

1/4 Scale P-39 Build.

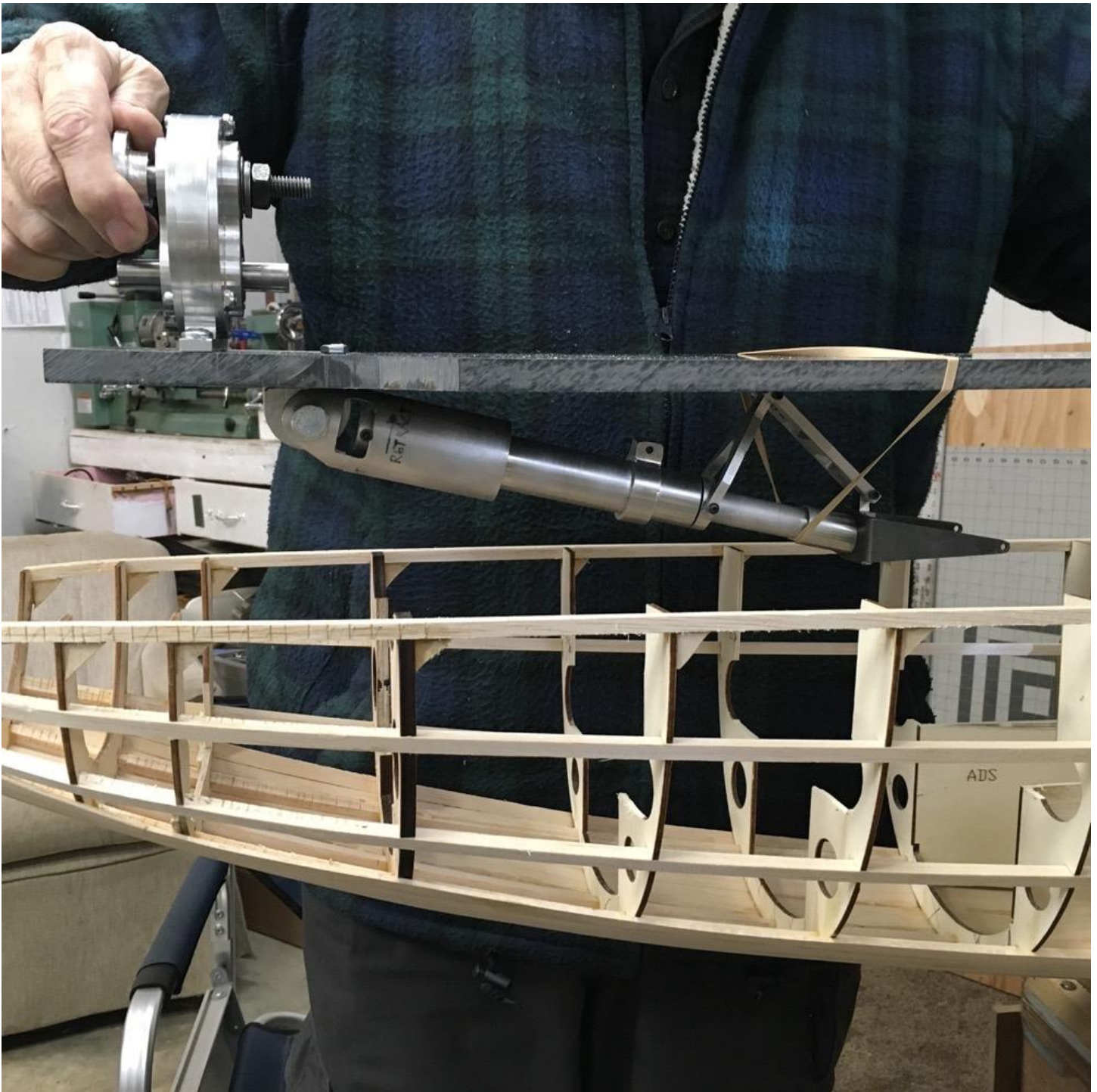
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We did the final test fitting of the nose gear and were able to locate the area of the Torque Plate that will have to be opened up to let the scissors assembly to penetrate. Our landing gear is exactly quarter scale and the full size P-39 didn't have a Torque Plate getting in the way. A minor problem to solve.



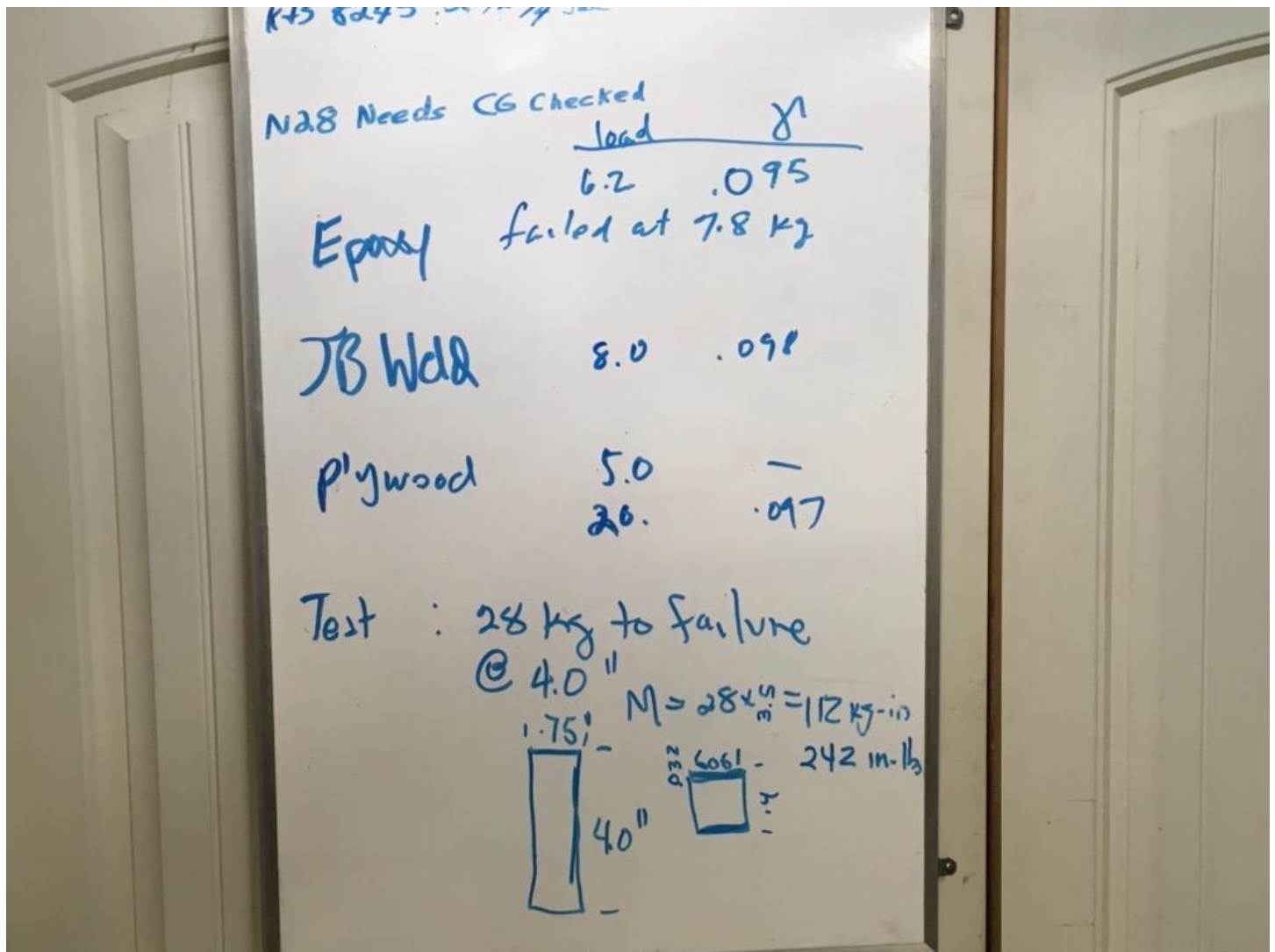
Now that this part of the installation dimensions and interferences are known we have decided to move ahead and start mounting the components on the flight Torque Plate. Once the Torque Plate Foundations are installed we can really start making progress on the fuselage. We did notice we are going to have to build a special aircraft stand to be able to bench test the landing gear, transport and install the wings in the field.



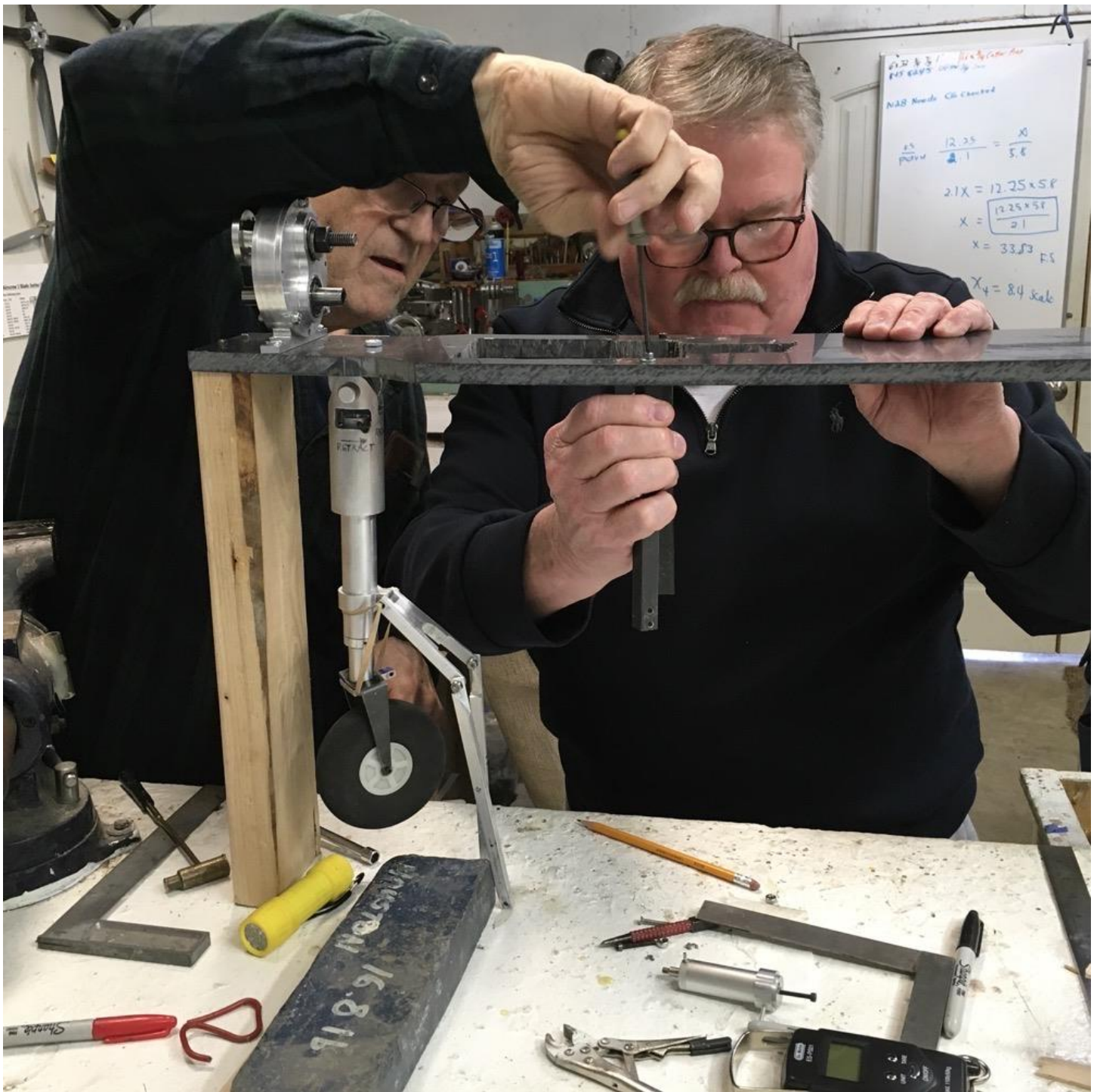
The Torque Plate is a 1/4" balsa laminated between two sheets of .032 7075 aluminum. To determine which glue to use we made three test samples. One epoxied with JB Weld, the second with West System 105 epoxy the third was Five Minute Epoxy. All three proved to be strong enough for our intended purpose. The Torque Plate must remain rigid and not allow the drive shaft to wobble. The interesting part of the testing was how the samples failed. One was a glue failure to bond to the aluminum. The second the

cross grain balsa failed as the wood split with the grain. The third crushed but never did come apart.

We also tested a 3/16" ply laminated to the 7075 Aluminum. It never did fail. Our Test rig held the 4" long by 3/4" wide samples as we added weight we recorded the deflection and weight till failure. It was a very interesting exercise. We proved beyond the shadow of a doubt our Torque Plate will survive any possible crash. We did video the testing. Eventually we will post a You tube video.



Work is still progressing on the nose gear. We have a pretty good idea if the final part dimensions and where everything will mount. Almost every dimension change result in new parts being designed and machined. We spend a lot of time making test fixtures and trying stuff out. This is a very challenging project.



Last entry 2/18/2022