

Maintaining a Plunge Router

For trouble-free operation, avoid oil lubricants, replace worn brushes and keep the collet clean

by Gregg Carlsen

I made the mistake of spraying WD-40 on the posts of my first plunge router. The plunge stroke gradually became more stubborn, then the router began seizing in the plunged position. Eventually I had to use a hammer to free it. Plunge-router manufacturers caution against the use of oil-based lubricants on their plunge posts. That's because these lubricants attract dust and carry it up into the plunge-spring housing where it will gum up the action (for a review of plunge routers, see *FHB* #71, pp. 78-84).

It's best just to wipe plunge posts clean with a dry cloth and then apply, at most, a dry graphite or Teflon lubricant (photo right). One such product is Dri-Cote, made by Sandaro (68 Leveroni Ct, Novato, Calif. 94949; 800-999-7009). The manufacturer says Dri-Cote contains neither silicone nor petroleum oils and is made with a Teflon-derivative that doesn't attract dirt or dust. Don't use solvents for cleaning plunge posts—they'll dry out oil-impregnated bushings.

Plunge-router manufacturers also caution against overtightening the plunge-lock mechanism. Most locks are simple levers attached to a screw that presses against one of the two plunge posts. Overtightening can mar the post, rough up the plunging action and make it difficult to lock the router exactly where you want it. Most manufacturers minimize potential damage by using a brass-tipped screw or a brass bushing to contact the post. The soft brass conforms easily to the steel post and isn't likely to mar it. If you do ding a post with the locking mechanism (or with the slip of a wrench), file the post smooth.

Inverting plunge routers for use in router tables is an area rife with controversy. It's a common practice because it is easy to make fine adjustments in the height of the bit with a plunge router. And many plunge routers are powerful, so they perform well in a router table—especially with some of the heavy bits available for them. But few manufacturers openly encourage the practice because the router bits extend unguarded above most site-built tabletops (although Elu, Porter-Cable and Skil do sell router tables). Most carpenters I know aren't about to shell out a grand or more for a shaper when they can hang their routers upside down at a fraction



Clean plunge posts. Wipe posts with a dry cloth but avoid oil-based lubricants. They attract dust and may foul the plunge mechanism.

of the cost. But bear in mind that inverting a router can shorten the life span of its bearings because sawdust will drop down into the motor housing. And exposed cutters are dangerous.

Check for worn bearings—Regardless of whether routers are right-side up or upside down, bearings usually are the first components to go. It's not unusual to replace bearings in a router during the tool's life span, and you can ask the service center to use a higher grade of bearing if the job needs to be done.

Routers create so much noise that it's often difficult to hear when the bearings are going. There are several ways to test for faulty bearings, but make sure your router is unplugged before using them. Make a quick check by cradling the tool and rotating the shaft slowly by hand. If the motion is not smooth—if you feel catches as the shaft turns—the bearings are probably worn. Another way to check the bearings is inserting a long bit into the router and trying to wiggle the bit after it has been tightened in the collet. If you can move the bit, and there is some play in the the arbor, the bearings almost certainly need to be replaced. You can also use a tool called a dial indicator to check for wobble in the shaft, which would indicate worn bearings.

Switches are also prone to failure due to dust infiltration. But they are easy to replace, and many hardware stores carry a selection of switch-

es. Plunge mechanisms and other mechanical parts are amazingly durable. Router motors are durable, too, provided you don't push them too hard. Blow the sawdust out of their housings frequently, and replace carbon brushes when they wear down to ¼ in.

Keep the collet clean—Another router part to watch carefully is the collet. There are several types, but none works well if it is clogged with dirt, sawdust or rust. Obstructions inside will prevent the collet from evenly gripping the bit's shank. Telltale signs of this problem are grooves and ridges that are worn into the bit's shank, or a bit that creeps when the router is being used. A moving bit is not only dangerous, but it can also quickly ruin a workpiece.

The collet on your router should be inspected and cleaned regularly. And it's a good idea to remove the bit from your router after use rather than leave the bit tightened in the collet. One tool that will help keep the inside surface of the collet clean is a brass-bristle brush. They are available from Woodhaven (5323 W. Kimberly Road, Davenport, Iowa 52806; 800-344-6657). But don't use sandpaper, even if the grit is very fine. Sandpaper will scratch the metal on the inside of the collet and reduce its ability to grip the bit.

Collets, like bearings and motor brushes, are parts you are likely to replace over time. When you do, your parts supplier may be able to offer better quality. The best collets have a number of slits in them instead of just one, a design that increases the holding power on bits by distributing the pressure evenly.

Safety notes—Even a well-maintained router can be a dangerous tool if misused, so follow a few safety rules. Always unplug your router before working on it. The removable plastic chip guard included with many routers could prevent you from mutilating a finger or being struck by a wood chip. Safety glasses and hearing protection should always be worn while operating any router. □

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