Mechanical Drywall Tools

This family of specialized taping and finishing tools allows you to do a faster, more precise job

by Jeffrey Johnston

In my prime I could tape and finish an average of 8,000 sq. ft. of drywall (about 170 4x12 sheets) in four days by myself with a set of mechanical drywall tools. Now I work at a slower pace, but I still can complete about 12,000 sq. ft. in a week with the help of one of my brothers.

If you don't tape and finish a lot of drywall, you may be content doing it the old-fashioned way with a pan, a knife and a roll of tape. But if you do a lot of drywall or just like to try new things, I suggest you give mechanical tools a try.

There's a whole family of mechanical drywall tools to take you from tape to finish. Heading this group is the automatic taper, often referred to by the trade name Bazooka, which is made by Ames Taping Tool Systems Company (sidebar p. 89). The taper is an impressive thing to see in action. As its wheels move along the drywall, the device slathers a metered amount of joint compound onto the tape and pastes the tape to the wall (photo above). At the end of the joint, I stop and pull the handle, which is connected to a built-in blade that cuts the tape to length. In experienced hands, the automatic taper leaves old-fashioned hand tools behind in its wake.

Tape faster with the automatic taper. Drywall taping gets done quickly with an automatic taper (top photo). A pump (above) is used to fill the automatic taper with compound.

There's a mechanical tool for most drywall applications—Drywall finishing is a series of procedures: taping joints, filling recesses, floating butt joints and finish coating. Most of what can be done with hand tools also can be done with automatic tools.

If I were using hand tools to tape drywall joints, I'd start with a roll of tape, a knife and a pan of joint compound. I would fill the joint with a bedding coat, stretch tape along the joint and then smooth it with a drywall knife. After that coat dried, I'd go over the taped joint with two successive coats of compound, using wider and wider knives to feather out the edges. In corners I'd finish one side, let it dry and then finish the next; or I'd use an angled corner trowel.

Mechanical tools let me do all those procedures with greater speed and consistency. All of

the tools are filled from buckets through a hand pump. The pump has different attachments for filling the different tools.

After taping the joints with the automatic taper, I turn to other mechanical tools (photo p. 89). There are corner rollers and compound applicators for inside corners. These corner tools let me embed tape in corners, wipe down excess compound and apply additional layers of compound to corners. These corner tools give good results in a fraction of the time it takes to use hand tools. Finishing boxes, used to apply joint compound to flat seams, come in widths up to 12 in. Pressure applied to the box handle pushes compound onto the wall. Longer handles can be used if I'm working on high ceilings. The different box widths allow me to apply successive coats of compound to joints and to achieve uniform finishes and softly feathered edges. There is no mechanical tool for outside corners or non-90° inside corners. I still have to apply compound to corner beads with hand knives. And there's the nail spotter, a small box filled with joint compound that lets me fill fastener depressions.

(There is also a taping tool that is less complicated in design and easier to learn to use than the Bazooka. Read about the banjo in the sidebar at right.)

You can buy or rent these tools—Brothers Bob and Stanley Ames developed the original set of mechanical taping and finishing tools during the 1930s and 1940s. They only rented out their tools, which contributed to their success. By servicing and maintaining the tools, they monitored which parts wore out, and the brothers kept an ear out for their customers' suggestions for improvements.

The brothers' patents kept other manufacturers from offering similar tools. In the late 1970s, the various patents expired, which opened the market to other manufacturers. Now tapers can buy from a variety of manufacturers, or they can rent from Ames (sidebar p. 89).

There are benefits to owning your own tools, but there's also a lot to be said for renting. Routine maintenance is included in the rental charge. Also, if I had a legitimate accident, such as dropping a tool from a scaffold onto a cement floor, I could take the tool back, and Ames would hand me a reconditioned tool. If it is not convenient to stop by an outlet, Ames will ship the tools to your door.

A set of mechanical taping tools runs more than $3,500. The automatic taper alone costs over $1,300. (A banjo, on the other hand, costs less than $100.) Ames rents out its tools on a daily basis. Renting a complete set of tools costs a little more than $8 a day. Many small clients rent by the job and return the tools after a week. It's more common for drywall companies to have tools out constantly, exchanging the tools when they need maintenance.

There is a learning curve, but it's worth the climb—Although they're generally used by pros who tape and finish huge amounts of drywall, mechanical tools can be a great help even for occasional finishers. With practice, anyone who

A simpler, less expensive taping tool

The banjo taping tool is much simpler to use and a lot less expensive (under $100) than its more complex cousin, the automatic taper. Like the automatic taper, the banjo preapplies joint compound to drywall tape and speeds up the taping process.

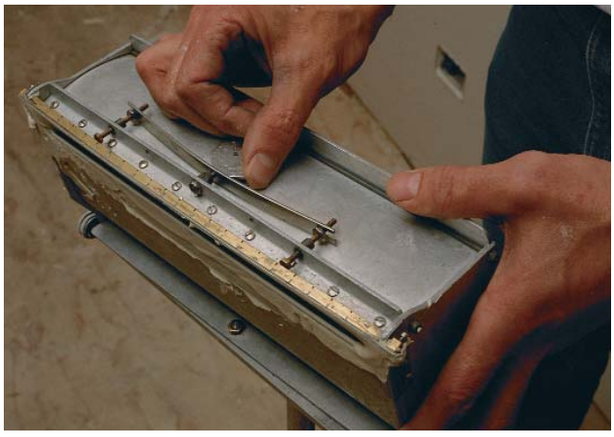
I fill the banjo by placing it on a level surface, opening the hinged door and loading compound by hand. The joint compound I use for the banjo is as thin as possible.

To lay tape, I grab the banjo by placing my hand through the strap. As I pull out the tape with the other hand, the joint compound sticks to one side (photo below). I lay the joint-compound side of the tape on the joint and continue to pull and place the tape until I reach the end of the joint. Tape is cut when it is pulled against the attached cutting blade. I then align the tape over the joint.

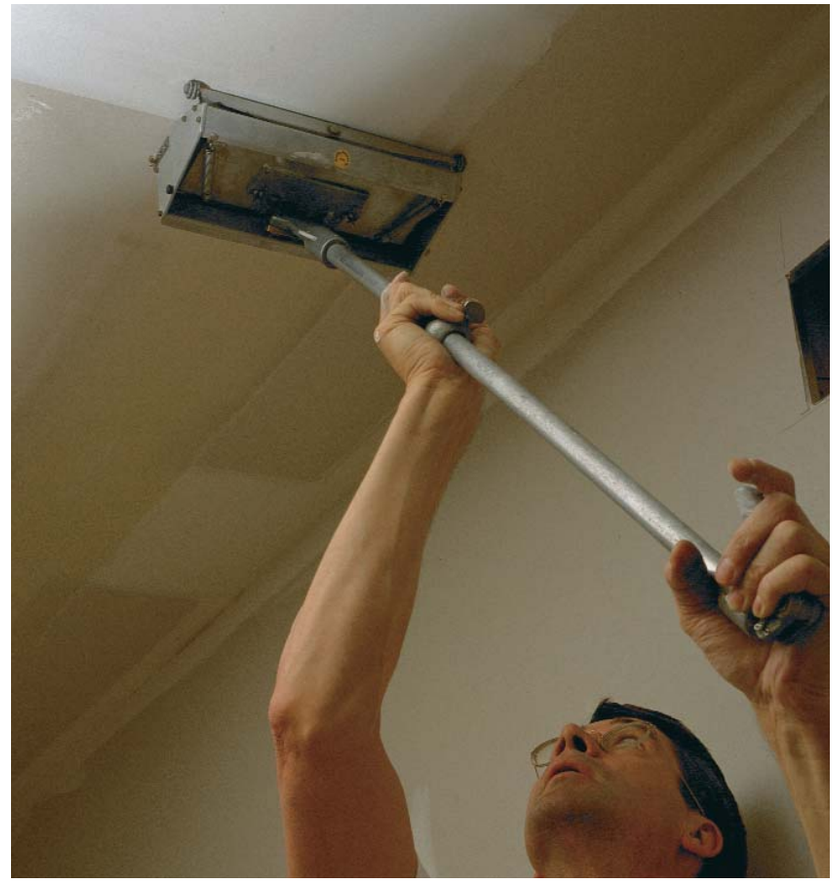
Using a finger, I press the tape into corner joints; then I wipe the tape with a knife. I get lots of compound on my hands in this operation, so I keep a bucket of water handy for cleanup.—*J. J.*

Place the tape into the joint with your free hand. A cloth strap lets you hold the banjo and carefully control the amount of tape that's drawn out and fed onto the wall. With your other hand, you can hold the tape against the joint.

Faster than two swipes with a taping knife. Once the automatic taper has laid tape into the corners of the drywall, this corner roller embeds tape into the joint compound.



Adjust the blade to control crowning. A dial on this flat finisher sets the curve of the blade, which determines how big the crown will be on the top coat of joint compound.



Pull the flat finisher along the joint, wheels first. The author applies a coat of joint compound with a 12-in. flat box. Pushing the handle into the box forces out the joint compound.

is handy with joint compound should be able to master mechanical tools and achieve faster production with better-looking finished surfaces. My advice is to start learning by using only one or two tools, get competent with those, then advance to others.

To learn how to use the automatic taper, you can start with videos and manuals. Most mechanical-tool manufacturers offer videos and some type of manual or training. Watching experienced tapers is another good way to understand how the tools work. Ames stores have a mocked-up room where the manager will take you through the basic operation. If you're serious about increasing your production, Ames offers week-long training classes for beginners interested in renting their tools.

I learned a great trick for beginners at the Ames training school: Practice running the automatic taper with tape but no compound. This process makes the taping tool lighter and gets you accustomed to stopping completely during the cutting step. If you don't stop completely during the stroke of the cutting operation, the blade will jam the tape.

Carefully prepare both the surface and the joint compound—Before placing wet compound on the walls, I take the time to prepare the drywall panels. Panels should be tight to the framing, and fasteners should be properly set below the surface of the panel. Any crushed gypsum should be cut out. Also, loose paper on butt joints should be cut away. I prefill the cut-out areas and any other gaps in the drywall with a setting-type compound.

Good preparation includes proper mixing of the compound. I use lightweight, ready-mixed compound from cartons. The compound in cartons is less expensive than pails. The lightweight compound is all-purpose, has minimal shrinkage and is sanded more easily than conventional-weight compound. I usually mix the compound with a 7-amp, 450-rpm, ½-in. drill and a figure-eight-type mixing paddle (a faster drill whips more air into the mix, which results in more craters in the finished compound). I add water to the compound mix in half-pint increments until the compound reaches the desired thickness. The compound should be thinner for angles than for flats and, in general, needs to be thinned down more than you might expect.

A big advantage to taping with mechanical tools is that you can use thinner compound, which improves bond and workability. Thinner compound allows tape to be placed into inside corners more easily, reduces blistering (air voids under the tape) and makes it easier to wipe down the tape. The compound bonds better because it can soak deeper into the drywall paper and into the paper joint tape, and thinner compound allows more working time to manipulate the tape into place. If the compound dries too quickly, the tape won't wipe down properly on flat joints or slide on the panel surface when you're rolling the corners into final position. If a hand taper used compound at a mechanical-tool consistency, most of the compound would simply drop to the floor.

Once the joint compound is the right consistency, I use a pump to fill the automatic drywall taper (bottom photo, p. 86).

The faster you move, the better these tools work—Mechanical tools do a better job and operate more easily when you move quickly. The tools are harder to push with a slow, deliberate movement. Faster motions take less effort. When you're running through a drywall job, you also should have clear footing. Tools, scrap drywall and other contractors' materials should not be in the work area.

I lay tape on the butt joints first; then I tape the tapered joints (the two long, factory-finished edges of drywall). The auto taper has two drive wheels that feed tape and compound onto the wall. The automatic taper must be run at a slight angle to the surface so that only one of the drive wheels hits the wallboard. (If both drive wheels are used, excess compound will be forced out, which can be especially bad if you're working on ceilings.) I wipe down the tape with an 8-in. knife. Next I apply tape to the inside corners with the automatic taper. The creaser wheel, which is controlled by a lever at the end of the taper, pushes the tape and compound into the corner. I use a corner roller to crease and press the tape into the corner (bottom photo, p. 87). Next I use the 3-in. corner finisher (sometimes called a stripper or plow), which leaves a uniform compound coat over the tape. I pick up any compound that's left at the end of the corner joints with a hand knife.

Before going over the taped joints with fill and finish coats of compound, I fill all fastener depressions. I usually use a knife for this, but sometimes I use a nail spotter. This tool works best when all the fasteners are set at the correct depth. The nail spotter is a small box filled with

joint compound. It has a built-in knife edge, so as the box is dragged down the row of fasteners, a thin layer of compound fills the hole, and the blade smooths it out.

Finish boxes are for applying second and third coats—After the tape coat is dry, I use a 10-in. box finisher to apply the next coat of compound on flat joints. Using the loading pump, I fill the box with compound and then run the box quickly over the taped joints. The compound is forced onto the wall or ceiling when I apply pressure on the handle (right photo, facing page). The lever locks the box at the desired angle. I release the lever and allow the box to run along the wall on the blade and the wheels. At the end of the joint, I lock the angle of the box in order to pull the box off the wall without leaving an excessive amount of compound at the let-off point.

In addition to controlling the flow of compound that's squeezed onto the wall, I also can control the size of the crown on the joint (left photo, facing page). A dial on the box adjusts the amount of material released onto the surface and determines the amount of crowning. A slight crown is desired to compensate for shrinkage.

All coats of joint compound should be dry and lightly sanded before the finish coat is applied. I use very thin compound for the finish coat. I pass over inside corners with the 2-in. corner finisher attached to the corner pump, or applicator. This tool applies a uniform coat of compound over the tape and feathers the edges. I then use a 12-in. box to apply the final coat on the flat joints. When I'm done, I've made three passes over all of the joints and fastener depressions.

Before the final sanding, I use a hand knife to scrape off any excess or fill in any voids where boxes start and stop. I also finish nails and touch up edges, scratches or craters with hand knives.

Clean tools work better and last longer—It's important to keep compound from drying on the tools. I place the tools in a bucket of water if I'm not using them for more than about ten minutes. If compound is allowed to dry in and on a taper or finishing box, the tools will not run smoothly, will leave scratches from dried particles and will slow me down.

At the end of the day, the tools either should be immersed in water or cleaned. The boxes can be taken apart and cleaned easily with a washup brush in a bucket of water. If I can, I clean the tools with the water pressure from a hose on the lawn or in the laundry sink in the basement. If material has dried on the tools, I let them soak, and the compound will soften. I pump water through the pump, supporting it on a brush on the bottom of the bucket to keep dirt from being pumped through. I then pump clean water through for a good rinse.

I've described tools and techniques for my way of taping. Tapers develop their own styles, and others may run their tools differently. □

Jeffrey Johnston is a drywall finisher living in Arlington Heights, Ill. For the past ten years he has been a technical representative for United States Gypsum Company. Photos by Steve Culpepper.

Mechanical tools take you from tape to finish. From left to right, the gooseneck attachment on the Ames loading pump lets you pump joint compound into the Auto Taper, or Bazooka; corner roller; corner finisher; nail spotter; 10-in. finishing box with handle; 12-in. finishing box; and corner applicator.

Mechanical drywall tool manufacturers

I have operated Ames, Tape Tech and Tape Master tools and have seen Premier and Precision tools operated. Two of these companies, TapeMaster and TapeTech, are owned by Ames, and their tools are almost identical to the Ames tools. The main difference is that Ames only rents its tools and that the other two sell their tools. Tool manufacturers will send tools for sale or lease via UPS.—*J. J.*

Mechanical tool manufacturers

Ames Taping Tools Systems Co.
1670 Oakbrook Drive
Unit 325
Norcross, Ga. 30093
(800) 241-2771
(404) 449-5884

TapeMaster Tools
30009 Ahern Ave.
Union City, Calif. 94587
(800) 532-1032
(510) 429-9710

Precision Taping Tools
Route 133 East
Arthur, Ill. 61911
(217) 543-2101
(800) 562-2484

Premier Drywall Tool Co.
119 Val Dervin Parkway
Suite 1
Stockton, Calif. 95206
(800) 832-8273
(209) 982-0434

TapeTech Tool Co. Inc.
30009 Ahern Ave.
Union City, Calif. 94587
(800) 426-6256
(415) 429-1666

Banjos

Stanley-Goldblatt
14117 Industrial Park Blvd.
Covington, Ga. 30209
(800) 952-7226

Kraft Tools
619 E. 19th St.
Kansas City, Mo. 64108
(800) 422-2448
(816) 474-4555

Homax
1610 Sixth St.
Bellingham, Wash. 98227
(800) 729-9029
(360) 733-9029