

Lead-Safe Paint Removal

Choosing the right tool
can make a nasty job
easier and safer



by Tom O'Brien

Thirty years ago, when I began restoring old houses, workers commonly used blowtorches and belt sanders to strip off old lead-based paint. Thankfully, these messy and dangerous practices are now taboo. As *JLC* readers are well aware, the EPA's new Renovation, Repair, and Painting (RRP) rule permits only low-temperature heating devices and vacuum-attached power tools for mechanically stripping painted surfaces that may contain lead.

With contractors across the nation grumbling about the onerous RRP regulations, dozens of entrepreneurs have jumped into the market to hawk products and services that promise to lighten the burden of dust

containment, cleanup, and compliance. But if you're looking for a specialty tool that makes the paint-removal process itself less onerous, your choices are limited. For this article, I tested three motorized scrapers — American International Tool's Paint Shaver Pro, Metabo's LF 724 Paint Remover, and Festool's RAS 115.04 E Rotary Sander — and an infrared paint remover (Model 1100-15) from Speedheater. My laboratory for this test was my own house, a 1903 Queen Anne Victorian.

Setting Up for Safety

Having used a variety of paint-removal devices on many types of jobs over the

years, I've found that most require two hands to operate safely and effectively. I prefer to stand on pump jacks or scaffolding when I work, which is what I did for most of the above-ground portions of this test. As an experiment, I also tried using each of the tools while standing on a short extension ladder.

Based on a previous lead inspection, I knew that the clapboards and simpler trim surfaces on this house were lead-free, but many of the more elaborate trim elements (moldings, shakes, cornice) were not. Regardless of which surface I was stripping, I followed the same lead-safe procedures.

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Personal protection. Even with tools that aren't supposed to generate dust, protective gear is a must. Throughout the test, I wore a HEPA-filtered (N100) respirator, safety glasses, and — when called for — ear protection. Disposable Tyvek coveralls are a great way to keep clothing uncontaminated, but they make me sweat like a pig. I prefer to wear old clothes (long pants, long sleeves) and cover my head with a spray sock.





When I'm done working I change clothes outside and wash the work duds separately.

Vacuum attachment. Contractors have been complaining for years about the lack of standard sizing for dust ports and vacuum hoses. Perhaps manufacturers have finally gotten the message — I had no problem attaching any of these tools to my vacuum. The dust ports for the Festool and Metabo were the same diameter (1¼ inches); the Paint Shaver used a different setup but came with its own 10-foot-long extension hose, which easily connected to the hose on my vacuum — no duct tape needed.

Nails. Protruding nail heads are not

friendly to hand-scrappers, but what they can do to expensive high-speed carbide cutters is even worse. Although I tried to set all the nails within reach beforehand, I still didn't know what might be lurking beneath multiple paint layers, so I carried a hammer and punch at all times.

Testing. I put all the tools through an extensive workout, stripping paint off the siding and a variety of trim elements. Some surfaces had only a few layers of paint (similar to what you might find on a modern house), while others were thickly encrusted and alligatored.

Paint-Remover Specs				
				
	Paint Shaver Pro 800/932-5872 paintshaver.com	Metabo LF 724 800/638-2264 metabo.us	Festool RAS 115.04 E 888/337-8600 festoolusa.com	Speedheater 1100-15 703/476-6222 eco-strip.com
Speed (no load)	10,000 rpm	10,000 rpm	1,500 to 4,000 rpm	NA
Motor	8 amps / 910 W	6 amps / 710 W	500 W	1,100 W (heating element)
Cutting diameter	2¾ inches	3⅞ inches	4½ inches	NA
Temperature	NA	NA	NA	380°F to 580°F
Weight (by JLC)	6.3 pounds	6.5 pounds	5.6 pounds	4.4 pounds
Price of replacement blades	\$49	\$55 (10-pack)	NA	NA
Street price	\$700	\$330	\$260	\$475
Made in	Malaysia/USA	Germany	Germany	Sweden
Comments	Kit with two sets of extra blades and 10-foot vacuum hose costs \$800. A 6-amp tool is also available.		Available sandpaper grits: 24, 36, 50, & 80	Specialty scrapers and hands-free mounting attachments are also available.

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Paint Shaver Pro

The Paint Shaver is essentially a modified mini-grinder. The model I received is powered by an 8-amp Hitachi G12SA3. A less-expensive 6-amp version of this tool is also available.

Instead of a simple abrasive wheel, the business end of this tool has a shaperlike cutter head outfitted with three triangular carbide blades. The cast-aluminum guard surrounding the blades controls depth-of-cut and provides an outlet for dust. A cut-away section in the guard allows the multi-sided blades to strip paint from the butts and faces of clapboards simultaneously.

New and improved. In an earlier version of this tool, dust was corralled by an enormous bristly shroud that encircled the cutter head. I'd used that tool a few times in the past and it worked fine, but the giant

hooped skirt left me feeling like I was flying blind. I'm glad the manufacturer has figured out a way to channel dust removal through the guard instead. Also, even though the guts of the tool haven't changed, the new design feels lighter and easier to control.

Setup. The Paint Shaver has the skimpiest owner's manual I've ever seen — the entire document is printed on one side of a large sheet of copy paper — but the clearly written instructions are illustrated with good close-up photos, so it's easy to get the gist of the tool's operation. The blades come pre-installed and preset to a modest depth-of-cut; fine-tuning is accomplished with the turn of a screw.

Learning curve. This is an extremely powerful tool. Even though I'd had some previous experience, I had forgotten how easy it is to screw up and slice a divot. I

quickly learned that the only way to achieve a smooth, paint-free surface is to adjust the tool for a shallow cut, gently sneak up on the painted surface, and make several passes. Safe operation requires two hands at all times. I did not feel safe when I tried to work off a ladder.

The redesigned guard housing can be rotated up to 90 degrees to get deep into corners — an improvement over the older model — but the tool still leaves behind a 2- to 3-inch arc of untouched paint that must be removed by other means.

While the dust collector seemed to suck up all the small particles, some larger chips managed to fly out through the cut-out and hit me in the face. I started out wearing my prescription safety glasses with side shields, but eventually I smartened up and switched to goggles.



The Paint Shaver's triangular blades (A) can remove unwanted paint from the faces and butts of clapboards at the same time. But in the hands of an inexperienced operator, this powerful tool can easily damage the substrate (B), so it's a good idea to practice on an inconspicuous area. Also, even though the Paint Shaver excels at stripping wide, flat surfaces, it leaves a significant swath of untouched paint in the corners (C) that must be removed by other means.

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Metabo LF 724

The Metabo looks like the Paint Shaver's little brother. It's shaped like a mini-grinder and uses rotating carbide blades to remove the paint. But it's a much less aggressive performer.

Ease of operation. Whereas the Paint Shaver's three triangular blades use their pointed edges to chisel away the paint on the face of a board, the Metabo relies on a pair of flat-mounted blades that essentially plane off the unwanted coating. The planer analogy is appropriate because the rectangular blade guard features a 7½-inch-long machined aluminum base. The manual says the tool should be operated as if it were a planer, keeping the base in contact with the painted surface and working backward from stripped to unstripped sections. This method worked fine when I was able to do it, but I found that the ideal direction of cut often depended on the grain of the wood — and going against the grain raised a lot of fur that had to be sanded down later.

Even when I deviated from the script, though, the quality of the work did not suffer. Removing paint with the Metabo took



significantly longer than it did with the Paint Shaver. But it was less risky in terms of gouges and blemishes. And thanks to its compact footprint, the smaller tool also did a much better job in the corners. Dust collection was about the same as it was with the Paint Shaver.

Blade settings. Not wanting a repeat of my experience with the Paint Shaver, I set the blades for a shallow depth-of-cut at first, then gradually increased the setting until I found the sweet spot. For the work I was doing, the deepest setting (0.3 mm) worked best. To adjust the cutting depth you press a locking button and turn a dial with an Allen wrench.

The Metabo tool is easy to control and works deep into the corners (left). Adjusting the cutting depth is done with a T-handle Allen wrench (below).



Drawbacks. Like the Paint Shaver, the Metabo is outfitted with side cutting blades. These blades appear capable of stripping paint off the undersides of clapboards but in practice they are ineffective; their cutting depth is extremely shallow and there doesn't seem to be any way to adjust them. The owner's manual was no help in this regard. All of the tool's blades tended to gum up with old paint, but they were easy to clean using the miniature scratch awl included as part of the kit.

What About Chemicals?

Most chemical paint removers are best suited for small jobs. But Peel Away (800/656-5053, peelaway.com) is a notable exception. I steered clear of this product for years after hearing other contractors complain that it was extremely messy and caustic. What I hadn't realized was that it can also be extremely effective (see "Stripping Old Paint," 3/00).

Process. Peel Away comes in a variety of formulations depending on the coating and substrate in question. In the course of researching this article, I obtained a bucket of Peel Away 1, which is recommended for lead-based paint applied over a wood substrate. Similar in texture to tile cement, Peel Away is applied in a thick coating, then covered with a paper sheeting and left alone for a day or so to do its work. Afterward, the paper and all of the paint is supposed to "peel" off together, leaving essentially bare wood behind.

Learning curve. I first tried using Peel Away to strip a section of cornice that included crown molding and a heavily encrusted soffit. I thought I'd given the substance plenty of time, but when I pulled back the curtain, only some chunks of paint flaked off easily — others remained stuck like glue. Later I realized that I should have allowed extra time to account for the cool fall temperatures. I also should have been more meticulous about pressing the paper firmly into the paste, because air gaps can interfere with the stripping process.

Next I put the product to work on an old door that I set up on sawhorses in the workshop. This time, after 24 hours I was able to pry off all of the old paint — using just a 3-inch tapping knife — and wrap the whole mess up inside the paper for easy disposal. Once I'd wiped up with a wet sponge and neutralized the paint stripping

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Festool RAS 115.04 E

Although the RAS 115.04 E resembles a random-orbit sander, its motion is strictly circular. According to Festool, the machine gets its power — enough to remove multiple layers of paint and varnish — from a low-speed high-torque motor, which spins a compact 4½-inch sanding disc.

Hassle-free setup. After fiddling with an assortment of wrenches and screws to fine-tune the cut on the other power scrapers, it was a relief to simply slap on a disc and get to work. Not that I didn't have to make *any* adjustments. This tool has a variable-speed dial, inscribed with settings from 1 to 6. For paint removal, the manual recommends setting the speed control somewhere between 3 and 6. With practice I found that slower was better, and so I usually kept the speed at 3 or less.

Operation. Sandpaper grits for this tool range from 24 to 80. Outfitted with a fresh 36-grit disk, the Festool chewed through thin coats of latex paint faster and smoother than the Metabo. Performance dropped significantly, however, once the paper began to gum up, which tended



to happen within 10 or 15 minutes. (The 24-grit paper did not gum up as quickly but it was less effective at stripping the paint.) And when it took on thick, alligatored oil paint, the Festool could not keep up with the competition — regardless of the condition or texture of the sandpaper.



Dust control. Instead of extracting dust through holes in the sandpaper (there aren't any), the tool draws debris into a

gap between the edge of the sanding disk and the surrounding “extractor hood.” The hood is fitted with a moveable brush that you adjust by rotating the auxiliary handle. To maximize the amount of dust captured, the manual instructs the user to “turn the brush ring into the direction of travel of the sanding disk.” I often had to fiddle with the brush to determine its most effective placement, but once it was dialed in, it really cleared the air.

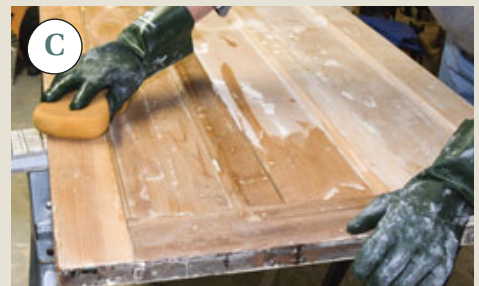
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with a vinegar-based solution, I was left with a smooth surface that was almost ready for repainting.

At about \$30 per gallon, Peel Away is no bargain, but it could save on labor costs for jobs that require removing thick layers of paint. And it generates no dust whatsoever.



Removing paint with the Peel Away system is a multistep process. First you coat the surface with a thick layer of paste (A), then you cover the paste with paper sheeting and wait for the chemical process to loosen the paint. After 12 to 24 hours, you peel the paint and paper off the surface and dump the whole mess in the trash (B). Last, you wipe down with water and neutralize the chemical using a vinegar solution (C).



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Shortcomings. The extractor hood is secured by a quick-release lever. While this lever makes for easy removal, it's also easy to bump, which can knock the whole tool out of alignment and damage the bristles on the brush ring. (Actually, the brushes seem to wear out quickly even when the alignment is spot-on. I was glad I had extras on hand when I needed them.)

There are definitely advantages to using a sander to remove paint: You don't have to worry if you strike an unseen nail head, and there's much less chance of marring the surface of the work. On the other hand, you'll almost certainly spend more money for sandpaper than you would for blades — a 25-pack of 4½-inch Festool discs can cost as much as \$20.

Speedheater IR 1100-15

Using heat to strip paint is a tried-and-true technique but it's lost favor in recent years. One problem is that it presents a fire hazard; another is that high-temperature heating devices — those that operate above 700°F — can turn lead into toxic gas.

According to its maker, the Speedheater uses infrared radiation to break the bond between the substrate and the innermost layer of paint. The company says the paint never exceeds a temperature of 400°F (well below the point at which lead vaporizes).

Based on previous experience I knew that the scrapers are almost as important as the paint remover, so for this review I requested a kit that included a clapboard scraper and a profile scraper.

Heat, scrape, repeat. As with the other paint removers, testing the Speedheater required a bit of trial and error. In this case it was somewhat like making an omelet. I'd place the tool on top of the doomed paint surface for about 20 seconds. When the paint began to bubble, I'd remove the heater and start to scrape. If my timing was just right, the paint would peel up in a sheet. If I was too soon, I'd have to reheat the surface for a few more seconds; but if I'd waited too long, the paint would come



The Speedheater has a multisided profile scraper that allows it to remove paint from moldings (left) as well as flat stock. Unlike high-speed rotary tools that require two hands to operate, it can be used safely on an extension ladder (right).

off in a gloppy mess. With practice I got it right more often than not.

Pluses and minuses. With the Speedheater in one hand and a scraper in the other, a skilled operator can strip paint in one continuous motion — or so I've been told. I never achieved that level of proficiency. For me, this tool was the slowest performer of the group when it came to removing thin paint layers (until the Festool sandpaper gummed up). But when the going got thick, the Speedheater left the competition in the lurch. Thick, heavily alligatored oil paint caused the mechanical paint removers to bog down like cheap snowblowers in heavy snow, while the Speedheater plowed through with ease.

I also appreciated this paint remover's versatility. The multisided profile scraper included in the kit made it easy to strip paint off moldings. The Speedheater was also the only tool I felt perfectly safe operating from an extension ladder.

And the Winner Is?

All of them. I'm not being flip: If I were a professional painter or a paint-removal specialist, I'd want one of each. The Paint Shaver is the production champion, and because it can carve two surfaces at the same time, it totally excels on clapboards. And the Metabo — though less powerful — is easy to control and works deep into corners. The Festool is a good choice for fixing mistakes (such as improperly applied prepping paint); equipped with medium-grit paper, it's also the perfect tool for smoothing out any imperfections left behind by the other tools.

If I had to choose only one of these devices, however, it would be the Speedheater, simply because it's the most versatile performer.

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