

C O R D L E S S

Finish Nailers



It's been about seven years since we first reviewed the Paslode Impulse finish nailer (*Toolbox*, 8/91). In all that time, Paslode has been the sole manufacturer of a self-contained nailer — one that doesn't require an air compressor or hoses. Impulse nailers are driven by an internal combustion engine fueled by compressed gas. Such an unusual design had a few early bugs that Paslode gradually worked out, creating a consistent and reliable nailer that's slowly finding its way onto job sites. In fact, Paslode's

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pioneering step into "linear combustion" technology has found a small but growing market for this new nailer category, and this success has attracted company.

In January 1998, Porter-Cable introduced the Bammer, a 15-gauge angled finish nailer. This tool is also driven by an internal combustion engine that uses compressed gas. However, the technology used by Porter-Cable differs from the Impulse. While it's too soon to say which technology will prove most durable over time, we have examined the latest models and put them in the hands of some finish carpenters. Here's what we found.

Paslode Impulse

Paslode's latest cordless finish nailer — the IM250 F-16 II — is a straight magazine nailer that fires 16-gauge nails. Designed to shoot nails from $\frac{3}{4}$ to $2\frac{1}{2}$ inches long, the

With no hose and compressor to wrestle with, these nailers are ideal for punchlist tasks and fussy indoor trim work



The IM250-II uses a 6-volt ni-cad battery to ignite a spark, and to power a small fan inside the combustion chamber. This fan aids combustion, cools the engine, and blows out the exhaust.



The Bammer engine gets by without a battery using a piezo-electric spark. To fire, the Bammer must be plunged against the nosepiece. This "pump-action" creates pressure differences inside the tool that blend the fuel/air mixture, and push out the exhaust.

Impulse is a versatile nailer that's well-suited for a wide variety of production and punch-out trim work.

How it works. The Impulse requires both a fuel cell — a small aluminum canister filled with MAPP gas — and a 6-volt ni-cad battery. One fuel cell (about \$7) drives about 2,500 nails. A single battery charge is good for about 4,000 shots. Recharge takes three hours after an initial conditioning charge of 24 hours.

When you pull the trigger, a spark drawn off the battery ignites a measured amount of fuel. The explosion forces the piston and driver blade straight down, driving the nail. The battery also runs a fan to aid combustion, cool the engine, and blow out the exhaust. The fan kicks on when the safety tip is pressed to the work, and kicks off several seconds after a shot.

The single blast of power with each shot was capable of fully embedding a 2½-inch nail into a red oak block I used for testing the gun. There's no way to turn down the pressure, so depth-of-drive has to be controlled with an adjustable tip. Paslode's solution — a thumb wheel that lengthens or shortens the safety tip — provides enough range to set a ¾-inch nail in the thin edge of clamshell or the full-length nail in my oak block. This adjustment also has a low profile so it won't snag on work, change settings with bumps and vibration, or get in the line of sight.

Over the years, Paslode has refined the Impulse design, and the result, though unconventional, is a practical tool for most trim work. Except for a loud pop and the constant droning of a fan, using the Impulse isn't much different from an air nailer without the hose.

The IM250 II weighs six pounds, most of it sitting towards the front end, making the Impulse feel nose-heavy at first. But when you pick the gun up to nail casing or hang crown molding, the weight of the front end rests comfortably in the crook of the hand. In a vertical position, the gun's weight is easy to balance and the Impulse becomes more maneuverable than many lighter nailers.

Bammer

The Bammer is only half a pound heavier than the Impulse, but it's a little more ungainly. What takes getting used to is the plunge action: To fire the Bammer, the front of the gun must be pushed against the nosepiece. This compresses the front cylinder, which mechanically pumps an even measure of fuel into the precombustion and main combustion chambers, and pushes out the exhaust from the previous shot.

The Bammer is designed to shoot 15-gauge nails. It fits the same D-head nail as most angled 15-gauge nailers. However, what you gain in nail thickness with the Bammer, you lose in nail range. The Bammer only shoots nails from 1¼ to 2½ inches long, comparable to most angled 15-gauge air nailers.

How it works. What Paslode does with a fan to stir the fuel mixture and aid combustion, Porter-Cable accomplishes by manipulating gas pressure inside the tool. To provide an even flow of gas as the fuel cell empties, the fuel first enters a conspicuous finned regulator at the end of the handle. The gas fills the chambers inside the fins, and picks up heat from the fins to stabilize the fuel's temperature (hence the pressure).

When the trigger is pulled, a piezo-electric ignition delivers a spark to an electrode in the precombustion chamber. The spark ignites the fuel, sending thin fingers of flame through holes in an accelerator plate that separates the precombustion and main combustion chambers. These fingers are key to creating an instantaneous and even burn with enough explosive force to drive the nail. According to Porter-Cable, the piezo-electric ignition is good for some 30,000 shots, and is a replaceable part that can be changed out by the operator. The part sells for around \$10.

The Bammer had plenty of power to embed a 2½-inch nail into my oak block. Its nosepiece is adjustable with a small hex key that stores on the magazine.

Feature Comparisons

I've yet to meet carpenters who weren't excited about using a power trim nailer without an air hose. When you do trim work on site, manipulating the hose can be half the work. When you go up on a ladder, you end up pulling the weight of the hose with you. Couplings catch on finished baseboards and doorways. And no one, client included, is ever pleased by the noise of the compressor kicking on. Among the carpenters I surveyed, the absence of a hose was most noticed on scaffolding, stairways, and around furniture, regardless of which gun they used. Nevertheless, when surveying tools, carpenters are natural critics, and they weren't shy about voicing opinions.

Plunge action. It requires about 23 pounds of force to plunge the Bammer a full 3 inches to its firing position. This clearly takes getting used to. Most carpenters adapted quickly, but noted that with straight runs of nailing, the Bammer's plunge action demands a workout from the operator's arm.

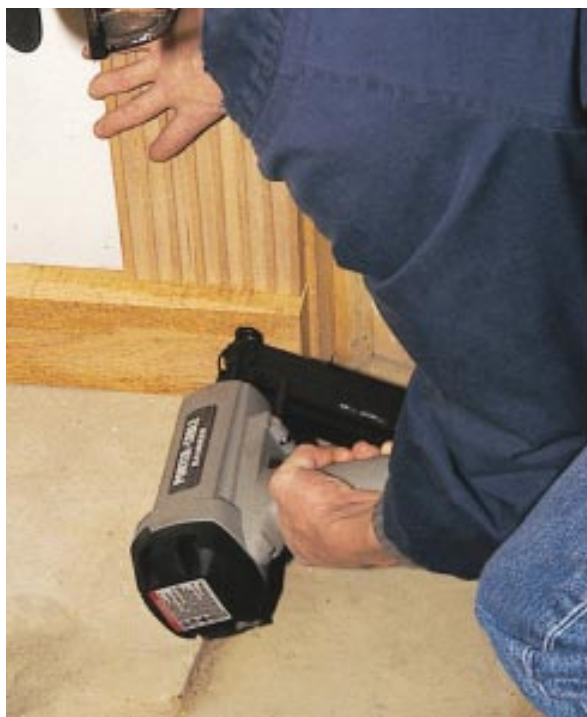
Speed nailing. While the Paslode operates much like a conventional air nailer, it is a sequential-trip fire gun and can't bump fire. But this won't slow down a trim job: the Impulse bangs out the nails at an even clip that's plenty fast for site work. The Paslode could be used as a replacement for any finish nailer for custom trim work.

The Bammer, on the other hand, proved better for assembly work and small punchout details. But it probably wouldn't replace an air nailer on bigger trim jobs.

Nail selection. Nail gauge falls second to nail length. The wide range of nails that the Impulse shoots ranks high. The advantage of the heavier nail used in the



The balance of Paslode's IM250-II makes it comfortable to hold in the vertical position used for the majority of trim jobs.



The Bammer's 15-gauge nails consistently penetrate heavy trim pieces like this plinth block without bending following the grain.

Cordless Nail Gun Comparison

	Loaded gun wt.	Nail wt.	Magazine	Ignition	Nail range	Retail price
Paslode IM250 II	5 lb. 12 oz.	16 ga.	straight	spark plug & battery	3/4" - 2 1/2"	\$550
Porter-Cable Bammer	6 lb. 6 oz.	15 ga.	angled	piezo-electric	1 1/4" - 2 1/2"	\$300



Hoseless nailers drive at only one power level, so to vary the depth-of-drive, both nailers have adjustable nosepieces. The Paslode adjustment (left) consists of a simple thumb wheel, while the Bammer (right) requires a hex key, which is stored on the magazine.

Bammer comes into play, however, with heavier hardwood trim. Wide crown, heavy build-ups, and thick pieces of stock tend to go together better with 15-gauge collated nails. This is partly due to the increased holding power of the thicker nail, but also because 15-gauge nails tend to drive more reliably into heavy stock. For example, the Impulse's nail would sometimes crumple going into the 3-inch oak block. While it was easy enough to clear the nail from the Paslode's quick-release nosepiece, it's always a nightmare to have to clip off, pull, or reset a misfire in finished material.

Ergonomics. The Impulse is light, compact, and well-balanced when held in a vertical position — the position used for the majority of trim work. A belt clip at the end of the magazine allows the gun to hang comfortably with a low center of gravity.

The Bammer's long, front cylinder makes for a larger, front-heavy package. Its belt clip, which holds the gun in a more awkward horizontal position, can be installed on either side of the cylinder head. With both guns, it pays to spend some time studying the manual to get

used to changing fuel cells, which are not obvious on either gun at first.

Noise. Both guns fire with a loud pop. Overall, the Impulse seems much louder, both from the sound of the shot and of the background fan noise.

Price is Right

So which gun would carpenters prefer? I swapped the guns between five crews on different job sites, and each crew used the guns for at least a week. As I shuffled guns around, a clear pattern emerged. At first, most favored the Paslode, citing that it's well-balanced and has a versatile range, and that they were uncertain about Bammer's plunge action. After a week on site, about half gravitated to the Bammer, claiming the action takes getting used to, but with practice, you hardly notice. Most, however, agreed the Bammer was not a production tool. Long runs of baseboard and casing can give your arm a workout. And it is slower. But for punchlist work — those last minute changes done over carpet and fresh paint — both guns excel.

I purposely avoided the subject of pricing until the end, to keep everyone focused on the tool design. But I made sure to ask on my way out the door, So which one would you buy? Price proved the clincher. As of this writing, the Impulse retails for about \$550, while the Bammer goes for \$300. At this price, nearly everyone in my test group said they'd opt for the Porter-Cable, and all the back and forth about nail range, plunge action, battery vs. no battery, and 15- vs. 16-gauge didn't seem to matter as much.

The final showdown between the Bammer and the Impulse will no doubt go down sometime in the near future. Porter-Cable's competitive pricing will initially make cordless nailing accessible to a much wider audience, which will also boost interest in the Impulse. But so far the differences in the guns don't warrant a \$250 difference in price. Paslode's pricing will have to come down.



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