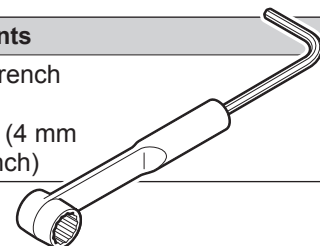


Why Adjust Hardware?

Over time, building settlement or wear of operating components can affect the performance of installed windows and doors. Innotech products have adjustable hinges and locks that allow you to correct operating problems if they occur.

Tools Needed

Clearance Adjustments	Locking Tightness Adjustments
4 mm Hex Key	4 mm Hex Key and 11 mm Wrench OR Combination Hex-socket Tool (4 mm Hex Key, 11 mm Socket Wrench)



Clearance Adjustments

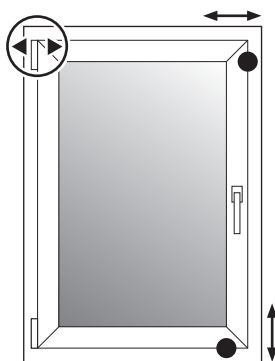
To correct sashes that catch the frame when opened and closed use one or more of these adjustments:

- Upper hinge side to side
- Bottom hinge up/down
- Lower hinge side to side

To make these adjustments use a 4 mm hex key. When making adjustments:

1. Turn the hex screw 1/4 turn.
2. Check to see if the problem is corrected.
3. Repeat this procedure in 1/4 turn increments until the problem is corrected.
4. Because each adjustment moves the entire sash, it is possible that an adjustment will free up one area and cause binding in another. You may need to make more than one adjustment to make the sash operate freely.

In the diagrams, the black dot shows the location where the sash catches against the frame or against one of the locking points. The circled area is where the adjustment is to be made.

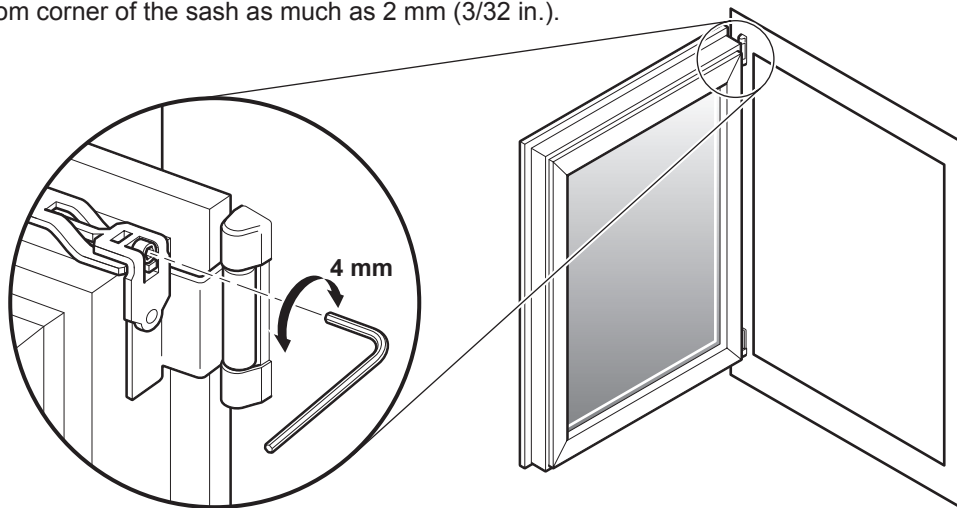


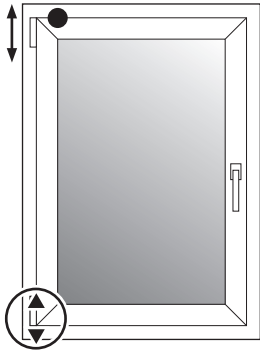
UPPER HINGE SIDE-TO-SIDE

This adjustment moves the top of the sash toward or away from the upper hinge, and also raises or lowers the free end of the sash.

1. Open the sash to swing open to one side.
2. Insert the 4 mm hex key into the screw head at the end of the stay arm.
3. Rotate in a counter-clockwise direction to raise the bottom corner of the sash on the handle side. Rotate in a clockwise direction to lower the bottom corner of the sash on the handle side.

This adjustment raises the bottom corner of the sash as much as 2 mm (3/32 in.), or lowers the bottom corner of the sash as much as 2 mm (3/32 in.).

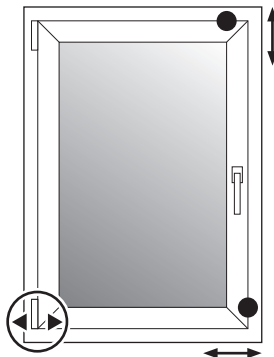
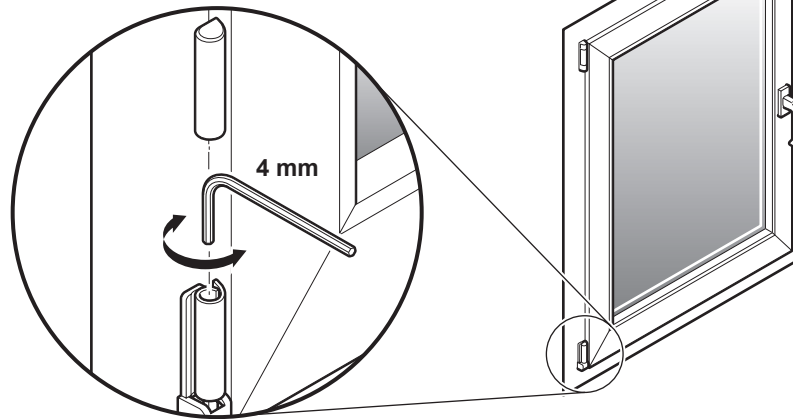




BOTTOM HINGE UP/DOWN

This adjustment raises or lowers the sash as much as 2 mm (3/32 in.) up or down.

1. Open the sash to swing open to one side.
2. Lift the plastic hinge cover by prying it up from the bottom.
3. Insert the 4 mm hex key into the exposed screw head.
4. Rotate in a counter-clockwise direction to raise the sash. Rotate in a clockwise direction to lower the sash.
5. Close the sash to see if continues to bind.
6. Open the sash in the tilt position to see if it binds.
7. Replace the plastic hinge cover.

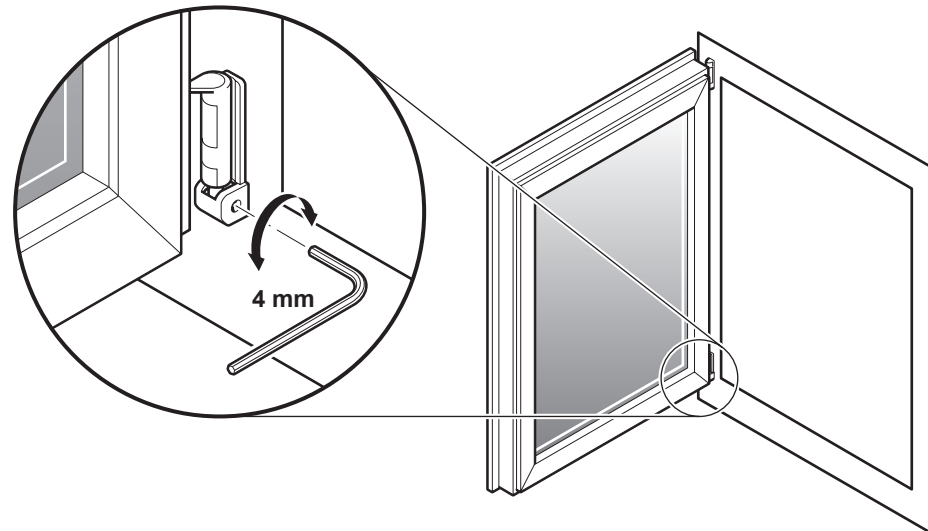


LOWER HINGE SIDE-TO-SIDE

This adjustment moves the bottom of the sash toward or away from the lower hinge and also raises or lowers the free end of the sash.

1. Open the sash to swing open to one side.
2. Insert the 4 mm hex key into the pivot screw below the lower hinge.
3. If the hinge is on the left side of the sash: rotate in a counter-clockwise direction to move the sash toward the hinge. Rotate in a clockwise direction to move the sash away from the hinge.
If the hinge is on the right side of the sash: rotate in a clockwise direction to move the sash toward the hinge. Rotate in a counter-clockwise direction to move the sash away from the hinge.

This adjustment moves the sash as much as 2 mm (3/32 in.) to the right or 2 mm (3/32 in.) to the left.



Locking Tightness Adjustments

If you discover air leaking around a closed and locked sash or have difficulty rotating the handle, use these adjustments to make the sash lock more or less tightly.

If there is noticeable air leakage, adjust the locking cam that is closest to where the air leaks in. If there is still some air leakage after you have made the adjustment, adjust the cams on either side. Do not adjust the cams any more than necessary or you may make the handle more difficult to operate.

If the handle is difficult to operate, use these adjustments to decrease the sash locking tightness.

CYLINDER CAM ADJUSTMENT

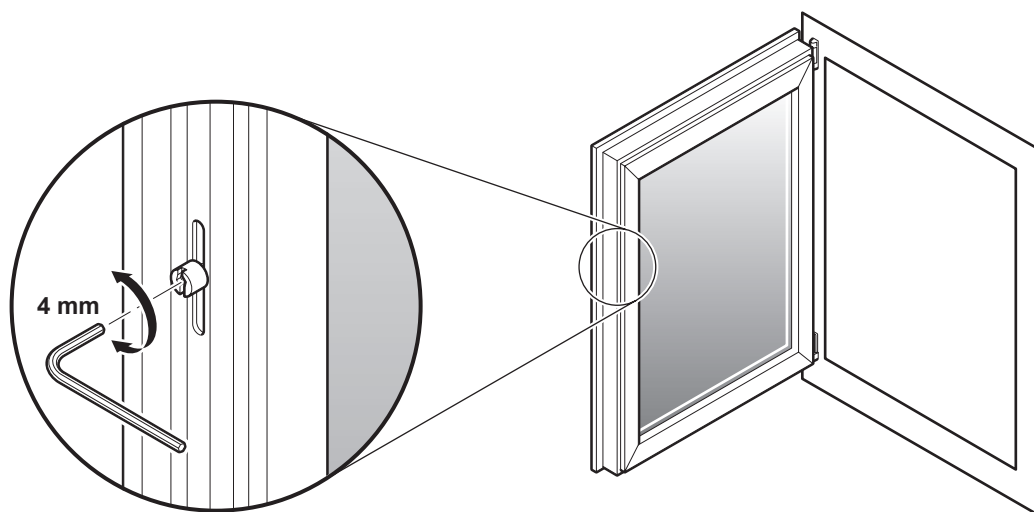
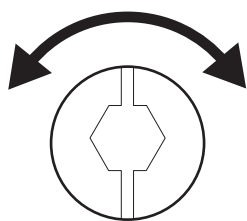
Cylinder cams are locking pins that engage when the handle is operated to open and close the sash. You will find cylinder cams along the top, sides and sometimes the bottom of an open sash.

If you look closely at the end of a cam you will see that the hexagonal socket is located off-center. When you adjust the cam it rotates about the socket. The cam also has an index groove stamped into it. Use the index groove to tell how much the cam moves with each adjustment.

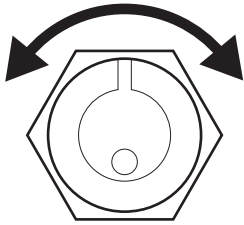
1. Open the sash to the swing or tilt position.
2. Find the cam you want to adjust.
3. Insert the 4 mm hex key into the head of the cam.
4. Turn the fat side of the cam toward the room side to increase the locking tightness. Turn the fat side of the cam away from the room side to decrease the locking tightness.

NOTE: turn the cam in 1/4 turn increments, then check the sash operation to make sure the adjustment does not make the sash difficult to lock.

This adjustment moves the sash as much as 1 mm (1/32 in.) toward or 1 mm (1/32 in.) away from the frame.



FLAT HEAD CAM ADJUSTMENT



Flat head cams are locking pins that engage when the handle is operated to open and close the sash. There are typically three flat head cams on a sash. You will find flat head cams on either side of the sash near the top, and on the bottom of the sash under the handle.

If you look closely at the end of a cam, you will see a small dot stamped into the head of the cam. When you adjust the cam it rotates about this dot. The cam also has an index groove stamped into it. Use the index groove to tell how much the cam moves with each adjustment.

Flat head cams can be adjusted with the socket head of the combination hex-socket tool. You can also adjust the hexagonal base with an 11 mm wrench.

1. Open the sash to swing open to one side.
2. Find the cam you want to adjust.
3. Use the socket head of the combination hex-socket tool or an 11 mm wrench to turn the index groove toward the room side to increase the locking tightness. Turn the index groove away from the room side to decrease the locking tightness.

NOTE: turn the cam in 1/4 turn increments, then check the sash operation to make sure the adjustment does not make the sash difficult to lock.

This adjustment moves the sash as much as 1 mm (1/32 in.) toward or 1 mm (1/32 in.) away from the frame.

