Tool Kit for the Beginning Drum Builder

By Dustin Martin

This is a buyer's guide for the tools I use in my DVD "Beginning Drum Building". These are the tools that I see as necessary for building a drum from a pre-made ply drum shell. I assume if you've decided to undertake something like building a drum that you already own some or all of these tools.

If you don't own some of the more expensive tools, you may want to consider what your goals are. If you only want to build a snare drum or two, it might make sense for you to spend the money to buy shells that already have bearing edges instead of paying for a router. However, if you plan to make an entire kit you can quickly recoup the cost of a router and bits by cutting the edges yourself.

I don't intend to tell you exactly what tools to buy as everyone has brands they prefer. Instead I'll explain what characteristics are important to look for in your tools. Then I suggest that you go to The Garage Drum Builder Amazon Store and read the revues for the different models of tools. I find these revues invaluable when it comes to making a tool purchase. If you have the money, buy top shelf tools and you won't be disappointed.

Combination Square

A combination square is a very important layout tool. It's used to accurately mark the locations of lugs and other hardware on a drum shell. It's adjustable to allow you to set the mark for the hardware at an exact distance from the edge of a shell. It's also used to ensure that all the hardware is nice and square on the shell.

Cheap squares tend to be somewhat inaccurate, but I think that they are fine for drum building. If you're a perfectionist or have a desire to build cabinets someday, go ahead and buy a machinist's quality square. Otherwise, a cheap square will be fine-a lug that is out of square by a quarter degree isn't noticeable to the eye, and there will always be a little play that you can wiggle a lug back and forth to get it completely square. The most important aspect of a combination square is that it is adjustable, which works well on even the cheapest model. Make sure to get a 12-inch model: this is long enough to transfer lines across a large floor tom or a bass drum. Just stay away from anything with plastic parts.

Drill/Driver

This is what we'll use to drill the holes for the hardware. If you only need to drill a few holes now and then you may not be able to justify the price of a cordless drill. Any electric drill will work great for drum building; the bits used are not very large so motor and chuck size are a mute point.

If you are willing to spend the extra money, I highly recommend one of the small 10.8 or 12 volt lithium ion screwdrivers. When I filmed the DVD I had not used one, but since then I've become quite fond of them. They have more than enough power for general purpose drilling, and have the benefit of being small enough to fit inside a drum to attach hardware. Even a four-piece drum set has about 100 hardware screws, so this can be a real forearm savor when building an entire set. They are also handy to throw in your gig bag; with a drum key bit, it's a great help if you need to quickly change a head in the middle of a set. These feature a quick release chuck for convenience; however, the does limit you to drill bits that are available with a quick change shank. If you see yourself needing to use a lot of large diameter bits, you may want to step up to a larger drill with a standard chuck.

1/8" brad point drill bit

We'll use this bit to make all the pilot holes for a drum's hardware. Unlike a normal twist bit, a brad point bit has a sharp point, which allows it to start without wandering. This is imperative for drilling precise holes. If you have a drill with a standard chuck, just get a bit from any name brand company.

However, I have not seen a company who makes a brad point bit with a quick release shank. If that's the type of drill you own, you'll also need to get a 1/8" "Quick Change Insty Bit". You'll be able to remove the included twist bit and replace it with a brad point bit.

Uni-Bit

This is a very useful bit that is stepped to be able to drill many different hole sizes. They also have the benefit of having a countersink as the transition between each step so it leaves a nicely countersunk hole. Any brand of Uni-bit will do, just make sure you get one with 6 steps; that's all you'll need for drum building. Uni-bits feature a quick release shaft so they will work in any type of drill.

Router

A router is a very important part of the drum builder's tool kit. It is the tool that's used to cut the bearing edges on a drum shell, and without proper bearing edges a drum sounds awful. For specifically cutting edges, I use a small laminate trimmer style router in a jig. I find it handy to use on large drums that are unwieldy to balance on a router table. It also makes it possible for me to recut bearing edges on location, instead of needing to be in my shop. These models are easy to handle due to their small size. If you only plan to use it for cutting edges on ply shells and maybe using it around the house every now and then, this is a great choice.

However, if you eventually want to do more heavy duty work like building stave shells and only want to own one router, you will probably want something with more flexibility. Laminate style routers are limited to small bits with ¼" shanks. A larger router will give you more bit choices and will give you the option of mounting it in a table, which can be invaluable for certain tasks. Look for a model that includes dual collets to use either ¼" or ½" shank bits. I would suggest something with at least an 11 amp motor. Also if you can afford it a variable speed motor is necessary to work with large diameter bits. For drum building, a router with a plunge base is probably not necessary.

Be sure to buy eye, ear and lung protection to go along with your router. Routers are very loud, dusty and have the potential to throw chips from the bit-all of which are health dangers.

Eye Protection

Safety glasses are very important for keeping dust and woodchucks out of your eyes. Look for something that wraps around to protect the sides of your eyes. You can get safety glasses for as little as a dollar or two, but for ten of fifteen dollars you can find a model that's more form fitting and less clunky.

Ear Protection

I assume that most people that are interested in building drums are also drummers. As musicians, protecting our ears is even more important than everyone else. Any cheap earplug will do an adequate job of protecting your ears from the whine of a router and at a quarter for a pair of foam plugs, the price is hard to beat. If you're willing to spend a bit of extra money, I find sound deadening earmuffs to be far more convenient and easier on the ears than foam models.

Lung Protection

If there is one piece of safety gear you should spend some extra money on, it's a dust respirator. Breathing fine dust particles can lead to lung cancer, so I don't like the idea of trusting the cheap paper dust masks. Get one with duel straps and replaceable filters.

45 Degree Chamfer Bit

For drum building, the main router bit you'll need is a 45-degree chamfer bit. This is what we'll use to cut bearing edges; there are other profiles we can use to create a different sound but this bit is a good start. This bit will have a bearing on the end that will follow the drum shell to get a consistent edge. As I said in the router section you can get bits with a ½" shank or a ¼" shank. Bits with a ½" shank are far more durable than one with a ¼" shank, so if your router is large enough to accept it go for the bit with the ½" shank

Straight Bit

This bit isn't actually necessary for drum building. In "Beginning Drum Building" I explain how to use a router to dimension stock for jigs with this bit. This is intended for anyone whose only power tool is a router. If you own or have a friend with a circular saw or a table saw it's probably quicker to use those to cut your parts and skip this bit and the straight edge. If you intend to use a router, buy a bit with a 1" long cutter so that you'll be able to cut ¾" plywood. If you have a small laminate trimmer style router, get a 3/8" straight bit. However, if you have a larger router, get a ½" bit with a ½" shank.

48" Straight edge

Like the straight router bit, you only need this straight edge if you plan to dimension stock using a router. It will be used as a router guide to put straight edges on your parts. Any metal straight edge is straight enough; we don't need a machinist's quality straight edge. Stay away from any plastic models: these could bend and flex under the load of a router.

12" bar clamps

Bar clamps in this size are extremely useful for clamping up small assemblies as well as holding jigs and fixtures to a table or bench. You don't need super heavy-duty clamps for either of these operations; just do a search for 12" bar clamps and buy whatever is on sale. Start with at least two; you can never go wrong with too many clamps.

½ round file

This tool is what we'll use to form the snare beds of a drum. This file has one side that is flat and one that is round, hence the name ½ round. This type of file is inexpensive and easily found at most hardware stores. I suggest an 8" file for this type of work. Get a file with a bastard cut; this will cut quickly but leave a finish that's easy to smooth out with some sand paper.

Screw Driver

I would assume that almost everyone owns at least one screwdriver. For building a new drum you'll need a Phillips head screwdriver. If you intend to get into restoring old drums, you'll also need a standard screwdriver as lots of vintage drums were made before the invention of the Phillips head screw. I find the 6-in-1 type screwdrivers to be very handy.