H-18 Spiral Balance (Tilt) Instructions
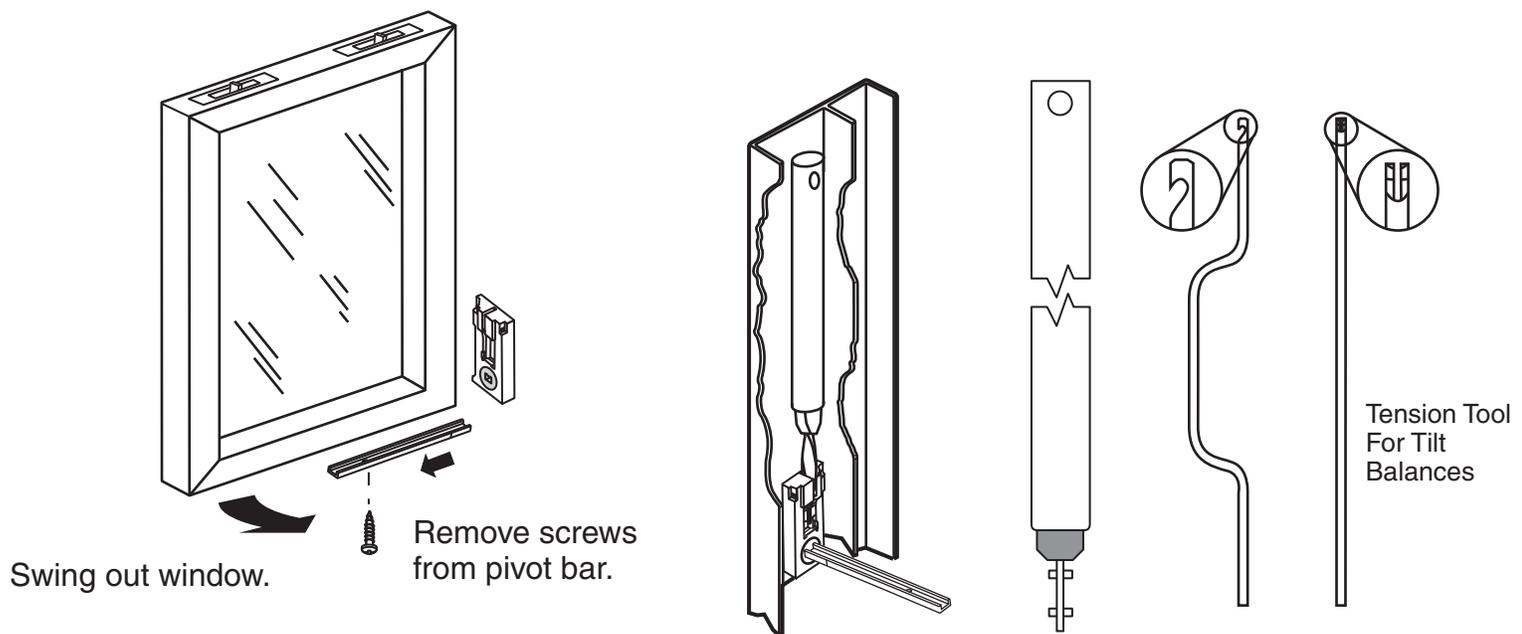

Swing out window.

Remove screws from pivot bar.

Tension Tool For Tilt Balances

Tilt Spiral Balances:

The tilt tube balance is similar to the cross-pin balance or clip balance except that there are two (2) small barrel pins near the end of the spiral rod instead of the cross-pin or the clip. A twin hook style tensioning tool is used for the tilt balance. The upper barrel pin is pulled up and locked to the top of the pivot lock shoe by means of a slot and the tension in the balance. The pivot lock shoe slides in a jamb channel and has a cam which will lock the shoe in the channel when the sash is tilted. A pivot bar is attached to the sash bottom. This bar fits into the rotating bushing of the pivot lock shoe.

Unlatch the sash and raise the window twelve to eighteen inches. Release the top latches and tilt the sash towards the inside to a horizontal position. The cams in the pivot lock shoes will be locked in the channel. Slowly raise one side of the sash two or three inches. Since the cam is locked, some force will be required to raise the side of the sash. When the sash is raised the pivot bar will disengage and the sash can be removed. Set the sash aside.

An alternative method is to have someone hold the sash or to prop it up with a stick of suitable length. Then loosen each of the screws that hold the pivot bars and slide the pivot bars towards the center of the sash. This will disengage the pivot bars from the pivot lock shoe bushing. Release the top latches, lift the sash and set it aside.

On the pivot lock shoes used with 5/8" diameter tubes, check if there is either a square or rectangular plug (also called a "T" lock). This item acts as a retainer to keep the spiral rod from rotating out of the slot due to the torque or tension in the balance. Remove the plugs. The 3/8" diameter tube does not use the plugs or screws. Now hook the tensioning tool to the lower barrel pin. Pull the spiral rod out of the slot and down so that it is free from the pivot lock shoe. Allow the rod to slowly unwind. Disconnect the tool from the spiral rod.

Remove the screw(s) and stop at the top of the balance. Next, rotate the bushing on the pivot lock shoe with a screwdriver to unlock the cam so that the pivot lock shoe can be raised to the top of the channel. Look for broken pieces of nylon at the bottom of the channel and remove them. Broken or worn shoes should be replaced.

Install the new balance. Slide the pivot lock shoe down the channel and lock it in a convenient position with a screwdriver. Set the cam keyway perpendicular to the window. Next, attach the top of the balance along with any stops or dust covers to the top of the jamb. Do the same to the opposite side except that one shoe should be 3" higher or lower than the other shoe.

The next step is to wind the spiral rod about six turns with the tensioning tool and hook it onto the pivot lock shoe. On 5/8" diameter tubes, the pivot lock shoes have two angled slots and it is important to choose the correct slot. On the right side jamb use the slot that is nearest to the inside. On the left side jamb, use the slot that is towards the outside. If disconnecting the tension tool is a problem because of a screen, remove the screen and then tension the balance. After the tool is disconnected, replace the "T" lock so that the rod does not pop out of the slot.

Now the sash can be replaced. Replace the sash using the same method that was used to remove it except that a helper is recommended even though it might have been removed by one person. If the sash is held at an angle, it will be very difficult to align the sash (pivot bar). Hold the window in a horizontal position. Raise or lower the side of the sash to match the positions of the pivot lock shoes. Insert one of the pivot bars into the bushing. Now move that side as required to make the other pivot bar fit into the other bushing. If the sash is level it can be tilted into its normal position and locked. If the alternative method was used, slide the pivot bars into the bushings and lock them in place with the fastening screw. Test the sash for proper operation.