

Router Bit Speed Limitations

Questions:

I'm in the market for a new router and have seen models with variable speed options. What is the purpose of this option?

Answer:

When working with larger router bits it is necessary to slow down the bit. In addition to safety concerns, the router's speed can affect the finish. If the router is burning the wood or leaving a rough finish, try turning down the speed. If the router is chattering the wood's surface or leaving marks, try turning the speed up.

Routers without variable speed controllers can be slowed down with a router speed selector. These devices are designed to work with the motor to drop the speed without damaging the router. Avoid variable speed controllers not specifically designed to work with a router. You can find variable speed controllers at many woodworking specialty stores or online at [Rockler.com](https://www.rockler.com).

The following guide will help you select the MAXIMUM speed for your router. (Note: This table is only a guideline. Please use reasonable judgment when working with router bits.)

Bit Size (Diameter)	Max Speed (rpm)
0-1"	24,000
Up to 2"	18,000
Up to 2-1/2"	16,000
Up to 3-1/2"	12,000