

# Choosing the Right Framing Nailer

Narrowing this broad market starts with a decision about which nails you'll be shooting

BY MICHAEL SPRINGER

**B**uilders often ask for tool tests of framing nailers, but all the variations on the market make that a tall order to fill. There are stick nailers with 20°-, 28°-, and 30°-magazine angles, not to mention coil nailers. Some tools max out at 3¼-in. nails, some at 3½-in. nails, and some at 4-in. nails or longer. Some tools shoot full round-head nails, clipped-head nails, or both. With the variety of models available from the major pneumatic brands, power-tool companies, and lower-cost clone and private-label manufacturers, the framing-nailer category must represent 100 or more tools.

Here, my goal is to condense all the relevant information about these nailers into a brief guide, highlighting the latest technologies and features these tools have to offer.

## It all starts with the nails

Picking a framing nailer starts with knowing the nails you'll be shooting. You want a tool that you can keep supplied with nails easily and affordably. Regional preferences and sometimes even building codes dictate which fasteners—and therefore which tools—are common in your area.

California and other Western states have adopted full round-head nailers, while most of the rest of the country relies on clipped-head models. Specific code requirements have driven some of the divide, but these geographic tool preferences can be traced back to where the big nailer companies started, or at least to the regional markets where their distribution was originally focused. Think Bostitch in New England, Hitachi in the West, and Paslode and Senco in between. As the major players staked their claims, whatever type of nail their early tools required became the default favorite in the territory.

Regardless of nail type, follow the nailing schedule for each material, component, and assembly you construct as specified by the building code covering your area. Model building codes were written for hand-driven nails, so they specify only the size, spacing, and number of nails used for specific connections and applications, not the type of head. The International Code Council's ESR-1539 report—which is free and widely available online—is written with an awareness of pneumatic nailers and is a good place to find the details of nailed connections (and equivalent connections) required to meet all the model building codes.

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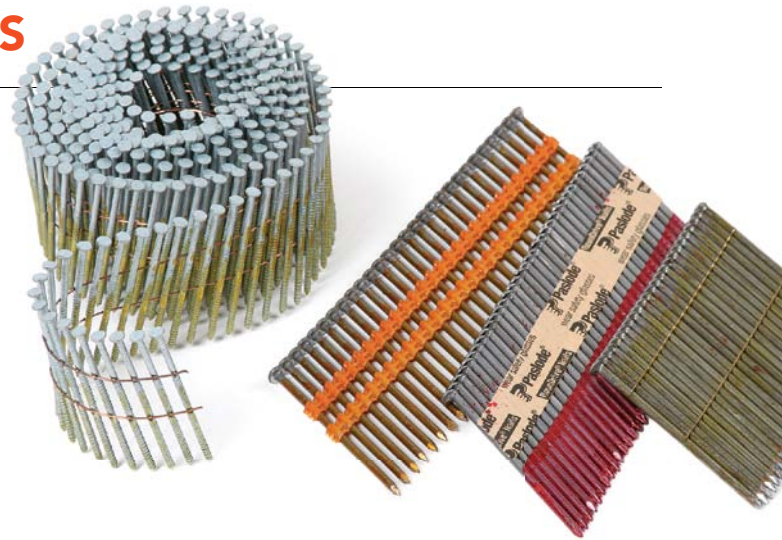




## KNOW YOUR NAILS

### NAIL COLLATION

Framing nailers come in two styles: coil or stick. Coil nailers have an adjustable canister that accepts a coil of nails strung together by two rows of thin wire welded to the shanks of the nails. These nails have a full round head. Stick nailers fit two angled sticks of 25 to 40 nails collated with wire, paper, or plastic, with the head of each nail nested just above the head of the nail in front of it. The style of nail head is usually based on the collation angle.

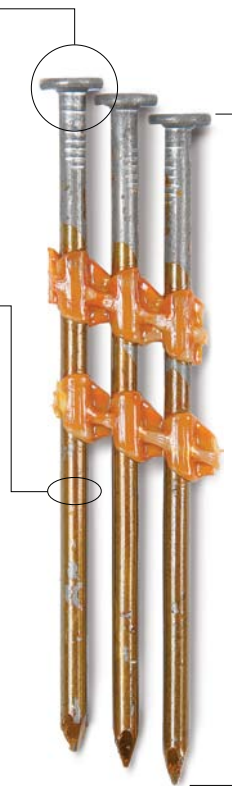


### NAIL HEADS

Full round-head nails are acceptable everywhere in the United States and for every type of framing connection. They are also typically available in thicker shank diameters. The downside is that nail heads take up space in a magazine, so you get fewer nails per stick.

### MAXIMUM NAIL DIAMETER

Nailers also have limitations to the maximum diameter of compatible fasteners they can accept. The minimum nail thickness for wall sheathing isn't typically the same as the minimum nail thickness for rafters. This varies by region, though, and also can change based on what the architect or engineer has specified in the building plans. I know a framer in the Southwest who is allowed to use 3-in. by 0.131-in. (10d) nails for everything—an easy task for any framing nailer.



### MAXIMUM NAIL LENGTH

Some brands have created a new compact-framer category, designed to be lighter and to fit more easily between 16-in.-on-center framing layouts. The dividing line for this category is typically maximum nail length— $3\frac{1}{4}$  in. for compact models,  $3\frac{1}{2}$  in. for full size—but the maximum shank thickness also may differ by collation angle and brand.

The max size is often referenced in a nailer's model number. For instance, a domestic model number may express maximum nail lengths of  $3\frac{1}{4}$  in. and  $3\frac{1}{2}$  in. as 325 and 350. Foreign models may use 83 and 90, which are the lengths in millimeters.

It's worth noting that some compact nailers don't have the guts to shoot into dense engineered lumber well. Even if the longest nails you shoot are  $3\frac{1}{4}$  in., you may be better off with a full-size nailer because of its superior power.

### TWO HEAD-STYLE OPTIONS FOR PAPER-COLLATED STICK NAILS

Depending on your region and applicable codes, the type of head on your nails is a big deal, and the head style is usually tied to the collation angle. There are a few variations.

#### Clipped head



At steeper collation angles (28° and 30°), manufacturers can pack nails closer together by clipping off one side of the head. The resulting D-shape has less surface area than round heads of the same diameter and causes these nails to be disallowed for some applications. Some of the nails are called notched instead of clipped because the chunk removed from their heads is rounded instead of straight.

#### Offset round head



Available in both 28° and 30° angles, these nails provide the code compliance of a full round-head nail with the tight spacing common to a stick of clipped-head nails.

# FRAMING NAILERS: COIL OR STICK?

## COIL NAILERS

Coil nailers have an adjustable canister that accepts a coil of nails—up to 200 framing nails or 300 sheathing nails at a time—angled at 15° and strung together by two rows of thin wire welded to the shanks of the nails. In most areas of the United States, these nailers are far less popular than stick nailers, but they are common in areas of the Northeast and in a few pockets of Louisiana, Missouri, and Texas. Interestingly, this is what the rest of the world considers a framing nailer.

### PROS

- These tools shoot a lot of nails between reloading, potentially saving time.
- The tools' compact size provides some accessibility advantages.
- If a model fits shorter nails and has a protective nosepiece, it can double as a high-volume siding or trim nailer.

### CONS

- When fully loaded with hundreds of nails, these tools can be heavy and unwieldy.
- Dropping or bending a coil of nails often renders it unusable and creates expensive waste.



### NOTABLE BRANDS

Bostitch, DeWalt, Grip-Rite, Hitachi, Makita, Max, Pneu-Tools, Senco

## Must-have features for a quality framing nailer

Even an occasional user needs a competent tool. Here are some important features to consider when choosing a nailer.

- **Balance and feel** are important to your overall comfort and the control of the tool. Before you plunk down cash, be sure to fill the tool with nails and to hang a hose off the

back to evaluate how it really feels. Otherwise, you're just kicking the tires.

- **The body of the nailer** will be either aluminum or magnesium, and the choice is a bit of a toss-up. Magnesium is lighter but more brittle, and it costs more than standard aluminum, which is heavier and more durable. It's best just to go with how the tool feels overall, though. I don't know that anyone buys a nailer based on the material it's cast from.

- **A selective-fire setting** lets you switch the tool from sequential-fire (single-shot) mode to bump-fire mode. The best designs are tool free, but because most users never



switch back to sequential fire, replacing or adjusting the trigger assembly once is not a big deal. If you plan to switch back and forth, opt for a nailer that has a toggle switch.

- ▶ **Top-load versus rear-load magazines** is a decision you will have to make. For myself and the guys I know, the answer is unanimously in favor of rear load. Hanging the tool down with one hand lets you load in a more comfortable position;

the spring-loaded follower can't accidentally slam into the nails and damage the collation strip; the remaining nails can't fall out as soon as you release the follower; and having the follower engaged when loading new nails keeps the last few remaining nails tightly in place so that they won't cause a jam.

- ▶ **Depth-of-drive adjustment** is important for meeting building codes, and the best setups work without the need for tools. Without this feature, you have to adjust the regulator on the air compressor when

you switch from LVL headers to nailing off sheathing. It's not worth compromising on this feature.

### Handy upgrades

Whether you're framing on a regular basis or just looking for some extra perks, try these features.

- A few manufacturers are using **nose magnets** to hold the last few nails in a stick firmly in place when reloading the magazine. This is a simple, useful addition to help make the reloading process goofproof.

- **Built-in air filters** are a welcome addition to keep unwanted gunk out of a nailer's innards. Pads of filter media are useful enough, but the best filters are self-cleaning cartridges that cough out any trapped particles every time you unplug the air hose.

- **A nonmarring nose cap** allows your framing nailer to become a siding, trim, or deck nailer. Without a cap, the teeth on the nose turn cedar or redwood into hamburger.





## STICK NAILERS



20° to 22°

**Plastic-collated nailers** fit round-head nails collated between 20° and 22°. A stiff collating strip—typically plastic but also available in rigid

paper—allows enough space for full-size heads with the nails situated side-by-side. Two sticks of nails fit in the magazine for a load of about 60 nails. Full round-head nails have been a necessity in some parts of California for a while, so these tools are particularly big on the West Coast and in much of the West in general.

### PROS

- Round-head nails are allowed for every connection type, so these tools can be used anywhere in the United States with their standard fasteners. (Some codes require the use of round-head nails only.)
- Round-head nails are typically available in larger shank sizes than other types.
- The easier manufacturing of plastic-collated nail sticks makes them significantly less expensive than the paper- or wire-collated nails used in other nailers.

### CONS

- Nails of the standard plastic-collated variety spew out bits of plastic shrapnel, which is a nuisance when they ricochet off the wall into your face or leave the floor dotted with scattered shards.
- The long, low magazine keeps the nose of the tool from fitting into tight spots as easily as higher-angle stick nailers.



28°

**Wire-weld-collated nailers** have their own specific collation angle and their own specific homegrown market. These tools started strong in the Northeast and have stayed strong, with 80% of their sales in New England. Overall, the

28° tools are similar to the 30° type (they share the same pros and cons), but 28° clipped-head nails are typically collated with thin wires tack-welded to the side of the nails. Plastic-collated and paper-tape versions of 28° nails can be found, even some with round heads, but before you bring one out to build shear walls in California, make sure you can get fasteners for it. These tools are largely unknown in much of the country, and their diet of special fasteners may not be on the menu far from home.



30° to 35°

**Paper-collated nailers** have magazine angles anywhere from 30° to 35°, but the fasteners they fit are usually referred to as 30° nails. These tools are known generically as clipped-head nailers or paper-tape nailers. Standard

clipped-head nails for these tools are collated with paper tape glued along the sides of nails that are packed shank to shank. Magazines typically fit two sticks of these densely packed nails, providing about 80 nails.

### PROS

- The steep magazine angle of the tool affords its nose the deepest reach into corners.
- Tighter packed sticks of nails hold significantly more fasteners per load than the sticks in full round-head nailers.

### CONS

- Clipped-head nails are not approved for structural connections in some areas, so more specialized offset round-head nails may be needed.
- These tools require more expensive fasteners than full round-head nailers.



### NOTABLE BRANDS

#### Plastic-collated

Bosch, Bostitch, DeWalt, Duo-Fast, Grip-Rite, Hitachi, Makita, Max, Pneu-Tools, Senco

#### Wire-weld-collated

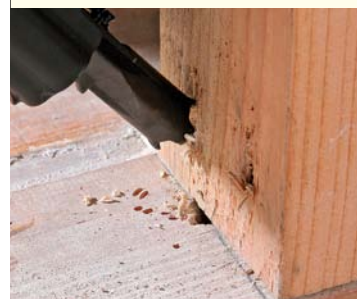
Bostitch, Grip-Rite, Hitachi, Max

#### Paper-collated

Bosch, Bostitch, DeWalt, Grip-Rite, Hitachi, Max, Paslode, Pneu-Tools, Senco

## Features for production framers

- **A rafter hook** for keeping your nailer close at hand is a must if you don't want your tool to slow you down. The lack of a hook is not a deal breaker, however. Aftermarket hooks that connect at the air fitting are available and may be preferable to a factory-installed hook that is clumsy or too small.



- **Toenailing spikes** that really grab are the key to fast, accurate toenailing. Look for a nose with especially sharp spikes protruding well out from the sides.

- **Real-world durability and longevity** are hard to test. Many top brands have legacy tools that have been in production for decades, so talk

to other guys in the field. Check local tool-repair shops, too. They might not be able to tell you which nailer will last, but they sure can tell you which ones break.