

# Corvus Racer 540

## 88-125cc

### Item No: A-G100006

#### Specs:

WING SPAN: 108" (2740mm)  
LENGTH: 99" (2510mm)(not including spinner)  
WING AREA: 2111sq in (136.2sq dm)  
FLYING WEIGHT: 25.3-28lbs (11500-12800g)  
ENGINE: 88cc-120cc gas  
RADIO: 4CH/6-9S

#### Description

Covering Material: Genuine Oracover  
Carbon Fibre: Spinner, wing tube and sleeves, landing gear, tail gear;  
Fibreglass servo arms, horn and reinforced U/C mounting  
Fiberglass servo arms and horn;  
Built-in tuned pipe or canister tunnel;  
Pre Plumbed Tank  
Removable Wings, Stabs and Rudders;  
Carbon fibre rods to make the wings and fuselage light weight and strong;  
PU Wheels; Adjustable pushrods;  
Two piece clamshell cowl, Ringed Cowl  
Extra covering provided for small repairs  
Pre drilled hinges

#### 2 Colour schemes



A-G100006A  
CUB YELLOW: ORACOVER 21-032  
BLACK: ORACOVER 21-071  
WHITE: ORACOVER 21-010  
SILVERY: ORACOVER 21-091



A-G100006B  
CUB YELLOW: ORACOVER 21-032  
BLACK: ORACOVER 21-071  
SILVERY: ORACOVER 21-091

## 88-125cc Corvus Racer 540

Congratulations on your purchase of your new AeroPlus Rc Corvus Racer 540. This plane has been designed to be one of the lightest and highest performance aerobatics planes anywhere. We hope that you will enjoy this plane and will exceed your expectations in what a model airplane can be.

Thank you,  
AeroPlus Rc

### Unpacking -

Carefully unpack the model, when opening the plastic bags make sure you do not to cut any covering on the model. Inspect each item to make sure there was no damage in shipping. If for any reason you are not happy with any part or are unsure please contact the Dealer that you purchased from.

### Covering -

Because of the multiple climate zones encountered on the trip from the factory to you, some of the covering may have wrinkles. We highly recommend that you take time to re-seal all covering edges with an iron and to use a heat gun to remove any wrinkles and re-tighten the covering. It is best to do this now while before the plane is assembled.

*\*Note: Be careful not let any heat get near parts like the canopy or cowl as this may cause damage.*

### Assembly Tips

We also recommend that you go over all the accessible joints with cyano glue. Wick glue into areas of high stress around the U/C plate and motor box.

Use a quality Thread-lock on all metal to metal joints. Even if your model is electric powered with lower levels of vibration the thread-lock will ensure that things do not fall off of your airplane!!

## Landing Gear Assembly

To prevent damage to the fuselage while the airplane is assembled we recommend fitting the landing gear first.

*Note: Before starting ensure all of your parts are include.*

### Parts

CF Landing Gear

2 x wheel pants

2 x wheels

2 x axles

4 x collets

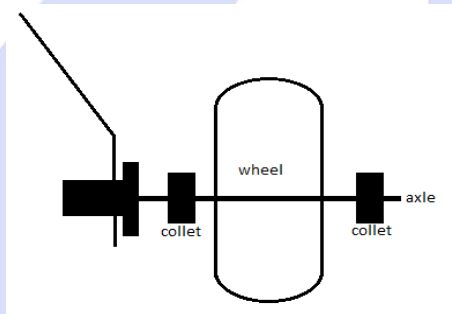
4 x M5 bolts



1. First Push each axle through the large holes and tighten up using 2 wrenches 13mm



2. Next Place a collet on the axle followed by the wheel, then another collet on the outside as per the below diagram.



*Note: Do not tighten up the collets yet as the wheel needs to be fitted so there is an equal distance within the wheel pant.*

3. The Landing gear rakes forward so use the correct wheel pant per side. Put a small amount of thread-lock onto the 2 x factory fitted blind nuts on the wheel pant.



4. Fit the wheel pants over the wheel assembly and secure with 2 x cap head bolts.



5. Now line up the wheel in the center of the wheel pant opening and tighten the collets. Remember to use thread-lock on the set screws and to make sure the wheel can move freely.

## Rear Stab

1. Now glue the control horns into the elevators.
  - a. First use a sharp hobby knife to remove the covering from the slots.



- b. Before gluing the area on the horns that goes inside the elevator needs to be roughed up with sandpaper. This allows a better glue joint.



- c. Using Epoxy now glue the two control horns into their respective places.

*Note: it is highly recommended to install a ball joint in between the control horns to maintain proper spacing during gluing.*

*Note: also please take care to make sure the linkage whole in the control arm is on the hinge line.*

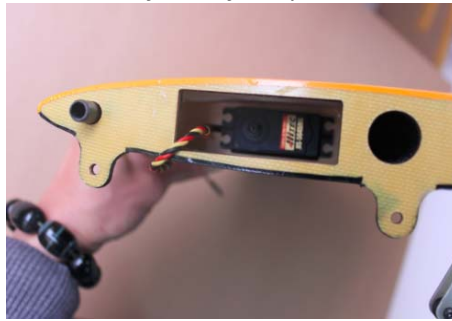




2. Installing the elevator servos.

- a. First test fit the servo into the servo mount. Some trimming may be required.

*Note. Servo fits so spline is towards the front of the plane.*



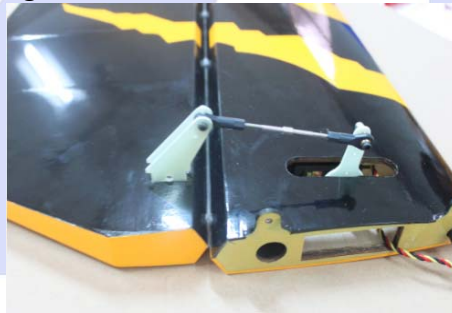
- b. Now pre drill the servo mounts with a 1/16 drill bit, then secure the servo into the servo mount with servo hardware.

- c. Next remove the servo and use thin C.A. glue to reinforce the threads. After the glue is dry reinsert the servo.

*Note. Depending on servo arms used it may be necessary to install arm before reinstalling the servo.*



- d. Next install the servo linkages.



3. Extensions

- a. Thread a 36" servo extension through the tube in the plane to the openings near the elevator.



- b. Connect the servo to the extension but be sure to use a servo clip or a piece of heat shrink to ensure it does not become disconnected during flight.



#### 4. Installing Elevator Halfs

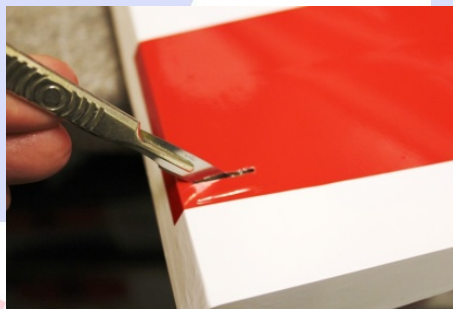
- a. Install the small carbon tube into the fuselage.
- b. Slide the Elevator Half onto the tube.  
*Note: make sure the servo wire goes cleanly inside the fuselage and is not pinched.*
- c. Attached the elevator half to the fuselage with the provided hardware.  
M3×12 inner hexagon screw & M3 wrench



5. Repeat the process for the other elevator half.

#### Rudder

1. Remove the covering where the rudder horns push through with either a hobby knife or soldering iron.



2. Test fit the rudder horns  
*Note: Be sure the rudder horns are equal on both sides and in line with the hinge point this is very important!*



3. Sand the area on the horn that fits inside the rudder so the glue bonds better.



4. Attaching the rudder.
  - a. Insert the easy removal pin into the pin hinges.



5. Glue the rudder horns in the rudder with epoxy; wipe off excess glue while it is wet.  
*Note: Use the ball joint and bolt while gluing to maintain alignment.*  
*Note: While still movable measure that the same amount pushes out each side. Care needs to be taken here otherwise your rudder geometry will be incorrect.*



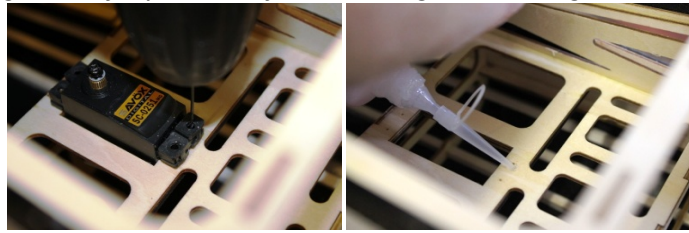
6. Installing the Ruder Servo
  - a. If using the included ruder arm assemble the rudder servo control arm as below, drill holes for screws and use C.A. glue to stop the nuts from coming loose.





- b. Fit the rudder servo and drill holes using a 1/16 drill bit for the servo screws, then drop thin C.A. glue into the holes to strengthen the wood.

*Note: be sure the glue has fully cured before installing the servo again.*



- c. Using servo screws fix the servo in place, note the spline is towards the front of the plane.



## 7. Installing the ruder cables

- a. Thread the cables through the fuselage from the ruder to the servo tray
- b. Loop the cable through the crimp and attachment point as shown below.



- c. Crimp the cable using a pair of plies then trim cable.



- d. Repeat this at the ruder end.

*Note: be sure the cables are taut but not over tight.*





## Tail Gear

1. Locate all parts in picture below, when assembling remember to use thread-lock on all parts
2. Assemble gear according to photograph.



3. Screw the tail gear to the fuselage with the three supplied bolts



4. Next check placement of tiller rod.
5. Before gluing in till mount be sure to slip tiller mount over tiller rod.

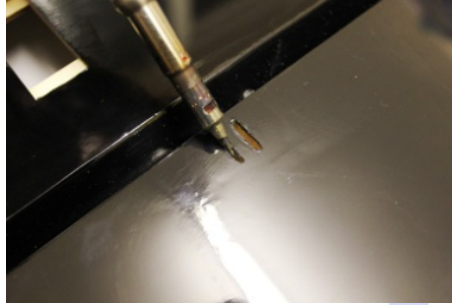


6. Glue in tiller mount and tighten tiller rod.



## Wings and Ailerons

1. The ailerons on the wings are pre-glued. Check each one by gently pulling to make sure that they are secure
2. Installing aileron control horns
  - a. Remove the covering where the aileron horns are glued in place. Use either a soldering iron or a sharp knife



- b. Using sand paper rough the area that will be glued into the aileron.



- c. Glue both horns in with epoxy glue.  
*Note: be sure to install a ball link to insure correct alignment when gluing*



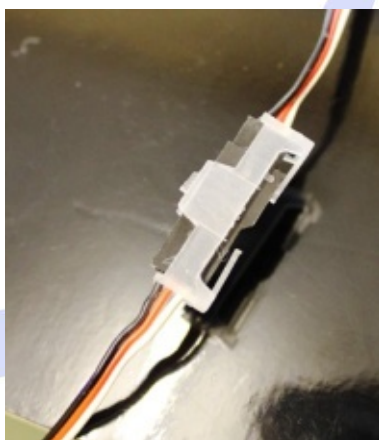
- d. Repeat for all 4 aileron control horns.
3. Install Aileron Servos
  - a. First test fit the servo into the servo mount. Some trimming may be required.  
*Note. Servo fits so spline is towards the front of the plane.*
  - b. Now pre drill the servo mounts with a 1/16 drill bit, then secure the servo into the servo mount with servo hardware.



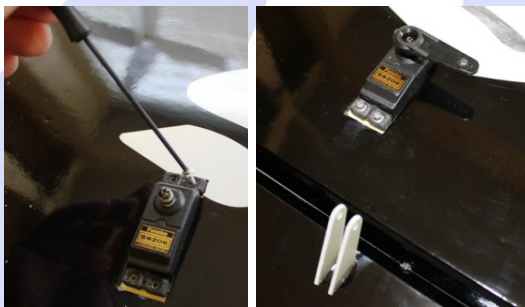
- c. Next remove the servo and use thin C.A. glue to reinforce the threads. After the glue is dry reinsert the servo.



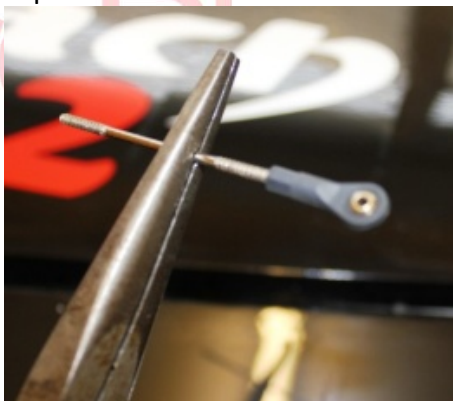
- d. If required install a servo extension lead onto the servo, remember to use a servo plug clip or heat shrink



- e. Fit the servo and centre the servo arm.



- f. Using the supplied pushrod screw a ball-link onto each end.





- g. Using the supplied bolts attach the pushrod at both ends. Check to see you have sufficient movement of the aileron. If not adjust.



- h. Repeat on other wing

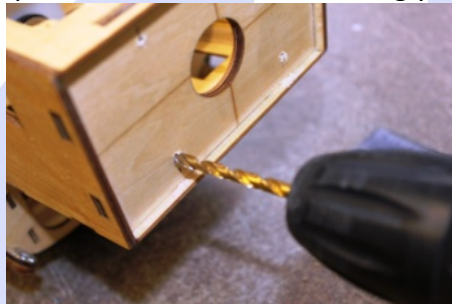
*Note: On wings using two servos be sure the servos are not binding. If they are you may have to adjust linkages or use a product such as a match box*

## Gas Engine installation

1. Using the template that came with your chosen engine, using the cross axis on the engine box to mark the mounting holes.



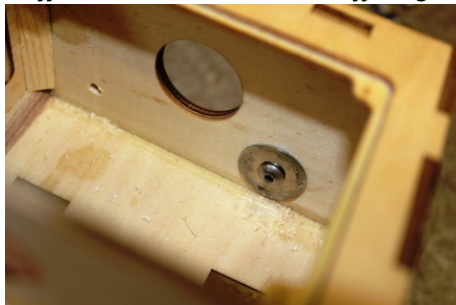
2. Check the diameter of the required bolts and drill accordingly.



3. Mount the engine with the stand offs to the bulkhead. Remember to use large washers on the inside to spread the load and use plenty of thread-lock.

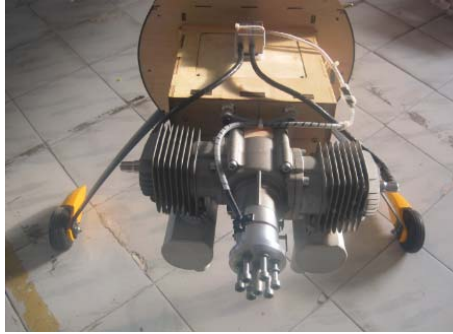
*Note: Depending on what engine is used you will need different length standoffs to get correct space in the cowl*

*Note: To determine the standoff length needed measure the distance from the bulk head to the cowl ring plus a little clearance. Then subtract the distance from the front up the engine hub to the back plate of the engine. The difference will be the standoff length needed.*





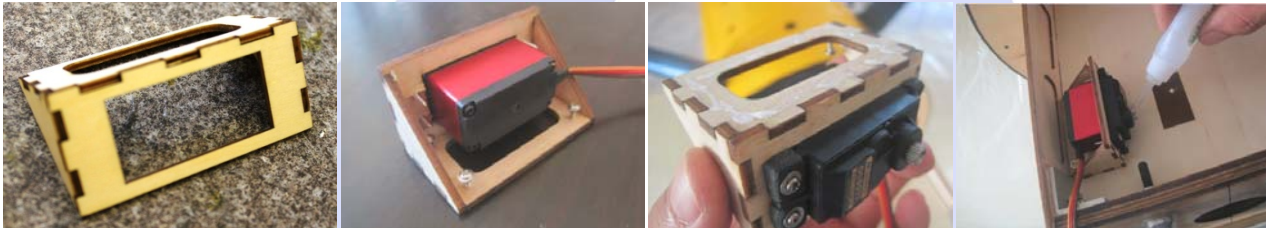
4. Exhaust options. The plane is equipped with a pipe tunnel so it will accommodate many kinds of exhaust including stock, cans, and pipes.



5. Cutting cowl for exhaust and airflow. Mark the area needed to be removed and cut out using a rotary cutting tool.
- a. You will need to cut the cowl accordingly to clear your chosen exhaust. Remember to start wholes small and work them until it fits.
  - b. To make sure the engine stays cool. Ensure that enough air can get out of the cowl. The ration is usually 3 to 1. With the exit being 3 times large then the intake.
6. The fuel tank is pre-installed. Attach gas proof tube such as Tygon according to the labelling on tank



7. Use the supplied pushrod with a ball joint to connect to the throttle arm on the engine. Then find a convenient place to locate the throttle servo using the supplied mount.



8. Install the engine box cover plate once all connections have been made for the engine.



9. Mount the engines ignition to the motor box on radio foam to reduce vibrations.

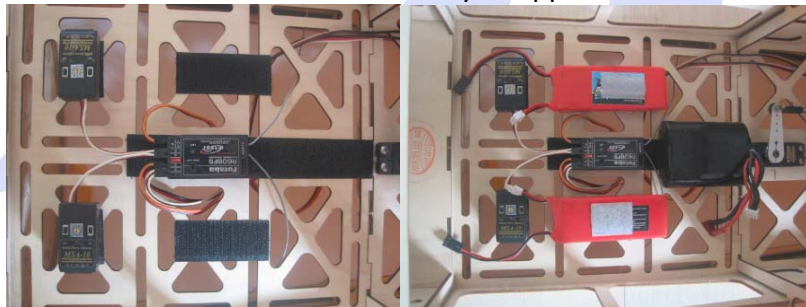


## Radio Gear

1. On each side of the fuselage near the canopy bolts are areas for switches to be mounted.



2. A convenient place to mount the RX is just in front of the rudder servo. Ensure that it is mounted on Velcro or radio foam and securely strapped down.



## Canopy Attachment

3. The canopy is held in place with the 4 screws, ensure these are tight before flying



## Before you fly!

We highly recommend the use of both dual rates and exponential. This will allow the model to fly both precision and 3D at the flick of a switch.

### Suggested Set up

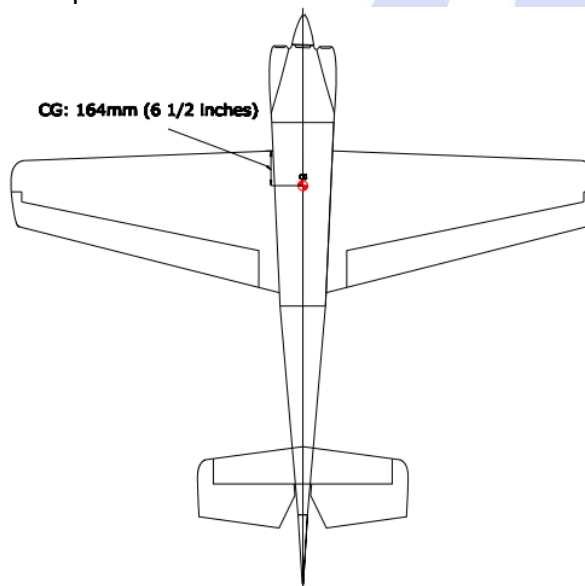
|          | Low Rates | Exponential | High Rate | Exponential |
|----------|-----------|-------------|-----------|-------------|
| Elevato  | 15-20 deg | 15-20 %     | 35-45 deg | 30-60 %     |
| Ailerons | 15-20 deg | 15-20 %     | 35-45 deg | 30-60 %     |
| Rudder   | 25-30 deg | 15-20 %     | 35-45 deg | 30-60 %     |

For your maiden flights always use low rates, Also please remember that + and – exponential is different per manufacturer, check your TX manual.

Always range check your model before the maiden flight. Carry out a short flight then go over everything to make sure nothing has come loose.

### CG Location

We suggest for initial test flights set the CG 164mm or 6 ½ inches from the leading edge of the wing. Adjust after first flights to personal preference.



# AeroPlus RC



