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On the cover: Jose Castillo, of Delaney Construction, cuts window trim on a project in Berkeley, Calif., for general contractor VRGC. Photo by David Frane.



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Tools Up Close

// BY DOUG MAHONEY

Favorite Utility Knives

Utility knives are essential tools, and long ago I learned having only one doesn't cut it. Neither does having two. In fact, I try to keep four different knives with me at all times. Although that might sound odd, each is really a unique cutting tool.

Daily Carry

The original Milwaukee Fastback is the knife I use most often—for opening boxes, sharpening pencils, and perfecting a scribe. Over the years, I've used a lot of different knives, and because of its unique features, the Milwaukee is an all-around favorite.

The folding Fastback can be opened one-handed: Just press a release button and flick your wrist. It can be opened by gloved hands—even with thick, cold-weather gloves. The massive finger notch on the handle makes it easy to grip the tool, and the back of the handle is contoured and comfortable. Features include a wire form belt hook, tool-free blade changing, a wire stripper, and a gut hook for cutting line without opening the knife.

Unlike more recent Fastback models, this one does not store spare blades.

Heavy Cutting

When I'm cutting shingles, drywall, or a waterproofing membrane and need to carry a lot of spare blades, I reach for the Stanley 10-788. This is a more traditional knife with a top-mounted thumb slide. The bottom of the handle opens to reveal storage for five additional blades.

Its shape naturally angles the blade downward, a useful feature for repetitive work. A little thumb pad at the nose stops my hand from sliding forward, and it comes with a gut hook that can be used to cut string without the blade being extended.

The blade release can be a little difficult at times, and getting the storage

area to open could be a little easier. But overall, this has been a good, durable knife in the months that I've been using it.

A Very Long Blade

A new blade on an Olfa L5-AL can extend about 3 1/4 inches, great for cutting rigid insulation, and just as useful when you need a thin probe.

Most knives with segmented blades that I've used have zero ergonomics, but the Olfa has a comfortable, rubberized handle. The blade locks in place with a dial, which is much more secure than the little clip found on cheaper models.

The Olfa also has a little metal fin at the back that can act as a quick and dirty prying tool for a can of paint or even for cleaning out the gunk between two floorboards. It's not essential, but it has come in handy from time to time.

A Glass Cleaner

Finally, for scraping putty and paint off glass, I like the Hyde Retractable Razor Scraper. I spent years taking the blade out of my utility knife and using that for glass cleaning, but I eventually got tired of it digging into my fingers. The Hyde offers a lot of function and comfort and only costs a couple of dollars, so it makes sense even for the non-painter.

Like the Olfa, this Hyde brings some ergonomic features to a tool that normally has none. The case has a rubbery grip area and a nicely curved butt-end that is easy on the palm for aggressive (or long-term) scraping. It also has a sliding lock on it to prevent the blade from retracting back into the body of the tool. Lastly, there is onboard storage for four blades. Because I'm not a painter, these four blades last a long time. When I get low, the painting crew on site usually lets me restock my supply.

Doug Mahoney worked in the trades on high-end residential projects and now writes about tools.



Milwaukee Fastback Knife

Country of origin: China

Price: \$15

milwaukeeetool.com



Stanley 10-788 Knife

Country of origin: U.S. (with global materials)

Price: \$8

stanleytools.com



Olfa L5-AL Knife

Country of origin: Japan

Price: \$20

olfa.com



Hyde Retractable Razor Scraper

Country of origin: China

Price: \$4

hydetools.com

Rockler Bandy Clamps

// BY DAVID FRANE

Bandy Clamps are designed to clamp solid edging on plywood, but they could be used for almost any task where the object is to press something against an edge.

The clamps are spring clamps with a wide rubber strip spanning the jaws. Using them is a matter of squeezing the grips, pressing the band against the edge you want clamped, and releasing the grips. If the band is stretched as the clamp is applied, it will apply constant pressure to the edge.

These clamps will easily hold straight edging in place, and I've used them to hold 1/8-inch wood edging against a concave edge. They did the job, though I wished I had more than two of them.

The clamps are solid but light. The pivoting jaws have substantial rubber pads and will open far enough to clamp 8/4 stock. The spring is stiff, and the clamp grabs very well. Because the band is rubber, it conforms to irregular pieces.

Bandy Clamps are a good alternative to placing a caul against an edge piece and spanning the substrate with bar clamps, and I like them better than three-way edging clamps. The band can't hold edging as tightly as a screw-style clamp, but works as long as the edge piece isn't too thick.

For other than minor repairs, you're going to need more than two clamps. If you plan to do much edge-gluing, six clamps would be the minimum. I'd want 12.



Bandy Clamp

Maximum opening: 2 inches

Jaw depth: 1 5/8 inches

Price: \$20 for one pair; \$50 for three pairs

Country of origin: China
rockler.com



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Rockler Dust Right Universal Small Port Hose Kit

// BY DOUG MAHONEY

Connecting tools to a dust-collecting vacuum can be difficult, because the hose may not fit the tool's dust port. Individual adapters are available, but many carpenters solve the problem by wrapping the connection with a generous length of tape. Rockler's new Dust Right Universal Small Port Hose Kit is a better solution.

The kit consists of a high-quality hose with a 2 1/4-inch-OD port compatible with vacs from Festool, Shop Vac, Craftsman, and others (but not Ridgid). It includes 1- and 1 1/2-inch-ID flexible rubber ports for making the connection to tools. The ports swap out easily to fit different tools and remain tight to the hose, once connected.

The hose is the best part of the kit; it is

durable, doesn't kink, and with light resistance stretches from 3 to 13 feet long. The ports for making the connection to tools are pliable and fit most, but not all, of my tools. There is never a problem with the hose twisting, because the port connections swivel at both ends.

At first, I thought the price was high. But after seeing the quality of the hose and how well the system works, I've decided the price is not out of line. Every element of the kit is well thought-out, from the hose's durability to the free and easy swivel of the connections. Other than lacking a carry case, the system is great and will solve many problems with dust collection—including the over-consumption of blue tape.



Rockler Dust Right Universal Small Port Hose Kit

Hose: 1 1/2-inch ID

Vac port: 2 1/4-inch OD

Dust ports: 1-inch ID, 1 1/2-inch ID

COO: Taiwan (ports), U.S. (hose)

Price: \$40

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Tools Up Close

Milwaukee M12 Fuel Circular Saw

// BY DOUG MAHONEY

Until now, 12-volt circular saws have mostly been 3³/₈-inch-blade tools—good for such activities as trimming shingles from scaffolding but lacking the power and runtime needed for serious work.

Milwaukee's new M12 Fuel 5³/₈-inch Circular Saw raises the bar for saws in the 12-volt category. A powerful, mid-size tool with a brushless motor, the M12 can handle 2-by lumber without any problems.

With its full-size handle and larger blade, it's close in size to Milwaukee's M18 Fuel 6¹/₂-inch circular saw (which I own and use all the time). But at 6.25 pounds including the battery, it's almost 2 pounds lighter.

According to the manufacturer, the tool can make 170 cuts through 2x4 material with a fully charged battery. I didn't check that claim, but I did use the saw on 3/4-inch AC plywood and was able to cut a total of 82 feet before emptying the battery. The M12 saw cut more per charge than some 18-volt tools I've used.

It occasionally struggled—especially when I wavered from a straight cut—but didn't bind or slow down significantly.

Convenient features include an LED that shines on the cut line, onboard storage for the Allen key, and a battery gauge near the pommel where it's easy to read. The tool has a very nice bevel gauge and adjustment, and the connection between the saw and base is solid.

Its ergonomics, however, could be better. M12 batteries have a thick stem, so the base of the grip bulges where the battery slides in, making it somewhat uncomfortable to use for extended periods of time. Also, the depth-of-cut gauge is hard to read.

The M12 doesn't have the oomph or stamina to be my only saw, but it's powerful enough to be a secondary tool. Available in kit form or as a bare tool, it would be a good addition to the arsenal of the tradesperson who already uses the M12 battery system.

Milwaukee 2530-21XC Circular Saw

Blade: 5³/₈ or 5¹/₂ inches

Arbor: 10mm

RPM (no load): 3,600

Max. bevel: 50 degrees

Max. depth of cut (5³/₈-inch blade): 1⁵/₈ inch

Max. cut at 45 degrees (5³/₈-inch blade): 1¹/₈ inch

Weight: 6.25 pounds (w/XC battery)

Length: 12³/₈ inches

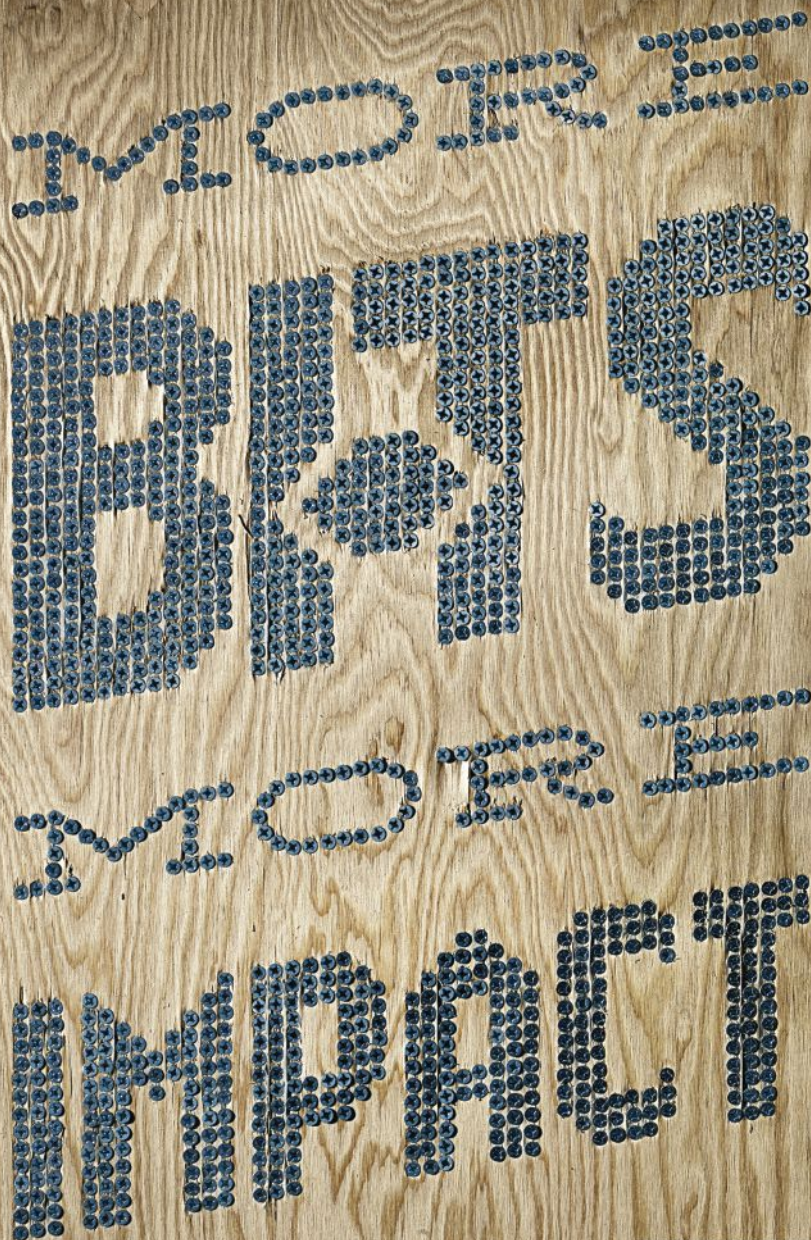
Country of origin: China

Kit includes: tool, blade, charger, one XC 4.0-Ah battery, and duffle

Price: \$229 (kit); \$149 (bare; 2530-20)

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Compact Sliding Compound-Miter Saws

Could a smaller saw, maybe even a cordless, handle everything you really need to cut on the job?

Hitachi introduced the first modern sliding compound-miter saw in 1988. With only an 8½-inch blade, this sliding saw cut wider boards than standard chop saws with 10-inch blades. It changed the way carpenters work, and it launched a whole new category of tool.

Nearly three decades later, the flagship models in the pro lines are 10- and 12-inch sliding compound-miter saws with dual-beveling capacity and features like digital-angle readouts and hinged sliding mechanisms. The compact saws reviewed here don't have any of these features. But they are lighter and less expensive than their big brothers, making them worth a good look.

Bosch, Hitachi, and Makita all make corded 8½-inch saws, but DeWalt discontinued its version a few years back. However, thanks to lithium-ion battery technology and higher-efficiency motors, DeWalt and Makita now make 18-volt cordless saws. To crank out enough power, they use smaller blades—DeWalt's is 7¼ inches and Makita's is 7½ inches. Despite this limitation, the DeWalt has the second best vertical cutting capacity, and the Makita boasts a horizontal crosscut capacity to match the corded sliders.

CUTTING CAPACITY IS CRITICAL, BUT CONFUSING

The main limitation of any miter saw is the height it can cut through material held vertically against the fence (vertical cut height). For miter joints in baseboard, chair rail, and window aprons (with their tiny returns), cutting with the material held vertically against the saw fence is faster and more accurate than cutting with the stock laid flat and the saw head tilted at a 45-degree bevel. Besides the relative difficulty of tweaking the bevel angle slightly to fine-tune a miter joint, the diagonal force applied to the sliding head can deflect the saw's arm slightly and affect the accuracy of the cut.

To increase the vertical cutting capacity of miter saws, some manufacturers put a notch in the blade

housing on the left side of the blade, which lets you use the back half of the blade, above the level of the arbor bolt and washer, for cutting. The Bosch and the DeWalt reviewed here have this feature, but even with a notch in the guard, the motor housing to the right side of the blade will often be lower and limit cutting height. As a result, there are two ways to measure vertical cutting capacity.

One is a vertical "through cut" where the piece of wood standing against the fence goes beyond both the left and right sides of the blade, passing under the motor housing to the right. These cuts are typically made in chop mode with the sliding head locked all the way back on the rails. The second is a vertical "shave cut" used for fine-tuning; the material is held to the left of the blade and the waste piece is small enough not to extend under the motor housing.

Even with these distinctions, vertical cutting capacity will depend on whether you're cutting at 90 degrees or at 45 degrees. And it also varies depending on whether you're cutting square-edged 1-by stock or profiled baseboard that's thinner at the top and thicker at the bottom. (The DeWalt is the only saw here that will through-cut a standing 1x4, thanks to a notch in the upper guard that continues to the right side of the blade.) But when you're cutting profiled base, the thinner top edge fits up higher into the guard's notch and allows a greater depth of cut. All of the vertical cut capacities listed in the specs are maximums, meaning I was cutting profiled material at 90 degrees. (To line up the tallest vertical cuts into the notches of the Bosch and DeWalt saws, you will have to lock down the saw head a bit forward of its farthest back position.)

Ten- and 12-inch saws will always offer greater vertical cutting capacity than the compact models. And with the taller baseboards going into houses today, this alone may steer you toward a bigger saw. However, for mitering door and window trim or making square cuts to meet plinth blocks, rosettes, and lintels,

CORDED 8 1/2-INCH SAWS



BOSCH CM8S

Motor: 12 amps; 5,600 rpm; no brake

Miter angle (in degrees): 54 left to 60 right; stops at 0, 15, 22.5, 31.6, 45 (also 60 to right)

Bevel angle (in degrees): -2 to 47; stops at -2, 0, 22.5, 33.9, 45, 47

Horizontal cut width: 12 1/2 inches at 90 deg., 8 13/16 inches at 45 deg.

Horizontal cut depth: 3 3/8-inch shave cut; 3-inch through cut

Vertical cut height: 4 3/4-inch shave cut; 3 1/2-inch through cut

Dust-bag collection (50 cuts of 2x4): 94.4 grams

Weight: 37 pounds

Price: \$449

Includes: 48-tooth blade; dust bag; material clamp; onboard wrench

Country of origin: China

Performance: Not the smoothest or most comfortable to use, but it boasts the tallest vertical cutting capacity in the test.

Comments: Has a lot of premium features. It's also plagued with some awkward ergonomics and operational limitations—for one, the lack of a motor brake.

Pro: Tall notch in the left side of the upper blade guard allows for the tallest vertical shave cuts of any saw in the class.

Only saw with a miter detent lockout to allow smooth passage across the entire miter scale. Most advanced bevel-angle setting with simple bevel-locking lever within easy reach and with multiple angle stops. Easiest saw to tweak the bevel angle slightly.

Nice one-finger trigger and easy-to-reach trigger-lockout buttons. Saw handle is centered behind blade for easier left-handed use.

Left and right sides of the saw table extend outward on sliding arms to provide support 6 inches further out.

Ramp leading out of the blade channel does a great job of keeping the blade channel clear of scraps. A scrap deflector surrounding the blade prevents scraps from becoming lodged in the guard and flying out later.

Effective dust collection into stationary dust bag that doesn't dump out when tilting the saw head forward.

Easy blade changing.

Con: Kicks on with a jerk and loud motor sound at startup. No motor brake.

Table extensions must be opened to access entire miter range of saw.

Saw travel awkward, starts too high up for economy of motion, and the excessive spring tension combats the ease of use.

This saw showed the most deflection on wide, beveled crosscuts—1/16 inch out of square over 9 inches.

The only corded saw without a work light.

these smaller saws don't represent any real compromise as long as your materials aren't wider than the saw's horizontal cutting capacity. This is a measure of the width a saw will cut with the board laid flat. But keep in mind that horizontal cutting capacity is smaller at a 45-degree miter angle than it is at 90 degrees.

The final measure of cutting capacity is "horizontal cut depth," or the maximum thickness of a board you can lay flat and crosscut. This is determined by the blade's arbor washer hitting the face of the material to the left of the blade for a shave cut or the motor housing hitting to the right of the blade

for a through cut. You can sometimes get around this limit by making separate chop cuts on the front and back sides of a board, which is how the 8 1/2-inch-blade saws can shave cut through a 4x4.

COMMON FEATURES

All five of the saws tested are single-bevel saws and come standard with blades, dust bags, material hold-down clamps, and blade wrenches. I tested them with identical 48-tooth blades on the 8 1/2-inch saws to level the playing field, but I had to use stock blades on the two cordless models. Makita's 7 1/2-inch blade is a unique size, and while 7 1/4 inches is

a common size for circular saw blades, the stock blade on the DeWalt is the only one I could find with enough teeth and the proper rake angle for use in a sliding miter saw.

BLADE BRAKES AID EFFICIENCY

A motor brake is an important feature for working safely and efficiently on a miter saw. When you are creeping up on a cut line or making any sort of repetitive cut, it's annoying to have to wait for the motor to wind down before making your next cut. The same goes for reaching under the blade to grab a small cutoff or holding

CORDED 8 1/2-INCH SAWS



HITACHI C8FSHE

Motor: 9.2 amps; 5,500 rpm; brake

Miter angle (in degrees): 47 left to 58 right; stops at 0, 15, 22.5, 31.6, 45

Bevel angle (in degrees): -7 to 50; stops at -7, 0, 33.9, 45, 50

Horizontal cut width: 12 3/4 inches at 90 deg., 9 inches at 45 deg.

Horizontal cut depth: 3 3/8-inch shave cut; 3 1/16-inch through cut

Vertical cut height: 3 3/4-inch shave cut; 2 7/8-inch through cut

Dust-bag collection (50 cuts of 2x4): 135.3 grams

Weight: 32 pounds

Price: \$349; C8FSE version without light and laser, \$279

Includes: 24-tooth blade; dust bag; material clamp; loose wrench

Country of origin: China

Performance: Overall a capable performer, but with harsh motor operation and some features a little rough around the edges. Also has the shortest vertical through-cut capacity among the corded saws, though plenty of horizontal cut capacity.

Comments: Hitachi may have premiered 8 1/2-inch sliding miter saws, but this latest model doesn't lead the pack in test results. It lacks the premium feel of the competition and even ships with a 24-tooth construction blade, which seems to say that it's not made for the finest trim work.

Pro: Motor brake. Showed no deflection on 9-inch-wide beveled crosscut.

Nice one-finger trigger and no trigger-lockout button to get in the way.

Nice grippy handle with textured rubber contours.

The best LED light of any saw tested, mounted on a flexible arm to point where it's needed and bright enough to add illumination in daylight. Paired up with the only laser guide in the test.

Most effective dust collection into dust bag. A lot of dust blows out a hole at the top of the dust bag, but that positive airflow is probably what makes it work so well.

Easy blade changing.

Con: Kicks on with a jerk and very loud motor sound at startup. Similar jerk and noise when the brake engages accompanied by a strong, hot-motor smell.

Cutoff scraps—even big ones—often get sucked into the upper guard and are later ejected as shrapnel when they make unexpected contact with the blade.

Adjustments required: came with inaccurate bevel settings and the left and right fences out of parallel with each other.

down the saw head while the little return piece you just cut rattles against the still-spinning blade, always an instant away from catching on a tooth and going airborne. All miter saws should have a motor brake, and it's disappointing that the Bosch and DeWalt don't.

EXTENSIONS HELP ON SMALLER SAWS

Because these saws have such small footprints, extensions to help support the stock can be more helpful than on large saws with wider table surfaces. Solid table surfaces to the left of the blade run from 7 1/4 to 9 1/2 inches on these saws. Makita's

saws come with solid steel extension arms that stick out 9 inches from both sides of the table but can be left off the saw when not needed. Support on the Bosch saw can be expanded via extension arms that allow both sides of the table to slide out up to 6 inches.

KEEPING CUTOFFS FROM GOING AIRBORNE

Though not usually thought of as a performance feature, the channel for the blade has a few notable components. The plastic inserts along both sides of the channel come from the factory set wide open so the blade won't hit them while

bevel cutting, but if you are doing non-beveled miter and crosscuts, it helps to move them close to the blade. That way small cutoffs won't clog up the blade channel or go zinging off as shrapnel after making contact with the blade. All but the DeWalt saw have adjustable plastic inserts.

Also useful are simple slots in the blade channel that let the sawdust drain out. Without the holes, the channels fill up quickly and have to be blown out or vacuumed. Leaving the channels full adds a lot more airborne dust with every cut as the blade dips down into this "sawdust dispenser." The DeWalt

CORDED 8¹/₂-INCH SAWS



MAKITA LS0815F

Motor: 10.5 amps; 5,000 rpm; brake

Miter angle (in degrees): 52 left to 62 right; stops at 0, 15, 22.5, 31.6, 45, (also 50 to left and 60 to right)

Bevel angle (in degrees): -5 to 49; stops at -5, 0, 45, 49

Horizontal cut width: 12⁷/₁₆ inches at 90 deg., 8³/₄ inches at 45 deg.

Horizontal cut depth: 3³/₈-inch shave cut; 3¹/₈-inch through cut

Vertical cut height: 3³/₄-inch shave cut; 3¹/₂-inch through cut

Dust-bag collection (50 cuts of 2x4): 69.1 grams

Weight: 31.1 pounds

Price: \$348

Includes: 48-tooth blade; dust bag; material clamp; side support arms;

onboard wrench; plastic set-up square

Country of origin: China

Performance: Nicest motor and brake action and the best overall feel and ergonomics in use. Plenty of power and cut capacity overall, though not the tallest vertical cutter.

Comments: The most refined trim saw in the test and a real pleasure to use. Seems like the classic tool among the competition.

Pro: Motor electronics with soft-start feature provides smoothest activation, relatively quiet operation, and fast yet gentle motor brake. Showed no deflection on 9-inch-wide beveled crosscut.

Removable extension arms add a point of support 9 inches out from both sides (or just one side) of the saw table.

Single dust slot in the blade channel does an okay job of letting the sawdust drain out.

LED work light helps illuminate the saw-table surface in dark areas.

Con: Difficult bevel-scale visibility and no recognition of the 33.9-degree angle used when cutting crown on the flat. Bevel stops a bit indeterminate, feel soft.

Whole-hand trigger and thumb button trigger lockout on the back of the handle make for uncertain grip. Feels like nothing is holding tight to the handle and requires extra hand movement to push lockout and then tighten grip.

LED light leaves the saw teeth you are trying to align with your pencil line deep in the shadows much of the time.

Medium-difficult blade changing.

Adjustments required: came with inaccurate bevel settings.

and corded Makita both have slots, but the multiple slots of the DeWalt do a much better job.

The Bosch saw even has a little ramp leading out of the blade channel that allows errant cutoffs to slide up and out effortlessly. Other saws trap thin scraps in their channels where they have to be fished out manually or are forcibly ejected when the blade strikes them.

SOME LIGHTS ARE BETTER THAN OTHERS

LED lights and laser guides are nice features, but typically don't help when you're cutting outside in daylight.

Using something of a combination of the two, the DeWalt features a cut-line light that projects a shadow of the blade against the material. This light goes on automatically with each pull of the trigger or can be switched on manually. Since you have to move the blade right against your material to line up the shadow of the teeth with your pencil line, I find it easier just to sight along the outside of a tooth like I do with all miter saws. But the light does help in shadowy indoor conditions.

The Hitachi features both a laser line and an LED light, and curiously, the light can be switched on only if the laser is

switched on, though they have separate switches. The laser is fine and the light works wonderfully. It's super-bright and is mounted on an adjustable arm that lets you point it where you need it. It's even bright enough to be of help outdoors.

The corded Makita has a manually switched LED that works okay as a general work light, but its position usually keeps the tooth you are trying to line up with your pencil line obscured in shadow.

THE BOTTOM LINE

If you're like me, and you rely on your miter saw to cut miters on tall standing trim, then you may never give up your

CORDLESS 7¹/₄- AND 7¹/₂-INCH SAWS



DEWALT DCS361M1

Motor: 3,750 rpm; no brake

Battery: 18-volt (20-volt nominal), 4.0 amp-hour

Blade: 7¹/₄-inch, 40-tooth, 7-degree rake angle

Miter angle (in degrees): 49 left to 48 right; stops at 0, 10, 15, 22.5, 31.6, 45

Bevel angle (in degrees): -3 to 48; stops at 0, 45; marks at 22.5, 33.9

Horizontal cut width: 8¹/₈ inches at 90 deg., 5¹³/₁₆ inches at 45 deg.

Horizontal cut depth: 2¹⁵/₁₆-inch shave cut; 2¹/₂-inch through cut

Vertical cut height: 3³/₄-inch shave cut; 3³/₄-inch through cut

Runtime (cuts of 2x4 on a battery charge): 166

Dust-bag collection (50 cuts of 2x4): 46.9 grams

Weight: 31.6 pounds

Price: Kit, \$399; DCS361B bare tool, \$319

Includes: Battery; charger; blade; dust bag; material clamp; onboard wrench

Country of origin: Tool, Mexico; battery, Japan

Performance: Cuts twice as fast and long as the Makita. Great vertical capacity, but limited horizontal cut width.

Comments: Impressive cutting ability for an 18-volt cordless saw. Useful for a range of building projects—not just cutting trim.

Pro: Smooth starts, quiet operation.

Tall and wide notch through both sides of the upper blade guard allows for the tallest vertical through cuts of any saw in the test.

Horizontal handle and trigger with embedded lockout lever easy to use.

Multiple dust slots in the blade channel do the best job of letting the sawdust drain out.

Cut-line light helps to illuminate pencil line in shadowy conditions.

Con: No motor brake, but quick run-down time of 1¹/₂ seconds is tolerable.

Most limited miter range among compact sliders.

Mark for 33.9-degree crown-molding angle on bevel scale, but no stop. Requires tool to bypass 0- and 45-degree bevel stops.

Slight deflection (1/32 inch out of square) on 8-inch-wide beveled crosscut.

Blade channel inserts not adjustable toward the blade, so this saw collects the most scraps in the blade channel.

Sub-par dust collection.

Adjustments required: came with fence bowed out .020 inch.

Only saw without an adjustment for blade depth, so can't be used for cutting dados and rabbets.

big saw. But if you work with extra-tall trim, and you're already cutting it on the flat with the saw head beveled, one of these smaller saws just might help save your back.

Among the 8¹/₂-inch corded saws, I was split on picking a favorite. Basically, if you want the tallest vertical cut capacity for standing trim (up to 4³/₄ inches), the Bosch CM8S is the clear choice. But if you can get along with 3³/₄ inches of vertical cutting, the Makita is a nicer saw to operate overall. The Bosch has superior bevel-setting features, which are nice whenever you use them, but the soft-start and quick braking action of the Makita

make it a joy to use compared with the jolting start and long run-down time of the Bosch. If the Bosch had the finesse of these key features, I would have liked it better, but as it is, the Makita LS0815F defines the smooth-operating, fine-trim-cutting tool in this class.

Trailing the others is the Hitachi C8FSHE. It's a decent workhorse, but it lacked the premium feel and features of the other two, and the motor and brake action of the tool are best defined as harsh.

As for the two cordless saws, there were large differences in performance worth noting. If you need crosscuts as

wide as the corded saws offer (up to 12³/₈ inches) the Makita XSL01 is the only one with this capacity, but it was a slow and timid cutter. While the DeWalt saw is limited to crosscuts of 8¹/₈ inches, it cut twice as fast, ran twice as long, and made vertical cuts significantly taller than the cordless Makita. Overall, the DeWalt DCS361 is the darling of the all the saws I reviewed here. It's exciting and promising to get powerful and fast cutting performance out of an 18-volt cordless miter saw.

Michael Springer is the former executive editor of Tools of the Trade.

CORDLESS 7¹/₄- AND 7¹/₂-INCH SAWS



MAKITA XSL01

Motor: 2,200 rpm; brake

Battery: 18-volt, 3.0 amp-hour

Blade: 7¹/₂-inch, 40-tooth, -18-degree rake angle

Miter angle (in degrees): 48 left to 58 right; stops at 0, 15, 22.5, 30, 45; mark at 31.6

Bevel angle (in degrees): -5 to 45; stops at -5, 0, 45; mark at 33.9

Horizontal cut width: 12³/₈ inches at 90 deg., 8¹¹/₁₆ inches at 45 deg.

Horizontal cut depth: 2¹⁵/₁₆-inch shave cut; 2¹¹/₁₆-inch through cut

Vertical cut height: 3¹/₄-inch shave cut; 3¹/₄-inch through cut

Runtime (cuts of 2x4 on a battery charge): 84

Dust-bag collection (50 cuts of 2x4): 5.4 grams

Weight: 27.3 pounds

Price: Kit, \$769; XSL01Z bare tool, \$450

Includes: Battery, charger, dust bag, material clamp, side support arms

Country of origin: Tool assembled in U.S.; battery, Singapore and China

Performance: Slow cutter due to very low motor rpm and extreme negative rake angle of blade teeth. Shorter runtime, too. Limited vertical cut capacity, but excellent horizontal cut width.

Comments: Though relatively low on power and runtime, this saw is the one to get if you want a cordless saw with the sliding crosscut and miter range to match the larger corded saws. This saw is essentially a cordless version of the LS0714, a corded 7¹/₂-inch slider that Makita recently discontinued. It also can be easily adjusted to run a 7¹/₄-inch blade.

Pro: Smooth starts, quiet operation, quick motor brake.

Showed no deflection on 9-inch-wide beveled crosscut.

Nice one-finger trigger and easy-to-reach trigger-lockout button on the back of the saw handle.

Removable extension arms add a point of support 9 inches out from both sides (or just one side) of the saw table.

Medium-easy blade changing.

Con: Miter stop at 30 degrees, not the more common 31.6 degrees used for crown.

Difficult bevel-scale visibility. There's a mark for 33.9-degree crown-molding angle on bevel scale, but no stop.

Negligible dust collection—blade much too slow to move dust effectively into the bag. Also, most of the dust pushed up toward the bag dumps out when the head is tilted forward to make cuts.

1. The sides of the Bosch saw table extend 6 inches for added material support (see facing page for photo). Similarly, both Makita saws have removable extension arms.

2. Bosch has the most bevel-adjustment features. Seen here are the side-mounted locking lever, highly visible bevel scale, and the sliding stop-override plate that lets you reach a few degrees past zero.

3. Multiple bevel angle stops are set on the Bosch with a turret similar to those on plunge routers. Turning it past the 45 stop lets you gain a few more degrees.

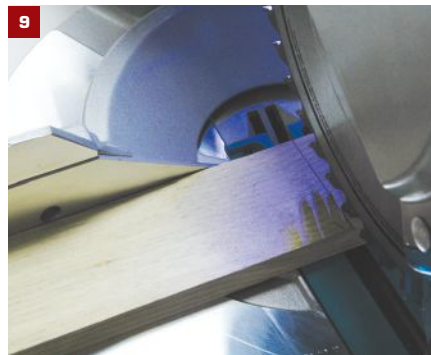
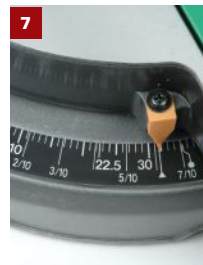
4. When you're using some of these sliders on a bench top instead of on a saw stand, an adjustable-height foot under the blade channel lends support if needed. The Bosch (shown here) and both Makita

saws have this feature. The small red tab above the locking knob clips over the edge of the blade channel to bypass the miter stops. This feature is exclusive to Bosch.

5. The upper fence on the corded saws must be moved to allow clearance during bevel cutting. Fences on the Makita (shown here) and Bosch slide over, while the Hitachi pivots to the outside of the lower fence to clear the way. Both cordless saws have short, stationary fences.

6. A notch in the blade housing of this Bosch miter saw provides a little extra capacity for stock that is cut vertically against the fence.

7. Some miter scales have more settings marked than others. The scale on the Hitachi is particularly busy with both degree and grade scales. As with other miter saws, the setting for perpendicular cuts



is marked as 0 degrees instead of the actual angle of 90 degrees. The same format also is used for perpendicular bevel cuts.

8. The DeWalt's cut-line light generates a shadow of the blade where it will contact the wood, but unless it's dark, it's still easier to line up the saw teeth on your line.

9. The angled light on the corded Makita doesn't help much with the cut-line aim, since it hides the teeth in contact with the wood deep in the shadows.

10. Hitachi's laser line works well enough, but its bright, adjustable light is the real shining star. It's even bright enough to help illuminate the cut line in daylight.

11. The depth of cut can be tweaked on all of the saws, except on the DeWalt, using setscrews as seen in the upper left. The screw to the left is used to fine-tune the full blade depth, while the one to the right is used for elevated depth settings for creating rudimentary dados and rabbets.

12. Right and left built-in carry handles are a nice touch on the DeWalt. They make it possible to carry this compact saw one-handed, like a suitcase.

13. The elegant dual-slide mechanisms of the cordless Makita saw give it the same sliding range as the larger corded saws, but it rolls up into a more compact package. Keeping the arms short also serves to reduce deflection from downward forces on the cantilevered rails.



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EDITOR'S CHOICE AWARDS 2015

Our top picks for innovative new tools.

Every year, *Tools of the Trade* recognizes standout tools that caught our attention in the previous year because they represent a leap forward in technology or design or have features that define the current state of the art. A few of the tools are new-to-market concepts, while others exemplify the latest and greatest in their respective categories. All are worthy of special recognition. We couldn't include every tool that made a splash since last year's awards, but here are 15 we'd like to showcase.

1. PASLODE F325R COMPACT FRAMER

The F325R is a seriously light framing gun. Weighing a mere 5.9 pounds, it's

nearly as light as a high-pressure stick gun and almost 1½ pounds lighter than the next-lightest standard-pressure gun now available. That's an incredible difference. Paslode saved weight by using a short magazine and making the body, cap, and end cap from magnesium, which is 34% lighter than the aluminum used in most gun bodies. The magazine holds one strip of nails instead of the usual two; this is a feature—not a bug—intended to make it easier to use the tool in tight quarters. The gun drives 30-degree paper-collated fasteners up to 3¼ inches long and .131 inch in diameter. Country of origin (COO): Assembled in U.S., foreign and domestic components. Price: \$269. paslode.com

2. FESTOOL CONTURO

The centerpiece of the Perfect Edge System, the Conturo KA 65 is a portable edge-banding machine that makes it possible for small shops to edge-band as well as large ones without having to buy a \$50,000 stationary machine. What's more, it can apply edging to straight and tightly curved edges, both concave and convex. The Festool machine uses pucks of the same glue material used in large-shop machines and accepts edging up to 0.3mm thick and 65mm wide. It melts the glue and applies it to the back of the edging as it is power-rolled onto substrates such as plywood, particleboard, and MDF. Sophisticated electronics monitor and control



temperature, feed speed, and the amount of glue applied while displaying how much more edging can be applied before more glue is needed. The machine can be hand-held or mounted in a special MFT table. All components of the Perfect Edge System—Conturo, edging holder, edging cutter, scraper, and sanding/polishing materials—fit in a single Systainer for easy storage and transport. COO: Germany. Price: \$2,800 with Systainer; \$3,200 with Systainer and edge trimming kit. festoolusa.com

3. MOSLEY INFINITY LEVEL

The Infinity Level is a modular level that can be extended to any length, assembled as a square or T-square, and broken down to fit in a small tool box or bag. Its inventor, Mike Lueck, unveiled a prototype of the tool in 2011. After years of improvement, it has finally gone into production. Most aluminum levels are extruded; the body of this one is machined from a solid billet. Sections come 12 and 24 inches long and can be joined end-to-end or edge-to-edge through

the use of an ingenious lever-activated cam mechanism. The Infinity level can be used for hanging doors, setting wall tile and windows, and anything else a tradesperson can think of doing with a straight, L-shaped, or T-shaped spirit level. Features include removable end caps, adjustable vials, neodymium magnets, and a camlike knob for leveling or plumbing the unit while it's screwed to the wall. Levels are sold individually and in kits: COO: U.S. Price: Kits start at \$99.

4. SAWSTOP JOBSITE TABLE SAW

In March, SawStop introduced the company's first portable table saw, a 79-pound (without stand) machine designed to compete with the 10-inch portables that dominate the market. The signature feature of all SawStop models is an electro-mechanical system that stops the spinning blade within milliseconds should it come into contact with flesh, destroying a \$69 cartridge and perhaps the blade while protecting the operator from amputation or other serious injury. But there's more to this machine

than the safety feature: Bevels can be micro-adjusted with the turn of a knob, the blade can be raised and lowered with a single rotation of a crank, and the fence can be locked or removed with the flip of a lever. Cutting capacity is in line with that of other portables. The machine comes with a rolling folding stand and has a hidden compartment below the table for storing tools and spare cartridges. As with other SawStop models, the portable can be used with an 8-inch stacking dado blade when equipped with a dado cartridge. COO: Taiwan. Price: \$1,399. sawstop.com

5. CENTIPEDE SAWHORSE

Small and easily transported when closed, these unusual sawhorses open accordion-style to create support for a work table. The small model will carry 1,500 pounds on a 2-by-4-foot top, while the large one will carry 3,000 pounds on a 4-by-8-foot top. Both feature Centipede's unique steel frame design that spreads the load over a series of struts going directly down to the ground. The struts move in concert with flat steel crossbars that stiffen them



side-to-side. Replaceable molded-plastic P-tops serve as a buffer between strut and load and prevent the unit from being damaged by misguided saw cuts. X-Cups and Quick Clamps can be used to secure 2x4s and sheet goods to the top of the unit. The Centipede stores in a zipped fabric bag. COO: Assembled in Mexico. Price: \$65 (small); \$130 (large). centipedetool.com

6. MILWAUKEE ONE-KEY SYSTEM

One-Key is a cloud-based system that uses a free app to manage tool inventory wirelessly, track tool performance, and apply customized settings to specially equipped Milwaukee tools. The inventory component is scheduled to roll out in September 2015 and will allow users to create a master database of all the tools owned by the company (including non-Milwaukee models) and track where they are and who has them. In October, it will be possible to upload data from the new M18 Force Logic 6T Utility Crimper and create a report on the success or failure of every electrical crimp made by the tool. The final, and most significant, element

debuts in January 2016: One Key M18 drills and drivers that can be programmed by users via the app. The operator can use pre-programmed settings or create his own combinations of speed and torque to optimize performance based on the bits, fasteners, and materials being used. The app is available for Android and iOS phones. One Key-enabled tools will sell for a premium over current models. milwaukeetool.com

7. BOSCH REAXX TABLE SAW

The REAXX portable table saw (GTS 1041A) was unveiled at JLC Live and is scheduled for release in the fall of 2015. With what Bosch calls “Active Response Technology,” it is the company’s answer to SawStop’s 10-inch portable model. It features an electro-mechanical system that drops the spinning blade below the table within a fraction of a second of touching flesh, sparing the operator from injury—without damaging the blade. The system relies on a cartridge that uses “air bag” technology to slam the arbor down. It takes about 60 seconds to change the dual-side

cartridge, which costs \$50 per incident. Cutting capacity is similar to that of other 10-inch models and no special provisions are required for use with a dado set. The REAXX includes a modular guard and riving knife and will come with a Gravity-Rise Stand. COO: Taiwan. Price: \$1,499. boschtools.com

8. PLS 480 LASER

This “everything” laser does it all. It projects plumb, level, and square onto three vertical planes at once; projects square above and below; and can be used in place of a plumb bob. A true time-saving device, it combines the functionality of the company’s popular PLS90E line laser and PLS5 point laser. The PLS 480 can be used for tasks from foundation to finish, though for outdoor work you will need a detector for use with the laser’s pulse function. Self-leveling within 6 degrees of level, it has a range of 200 feet and is accurate to within 1/8 inch at 60 feet. The tool comes with a floor stand, wall bracket, pouch, carry case, and batteries. COO: Assembled in the U.S. Price: \$450. plslaser.com



10



12



9. DIABLO STEEL DEMON CARBIDE-TIPPED RECIP BLADES

Decades after tradesmen stopped using non-carbide-tipped circular blades, they continue to use bimetal recip saw blades. Why? Because it's difficult to produce carbide-tipped recip blades with teeth that won't break or come off when they hit something hard. Diablo figured out how to do it and now offers carbide-tipped recip blades designed to cut thick metal. Said to outlast standard bimetal blades by a factor of 20 when cutting in metal, the new Steel Demons will cut mild steel, cast iron, stainless steel, and high-strength alloys between $\frac{3}{16}$ and $\frac{1}{2}$ inch thick. The blades have thick bodies to prevent vibration and a non-stick coating to reduce heat and friction, and are available in 4-, 6-, and 9-inch lengths. COO: Switzerland. Price: \$8 to \$15. freudtools.com

10. DEWALT 20V MAX BLUETOOTH BATTERY

Through the use of DeWalt's free Tool Connect app, these 2.0- and

4.0-Ah Bluetooth-enabled batteries can be remotely monitored and controlled by Apple and Android mobile devices. Functionality includes diagnostics, actions, and alerts. Capable of tracking multiple packs at a time, the app can be used to monitor the temperature and condition of the battery and the state of charge of the cells. It can be set up to notify the owner when the battery overheats or is low on charge, or when charging is complete. And there is an option to use it to frustrate thieves by disabling the battery when it is out of range. DeWalt is pitching Bluetooth batteries to early adopters, and their significance lies as much in what they suggest for the future as in what they can do now. These are the first cordless products to be so equipped but certainly not the last, as connectivity becomes increasingly common in power tools. COO: Malaysia (4.0 Ah); Japan (2.0 Ah) Price: \$139 (4.0 Ah); \$99 (2.0 Ah). dewalt.com

11. METABO W12-125 HD CED PLUS

This masonry cutting and scoring tool

consists of a 5-inch corded angle grinder with a diamond wheel, dust-collecting shroud, and wheeled base plate. Connected to a dust-collecting vacuum, it can be used for dust-free dry cutting of concrete and masonry. The tool and shroud can be detached from the base and used to chase cracks and make freehand cuts up to 1 inch deep. On the base, they can be rolled across the surface or connected to a 59-inch aluminum guide rail and used to make perfectly straight cuts and kerfs up to $\frac{3}{4}$ inch deep—the concrete and masonry equivalent of a carpenter's track saw. A less expensive version of the tool is available, but it has no wheels and cannot be used on a rail. COO: Germany. Price: \$545 (tool); \$149 (rail). metabo.us

12. SHARPDRAW CARPENTER PENCIL

Bob Cumings, the man behind the Prazi Beam Cutter and at least a dozen other tool inventions, recently introduced the SharpDraw Pencil, a mechanical marking device that looks like a snap-blade box cutter. Instead of a blade, it contains a



flat #2 carbon-fiber and graphite “lead” that marks like a very sharp pencil. The company refers to the leads as blades because that’s what they look like. They are 9mm wide and thin enough to leave a fine mark out of the package; the business end can be sharpened further by shaving or sanding the edge. The blades are self-sharpening when drawn along a metal straightedge, as frequently happens when carpenters do layout work. If the end breaks, you simply advance the blade until a fresh edge is exposed. COO: Assembled in the U.S. Price: \$6.95 (pencil); \$6.95 (3-pack of blades). speedtac.com

13. MAKITA 12-VOLT MAX

In November, Makita will release a new line of 12-volt power tools. Unlike the existing line—which the company will continue to produce—this one has slide-mount batteries. Slide-style batteries allow drills and drivers to stand upright and make for thinner, more comfortable grips because the pack is on the bottom instead of inside the tool. Batteries will have fuel gauges and be available in 2.0- and 4.0-Ah capacities. Initial offerings



will include a drill/driver, an impact driver, a hammer drill/driver, a driver, a recip saw, and a small trim circular saw. The impact driver shown here (DT03Z) spins 0 to 2,600 rpm and produces 0 to 3,600 blows per minute. Features include a belt hook and LED light; the other drills and drivers are similarly equipped. A two-piece combo kit (CT226) includes the impact driver, driver/drill, two 2.0 Ah batteries, charger, and tool bag. COO: China. Price: \$129.

14. KLEIN ADJUSTABLE-LENGTH SCREWDRIVER

The Adjustable-Length screwdriver allows tradespeople to travel light by using a single tool for applications requiring shafts of different lengths. It consists of a cushioned handle and reversible shaft with a #2 Phillips blade on one end and a 1/4-inch blade for a slotted screw on the other. The shaft fits inside the handle and is held in position by a quick-locking mechanism. Able to grip anywhere along the length of the shaft, the locking mechanism can be used to hold the tip between 4 and 8 inches out from the handle. COO: U.S. Price: \$21.

15. HILTI TE 1000-AVR BREAKER

When used with the new TE-SP Wave Chisel, the second generation TE 1000-AVR Breaker demolishes concrete and masonry up to 50% faster than competing models while producing the lowest vibration in its class: 5 meters per second squared (a standard industry metric) vs. the usual 8 or 9 m/s squared. Its in-line design, 27.6-pound weight, and 19 foot-pounds of impact energy make it ideal for chipping, removing tile, and breaking concrete and masonry on the floor or below waist level. When you use the Power Reduction Switch, impact energy can be reduced by as much as 30% for precision work. Features include a durable brushless motor and a detachable cord—which allows for quick on-site replacement of damaged cords. When the tool is equipped with the TE DRS-B dust-removal system, up to 95% of the dust produced is collected, according to the manufacturer. The least expensive kit includes the breaker, two cords, two chisels, and a storage case. COO: Austria. Price: \$1,909. us.hilti.com



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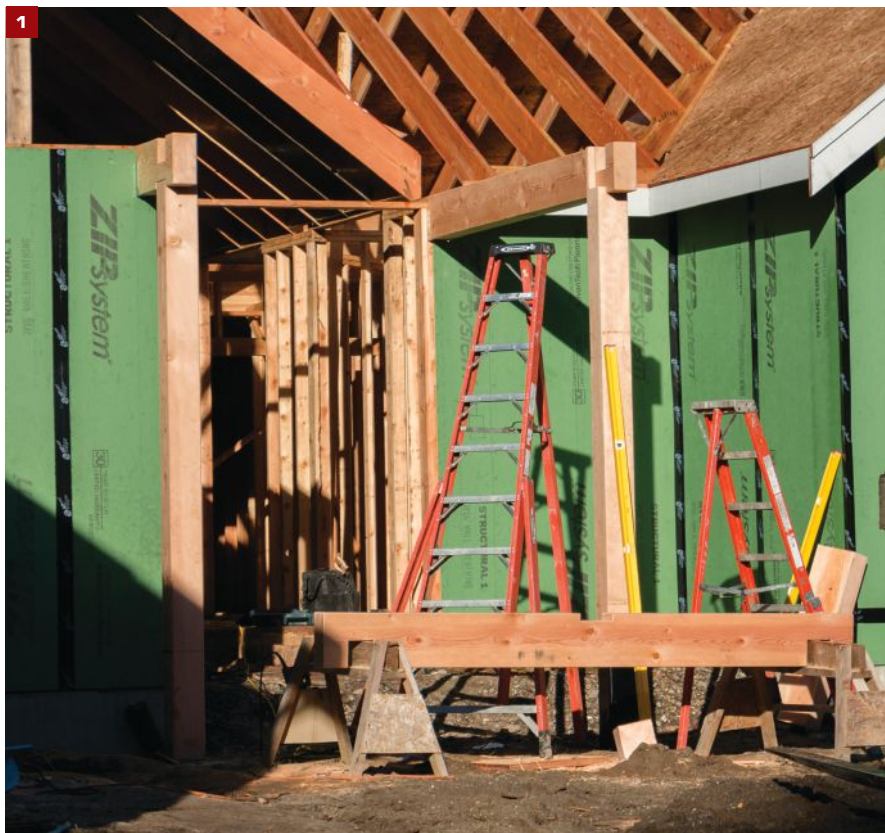
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FRAMING ESSENTIALS

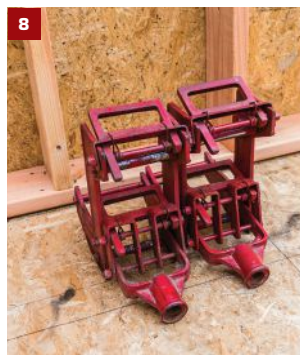
Some tools are personal. Some are infrastructure. You need both.

In 2013, I wrote a story about the hand tools I carry in my nail bags and followed up late last year with a piece about the tools we carry in our truck—hand tools, power tools, and pneumatics, mostly. As important as all those tools are, they're not enough to frame a house.

This time, I'll cover most of the equipment that makes up the “infrastructure” of the framing site. These items aren't as sexy as titanium hammers, laser levels, or beam saws—but they are equally essential to completing the job.

1. TRIPOD LADDERS

Our company has used tripod ladders for decades because they're more stable than conventional (four-legged) models. Often referred to as orchard ladders, tripod ladders are popular with landscapers and fruit growers (apples are a major crop here in Washington state). With only one



leg in the front, it's easier to maneuver into corners, and these ladders don't rock on uneven surfaces. As our wood tripod ladders wore out, we replaced them with fiberglass models. The big-box stores don't carry them, but the lumberyards and supply houses in our area do. We have 3-foot, 7-foot, 10-foot, and 12-foot models. Most of ours are from Louisville Ladder, though Werner makes them, too. A safety inspector once tried to tell me tripod ladders are not allowed, but he couldn't cite the regulation. The fact is tripod ladders are load-rated like four-legged models and must meet the same safety standards.

2. SAFETY HARNESES

Our ropes and harnesses stay in the shop until we need them. I like the Werner LiteFit H3110 harness because it has a low profile and is easy to put on and adjust.

For ropes, our favorite is the Super Anchor Deluxe Lifeline. Instead of a mechanical grab—which can get clogged with the rain we get here—this lifeline uses a prusik knot, which we haven't had the same problem with. We use 30-foot-long ropes; anything longer, and we switch tie-off points.

3. SAFETY LINE ANCHOR POINT

The best way we've found to tie off when setting trusses is to use the Super Anchor Safety Bar. It's easy to use and can provide fall protection for two workers. We used it on a remodel project last year where we had to remove the failing hand-built trusses from a carport. We just worked back from the gable, setting the Safety Bar a few trusses in and moving it as we went.

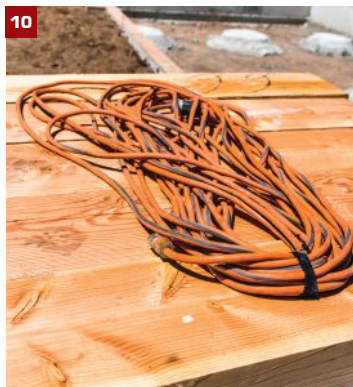
4. FORKLIFT

In 2005, we bought a used Ingersoll Rand

VR 1056 all-terrain forklift for \$85,000—and it drastically changed how we frame. We use it to move material and stand walls. With its 56-foot reach and 10,000-pound lift capacity, we're able to install soffits and siding with the wall flat on the deck and build larger walls than can safely be lifted by hand or with wall jacks. The forklift also allows us to frame walls where there is space on the deck and then move them to where they need to go. It lives on the jobsite; our excavator charges \$230 to transport it.

5. CORDLESS BLOWER

This last winter, we bought a Milwaukee M18 cordless blower to keep the truck clean and to blow off the tops of foundations before we snap lines. We use it instead of our gas blower because it's quick and easy to use (no fuel or starting; just a battery) and doesn't kick up such a



large cloud of dust. The blower could have been any brand; we chose Milwaukee because that's what many of our cordless tools are.

6. GAS-POWERED BLOWER

For a good 10 years, we've used a Stihl backpack blower to blow sawdust off floor decks. We also use it to blow dust off walls before taping seams or lifting.

7. TEMPORARY LIGHTING

We use Wobble Lights for all our temporary indoor lighting. Over the years, we've managed to collect three lights: two with 175-watt bulbs and a third with a 400-watt bulb. Ours have metal halide lamps, but they're also available with LEDs or fluorescent bulbs. On most jobs, we'll daisy-chain the three of them together, and that will provide sufficient light during dark winter months.

8. WALL JACKS

Whenever possible, we stand walls with the forklift. When that's not possible (usually because there isn't access for the machine), we use wall jacks. Ours are from Qualcraft, and they're so easy to use, we lift only really small walls by hand because it's not worth getting hurt to save five minutes of set-up time. Our local lumberyard stocks them; you can buy them online for about \$110.

9. BUCK-BOOST TRANSFORMER

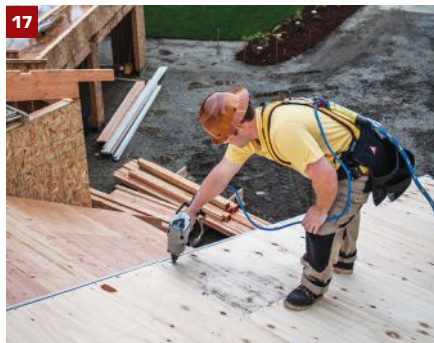
We don't plug tools into the main power cord; we plug them into a buck-boost transformer that's connected to the main power cord. The transformer makes small (5% to 20%) voltage adjustments down (buck) or up (boost) to the incoming power and insures our tools receive the correct voltage. This makes them last longer.

10. POWER CORDS

When I started framing, I was taught it's worth spending extra for high-quality cords. At that time, we used Yellow Jacket cords, which stay flexible in the cold and were the first I had seen with a lighted receptacle end (important when the power trips in wet weather and we need to know if it's the cord or tool that's tripping the power). We use 12/3 100-foot power cords; they're heavier than a homeowner's cord but last a long time. Currently, some of our 12/3 power cords are Yellow Jacket and some are Ridgid from Home Depot. They're equally good, and if I was buying today, I'd go with the less expensive of the two.

11. STAGING PLANKS

We own several 14-inch by 24-foot aluminum staging planks. The newest of them are from Alum-a-pole and were purchased used on Craigslist a few years



back. We like them better than our old ones because they are stiffer. One of our aluminum planks is 20 inches wide; we like working off it but not lifting it. A framer from another company once teased us about the 20-inch plank, calling it a six-pack plank, one so wide you could walk on it after drinking a six-pack and not fall off.

12. STAGING

For staging, we use two pairs of ReechCraft Broncos adjustable-height sawhorse supports for staging planks. Each Bronco has three legs, which can be independently adjusted to level the units on uneven ground. Our older ones are from the late 1990s. We recently purchased a new set. Using all four units and a couple of 24-foot planks, we can quickly stage and side a long wall—up to about 12 feet above grade. The tripods can

carry 300 pounds per pair and adjust to a maximum height of 5 feet. Price: about \$300 per pair.

13. EXTENSION LADDERS

We often use extension ladders to hang sheathing on the second floor, to set windows, and on occasion to set rafters to a ridge. In 2005, we got rid of our old ladders and replaced them with Green Bull 28-foot aluminum ladders. We chose this brand because that is what our supplier had at the time. Werner extension ladders are good, too; we've used them when working on other builders' jobsites.

14. PRY BARS

In the early 2000s, we bought a Burke Bar Jr for stripping foundations. We liked how it worked and began to use it for framing, too. The bar is a long metal tube with

a curved tapered end. With its 47-inch handle, it provides plenty of leverage; I use it to pry up walls up to get a wall jack under them. If foundation bolts go in out-of-plumb, we can put the hollow end over them and bend them straight without damaging the threads. We've tried a similar pry bar from Marshalltown, but the end doesn't curve as much as on the Burke Bar Jr, and the metal fatigues faster.

15. STANDARD PRESSURE HOSES

Even though we have high-pressure guns, we still use standard models for driving the hot-dipped galvanized stick nails used to fasten exterior trim (HDG stick nails are cheaper and easier to find than HDG coil nails). We've been using the same Senco hoses since the late 1990s. They were 1/4-inch by 100-foot hoses when we bought them, but have grown shorter as we've had to make repairs. They're light and have been very durable, though if I were to buy again now, I'd go with Flexzilla hoses because I've heard very good things about them.

16. HIGH-PRESSURE AIR COMPRESSOR

For the last seven years we've been using Max high-pressure coil guns and the discontinued AKHL1230E compressor—which can power both high- and standard-pressure tools. High-pressure guns are lighter than standard models and require special high-pressure hoses. We have four 100-footers; we haven't had to replace any, but we have had to make repairs when wear causes a hose to blow out (usually from fatigue near a coupling).

17. LIFELINE/HOSE

When we have a lot of nailing to do and we need to wear a harness, we grab the Max X Line from the shop and use it as a lifeline and air hose for the nail gun. The Max X Line eliminates one trip hazard by combining the hose and lifeline.

Tim Uhler is lead framer for Pioneer Builders, in Port Orchard, Wash.

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Product Watch

// BY DOUG MAHONEY

Magid CutMaster Armax AX5100 Work Gloves

Magid's new CutMaster Armax AX5100 Work Gloves offer both cut protection and a non-slip palm. The machine-knit gloves have no seams and are made of a proprietary moisture-wicking yarn, giving them an ANSI level 5 cut protection, the highest attainable level. This is up to twice the cut protection of yarns of similar weight, according to the manufacturer. The palms of the gloves have a latex coating that helps with grip and heightens abrasion resistance. **COO: China / Price: \$129 for a dozen (available only in larger quantities) / magidglove.com**



Ergodyne 4010 ProFlex Wrist Support

Strains and sprains are common in construction, so to reduce discomfort and downtime, Ergodyne developed the 4010 ProFlex Wrist Support. The Neoprene wrist wrap limits both upward and downward wrist movements and has an anti-odor treatment. It has a three-stage hook-and-loop closure, and the support is contoured to the hand with an open center, eliminating pressure on the palm nerves. An orange indicator line helps with the proper placement of the wrap. Light-duty models are also available. **Price \$14 / COO: China / ergodyne.com**

Wolverine Overman CarbonMAX Boots

Wolverine has recently released a new spin on the safety-toe work boot. Its Overman CarbonMAX boots are equipped with a toe made of a strong resin-coated carbon fiber. Unlike a standard steel toe, the CarbonMAX toes are nonconductive to heat or cold. They're also lighter and thinner than a traditional safety toe, giving the foot more room without sacrificing strength. The boots are made from full-grain leather with a nylon shank and removable foot-bed cushioning. **Price: \$180 / COO: China / wolverine.com**

Paslode 21-Degree Framing Nailer

Paslode's new 21-degree Framing Nailer accepts plastic-collated nails (from 2 to 3½ inches), weighs just over 8 pounds, and has features such as a top-loading magazine, a dry-fire lockout, and a belt hook. The gun accepts many manufacturers' nails—as well as Paslode's, which are designed to reduce strip breakages and eliminate jams. They also don't create annoying flying bits of plastic, according to the maker. **Price: \$289 / COO: Made in U.S. from U.S. and imported components / paslode.com**



Ridgid Gen5X Hybrid Fan

Staying cool on a jobsite isn't always easy, but Ridgid's new Gen5X 18-volt Hybrid Fan should help solve the problem. The variable-speed fan is controlled with a dial and can rotate 240 degrees up and down, directing the airflow where you want it. The rubber handle makes it easy to carry and two metal hooks extend from the base to grab a pipe or 2-by material. The fan is compatible with Ridgid 18-volt slide battery packs, but it can also be plugged directly into an outlet. On a 4.0-Ah battery, it can run for more than 30 hours, according to the manufacturer. **Price: \$60 (bare tool) / COO: China / ridgid.com**



Milwaukee 3-in-1 Ripstop

The Milwaukee 3-in-1 Ripstop Jacket Kit consists of two parts (a sweatshirt and a jacket) that can be worn together or independently, depending on the season or changes in weather during the day. The base layer is a water-repellent hoodie sweatshirt with three internal heating elements located at the chest and back, and powered by a Milwaukee M12 battery. For chill and rain, the second piece, an insulated jacket, can be worn over the hoodie. The jacket has four pockets and is made of 900 Denier ripstop fabric. **Price: \$299 / COO: China / milwaukeeetool.com**



Makita XNB01Z 18V LXT Cordless Brad Nailer

Makita's cordless brad nailer has all the features of an air-powered nailer, but it's fully portable and doesn't require a compressor. The gun shoots 18-gauge brads, up to 2 inches long. It has a capacity of 110 nails and comes with a tool-free depth-of-drive adjustment and a dry-fire lock out. Rubber bumpers on the body protect delicate surfaces when the gun is put down. It can be toggled between sequential and contact nailing, and a battery gauge shows the charge level. A built-in LED completes the package. **Price: \$299 (bare tool) / COO: Japan / makitatools.com**



DeWalt ToughSystem Music Player and Charger

DeWalt's new jobsite stereo comes in the shape of a ToughSystem storage container, and doubles as a battery charger, accepting 12- and 20-volt batteries as well as a USB port that charges a laptop or a smartphone. Music can be controlled by smartphone via a 100-foot Bluetooth connection. The six-speaker system is waterproof and dustproof. To lug it around, either attach it to another ToughSystem case or use the handle. It has an internal storage compartment and can be powered by battery or plugged into a wall. **Price: \$230 / COO: China / dewalt.com**



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Senco FinishPro 18BMg

Senco's new FinishPro 18BMg distinguishes itself by having the capability to shoot 18-gauge nails from $\frac{5}{8}$ inch to $2\frac{1}{2}$ inches in length. Because of a magnesium housing and composite nail magazine, the gun is durable and light (less than 3 pounds). The oil-free motor and adjustable exhaust increase the convenience of the tool, and the swivel air inlet helps prevent tangled air hoses. There is also a toggle between firing modes and an adjustable depth of drive. The magazine can hold 100 nails, and the tool comes with a carrying case. **Price: \$80 / COO: Taiwan / senco.com**



Kett KL-200 Double-Cut Shears

These double-cut shears have a unique way of cutting metal and plastic that prevents the finished piece from wrinkling. The tool actually makes two cuts at once with a $\frac{7}{32}$ -inch waste piece between them. The tension of the cut is absorbed in this strip, leaving the other pieces flat and even. The KL-200 can cut mild steel up to 18 gauge; stainless up to 20 gauge; and plastics and laminates up to $\frac{3}{32}$ inch. It can slice 300 inches per minute, according to the manufacturer. **Price: \$285 / COO: U.S. / kett-tool.com**



Klein NVCT-3 Non-Contact Voltage Tester With Flashlight

Klein's NVCT-3 combines a non-contact voltage tester and an LED flashlight. The tool registers high and low voltage (12 to 100V AC) with a 5-LED bar graph and an audible indicating power level. Sealed buttons and an O-ring on the battery cap make it dustproof and waterproof, and the durable casing can handle a drop of up to $6\frac{1}{2}$ feet, according to the maker. The tool has a CAT IV 1000V safety rating, an auto-power off, and a pocket clip. **Price: \$25 / COO: China / kleintools.com**

Hilti PM 2-LG Line Laser

Laser levels are now an essential part of any construction project, but it's sometimes difficult to see the projected line. Hilti's new PM 2-LG Line Laser projects a green line, making it four times more visible than a traditional red line laser, according to the manufacturer. The tool has a self-leveling pendulum that emits two beams: one level and one plumb. The rubberized housing protects the laser from falls, and it has a $\frac{1}{4}$ -inch threaded tripod connection on the bottom. The Hilti has an operating range of 66 feet and runs for eight hours on two AA batteries. It comes with a storage bag. **Price: \$570 / COO: China / us.hilti.com**



Crescent X6 Pass-Thru Adjustable Wrench

Combining three tools in one, the Crescent X6 Pass-Thru Adjustable Wrench is bound to free up space in anyone's tool bag. First, the 8-inch adjustable wrench comes with laser-etched measurement markings in both standard and metric. Second, the lower jaw can be reversed, giving it a serrated jaw ideal for pipe work. Finally, at the base of the handle is a pass-through reversible socket system. The tool comes with 10 compatible combo sockets that fit both standard and metric sizes ranging from $\frac{3}{8}$ inch (10mm) to $\frac{3}{4}$ inch (19mm). The sockets fit hex, square, 12-pt, E-Torx, partially rounded hex, and spline. The pass-through feature makes the tool ideal for threaded rod and long bolts. **Price: \$30 / COO: China / crescenttool.com**



Festool Syslite Uni Worklamp

Festool's new work light contains three LED lamps, and has high and low settings and a pivoting head that locks in position with a series of positive stops. The light has a keyhole at the rear so it can be hung from a nail or screw. Festool batteries are also equipped with onboard belt hooks. A fully charged 18-volt battery gives the lamp approximately 9½ hours of runtime, according to the manufacturer. The light is compatible with both nickel and lithium Festool batteries. **Price: \$57 (bare tool) / COO: Germany / festoolusa.com**



Bosch RH745 Rotary Hammer

For breaking up concrete or drilling holes for anchors, the new Bosch RH745 is built for power and convenience. The tool has two modes of operation: chipping and drilling. A third setting, the Vario-Lock, puts the gearbox in neutral to allow the user to adjust the chisel end. A dial changes the speed of the tool and an indicator light turns on when it's time for maintenance. To increase user comfort, there is a fully rotating front handle and a padded rear handle that absorbs vibration. The Bosch has an SDS-Max tool-free bit change-out.

Price: \$719 / COO: Germany / boschtools.com

Blaklader 3225 Flannel Shirt

Blaklader, known for multipocket work pants, has recently brought its 3225 flannel shirt to the U.S., and it looks like a good way to take the chill off. The shell is 100% cotton with a fleece-lined body and quilted sleeves to prevent snagging if you wear it over a long-sleeved shirt. It uses durable snaps, not buttons, up the front and on the chest pockets. There are also side pockets. The shirt is longer in the back than in the front, to keep the draft out while the wearer is crouching or bending. **Price: \$50 / COO: China / blaklader.com**



Flir One

Thermal cameras are great diagnostic tools, but they can be expensive. The new second-generation Flir One is a small camera that connects to a smartphone and uses the phone's large screen as the monitor. It has a resolution of 160x120, four times that of the previous version. The unit actually has two cameras, one thermal and one regular. It takes a picture with both and has the capability to blend them into a single image, giving solid outlines to the objects in the thermal image. The Flir has an onboard battery, so while it's operational, there is no drain on the phone power, yet all captured images and video are stored on the phone. Models compatible with Apple and Android platforms are available. **Price: \$250 / COO: China / flir.com**



CLC Power Distribution Tool Bag

The Power Distribution Bag combines tool storage with a power source. The duffel-style bag has 10 pockets inside and 24 outside, plus a removable four-outlet surge protector that can be mounted to the inside or outside of the bag. The unit gets its power from an extension cord and provides four outlets, each with a cord clip to prevent accidental unplugging. The bag has padded feet and can be carried with its adjustable shoulder strap or handles. **Price: \$70 / COO: China / goclc.com**



PacTool Face Gauge

The sliding face gauge offers a quick and inexpensive way to install even rows of siding. When held against a course of siding, it creates the reveal for the next course, or a shelf for a shingle ledger. The sliding reveal loosens with two wing nuts and is fully adjustable between 1/8 inch and 9 inches. The thumb hook is easy to hold, and the tool also can be used for scribing a parallel line. **Price: \$9 / COO: U.S. / pactool.us**



Kreg Precision Router Table System

The Kreg Precision Router Table System has an aluminum fence with a "T" shape so it locks in like a table-saw fence. It always stays parallel to the table and the magnified measuring scale makes adjustments fast and easy. The built-in vac port handles dust. The MDF tabletop is reinforced with steel struts to prevent warping, and it sits on a metal stand that can be adjusted in height from 31 to 36 inches. At 85 pounds, the setup is still light enough to be moved from jobsite to jobsite. **Price: \$500 / COO: U.S. / kregtool.com**



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Tool Hounds

// BY KEVIN IRETON



Excellence? It's in the Bag

When Darryl Thurner swung a hammer for a living in the late 1970s, the only companies making leather tool bags were all competing to see who could make them the cheapest. “The bags were woefully inadequate,” Thurner says. They didn’t hold enough nails. They were fixed on the belt, so you couldn’t adjust their position. And most carpenters wore them backward to keep nails from spilling when they bent over.

Desperate for efficiency, some of the stick-framing pieceworkers in southern California went to shoe-repair shops to have bags specially made. When Thurner first saw a set of custom leather tool bags, he was filled with envy. It was a moment that changed his life.

Thurner started making leather tool bags as a hobby. He persuaded a local saddle maker in northern California to produce

designs for himself and for the guys he worked with. But when more and more carpenters wanted bags, the saddle maker bowed out, forcing Thurner to learn how to sew leather. Thirty-five years and four recessions later, Darryl Thurner is still making tool belts.

These days he has lots of help. Thurner’s company, Occidental Leather, now employs more than 40 people. They make all of their products—belts, bags, vests, and accessories—at their facility in Sonoma County, Calif., using materials that are meticulously sourced from inside the United States.

Among the biggest challenges is finding good leather in a country that now outsources 98% of its shoe manufacturing. Thurner visits every tannery he works with to specify exactly what characteristics he wants in the leather. “My goal is pretty simple,” he says. “I just want to make the best tool bags that I possibly can.”

Asked to recall a favorite story from a customer, Thurner declined at first, saying he wasn’t very good at storytelling. But then he recalled a carpenter who had fallen off a roof while wearing a set of Occidental tool bags. One of the nail pouches got hooked on a rafter tail, and the guy hung there until his buddies could get him down. “Those bags saved his life,” Thurner said. “I guess that’s a pretty good story.”

To learn more about Occidental Leather, go to bestbelts.com.

Kevin Ireton is a carpenter and writer in New Milford, Conn.

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Battery and Charger Sold Separately



R09890B
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