Pre-Drilling and Countersinking

If you are an experienced wood worker, you may not need to read this. If you have questions regarding pre-drilling for screws, hopefully this information will clear things up a bit. Without prior woodworking experience, you may wonder whether you should pre-drill for screws and if so what size bit to use and how deep to drill. You also may want to consider the use of a countersink. You should pre-drill. Since using a countersink is pretty easy and makes things nicer I would suggest countersinking for the screw head too. I will try to cover the necessary details in this article but you should experiment a little with some scrap until you get the results that you want.

You should, at a minimum, pre-drill screw holes in the first board. Since you are trying to pull the top or first board tightly against the second board, you will not need as much of a hole in the second board as you will on the first. In other words, you want the screw to get a good bite in the second board but slip snugly through the first. What size hole and how deep you drill are the real questions that you should be considering. If you are using soft pine for your bunk or trundle bed for instance, you will not need as much of a hole as you would if you were building something from hard maple. The type of screws that you are using will also need to be considered. You should drill enough that you can drive the screws in nicely without damaging the screws or splitting the wood. If you drill too much, your screws may strip the wood and spin freely in the hole. If you do not have a large or deep enough hole, the screw may break or cam out (cam out refers to the damage that occurs to the head of the screw where the tool engages it making it difficult or impossible to drive in or out). You should also think about where you are drilling in respect to the end of the board. When driving a screw near the end there is more of a possibility of splitting the wood and causing aggravation. In that case drill a little bit bigger hole.

Countersinking is the term used for making a matched indentation at the top of the screw hole for the screw head to fit into (see illustrations). Like pre-drilling, the hardness of some species of wood make it an absolute necessity to countersink, but in some softer species of wood including white pine, you may get away without it. I would always recommend countersinking. It is not hard, takes very little time and it will make your finished project look nicer. A drill bit with a countersink combination to match your screw size can be purchased for a few dollars from most hardware stores (take a screw with you). You can also buy a separate countersink that only makes an indentation for the screw head after you pre-drill. You simply put the countersink in the drill and go back to each hole and make an indentation for the head of the screw. This can also be accomplished with a larger diameter drill that matches the screw head diameter. Look for a #8 or a #9 countersink for the screws that we furnish in our kits.

Having gone on far more than I ever intended in this section, I would like to say that unlike quantum mechanics, pre-drilling is in fact really quite logical and simple and

wood is pretty forgiving. The goal is to secure the first board tightly to the second board without damaging anything.

Try using some leftover scraps after you have cut all of your pieces and practice on them with a few screws. You should be able to use the screws over a few times until you get it right. Then you will know that you have the right combination for your wood type.

Cabinet and furniture assembly screws are made from harder steel and are designed to hold up to more torque when being driven into wood. When selecting screws, please consider that the screws provided in our hardware kits are the type used in furniture assembly in factories and hold up very well to the heavy torque of a power tool. Drywall screws are brittle and break easily but can be used if you are very careful.

Generally speaking, for building bunk beds you need flat head wood screws Phillips or square drive. Phillips type screws are great and square drive are even better. I would not recommend the flat blade screws with the use of an electric screw driver. Wood screws have threads cut on most of the shank of the screw with a portion of the screw left smooth. If you find screws that have threads all of the way up to the head they are probably sheet metal, drywall or some type of specialty screw. These may work fine, but they are not *ideal* for wood working.

The use of an electric screwdriver or drill for driving your screws will greatly speed up your work. If you are not experienced with the use of these tools spend a little time practicing on some scrap wood first. Here are some tips to help get you going in the right direction:

- Make sure that you are using the correct size driver bit. The most common screwdriver size is #2.
- Use only a variable speed drill to drive screws and start off slowly.
- Keep the drill as perfectly in line with the screw as you possibly can.
- Apply ample pressure to keep the bit fully engaged in the end of the screw to avoid cam out (the stripping of the end of the screw head where the tool engages it).
- Use a new driver bit if you are doing all of the above and are still having trouble with cam out. The bit you are using may be dull or damaged.

*If you encounter a broken screw, or one that has cam out, try using a Vice Grip® type tool to remove it. If you can not get a grip on it because it is too far in and you can not just leave it, try drilling the screw head off by drilling in the center with a drill bit big enough to make the head come off. Then, work your boards apart gently and get a grip on it with your Vice Grip® pliers and turn it until it comes out.

Illustrations are provided on the following page with the hope that they are helpful.

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