

12 Tips for Choosing and Using Wood Screws

- 1: **Drilling/Sizing Considerations for Wood Screws** — The following chart will help you drill the proper sized holes to achieve the maximum holding power in hard and soft woods.

SCREW SIZE #	BODY DRILL SIZE	PILOT HOLE IN SOFT WOODS	PILOT HOLE IN HARD WOODS	COUNTERBORE SIZE*
4	1/8"	1/16"	5/64"	1/4"
5	9/64"	5/64"	3/32"	1/4"
6	9/64"	5/64"	3/32"	5/16"
7	5/32"	3/32"	7/64"	5/16"
8	11/64"	3/32"	7/64"	3/8"
9	3/16"	7/64"	1/8"	3/8"
10	3/16"	7/64"	1/8"	7/16"
12	7/32"	1/8"	5/32"	1/2"

* To accept standard sized dowels, plugs or buttons

- 2: **Rule-Of-Thumb for Screw Pilot Hole Depths** –
- In hard woods – Equal to length of screw thread
 - In soft woods – Equal to one-half of screw thread length
- 3: **Rule-Of-Thumb for Screw Body Hole Depths** –
Equal to the length of the screw shank
- 4: **Rule-Of-Thumb for Maximum Countersink Diameter** –
Equal to the outside diameter of the screw head
- 5: **Rule-Of-Thumb for Maximum Overall Screw Length** –
Approximately 1/8" less than the combined thickness of the two boards being joined
- 6: **Rule-Of-Thumb for Achieving Maximum Screw Holding Strength** –
A longer screw of smaller diameter will typically provide more holding strength than a shorter screw of larger diameter
- 7: **Easing the Driving of Screws Into Hard Woods** – Coating a screw with bar soap or beeswax prior to driving will ease the driving process considerably and help to minimize screw breakage. Be sure to remove any wax or soap residue from around your screw heads before applying a finish and do NOT use greases or oils, as they may stain your workpiece.
- 8: **Keeping Screws From Working Loose** – Lay the screw in a rigid metal surface and flatten the threads with a hammer prior to driving it into your workpiece(s).

- 9: **Preventing Damage to the Driving Slot on Brass Screws** – Since brass screws are much softer than the steel screwdrivers used to drive them, it’s especially important to choose a driver that fits the head of your screw snugly. If you don’t have a snug-fitting driver and plan to be driving a large number of brass screws, either purchase one that fits properly or file down the tip of a larger driver to the proper size.
- 10: **Getting Screws to Hold in End Grain** — Drill a hole crosswise into the workpiece that will contain the majority of your screw’s holding threads and insert a dowel into this hole before drilling your pilot hole and inserting your screw. Position the dowel such that the screw’s threads will tap into this dowel when it’s driven home.
- 11: **Removing Stubborn and/or Rusty Screws** – Heat the head of the screw with a soldering iron or gun. The metal of your screw will expand, then cool off and contract, allowing it to be removed easily.
- 12: **“Tapping” Holes in Hardwoods for Screws** – Driving screws into certain extremely hard or dense woods can be difficult. Solve this problem by filing off half the threads on a screw of the size you plan to use. This will create a half-screw “wood tap”. Drill the proper sized screw pilot hole then drive your special “tap screw” into this hole to cut your threads. Remove your “tap screw” and replace it with a regular screw.