Popular Mechanics

Cordless Nail Gun Comparison Test

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Finish guns are an essential part of any carpenter's tool box, but they come with strings attached. Or, rather, they come with 3/8-inch pneumatic hoses attached—working with a finish gun usually means lugging around a cumbersome compressor tethered to a tube. But finish guns are changing. There are now a variety of cordless options available, each with a different fuel source. So how do they measure up to the traditional air-powered gun?

Finish nail guns are essential for tacking up trim, assembling window casings and finishing furniture. Several new cordless designs make the tool easier to tote up a ladder to replace a rotted section of soffit. But what are the drawbacks compared to their hose-tied counterparts? We tested four different kinds of nail guns: the traditional compressor-powered gun, an 18-volt with a flywheel motor, a gun powered by propane and 1-butene, and another 18-volt with an onboard compressed nitrogen tank.

The tests performed here evaluate how three new cordless finish guns stack up against the standard as well as one another. I measured fuel life, power, ergonomics and overall ease-of-use. The contenders included the new Bosch 250-15, a representative of the traditional compressor-powered gun; the Paslode 900600 runs on a rechargeable battery and a small on-board cartridge of compressed propane and 1-butene gas mix; the DeWalt DC628K uses a rechargeable 18-volt NiCad battery that propels the nails with a flywheel motor; and finally, the Senco Fusion, the newest of the technologies, also uses a rechargeable 18-volt battery, but it has an onboard tank of compressed nitrogen gas that fires out nails.

Getting Started

The Senco and the DeWalt were easy enough to get going—just charge up a battery and click it on to the tool. The Paslode's dual fuel sources slowed down the setup a bit, because in addition to charging the battery, I had to click a small nozzle to the gas tank and insert it into the rear of

the tool. To get the compressor-driven Bosch gun going, I plugged in the compressor, filled it with air, and connected it to the gun with an air hose. The Bosch also needed a few drops of oil.
Winner: Senco and DeWalt

Fuel Life

To test longevity, I fully charged all the batteries and loaded each gun with identical 2-inch nails (except for the Paslode, which takes slightly thinner nails). I set the nail depth to the maximum and fired away into a 2 x 4 until each gun could nail no more. The Bosch gun, powered by a compressor, was exempt from this test. I didn't feel it necessary to continuously shoot the gun until the compressor motor burned out some time in 2013.

The Senco Fusion shot out 235 nails before the battery went dead. The DeWalt had a very similar result with a total number of 204 nails, enough to last all day in most carpentry circumstances.

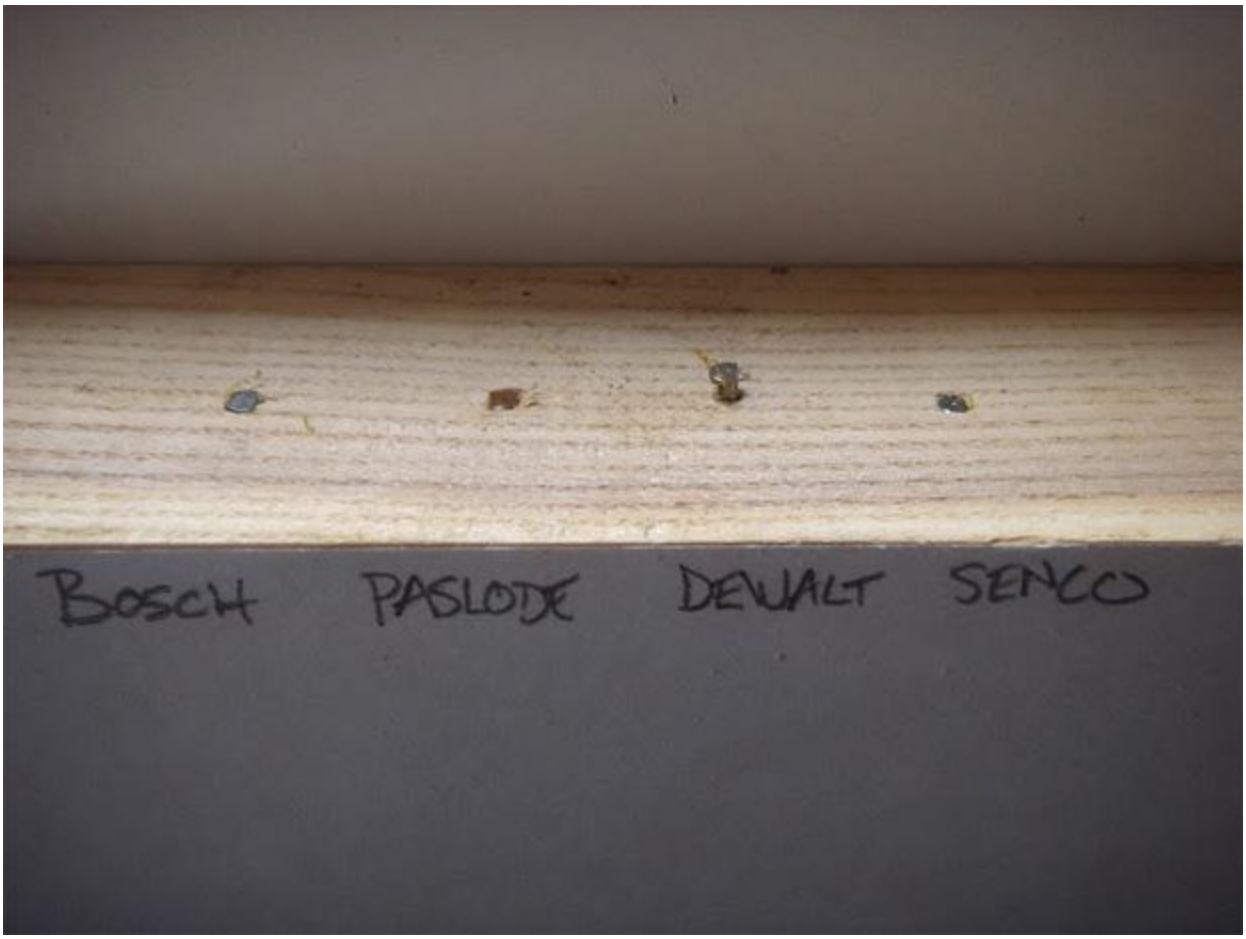
Then came the Paslode. When I started shooting nails, I had no idea what I was in for. I loaded magazine after magazine after magazine and still, the gun kept shooting. Finally at 1107 nails, the gas tank was emptied (and the battery still had some life). On the downside, this test allowed me to spend some quality time with the smelly gas discharge of the dual fuel gun. It's not toxic, but it's not all that pleasant either.
The Stinky Winner: Paslode

Power

To measure how much oomph is behind each gun, I stacked up a few of pieces of 1-inch foam insulation and shot a nail into them with each gun at the maximum depth setting. Then, I took the pieces apart and measured how far the leading edge of the nail travelled -- sort of like homemade ballistic gel.

Again, the Senco and DeWalt had similar showings; the Senco at 2-1/2 inches and the DeWalt at just a hair under that. As with the fuel test, the Paslode had a superior showing, with the nail making it to within a cat's whisker of the 3-inch mark. The Bosch, set to 120 psi (maximum recommended) proved the strongest, putting the tip of the nail at the 3-1/2-inch mark.

The foam test really only measures the speed at which the nail leaves the gun, so I also shot nails into a 2 x 4 block of oak to simulate more realistic conditions. The Bosch left the nail flush with the wood, the DeWalt nail was proud by about 1/8-inch, the Senco put the nail just below the surface, and the Paslode drove the nail so far into the wood that I couldn't even see the head of it.
Winner: Paslode



Observations and Conclusions

Traditional Compressor Gun

Bosch 250-15 ($200)

Weight: 4.2 pounds

The Bosch is by far the lightest and thus the easiest to use over long periods of time. While there is no concern over the gun running out of steam (as long as you have electricity for the compressor), the downside is that you're anchored to a tank. Good luck getting it up a ladder.

Strong points: Weight, power

Weak points: Overall maneuverability of the compressor set-up

Battery-Powered Flywheel Motor

DeWalt DC628K ($350)

Weight: 8.8 lbs

The DeWalt is the heaviest of the guns (twice as heavy as the Bosch) and also the weakest. The

flywheel motor can handle softer woods with no problem, but it struggled with the block of oak. Because it takes a standard 18-volt DeWalt power tool battery, it could be convenient if you have other DeWalt tools within their XRP NiCad platform.
Strong points: Easy set-up
Weak points: Strength, weight

Battery/Gas

Paslode 900600 ($315)

Weight: 4.8 lbs
The Paslode was the most powerful of the guns and it dominated the battery test. The ergonomics are good and it's the lightest of the cordless crowd, but it does have some hitches. The Paslode needs its air filter cleaned regularly, whereas a finish gun usually requires no more maintenance than a drop of oil now and then. Also, replacement gas cartridges are an additional expense to be factored into the long-term costs of the gun. And then there's the filling station odor. But that's a subjective critique.
Strong points: Strength, battery life
Weak points: Gas odor, increased maintenance, additional cost of gas cartridge

Battery with Nitrogen Gas

Senco Fusion ($400)

Weight: 6.6 lbs
The Senco was the tortoise gun—slow and steady wins the race. It didn't achieve greatness in any of the tests, but it did well in all of them. Of the guns, the Senco had the most even distribution of weight, power, ease-of-use and maneuverability. Because the nitrogen tank is a closed system, there is no need to refill it or replace it. It's also the most expensive, costing twice as much as the Bosch.
Weak points: Price
Strong points: Consistent in all categories

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