

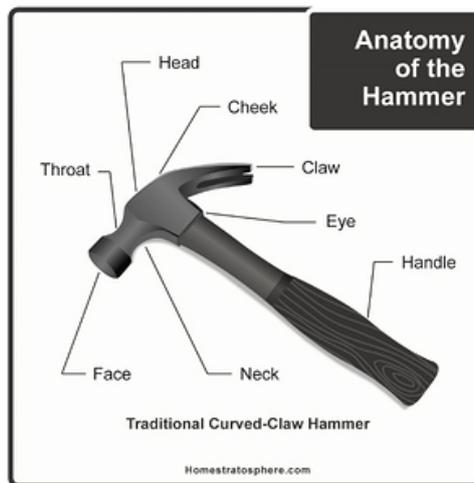
POWER TOOLS/ TOOLS 101

Claw hammer

Why use a hammer

A claw hammer is a tool primarily used for driving nails into, or pulling nails from, some other object. Generally, a claw hammer is associated with woodworking but is not limited to use with wood products.

Part of a hammer



How to use a hammer

Hold Hammer Correctly: Get a firm grip and hold the hammer at the end of the handle. Some however, especially the beginners would hold it few inches away from the end, almost at the middle where they feel most comfortable, have the better grip and energy efficient. Through practice, you'll be able to be adept of holding it near the end, though. Then feel it and try to swing it on your hand to ensure the balance.



Hit the Nail: When using the hammer, make sure to hit the surface of the nail squarely with just the right amount of force. That means not to use all your force to pound hard, nor it be too soft to almost seems like you are just tapping it. And while keeping a good grip, use the distribution of strength of your whole arm and not just solely work on your wrist and hand. In order to hit the nail directly, allow the weight of the hammer to do the work and not your arm.

POWER TOOLS

Claw hammer

Ensure a clean work area: An important reminder, the wood or object you are working with should be placed on a hard surface. And it is also necessary to keep your area clean and clear from any debris.

Follow up consistently: Follow a consistent force and pace when pounding until the nail is set properly and is flushed to the wood. With practice, you will be able to develop your own techniques that is comfortable and best works for you for increased efficiency. When pulling out nail from the wood or object using the claw Use a piece of scrap wood and place it under the hammer. Then lift it up using just the right amount of pressure to fully remove the nail.



Use a block of wood to avoid marring wood while pulling nails.

Health and safety

1. ALWAYS wear safety goggles when using striking tools.
2. ALWAYS inspect the hammer before beginning the task to be sure it is not damaged and that all parts are secure. Be certain that replaceable faces are fitted securely into the head.
3. NEVER use a light weight hammer on tasks that require heavy blows. Choose a hammer of sufficient weight so that only a natural swing is required. Let the weight of the hammer do the work.
4. NEVER use a hammer with a split or damaged handle. The practice of taping a cracked handle is dangerous and can result in injury to the user as well as nearby personnel. ALWAYS replace striking faces before they wear down far enough to allow the body of the hammer head to contact the work surface.
5. NEVER use a hammer with a loose handle. Loose handles should be replaced or fitted with new wedges of the proper size. Replacement handles should be of the same length and quality as the original.

POWER TOOLS

Jig Saw

Why use a Jig saw?

Jig saws are perfect cutting shapes into wood or cutting straight lines when you don't want to bother with getting out a more heavy-duty saw for quick cuts. It can be used to cut wood, metal or plastic and I use mine if I have to cut tubes. Also, jigsaws are relatively inexpensive in comparison to other woodworking tools like circular saws, mitre saws and especially table saws.

Parts of a jig saw



This may be different for different jig saws.

What you will need to use a Jig saw

Jig Saw, Jig saw blades, Mask and eye protection.

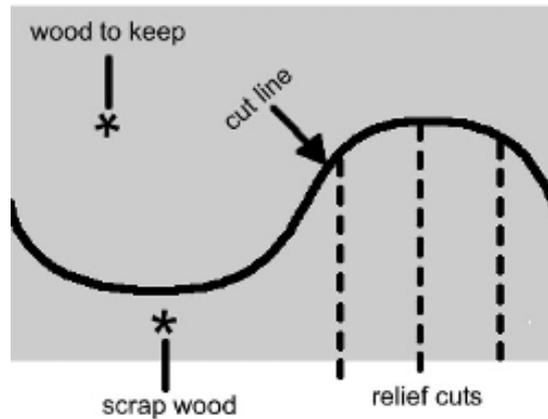
How to Use the Jig Saw

When using the saw, make sure the wood you're cutting is secure and unable to wiggle around. The steps are simple:

1. Press your saw shoe to the wood – the saw shoe is the metal guide around the blade – with a firm grip and the blade away from the edge. There is a cut out section in the guard near the blade so that you can see the line you're cutting.
2. Start the saw and guide the blade along the outside of your pencil line. Keep the saw going at a moderate pace; let the blade cut smoothly without pushing the motor. If you go too fast, you risk making a rough cut and the blade jumping around which can be dangerous. Slow and steady gets the best cut. Prevent the saw blade from binding on tight curves by using relief cuts to remove waste.

POWER TOOLS

Jig Saw



3. Keep the saw straight and flat, letting the metal guard glide along the piece you are cutting. Jig saw blades can tend to bend, so make sure with thicker pieces of wood that your blade is very sharp. Note that a jig saw work best for cutting softwood that's no more than 13.8cm. thick and hardwood up to 2 cm thick.
4. If you are starting in the middle of the wood, I recommend drilling a hole to give you a place to start your blade.

Health and Safety

1. Operate only with your teacher's permission and after you have received instruction.
2. Remove jewellery, eliminate loose clothing, and confine long hair.
3. Make sure all guards are in place and operating correctly.
4. Always use proper eye protection.
5. Be aware of where your hand, and blade is at all times.
6. Use a steady surface to place your cutting materials on.
7. If using a jig saw with a cord, then make sure the cord is no where near the blade. Always use a corded jig saw with an RCD.
8. When changing the blade, unplug the saw first or if using a battery powered on put the safety switch on or remove the battery.

POWER TOOLS

Drills

When that spring is released, the energy drives the hammer down while simultaneously twisting it. The tat-tat-tat sound you hear is the motion over and over again. This concussive force is what separates an impact driver from a standard drill/driver which requires a user to apply downward force.

Here's the Difference Between a Drill and an Impact Driver



Drill



Impact Driver

Pros

- Works great on jobs requiring care or precision
- Applies a constant torque
- Accepts a wide variety of drill and screw-driving bits
- Accepts accessories such as wire-wheel brushes and rotary sanders
- Has a slip clutch that allows you to adjust torque
- Relatively inexpensive to purchase

Cons:

- Can stall when driving long, large fasteners
- Has the potential to strip screws
- Bits can come loose in the chuck
- Can put strain on the user

How does it work

It uses bit rotation AND concussive blows to drive home the screws, and it is the concussive blows that give the drill driver its raw power - and which crucially transfer all that force into the screw and away from your arms and hands, making it a lot easier to use than a drill driver.

Pros:

- Powers screws through some seriously dense material with more torque and concussive blows
- Prevents wrist strain because it's doing more work
- Drives long screws with little effort
- Less likely to strip screws
- Easier to fit into tight spaces due to its smaller body

Cons:

- Costs more than a drill
- Makes a lot of noise
- Only accepts hex-shanked driver and drill bits
- Too much of a beast for more precise, delicate jobs

How does it work

When that spring is released, the energy drives the hammer down while simultaneously twisting it. The tat-tat-tat sound you hear is the motion over and over again. This concussive force is what separates an impact driver from a standard drill/driver which requires a user to apply downward force.

POWER TOOLS

Electric sander

Why use a Sander?

Electric sanders make quick work of removing paint, varnish or smooth rough wood.

Different kinds of sanders



Palm sander also known as a mouse sander or detail sander. Palm sanders are named because they literally fit into the palm of your hand. They have higher grit sandpaper and a low-power motor perfect for doing finishing work on wood you plan to otherwise leave alone. They are perfect for getting into small spaces and into tight corners.



Random orbital sander Orbital sanders, named for their head rotation pattern, are the bigger of the two. They are paired with a lower grit sandpaper to make them perfect to prep wood projects by finishing by removing old paint and varnish.



Sheet sanders are generally a good deal less powerful than Random orbital sanders and are best used for providing that finishing touch - the final preparation step before applying paint, finish, lacquer, stain, or whatever else. Because of the square shape of the pad, sheet sanders are much more appropriate to use than where you must get right to the edge of 90-degree angles.

Different types of sandpaper

Sandpaper is categorised by Grit Numbers. The grit number of a sanding product indicates the size of the abrasive particles. The lower the number, the larger the abrasive particles — they remove more material but create more noticeable scratches.

For heavy sanding and stripping, you need coarse sandpaper measuring 40- to 60-grit; for smoothing surfaces and removing small imperfections, choose 80- to 120-grit sandpaper. For finishing surfaces smoothly, use a super fine sandpaper with 360- to 600-grit. Many jobs require you to “go through the grits.”

SANDPAPER GRIT CHART

60	COARSE	heavy stripping
80		light stripping
100	MEDIUM	surface leveling
150		surface smoothing
180	FINE	smoothing between coats
240		finer smoothing between coats
320		final finish

POWER TOOLS

Electric sander

What you will need to use a sander

Sander, sandpaper, dust mask, hearing and eye protection

How to use a sander

- Apply the correct sandpaper.
- Plug into the power and turn the on button on the sander on. Note hold the sander off the surface when you do this.
- When sanders turn on, they vibrate quite a bit which makes it easily glide across wood as soon as you touch down. This results in a self-propelled action which reduces work for the operator.
- Simply press the sander back and forth lightly across the surface and let the sander do the bulk of the work. It's that easy!
- Once you're done, brush off your surface and then remove excess sanding dust with a micro fibre cloth.
- It's very easy to get a hand cramp while sanding because you feel like you should be doing more so you push too hard. Just let the sander do most of the work and give your hand a break.

Health and Safety

1. Remove jewellery, eliminate loose clothing, and confine long hair.
2. If you have them put duck collectors on the sander.
3. Always use eye and hearing protection plus a dust mask.
4. When changing the sandpaper, turn off the sander.
5. To stop hand cramp and fatigue take regular breaks.