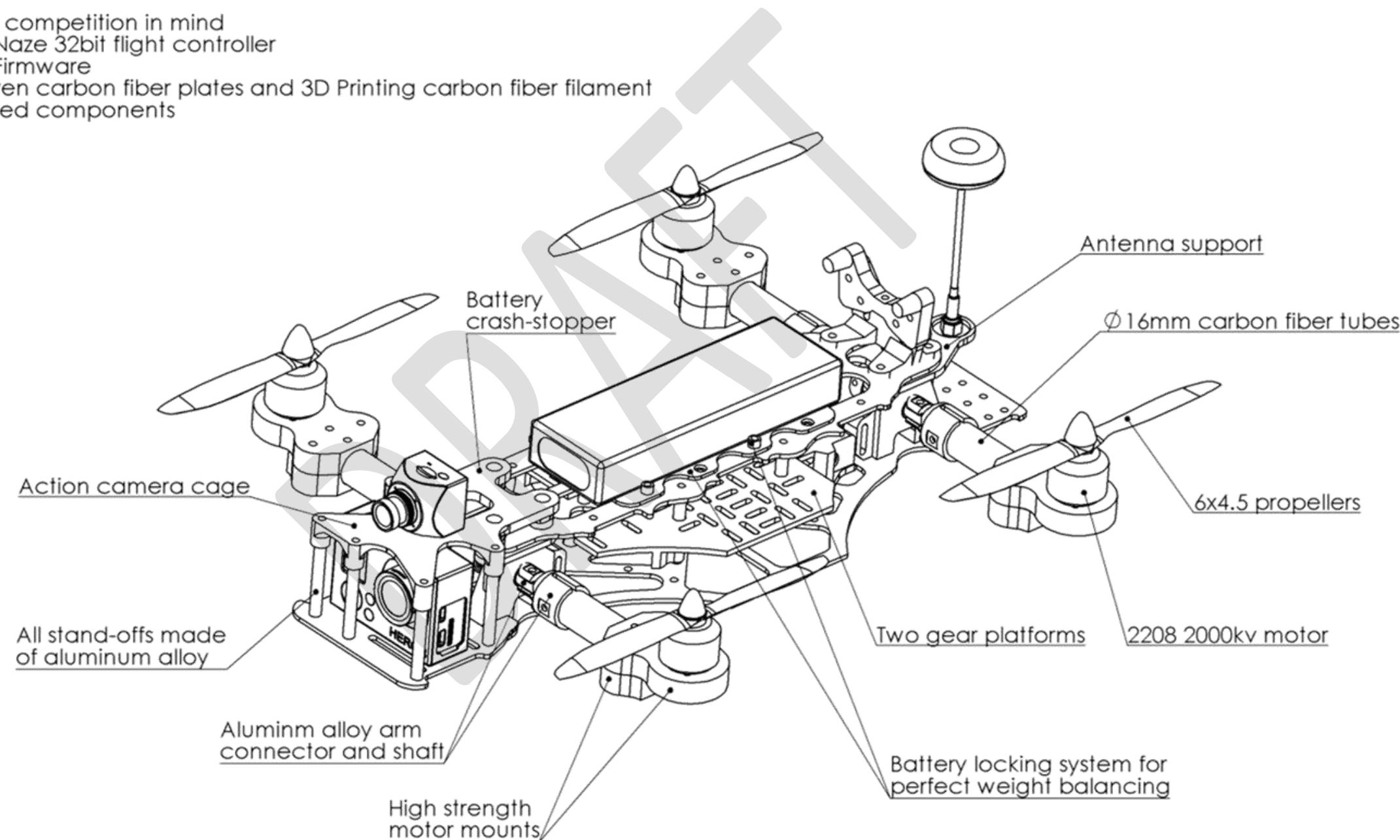


Getting Started

Designed with competition in mind
Equiped with Naze 32bit flight controller
Open source Firmware
Hybrid full woven carbon fiber plates and 3D Printing carbon fiber filament
Public 3D printed components



Following are the parts provided to you for each of your Tilt Drone order (spares are not included in any of the lists)

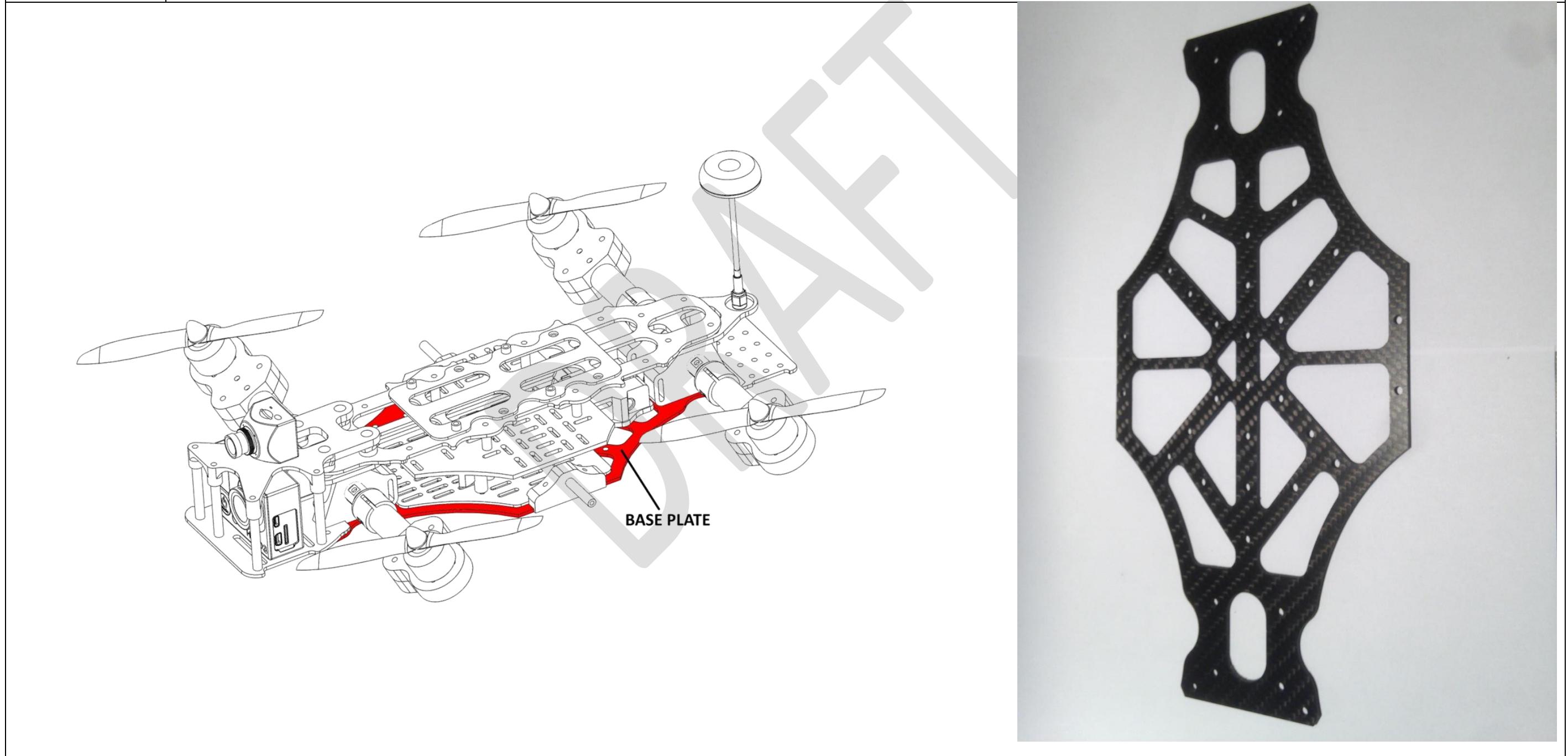
Part No.	Pieces	Parts Provided	Tilt 3DP Frame	Tilt 3DP 'ARF'
1	1	Base Plate	✓	✓
2	1	Top Plate	✓	✓
3	2	3DP arms support RIGHT	✓	✓
4	2	3DP arms support LEFT	✓	✓
5	4	3DP arms connectors	✓	✓
6	4	Carbon Fibre arm tubes	✓	✓
7	4	8mm IGUS bearings	✓	✓
8	4	6mm IGUS bearings	✓	✓
9	4	Motor clamp	✓	✓
10	4	Motor mount	✓	✓
11	2	Arm shafts aluminum	✓	✓
12				
13	3	18 teeth servo pulley	✓	✓
14	1	Belt (open) 550 mm long	✓	✓
15	1	Belt clamp set (parts A and B)	✓	✓
16	4	35mm standoff or columns	✓	✓
17	8	20mm standoff or columns	✓	✓
18	1	arm support bridge	✓	✓
19	1	Mobius support	✓	✓
20	1	Antenna support	✓	✓
21	1	Naze32	extra	✓
22	1	Power Distribution Board (PDB)	extra	extra
23	1	Canopy	extra	extra
24	4	Cobra Motors	extra	✓
25	4	30A mini ESCs	extra	✓
26	2	variable step down regulators	extra	extra
27	1	SMA antenna extension cable	extra	extra
28	2	Design canopy Supports	extra	extra
29	1	Servo digital/analog	✓	✓
30	2	LED Strips	extra	extra
31	2	Propellers (1 set of 4)	extra	✓
32	1	Gear platform RIGHT-HAND	extra	extra
33	1	Gear platform LEFT-HAND	extra	extra
34				
35	1	GoPro CF plate	✓	✓
36	1	Rear CF plate	✓	✓
37	2	Gap filler plate PC/PE/Acrylic	✓	✓
38	1	Battery CF plate	✓	✓

Checklist

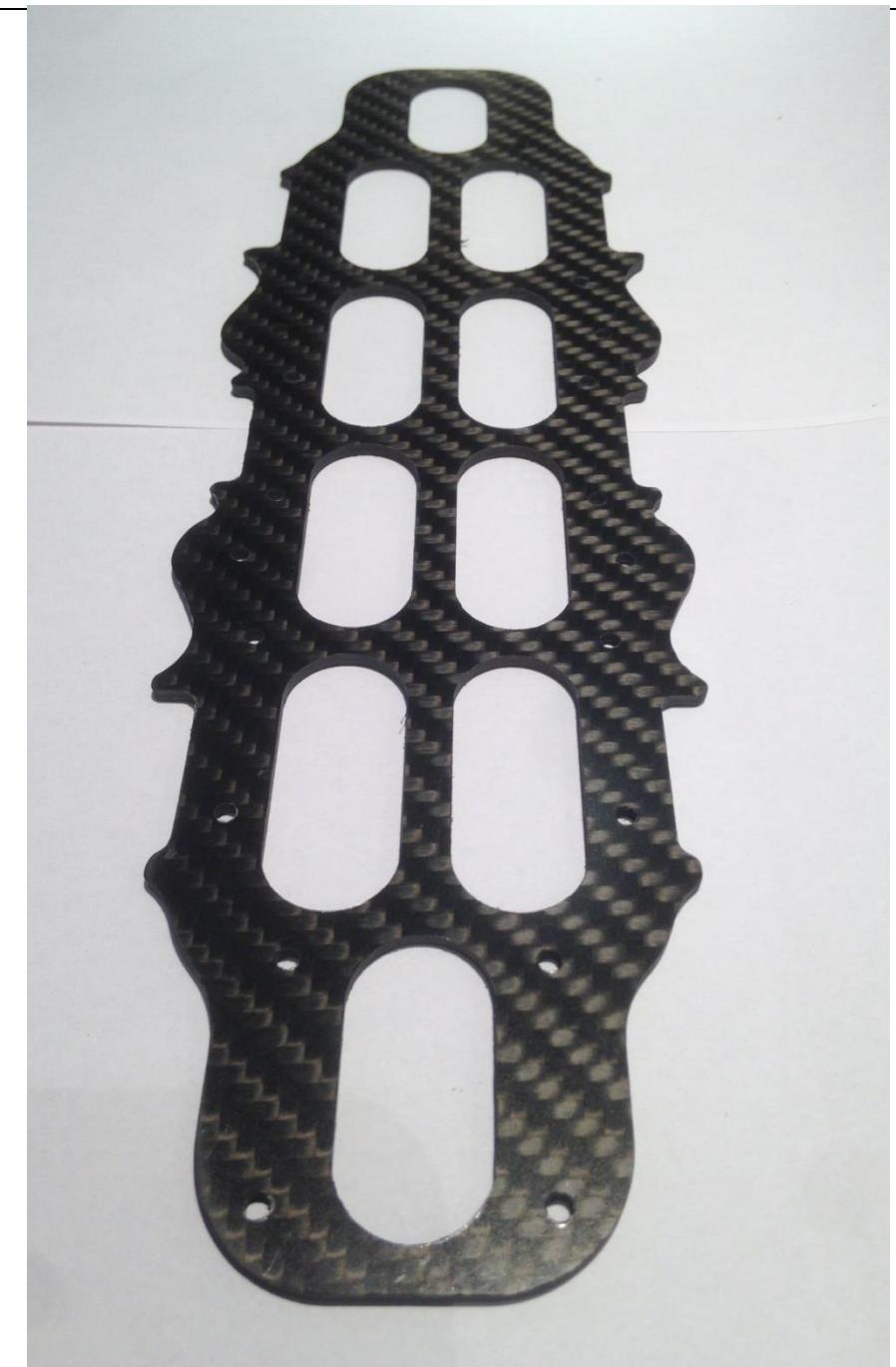
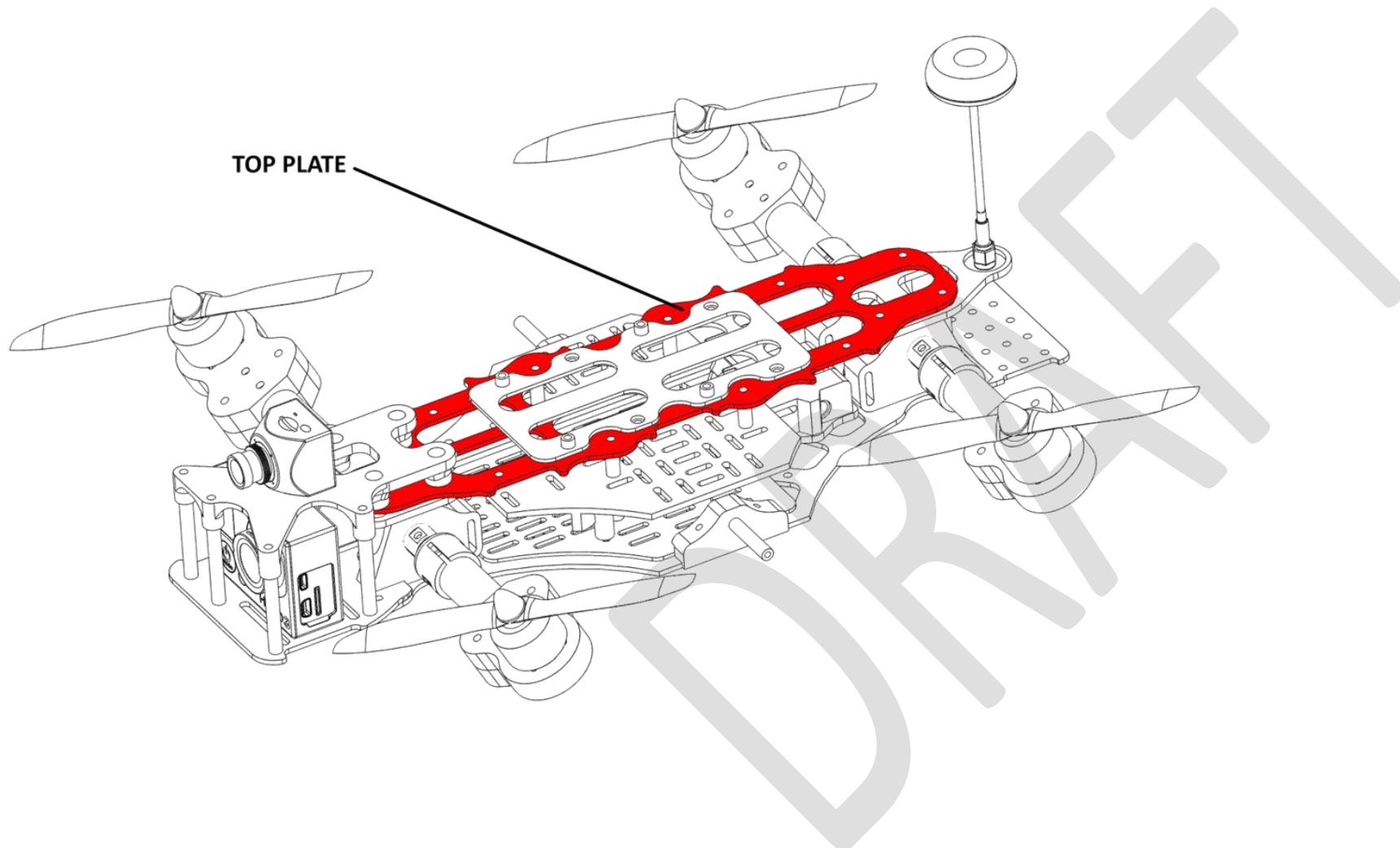
1	1	Base Plate	✓	✓
2	1	Top Plate	✓	✓
3	2	CNC arms support RIGHT-HAND	✓	✓
4	2	CNC arms support LEFT-HAND	✓	✓
5	4	CNC arms connectors	✓	✓
6	4	Carbon Fibre arm tubes	✓	✓
7	4	8mm IGUS bearings	✓	✓
8	4	6mm IGUS bearings	✓	✓
9	4	Motor clamp	✓	✓
10	4	Motor mount	✓	✓
11	2	Arm shafts aluminum	✓	✓
12				
13	3	18 teeth servo pulley	✓	✓
14	1	Belt (open) 550 mm long	✓	✓
15	1	Belt clamp set (parts A and B)	✓	✓
16	4	35mm standoff or columns	✓	✓
17	8	20mm standoff or columns	✓	✓
18	1	Arm support bridge	✓	✓
19	1	Mobius support	✓	✓
20	1	Antenna support	✓	✓
21	1	Naze32	extra	✓
22	1	Power Distribution Board (PDB)	extra	extra
23	1	Canopy	extra	extra
24	4	Cobra Motors	extra	✓
25	4	30A mini ESCs	extra	✓
26	2	variable step down regulators	extra	extra
27	1	SMA antenna extension cable	extra	extra
28	2	Design canopy Supports	extra	extra
29	1	Servo digital/analog	✓	✓
30		LED Strips	extra	extra
31	2	Propellers (1 set of 4)	extra	✓
32	1	Gear platform RIGHT-HAND	extra	extra
33	1	Gear platform LEFT-HAND	extra	extra
34				
35	1	GoPro CF plate	✓	✓
36	1	Rear CF plate	✓	✓
37	2	Gap filler plate PC/PE/Acrylic	✓	✓
38	1	Battery CF plate	✓	✓

Parts Name and Description

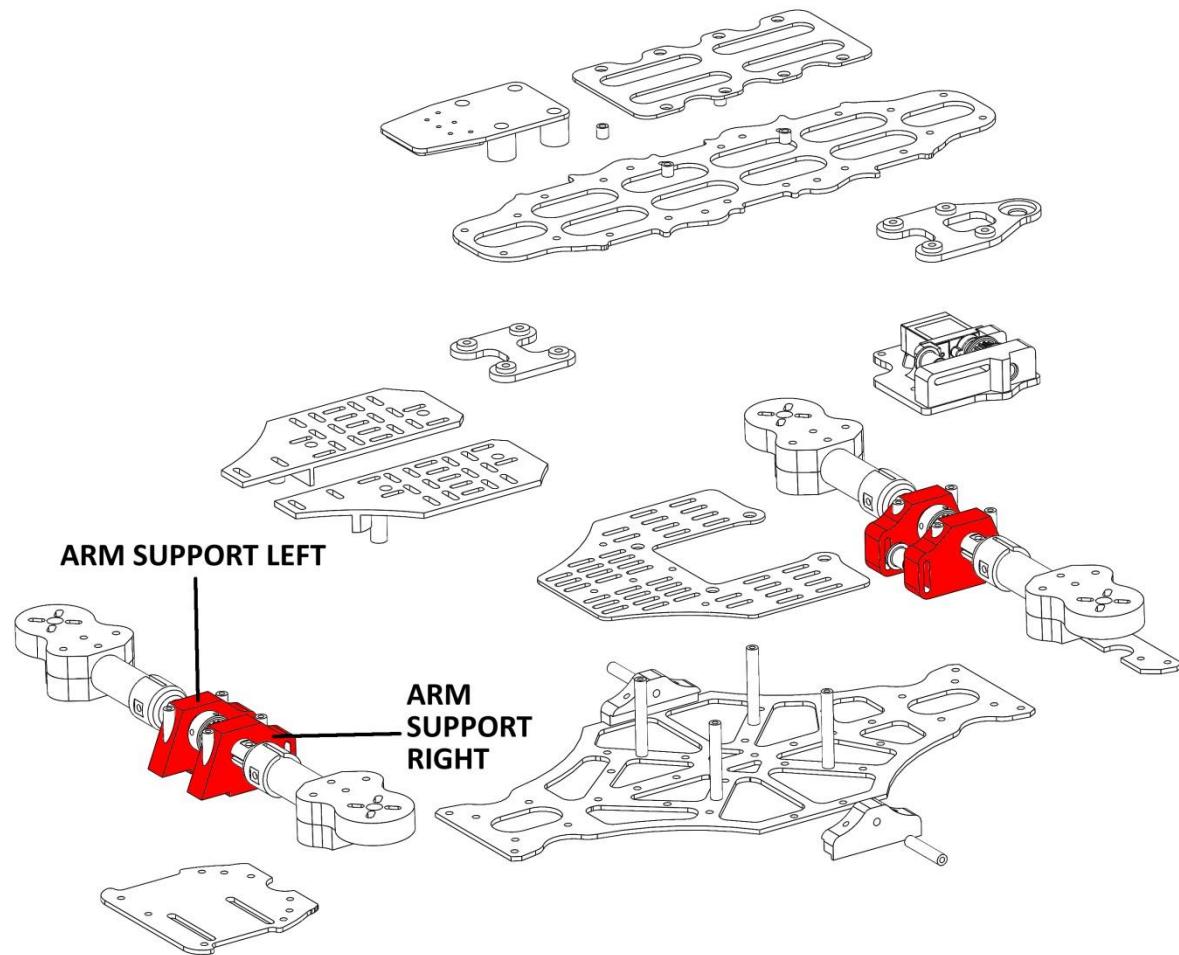
Name	Base Plate	Quantity	1
Description	The basic chassis of the drone. Whole system is mounted with support to this piece.		



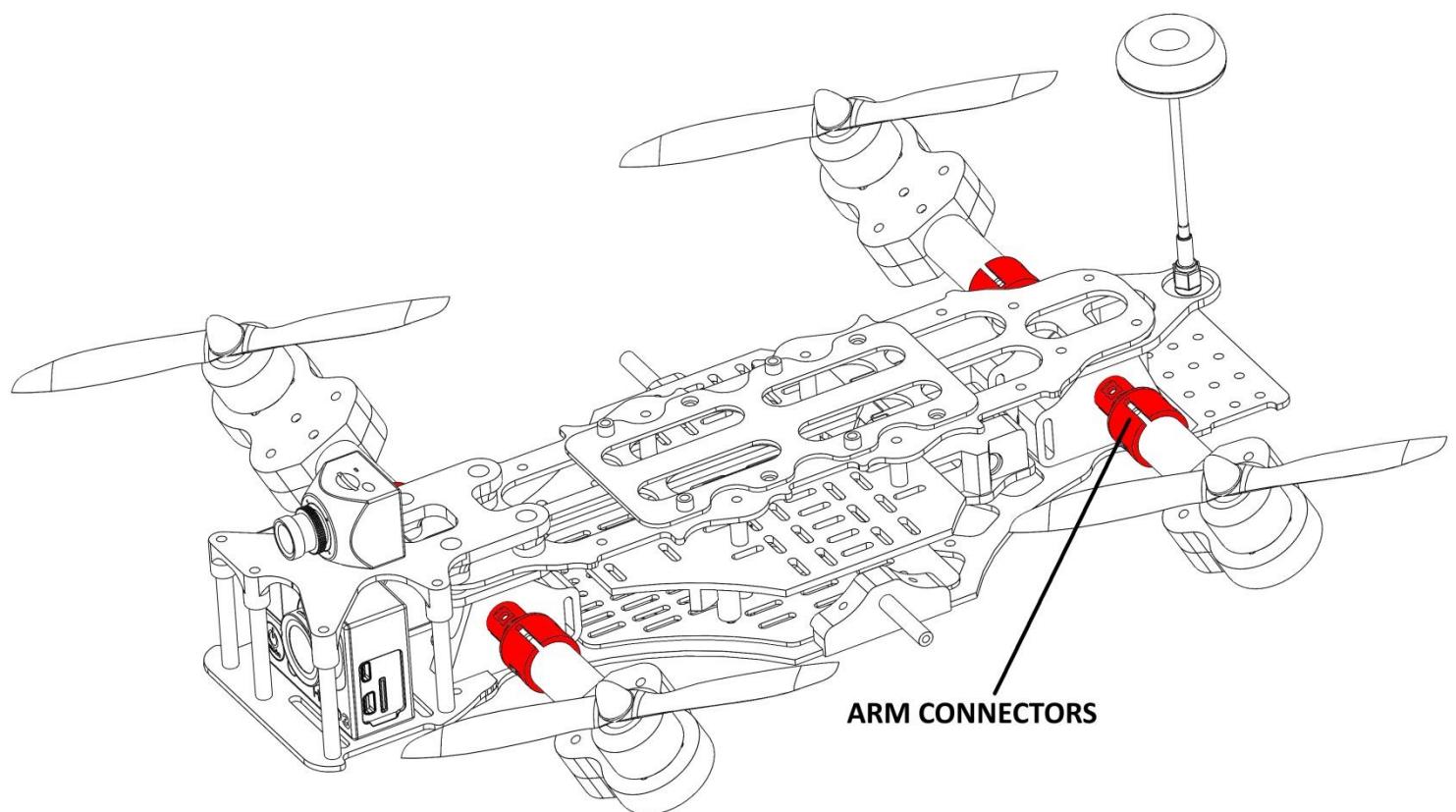
Name	Top Plate	Quantity	1
Description	The top chassis on which the structure remains stable. It forms a strong cage for the drone along with the bottom plate.		



Name	Arm Supports	Quantity	4 (2 left-side + 2 right-side)
Description	Supports the tilting arms of the drone. The servo belt goes around the arm shafts supported on these arm supports.		



Name	Arm Connectors	Quantity	4
Description	Connects arm shafts to the arm booms.		



Name	Carbon Fibre Arm Boom	Quantity	4
Description	Connects the arm connector to the Motor Mount Clamps		

The diagram shows a top-down exploded view of a quadcopter's main frame. Four red callout boxes point to the vertical carbon fiber arms (arm booms) that connect the central frame to the motor mount clamps. A label 'CARBON FIBRE ARM BOOM' with a leader line points to one of the arms. The frame also features four propellers, a central battery compartment, and various mounting points for motors and electronic components.

A photograph of a single black carbon fiber arm boom. It is a long, cylindrical tube with a circular hole near the top end. The surface has a distinct carbon fiber texture. A small grey rectangular part is visible to the left of the boom.

Name	8mm IGUS Bearings	Quantity	4
Description	Inner bore 8 mm diameter		



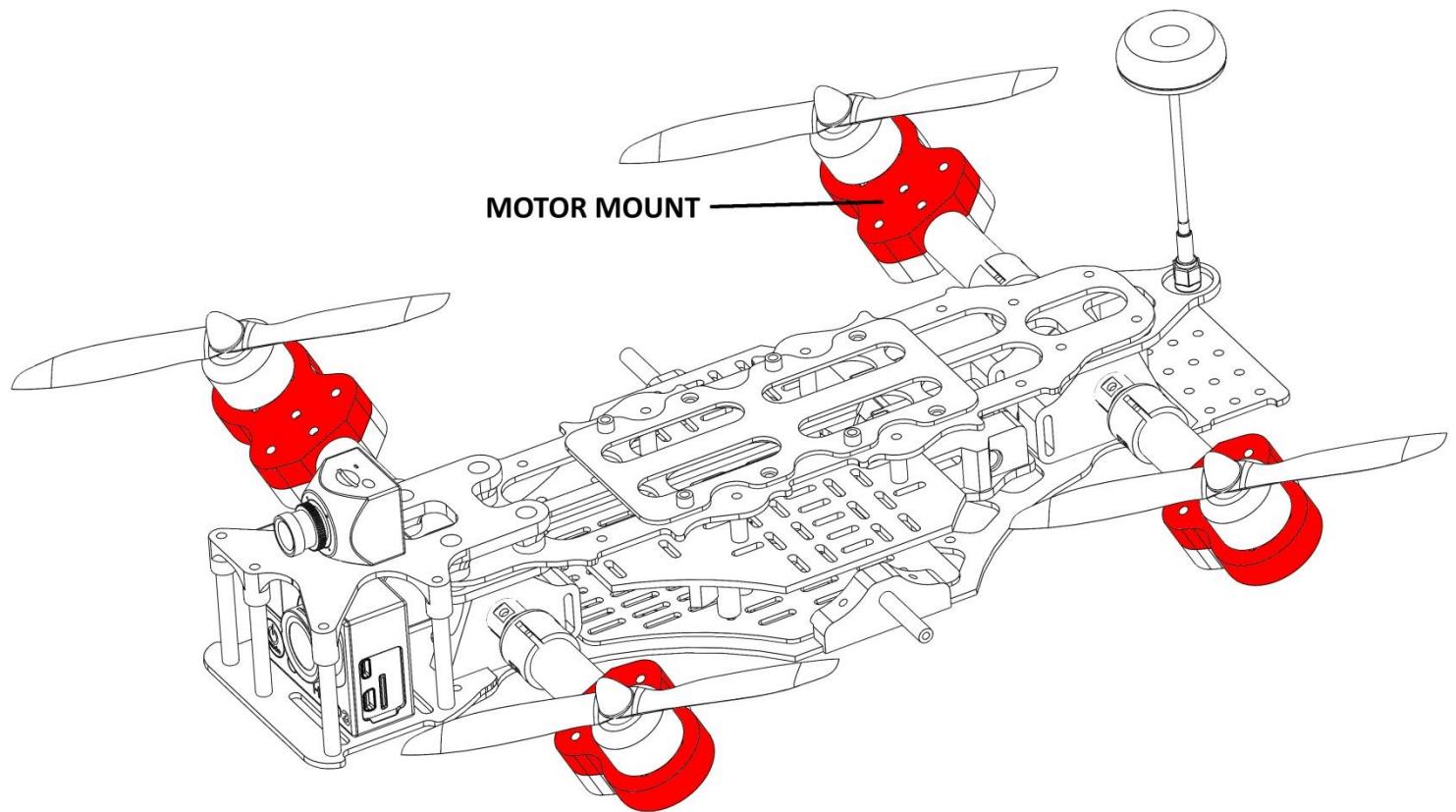
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Name	6mm IGUS Bearings	Quantity	4
Description	Inner bore 6 mm diameter		

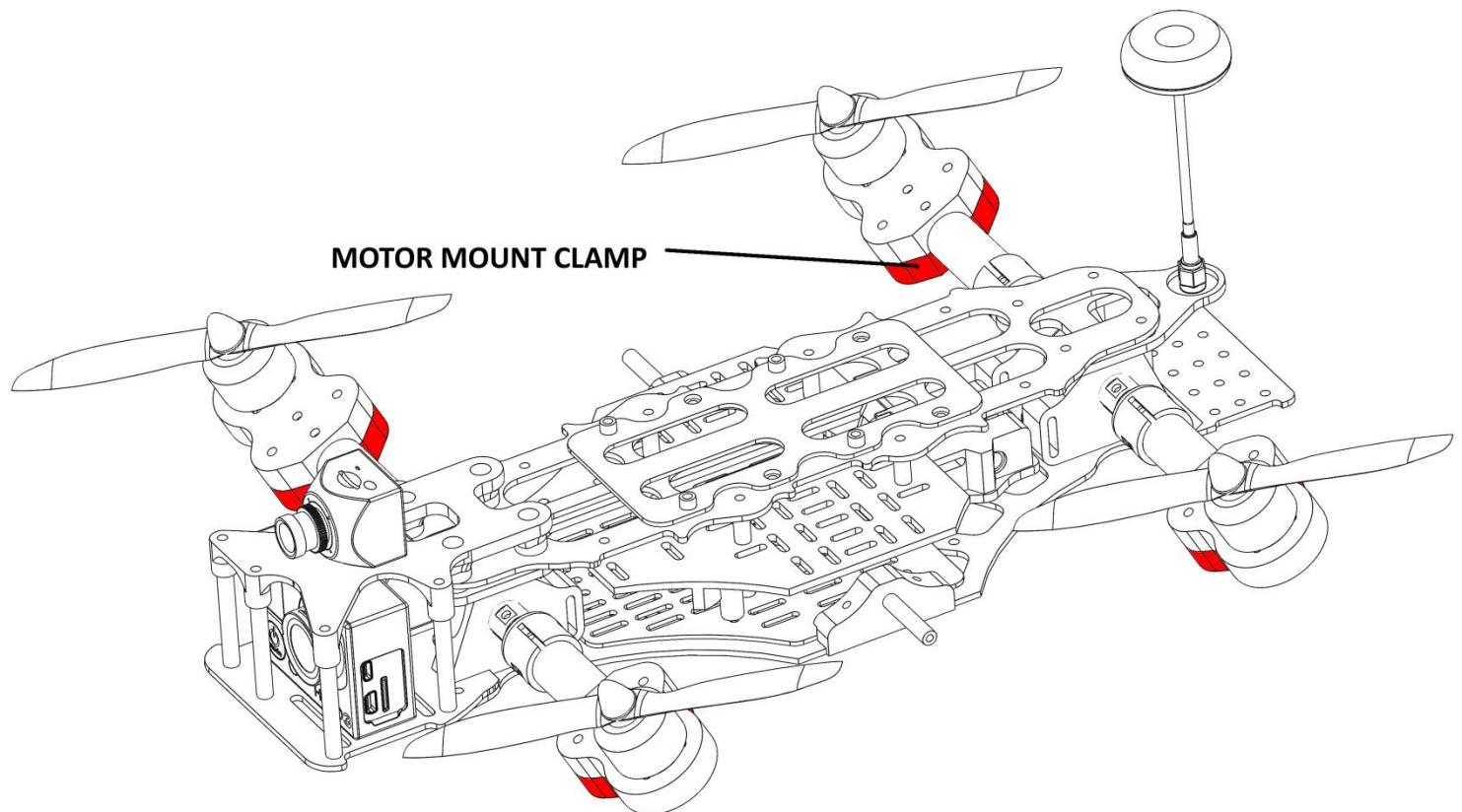
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Name	Motor Mount	Quantity	4
Description	Connects the Arm Boom to the Motor		



Name	Motor Clamp	Quantity	4
Description	Connects the Arm Boom to the Motor. This part helps in clamping the arm boom to the Motor mount part		



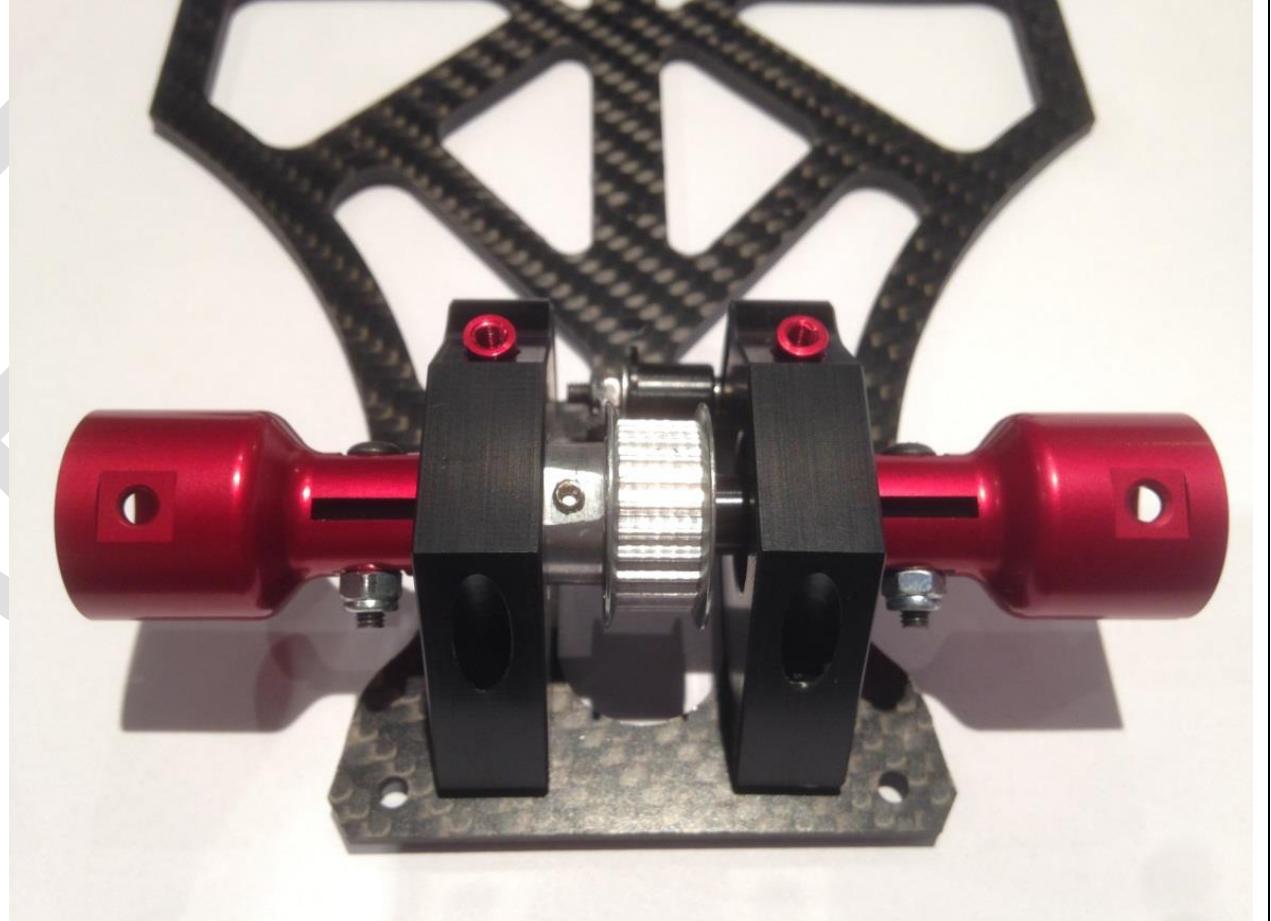
Name	Arm Shafts	Quantity	2
Description	These arm shafts are made of aluminium and pass through the arm supports		

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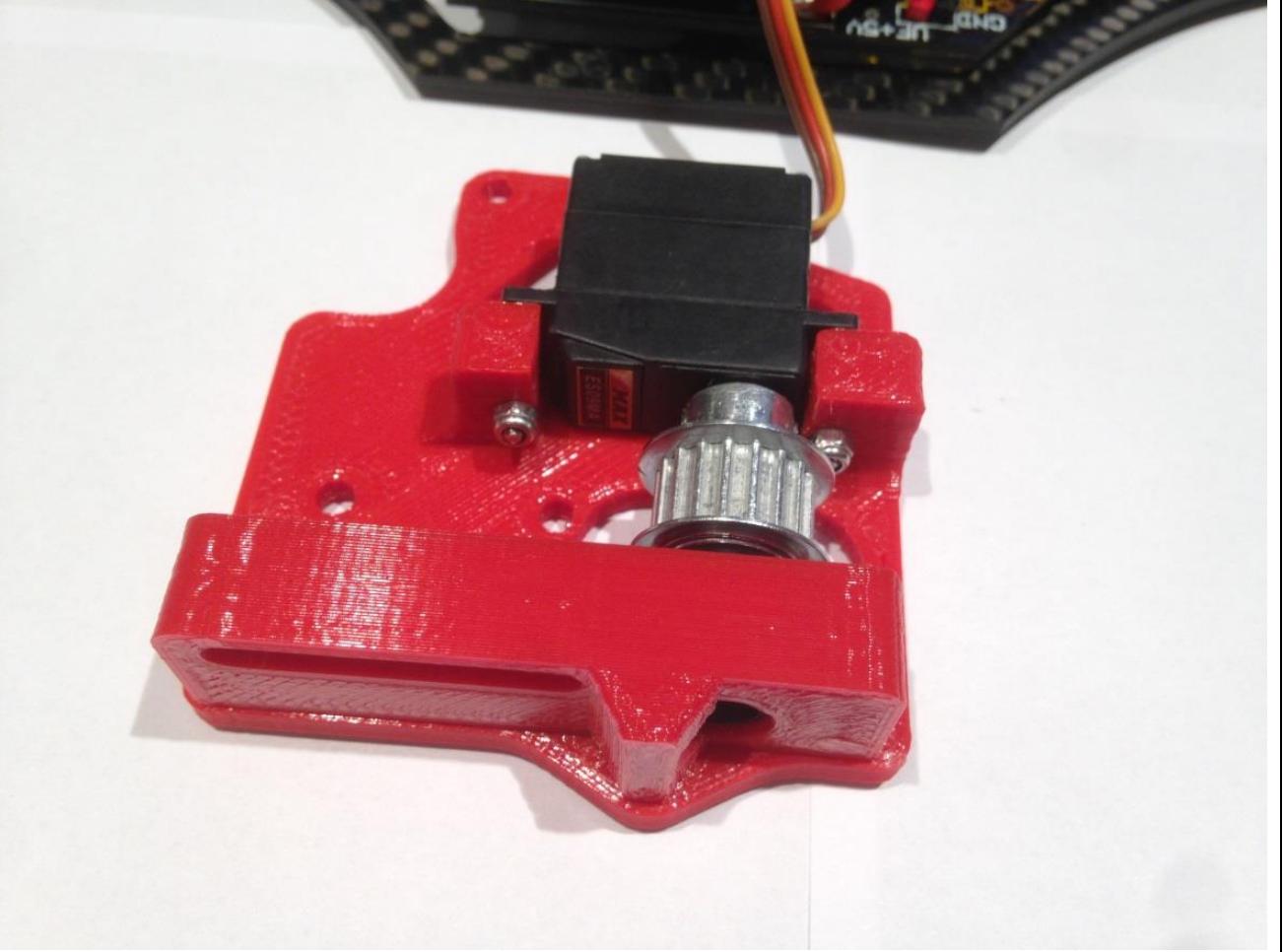
Name	18 Teeth Pulley(arms)	Quantity	2
Description	Pulleys for angular movement of the arm connectors using belt.		

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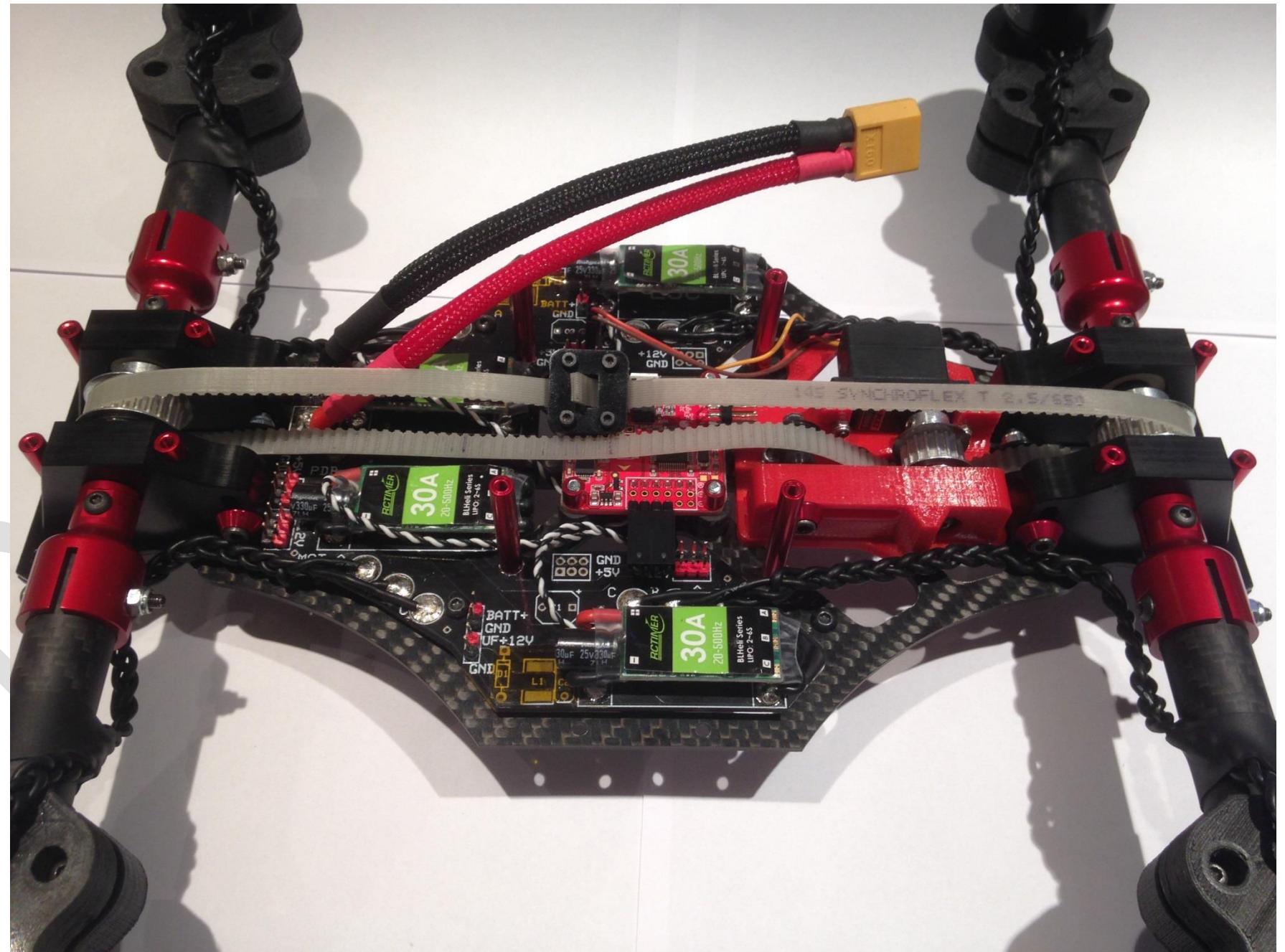


Name	18 Teeth Servo Pulley (servo)	Quantity	1
Description	Connects servo motor's movement to the belt		

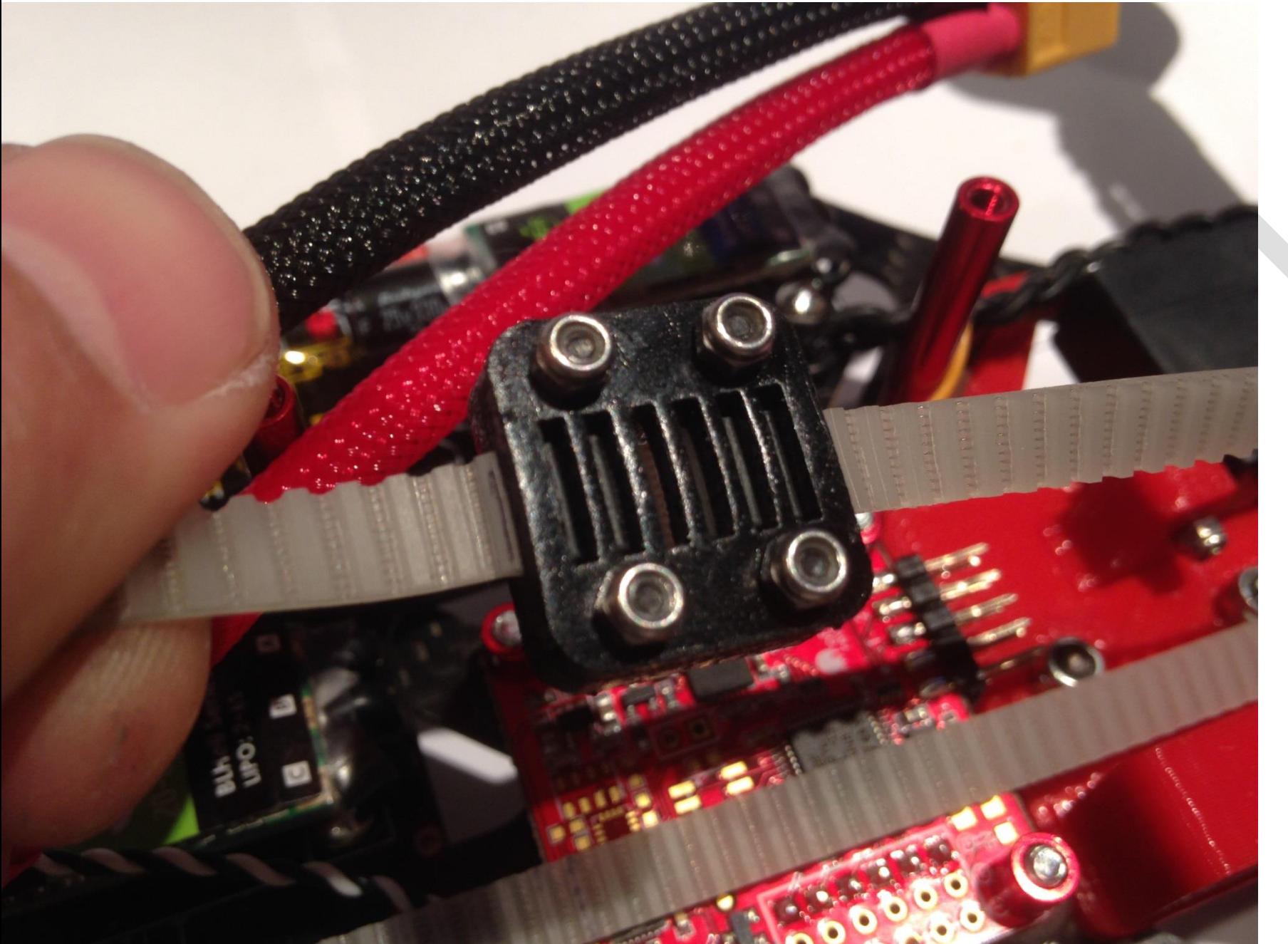
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Name	Belt	Quantity	1
Description	Connects the servo to the arms of the drone		



Name	Belt Clamp Set (parts A and B)	Quantity	1
Description	Joins the two ends of the belt		

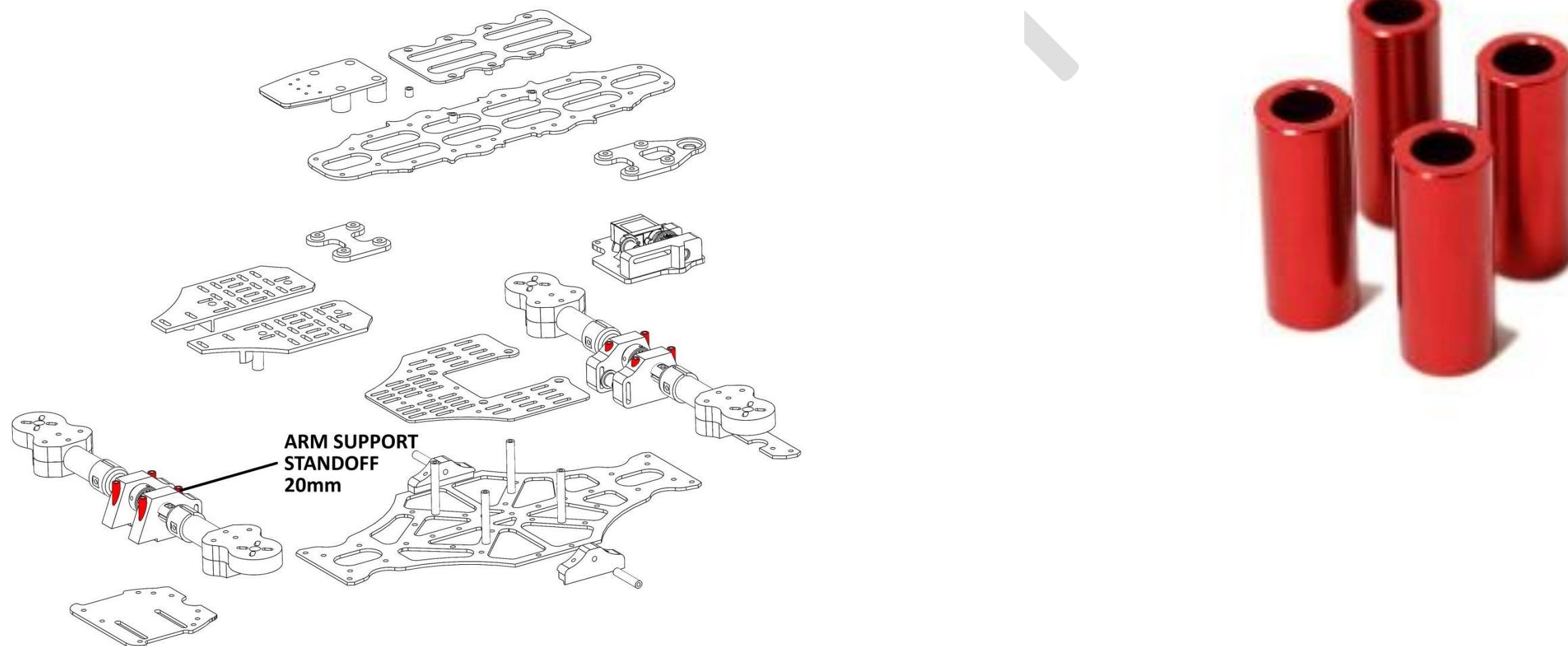


Name	Base Plate Standoff 35mm	Quantity	4
Description	Gives the drone elevation and support		

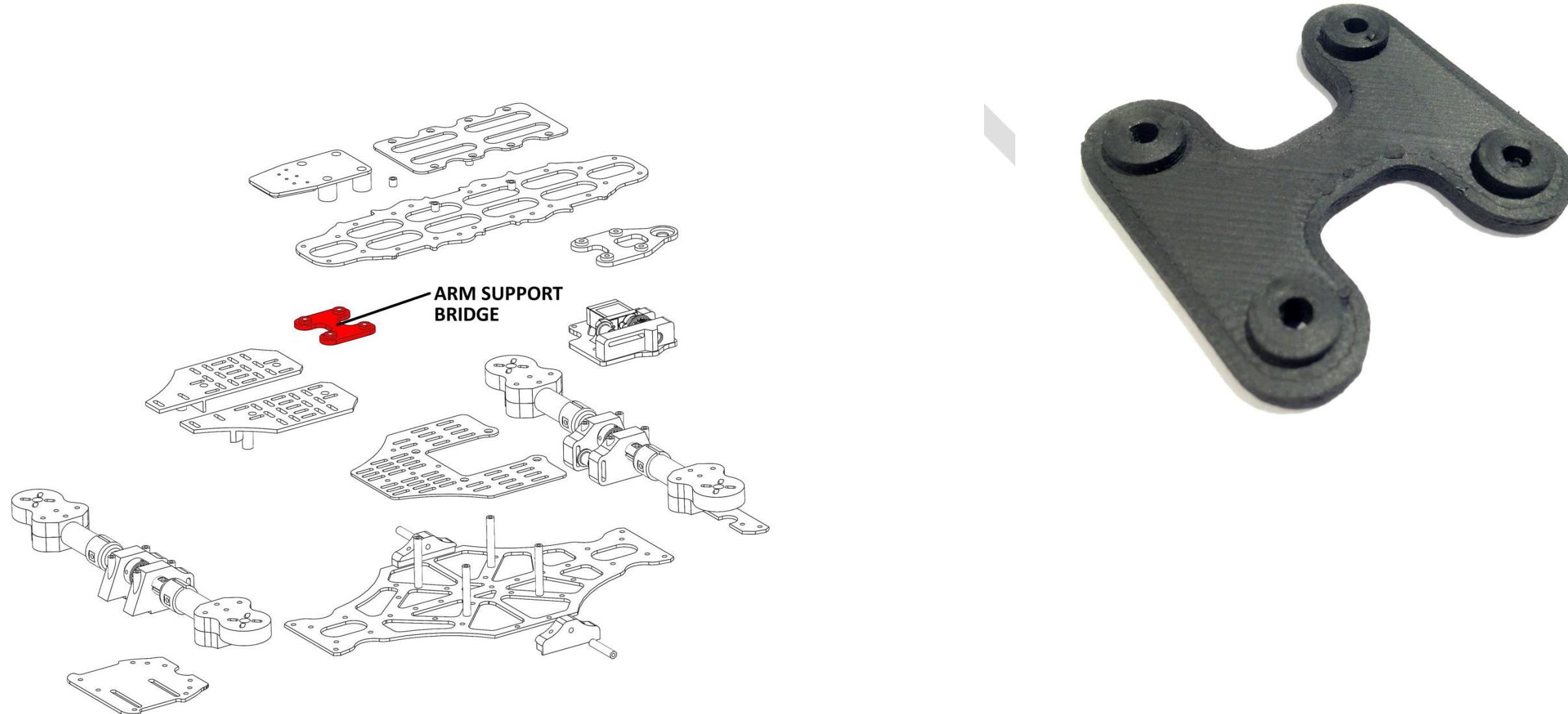
The diagram shows a top-down view of a quadcopter's internal structure. Four propellers are attached to the arms. A callout points to the central base plate area with the text "BASE PLATE STANDOFF 35mm".

A photograph showing four red cylindrical metal components, identified as base plate standoffs, arranged in a fan-like pattern.

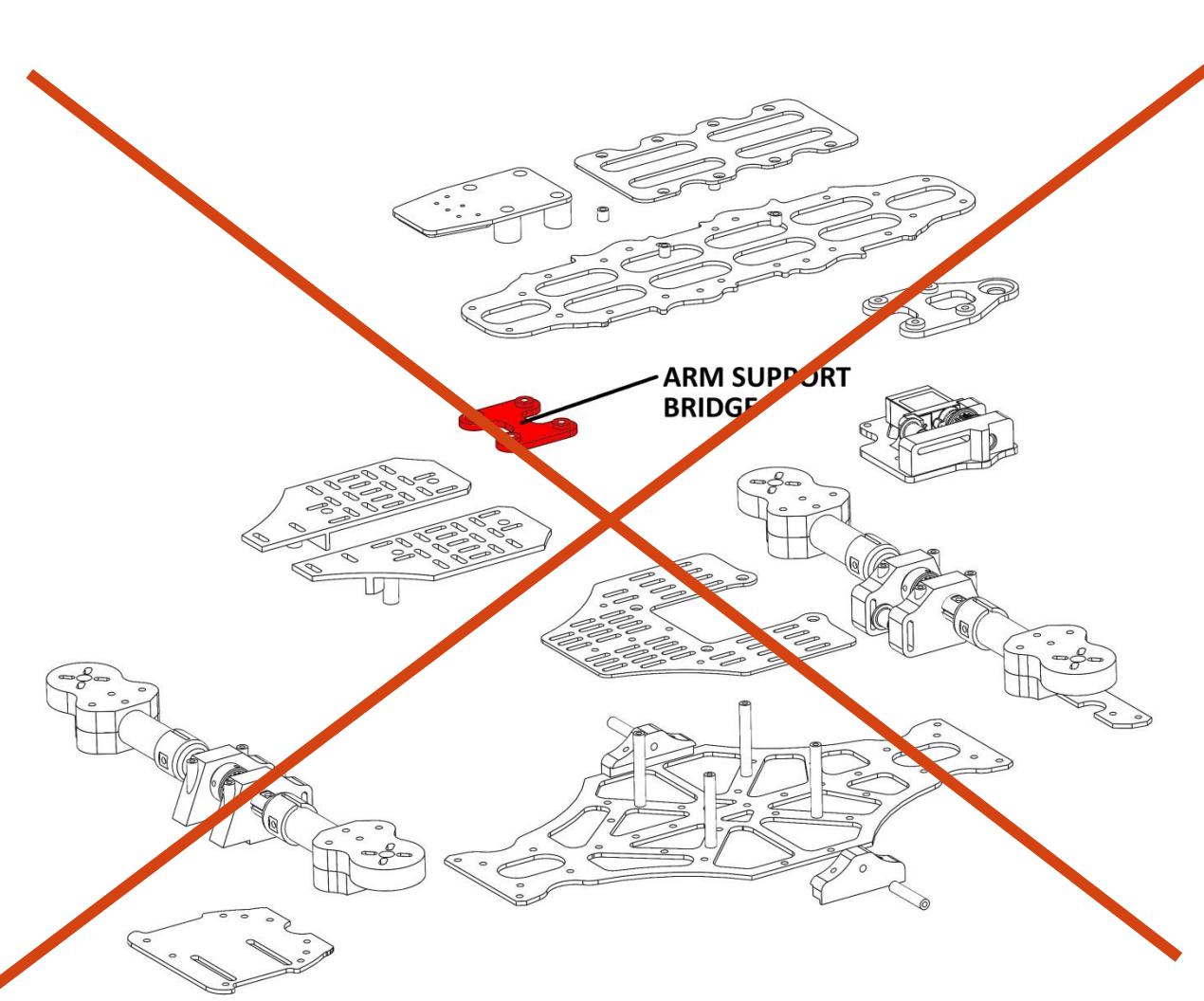
Name	Arm Support Standoff 20mm	Quantity	8
Description	Provides support to the arm support system		



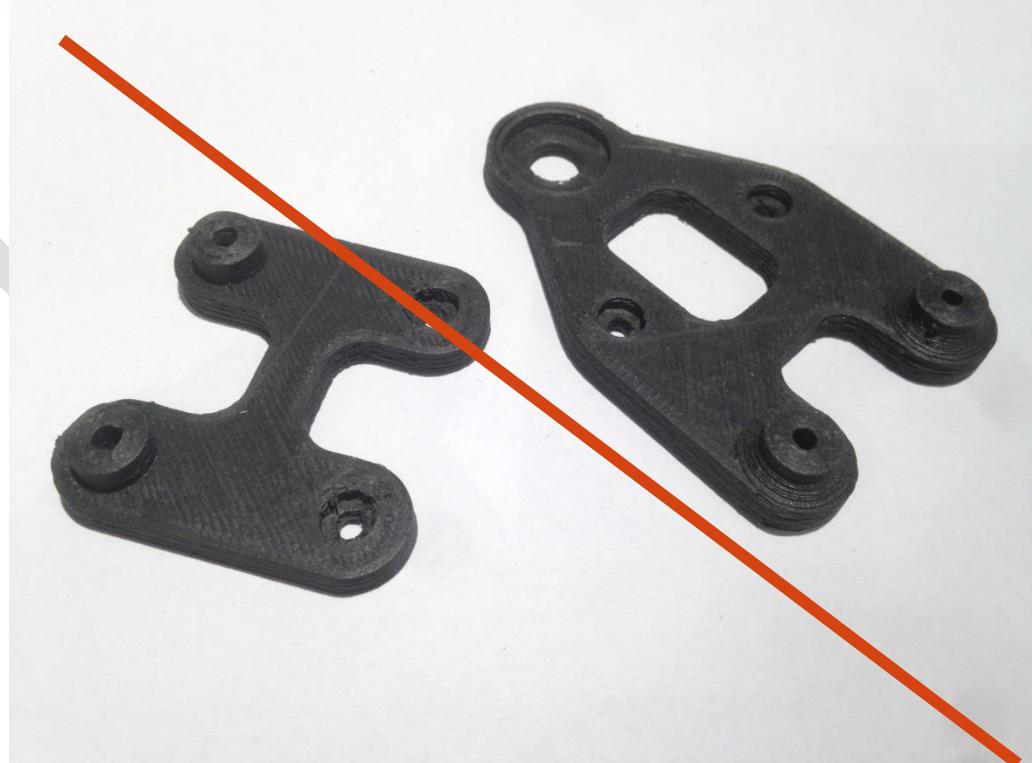
Name	Arm Support Bridge	Quantity	1
Description	Provides support to the between the left and right arm supports at the front-side of the drone		



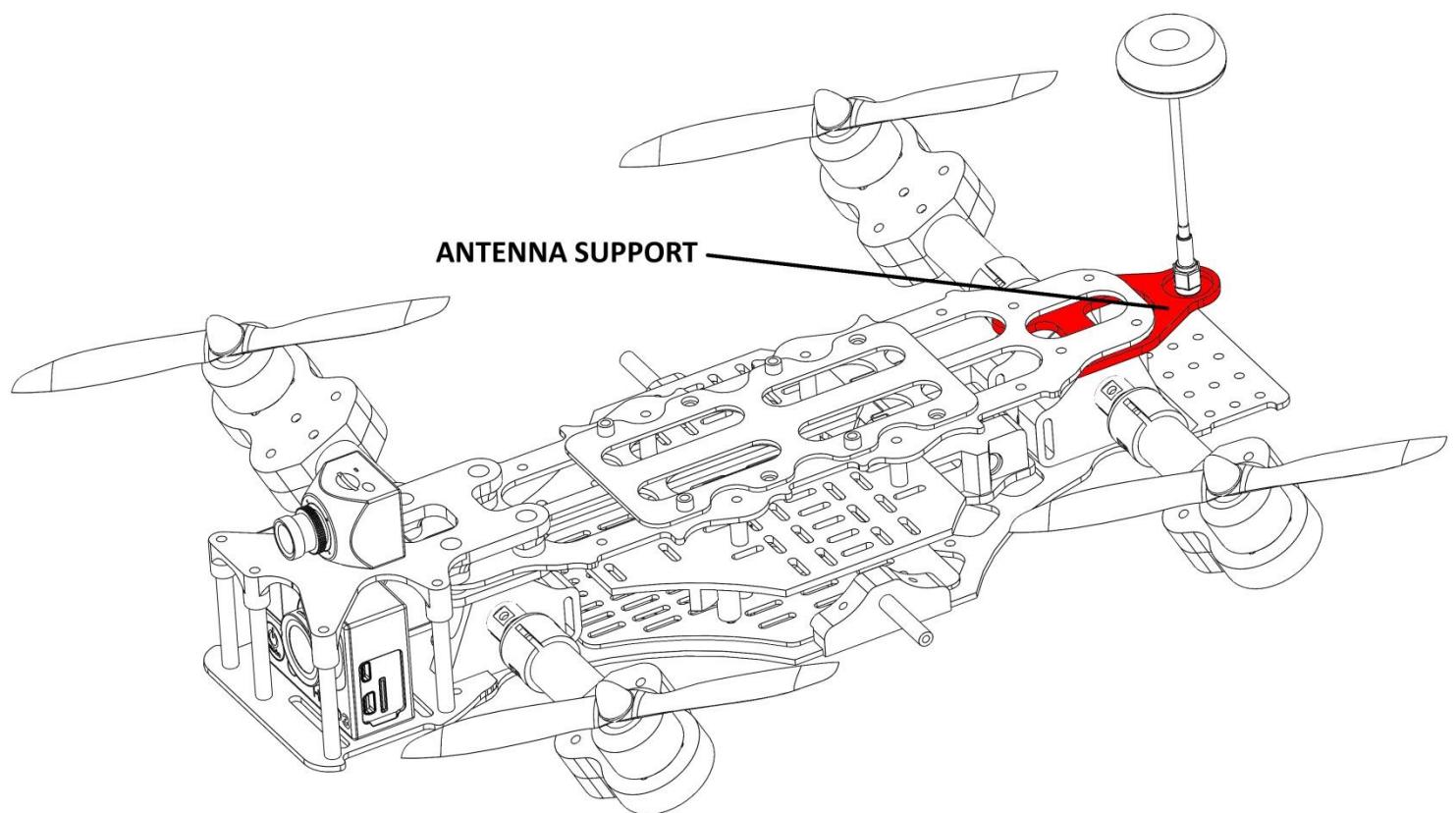
Name	Mobius Support	Quantity	1
Description	?		



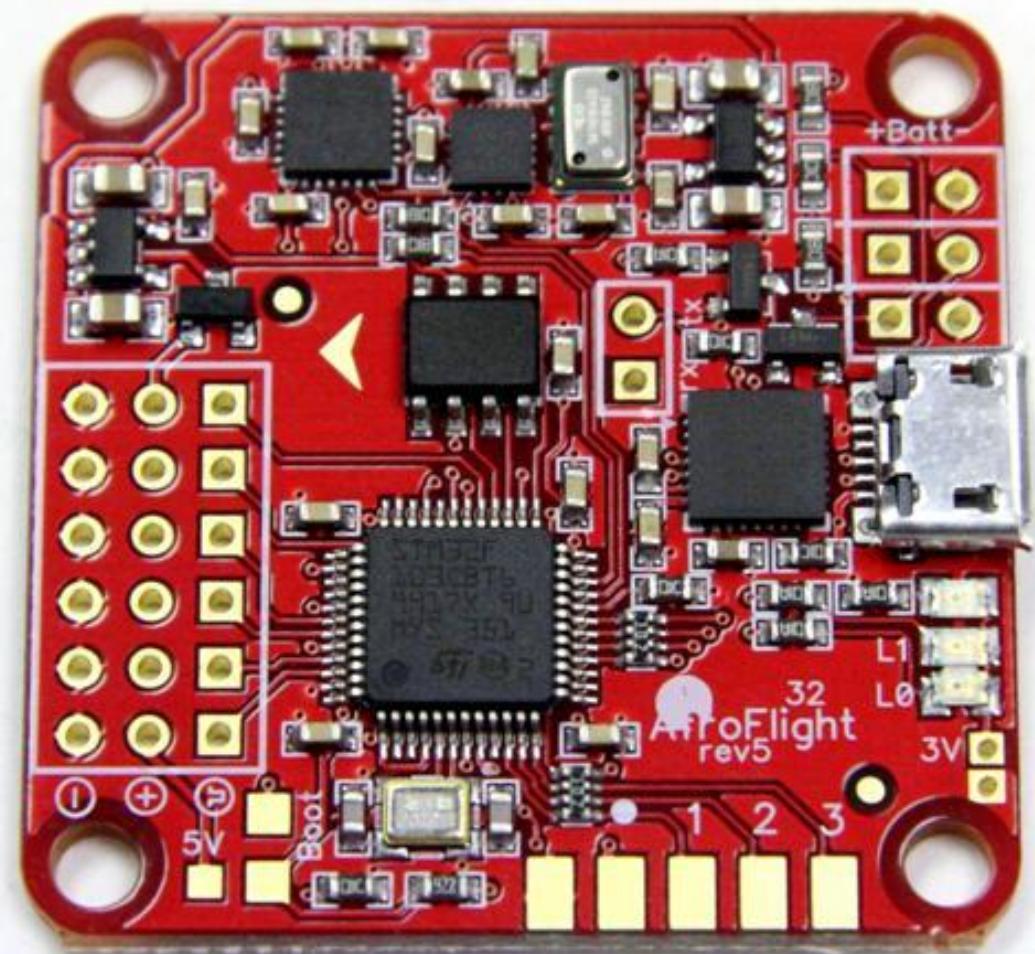
ARM SUPPORT BRIDGE



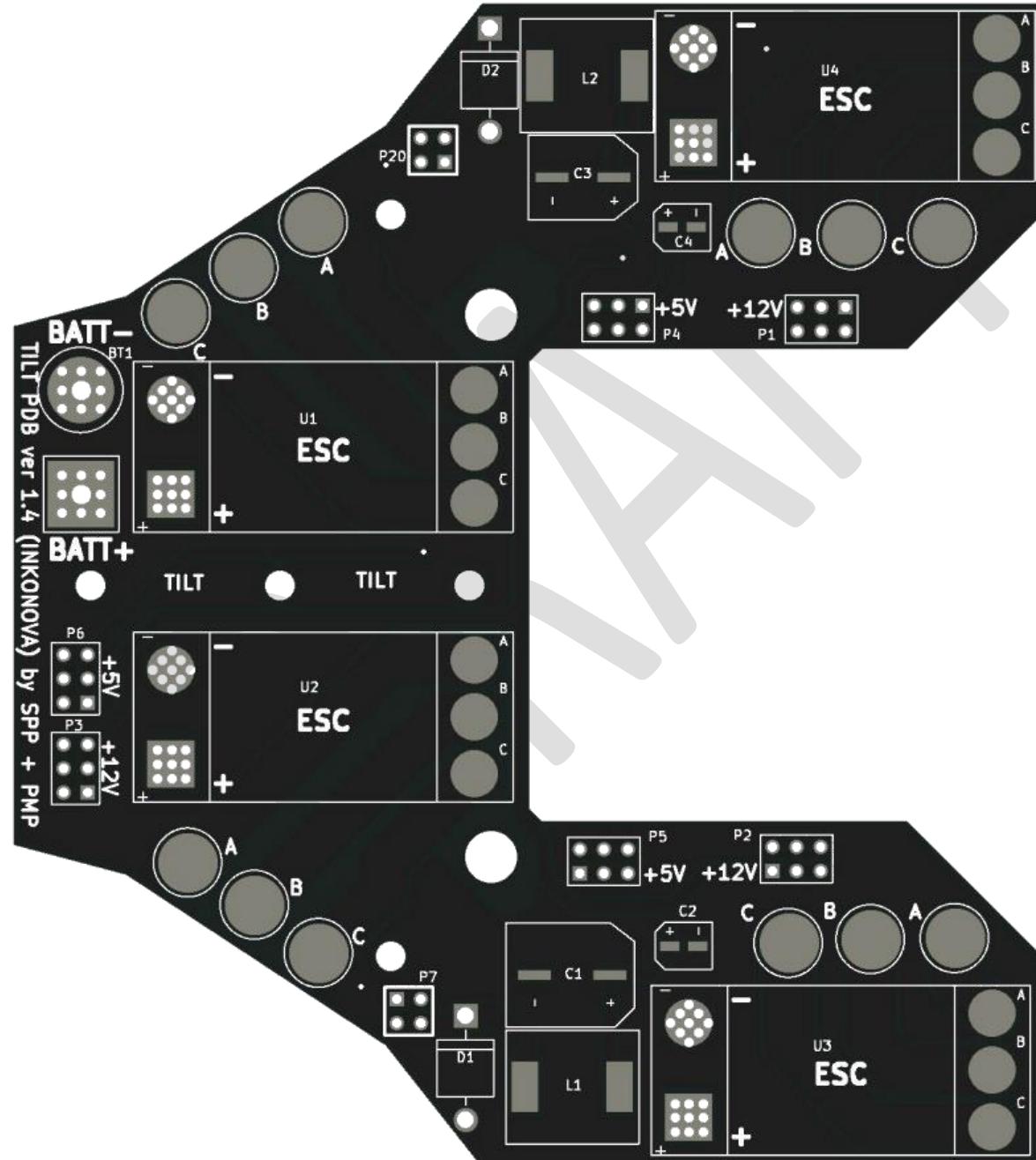
Name	Antenna Support	Quantity	1
Description	Provide connector support to the antenna system at the rear end of the drone		



Name	Naze 32	Quantity	1
Description	Main Controller unit and flight stabilization unit of the drone system		



Name	PDB (OPTIONAL)	Quantity	1
Description	A Power Distribution Board in the form of a Printed Circuit Board. Provides easy access to ESC and power supply points.		



Name	Canopy (OPTIONAL)	Quantity	1
Description	Optional cover for improving the aesthetics of the drone. User can paint it as per his/her choice.		



Name	Cobra Motors	Quantity	4
Description	Brushless AC Cobra Brand 2208 2000kv motors		



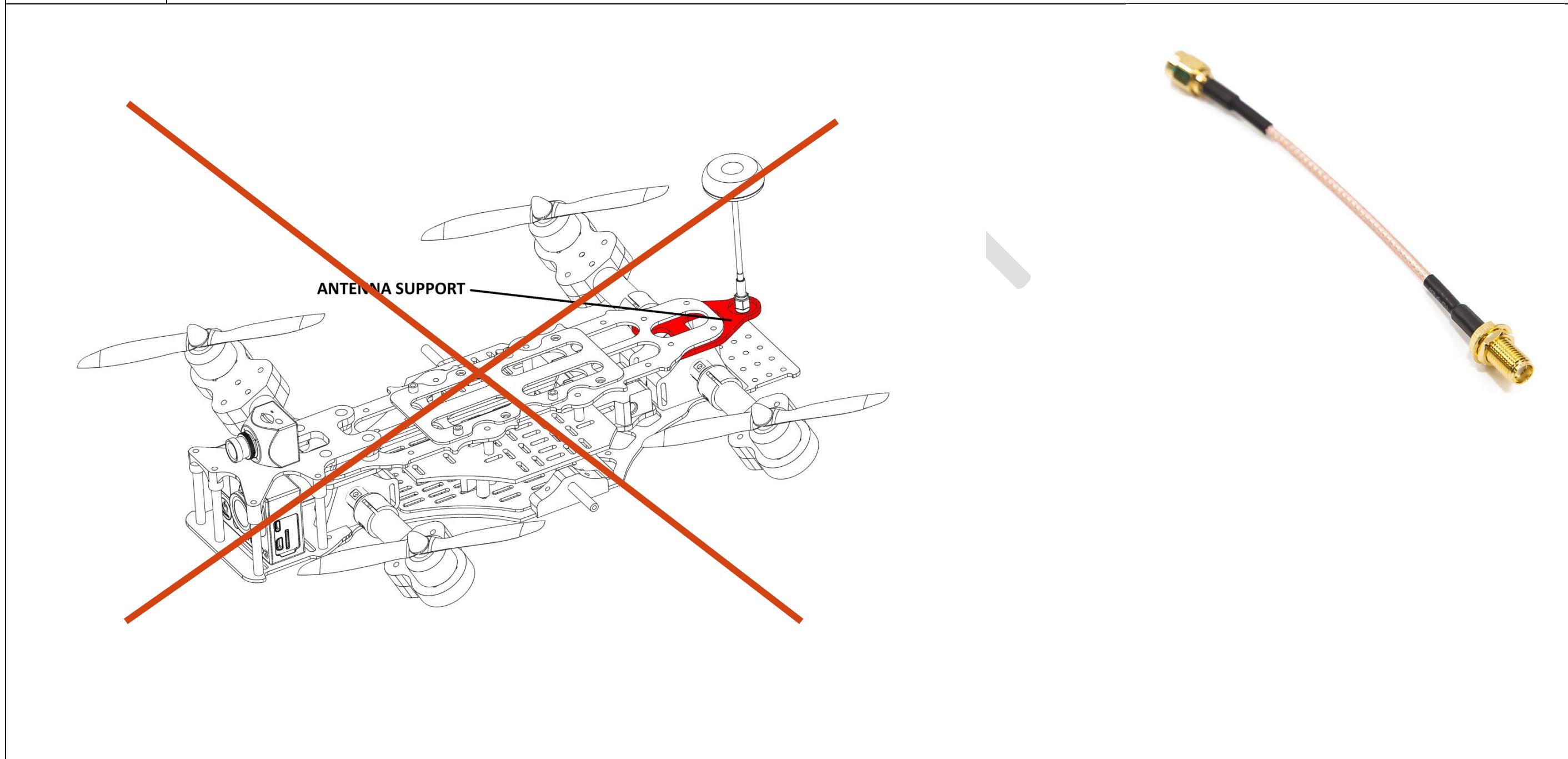
Name	30A mini ESCs	Quantity	4
Description	Electronic Speed Control units with maximum capacity of 30A of current		



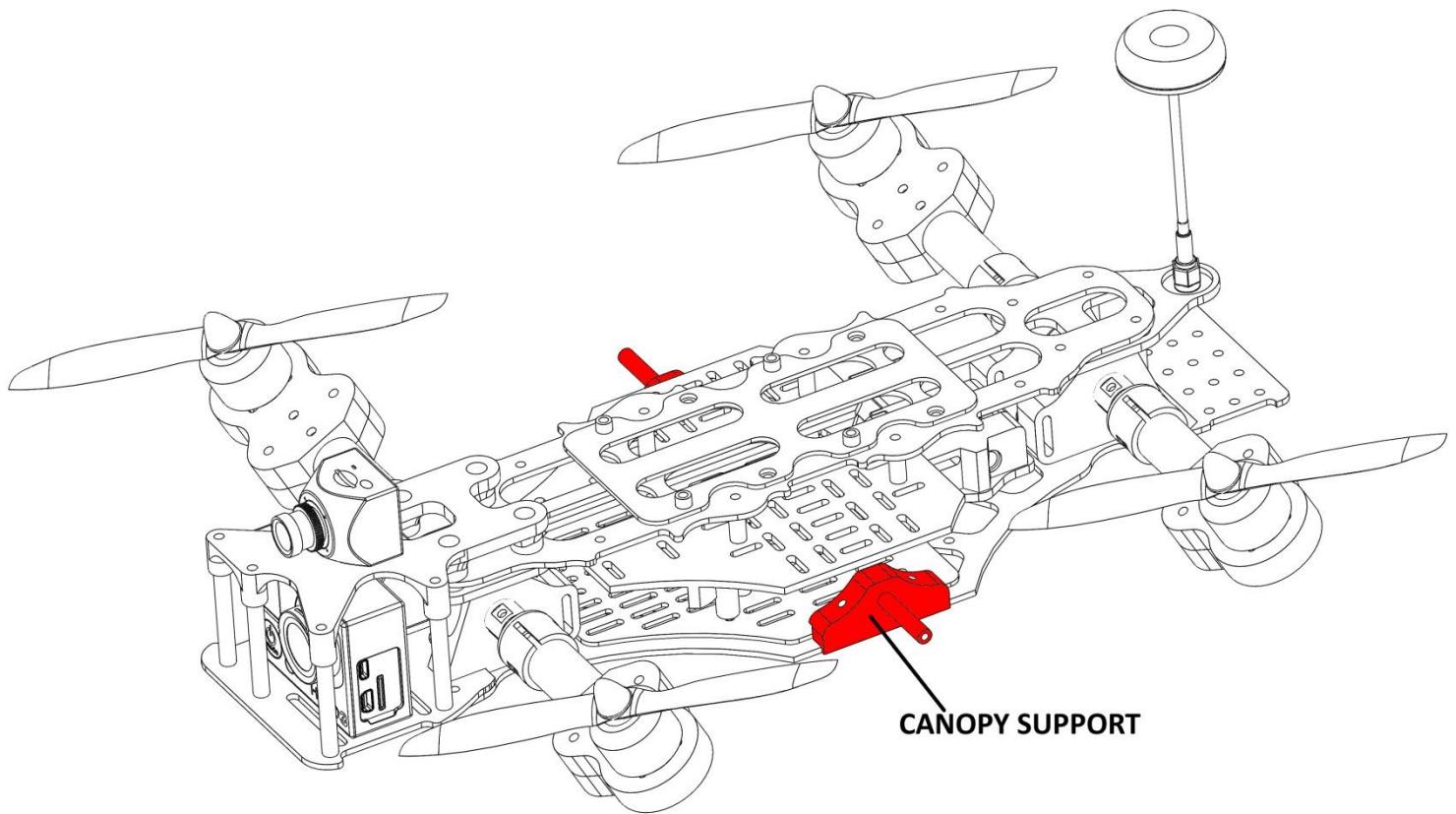
Name	Variable Step Down Regulator	Quantity	2
Description	Converts battery voltage to +12VDC and +5VDC using LM2596 or any other switching regulator IC		



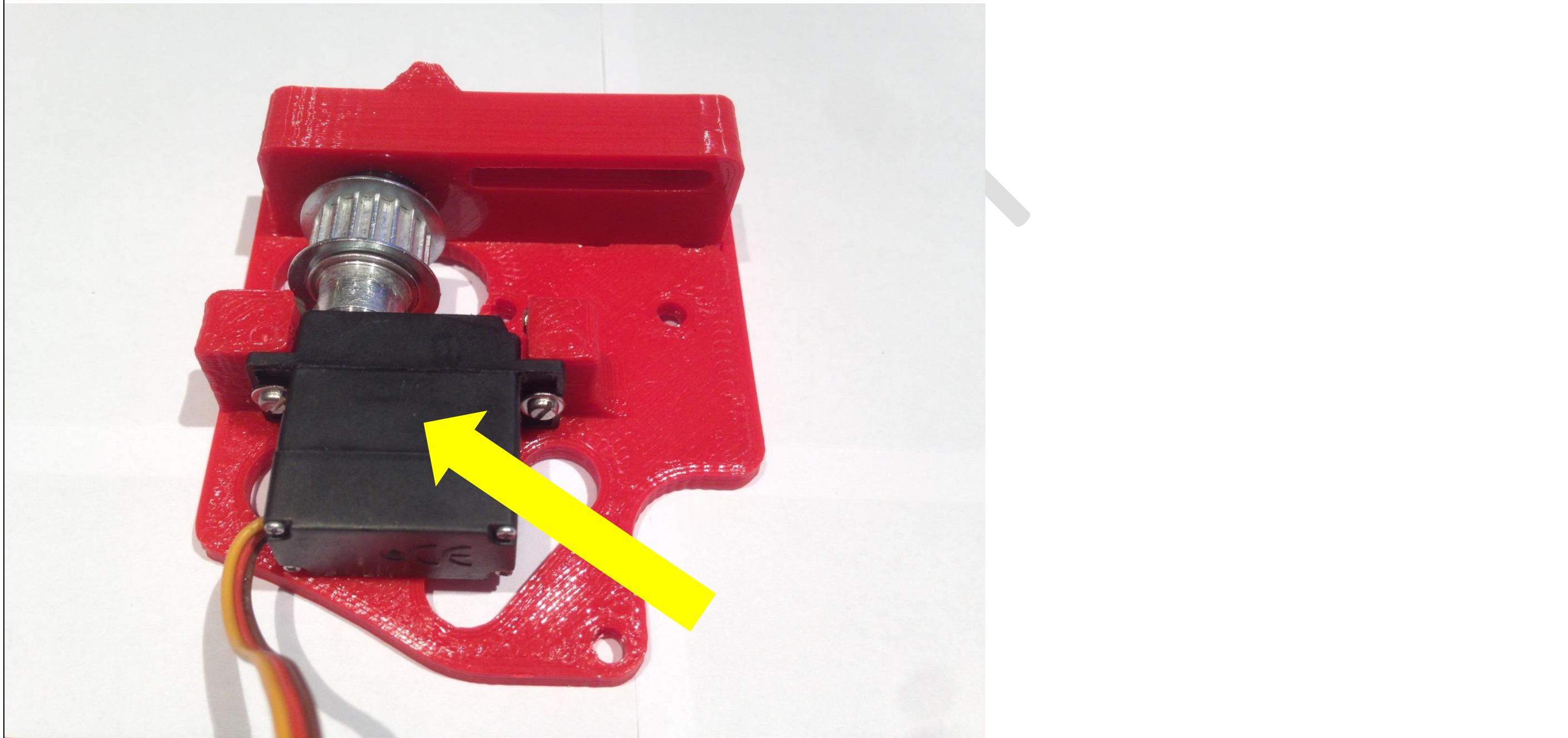
Name	SMA Antenna Extension Cable (OPTIONAL)	Quantity	1
Description	Extension cable to connect antenna to its module		



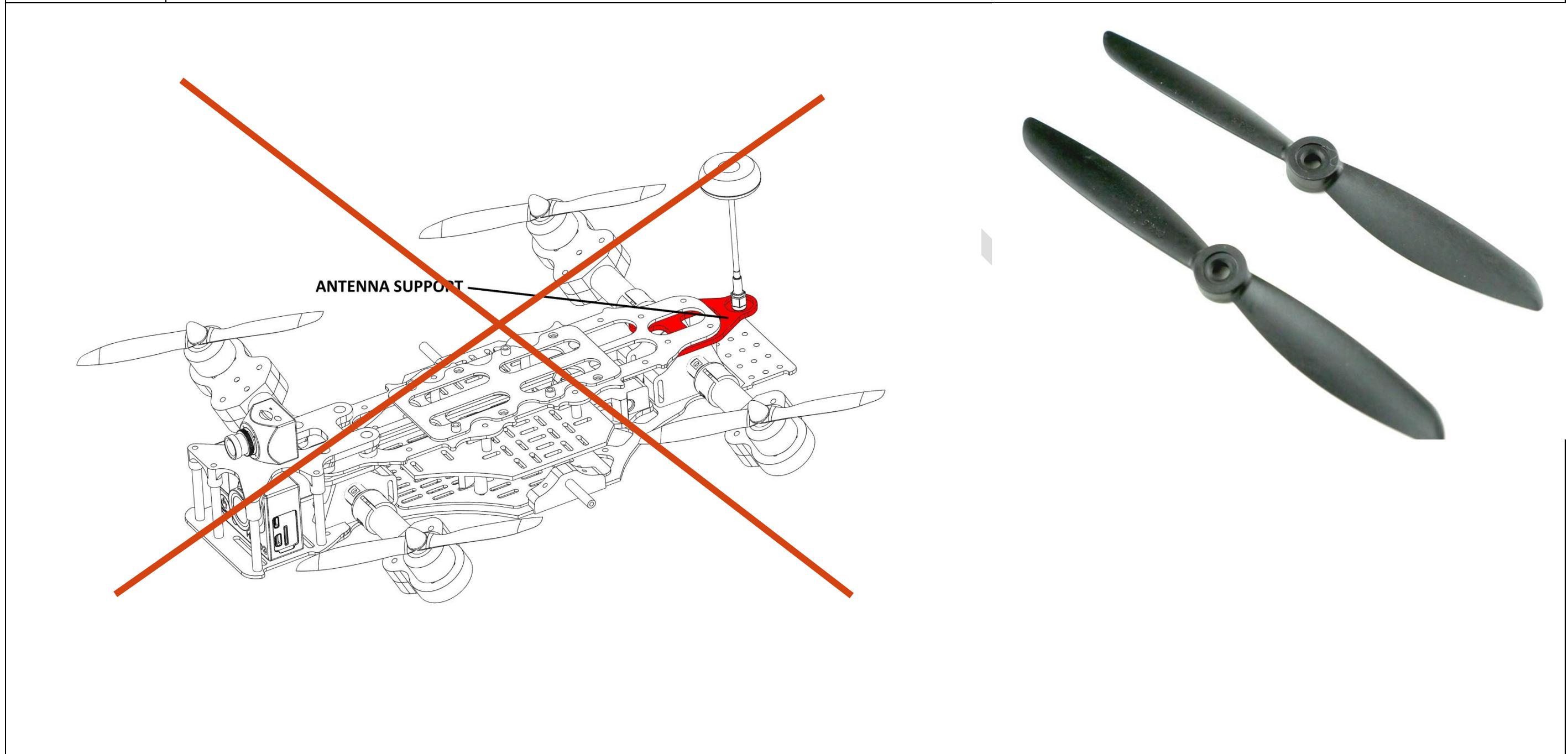
Name	Canopy Support Lateral (OPTIONAL)	Quantity	2
Description	Holds the canopy from the lateral positions of the drone		



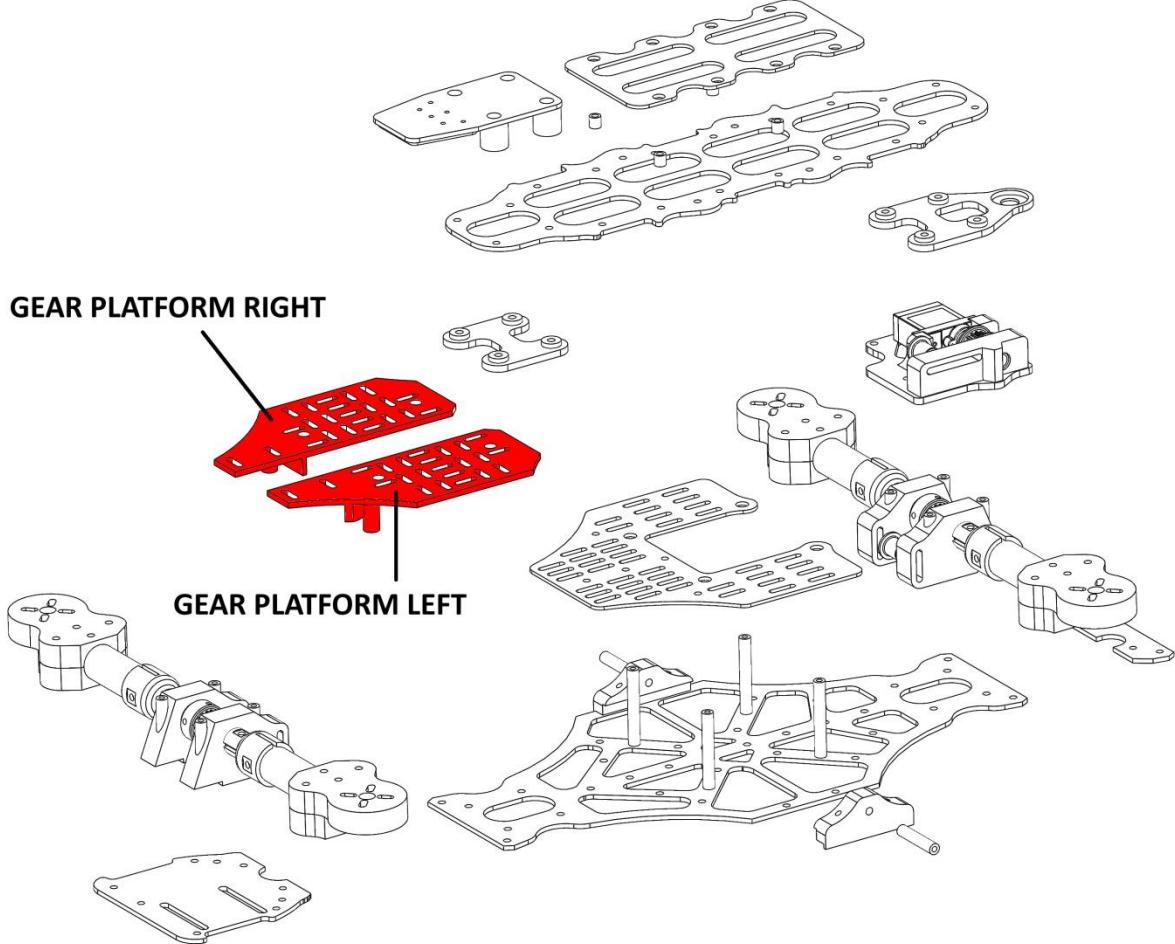
Name	Servo motor	Quantity	1
Description	Analog Servo Motor. Provides tilting mechanism to the drone.		



Name	Propellers	Quantity	1 set of 4 pieces
Description	Provides aerial propulsion to the system via motor connections		

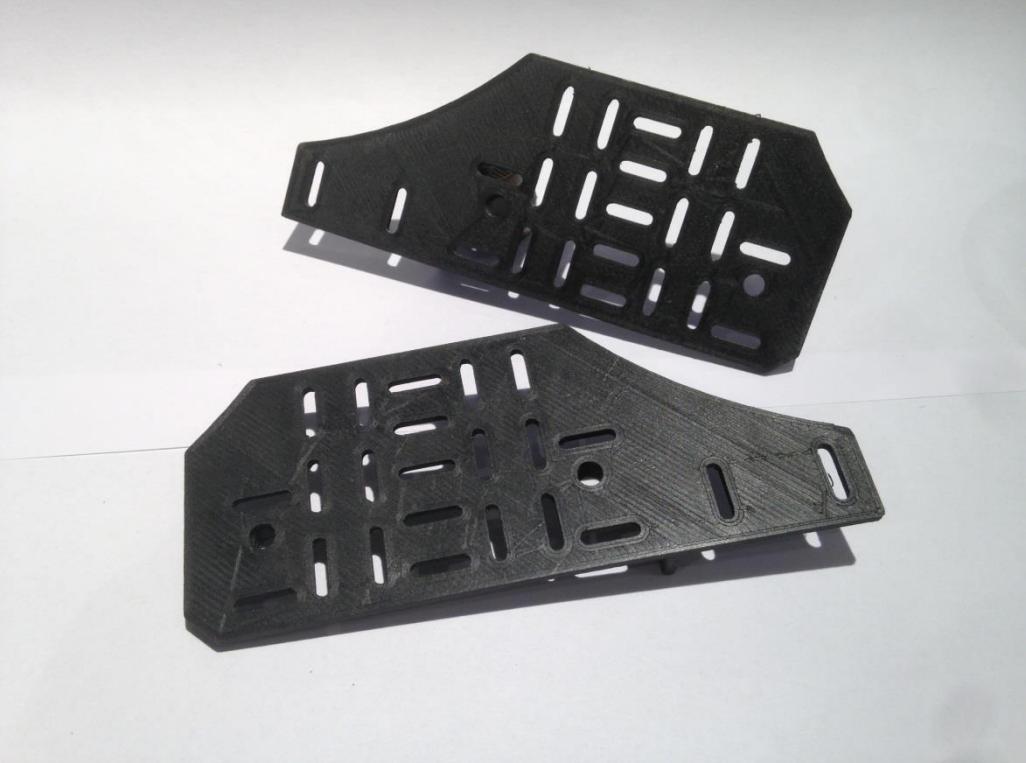


Name	Gear Platform	Quantity	2 (1 right-side + 1 left-side)
Description	Provides place and support to keep modules on the drone.		



GEAR PLATFORM RIGHT

GEAR PLATFORM LEFT

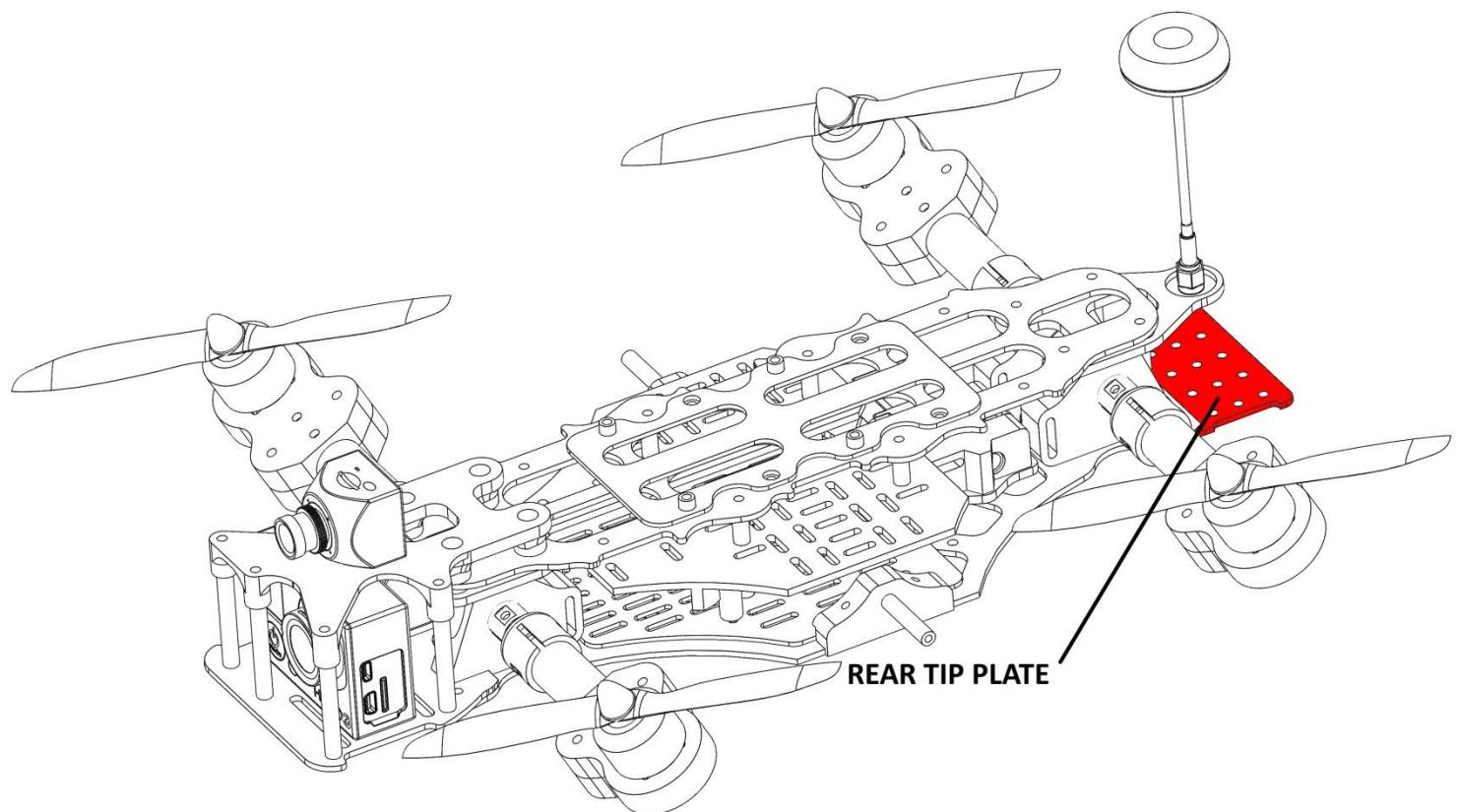


Name	Cage Top Plate (OPTIONAL)	Quantity	1
Description	Provides cage in the front side of the drone to protect the camera module		

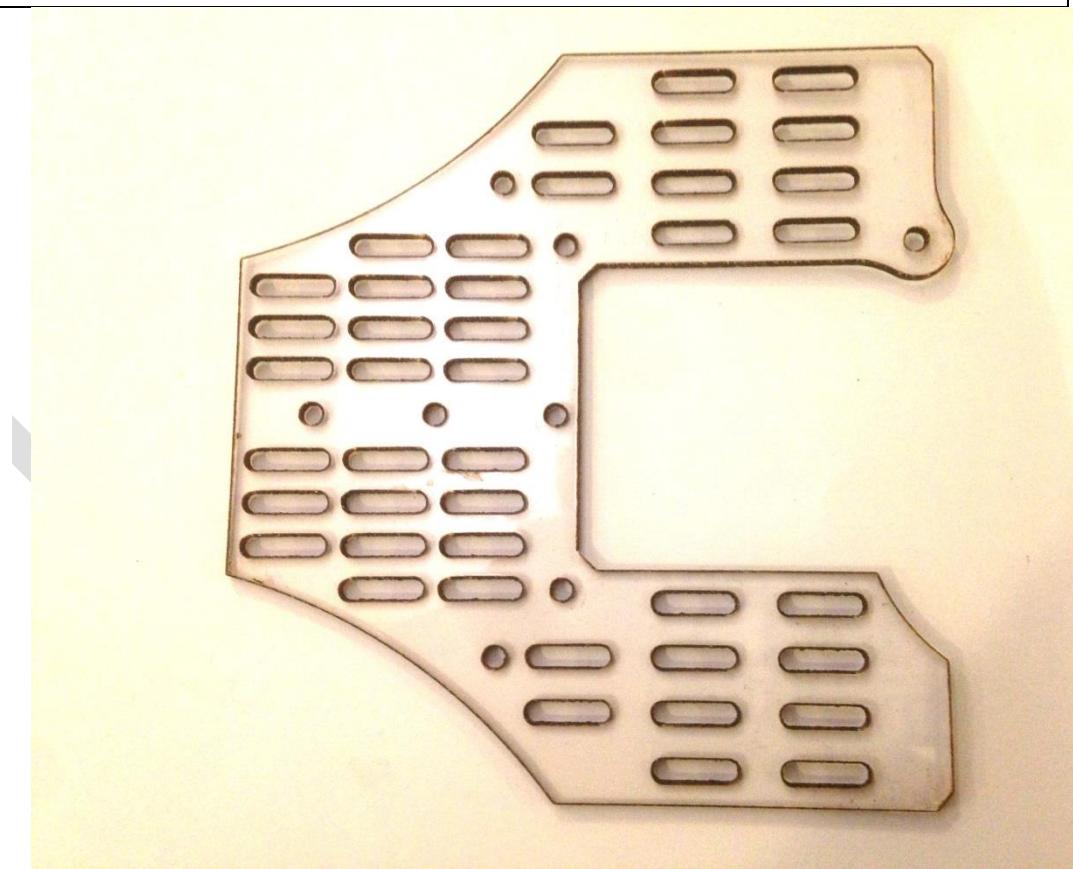
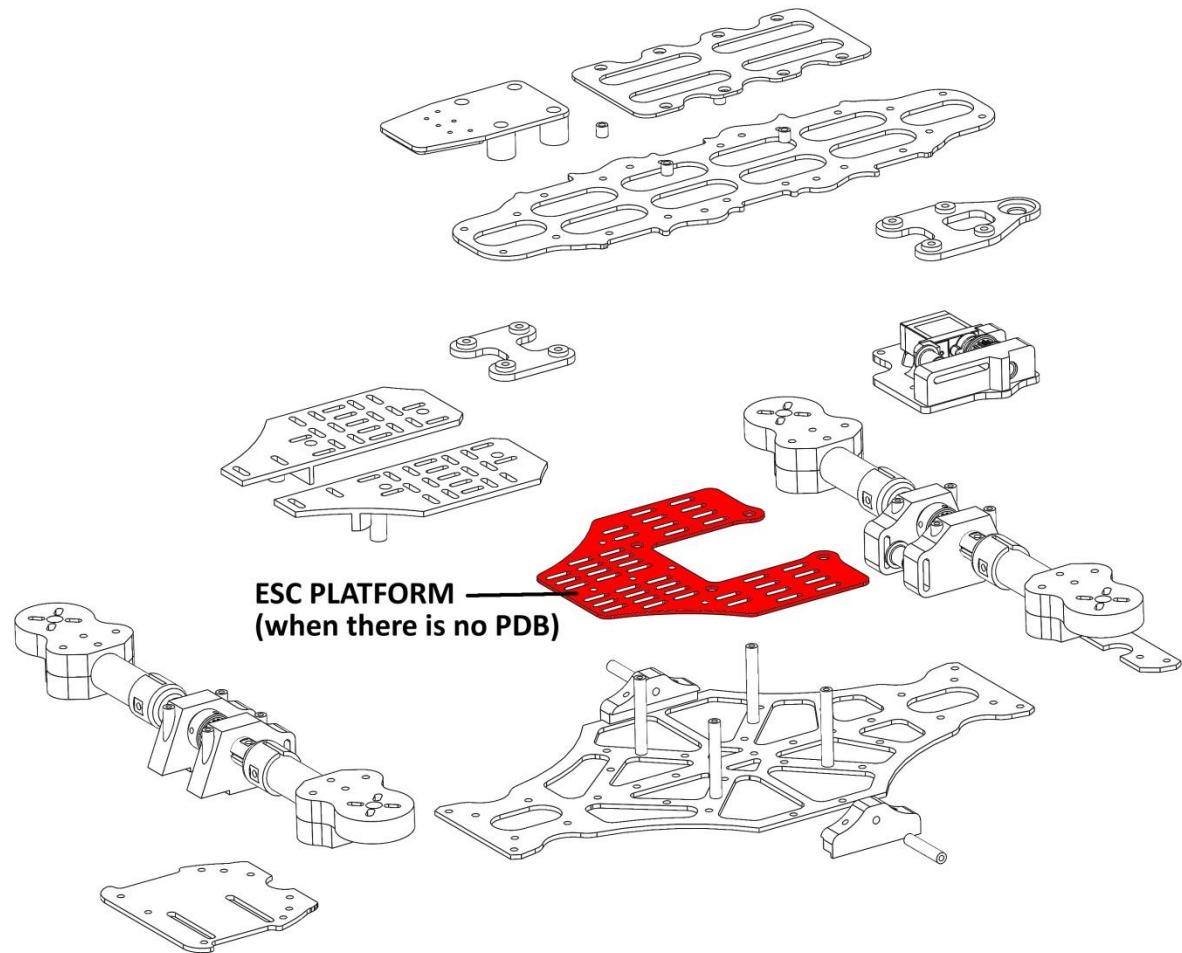
The diagram shows a top-down exploded view of a quadcopter's internal structure. The frame is shown in grey, with various motors, propellers, and electronic components. A red callout points to the 'CAGE TOP PLATE', which is a red plastic plate mounted on the front of the frame. The plate has several holes and a central cutout.

A photograph of the physical Cage Top Plate. It is a black, multi-hole plastic part designed to fit onto the front of a quadcopter frame. The part has a central rectangular opening and several circular mounting holes around its perimeter.

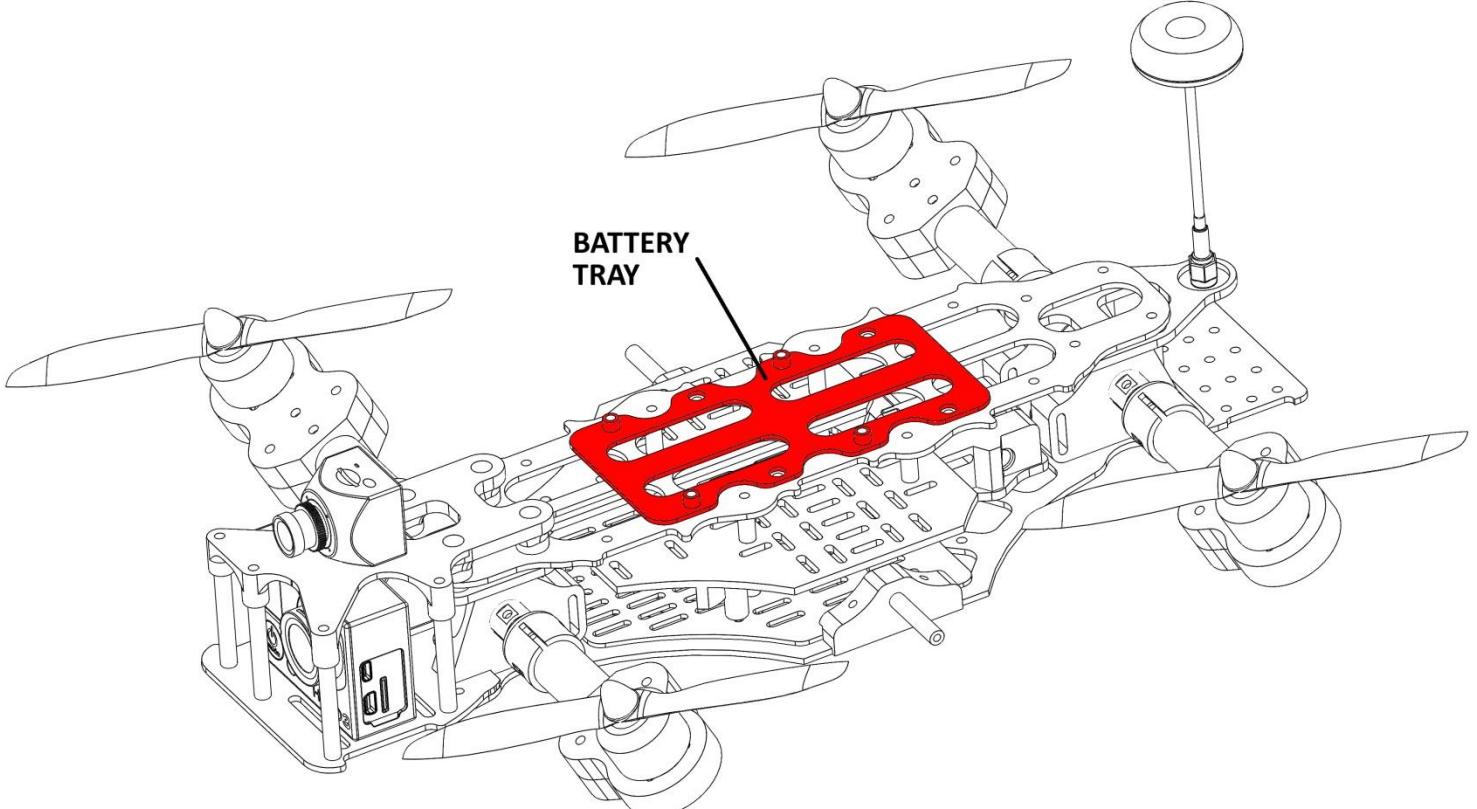
Name	Rear Tip Plate	Quantity	1
Description	Saves the rear end placed modules during crash of the drone.		



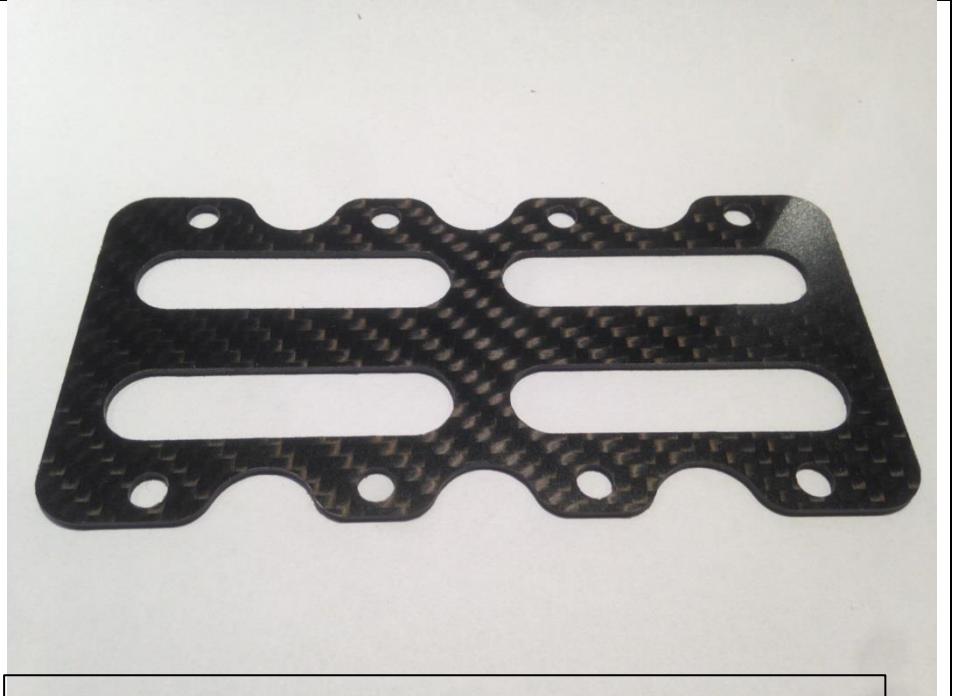
Name	ESC Platform	Quantity	1
Description	If the drone is not using a PDB. This unit is used to hold and place the ESC units in the system.		



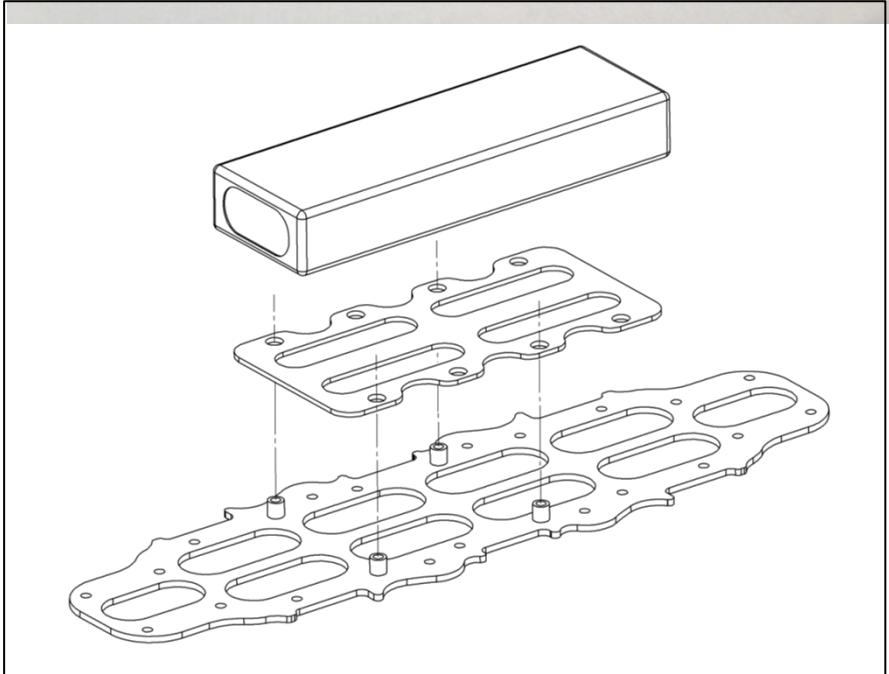
Name	Battery plate	Quantity	1
Description	Helps holding the battery unit straight during flights.		



A line drawing of the drone's internal frame. A red rectangular component, labeled 'BATTERY TRAY' with a leader line, is positioned horizontally across the center of the frame, just below the main body plate. The tray has several circular cutouts and mounting holes. The frame includes components like the motor/gear assembly, propellers, and landing gear.



A photograph of a black, textured carbon fiber battery plate. It has a complex shape with multiple rectangular cutouts and several circular holes along its perimeter. The material has a distinct woven pattern.



An exploded view diagram showing the assembly process. At the top, there is a top-down view of the black carbon fiber tray. Below it, there is a side-view diagram of the drone's frame. Dashed lines indicate where the tray is being placed onto the frame, showing how it fits into the central slot. Two small circular components, likely washers or standoffs, are shown being placed between the tray and the frame.

Code Number: MD04001-00-1507 rev.2

Revision Date: 15/07/2015

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TILT
RACING DRONE



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