Tightening the Hitachi M12V Collet Chuck

By Anthony Leonard

My Hitachi M12V had a loose collet chuck. I couldn't figure out how to tighten it as there was no shaft lock mechanism. So, I called Hitachi's 1-800 line and got help from one of their technicians. I'm summarizing what he told me, and my experience to share with other M12V owners. This is meant as an aide, if you aren't comfortable with this sort of operation, please find your closest authorized service center and let them do it for you. You can find owner's manuals and service center locations online at the Hitachi site (http://www.hitachi.com/hpt/wood/10routertrimmer/halp-ZZZ7GNOZ7CC.html). I suggest that you familiarize yourself with the assembly before you take the router apart.

The first thing to do is MAKE ABSOLUTELY SURE THE THING IS UNPLUGGED!!! My collet chuck was loose enough to remove just by spinning it by hand (which is why I did this whole thing in the first place!) Now, we need to remove the base plate from the shafts. This is done by first locking the plunge lock and then removing the nut(s) on the threaded rod that controls the plunge depth. Be careful, when you release the shaft lock with the nuts removed, the base will fly up pretty fast. Remove the base, springs, guides, the brass pill from the shaft lock, etc. You'll probably notice that the shafts are dirty and make a mental note to clean them and wax them before you put them back together.

Now we need to remove the brushes. There are two plastic caps on the sides of the body that are removed with a flat tipped screwdriver to release the brushes. I noticed that mine were loose and made a mental note to check them periodically. When you remove the cap, the brush assembly may jump out, so be ready. I suggest you make keep the orientation so you can put them back in the same way they came out. I noticed that both of mine had a corner knocked off (I wondered if that was the leading corner?).


Once the brushes are removed, you can now remove the four Phillips head screws that hold the bottom housing on. These are pretty tight, so make sure you use the proper size screwdriver to avoid stripping the screws. The technician said I might need two flat tipped screwdrivers to lever the casting, but mine came off without the need for prying. Be careful when you remove the assembly as the armature is coming out with it.



(note that the #37Stopper Piece may fall out – see it next to the top bearing?) Now you have the armature and the bottom cover (the cast metal part) out as a unit. The Hitachi technician suggested wrapping a cloth around the armature to protect it and chucking it into a vise. My vise has wooden cheeks that are pretty soft, so I didn't bother with a towel – maybe I should have to be safe. Once it's in the vice good and snug, I cleaned the threads on the collet and the armature shaft. The technician said to use green Loctite

and tighten the collet chuck "good and snug." I asked for a torque spec, but there was none. I looked at the 15 different types of Loctite at AutoZone and the red seemed most suitable. The green was for "after-assembly" and was a penetrating type. So, check out the Loctite (or other brand) and follow their instructions. They also specify to clean with some kind of special cleaner. One spec. on their chart was the thread diameter – I don't know the number, but I think it is 10 or 12mm. I think the size of the flats on the collet is 23mm. What I did was use the 21mm wrench that came with the router and tightened the collet by using the wrench on the top piece of the collet. That may not be the best way to do it as you have to tighten the collet along with the chuck threads. But, I figured since it only needed to be "good and snug," I wouldn't be doing any harm (no more than when I install a bit). Now, I'm chicken, so I turned the whole thing upright such that any excess Loctite would run away from the bearing.

My Loctite package says that it cures to some extent in 20 minutes, so I left the armature alone for that long. I then re-assembled the whole thing in reverse. I did clean and wax the shafts and the cleaned the housing before reassembly. Nothing real tricky in the whole procedure. It was easier than I thought. Make sure you wear some safety glasses when you fire it back up. Could be a piece you forgot or something else that could fly. Mine made a little different whine that before – I assume the brushes will wear in again. I may have flipped them by mistake.