

Alternate Shimmy Damper

Brent Van Arsdell (IL) - Recent low volume shimmy damper sales has caused Bob Davenport to raise prices of his excellent shimmy damper. This article is for those of you looking for a different approach to do basically the same thing.

You will need one AN 310-12 castellated nut. This 3/4" -16 nut is available from Wicks for \$2.25. One cotter pin MS24665 for \$.05 and a roll pin to replace the one you punch out of the aluminum casting, four belleville washers and a machined 3/4" diameter x 4" axle quality round steel shaft will complete the bill of material.

The difficult parts to find are the four belleville washers. I used four B104 belleville spring washers from Mid - West Express (800)-346-1400 or FAX (708)739-6622. They cost \$4.75 each but don't want to sell you less than 10 units at any price. There is a minimum \$25 order and I had to beg to get that. Mid-West is a spring supplier in the Chicago area. It is likely you can find these cheaper elsewhere. The washer I used had 3/4" ID and 1-1/2" OD rated at 665 pounds.

Have your favorite machine shop thread the top 1/2" of the 3/4" shaft 16 threads per inch, and drill a 1/8" hole about .07" from the top of the shaft. The shop will need to measure and drill a hole in the bottom of the shaft for a roll pin, and install the new roll pin.

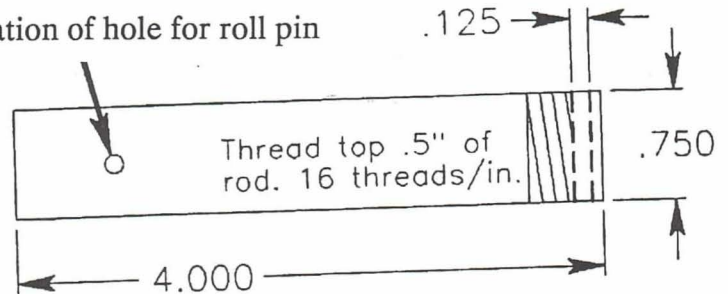
The shop will probably also need to make the 3/4" ID x 2.5" OD x 1/8" thick brass washer. My machine shop didn't have brass in stock so they suggested using nylon. I was worried about it cracking in cold temperatures so I took a sample home and put it in the freezer overnight and tried to break it in the morning. I was finally able to damage it some, but it didn't seem like anything would fail spontaneously.

You will need at least one 3/4" ID x 1-1/2" OD steel washer to put under the stack of bellville washers. You may also want to put one on the top of the washers too. Install the assembly on the airplane and carefully tighten the castellated nut until it takes about 5 pounds of force to move the aft most

side of the nose wheel.

The machine shop that did the work really likes airplanes and they supplied the shaft and did the work for only \$25. Obviously it could cost a lot more than that so shop around and find a place that likes airplanes.

Approx. location of hole for roll pin



Side view of shaft

