

Olde Window Restorers

Invisible Balance Installation

Begin by marking the position of the balance by centering between the top and bottom of the glass leaving about 1" between the balance end and tenons.

The slot required for mounting is 9/16 wide by 5/8 deep.

Method 1: The slots can be cut with a simple template and a plunge router.

Method 2: Cut with a dado blade on a table saw in about 2 passes with each pass being about 1/4" deep.

Method 3: Using an electric drill and a Forstner bit to remove most of the stock and clean out with a chisel.



If you use a dado blade on a table saw, you will need to clean out the ramp left by the blade. The easiest way I found was to use a Forstner bit to remove most of the stock and clean out with a sharp chisel.



Test the completed slot for the correct depth. You want to have it just deep enough so that the metal is not above the edge of the sash. Slightly deeper is OK, proud of the sash is not.

****Note:** We have changed to a slightly different style of balance with a heavier frame requiring less depth for mounting. You will receive the balance and different tabs to use for installation.

****Remove the tab it comes with by clamping the balance to a work surface. Pull the cord out about 6-8 inches and clamp the cord while you change the tab. Drill a 2nd hole for mounting on the end where the tab is located.**

When your slots are cut, install the balance with the tab/cord fastener at the bottom of the sash. Mount with #8 x 1/2" pan head screws.

The tab on the end of the Dacron cord gets mounted on the jamb about in line with the center of the meeting rail. *See picture to right* →

Using a 5/8" Forstner bit bore a hole about 1/4" deep in the jamb. Using a 1/2" chisel make a ramp down into the bottom of the hole so that the tab and mounting screw will not catch on the side of the sash.



Now you are ready to install.

It is very helpful to have a third hand and I find that a clamp with rubber pads does the job. **Note:** For heavier sash you will need a heavier type of clamp to hold the cord while you install.



Caution: If the cord snaps back it can injure you so be careful. The heavier the ash the more the caution.

Pull the cord to the approximate max of its length and use a clamp to grip the cord where it enters the balance. Repeat this on both sides. Make sure it is secure.

Tip: I turn the sash upside down, exterior facing in so I do not have to reach over the sash to install the screws. Using a #6 x 3/4" pan head screw fasten each tab in the holes previously made for this purpose. Make sure the tabs are flush with the hole and ramp so as not to snag on the sash or balance. Now flip the sash up to its proper orientation.

Holding firmly onto the sash, gently release the clamps. Holding the sash a couple inches above the sill, ease the sash in place. With the sash in place, slide the sash UP gently to make sure the cords are free and not binding and then lower the sash to its closed position. It should not bind when moving. If it binds, carefully examine to find out why and resolve.

"Forcing sash can cause cord to break"

Weather stripping with invisible balances: If using spring bronze as in the photo, there will be a gap left of about 1 1/2" to the top of the lower sash. I use a self-adhering piece of brush pile to fill the gap and tuck the lower end under the spring bronze.



Note: The sash travel must be limited to not allow the sash to go higher than the end of the balances. This will limit sash travel to about 3 1/2 inches short of the header. If the sash is forced beyond this point, it can break the tab and/or cord. To prevent this happening I mount a short wood stop on the jamb at the top of the max allowed travel. I bevel the top edge to make it more esthetically pleasing.

This picture shows the tab installed.

To install on upper sash follow the basic procedures with the following change:

Rather than mounting the cord at the top of the sash, mount the tab on the jamb about 3 inches above the bottom of the balance with the sash all the way up. This will ensure there is tension on the balance to keep the sash up and allow for proper travel when lowering the upper sash. Bore mounting recess and ramp as above. If weather stripping the jamb, you can cutout a portion of the bronze on the interior as you would for a pulley. This will provide a continuous seal for the upper sash.

If you have questions, feel free to email me at oldewindows@gmail.com or call me at 603-344-1024

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