WYVERN 200

ASSEMBLY GUIDE

TABLE OF CONTENTS

INTRODUCTION

This document provides an overview of the assembly steps for the Quad Monsters Wyvern 200 Racing Frame. It is not meant to be a comprehensive guide describing all the necessary steps in building a quadcopter and installing all the necessary equipment. Instead, it explains in detail how the platform comes together that you will install your equipment on.

Individual equipment choices will dictate variance in the final assembly of the

REQUIRED COMPONENTS

Although as a builder you can choose most of the equipment in the Wyvern 200 there are a few specific components that were used in the design of the frame in order to optimize its characteristics. The following is a list of the components you will need to use if you plan on building the frame as specified by Quad Monsters.

MOTORS

The arms for the Wyvern 200 have been cut specifically for 22XX motors; 18XX bolt patters will not work on this frame without modifying the arms.

The specifics on the hole pattern are ∅16mm to ∅19mm and m3 bolts.

CAMERA

The provided camera mount is designed around a 28mm X 28mm board camera. We use the RunCam PZ0420M

VTX

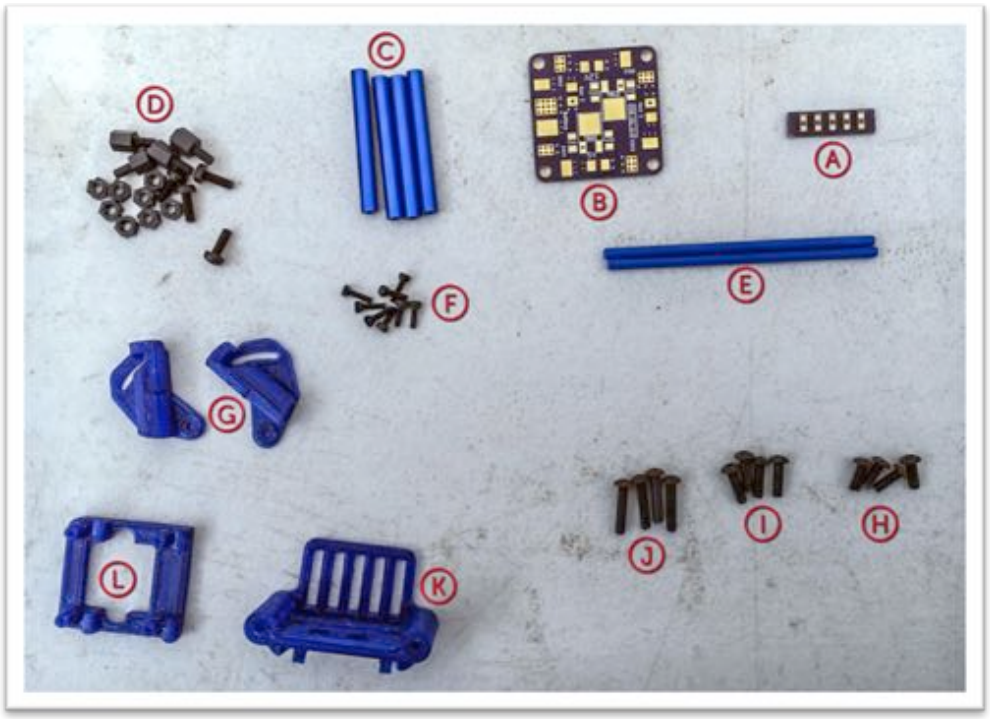
The designed mounting for the VTX is through the antenna connector. There are many VTXs that will work but they need to have a straight (not 90°) antenna connector on the narrow end of the board.

PARTS IDENTIFICATION

CARBON PARTS

A. Main Plate (please note tis plate has a front and a back as well as a top and a bottom, in the picture it is depicted top up)
B. Bottom Plate (please note that the opening in this plate has a wide and a narrow side, these will be important when determining the battery orientation)
C. Battery Plate
D. Top Plate
E. 4mm Arms (X4)

ADDITIONAL PARTS



A. LED Board
B. Power Distribution Board (PDB) with 5V and 12V regulators
C. 40mm Standoffs (X4)
D. Nylon Bolts (X4), Standoffs (X4) and Nuts (X8).
E. Antenna Tubes (X2)
F. M2 X 8mm Camera Bolts (X8)
G. Camera Mounts (Left and Right)
H. M3 X 8mm Bolts (X4)
I. M3 X 10mm Bolts (X4)
J. M3 X 14mm Bolts (X4)
K. Receiver, VTX, LED and Antenna Tray
L. Camera Plate

MAIN FRAME ASSEMBLY

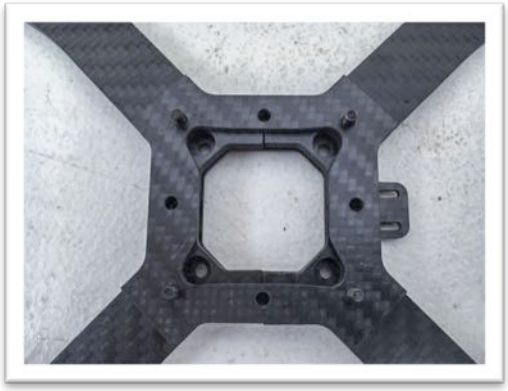
STEP 1, INSERT ALIGNMENT BOLTS

In order to facilitate the assembly of the frame we are temporarily going to use the ***M3 X 14mm bolts*** (J). Insert them into the ***Main Plate*** (A) in the outermost corner holes from the top-side (the side that has the nuts protruding) and place the plate top-side-down on a flat work surface. Once this is done your plate should look like the picture to the left.

STEP 2, PLACE ARMS

Place the ***4mm Arms*** (E) over the ***M3 X 14mm bolts*** (J), this will ensure that they are in the proper location. The arms should come together at the inside edges and the semi-circular notches will line up with the press-nuts that are in the main plate.

STEP 3, PLACE BOTTOM PLATE



Place the ***Bottom Plate*** (B) onto the assembly as shown in the picture to the left. Please note the orientation of the opening on the bottom plate, the narrow dimension needs to go front to back (please note that this is depicted left to right in the picture to the left as the frame is turned 90° and the battery lead stress relief tab denotes the rear of the frame) and the wider dimension

needs to go left to right. This is important as it will determine where the relation between your battery lead and your power lead and ensure that your battery pack will sit correctly on the bottom of the frame.

STEP 4, SCREW TOGETHER SANDWICH

At this point in time the mainframe sandwich can be completed by using the main sandwich ***M3 X 10mm bolts*** (I). Align the arms properly, insert and screw in the main sandwich bolts loosely until all 4 are in place. If you use thread locker on your frames now is the time to apply it to these bolts. Once all four bolts are in position then they can be tightened down to complete the main frame sandwich.

STEP 5, REMOVE ALIGNMENT BOLTS

We can now remove the ***M3 X 14mm bolts*** (J) that where temporarily used to keep the sandwich together, they will be used later to mount the battery plate and the standoffs. The pictures above show what the main frame sandwich should look like from the bottom and from the top when completely assembled.

CENTRAL STACK ASSEMBLY

STEP 1, INSERT PDB AND FC BOLTS

Start the stack assembly by installing the ***Nylon Bolts*** (D) through the inside holes in the corners. The bolts are held in place with a nylon nut as shown in the picture to the left.

At this point in time you can continue with the electronics installation if desired or you can install the standoffs first as described in Step 2 below.

STEP 2, PLACE BATTERY STRAP AND BATTERY PLATE

The orientation of the battery strap and the ***Battery Plate*** (C) must align with the orientation of the ***Bottom Plate*** (B).

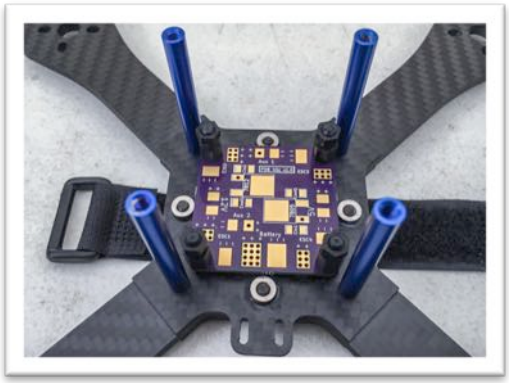
The picture to the left shows the orientation of these two components, the narrow segment of the ***Battery Plate*** (C) must align with the wider section of the ***Bottom Plate*** (B). This provides the opening for the battery strap to sit in and will allow movement back and forth for the battery strap.

When replacing the battery strap it is easier to do this if you loosen the bolts that hold the ***Battery Plate*** (C) to the main frame sandwich as this will slightly enlarge the opening and make it easier to slip the old battery strap out and the new battery strap in. In some cases you may find it necessary to loosen two of the bolts remove the other two bolts and slip the battery straps in and out from the end of the frame.

STEP 3, INSTALL BATTERY PLATE AND STANDOFFS

The battery strap can now be permanently installed. It is held in place using the ***Battery Plate*** (C) and ***the M3 X 14mm Bolts*** (J). The battery plate bolts will screw into the ***40mm Standoffs*** (C). This is another place where you can use thread-locking compound if desired.

STEP 4, INSTALL PDB AND FLIGHT CONTROLLER



If you did not install your electronics in Step 1 above then you can install them here. The ***PDB*** (B) is held down by the ***Nylon Standoffs*** (D) and the flight controller board is held down by the final set of ***Nylon Nuts*** (D).

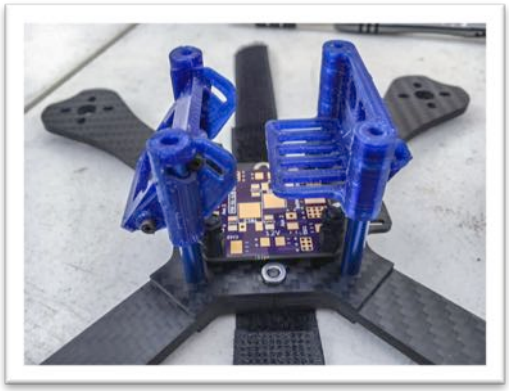
3D PRINTED PARTS AND TOP

STEP 1, INSTALL RECEIVER TRAY

Slide the ***Receiver, VTX, LED and Antenna Tray*** (K) over the two rear standoffs (the ones closes to the power lead stress relief tab). This piece will hold all the listed components:

- The receiver is mounted to the flat tray using double sided tape or other mounting mechanism.
- The antenna tubes are installed in the provided slots.
- The VTX is installed through one of the two provided holes using the SMA connector on the VTX and the antenna or a nut. Since not all SMA connectors are the same length please ensure that the antenna is completely seated and that you have a connection. If the VTX is loose after the antenna is completely tightened you will need to use washers or an additional nut to solidly mount the VTX.
- LED installation is shown below.

STEP 2, INSTALL CAMERA



Prepare the camera assembly off the quad before installing it. The camera mounts to the ***Camera Plate*** (L) using the provided ***M2 X 8mm*** (F) bolts. The camera installs from the rear (the side that is not smooth) and the bottom of the camera aligns with the narrow side of the ***Camera Plate*** (L) (the side with the rounded corners).

Once the camera has been installed the ***Camera Plate*** (L) can be installed on the ***Camera Mounts*** (G) using the provided ***M2 X 8mm*** (F) bolts. Please see the picture above for the correct configuration when assembling the camera assembly.

Once the camera assembly is complete you can slip it over the front standoffs.

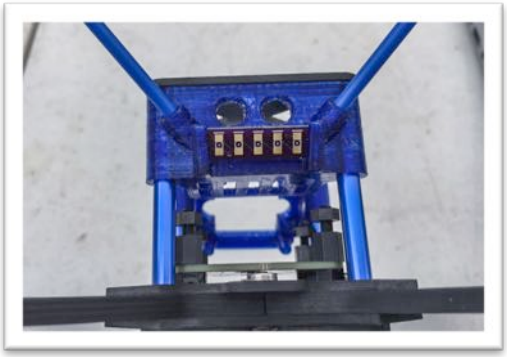
The camera angle is adjustable, from 25° to 55° by loosening the four screws and re-tightening them in the new desired angle. Please note that to achieve the lower angles the camera assembly needs to be removed from the standoffs for adjustment.

STEP 3, INSTALL TOP PLATE

Once the receiver plate and the camera assembly have been installed you can install the ***Top Plate*** (D) using the ***M3 X 8mm Bolts*** (H). The cutout in the top plate faces the front of the frame.

If desired, the top plate is equipped with a center hole to allow a bracket-mounted camera (such as the HS1177) to be installed. If this option is selected the VTX will have to be re-located as it will be in the way of the camera. A VTX with a pigtail can be used, placing the SMA connector in the supplied holes.

STEP 4, INSTALL LEDS AND ANTENNA TUBES



The final step in the frame assembly is the installation of the ***LED Board*** (A) and the Antenna tubes into the **Receiver, VTX, LED and Antenna Tray** (K).

The LEDs supplied with your Wyvern 200 are rated to 12V and need to be connected to the 12V output pad on the ***PDB*** (B).

The installation of the LED Board (A) is tight and it will have to be pressed into location to seat properly; this tight fit is by design as only this friction fit holds the ***LED Board*** (A) in place. It is easier to

solder to LED wire lead to the ***LED Board*** (A) before installation and then to the ***PDB*** (B) after installation.

Finally, feed your receiver antennas through the holes and insert the provided antenna tubes into the slots in the ***Receiver, VTX, LED and Antenna Tray*** (K).

CONTACT INFORMATION

If you have any issues with, or questions about, your Wyvern 200 you can reach us at:

http://quadmonsters.com

Or by email at:

quadmonsters@thehobbymonster.com

Disclaimer: Quad Monsters does not accept any responsibility or liability for misuse of this or any other product. All our products are extensively tested to comply with rigorous and strict QC standards. This is not a toy, it is a high performance racing quadcopter, which is perfectly safe when operated as intended, we cannot be held liable for misuse or accidents.