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Guide to fitting wood storm sash on old double hung windows.

The traditional wood storm sash and wood screens look great on homes with traditional wood double hung windows. The trouble is; swapping out storms and screens twice a year is a chore most of us would like to skip, although it does push us into getting the windows washed. It's a time consuming job involving ladders, finding the right sash for the right window and figuring out a place to store the ones we take down.

A good compromise is a wood combination storm window such as Marvin's Alpine combination. It is a traditional wood frame with an integral storm and screen, functioning much like the aluminum storm windows that were put up during the 70s. The difference is appearance. The wood sash provides a great authentic look that can be painted to complement the house.

It is pretty obvious that a good fit affects performance. However, there is a largely held misconception that storms need to be fit as tightly as possible to provide a good seal. It may sound counterintuitive, but storms need to breathe. During cold weather, warm moist air from the interior of the house will migrate through the old double hungs. If the storms are tightly sealed, this moist air will condense on the cold surface of the storm sash glass. If it is cold enough it will freeze, if not, it will run down and collect on the sill, trapped by the tight storm sash. By maintaining a small circulation of air, the condensation is allowed to dissipate.

So, the question is, how should they fit? If you look at the exterior trim of a traditional double hung, you will notice there is usually a half inch reveal between the inboard edge of the trim and edge of the wood piece that the trim is fastened to. That piece is called the blind stop. I like to allow not less than an 1/8 inch margin between the edge of the storm sash and the edge of the outside trim and a 1/4 inch is not too much, because the point of contact is the back of the window against the blind stop, not the edge to the trim against the edge of the storm sash. This space gives adequate room for paint on both the storm and trim as well as allowing for seasonal expansion and contraction.

The two vertical sides of the exterior trim are most always parallel and not too hard to fit to. Most times the storms are the right width and don't need to be trimmed unless the sides are not parallel. The problem is top and bottom. Shocking as this may sound, old houses are out of square. This usually shows up in window and door openings. To allow for these out of square openings, I usually order the storms longer than the measured height, because the opening is a parallelogram, not a rectangle. With the longer height storm, we can scribe the top and bottom and make an accurate fit to the window opening.

Fitting the storms takes basic carpentry tools: circular saw, hand plane, power screw driver. Set the storm in the opening and hold the sides parallel to the trim. Note any tightness on the sides and make adjustments with the plane or circular saw. After the sides are fit, set the sash back in the opening and see if the top and bottom are parallel to the window frame. If not, using pencil scribes which are like a compass, hold them apart the distance of the gap on one side. With out of square openings, the gap will be on one side on the top and the opposite side on the bottom. On the side that is tight, mark the gap width from the other side using the scribes. With a straight edge set on the mark, draw a line to the side that was tight. Cut the sash on the line creating a taper from one side to the other. The bottom will have to be cut on a bevel to match the window sill. Around here that is usually 5 to 7 degrees. Neat the cuts up and ease the edges with the plane and it should be ready to hang.

Generally, old fashioned metal storm and screen hooks are best to hang the sash from the top trim. They are available in your local hardware store. The same spacing is left at the head as on the sides. At the bottom it is necessary to leave about a 1/8 inch space. Do not put the storm directly on the wood sill. Any rain that comes through the screen will be trapped inside, eventually rotting both the bottom of the sash and the sill. Marvin's combination storm sash come with white turn buttons to hold the sash in against the blind stop. To get the right bottom spacing, screw one of these turn buttons to the bottom edge of the storm sash 3 or 4 inches in from each side after everything has been fit. The screws are stainless steel, so they won't rust. This will hold the window about an 1/8 inch off the sill and provide the proper spacing for drainage.

Fasten the hooks to the top trim first, about 4 inches in from each side. Hold the bottom of the hook above the opening about a 1/4 inch to allow the sash to go in easily. Put the sash in the opening and hang the hangers on the hooks. Mark the screw holes on the sash. Take the sash down and screw on the hangers. Hang the storm sash on the hooks and check the fit. Minor adjustments can be made by bending the hooks or hangers or tapping them up or down with a hammer. About 6 or 8 inches up from the bottom on each side, screw a turn button to the trim so it holds the bottom of the sash in place. Paint and you are done. Don't forget to wash the windows.