



Prop Hub Installation Instructions

Thank you for buying a Gold Prop Hub. Your purchase makes possible my further research and development on the Corvair. In this way, you're investing in the future development and perfection of your chosen motor.

These notes are supplementary to my most current Conversion Manual. This Gold Prop Hub is developed as part of the system that we use to convert aircraft motors. This system is outlined in the Conversion Manual. The parts alone, without the information contained in the Manual, will not allow you to develop as reliable an aircraft conversion. When I develop and market a part, it is fully flight tested, and designed to work in concert with the other parts in the conversion. I take into account the way that most people are capable of installing and operating the part. There's a great deal of consideration that goes into these issues, and I urge you to utilize all the information in the Manual and the parts in the way that they are intended to be used. Of course, contact me at any time with any question you may have.

To be fair, everyone needs to understand that these are not certified parts, and it's not a certified motor. Experimental is not a misnomer; everything we do in this field is of increased risk. If anyone even suspects that they have a problem, E-MAIL or CALL ME. If you have never worked with torque wrenches and precision fasteners, get help from an A&P. Let's all remember to use our heads and not take unnecessary risks. I have gone to great lengths to make these components as reliable and easy to install as possible within the bounds of affordability. I have personally flown all of these parts, because I have a low opinion of people who market aircraft parts without flying the parts themselves. I believe that each and every part I sell is the best solution to its respective aspect of converting a Corvair engine. Take your time and do good work. The system is proven and will reward you with the same type of reliable flight performance we have always had.

Short Gold Prop Hub

This Gold Hub is a shorter version of our earlier work. This Gold Hub uses our standard Hybrid Studs, Safety Shaft and Ring Gear. The nuts for the Hybrid Studs, which are included, are MS21042-6. Even though they're smaller, these MS nuts are stronger than traditional AN nuts. They're torqued with a 7/16" socket instead of the



usual 9/16". Use the washers supplied with the Hybrid Studs. The Gold Hubs are also supplied with the AN3-10A bolts that hold the [Ring Gear](#) to the Gold Hub. These bolts must be installed with the heads close to the engine and the supplied nuts close to the propeller. The NAS679-A3 stamped steel nuts have a particular shape that fits the radius on the Gold Hub. Torque these to 7 to 10 foot pounds.

We inspected a Hybrid Stud/Prop Hub installation where excessive Loctite had been used and was preventing the Prop Hub from seating completely flush with the flange. Make sure that you clean off the excess Loctite very carefully after installing the Hybrid Studs. When installing the Prop Hub, I torque the stud nuts to 25 foot pounds, then torque the Safety Shaft nut to 150 on steel Safety Shafts, 100 foot pounds on aluminum [Safety Shafts](#). I then go back and do the Stud nuts at 25 again. The best way to restrain the engine when torquing the Safety Shaft nut is a carefully placed wooden block between the crank throw and the case near cylinders 5 or 6. This is why I put the [Top Cover](#) on the engine only after the Prop Hub is installed.

After it's installed, you must check the Hub to ensure it's running true. This can be done with a cheap dial indicator measuring the run-out on the end of the Hub. The Hub itself is CNC-manufactured so accurately that tools available to typical homebuilders could never detect a flaw in it. What you're looking for is confirmation that your crank flange did not have a burr on it or excess Loctite from Hybrid Studs. The prototype installation showed less than 1/1,000" run-out measured at the edge of the prop flange.

Gold Hubs all have the SAE-1 propeller flange pattern. The correct prop bolt diameter is 3/8". The length of these bolts will be sized to the thickness of your individual propeller. The appropriate nut for these bolts is an AN363-624. When installed on our [Nosebow](#), this nut can easily be accessed by reaching through the pilot's side air inlet.

This installation should be checked for torque frequently during the test phases of the engine. Again, I have never found a properly installed Prop Hub to ever lose its torque. But vigilance pays, and that's what flight test periods are all about. If you have any doubt at all or questions about the installation, call me. I'll be glad to spend the time to get your questions thoroughly answered. Remember, safety is paramount. By choosing a Gold Hub, you're taking advantage of our years of flight experience which went into the design of this highly evolved part. Thank you for your purchase and congratulations on your good judgment.