V 1.0.2

JTRON PERFORMANCE HELICOPTER 5.8

Index

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.

Features.

For more informations visit tronhelicopters.com by just 1 click here!

IMPORTAND NOTE: ALL PRE-ASSEMBLED PARTS NEEDS TO BE DISASSEMBLED AND LOCKTITED!

- Recommended main blade size 580mm. (550mm - 610mm possible). Tail blade size 86 - 95 mm.
- Supersonic canopy mounts included in kit. (Backside)
- Semi Fusion edition design included in kit. (frame and tail fin stickers)
- Wide battery compartment with quick lock and release system. (Same as Tron 5.5.)
- Light, yet very stiff and robust.
- Dry weight= 1530 grams without blades and electronics.
- Full-size tail servo.
- Mini or full-size cyclic servo option. (Adapters included in kit)
- 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, 4025 or 4225 series. From 1000KV-1350KV for 6s and 560KV for 12S (6mm shaft diameter with min 15mm lenght required)
- 16T/6mm motor pinion included. (13,14,15,17T optional available)
- POM-CNC machined main gear 137T / mod 0.9 which provides very efficient operation.
- 3th bearing support for main shaft.
- Heavy duty one way bearing and hub design.
- Innovative FBL tray. (Adjustable dampening hardness)
- Octa boom design with oval side shapes, no boom supports needed.
- Capable to use a wide range of lipo batteries. 6,8,10 or 12S. (6S-5000mAh to 5500mAh recommended or 12S- 3300mAh stick pack)
- Perfectly thought-out servo layout in conjunction with the FBL system and ESC.
- Easy cable routing with various options to ensure a clean setup. Modern, sporty and func tional design.
- High visibility canopy for perfect orientation in flight. 2 option available.

About Tronhelicopters

Ricky Yin
Ricky is deeply involved in the manufacture, development and production of RC model helicopters for a very long time. That goes back to the beginnings of Synergy Helicopters, which he took over in 2010 after Stephen Fan passed away.

Dario Neuenschwander.
Dario has long been known in the RC helicopter scene. Dario can look back on a long career with well-known manufacturers, where he was involved in the development and testing of products. To name one, the MSH Protos Helicopters series and the development of the famous MSH Brain FBL unit. Dario also did R@D work for SpinBlades where he is a longtime Factory Pilot. In 2017 Dario took a break from RC Helicopters to get involved in FPV racing. He did well and took the official FPV-FAI world champion title in 2017.

Joachim Etter
Known for his business ideas and his ability to make products a success in combination with his designs. Before that, he was closely associated with various manufacturers, for whom he did designs and business consultancy. Joachim was also the key founder, designer and builder of the xnovamotors brand.

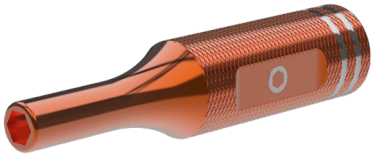
CAUTION:
This radio controlled helicopter is not a toy.
The product is not suitable for children under 14 years of age.

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

	2 component epoxy
	Loctite 243 / medium strength
	Grease
	2x 7mm Wrenches for tail shaft nut
	Hex screwdriver 1.5mm/2mm/2.5mm/4mm/5mm
	TR701-518 Pair of customized nut wrench for tail shaft assembly. Optionally available at your Dealer.
	SPRAG GREASE (SUCH AS ISOFLEX LDS18 Special A)

IMPORTAND NOTE: ALL PRE-ASSEMBLED PARTS NEEDS TO BE DISASSEMBLED AND LOCKTITED!

Electronics required

	3*mini or full size servos for swashplate
	1* full size servo for tail
	4020-4225 size motor
	120A-155A ESC (6S-12S)
	FBL unit

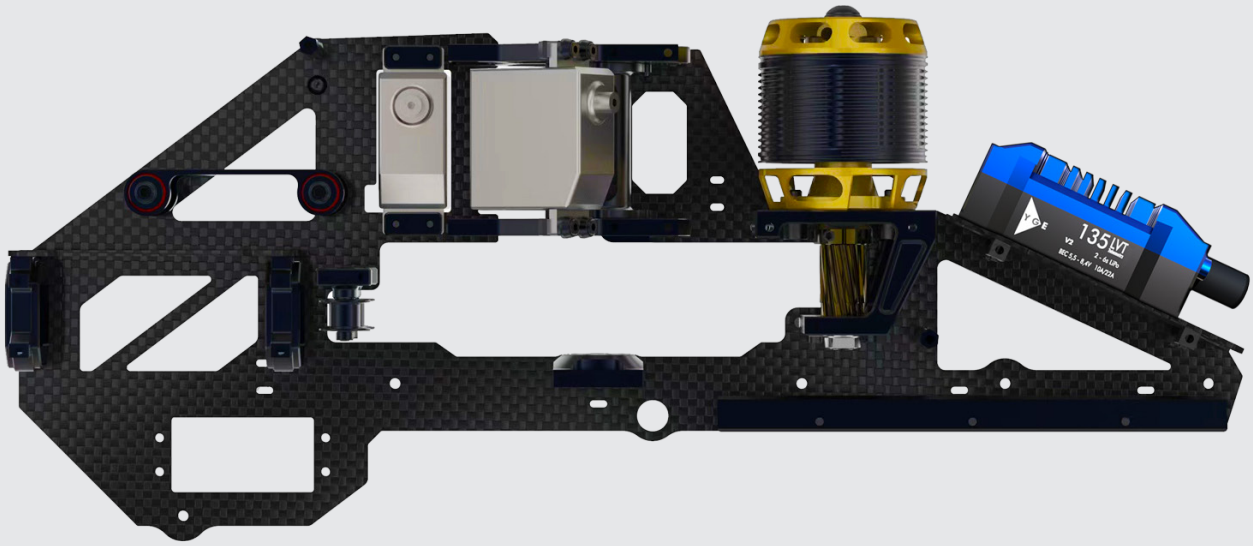
For more informations visit tronhelicopters.com by just 1 click here!

ESC and Motor.

Motor and ESC recommendatiion for Tron 5.8 (550- 610mm blade length)

- 4020-4025 size / 1000-1200kv /6mm shaft with 15mm min length for 6S.
- 4025-4225 size / 520-560kv /6mm shaft with 15mm min length for 12S.
- 120A- 155A ESC for 6S / 8S /12S

For more informations visit tronhelicopters.com by just 1 click here!



HOW TO APPLY FUSION EDITION WATER BASED STICKERS TO FRAMES AND TAIL FIN? WATCH THIS!

FOLLOW THIS LINK!

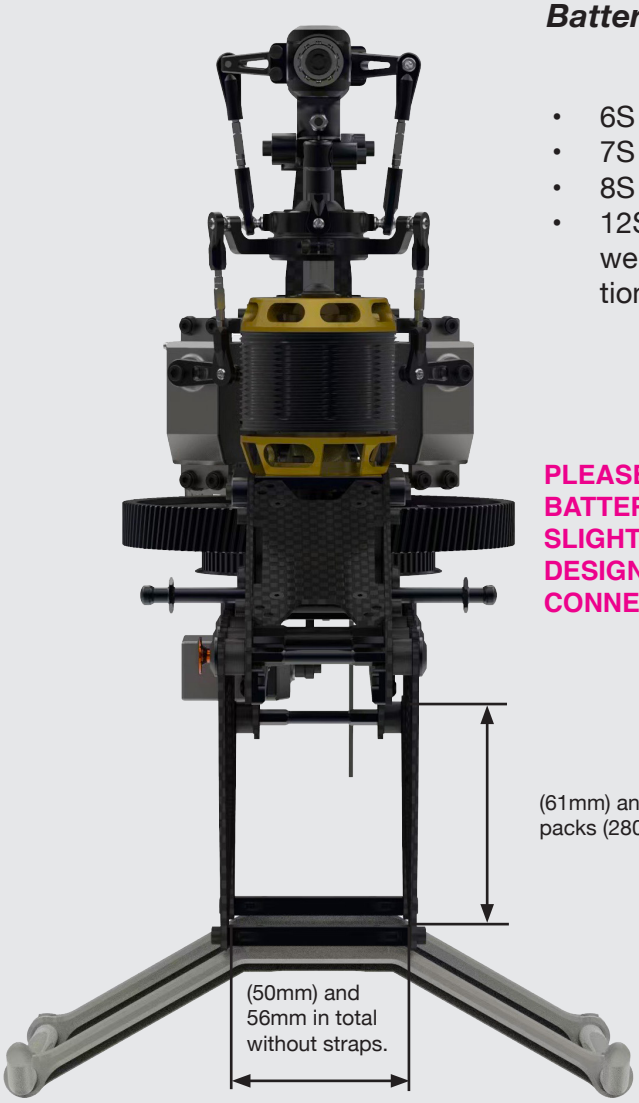
TR588-001 ORANGE / Lower frame Fusion and tail fin sticker set 5.8

TR588-002 YELLOW / Lower frame Fusion and tail fin sticker set 5.8

Main and tail blades recommendation.

Main blade recommendation for Tron 5.8 (550mm-610mm length).

Tail blade recommendation for Tron 5.8 (85mm-97mm length).

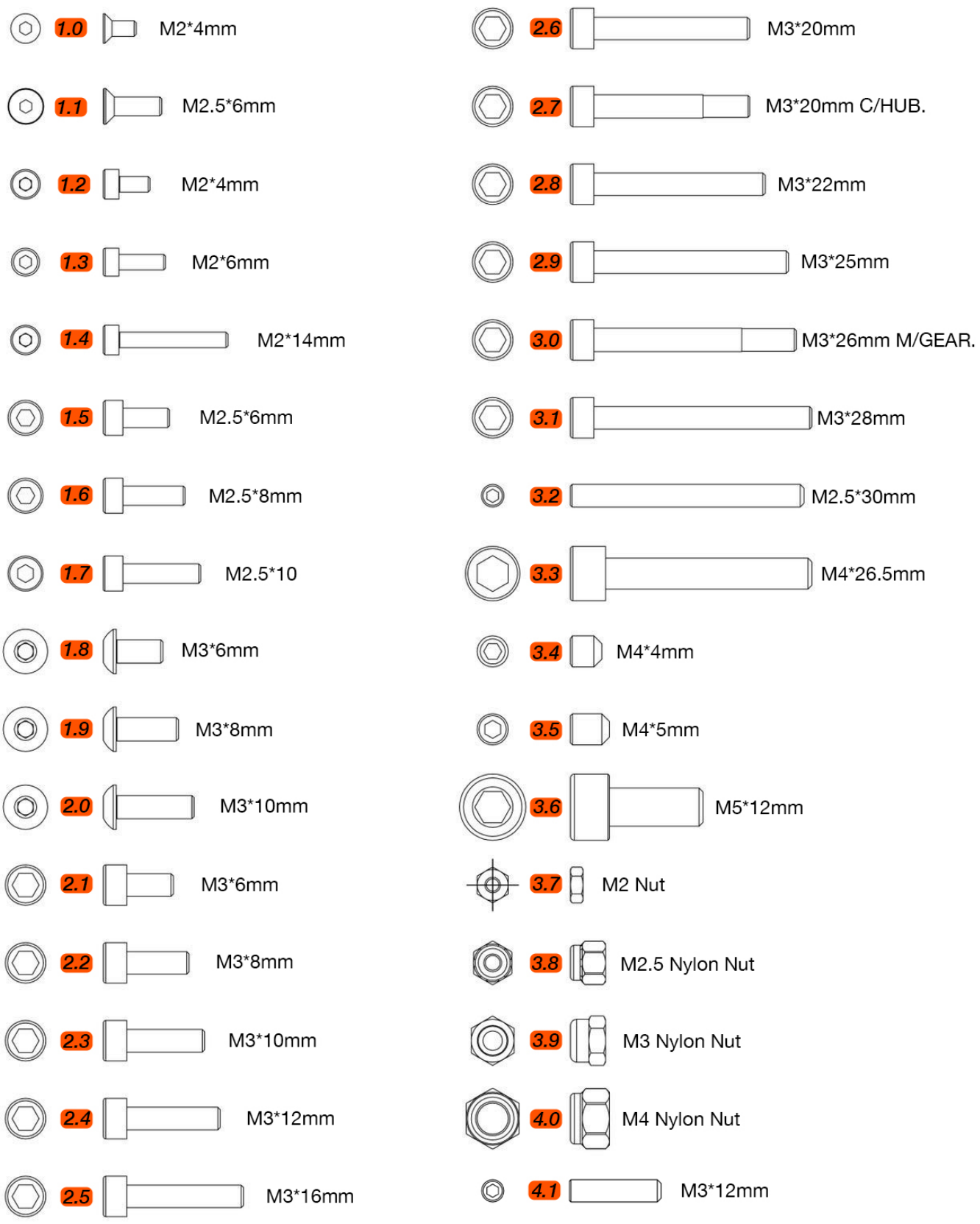


Battery recommendation for Tron 5.8

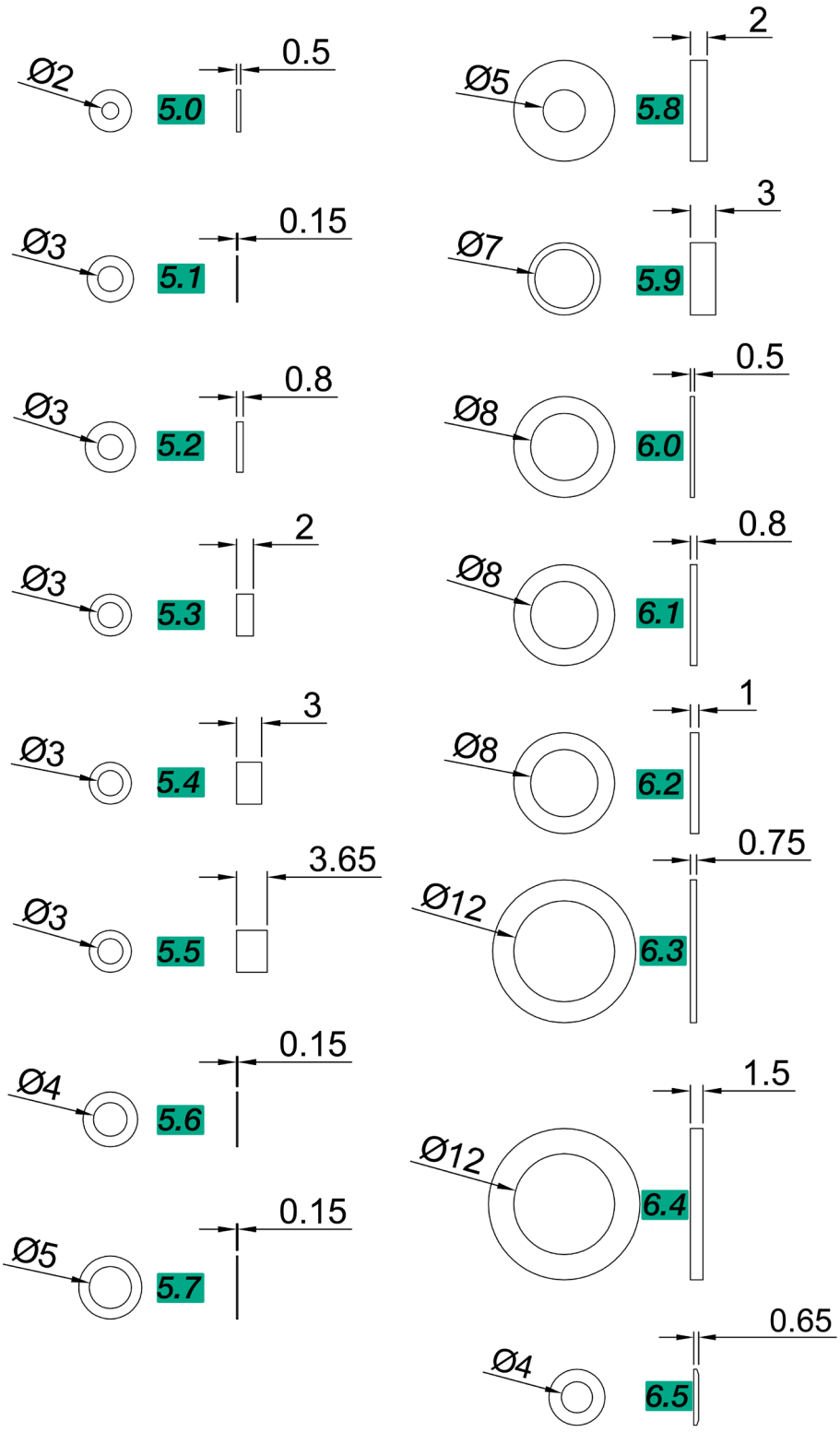
- 6S (5000-5600mha)
- 7S (4500-5000mah)
- 8S (4200mah)
- 12S (3300mah) Stick Pack. (If you use 2*6S we recommend to use TR585-109 as a option).

PLEASE NOTE:
BATTERY SPACE DIMENSION MAY CHANGE SLIGHTLY AS MANUFACTURERS USE DIFFERENT DESIGNS IN CONFIGURATION OF CABLES AND CONNECTORS

Screws and nuts.



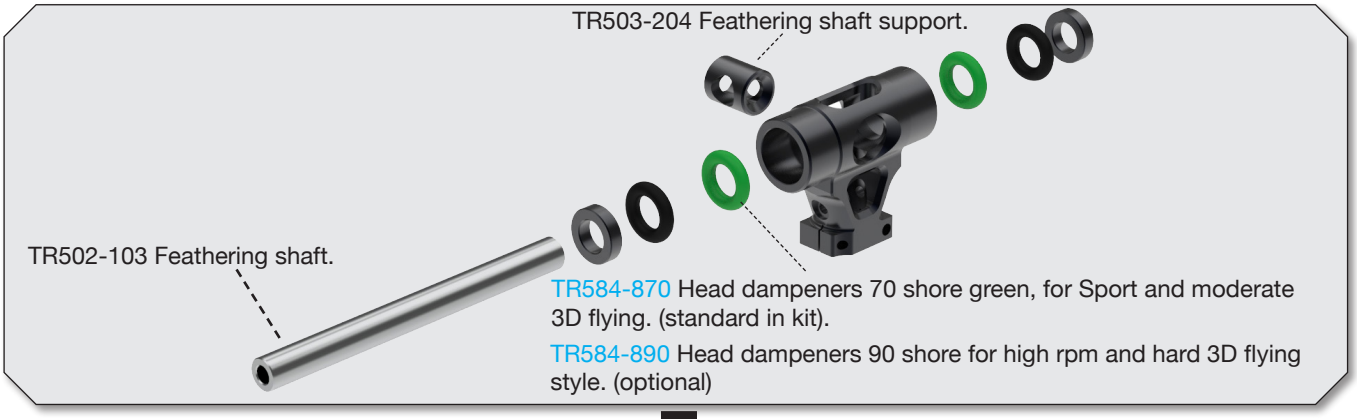
Shims and washers.

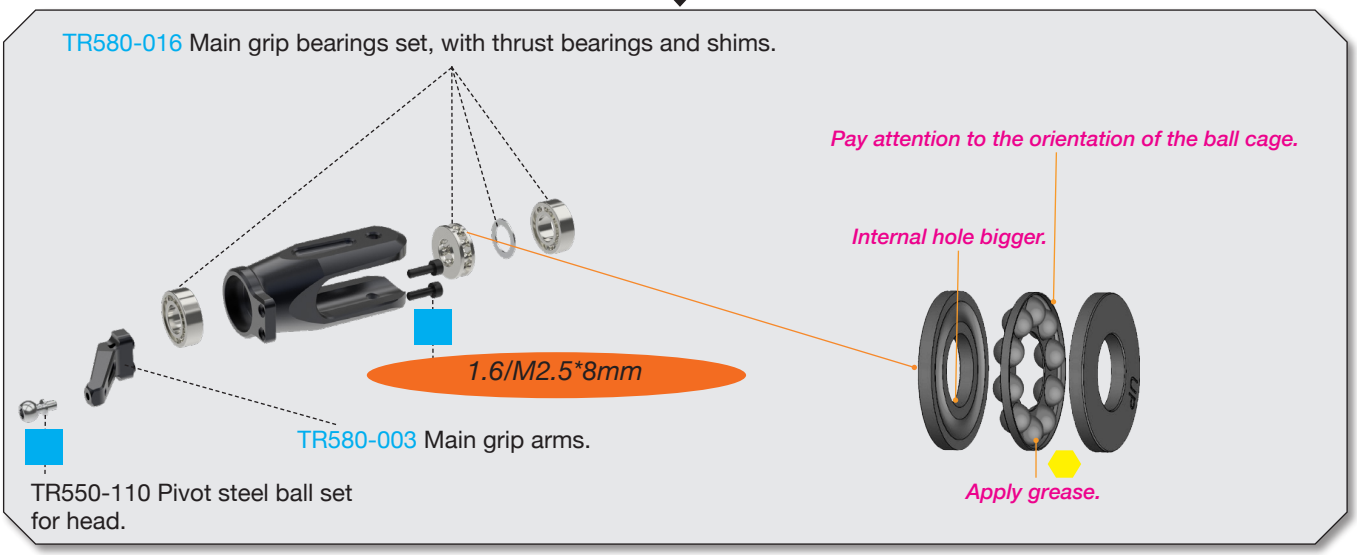


You will need:
Loctite 243 = blue
Grease = yellow

Head assembly.

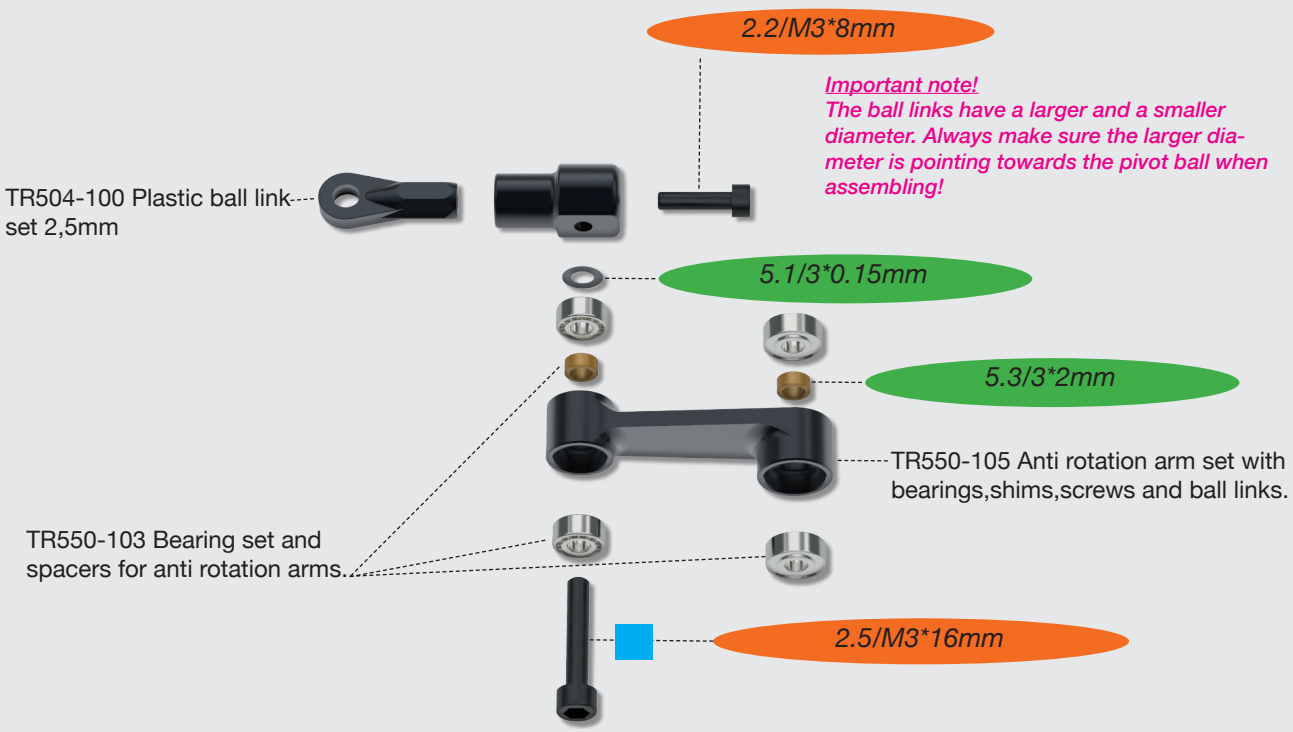
IMPORTAND NOTE: ALL PRE-ASSEMBLED PARTS NEEDS TO BE DISASSEMBLED AND LOCKTITED!





You will need:
Loctite 243 = blue

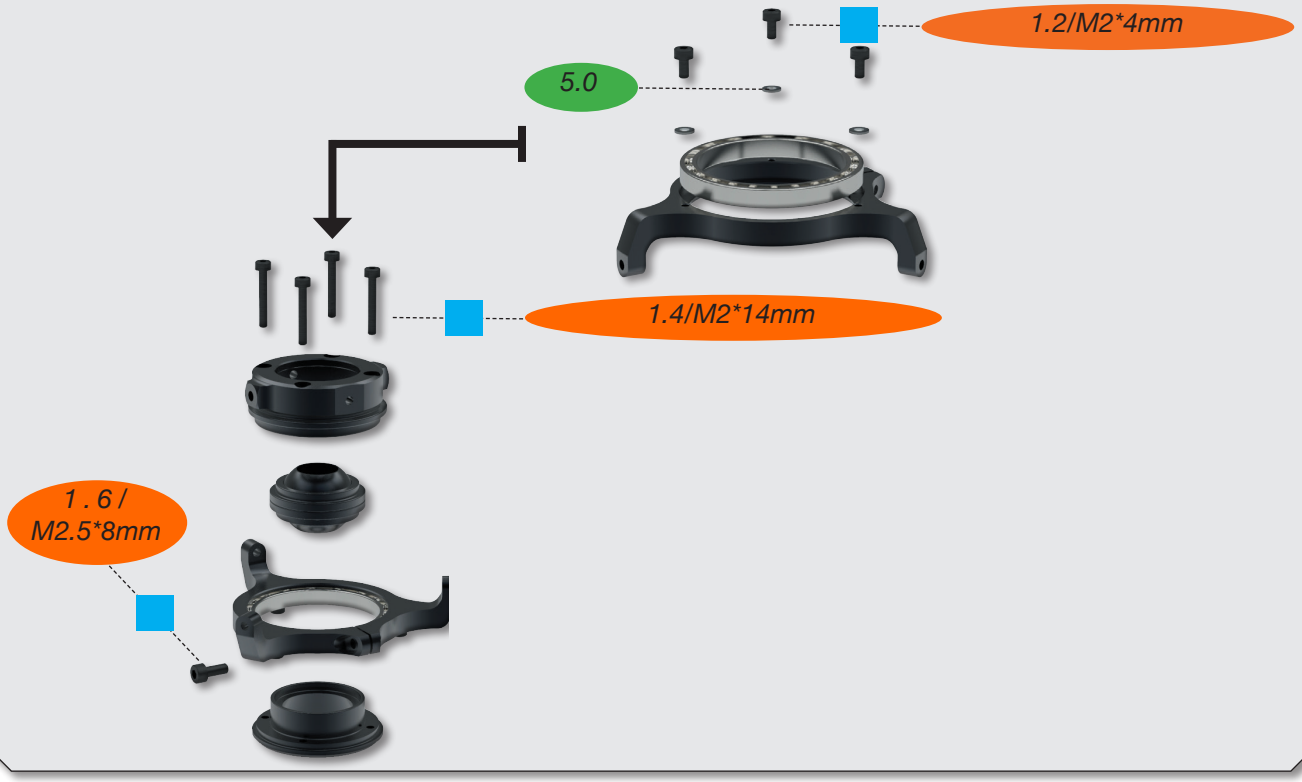
Head assembly.



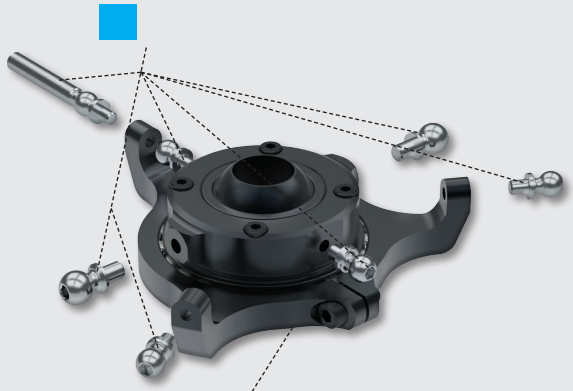
You will need:
Loctite 243 = blue

Head assembly.

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



TR580-110 Pivot steel ball set for head. (16pcs.)



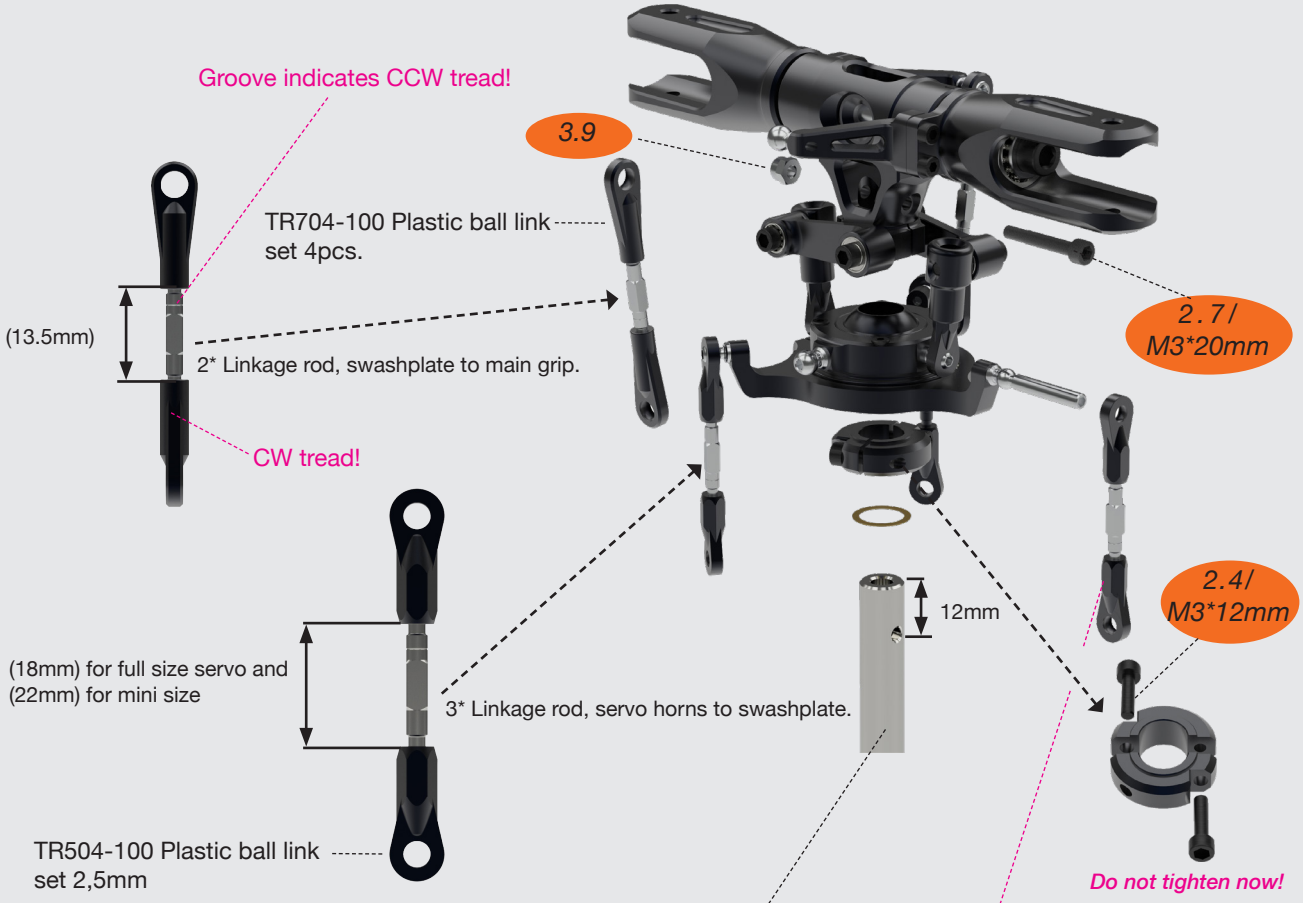
TR580-008 Complete swashplate assembly. (included pivot ball)

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.*

TR502-230 Linkage rod set. Contains 3* rod for linkage of swashplate servo or swasplate to main grip.
(Rod for servos to swashplate and swashplate to grip arms are are identical)



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!

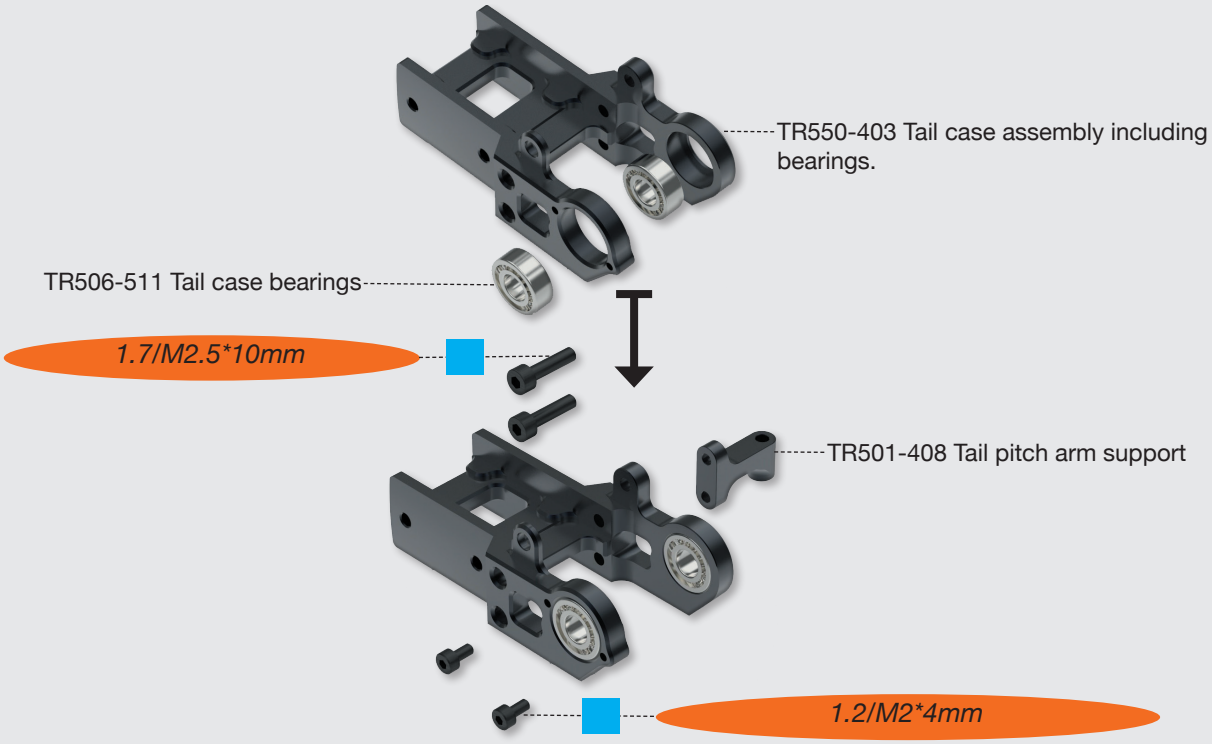
TR582-104 Hollow main shaft

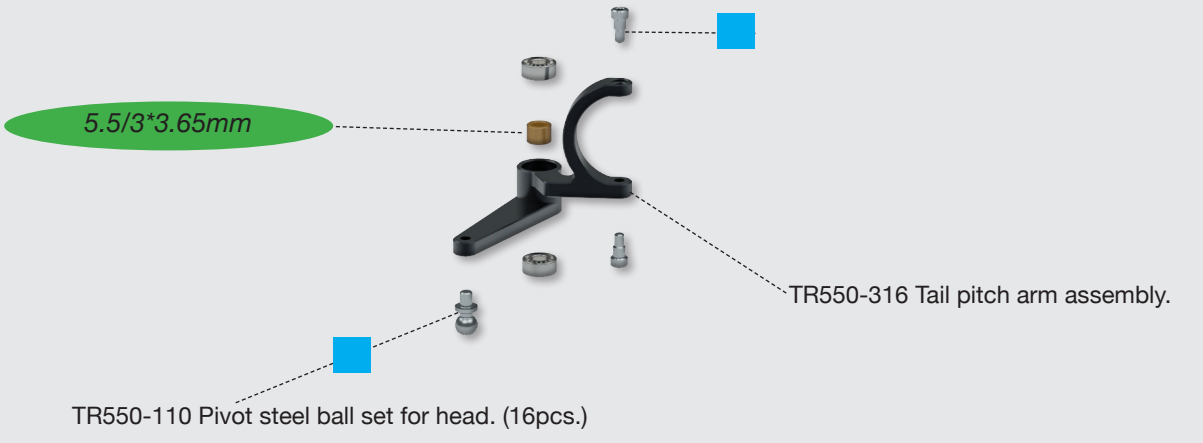
You will need:
Loctite 243 = blue

Tail assembly.

WANT TO KNOW MORE ABOUT OUR UNIQUE TAIL ASSEMBLY DESIGN?

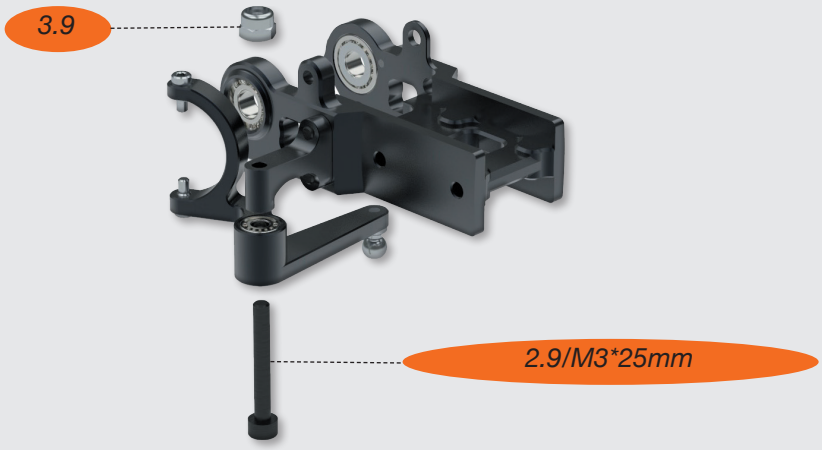
FOLLOW THIS LINK!

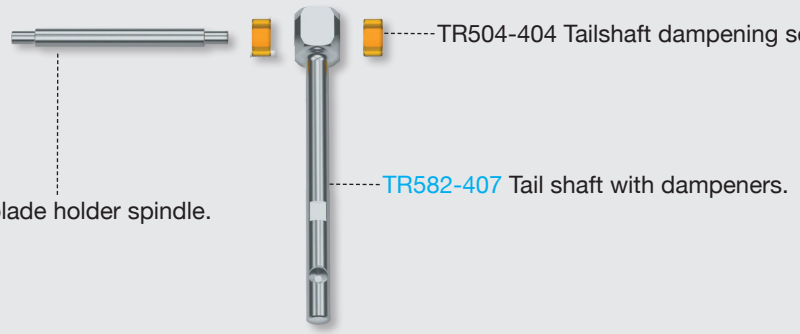


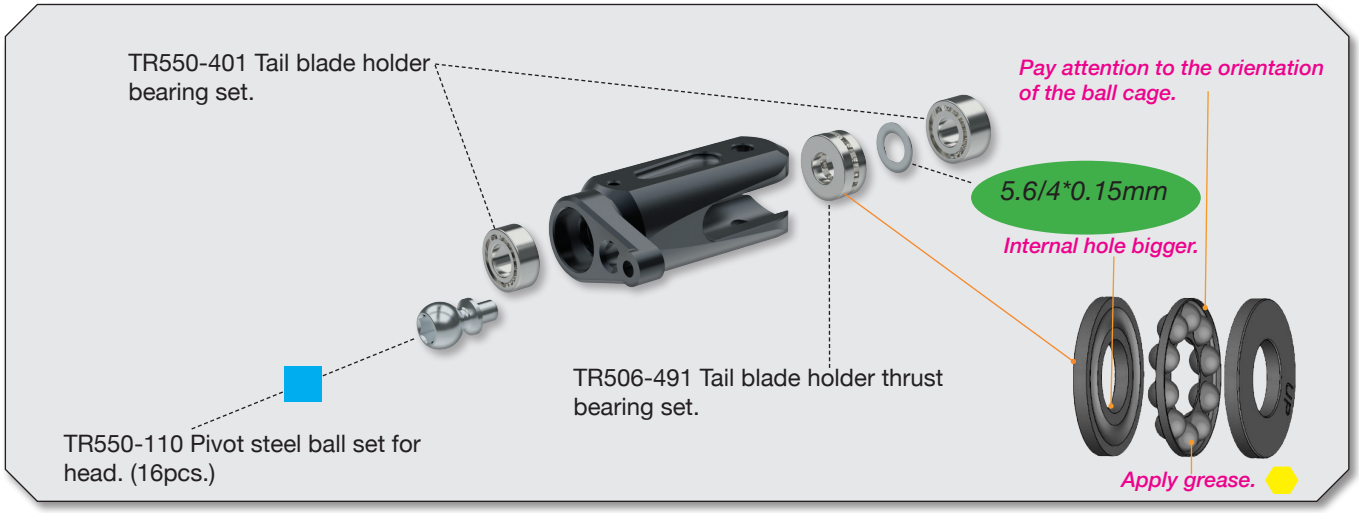


You will need:
Loctite 243 = blue
Grease = yellow

Tail assembly.



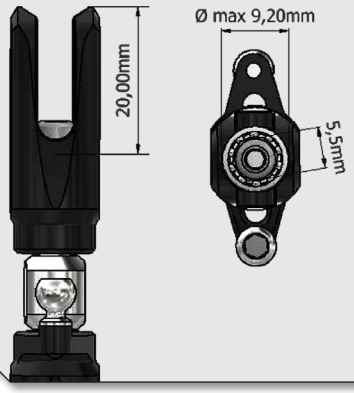




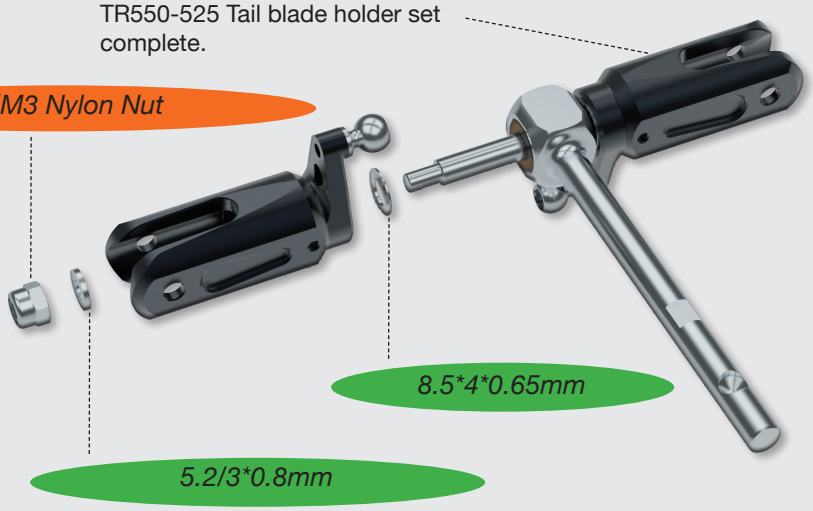
You will need:
Loctite 243 = blue

Tail assembly.

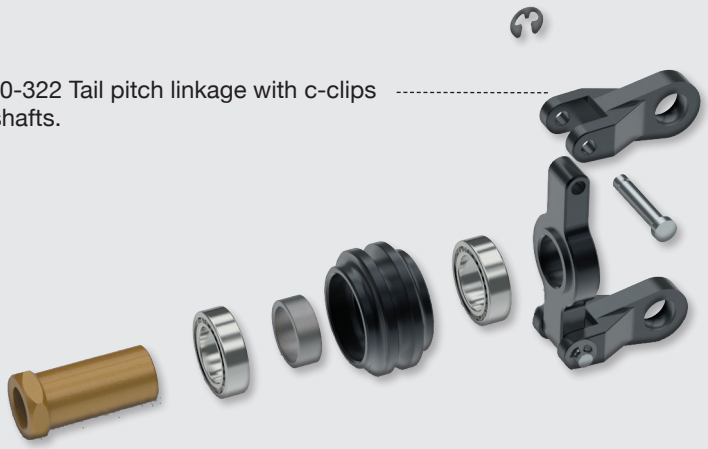
Wrench size for nut = 5.5mm.Outer diameter should not exceed 9.2mm and min. 20mm length is required.
Optional (TR:501518)

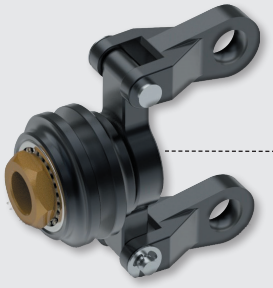


TR550-525 Tail blade holder set complete.



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

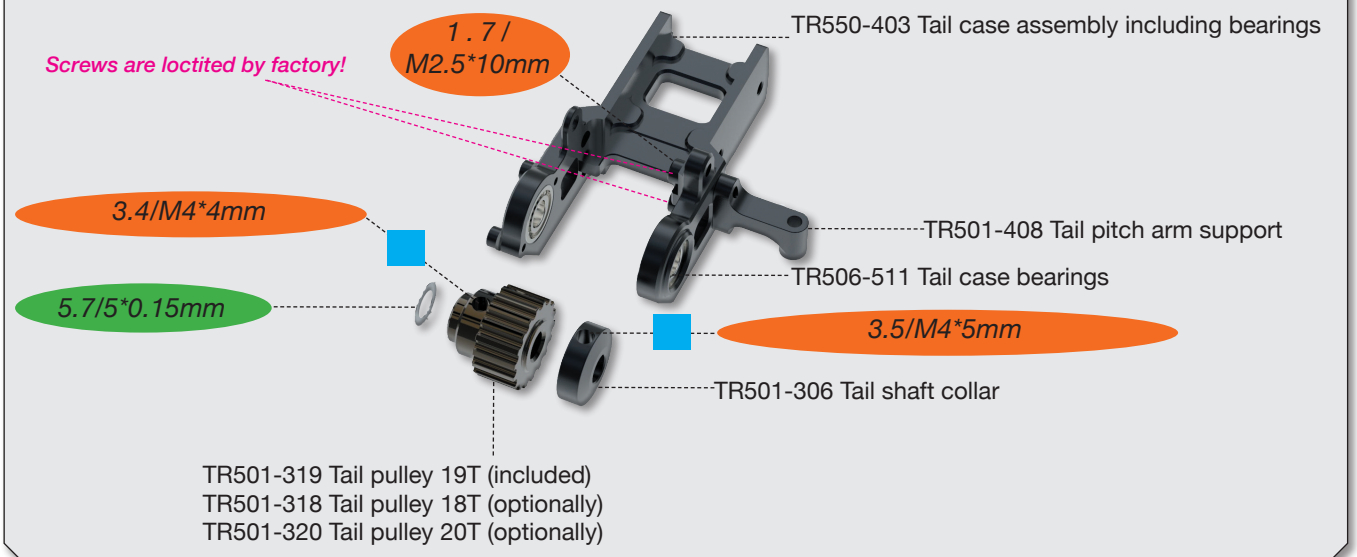




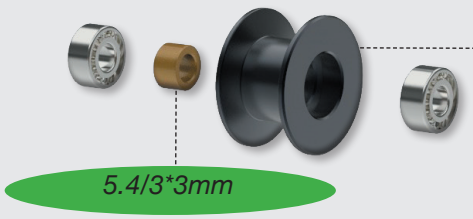
TR550-428 Tail pitch slider assembly. (complete)

You will need:
Loctite 243 = blue

Tail assembly.



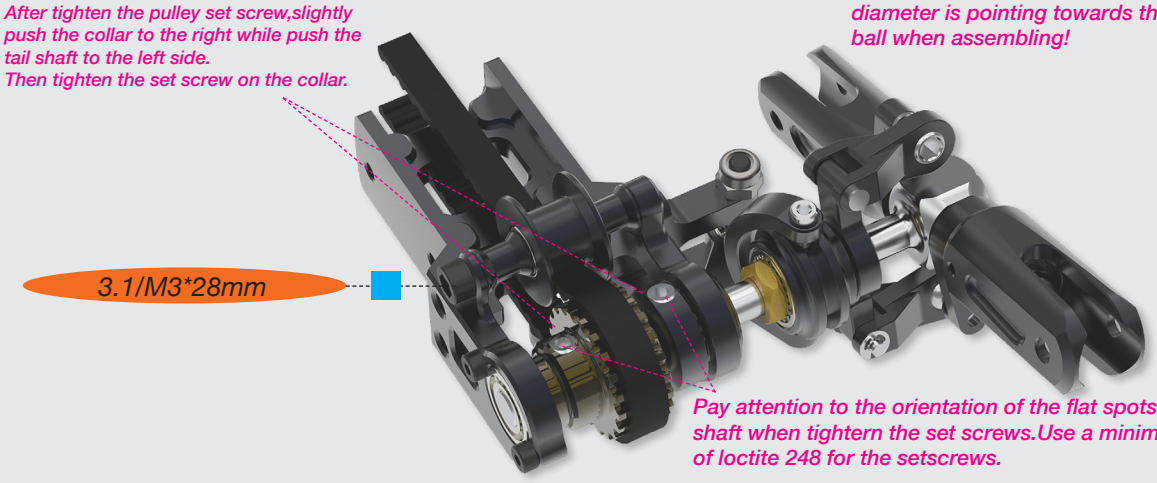
Insert belt here!



The collar design is to remove tail shaft lateral play.

1. *After tighten the pulley set screw,slightly push the collar to the right while push the tail shaft to the left side.*
2. *Then tighten the set screw on the collar.*

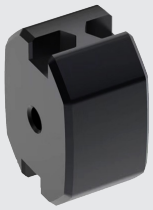
<u>Important note!</u>
The ball links have a larger and a smaller diameter. Always make sure the larger diameter is pointing towards the pivot ball when assembling!



Pay attention to the orientation of the flat spots on the tail shaft when tightern the set screws.Use a minimal amount of loctite 248 for the setscrews.

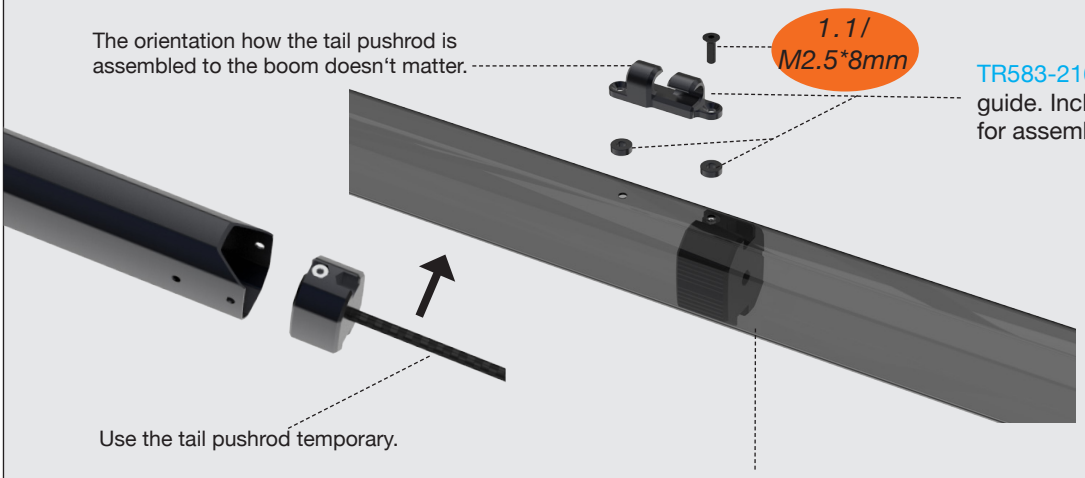
You will need:
A little bit of patience, when doing it for the first time

Tail assembly.

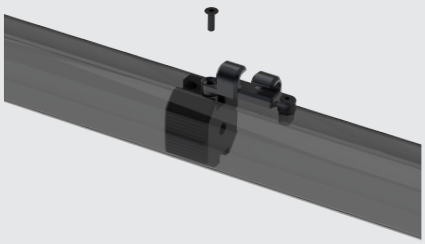


TR504-501 New tail pushrod assembly tool for T5.5/5.8/Nitron

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.



Insert the tail push rod with the nuts facing up from the other end of the boom for assembling the rod guide.

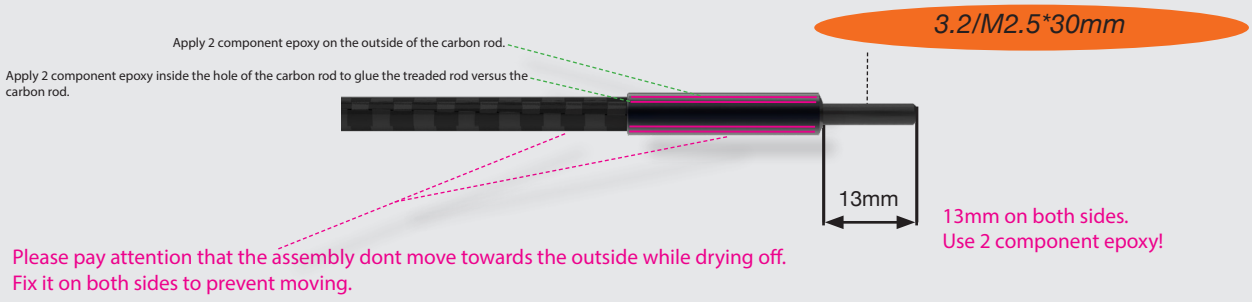


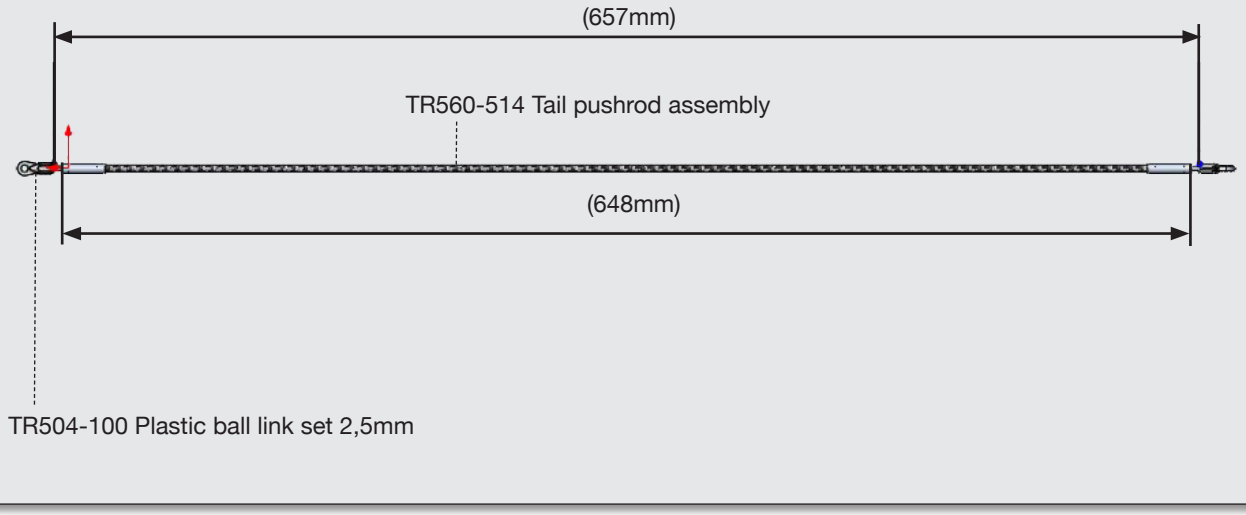
Pull the mounting device out from the nuts.

You will need:
2 component epoxy

Tail assembly.

Glue the tread into the tail push rod and the shell on the outside of the rood. 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!



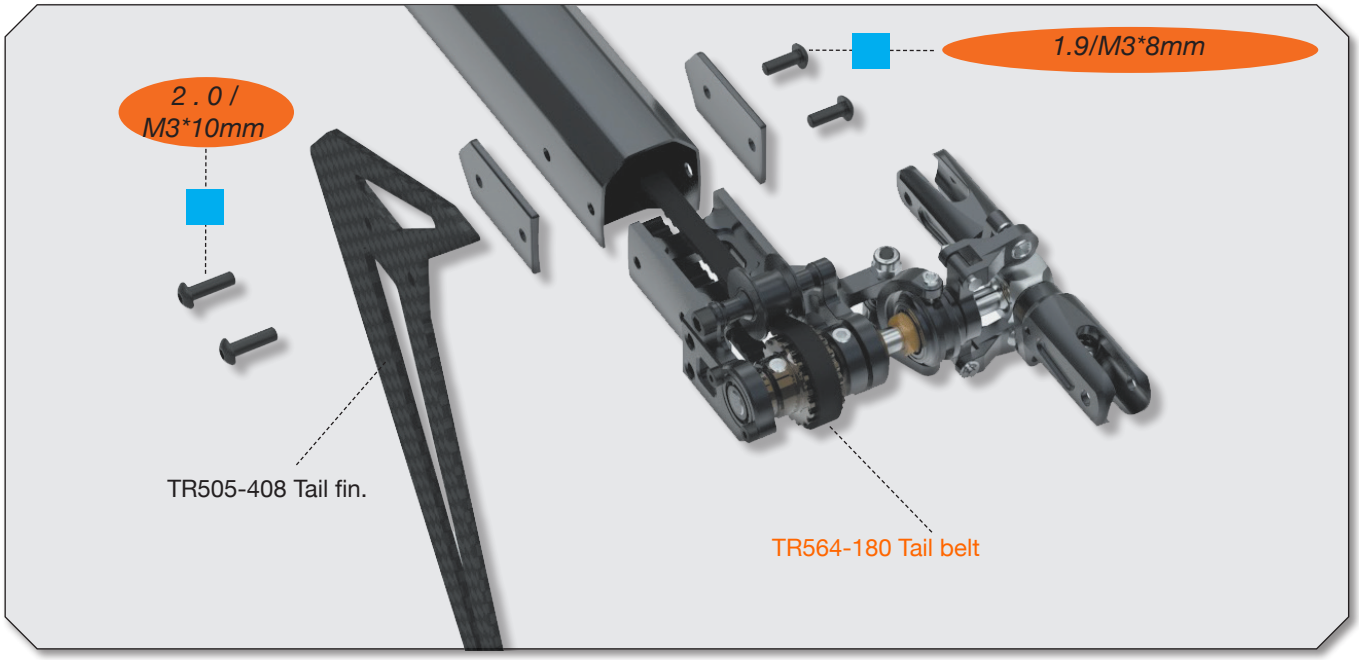


You will need:
Loctite 243 = blue

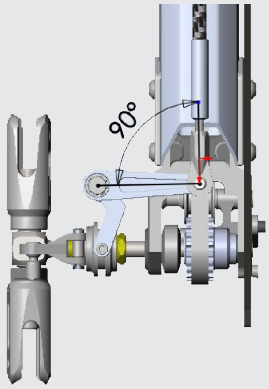
Tail assembly.

WANT TO KNOW MORE ABOUT OUR UNIQUE AND CUSTOMISED BOOM DESIGN?

FOLLOW THIS LINK!



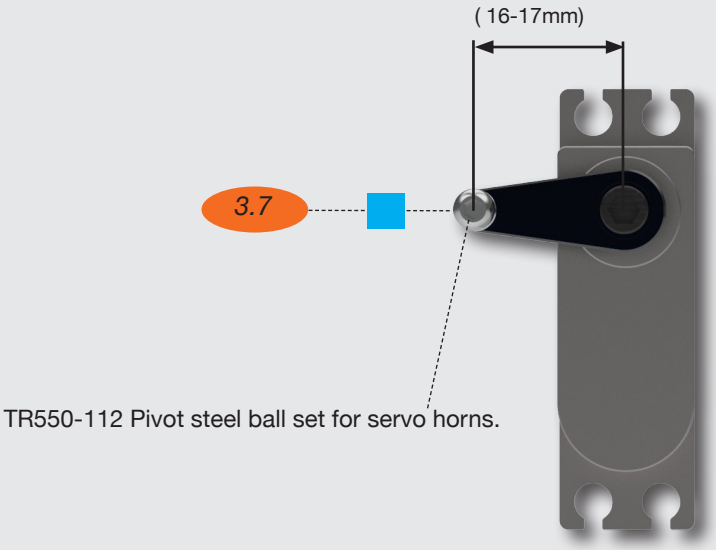
For best tail authority performance adjust center position of your FBL controller (tail servo) same as shown in the illustration (90) degree.*



You will need:
Loctite 243 = blue

Servos preparation.

Mini or full size Cyclic servo arm length for Tron 5.8 (550-610mm blade size)



Tail servo arm length for Tron 5.8 (1 full size)*

You will need:
Loctite 243 = blue

Battery tray.

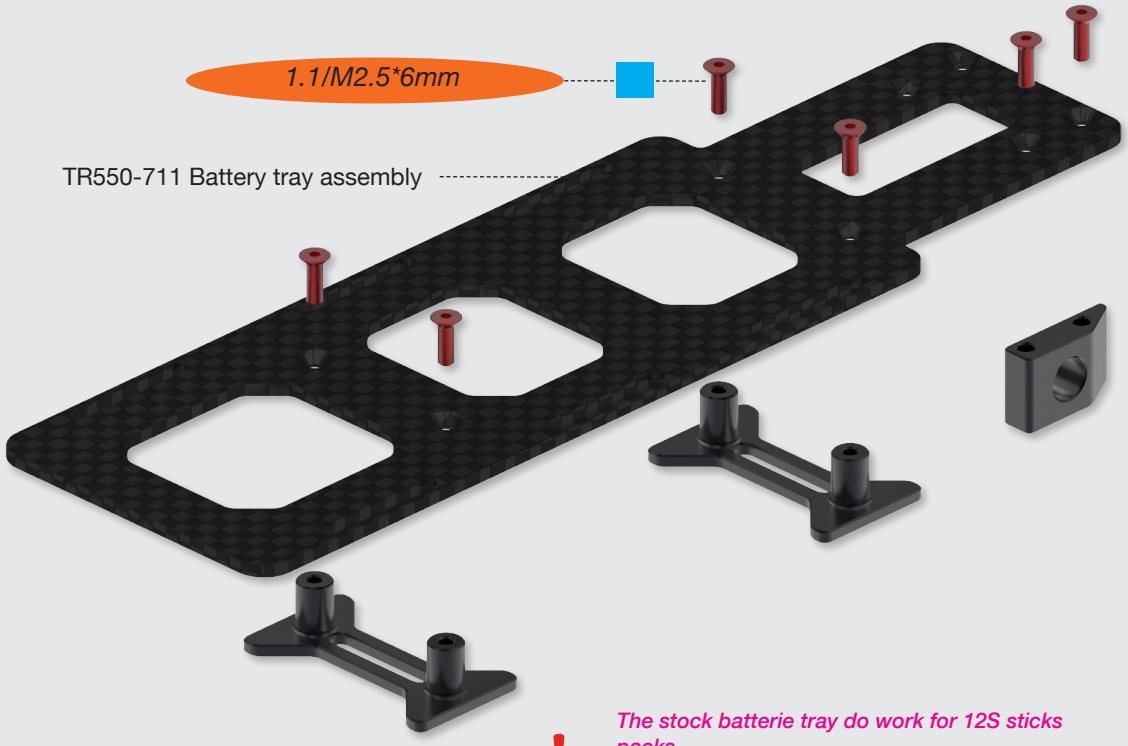
Battery recommendation for Tron 5.8 (6S setup)

- 6S (5000-5600mha)
- 7S (4500-5000mah)
- 8S (4200mah)

Battery recommendation for Tron 5.8 (12S setup)

- 12S Fullymax 3300mah
- 12S Maniax 3300mah
- If you use 2*6S we recommend to use TR585-109 as a option).

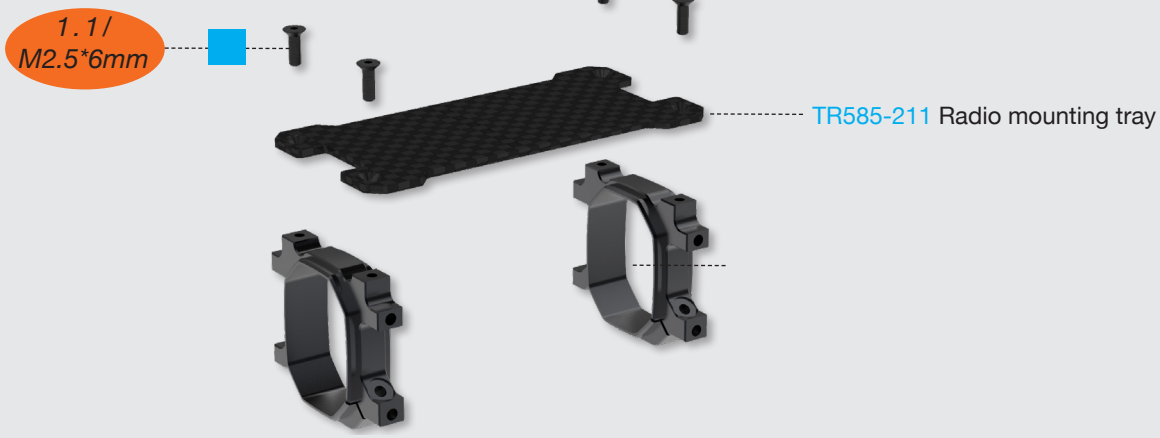
6S Battery tray for Tron 5.8 (included in kit, same as Tron 5.5)

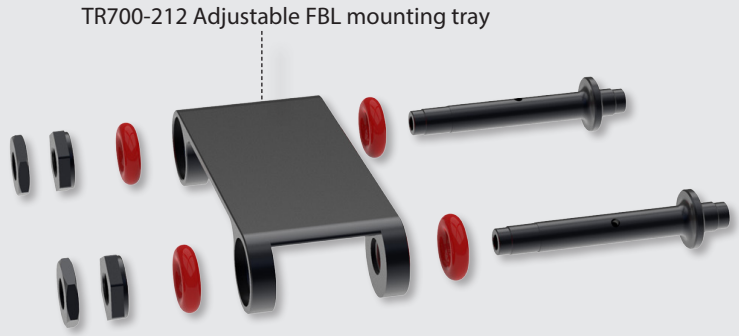


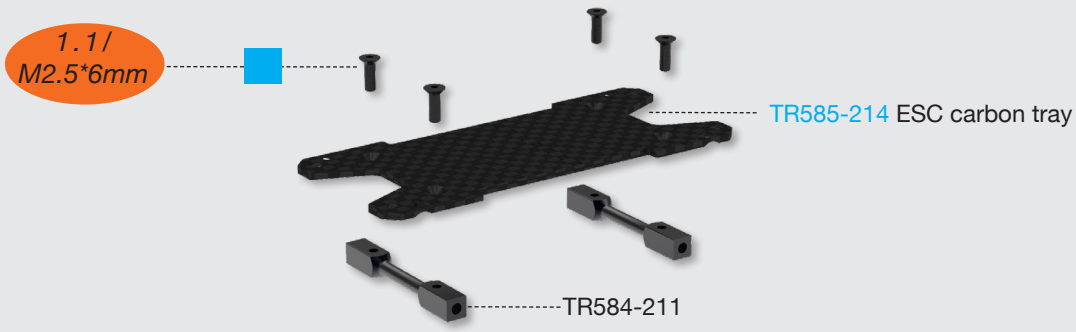
The stock batterie tray do work for 12S sticks packs.
*For best user experience if 2*6S packs are used we do recommend the use of TR585-109 (Optional available)*

You will need:
Loctite 243 = blue

Upper main frame assembly.

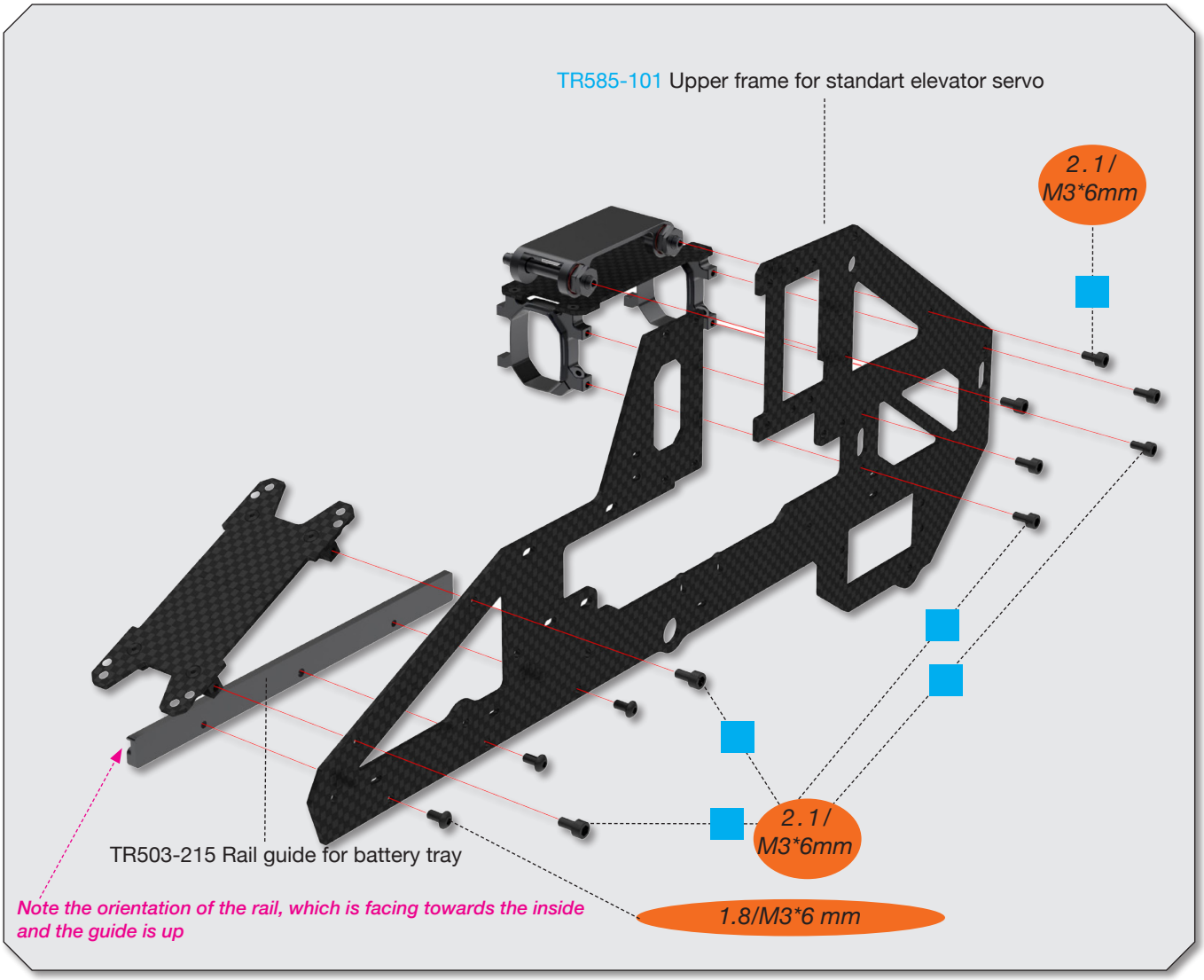


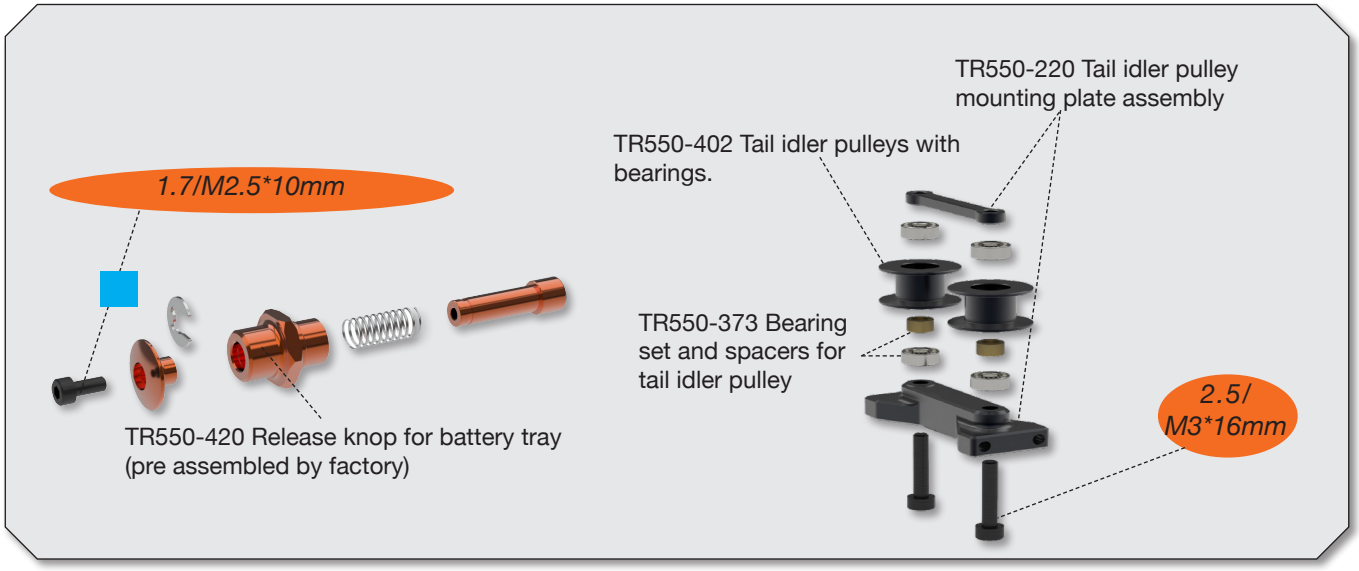




You will need:
Loctite 243 = blue

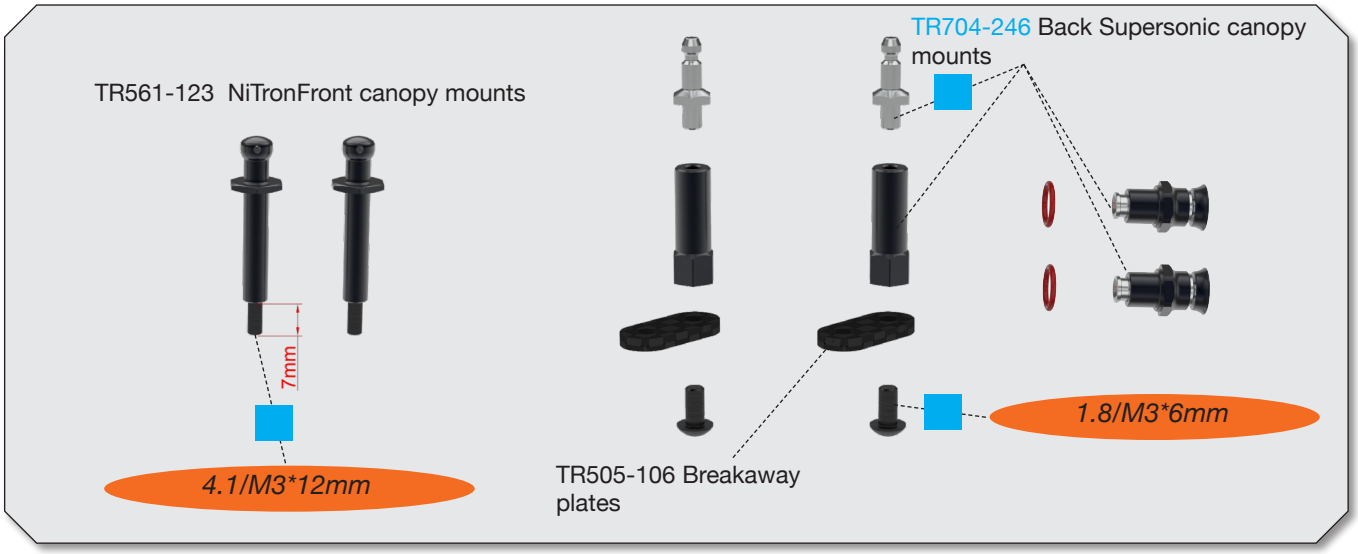
Upper main frame assembly.

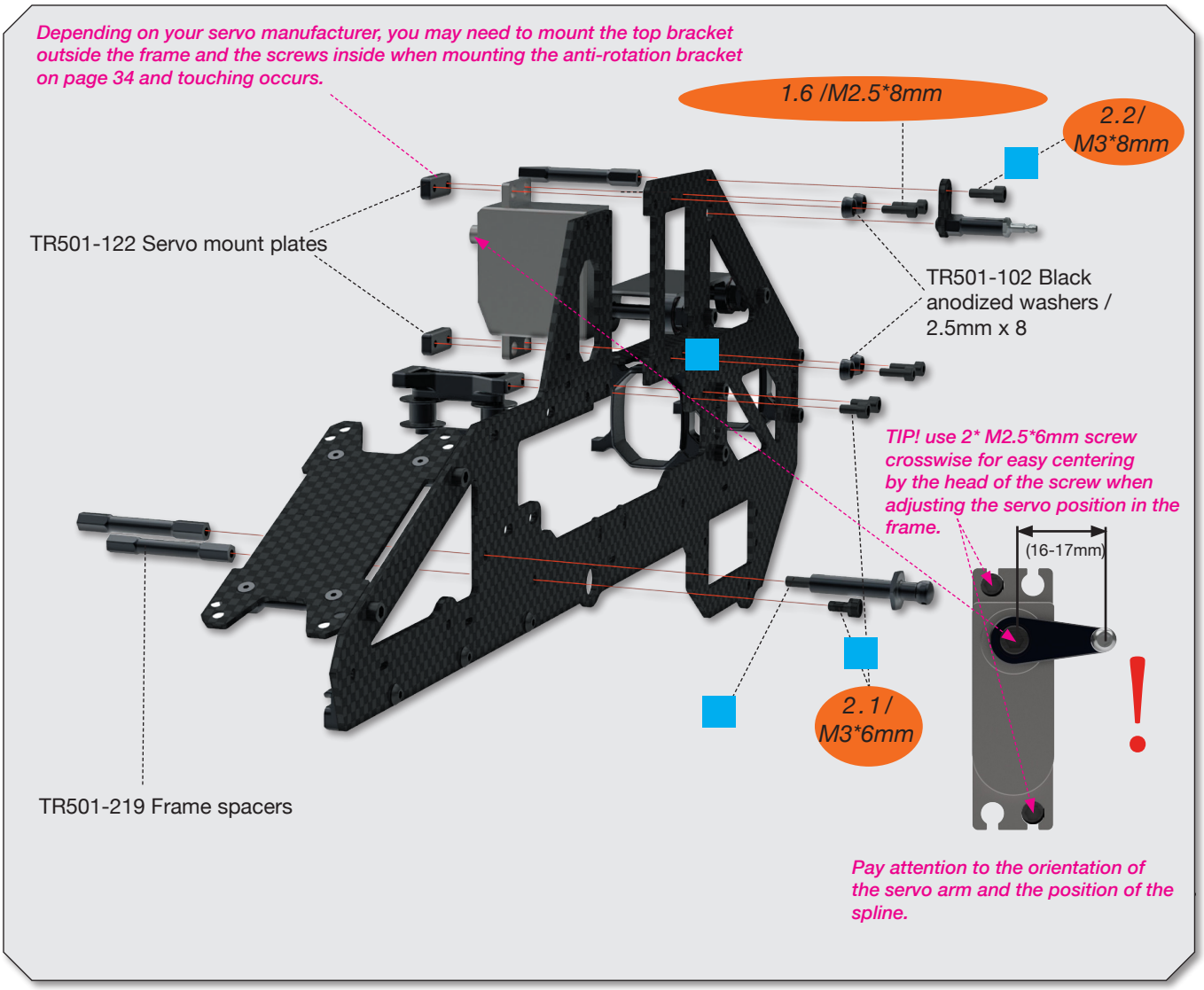




You will need:
Loctite 243 = blue

Upper main frame assembly.

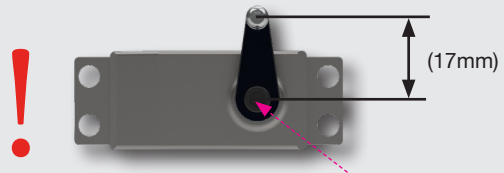




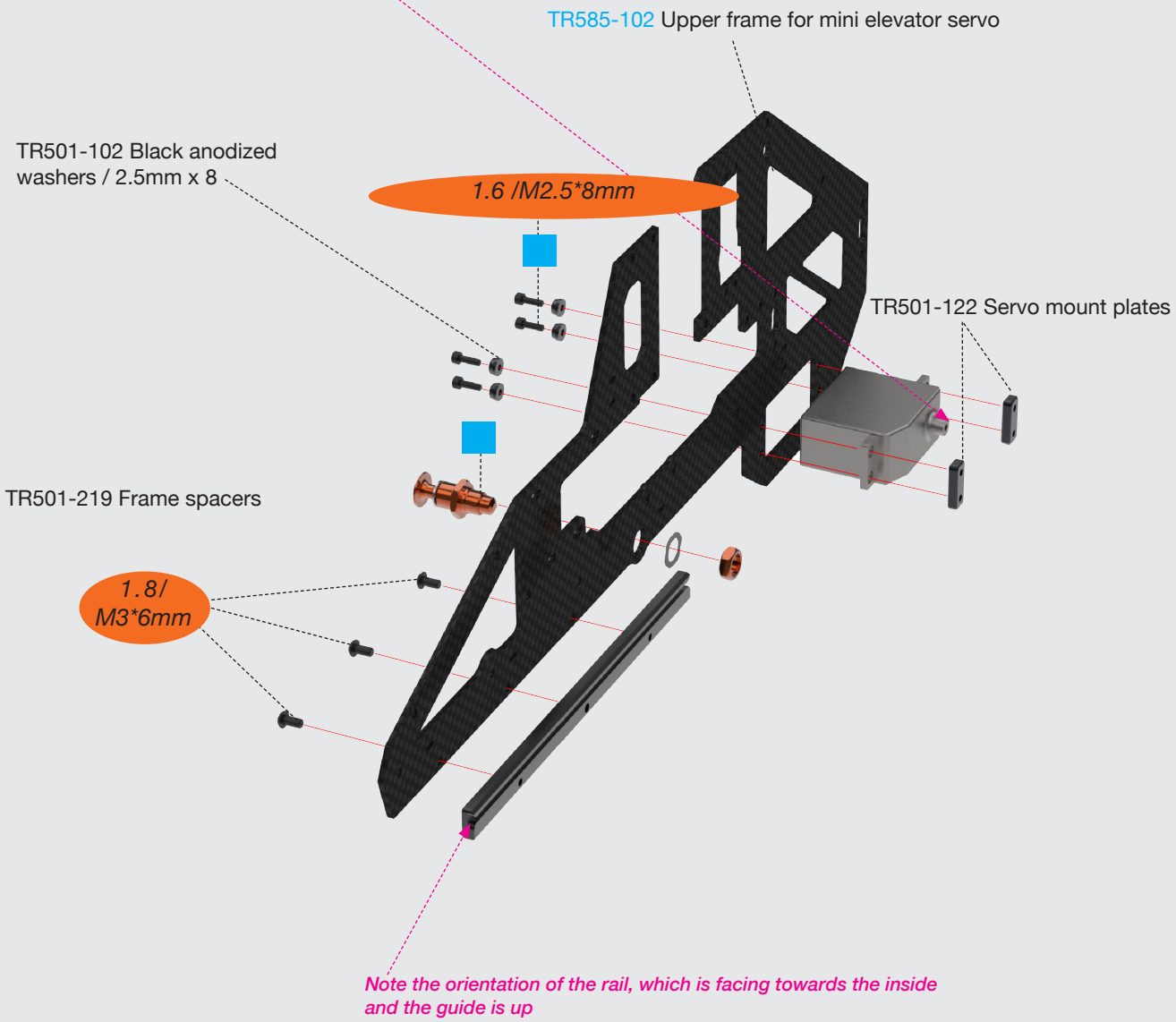
You will need:
Loctite 243 = blue

Upper main frame assembly.

Pay attention to the orientation of the servo horn arm and the position of the spline. When assembling to the frame the servo horn need to facing upwards.

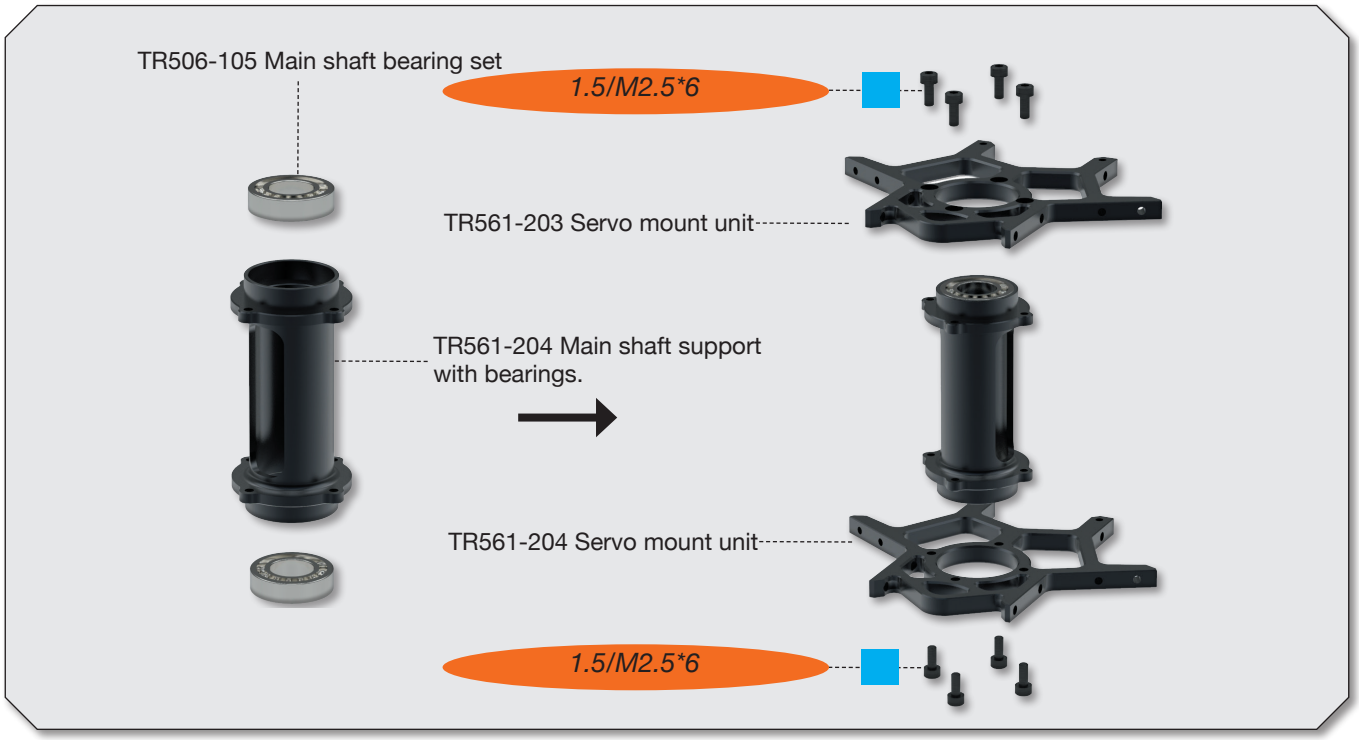


We added 2mm CF servo shims to the kit. For servos of certain brands with larger dimensions. This allows more clearance from the wires versus the main frame while mounting them to the servo frames. (CF plates can be found in the spare parts bag inside the kit)



You will need:
Locktite 243 = blue

Upper main frame assembly.



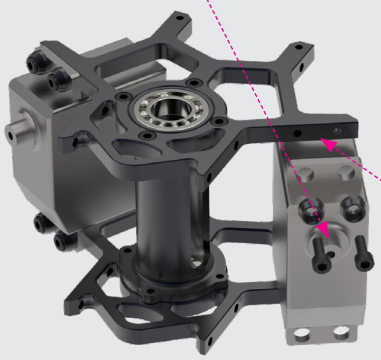
Use 2 M2.5*6mm screws crosswise for easy centering by the screw head when align servo position. Screw the screw in as far as it will go or until the head enters the recess of the servo mounting holes. Then use the other 2 crossbars to fix the servo. Remove the temporary center screws and mount the remaining M2*8 with the washer.*

Midi size servos.

Pay attention to the position of the spline.

*1.1/ M2.5*6mm*

TR561-125 Midi size servo adapters



Add 2mm CF servo spacers if necessary. (Spare parts bag)

Full size servos.

*1.6/M2.5*8mm*

TR501-102 Black anodized washers / 2.5mm x 8

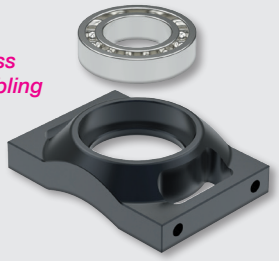
TR501-102 Black anodized washers / 2.5mm x 8

*1.6/M2.5*8mm*

You will need:
Locktite 243 = blue

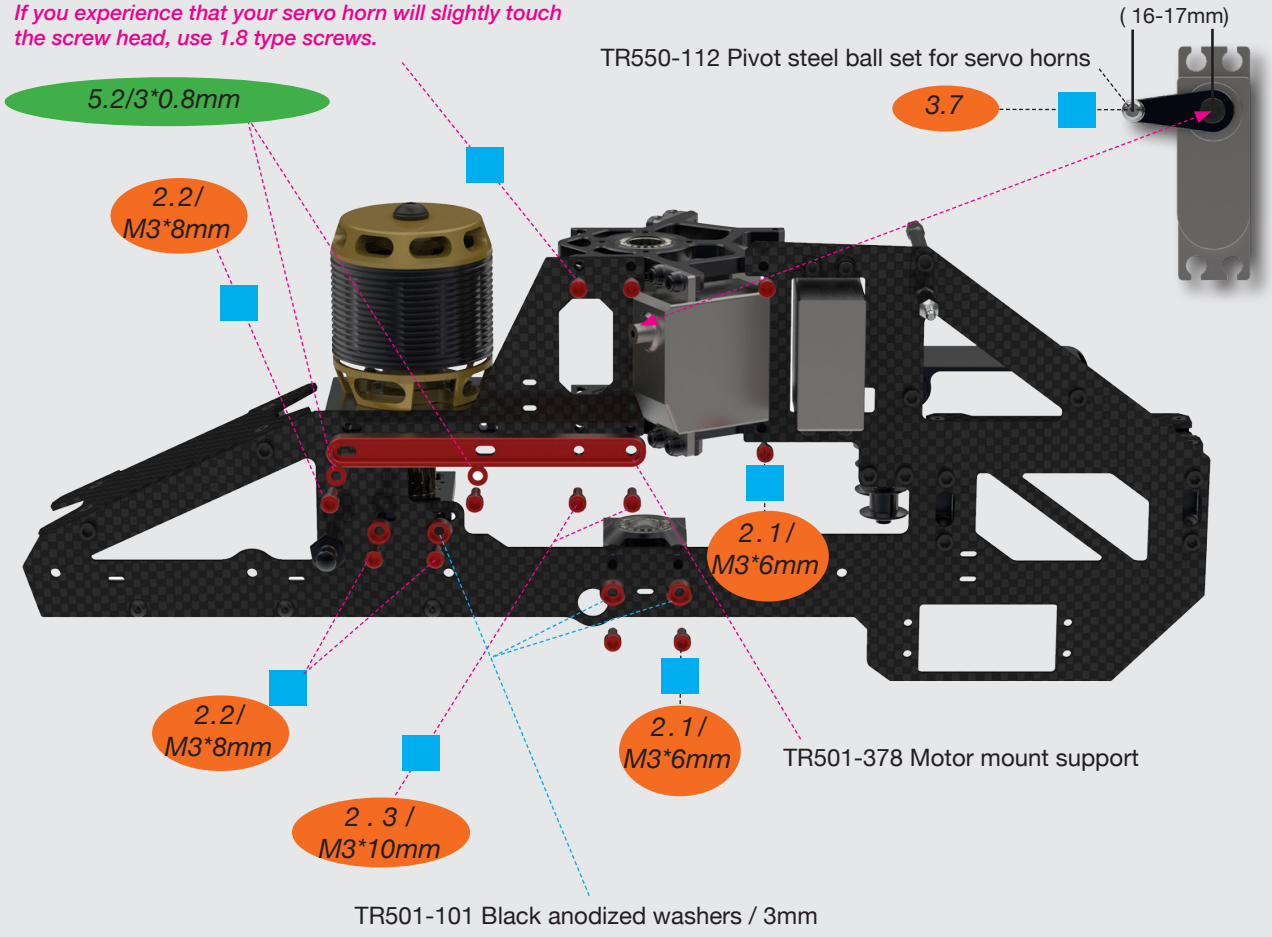
Upper main frame assembly.

When final assembling of the main gear, press shaft suport up versus the main gear assembling to remove up and down play.



TR581-205 3rd bearing block include bearing

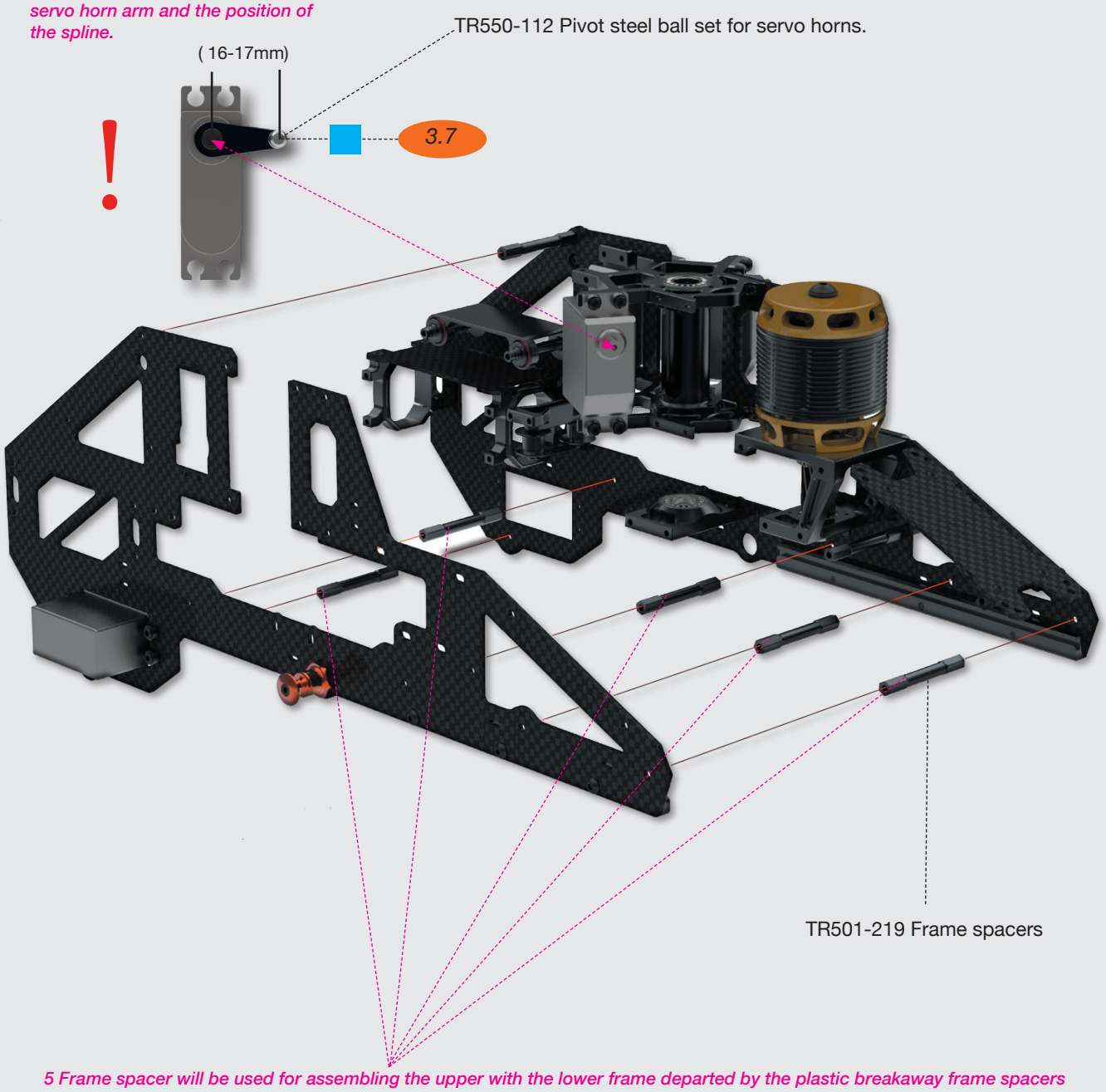
If you experience that your servo horn will slightly touch the screw head, use 1.8 type screws.



You will need:
Locktite 243 = blue

Upper main frame assembly.

Pay attention to the orientation of the servo horn arm and the position of the spline.



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.

WANT TO KNOW MORE ABOUT OUR MOTOR MOUNT ASSEMBLY DESIG?

FOLLOW THIS LINK!

You will need:
Loctite 243 = blue

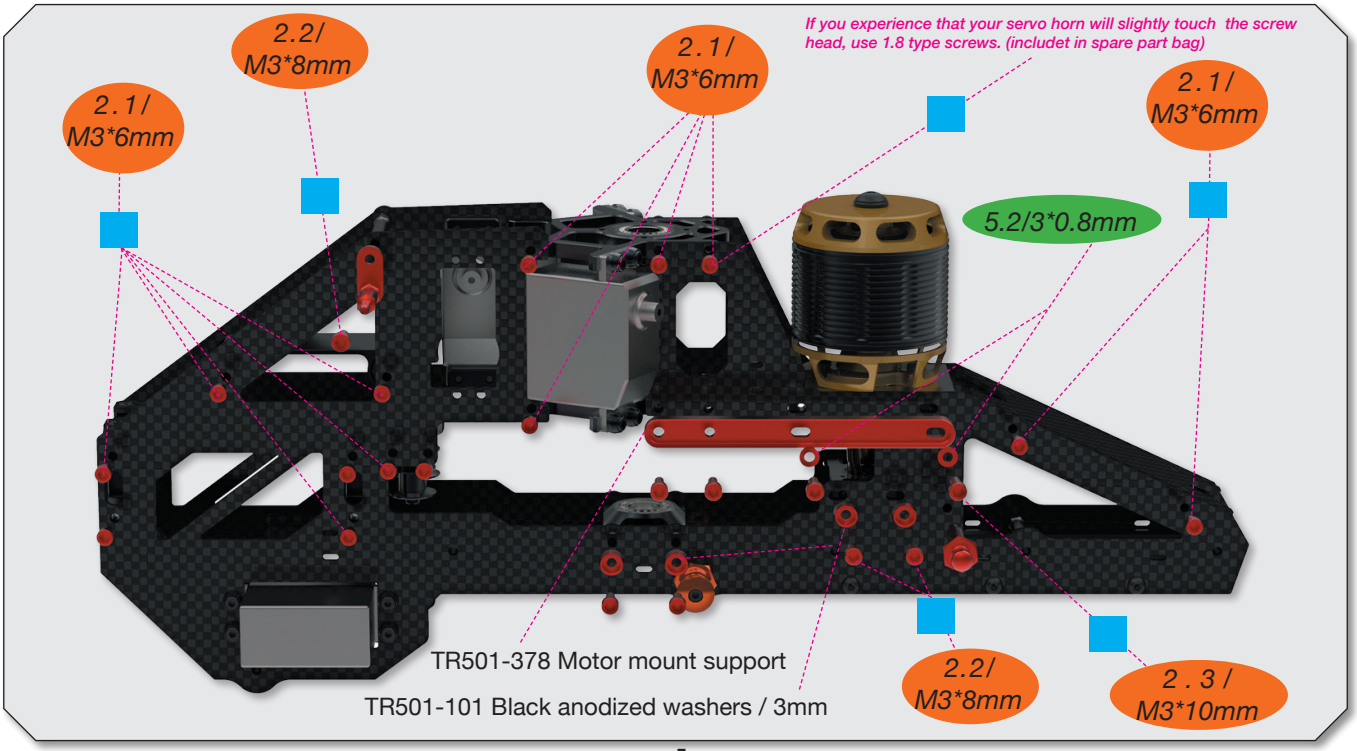
Motormount and pinion.

Available pinions for Tron 5.8

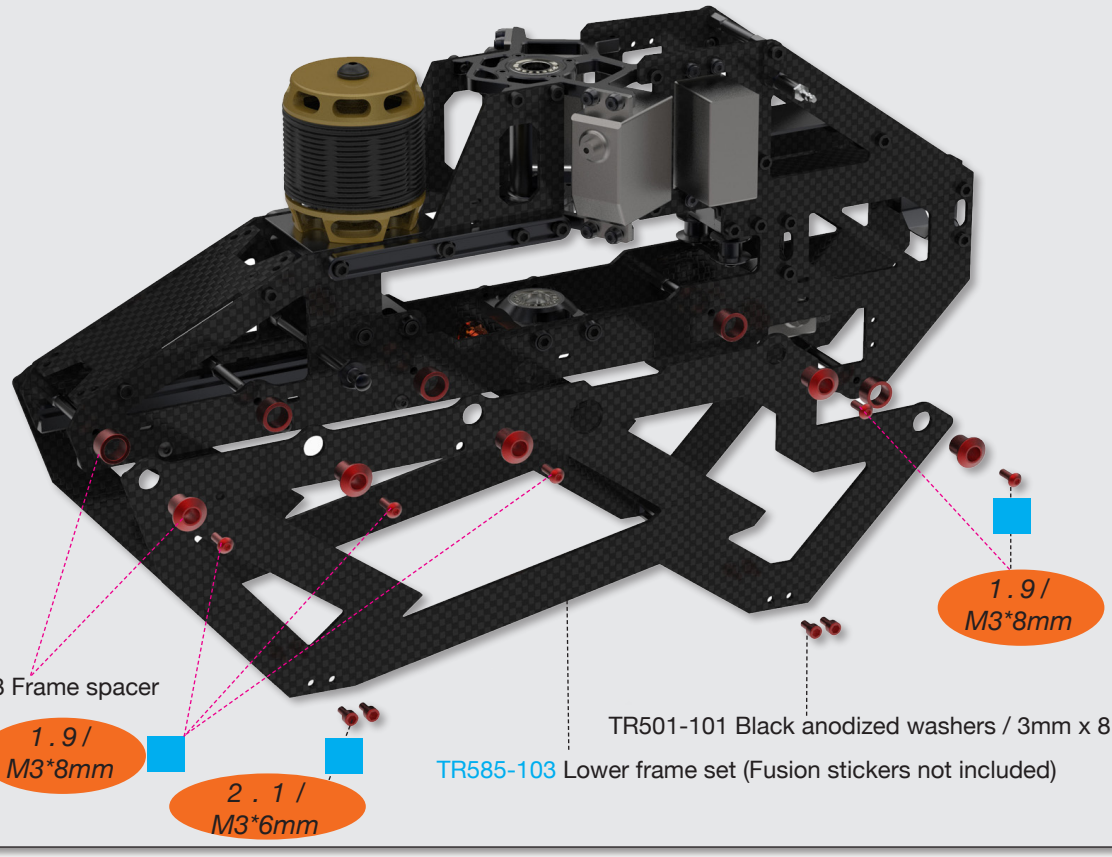
- 13T/6mm TR582-013
- 14T/6mm TR582-014
- 15T/6mm TR582-015
- 16T/6mm TR582-016 (stock, included in kit)
- 17T/6mm TR582-017

You will need:
Loctite 243 = blue

Upper and lower main frame assembly.

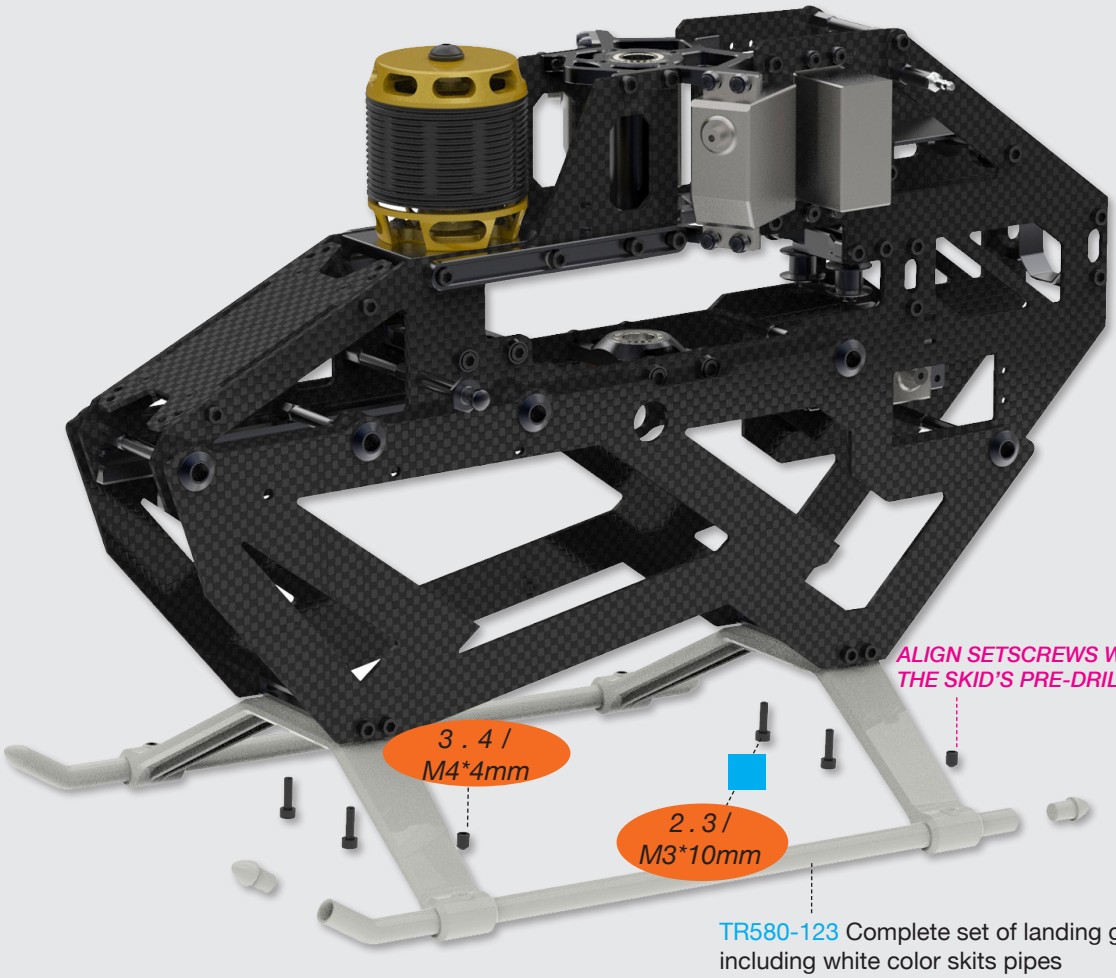


TR588-001 ORANGE / Lower frame Fusion and tail fin sticker set 5.8
TR588-002YELLOW / Lower frame Fusion and tail fin sticker set 5.8



You will need:
Loctite 243 = blue

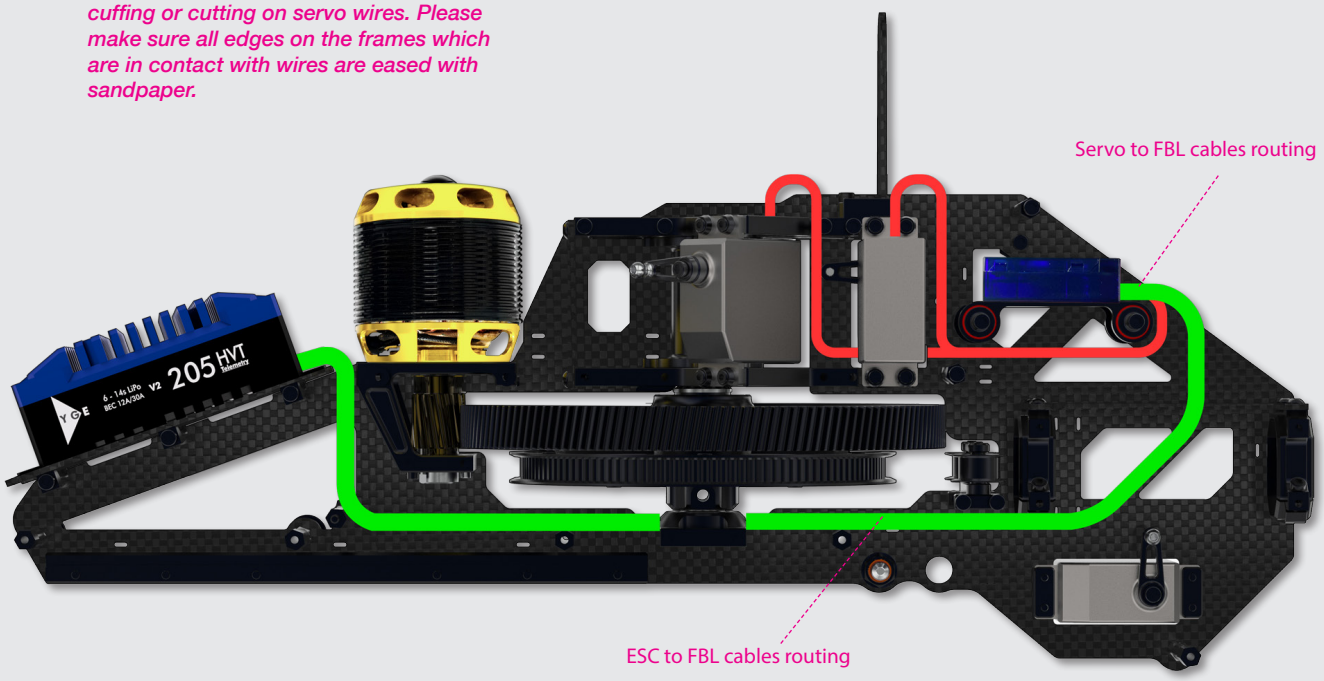
Landing gear,cyclic servos.



Tips!

Wiring electronics.

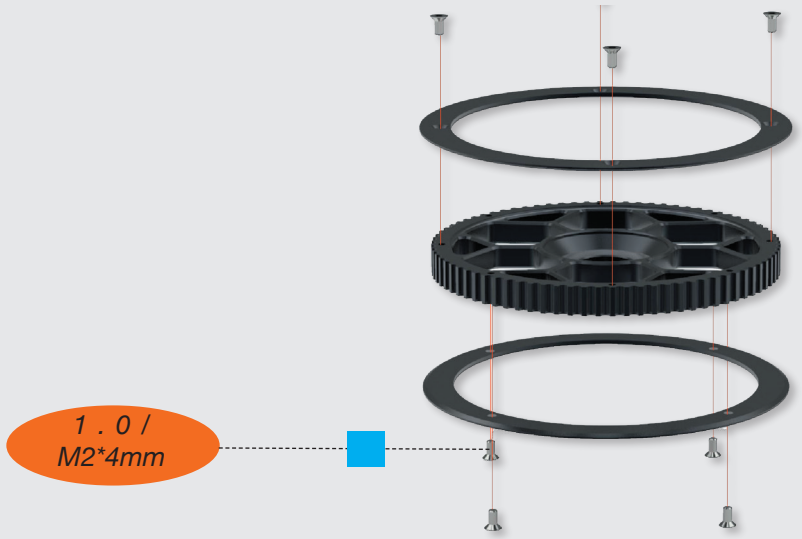
Additionally, you may want to use servo wire protection shrink tube to avoid cuffing or cutting on servo wires. Please make sure all edges on the frames which are in contact with wires are eased with sandpaper.

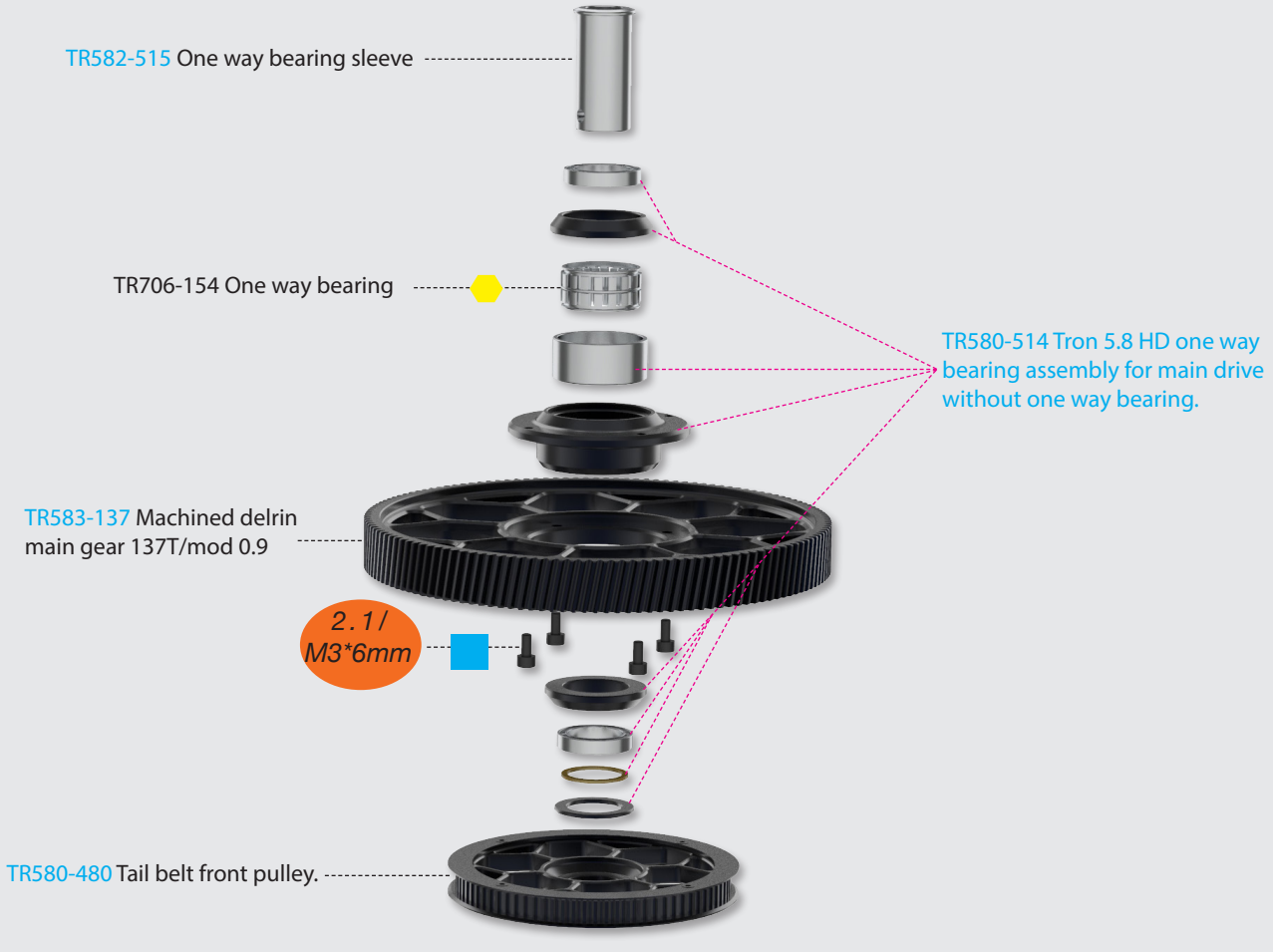


For best fitting of canopy, route your ESC battery cables as shown in the illustration. Canopy handling will be very easy and fast.

You will need:
Loctite 243 = blue
Grease = yellow

Main drive preparation.

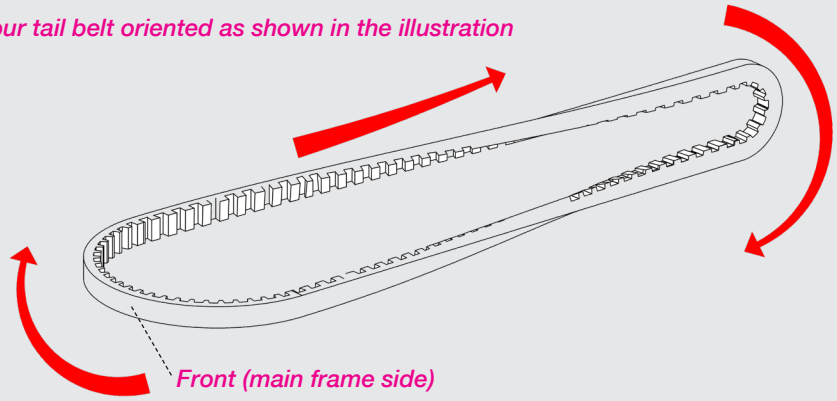




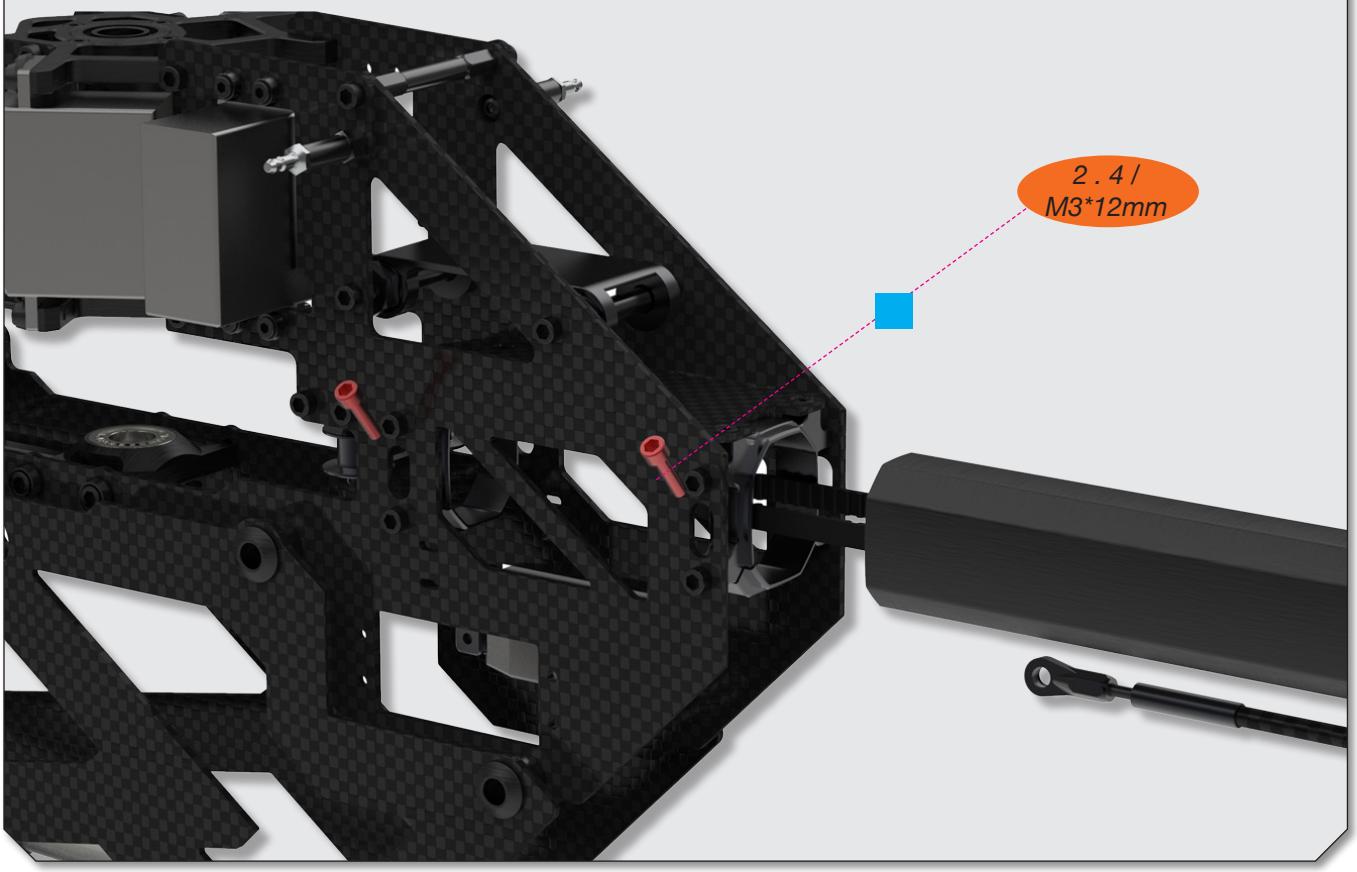
You will need:
Loctite 243 = blue

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*



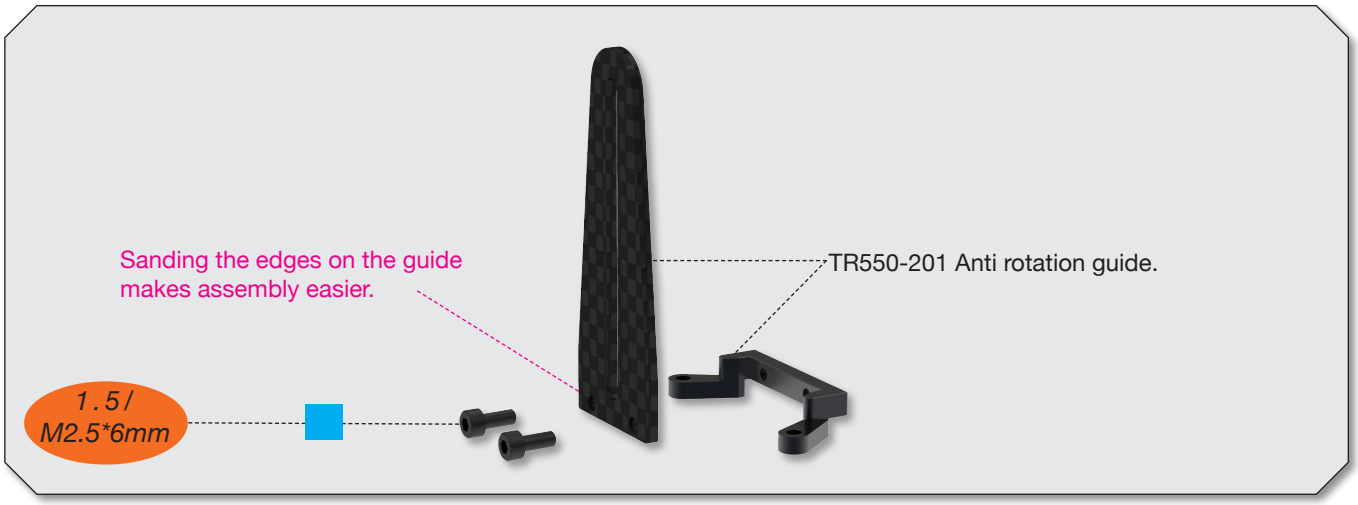
You will need:
Loctite 243 = blue

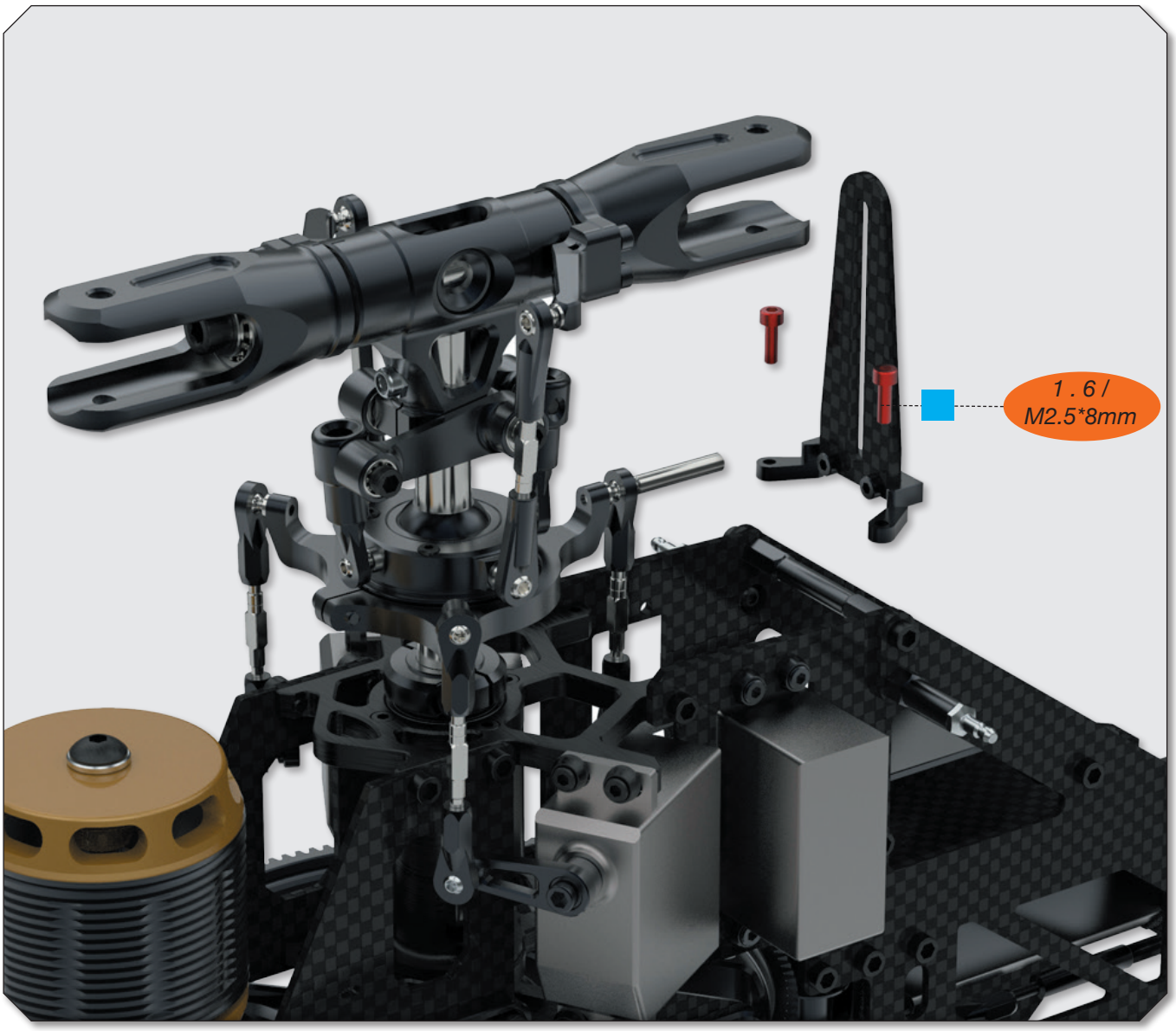
Head and main drive.

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.*
6. *Push 3the lower main shaft bearing block support up and tighten the 4*M3*6mm scews. Use Loctite.*

You will need:
Loctite 243 = blue

Anti rotation guide.





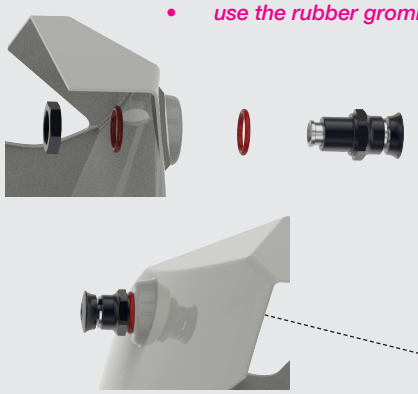
Tips!

Tail rotation and canopy.

WANT TO KNOW MORE ABOUT OUR SUPERSONIC CANOPY MOUNT ASSEMBLY DESIG?

FOLLOW THIS LINK!

- *Enlarge the real canopy holes to (9mm)*
- *assemble the supersonic mounts as shown in the illustration (use loctite for secure the nuts)*
- *use the rubber grommets for the front holes.*



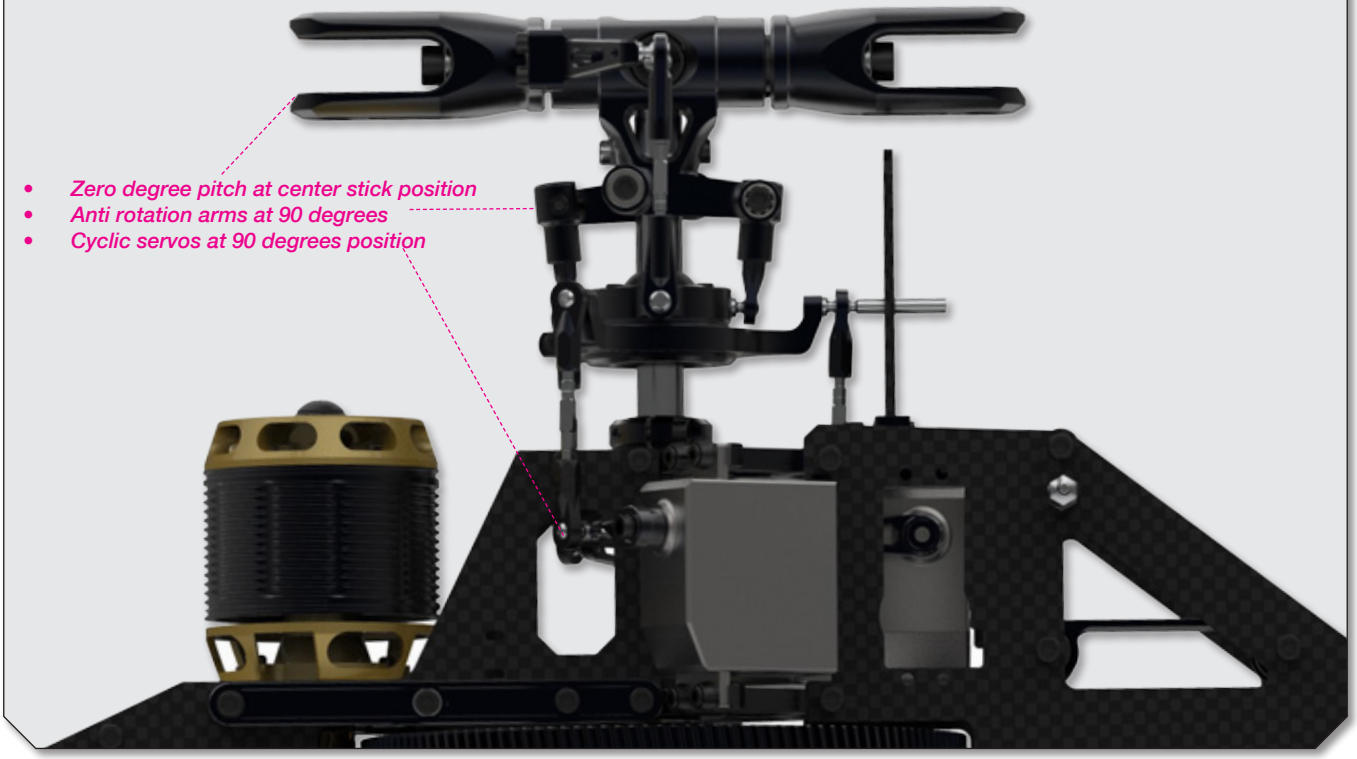
Use CA glue for the 2 front canopy grommets. Slightly chamfer the front holes on the canopy for the grommets.This will extend the life of the grommets.

TR582-151 Canopy TRON 5.8 orange white

TR582-152 Canopy TRON 5.8 yellow gray

Rotation direction of main rotor versus tail rotor.

Final setup and pre-flight check.



- *Zero degree pitch at center stick position*
- *Anti rotation arms at 90 degrees*
- *Cyclic servos at 90 degrees position*

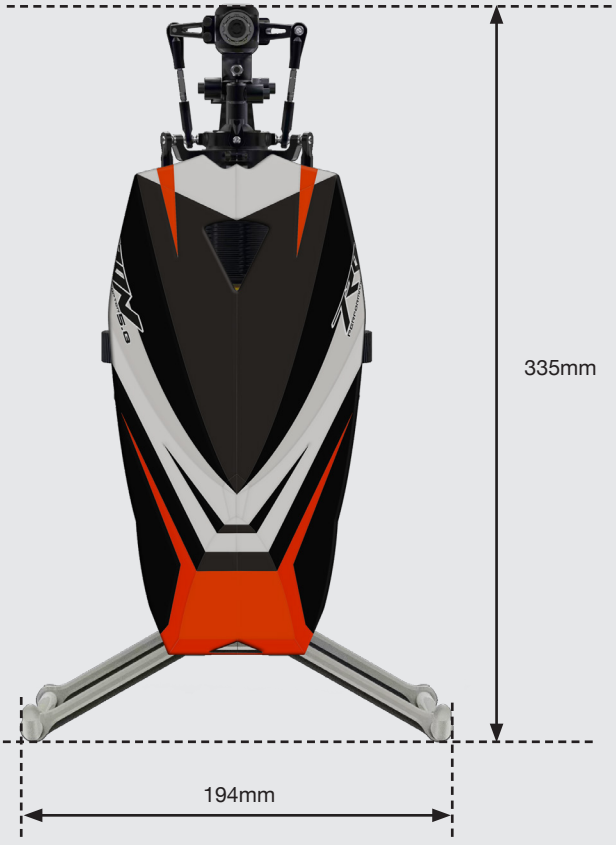
1. *<u>Disconnect your Motor wires from the ESC!</u>*
2. *FBL controller should be to set to the mode where you can level your servo center position and, or swashplate level mode.*
3. *Fine tune your servo center position as precise as you can by the position of the servo horns. For finetuning use Sub 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.

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

Dimensions and wheight

1. Dry weight = 1530 gram without blades and electronics (3 pounds and 5.97 ounces).
2. With = 194mm (7.63 inches).
3. Heigth = 335mm (13.18 inches).
4. Length = 1145mm (45.05 inches).



Preflight check and gear ratios.

1. *Make sure your battery tray is securely locked.Use 2 -3 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 expiriance pilot,specially for your first flight.*
7. *Do regular maintanance and inspect Ball links for wear and also Tail belt, main gear and bearings. Make sure your scews remain save and tide.*

Recommended head speed.

Flying styles	Head speed
Beginner and sport flying.	1500-1800rpm.
Advanced sport, 3D flying.	1800-2300rpm.
Hardcore 3D flying.	2300-2500rpm.

Main and tail rotor gear ratios.

INCLUDED IN KIT

Main gear	Pinion	Ratio	Tail drive	Tail	Ratio
137/mod 0.9	14T /6mm	9.78	80T	18T	4.44
137/mod 0.9	15T/6mm	9.13	80T	19T	4.2
137/mod 0.9	16T/6mm	8.56	80T	20T	4.0
137/mod 0.9	17T/6mm	8.05			

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 2800 RPM!

Contact:
For sales: sales@tronhelicopters.com / for support: support@tronhelicopters.com
tronhelicopters.com