

SIMULATING THE PROPELLOR FOR FITTING THE COWL

In the process of building any of Van's RV's you will reach the point of fitting the cowl. The process is a bit daunting just because of its size and flexibility. A couple of things that can help are the following:

1. DON'T install the propeller! It will simply get in the way while you are trying to install the cowl. (see the DO instructions)
2. DON'T install the exhaust system! It will only be in the way.
3. DON'T install the starter, alternator or carburetor! They will only be in the way too.
4. DON'T install the filtered airbox! It must be fitted to the carburetor and the lower cowl after the cowl is fitted.
5. DON'T install the baffle kit! It will need to be fitted to the cowl after it is fitted.

What can I DO?

1. **Simulate the propeller location by the following method:**
 - First be sure the starter ring gear is ON the engine (the toothy thing on the front)
 - Now locate a couple of feet of white PVC pipe that will just slip over the crankshaft lugs. (typically $\frac{3}{4}$ "-1" pipe or so)
 - With a table saw or chop saw, cut 6 pieces of the pipe that are $2\frac{1}{4}$ " in length if you are using a Sensenich or fixed pitch propeller or $2\frac{1}{8}$ " inch length if you plan to use a constant speed propeller (square the ends!).
 - Now position the spinner back plate in front of the engine with it spaced ahead of the crankshaft ring gear on the PVC pipes. Ordinary hardware store bolts can be used to hold it there. They go through the spinner bulkhead and the PVC and the starter ring gear and the crankshaft flange.
 - Eyeball the back plate for centering over the crankshaft and you are ready to go.

2. **Follow the instructions!** Here are a few things to help.

- There are two different hinge types used. The hinge that attaches the cowl perimeter to the firewall is **HINGE PIANO 1/8"** and that is the only place you will use it. It has a .120" hinge pin (SSP-120) however, the hinge as delivered in the kit has an aluminum pin and it must be removed and replaced with the supplied steel pin (throw away all of the .120" aluminum pin). Use the replacement .120" steel pin everywhere EXCEPT for one area! In the heavily arced region (the upper third of the firewall) you CANNOT use the .120" pin (it won't make the arc and go in or out) so we have supplied .090" for that area (SSP-090). All the fairly straight sections will use the .120" steel pin.
- The hinge that joins the upper and lower cowl halves together is AN257-P3 (or an equivalent MS number ending in -3). It has the .090" steel pin in it as delivered. It is used as delivered.
- Fit the upper cowl first to the firewall be sure to space it back from the spinner back plate by at least 3/16" or 1/4". A little help can be had in positioning it by fixing a wooden block on the nose area of the engine that holds the front part of the cowl in the correct vertical position while you are trying to measure and mark the firewall part of the cowl for trimming.
- Fit the lower cowl to both the firewall and the upper cowl.
Stand back and admire it!!

3. Now install the rest of the accessories including the carburetor and filtered airbox. Relax.