AIMDROIX EVO ONE

Professional Series Multirotor

/aimdroix


# INSTRUCTION MANUAL

# INTRODUCTION

The AIMDROIX EVO ONE is the ultimate airframe for endurance FPV and aerial videography. The goal of this frame design was to provide a large battery load capacity, vibration isolated plates for the cameras, camera location out of the props view while positioning the CG as close to the center as possible, and in a low profile package. With this in mind, a high stiffness frame was developed by using the exclusive aluminum beam stiffeners and an integrated aluminum landing gear frame. As an AIMDROIX signature, CNC aluminum parts are all around the frame giving the frame its distinctive look and performance of AIMDROIX.

**Frame configurations**:
The frame was designed to be as customizable as possible so that it could be built in many different multirotor configurations. The default frame configuration is a Y6 but it can be built as a quad, quad X8, Y4, V- tail quad and tricopter. This is possible by just installing the optional configuration kits sold separately.

**Main Frame and landing gear:**
The top and bottom plate are stiffened with an innovative aluminum beam stiffeners, that allowed to increase the stiffness of the frame plates without the need of standoffs or sandwiched plates. This maximizes the space between the top and bottom plates for a better placement of the ESC and batteries. The integrated landing gear increases the stiffness of the bottom plate and allows two high capacity batteries to be mounted on the sides of the frame. This combined with the battery stopper, allows to adjust the CG position, and consistently place the battery in the same location for a constant performance. The height of the landing gear can be easily changed by replacing the 8mm carbon fiber leg tubes.

**Camera mounting system:**
The innovative camera mounting system was designed to provide vibration isolation for the camera and video transmitter electronics. The camera plate is mounted on 6 AIMDROIX exclusive soft dampers that the takes away the vibration from the props and motors. The rear support dampening balls are mounted on the top plate brackets so that they are in compression load allowing vibrations to be isolated in an efficient way. This allowed mounting the camera gimbal and FPV camera on front of the plate, away from the top and bottom props view and maintain the plate parallel with respect to the frame plates**.** The plate was designed to fit the Feiyu Tech FY-G3 brushless gimbal without modifications.

**Designed for the Aimdroix Aluminum Arms:**
The frame was designed to fit the AIMDROIX aluminum arms that have been well proven for many customers around the world. With the optional AIMDROIX arms accessories, it possible to build the most versatile multirotor frame in the market.

**Key Features:**
-Innovative vibration isolated camera system.
-CNC machined aluminum parts
-Extruded carbon fiber and aluminum landing gear
-Configurations; Y6, Quad X4, Quad X8, Y4, V- tail Quad, and Tricopter
in a quad configuration.
-Smart battery stopper.
-No standoffs or sandwiched plates design.
-Low profile design for pancake type motors

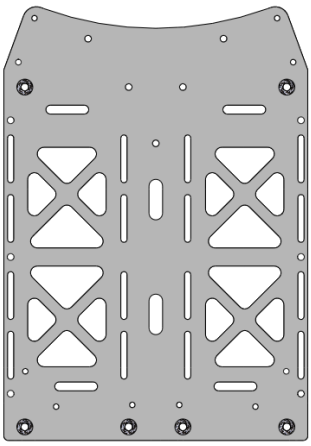
# SPECS

Y6 Specs:
- Frame size: 610mm (with extended length arms)
-Max props size:16in on top motor / 15in props on lower motor.
-1.5mm and  2mm G10 plates. (Optional 1.5mm Carbon fiber plates)
-Aprox frame weight: 670g
- Battery space between plates: 160 x 50mm x 40xmm (LxWxH)
- Large battery capacity under the bottom plate, up to  180mm x105mmx 60mm (LxWxH). Enough for 6s high capacity batteries for extreme endurance flights.

QUAD Specs;
- Frame Size: 615mm (with extended length arms)
-Max props size: 14in
-Can be configured as an X8 quad for extreme power. (if not using pancake type motors, lower prop size must be 13in or less.
-Aprox Frame weigth: 724g (with V1.5 extended aluminum arms)
-1.5mm and  2mm G10 plates. (Optional 1.5mm Carbon fiber plates)
- Battery space between plates: 220mm x 53mm x 37 mm (LxWxH)
- Large battery capacity under the bottom plate, up to 180mm x105mmx 60mm (LxWxH). Enough for 6s high capacity batteries for extreme endurance flights.

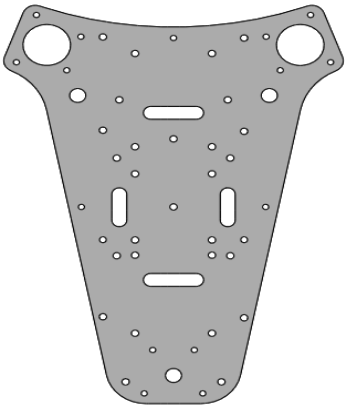
# REQUIRED PARTS

*Images are not at real scale*



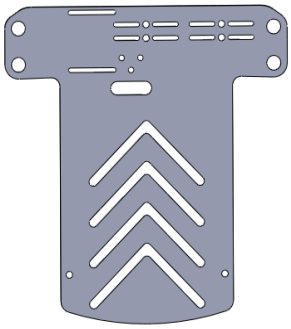
X1

1



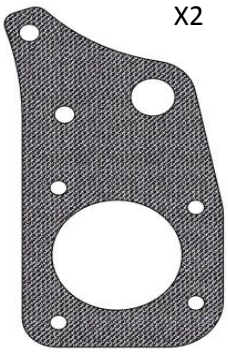
X1

2



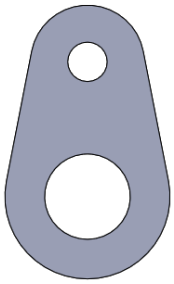
X1

3



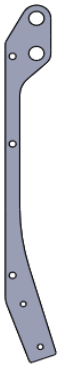
X2

4



X2

5

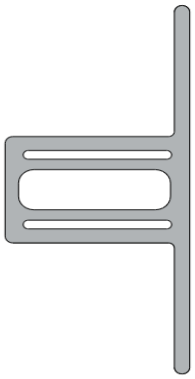


X2

6

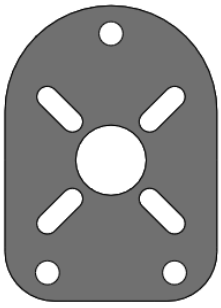
X2

7



X1

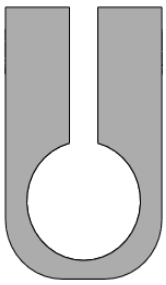
7



X3

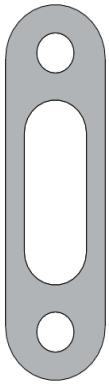
*Not included in base kit*

8



X4

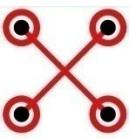
9



X3

*Not included in base kit*

10



# REQUIRED PARTS II

*Images are not at real scale*

X2

11

X2

12

X3

*Not included in base kit*

13

X4

14

X9

*Not included in base kit*

15

X4

16

X2

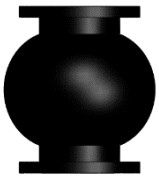
17

X2

18

X2

19



X6

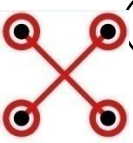
20

X2

21

X2

22



# FASTENERS

TL

Threadlock Recommended (TL)

M3 x 25mm

M3 x 16mm

M3 x 12mm

M3 x 6mm

M3 x 4mm

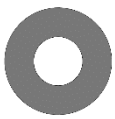
M3 x 7mm HEX

M2 x 14mm

M2 x 8mm

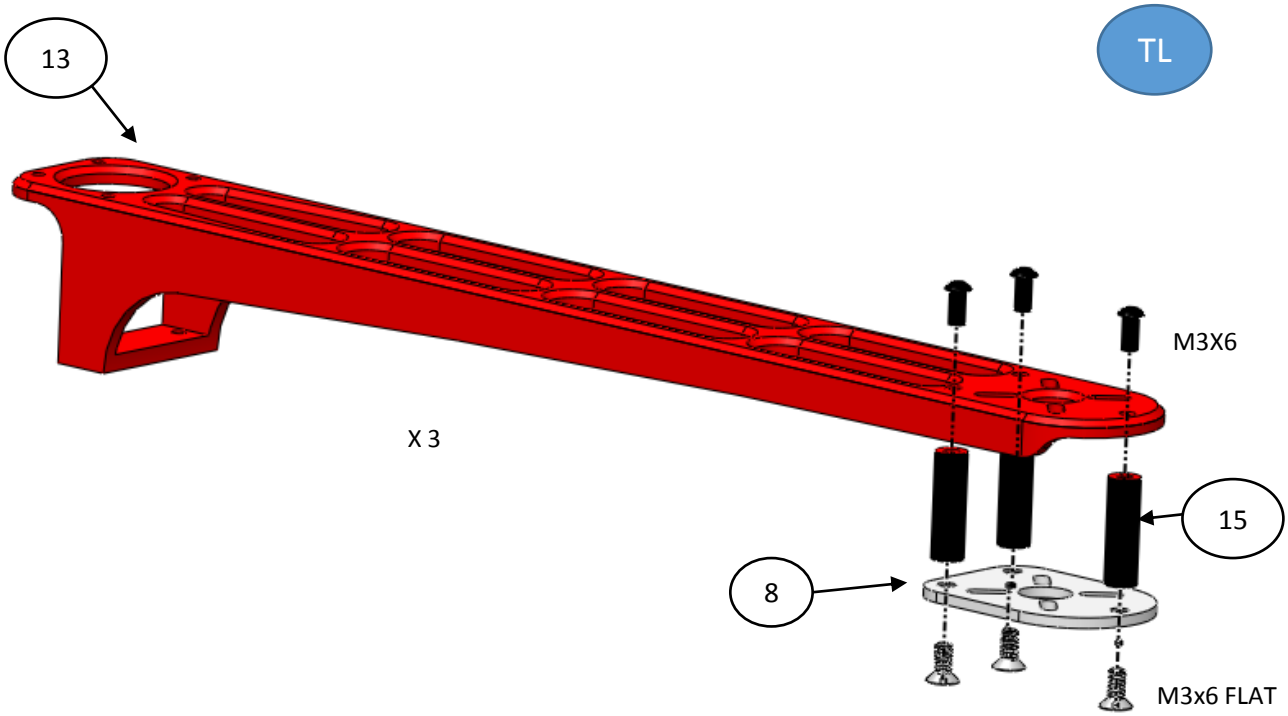
M3 NYLON LOCK NUT

M3 x NUT

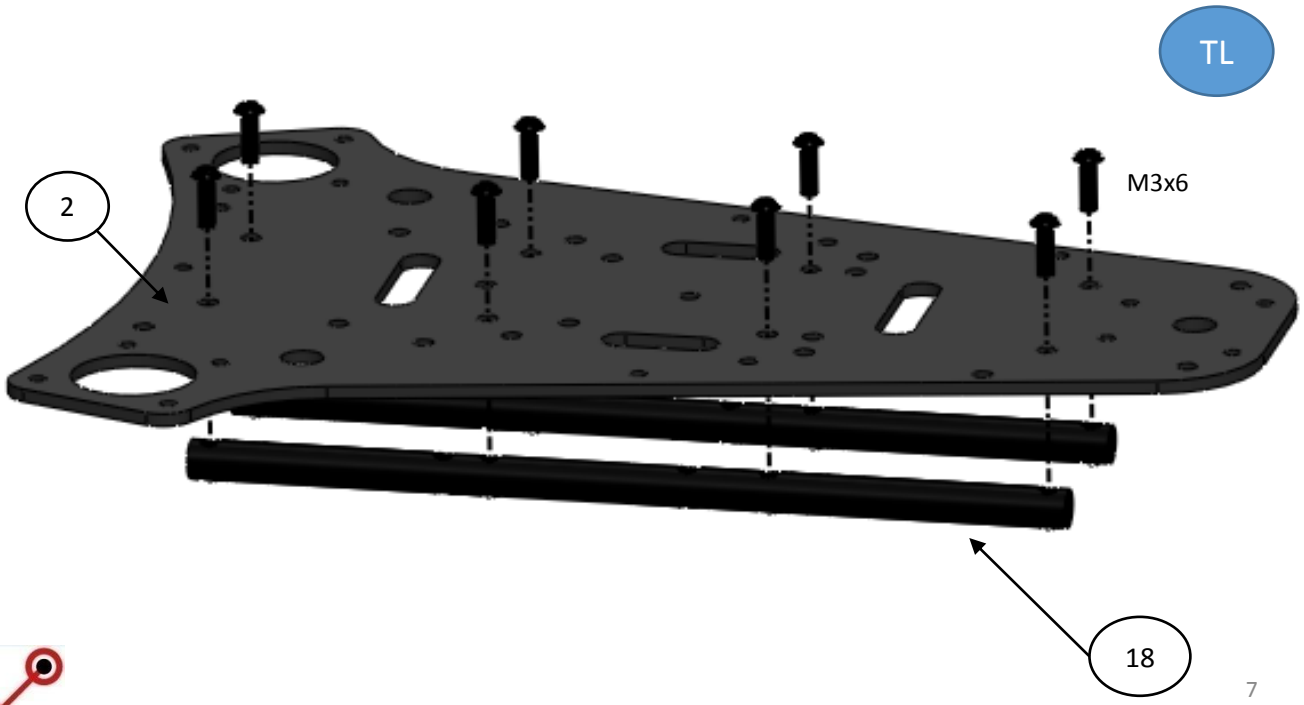


M3 x WASHER

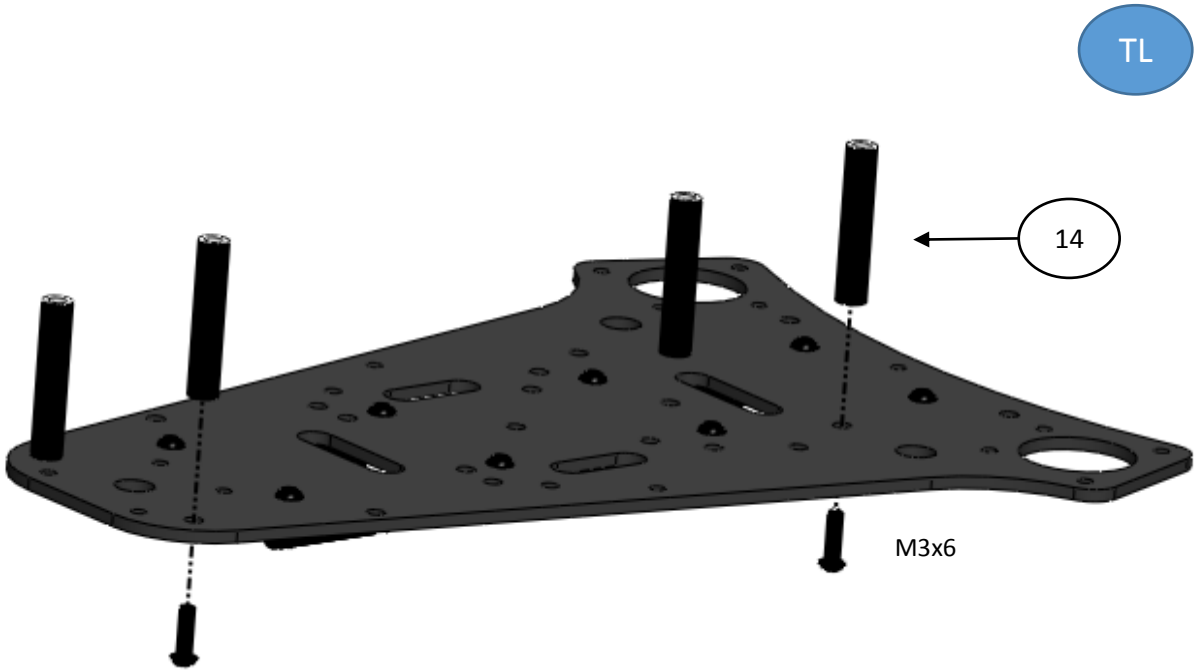
# ARM ASSEMBLY



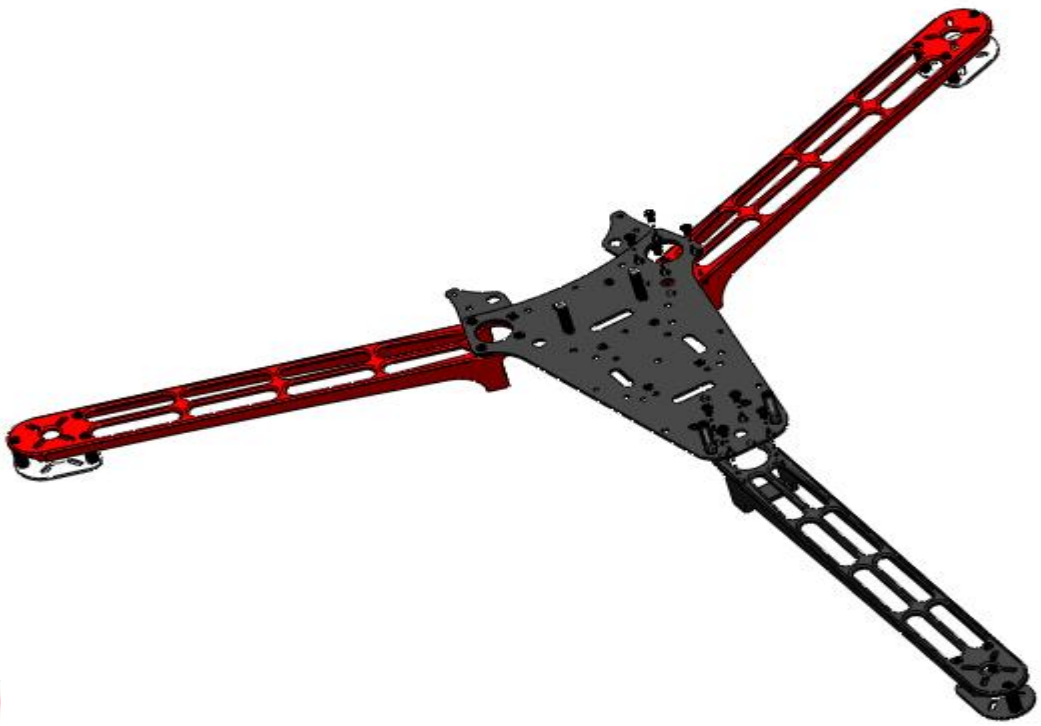

# TOP PLATE



# TOP PLATE

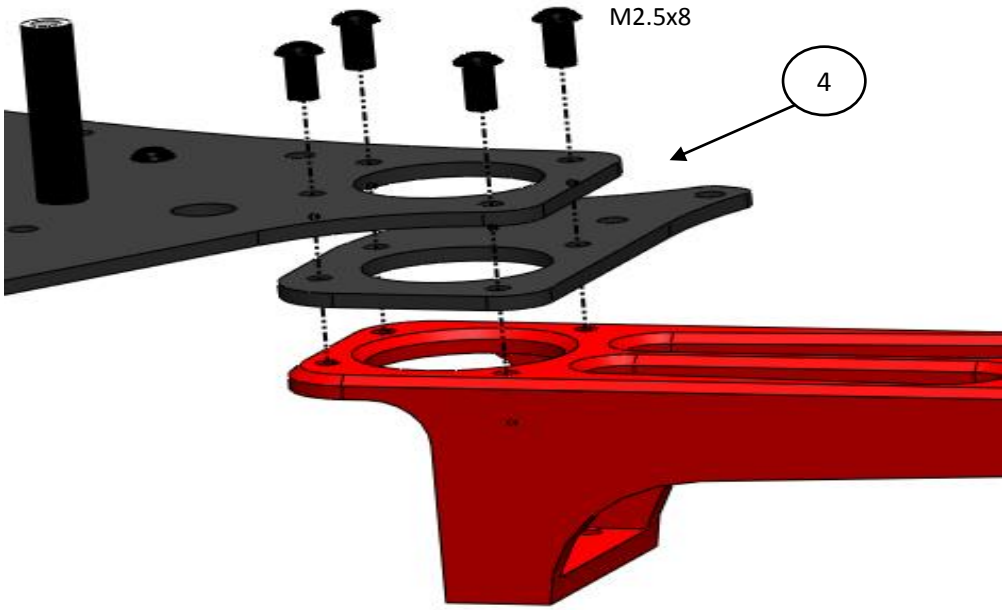



# ARMS AND TOP PLATE ASSEMBLY

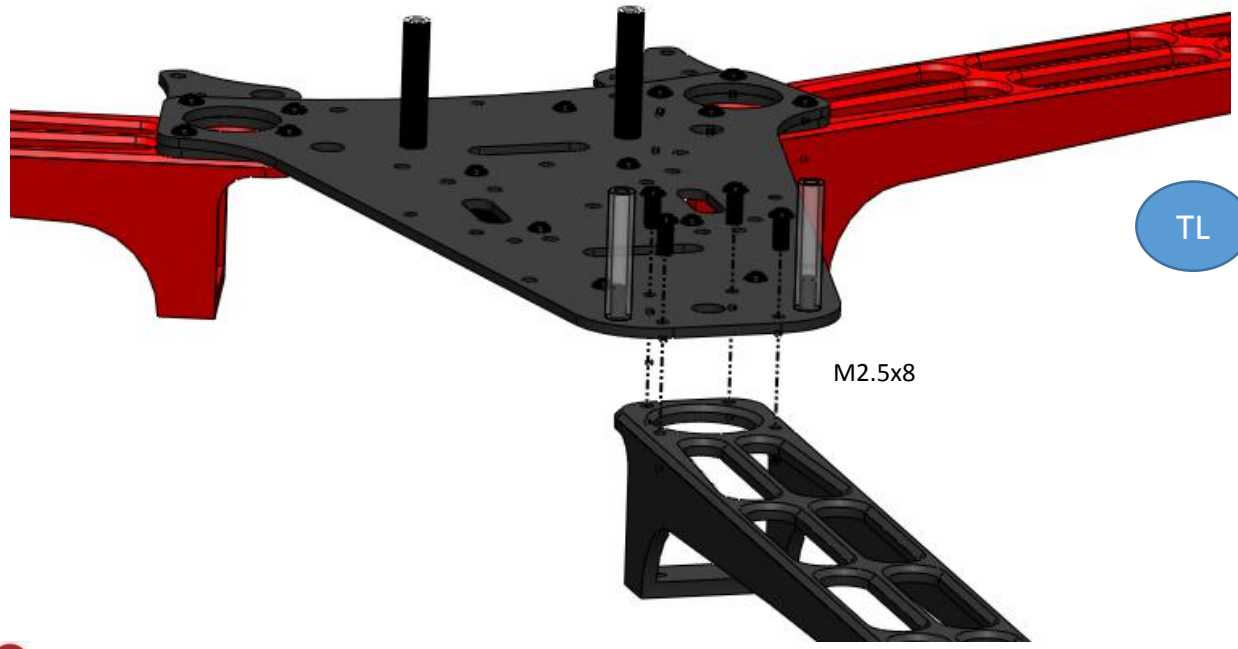


# FRONT ARMS ASSEMBLY

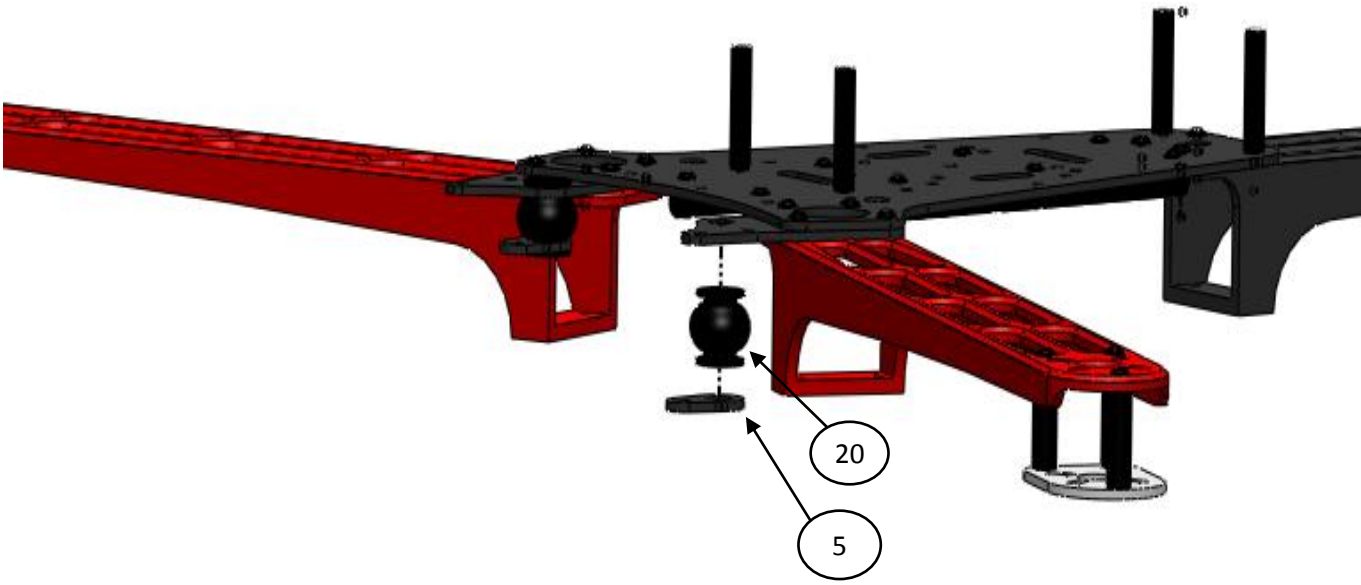
TL



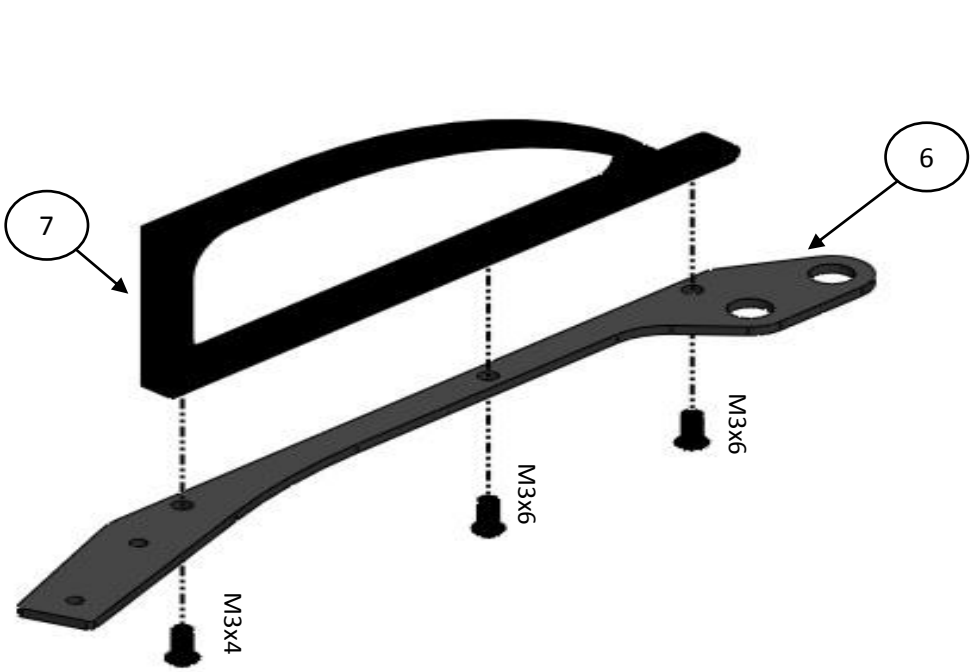

# REAR ARM ASSEMBLY



# VIBRATION ISOLATION



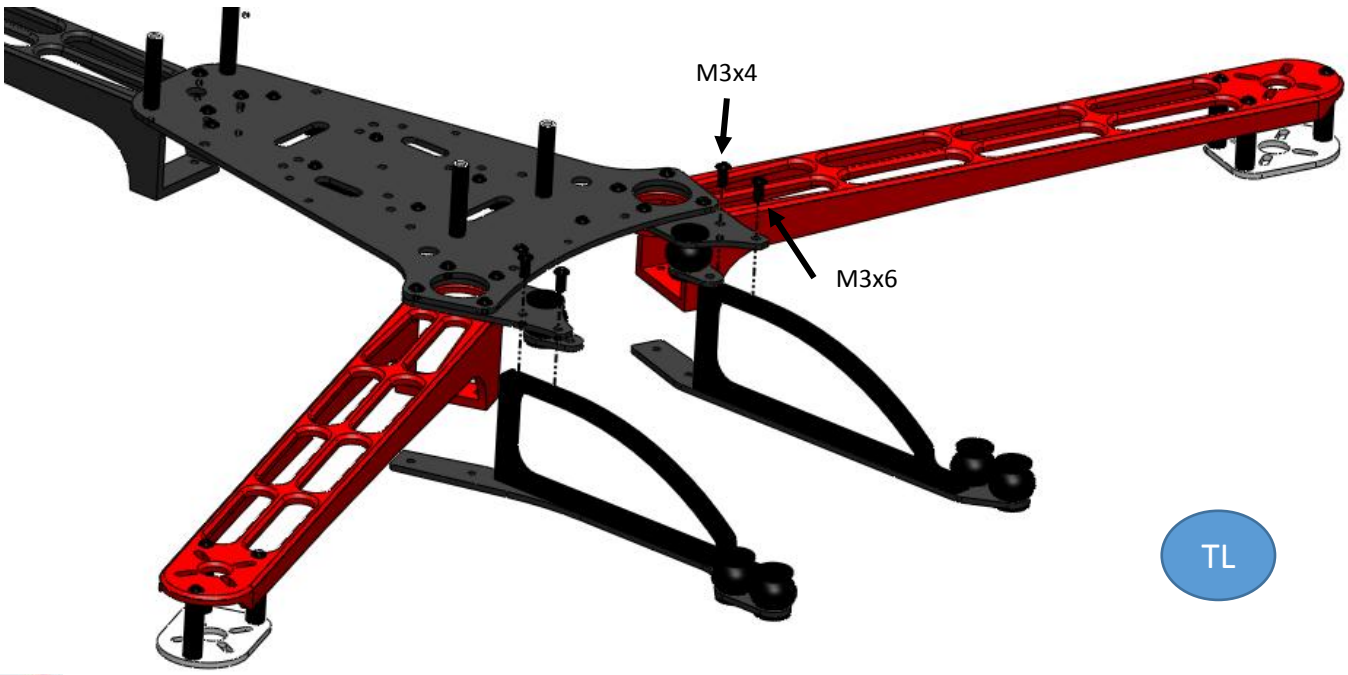

# CAMERA SUPPORT



# VIBRATION ISOLATION BALLS

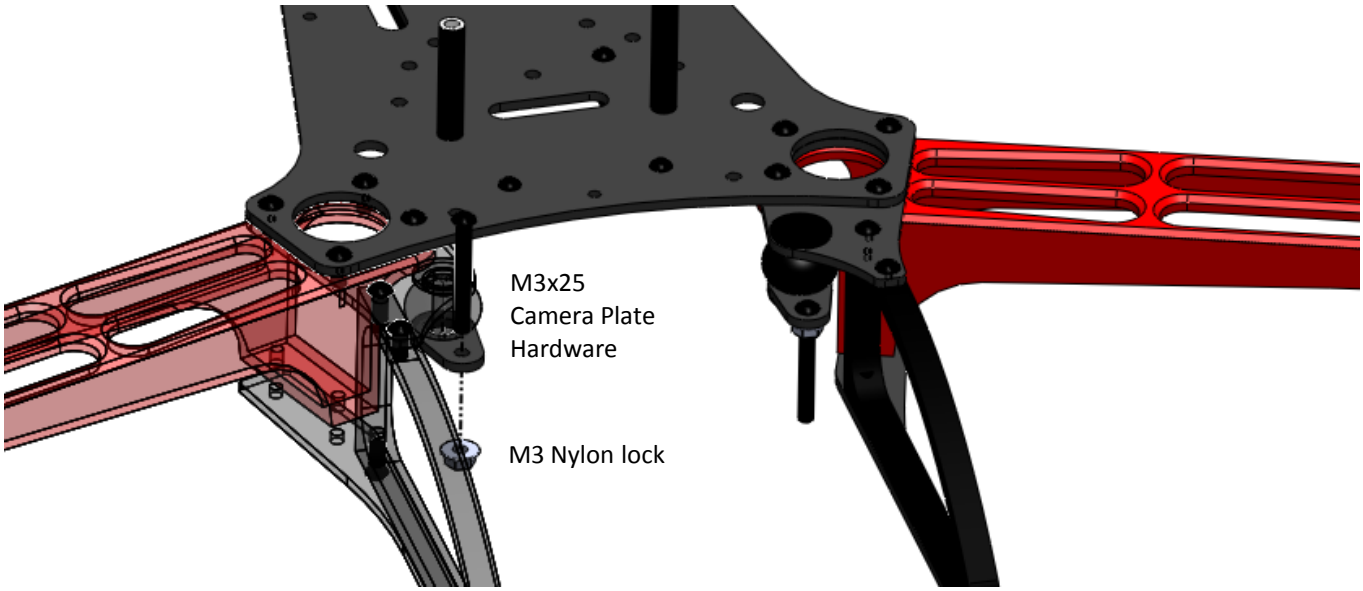
X2


# CAMERA SUPPORT TO TOP ASSEMBLY




TL

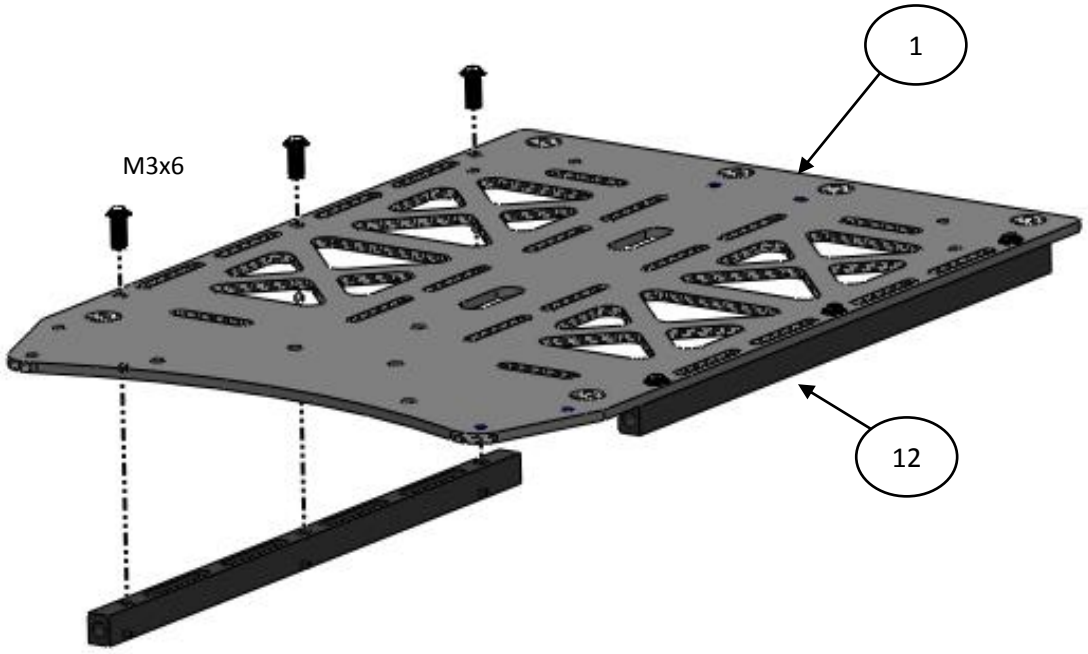
# CAMERA PLATE HARDWARE




# COMPLETE TOP ASSEMBLY

# LANDING GEAR FRAME

TL

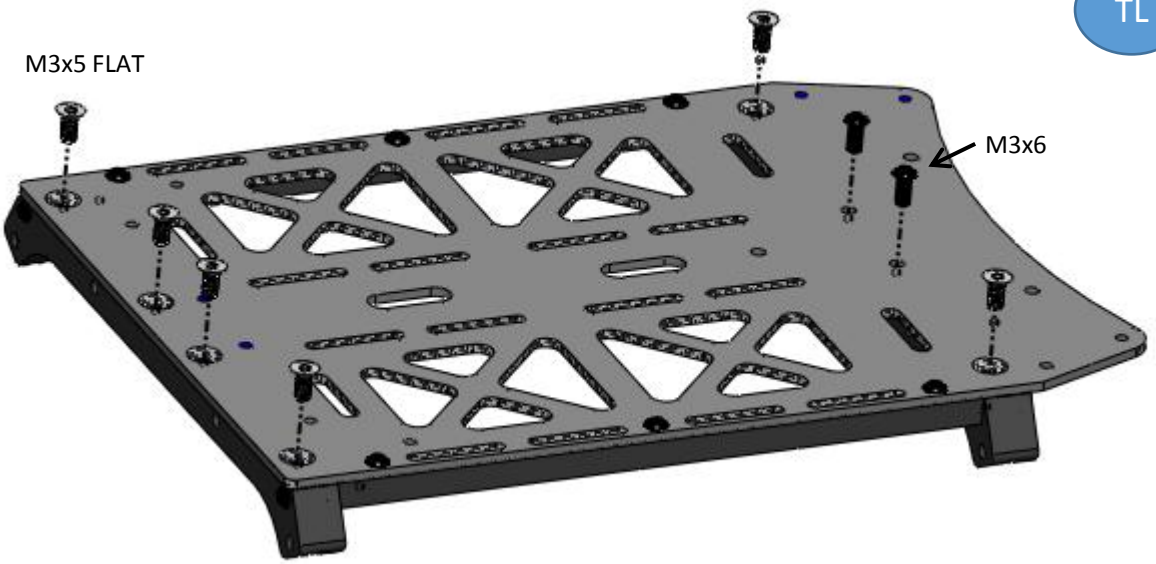



# LANDING GEAR FRAME

TL

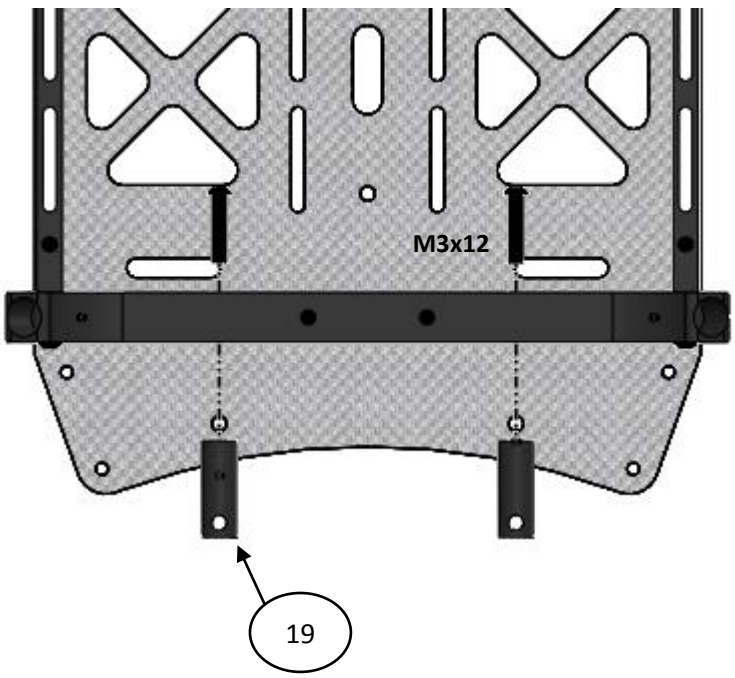
# BOTTOM PLATE TO LANDING GEAR FRAME

TL



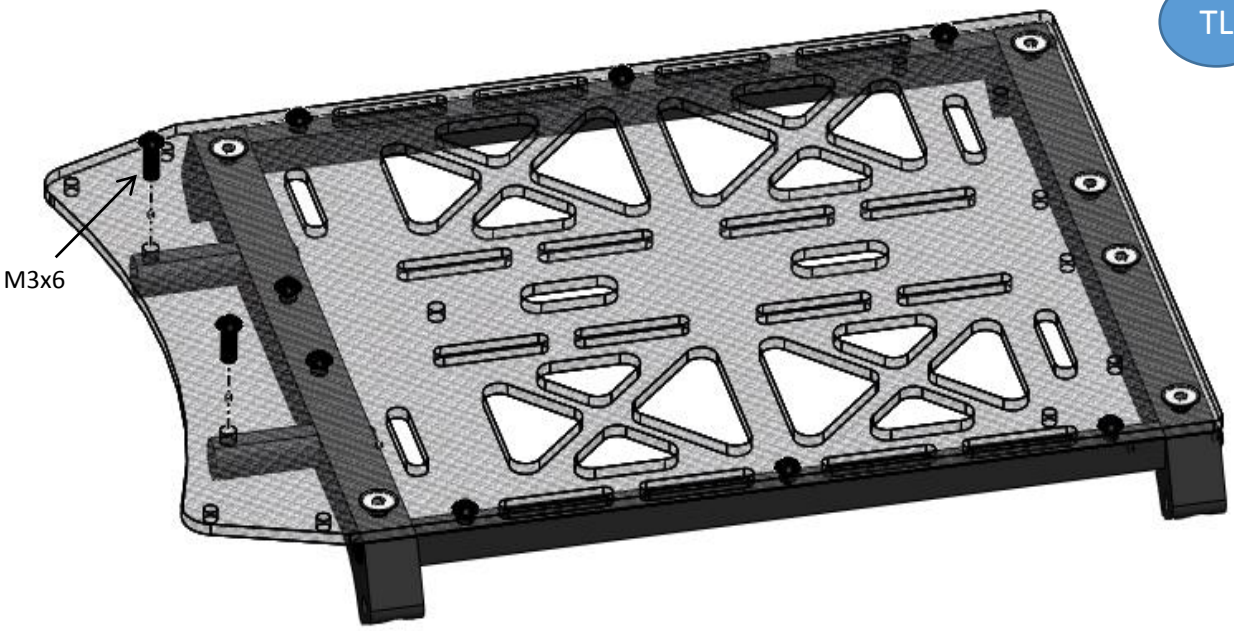

# BOTTOM PLATE SUPPORTS

TL

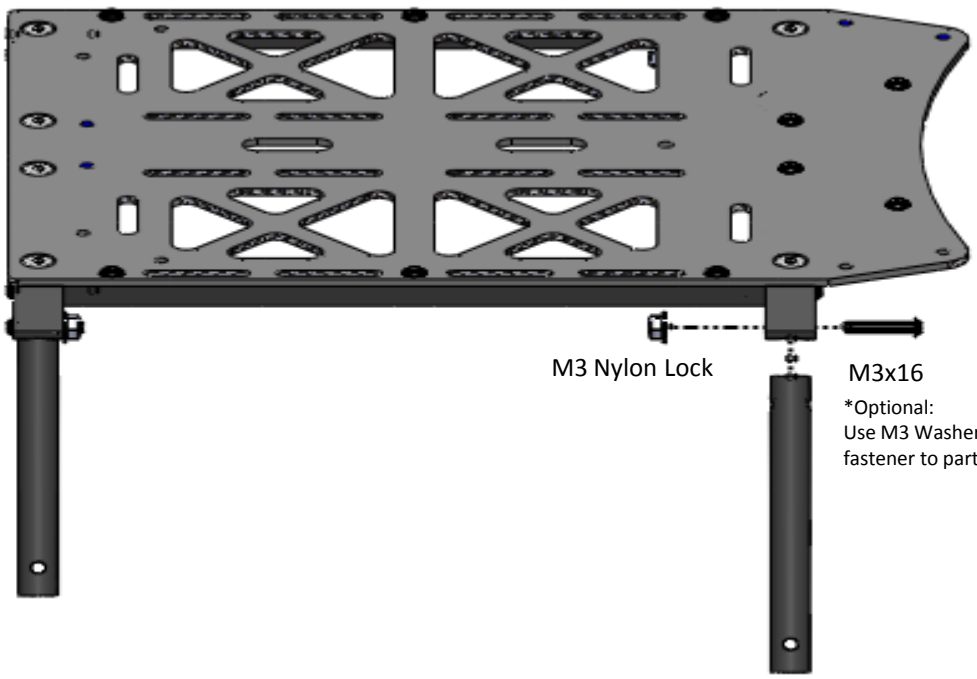


# BOTTOM PLATE SUPPORTS

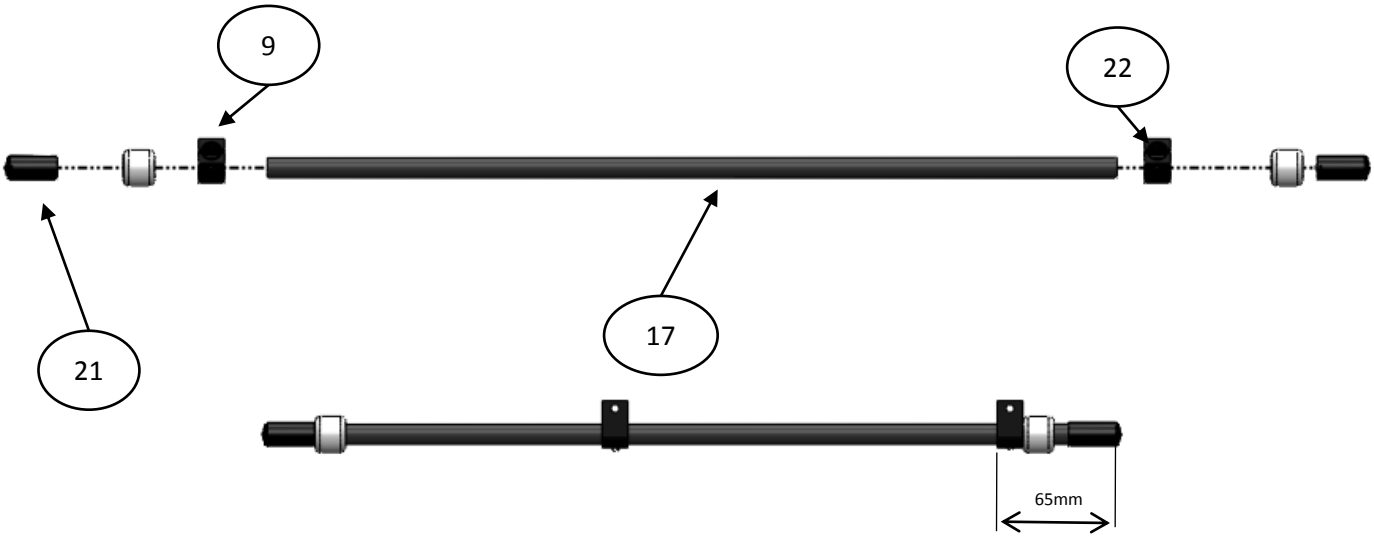
TL



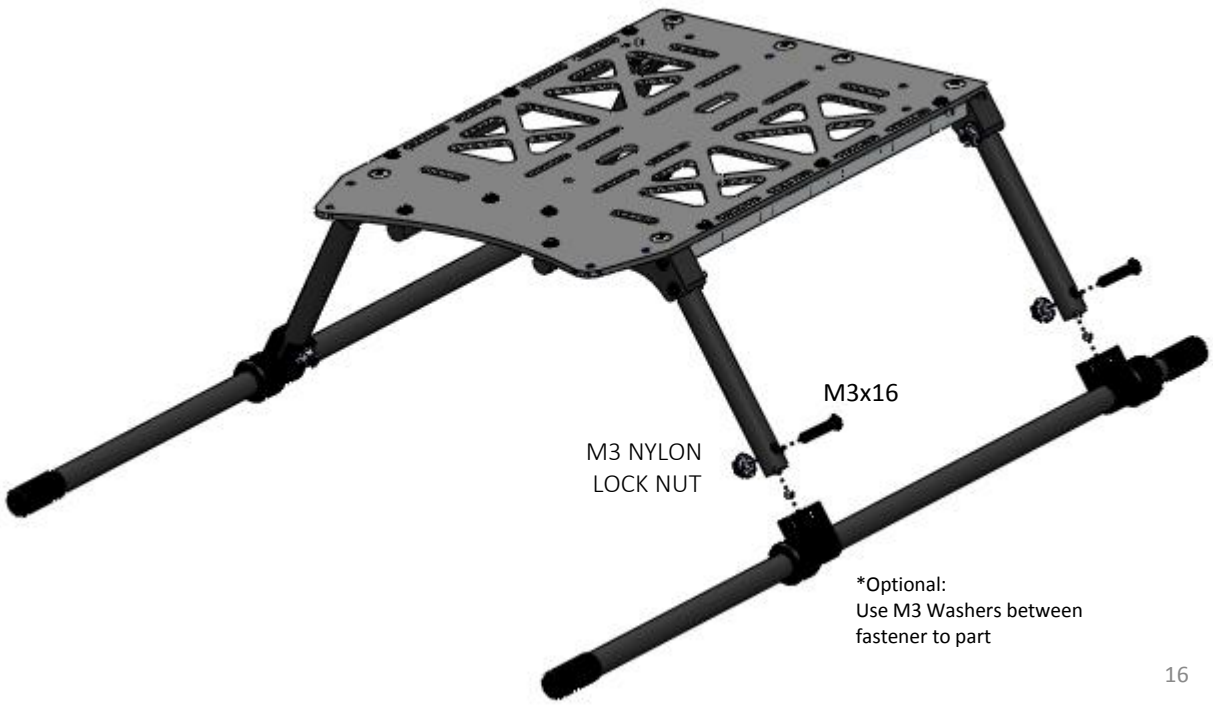

# LANDING LEG



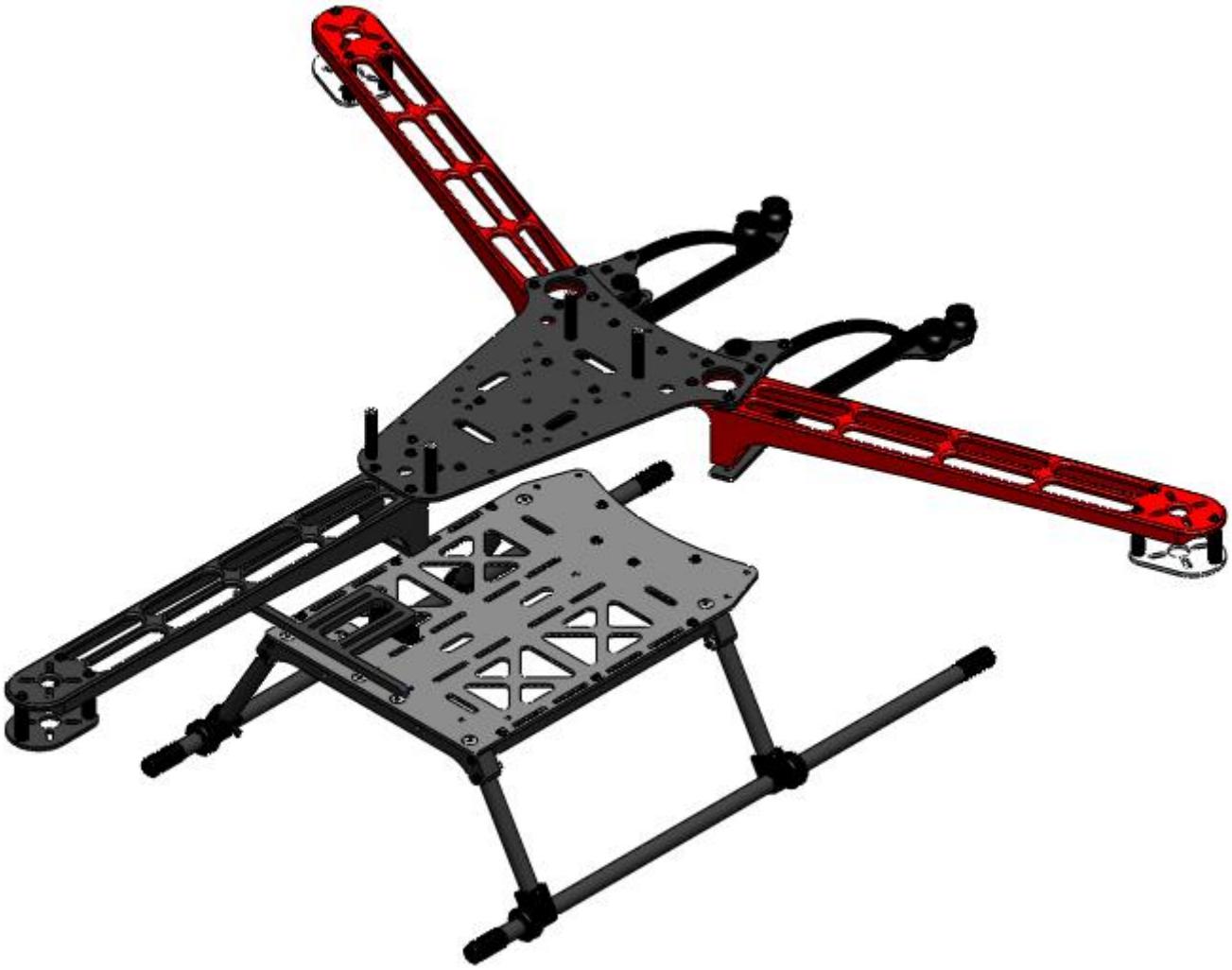
# LANDING SKID




# LANDING SKID -LEG

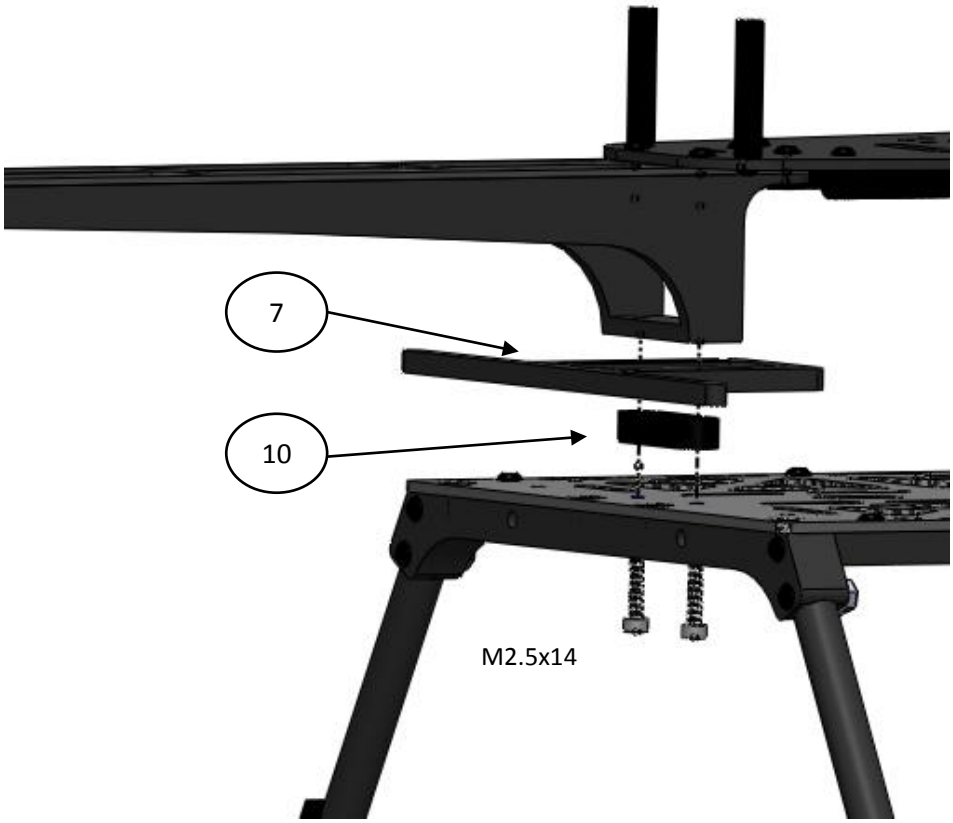


# TOP AND BOTTOM ASSEMBLY



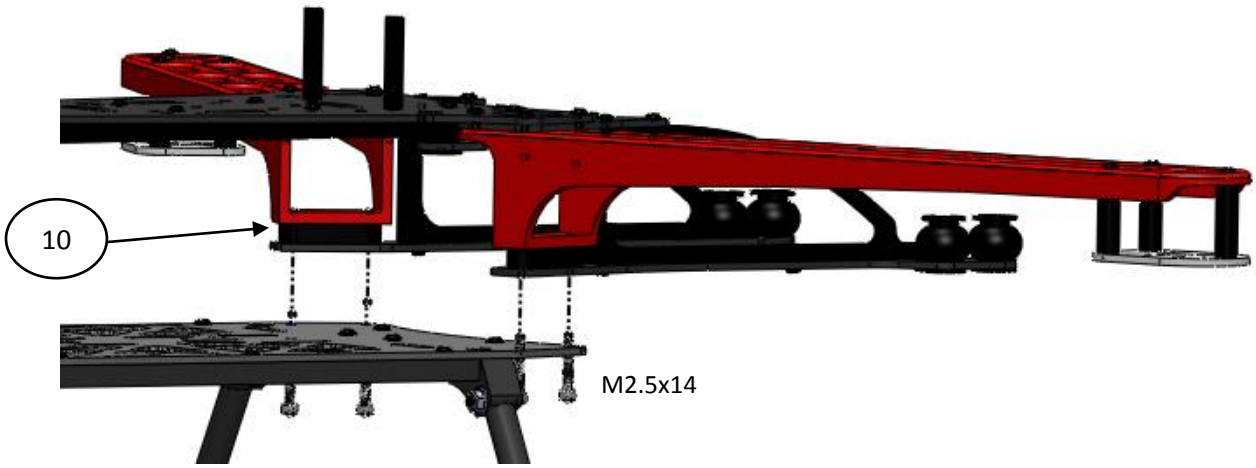
# RAER ARM – LEANDING GEAR

TL

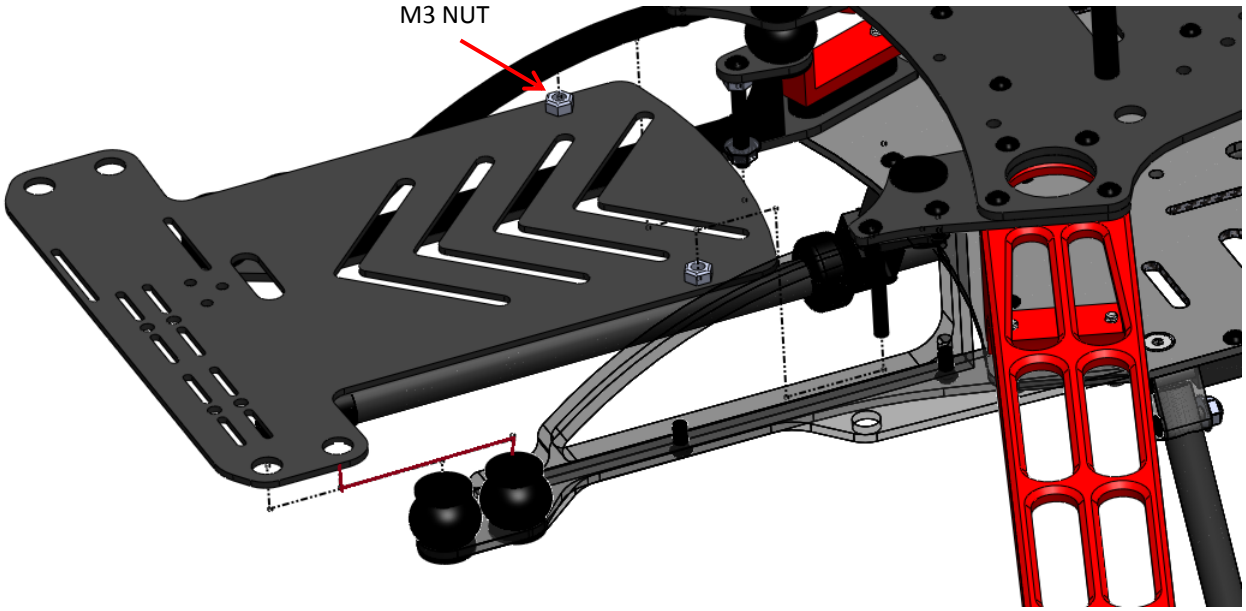



# FOREARMS – LANDING GEAR

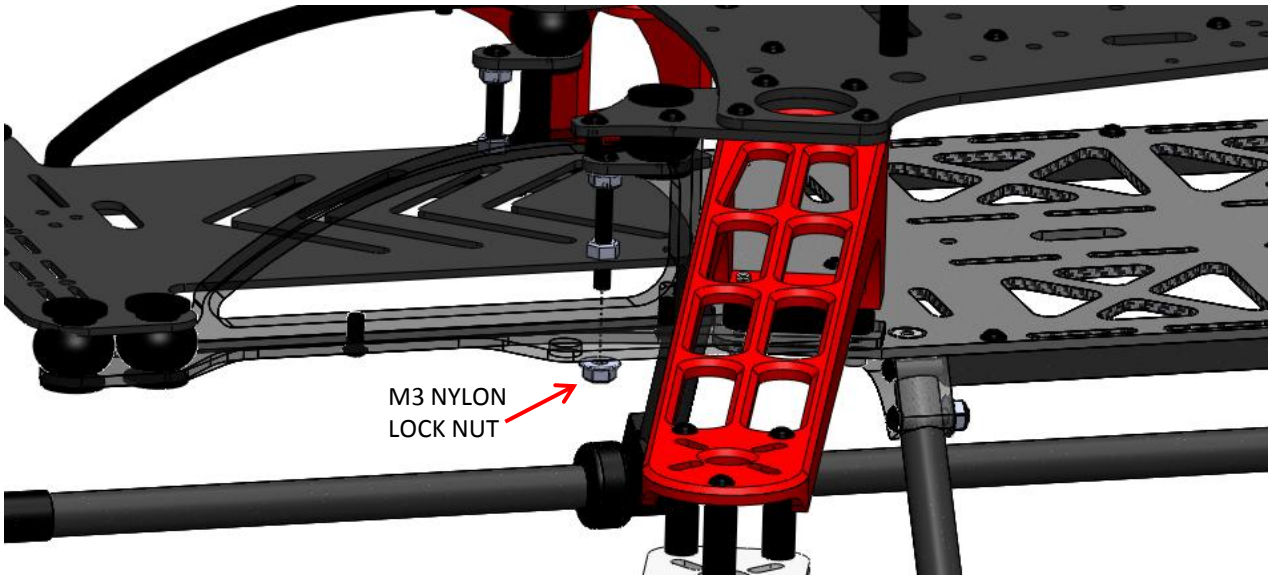
TL



# COMPLETE TOP AND BOTTOM ASSEMBLY

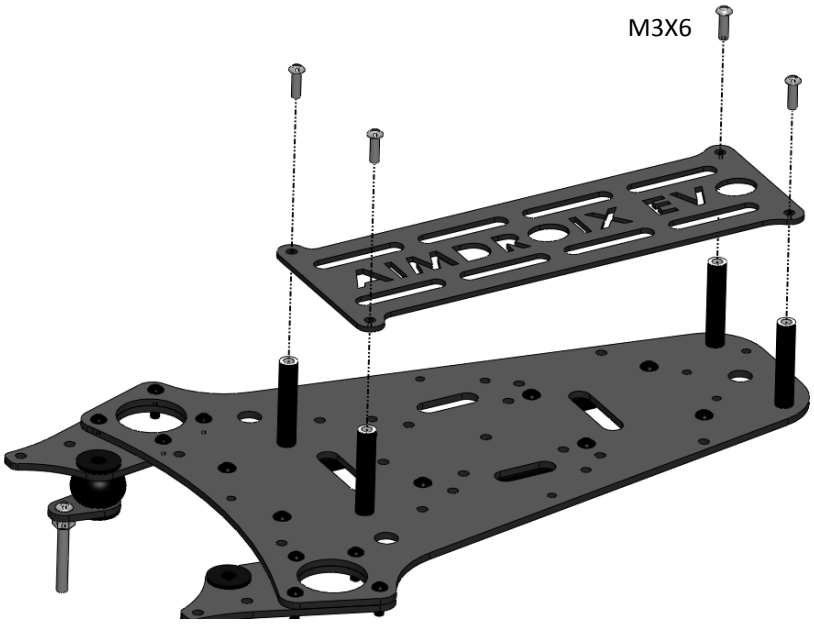



## CAMERA PLATE – FRAME



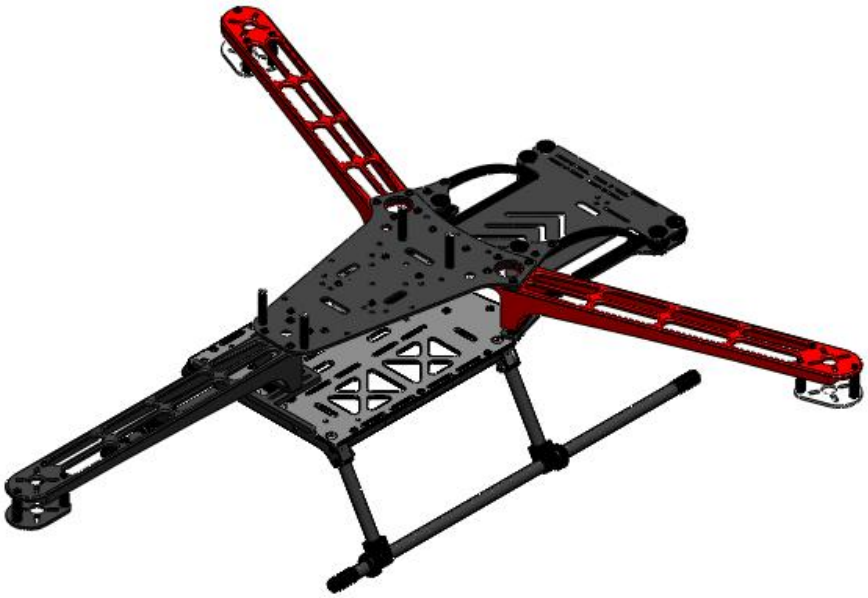
# AIMDROIX COVER PLATE

TL




*Install after electronics installation*

# FINAL ASSEMBLY



Congratulations, you have completed the assembly of your new Aimdroix Evo One Frame!