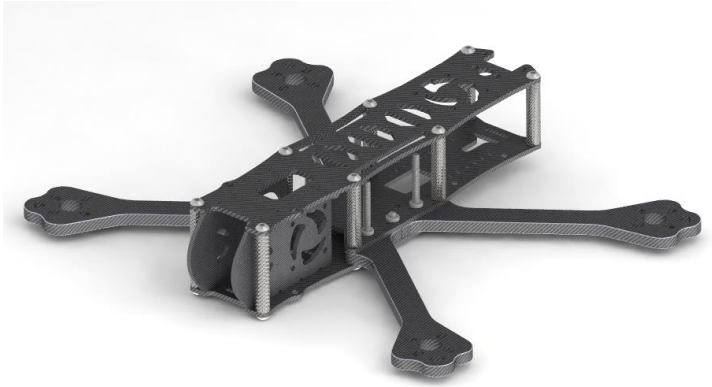
ROTORLAB

FPV

Origin V1

Assembly Instructions and Manual

www.rotorlabfpv.com



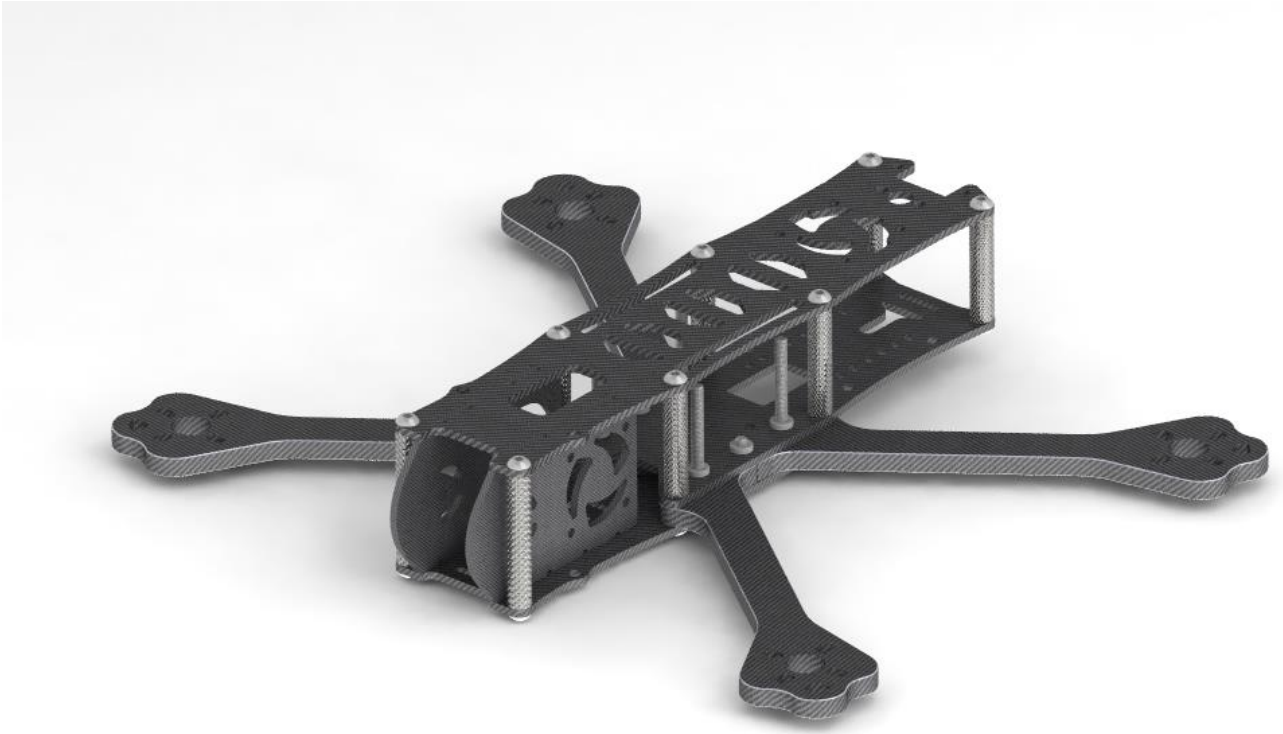
Introduction

Thank you for purchasing the **ROTORLAB FPV ORIGIN V1** frame! This frame was fully designed by our R&D team and is catered for beginners and intermediate FPV builders and fliers alike. It is specifically made for ease-of-assembly, component flexibility, and provide ample space for soldering. We have also done destructive testing on this design in order to give you the best quality product possible. We hope that you will enjoy this product and have a great time flying it!

In this manual, you will find all the features and information related to this frame. You will also find the assembly instructions in order to get you started in building your very own FPV drone.

To further improve our products and designs, we also welcome any suggestions you may have for future revisions. Should you have any question, concerns or comments, please do not hesitate to contact us at **support@rotorlabfpv.com**

Table of Contents



Frame Features

Durability

- 5mm Thick Carbon Fiber Arms
- Motor Bells are protected from crashes in all x and y directions.
- FPV cameras are protected from crashes, no matter what angle the camera is oriented.
- Cooling Fans can be mounted in the front or back of the frame to cool the Digital Video System.
- Chamfered edges on arms reduce the risk of carbon fiber delamination

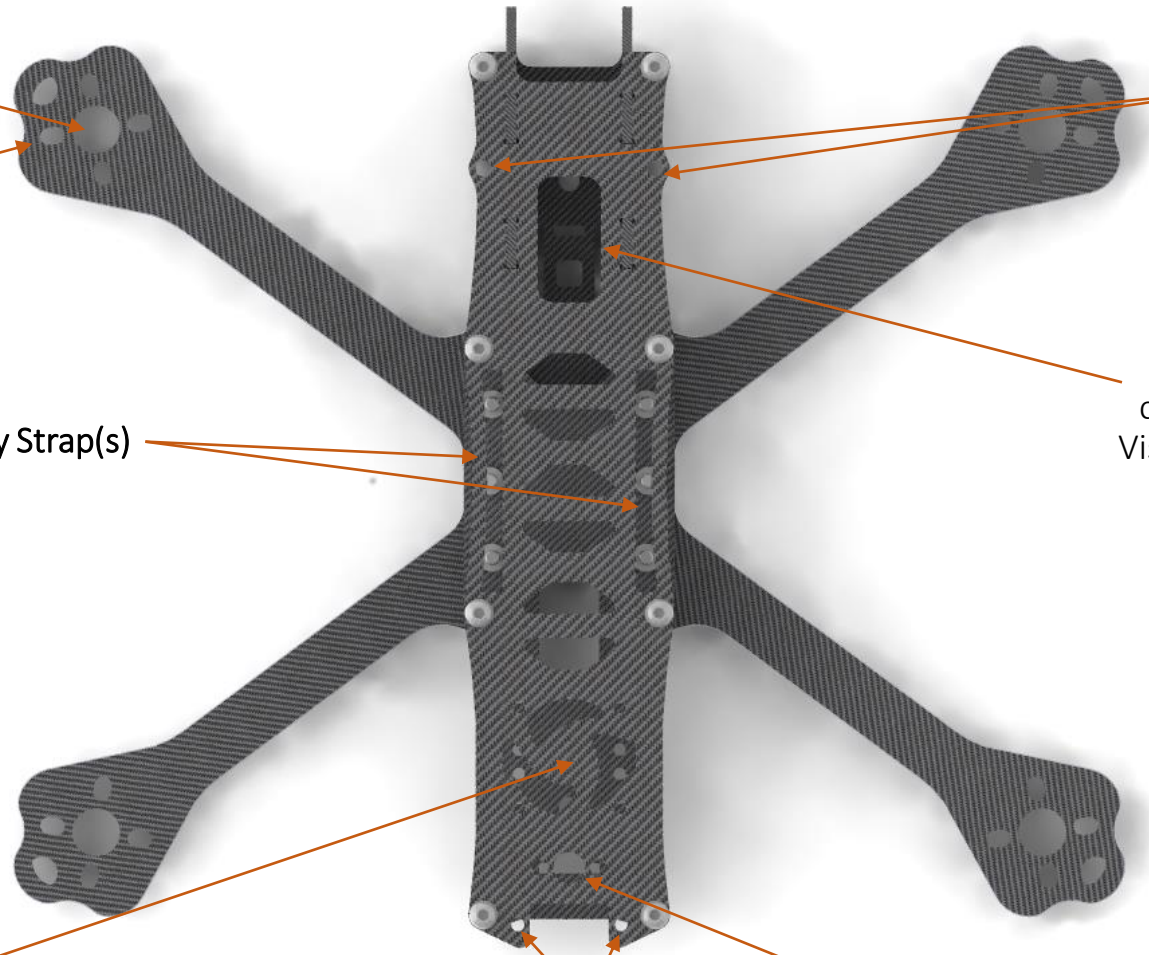
Build Flexibility

- Multiple Mounting Locations for increased layout combinations
- Caddx Vista: Can be mounted in front, middle, or back of frame and is compatible with any length of coaxial cable. USB-C connection is always accessible, no matter where the Vista is mounted. There is also enough room to mount two Vistas for flying with 2 pilots.
- Air Unit: Can be mounted on middle or back of frame
- Flight Controller: Compatible with both 30x30mm and 20x20mm size FC, and can be mounted in the middle or the back of the frame. USB connection is always accessible no matter where the FC is mounted.
- RC Receiver: Zip tie Mounting Holes for Receivers. Indication light and bind button is always visible and accessible from the top of the frame
- 20x20mm DC Fans can be mounted to cool the Digital Video System(s) or Analog Vtx's
- Compatible with both Digital and Analog Systems
- Built-In Mounting Points for XT-60 Connectors, 3D Printed Mounts, and Antennas.
- Adjustable Side Mount for FPV Camera

Ease of Assembly

- Quick Change Arms: Only 1 screw needs to be removed to change an arm
- Beginner Builder Friendly: Plenty of room to work with inside the frame, so there will be no issues with tight spaces or accidental solder splatters
- Arms are all the same geometry and can be installed on any motor position.
- Built-in M3 Press-Fit Nuts for 30x30mm FC Mounting
- Standoffs are knurled for easy grip while tightening the M3 screws
- Hole for Capacitor Placement

Suggested Mounting Points (Top View)



Access hole for Motor retention screws or C-clips

Motor Mount: 22xx to 28xx Size Motors

Possible Mounting location for 3D prints (ex: GoPro Mounts)

Multi-function Hole: Power cable, USB access for CADDX Vista, capacitor placement, etc.

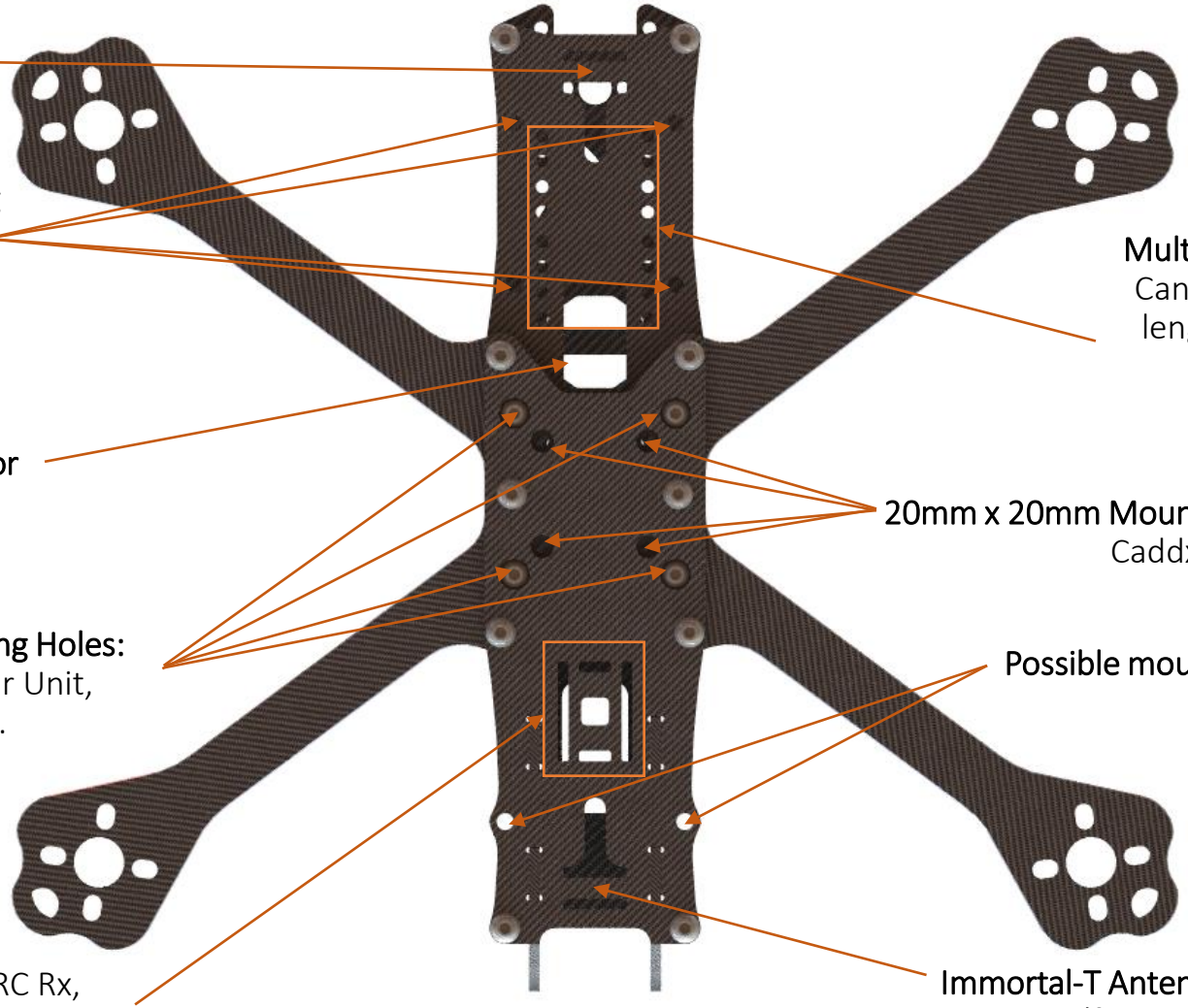
Holes for Battery Strap(s)

20mm x 20mm M2 Mounting holes w/ Exhaust: Mini DC Fans, Caddx, Vista, etc.

Built-in XT-60E-M Mounting holes

Optional Analog/Digital built-in antenna mount

Suggested Mounting Points (Bottom View)



Immortal-T Antenna built-in mount (back of frame)

30mm x 30mm Mounting Holes: DJI Air Unit, 30x30mm FC's, Analog Vtx, etc.

Hole for capacitor

30mm x 30mm Mounting Holes: 30x30mm FC's, DJI Air Unit, Analog Vtx, etc.

Zip Tie Mounts: Cable Management, RC Rx, Buzzers, etc.

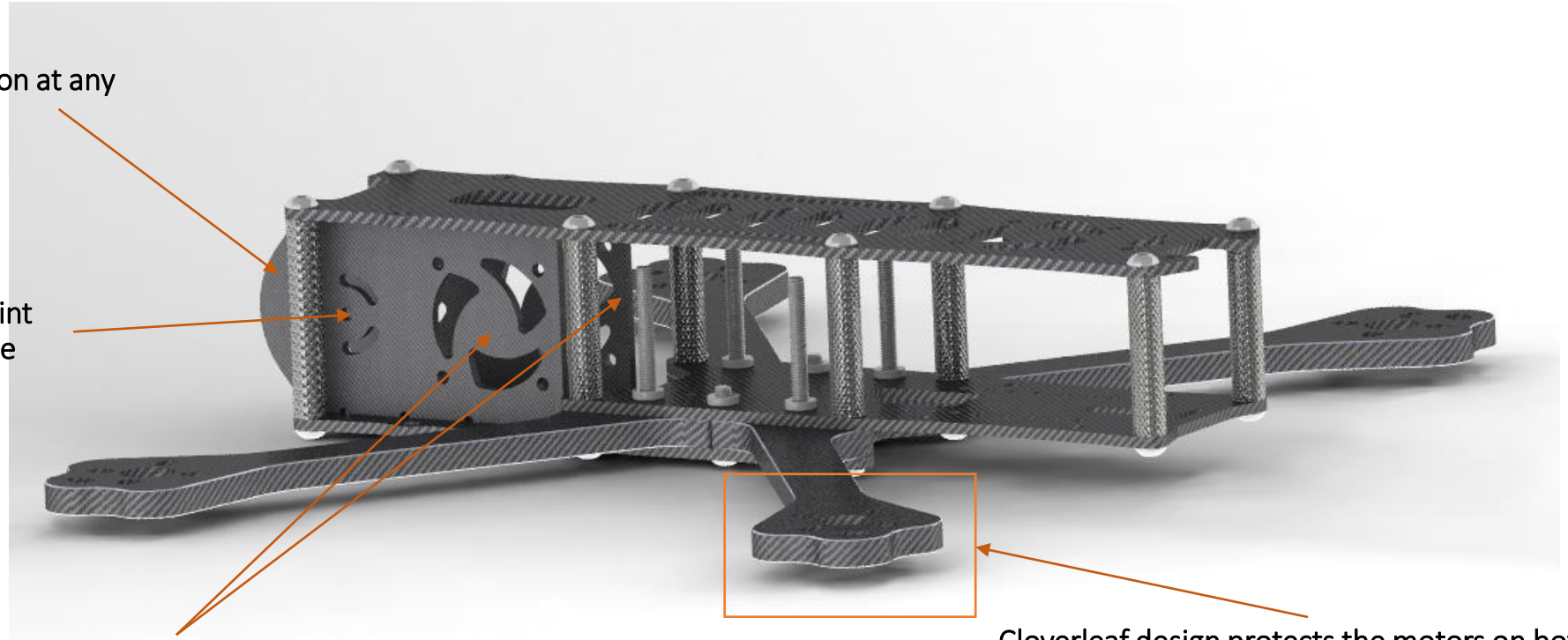
Multiple Holes for 20mm x 20mm mounting: Can accommodate most Caddx Vista cable lengths. 20x20 FC's may also be mounted here.

20mm x 20mm Mounting Holes: 20x20mm FC's, Caddx Vista, etc.

Possible mounting locations for 3D Prints

Immortal-T Antenna built-in mount (front of frame)

Suggested Mounting Points (Side View)



Camera protection at any angle

Camera Mounting point with adjustable angle

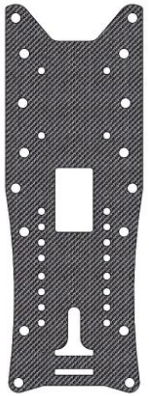
20mm x 20mm Mounting Holes with exhaust on both sides: 20x20mm DC cooling fans mounted on the outside, and/or Caddx Vista.

Cloverleaf design protects the motors on both X and Y axis in the event of a crash.

Parts List

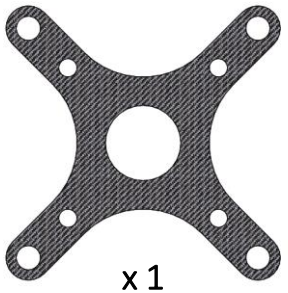
Frame

A



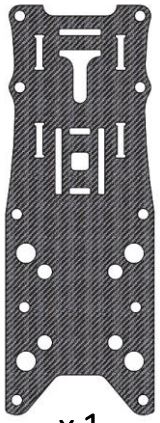
x 1

B



x 1

C

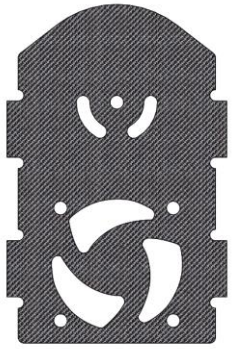


x 1

D

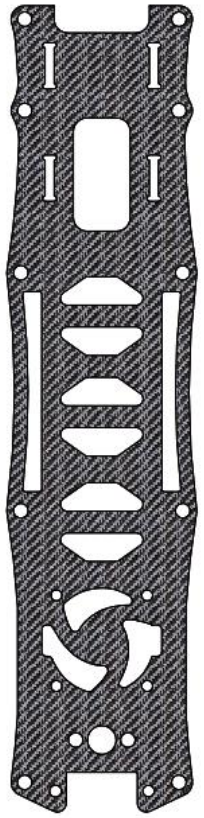
x 4

E



x 2

F



x 1

Hardware

M3x30 Buttonhead Screw

x 4

M3x12 Buttonhead Screw

x 6

M3x8 Buttonhead Screw

x 12

M3x35 Aluminum Standoff

x 2

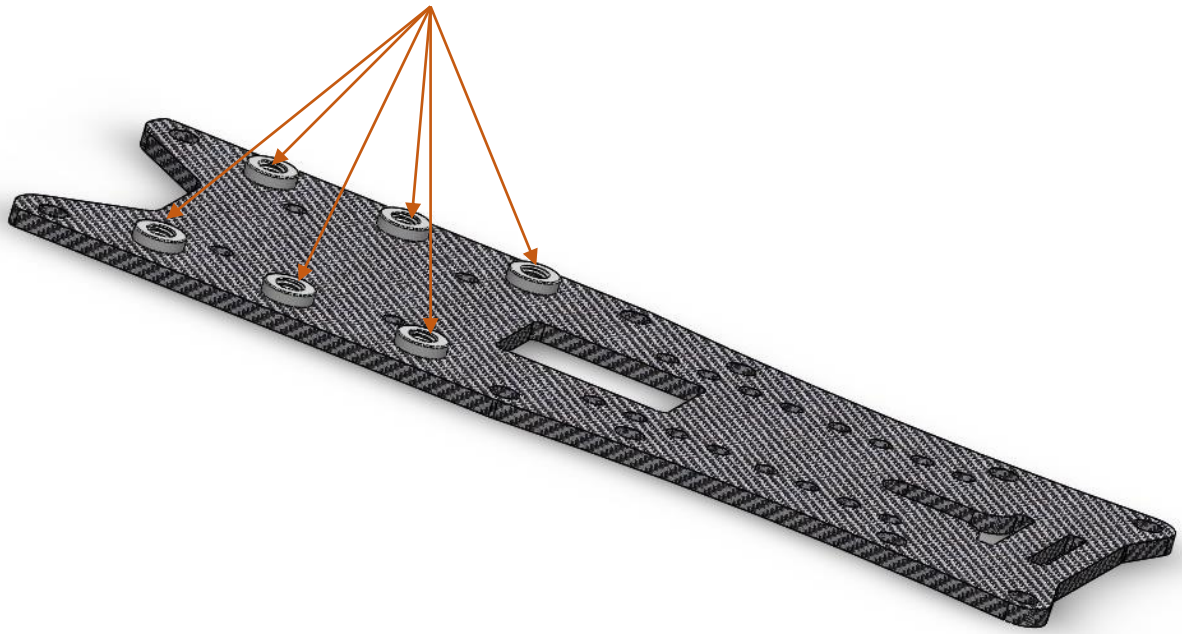
M3x28 Aluminum Standoff

x 6

Assembly Instructions

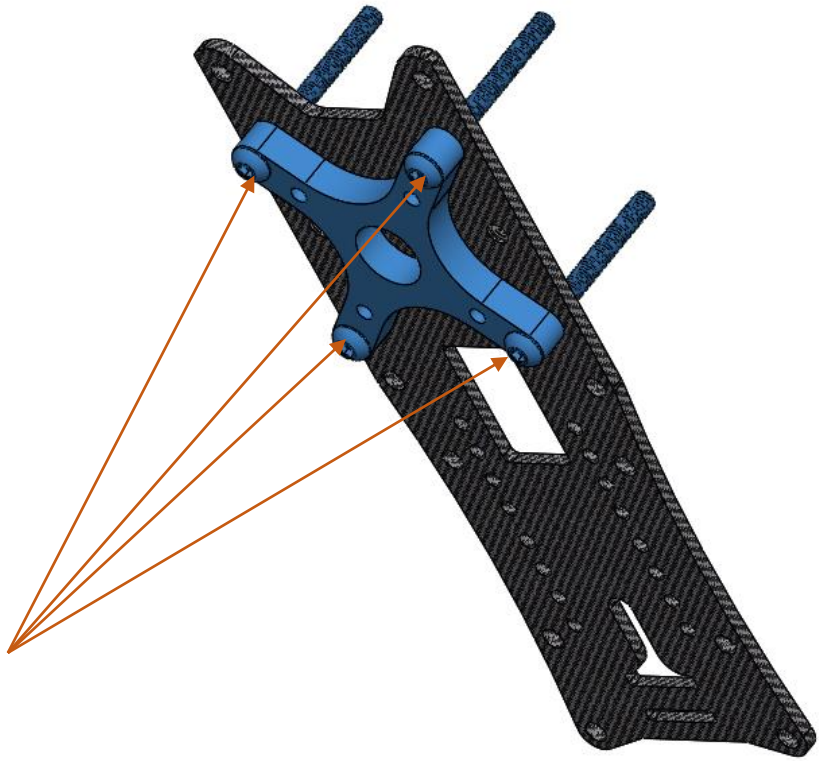
Step 1

Step 1: Take Part A and make sure that the 6 press nuts are facing upwards



Assembly Instructions

Step 2



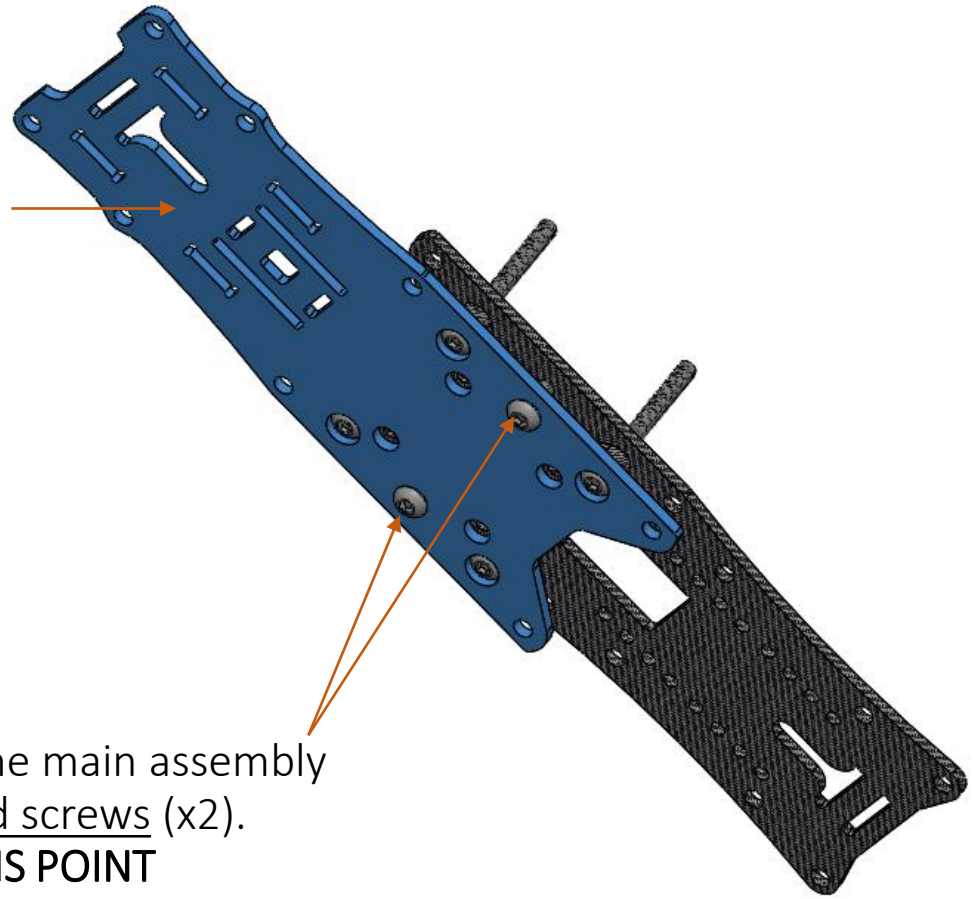
Alternate View

Step 2: Use the M3x30 buttonhead screws (x4) to fasten B underneath A

Assembly Instructions

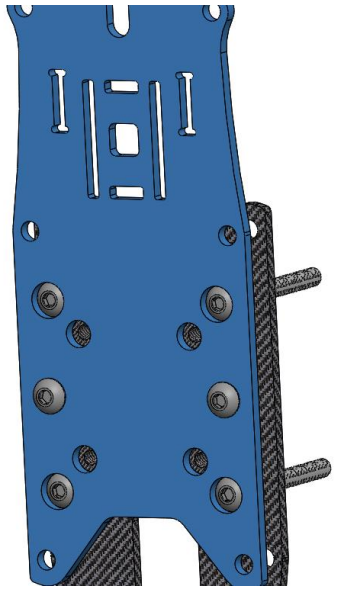
Step 3

Step 3-1: Place C underneath B in the orientation shown.



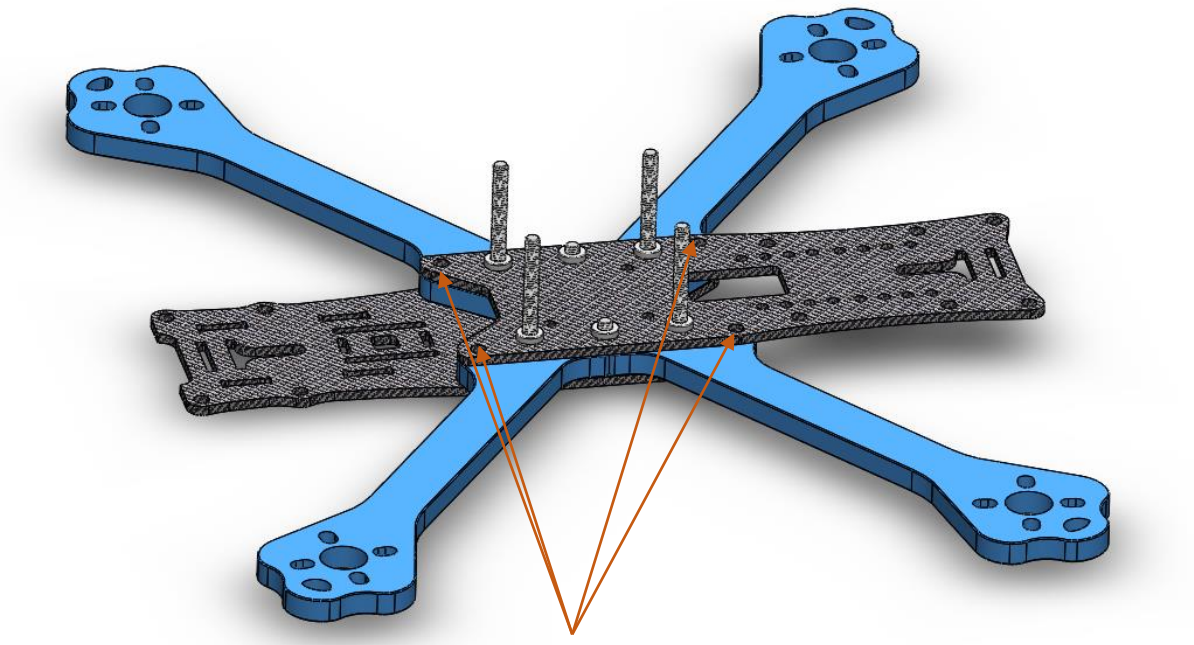
Step 3-2: Loosely install in C to the main assembly using the M3x12 buttonhead screws (x2).
DO NOT TIGHTEN AT THIS POINT

Alternate View

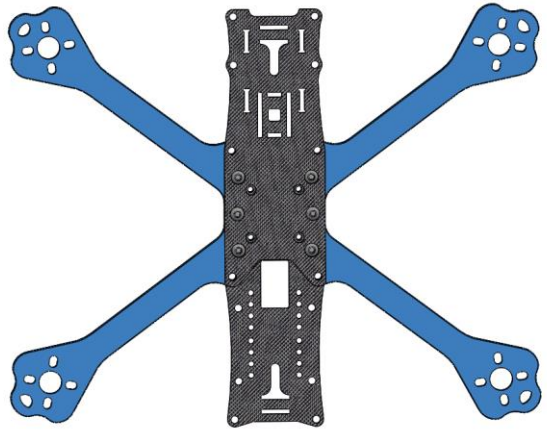


Assembly Instructions

Step 4



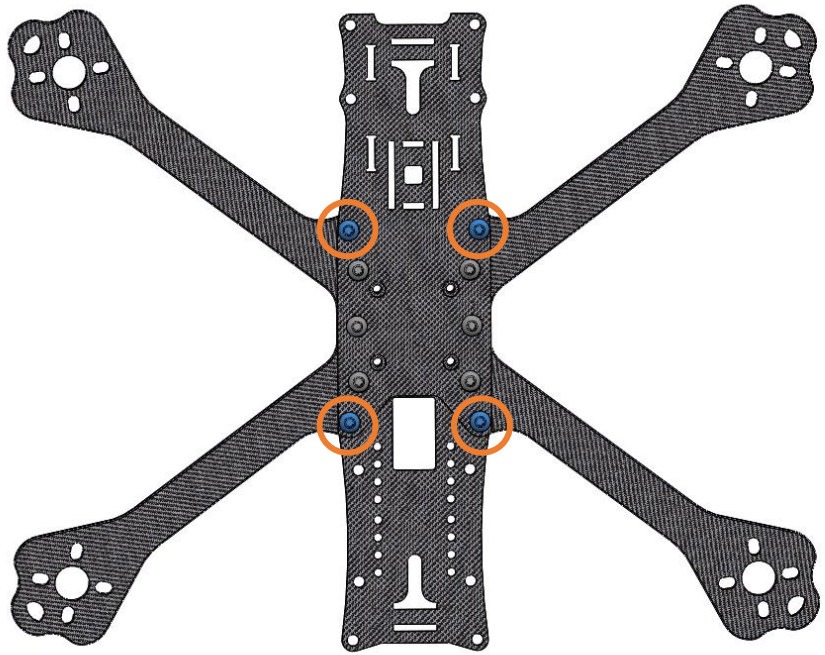
Bottom View



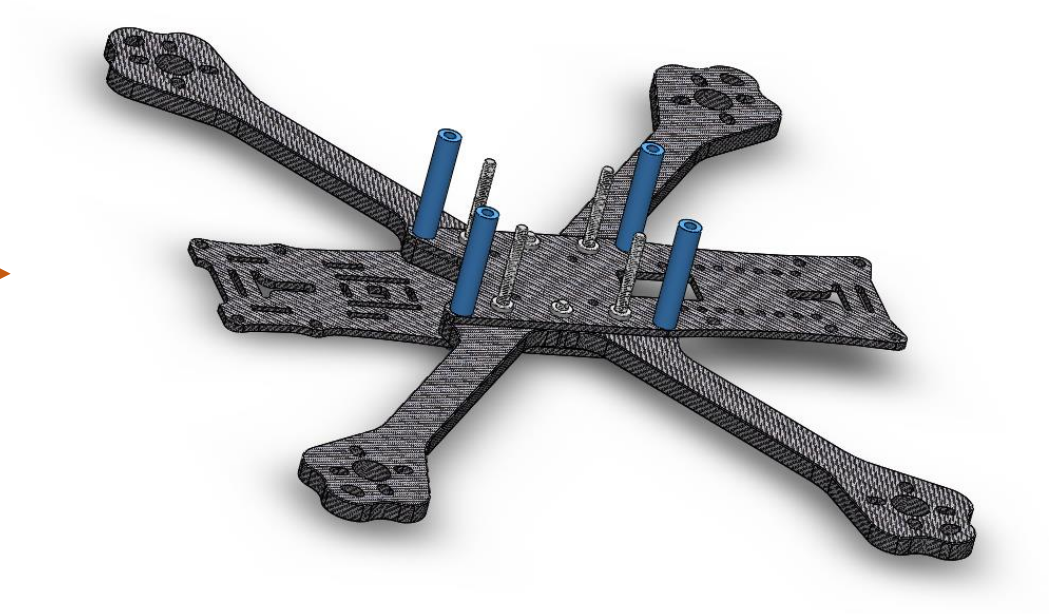
Step 4: Slide the four arms (D) between the two plates, making sure the holes shown are aligned. **The fork of the arms must slide fully into the arm guide** (B)

Assembly Instructions

Step 5



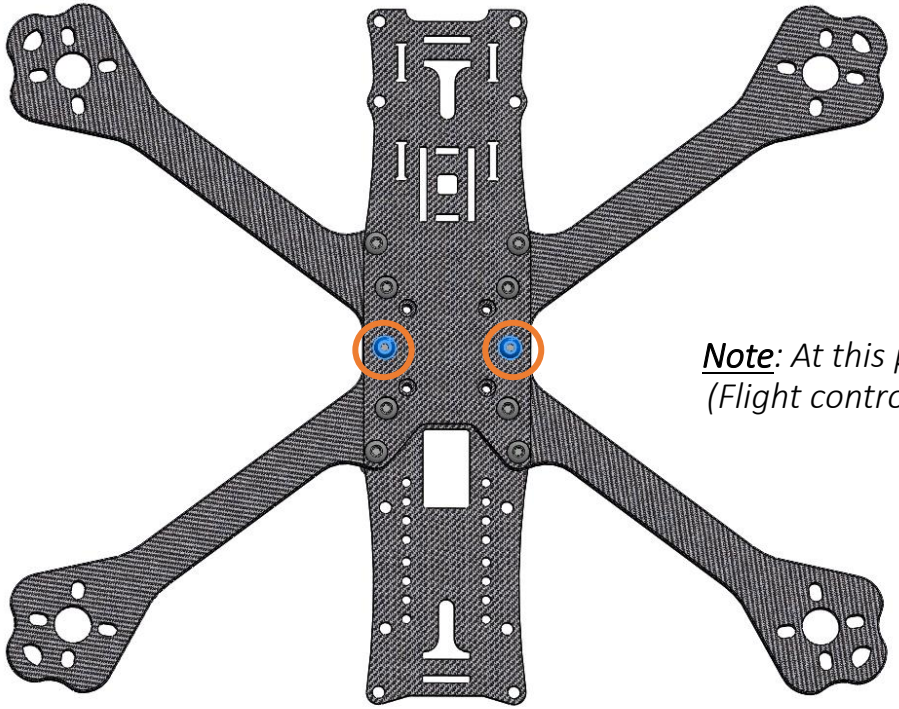
Step 5-1: Insert the M3x12 buttonhead screws (x4) in the locations circled above.



Step 5-2: Turn the assembly right-side up and screw in the M3x28 standoffs (x4) to the four screws placed in step 5-1.

Assembly Instructions

Step 6

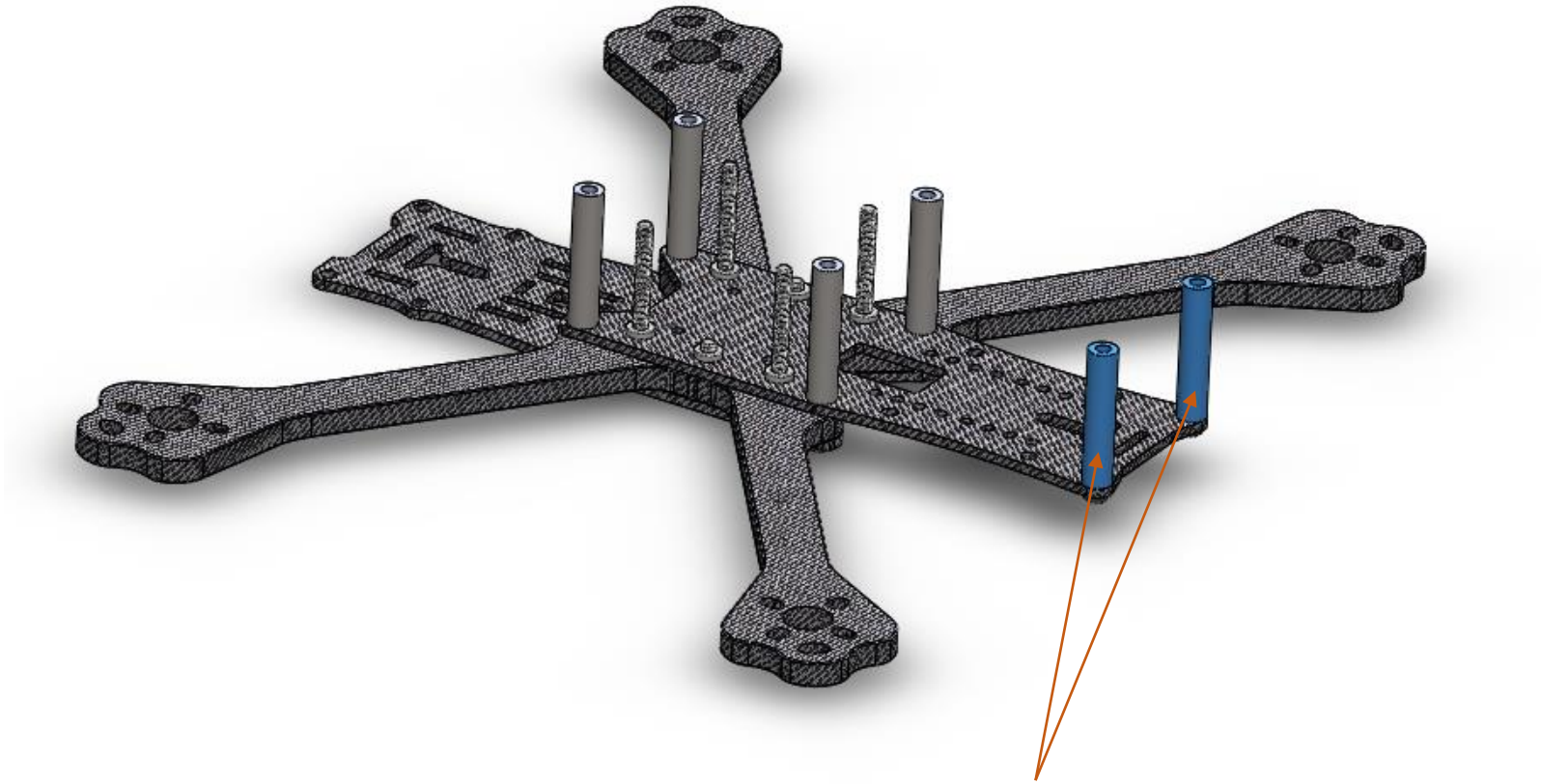


***Note**: At this point, it is best to install/solder your components (Flight controller, ESC(s), Motors, Vtx, Camera(s), RC Rx, etc.).*

Step 6: Tighten the two screws that were previously placed in Step 3-2.
Do a wiggle test on the four arms to make sure that they are secure.

Assembly Instructions

Step 7

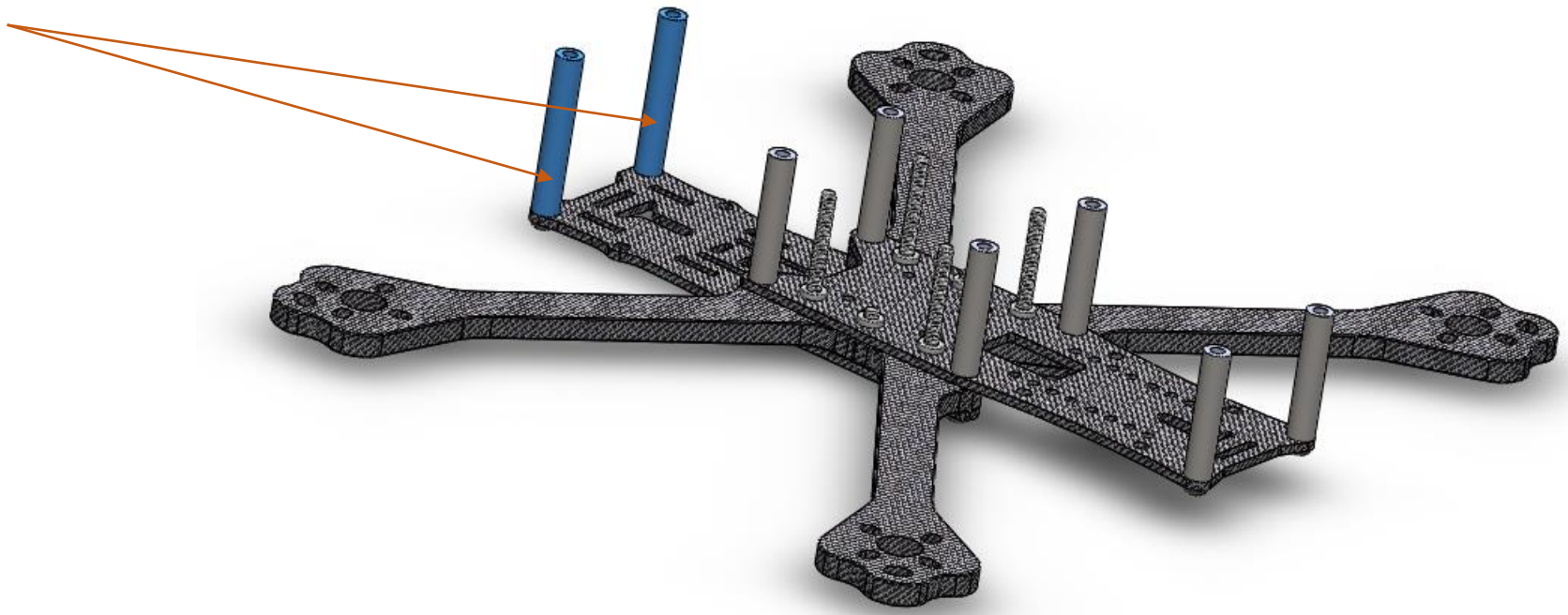


Step 7: Use the M3x8 buttonhead screws (x2) to fasten the remaining M3x28 standoffs (x2) in the locations shown

Assembly Instructions

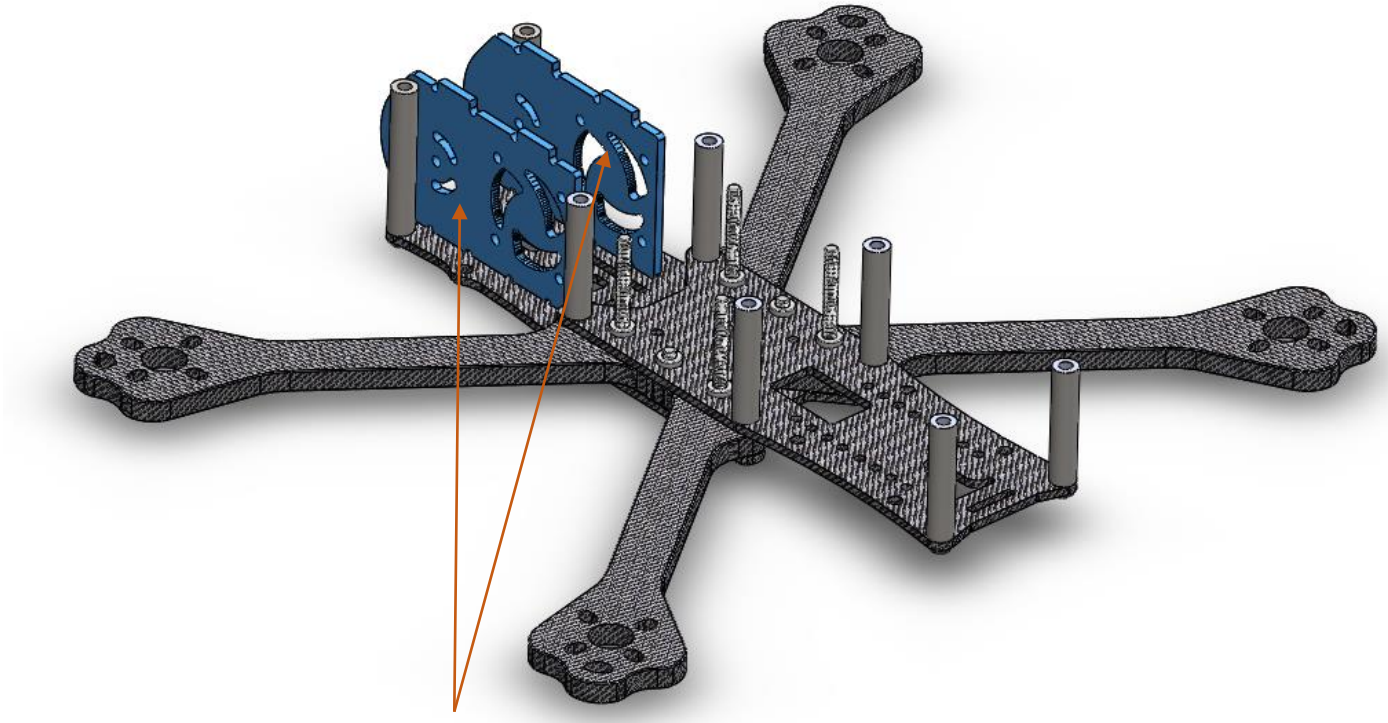
Step 8

Step 8: Use the M3x8 buttonhead screws (x2) to fasten the M3x35 standoffs (x2) in the locations shown

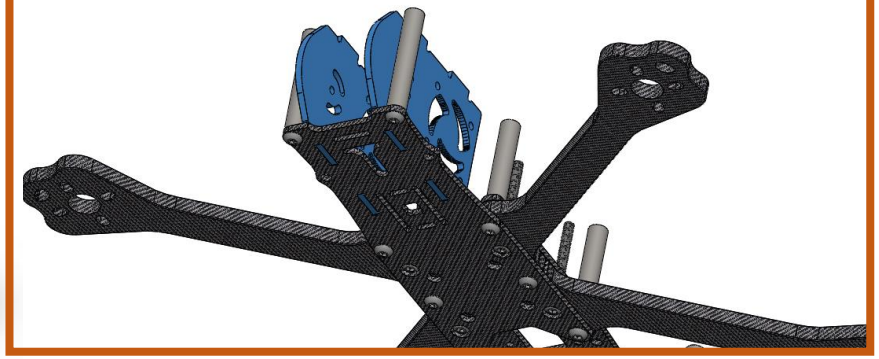


Assembly Instructions

Step 9



Alternate View

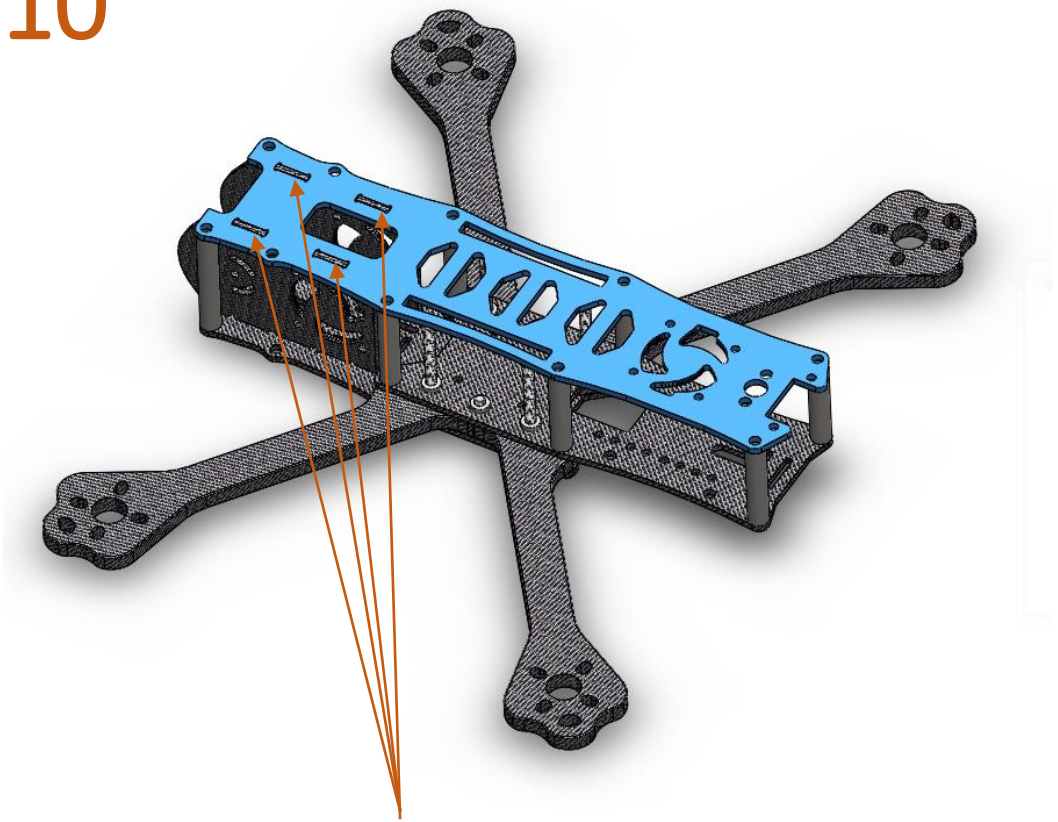


***Quick Tip**: Part E is symmetrical, so it does not matter if you place it right-side-up or upside-down.*

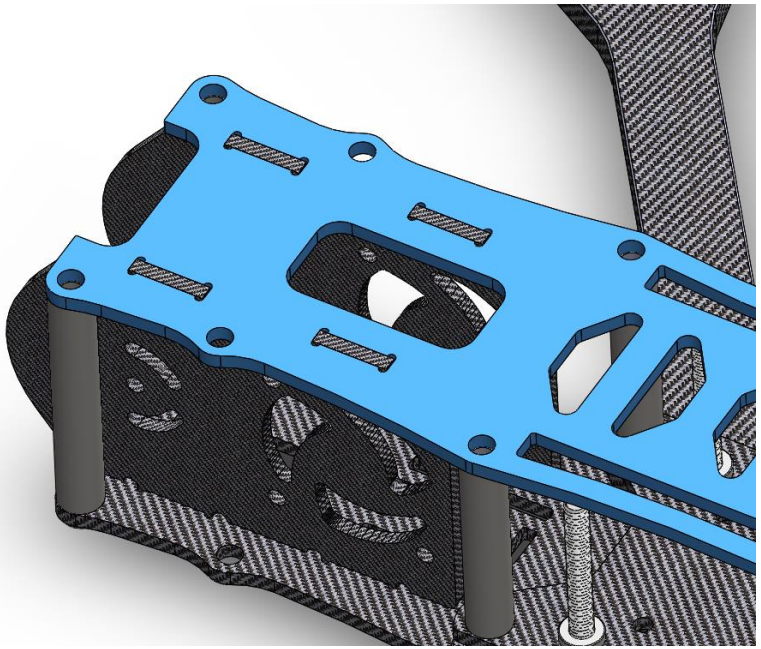
Step 9: Insert the tabs of E (x2) inside the slots of the bottom plate (C) as shown. Make sure the tabs are fully inserted and the camera mounting holes are oriented further from the center of the assembly.

Assembly Instructions

Step 10



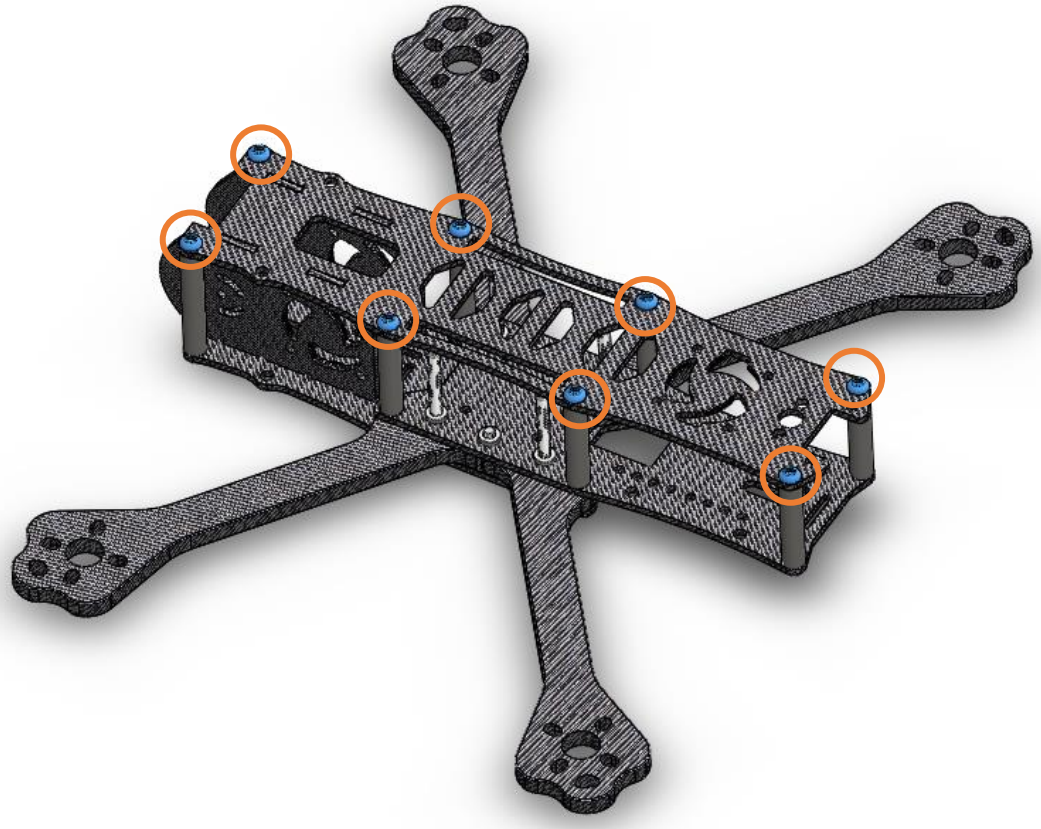
Alternate View



Step 10: Place F on top of all 8 standoffs in the orientation shown while inserting the top tabs of the side plates (E) inside the slots at the same time. Make sure the tabs are fully inserted.

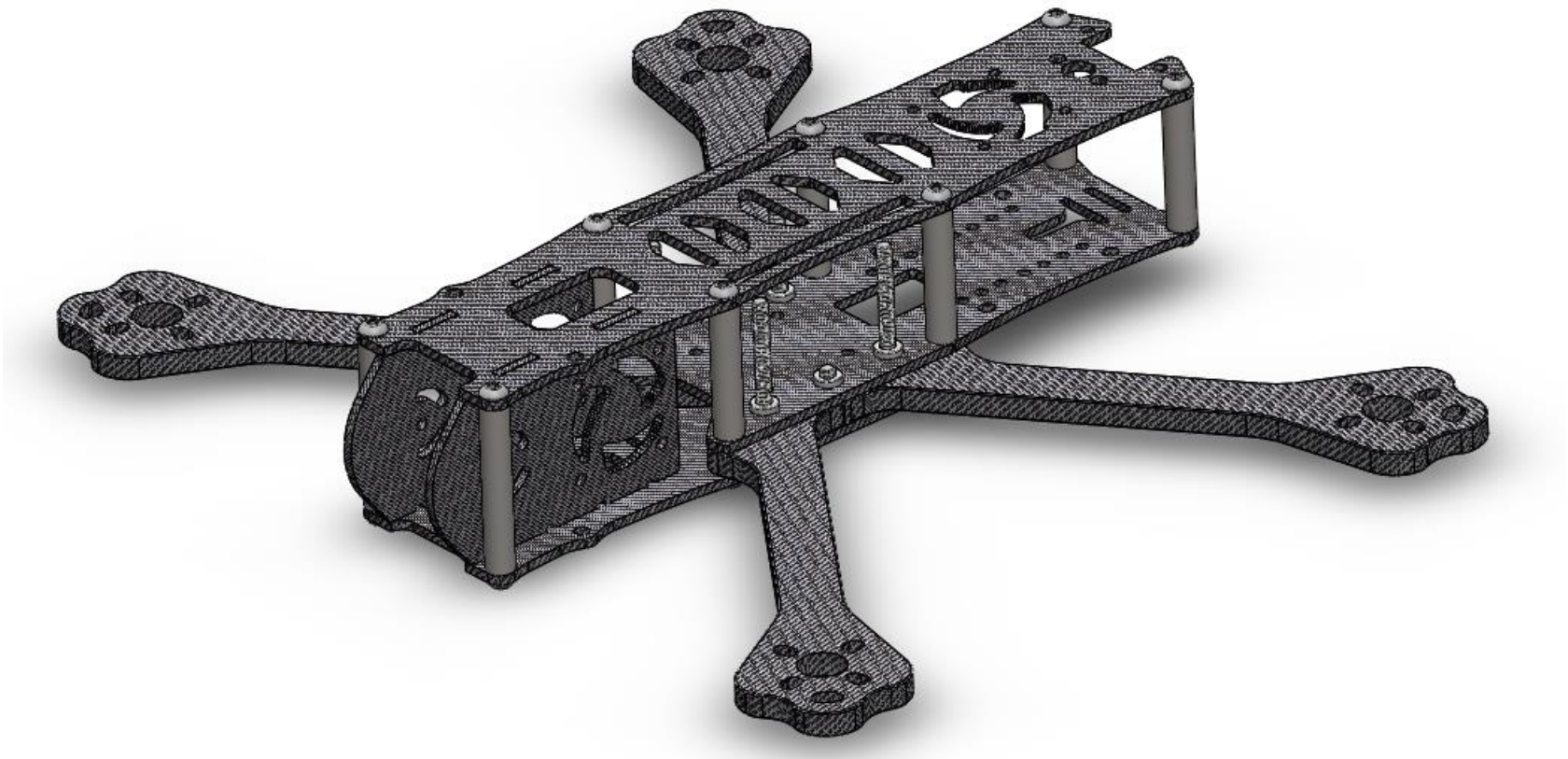
Assembly Instructions

Step 11



Step 11: Fasten the remaining M3x8 buttonhead screws in the locations shown.
Do not overt-torque as it may risk stripping the head of the screw.

Completed Assembly



The final assembly should resemble the image above.

Tips and Safety

- When replacing an arm, you only need to take off one screw per arm, but sometimes it is easier to pull out the arm if you slightly loosen the two M3x12 buttonhead screws in the middle of the frame.
- Do not over-tighten any of the buttonhead screws since thery can strip easily. If you encounter a stripped head, use a screw extractor to take out the screw. If a screw extractor is not available, use a bull-nose plier to slowly turn the head (be careful as this could potentially scratch the carbon fiber).
- Carbon Fiber is conductive. Make sure all components are properly grounded and no live wire is touching the carbon fiber frame.
- Replace the arms if there are any signs of cracks, or heavy delamination.
- Always dry the frame after it is used in wet or humid environment. Failure to do so could cause the screws to rust.
- The carbon fiber could delaminate during crashes. Be careful with handling the frame if this happens, as delaminated carbon fiber could be sharp and cause a cutting or splintering hazard.

Contact Information

Our Website: www.rotorlabfpv.com

Questions about products or services? Please email us at sales@rotorlabfpv.com

Technical Support with products or shipping? Please email us at support@rotorlabfpv.com

Instagram: @rotorlabfpv

Facebook: Rotorlab FPV

YouTube: Rotorlab FPV