

TRON

PERFORMANCE HELICOPTER

S.5

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safety notice

Operate the helicopter in open areas with no people nearby.

Follow your countries air regulation rules.

You may need to join a local club and become a member before you can fly the model.

Do NOT operate the helicopter in the following places and situations (or else you risk severe accidents)

In places where children gather or people pass through in residential areas and parks, indoors and in limited space in windy weather or when there is rain, snow, fog or other precipitation. If you do not observe these instructions you may be held liable for personal injury or property damage!

Always check the R/C system prior to operating your helicopter.

Keep in mind that other people around you might also be operating a R/C model. Never use a frequency which someone else is using at the same time. Radio signals will be mixed and you will lose control of your model. If the model shows irregular behavior, bring the model to a halt immediately and disconnect the batteries. Investigate the reason and fix the problem. Do not operate the model again as long as the problem is not solved, as this may lead to further trouble and unforeseen accidents. In order to prevent accidents and personal injury, be sure to observe the following: Before flying the helicopter, ensure that all screws are tightened. A single loose screw may cause a major accident.

Replace all broken or defective parts with new ones, as damaged parts lead to crashes. Never approach a spinning rotor. Keep at least 5 meters/yards away from a spinning rotor blades. Do not touch the motor immediately after use. It may be hot enough to cause burns. Perform all necessary maintenance.

PRIOR TO ADJUSTING AND OPERATING YOUR MODEL, OBSERVE THE FOLLOWING

Operate the helicopter only outdoors and out of people's reach as the main rotor operates at high rpm!

Note that a badly assembled or improperly adjusted helicopter is a safety hazard!

In the beginning, novice R/C helicopter pilots should always be assisted by an experienced pilot.

SAFETY FIRST! ALWAYS.

Tronhelicopters
3. Ke Yuan South Road, Guang Cheng
Qu.Dongguan City.
Dongguan 523009.
China.

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Features.



Wide battery compartment with quick lock and release system.

Light, yet very stiff and robust.

Mini or full-size tail servo option.

Motor mounting features a bearing block supported pinion, reducing overall wear on the power system and drive train.

Compatible with a wide range of motor sizes. 4020, or 4025 series fit with easy. From 1000kv-1350kv for 6s 5mm shaft and 6mm shaft diameter) 14T/5mm included.

Octa boom design with oval side shapes, no boom supports needed.

Capable of using a wide range of lipos. 6,8,10 or even 12S. (6S-5000mAh to 5500mAh recommended).

Well engineered servo layout in conjunction with the FBL system and ESC.

Easy cable routing with various options to ensure a clean setup. Modern, sporty and functional design.

High visibility canopy for perfect orientation in flight.

Recommended main blade size 550-560mm. Tail blade size 86-93mm.

Sustainably produced.



About Tronhelicopters

Designed, engineered and manufactured by YINTECH and Tronhelicopters Switzerland.

Tronhelicopter's team was built in 2019. Including professional RC Helicopter Pilot and RC FPV Drone World Champion from 2017 Dario Neuenschwander, we partnered with YINTECH, to provide high-quality manufacturing thanks to over 18 years experience within the helicopter industry.

Partnered together, an idea was born to release a helicopter that satisfied the market needs. Lightweight, strong, simple assembly, ease of maintenance, high quality, a wide flight envelope with precision and responsiveness, all while delivering unique and sporty robotic aesthetics.

After over a year of testing, the Tron 5.5 was found to deliver superior performance while utilizing 550mm class rotor blades. Any pilots will find not only a great flight experience but also plenty of neat features of the model.

Pilots can power the Tron 5.5 with a wide variety of motors and battery setups, ranging from 4020, and 4025 motors, as well as 6s, 8s, and even 12s power systems.

Low head speed and high head speed provide pilots the flexibility they want in a helicopter, to meet the performance they want.

No matter your needs as a pilot, the Tron 5.5 will meet them all.

CAUTION:

This radio controlled helicopter is not a toy.

The product is not suitable for children under 14 years of age.

SAFETY PRECAUTIONS:

This kit includes some preassembled components. Please check for any loose screws and tighten them before you proceed with assembly. Use loctite where required as shown in this manual!

You are responsible for assembly, safe operation, maintenance, inspection and adjustment of the model.

Before beginning assembly, please read these instructions thoroughly.

Check all parts. If you find any defective or missing parts, contact your local dealer.

For the USA market, The Academy of Model Aeronautics (AMA) is a national organization representing modelers in the United States. Please refer to the National Model Aircraft safety code from Academy of Model Aeronautics.

Tools required

	<p>2 component epoxy</p>
	<p>Loctite 243 / medium strength</p>
	<p>Grease</p>
	<p>2*Wrench for tail shaft nut</p>
	<p>Hex screwdriver 1.5mm/2mm/2.5mm/4mm/5mm</p>
	<p>TR501-518 Pair of customized nut wrench for tail shaft assembly. Optionally available at your Dealer.</p>

Electronics required



3* midi size servos for swashplate



1* midi or full size servo for tail



BL motor. 4020-4025 size/5mm or 6mm shaft diameter with min. 22mm length



ESC 6S-12S 100A-155A

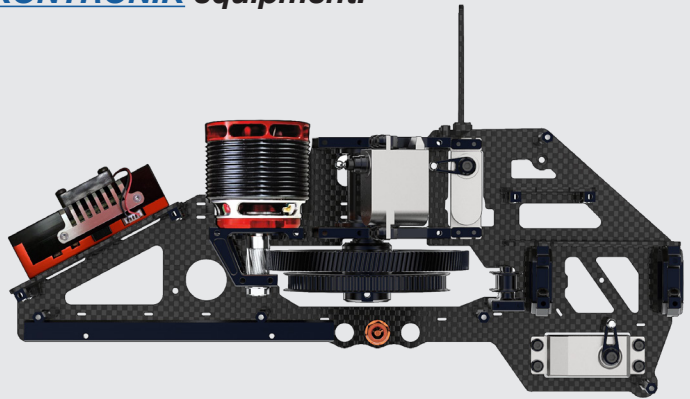


FBL device and receiver with 6 channel transmitter.

Motor and ESC.

Recommendation for Tron 5.5 if you use [KONTRONIK](#) equipment.

- KOLIBRI-140-LV.
- PYRO 650-103-1030kv 5 or 6mm shaft.
- PYRO 650L-103-1030kv 5 or 6mm shaft.



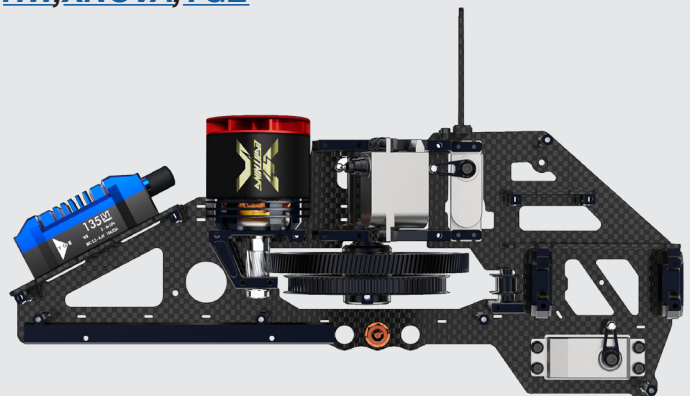
Recommendation for Tron 5.5 if you use [SCORPION](#) equipment.

- TRIBUNUS II 06-120A SBEC ESC.
- TRIBUNUS 12-130A ESC SBEC ESC.
- SCORPION HK-IV-1100 kv 5 or 6mm shaft.
- SCORPION HK-IV 1060 kv 5 or 6mm shaft.
- SCORPION HK-IV 1320 kv 5 or 6mm shaft.



Recommendation for Tron 5.5 if you use [HW](#), [XNOVA](#), [YGE](#) equipment.

- YGE 135 LVT. ESC.
- YGE AUREUS 135 HVT.ESC.
- HOBBYWING PLATINUM PRO 120A V4.
- HOBBYWING PLATINUM PRO 130A V4.
- XNOVA 4020-1200 kv LIGHTING OR PERFORMANCE series 5 or 6mm shaft.
- XNOVA 4020-1350 kv LIGHTING 5 or 6mm shaft.
- XNOVA 4025-1120 kv LIGHTING 5 or 6mm shaft.



Connectors, main and tail blades recommendation.

*We do recommend to use quality connectors for a safe and solid running setup.
(ESC and battery)*

- [Supra X Pro S6](#)
- [RCPROPLUS Pro-D6 Supra X](#)



































































Main blade recommendation for Tron 5.5 (545mm-560mm length).



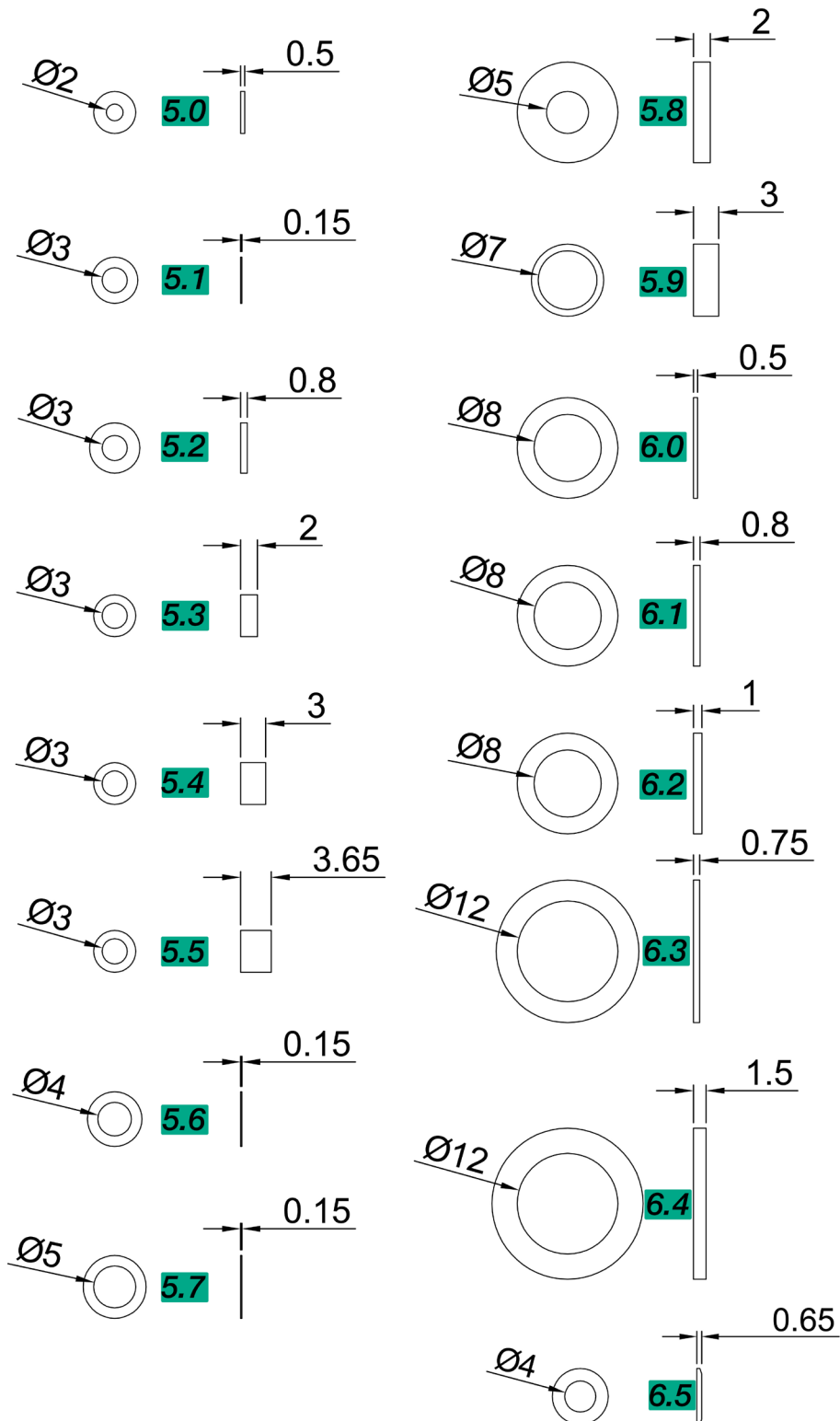
Tail blade recommendation for Tron 5.5 (85mm-95mm length).



Screws and nuts.

 1.0  M2*4mm	 2.6  M3*20mm
 1.1  M2.5*6mm	 2.7  M3*20mm C/HUB.
 1.2  M2*4mm	 2.8  M3*22mm
 1.3  M2*6mm	 2.9  M3*25mm
 1.4  M2*14mm	 3.0  M3*26mm M/GEAR.
 1.5  M2.5*6mm	 3.1  M3*28mm
 1.6  M2.5*8mm	 3.2  M2.5*30mm
 1.7  M2.5*10	 3.3  M4*26.5mm
 1.8  M3*6mm	 3.4  M4*4mm
 1.9  M3*8mm	 3.5  M4*5mm
 2.0  M3*10mm	 3.6  M5*12mm
 2.1  M3*6mm	 3.7  M2 Nut
 2.2  M3*8mm	 3.8  M2.5 Nylon Nut
 2.3  M3*10mm	 3.9  M3 Nylon Nut
 2.4  M3*12mm	 4.0  M4 Nylon Nut
 2.5  M3*16mm	 4.1  M3*12mm

Shims and washers.



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You will need:

Loctite 243 = blue



Grease = yellow



Head assembly.

TR503-204 Feathering shaft support.

TR550-001 Center Hub.

TR504-870 Head dampeners 70 shore, for Sport and moderate 3D flying.
(standard in kit).

TR504-890 Head dampeners 90 shore for high rpm and hard 3D
flying style. (optional)

TR502-103 Feathering shaft.



TR550-804 Main grip bearings set, with thrust bearings and shims.

Pay attention to the orientation of the ball cage.

Internal hole bigger.

Apply grease.



TR550-003 Main grip arms.

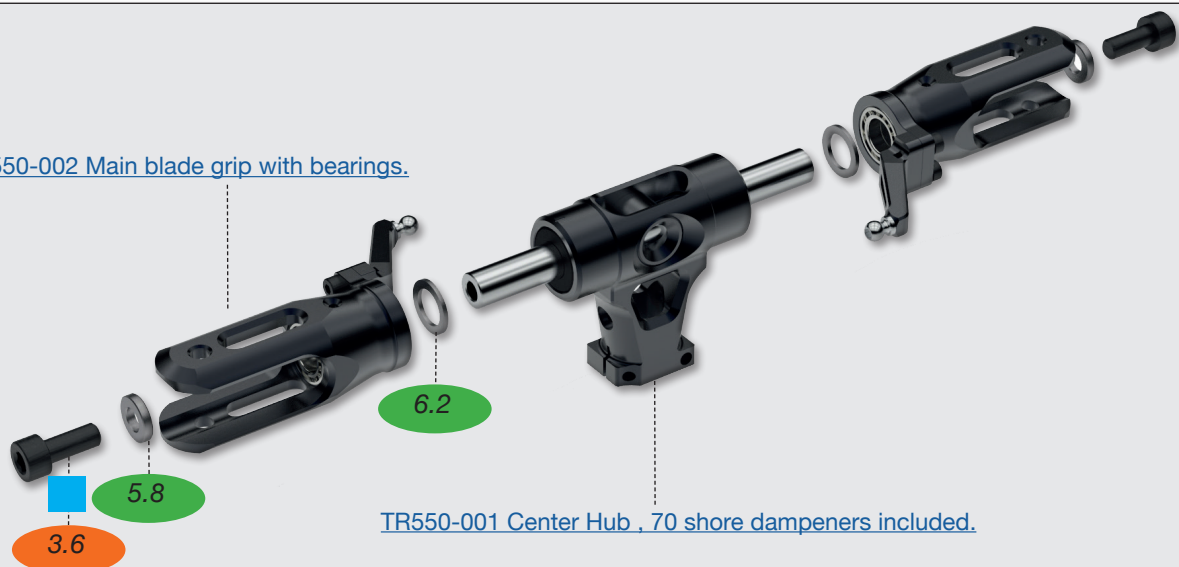
TR550-110 Pivot steel ball set
for head.



TR550-002 Main blade grip with bearings.

6.2

TR550-001 Center Hub , 70 shore dampeners included.



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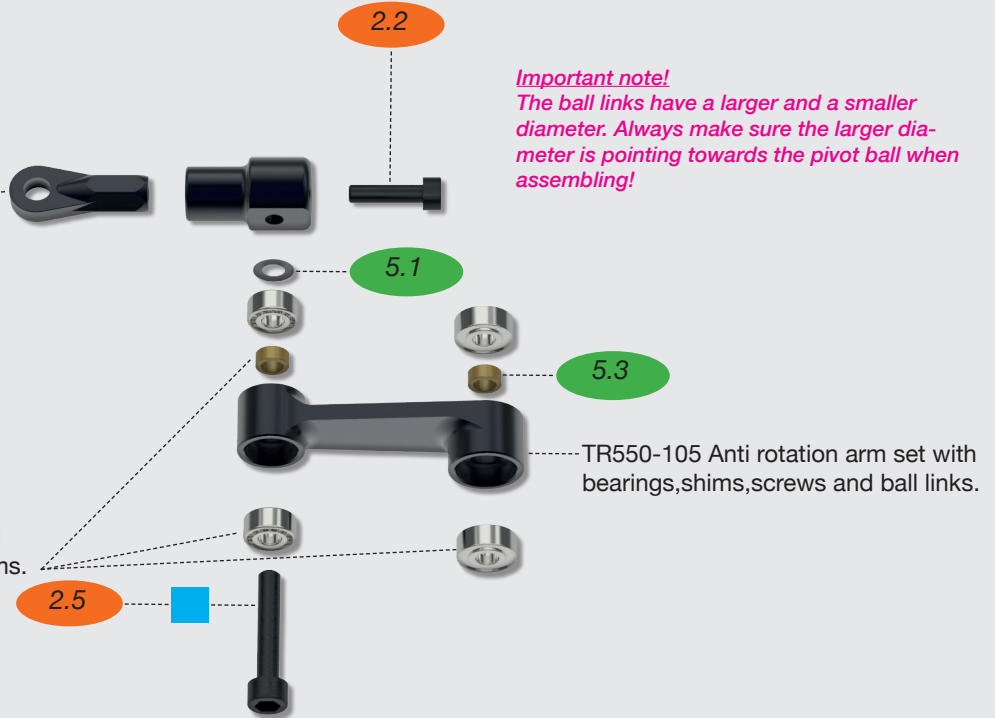
You will need:

Loctite 243 = blue

Head assembly.

TR504-100 Plastic ball link---
set 2,5mm

TR550-103 Bearing set and
spacers for anti rotation arms.



Do not tighten now!

Do not tighten now!



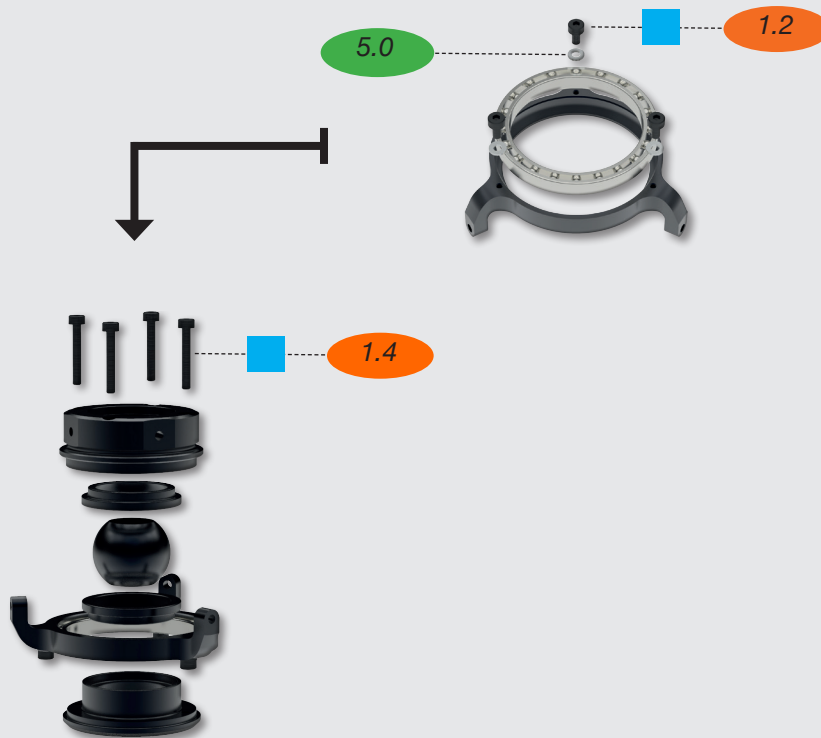
You will need:

Loctite 243 = blue

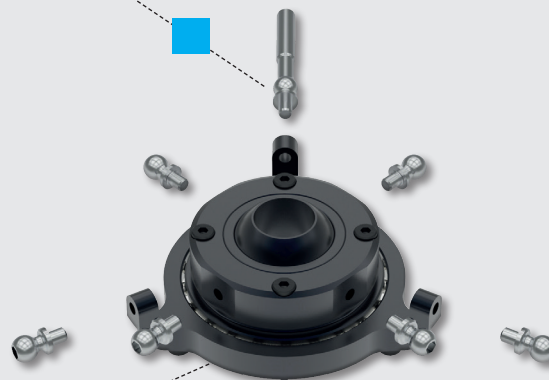


Head assembly.

*Swashplate is preassembled in factory.
Please use loctite 243 on 1.2 and 1.4*



TR550-110 Pivot steel ball set for head. (16pcs.)



TR550-008 Complete swashplate assembly.

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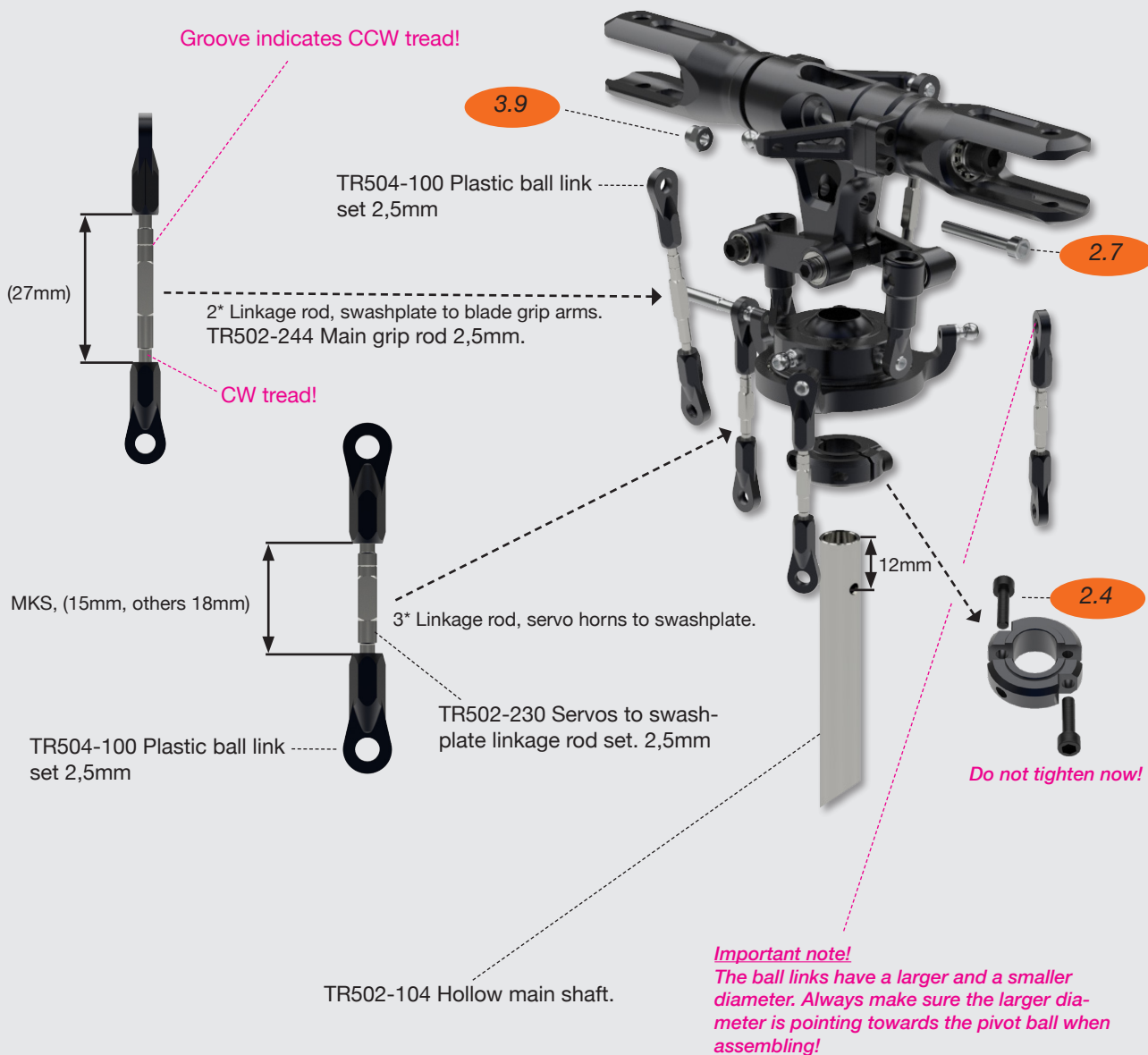
You will need:

Loctite 243 = blue



Head assembly.

1. Insert main shaft into center hub first.
2. Tighten screw 2.7
3. Tighten screw 2.6 left and right step by step (use loctite 248). Make sure the shim 5.1 do not fall out.

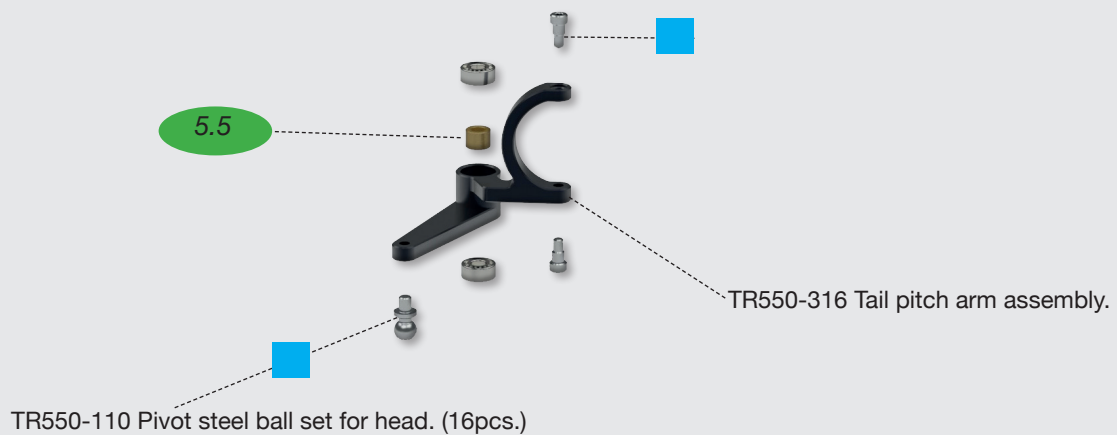
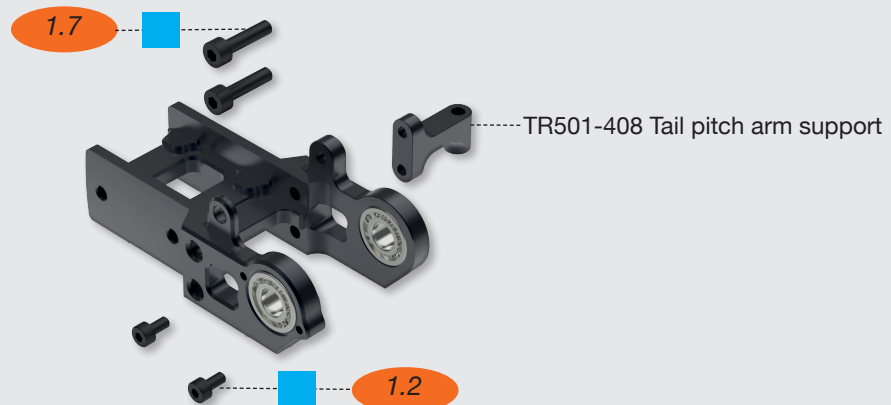
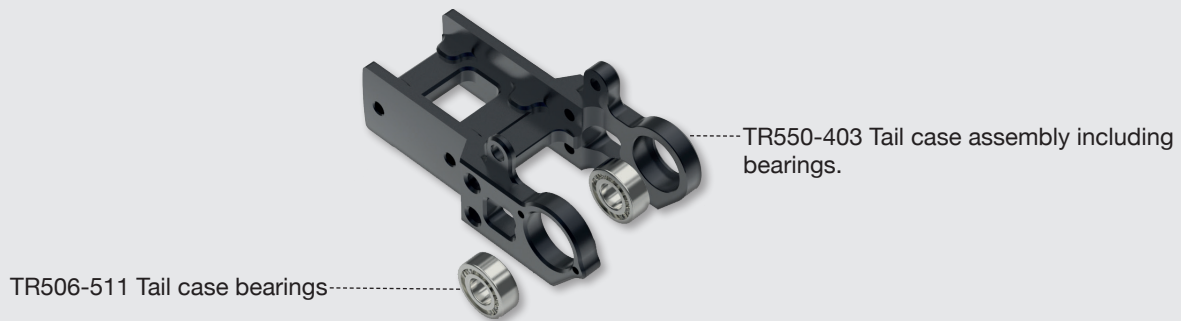


You will need:

Loctite 243 = blue



Tail assembly.

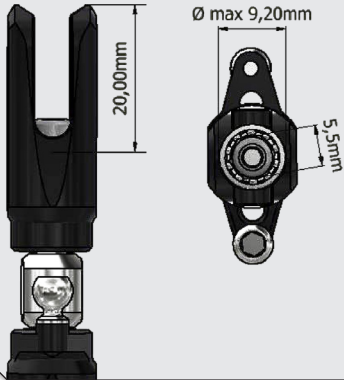


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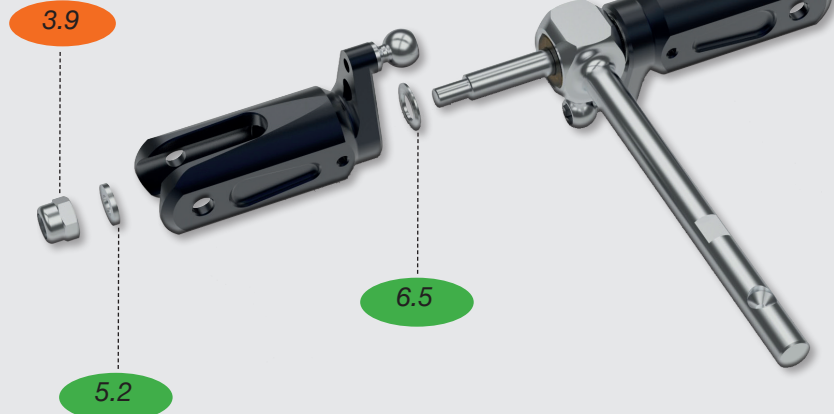
Loctite 243 = blue

Tail assembly.

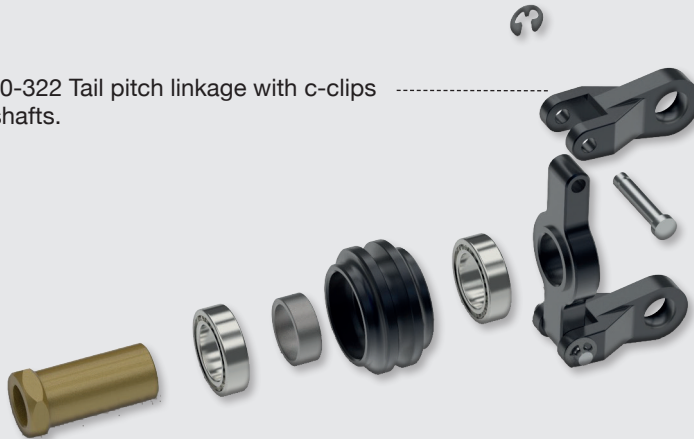
Wrench size for nut = 5.5mm. Outer diameter should not exceed 9.2mm and min. 20mm length is required.
Optional (TR:501518)



TR550-525 Tail blade holder set complete.



TR550-322 Tail pitch linkage with c-clips and shafts.



TR550-428 Tail pitch slider assembly.
(complete)

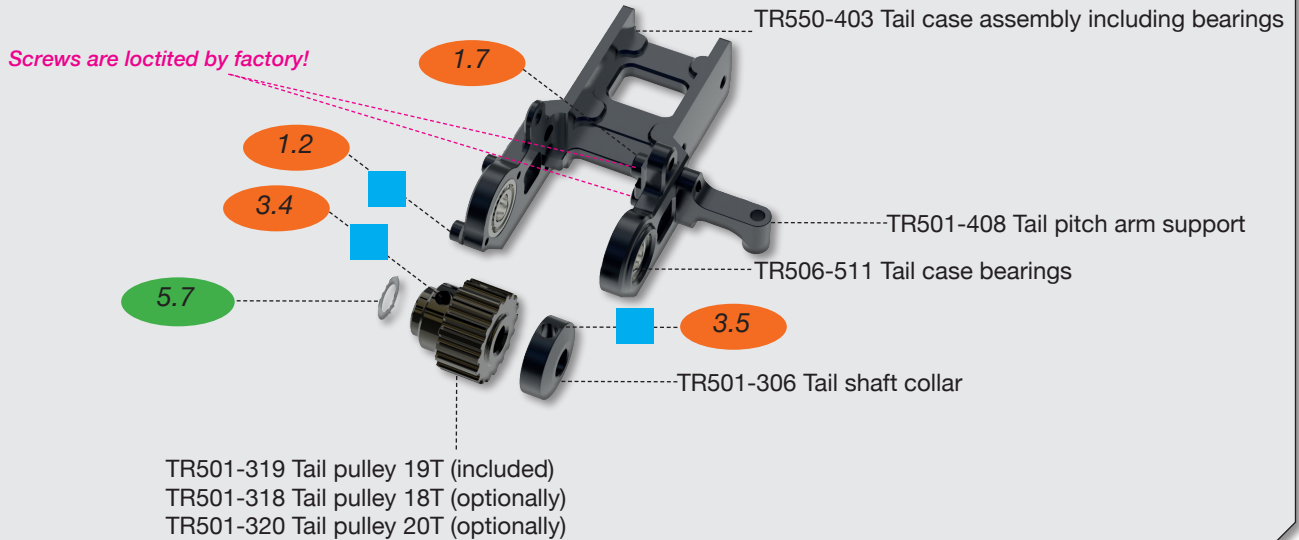
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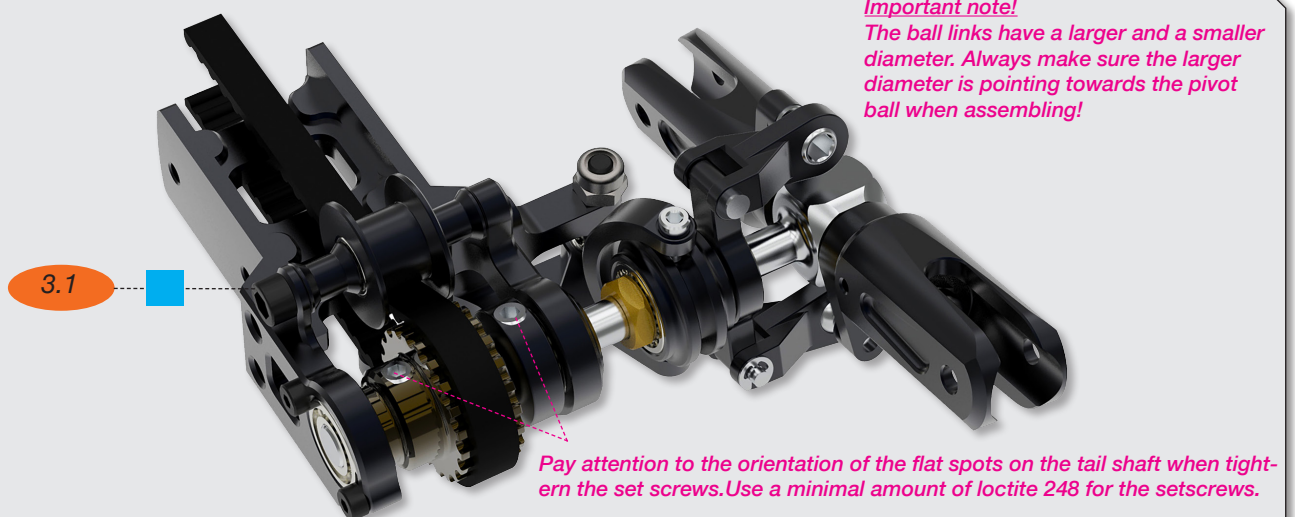
You will need:

Loctite 243 = blue

Tail assembly.



Insert belt here!



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You will need:

A little bit of patience, when doing it for the first time

Tail assembly.

3.8

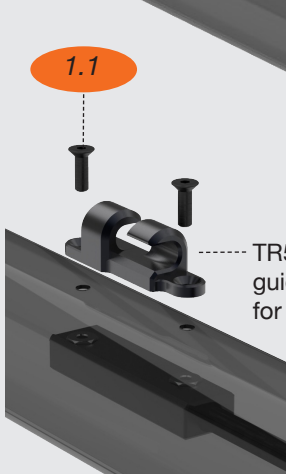


Insert nuts into the tail pushrod mounting device. Use the same direction as shown in the illustration.

Use the tail pushrod temporary.



1.1



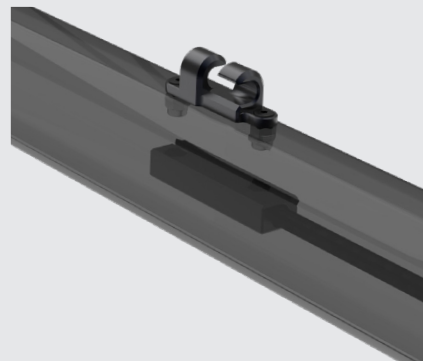
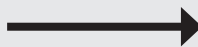
TR503-216 Tail pushrod guide. Include screw and nut for assembling.

Insert the tail push rod with the nuts facing up into the boom. Make sure that when you tighten the screws for the tail push rod guide, your mounting device facing up like shown in the illustration.

TR501-656 Tail boom for 550mm Blade length Tron 5.5 including tail push guide.



Tighten the screws.

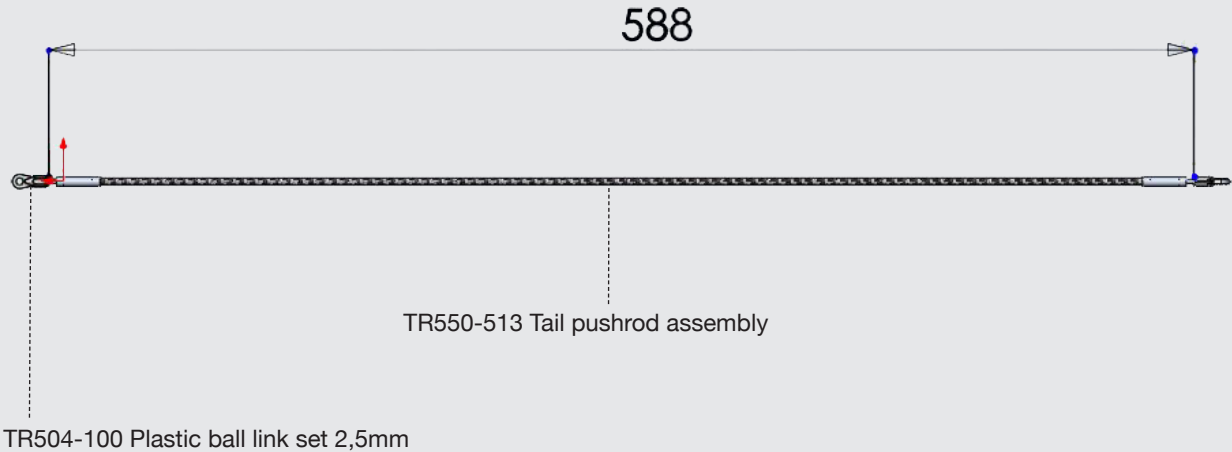


Pull the mounting device out from the nuts.

You will need:
2 component epoxy

Tail assembly.

Glue the tread into the tail push rod and the shell on the outside of the rod. This way you add double safety and the tread can not turn if you adjust the ball-link after the assembly is complete hardened. Use 2 component epoxy!



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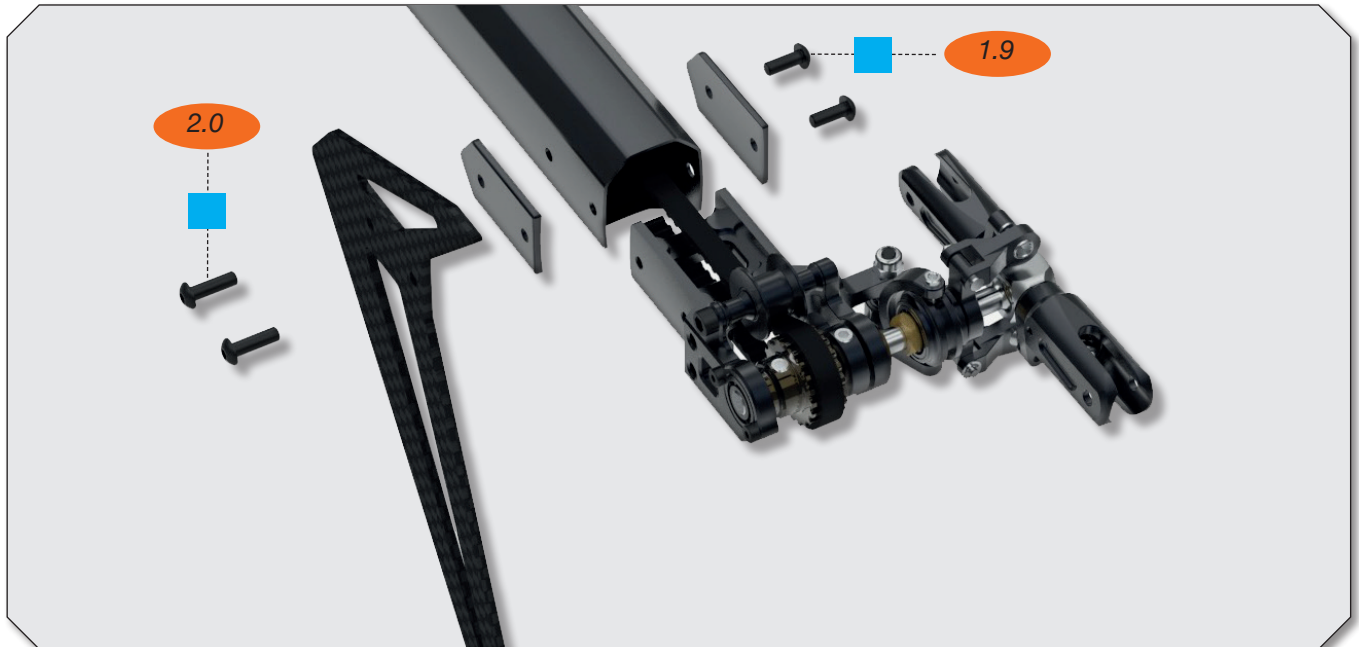
PERFORMANCE HELICOPTER 5.5

You will need:

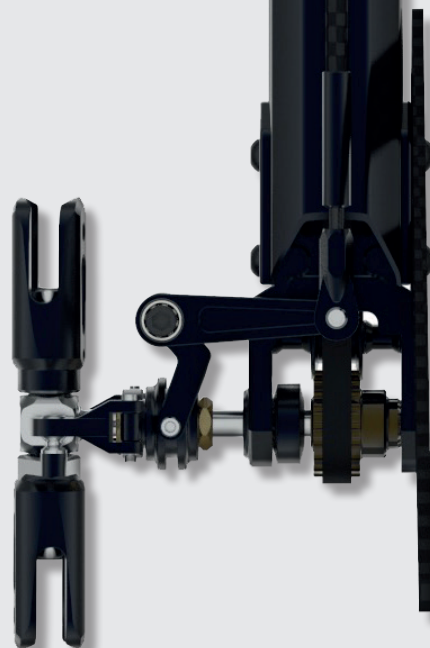
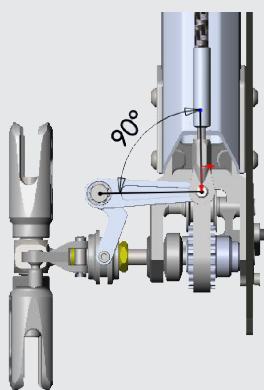
Loctite 243 = blue



Tail assembly.



For best tail authority performance adjust center position of your FBL controller (tail servo) same as shown in the illustration (90°) degree.



You will need:

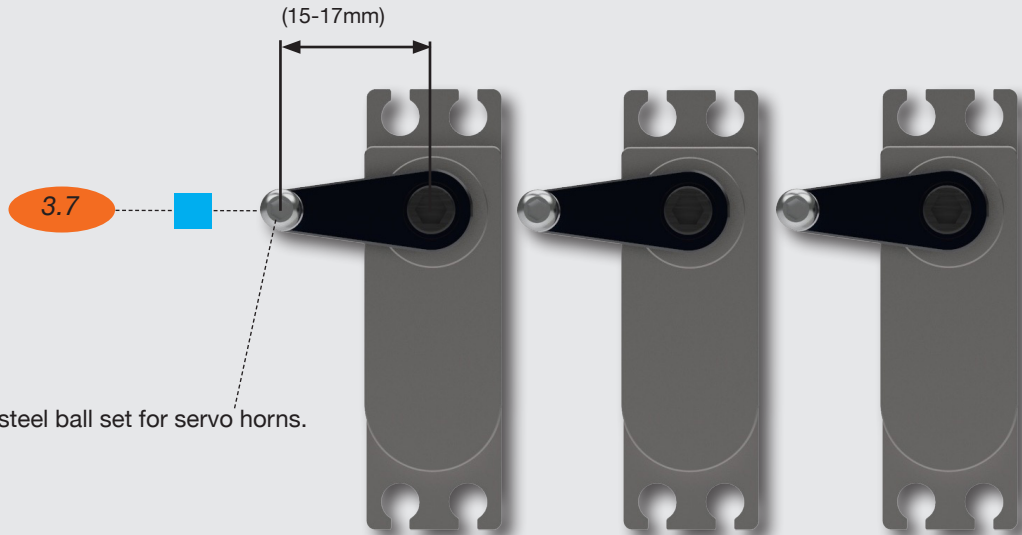
Loctite 243 = blue



Servos preparation.

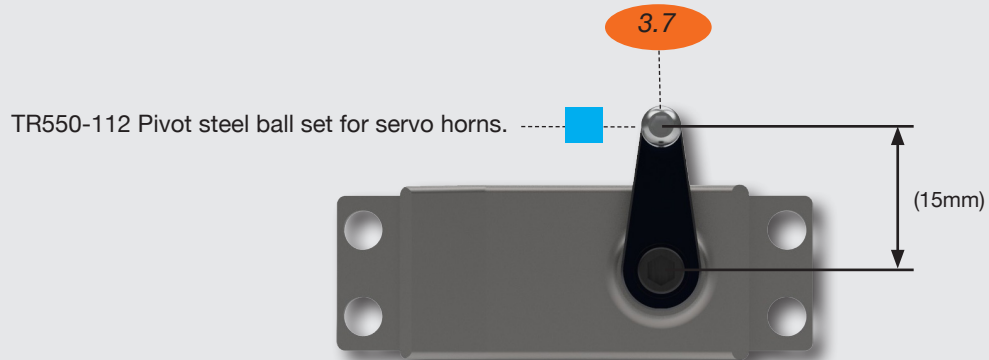
Cyclic servo recommendation for Tron 5.5 (3* midi size)

- MKS
- KST
- BK
- HIGHEST



TR550-112 Pivot steel ball set for servo horns.

Tail servo recommendation for Tron 5.5 (1* midi size)



TR550-112 Pivot steel ball set for servo horns.



Tail servo recommendation for Tron 5.5 (1* full size)

- MKS
- KST
- BK
- HIGHEST
- Futaba



TR550-112 Pivot steel ball set for servo horns.

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You will need:

Loctite 243 = blue

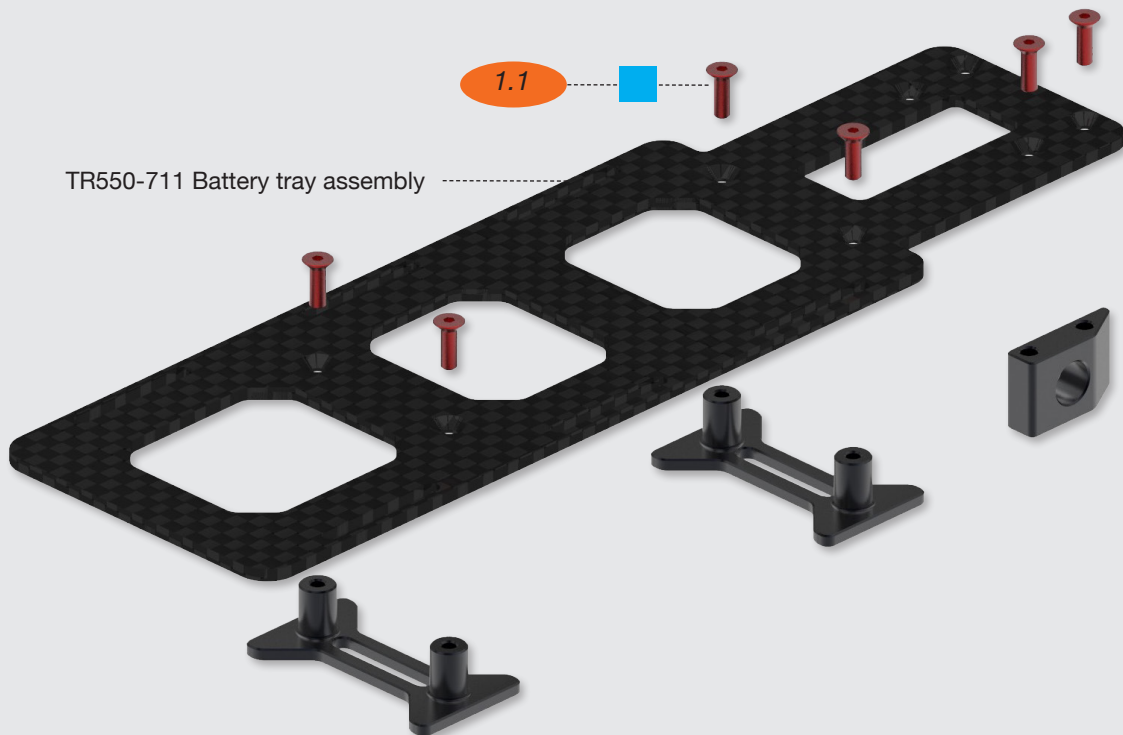


Battery tray.

Battery recommendation for Tron 5.5

- 6S ManiaX 4500mah or 5100mah.
- 6S Fullymax Stamina 5000mah.
- 6S Gens Ace 5000mah.
- 6S Pulse 5000mah.

We experienced the best power versus weight balance with 6S 5000-5500mah size.

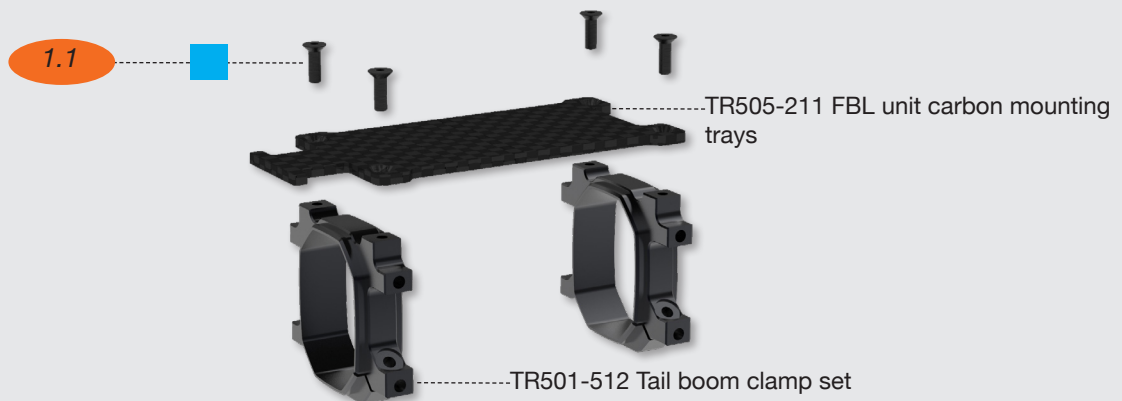
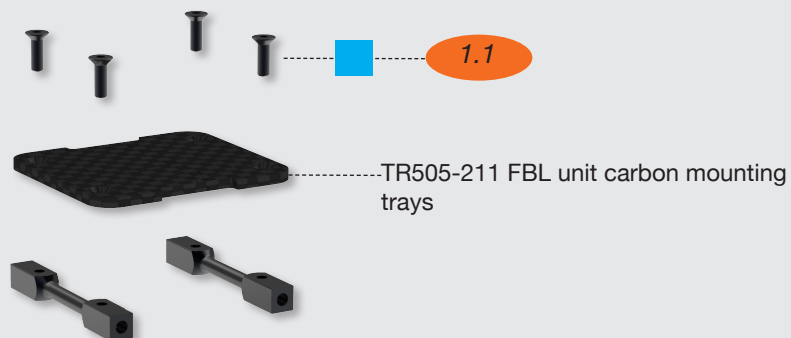
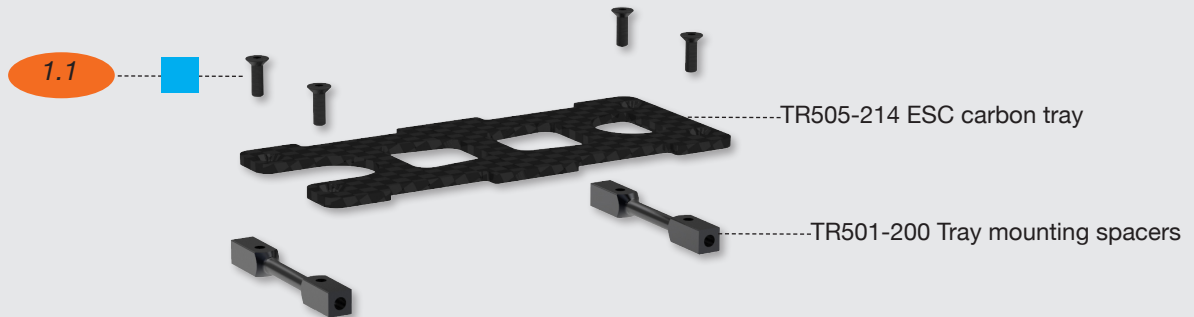


You will need:

Loctite 243 = blue



Upper main frame assembly.

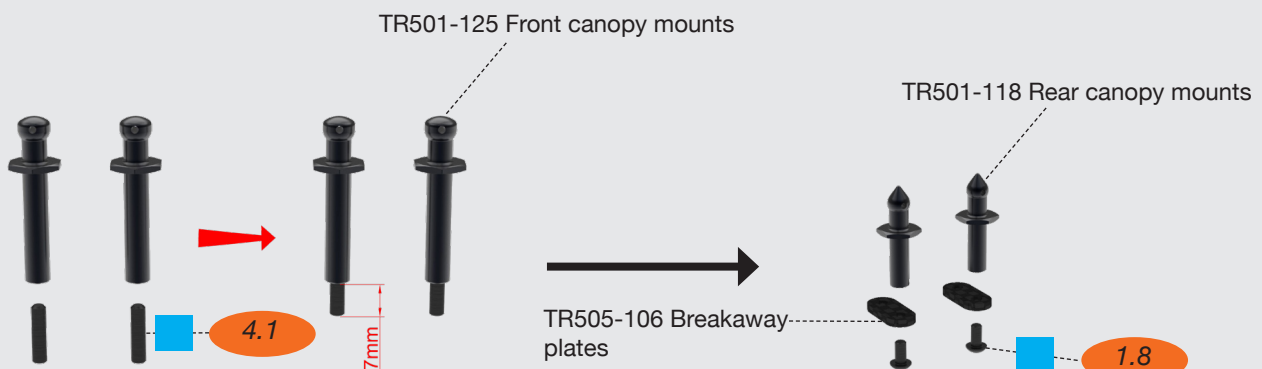
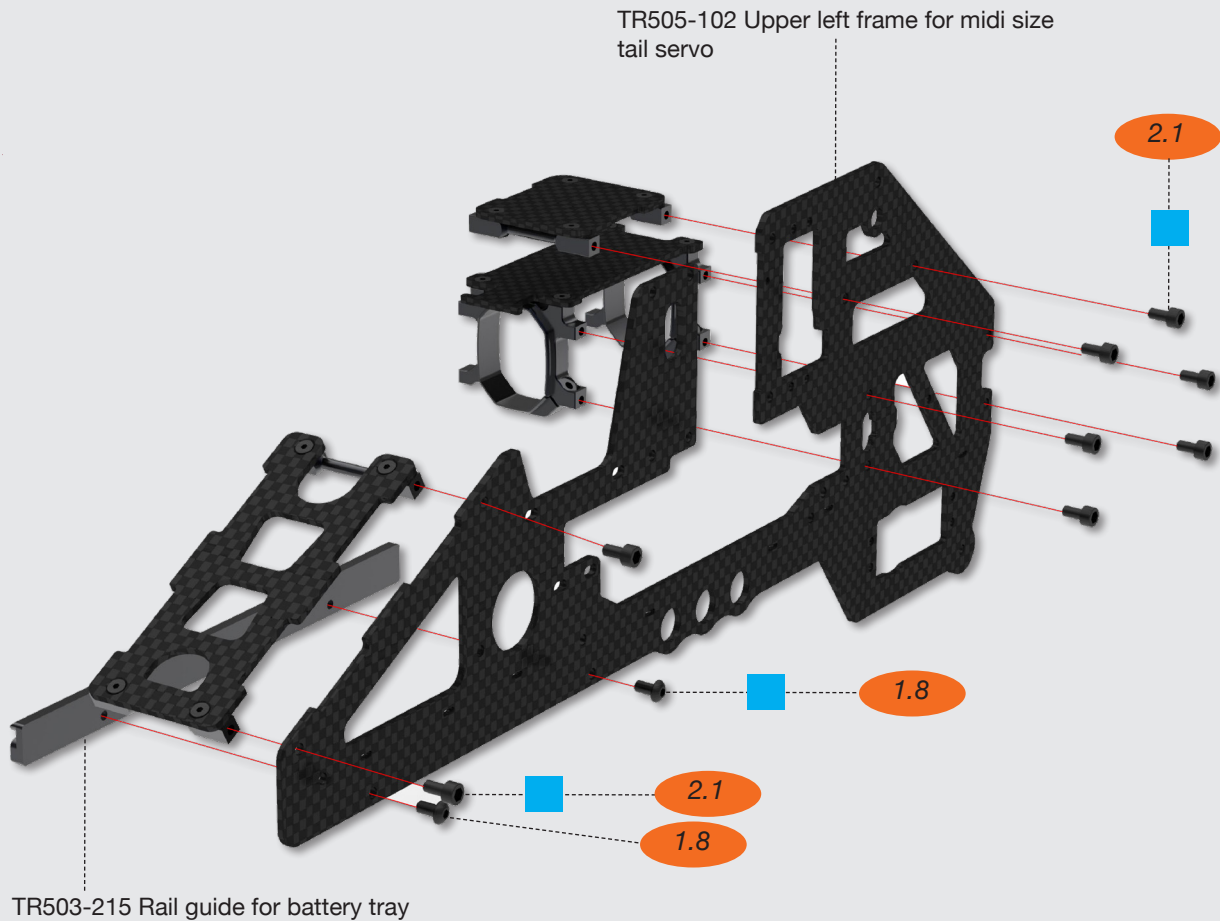


You will need:

Loctite 243 = blue



Upper main frame assembly.

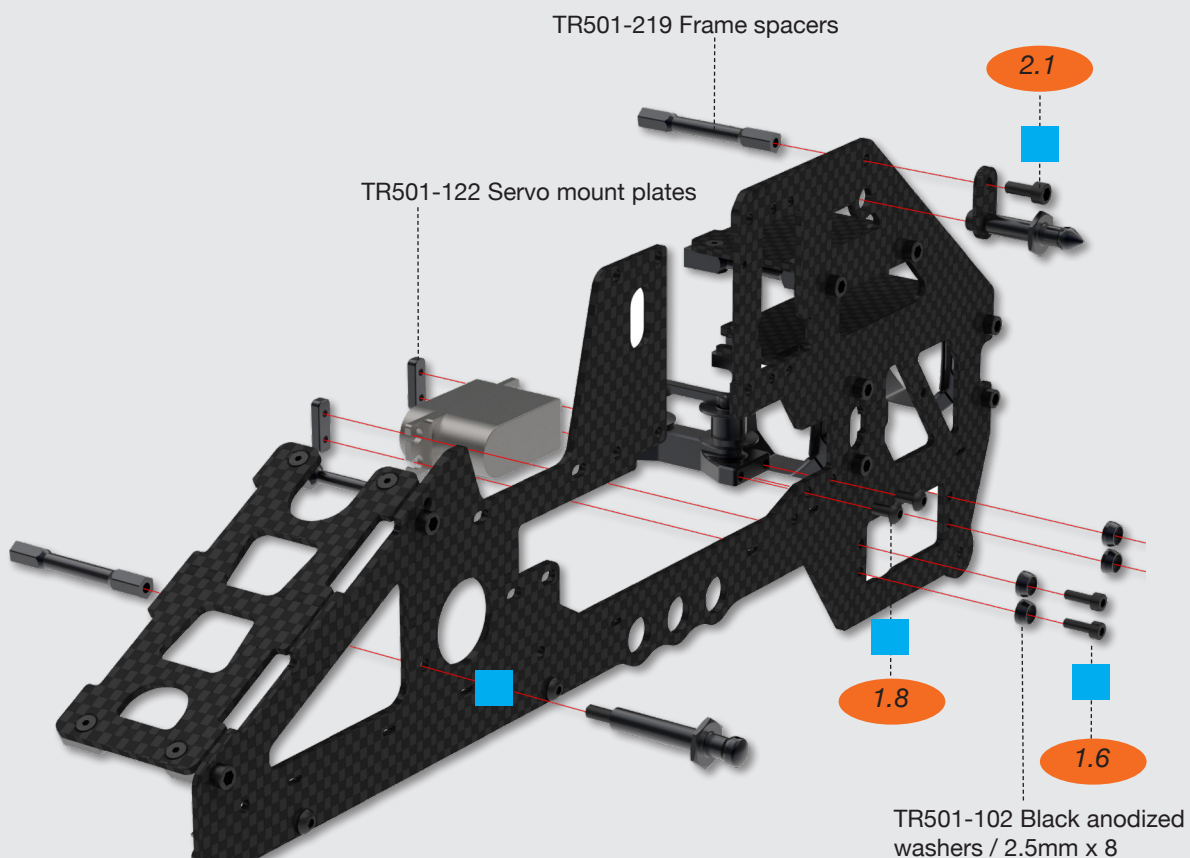


You will need:

Loctite 243 = blue



Upper main frame assembly.

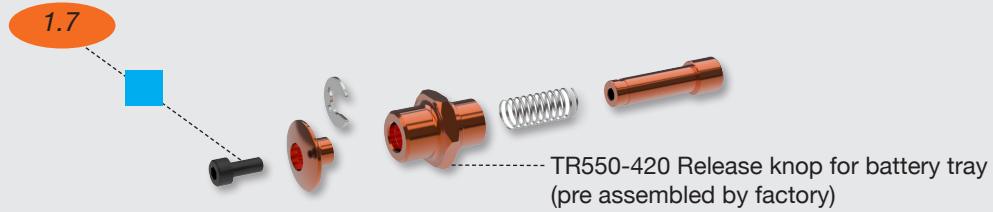


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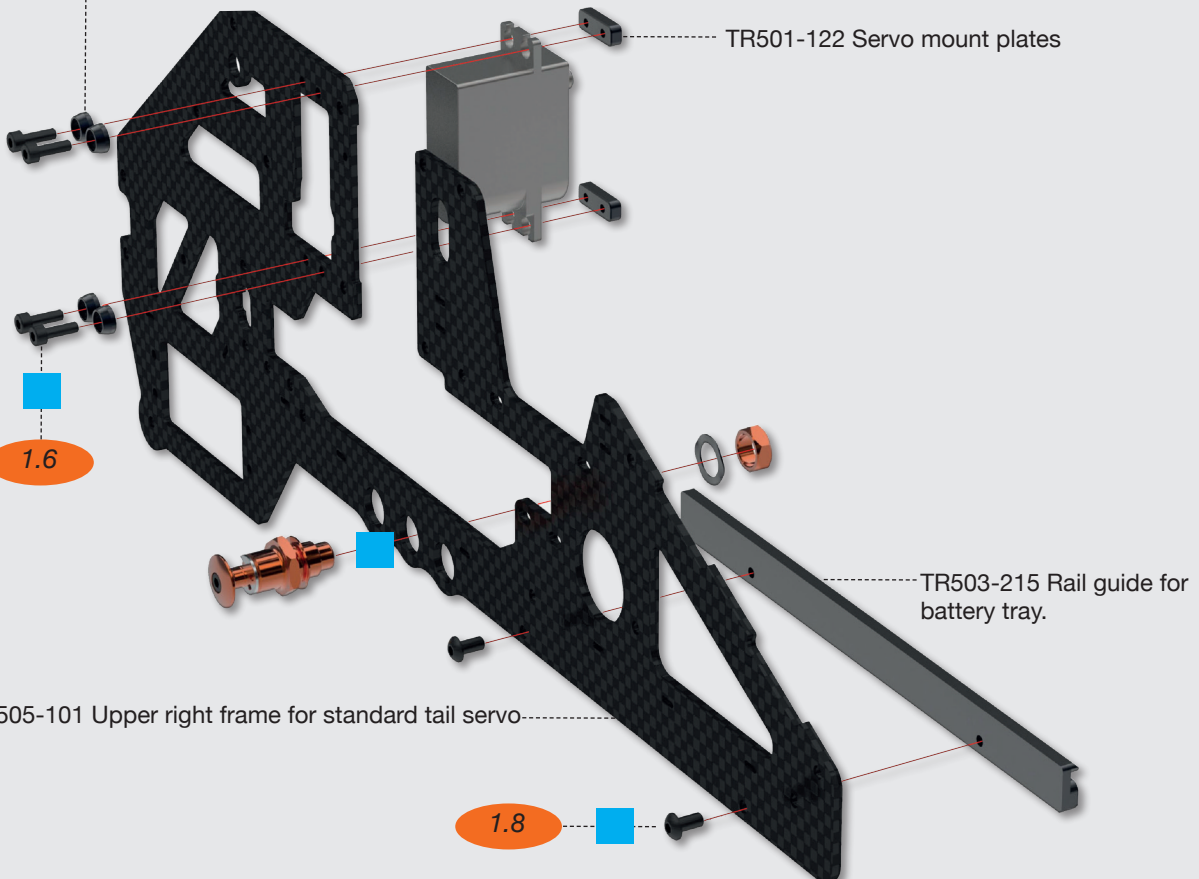
Loctite 243 = blue



Upper main frame assembly.



TR501-102 Black anodized washers / 2.5mm x 8



You will need:

Loctite 243 = blue

Motormount and pinion.

Available pinions for Tron 5.5

- 13T 5mm/6mm
- 14T 5mm/6mm
- 15T 5mm/6mm
- 16T 5mm/6mm
- 17T 5mm/6mm

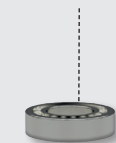


You will need:

Locktite 243 = blue

Servo frame and motor support.

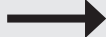
TR506-105 Main shaft bearing set



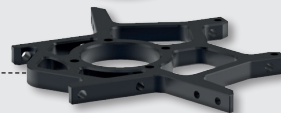
TR501-203 Servo mount unit



TR501-204 Main shaft support with bearings.



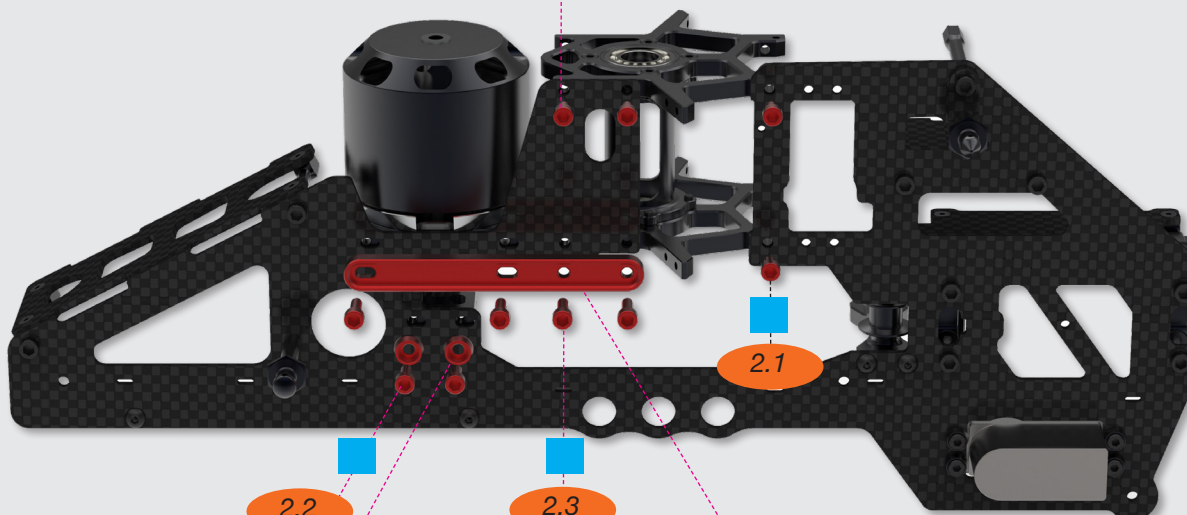
TR501-203 Servo mount unit



1.5



If you experience that your servo horn will slightly touch the screw head, use 1.8 type screws.



TR501-378 Motor mount support

TR501-101 Black anodized washers / 3mm

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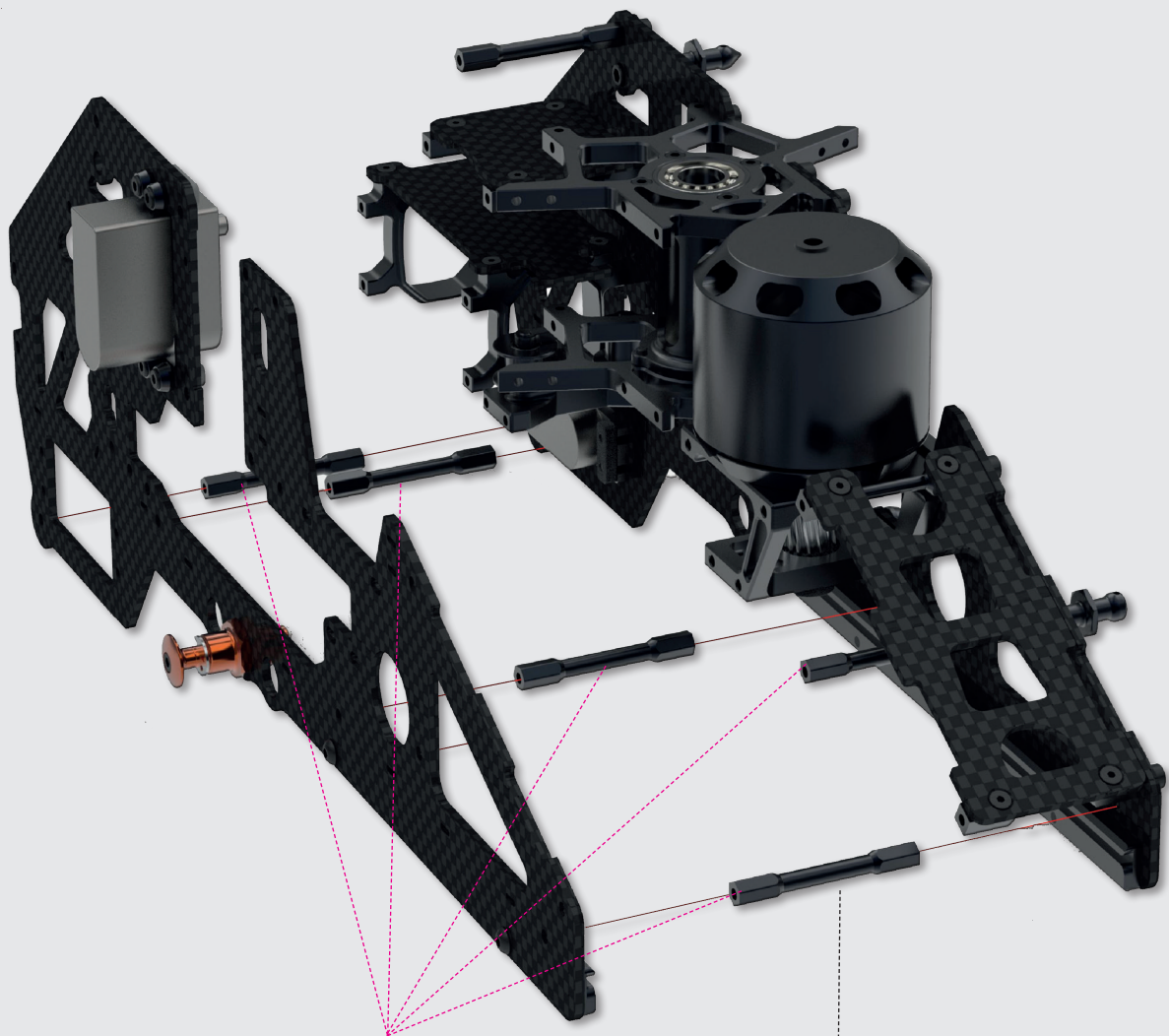
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You will need:

Loctite 243 = blue



Upper and lower main frame assembly.



5 Frame spacer will be used for assembling the upper with the lower frame departed by the plastic breakaway frame spacers as shown on page 32.

1 Frame spacer will be used for the front canopy mount.

TR501-219 Frame spacers

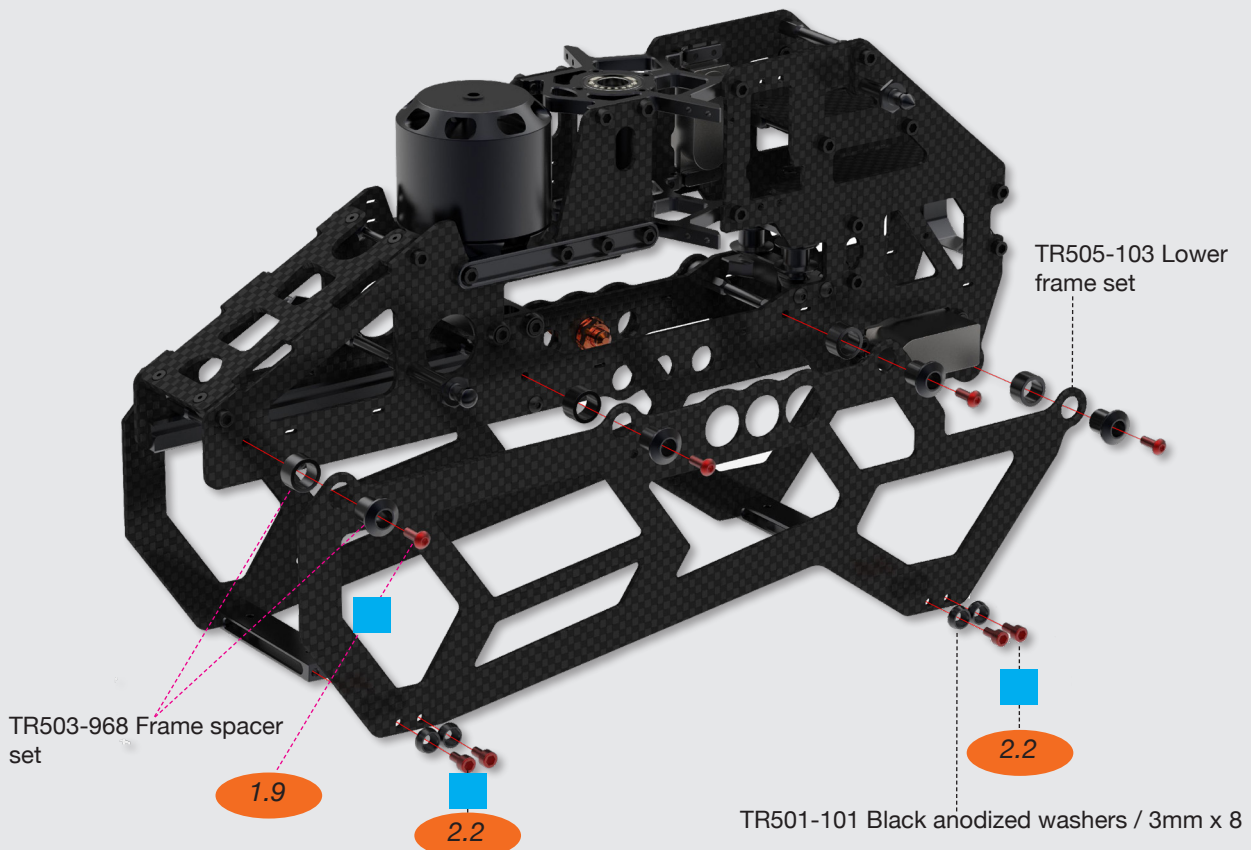
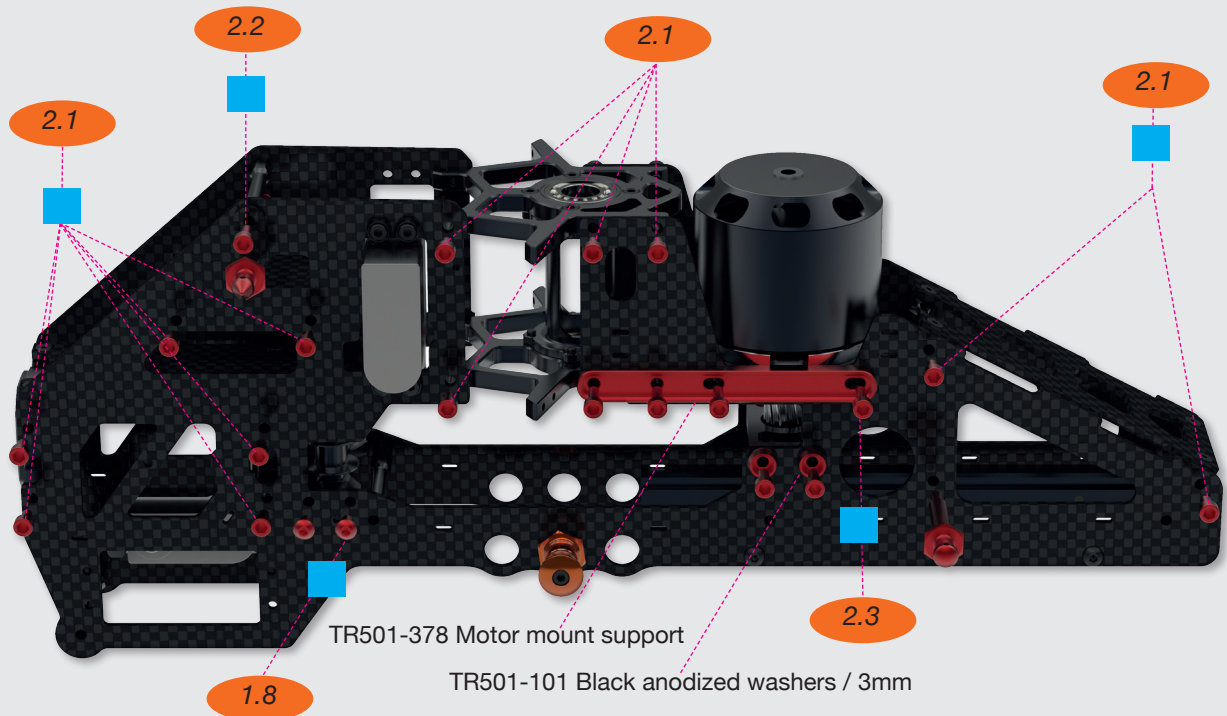
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You will need:

Loctite 243 = blue

Upper and lower main frame assembly.



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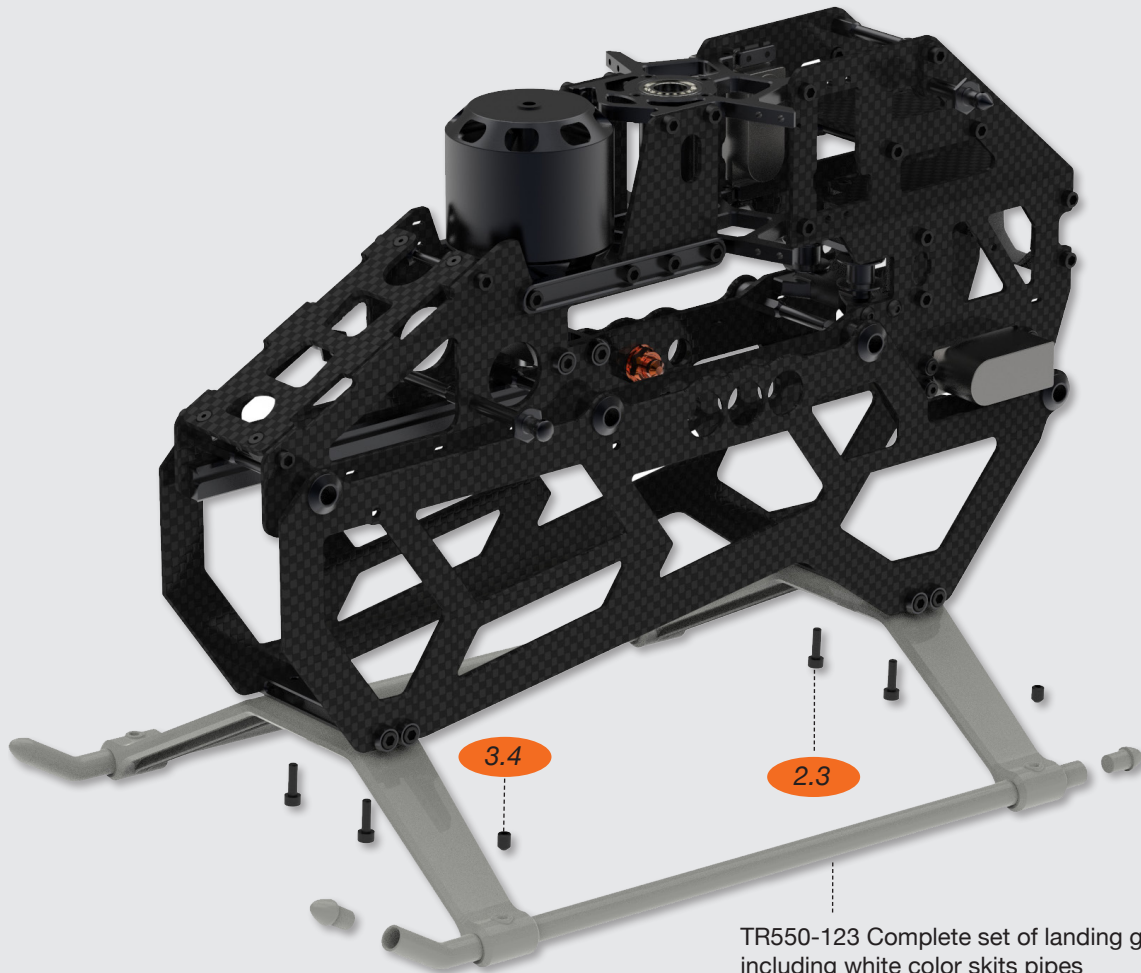
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You will need:

Loctite 243 = blue



Landing gear, cyclic servos.



TR550-123 Complete set of landing gear including white color skirts pipes

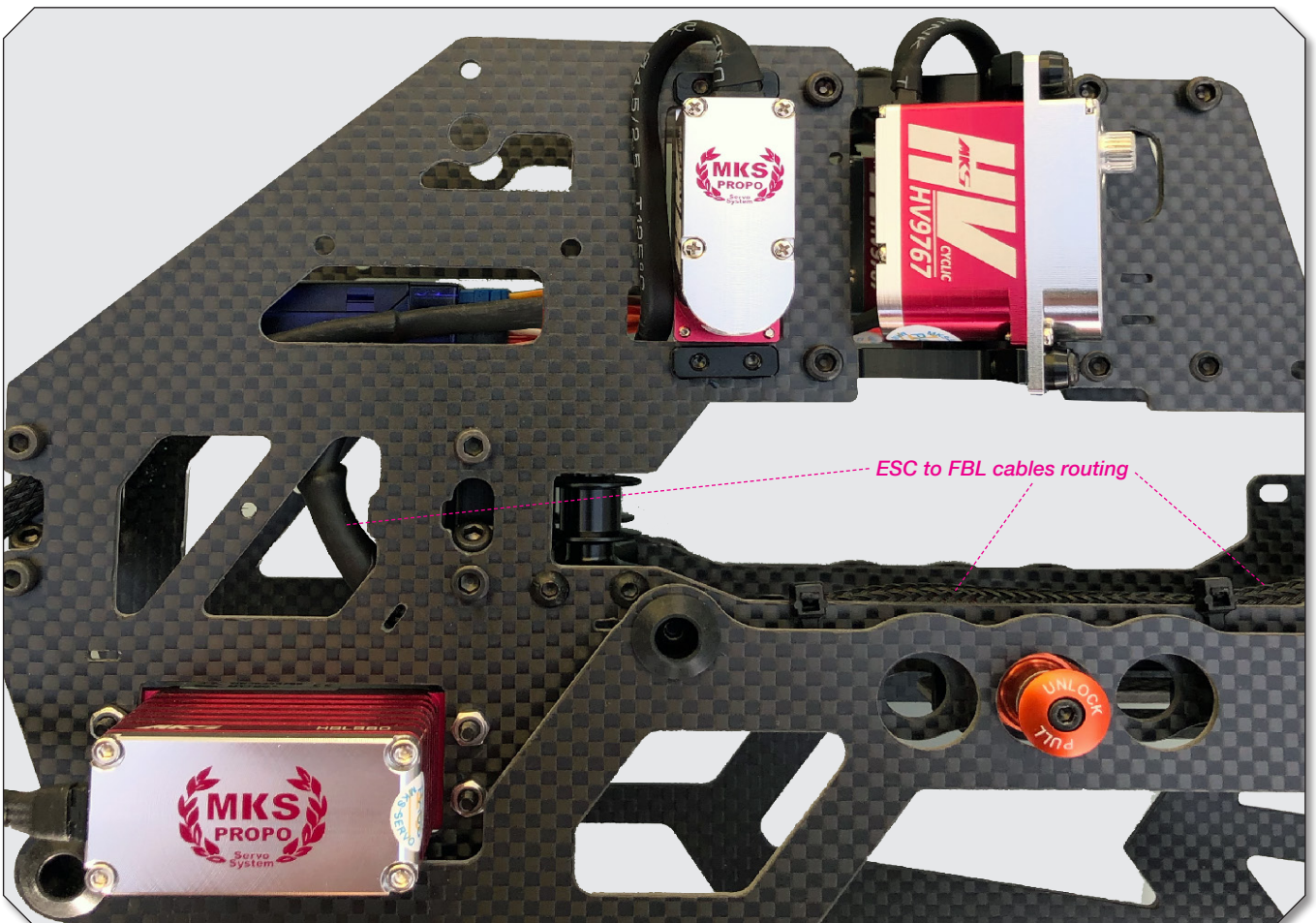
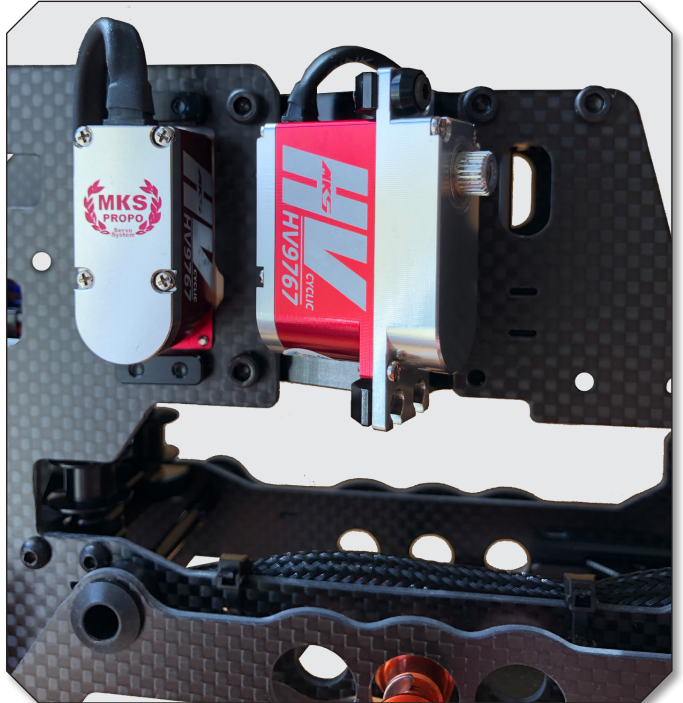
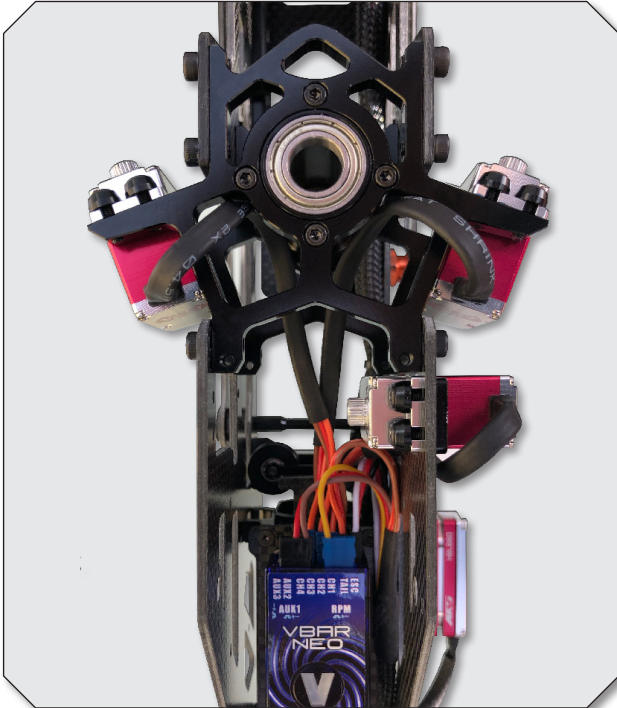
TR501-102 Black anodized washers / 2.5mm x 8



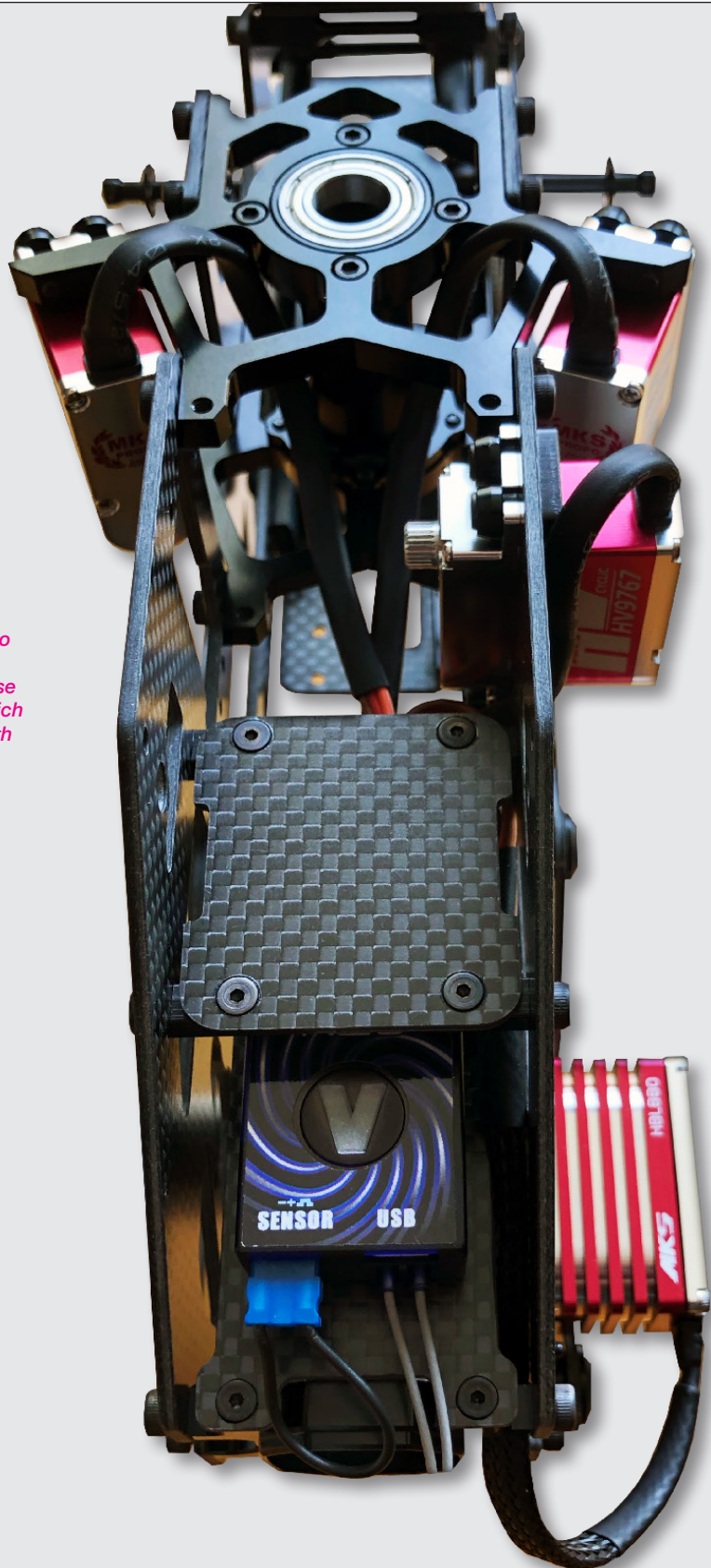
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Tips!



Wiring electronics.



Additionally, you may want to use servo wire protection shrink tube to avoid cuffing or cutting on servo wires. Please make sure all edges on the frames which are in contact with wires are eased with sandpaper.

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PERFORMANCE HELICOPTER 5.5

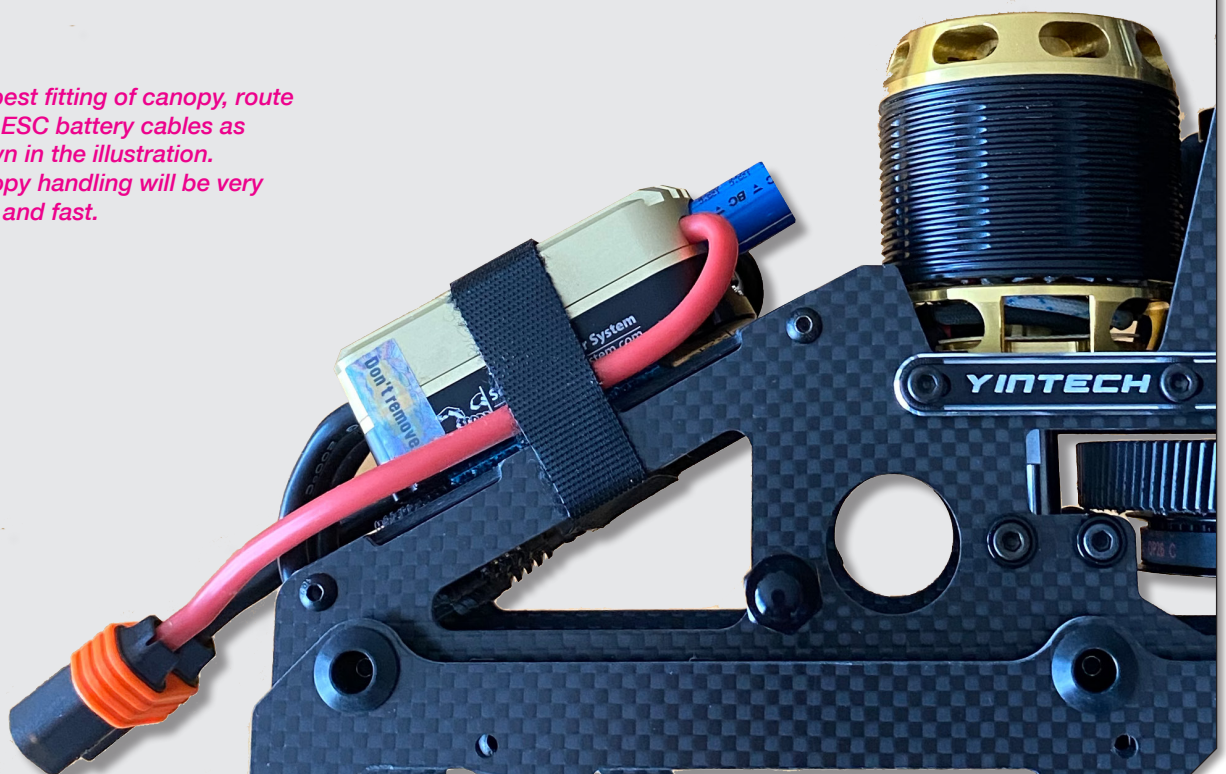
Tips!

Wiring electronics.

For best fitting of canopy, route your ESC battery cables as shown in the illustration. Canopy handling will be very easy and fast.



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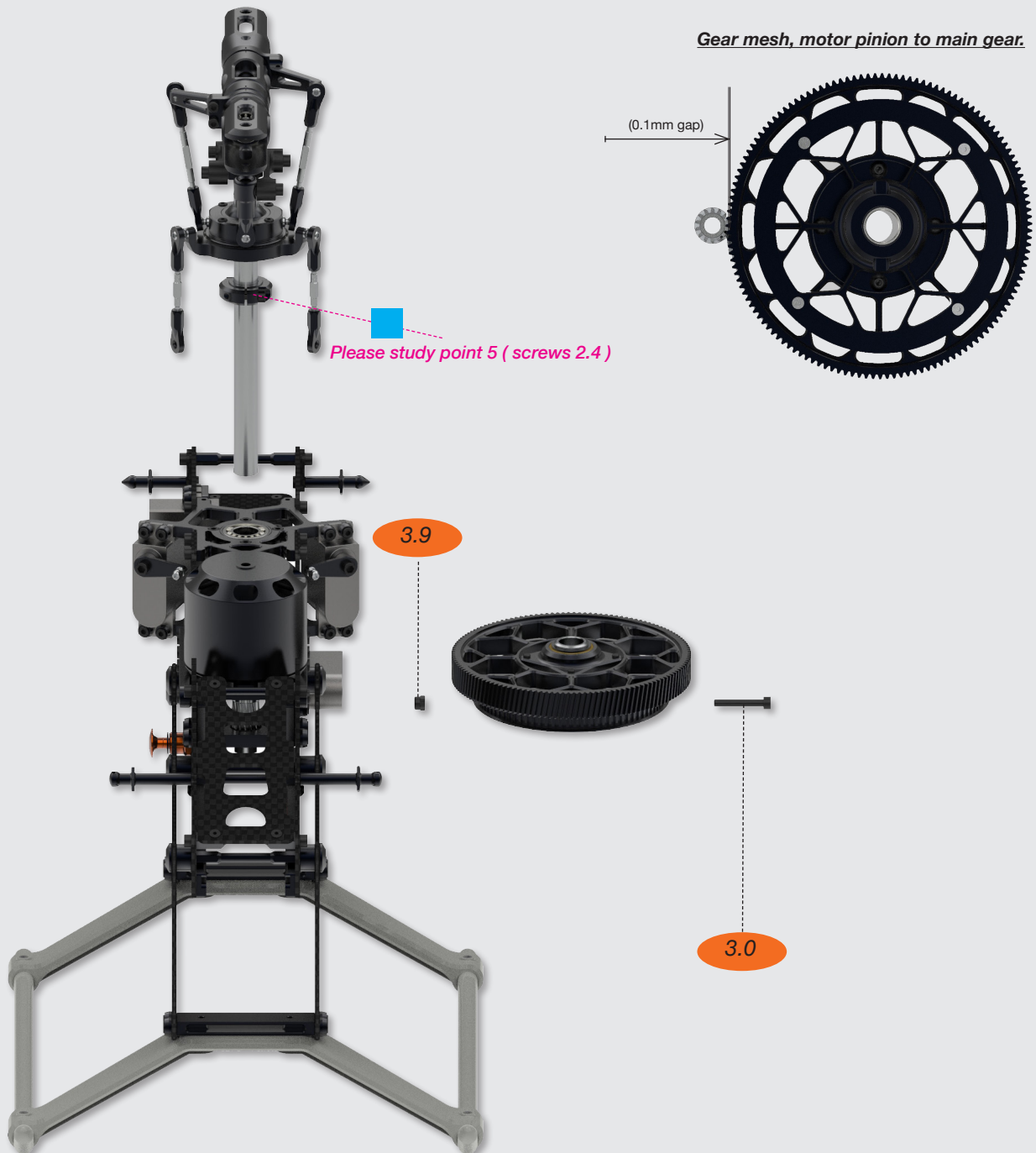
You will need:

Loctite 243 = blue



Head and main drive.

1. Insert main gear assembly into frame
2. Insert rotor head assembly true bearing support tube
3. Make sure your main shaft glide true the one way bearing sleeve and line up with the Jesus bolt screw 3.0
4. Move down the main shaft collar to have zero up and down play on the rotor head assembly, then tighten screws 2.4 step by step.
5. Make sure to have an equal gap on the collar to achieve best holding results for the main shaft.



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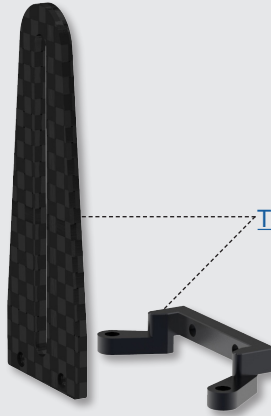
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Anti rotation guide.

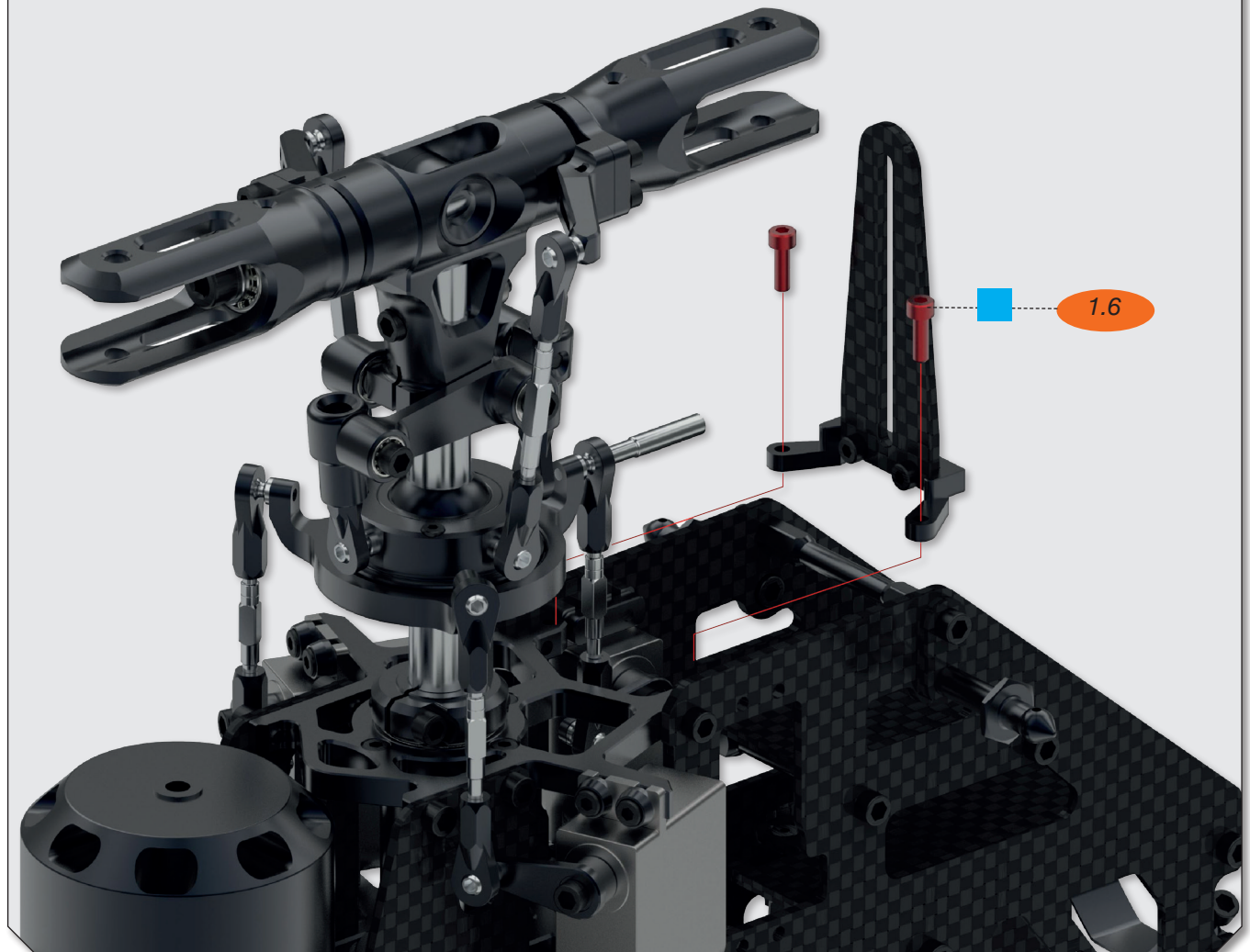
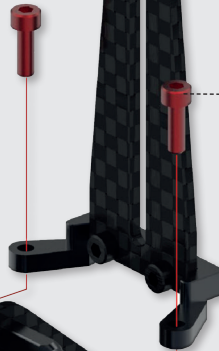
1.5



TR550-201 Anti rotation guide.



1.6



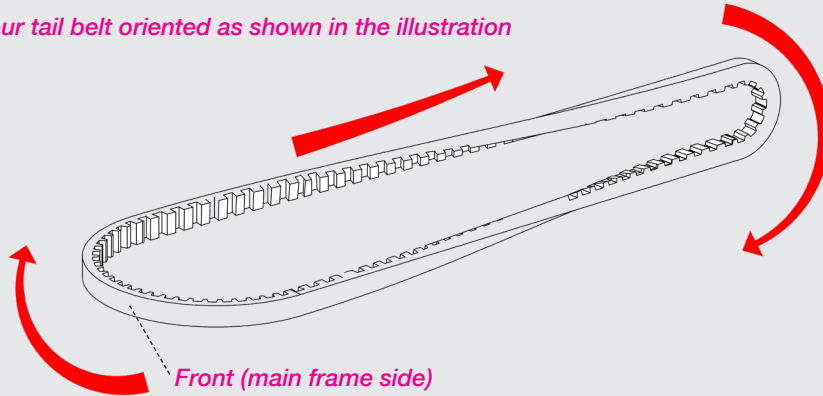
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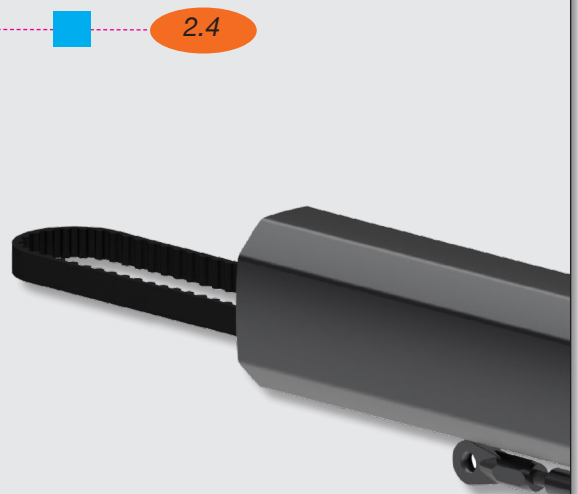


Tail boom to main frame assembly.

Ensure to have your tail belt oriented as shown in the illustration



1. Insert boom same as shown into the tail boom clamps
2. Slide the belt true the idler pulleys, use a cable tie for help
3. Pull the tail belt over the drive pulley
4. Tighten the belt by moving the boom backwards
5. Tighten the boom clamp screws gently



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Tips!

Tail rotation and canopy.

Rotation direction of main rotor versus tail rotor.



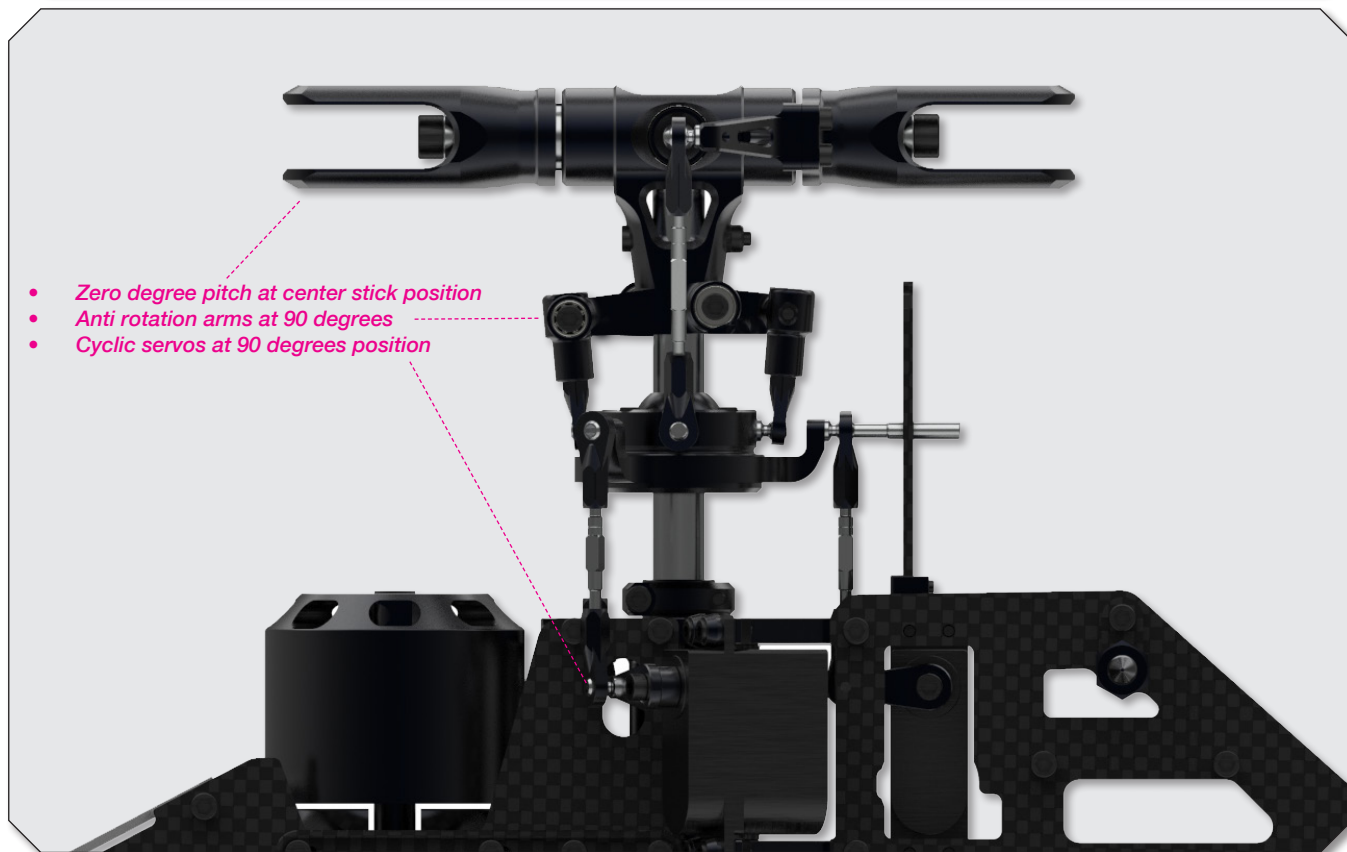
[TR502-151 Canopy TRON 5.5 orange black](#)
(standard in kit)



[TR504-008 Canopy grommets](#)

New available upgrade part:
[TR550-218 Canopy repositioning assembly](#). This provides approx. 15 mm more space for 12S configurations.

Final setup and pre-flight check.



1. Disconnect your Motor wires from the ESC!
2. FBL controller should be to set to the mode where you can level your servo center position and, or swashplate level mode.
3. Fine tune your servo center position as precise as you can by the position of the servo horns. For finetuning use Sub trims in the FBL software.
4. Adjust your linkage from the servos to the swashplate as shown in the illustration. (90 degree)
5. Adjust your swashplate to Blade grip linkage to achieve 0 pitch at center stick position.
6. Continue setup as required in your FBL controller software.



Zero degree pitch at center position.

Important note!
The ball links have a larger and a smaller diameter. Always make sure the larger diameter is pointing towards the pivot ball when assembling!

Preflight check and gear ratios.

1. Make sure your battery tray is securely locked. Use 2 battery straps.
2. Inspect your blades for possible damage and if they are slightly tighten.
3. Inspect your linkages if they all in place and not have been popt off turing transport of your model.
4. Confirm that the FBL unit is correctly initialized.
5. Make sure your canopy is secured safely.
6. If you are a beginner, always seek advice by a expirianced pilot, specially for your first flight.



Recommended head speed.

Flying styles	Head speed
Beginner and sport flying.	1800-2100rpm.
Advanced sport, 3D flying.	2100-2300rpm.
Hardcore 3D flying.	2300-2800rpm.

Main and tail rotor gear ratios.

Main gear	Pinion	Ratio	Main gear	Pinion	Ratio	Tail drive	Tail	Ratio
135/mod 0,7	13T	10.38	93/mod 1	10/mod 1	9.3	80T	18T	4.44
135/mod 0,7	14T	9.64	93/mod 1	11/mod 1	8.45	80T	19T	4.20
135/mod 0,7	15T	9.00	93/mod 1	12/mod 1	7.75	80T	20T	4.0
135/mod 0,7	16T	8.43						
135/mod 0,7	17T	7.94						

Make sure to check your model on regular basis, do a preflight check every time you plan to fly your model. Max. head speed for main rotor head must not exceed 2900 RPM!

Fly safe!

Contact:

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tronhelicopters.com