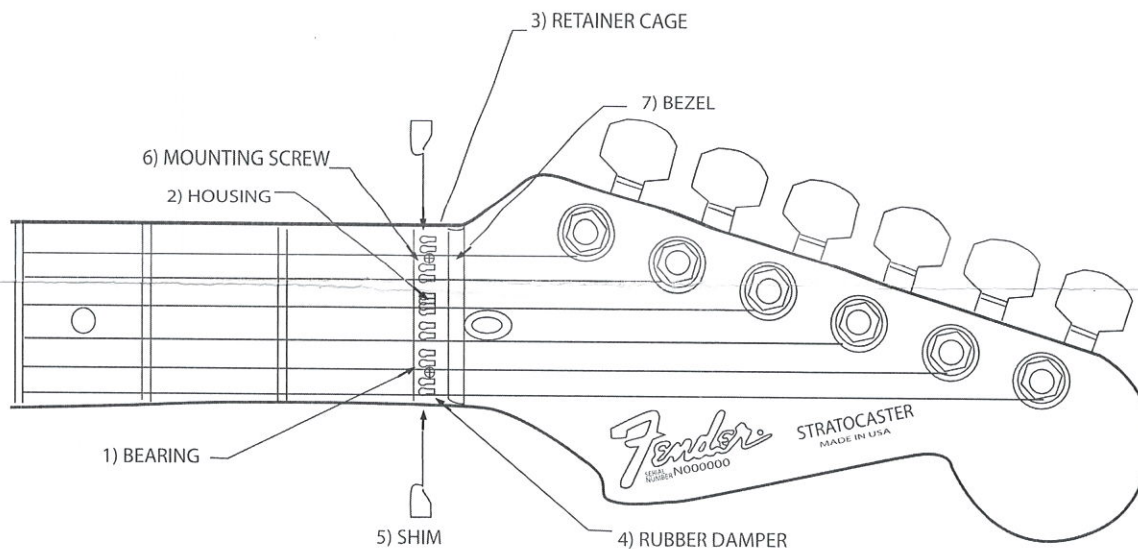


FENDER L.S.R. ROLLER NUT



The new Fender L.S.R. roller nut is the most advanced low-friction guitar nut available. Each string is supported by a pair of hardened chrome-steel ball bearings (1) that provide nearly friction free operation. The ball bearings are supported in a stainless steel housing (2) that is durable and resistant to corrosion. A stainless steel retainer cage (3) surrounds the ball bearings to keep them in place whenever the strings are removed. Rubber dampers (4) behind the bearings, dampen any unwanted string vibrations beyond the nut. Along the front edge of the frame are individual string guides. These guides control string movement during extreme bending to prevent the string from popping out from between the bearings. The guides also accommodate a variety of gauges for each string without adjustment or modification to the nut. With a small amount of care, the Fender L.S.R. roller nut will provide excellent performance.

The surface of the ball bearing is extremely durable. The only maintenance required is to keep the roller nut somewhat clean and dry. Occasionally blowing dirt out of the nut with compressed air is a good way of doing this. An occasional drop of machine oil is permissible, but use it sparingly.

NOTE: Be careful not to bend the retainers (fingers) that keep the ball bearings in place. These tabs keep the ball bearings from falling out whenever there are no strings to keep them in place (i.e. when changing strings or when a string breaks). If the retainers are bent or damaged the ball bearings can fall out and become lost. These tabs are recessed and are not exposed to most hazards, but extreme care should be taken when wiping the neck with a cloth or when removing the instrument from the case/gig-bag.

INSTALLATION OF THE FENDER L.S.R. ROLLER NUT

FOR REPLACEMENT (guitars originally equipped with Wilkinson roller nut).

NOTE: While installation is not difficult, there are two items you must have in order to make this modification. They are...

- 1) #51 (.067") drill bit - this is critical, you may not substitute with any other size!
- 2) #0 phillips screwdriver - this is critical, you will strip the screw heads with any other size!

These may be purchased at an electronic or industrial hardware store. They may not be available at small neighborhood stores. If you cannot locate these items you will have to take your guitar to an authorized Fender service center to have your Fender L.S.R. roller nut installed.

1) Take the strings off the guitar. Next, remove the two #3 screws holding the Wilkinson roller nut in place and remove the nut. Also, remove any shims that may be under the nut.

2) Fill in the existing screw holes in the neck with round toothpicks. Cut approximately 3/8" off the sharp ends of the toothpick so that the ends are just slightly smaller in diameter than the holes in the neck. Cut the toothpick in half. Coat the smaller end with super glue and lightly tap it into the hole with a small mallet. Use accelerator to harden the glue or allow adequate dry ing time (up to several hours depending on how much excess glue is present). White glue may also be used, but again, allow

adequate drying time.

3) When the glue has set, trim off the excess toothpick length. You may cut the toothpick with diagonal cutters, but leave at least 1/16" sticking up. If you cut too close to the surface, the toothpick will crush and split down into the hole. Trim the rest of the toothpick and excess glue with a sharp chisel or a single edged razor blade. You may sand the nut shelf area very lightly with fine grit sandpaper backed by a small, flat sanding block. Be careful not to sand through the finish. The shelf must be flat with no rolled edges

4) Place the Fender L.S.R. roller nut on the nut shelf to mark the new mounting holes. Orient the nut with the mounting holes toward the peg head. The solid metal side of the nut should be placed against the fretboard. While pressing the nut against the fretboard, center the nut so that it is even on both sides of the neck. Mark the location of the mounting holes through the holes in the nut using a drill bit or a sharp awl.

5) Now, remove the nut and drill the new mounting holes using a #51 (.067") drill bit. Drill .275" - .300" into the nut shelf surface. You must use only the #51 drill bit or the mounting screws will break when you tighten them.

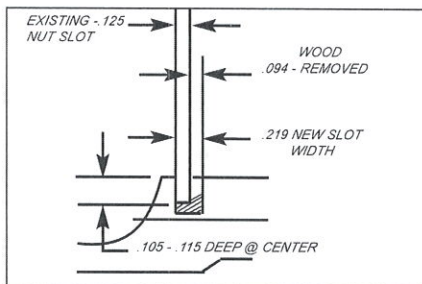
6) Place the black plastic bezel on the nut shelf area and insert the roller nut on top of the plastic lip. Press the bezel and the roller nut forward against the fretboard and install the screws using a #0 phillips screw driver. Use only a #0 phillips or you will strip the screw head. Tighten snugly, but do not over-tighten.

7) Re-string the guitar and test the nut height. There should be an .018" to .020" gap between the bottom of each string and the top of the first fret. You may adjust this height with the stainless steel shims provided. You should have received four .005" shims and four .010" shims. The shims slide in from the sides, round end first, between the bottom of the roller nut and the top of the bezel lip. The orientation of the shim is shown above. Insert the shims needed for each side of the nut and re-tighten the mounting screws.

NOTE: Nearly all guitars will require shims to attain the proper height. However, a very few will be too high without any shims. If the strings are too high above the fret, you will need to file or sand the nut shelf area of the neck. This is a difficult job to do well and you should not attempt it if you have any doubts about your ability to do it. You will need to remove no more than .010" of material (probably finish only), but the surface must be flat, and must be parallel to the fretboard in both side-to-side and front-to-back directions. Again, if you have any doubt about doing this yourself, take your guitar to an authorized Fender repair center.

NEW INSTALLATION (guitars not equipped with a Wilkinson roller nut)

This is a difficult installation and is not recommended for most people. This instruction sheet is intended for luthiers and repair persons and assumes that you are experienced in this type of work. If you have any doubts about your ability to do the work described here, take your guitar to an authorized Fender dealer.



1) Remove the existing nut by tapping the end of it with a punch and mallet until it breaks loose. If you will be using a mill to cut the slot for the roller nut you can leave it in.

2) You need to mill or route a slot 7/32" (.219") wide starting at the back edge of the existing nut slot. The nut slot is 125" wide so you will be routing .094" into the fretboard toward the frets. The slot needs to be .105" to .115" deep at the center of the fretboard radius (based on a .035" - .045" fret height). You may use a mill or a router with a template (available through luthier supply shops). In either case, be careful not

to split out the ends of the nut slot. You may want to cut in towards the center from each side to avoid having the cutter break through the edge.

3) Place the Fender L.S.R. roller nut in the slot to mark the new mounting holes. Orient the nut with the mounting holes toward the peg head. The solid metal side of the nut should be placed against the fretboard. While pressing the nut against the fretboard, center the nut so that it is even on both sides of the neck. Mark the location of the mounting holes through the holes in the nut using a drill bit or a sharp awl.

4) Now, remove the nut and drill the new mounting holes using a #51 (.067") drill bit. Drill .275" - .300" into the nut shelf surface. You must use only the #51 drill bit or the mounting screws will break when you tighten them.

5) Place the nut in the slot and install the screws using a #0 phillips screw driver. Use only a #0 phillips or you will strip the screw head. Tighten snugly, but do not over-tighten.

6) Re-string the guitar and test the nut height. There should be an .018" to .020" gap between the bottom of each string and the top of the first fret. You may adjust this height with the stainless steel shims provided. You should have received four .005" shims and four .010" shims. The shims slide in from the sides, round end first, under the roller nut. The orientation of the shim is shown above. Insert the shims needed for each side of the nut and re-tighten the mounting screws.