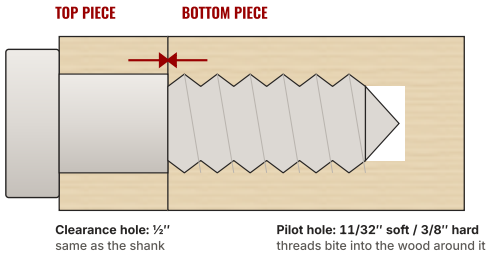


Lag Screw Pilot Hole Chart

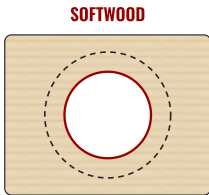
jandesupply.com/reference-lag-pilot.php

Drill the right lead hole and a lag screw bites hard and pulls tight. Drill it wrong and you either split the wood or strip the threads — here are the sizes.

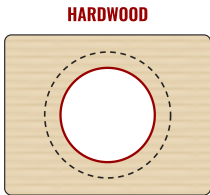
A lag screw goes into **two holes**, not one. The top piece gets a **clearance hole** the full size of the shank, so the lag pulls the joint together instead of jacking it apart. The piece underneath gets a smaller **pilot (lead) hole** for the threads to bite into. How big that pilot is depends on the wood: **softwoods** (pine, fir, cedar) take a smaller hole, **hardwoods** (oak, maple, hickory) take a slightly larger one so you're not fighting the screw or splitting the grain.



A 1/2" lag, cut away, drawn to scale. The red arrows: the head pulls the top piece down tight against the bottom one. Numbers are the 1/2" row of the chart.



11/32" pilot
smaller: more wood to grip



3/8" pilot
a touch bigger: no splitting

dashed ring =
1/2" thread size

Looking straight into the pilot hole. The threads cut into everything between the red circle and the dashed ring.

Clearance hole — top piece

Sized to the shank so the lag slides through and clamps down. Equal to the lag's nominal diameter.

Pilot / lead hole — bottom piece

Smaller hole for the threads to grip. Smaller in softwood, a touch larger in hardwood.

LAG SIZE	CLEARANCE HOLE (SHANK)	PILOT — SOFTWOOD	PILOT — HARDWOOD
1/4"	1/4"	9/64"	11/64"
5/16"	5/16"	13/64"	15/64"
3/8"	3/8"	15/64"	17/64"
7/16"	7/16"	19/64"	21/64"
1/2"	1/2"	11/32"	3/8"
5/8"	5/8"	7/16"	15/32"
3/4"	3/4"	35/64"	37/64"
7/8"	7/8"	21/32"	11/16"
1"	1"	3/4"	25/32"

Pilot sizes are practical starting points: hardwood pilots track the thread root diameter; softwood pilots run about 1/32" smaller for extra grip. Drill the pilot as deep as the threads will reach.

Always test in scrap first. Wood density swings a lot — dense oak isn't soft poplar, and pressure-treated pine drills differently when wet. Bore a test hole in an offcut of the same material and check that the lag draws tight without crushing or splitting before you commit to the real piece.

A few more tips

- Lubricate the threads.** A little wax or soap on the lag cuts the driving torque and saves the head — especially in hardwood and in the larger diameters.
- Don't over-drill.** Too large a pilot and the threads have nothing to hold; the lag spins without drawing tight. When in doubt, start on the smaller side and step up only if it's fighting you.
- Drive it, don't hammer it.** Lag screws are turned in with a wrench or socket, never driven like a nail — pounding splits the wood and ruins the threads.

Reference values drawn from the governing standards. For critical applications, confirm against the standard and the manufacturer's published data. Technical information disclaimer →



Scan for this page online — plus free guides, charts & calculators at jandesupply.com
J & E Supply & Fastener Co. · Oklahoma City 405-670-1234 · Duncan 580-255-2582