



FABRICATOR'S FIELD GUIDE

Essential Woodworking Machines

WOODSHOP SERIES



Smart, No-Nonsense Workshop Advice

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Introduction

Who This Guide Is For

If you're just getting into woodworking, or you've got a few tools already but aren't sure what to buy next, this guide is for you. It's written for that stage where you're ready to build a real, capable shop but feel overwhelmed by all the online hype and marketing.

Whether you're brand new or you've done a few projects, this guide will help you understand which big tools actually belong in your shop. You don't need to be an expert to use this. I wrote it for regular people building a shop one tool at a time.

What This Guide Covers

This guide focuses on stationary shop equipment, the big machines that stay put, the ones that live on a stand, a bench, or in a dedicated spot in your workspace. That includes table saws, bandsaws, drill presses, planers, jointers, and other heavy-duty tools that handle the core woodworking tasks: cutting lumber to size, surfacing rough boards, and drilling clean, accurate holes.

This isn't a catalog of every possible machine. It's a practical, pared-down list of the foundational tools you build a workspace around.

All of the machines in this guide are tools I personally own and use. I've kept the list focused on equipment I have real, day-to-day experience with. There are plenty of specialty or industrial machines out there, but if I don't use it, or it doesn't make sense for a small home shop, it's not in this book.

Why I Wrote This

I've spent decades in woodworking shops, professionally and on my own. I've seen what works, what doesn't, and I've made plenty of mistakes along the way. This guide exists to help you build a shop based on real-world experience, not Internet hype.

There's a lot of pressure to buy high-end tools or to have a full setup from day one. But early on, you're still figuring out your workflow, so it's hard to know which

machines are actually right for you. Buying the wrong tools too soon can drain your budget without adding much capability.

Know What You're Buying

Stationary equipment is a serious investment. These machines are heavy cast iron and steel, and they usually come with price tags to match. That's why it's important to know what you're getting into and what you really need for the work you do.

Through the years, I've bought tools I didn't end up needing and skipped others people swear by. I went decades without a jointer and got along fine. On the other hand, when I finally bought a planer, it became one of the most useful tools in the shop, something I should have purchased much earlier.

This guide is here to help you see those trade-offs clearly before you spend your money.

What I Want You to Take Away

This isn't a catalog. It's a working field guide based on shop observations. I'm not here to sell you on the newest machine. I'm here to help you make informed, frugal choices that will grow your skills and your shop over time.

You'll learn which tools matter most, how they relate to one another, and how to prioritize your purchases so you're always building momentum, not just collecting gear. My goal is for you to walk away with clarity, confidence, and a plan.

Introducing the Core 3

Throughout this guide, you'll see a Core 3 tag on a few of the machines. These are the tools that, in my experience, give you the most well-rounded shop capability for the money. They may not be the first tools you buy, but once you have them, you can handle the majority of woodworking projects without feeling limited.

They offer the best mix of versatility, practicality, and value in a small home shop, which is why I call them the Core 3.

Let's get started.

Table Saw



Field Notes

What It's For

The table saw is often the first big stationary tool worth investing in if you're building a serious woodworking setup. It excels at ripping boards to width, breaking down sheet goods, and making precise cuts that keep your projects square, parallel, and repeatable.

It also handles joinery work like cutting dados and rabbets (two types of flat-bottomed grooves that are cut into cabinets, furniture, and frames). While you can cut these with a router or even a circular saw, the table saw makes the process faster and more precise with a dedicated dado blade.



Tool Types & Variations

Table saws come in three main styles. They all cut the same way, but their size, power, stability, and dust collection vary a lot. The right choice depends on your space, budget, and how often you work.

Contractor Saws

A contractor saw is the best all-around choice for most home shops. It has an open stand instead of a full cabinet, which keeps the cost and weight down. These saws have enough power for hardwoods, enough table size for sheet goods, and are generally stable and reliable. The main downside is dust collection, which is weaker because the base is open.

Cabinet Saws

Cabinet saws are the heavy-duty shop machines. They're fully enclosed, which improves dust collection, reduces noise, and houses larger motors, often requiring 240V power. They provide the highest accuracy, smoothest operation, and best long-term durability. The trade-offs are weight, cost, and the fact that they're not portable. Most home shops don't need this level of machine unless they're doing high-volume or production-grade work.

Jobsite and bench-top saws

Both saws are compact and portable, often featuring folding stands and smaller tables. They work well in tight spaces, for occasional use, or in budget-conscious setups. With careful tuning, they can make accurate cuts, but they are lighter and less stable than contractor or cabinet saws and may need more frequent adjustments. They also have limited arbor sizes, which can affect whether you can use a dado blade.

Setup & Workspace Considerations

Your table saw is only as useful as the accessories and workspace around it. Many beginners underestimate how much room they need to safely use one. Plan for at least 6 to 8 feet of clear space in front of and behind the blade so you can feed material in and catch it on the out-feed side without struggling.

An out-feed table makes a huge difference in both workflow and safety. Good dust collection also helps with easier cleanup and a safer shop environment.

In the United States, most jobsite and contractor saws run on standard 120V household outlets, but larger saws (especially cabinet saws) may require 240V circuits. Before buying, check your shop's power capacity. Not only voltage, but amperage per circuit. You don't want to end up with a tool you can't use.

Essential Upgrades & Accessories

One of the most overlooked upgrades for any table saw is a quality fine-tooth, carbide-tipped blade. The stock blades that come with new saws are usually too rough for smooth, precise work. Swapping to a fine-tooth blade is one of the best early investments you can make. It immediately improves cut quality, reduces tear-out (especially on plywood), and makes the saw feel easier and more controlled to use.

Note: A fine-tooth blade cuts more slowly than a coarse one, but if you're only buying one blade to start, the smoother finish is worth the trade-off.

Another key feature is a solid, accurate rip fence. Look for one that locks firmly in place and won't shift during a cut. A fence with a 24 inch rip capacity is a good starting point, though models that reach up to 48 inches give you more flexibility for sheet goods and larger projects. Since the rip fence guides your material parallel to the blade, a well-built, reliable one is essential for straight, repeatable cuts.

If you're working in a smaller space, consider adding a mobile base. It allows you to roll the saw out of the way when not in use and position it wherever you have the most room to work. A good mobile base locks firmly in place during cuts and releases easily for storage. It's a simple upgrade that makes a big difference in how easily you can manage your workspace.

You don't need every jig or accessory right away, but a shop-made crosscut sled is worth building early on. It adds both safety and accuracy when cutting boards to length. Push sticks and feather boards are also must-have safety tools, and they're easy to make from scrap wood.

Common Mistakes & How to Avoid Them

Don't overbuy horsepower or size when choosing a table saw. For most home or small workshops, a 3-horsepower cabinet saw already provides more power than you'll ever need. Bigger and heavier doesn't automatically mean better, and extra horsepower rarely improves real-world results for typical projects.

Prioritize fence quality over raw power. A fence that locks square, stays accurate, and adjusts easily has a much bigger impact on cut quality and workflow than

additional horsepower. Smooth, predictable operation and consistent alignment make a table saw safer, faster, and more reliable in everyday use.

Make sure the arbor is long enough to install a stacked dado cutter. Some table saws have arbors that are too short, which limits your ability to use stacked cutters and reduces the versatility of the saw.

When to Buy It

For serious woodworking, the table saw is usually a foundational purchase. If you're just starting out and only making occasional sheet good cuts, you might get by with a circular saw and straightedge. But when you need to rip boards, make repeatable cuts, or cut joinery like dados, the table saw becomes essential.

If you want to build furniture, cabinets, or shop projects with precision and speed, a table saw will unlock project momentum you can't get from hand tools alone.



Checklist Tips

- **Prioritize a solid, adjustable rip fence with 24–48 inch capacity.** It keeps cuts straight and accurate, far more important than extra horsepower.
- **Make room for an out-feed table.** It supports long boards as they exit the saw and helps prevent tipping or kickback.
- **Upgrade to a fine-tooth, high-quality blade early.** A sharp, well-made blade instantly improves cut quality and performance.
- **Choose a contractor saw over a cabinet saw for most home shops.** It's powerful yet easier to move, set up, and power in smaller spaces.
- **Check your shop's electrical capacity before buying.** Undersized circuits can trip breakers.
- **Avoid overspending on horsepower unless your projects demand it.** A tuned 1½–2 horsepower saw handles most hardwood and plywood work.

Jeremiah's Take

"Your table saw is not a status symbol. It is the center of your woodworking shop. It needs to be able to accommodate the types of projects that you are going to produce."

Miter Saw



Field Notes

What It's For

If you work with longer boards, like furniture components or interior trim, a miter saw is one woodworking tool I recommend you get first. It's built for repeated crosscuts and angled cuts in longer stock. You'll see it used in trim work, framing, and furniture builds where consistent, accurate cuts matter.



Beginner tip: A crosscut goes across the grain or width of a board. A rip cut follows the grain, lengthwise. A miter saw is made for crosscuts, not ripping boards.

Tool Types & Variations

Miter saws come in a few different forms, each adding more cutting capability. The right one for your shop depends on how wide your boards are and how often you need to cut complex angles.

Standard Miter Saws

A standard miter saw pivots left and right to make angled cuts. This works well for trim, molding, and most basic furniture work. The downside is that its cutting width is fixed, so you can only cut boards that fit directly under the blade.

Compound Miter Saws

Compound saws pivot left and right and also tilt for bevel cuts. This means you can cut both a miter and a bevel at the same time. If you plan to work with crown molding, angled furniture parts, or anything that needs precise multi-angle cuts, a compound saw is a useful upgrade.

Sliding Compound Miter Saws

Sliding models ride on rails that let the saw head move forward and backward. This dramatically increases the cutting width, allowing you to handle wider trim, shelving, and furniture panels that a non-sliding saw can't reach.

Setup & Workspace Considerations

Many beginners underestimate how important side support is. A miter saw without solid support is awkward and unsafe.

Ideally, build or buy a stand with at least four feet of level support on each side. It doesn't need to be fancy, just sturdy. If space is tight, use a portable stand or fold-down wings so you can add support when needed without losing shop space.

Common Mistakes & How to Avoid Them

Poor support setup. Without solid side or out-feed support, both accuracy and safety drop quickly. Even simple roller stands or extensions can make a big difference in keeping cuts straight and material stable.

Buying without purpose. Don't buy a miter saw just because it seems like a standard shop tool. Match the saw to the kind of work you actually do. If your projects require wide crosscuts, look for a sliding model instead of a fixed saw. If you need to make angled and beveled cuts, a compound or dual-compound saw is worth it. If your

projects rarely call for that kind of precision or range, a simpler setup might serve you better and save space.

Oversizing the blade diameter. Many people assume a 12-inch miter saw is automatically better, but that isn't always true. In my experience, a 10-inch blade is often more accurate and has less wobble than a 12-inch blade. A 10-inch saw also lets you use the same blade size for both your miter saw and table saw, which simplifies things. While the extra capacity of a 12-inch saw can be tempting, a 10-inch miter saw is often the better all-around choice for most beginners.

When to Buy It

If you mostly work with short boards, you can get by with a table saw using a crosscut sled or miter gauge. But if your projects involve longer boards, trim, or repeated angled cuts, a miter saw will save time and improve accuracy.

Buy it with a clear purpose, or it becomes just a space hog.



Checklist Tips

- **Choose sliding over plain compound.** The ability to cut wider boards is worth it.
- **Skip gimmicks.** Laser guides and other add-ons rarely help.
- **Use a fine-toothed carbide-tipped blade.** Cleaner cuts, longer life.
- **Invest in a stand or station.** Aim for 6 feet–8 feet of support, or fold-down wings for smaller shops.

Jeremiah's Take

"A miter saw is only as good as the stand or workstation you pair it with. A solid stand adds far more value to this tool than any gadget ever will."

Planer

Field Notes

What It's For

A planer uses a rotating cutter over a stationary platen to shave boards flat and to a consistent thickness, producing two smooth, parallel faces. It's the only tool in my



core three (after the table saw and miter saw) that can turn rough or uneven lumber into precise stock for furniture, cabinetry, and other fine joinery.

If you work with rough or poorly milled wood, it quickly pays for itself by opening up cheaper material options and delivering flexibility and accuracy no other tool, not even a jointer, can match.

Tool Types & Variations

Home shops typically rely on one of two planer types: bench-top planers or stationary floor models. Both do the same job, but they differ in stability, capacity, and how much material they can handle comfortably.

Bench-top Planers

Bench-top planers (usually 12–13 inches wide) are the standard choice for most home woodworkers. They're portable,

easy to move or store, and still capable of producing smooth, accurate surfaces. For small to medium projects, they offer plenty of power and capacity without taking up much shop space.

Stationary Floor Planers

Floor-standing planers are heavier, more stable, and designed for higher-volume work. Their weight reduces vibration and makes the in-feed/out-feed smoother, which helps when you're running a lot of lumber or working with longer boards. If you have the space and expect to plane large batches of material, a floor model can be a worthwhile step up.

Setup & Workspace Considerations

Planers need clear space in front and back for feeding boards. Longer stock requires more room for safe handling. Make sure your workspace can accommodate the full length of the boards you'll be working with to prevent accidents or binding.

Essential Accessories & First Upgrades

One thing you can't overlook with planers is dust collection. These machines produce a huge amount of chips and shavings—more than just about any other tool in the shop. A good dust collection setup keeps your workspace clean, reduces clogging, and helps your planer run smoothly. Even a small, dedicated dust collector or a shop vacuum with a proper fitting can make a big difference in keeping things under control.

Common Mistakes & How to Avoid Them

Buying more planer than you need. It's easy to think you need a large, floor-standing planer or one with a helical cutter head, but for most home shops, a 13-inch benchtop model will handle nearly everything you build. Standard steel knives can be resharpened easily and give excellent results when set up correctly. Helical or "spiral" cutter heads with carbide inserts are expensive and offer little real advantage for most small-shop work.

Paying for features that don't add value. Digital readouts and extra electronics might look appealing, but they don't make your work more accurate. It's always a good habit to double-check thickness with a caliper or tape measure after planing, and a

simple manual depth gauge works just fine. Focus your budget on a reliable machine with solid build quality instead of unnecessary features.

When to Buy It

If you're torn between buying a jointer or a planer first, go with the planer. It unlocks far more value early on, opens the door to working with rough-sawn lumber, and gives you better control over your final dimensions. That flexibility alone can save hundreds of dollars over time. More importantly, it pushes your skills further by requiring you to prep your own stock.



Checklist Tips

- **Choose a 13-inch bench-top model.** It provides enough capacity for typical projects without taking up excessive space.
- **Avoid carbide cutter heads.** They're expensive, not resharpenable, and unnecessary for most woodworking.
- **Skip the digital readout.** Use the built-in scale as a guide, but always measure your board after the cut.
- **Sharpen your steel blades regularly.** A simple shop-made jig works great for this.
- **Planers need dust collection.** They produce a huge volume of chips, so connect a dust collector or shop vacuum to keep the machine running smoothly and your workspace clean.

Jeremiah's Take

"A planer is a cornerstone tool that builds real shop capability. You don't need the biggest, you don't need the fanciest. You need one that works, holds up, and helps you reclaim useful wood from rough stock."

Drill Press



Field Notes

What It's For

A drill press really earns its spot in the shop once precision, depth control, and keeping things square start to matter in drilling holes. It comes in handy for both



woodworking and metalworking, especially when a handheld drill just won't cut it (like when you're using Forstner bits or drilling into metal).

The big advantage is control: with a drill press, you set the alignment and depth exactly where you want them, which makes jobs like European-style hinge mortises, cutting wood plugs, or drilling a row of consistent holes a whole lot easier.

Tool Types & Variations

Drill presses come in a few main styles: bench-top, floor-standing, and specialty models. Each offers different strengths depending on your space, project size, and drilling needs.

Bench-top Drill Presses

Bench-top models are compact, affordable, and perfectly suitable for most home shops. They handle

small to medium projects easily, from drilling accurate holes to light sanding with drum attachments. Their smaller footprint makes them ideal for limited space, though they have less throat depth and vertical clearance than larger machines.

Floor-Standing Drill Presses

Floor models are taller, heavier, and more stable. They provide greater drilling depth, more power, and better support for large or thick workpieces. If you regularly drill deep holes, use large Forstner or hole saw bits, or work with bulky furniture components, a floor model offers a noticeable upgrade. The trade-offs are cost and space.

Radial (or Articulating-Arm) Drill Presses

Radial drill presses have a pivoting or sliding head that allows you to angle or extend the drill over a wider area. This flexibility makes them useful for angled holes or drilling positions that fixed-head presses can't reach. They are less common, often more expensive, and not as rigid as standard models, so most beginners won't need one unless they have very specific angled-drilling requirements.

Essential Accessories & First Upgrades

A drill press vise is one of the first accessories worth adding. It allows you to clamp workpieces securely, especially important when drilling metal or any material that could catch and spin, which can lead to injury.

Another smart upgrade is replacing the stock chuck with a keyless chuck. These typically perform better than the standard ones and eliminate the need for a chuck key, so there's no chance of misplacing it, or accidentally leaving it in the chuck. Just make sure the new chuck matches the taper of your drill press spindle. The taper is the cone-shaped shaft that connects the chuck to the machine, and it needs to fit properly for safe, accurate operation.

Common Mistakes & How to Avoid Them

Pay close attention to the drill press's throat capacity. The distance from the spindle to the column determines how far into a workpiece you can drill. If the capacity is too small for the size of your work, you'll quickly run into limits.

Choose a floor model when you need more reach and overall stability. Floor models generally offer greater throat capacity and more mass, which helps keep the machine steady during heavier work.

Be cautious with bench-top models. Bench-top presses can be less stable, and choosing one when you really need the weight and rigidity of a floor model often leads to frustration, especially with larger metal parts or heavy stock.

When to Buy It

You don't need a drill press for every project. Small pilot holes or simple wood drilling can be done with a handheld drill. But once you start using larger Forstner bits, drilling metal, or needing precise depth, a drill press makes the work safer, more accurate, and easier on your wrists.



Checklist Tips

- **Prioritize throat capacity.** It determines how far you can reach into your workpiece, not just the overall size.
 - **Upgrade to a keyless chuck.** They're easier to use, perform better, and eliminate the risk of losing or forgetting the chuck key.
 - **Add a drill press vise.** It holds your work securely, especially when drilling metal or working on larger, more precise projects.
 - **Ensure adequate stability and mass.** A heavier, more solid press reduces vibration and improves accuracy

Jeremiah's Take

"If you're using Forstner bits or drilling metal, the drill press isn't optional. It's the safest, most controlled, and precise way to get the job done."

Jointer



Field Notes

What It's For

A jointer flattens one face or straightens one edge of a board, creating a surface that's square to the adjacent side. This first flattened face becomes your reference for all subsequent cuts. After jointing one face or edge, you'll still need a planer or table



saw to make the opposite sides flat and parallel, which ensures consistent thickness and clean edges. Jointers are especially useful for preparing boards for glue-ups, wide-edge work, and larger projects like doors, slab tables, or furniture that requires clean, straight edges.

Tool Types & Variations

Jointers come in two main types: bench-top models and stationary floor-standing machines. Each suits a different level of work and shop setup.

Bench-top Jointers

Bench-top jointers are compact, lighter, and more affordable, which makes them appealing for smaller shops or beginners. They sit on a workbench or stand and are easy to store when not in use. Very small models often have short beds and limited power, which can make them tougher to use accurately. A 6-inch bench-top jointer is usually the best balance for most home shops. When choosing one, look for a longer bed and a rigid fence. These features make it easier to keep your boards flat, square, and consistent.

Stationary Floor Jointers

Floor-standing jointers are larger, heavier machines built for stability and performance. They offer longer tables, more power, and wider cutting capacity, which is helpful if you work with hardwoods, wide boards, or bigger furniture projects.

An 8-inch or larger stationary jointer is only necessary if your projects truly benefit from the extra width and mass. These models take up more space and cost significantly more, but they deliver smoother cuts and greater accuracy for demanding work.

Setup & Workspace Considerations

The key with a jointer is leaving enough in-feed and out-feed space—about four feet on each side for longer boards. Bench-top models require less clearance since they're usually limited to shorter stock. In a small shop, a mobile base or rollers can make it easier to move the jointer out of the way when it's not in use. Connecting a dust collector is optional but highly recommended, as jointers produce a large volume of chips very quickly and it helps keep your workspace cleaner.

Common Mistakes & How to Avoid Them

Be clear about whether you actually need a jointer. Buying a jointer when a planer would be more useful is a common mistake, usually caused by not understanding what each machine is meant to do.

Understand why size matters before choosing a jointer. The size of the machine should match the type of work you plan to tackle, not just what seems standard or available.

Match the jointer's size to the boards you expect to work with. A machine that's too small won't handle wide or heavy boards, while one that's too large may be more machine than you actually need.

When to Buy It

A jointer often appears on beginner "must-have" lists, but for most small shops, it's one of the last large tools you actually need. Unless you're milling rough, twisted lumber or working on large projects, a table saw and planer will usually cover most of your needs. Straightening jigs for the table saw and planer sleds can accomplish much of the same work if you're willing to spend a little extra time setting them up.

If you mostly work with pre-surfaced boards from a home center or mill, you can skip the jointer for now and invest in a planer first. It's more versatile and will see more frequent use. A jointer becomes worthwhile once you start milling your own stock or building larger pieces, like doors or heavy furniture, where flattening long edges and wider boards is important.



Checklist Tips

- **Avoid very small bench-top jointers.** They're often too short and underpowered, which can make jointing frustrating and less effective.
- **Stick to a 6-inch jointer unless you regularly work with wide or oversized stock.** A 6-inch model handles most boards in a home shop, while larger stock may require a wider machine.
- **Prioritize bed length and fence stability over cutting width.** A longer bed and solid fence make jointing easier, safer, and more accurate than simply having a wider cut.
- **Use a dust collection system.** Jointers throw off a large volume of chips, and dust collection keeps your shop cleaner and safer.

Jeremiah's Take

"When you're just beginning, a jointer seems like one of the essential woodworking tools you need for a complete shop. However, that's not really the case. Its use is pretty specific, and you can often get by with other techniques. Only buy one when you actually feel like you need it."

Bandsaw



Field Notes

What It's For

A bandsaw uses a continuous loop of thin, flexible steel blade that runs over two wheels. This narrow blade allows it to cut tight curves, smooth arcs, and irregular



shapes with control and precision. It's also great for re-sawing, where you slice thick boards into thinner pieces for panels, veneers, or book matched parts. In most shops, the bandsaw's real strength is its ability to make accurate curved cuts and handle thicker or uneven stock efficiently.

Setup & Workspace

Considerations

Leave about a three-foot radius around the blade so you have room to guide and turn boards during curved cuts. For re-sawing, plan at least four feet of clear space in front and behind the saw for in-feed and out-feed. Good lighting helps you see layout lines clearly and make accurate cuts.

Heavier floor-standing bandsaws are naturally more stable and produce smoother, more accurate

cuts. They usually stay in one place, but adding a mobile base makes it easier to reposition the saw when you need extra space in the shop. Bench-top models, on the other hand, can be stored away between uses but should be clamped down or mounted securely to stay steady while cutting.

Dust collection isn't critical for light cutting, but it's helpful during re-sawing or longer sessions to keep the workspace clean and improve visibility.

Tool Types & Variations

Bandsaws come in two main types: bench-top and floor-standing. Understanding the differences helps you pick the right saw for your shop and projects.

Floor-Standing Bandsaws

A 14-inch floor-standing bandsaw is the sweet spot for most home shops. It balances power, stability, and cutting capacity without being overly large or expensive. Heavier frames reduce vibration, producing smoother, more accurate cuts. Floor models excel at re-sawing thicker boards and handling larger projects. The trade-offs are cost, space, and limited portability.

Bench-top Bandsaws

Bench-top saws are smaller, lighter, and generally more affordable. They're easy to move or store, making them ideal for tight spaces or occasional use. However, they lack the rigidity and precise blade guides of floor models. Bench-top saws work best on smaller stock (roughly 6 inches thick or less) and can struggle with long re-saw cuts or dense hardwoods.

Larger Floor Models

For serious re-sawing or production work, larger floor models exist. They handle wider boards and heavier workloads but are significantly bigger, more expensive, and require more shop space.

Essential Accessories & First Upgrades

A mobile base is one of the most useful upgrades for a bandsaw in a small shop. It makes it easy to roll the saw out of the way when needed, yet still keeps it stable during cutting. Some 14-inch models can also accept riser blocks, which increase the saw's cutting height for taller re-sawing tasks. Other accessories, like re-saw fences or

upgraded blade guides, can improve accuracy and performance, but you can add those later once you know your needs.

Common Mistakes & How to Avoid Them

Choose a bandsaw that matches the type of work you plan to do. The saw needs to be sturdy enough for your cuts, with a stable table and solid top and bottom blade guides to keep the blade under control.

Make sure the bandsaw has enough throat depth for the stock you plan to cut. The distance from the blade to the frame limits how wide a board you can cut, and some bench-top models have very limited capacity that makes wider cuts difficult.

Check the re-saw capacity if you plan to cut thicker or taller boards. The vertical distance between the table and the upper saw guide determines how tall a board you can re-saw, and undersizing this limits what the saw can handle.

Confirm the motor has enough power for the material and cut length. Bench-top saws in particular can struggle with long or thick boards, which leads to slow cuts and inconsistent results.

When to Buy It

A bandsaw isn't essential for most beginners. A jigsaw or table saw can handle straight cuts and simple curves, but jigsaw blades can drift, making it hard to keep curves perpendicular or precise. If your projects involve frequent curved cuts, arcs, or circles that need to stay accurate, a bandsaw quickly becomes one of the most versatile and reliable tools in the shop. For projects that are mostly straight cuts or basic joinery, a bandsaw may not justify the cost or the space it requires.



Checklist Tips

- **Choose a 14-inch floor model.** It provides the best balance of power, throat capacity, and stability for most home shops.

- **Avoid flimsy bench-top units unless space is extremely limited.**

Lightweight saws can wobble and struggle with larger boards, reducing accuracy and safety.

- **Buy a saw that matches the work you plan to do.** Ensure it has a stable table, solid top and bottom blade guides, and enough throat height for resawing.
- **Check motor power, especially on bench-top models.** Underpowered saws can bog down on thick or long stock, making cuts difficult and inconsistent.

Jeremiah's Take

"If your work involves curves or re-sawing, a bandsaw opens doors. But only if it's tuned right and built solid. Don't waste your time with a flimsy frame or skip setup. That's where beginners get burned."

Belt and Disc Sander



Field Notes

What It's For

A belt and disc sander combines two sanding tools in one: a flat sanding belt and a circular sanding disc. Together, they're used for shaping parts, smoothing rough cuts, and sanding right up to layout lines.



The machine is especially useful for working on curves, edges, and small pieces.

While not essential at the very beginning, it quickly becomes one of the most versatile tools in a growing shop.

This sander really shines when refining curves after cuts on the bandsaw or jigsaw, sanding miters, shaping handles, or cleaning up metal edges. It can even touch up a chisel in a pinch. Compared to handheld sanders, it offers more control, consistency, and speed; especially when accuracy matters on smaller parts.

Setup & Workspace Considerations

A belt and disc sander comes in two main styles: bench-top and floor-standing. A bench-top model sits on your workbench and only

needs a bit of clear space when you use it. It's easy to move or store when not in use, which makes it great for small shops or garages.

A floor-standing version is heavier and more powerful, but it takes up permanent space. You'll need about two feet of clearance on both the belt and disc sides so you can safely move and rotate your workpieces. These machines can sit against a wall or near other tools as long as you have room to maneuver.

Dust collection isn't required, but it helps a lot. These sanders can throw fine dust quickly, so if you don't have a dust system, plan on wearing a dust mask and doing some extra cleanup afterward.

Tool Types & Variations

Belt and disc sanders are used for shaping, smoothing edges, and cleaning up small parts. They all work the same way, using a flat belt and a spinning disc; but they differ in size, stability, and power. The right style depends on your workspace, budget, and how often you use the machine.

Bench-top Sanders

Bench-top belt and disc sanders are compact and affordable, which makes them a solid choice for most home shops. They fit easily on a bench or small stand and can handle the majority of light to medium sanding tasks common in hobby woodworking. The smaller footprint and lower cost are big advantages, but the lighter construction can lead to more vibration, and the very small hobby-grade models tend to bog down and wear out quickly. Overall, they're best suited for small shops, occasional use, and general woodworking projects where space and budget matter more than heavy-duty performance.

Floor-standing Sanders

Floor-standing belt and disc sanders are heavier, more stable, and generally more powerful than bench-top models. The added mass helps reduce vibration and keeps the machine running smoothly under load, which makes a noticeable difference when sanding larger parts or working for longer sessions. Even entry-level floor models are strong enough for serious woodworking, though they come with higher cost and require more floor space. They're best suited for frequent use, larger projects, or anyone looking for a durable, long-term upgrade in the shop.

Common Mistakes & How to Avoid Them

Choose a sander that is appropriately sized and powered. Many of the very small hobby-style sanders don't have enough power and tend to struggle with hardwoods or larger pieces. They're easy to outgrow and can be frustrating to use. For most woodworking shops, it's better to skip those tiny models and look for a sander with at least a 4 × 36 inch belt and a 6 inch disc. That size provides enough sanding surface and motor power to handle common woodworking tasks without bogging down.

When to Buy It

A belt and disc sander isn't usually a first-day tool. For beginners, a random orbit sander or a handheld belt sander will handle most early sanding tasks.

As your projects start including curves, small parts, or detailed joinery, a belt and disc sander becomes a real time-saver. It lets you shape and refine edges quickly without relying on files or rasps. When your shop grows and efficiency matters, this machine is a smart, affordable upgrade that adds versatility and speed to your sanding work.



Checklist Tips

- **Choose a small bench-top model.** It provides enough power and capability for most DIY shops without taking up excessive space.
- **Prioritize solid construction and accurate belt tracking.** Plastic-heavy builds can flex or vibrate, reducing precision and making sanding more difficult.
- **Consider a dust collection option.** It's not required for occasional use, but capturing dust makes cleanup easier and keeps your workspace cleaner during longer sanding sessions.

Jeremiah's Take

This isn't a flashy tool, but it quietly earns its keep. When your shop's ready for it, you'll wonder how you got by without one.

Air Compressor



Field Notes

What It's For

An air compressor is a machine that stores air under pressure and uses that air to power pneumatic tools, which are tools that run on compressed air. It is most commonly used with brad nailers and finish nailers, which are great for trim work, shop jigs, face frames, and basic woodworking projects. A compressor can also make everyday tasks easier, like blowing dust out of corners, cleaning off your workbench, or spraying finishes.



Setup & Workspace Considerations

When planning for an air compressor, think about space, access, and noise. Small pancake or portable units are easy to store and can move around the shop when needed. Larger stand-up compressors usually stay in one place because they're often bolted to the floor to control vibration, which makes them less portable and more of a permanent fixture.

Stand-up compressors work best when set on vibration-dampening pads. These reduce noise, protect the floor, and help keep fasteners from loosening over time. Place the compressor where you can easily reach the drain valve, since draining moisture from the tank is a regular maintenance job. If possible, put the compressor in a separate corner or small room to reduce the noise in your main workspace.

Check the electrical requirements before you buy. Many larger stand-up compressors use 220 volts and need a dedicated circuit to run safely. If they share a circuit with other tools, the breaker may trip often. Permanent compressors are sometimes hard-piped into the shop for convenience, but no matter where you place it, make sure it's easy to access and safe to operate.

Tool Types & Variations

Air compressors power everything from nail guns to spray guns, but the right size depends on how much air your tools require. Compressors vary mainly in tank size, airflow (CFM), and portability. Smaller units are ideal for quick tasks, while larger models are built for continuous, air-hungry work.

Pancake Compressors

Pancake compressors get their name from their flat, round tank and are popular because they're lightweight, portable, and affordable. Their compact size makes them easy to move around the shop, and they work well for small tasks like running brad and finish nailers, using a blow gun, or doing basic shop cleanup. The trade-off is limited airflow and a small tank, which means they aren't suited for larger air tools like HVLP spray guns or continuous use.

Large Stationary Compressors

These compressors use much larger tanks, usually in the 30 to 60 gallon range, and deliver significantly higher airflow, which allows them to run tools continuously without constantly cycling. That steady air supply makes them ideal for more demanding tools like HVLP spray guns, die grinders, and air sanders. The downside is that they are heavier, more expensive, take up permanent floor space, and typically require a dedicated 220V circuit. They are best suited for serious shop setups where sustained airflow and long run times matter.

Common Mistakes & How to Avoid Them

Focus on the compressor's CFM when choosing a machine. CFM, or cubic feet per minute, measures the volume of air the compressor can deliver, and it matters more than tank size because every air tool needs a certain airflow to operate correctly.

Be cautious when buying a used compressor and check the tank condition. Internal rust is a safety hazard that can start as a small leak but may eventually weaken the tank and cause failure. If you can't confirm the tank is clean and solid, it's safer to pass.

Understand the compressor's duty cycle before use. The duty cycle indicates how long the compressor can run before needing a rest. Light-duty compressors aren't designed for continuous operation, and consistently exceeding the duty cycle can cause overheating and shorten the machine's lifespan.

When to Buy It

An air compressor usually is not a first-day purchase, and many people can get by without one at first by using cordless nailers. Cordless nail guns handle most basic nailing tasks just fine and are a practical alternative in a small or beginner shop. A compressor becomes worthwhile once you want the convenience of pneumatic nailers or need air-powered tools like die grinders, spray guns, or cut-off wheels. While cordless tools cover a lot of ground, a compressor opens up access to a wider range of tools and adds flexibility to the shop.



Checklist Tips

- **Use a pancake compressor for nailers and basic cleanup.** It's compact, affordable, and handles most beginner tasks.
- **Match the compressor's CFM to your tools' needs, not just tank size.** Ensure it can deliver enough air to keep tools running smoothly.
- **Check the PSI requirements for your tools.** The compressor must maintain sufficient pressure for proper operation.
- **Consider duty cycle for longer tasks like sanding.** Low-end compressors may overheat if run continuously.

- **Be cautious when buying used.** Rust or weakened tanks can be dangerous and may fail under pressure.

Jeremiah's Take

"If you're going to run air tools or spray anything, a compressor earns its keep. Just don't make the mistake of thinking bigger means better. Understand your shop's CFM needs now and in the future first."

Dust Collector



Field Notes

What It's For

A dust collector helps keep your shop clean by pulling sawdust and chips away from chip producing tools like planers, table saws, and jointers. This reduces airborne dust, improves tool performance, and saves time on cleanup.



For some tools, especially planers, a dust collector is nearly essential because they produce large piles of chips that are hard to manage otherwise.

A dust collector can also function like a large shop vacuum, making general cleanup faster and easier. While it won't catch every bit of dust, it significantly reduces the amount that settles on surfaces or floats in the air.

Setup & Workspace Considerations

Portable dust collectors are easy to move between machines, making them convenient for smaller shops or shared tools. Just make sure the hoses are long enough to reach your machines without constantly rearranging your setup.

Larger, stationary dust collectors are

usually fixed in place and connected with piping. These work best near a shop exit or door, since their bags or bins get heavy and messy to empty. Positioning them near the outside makes cleanup easier.

Dust collectors also have electrical requirements to consider. Most run on standard 110-volt circuits, but some are built for or can be converted to 220 volts. They draw a lot of power, so avoid running them on the same circuit as the machine you are using, or you may trip a breaker. Check that your shop wiring can handle the load.

When setting up a piped system, position the dust collector so it minimizes the total hose length and number of fittings needed. This makes the system more efficient and keeps airflow strong at each machine.

Tool Types & Variations

Dust collectors range from small portable units to larger stationary systems. The right choice depends on your space, how many machines you run, and how serious you are about airflow and dust control.

Portable Dust Collectors

Portable air compressors are compact, budget-friendly, and easy to move between machines, making them a solid choice for small shops or beginner setups. Their small footprint and simple operation make them great for running one tool at a time due to limited horsepower. The trade-offs are limited airflow, the need to move hoses frequently, and potential struggles with larger machines or tools that produce a lot of chips. Overall, they work best in shops where only one machine is used at a time and mobility is important.

Stationary Dust Collectors

Stationary dust collectors are larger, more powerful units designed to stay in one place and connect to multiple tools through ductwork. They provide stronger, more consistent airflow, which makes them ideal for planers, jointers, and other chip-heavy machines, and they are very convenient once the ducting is installed. The trade-offs are higher cost, greater space requirements, and the need to plan your duct layout carefully. These units are best for dedicated shop spaces and woodworkers who run multiple machines regularly.

Common Mistakes & How to Avoid Them

Choose a dust collector with a larger bag or bin. A small capacity forces frequent stops to empty it, which slows your workflow and creates frustration. Extra room keeps your shop running smoothly and allows you to focus on your projects.

Use standard bags or filters unless necessary. HEPA or premium filters are usually not needed in beginner shops without special air quality concerns. Sticking with standard bags saves money, reduces maintenance, and is sufficient for most everyday woodworking tasks.

When to Buy It

A dust collector becomes worthwhile once you start using machines like a planer, jointer, or table saw regularly, because it saves a lot of time and effort on cleanup. For beginners or those working on small, occasional projects, a shop vac is usually enough. If a shop vac starts to feel like it cannot keep up, a small 1-horsepower portable dust collector is a great next step. It provides stronger suction, handles larger chips, and stays compact and affordable.

As your projects grow or you add bigger machines, a dust collector becomes even more valuable. It keeps your shop cleaner, reduces airborne dust, and can even improve your tools' performance. The key is to buy with purpose. Do not overspend on a high-end system just for looks, but do not settle for a "good enough" setup if dust management is slowing you down.



Checklist Tips

- **Prioritize a large bag or bin capacity.** Frequent dumping is where regret shows up.
- **1-horsepower is fine for most DIY setups using one machine at a time.** This provides enough suction for a single tool without overspending.
- **Set it up near a shop door or exit.** This makes bag or bin changes less messy and easier to manage.

- **Minimize hose length.** Shorter runs reduce airflow loss and improve dust collection efficiency.
- **Skip HEPA and premium filters unless necessary.** Standard bags are fine for most beginner shops without special air quality concerns.

Jeremiah's Take

"If you're running a planer often, a dust collector isn't optional, it's essential. It doesn't need to be fancy, it just needs to save you time and cleanup."

The Best Tool Is the One You Use

Don't let the idea of a "perfect shop" hold you back. No one starts with everything, and no shop ever stays exactly the way you want it. Tools will come and go, but the skills you develop with them stay with you forever. That's what really matters.

This guide is meant to give you a little insider knowledge, the things I've learned over decades in shops of all sizes, so you can make smarter choices about tools without getting lost in hype, marketing, or the endless "this tool is better than that tool" noise online. Buy smart, buy what you can afford, and focus on the tools that actually help you do the work you want to do.

The goal isn't to collect every shiny new gadget. It's to make things. Start small. Build what you can with the tools you have. Learn as you go. Mistakes are part of the process, and every project is practice that will pay off.

The shop doesn't have to be perfect. The tools don't have to be perfect. You just need to start.

Make something useful. Make something beautiful. Make something that matters to you.

Cheers!

Jeremiah Baker