



TOOL TEST

Lightweight Framing Guns

These sub-8-pound guns are comfortable to use and surprisingly powerful

by Tim Uhler

I run a framing crew in the Pacific Northwest, and in this part of the country we use full round-head (FRH) plastic-collated stick nails. These nails are collated at an angle of 21 to 22 degrees, and the guns that take them have longer magazines than the guns that drive paper- or wire-collated fasteners. I've been using this type of tool since high school, and the thing I like most about the newer models is how much lighter they are than the

guns I learned on. Many of these guns have also been shortened top-to-bottom to fit more easily between tightly spaced framing members.

For this article, my crew and I tested the seven plastic-collation stick nailers that weigh less than 8 pounds (with an air fitting but no nails). We wanted to test the very lightest models, and that seemed like a reasonable cutoff. The paper-collated versions of all of these tools are listed in the spec chart on pages 46 and 47. Those models have different magazines than the guns we tested but are otherwise the same.

Our method of testing was simple: Take the tools to the job site and use them in the normal course of our framing work. Later on, we drove full clips of nails into lumber at varying speeds and counted the number of heads that were not set flush.

Weight and Balance

As important as it is for a gun to be light, it's even more important for it to be well-balanced. If two guns weigh the same, the one that's less well-balanced will cause more fatigue and feel heavier. Except for the Porter-Cable, most of these guns feel

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very well-balanced. The Porter-Cable is tall and feels quite bulky. At 7.5 pounds, the Max is one of the lighter guns tested and is so well-balanced it feels lighter than it actually is.

Performance

Here's how the nailing tests were performed: With the compressor set to 115 psi, I put a 28-nail clip of 3-inch by .131-inch nails into each gun and then bounce-fired into a double layer of LVL until it was empty. For models that don't let you fire the last few fasteners, I loaded enough to

fire 28. I performed the test twice, waiting for the compressor to refill and stop running before starting with another gun.

In the first test I fired at the pace I'd normally shoot framing, and none of the guns left any nails proud. The guy I was working with pointed out that when we frame walls we normally shoot three nails through the plate and into the stud, take a step, and then shoot the next stud. Used that way, the guns have time to cycle and have little trouble driving fasteners flush.

In the second test I fired as fast as the guns would go while another carpenter

timed how long it took to empty the clip.

I wouldn't make overly much about these results, because there are only a couple of times you nail this way in real-world framing. You do it when you gang LVLs together — and even then the guns have time to cycle because you drive three nails and then move 12 inches down the board for the next set. You might go faster nailing sheathing, but the fasteners will be smaller and take less power to drive. The five guns that left zero nails or one nail proud were at the top. The Porter-Cable and the Ridgid were at the bottom.



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	Bostitch LPF21PL	Grip-Rite GRTFR83	Hitachi NR90AE(S)	
Height (INCHES, BY AUTHOR)	12¼	12¾	13⅛	
Length (INCHES)	21½	21⅝	21¼	
Weight (BY AUTHOR)	7.66 pounds	7.50 pounds	7.36 pounds	
Nail length (INCHES)	2 to 3¼	2 to 3¼	2 to 3½	
Nail diameter (INCHES)	.113 to .148	.113 to .148	.120 to .131	
Mode selector switch			●	
Dry-fire lockout		●		
Rafter hook	●	●		
Includes	Gun	Gun, wrench, oil, safety glasses	Gun, safety glasses	
Web price	\$220	\$205	\$180	
Country of origin	Taiwan	Taiwan	Taiwan	
Warranty	7-year	3-year	5-year	
Equiv. paper-tape model	LPF33PT	GRTFC83	NR90AD(S)	
Pros	One of our favorite models; compact; well-balanced; dampens recoil very well	Large metal rafter hook; sharper-than-average nosepiece; includes swivel air fitting	Reliably drives nails flush; comfortable grip; good depth-of-drive mechanism	
Cons	Rafter hook is looser than others so gun sometimes pivots when hung from a belt	Grip is thicker and less comfortable than on other models	Does not include a rafter hook; depth-of-drive thumb-wheel sticks when wet and dirty	

I was not surprised by the Ridgid, as it felt slower when I used it to frame.

Recoil. The trade-off in using a lighter gun is that there is likely to be more recoil. The repetitive recoil from nailing sheathing or ganging framing members can be very hard on the wrist. We found that the Porter-Cable dampened recoil better than the other guns; when we pulled the trigger there was virtually no movement or kick. The Senco and the Bostitch were also quite good in this regard. Bringing up the rear was the Ridgid, which due to the amount of recoil was uncomfortable to use. The

Speed Nailing Test *

	Time to drive 28 nails (in seconds)	Number of nails not driven flush	Percentage of nails not driven flush
Bostitch LPF21PL	8	1	3.6%
Grip-Rite GRTFR83	8	1	3.6%
Hitachi NR90AE(S)	8	0	0.0%
Max SN883RH2	8	0	0.0%
Porter-Cable FR350B	8	5	17.9%
Ridgid R350RHE	11	4	14.3%
Senco SN902XP	8	0	0.0%

* At normal speed, all guns set every nail flush.



	Max SN883RH2	Porter-Cable FR350B	Ridgid R350RHE	Senco SN902XP
	12¼	14¾	13¾	12¼
	20¾	21⅝	19	17¼
	7.42 pounds	7.42 pounds	7.34 pounds	7.96 pounds
	2 to 3¼	2 to 3½	2 to 3½	2 to 3¼
	.113 to .148	.113 to .148	.113 to .162	.113 to .148
	●	●	●	●
		●	●	●
		●	●	●
	Gun, safety glasses	Gun, plastic case, wrench, oil	Gun, soft bag, safety glasses	Gun
	\$235	\$200	\$230	\$250
	Thailand	Taiwan	Taiwan	China
	1-year	3-year	3-year	5-year
	SN890CH2/34	FC350B	R350CHE	SN901XP
	One of our favorite models; compact; well-balanced; comfortable grip; built-in filter ejects grit	Dampens recoil extremely well	Nose opens to clear jams; nice rafter hook; includes swivel air fitting; adjustable exhaust	Extremely compact; dampens recoil very well
	Does not include a belt hook or air fitting; depth-of-drive thumb wheel sticks when wet and dirty	Bulky and unwieldy; feels heavier than it actually is; rafter hook is not adjustable; included case is gigantic	Cycles more slowly than other guns tested; drive piston sticks during repetitive shooting; not very good at dampening recoil	Rafter hook is not adjustable; light for a framing gun but heavier than other models tested; air fitting not included

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Hitachi, Max, and Grip-Rite guns did an acceptable job dampening recoil and felt about the same.

Firing modes. Like most framers, I use bump-fire 99% of the time. I only use sequential when there is no choice but to nail near where I'm holding something, or when I can't afford for the pieces to move in the event of a double-fire. In that case, if the gun has a mode switch, I'll change to sequential.

These guns come from the factory set to fire sequentially, but are easily switched over to bump-fire (contact-trip). Except for the Bostitch, all are equipped with a selectable trigger that allows you to change modes at will. To change the Bostitch to bump-fire, you must pull a pin, flip a switch on the trigger, and then reinsert the pin. It takes about 15 seconds to make the change — which for most carpenters will be a one-time operation.

Toenailing. All seven guns have aggressive nosepieces that really dig in for toenailing. This is a big plus when dealing with engineered lumber, which is slicker and denser than sawn framing lumber. The nosepieces on the Ridgid, Porter-Cable, and Hitachi guns are so sharp I have to be careful when touching them.

Features

Every gun we tested has slightly different features, some of which matter more than others.

Rafter hook. I think every framing gun should come with a belt or rafter hook. The Hitachi and the Max are the only guns in the group that don't have this feature. For the tools that do have them, some hooks are better than others. Senco's hook is fixed to the right side of the gun, which is fine for me because I like to hang the gun from the left side of my pouch. Most of the guys I work with prefer to hang their gun to the right, so the Senco would be a problem for them.

The hooks on the Grip-Rite, Porter-Cable, Ridgid, and Bostitch tools swivel to

either side. Bostitch's swivels a little too easily and sometimes gets turned around when hooked to my bags.

Magazine. The Grip-Rite can be loaded from the top or the rear. I don't see an advantage in this, but it is kind of interesting. The only jams we've had with any of these guns were when the nails or collation were broken or damaged. Max and Bostitch have a magnet built into the nosepiece to keep the last nail straight so the tool won't jam. I don't know if this helps, because jamming was simply not a problem with any of these guns.

About half of the guns have dry-fire lockout, which prevents them from being fired when the magazine is empty. This feature doesn't matter to me and would have no effect on my purchasing decision.

Depth-of-drive. All of these guns have a tool-free depth-of-drive adjustment. The Max and the Hitachi have the adjustment in front of the trigger, and the rest of the guns have it on the nosepiece. I found the Max and the Hitachi the hardest to adjust, and they also seemed to get grime stuck in them the most. The Senco, Bostitch, Grip-Rite, and Ridgid guns have the adjustment on the nosepiece and are the most consistently easy to adjust. I can't pick one as better; they all did a great job.

The Bottom Line

Most of these guns are very good and I'd be happy to own them. The two that are not are the Porter-Cable and the Ridgid. The Porter-Cable is bulky and the Ridgid is slow. If I had to buy one of the tools in this test, I would go for the Max or the Bostitch. Both guns are powerful and fast. The Max is compact, well-balanced, and has a comfortable grip. The Bostitch does a good job dampening recoil, is compact and well-balanced, and comes with a hook.

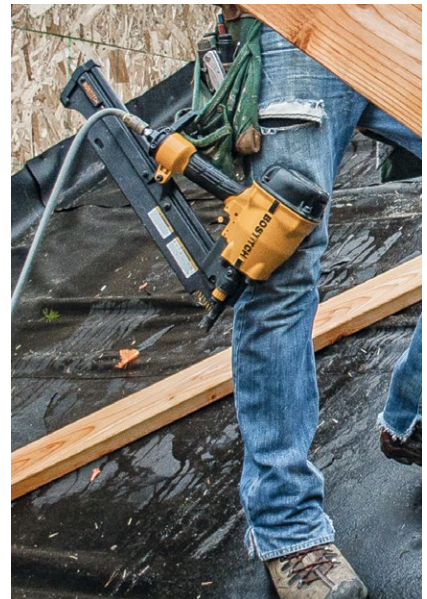
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Most of the guns tested have a selector switch next to or on the trigger that allows the carpenter to change freely between sequential and bump-fire modes.



The Bostitch converts easily to bump-fire, but the change is unlikely to be reversed because it requires the use of pliers.



Rafter hooks are practically indispensable, and it's hard to believe that not every gun has one.