I decided to start a new thread focused on the subject of "Static Port Induced Error". Spring-boarding off Don's last comments:  
  
The first test fix involved gluing a thin piece of wood just behind the static port (I taped off one of the static ports so I only was dealing with one at a time).  That resulted in an over fix.  But I confirmed that it was in the right direction. So I removed the wood strip and filed down the front half of the static port a few thousands of an inch.  The high speed error dropped by a couple knots. I kept repeating until the calculated TAS was within a couple knots of displayed TAS.  I back checked this by using the displayed winds.  Now when I turn, the wind direction and speed remain the same instead of changing with my direction. It would be nice to identify the perfect, null pressure location for the static port.  But without a wind tunnel, I don't know how to do that.   
  
OK - let me set the stage for this discussion: When I purchased 36LV 2 years ago - the builder and I calibrated the EFIS air speed using the GPS as the basis. This worked fairly well - but it was clear that we were compromising low and high speed settings. I wasn't sure why at the time but now believe it was primarily due to the Static Port Induced Error. I was able to confirm I had some static port issues because of another problem I encountered while flying.  
  
If I am on auto-pilot going straight and level - the aircraft holds position and speed very well. However, if I go into a climbing or descending turn using the auto-pilot - I get huge oscillations in speed and pitch. (For reference, I have a TruTrak Digiflight auto-pilot) So, last year at Oshkosh I approached the guys at TruTrak and explained my auto-pilot performance issues. He immediately responded with - "I think you have a static port problem". He suggested that the next time I try this maneuver - switch to "Alternate Air" and evaluate the performance. Actually, he was spot-on. My auto-pilot performed perfectly while I was in the "Alternate Air" mode. I switched back and forth a couple of times and the performance followed the static air port setting.  
  
Now for the discussion: Don described his method for calibrating the static air ports - and improving their performance.  
  
My question is: What other tricks/techniques have the Velocity Builders used to correct any "Static Port Induced Error"?   
  
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