



# There's No Escaping the Scraping

Washing, scraping, sanding, patching, and priming are dirty, difficult jobs that can make exterior paint last twice as long

BY HUGH SCHREIBER

When it comes to exteriors, the word *painting* can be misleading because it refers only to the last step of an important process. Although this deception can come in handy when luring your friends into servitude (hint: the shrewd recruiter never says, "Want to help me *scrape* my house this weekend?"), it leaves a lot to interpretation where prep work is concerned.

If exterior paint has a job, it is to protect a house from the damaging effects of sun, wind, and rain, and look good doing it. If you fail to provide paint with good working conditions, like any employee, it will become flaky and quit. Properly applied paint can last for years, but don't expect it to seal cracks, stop peeling layers beneath it, or stick to damaged wood.

A lot has to happen before a house is ready for paint, and one of the biggest challenges is making sure that the work all gets done efficiently and in the right order. The sequence is always the same: clean, scrape, sand, repair, prime, and caulk.

I try to work in one direction around the house, but logistics and weather conditions sometimes dictate where and when I decide to do certain things. This can get confusing. For me, the best way to keep track of progress and to make sure nothing is missed is to make a simple

line drawing of the exterior (sidebar below), then divide the house into manageable numbered sections. This map becomes the daily to-do list that helps me to assign tasks and to keep on schedule.

### Use a pressure washer, but let the soap do the work

The first thing on the to-do list is to wash the entire house to remove dirt, mold, mildew, and other contaminants that can interfere with paint adhesion. A pressure washer can scour walls clean and even strip peeling paint, but I don't use it this way. At close range, a pressure washer can damage the house and drive water deep into the walls. Because trapped moisture is a leading cause of paint failure, I use the pressure washer only to apply soap and to rinse.

The hard work is actually done by the detergent, which is a blend of warm water, bleach, and trisodium phosphate (TSP), a strong cleanser that is available in powder form at any paint or hardware store. Ready-made house-washing products that don't contain bleach or phosphates are easy to find at any paint store, but I like the TSP-and-bleach combination because it kills mildew and cuts through contaminants to leave a dull, etched surface that is ready for repainting.

I mix the detergent with 1 cup of bleach and 1 cup of TSP for each gallon of water. You also can add a couple of tablespoons of powdered laundry or dish soap to help with rinsing. In the siphon mode on my pressure washer, water combines with detergent at a 4-to-1 ratio, so I make the mix four or five times stronger.

At this concentration, the TSP is a powerful deglosser, great for prep but bad for the finish on your car and sensitive body parts. I protect plants, trees, and shrubs with drop cloths; saturate the ground with water; and wear goggles, gloves, and a raincoat when washing. I'm very cautious if I have to use a ladder. The detergent makes things slippery, and the gun can have a powerful kick.

I wet each part of the house before applying the detergent. Although I mostly work from the ground, I keep the spray at the lowest possible angle and pressure to avoid driving water under the siding while still reaching the highest parts of the house. I don't spray directly at

## DIRTY AREAS MAY NEED TO BE SCRUBBED BY HAND

Use a pressure washer to scrub a house, and you're asking for trouble. Instead, use it to apply detergent with light pressure, and rinse the house after the detergent has had 10 minutes to work. If the house is still dirty, consider hand-scrubbing.

### Homemade house-wash solution

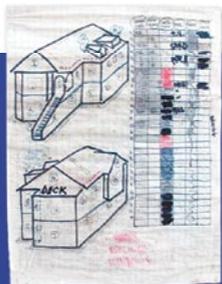
This solution will cut through dirt, mold, and mildew. When applying this solution with a pressure washer, make sure to adjust the concentration for the machine's water-to-detergent ratio.

- 1 cup of TSP
- 1 cup of bleach
- 1 gallon of water



**Use a scrub brush** around windows and doors and on excessively dirty areas, but unlike this guy, wear gloves when you do. Scouring with a pressure washer can damage siding and force water into walls.

**Stand back and rinse.** Keep the pressure and the spray angle as low as possible while rinsing the house with clean water. Check the dried surface for cleanliness and soap residue before moving on with the prep.



### A SIMPLE DRAWING ORGANIZES A BIG JOB AND BECOMES A USEFUL TO-DO LIST

Preparing a house for paint is a big job with many different phases that must be done in order: wash, scrape, sand, repair, prime, and caulk. Sometimes, when tall ladders and staging are involved, it makes

more sense to complete all the tasks in one area before moving on. A line drawing of the house helps to break the work into manageable sections and becomes a checklist as the job proceeds.

## REMOVING PEELING PAINT IS A TWO-PART PROCESS

Most houses require scraping to remove loose paint. Unless recently primed or washed with TSP, surfaces should be sanded lightly to create a tooth for better adhesion. Edges where existing paint meets bare wood may need more extensive sanding to create a smooth, finished look.

**Scrape away the loose stuff with a two-handed scraper.** Apply pressure to the blade with one hand and pull the scraper toward your body with the other hand.



**Feather the edges with an orbital sander.** Smooth the transition from painted to bare wood with 80-grit sandpaper. Use 100-grit sandpaper to promote adhesion on questionable surfaces.



the edges of windows and doors; I hand-scrub these and other dirty areas if necessary.

The detergent needs time to work, so I move ahead in 10-minute intervals before going back to rinse from the top down. In hot weather, it may be necessary to resoap after five minutes to keep the detergent from drying on the surface. I check the results by running my palm over the dry surface. If the house feels slippery or leaves residue on my hand, it needs to be washed and rinsed again.

### Scraping paint is no fun, but it must be done

Peeling paint can be caused by a number of conditions, including wood movement, moisture problems, and the buildup of excess paint in low spots and corners. While washing a house, I look for peeling paint, which presents one of the most daunting prep tasks: scraping.

There are many different methods for paint removal, from chemical strippers to power tools (sidebar facing page). If I'm sure that a house contains lead paint (sidebar below; and "Lead-Paint Safety," *FHB* #150, pp. 66-73), I use only hand scrapers and remove as little paint as possible.

Hand-scraping is arguably the worst job in all the trades, but a few tips can make it a little less painful. First, always work with a sharp scraper blade. A good two-handed carbide-blade scraper is a must-have for any paint-scraping enthusiast. Because there's actually no such thing as a paint-scraping enthusiast, most people end up using the more-common, less-expensive mild steel-blade scrapers. Steel replacement blades are inexpensive, but they dull so quickly that I often sharpen them on the job with a belt sander. With practice, you can tell when a scraper becomes too dull just by listening. A properly sharpened blade makes a distinct hissing sound as it cuts. Sharp scrapers also leave a feathered edge where successive layers of paint can be seen receding from the bare wood.

A typical scraper has a long handle and a large, flat knob behind the blade. I've seen people use this knob to

## Follow the rules of lead-paint safety

If your house was built before 1978, there is a 75% chance that it contains lead paint. Undisturbed lead paint is harmless, but dust or paint chips created during paint prep or other remodeling projects pose health hazards, especially to young children. The EPA recommends professional testing, which can cost a few hundred dollars. If that money is not in your

budget, you can purchase a home testing kit at a hardware store (Lead Inspector, \$13 to \$50; [www.leadinspector.com](http://www.leadinspector.com); 800-268-5323). And the National Lead Information Center (800-424-5323) has a list of accredited testing labs where you can send paint samples for testing. The center's pamphlet *Lead Paint Safety: A Field Guide for Painting, Home Maintenance*

and *Renovation Work* is available for free online ([www.hud.gov/offices/lead/training](http://www.hud.gov/offices/lead/training)). For more information on lead-paint safety, log on to [www.nsc.org](http://www.nsc.org), the National Safety Council's Web site, or [www.epa.gov/lead](http://www.epa.gov/lead) to find local abatement firms.

—Ashley Pedersen is an editorial intern at Fine Homebuilding.



## Four ways to get the paint off a house

push and pull the blade vigorously over the surface as if they were scratching an itch. Like a lawn-mower blade, however, a scraper is designed to work in one direction only. Two-handed scrapers must be pulled toward the body. Pushing dulls the blade, gouges the wood, and wears you out.

After scraping, the remaining paint should be able to pass the “fingernail test”: Its edge can’t be lifted with your fingernail. Once an area is scraped successfully, it’s time to sand.

### Sanding smooths the surface

The main objective in the sanding process is to smooth the transitions from painted wood to bare wood. This allows for an even film thickness when primer and paint are applied.

I use 80-grit sandpaper and an orbital sander to soften the sharp transition scraping leaves between paint and bare wood. Old houses usually have been painted many colors. When properly scraped and sanded, the edges of a scraped area will show a narrow rainbow of color. This sanding helps to hide an uneven surface. Whether it’s new or recently scraped, I sand all bare wood to remove mill glaze (burnishing left by sawblades at the mill and pressure from the scraper blades) and the gray layer that develops on the surface.

Sanding harsh transitions is necessary, but it takes a lot more work to render a perfectly smooth surface where the siding has been peeling. To stay within a budget and limit the amount of lead paint disturbed, I often reserve the highest cosmetic standards for the money shots: the front of the house and the other highly visible areas.

This isn’t cheating or poor craftsmanship. It’s just being practical. As a recovering perfectionist, I’ve come to realize that the success of a big painting job is measured not only by the results but also by the way limitations are managed. If the exterior of the house has been neglected severely, cosmetic sanding is one area where I can make concessions to the budget without sacrificing the longevity of the paint job.

### Repairs are part of painting

By this point, I’ve seen every inch of the house, and I’m aware of all the damage. Paint will cover it up, but not for long. And I don’t like to work backward.

The first repairs I make are to window sashes because new glazing can take up to two weeks to cure (see “Restoring Window Sashes,” *FHB* #161, pp. 84-89). Next, I move on to repairing and replacing damaged trim and

### HAND SCRAPERS

You can spend more than \$30 on a carbide-blade paint scraper, and it is money well spent if you’re painting a house that requires selective paint removal. The sharp blades cut loose paint away from the surface with ease and disturb the least amount of firmly bonded paint (a plus if lead paint is a concern). Hand-scraping paint is hard work and usually requires follow-up sanding, but it is the most common and least expensive method unless the entire house needs stripping. Mild steel-blade scrapers cost less and dull much more quickly.



Carbide-blade scraper    Mild steel-blade scraper

### POWER SCRAPERS

Power scrapers like the Paint Shaver (\$599; [www.paintshaver.com](http://www.paintshaver.com)) are expensive, but they make quick work of removing large areas of paint from flat surfaces like clapboards and shakes. A vacuum hose connected to a shop vacuum collects the paint, keeping the mess and the user’s exposure to lead minimal. Nail heads hidden just under the paint are one of the weaknesses of mechanical scrapers. Corners are another.



Paint Shaver

### CHEMICAL STRIPPERS

Ideal for removing paint from intricate details and tight spaces, most chemical strippers are brushed onto the surface and take a few hours to work. When the paint blisters or appears to be degenerating, it can be scraped gently from the surface without damaging the wood or creating a cloud of dust or pile of chips. Although this process might seem ideal for lead-paint removal, the best strippers can be bad for your health as well. Chemical strippers should be used with extreme caution.



Safe chemical stripper

Stronger chemical stripper

### HEAT

Electric heat guns, heat plates, and even infrared heat ([www.silentpaintremover.com](http://www.silentpaintremover.com)) are effective for loosening paint without risk of surface damage. Like chemical strippers, heat does the work and requires only a gentle scraping to remove the paint. Unfortunately, heating a surface to remove paint is a slow process and can be dangerous. The heat can create hazardous lead fumes and fire. Torches and other open flames never should be used to remove paint.



Silent Paint Remover

## A LONG-LASTING REPAIR ENSURES A LONG-LASTING PAINT JOB

Wood fillers fail when the wood moves. To create a patch that will last as long as the paint job, clean and prepare the damaged area with wood hardener, and repair the damage with a two-part filler like Bondo.

**Remove rot, and pierce the wood around the damage.** Clean the damaged wood and remove all rot. Then use an awl or other pointy tool to make small punctures all around the general area to ensure that the wood hardener penetrates.

**Soak the wood with hardener.** A baby-bottle nipple fit onto a bottle of Minwax Wood Hardener makes it easy to apply. Soak the entire area. When the wood appears dry, it is stable and ready for repair.



**Make the repair.** Mix just enough two-part filler to repair the wood. Then apply and smooth the patch with a wide putty knife.



**Sand the repair smooth.** Two-part fillers dry quickly and usually can be sanded within 30 minutes of application.

siding. Before priming, new wood should be seasoned until its moisture content is less than 18%. If you think wood might be too wet to be primed, you can check it with an inexpensive moisture meter. It's also a good idea to avoid flat-sawn lumber and sapwood for repair work because primer has a hard time bonding to dense grain and bleeding resin. Both sides of the wood should be primed before installation.

If a damaged board is easy to replace, I replace it. It sometimes even makes sense to flip over a cosmetically damaged board and fill the nail holes. If the damage is minimal or is part of a complicated system like a windowsill, a repair might be in order. For a tough, permanent repair that cures evenly and quickly, I use Bondo.

You don't need to waste your money on a high-priced epoxy. Used correctly, Bondo will outlast us all. Paint stores also carry two-part hole fillers that work fine.

The fact is that wood repairs don't fail because of the product but because of wood movement. To keep filler from being rejected, you have to immobilize the surrounding wood by saturating the area with a resin-based treatment like Minwax Wood Hardener.

New work doesn't need repairing, but it might have nail holes to be filled. I fill nail holes with nonshrinking vinyl exterior spackle available at any paint store. If a lot of holes need to be filled, I use a wide taping blade to speed along this job and try to leave just a small amount of spackle proud of the surface. Before prim-

ing, I go over the new work with a quick pass from an orbital sander.

### Priming is almost the last step

Although each step is critical to the process, priming always seems most important because it locks in the progress and ends the bulk of the prep work. Primer's main purpose is to seal, unify, and bond with the various substrates so that the finish coats adhere evenly; it also highlights gaps that need caulk and areas that need further repairs.

Although I typically apply Benjamin Moore exterior latex paint as a topcoat, I spot-prime bare wood and repaired areas with a Benjamin Moore alkyd primer formulated to be compatible with both water- and oil-based finishes. The primer penetrates bare and painted wood and various fillers for an even, firmly bonded undercoat. Oil primer also helps to blend the transitions from bare to painted wood, and it even can be sanded. Freshly applied water-based primers tend to gum up when sanded.



**Adhesion test.** Let paint on a primed area dry overnight; then attach a piece of tape to it. Remove the tape a few minutes later. If paint sticks to the tape, the surface should be sanded lightly and rinsed.

Depending on the situation, I use rollers or a sprayer to apply primer quickly (for tips, visit [www.finehomebuilding.com](http://www.finehomebuilding.com)). Either way, the primer has to be back-brushed to even it out, to work it into porous areas, and to keep it from building up in the corners. Primer should be painted within two weeks, or it will need a light sanding to remove oxidation. To test preprimed material or surfaces primed weeks earlier, perform an adhesion test (photo left).

The last official step is caulking. The primary purpose of caulking is to seal gaps that would allow water to penetrate the house. I also use caulk selectively to smooth joints between siding and trim so that a straighter line can be cut between finish colors.

Some gaps should never be sealed. As a rule, I never caulk the bottom edge of a window casing or the horizontal spaces between clapboards. Some people insist on caulking these gaps for a clean look, but this is a mistake; they're critical to a house's ability to release moisture.

Ideally, the builder will leave behind only small gaps to be filled with caulk. When this fails, I stuff deep crevices with foam backer rod. Without it, the caulk would go in too thick and never cure fully. □

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## PRIMER SEALS THE SURFACE AND HIGHLIGHTS THE LAST OF THE PREP

When changing colors or painting a long-neglected house, everything should be primed. If the house is in good shape and the color change is minimal, spot-priming bare wood and repairs still is required. White primer highlights gaps that need caulk and rough surfaces that need more cosmetic sanding. Primer should be painted within two weeks, or it will need a light sanding.



**If you spray, you have to back-brush.** Sprayers are a great way to apply primer to a surface, but the primer still needs to be worked into the porous wood and smoothed out when it builds up in corners and low spots. Spray only small areas at one time and go back, or have someone follow you to smooth the paint with a brush.



**Caulk to seal and beautify.** Caulk can be used to seal gaps and prevent water from getting behind trim and siding, and it can be used to create a smooth transition between walls and trim, allowing you to cut a clean line. However, certain gaps, such as those between clapboards, are essential for allowing moisture to escape and should never be sealed.

