



## MODEL #504 DOUBLE HUNG STORM WINDOW TYPICAL INSTALLATION INSTRUCTIONS

### DESCRIPTION OF UNIT:

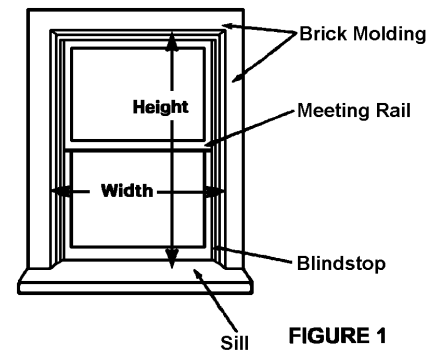
The Mon-Ray Model #504 Double-Hung is a high performance, self-storing, dual track, and combination aluminum storm window. The unit has two glass inserts and one screen inserts. The lower glass inserts operates vertically (up and down) in an extruded, ratchet-action vinyl track. The upper glass insert is positioned in the outer track and securely rests on two solid nylon support blocks. When in the closed position, the top meeting rail of the lower operating glass insert interlocks with the bottom meeting rail of the stationary upper glass insert. The screen insert is also in the outer track, below the upper glass insert and behind the lower glass insert. It prevents flies and other insects from entering when the lower glass insert is left open for ventilation.

There are four (4) U-shaped, extruded aluminum expanders which slide onto each of the four sides of the master frame. These four adjustable U-Channel expanders not only assure the unit is installed plumb and square inside the storm window opening, they provide a neat and architecturally appealing appearance.

When properly installed, the Mon-Ray Model #504 double hung storm window is effective in minimizing air leakage, preventing water penetration and abating outside noise. Mon-Ray backs the materials and workmanship with a Ten (10) Year Limited Product Warranty.

### TOOLS AND EQUIPMENT YOU WILL NEED:

- |                              |                                  |
|------------------------------|----------------------------------|
| 1. Power drill with bits     | 6. Pencil                        |
| 2. Phillips head screwdriver | 7. Utility knife                 |
| 3. Regular screwdriver       | 8. Rubber hammer                 |
| 4. Caulking gun and caulking | 9. Sawhorses                     |
| 5. Tape measurer             | 10. Hacksaw or electric chop saw |



**FIGURE 1**

### BEFORE YOU BEGIN INSTALLATION:

If necessary, carefully remove and discard old storm window and hardware from the window opening.

- Make sure mounting surface is clean and smooth. Remove old caulking if necessary.
- Check to see if the existing trim (brick molding) and blindstop around the window opening are solid and securely fastened to support your new storm window.
- Make sure the sill of the window opening is solid and slopes to the exterior so if your new storm window is left open when it is raining the water will flow out through the storm windows weep holes.
- Verify your new storm window is the size, color and style you ordered.
- Carefully read the installation instruction completely before your begin.

**NOTE: Mon-Ray, Inc. and its affiliates are not responsible for any injury or accident resulting from the installation, operation or use of this product.**

### COMPONENTS:

- 1) Storm window frame with two (2) glass inserts and one (1) screen insert.
- 2) Two (2) Jamb U-Channel Expanders (these will slide onto the left and right sides of the frame).
- 3) One (1) Head U-Channel Expander (this will slide onto the top of the frame).
- 4) One (1) Sill U-Channel Expander (this will slide onto the bottom of the frame).

5) One (1) Package Installation Screws.

**INSTALLATION INSTRUCTIONS:**

- 1) Measure the width at the top (head) and bottom (sill) of the opening the new storm window will be installed into. Record both of these measurements. Measure the height of the storm window opening. Record this measurement. (See Figure 1 on reverse side for measuring and opening details).
- 2) Lay the new storm window frame (interior side up) lengthwise on your sawhorses. The sawhorses should be positioned so the top and bottom of the storm window frame overlap each sawhorse by several inches. NOTE: The width and height of the storm window frame (without expanders attached) will be about ¾" less on width and 2 ½ " less on height than the width and height dimensions you recorded in Step 1.
- 3) Using your hacksaw or chop saw, cut an equal amount off each end of the sill expander so the overall dimension of the sill expander is 1/16 inch shorter than the total width dimension you measured earlier in Step 1. NOTE: By cutting an equal amount off both ends of the sill expander you will keep the two pre-cut weep holes in the bottom of the sill expander centered.
- 4) Slide the sill expander onto the storm window frame so the shorter leg of the sill expander is on the interior side of the storm window frame. NOTE: The bottom of the sill expander is shaped to align with the slope of the sill in the window opening.
- 5) Push the sill expander up until it is positioned so the distance from the top of the storm window frame to the bottom of the sill expander measured ½ inch less than the height dimension of the storm window opening you measured and recorded in Step 1.
- 6) To fasten the sill expander to the storm window frame, first drill two 1/8" inch diameter holes through the sill expander and into the interior side of the storm window frame. Each hole should be drilled about ½" inch above the pre-cut weep holes. Next, screw one #6 x 3/8" screw into each of the holes.
- 7) Measure the dimension from the top of the storm window frame to the top of the sill expander.
- 8) Using your hacksaw or chop saw, cut the same ends of both jamb expanders 1/8 less than the dimension you measured in Step 7. NOTE: To keep the pre-drill installation holes uniform on both sides you must cut each of the jamb expanders from the same end. The pre-drilled installation holes on one side will not align with the other side if you cut the opposite ends of each jamb expanders.
- 9) Using your hacksaw or chop saw, cut the head expander so it measured 1/16" inch less than the width dimension of the storm window opening your recorded in Step1.
- 10) Slide the head expander onto the top of the storm window frame so it is centered lengthwise and the shorter leg of the head expander is on the interior side. NOTE: Like the bottom of the sill expander, the bottoms of the head expander and both jamb expanders have a slight slope.
- 11) Slide the jamb expanders on each side of the storm window frame so the bottom end of each jamb expander butts tightly to the sill expander and the top end is "tucked" inside the head expander. NOTE: Use your rubber hammer and flat screwdriver to assist "tucking" the jamb expanders inside each end of the head expander. Be careful not to scratch the painted finish.
- 12) Carry the new storm window over to the window opening and carefully lean it against the building.
- 13) At the top and sides of the storm window opening, run a bead of caulking on the full length of the surface you will be screwing the new storm window onto (typically this would be the exterior surface of the blind stop). NOTE: Make sure the mounting surface is clean before applying the caulking.
- 14) Lift the new storm window up and carefully set it into the storm window opening. Gently push or tap the jamb expanders outward and the head expander upward to fill any voids. Make sure the bottom of each jamb expander is still butt tightly against the top of the sill expander. NOTE: Use care not to scratch the painted finish of the expanders and the storm window frame.
- 15) Screw the #8 x 1 ½" screws through the pre-drilled installation holes in the jamb and head expanders so they securely fasten the storm window unit to the blind stop, or mounting surface.
- 16) Go inside the building and operate the lower glass insert. Check to make sure the inserts will remove and pass through the interior window.
- 17) Leaving the weep holes open, run a bead of caulk across the interior sill of the new storm window.

You have now completed the installation of your new Mon-Ray Model #500 Series Double-Hung Storm Window. If you have any questions, please call us at **1-800-544-3646**.