Cord-Free Finish Nailer

by Clayton DeKorne

Two years ago I tested the Paslode Impulse framing nailer (see Toolbox, 8/89). While this tool proved slower and noisier than a pneumatic framer, I found it very convenient to use. The Impulse is cordless, so it is safe and very maneuverable over open joists and rafters. And I liked being able to walk straight to a task, climb a ladder, or hang off scaffolding without having to deal with the long pull of a hose. Of course, I couldn't help thinking that these cordless advantages would be great on a finish tool.

At the time, Paslode claimed to be testing a finish Impulse — to be dubbed the *Trimpulse*. Late last year they finally introduced this tool, and we got the chance to test it. We kept the tool for five months of shop tests and took it out on several finish jobs with other builders. Overall, it seems Paslode has learned a lot from their experience with the framing nailer. The new Impulse 250 is a much tighter, more refined nailer than previous incarnations.

Engine Driven

Like the Impulse framing nailer, the new finish gun requires a battery and a fuel cell, but uses no compressor or hoses. It is driven by a simple internal combustion "engine" that burns MAPP gas (methyl anadine propadine). A spark produced by a 6-volt ni-cad battery ignites a measured amount of fuel and the explosion forces the piston straight down to drive the nail. The battery also runs a small fan that aids combustion, cools the engine, and blows out the exhaust.

The Impulse finish nailer uses a different "metering valve" on the fuel canister to measure out the proper amount of gas to drive each nail. The valve for the finish tool has a yellow tip instead of a red one, but otherwise the cannisters are identical. According to the manufacturer it takes about half as much fuel per nail than the framing tool. A single cell will drive about 2,500 nails.

To control the depth of the nail set, Paslode uses several rubber tips on the nose of the gun. A black tip sets a nail nicely in solid maple and oak, but drives the nail a little too deep in pine and poplar. For these softwoods, there's a thicker gray tip that works well. On one job we had some trouble with overdriving and splitting the thin edge of pine clamshell casing, but we solved the problem by building the tip up with a little rubber cement and a faucet washer. Paslode has since come out with another tip that's even thicker. One extra tip stores on the handle of the gun. It's a little awkward to change the tips, and you have to keep track of the little buggers, but it's probably no more hassle than going back to a compressor to adjust the air pressure.

The fan motor kicks on when the tip is pressed to the work. This is a noticeable improvement over the framing gun which has a fan that runs as soon as you pick up the tool. Not only is the finish gun quieter, but it uses very little of the battery charge. Paslode claims you get between 4,000 and 8,000 shots on a single charge; one Paslode spokesman claimed 9,000. While I didn't keep an exact count, I found the charge always lasted beyond a box of 5,000 nails.

Maneuverable and Versatile

Two features set the Impulse finish gun apart from other finish nailers — it's cordless and it will accept a wide range of finish nails. This combination makes the Impulse an extremely versatile nailer.

Without hoses and a compressor, the gun is very maneuverable. Carpenters using the tool frequently remarked on the "blessed absence" of the hose. This was most noticed on scaffolding, stairways, and around furniture. I especially like not having to worry about hose connectors dragging over the work and catching on wall corners.

The tool is also easy to set up. It's great to walk on a job, open up the case, and start working. While it would be hard to estimate the daily set up time for a compressor, and the time spent messing around with hoses for pneumatic nailers, it must be considerable.

Perhaps most impressive when compared to other nailers is the wide range of nail sizes the Impulse will shoot. It handles 3/4- to 2 1/2-inch nail sizes, making it one of the most versatile finish nailers available.

The Impulse accepts the same 16-gauge nails as other Paslode finish nailers, but boxes are packaged up just for the Impulse that include the fuel cells. A box of about 5,000 nails with two fuel cells goes for around $20.

The Impulse 250 finish nailer is cordless, and will drive 3/4- to 2 1/2-inch nails, making it one of the most versatile power nailers available.

Needs Fresh Air

The single biggest drawback to the Impulse is the exhaust. Like any internal combustion engine, the Impulse emits a noxious exhaust that includes carbon monoxide. Ordinarily, this exhaust would be odorless, but Paslode has added a mild scent to warn an operator of the hazard. You have to provide some ventilation when working with this tool. But because the exhaust is scented, you can regulate the amount of ventilation by how noticeable the fumes are. Usually this just means opening a window, but even that may be a drag in very cold weather. Compared to the framing gun, which emits more exhaust per shot and often involves rapid firing, the fumes from the finish gun are slight.

The load pop with each shot also takes a little getting used to. Overall, however, the shot is very smooth, with hardly any recoil.

The Impulse finish nailer sells for between $600 and $750 including a carrying case that will hold up to 5,000 nails and two fuel canisters. This is certainly more expensive than most finish nailers, but the Impulse is self-contained and doesn't require a compressor and hoses. For the price, you get a complete and versatile finish nailer that's very convenient to use. ■

TOOLBITS

Choosing drill bits. Several readers have asked for a clarification of the materials used to make drill and router bits. Most good-quality wood boring bits (spade, auger, Forstner, brad point, etc.) are made with *heat-treated, high-carbon steel.* This quality steel is sufficient for boring through even the hardest woods.

The better twist drill bits, on the other hand, are often made with *high-speed steel* (HSS), which is necessary for drilling through metals. The three common types of high-speed steel have small quantities of either *tungsten*, *molybdenum*, or *cobalt* added to a high-carbon steel to increase the strength and durability of the metal. Molybdenum high-speed steel has better corrosion resistance than tungsten steel, and cobalt high-speed steel has a higher abrasion resistance than the other high-speed steels. Cobalt high-speed steel is preferred in machine shop drill presses for drilling through high-strength alloy metals, but it's probably overkill for most light construction work.

Other advances in technology have emerged from the machining trades. *Black-oxide* is a tempering process that increases the corrosion resistance of high-speed steel bits. And recently, tool bit manufacturers have started offering a variety of coated drill and router bits to the construction trades.

Titanium-nitride is the most common coating material (available on Black & Decker *Bullet,* Vermont American *Sidewinder,* and Bosch twist drill bits), but other coatings such as *zirconium* and *titanium-carbide* are available.

These exotic metal coatings are molecularly bonded to high-speed steel bits, forming an extremely smooth surface that reduces friction and heat build-up. The coatings are extremely hard and increase the edge-holding strength of the bits, and also resist corrosion. Manufacturers claim the coated bits last four to six times longer. Coated bits cost about 50% more than high-speed steel and about 25% more than carbide bits.

These improvements are probably overkill, unless you're doing a lot of drilling in stainless steel and other hard-to-drill alloys. For small-diameter router bits, however, the coating is sometimes worthwhile. Very small diameter (1/8-inch or so) spiral and straight-flute bits are often made of solid carbide. But these are very brittle and tend to break easily. Coated bits (available from Eagle America, PO Box 1099, Chardon, OH 44024; 216/286-7429) will hold an edge as well as carbide for high speed routing in wood, but are much tougher.

— *C.D.*