

DEADLY DRILLS

Most of you look at a drill and see a harmless but necessary tool of the Construction business. **Drills and bits can be the most deadly tools that you use.**



Here are two of the most deadly, Milwaukee Hole-Hawg and a self feed bit. Read on.



Look closely at the bottom of the top plate and you see two 1/2 sinkers that popped through the plate and shows clearly the **carpenters** nailed the cap plate on and drove nails in between the studs and created a deadly situation. Anyone can see clearly you don't want to be drilling a hole here as you will probably hit a nail.



Another pair of studs and top plate, no nails showing between the studs. Easy safe drilling, almost everyone would think. I took a mirror and looked on top of the cap plate and there are 3 nails in between the studs, one is in the center where most people would bore.

In 1991, Albuquerque NM, an electrician was on a 6' ladder and had a hole-hawg with a self feed bit drilling a 2 1/2" hole in the top plates of a wood framed wall. He started the drill; got the pilot started and the bit hit a nail. The end of the drill's handle came around and hit him in the temple. The EMTs said he was dead before he hit the ground. Safety reps called it an accident, I and many other carpenters called it something else. They told us the electrician should have looked for nails in the plate. His family and I wished he had of. To me, guilty party is the carpenters that drove nails in between the studs. This incident (no accident) should have prompted everyone to send out a directive that no nails are to be drove between studs, didn't happen. It is still OK for anyone to nail in between studs, most framers do, I don't. After reading this I don't think you will either.



Here is the next one, a hole saw with a 1/4" pilot bit. Good tool and safe if used properly. If you look closely you will see I have a 1/4" bullet bit in this saw for a pilot bit. Later I will explain.



This is how the old hole saw pilot bits were ground to receive the locking screw, didn't work.



This is what Dewalt did to them. Very good bit and a safe bit. Look closely at their stairstep slots.



This is what I do when I have to install a regular 1/4" drill bit into a hole saw for a pilot, I grind a slot in it for the locking set screw. When I am going to use a hole saw I always check the pilot bit.



Look to the left and you can see the pilot bit is extending out of the white hole saw a 1/2" but the red hole saw is longer, a different brand and the pilot bit is not set for this saw. No problem, some would say.

Big problem is what I say. This is what happened, another accident, HSE said:

A carpenter grabbed a drill with a hole saw chucked in it and starts cutting a hole without checking the pilot bit. The pilot bit set screw was probably loose and it slipped up into the hole saw. The hole saw jumped to the left and severely cut his thumb. **No accident, he did not use the proper procedure.**

A hole saw is just what it says, it is a saw, it will cut just about anything you put in front of it. The carpenter and the foreman watching made a few mistakes here; the first was not taking the time to follow the safe and correct procedure.

Second one was getting in a hurry to get it done; **you just don't get in a hurry when you are operating a saw or any power or hand tool, period.**

Third mistake was not checking the hole saw and making sure the set screw was tight and they had the correct bit in them. I am sure he didn't have time, but he does now that he almost cut his thumb off and probably can't work. I'll guarantee you the lights will come on next time he sees a hole saw. It will be like a flying paper sack is to a bronc colt.

Preparation and concentration are two things you need to do when you use any tool, power or hand tool.

This carpenter didn't prepare for the job nor was he concentrating, he and his foreman were in a hurry to get the hole cut. The hole got cut but not by them.



This is a Hilti TE-56 hammer drill, very powerful machine.

Concrete is a type of thermoplastic, it has a lot of thermoplastic material characteristics. You will really get to know this the first time you try to cut a bolt or rebar off flush with a torch. The heat

from the torch melts the concrete and rock and a couple of seconds later it explodes and sounds and acts like a grenade going off in your face.

Remember preparation and concentration? Wear Safety Glasses using tools. You are issued one set of eyes per lifetime, protect them.

When you take this 56 and drill a hole in concrete the bit becomes extremely hot and almost melts the concrete powder it creates. The bit is hammering and compressing the powder at a very high psi. That's what makes it drill so easily in concrete. When drilling concrete always drill for a couple of inches then pull the bit out and clean the hole out.

Never stop a hammer drill while it is in the hole, if it slows down, pull it out, clean it out and then go back in.

When you stop a hammer drill in the hole and the powder is hot it will glue the bit to the concrete. Then you come along and start this powerful drill and it will almost take your arm or leg off. I know, I've done it, and you probably have too.



This magnetic bit holder is good for driving short screws.



It also has a sliding sleeve (collar) for guiding #7-8 screws.

The reason I am showing you these are that whether you are using a drill or an impact driver you should never try to guide a screw to keep it from wobbling with your fingers. Either tool, with a slightly worn or brand new driver bit can jump out of the recessed head and stab your finger or hand. Many fingers and hands have been broken or holes punched in them trying to guide a screw or small bolt.



This wood bit (paddle, spade, flat) is one that will get you too. When you drill into plywood or solid wood and you get to the bottom of the hole this wood bit will fall through the hole and jerk your drill to the side. This is a 1¼ bit but they also make a 1½" bit and it is even worst. Some carpenters have dislocated and broken wrist from using one of these. Some double bore (drill half way through and then finish from the other side, good.

I have only given you procedures on a portion of the drills and drill bits that are available on the market today. There are probably over a hundred electric drill and bit manufacturers in the world.

The thing is about any tool is what I told you in this and the over 100 other articles I have written is to **prepare for the job, concentrate on the job, give the job of running and operating a power or hand tool your full attention.**

Don't get in a hurry, uncontrolled speed will usually end up getting you or someone injured or killed.

Take a foreman or superintendant that is pushing you and everyone else to do it faster with a grain of salt, not two grains, just one.

Most of those people are just trying to make their selves look good for their boss. Some could care less if you cut off both legs and both arms as long as you get their job done on time. Like I said in the book, I have worked for some real sweethearts in my career as a carpenter.

Bob Johnston, carpenter
www.carpenterbook.com

