



STOLX



TA HORIZONS 40" STOL X ASSEMBLY INSTRUCTION MANUAL

Technical Data-

Wingspan : 40"

Length : 35"

AUW : 320-350g

(Depends upon the setup used)

Setup Recommendations (Not Included)-

Motor : 25-40G 1100-1500KV Outrunner

(T-Motor AM40 Recommended for Super Light Setup)

ESC : 20 amp

Servos : 4Pcs 9gms each

Propeller : 9-10" electric

Battery : 850-1000Mah 3S Lipo



WARNING INFORMATION & SAFETY INSTRUCTIONS

Website: www.tahorizons.com

Email: tahorizons@gmail.com

Thank you for choosing TA Horizons. **Please read the entire manual thoroughly before you begin to assemble this model.** If you have any questions, please contact us aforementioned email address.

This R/C airplane is not a toy! Read and understand the entire manual before assembly. If misused, it can cause serious damages to life and property. Fly only in open areas. If you are not an experienced pilot and airplane modeler you must take the help of an experienced pilot or an authorized flight instructor for the building and flying of this model aircraft.

These instructions are suggestions only on how to assemble this model. There are other ways & methods also to do so. TA Horizons has no control over the final assembly because it specifically depends upon the knowledge and experience of the person involved directly in its handling, or the manner in which the model is assembled, radio gear installed, and electronic parts are used and maintained. Thus, no liability is assumed or accepted for any damages resulting from the use of the assembled model aircraft. By the act of using this user-assembled product, the user accepts all the resulting liabilities. In no event shall TA Horizons' liability exceed the original purchase price of the kit.

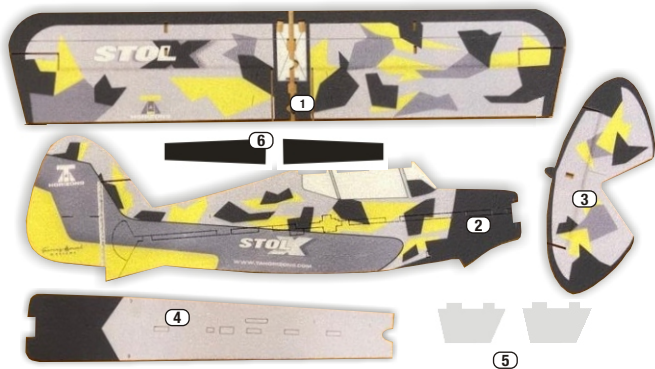
The user is advised to comply with all local laws and regulations. TA Horizons will have no responsibility over the user assembled product and its end use. TA Horizons has the right to change any content on the website, product information brochure, or the manuals, at any point of time without any prior notice.

TA Horizons checks each plane before shipping to ensure that each kit is in fine condition. We have no bearing on the condition of any component parts damaged by use, modification, or in assembling of the model. Inspect the components of this kit upon receipt. If you find any parts damaged or missing, please contact TA Horizons immediately. We will not accept the return or replacement of parts on which assembly work has already begun.

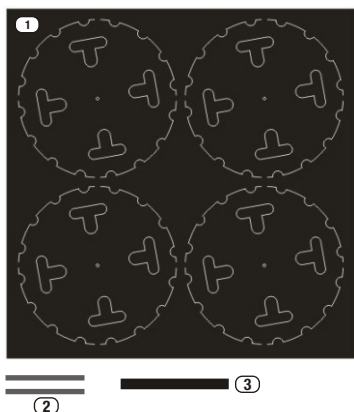
Our goal is to bring to you the best in quality and state of the art radio controlled aircrafts. For those who demand the ultimate in precision, or for those who are just a weekend flyers and want to feel good about their flights, our planes are in development from many months and tested to ensure that these aircrafts will give you the best possible performance. We sincerely hope that our products can provide the same thrill to you that we experience in this hobby.

Kit Contents

1. EPP Parts



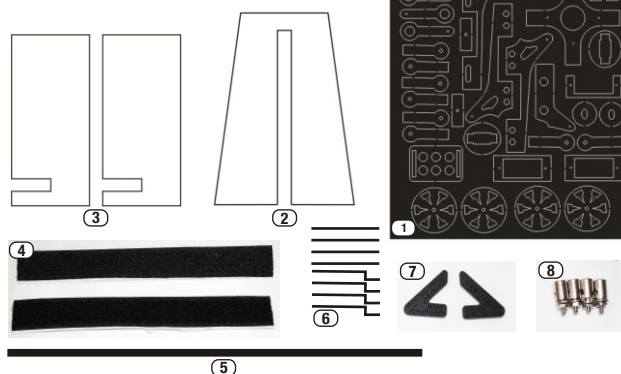
3. HD EPP Wheels



EPP Parts

- ① Fuselage
- ② Wings
- ③ Horizontal stabilizer
- ④ Horizontal profile section
- ⑤ Wing truss supports X 2
- ⑥ Landing gear cover

2. Hardware / Small Parts



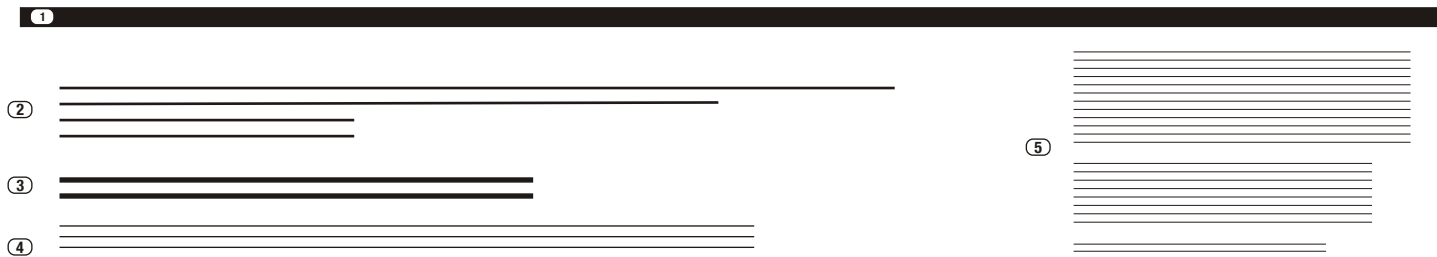
Hardware Parts

- ① Polycarbonate parts
- ② Fuselage assembly jig
- ③ Wing assembly jig X 2
- ④ 150mm velcro
- ⑤ 25cm heat shrink tube
- ⑥ Z bends & straight wire X 4
- ⑦ 3D printed wheel bracket X 2
- ⑧ Pushrod stoppers X 4

HD EPP Wheels

- ① HD EPP wheels X 4
- ② 50mm Metal Wire
- ③ 60mm CF strip

4. Carbon Rods / Strips / Tubes



Carbon Rods / Strips / Tubes

- ① 6X1.5mm 1000mm L CF wing spar
- ② 1.5mm CF Control rods
RUD 430mm L X 1
ELE 330mm L X 1
AIL 120mm L X 2
- ③ Undercarriage sq.tube
D 2x3mm L 225mm X 2
- ④ Wing Truss Rods
L 330mm D 1.2mm X 4
- ⑤ Fuselage truss rods
150mm L 1.2mm D X 12
120mm L 1.2mm D X 8
100mm L 1.2mm D X 2

Please Note: After removing kit from shipping box, lay each piece flat on a hard surface, this will allow the airframe to straighten out if lightly bent from shipping. Do not worry since EPP is very pliable and can be bent back if out of shape. Double check that you have all the above pictured items. If any of the airframe or hardware items are missing, contact TA Horizons before starting your build.

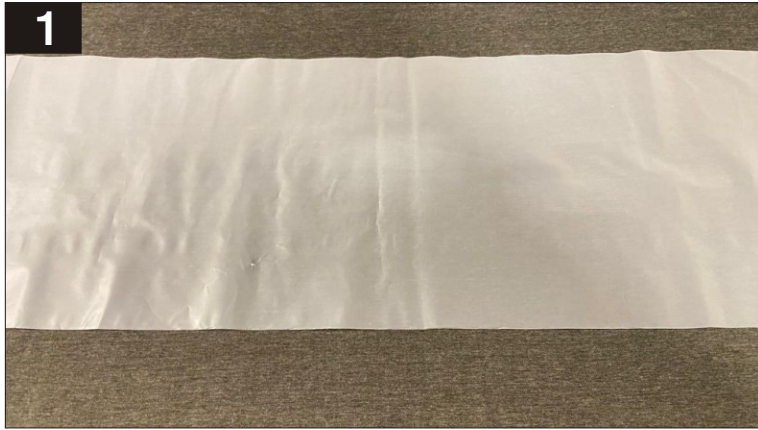
TOOLS AND BUILDING MATERIAL REQUIRED

- Heat Gun
 - Tape Measure and Ruler
 - Black Sewing Thread
 - High Viscosity CA
 - CA Spray Activator
 - Hobby Knife w/new Blade
 - Needle Nose Pliers
 - Wire Cutters
 - Low Temp Hot Glue Gun
 - Scissors
 - Small Phillips Screw Driver
 - Thin CA
 - Allenkey
-

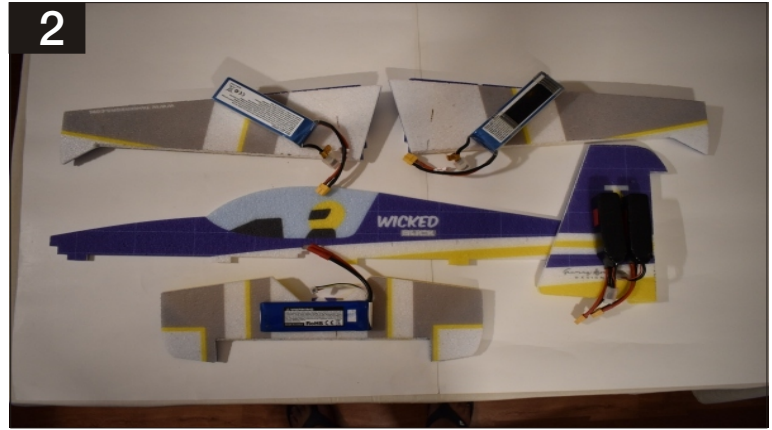


The Build

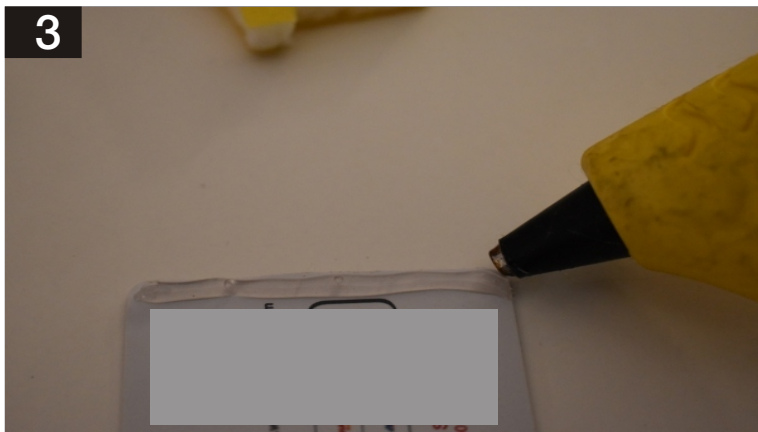
Please Note: Few pictures shown below are of different plane and for reference purpose only.



1. Building surface should be at least 2ft x 4ft and flat, Use a wax paper over the surface to avoid sticking EPP on it when gluing.



2. (This is mandatory step) locate the hinged items as shown above, Bend them back on to each other as shown and let set for at least 2 hours. This will help to loosen up the movement of the surface.



3. Make a neat line of hot glue over any old credit Card and spread it over the hinge line show in the Next picture.



4. It is very important to put glue on card first and then Spreading a thin layer over the hinge line otherwise If put directly over foam you might end up melting EPP.



5. It is not required to put glue all the way to hinge line Just a inch of glue on both inboard and outboard of the Surface will do the job.



6. Optionally one can clean up the rough edges using the sharp knife for better cosmetic finish.

The Build

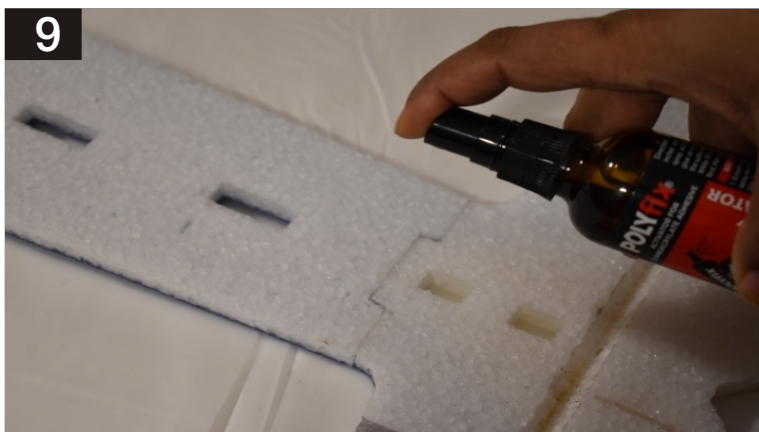
Please Note: Few pictures shown below are of different plane and for reference purpose only.



7. Lay down the shown parts on the flat surface with wax paper on it and glue it together using the HV cyano and spray activator (Polyfix HV CA recommended)



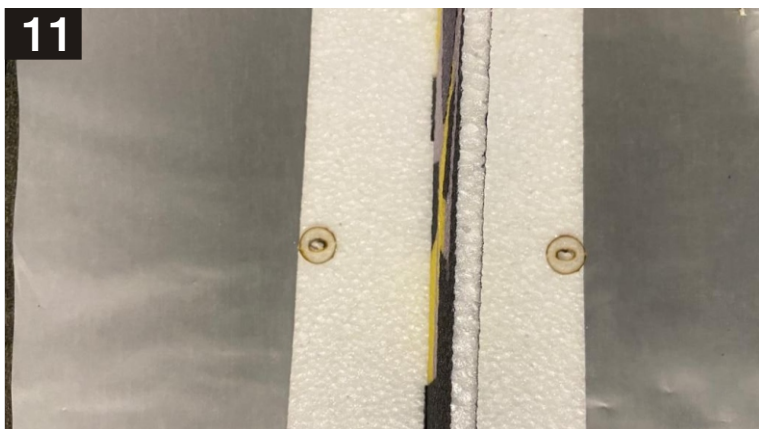
8. Apply a thin layer on gluing surface.



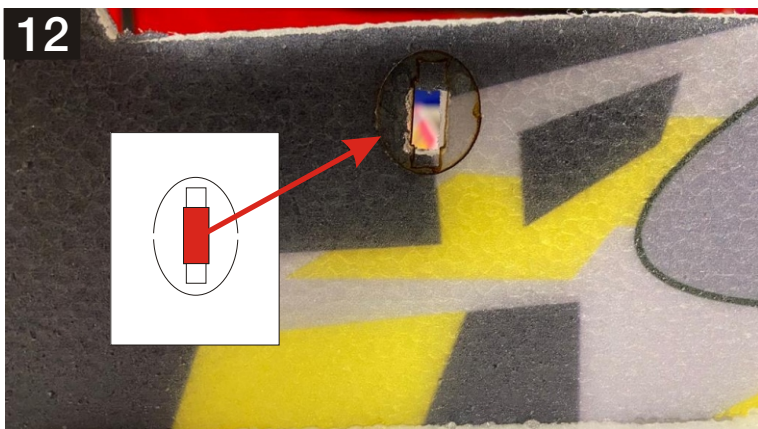
9. Use a spray activator (Kicker) to cure it.
(Do not touch the EPP Surface for Few Seconds After Spraying otherwise it will Result Damaging the paint Surface)



10. Apply a thin layer of HV CA to the mating surfaces of the lower vertical fuselage. Bring the two pieces together. You will have a little time to work with and adjust for squareness



11. Put a drop of HV CA over the joints and spray everything together.



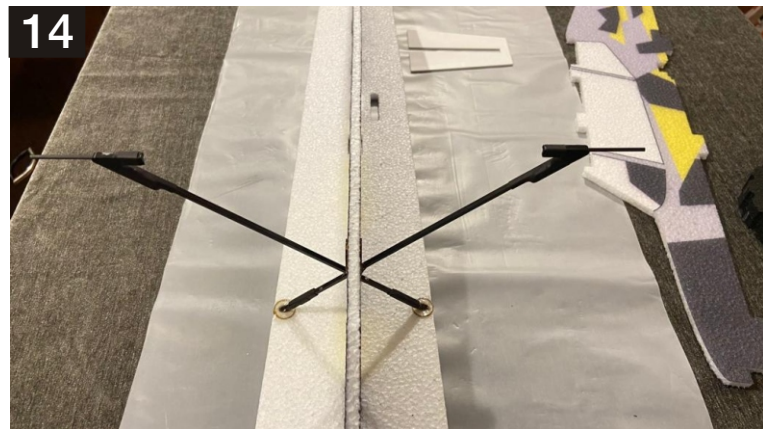
12. Glue the shown parts over the precut slots using the HV CA and cure everything together using the kicker. Match the shown red area with the precut slot in the EPP

The Build

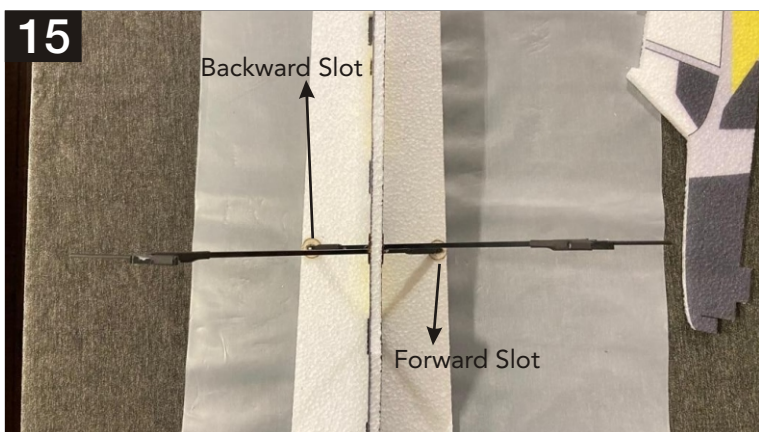
Please Note: Few pictures shown below are of different plane and for reference purpose only.



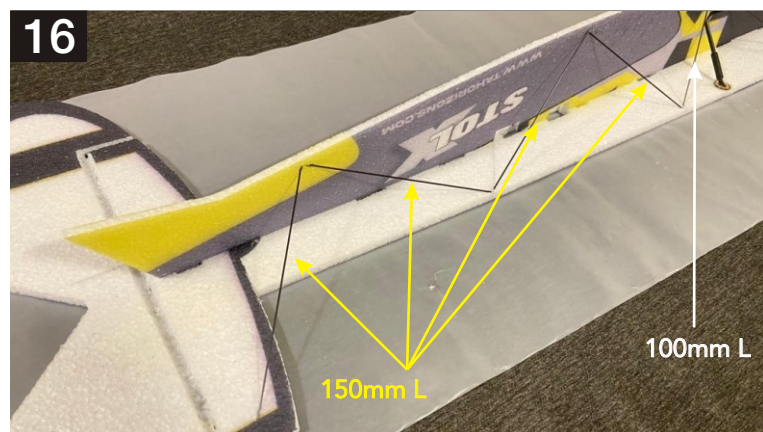
13. Here the supplied (3mm dia 225mm) tube and (2mm dia 50mm) metal wire wheel shaft are glued and heat shrunk on the wheel bracket.



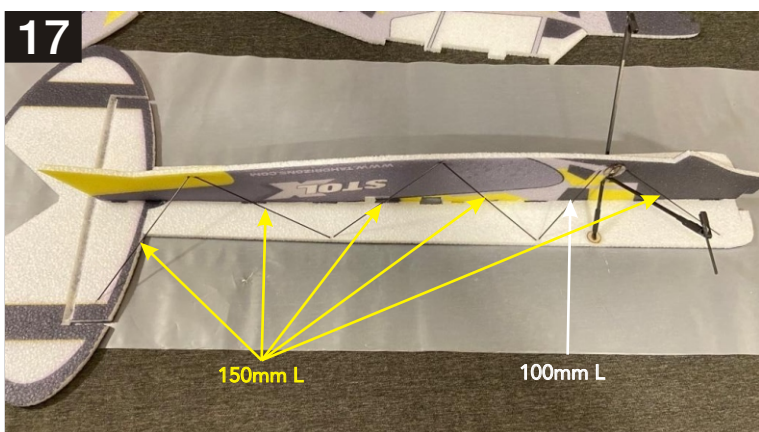
14. Install the undercarriage that we have prepared like shown in the above image.



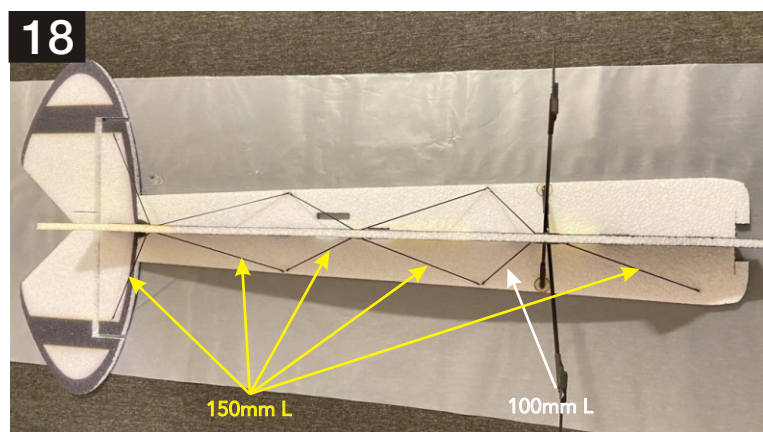
15. Positioning of UC slots is with 3mm difference. Take reference from the above picture for installation, make sure the wheel shaft is perpendicular to the fuselage.



16. Rods bracing the fuselage are 1.2mm dia 150mm/100mm L. Please refer to the above image for reference.



17. Carbon rod needs to sit couple of mm into the foam before gluing, Just put a small drop of HV Cyno to glue it.
(Please Refer to above image for the reference)



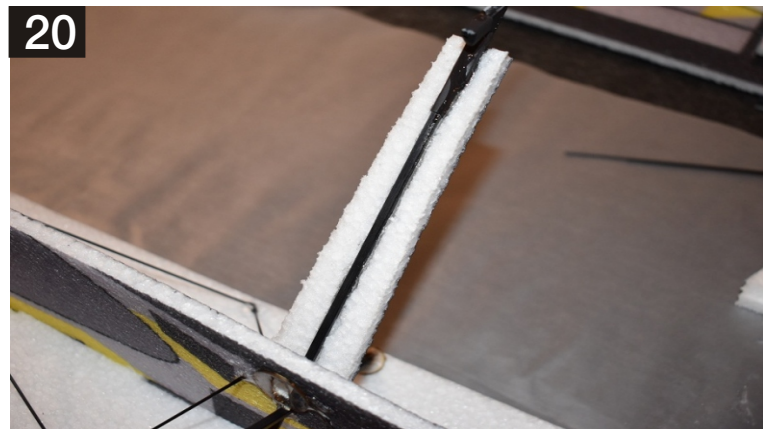
18. Here is another view of fuselage truss.

The Build

Please Note: Few pictures shown below are of different plane and for reference purpose only.



19. Locate the landing gear cover, make a V channel using the sharp knife shown in the above image. (On Non-Printed side)



20. Glue it over the landing gear using the HV Cyno



21. Spread a thin layer of HV CA over the supplied HD EPP Wheels.



22. Join 2 wheels together like shown in the above image.



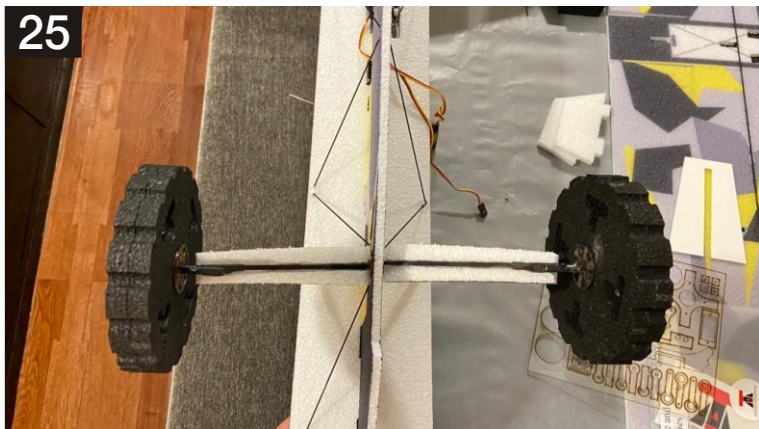
23. Glue the center rim over the wheels with center hole aligned using HV CA (Do it for both the sides of wheels).



24. Install the wheel over the shaft, make sure it is spinning freely, after this slide in the wheel stopper, Put a small drop of HV CA over the shaft and wheel stopper joint.

The Build

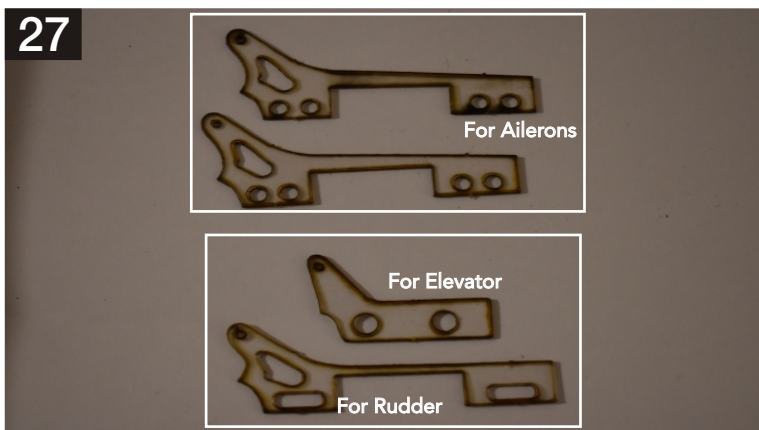
Please Note: Few pictures shown below are of different plane and for reference purpose only.



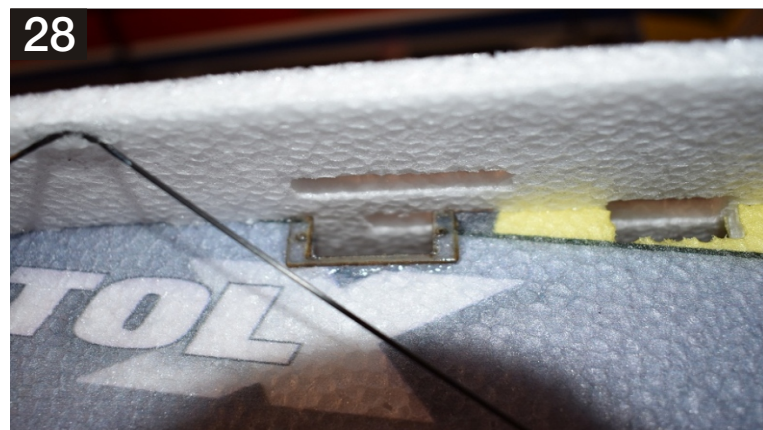
25. Here is the image showing both the wheels slid in and locked using the stopper.



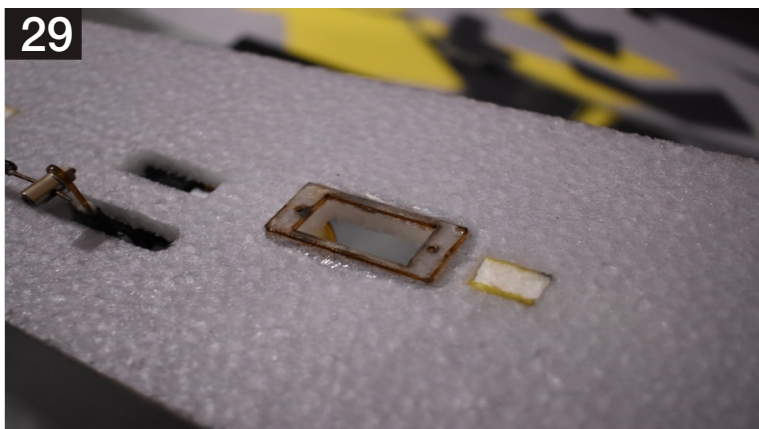
26. Now as we got the plane standing on its own, time to add the servos.



27. Locate the servo trays and control horns, Please refer to above image for selecting control horn for specific control surface.



28. Glue the elevator servo tray shown in the image over the precut servo slot using HV CA.

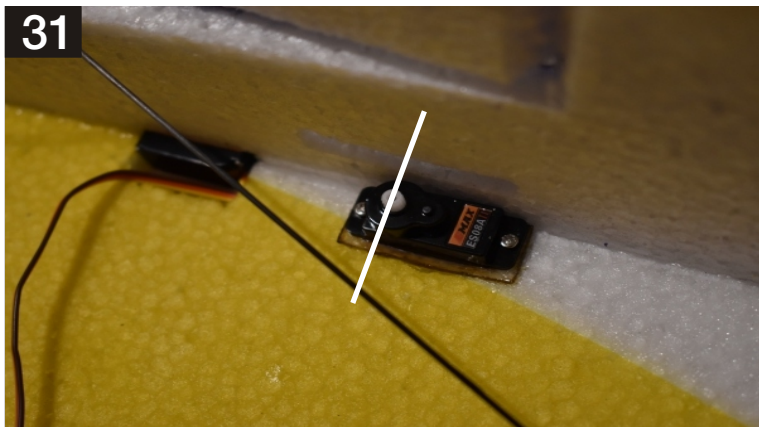


29. Glue the rudder servo tray shown in the image over the precut servo slot using HV CA.



30. Glue the elevator horn shown in the image in the precut control horn slot using HV CA. Make sure it sits right to the bottom of EPP Surface.

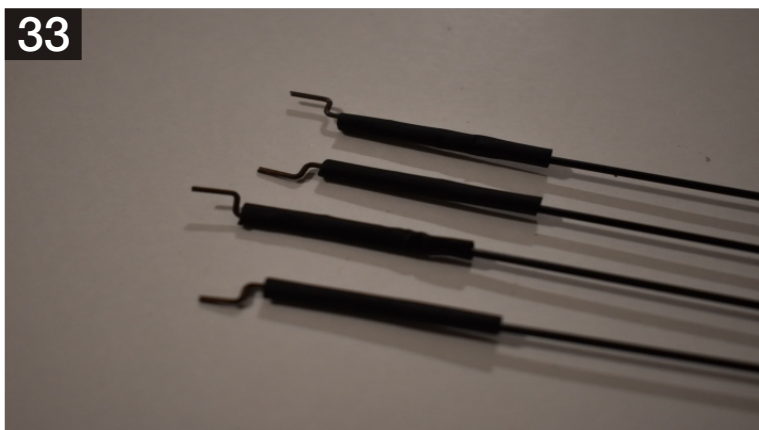
Please Note: Few pictures shown below are of different plane and for reference purpose only.



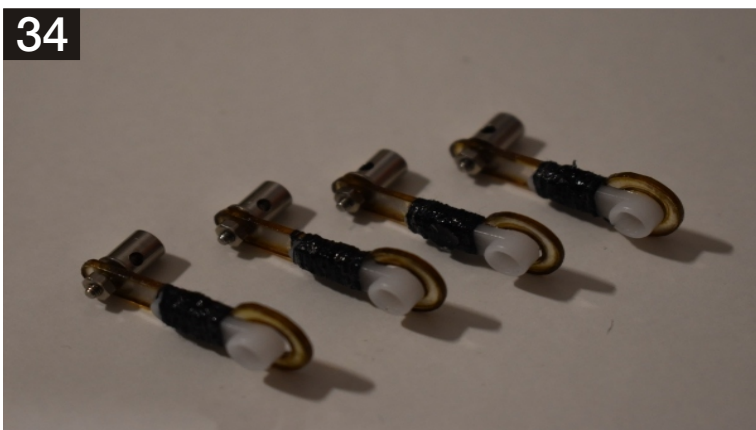
31. Screw the elevator servo in a direction in which the arm hub matches the center line of pre cut elevator arm slot.



32. 47. Install the Z Bends on one side of all 4 control rods using the thread and thin CA.



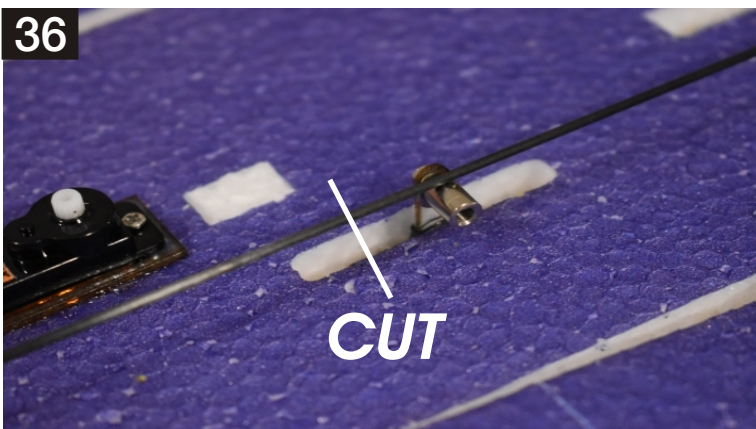
33. Cut about a inch of 2.5mm heat shrink tube and install over the joints that we have done using the thread and CA.



34. Locate the servo arm extenders (4x single) Install the extenders over the stock plastic servo arms using the sewing thread and thin CA.



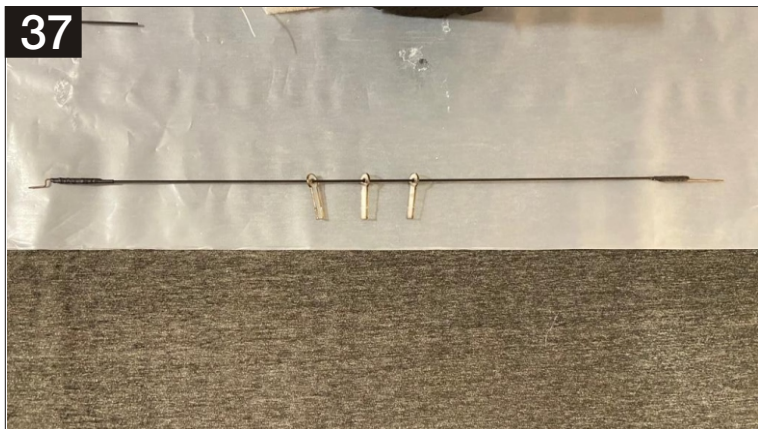
35. With the jig in place, dry fit the control rod, cut it out 1 cm before it meets the push rod stopper.



36. With the jig in place, dry fit the control rod, cut it out 1 cm before it meets the push rod stopper.

The Build

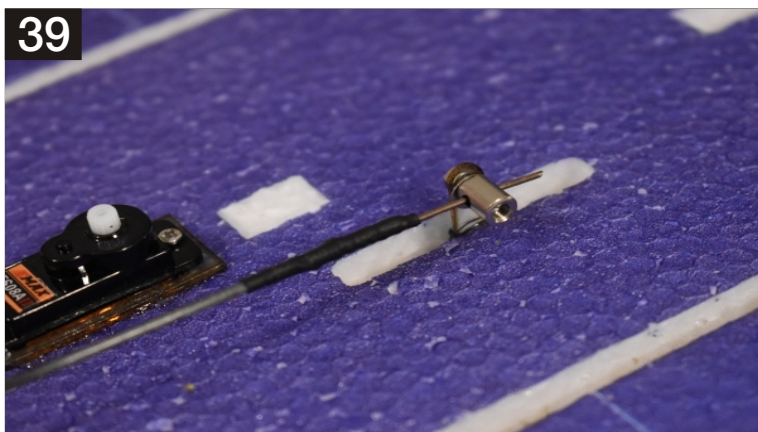
Please Note: Few pictures shown below are of different plane and for reference purpose only.



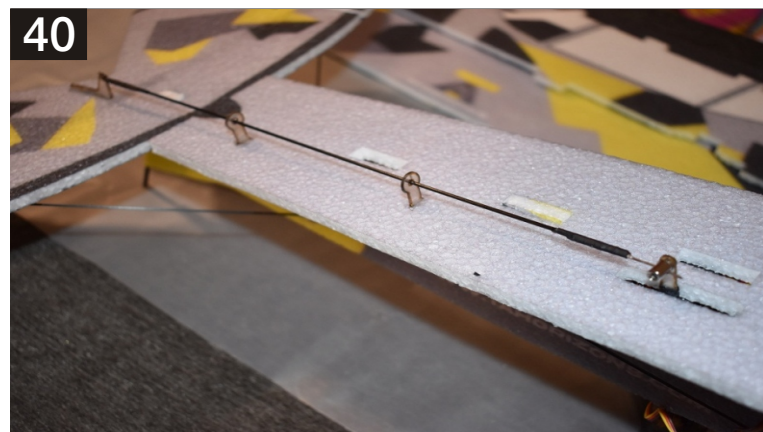
37. Shown above is the elevator linkage. Notice how the 3 guides (2 in case of elevator) are slid over the linkage.



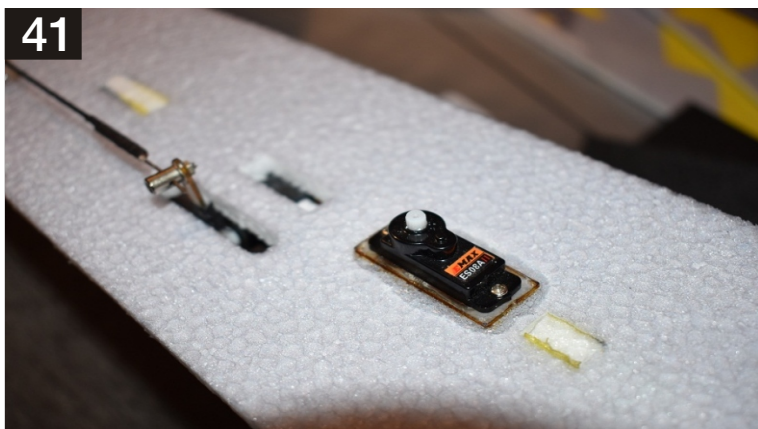
38. After this we have installed the straight wire on the other end.



39. With the servo centered, clamp straight wire in the pushrod stopper using the allen key.



40. Above is the finished elevator linkage setup with the guides glued into the fuselage and the elevator centered and clamped into the mini pushrod stopper.



41. Install the rudder servo in place.



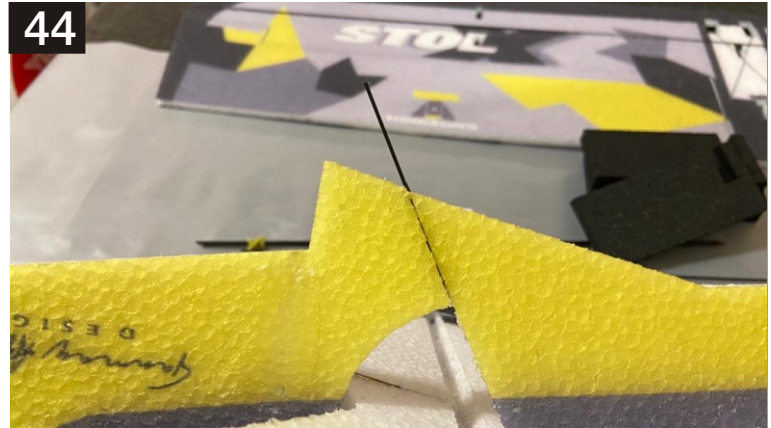
42. Locate the 60mm flat carbon strip and glue it on rear bottom part of the fuselage shown in the above image.

The Build

Please Note: Few pictures shown below are of different plane and for reference purpose only.



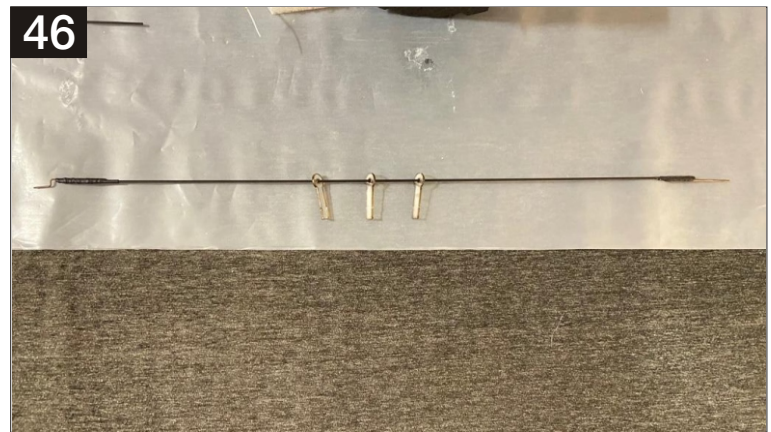
43. Once the aileron and elevator linkages are set up, use the same process as gluing the bottom of the fuse to glue the top of the fuselage into place.



44. . Now with the top portion installed glue the rear part to the flat carbon rod that we glued earlier.



45. Install the rudder control horn in the precut slot like we did for elevator horn. (Install it the opposite side of elevator horn)



46. Prepare the rudder control linkage using the same method done for elevator, this time insert 3 guides.



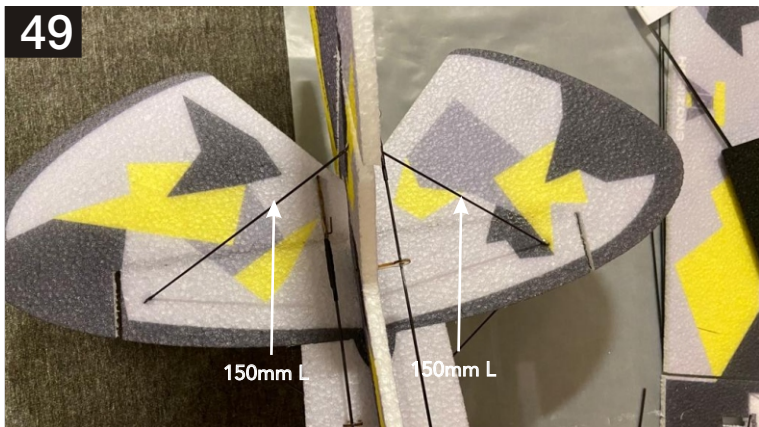
47. Above is the finished rudder linkage setup with the guides glued into the fuselage and the rudder centered and clamped into the mini pushrod stopper.



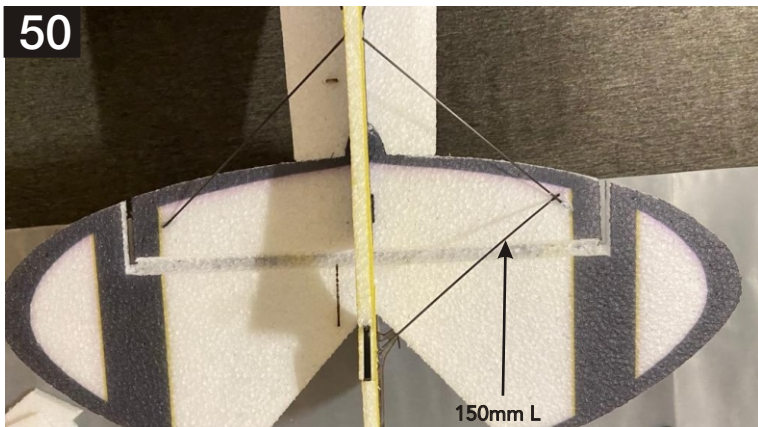
48. Shown above is the 150mm carbon rod that will go on each side of the fuselage. It will be used to strengthen the horizontal stab and vertical stab

The Build

Please Note: Few pictures shown below are of different plane and for reference purpose only.



49. Shown above is the 150mm carbon rod that will go on each side of the fuselage. It will be used to strengthen the horizontal stab and vertical stab.



50. Install the last 150mm rod to the bottom of the Fuselage shown in the above image. Make sure the elevator movement is full both side after installing this rod. (Any one side only)



51. Glue both the wings together.



52. Locate the supplied 6mm X 1000mm carbon spar.



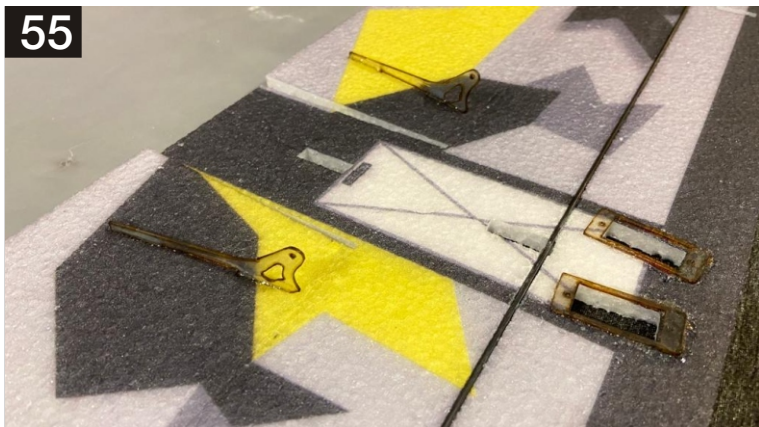
53. Glue it to the precut spar slot using the HV CA and spray it to cure.



54. Make sure the spar is fully seated in the slot.

The Build

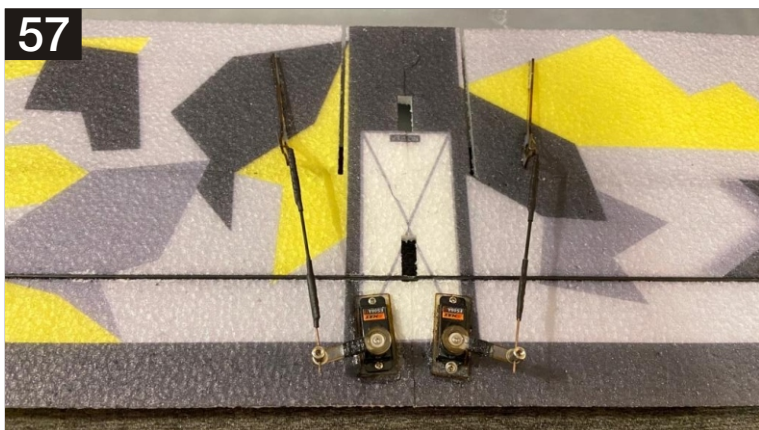
Please Note: Few pictures shown below are of different plane and for reference purpose only.



55. Glue the aileron servo tray and aileron horns shown in the image over the precut servo slot using HV CA. Make sure the horn sits right to the bottom of EPP Surface.



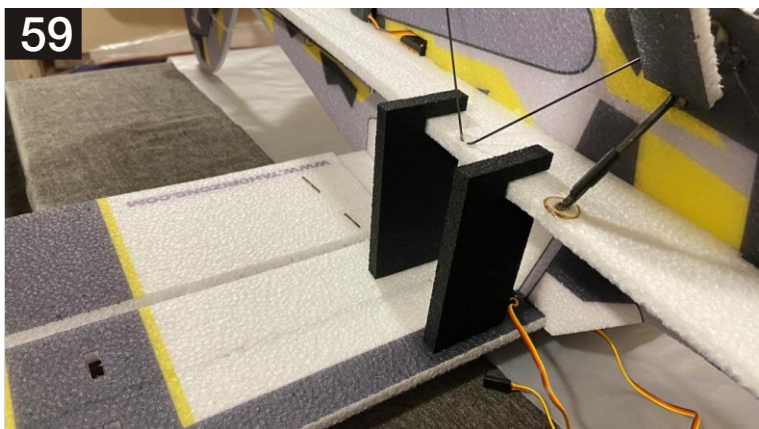
56. Above is the finished aileron linkage setup with the aileron centered and clamped into the mini pushrod stopper. Use the same method we did for elevator and rudder linkage setup.



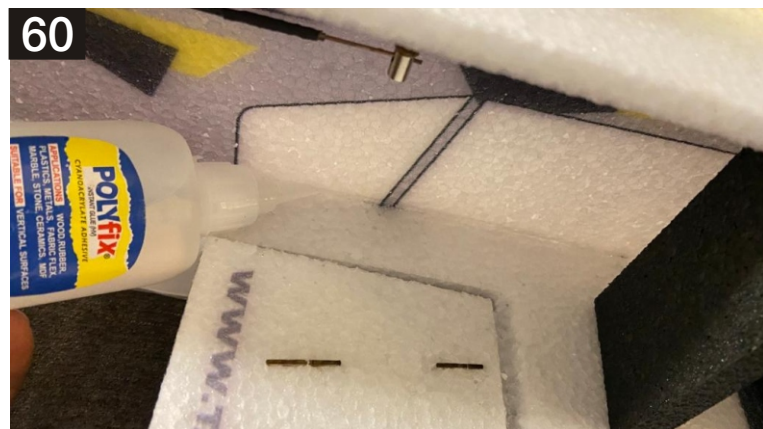
57. Here is another view of aileron linkage setup.



58. Apply a thin layer of HV CA to the mating surfaces of the upper vertical fuselage.



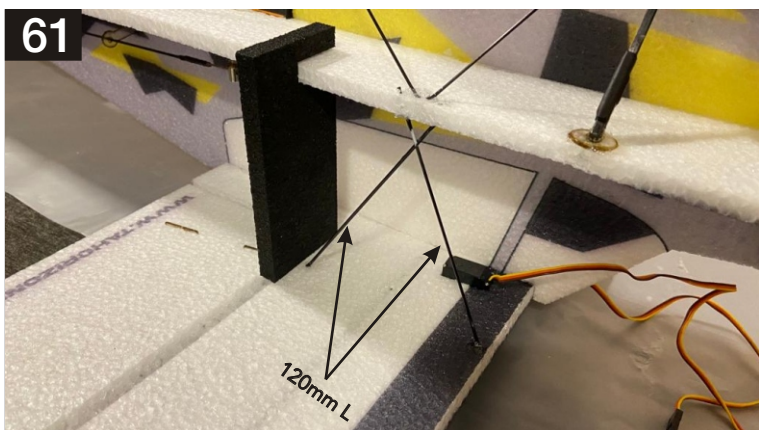
59. Use the supplied wing assembly jig to make sure the fuselage stays in correct positing while glueing.



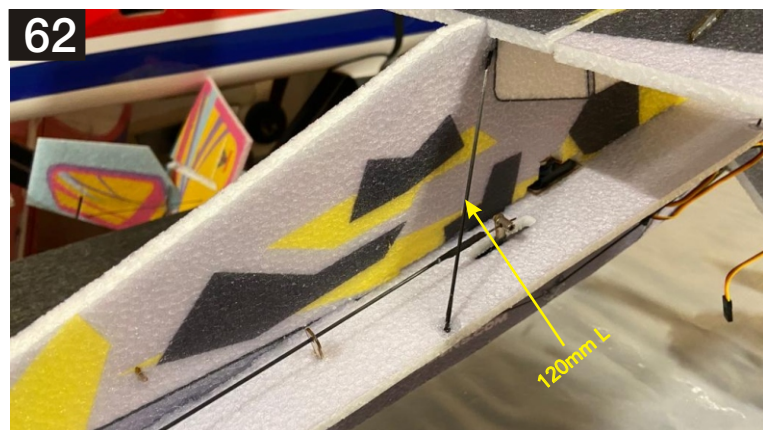
60. Apply a thin layer of HV CA on the joints for better reinforcement.

The Build

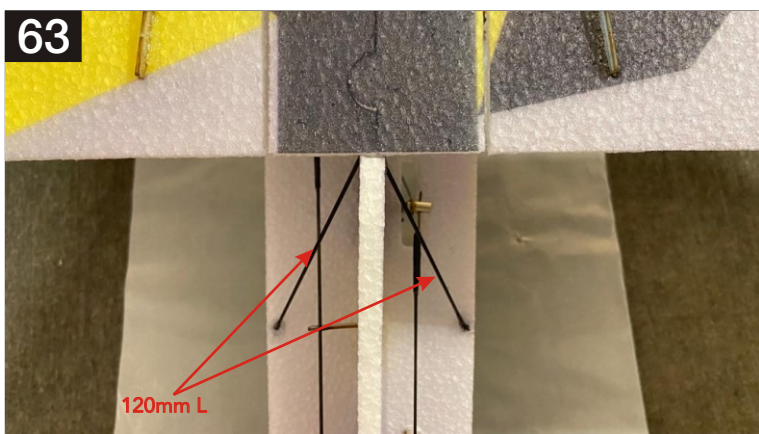
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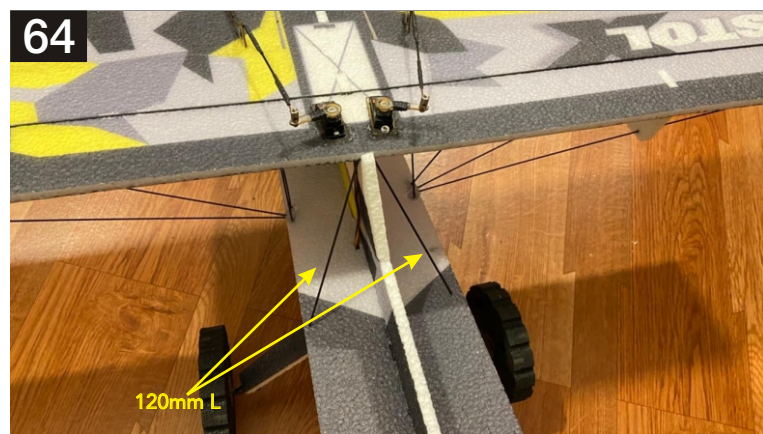
61. With the fuselage Jig in place install the 2 (120mm L) carbon rods on both sides of fuselage shown in the above picture. (Total 8 rods are supplied)



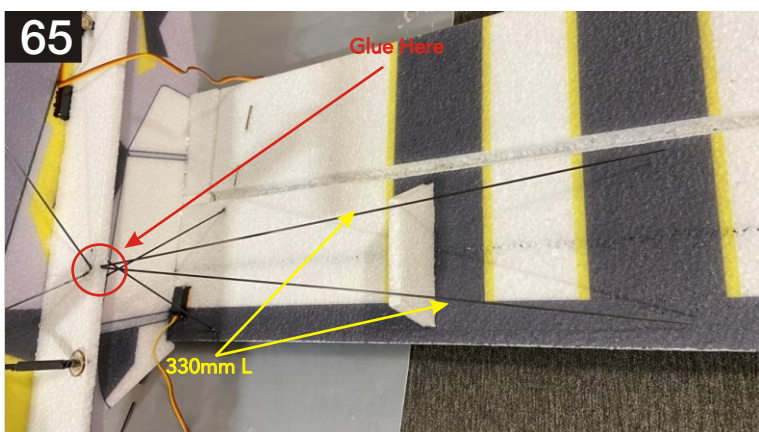
62. Install other 2 rods (120mm) from the trailing side of wings to fuse, like shown in the above image.



63. Here is another view.



64. (Optional) Install last 2 rods (120mm) from the leading edge side of wings to fuse, like shown in the above image.



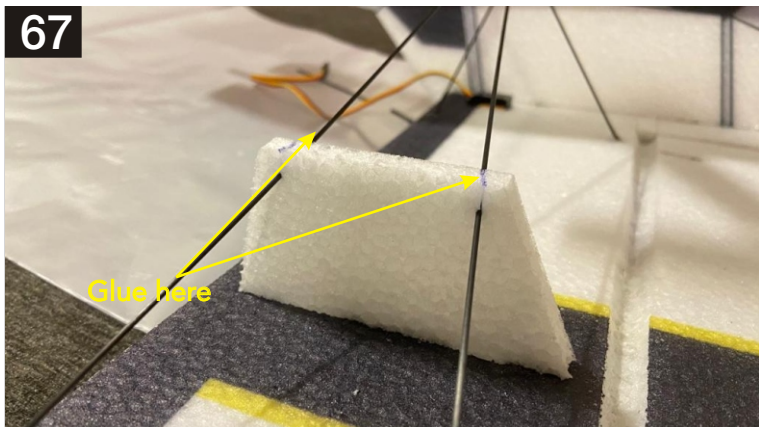
65. Locate the 330mm L X 4 rods for wing bracing along with the piece of EPP for wing rod support. EPP support can be glued into the pre cut slots in wings. Refer above image for wing bracing.



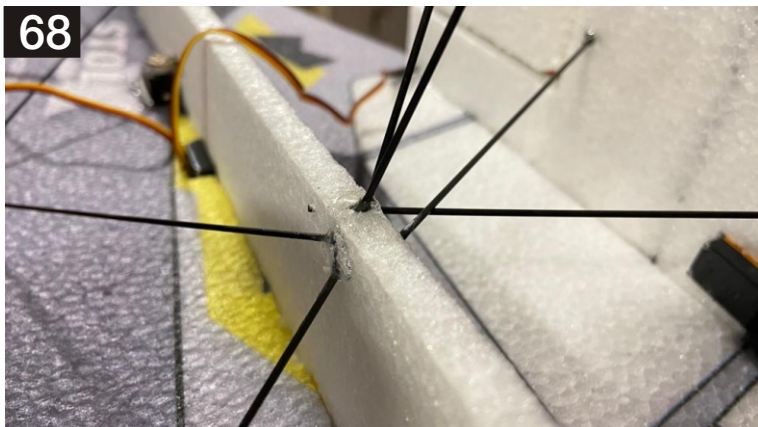
66. Make a small slot on bracing support using a sharp knife where it meets the rod. Do it for both side.

The Build

Please Note: Few pictures shown below are of different plane and for reference purpose only.



67. Make sure the carbon bracing is slid about a mm down into the slots. Glue it using a HV CA.



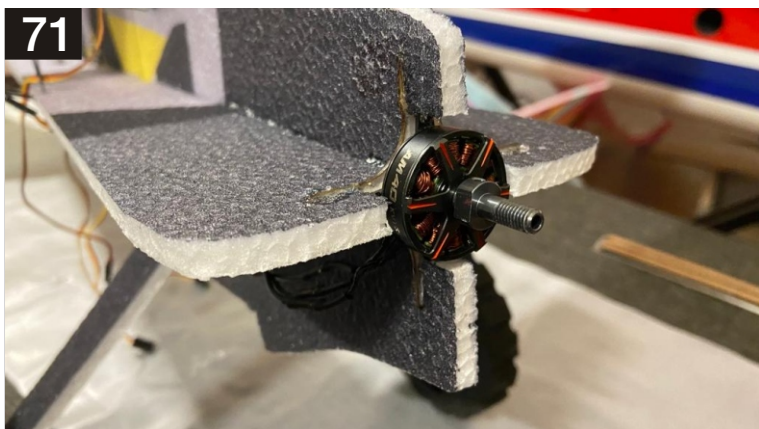
68. Shown above is the wing/fuse support bracing glued to the horizontal profile section of the fuselage.



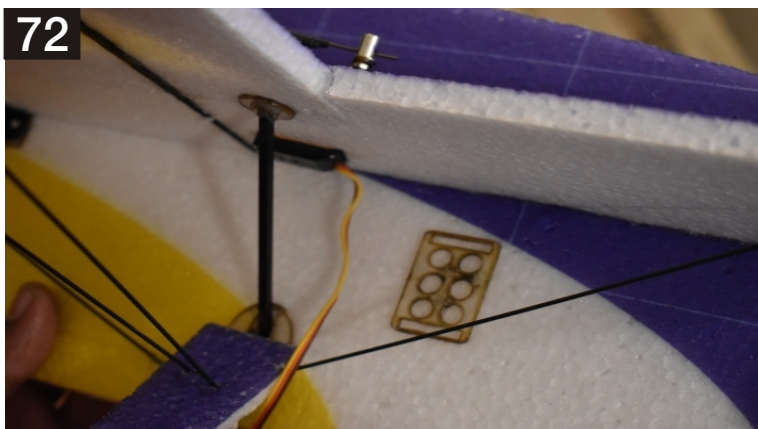
69. Here is how it will look after all the bracing is done.



70. Install the motor mount using HV CA, Place adhesive on the inside of the mount covering every spot, then place again on the front of the fuselage making sure everything is flush and lined up correctly.

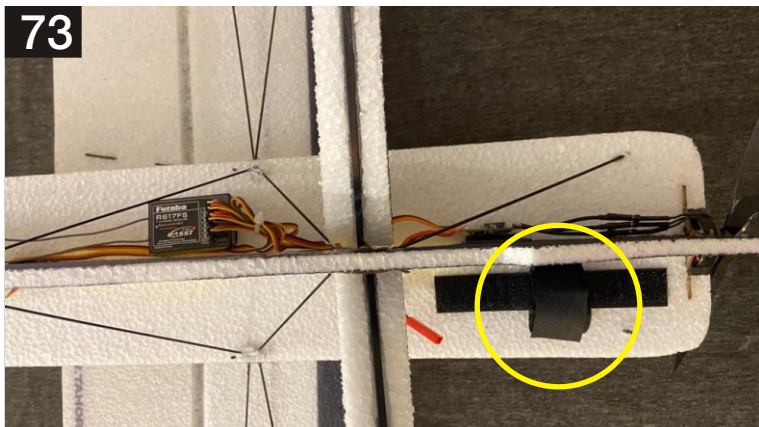


71. Shown above is the motor mounted to the provided motor mount.

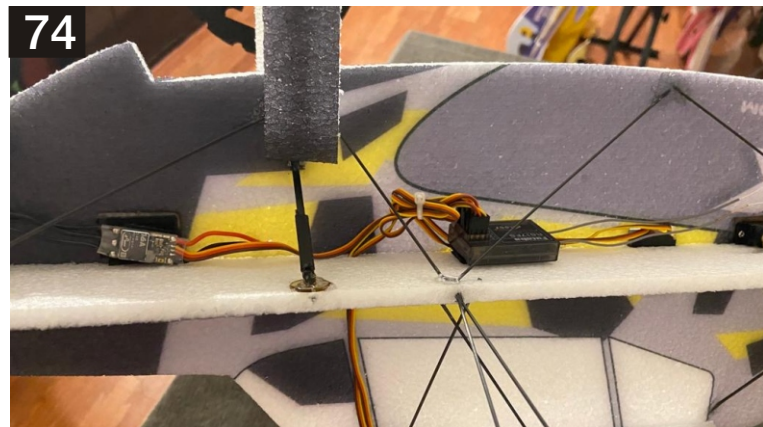


72. Notice above the plate glued onto the side of the fuselage. This can be used to mount the electronic speed controller

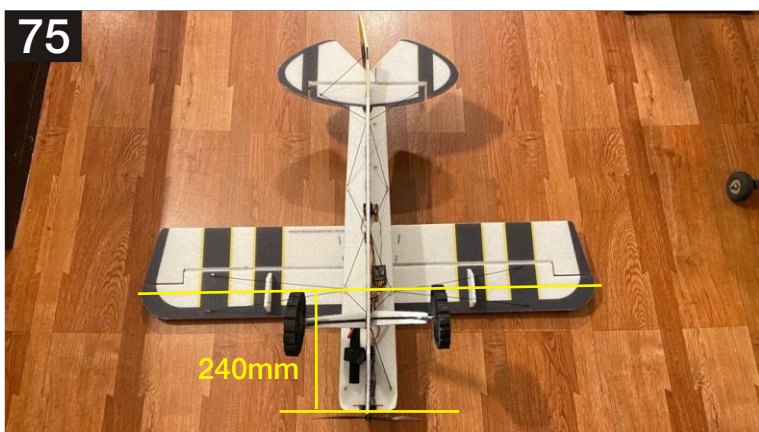
Please Note: Few pictures shown below are of different plane and for reference purpose only.



73. The long piece of velcro along with the strapping velcro mounted, above is the location of the battery for this setup.



74. Here is the complete picture of a receiver setup



75. Initial CG is located 240mm from the nose of the aircraft (Not from the motor)

CONTROL THROWS

Extreme & 3D:

Ailerons - approx +/- 45 deg

Rudder - approx +/- 45 deg

Elevator - approx +/- 45 deg

Expo to suit

Beginner & Sport:

Ailerons - approx +/- 20 deg

Rudder - approx +/- 20 deg

Elevator - approx +/- 20 deg

Expo to suit

In order to achieve the control throws as described for "Extreme & 3D", it is imperative that the control surface, linkages, rod ends, etc, all move freely over the entire range, including range end points.

Failure to do so will result in damage to either the servos or mechanical components

Thank You..

Thank you for your purchase at TA Horizons. We sincerely hope that our products can provide the same thrill to you that we experience in this hobby. The motive of this project is to spread the outcome of my love for teaching and share my knowledge and experience with every enthusiast out there.

Please feel free to contact us regarding any type of question about this kit.



Happy Landings,
Tanmay Agrawal
TA Horizons