

Pipistrel

Sinus & Virus

Kit Build Manual



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Congratulations on your purchase or evaluation of the Pipistrel Sinus or Virus aircraft kit. The Sinus and Virus are unique aircraft, providing exceptional performance, unparalleled flying qualities and astonishing economy.

The building procedures explained in this manual are aimed towards the abilities of an average person with basic tools. Most of the precision manufacture has been performed at the factory under controlled conditions, and this will provide the homebuilder with an aircraft which should be every bit as good as a factory manufactured plane.

Most of the construction can be performed by the builder alone, but you will require additional assistance for some tasks. Possibly a friend or partner could assist you with some of the construction. In situations, where you need to rotate the fuselage or fit the wings, you may need three people.

By following these simple instructions and the accompanying photographs, we expect that you will need around 250 to 400 hours of enjoyable construction to finish the aircraft. Should you have any questions with this manual or the construction techniques please contact Pipistrel USA for clarification. If you aren't used to the metric system, be sure to check Appendix 1 where we have added a conversion table to help you with certain measurements.

As this is a new version of the kit manual for Pipistrel's Sinus and Virus aircraft, we would like your feedback and suggestions on the different tasks, so we may improve the manual for future customers. Please email info@pipistrel-usa.com with any of your questions

They say a picture is worth 1000 words... so we have tried to incorporate this in our manual and let the pictures do the talking. With over 1000 deruddered images to select from and print out you will probably find many answers to your questions in the photos and accompanying text.

Time to build..... Lets start !!

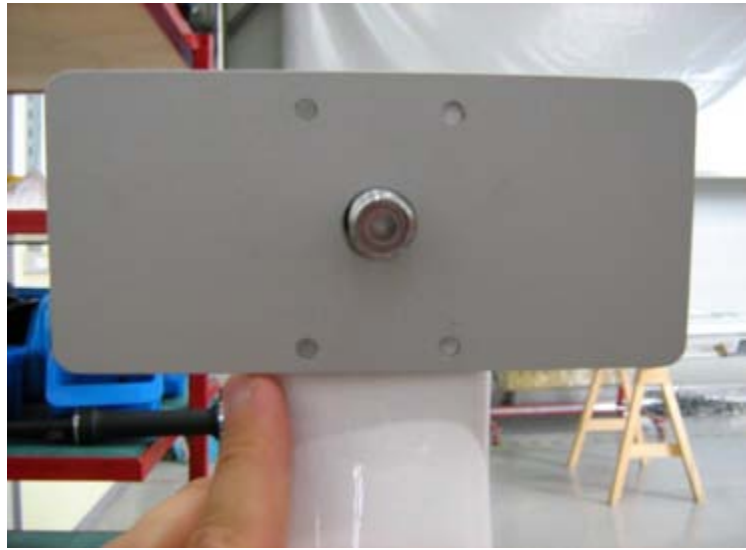


- Clean the windscreen mounting areas with thinners or alcohol removers to ensure they are clean and will bond properly. Blow them with compressed air and a vacuum to ensure they are totally clean.



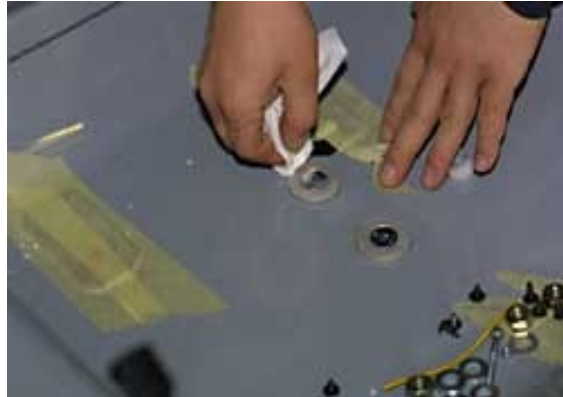
- Drill holes in the floor for the cables, flaps and the trim slot. Use the Dremel tool to cut the holes and then sand smooth with a file and sandpaper. The same goes for the flap handle area and also the throttle nutserts. The factory will already have these positions marked for you in marker pen. Look at Appendix 2, 3 and 4 for hole diagrams with exact dimensions.





Now we have to to drill the holes for the brake pins.

- The goal is to drill a hole that is just deep enough, so that the pin, once placed, sticks out exactly 1 cm from the brake assembly resting plate. This can be done by marking the drill.
- Insert the pins and tap them in with a hammer



- The last step is to prepare the fuselage for the brake lines. Position yourself under the fuselage so that you're looking directly at the undercarriage and your legs are pointing towards the engine.
- Locate the center mark of the undercarriage's groove and drill two holes. Each hole should be approximately 3 cm from the center mark.



- Dremel the opening in the side of the aircraft for the brake lines to run from the pedals to the wheels. The position is already marked in marker pen by the factory.
- Be careful not to go too deep or you can go through the outer shell of the aircraft, then clean up with a drill and sandpaper

- Use two part epoxy body filler and go around the openings of the windscreen and the skylight in the roof, filling in the small defects from manufacture. When the filler has hardened overnight it can be sanded and finished.
- Note this is only for cosmetics and provides no other use. Be careful as the fiberglass is very thin on the canopy lip - do not sand too hard and don't use mechanical sanders.
-



- Clean the sanded area down with thinners and clean it with compressed air. Paint the rest of the fuselage with nitro paint to finish off the painting. Using a brush is recommended.



- Once you have masked around the canopy and skylight lip, paint the sanded and filled area with bumper paint. Use bumper paint as it has a good sheenless colour and the finish fills in small imperfections in the body filler.



- If you notice that the fuselage fiberglass is built up a little too thick in the area where you are mounting the fuel tap, be sure to grind down the fiberglass a little and/or enlarge the hole.



Fitting the cockpit carpet

Four pieces of carpet are to be placed on the cockpit's front wall (behind the motor).

- The two identical side pieces should be placed first, then the thin upper piece and then the main piece.
- Before placing the thin upper piece, cut a small triangle out of the upper edge to make room for the windscreen's placement clip.
- Using the adhesive spray, coat the insulation material and spray the carpet which goes on the inside of the firewall, allow to dry then position and mount the carpet.
- When dry using the soldering iron with a knife blade cut the openings in the carpet for the additional holes.





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Fitting the lower fuel system

Preparing the firewall:

- Cut 2 holes, 22 mm in diameter, side by side into the firewall as shown in the photo below. Use a Dremel to grind the center section so you end up with a slot.
- There are three components that you need to complete this step. The first part has a T piece with 2 silicone tubes and a rubber hose. The second piece is rubber and silicone tube, which is used for the fuel return line. The third is a smaller junction, which connects the gasculator and fuel filler/drain.

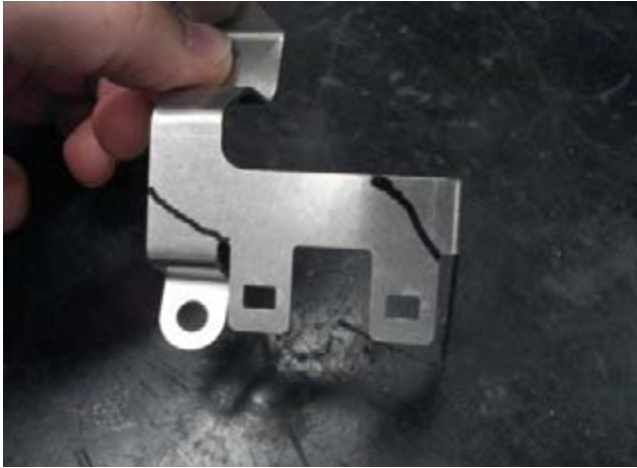




- Pull back the plastic on the bottom side of the screen to expose the line drawn earlier. Even though the line is on the other side of the screen, it is still possible to see it ok.
- Hold the plastic back with masking tape and then using electricians plastic tape carefully mark out the line for painting. It is important to sand the surface to be painted with 1000 grit sandpaper and remove all the shine
- Spray with the provided black bumper spray, one light coat first and then another after about 2 minutes. If you leave it too long it will look a different colour to the first coat.
- Allow to dry for at least one day, if you don't the paint will get scratched off when fitting the screen, it must be allowed to harden, do not remove any of the tape until completely dry.
- Now you can mount the windscreen and sunroof using the provided rivets. Be sure to inspect all edges afterwards and make any necessary touch ups.



- Find the long brace provided, which has an oblong hole. Be sure to use a polystop nut at the end that gets fixed to the A-shaped brace.

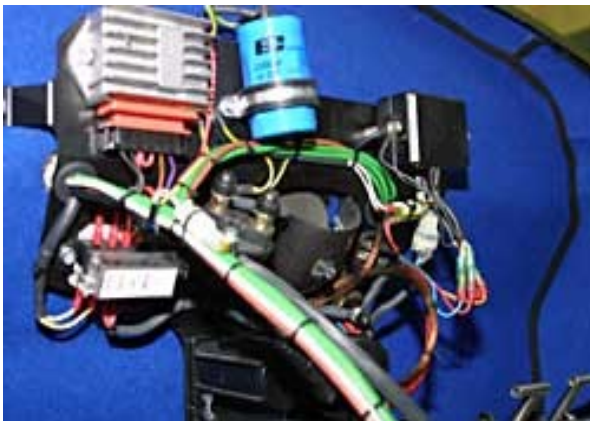


- Pair connectors A and B with their respective connectors and slide them onto the prongs located between both A-shaped braces.
- Now pair connectors 1 and 2 with their respective connectors and slide them onto the other set of prongs.

Fitting the dashboard

All the instrument installation and wiring should be completed outside the aircraft for ease of assembly / installation. There are two types of dashboards; the standard dash and the new larger big instrument panel. For those people who want to fit lots of instruments, the larger panel will be necessary. If you are building a basic aircraft, use the smaller dash to save weight.

- With each dash the fitting process is the same. The larger dash will require two people to install, move the dashboard into the aircraft and position it centrally. It is necessary to push the dash forward and downwards at the same time to position it correctly on the floor and against the firewall.
- The dash is secured in place with screws. Mount the foot first, where the dash connects to the floor, and then mount the other screws around the dashboard. When drilling the screws it is important not to drill too deep into the floor, as it is possible to hit other cables. Moreover, if you drill too deep on the cockpit side, you will drill right through to the other side of the fuselage.
- When the dash is mounted, remove the front panel with the switches and the instruments. Then finish the wiring for the individual instruments using the pictures below and the diagram in Appendix 11.



- Now reconnect the left nose wheel cable to the balancing bracket and its corresponding spring to the ring bolt. You might need an extra hand to help connect the other nose wheel cable. It involves pushing the already installed spring while pulling the new one and slipping a bolt into the balancing bracket.

