# Auger Bit Comparison Test

To determine the absolute best auger bit, we tested 15 models via a side by side comparison test.

***Variables assessed***:

1. Endurance test: the total number of holes drilled by each bit on a single battery charge.
2. The temperature of the tip of the bit after drilling 5 holes.
3. The amount of downward pressure required to get the lead screw to bite into the wood sufficient for the bit to then self-feed the remaining way through a 1-1/2" board
4. The amount of downward pressure required for the bit to fully exit the back of the board
5. The amount of torque required for the bit to drill through a 1-1/2" board
6. Hole quality:
    a. Entry hole blowout
    b. Exit hole blowout
    c. Inside hole quality
7. General observations about balance, functionality, and ease of use.

***Bits used:***

Auger bits from 11 leading auger bit manufacturers were tested. There were 3 general types of bits in the test:

1. Spurred bits with outside spurs. These spurs scored the outside of the hole prior to the cutting edge clearing out the inside of the hole. These bits are not designed to encounter nails.
2. Bits with no outside spur. These bits are designed to handle nail embedded wood. They do not have an outside spur than can be damaged when nails are encountered.
3. The dual cutting-edge design found on the Diablo and Bosch bits. These bits do not have an outside spur and designed to "provide effortless smooth hole drilling in nail embedded wood"

All bits were 1" in diameter and were the shortest versions available from each manufacturer. Bits ranged in length from 6" to 7-7/8". All bits had hex shanks which ranged in size from 1/4" to 7/16." Bits had between 1 and 3 flutes.

***Wood used:***

The lumber that was used was a 2 x 12 board of Southern Yellow Pine (SYP) bought from the home center. SYP was chosen due to its hardness and ability to tax each bit fully and thus better discriminate the differences between models. SYP has a Janka hardness of 690 lbf. Moisture contend was 11%.

***Drill used:***

A brand-new Ridgid 18-Volt Sub-Compact Lithium-Ion Cordless Brushless 2-Speed ½ drill was used exclusively for this test. The drill was used with 2.0 Ah Lithium Ion Batteries. This drill was rated at 400 in./lbs. of torque when operated at lowest speed of 0-450. The drill was only operated at the low speed and high torque setting. Each battery was fully charged before each endurance test.

***General observations:***

Bits with outside spurs drilled more holes per charge, had better hole quality and demonstrated better balanced drilling.

The bits with more flutes were more balanced in operation, required less torque to drill, drilled more holes per battery charge and had the best hole quality.

Generally, the bits with larger lead screw required more torque to drill through wood.

Once started, the lead screw pulled each bit through the board, but there was a wide variety in how much downward force was required to get the lead screw to bite into the wood and then for that bit to punch through the back of the board.

***Conclusions:***

Among the multi-flute spurred bits, the clear winner was the Woodowl Tri-Cut Ultra Smooth bit. It required the least downward pressure to engage the screw in the wood and to exit the back of the board. It also required the least torque to drill. The 3-flute design produced the best balance in drilling. Hole quality was the best with the least blowout on entry and exit. It did reach the highest temperature on the tip. However, this was because the bit did not bog down while drilling, so the drill ran at nearly full speed thus generating more heat.

The winner in the single flute spurred bits was the Woodowl Spurred Combination Ship Auger bit. It drilled the most holes per charge in this class, had an efficient lead screw that was easy to engage in the wood and had the best balance of the single spur designs.

The winner in the ship auger bit with no spur was the Woodowl Standard Ship Auger. It drilled the most holes on a charge for this class, required moderate torque and had fair balance. Hole quality was poor, but this was common among all bits in this class.

Buy an adapter to use WoodOwl bits with 7/16” shanks in any 2 jaw hand brace HERE

Buy WoodOwl Standard Ship Auger bits (no spur) HERE and HERE

Buy WoodOwl Single Spurred Ship Auger bits HERE

Buy WoodOwl Nail Chipper 3 flute bits HERE

But WoodOwl Tri Cut Ultra Smooth bits HERE

| Manufacturer | Type of Bit | Drill Size | Shank size | Model # | Country of Manufacturer | Price w/o Shipping | Outside Cutting Spur(s) | Flutes | Lead Screw Size-Diameter x Length | Downward pressue reqiured for pilot screw to bite into wood | Downward pressure required for bit to fully exit wood | Drill torque required for bit to drill through wood | Type of Steel | Coating | Hole Quality-Entry | Hole Quality-Exit | Hole Qauilty-Inside | Holes Drilled in Single Charge | Temp of Drill Tip After 5 Holes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bosch | Daredevil | 1" x6-1/2" | 7/16" hex | NKST16 | China | 17.50 | No | 2 | 350" x .785" | Minimal | Minimal | Maximal. | "Reinforced Tip" | Painted flutes blue | Moderate tear out | Maximal tear out | Very poor | 32 | 122.0 |
| Freud | Diablo-this drill was identical to the Bosch | 1" x 7-1/2" | 7/16" hex | DAG1130 | China | 20.99 | No | 2 | 350" x .785" | Moderate | Moderate | Maximal | "Reinforced Tip" | Painted flutes red | Maximal tear out | Maximal tear out | Very poor | 24 | 143.5 |
| DeWalt | Ship Auger | 1" x 6" | 7/16" hex | DW1671 | China | 19.99 | No | 1 | .325" x .510" | Moderate | Moderate | Moderate/Maximal | Hardened allow steel | Blackened flutes | Maximal tear out | Maximal tear out | Very poor | 54 | 122.4 |
| Greenlee | Ship Auger Nail Eater Extreme | 1" x 7-58" | 7/16" hex | 62PTS-1 | USA | 29.99 | No | 1 | .422" x .625" | Minimal | Moderate | Maximal | ?? | Flutes black coated | Maximal tear out | Maximal tear out | Poor | 23 | 127.6 |
| Ideal Industries | Resi-Master Ship Auger | 1" x 7-1/2" | 5/16" hex | 35-898 | China | 40.38 | No | 1 | .340" x .525" | Minimal | Minimal | Significant | High speed steel | Coated flutes | Maximal blowout | Maximal blowout | Very poor | 36 | 149.5 |
| Irwin | Speedbor | 1" x 5" | 1/4" hex | 3041007 | China | 8.98 | Yes | 3 | .252" x .470" | Moderate | Maximal | Maximal | ?? | Coated flutes | Moderate tear out | Moderate tear out | Fair | 33 | 144.7 |
| Irwin | Spurred Ship Auger | 1" x 7-1/2" | 5/16" hex | 49916 | Brazil | 14.99 | Yes | 1 | .310" x ..500" | Maximal | Maximal | Moderate | ?? | Flutes black coated | Minimal tear out | Moderate tear out | Fair | 55 | 135.6 |
| Klein | Ship Auger | 1" x 7" | 7/16" hex | 53406 | Taiwan | 28.27 | No | 1 | .375" x .535" | Minimal | Minimal | Maximal | "Special bit steel" | Flutes black coated | Maximal blowout | Maximal blowout | Poor | 55 | 147.1 |
| Lenox | Ship Auger | 1" x 7-1/2" | 7/16" hex | 1456107A1616 | China | 34.99 | No | 1 | .392" x .670" | Minimal | Minimal | Maximal | High speed steel | Flutes black coated | Maximal blowout | Maximal blowout | Poor | 42 | 161.1 |
| Mag-Bit | 701 Single Spur Auger | 1" x 7-7/8" | 3/8" hex | 701.1616 | Taiwan | 19.37 | Yes | 1 | .271" x .440" | Minimal | Minimal/moderate | Moderate | Carbon steel | Black oxide coated | Minimal blowout | Maximal blowout | Fair | 59 | 108.9 |
| Milwaukee | Auger bit | 1" x 6-1-2" | 7/16" hex | 48-13-1000 | China | 24.13 | Yes | 2 | .310" x .525" | Moderate | Maximal | Moderate/maximal | Induction hardened tip | Coated flutes | Minimal tear out | Maximal tear out | Fair/poor | 27 | 155.0 |
| WoodOwl | Standard Spurred Combination Auger | 1" x 7-1/2" | 5/16" hex | 6013 | Japan | 19.99 | Yes | 1 | .260" x.410" | Very Minimal | Very minimal | Minimal/Moderate | High carbon steel | Parkerized flutes | No tear out | Liminal blowout | Good | 66 | 139.7 |
| WoodOwl | Standard Ship Auger | 1" x 7-1/2" | 7/16" hex | 2713 | Japan | 19.99 | No | 1 | .300" x ,489: | Minimal | Minimal/moderate | Moderate torque | High carbon steel | Parkerized flutes | Maximal blowout | Maximal blowout | Poor | 61 | 139.4 |
| WoodOwl | Nail Chipper | 1" x 7-1/2" | 7/16" hex | 3713 | Japan | 17.99 | No | 3 | .300" x .455" | Minimal | Minimal | Minimal/moderate | High carbon steel | Parkerized flutes | Minimal to moderate tear out | Minimal to moderate tear out | Fair | 39 | 173.0 |
| WoodOwl | Tri-Cut Ultra Smooth | 1" x 7-1/2" | 7/16" hex | 9713 | Japan | 27.99 | Yes | 3 | .270" x .445" | Very Minimal | Minimal to none | Almost none | High carbon steel | PTFE Coated flutes and outside | No tear out | Very minimal tear out | Excellent | 75 | 220.0 |

**Auger Bit Hole Samples-Entry hole is on the left and exit hole on the right**






IRWIN
Auger


Klein


Lenox


Mag-Bit


Milwaukee


Woodowl
600
Auger


Woodowl
Slit Auger
No Spur


Woodowl
Nest Chipper


Woodowl
Ultra Smooth