

Cordless Framing Nailers



Are they ready for full-time use?

Four brands, five reviewers, and 25,000 nails' worth of research shed some light on the pros and cons of unplugging from the air compressor



BY JOHN SPIER

A dozen or so years ago, I tried out a gas-powered, cordless framing nailer. I wasn't too impressed at the time; the gun was a lot slower than I was. But I thought the idea of unplugging from the compressor had merit, so I've been watching these tools ever since, figuring that the technology had to be improving. When *Fine Homebuilding* offered my crew the chance to put a few of the newest nailers through their paces, I jumped at it. The five of us used them for a couple of months, doing miscellaneous framing and two gut rehabs, and most recently building a new two-car garage.

What they're good for, and what they're not

By the end of our testing, I was convinced that one of these tools easily would pay for itself on those little projects where I don't want to set up an air compressor and a hose. With a cordless nailer and some battery-powered saws, I can go into a house and build a soffit, change a door or window opening, or frame a closet in less time than it normally would take me to set up power and air for my pneumatic tools. Gas-powered guns are also great for small jobs where I don't want to carry a compressor up three flights of stairs, or listen to it run constantly as I work in a small, cramped room. If you're an electrician or plumber who only occasionally needs a framing nailer, say to put

up some blocking, these guns definitely make sense. As long as you remove the battery and gas cartridge between uses, half-charged batteries and half-used fuel cells stay fine over several weeks of inactivity.

To say that these guns are ready for full-time framing would be a stretch, however. Trust me, we tried. To put the guns to the test, my crew and I left our compressor and hoses in the truck and framed an entire 24-ft. by 32-ft. Cape-style garage with three dormers. I really liked climbing around on staging with no hose dragging behind me, but the guns slowed us down by misfiring, by not sinking nails consistently, and by running out of gas or low on battery power in the middle of use.

Still some kinks to work out

Not one of these guns had the power to drive 12d or 16d (3¼ in. or 3½ in.) nails consistently all the way into framing lumber. They all did OK with 3-in. nails, which is fine for interior framing but not for floors, exterior walls, and roofs. They also struggled with 8d ring-shank nails, which our local code requires for exterior sheathing and shear walls. Having to drive home half of the protruding nails with a hammer sort of defeats the purpose of using a nail gun.

The nosepiece of all these guns needs to be depressed fully before the trigger is pulled; they can't be bump-fired by holding the trigger

**AUTHOR'S
BEST OVERALL
CHOICE**



PASLODE 900420

The Paslode nailer is slightly smaller and lighter than the others, and its plastic body seems fairly tough. It has a well-protected battery slot, and the reversible combination belt-and-rafter-hook is by far the best. The pinch-and-pull depth of drive works well despite the nailer's being unable to drive some nails all the way. Paslode's nailer is the only one to require that the nail-feeder slide be pulled back before the gun is loaded; this is hard to get used to only when switching between guns. The Paslode nailer never jammed in two months of hard use, so I never

had to follow the manual's disassembly instructions.

Paslode offers only one framing nailer, which shoots full round-head nails collated at the steeper angle of 30°, commonly seen only with clipped-head nails. Paslode achieves this feat by offsetting the nail shanks to the edge of the round heads. The offset heads on these RoundDrive nails still meet building codes in areas where full round heads are required, and Paslode claims that the offset heads test comparably with conventional centered heads in terms of pullout strength. Paslode's RoundDrive nails also fit into the clipped-head guns made by other manufacturers.

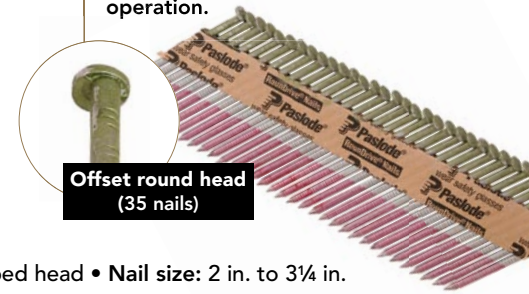
The paper collation on the RoundDrive nails is an improvement over other round-head racks; it produces less flying

Clever pinch-and-pull depth adjustment



plastic. Initially, I was concerned about the durability of paper collation. The racks of nails needed for my old pneumatic Paslode guns used to soften and not feed properly when exposed to moisture. But I've tried soaking these new nails in water, and they seem to be unaffected.

Paslode pioneered the technology that makes gas-powered nailers possible, and the company's 20-year head start is evident. This gun is the one I'd keep in the truck, based on its design, its features, and its trouble-free operation.



Offset round head (35 nails)

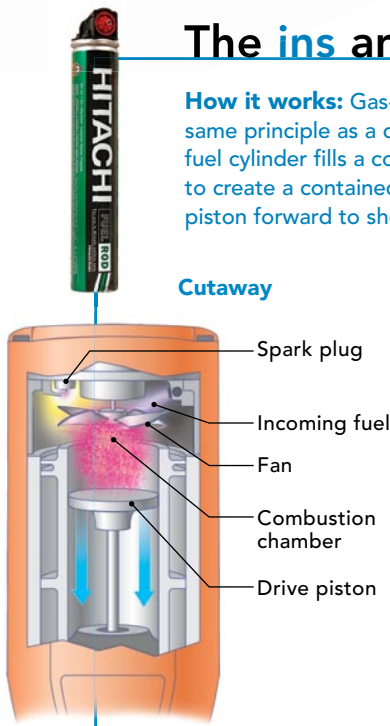
www.paslode-cordless.com Price: \$370

Weight: 7.4 lb. • Nail type: proprietary RoundDrive, or clipped head • Nail size: 2 in. to 3¼ in. Collation: 30°, paper tape • Capacity: 48 nails

The ins and outs of a gas-powered nailer

How it works: Gas-powered nail guns work on the same principle as a combustion engine; gas from a fuel cylinder fills a combustion chamber and is ignited to create a contained explosion, which then drives a piston forward to shoot the nail.

Cutaway



Clipped head (37 nails)

What it shoots: Paslode nailers use proprietary offset-head nails, called RoundDrives (photo above right). Max, Hitachi, and Powers offer two nailers each: one for round-head nails and one for clipped-head nails. The shallow angle (roughly 20°) and widely spaced collation of round-head nails are necessary to fit the fasteners side by side, but result in fewer nails per rack. Clipped-head nails are collated more closely together and at a steeper angle (roughly 35°), making them more compact. If nail sizes are equal, a clipped-head rack will have about 10% to 20% more nails than a round-head rack. Some building codes require the use of full round-head nails (Paslode's offset round heads are acceptable), but otherwise, I would choose a clipped-head nailer for its extra capacity, even though the tools can be more expensive.

Round head (25 nails)



and pressing the nosepiece against the work. This safety feature is good, but it definitely slows down the work. To make things worse, all the guns have the same two-stage nosepiece action: The first step turns on the fan, and the second releases the safety. The pressure required to press the nosepiece fully can be awkward, especially when reaching at arm's length.

All the cordless nailers use straight collated nails, presumably because the fuel-cell technology needed to advance coil nails hasn't been developed yet. I gave up my pneumatic stick nailers long ago in favor of coil nailers because coil nailers hold five times as many nails (200 8ds in a coil vs. about 40 in a stick). When I'm nailing off plywood, stick guns need to be reloaded two or three times per sheet. Also, all stick nailers—pneumatics included—tend to misfire a lot more than coil nailers, and they blow plastic shrapnel all over the place. The occasional misfire is no big deal, but when you're straining every muscle to hold something on layout with one hand, it's not something you want to worry about.

These nailers all are lightweight plastic-bodied tools. You can't use them to thump things into place the way I've been doing with my alloy-bodied pneumatic nailers all these years. Also, I suspect they won't do as well when they inevitably fall from a high place, especially because they don't have a hose to break their fall.

Battery power and cost of use

All these guns came supplied with only one battery. I initially thought that this was a liability because any other cordless tool is just about worthless for professional use if it doesn't have a backup battery to use while the first recharges. Manufacturers say that you can drive approximately 4000 nails on one battery charge. We didn't count, but I can say that a fully charged battery lasted all day most of the time, no matter how hard the gun was working. The only time that I had trouble was when I forgot to put a battery in the charger overnight.

Battery cycle life shouldn't be a problem, either. These batteries are low voltage (6v for the Max, Powers, and Paslode models; 7.2v for the Hitachi models). My experience with other tools has been that this type of battery recharges many hundreds of times, as opposed to higher-voltage batteries, which need more frequent replacement.

Every nailer except the Hitachi came with a battery charger consisting of a transformer connected to a battery holder with a length of 22-ga. wire. These contraptions reminded me of cell-phone chargers designed for home use; I don't have much faith in their long-term survival on job sites. When I questioned the cordless-product manager from Paslode about this, he told me they use this type of charger because they can offer a 12v vehicle plug-in option. I didn't get to try that out, but it sounds like it might be a handy option.

Fuel-cell life wasn't a big issue. A hardworking carpenter might use two or three \$10 fuel cells in a long day; in an area where labor costs are between \$20 and \$50 per hour, this is not a significant part of the financial picture. Manufacturers claim that fuel cells fire about 1200 nails before needing replacement. We tried to quantify the actual number of nails driven, but decided that there were too many variables to control and that the results wouldn't be that crucial. □

John Spier is a builder on Block Island, R.I. Photos by Krysta S. Doerfler, except where noted.

HITACHI www.hitachipowertools.com



NR90GR
Price: \$320

NR90GC
Price: \$380

MAX www.maxusacorp.com



GS683RH
Price: \$395

GS683CH
Price: \$365

POWERS www.powers.com



Trak-it
W3-21FRH
Price: \$330

Trak-it
W3-34CDH
Price: \$310

Fuel-cell photo, facing page: Courtesy of Powers

Like many other Hitachi tools, the round-head nailer has a comfortable grip, especially for smaller hands. The fuel-cell loading door is designed nicely, with a simple sliding latch that doesn't require finesse to open or close. Hitachi is also the only manufacturer to supply a one-piece, one-hour battery charger (charge time is 2 hours for the Paslode, 2½ hours for the Max and the Powers nailers).

After these few positive points, both of the Hitachi nailers go downhill fast. They have the least power of all the guns, so we had



Easy-open fuel-cell door

to use a hammer to set a lot of nails. The depth-of-drive setting—which requires an Allen wrench—worked but was often pointless because the nails weren't set to begin with. The nonreversible belt/rafter

hook is on the right-hand side of the nailer. That's fine for a left-handed carpenter, but for a righty like me, this placement falls firmly into the "What were they thinking?" department. And to top it all off, the Hitachi nail-



Troublesome hook

ers misfired more often than all the other guns combined.

Although the clipped-head model is slightly lighter and more compact than its round-head sibling, I found it much less comfortable to use. Hours of repetitive plywood nailing opened a sore on my thumb from pressing the clipped-head

nailer against the sheathing. This gun was the one that finally drove me to switch back to my pneumatic nailers.

SPECIFICATIONS

Hitachi NR90GR

full round head

Weight: 7.9 lb.

Nail size: up to 3½ in.

Collation: 20°, plastic

Capacity: 42 nails

Hitachi NR90GC

clipped head

Weight: 7.7 lb.

Nail size: up to 3½ in.

Collation: 33°, paper

Capacity: 47 nails

The Max nailers have some redeeming features. The depth-of-drive adjust-

ment was fast and easy, and required no tools; it worked well within each model's power limitations. The reversible rafter/belt hook is effective. The spurred nosepiece is heavier duty than that on the Hitachi and Paslode models; after a few months of use, it was still sharp, where the others were rounded over and dull. The Max round-head



Thumbwheel depth adjustment

gun was the only one that jammed during testing, and it wasn't much fun to fix. I had to remove the three hex-head screws holding the magazine in place and juggle

several small parts that can fall off in the process before accessing the jammed nails that still had to be pried out. This happened twice, and I couldn't figure out why. I checked the nails carefully to make sure I

hadn't misloaded the gun, and I hadn't hit anything very hard.

Like Hitachi and Powers, Max makes one gun for round-head nails and one gun for clipped-head nails. Unlike the Hitachi, though, the Max clipped-head nailer was comfortable to use. The differences in the handling configuration were subtle but significant. Also, I initially had trouble getting the round-head nailer to fire. I finally figured out that the battery was defective and would not take a charge. Fortunately, I was able to test both nailers using one battery.

Max GS683RH

full round head

Weight: 7.8 lb.

Nail size: up to 3¼ in.

Collation: 21°, plastic or paper

Capacity: 32 nails

Max GS683CH

clipped head

Weight: 7.8 lb.

Nail size: up to 3¼ in.

Collation: 34°, paper

Capacity: 40 nails

Close inspection of the Powers

round-head nailer didn't reveal any differences from the Max models. Even the carrying cases came out of the same mold; the only differences in appearance that I could find were the color scheme and stickers. But several of my crew members thought that the Powers gun had more power, so to speak.



Fuel-cell choices

Because Powers makes a few different gas-powered fastening tools, they have a few different sizes of fuel cells. The wood-framing nailers shown here typically are powered by red-capped fuel cells, but if you run out, you can use blue-capped (con-

crete nailer) cells and keep working. Company reps claim there is no difference in performance between the two cells. We also discovered

that the Powers nailer could use Paslode fuel cells and Hitachi nails. A Powers sales rep confirmed this, a refreshing change from all those tool manuals that threaten you if you don't use the manufacturer's own proprietary accessories.

The Powers round-head nailer was the only one that got an inadvertent drop test, from the top of an 8-ft.-tall stepladder. Nothing broke, and it still worked fine afterward. Powers also makes a clipped-head nailer, but it was not available for this review.

Powers W3-21FRH

full round head

Weight: 7.8 lb.

Nail size: up to 3¼ in.

Collation: 20° to 22°, plastic

Capacity: 32 nails

Powers W3-34CDH

clipped head

Weight: 7.8 lb.

Nail size: up to 3¼ in.

Collation: 34°, paper tape

Capacity: 40 nails