

Wood Window Repair 101

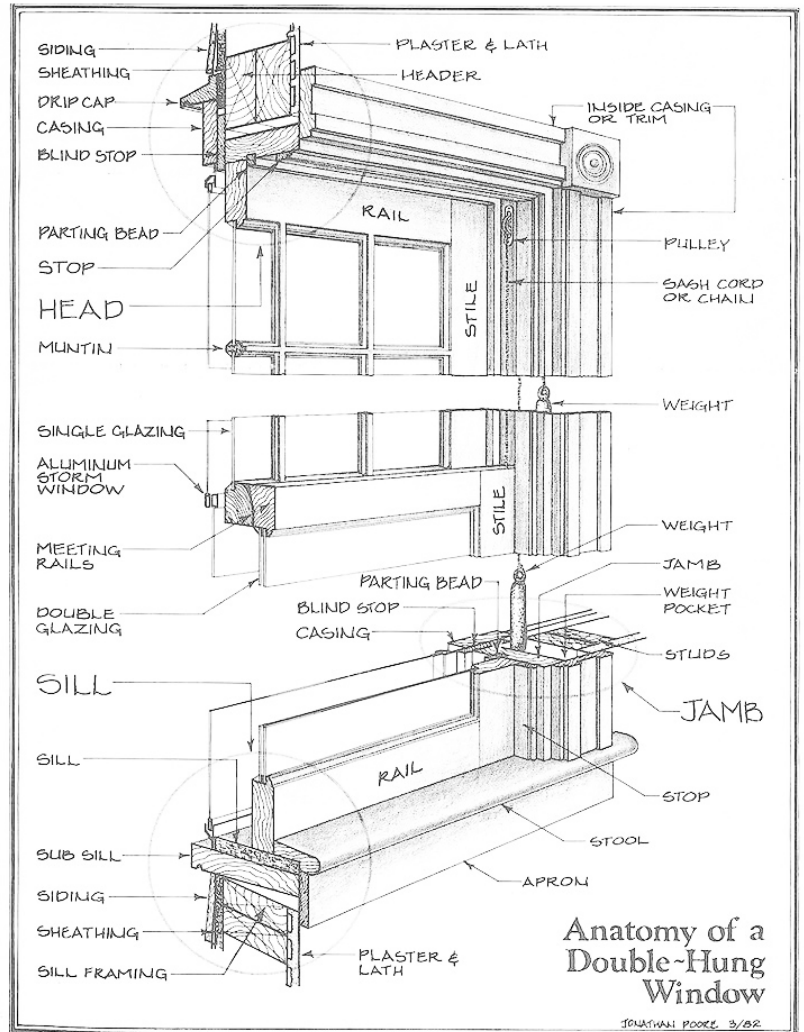
Compiled August 2017 by Hallie J. Borstel, MPS, Staub Window Restorations, LLC

Why? A little know-how, a few hours, and a lot of elbow grease. Basic repairs like a new coat of paint, reglazing, adding weatherstripping, or repairing damaged or missing sash cord can have long-term financial benefits. A complete restoration (removing the glass, scraping the sash to bare wood, sanding, reglazing, and painting) isn't always necessary but is always a good way to give your building a face-lift! Historic wooden windows are made of parts that can be easily replaced or repaired as needed, unlike modern vinyl or new wooden windows that typically require replacement of the entire unit when just one part fails. **Routine maintenance saves money, and the historic fabric of your house.**

How? Most small window restoration projects will require only one quart each of paint, primer, and glazing, which makes the cost of a DIY window restoration (including the purchase of necessary tools like a painter's 5-in-1, scraper, paintbrush, and putty knife) **about \$125**. While a replacement vinyl window can be purchased for the same amount, the lifespan of a vinyl window is just a few decades, not centuries! If you're still not feeling up to the task of fixing your own windows, seek out a restoration company, carpenter, or handyman with experience in repairing historic wooden windows. You'll pay more than you would to do it yourself, but can have confidence that you're still getting long-term economic benefits by restoring rather than replacing the windows: you might pay more now, but you won't have to replace your new windows every 20-30 years. Instead simple upkeep and maintenance can be done to keep your historic wood windows in great shape.

Anatomy of a Window Historic wood windows are made up of many parts, each of which can be taken out and replaced or repaired as needed (see page 2). The sashes are easy to remove once the stops have been taken off. Some repairs require the sashes to be removed from the jamb, others can be done while the window is still in place.

What Now? In this guide you'll find tips on repairing historic windows, materials needed, and approximate cost of the repair. This guide focuses on double-hung windows, though historic wood windows can be single-hung, tilt, or casement windows as well. The common issues detailed here have been rated on a scale of 1 (not severe) to 5 (severe). Damaged or ill-fitting sills, subsills, and jambs can pose more complicated problems that are not detailed in this guide.



The Old-House Journal

Order of Operations When removing a historic wooden window, simply work from the inside out.

First remove the interior stops, then slide out the lower sash and detach the sash from the spring balances or sash weights. The lower sash can then be removed from the opening. Next remove the parting beads. Before trying to remove the upper sash, always check to see if it is screwed or nailed into the jamb. Upper sashes often are made inoperable long before lower sashes, and windows meant to be double-hung may in fact be missing upper sash weights. Slide the upper sash out to detach as needed, then remove from the jamb completely. Lastly, remove the exterior (blind) stops if needed. If working on the ground floor, after removing the interior stops and lower sash, the exterior stops and upper sash can be removed from outside the house. An extra pair of hands can be helpful in removing the sashes!

Now that the basics have been reviewed, the next few pages explain common issues with historic wooden windows and how to fix them.

Interior View

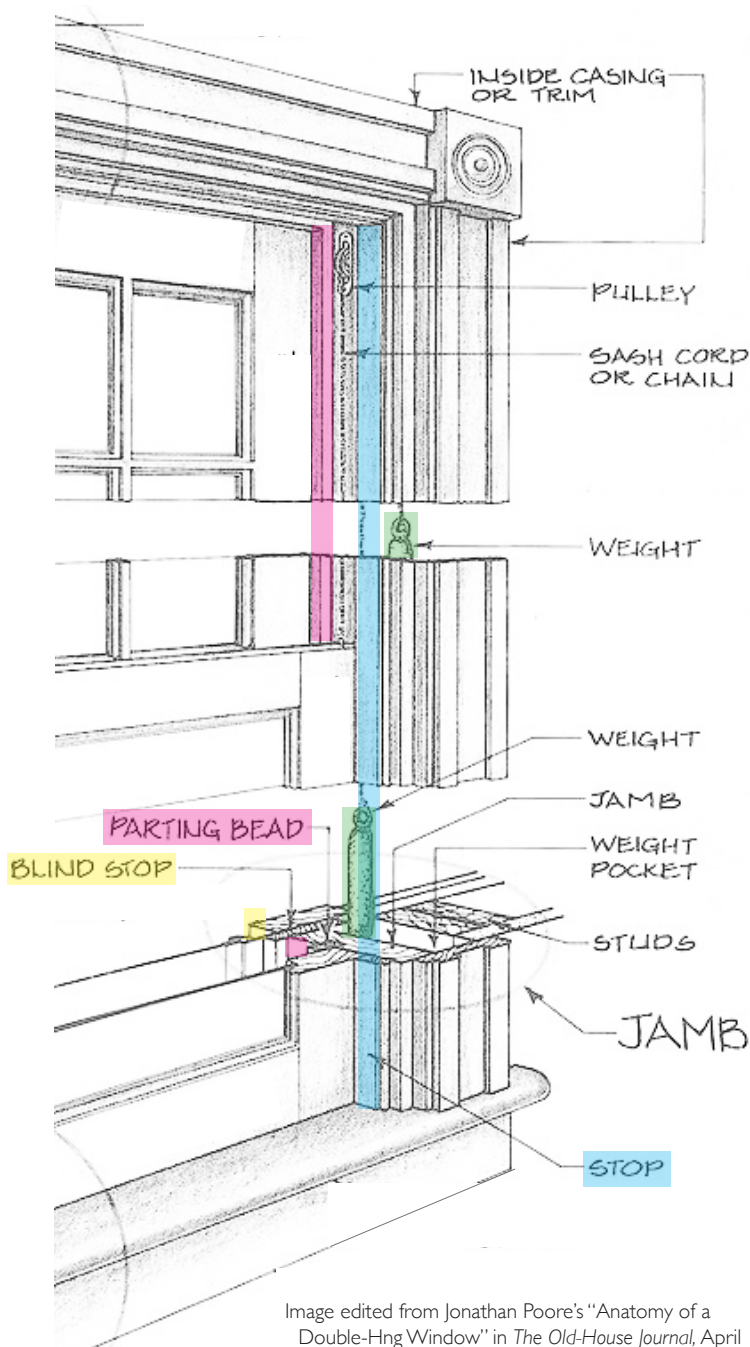
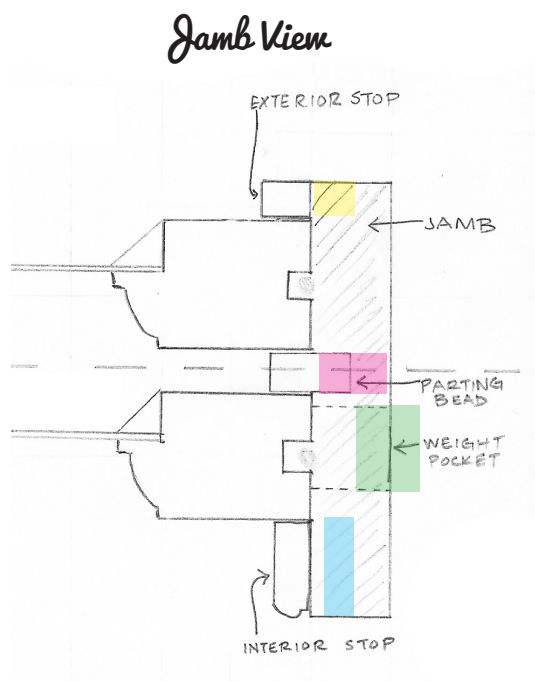
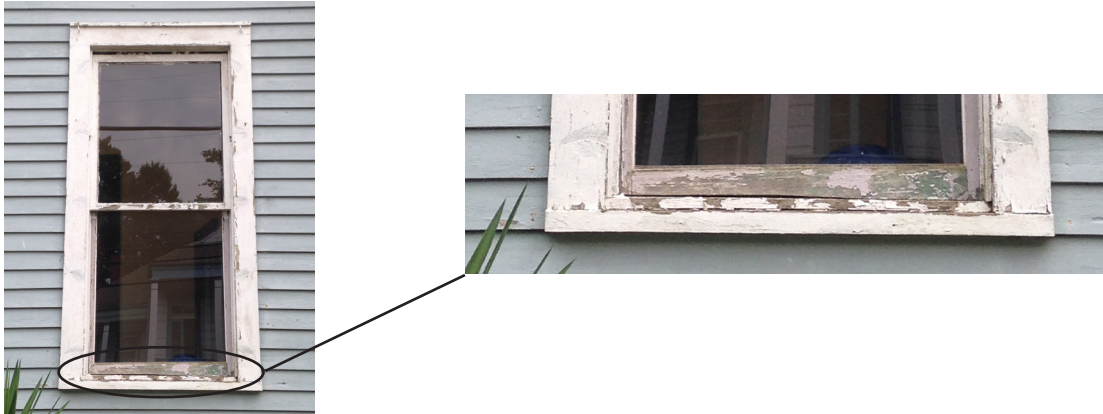


Image edited from Jonathan Poore's "Anatomy of a Double-Hung Window" in *The Old-House Journal*, April 1982.

Common Issue: Weathered Wood

Severity Rating: |

Wood should be protected with a finish coat of paint to protect against water intrusion and growth of mold and mildew, which can compromise the wood's stability.



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| Cause | Deteriorated exterior or interior finish |
| Repair | Scrape, sand, prime, and paint with high-quality products |
| Minimum Recommended Materials | Paint scraper (\$15); sandpaper, 80 grit and 120 grit (\$8); sanding block (\$6); paintbrush (\$10); primer (\$20/quart); paint (\$25/quart) Note: This repair will require more time and tools if the window is removed prior to scraping. |
| Longevity of Repair (Based on Product Warranty) | 25 years |
| Approximate Labor Hours per Window | 16-20 hours |
| Number of Windows Repaired with Recommended Materials | 20 |
| Total Estimated Repair Cost | \$82 |

Common Issue: Inoperable Sashes

Severity Rating: 2

Inoperable sashes make it difficult to properly ventilate a home.



Note: This sash has been screwed in place in multiple locations because the exterior stops are missing.

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| Cause | Sashes are nailed, screwed, or blocked in place Note: This is common for upper sashes that have not been well-maintained |
| Repair | Remove nails, screws, or blocks, remove sashes, install sash cord and weights or spring-balance system, replace sashes. Consider consulting a professional if sashes are not able to be hung easily. |
| Minimum Recommended Materials | 5-in-1 (\$5); small prybar (\$15); hammer (\$10); drill/driver (\$150); utility knife (\$5); power multi-tool with blade for metal (\$90); nail gun* or nails (\$3.50/lb.); nail set (\$6); new sash cord (\$25/100 ft.); new weights+; screws (\$8.50/lb.); spackle (\$4); sandpaper, 120 grit (\$4); sanding block (\$6); paintbrush (\$10); primer (\$20/quart); paint (\$25/quart) *Cost not included +Sash weight cost is typically dependent on size, which depends on weight of sash |
| Longevity of Repair (Based on Product Warranty) | Lifetime |
| Approximate Labor Hours per Window | 9 hours |
| Number of Windows Repaired with Recommended Materials | 4-5 windows Note: This depends on the amount of sash cord purchased, which is determined by window size. 100 ft of sash cord is enough for 4 double-hung windows with openings about 5 ft tall. |
| Total Estimated Repair Cost | \$387 |

Common Issue: Cracked or Deteriorated Glazing Putty

Severity Rating: 3

Deteriorated glazing putty can lead to water intrusion on the interior of a window. Severely deteriorated glazing putty can cause glass to come loose and potentially fall out, creating a safety hazard. Glazing deteriorates over time and should be checked as part of a routine home maintenance plan.



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| Cause | Deteriorates over time |
| Repair | Remove old glazing putty, remove glass, clean rabbet, reglaze, paint glazing Can be done in place or after sash is removed |
| Minimum Recommended Materials | 5-in-1 (\$5); razor/razor scraper (\$2); linseed oil-based glazing putty (\$15/quart); putty knife (\$7); linseed oil (\$8/quart); rags (\$0); glazing points (\$2.50); paintbrush (\$10); paint (\$25) Note: This repair will require more time and tools if the window is removed prior to deglazing. |
| Longevity of Repair (Based on Product Warranty) | About 30 years |
| Approximate Labor Hours per Window | 8-10 hours, plus waiting time before the glazing can be painted |
| Number of Windows Repaired with Recommended Materials | Consult the manufacturer of putty to determine approximate coverage |
| Total Estimated Repair Cost | \$74.50 |

Common Issue: Inoperable Sashes

Severity Rating: 3

Inoperable sashes make it difficult to properly ventilate a home. Caulk can trap water in undesirable places, which can lead to wood rot or growth of mold and mildew.

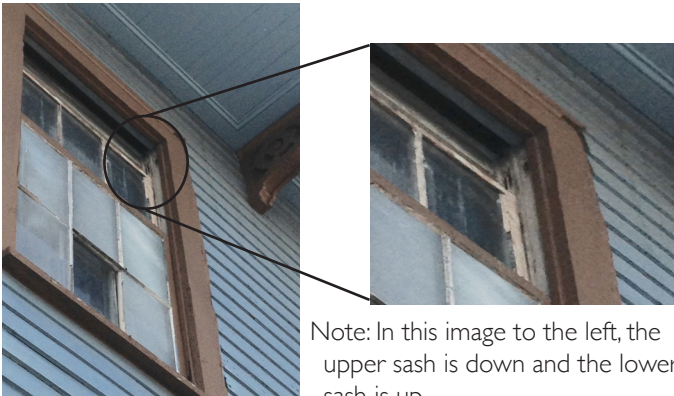


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| Cause | Sashes are caulked or painted shut |
| Repair | Cut caulk or paint lines |
| Minimum Recommended Materials | Utility knife (\$5) Note: You may need primer, paint, and a paintbrush to perform touch-ups. |
| Longevity of Repair (Based on Product Warranty) | Lifetime |
| Approximate Labor Hours per Window | 1 hour, depending on severity of caulk or paint |
| Number of Windows Repaired with Recommended Materials | Infinite |
| Total Estimated Repair Cost | \$5 |

Common Issue: Inoperable Sashes

Severity Rating: 3

Inoperable sashes make it difficult to properly ventilate a home.



Note: In this image to the left, the upper sash is down and the lower sash is up.



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| Cause | Missing or broken sash cord Missing or broken weights Painted sash cord |
| Repair | Remove sashes, assess status of sash cord and weights, replace cord and/or weights as needed, replace sashes |
| Minimum Recommended Materials | 5-in-1 (\$5); small prybar (\$15); hammer (\$10); drill/driver (\$150); utility knife (\$5); nail gun* or nails (\$3.50/lb.); nail set (\$6); new sash cord (\$25/100 ft.); new weights+; screws (\$8.50/lb.); spackle (\$4); sandpaper, 120 grit (\$4); sanding block (\$6); paintbrush (\$10); primer (\$20/quart); paint (\$25/quart) *Cost not included +Sash weight cost is typically dependent on size, which depends on weight of sash |
| Longevity of Repair (Based on Product Warranty) | About 30 years |
| Approximate Labor Hours per Window | 8 hours |
| Number of Windows Repaired with Recommended Materials | 4-5 windows, based on 100 ft. of sash cord and assuming double-hung windows |
| Total Estimated Repair Cost | \$297 |

Common Issue: Wood Rot (Exterior or Interior)

Severity Rating: 5

Rot causes wood to lose its structural integrity, creating unsafe conditions.



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| Cause | Pooling rainwater or condensation Deteriorated exterior finish Window is not watertight |
| Repair | Scrape, treat with wood epoxy and wood filler as needed, sand, prime, and paint with high-quality products. Consult a professional if rot is extensive or to assist in determining point of water entry. |
| Minimum Recommended Materials | Paint scraper (\$15); wood epoxy (\$17/12 oz.)*; wood filler or epoxy paste (\$13)*; sandpaper, 80 grit and 120 grit (\$8); sanding block (\$6); paintbrush (\$10); primer (\$20/quart); pwwaint (\$25/quart) *There are a variety of different products that can be used to treat and repair wood rot which vary in price. Select an epoxy that treats rot, not just hardens damaged wood. Not all types of epoxy and wood filler can be painted or stained. |
| Longevity of Repair (Based on Product Warranty) | Depends on product purchased |
| Approximate Labor Hours per Window | Depends on severity of wood rot, approximately 16-20 hours per window |
| Number of Windows Repaired with Recommended Materials | Depends on severity of wood rot and amount of product purchased, approximately 1-6 windows with some excess materials |
| Total Estimated Repair Cost | \$96 |

Common Issue: Drafty Interior or Gapping Between Sashes

Severity Rating: 5

A drafty interior allows for moisture and critters to enter the home. Refitting sashes to sit properly in the jamb ensures that the entire house will function smoothly as a system.



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| Cause | Sashes do not properly fit into opening Sash is not properly secured into jamb |
| Repair | Consult a professional to discuss refitting and weatherstripping windows, or refit sashes and stops and install weatherstripping tape. Consider installing interior window inserts or exterior storm windows. (Cost not included.) |
| Minimum Recommended Materials | 5-in-1 (\$5); small prybar (\$15); hammer (\$10); drill/driver (\$150); utility knife (\$5); nail gun* or nails (\$3.50/lb.); weatherstripping tape (\$5/10 ft.); spackle (\$4); sandpaper, 120 grit (\$4); sanding block (\$6); paintbrush (\$10); primer (\$20/quart); paint (\$25/quart) *Cost not included More materials may be needed if fit issues are severe |
| Longevity of Repair (Based on Product Warranty) | Depends on product purchased - lifetime if sashes are refit |
| Approximate Labor Hours per Window | Depends on severity of fit issues |
| Number of Windows Repaired with Recommended Materials | Depends on amount of weatherstripping tape needed |
| Total Estimated Repair Cost | \$298.50 |

Sources and Further Reading

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