Choosing a Framing Nailer

Whether you prefer coil nailers or stick nailers, it's a buyer's market. Two seasoned builders sort through 30 models and find new favorites.

BY RICK ARNOLD AND MIKE GUERTIN

It has been just five years since we last reviewed framing nailers; but in that time, even the most basic models show notable improvements. With a few exceptions, the framing nailers on the market today all are good tools, and many of them cost less than they used to.

We looked at 15° coil nailers and 20° to 22° round-head stick nailers. There are coil nailers with different nail-feed angles, but 15° is most common in residential framing. For manufacturers that do not make a 20° to 22° stick nailer, we substituted a different collation angle. Generally, manufacturers use the same motor on all their nailers, no matter the collation angle. So the big difference between a 22° and 34° nailer of the same brand is the magazine, not the power, features or performance. Otherwise, the only difference that collation angle makes is that a higher collation angle buys you some room





for nailing in tight spaces, such as toenailing in a corner.

We examined basic points such as weight and power, and extra features such as depth-of-drive adjustments and air-deflector design. No matter which design features you want, the availability of nails and of good, fast local service should be among the most important criteria for purchase.

If you use nailers all day long, weight matters

Rather than take each manufacturer's word for it, we used an electronic postal scale to weigh each nailer. We weighed each one empty of nails and attached a ¼-in. air fitting for consistency. The Haubold weighs the most at 10 lb., 11.8 oz. Only six of the 30 models weigh less than 8 lb. Several claim to be the lightest, but our scale gives that honor to the Makita AN901 coil nailer at 7 lb., 0.08 oz. The other lightweights are sticks: the Apach, Bostitch, DeWalt, Grizzly and Porter-Cable FR350 Mag.

Remodeling requires smaller nailers that can fit into tighter places. Production-framing nailers, however, may be large if that increases power or nail capacity. Even in new construction, though, there are always tight squeezes in corners or narrow joist or stud bays.

Most of the nailers fit between 16-in. o. c. stock. Some fit more easily than others, but only the Makita coil nailer, with a nose-to-air-deflector length of about 16 in., wouldn't quite fit. On the stick nailers, the magazines are usually the limiting factor. The full-round-head 20° stick nailers take up the most room because their magazines project the farthest from the motor. But you seldom have to fit the whole magazine's length straight between framing members. This crowding is a matter of only occasional inconvenience, not a problem that should outrank or disqualify the other features.

Nailer balance and comfort affect muscle fatigue more than weight does. Most of the stick nailers balance pretty well when held with a thumb and forefinger around the handle where it meets the motor. But everyone's hands are different, so it helps to pick up a lot of nailers and, if possible, to fire off a few nails before buying.

If you use gloves when nailing, you should wear them when trying the nailers to see whether the handle fits your gloved hand.

Larger nailers don't always drive nails deeper

Power is especially important when nailing into tough materials such as engineered lumber or southern yellow pine. We mocked up a simple test, firing 3½-in. nails (0.131 in. dia.) into two pieces of 1¾-in. laminated ve-



YOUR FIRST CHOICE: COIL NAILER OR STICK NAILER?

Coil nailers' biggest advantage is that they carry more nails than any stick nailer. You reload only once for every four or five times you reload a stick nailer.

However, because stick magazines hold fewer nails, a fully loaded stick nailer weighs less than a fully loaded coil nailer. Plus, some builders find it awkward to carry extra coils around on their belt; it's easier to carry a few strips of nails.

You load stick nailers by pulling back the loading track and dropping in the nails. All coil-nailer noses swing open for loading, which makes clearing jams much easier than on most stick nailers.

Coil nailers are generally the most compact tools, letting you get into tighter spots. But the balance of a coil nailer can be difficult. Without a long magazine counterbalancing the weight of the motor, no coil nailer except maybe the Hitachi NV83A comes close to a well-balanced stick nailer.

—R. A. and M. G.

COIL NAILERS

Manufacturer	Nailer	Weight	Depth adjustment	Adjustable air deflector	Jam-clearing feature
Bostitch stanleybostitch.com (800) 556-6696	N80CB-1	8 lb. 7 oz.	None	No	Yes
Fasco fascoamerica.com (800) 239-8665	R5C CN 15W-90A	8 lb. 1 oz.	Hex nut	No	Yes
Hitachi hitachi.com/powertools (800) 829-4752	NV83A	8 lb. 8.2 oz.	Hex nut	No	Yes
Makita makitatools.com (800) 462-5482	AN901	7 lb. 0.08 oz.	Thumbscrew	Yes	Yes
Max maxusacorp.com (800) 223-4293	CN890 II	8 lb. 7.2 oz.	Thumbscrew	Yes	Yes
Paslode paslode.com (800) 334-4811	Coilmaster F325C	8 lb. 3.8 oz.	Allen screw*	Yes*	Yes
Porter-Cable porter-cable.com (800) 487-8665	Coil 350	8 lb. 7 oz.	Allen screw*	Yes	Yes
Senco senco.com (800) 543-4596	SCN65	8 lb. 7.4 oz.	Thumbscrew	Yes***	Yes

* Using on-board tool. ** Sequential trigger included in kit or available and can be changed out easily. *** Need tool to adjust.

FEATURES TO CONSIDER







Easy-switch trigger modes. Fasco (above) includes a switch that allows toolless switching from bounce to sequential firing. Craftsman has a similar switch. Senco's Think-Trac computer chip switches modes automatically depending on how you handle the tool.

Inset photo this page: Courtesy of Senco

Driving power^	Triggering	Street price	Comments
B	Bounce**	$250	Good no-frills coil nailer; nice for price.
B	Bounce/sequential	$370	Easy loading and adjusting basket.
B	Bounce**	$400	Good balance for a coil nailer.
B+	Bounce/single	$420	Lightest tool yet powerful. Doesn't quite fit squarely between 16-in. o. c. studs/joists.
B+	Bounce/single	$450	Automatic bounce/single-shot switching.
B	Bounce**	$380	Fast piston cycling. Simple-loading basket easy to use.
A	Bounce	$350	Excellent power. Nice balance.
B+	Bounce**	$360	Solid motor. Well built. All-around good performance.

^ Rating based on driving into LVLs.



A knurled thumbscrew, as on the Grex (photo above), allows one-handed depth adjustment, while a sliding button mechanism, like that on the Bostitch (photo below), requires two hands.





Max and Makita offer on-board air filters that should prolong tool life by blocking grit at the nailer's air intake.

neer lumber (LVL). Every nailer ran off the same compressor, with a regulator set at 100 psi, using 50 ft. of ⅜-in. hose and ¼-in. fittings. With our test, no nailer consistently drove home the nails when bounce-firing. The sequential and single-shot firing methods drove nails flush more dependably. (More about these firing modes later.)

We rated nailers on an A-B-C scale for power (chart pp. 70-73) and found a few surprises. We expected the larger, heavier nailers to drive the spikes deeper and with less kickback (or recoil). But the big Senco 750XL rated only a B for driving and had a disappointingly strong kickback.

Contrary to our expectations, none of the lighter tools showed greater kickback than nailers in the 8-lb. range. Although it's difficult to quantify, the nailers with the lowest kickback seemed to be the Porter-Cable Mag nailers, the Hitachi nailers, the Bostitch N88RH and the Paslode PowerMasterPlus 400.

You should never exceed nailer manufacturers' published pressure limits. But running nailers at the high end (usually 120 psi) seems to improve driving power and reduces kickback. Using ⅜-in. fittings also helps.

Your choice: extra-fast or extra-safe firing

Nailer triggers traditionally work in one of two ways. In the first, the operator depresses the trigger and bounces the nose against the work. Every time the nose hits the work, the gun fires. This firing method, called bump-, bottom- or bounce-firing, can be fast and efficient, but it also can be dangerous. We think that most framing-nailer accidents occur with this trigger configuration.

The second configuration usually is called sequential-trip firing because the operator must follow a sequence that allows the nailer to fire only one shot at a time. The nose of the gun must first be pressed against the work. The trigger then is pulled, and the nailer fires; then the nose is pulled off the work as the trigger is released. The proper sequence must be followed before the nailer will fire again. Sequential triggering eliminates the double fires (two nails in rapid succession) that can happen when bounce-firing and prevents accidental firing if the trigger is held in constantly. It is more common where safety is an overriding concern.

Most nailers are sold with the bounce-trigger configuration. But many of them can be converted easily to sequential mode by replacing the trigger.

The Fasco nailers are the only ones we know of with a built-in switch that allows the operator to change the trigger action eas-

STICK NAILERS

Manufacturer		Nailer	Weight	Depth adjustment	Adjustable air deflector	Jam-clearing feature
Apach ultranails.com (888) 658-5872		AN9021AC	7 lb. 13.2 oz.	Allen screw	Yes	No
Bostitch stanleybostitch.com (800) 556-6696		N88RH	7 lb. 15.6 oz.	Button slide	Yes	No
Campbell Hausfeld chpower.com (866) 247-6937		NS289001	8 lb. 2 oz.	Thumbscrew	Yes	No
Craftsman craftsman.com (800) 377-7414		18465	8 lb. 12.4 oz.	Allen screw	Yes	No
DeWalt dewalt.com (800) 433-9258		D 51845	7 lb. 13.2 oz.	Button slide	No	Remove track
Fasco fascoamerica.com (800) 239-8665		F5C RHN20 90 SS	8 lb. 10.6 oz.	None	No	No
Grizzly grizzly.com (800) 523-4777		G6050	7 lb. 10 oz.	Allen screw	Yes	No
Grex grexusa.com (888) 447-3926		SF9021H	8 lb. 14.4 oz.	Thumbscrew	Yes	No
Haubold kihlberg.com (800) 437-9818		RN90PII	10 lb. 11.8 oz.	Allen screw	No	No
Hitachi hitachi.com/powertools (800) 829-4752		NR83A#	8 lb. 9.4 oz.	None	No	No
Hitachi		NR90AC	9 lb. 8.4 oz.	Thumbscrew	Yes	No
Interchange interchangebrands.com (800) 458-6635		ICB-FN88	8 lb. 11.6 oz.	None	No	No
Jamerco jamerco.com (800) 526-5020		JTNFHC-90	8 lb. 7 oz.	Allen screw	Yes	No
Makita makitatools.com (800) 462-5482		AN922	8 lb. 11.2 oz.	Thumbscrew	No	No
Max maxusacorp.com (800) 223-4293		SN890RH	8 lb. 14.4 oz.	Thumbscrew	Yes	Yes
Paslode paslode.com (800) 682-3428		PowerMasterPlus	8 lb. 10.8 oz.	Allen screw*	Yes*	No
Paslode		PowerMasterPlus 400	8 lb. 14.8 oz.	Allen screw*	Yes*	No
Porter-Cable porter-cable.com (800) 487-8665		FR 350 Mag	7 lb. 7.8 oz.	Allen screw*	Yes	Remove track
Porter-Cable		FC350	8 lb. 8 oz.	Allen screw*	Yes	No
Senco senco.com (800) 543-4596		FramePro 600E	8 lb. 9.4 oz.	Hex nut	Yes***	No
Senco		FramePro750XL	8 lb. 10.2 oz.	Hex nut	Yes***	Remove track
ZNEX znex.com (888) 598-4718		FMS90	8 lb. 7.8 oz.	Thumbscrew	Yes	No

* Using on-board tool. ** Sequential trigger included in kit or available and can be changed out easily. *** Need tool to adjust.

Driving power^	Triggering	Street price	Comments
B	Bounce/single***	$300	Good nailer. Oilless. Similar to Grizzly G6050. Same tool as Ultra AN9021AC (not listed in chart).
A	Bounce**	$360	Replaces N80 and N90 tools. Powerful, light, nice features. Air-intake position keeps hose out of the way.
B	Bounce/single	$300	Same motor as Znex tool. 28° collation.
B	Bounce/single	$280	Decent basic nailer.
B	Bounce**	$360	Light, powerful but some features fall short of great. Removing magazine for jam clearing takes practice.
C	Bounce/sequential	$270	Only true switchable bounce/sequential trigger. Decent tool but behind the rest on features.
B	Bounce/single	$280	Similar to Apach. Allen wrenches included in case.
C	Bounce	$250	Similar to Jamerco. Decent for the price.
C	Bounce	$300	Sturdy. Very heavy. Low on power.
B	Bounce**	$390	Old no-frills design. Pricey but still popular with many framers.
A	Bounce**	$480	Heavy but powerful. Well balanced, nice features.
C	Bounce	$270	Copy of Hitachi NR83 right down to the hissy trigger.
B	Bounce	$285	Similar to Grex. Allen wrench included in case.
B+	Bounce/single	$380	Nice tool with on-board air filter.
B+	Bounce/single	$400	Only stick nailer with a jam-clear door. Well built. Nice tool.
B	Bounce**	$325	Fast piston cycling. Bounce fire sluggish at maximum drive depth.
A	Bounce**	$380	Big but not too heavy. Powerful; will drive 4-in. nails. 30° collation.
A	Bounce	$320	Light and powerful.
B	Bounce	$260	Decent basic nailer. 34° collation.
B	Electronic	$360	Safest triggering mechanism, but needs tools to adjust depth and deflector. 34° collation.
B	Bounce**	$340	Big and powerful, well balanced.
B	Bounce/single	$179	Sluggish bounce-firing. Bounce/single-fire switch is wire clip on trigger.

^ Rating based on driving into LVLs. # 3¼-in. nails maximum.

ily from bounce fire to sequential fire (photo right, p. 70).

Single shot: a compromise between bounce and sequential firing

A new variation of the sequential fire, the single-shot mode, appears on quite a few nailers (charts pp. 70-73). Single-shot mode begins in one of two ways. Either the nose is pressed against the work and then the trigger is pulled and held; or the trigger is depressed first and then the nose is bounced. Either way, if the trigger remains depressed and the nose is lifted and pressed again, nothing happens. However, if the nose is held against the work surface while being dragged to the next nailing spot, and then the trigger is released and pulled, the nailer fires again.

It's a compromise: You have the ability to switch easily from bounce to single-shot fire without changing triggers, but it isn't as safe as a true sequential-fire trigger. And it's an awkward motion to get used to. The single-shot system is engaged by a built-in switch that varies a little from gun to gun. The Apach has the single-shot feature, but engaging it requires a small wrench. Alternately, Campbell Hausfeld and Znex have a wire bale on the trigger that alternates between the two positions like the bale on the face of an open-casting fishing reel.

Perhaps the easiest solution is the one Max devised. Both Max nailers have an anti-double-fire mechanism that requires flipping no switches. If the nose is pressed against the work before the trigger is pulled, the trigger functions as a single shot. If the trigger is pulled first, then it functions as bounce fire.

Then there is the nailer with a brain

The Senco Think-Trac has a computer chip that senses which firing mode the operator intends based on his or her first action. If the nose is depressed before the trigger, it's sequential. If the trigger is pulled first, it's bounce fire.

The Think-Trac also times out automatically. In sequential mode, the operator has two seconds to pull the trigger before the nailer times out and the nose has to be reset. In bounce-fire mode, the operator has one second between shots before the trigger has to be released and pulled again. This system seems to have a positive behavior-modification effect: Operators quickly learn to keep their fingers off the trigger when not firing.

Clearing jams can slow you down, or not

Operate a framing nailer long enough, and you'll get a jam. We used good-quality gener-

We disagree about which nailers are best

As always, you should choose the nailers that have the features that best fit your work, starting with the type of nails you need and moving on to depth adjustment, triggering mechanism or price. And as proof that two people don't always share the same preferences, we disagreed when it came to picking our favorite nailers. Here's what we'd choose for ourselves.



Mike's picks

The Makita AN901 is my favorite coil nailer. It's light and, for a coil nailer, has decent balance. It has thumbscrew depth adjustment and a built-in air filter. And I didn't find the tall cap-to-nose dimension to be a problem. The Max coil nailer, very well designed and built with good features, is runner-up.

My favorite stick nailer is the Bostitch N88RH, which has plenty of power yet doesn't weigh too much. The Bostitch also has toolless depth adjustment. Again, the Max stick nailer is my runner-up.

If cost were my highest priority, I'd wait for one of the generic tools—the Grex or Jamerco—to go on sale for about $200. Even though these nailers don't have as much power as some higher-end models, they have nice features and satisfy most driving needs.



Rick's picks

I'm partial to coil nailers because of their large capacity for full-round-head nails and a nose design that allows for easy jam clearing. Of these tools, I'd choose the Max coil nailer because I'm impressed with its anti-double-fire mechanism (automatic single shot). It also has an easy thumbscrew depth adjustment and a basket from which the integral top and side swing away, clearing the way for a quick, unencumbered reload.

Unlike all other coil nailers, though, the Makita is well balanced. It also has a thumbscrew depth adjustment and an easily reloadable basket, making it my second pick.

Among the stick nailers, I again choose the Max. It has all the important features: thumbscrew depth adjustment, swing-out nose assembly for quick jam clearing and anti-double-fire mechanism.

Even without quick-change depth adjustment, the Senco Think-Trac is the safest nailer and would be my choice if I still ran a large crew.

Photos this page: David Ericson





The Makita AN901 balances low weight with good power.

Adjustable air deflectors as on the Bostitch N88RH can keep dust out of your face.



Easy-loading coil baskets. On Fasco, Makita and Max coil baskets, the top and side swing open as a unit.



Jam clearing on a stick. Max's SN890RH is the only stick nailer to feature a door for easy jam clearing.

ic nails to avoid jams. But although none of the nailers had persistent nail jams, none was immune to double-fire jams when operating in bounce-fire mode in tight quarters.

Most stick nailers have no means for easily opening the nose to clear a jam, as all coil nailers do. That means downtime as you reach for the toolbox. Only Max installs a door on its SN890RH stick nailer to clear jams (photo bottom left).

DeWalt, Porter-Cable and Senco have another jam-clearing design. Their magazines pop back to expose the inside edge of the nose. Pop-off magazines take some practice to use with ease.

One notable exception to the jamming problem: Full-round-head stick nailers with magazines built to handle larger diameter 0.162-in. spikes had a tendency to jam when fed 6d and 8d nails. Because of the extra magazine width needed for the 0.162s, thinner nails occasionally can ride next to each other where two strips meet. This overlap either stops the nails from feeding down the magazine or causes a double-nail jam at the driver. (For a discussion of clipped-head and round-head nails, see "What's the Difference?" on p. 126.)

Depth-of-drive adjustment assures the strongest fastening

On a nailer without adjustable depth of drive, switching from longer to shorter nails without lowering air pressure creates the potential for driving nails too far into the work. For example, you might progress from framing a studwall with 3½-in. spikes to applying ½-in. sheathing with 2¼-in. nails. Unless you adjust depth of drive, the head of the shorter nail sinks at least halfway into the sheathing, resulting in lost holding power.

Most nailers in this review have mechanical depth-of-drive adjustments (charts pp. 70-73). Adjustment mechanisms fall into two categories: those that require tools and those that can be done freehand (photos left, p. 71).

Because of the inconvenience, we consider those that require tools close to useless for a framing crew. Standout nailers among those requiring tools for adjustment are the Porter-Cable 350 coil and FR350 stick plus all the Paslode nailers, because they at least store the necessary tools on board.

Air deflectors should be durable and adjustable

We admit it: Sometimes every tool is a hammer. Rather than putting down the nailer and picking up a hammer, we sometimes coax studs, joists and rafters into position with the top of the nailer.

Because the top of the nailer is where air deflectors sit, the deflectors tend to take a pounding. But all the deflectors worked after being slammed much harder than ever would happen coaxing framing members into place.

Most deflectors rotate, allowing the operator to choose the direction of the discharge air. Some can be turned by hand while others require a tool.

DeWalt decided against an adjustable air deflector. Because DeWalt knows that tools take abuse, its designers molded the deflector into the casing.

Air filters keep tools on the job

No matter what happens to the outside of a nailer, it's usually internal damage from grit entering the air fitting that reduces nailer performance. Dirt wears out O-rings, scratches cylinders and fouls lubricating oil.

A compressor-mounted air filter doesn't prevent dirt from entering the hoses at fittings. In-line air filters mount to the back end of a nailer, where they are likely to snap off. Makita and Max keep dirt out of their tools with simple self-cleaning internal air filters beneath the end cap of the handle (photo right, p. 71). Every time the air fitting is uncoupled, dirt in the filter is blasted out by the charge of air in the nailer. □

WEAR HEARING PROTECTION

We both have permanent hearing loss from the past 20 years of being too lazy to wear earplugs.

To assess noise levels, we set up a sound meter 6 ft. away as we dry-fired into an LVL block. We were amazed to find that every nailer fell into the 105-db. to 109-db. range. With the sensor only 2 ft. away, the readings went up about 3 db. Louder than the average shop vac, this sound level falls somewhere between a riveter and amplified rock music.

From now on, we'll be sure to wear hearing protection when using pneumatic nailers.

—R. A. and M. G.

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[Editor's note: Because its new nailers had not been released, Duo-Fast (duofast.com; 888-386-3278) did not participate in this review.]

Bottom photo this page: David Ericson