SA-FE Product Guide

If any information you need is not covered or is unclear in this Product Guide please contact SA-FE at info@sa-fe.net or by phone at 717-284-7039.

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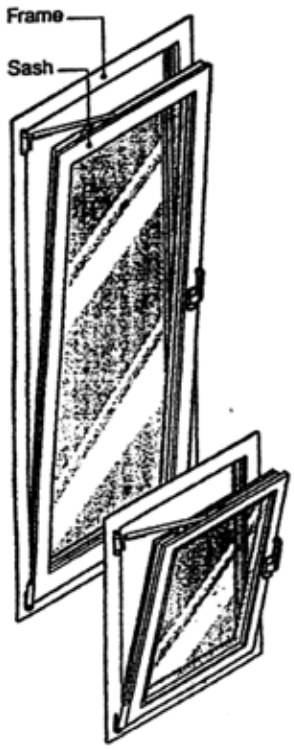
Tilt & Turn Windows and Doors

Tilt & Turn windows and doors have Dual Action hardware. This hardware lets you open these windows and doors in two different ways. You can Tilt them inwards for ventilation, and you can Turn them on their hinges to swing them open for cleaning or emergency exit.

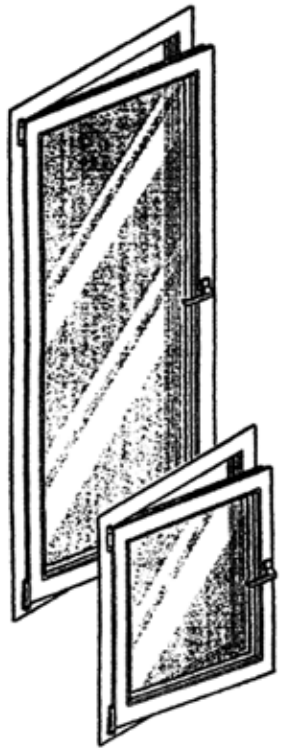


Tilt & Turn windows and doors have one of two kinds of locking hardware. SA-FE-Lock hardware, or SA-FE Key-Lock hardware.

SA-FE-Lock Hardware
SA-FE-Lock hardware includes one SA-FE-Handle, located on the inside of the window or door, and an exterior pull handle. The SA-FE-Handle lets you choose Thr Tilt or the Turn operation function, and operates the concealed multi-point locking mechanism.

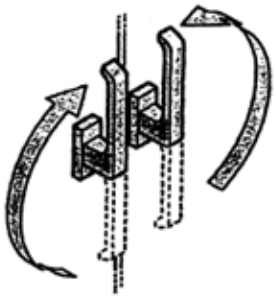
SA-FE Key-Lock Hardware
SA-FE Key-Lock hardware includes two SA-FE-Handles, located back to back, one on the inside and one of the outside of the door. It also includes an exterior key cylinder and an interior thumb turn.

SA-FE-Handle Operation
You can operate Tilt & Turn windows and doors with a SA-FE-Handle. Here are the three handle positions:



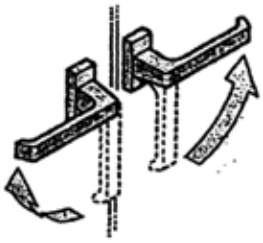
UP To Tilt

Rotate the handle up to tilt



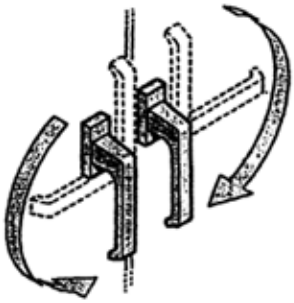
SIDE To Turn

Rotate the handle sideways to swing open



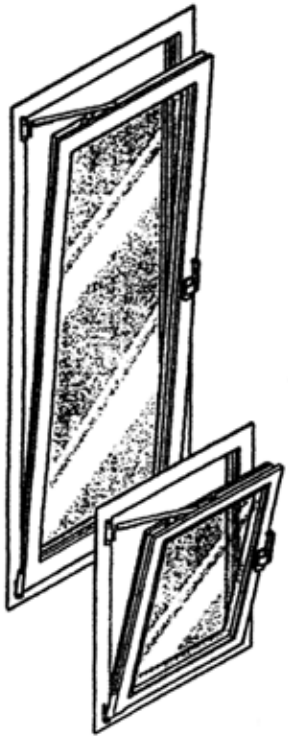
DOWN To Lock

Rotate the handle down to lock



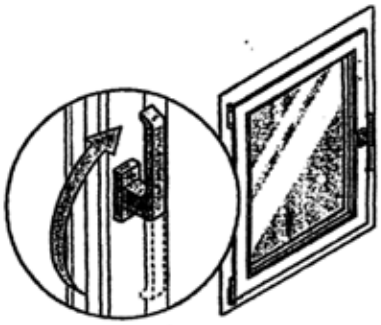
Tilt Operation

Start with the sash in the closed position!



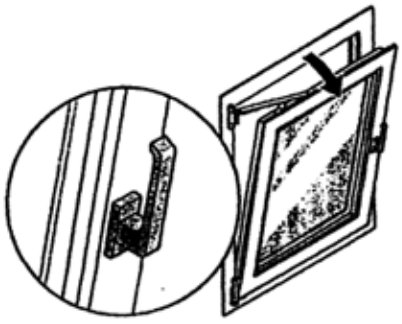
1. Rotate the handle 180°

Turn the handle until it points straight up.



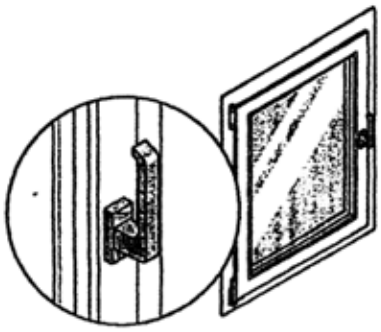
2. Open The Sash

Gently pull the handle towards you.
The top of the sash tilts partly open.

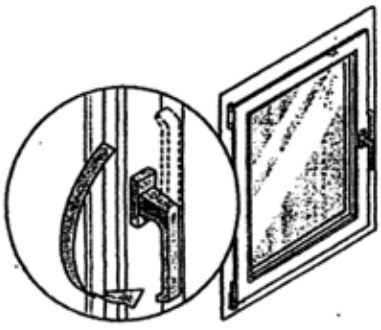


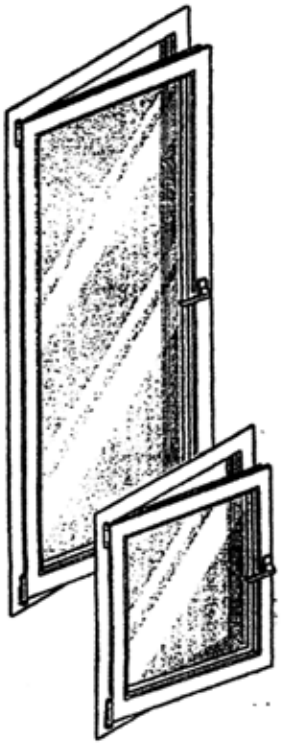
3. Close The Sash

Gently push the handle away from you until the sash is closed. Close the sash against the frame before you rotate the handle.



4. Rotate The Handle Down To The Lock Position



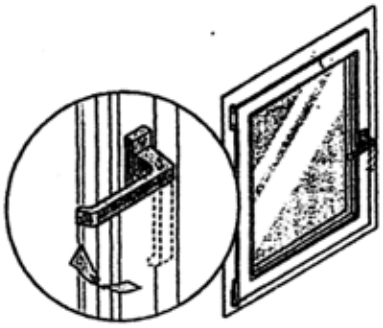


Turn Operation

Start with the sash in the closed position!

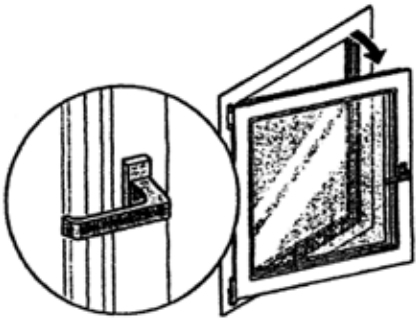
1. Rotate the handle 90°

Turn the handle until it is "sideways".



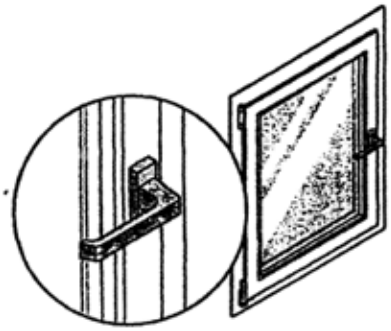
2. Open The Sash

Gently pull the handle towards you. The sash swings open on ist hinges.

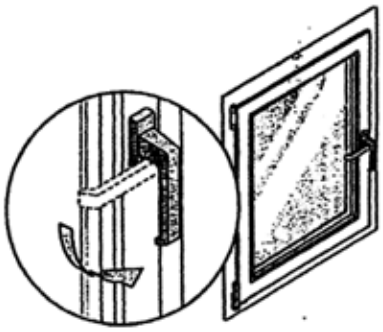


3. Close The Sash

Gently push the handle away from you until the sash is closed. Close the sash against the frame before you rotate the handle.



4. Rotate The Handle Down To The Lock Position

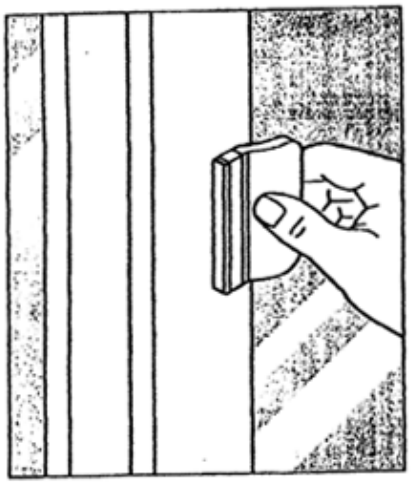


Tilt & Turn Pairs

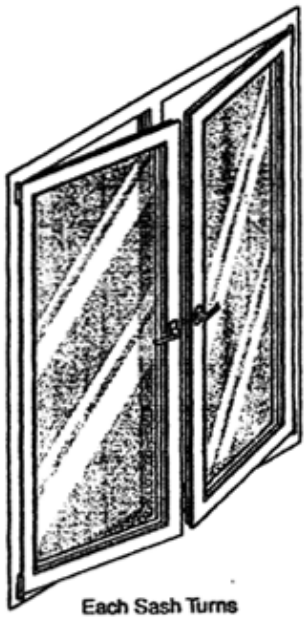
Some of your windows or doors may have two sashes, side-by-side. These are called pairs of sashes. Some pairs of sashes have a fixed center mullion. Some do not.

Pair with fixed mullion

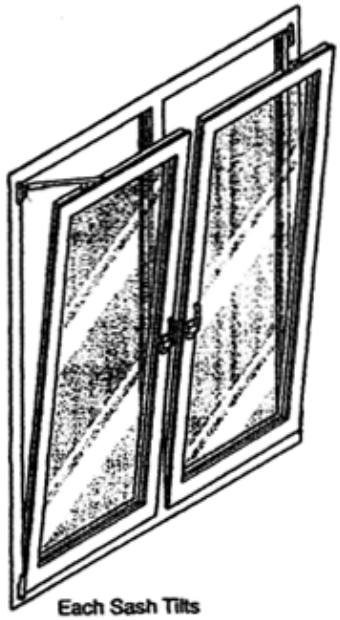
When a pair of sashes has a fixed center mullion between them, both sashes can Tilt and both sashes can Turn. Each sash operates independently of the other sash.



Doors without a key lock have an exterior pull handle and spring-loaded catch, that lets you close and open the door from the outside.



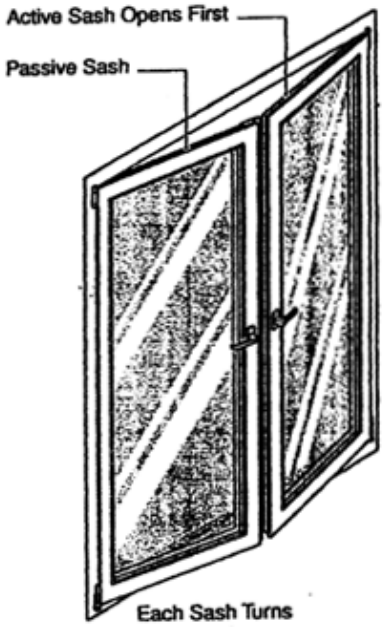
Each Sash Turns



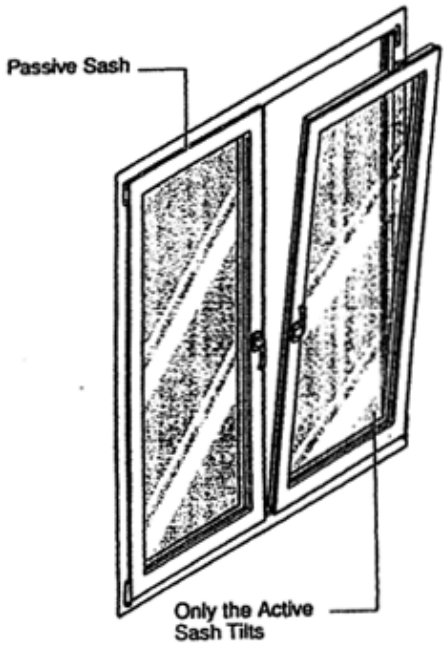
Each Sash Tilts

Pair Without Fixed mullion

When pairs of sashes have no fixed mullion, there is a wider unobstructed opening. Each sash can Turn to open, but one must be opened before the other. The sash that can be opened first is called the active sash. Only the active sash can Tilt.



Each Sash Turns

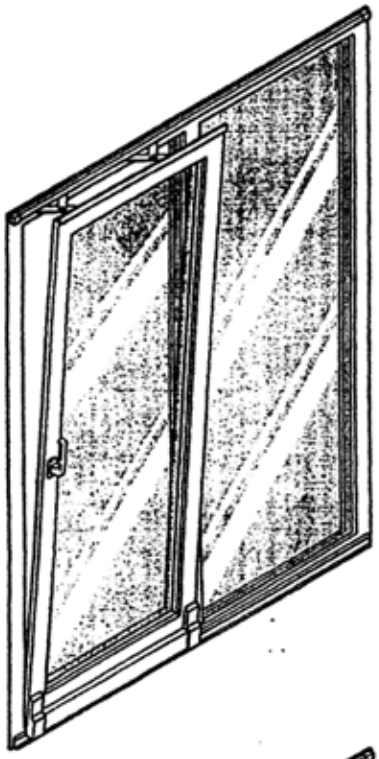


Only the Active Sash Tilts

Tilt & Glide Windows and Doors

Tilt & Glide windows and doors have Dual Action hardware. This hardware lets you open these windows and doors in two different ways. You can: Tilt them inwards for ventilation, and you can Glide them sideways on rollers.

Tilt & Glide windows and doors have one of two kinds of locking hardware: SA-FE-Lock hardware, or SA-FE Key-Lock hardware.



SA-FE-Lock Hardware

SA-FE-Locl hardware includes one SA-FE-Handle on the room side of the window or door, and an exterior pull handle. The SA-FE-Handle lets you choose the Tilt or the Glide operating function, and operates the concealed multi-point locking mehanism.

SA-FE Key-Lock Hardware

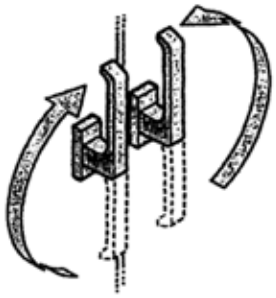
The SA-FE Key-Lock hardware package features two SA-FE-Handles, located back to back, one on the outside and one on the inside of the door. It also includes an exterior key cylinder and an interior thumb turn.

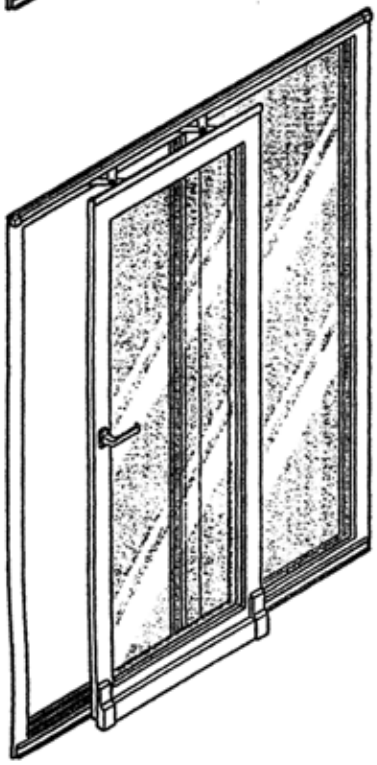
SA-FE-Handle Operation

You can operate Tilt & Glide windows and doors with the SA-FE-Handle. Here are the three handle positions:

UP To Tilt

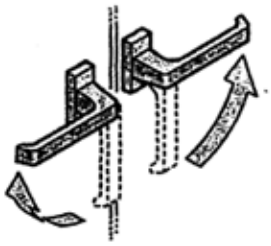
Rotate the handle up to tilt.





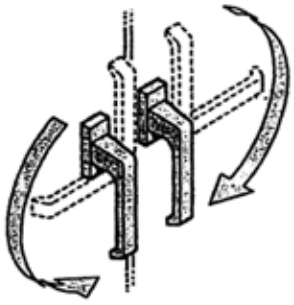
SIDE To Glide

Rotate the handle sideways, then pull the sash out to glide.



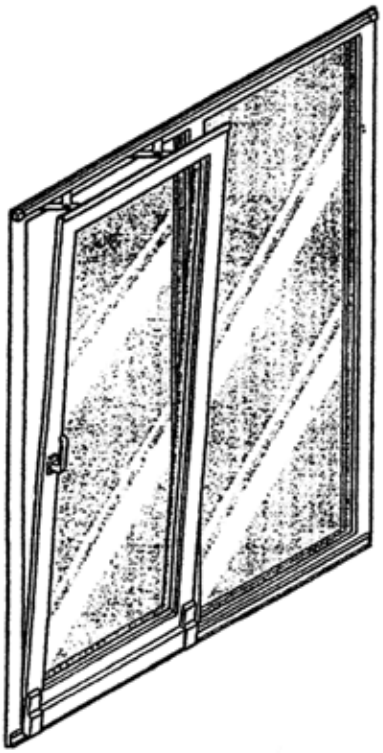
DOWN To Lock

Rotate the SA-FE-Handle down to lock.



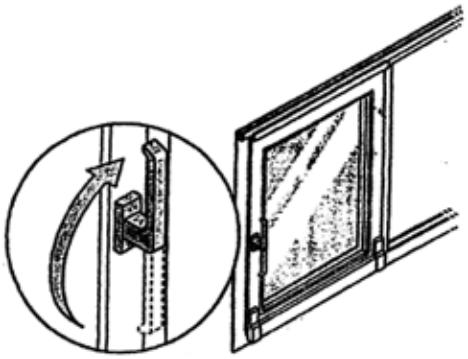
Tilt Operation

Start with the sash in the closed position!



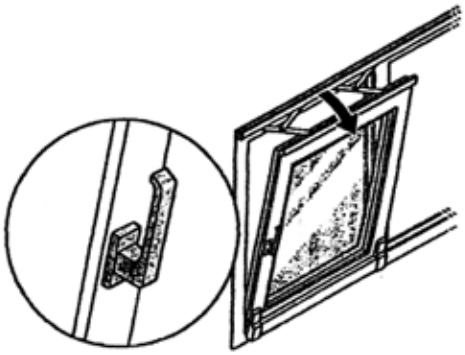
1. Rotate the handle 180°

Turn the handle until it points straight up.



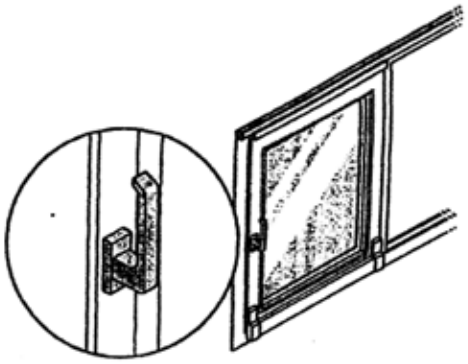
2. Open The Sash

Gently pull the handle towards you.
The top of the sash tilts partly open.

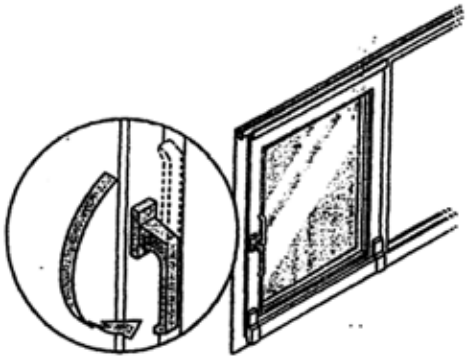


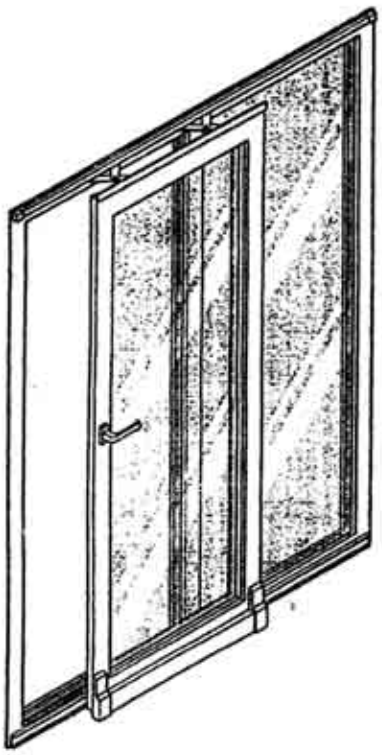
3. Close The Sash

Gently push the handle away from you until the sash is closed. Close the sash against the frame before you rotate the handle.



4. Rotate The Handle Down To The Lock Position





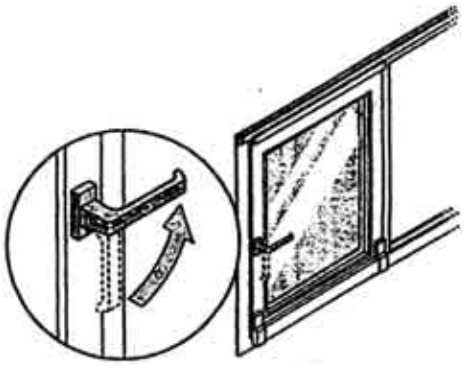
CAUTION

A gliding sash moves easily, but can be very heavy. Pull the sash gently to open and close it. Do not slam the sash open or shut.

Start with the sash in the closed position!

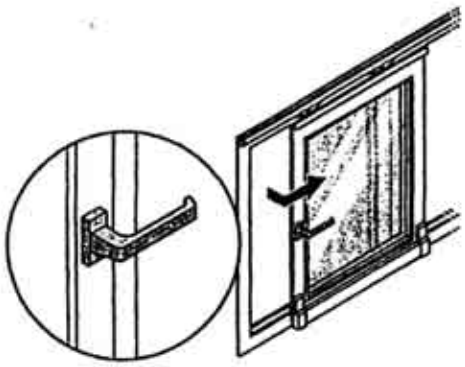
1. Rotate the handle 90°

Turn the handle until it is "sideways".



2. Open The Sash

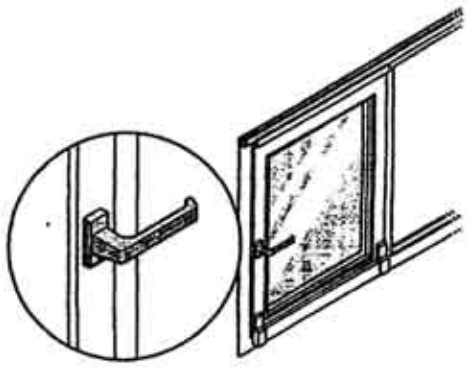
Gently pull the handle towards you. The sash swings open on ist Track arms



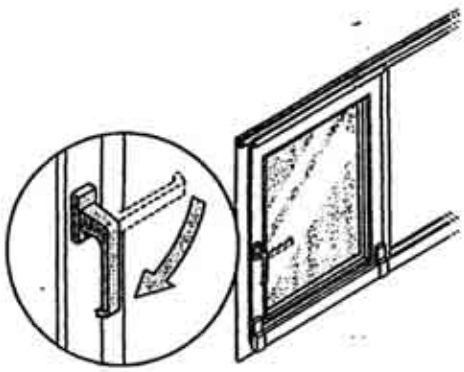
3. Close The Sash

Gently pull the handle to move the Sash towards the closed position.

Gently push the handle away from you until the sash is closed. Close the sash against the frame before you rotate the handle.

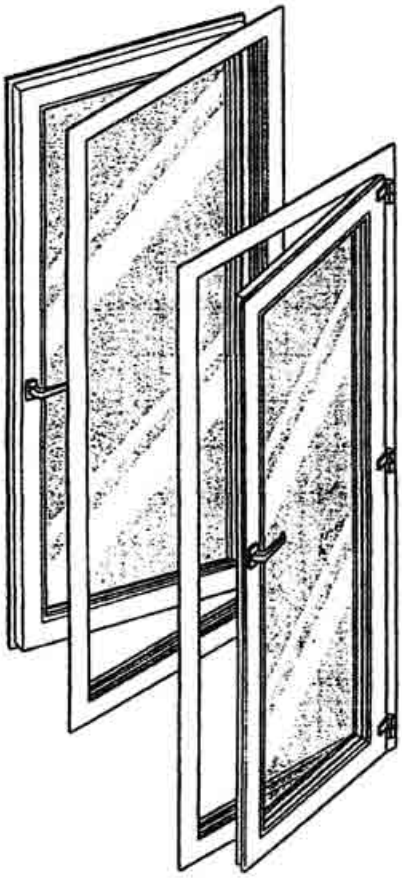


4. Rotate The Handle Down To The Lock Position



Hinged Doors

There are two kinds of SA-FE hinged doors: inswing doors that open into the building, and outswind doors that open to the outside. Hinged doors have one of three kinds of locking hardware: SA-FE-Lock hardware, SA-FE Key-Lock hardware, or SA-FE-Luxe hardware.

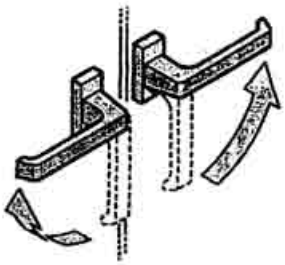


SA-FE-Lock Hardware

SA-FE-Lock hardware includes one SA-FE-Handle, located on the room side of the door, and an exterior pull handle. The SA-FE-Handle operates the concealed multi-point locking mehanism. The handle position are as shown below.

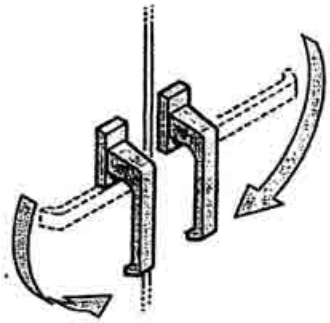
SIDE To Turn

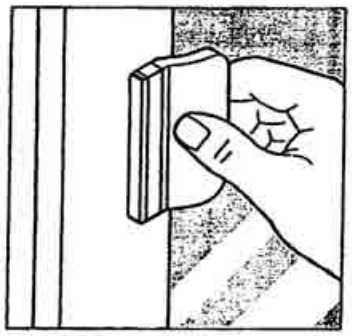
Rotate the handle sideways to swing open.



DOWN To Lock

Rotate the handle down to lock.



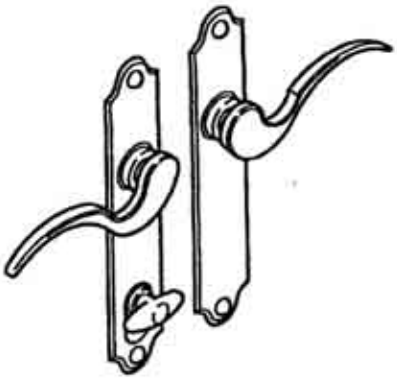


Pull handle—exterior view

Doors without a key lock have an exterior pull handle and spring-loaded catch, that lets you close and open the door from the outside.

SA-FE Key-Lock Hardware

SA-FE Key-Lock hardware includes two SA-FE-Handles, located back to back, on the inside and on the outside of the door. It also includes an exterior key cylinder and an interior thumb turn.

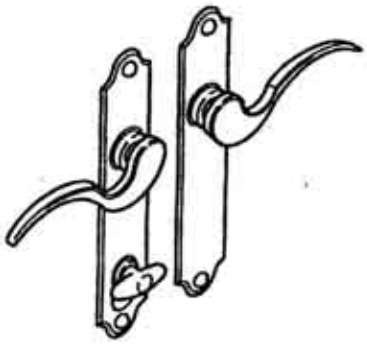


SA-FE-Luxe Hardware

SA-FE-Luxe hardware includes a high quality latching mechanism and a dead bolt lock, in addition to SA-FE's standard concealed multipoint locking mechanism. It also includes an exterior key cylinder and an interior thumb turn.

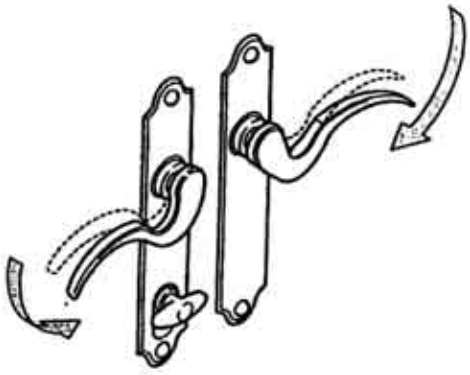
There are several different styles of SA-FE-Luxe handles. The SA-FE-Luxe handle positions are shown below.

Normal Position



DOWN To Open

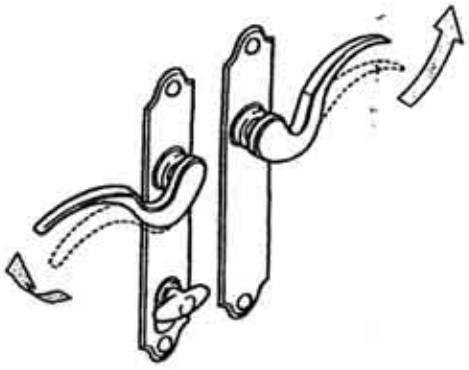
Push the handle downwards to open.



UP To Lock

Throw the handle upwards as far as it will go to engage the multi-point locking mechanism. Then operate the thumb turn.

If you do not lift the handle all the way, the thumb turn will not operate.



Caring for your Windows and Doors

Congratulations! You have chosen quality windows and doors from SA-FE, manufactured with pride and care. Because these windows are made from high technology, PVC or aluminum materials, they require very little maintenance.

The care and maintenance tips that follow will help you care for your windows in the best way.

A Word About Protection

Always protect your SA-FE windows and doors from welding spatter, open flame, excessive heat, grinding, sparks, concrete, mortar, stucco, paint, and other harmful construction materials or processes. All of these can permanently damage both the frame finish and the glass surfasce.

How To Clean The Glass

Clean the glass with a soft, clean, grift-free cloth and glass cleaner. You can use a mild vinegar and water cleaning solution. Glass cleaners should always be slightly acidic. Do not use ammonia-based alkaline cleaners: these can permanently stain the glass.

Rinse the glass first, before you remove mortar dust, or other kinds of gritty dirt. Use a squeegee to dry the glass surface. Do not rub gritty dirt acros the face of the glass with the wash cloth or the squeegee: this can permanently scratch glass.

To remove stubborn grease or sealant from the glass, use mineral spirits sparingly. After cleaning with mineral spirits wash the glass with a glass cleaner or with a vinegar based cleaning solution.

To remove glue, caulking or paint from the glass, use a new, sharp razor blade. Hold the blade diagonally against the glass surface, and carefully remove the staining material. Take care not to scratch the glass. To chip off mortar use a sharp putty knife. Because the mortar is abrasive, take care not to scratch the glass.

How To Clean the Frame

Remove light stains with a mild, non-abresive household cleaner and a soft cloth. Apply the cleaning solution to a damp cloth, not to the frame. Wipe the soiled frame surfaces to remove dirt build up. For heavily soiled areas use light pressure on the damp cloth. Rinse the exterior surfaces of the frame with a clean water.

Do not use a dry cloth to wipe the frame. This causes static electricity to build up, which attracts dust and dirt to the frame.

For grease or oil stains, use 99% isopropyl alcohol or mineral spirits, but only on the immediate area of the stain.

Avoid aggressive cleaning methods such as sandpaper or steel wool: these will damage the smooth surface. Do not use solvents such as acetone or paint thinner: these could affect the color of the frame.

Scratches and dents can only be removed by qualified trades people.

A Word About Windows And Doors That Open

Keep the channel groove in the base of the frame free of dirt and debris. Make sure the drain holes are not blocked with dirt or debris. Blocked drain holes can affect the performance of the window.

Ventilation

Your new SA-FE windows are extremely air tight. If your home was not designed with a continuous fresh air ventilation system, you may need to open your windows regularly to make sure that your living area is well ventilated and to prevent condensation.

You will find ventilation is comfortable and efficient when you open your windows in the Tilt position.

Condensation And Household Humidity

Warm air can hold much more water vapor than cold air. Condensation will occur when warm moist air makes contact with a cold surface. You can see this on a mirror in a bathroom. As the air cools, it releases the moisture onto the cold surface, and drops of water will appear.

Condensation depends on two factors: the relative humidity inside your home, and the temperature of the interior surface of your windows.

There are two things you can do to reduce the occurrence of condensation. The first thing is to choose energy efficient windows with glass that keeps the heat in your home. Energy efficient windows stay warmer in the winter. The second thing you can do is to reduce the humidity in your home.

Condensation is not always a sign of poor quality windows. New homes are often built very air tight, and may therefore have higher humidity levels than older homes. Condensation is more common on the indoor side of windows and doors. It can also appear on the outdoor side of very energy efficient windows.

What are some of causes of humidity in the home? Warm room temperature increases the moisture carrying capacity of the air. Plants release large quantities of water vapor. Certain cooking methods also release much moisture into the household air. Humidifiers, interior fountains, large fish tanks, and clothes dryers not vented to the exterior all contribute to high levels of household humidity.

If your SA-FE windows show room side condensation, consider how you could reduce the humidity level in your home. This will control the condensation. When the outoor temperature is very low, even eneergy efficient windows will get colder, and condensation may appear.

The chart to the left shows the general relationship between interior humidity and the occurrence of condensation when the outside air temperature is low. The actual conditions under which condensation can occur depend on a number of factors, such as the type of glass in the windows, the air tightness of the home, the size of the windows and the position of the windows within the wall, the presence of blinds or window shades, and the interior humidity. In most cases, the interior humidity is the only factor which is under the homeowners control.

Outside temperature		Approximate interior humidity at which condensation occurs
Fahrenheit	Celsius	
40°	4°	50%
32°	0°	45%
20°	- 7°	35%
10°	- 12°	30%
0°	- 18°	25%
- 10°	- 23°	20%
- 20°	- 30°	15%

Blind Installation

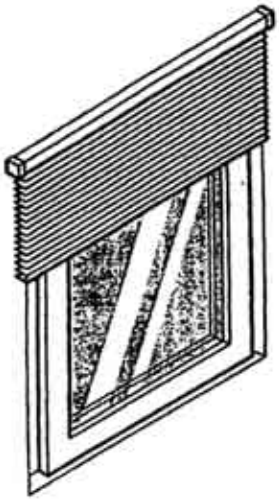
When choosing blinds for your SA-FE windows and doors, please remember that most SA-FE Line series windows and doors open to the interior of your home. If you choose blinds or pleated shades that stack vertically, you need to make sure that when the blinds are raised, they will not interfere with the opening of your window or door sashes.

Most window coverings are outside mounted: they are attached to the room side of the wall above the window, and are amde to be wider than the window opening. Some window coverings can be inside mounted: vertical mini-blinds and pleated shades can be attached to the wall above the window. Inside mounted blinds and shades are made to be narrower then the window opening. Venetian mini-blinds (manual or motorized) can be mounted directly to the window framing.

Here are some things to consider when choosing the kind of blinds you will be using with your SA-FE windows and doors.

Outside Mounting

Outside mounted window coverings are attached to the room side of the wall above a window, and are made to be wider than the window opening. If the outside mounted blinds stack vertically, please make sure they are mounted high enough so that the sash can open fully when the blinds are raised. See Figure 1.



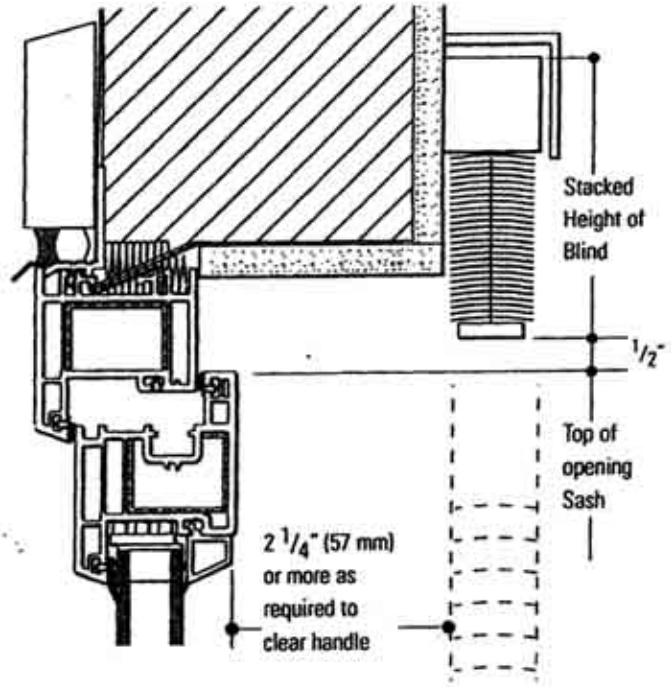
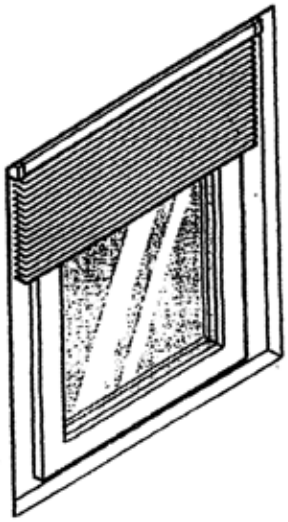


Figure 1. Outside mounted blinds

Inside Mounting

Inside mounted window coverings such as vertical mini-blinds and pleated shades can be attached to the wall above the window. If the inside mounted blinds stack vertically, please make sure they are mounted high enough so that the sash can open fully when the blinds are raised. There are two ways you can do this: order your windows and doors with a transom (see Figure 2), or have your builder frame a recessed pocket in the wall framing above your window (see Figure 3). In each case, make sure there is enough room above the inward opening sash to store the raised blinds.



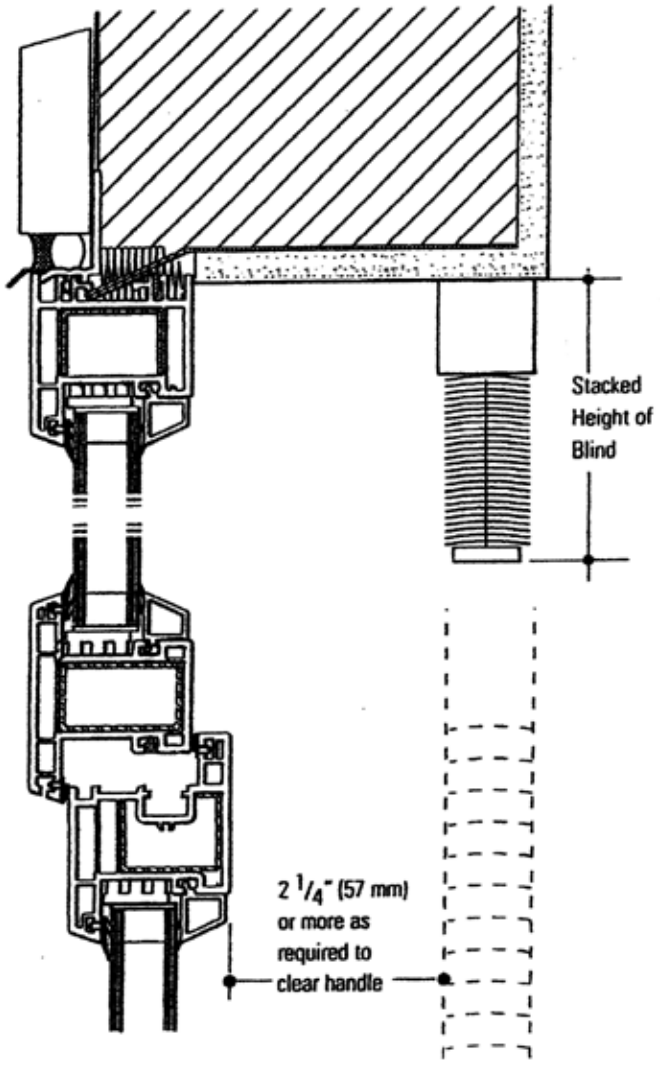
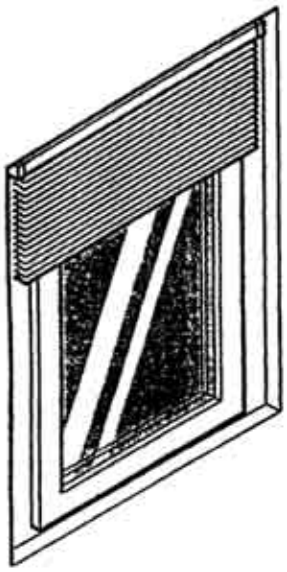


Figure 2. Inside mounted blind with transom



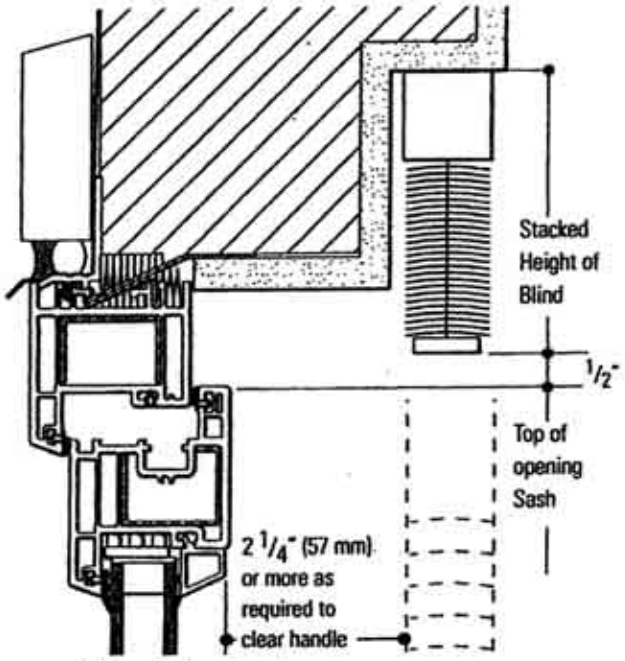
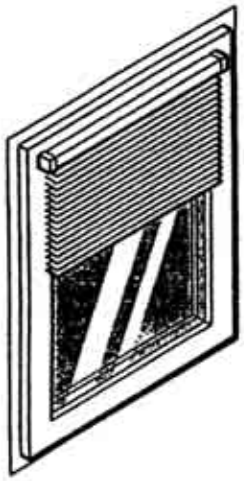


Figure 3. Inside mounted blind with framed pocket

Frame Mounting

You can mount the blinds to the face of the window or door sash. You can also partially recess the blinds so that they only cover the glass. It is easier to mount the blinds to the face of the sash, and with this method minor variations in blind width will be less noticeable. See Figure 4.

Frame mounted blinds on window or door sashes will hang vertically when these are open in the Tilt position, unless they have side channels or retaining wires.



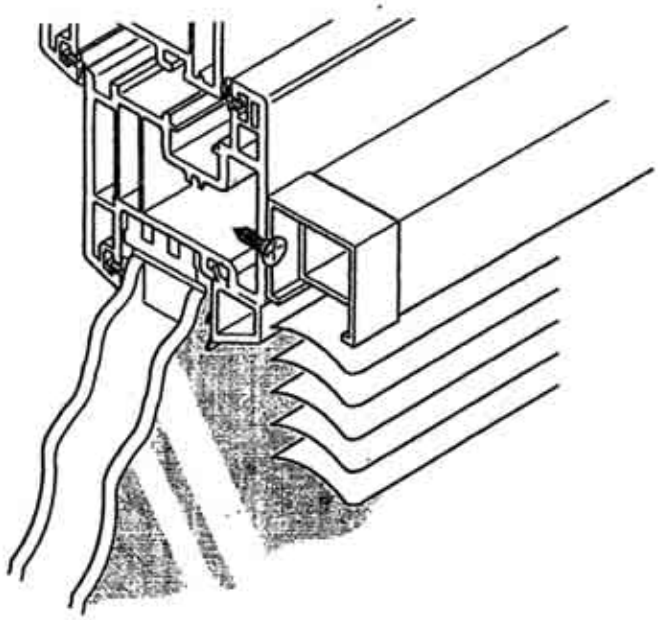
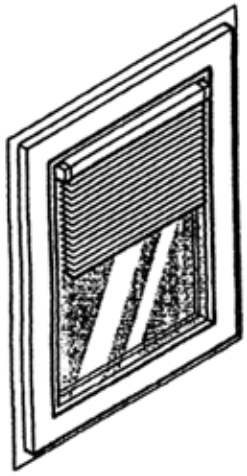
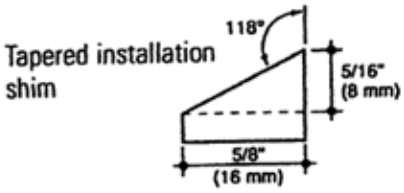


Figure 4. Blind mounted to face of sash





Partially recessed mounting requires the blind installer to provide tapered installation shims. This kind of mounting needs to be measured very carefully (see Figure 5). SA-FE does not recommend this method for the do-it-yourselfer.

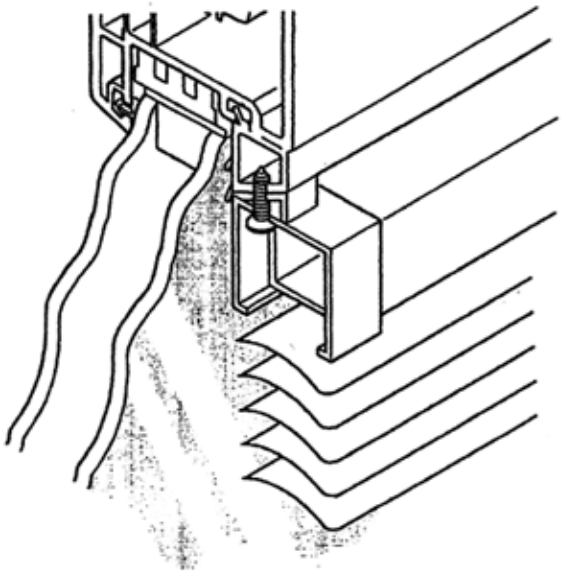
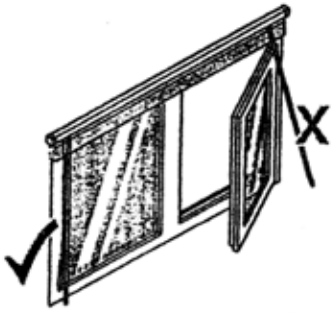


Figure 5. Partially-recessed blind

A Few More Things To Consider

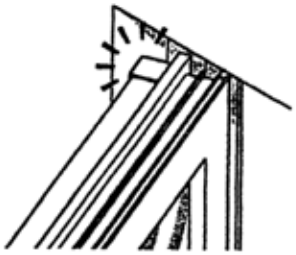
Wand and Cord Location

Consider the position of tilt wands and lift cords. These should be located where they will not interfer with sash opening



Wall Interference

Face mounted blinds hinged against a wall will the wall before the sash is fully opened. You can order a stay arm to limit how far the sash is open, but the sash will only be able to open about 45°.



Handle Clearance

When measuring for face mounted blinds, allow for the width of the operating handle and base plate.

Environmental Considerations

There are several things you should consider before you choose to use frame mounted blinds.

Because the blinds hang close to the glass, they can effect the window in several ways. In winter, they may have shield the glass surface from room heat and increase the incidence of condensation. In winter and summer, they may trap solar heat against the glass and increase the risk of thermal glass breakage. Thermal breakage is less likely with clear glass, but should be considered when the windows have heatabsorbing tinted or reflective glass, or high performance low-E coated glass.

These effects also depend a great deal on the local climate. Consult your blind supplier for their experience in your area before you decide to use frame mounted blinds.

Hung Sash

The Dual Action Tilt & Tilt hardware is intelligently designed to allow either Tilt or Turn operation at one time. A controller switch located on the handle side of the sash, makes sure that you cannot operate the SA-FE-Handle when the sash is open.

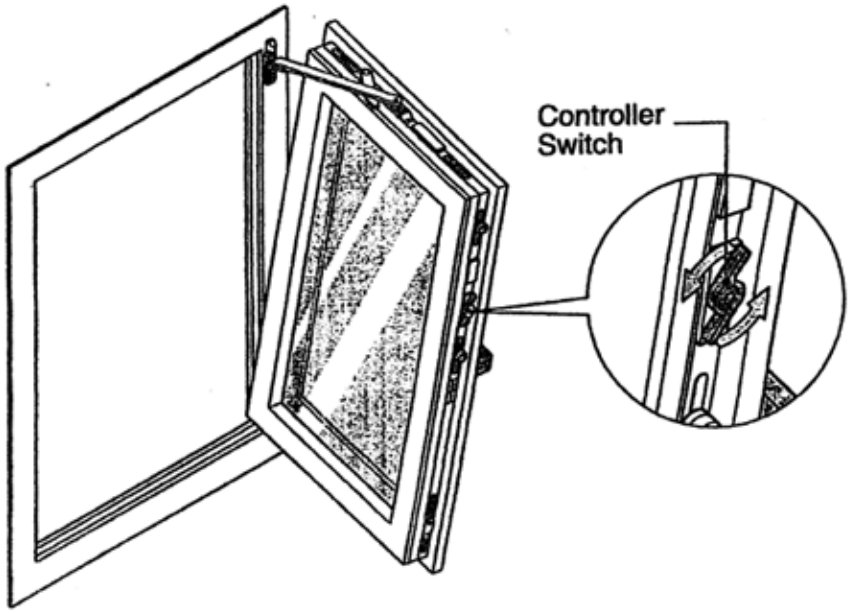
It is possible, but not common, to "hang" a sash in both the Tilt and Turn position at once. This may occur if you accidentally press the controller switch and rotate the SA-FE-Handle with the sash open.

If you accidentally hang the sash, you can easily reset ist position.

How to Reset a Hung Sash

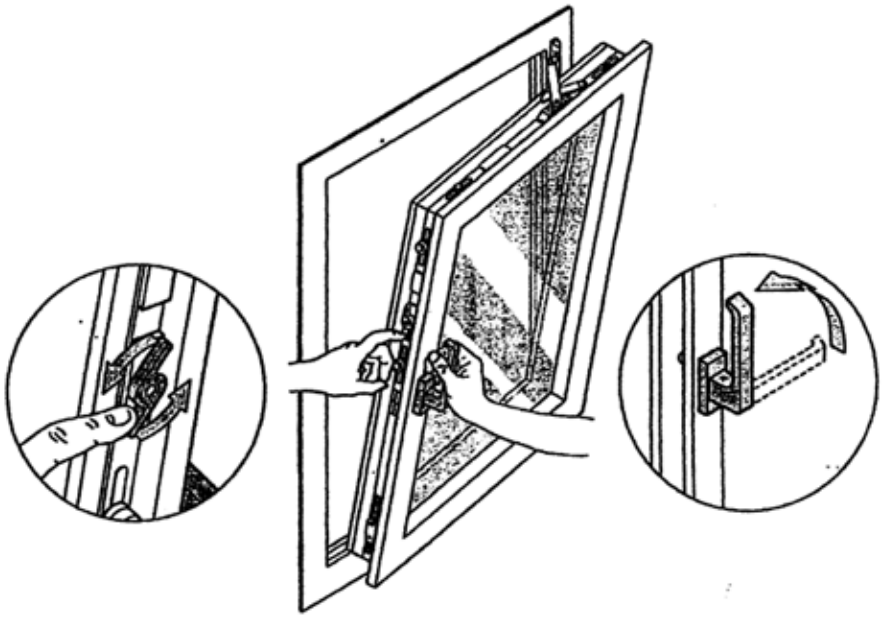
1. Find the controller switch on the edge of the handle side of the open sash.

   The position of the switch can be higher or lower then you see in this illustration.

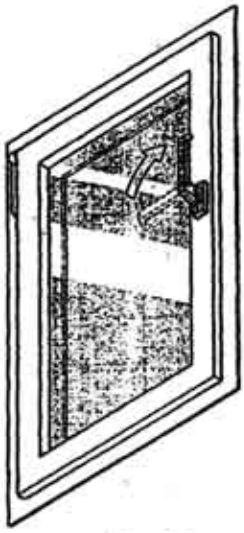


2. Press and hold the controller switch with one hand. Use your other hand and rotate the SA-FE-Handle to the Tilt position.

3. Release the controller switch.

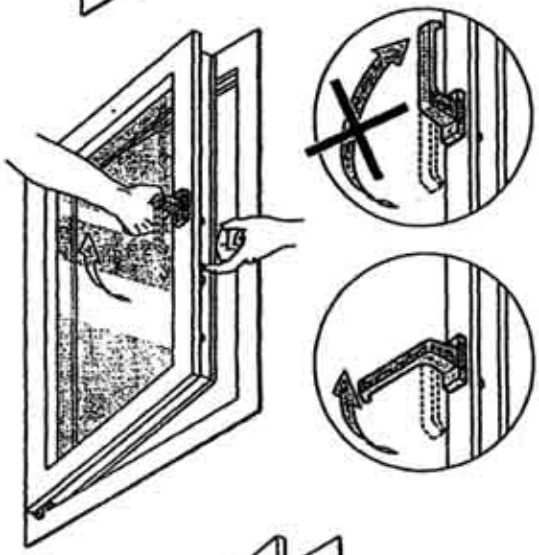


4. Gently push and hold the top corner of the hinge side of the sash in position against the frame. Do not close the sash yet.



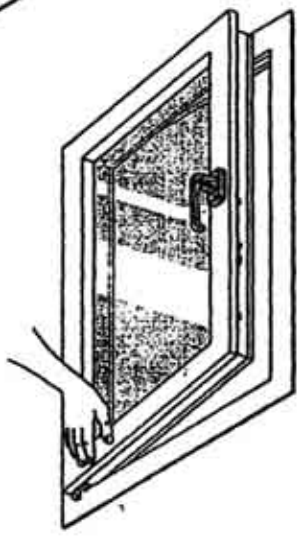
WARNING

When you press the controller switch, DO NOT rotate the SA-FE-Handle to the Lock position. DO NOT try to close the sash with the SA-FE-Handle in the Lock position. You can cause permanent damage to the frame or hardware.



5. Press and hold the controller switch with one hand. Use your other hand and rotate the SA-FE-Handle to the Tilt position.

6. Release the controller switch. Press and hold the controller switch



7. Close the sash.Rotate the SA-FE-Handle to the lock position.

Congratulations!
You have reset the hang sash!

Smooth Operation

The European hardware supplied with your windows and doors will give you many years of trouble-free service. Lubricate your hardware once a year with a light, petroleum-based oil to maintain ist factory-smooth opeartion.

Tilt & Turn Windows and Doors

Lubricate the upper bar hinge and all of the locking cams.

Hinged Doors

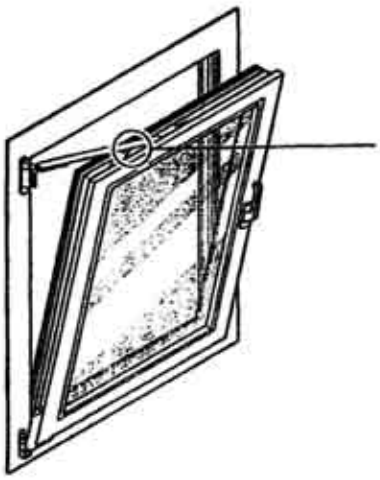
Lubricate all of the locking cams.

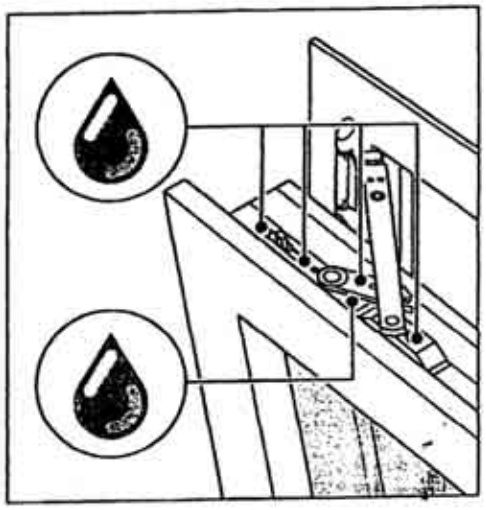
Tilt & Glide Windows and Doors

Lubricate all of the locking cams.

How to Lubricate the Upper Hinge (Tilting Sashes Only)

1. Open the sash to the Tilt position.
2. Apply oil to the moving parts of the bar hinge assembly.
3. Close the sash. Rotate the handle between the Lock, Tilt and Turn position several times.

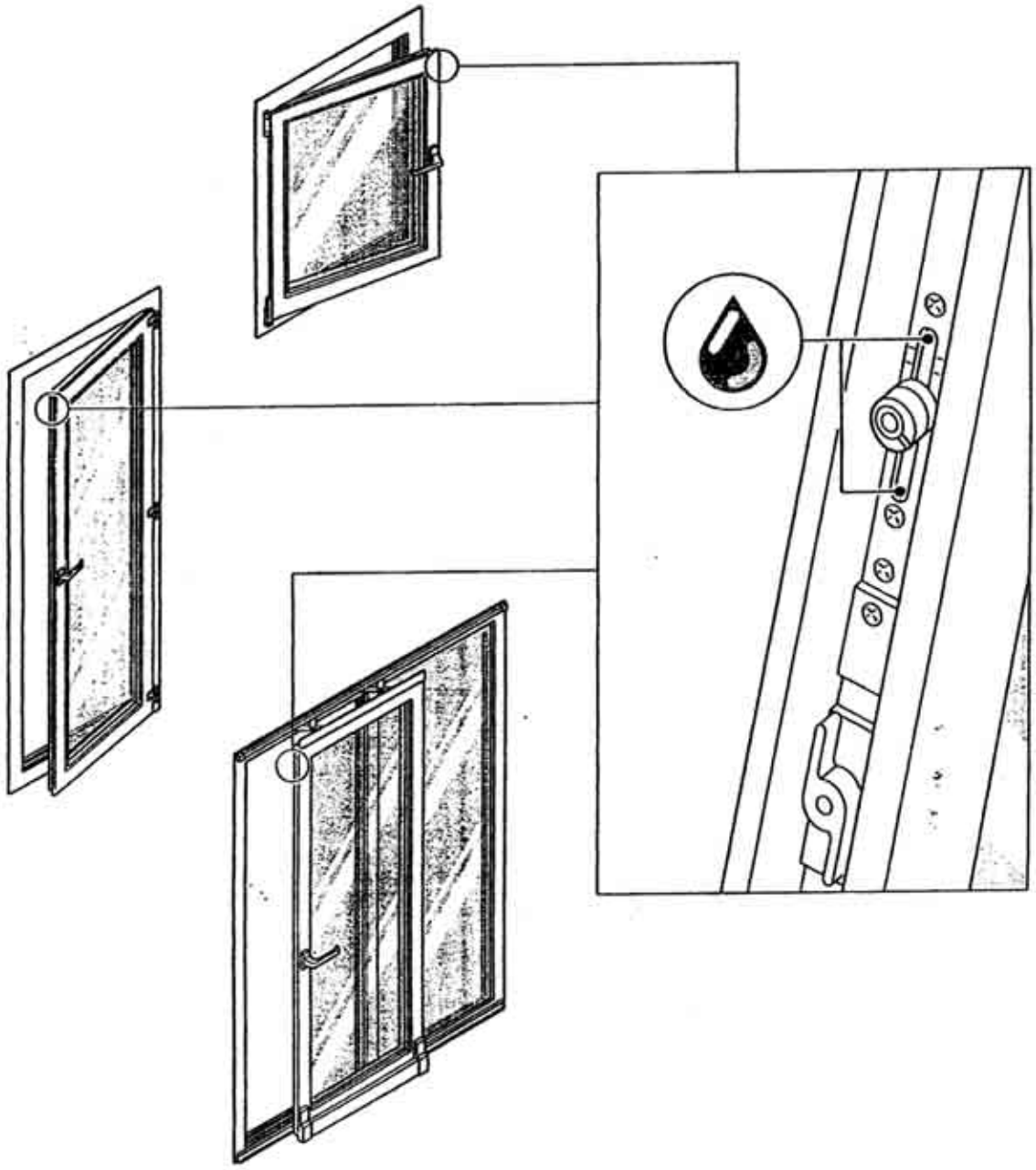




How to Lubricate the Locking Cames (All Sashes)

All SA-FE sashes with multipoint locks have several locking cams around the perimeter of each sash. Locking cams may be located on the top, sides, or bottom of a sash.

1. Open the sash to the appropriate position (Tilt, Turn or Glide) and find the location of each locking cam.
2. Apply oil to the slots on both sides of the locking cam heads.
3. Close the sash. Rotate the handle between the lock and Open positions several times.



Tilt & Turn Hardware Adjustments

Tools Required:
2.5 mm allen key
4 mm allen key

With SA - FE unique Tilt and Turn hardware system you can adjust window or door sashes to compensate for the effects of small settlements, heavy use, and for wear of the hardware components and the sealing gaskets. These adjustments allow you to maintain the performance of your windows and doors much longer than conventional hardware systems allow.

Sash Binding Problems?

The sash may bind against the fixed frame at one or more points after the building settles, or because of heavy use. You can increase the clearance between the frame and the sash with one or more of these three adjustments:

Adjustment 1 : Upper Hinge Offset
Adjustment 2 : Sash Height
Adjustment 3 : Lower Hinge Offset

Closing Tightness Problems?

The sash may close less tightly after many years of use. These adjustments make the sash close more tightly or less tightly. To reduce air leakage around the sash, make the sash close more tightly. To make the SA - FE - Handle easier to operate, make the sash close less tightly.

You can increase or decrease the closing tightness with one or more of these adjustments:

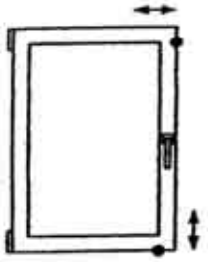
Adjustment 4 : Locking Cam Closing Tightness
Adjustment 5 : Shear Closing Tightness
Adjustment 6 : Corner Drive Closing Tightness

How To Correct Sash Binding Problems?

Use a 4 mm allen key for Adjustments 1-3. For all of these adjustments, first turn the allen screw ¼ turn, then operate the sash to see if you have corrected the problem. Repeat if necessary: turn the screw approximately ¼ turn each time, until the sash stop binding.

When you correct the binding with one adjustment, you may cause the sash to bind in another place. You may have to make more then one adjustment to correct all of the binding problems.

Adjustment 1 : Upper Hinge Offset

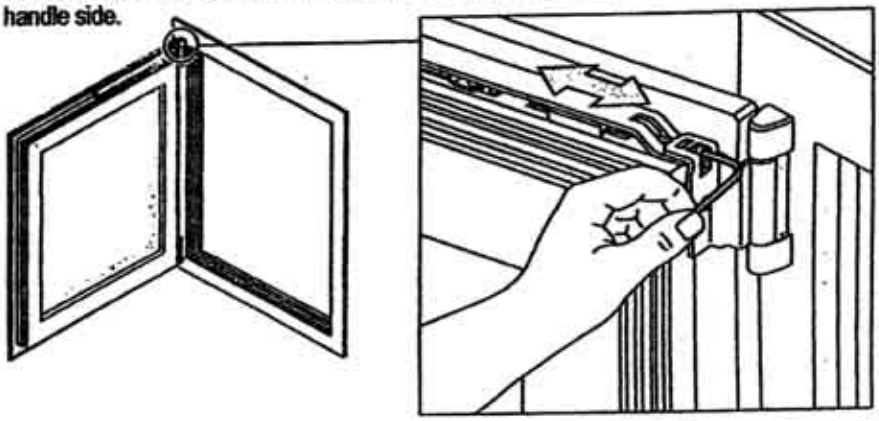


If the sash binds at one of these locations, use this adjustment to "tilt" the sash towards the upper hinge.

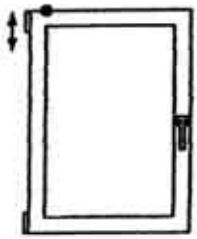
Maximum adjustment: Raises the bottom corner of the sash 3 mm. Lowers the bottom corner of the sash 1.5 mm.

This adjustment moves the top of the sash towards the upper hinge or away from it.

With the SA-FE -Handle in the Turn position, open the sash as far as it will open. Insert the 4 mm allen key into the head of the screw at the end of the shear arm. To tilt the sash towards the upper hinge, rotate this screw in a counter-clockwise direction. This raises the bottom corner of the sash on the handle side. To tilt the sash away from the upper hinge, rotate the screw in a clockwise direction. This lowers the bottom corner of the sash on the handle side.



Adjustment 2 : Sash Height

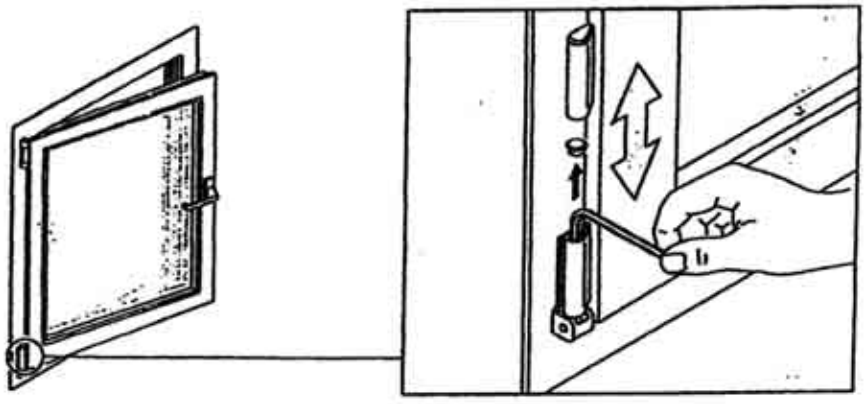


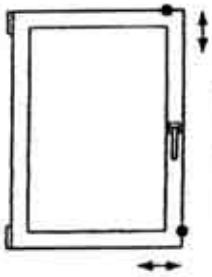
If the sash bind at the top when you open it in the Tilt position, use this adjustment to lower the sash.

Maximum adjustment: Raises the sash 3 mm. Lowers the sash 3 mm.

This adjustment raises or lowers the sash.

With the SA-FE-Handle in the Turn position, open the sash approximately 2" (50 mm). Remove the plastic cover from the top of the lower hinge body. Insert the 4 mm allen key into the top of the exposed screw head. To raise the sash, rotate the screw in a clockwise direction. To lower the sash, rotate the screw in a counter-clockwise direction. After adjusting, check that the tilt function operates correctly.





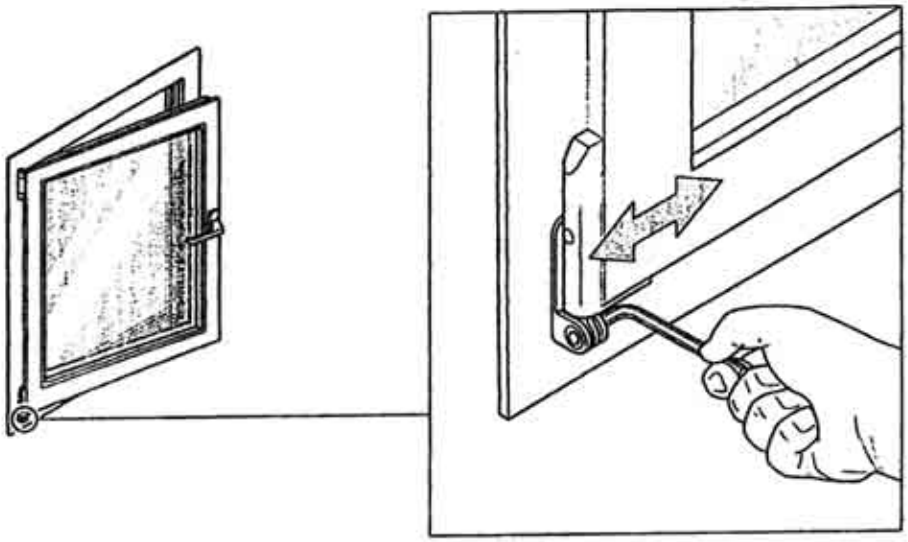
If the sash binds at one of these locations, use this adjustment to "tilt" the sash towards the lower hinge.

Adjustment 3: Lower Hinge Offset

Maximum Adjustment: Moves the sash 2 mm to the right. Moves the sash 2mm to the left.

This adjustment moves the bottom of the sash towards the lower hinge, or away from it.

With the SA-FE-Handle in the turn position, open the sash (approx. 2" / 50 mm). Insert the 4 mm allen-key into the pivot screw below the lower hinge. To move the sash towards the hinge, rotate the screw in a clockwise direction. This lowers the top of the sash. To move the sash away from the hinge, rotate the screw in a counter-clockwise direction. This raises the top of tha sash.



How To Correct Closing Tightness Problems

Use these adjustments to reduce air leakage around the sash, or to make the SA-FE-Handle easier to operate.

If you have an air leakage problem, you need to adjust the hardware that is closest to the location where the air leaks in. First, try to correct the problem by increasing the closing tightness of the nearest locking cam using Adjustment 4. If this does not correct the problem, you will need to do one of the adjustments that follow. If the air leaks at the corner at the upper hinge, inrease the closing tightness using Adjustment 5. If the air leaks at the corner of the sash below the handle, increase the closing tightness using Adjustment 6. If you have air leakage at another location, increase the closing tightness of the nearest locking cam(s) using Adjust.4. Do not increase the closing tightness any more than you need to in order to control the immediate problem, or the SA-FE-Handle will become difficult to operate.

If the SA-FE-Handle is difficult to operate, use these adjustmenst to decrease the closing tightness. Do the adjustments in the following order: first, use Adjustment 4 to decrease the closing tightness of the locking cams. I fthis does not correct the problem, use Adjustment 5 to decrease the shear closing tightness. If this does not make the handle operate more easily, undo the adjustment. Then use Adjustment 6 to decrease the corner drive closing tightness.

Adjusment 4 : Locking Cam Closing Tightness

Maximum Adjustment: Moves the sash 0.8 mm towards the frame. Moves the sash 0.8 mm away from the frame.

With the SA-FE-Handle in the Tilt position, open the sash. Notice the cylindrical locking cams along the top and along both sides of the open sash. Close the sash. With the SA-FE-Handle in the Turn position, open the sash. You may also find one or more cams along the bottom of the sash.

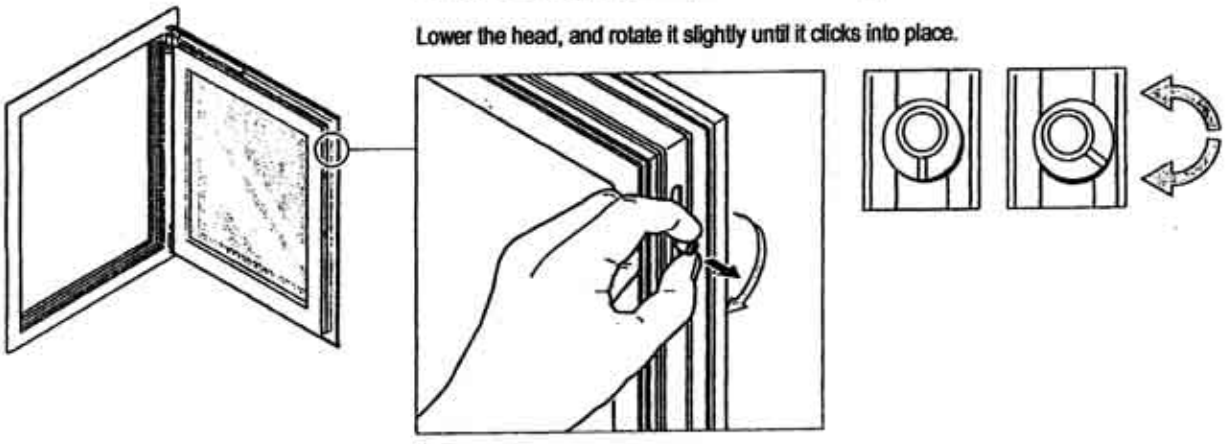
Notice that each cam has an index groove stamped onto ist head. The index groove shows the current position. Refer to the position of the index groove before you adjust a cam.

With the sash in the most convenient Tilt or Turn position, adjust the closing tightness of a locking cam as follows:

Grasp the head of the locking cam with your thumb and forefinger, and lift the head.

To increase the closing tightness, turn the head towards the room side of the sash. To decrease the closing tightness, turn the head away from the room side of sash.

Lower the head, and rotate it slightly until it clicks into place.



CAUTION

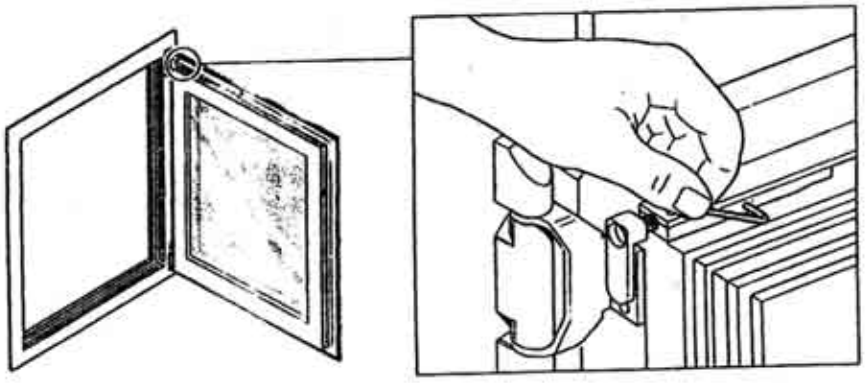
When you increase the closing tightness with Adjustments 5 and 6, the SA-FE-Handle will become more difficult to operate. Increase the closing tightness only if you have excessive air leakage.

Adjustment 5 : Shear Closing Tightness

Maximum Adjustment: Moves the sash 1.5 mm closer to the frame. Moves the sash 1.5 mm away from the frame.

Use a 2.5 mm allen key to make this adjustment. When you use the allen key, first turn the screw ¼ turn, then operate the sash to see if you have corrected the problem. Repeat if necessary: turn the screw approximately ¼ turn each time, until you correct the problem.

With the SA-FE-Handle in the Turn position, open the sash. Insert 2.5 mm allen key into the screw head on the side of the shear arm. To increase the closing tightness, rotate the screw in clockwise direction. To decrease the closing tightness, rotate the screw in a counter-clockwise direction.

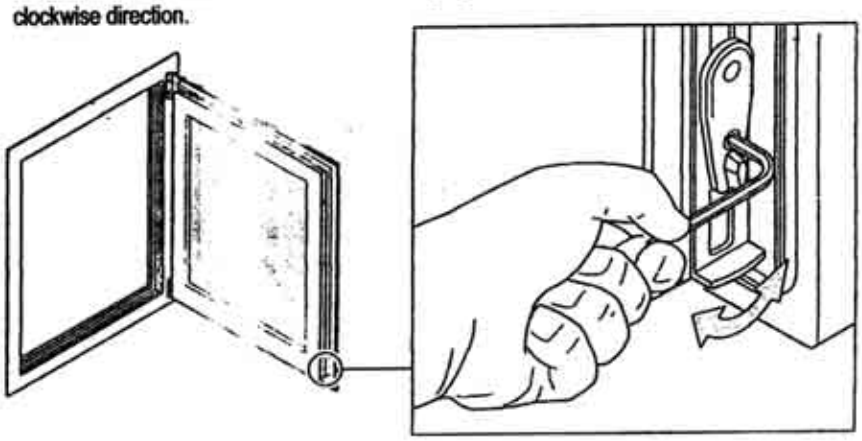


Adjustment 6 : Corner Drive Closing Tightness

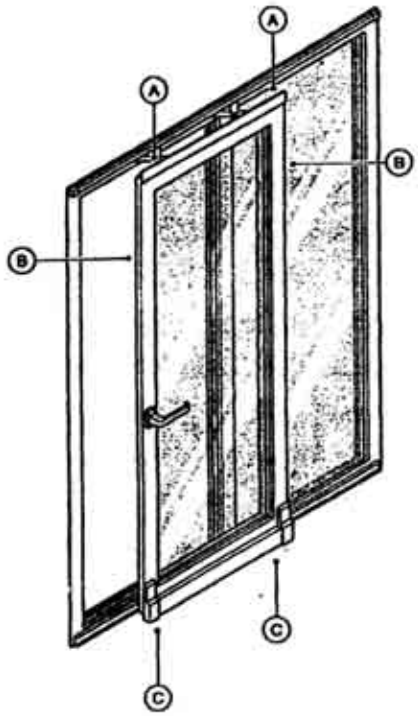
Maximum Adjustment: Moves the sash 1.5 mm closer to the frame. Moves the sash 1.5 mm away from the frame.

Use a 2.5 mm allen key to make this adjustment. When you use the allen key, first turn the screw ¼ turn, then operate the sash to see if you have corrected the problem. Repeat if necessary: turn the screw approximately ¼ turn each time, until you correct the problem.

With the SA-FE-Handle in the Turn position, open the sash. On the SA-FE-Handle side of the sash, at the bottom corner, find the screw head located on the sliding plate. Insert the 2.5 mm allen key into the screw head. To increase closing tightness, rotate the screw in the clockwise direction. To decrease the closing tightness, rotate the screw in a counter-clockwise direction.



Tilt & Glide Door Hardware Adjustments



Tools Required :

17 mm wrench
4 mm allen key

With SA-FE's unique Tilt & Glide hardware system you can adjust window or door sashes to compensate for the effects of settling, heavy use, and for wear of the hardware components and the sealing gaskets. These adjustments allow you to maintain the performance of your windows and doors much longer than conventional hardware systems allow.

Sash Binding Problems?

The sash may bind against the fixed frame at one or more points after the building settles, or because of heavy use. You can increase the clearance between the frame and the sash with Adjustment 1: Gliding Shoe Height.

Closing Tightness Problems?

The sash may close less tightly after many years of use. These adjustments make the sash close more tightly or less tightly. To reduce air leakage around the sash, make the sash close more tightly. To make the SA-FE -Handle easier to operate, make the sash close less tightly.

You can increase or decrease the closing tightness with Adjustment 2: Locking Cam Closing Tightness.

How To Correct Sash Binding Problems

There are two gliding shoes on a sliding sash. This adjustment raises or lowers the side of the sash nearest to the gliding shoe. When you raise or lower the sash on only one side, you make the sash tilt. When you raise or lower the sash differently on each side, you also make the sash tilt.

If the bottom of the sash binds against the frame (see Figure,Item C), use this adjustment on both shoes to lift the bottom of the sash. If the top of the sash binds against the frame (see Figure, Item A), use this adjustment on both shoes to lower the sash. To move the sash straight up or straight down, adjust both shoes by the same amount.

If the side edge of the sash binds against the frame on either side (see Figure Item B), use this adjustment to tilt the sash away from the location where the sash is binding. To Tilt the sash away from the frame, raise the sash on the same side, or lower the sash on the other side. To increase the degree on tilt, raise the sash on one side and lower the sash on the other side.

When you correct the binding with one adjustment, you may cause the sash to bind in another place. You may have to make more then one adjustment to correct all of the binding problems.

Adjustment 1: Gliding Shoe Height

Maximum Adjustment: Raises the sash 3 mm. Lowers the sash 3 mm.

This procedure shows you how to adjust the sash height on one gliding shoe. If you want to move the sash straight up or straight down, adjust the sash height on both gliding shoes by the same amount. If you want to tilt the sash to correct binding problems on the sides of the sash, you may only need to raise or lower the sash on one gliding shoe. You may also need to raise the sash height on one gliding shoe, and lower it on the other.

Remove both end caps from the hardware cover (see fig. 1).

Remove the hardware cover. Press down on the top of the cover with one hand, and gently pull the bottom of the cover away from the sash, until it "clicks". Do not use force, or you will damage the cover (see fig. 2). Now lift the cover straight up (see fig.3).

Use the 17 mm wrench to loosen the lock nut on top of the gliding shoe (see fig. 4).

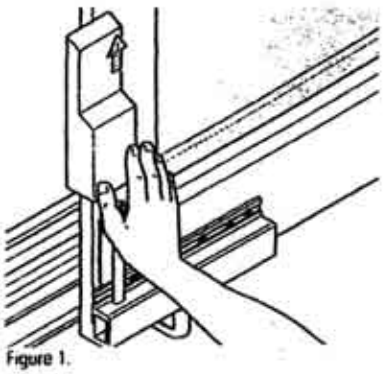


Figure 1.

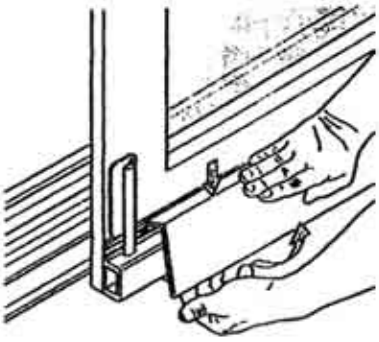


Figure 2.

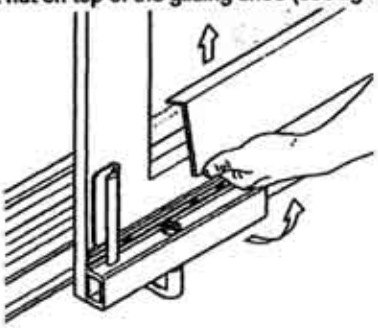


Figure 3.

Insert the 4 mm allen key into the top of the adjusting screw. Turn the screw in a clockwise direction to raise the sash. Turn the screw in a counter-clockwise diredtion to lower the sash (see fig. 5).

Turn the allen screw ¼ turn at first, then operate the sash to see if you have corrected the problem. Repeat if necessary: turn the screw approximately ¼ turn each time, until the sash stops binding.

Use the 17 mm wrench to tighten the lock nut on the side of the gliding shoe (see fig.4).

Replace the hardware cover. First, hang the top of the cover on the gliding shoes. Then press downwards on the face of the cover until it clicks in place (see fig. 6).

Replace the end caps (see fig. 6).

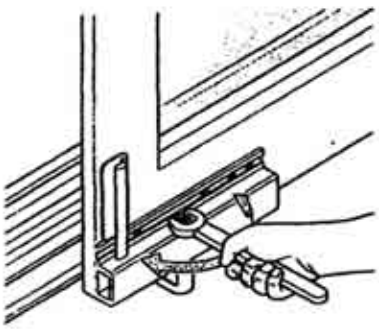


Figure 4.

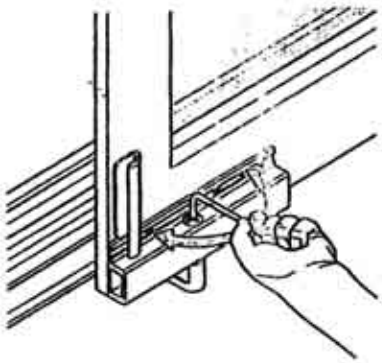


Figure 5.

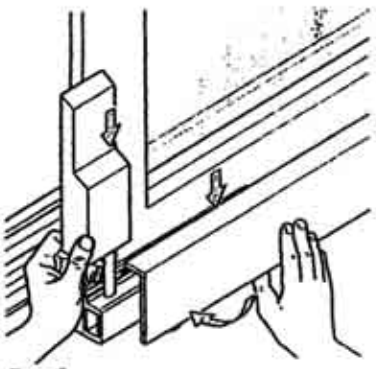


Figure 6.

How To Correct Closing Tightness Problems

Use this adjustment to reduce air leakage around the sash, or to make the SA-FE-Handle easier to operate.

If you have air leakage at any point around the sash, increase the closing tightness of the nearest locking cam(s) using Adjustment 2. Do not increase the closing tightness any more then use need to in order to control the immediate problem, or the SA-FE-Handle will become difficult to operate.

If the SA-FE-Handle is difficult to operate, use Adjustment 2 to decrease the closing tightness of the locking cams.

Adjustment 2 : Locking Cam Closing Tightness

Maximum Adjustment: Moves the sash 0.8 mm towards the frame. Moves the sashe 0.8 mm away from the frame.

With the SA-FE-Handle in the Glide position, open the sash. Notice the cylindrical locking cams along the top and along both sides of the open sash. There are also at least two locking cams on the underside of the sash.

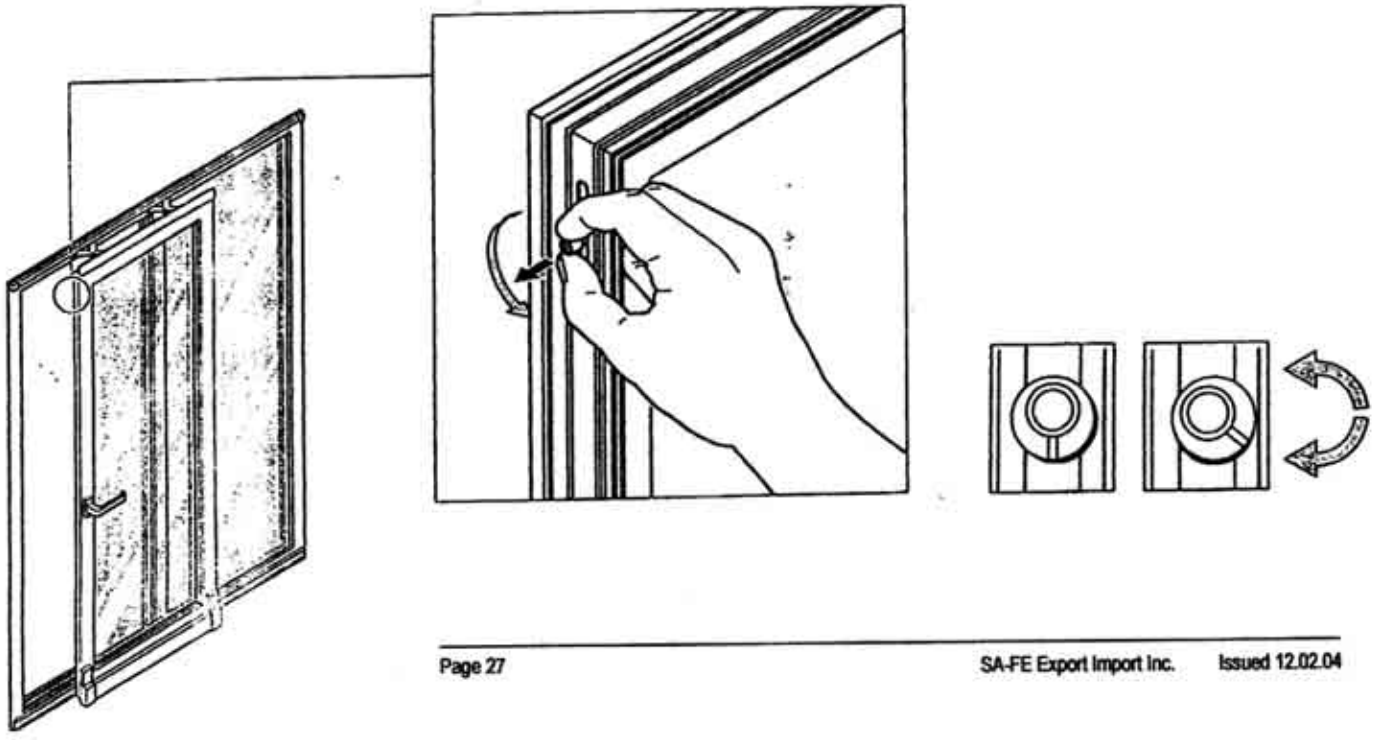
Notice that each cam has an index groove stamped into ist head. There are eight different positions for each locking cam head.The index groove shows the current position. Refer to the position of the index groove before you adjust a cam.

With the sash open in the Glide position, adjust the closing tightness of a locking cam as follows:

Grasp the head of the locking cam with your thumb and forefinger, and lift the head.

To increase the closing tightness, turn the head towards the room side of the sash. To decrease the closing tightness, turn the head away from the room side of the sash.

Lower the head, and rotate it slightly until it clicks into place.



Hinged Door Hardware Adjustments

With SA-FE's unique hinged door hardware system you van adjust door sashes to compensate for the effects of settling, heavy use, and for wear of the hardware components and the sealing gaskets. These adjusments allow you to maintain the performance of your doors much longer than conventional hardware system allow.

Tools Required:
3 mm allen key
5 mm allen key

Sash Binding Problems?

The sash may bind against the fixed frame at one or more points after the building settles, or because of heavy use. You can increase the clearance between the frame and the sash with one or both of these adjustments:

Adjustment 1: Vertical Clearance
Adjustment 2: Horizontal Clearance.

Closing Tightness Problems?

The sash may close less tightly after many years of use. These adjusments make the sash close more tightly or less tightly. To reduce air leakage around the sash, make the sash close more tightly. To make the SA-FE-Handle easier to operate, make the sash close less tightly.

You can increase or decrease the closing tightness with one or more of these adjustments:

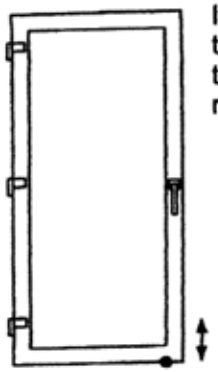
Adjustment 3: Locking Cam Closing Tightness
Adjustment 4: Hinge Closing Tightness.

How To Correct Sash Binding Problems

Use a 5 mm allen key for Adjustments 1-2. For each adjustment, first turn the allen screw ¼ turn, then operate the sash to see if you have corrected the problem. Repeat if necessary: turn the screw approximately ¼ turn each time, until the sash stops binding.

When you correct the binding with one adjustment, You may cause the sash to bind in another place. You may have to make more then one adjustment to correct all of the binding problems.

Adjustment 1 : Vertical Clearance



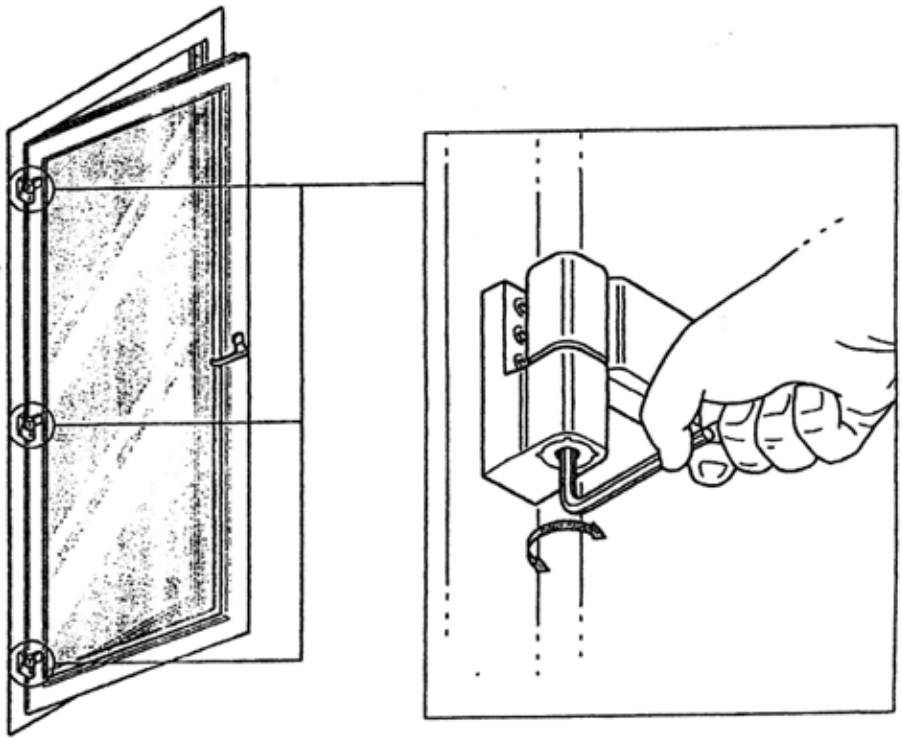
If the sash binds at the bottom, use this adjustment to raise the sash.

Maximum Adjustment: Raises the sash 4 mm from the factory setting.

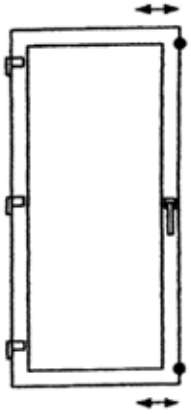
This adjustment moves the sash up or down.

Open the sash approximately 2" (50 mm). Insert the 5 mm allen key into the recessed screw head in the bottom of the hinge.To raise the sash height, rotate the screw in a clockwise direction. To lower the sash height, rotate the screw in a counter-clockwise direction.

Make sure that you raise or lower all three hinges by the same amount.



Adjustment 2 : Horizontal Clearance



If the sash binds at the handle side, use this adjustment to move the sash towards the hinges.

Maximum Adjustment: Moves the sash 5 mm to the left. Moves the sash 5 mm to the right.

This adjustment moves the sash from side to side.

How To Remove The Security Cover

Most SA-FE pivot hinges have a tamperproof security cover. One or more concealed screws hold the cover in place. To find the concealed screws, open the sash 90 . The holes leading to the screw(s) are on the back side of the hinge body. Use a 3 mm allen key to remove the screw(s).

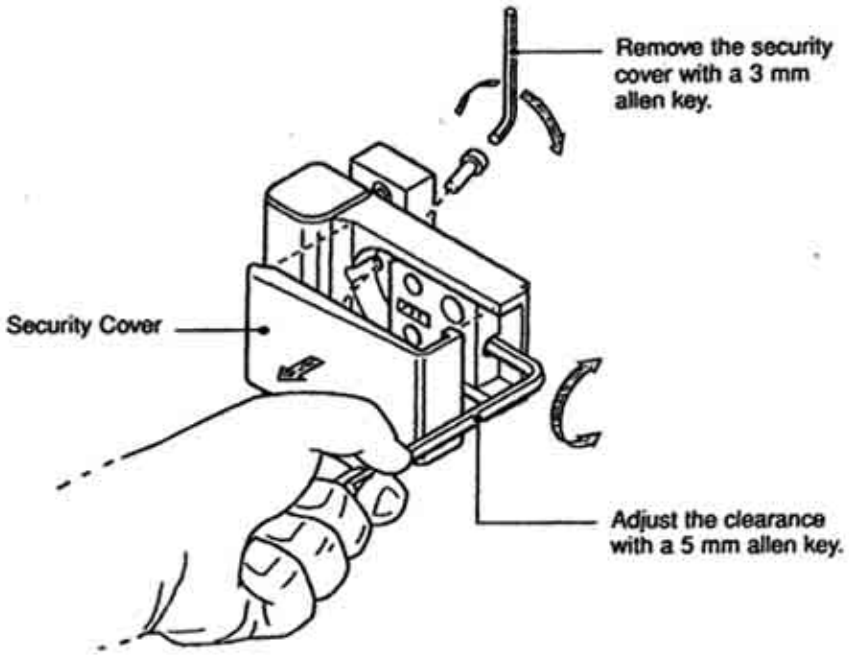
How To Make The Horizontal Clearance Adjustment

CAUTION

Do not adjust the sash more than 2 mm to the left or 2 mm to the right. If you adjust the sash more then 2 mm, you will reduce the coverage of the sealing gaskets.

Open the sash approximately 2" (50 mm). Insert the 5 mm allen key into the recessed screw head on the edge of the hinge body. To move the sash away from the hinge, rotate the screw in a clockwise direction. To move the sash towards the hinge, rotate the screw in a counter-clockwise direction.

Make sure that you adjust all three hinges by the same amount.



There are different hinge styles. The hinge may not look exactly as shown.

How To Correct Closing Tightness Problems

Use these adjustments to reduce air leakage around the sash, or to make the SA-FE-Handle easier to operate.

If you have an air leakage problem, try to correct it by increasing the closing tightness of the nearest locking cam(s) using Adjustment 3. If this does not correct the problem because the air leakage occurs at a hinge, increase the closing tightness of that hinge using Adjustment 4. Do not increase the closing tightness any more then you need to in order to control the immediate problem, or the SA-FE-Handle will become difficult to operate.

If the SA-FE-Handle is difficult to operate, use Adjustment 3 to decrease the closing tightness of the locking cams.

Adjustment 3 : Locking Cam Closing Tightness

Maximum Adjustment: Moves the sash 0.8 mm towards the frame. Moves the sash 0.8 mm away from the frame.

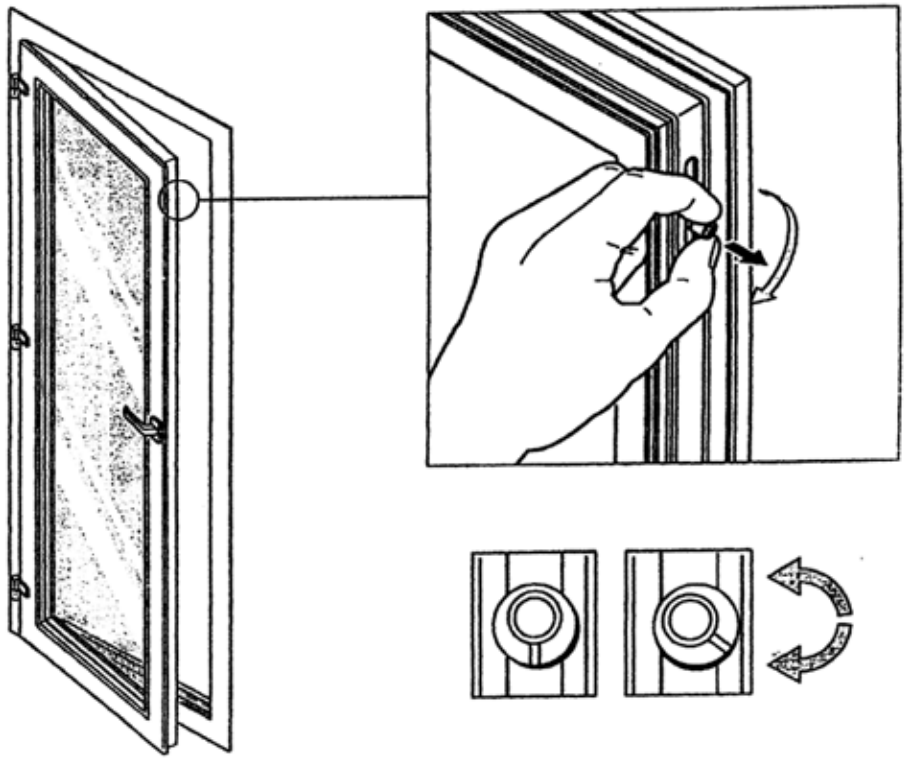
Open the sash. Notice the cylindrical locking cams along the vertical edge of the open sash. You may find one or more cams along the top or along the bottom of the sash as well. Notice that each cam has an index groove stamped into ist head. There are eight different positions for each locking cam head. The index groove shows the current position. Refer to the position of the index groove before you adjust a cam.

Adjust the closing tightness of a locking cam as follows:

Grasp the head of the locking cam with your thumb and forefinger, and lift the head.

To increase the closing tightness, turn the head towards the hinge side of the sash.
To decrease the closing tightness, turn the head away from the hinge side of the sash.

Lower the cam head, and rotate it until it clicks into place.



Adjustment 4 : Hinge Closing Tightness

Maximum Adjustment: Moves the sash 0.8 mm closer to the frame. Moves the sash 0.8 mm away from the frame.

Use a small knife blade or a flat head screw driver to remove the plastic cap from the top of each hinge.

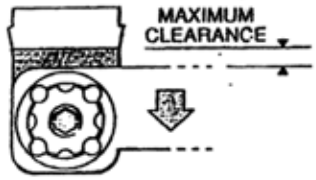
Open the sash approximately 2" (50 mm). Insert the 5 mm allen key into the recessed screw head on the top of the hinge pin. To move the sash closer to the frame or to move it farther away, rotate the screw. This adjustment also moves the sash slightly to one side or to the other. You can rotate the screw in either direction.

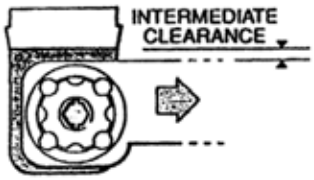
You can measure the distance between the moving part of the hinge and the fixed part of the hinge that is attached to the frame. Adjust all three hinges to the same distance. Replace the plastic cap to the top of each hinge.

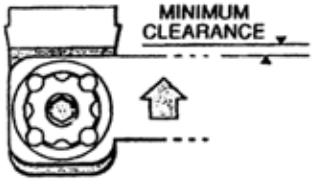
Note:
The hinge pin is mounted inside an eccentric sleeve. When you turn the screw head in the top of the hinge pin the sleeve rotates.

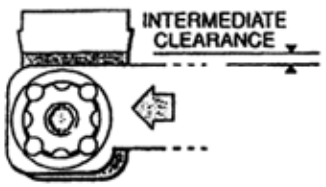
As you rotate the screw 360°, the hinge body moves in a circural path around the hinge pin: closer to the frame, to one side, then away from the frame, then to the other side, then back to the point from which you started.

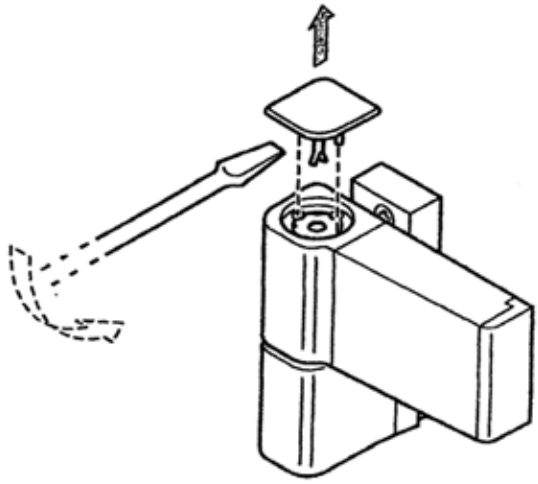
You can rotate the screw head over and over without harm.

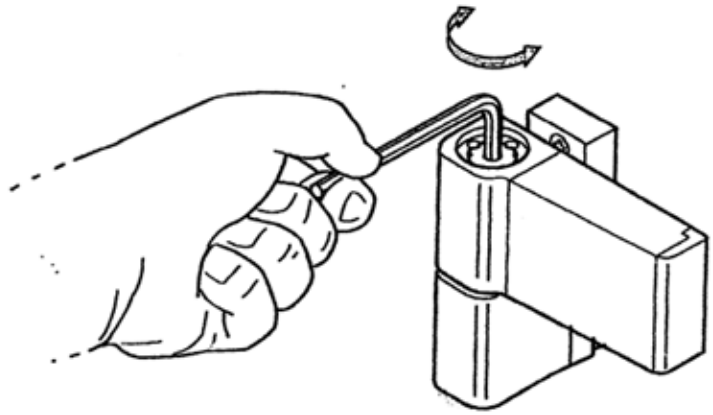












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