

## Preamble

This document describes how to install an AXI2216-16 F5J motor into a SAMBA Prestige PK<sup>2</sup>pro nose cone.

Due to the limited space, it needs sophisticated skills to mount the motor with its rotating stator into the cone without touching the wires from the rotating stator. By help of a few 3D printed tools this is much easier accomplishable.



Figure 1: AXI2217-16



Figure 2: Prestige PK<sup>2</sup> pro nose cone

### Cross section view

Showing the mounted motor and supporting parts it is easy to see how the motor is assembled into the cone.

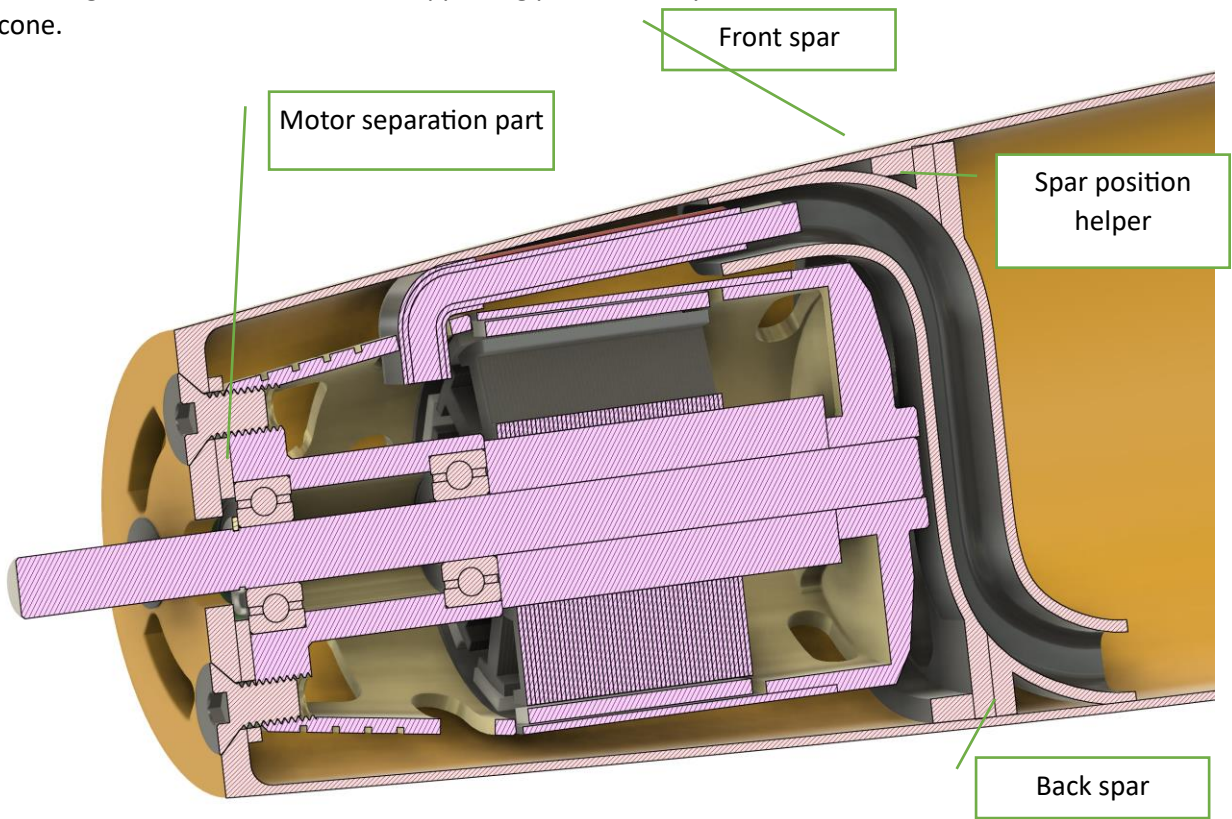


Figure 3: Prestige PK<sup>2</sup> pro nose cone with assembled motor and supporting parts, spar, cable

### Step by Step assembly instructions

Drill the 4 motor mounting holes into the nose cone

Using the motor mount template part as a guide it is easy to mark the holes on the motor spar as well as the cooling slots (optional).

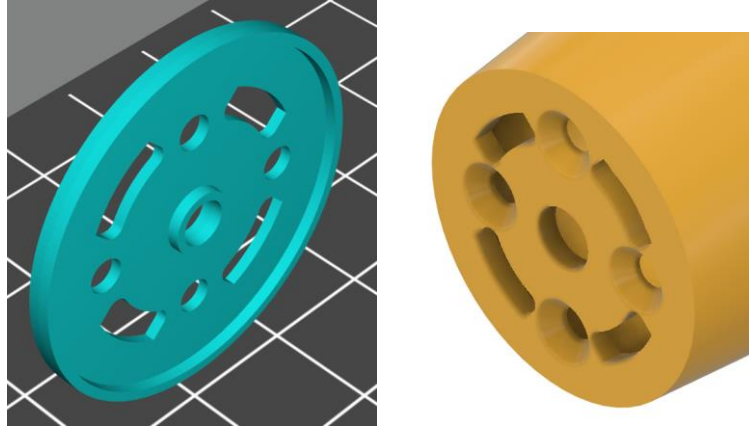
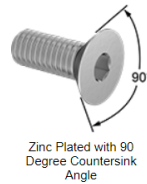


Figure 4: Motor mount template part



Because we have to use Metric M3x6mm

screws the 4 holes need also a countersink.

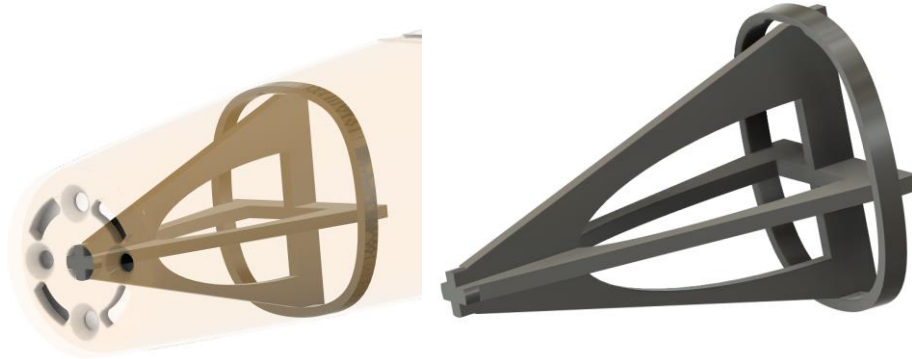
Place the spar position ring into the nose cone

This ring is used to accurately place the spar into the nose cone and needs to be glued into des nose.



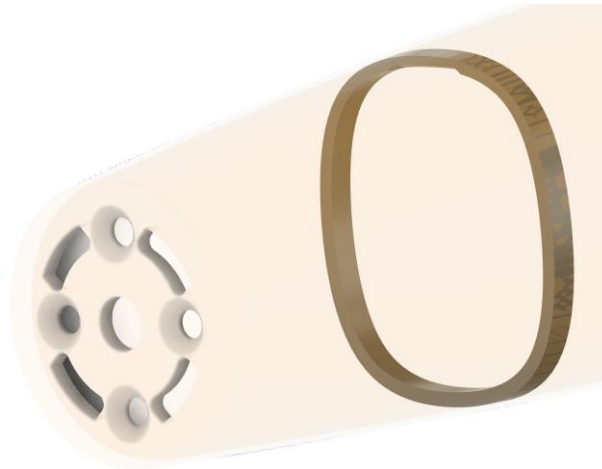
Figure 5: Spar position ring with helper tool for positioning

First place the ring onto the helper tool as shown below. This allows to position the ring into the nose cone. Feed this from back opening to the location needed. The round tip fits into the motor axle hole in the nose spar.



*Figure 6: Spar position helper tool with attached spar position ring*

After correctly positioned the ring with the tool glue the ring into the nose cone. Then remove the helper tool



*Figure 7: Spar position helper tool mounted in nose cone*

Combine 2 wire guiding parts together

These parts are 3D printed separately and need glued together.

*If it is hard to insert the 3 cables into the resulting tunnel it is also possible to place the cables beforehand and then glue both parts together. Try not to glue the wires to allow position them within this frame.*



Figure 8: combined 2 into one wire guidance frame

Try to fit the frame into the nose and adjust outer diameter accordingly.

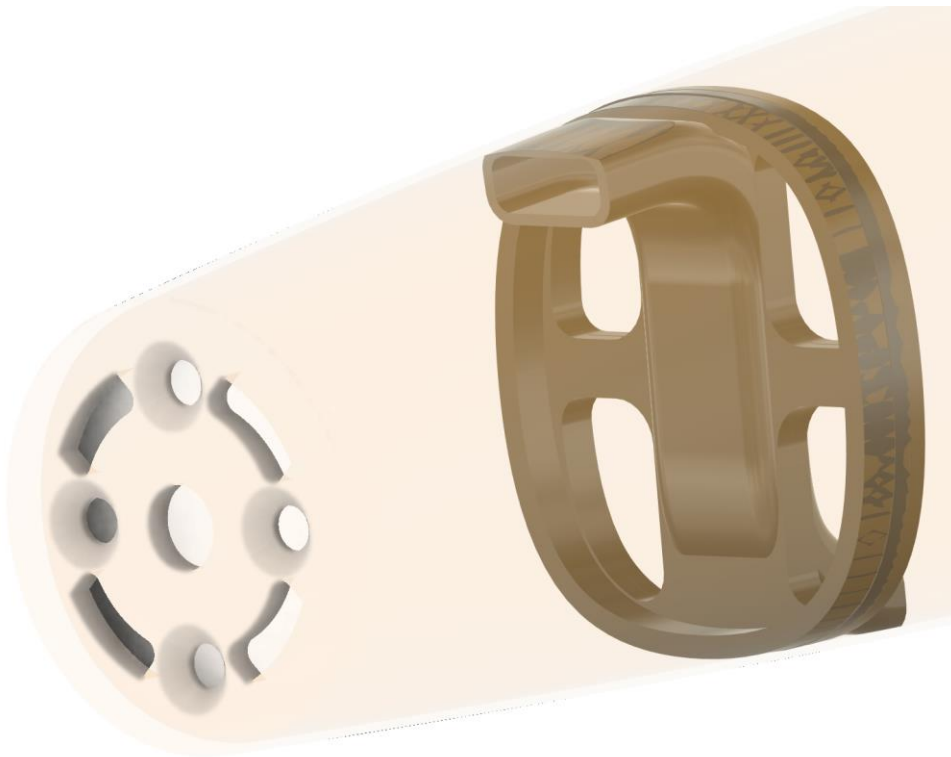


Figure 9: Wire guidance frame positioned within the nose cone



### Mount wire guidance frame

Feed the 3 wires into the tunnel as shown below with a gap between rotor and frame.

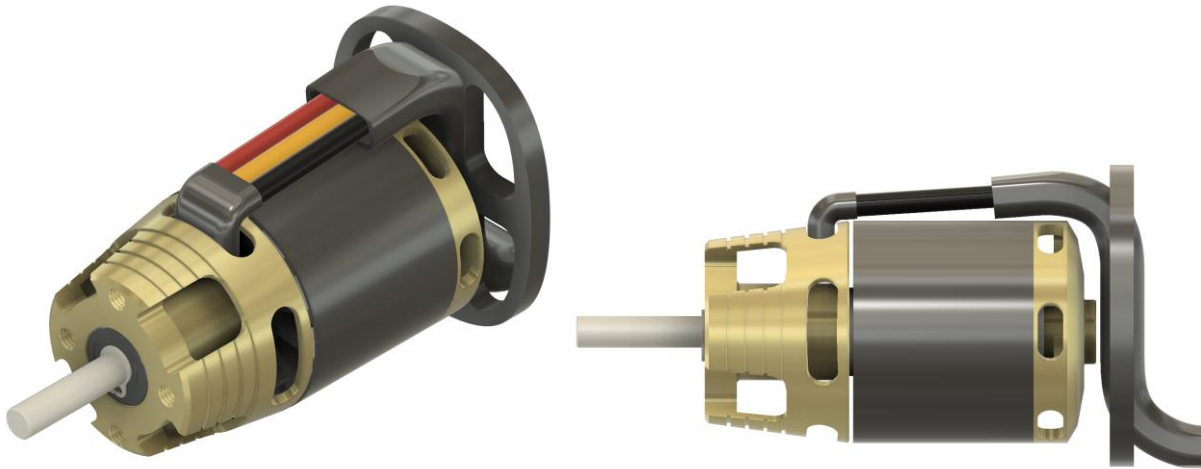


Figure 10: combined 2 into one wire guidance frame

Attach the motor spar separator to the motor with a few glue drops.

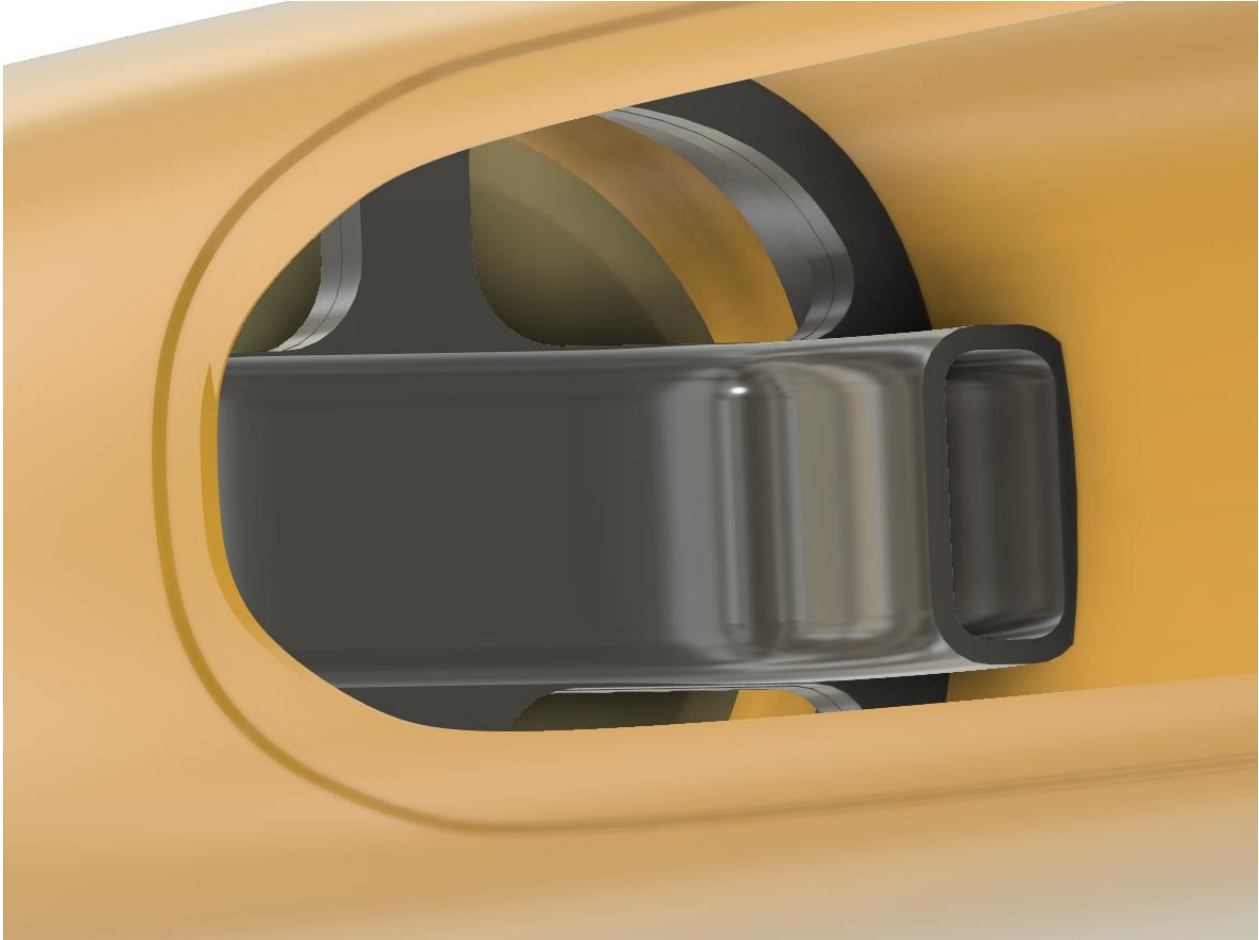
This separator is necessary for giving room to the retaining ring on the motor axle.  
You may also attach the separator to the motor spar but this is more complicated.



Figure 11: mounted motor unit ready to place into nose cone

Slide the motor unit into the nose cone

After attaching the ESC to the 3 motor wires you may slide this unit into the nose cone and screw with 4 screws onto the motor spar.



*Figure 12: view through the nose opening from back*

Final works

- Due to friction the frame is hold in position but can be also glued at a few points only.
- The tube coming out of the motor may need a bit of trim to let it sharply bending

Finish pictures



Figure 13: ready assembled motor unit before placed into nose cone



### Attached files

Attached are necessary 3D print files

 Beilage	stl	137 k	15.09.2023
 Hilfstool	stl	66 k	22.09.2023
 Schablone	stl	220 k	15.09.2023
 Spant	stl	1 117 k	18.09.2023
 Spant v	stl	1 560 k	18.09.2023
 Stützspant	stl	213 k	22.09.2023