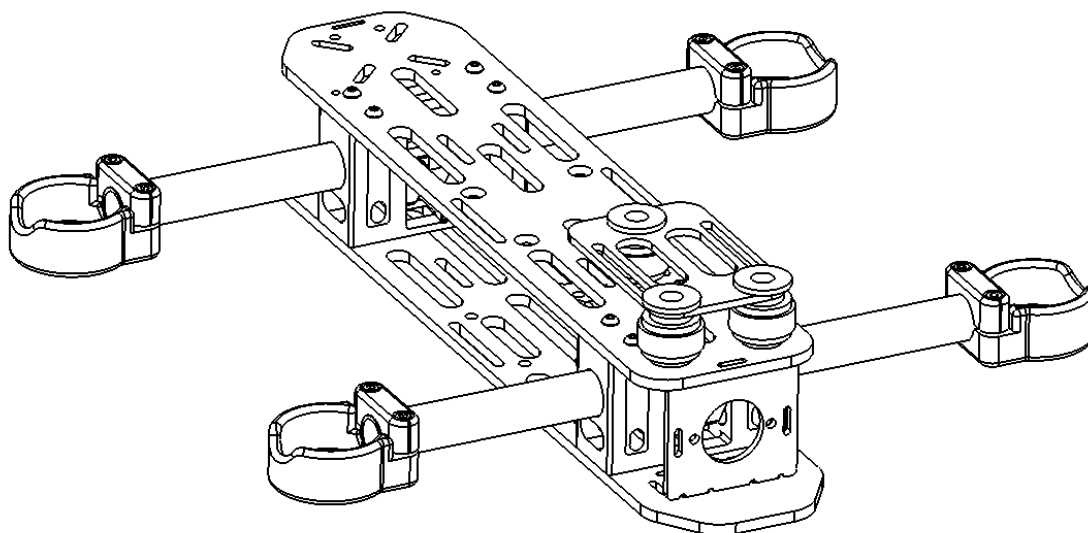


# VECTORQUADS

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## VQ250 ASSEMBLY MANUAL



Product ID. : VQ250  
Ver. : 1.00



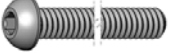








# VECTORQUADS

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## Introduction

The VQ250 quadcopter features a simple tilting rotor design allowing level forward flight. In addition to the supplied hex keys, you will need a Phillips screw driver during this build. It is recommended you use blue loctite (or equivalent product) on all screws inserted into metal parts only. Do not use any thread locking substances on any of the plastic parts.

## Parts List

2 x		Socket Head Cap Screw M2x0.4x6
4 x		Flat Head Phillips Screw 9mm Length
4 x		Button Head Cap Screw M2x0.4x18
16 x		Button Head Socket Cap Screw M2.5x0.45x8
8 x		Socket Head Cap Screw M2.5x0.45x16
2 x		Alloy Steel Dowel Pin M2x16
16 x		Flat Washer
2 x		Rod End
1 x		Servo Horn & Linkage Stopper Assembly
1 x		Long Push Rod
3 x		Vibration Dampening Rubber Ball

# VECTORQUADS

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4 x



Motor Mount

4 x



Motor Mount Clamp

1 x



Servo Mount Frame

4 x



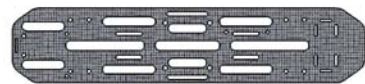
Tube Clamp

2 x



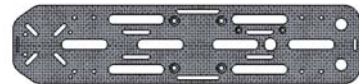
Tube Pivot Block

1 x



Base Plate

1 x



Top Plate

1 x



HD Camera Plate

1 x



FPV Camera Plate

2 x



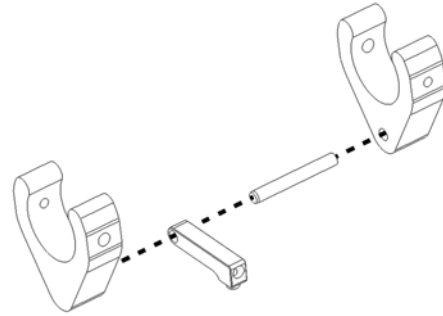
12mm Tube

# VECTORQUADS

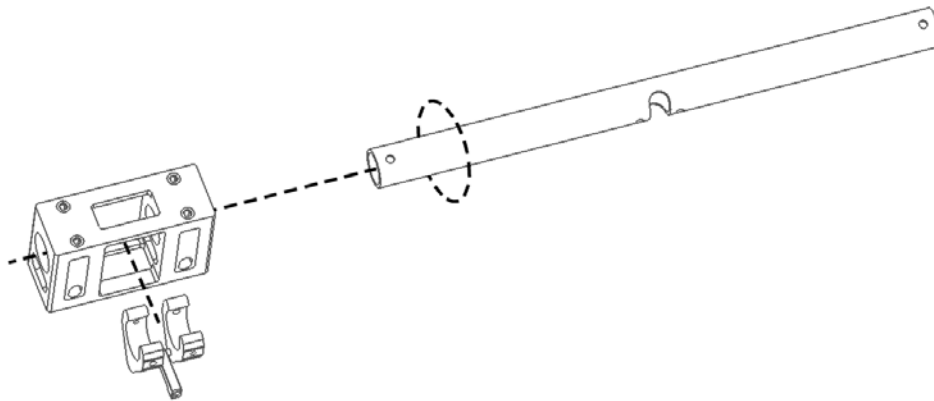
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## Pivot Tube Assembly

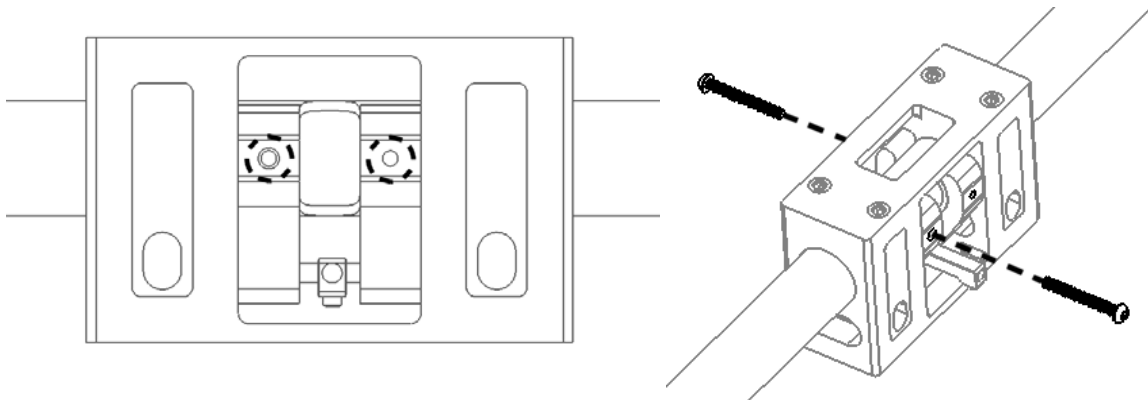
1. Slide the **Alloy Steel Dowel Pin M2x16** onto the **Rod End**. Insert the **Alloy Steel Dowel Pin M2x16** into the holes on the **Tube Clamps** as shown.



2. Position the **Tube Clamp** assembly within the **Tube Pivot Block** and push the **12mm Tube** through the holes using a twisting motion.



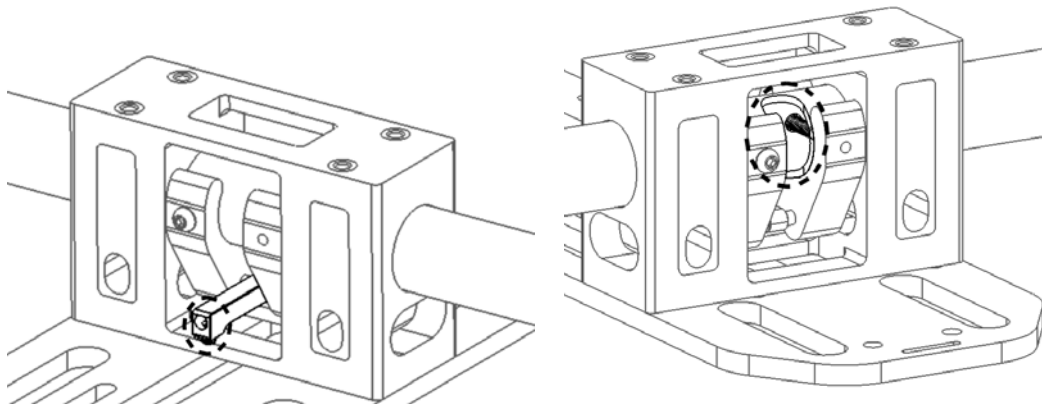
3. Align the holes on the tube with the threaded holes on the clamps and use two **Button Head Cap Screws M2x0.4x18** to secure the tube in place.



Repeat steps 1 through 3 for the second tube pivot block.

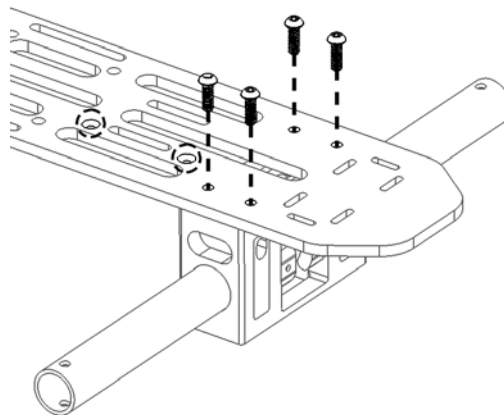
# VECTORQUADS

4. Make sure the rod ends are pointing towards the center of the base plate and the cutout on the tubes on the opposite side towards the ends.

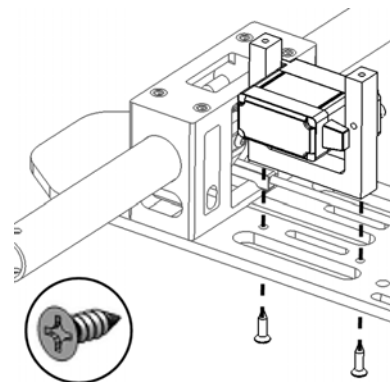
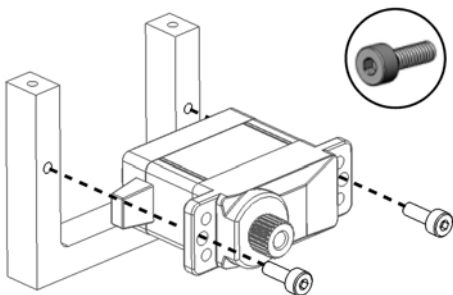


Mount the tube assembly onto the **Base Plate** using four **Button Head Socket Cap Screw M2.5x0.45x8** on the same side as the countersunk holes. Note the orientation of the tube pivot block with respect to the base plate.

Repeat step 4 for the second Tube Pivot Block assembly.



5. Secure the servo on the **Servo Mount Frame** using two **Socket Head Cap Screw M2x0.4x6**.
6. Mount the **Servo Mount Frame** onto the base plate using two **Flat Head Phillips Screw 9mm Length**. Do not over tighten screws.



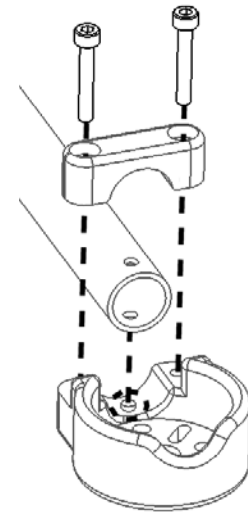
# VECTORQUADS

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7. Assemble the **Motor Mount** onto the ends of the tubes using a **Motor Mount Clamp** and two **Socket Head Cap Screw M2.5x0.45x16**. Align the locating pins on the clamp and mount to the guide holes on the tube.

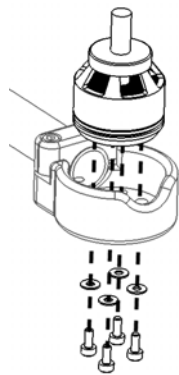
**IMPORTANT: Do not completely tighten one screw, then the other.** Tighten each screw a little at a time to avoid putting too much stress on one side of the tube. Tighten screws just enough to remove any play on the motor mount.

Note that due to the tube length and frame size, 5 inch props are the max size that can be used with this frame.



Do not install motors at this time. Simply choose the orientation of the motor mounts based on the intended motor size you plan to use.

For 1806 18mm diameter motors, install inside the motor mount. Use supplied washers with screws to mount the motors.

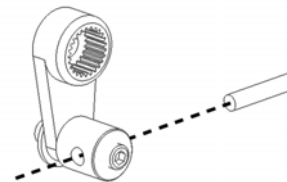


For a stator diameter larger than 18mm, rotate the motor mount upside down and install motors on the bottom side.



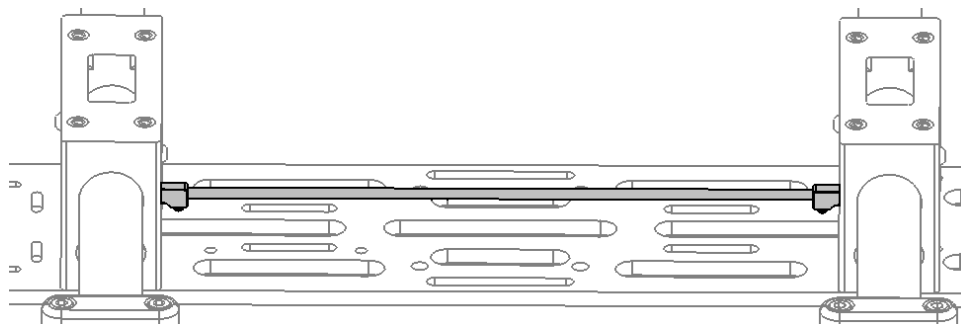
8. Slide the **Long Push Rod** into the **Servo Horn & Linkage Stopper Assembly** but do not tighten the set screw at this time.

Insert the ends of the push rod into the rod ends as shown. Note the servo assembly has been left out for clarity.

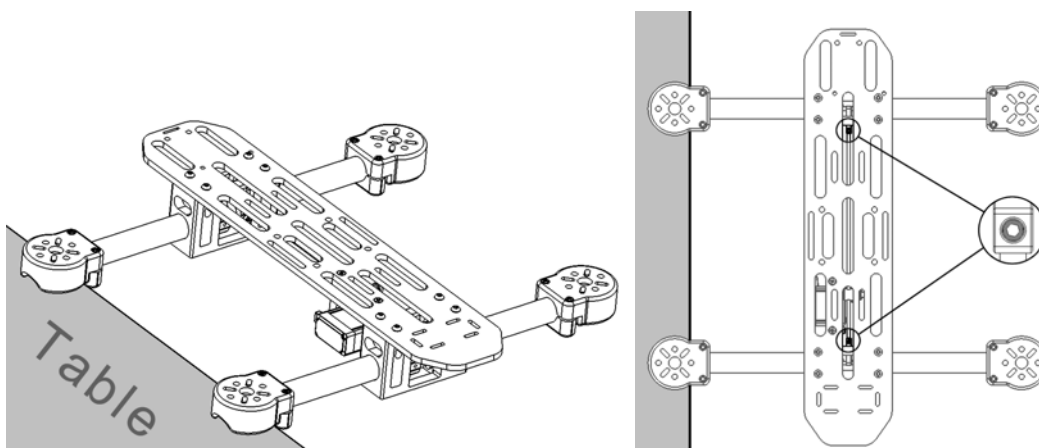


# VECTORQUADS

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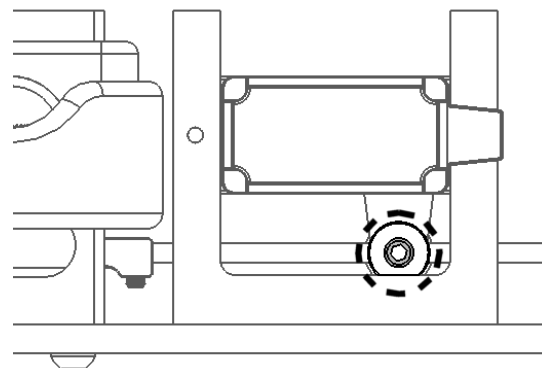
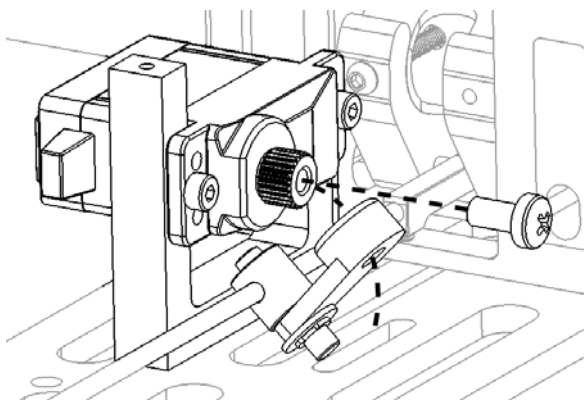


9. Using the edge of a flat surface, align the motor mounts so that they are parallel with each other and tighten the setscrews on the rod ends.



10. Center the servo spline using a suitable servo controller. Push the servo horn onto the spline and secure in place using the screw supplied with your servo.

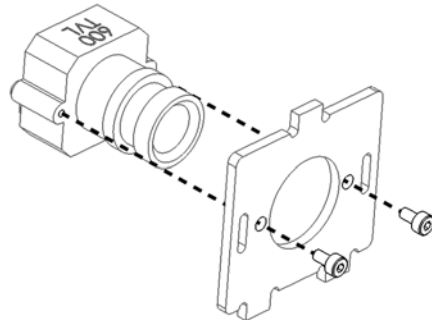
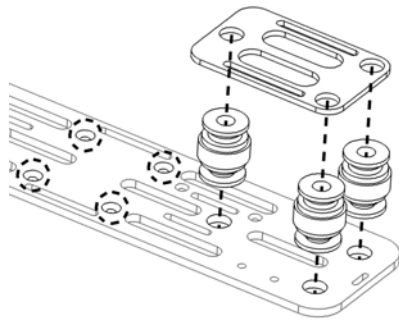
11. Tighten the setscrew on the servo horn. Repeat step 9 if the motor mounts have moved before tightening the setscrew.



12. Install the **Vibration Dampening Rubber Balls** and **HD Camera Plate** onto the **Top Plate** noting the location of the countersunk holes. Prepare the **FPV Camera Plate** at this time.

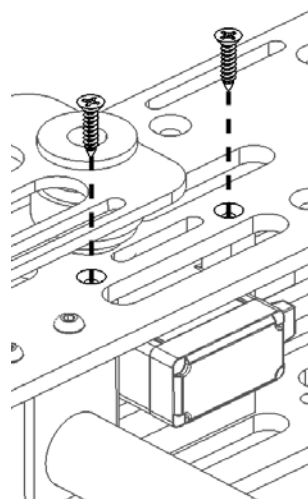
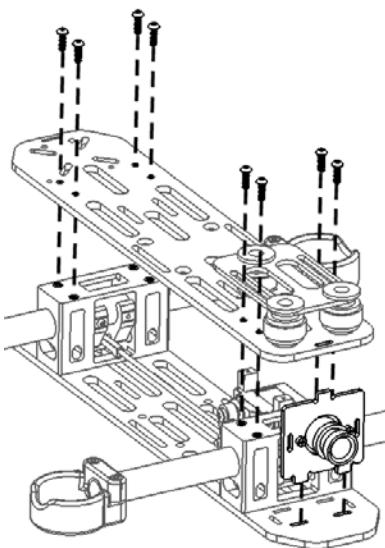
# VECTORQUADS

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13. Mount the top plate and FPV camera plate onto the base plate assembly using the remaining eight **Button Head Socket Cap Screw M2.5x0.45x8**.

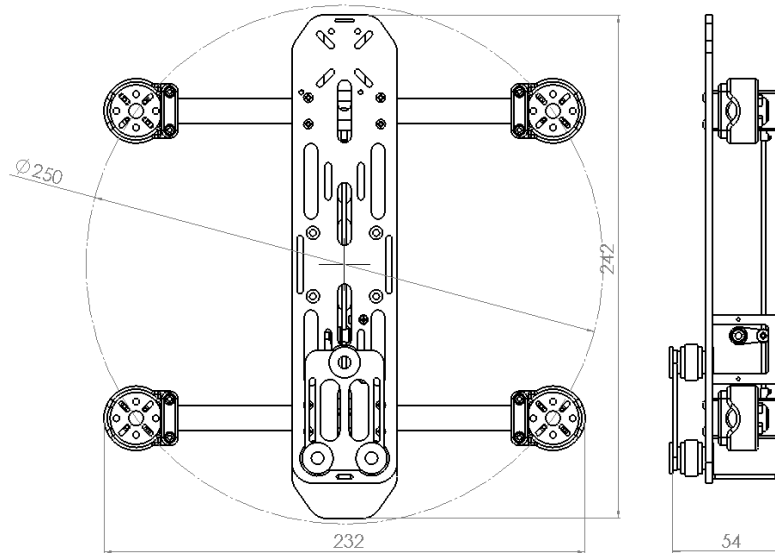
14. Use two **Flat Head Phillips Screw 9mm Length** to secure the servo mount frame to the top plate. Do not over tighten screws.





# VECTORQUADS

## Mechanical Specifications



Empty Weight (excluding servo): 220g  
Length: 242mm  
Width: 232mm  
Height: 54mm  
Tilt Rotor Angle: +50° / -40°