUBLESHOOTING OPERATIONAL PROBLEMS

**Note!** Please check each possible cause, including verifying proper installation, before contacting us for assistance.

PROBLEM	POSSIBLE CAUSES	POSSIBLE SOLUTIONS
Panel will not open	Sill track dirty	Clean sill track then lubricate with silicone spray on cloth. Clean and lubricate hinge track.
	Panel locked	Make sure lock latch is in unlocked position, try again.
	Obstructions	Remove obstructions/shipping blocks
	Panel damaged	Repair or replace panel
	Lock damaged or broken	Replace lock
	Keeper loose or damaged	Tighten if loose. Replace if damaged.
	Weatherstrip loose or damaged	Reattach If loose, replace if damaged.
	Panel may need adjustment (panel drags on sill or does not fit square or flush in the frame)	Adjust rollers
Panel will not close	Sill track dirty	Clean sill track then lubricate with silicone spray on cloth. Clean and lubricate hinge track.
	Panel locked	Make sure lock latch is in unlocked position. Try again.
	Obstructions	Remove obstructions/debris/shipping blocks.
	Keeper loose or damaged	Tighten if loose. Replace if damaged.
	Lock strikes misaligned	<ul style="list-style-type: none"> <li>• Realign</li> <li>• Make shoot bolt lock strikes flush to sill (French doors)</li> <li>• Reverse lock latch (hinged doors)</li> <li>• Make sure screws holding the lock bar in place are not over tightened or too loose (hinged doors)</li> </ul>
	Weatherstrip loose or damaged	Reattach If loose, replace if damaged.
	Panels do not line up at check (meeting) rails/stiles	Adjust rollers
	Frame bowed	Inspect Installation
	Improper installation	Inspect installation



PROBLEM	POSSIBLE CAUSES	POSSIBLE SOLUTIONS
Door swings open by itself	Panel not plumb	Adjust hinges
	Hinge plates not flush with frame or panel	Make hinge plates flush
	Hinge screws not flush with hinge plates	Ensure proper hinge placement; tighten screws
Uneven reveal (gap) between panel & frame	Panel(s) not aligned properly	<ul style="list-style-type: none"> <li>• Secure floating sill (hinged doors)</li> <li>• Adjust sill (hinged doors)</li> <li>• Adjust hinges (hinged doors)</li> <li>• Make hinge plates flush (hinged doors)</li> <li>• Ensure proper hinge placement (hinged doors)</li> <li>• Make horizontal lock adjustment to panel (some sliding doors)</li> <li>• Adjust rollers (sliding patio doors)</li> </ul>
	Improper installation	Inspect installation
Door stuck shut	Panel(s) misaligned	Remove obstructions/shipping blocks
	Panel painted to weatherstrip	Un-stick painted-over weatherstrip
	Rollers may be off the track	Lift operating panel up and back onto the track at the sill (sliding doors)
Door will not lock	Lock misaligned	<ul style="list-style-type: none"> <li>• Align lock strikes</li> <li>• Make shoot bolt lock strikes flush to sill (hinged doors)</li> <li>• Make sure screws holding lock bar to operating panel are not over-tightened or too loose (hinged doors)</li> </ul>
	Improper installation	Inspect installation
Door squeaks	No lubricant on hinges	Lubricate all hinges with light oil
Light or air leaks through corners	Worn weatherstrip	Repair loose or damaged weatherstrip
	Pile dust pad misaligned	Reposition dust pad (sliding doors)
	Hinges may be misaligned	Ensure proper hinge placement (hinged doors)
Door handle will not operate	Improper installation or misaligned	<ul style="list-style-type: none"> <li>• Align spindle holes (hinged doors)</li> <li>• Install spindle correctly (hinged doors)</li> </ul>
Shoot bolt will not fully engage	Lock strike obstructed or not deep enough to allow shoot bolt to fully engage	Clear any debris and verify shoot bolt lock strikes flush to sill
Water leaks through the door	Panel damaged or loose at joints	Replace panel
Moisture occurs between glass panes	Seal failure	Replace either the insulating glass assembly or the entire panel. This determination should be made by a service representative.
Metal cladding is dull	Cladding is dirty or oxidized	<ul style="list-style-type: none"> <li>• Rinse with water from bottom to top to bottom to prevent dirty run-down and streaking. If needed, use a soft bristle brush while rinsing.</li> <li>• Air or wipe dry with chamois or soft, lint-free, dry cloth</li> <li>• Apply high quality, non-abrasive car wax to clad surface for protective finish (follow wax manufacturer's instructions)</li> </ul>

PROBLEM	POSSIBLE CAUSES	POSSIBLE SOLUTIONS
The patio door surface fogs up	Condensation.	<p>If condensation is on an interior surface:</p> <ul style="list-style-type: none"> <li>• Raise the average temperature of the house one or two degrees and do not block vents.</li> <li>• Vent all appliances to the outdoors and run exhaust fans.</li> <li>• Open patio door blinds for air circulation.</li> <li>• Turn humidifiers down as the temperature gets colder (unless used for medical purposes).</li> </ul> <p>If condensation is on an exterior surface:</p> <ul style="list-style-type: none"> <li>• Close patio door coverings to reduce cooling of the glass surface by air-conditioning.</li> <li>• Remove or trim shrubbery close to patio doors to promote air circulation.</li> </ul> <p>If condensation is between glass panes:</p> <ul style="list-style-type: none"> <li>• Seal failure. Replace either the insulating glass assembly or the entire panel. This determination should be made by a service representative.</li> </ul>
Panel appears crooked in frame	Panel may need adjustment	Adjust rollers
	Obstructions	Remove obstructions / shipping blocks
	Improper installation	Inspect installation
Water leaks through the patio door	Weatherstrip damaged or missing	Reattach if loose, replace if damaged or missing

GLOSSARY

**Active Panel**

Active panel(s) are any panel(s) that operate and include lock hardware.

**Astragal**

The vertical trim attached to one of the panels of a patio door that bridges the gap between the panels when closed and provides weather and overswing (swinging doors) protection.

**Boot-glaze**

The method by which glass is set and sealed into a panel with a rubber-like beige or gray gasket ("boot").

**Bumper**

A hard rubber or plastic device located in the operating track opposite the operating panel to limit it's movement when opening.

**Clad**

Aluminum or vinyl material attached to the outside of a patio door that creates a durable, low-maintenance patio door.

**Door Sweep**

Weatherstrip that attaches to the bottom of a swinging patio door panel, providing a barrier against the elements.

**Filler**

A trim piece used to provide a weatherstrip seal for the operating panel on a horizontal sliding/gliding patio door.

**Frame**

The assembly of structural members (head, sill, and jambs) used to fasten the window/patio door to the structure.

**Handing**

The operating direction of a patio door; refers to the way the patio door will swing or slide to open (right-handed or left-handed).

**Head Stop**

A trim piece at the head of the patio door against the interior side of the panel.

**Header Track**

The track in the head jamb of a sliding/gliding window or patio door that guides the sash/panel as it opens and closes.

**Hinge**

A jointed or flexible device on which a door or window turns.

**Hinge Pin**

A pin in the center of a hinge that holds the two parts together and allows them to pivot.

**Interlock**

An interlock on a window or door provides a hooking action between the sash/panel rail and the sill or jamb. This action reduces air infiltration and increases security.

**Jamb**

The vertical frame members of a window or patio door assembly.

**Keeper**

A bracket utilized as a latching point for locking systems.

**Kerf**

A groove that often holds weatherstrip.

**Keyway**

The slot in the lock where the key is inserted.

**Lock Jamb**

The side jamb that houses the lock keeper; the patio door closes into the lock jamb.

**Multi-Point Lock**

A locking system that has multiple locking points with the system's mechanism hidden behind the side screen stops; the locking points engage into keepers located on the panel.

**Panel**

An assembly comprised of stiles (vertical pieces), rails (horizontal pieces) and the patio door's glass.

**Pilot Hole**

A drilled hole that is no larger than the body of the screw (minus the threads).

**Rail**

The horizontal members of a window or patio door panel.

**Reveal**

The space between the panel and the frame.

**Roller**

A roller is the round wheel used in a sliding window or patio door on which the operating sash or panel travels. For this reason, sliding windows/doors may also be called rolling windows/doors.

**Score**

To inscribe a line with a sharp instrument.

**Screen Stop**

A trim piece that holds the screen in place.

**Shoot Bolt**

A locking component which, when activated, extends from the end of an operating panel or sash and engages a keeper in the frame.

**Side Filler**

A trim piece in the side jamb of a horizontal sliding/gliding patio door used to provide a weatherstrip seal for the operating panel.

**Sill Track**

The track on the sill of a window or patio door that guides the sash or panel as it opens and closes.

**Stile**

The vertical members of a window or patio door panel.

**Stops**

The trim pieces on the frame.

**Weatherstrip**

A strip of flexible material that covers the joint between two separate parts of a patio door and is used to prevent rain, snow, and cold air from entering.