

**Control Wheel Shaft Inspection Guide**  
**Piper SB-1197A/B**  
**AD 2010-15-10**

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**N316X PA-28R-200**  
**October 17, 2010**

**GENERAL:**

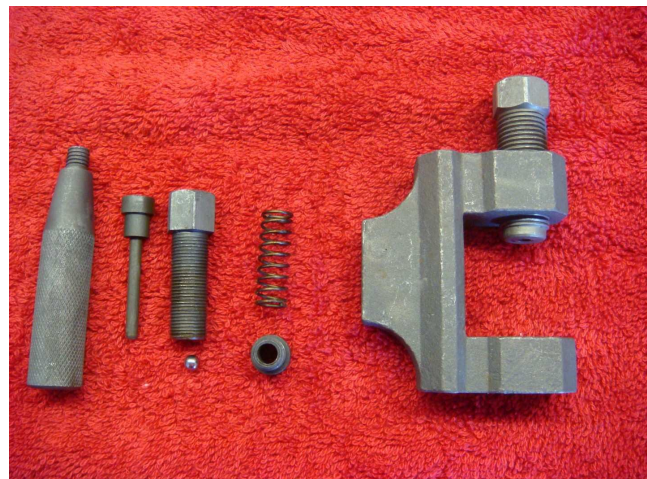
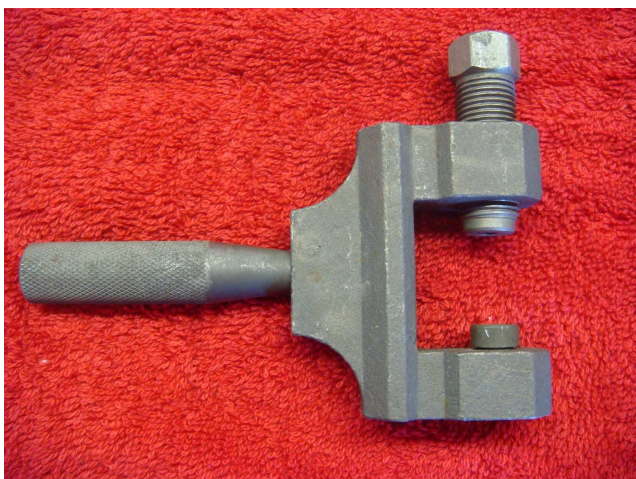
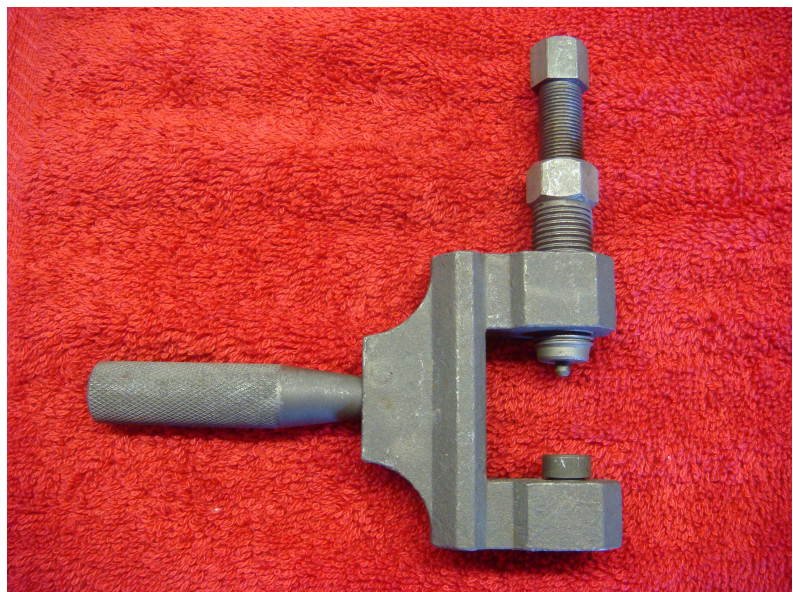
This is a very simple guide for inspection and removal of the tapered pin in the control wheel shaft, as required in AD 2010-15-10, without witness hole. This is just my experience (both shafts were OK) and I hope this will help others. Parts are available at the usual supply houses – I used Aircraft Spruce for the tapered pins, washers and nuts. **Note: replacement of the tapered pin and washer is not required, per the AD/SB.**

**CREDIT:**

Credit is hereby given to Garrett Tolsma @ KPAE for finding the perfect tool!

**TOOL:**

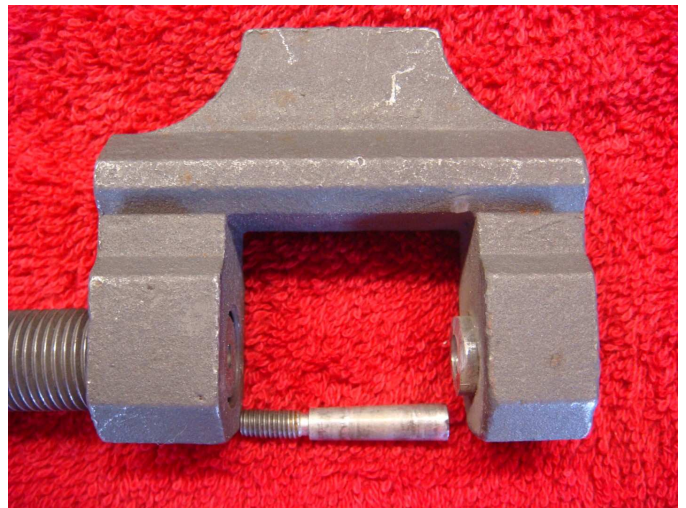
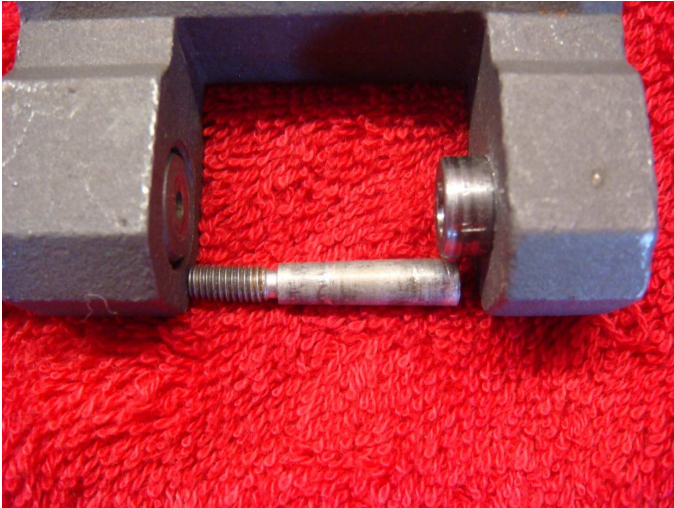
This tool can be found at Harbor Freight Tools for \$9.99 as part number 66488





## TOOL MODIFICATION:

Following Garrett's recommendation, I drilled a  $\frac{1}{4}$ " hole in the collet and cut off  $\frac{1}{16}$ " from the collet surface. Trimming the collet allows an easier fit, but you can back out the bolt and wiggle the unit over the tapered pin.



## THE SHAFT:

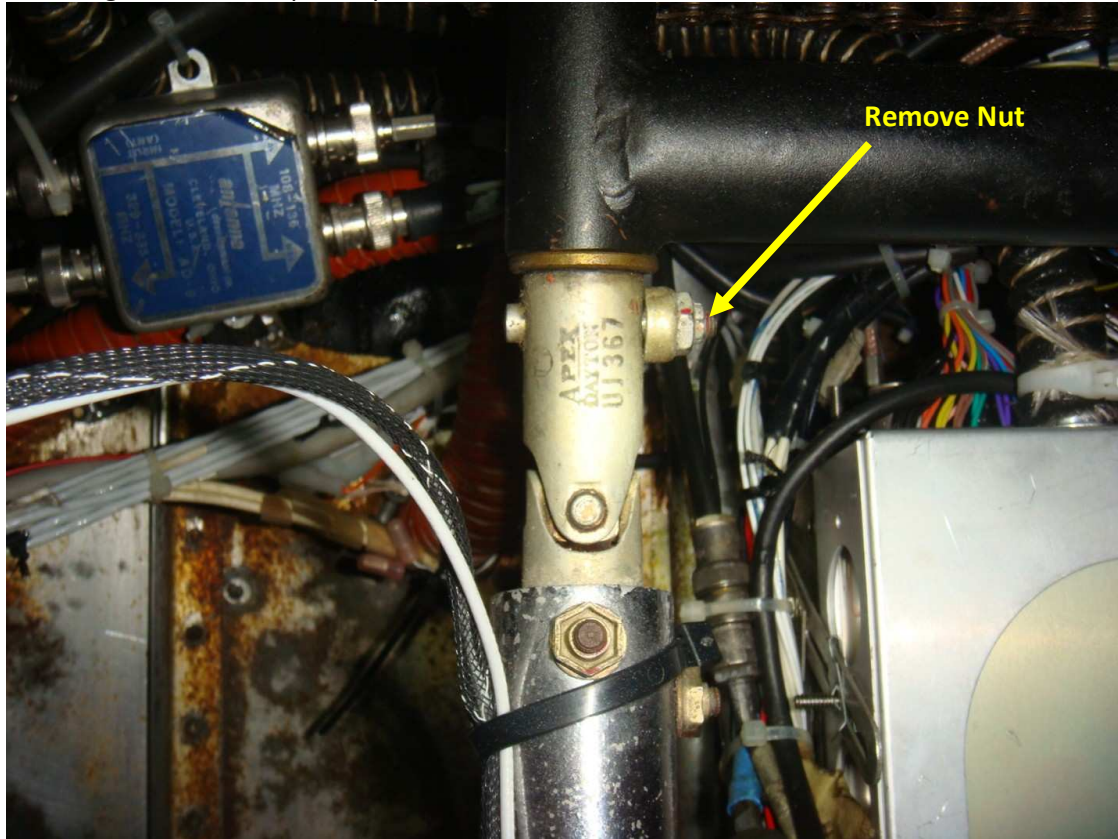
This is what the control shaft universal looks like (worn unit from my previous aircraft). What's important to note is that there is NO WAY to insert a tool or measuring rod into the back side of the joint. It is solid!





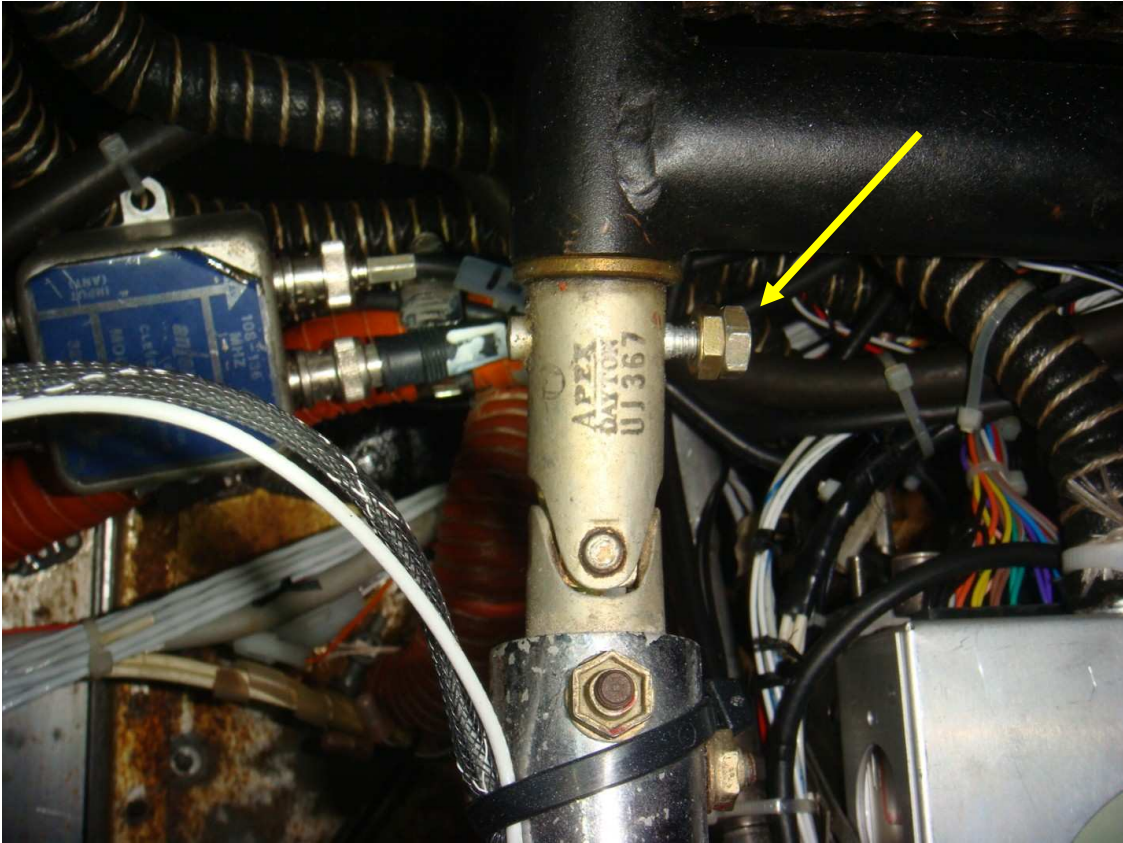
## STEPS IN REMOVAL:

Remove the existing nut on the tapered pin

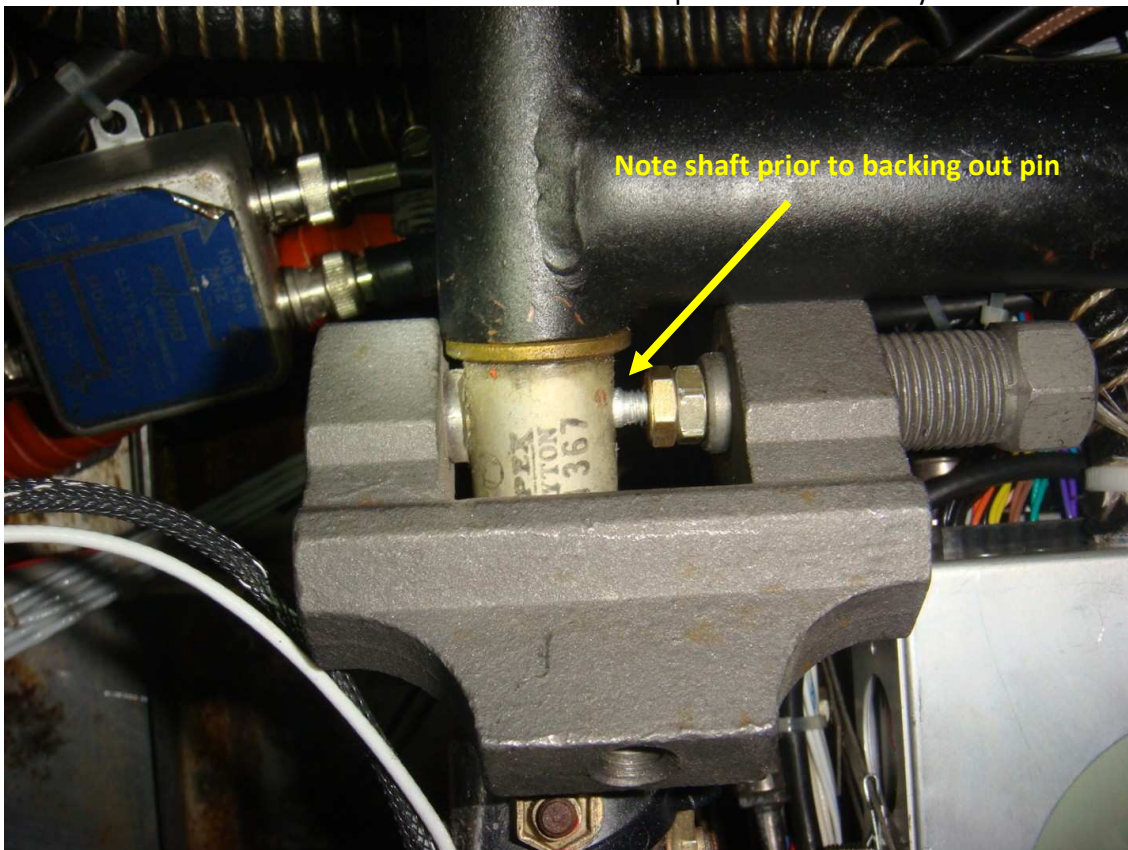




I installed 2 nuts, flush with the tapered pin to provide a pressing surface for the chain breaker and to spread the load on the threads, to avoid bending the pin

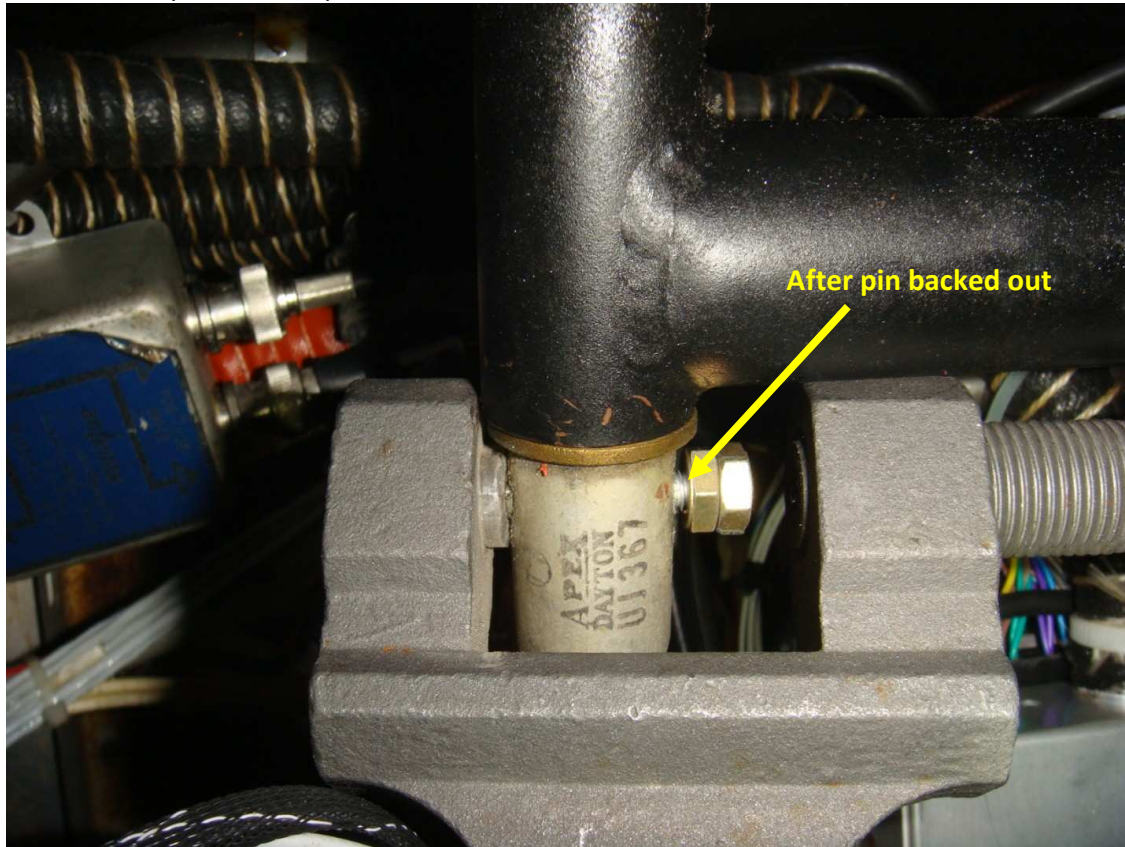


Install the chain breaker – note the clearance from the control sprocket. This is why the collet is needed.

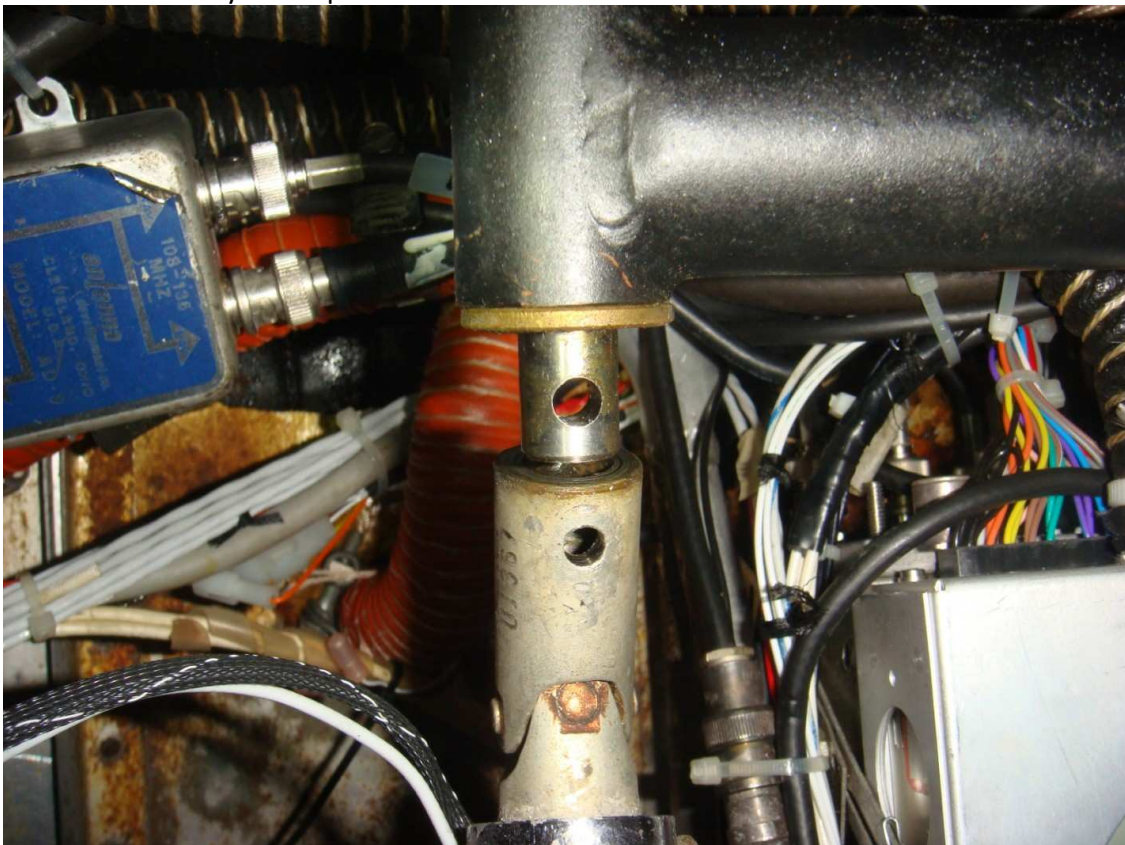




Using a 9/16" wrench or socket, slowly compress the pin, until it releases. In my experience, it required only moderate force. In this picture, the pin has been backed out – note the thread.



Tapered pin removed – ready for inspection





Center of tapered pin hole to end of shaft must be a minimum of 0.19 inches – mine both measured 0.25 inches



New tapered pin, washer and nut installed. **(A new tapered pin and washer are not required per AD/SB)**

