

THANK YOU!

You have successfully downloaded your woodworking technique article. This article features the same high-quality photos, illustrations, and shop techniques that you'll find in more than 300 downloadable plans at PlansNOW.com

 [Go to Page One](#)

<p>Find Out More</p> <p><i>Members Get the Best Deal on Plans!</i></p>	 <p>PLATINUM MEMBER</p>	 <p>GOLD MEMBER</p>	 <p>CLASSIC MEMBER</p>
<p>Plans Projects, Techniques</p>	<p>20 PLANS</p>	<p>5 PLANS</p>	<p>All Plans</p>
<p>Books Plans, Tips, & Techniques</p>	<p>2 BOOKS</p>	<p>1 BOOK</p>	<p>—</p>
<p>eNewsletter What's New, Techniques</p>	<p>✓</p>	<p>✓</p>	<p>✓</p>
<p>Sample Center How-to Technique Articles</p>	<p>✓</p>	<p>✓</p>	<p>✓</p>
<p>Total Value</p>	<p>up to \$220</p>	<p>up to \$60</p>	<p>20% Discount</p>
<p>Your Price</p>	<p>only \$29⁹⁵</p>	<p>only \$19⁹⁵</p>	

[Find Out More](#)

[Find Out More](#)

[Find Out More](#)

IN THE
Shop

replacing Router Bearings

Give your router new life and get better results using some inexpensive parts and a little time in your shop.

■ Your router is really a pretty simple machine. Its motor includes an armature and windings on a shaft that spins in a bearing at each end. But over time, these bearings can wear out, resulting in a noisier router and rough cuts.

To replace the bearings, you can take the router to a service center and pay for an hour's labor plus the cost of new bearings. But if you're mechanically inclined and have a little time, you can do the job yourself. All you need is a set of new bearings and a few simple tools (refer to Sources on page 4).

Symptoms. As I mentioned, the signs of worn-out bearings include more noise than usual and a chatter that

results in a rough cut. If you have access to a dial indicator, you can check the runout (inset photo at right). This measures the amount of "slop" or wobble in the shaft (0.0045", in my case). Just be sure to clean the collet first to get an accurate reading. Your router's manufacturer or service center will have guidelines for the maximum allowable runout.

Bearings. When it's time to buy new bearings, I order them from an authorized service center or online repair facility. This way, you're sure they meet the same quality specifications as the originals.

If you're having trouble finding bearings, you can often pick up replacements at an auto parts store. Take your old bearings with you so they can match the diameters and speed rating. They can also cross-reference the numbers on the bearings to find the right ones (photos at left).

Router Disassembly. Besides the bearings, the most important

tool for taking your router apart is the parts diagram. You can find this in the owner's manual or online. This helps you remember how everything goes back together. And it lists the part numbers you need to order bearings.

Two Bearing Locations. When taking your router apart (with it unplugged), you'll find one of two configurations. The bearings will either be pressed onto the shaft of the motor or into the housing.

Use Care. The most important thing to remember is to be kind to the bearings and shaft. If you try to pry off the bearings or beat on the shaft with a metal hammer, you're likely to cause some damage. It's best to take your time and use the right tools for the job.

Bearings in the Housing. On many routers, the bearings are located in the top and bottom



▲ **New Bearings.** Make sure the new bearings meet the size and speed specifications for your router.



halves of the housing (main photo). To remove them, use a short length of dowel slightly smaller in diameter than the opening in the housing. Gently tap the old bearings out of the housing from the back side (near photo at right).

Then, after cleaning the housing to remove dust and dirt, you can gently tap the new bearing into place using a block of wood sized to fit over the outer race of the bearing (right photo). The important thing is to be gentle and make sure the bearing goes in straight.

Shaft Bearings. Removing the bearings on some routers requires a couple of different techniques and an inexpensive gear puller (box below). But before you begin, you may need to remove the collet from the shaft. An impact wrench is the best tool for the job.

With the router disassembled, you'll find that the top bearing is pressed onto the shaft. To remove it, use a two-jaw gear puller. The hooked jaws engage the underside of the bearing. Simply twist the handle to pull it off the shaft.

Lower Bearing. The lower bearing (arbor end) resides in the housing and is held in place with a



▲ **Tapped Out.** A dowel sized to fit the housing opening is perfect for tapping out the bearing.

snap ring. To get access to the ring to remove it, simply tap the end of the shaft with a rubber mallet to remove the armature assembly. After removing the snap ring, tap the bearing free using the dowel technique I mentioned before.

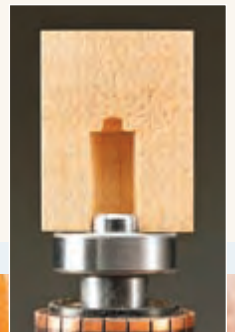
New Bearings. Replacing the bearings goes a little easier. To press the top bearing onto the shaft, start by placing the bearing at the end of the shaft. Then, to seat it, make a small wood block with a hole drilled to fit over the shaft, as you



▲ **Tapped In.** Cut a wood block to fit over the outer race of the new bearing. When tapping it home, make sure the bearing is going in straight.

can see in the margin inset below. The block is sized to fit over the entire bearing. With the block in place, gently tap the bearing until it seats against the shoulder on the shaft. Again, just exercise care to make sure it's straight.

Reassemble and Rout. Now it's time to carefully reassemble the router, using the parts diagram for reference. Once everything is secure, spin the shaft to make sure it rotates freely. Then you can plug in the router and get to work. 🛠️



specialized Tools

The key to removing router bearings is having the right tools and a little patience. For shaft-mounted bearings, a gear puller does the job with little effort (left photo).

Some bearings are held in place with a snap ring. To remove it, you'll need a pair of snap ring pliers. The ones with interchangeable tips work for both internal and external rings. You can see some in use in the left inset photo.

Finally, you'll need a custom-made wood block, like the one shown in the far right photo and inset. It will help seat the bearings without causing damage.



▲ **Removing Bearings.** Some inexpensive, but specialized tools, like a gear puller and snap ring pliers, make quick work out of removing bearings.



Seating a Bearing. A wood block protects the shaft and bearing from damage as you tap the bearing in place.

Sources for Router Bearings

For replacement bearings, check out your local repair center. Online sources are *eReplacementParts.com* or *AceToolRepair.com*. You may find tools from the sources listed below useful for removing bearings.

- **McMaster-Carr**
2-Jaw Puller... [6340K71](#)
- **Harbor Freight**
Pulley Puller... [66868-0VGA](#)

These specific sources were also cited

- Ace Tool Repair
acetoolrepair.com
888-901-0446
- eReplacementParts.com
eReplacementParts.com
866-802-6383
- Harbor Freight Tools
harborfreight.com
805-388-3000
- McMaster-Carr
mcmaster.com
630-833-0300