

BE ORIGINAL



KRAKEN

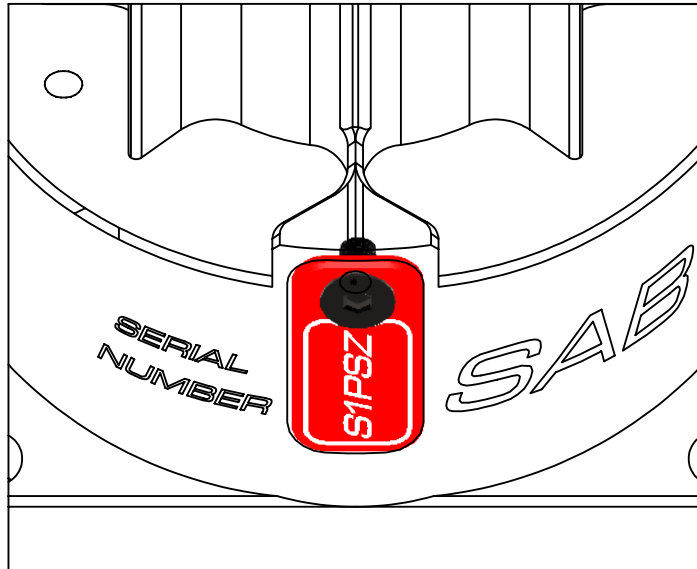
SAB MANUAL



SAB HELI DIVISION



Please read this user manual carefully, it contains instructions for the correct assembly of the model.
Please refer to the web site www.goblin-helicopter.com for updates and other important information.

VERY IMPORTANT

You will find your serial number on the RED plate of the transmission module and on the product card included with your kit.
Please take a moment to register your kit online via our web site at:

<http://www.goblin-helicopter.com>

It is extremely important that you take a moment to register your helicopter with us. This is the only way to ensure that you are properly informed about changes to your kit, such as upgrades, retrofits and other important developments. SAB Heli Division cannot be held responsible for any issues with your model and will not provide support unless you register your model.

Thank you for your purchase, we hope you enjoy your new Goblin helicopter!

SAB Heli Division

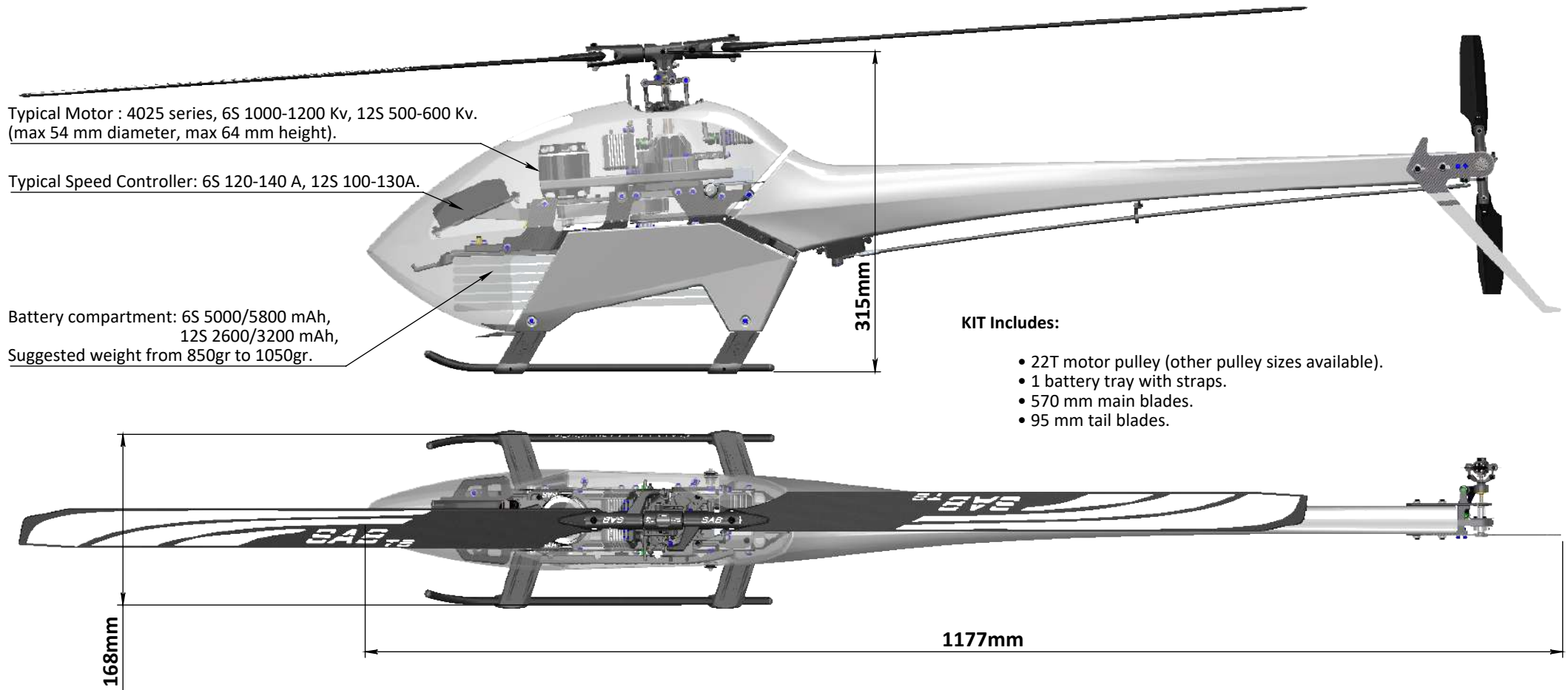
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GOBLIN KRAKEN 580 TECHNICAL SPECIFICATIONS



Typical Motor : 4025 series, 6S 1000-1200 Kv, 12S 500-600 Kv.
(max 54 mm diameter, max 64 mm height).

Typical Speed Controller: 6S 120-140 A, 12S 100-130A.

Battery compartment: 6S 5000/5800 mAh,
12S 2600/3200 mAh,
Suggested weight from 850gr to 1050gr.

KIT Includes:

- 22T motor pulley (other pulley sizes available).
- 1 battery tray with straps.
- 570 mm main blades.
- 95 mm tail blades.

- **AIRFRAME weight:** 1780gr (with blades, no battery, no electronics).
- **Main blade length:** 550mm to 600mm.
- **Tail blade length:** 95 to 105 mm.
- **Main rotor diameter:** 1270 mm (with 570 mm blades).
- **Tail rotor diameter:** 260 mm (with 95 mm tail blades).

- **Cyclic Servos:** Mini size 35 mm (Standard size 40mm option).
- **Tail Servo:** Standard size 40mm.
- **Main Rotor Ratio :** 11.51 to 8.63 :1 (22T included: 9.42:1).
- **Tail Rotor Ratio :** 5.3-4.9:1 (23T included: 4.9:1).

IMPORTANT NOTES

- *This radio controlled helicopter is not a toy.
- *This radio controlled helicopter can be very dangerous.
- *This radio controlled helicopter is a technically complex device which has to be built and handled very carefully.
- *This radio controlled helicopter must be built following these instructions. This manual provides the necessary information to correctly assemble the model.
It is necessary to carefully follow all the instructions.
- *Inexperienced pilots must be monitored by expert pilots.
- *All operators must wear safety glasses and take appropriate safety precautions.
- *A radio controlled helicopter must only be used in open spaces without obstacles, and far enough from people to minimize the possibility of accidents or of injury to property or persons.
- *A radio controlled helicopter can behave in an unexpected manner, causing loss of control of the model, making it very dangerous.
- *Lack of care with assembly or maintenance can result in an unreliable and dangerous model.

***Neither SAB Heli Division nor its agents have any control over the assembly, maintenance and use of this product. Therefore, no responsibility can be traced back to the manufacturer. You hereby agree to release SAB Heli Division from any responsibility or liability arising from the use of this product.**

SAFETY GUIDELINES

- *Fly only in areas dedicated to the use of model helicopters.
- *Follow all control procedures for the radio frequency system.
- *It is necessary that you know your radio system well. Check all functions of the transmitter before every flight.
- *The blades of the model rotate at a very high speed; be aware of the danger they pose and the damage they may cause.
- *Never fly in the vicinity of other people.

DAMAGE LIMITS

SAB HELI DIVISION SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCT, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY. Further, in no event shall the liability of SAB Heli Division exceed the individual price of the Product on which liability is asserted. As SAB Heli Division has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly the user accepts all resulting liability. If you as the Purchaser or user are not prepared to accept the liability associated with the use of this Product, you are advised to return this Product immediately in new and unused condition to the place of purchase.

LIMITED WARRANTY

SAB Heli Division reserves the right to change or modify this warranty without notice and disclaims all other warranties, express or implied.

- (a)** This warranty is limited to the original Purchaser ("Purchaser") and is not transferable. REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE PURCHASER. This warranty covers only those Products purchased from an authorized SAB Heli Division dealer. Third party transactions are not covered by this warranty. Proof of purchase is required for warranty claims.
- (b)** Limitations- SAB HELI DIVISION MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCT. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.
- (c)** Purchaser Remedy- SAB Heli Division's sole obligation hereunder shall be that SAB Heli Division will, at its option, replace any Product determined by SAB Heli Division to be defective. In the event of a defect, this is the Purchaser's exclusive remedy. Replacement decisions are at the sole discretion of SAB Heli Division. This warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or modification of or to any part of the Product. This warranty does not cover damage due to improper installation, operation, maintenance or attempted repair by anyone.

NOTE FOR ASSEMBLY



ADDITIONAL COMPONENTS REQUIRED



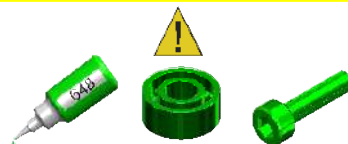
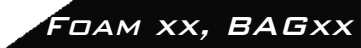


- *Electric Motor
- *Speed controller
- *Batteries
- *1 flybarless 3 axis control unit
- *Radio power system.
- *3 cyclic servos
- *1 tail rotor servo
- *6 channel radio control system on 2.4 GHz

TOOLS, LUBRICANTS, ADHESIVES

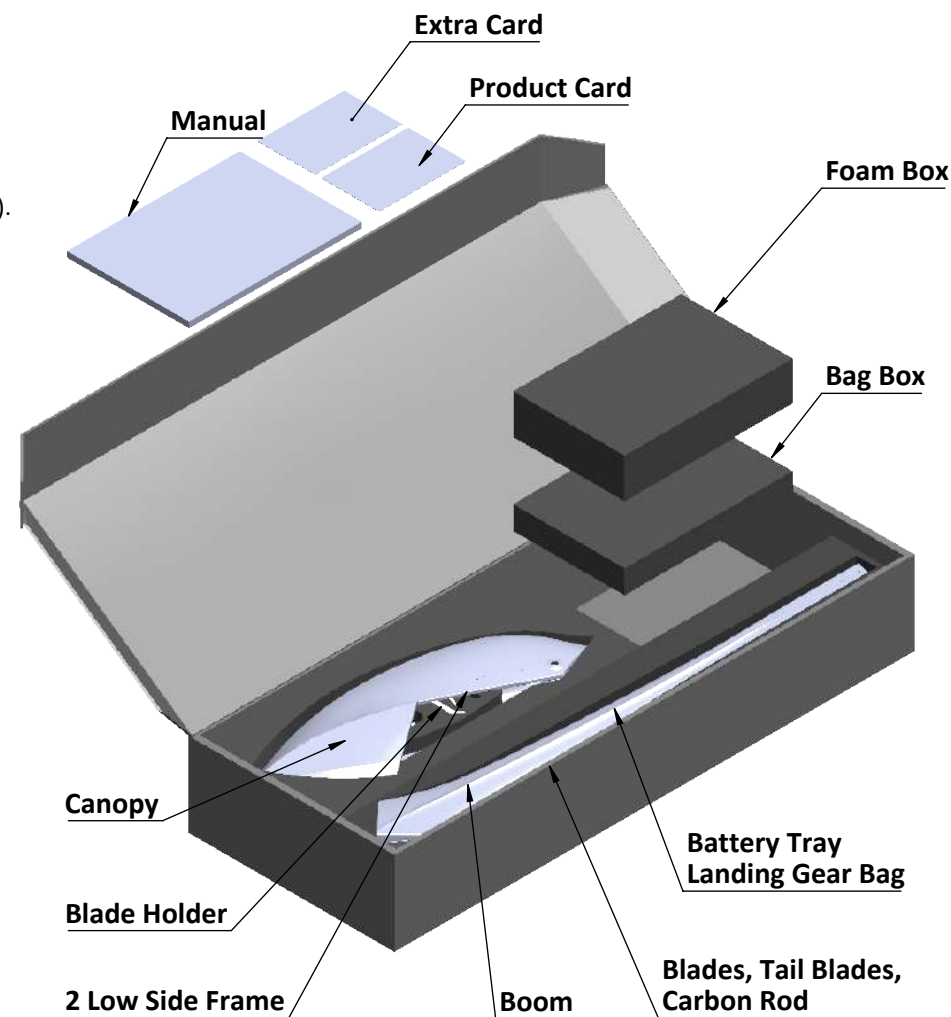
- *Generic pliers.
- *Hexagonal driver, size 1.5, 2, 2.5, 3mm.
- *4/5mm T-Wrench.
- *5.5mm Socket wrench (for M3 nuts).
- *8mm Hex fork wrench (for M5 nuts).
- *Medium threadlocker (SAB p/n HA116-S).
- *Strong retaining compound (SAB p/n HA115-S).
- *Spray lubricant (eg. Tri-Flow Oil).
- *Synthetic grease (eg. Microlube 261).
- *Cyanoacrylate adhesive.
- *Pitch Gauge (for set-up).
- *Soldering equipment (for motor wiring).

NOTES FOR ASSEMBLY

Please refer to this manual for assembly instructions for this model. Follow the order of assembly indicated. The instructions are divided into chapters, which are structured in a way that each step is based on the work done in the previous step. Changing the order of assembly may result in additional or unnecessary steps. Use thread lockers and retaining compounds as indicated. In general, each bolt or screw that engages with a metal part requires thread lock. It is necessary to pay attention to the symbols listed below:

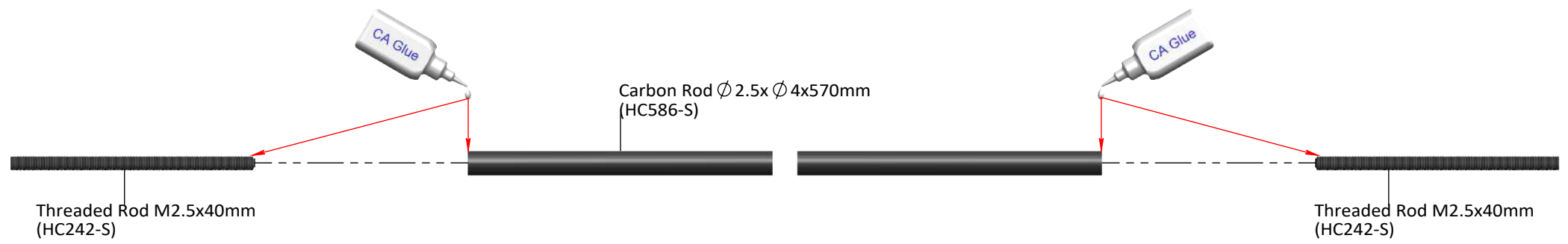
 <p>Important</p>	 <p>Blue screw and blue bearing in the illustration means you need to use: Thread Locker Medium Strength (SAB HA116-S)</p>	 <p>Green screw and Green bearing in the illustration means you need to use: Use retaining compound (SAB HA115-S)</p>
 <p>Indicates that for this assembly phase you need materials that are: Foam xxx, BAG xxx.</p>	 <p>Use CA Glue</p>	 <p>Use Proper Lubricant</p>

INSIDE THE MAIN BOX THERE ARE:

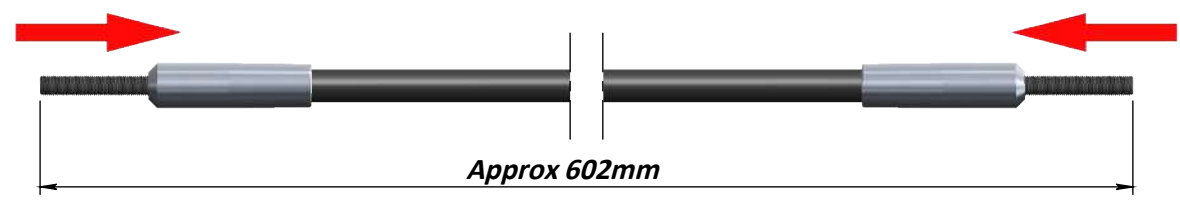


The assembly process is described in the following chapters. Each chapter provides you with the box, bag and/or foam numbers you will need for that chapter. The information is printed in a black box in the upper corner of the page.

BAG 1

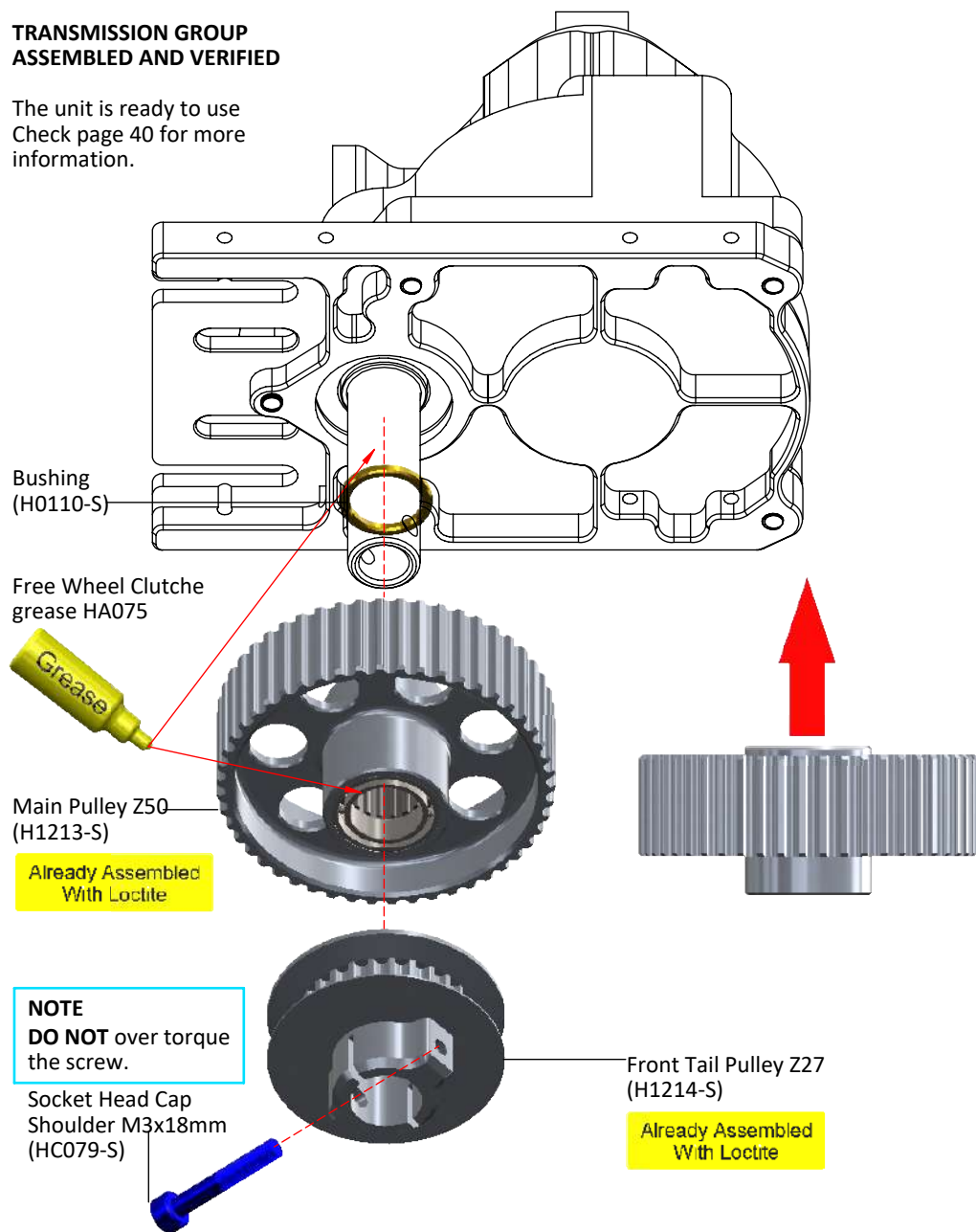


NOTE:

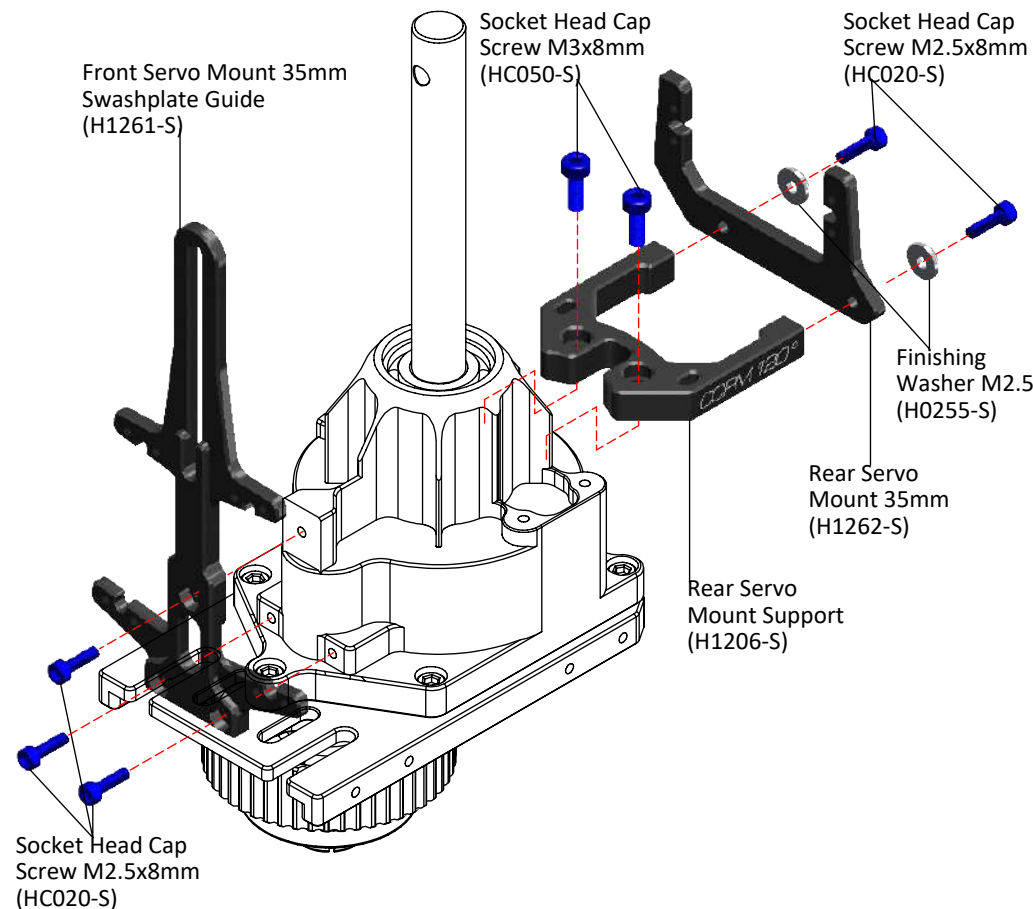


TRANSMISSION GROUP ASSEMBLED AND VERIFIED

The unit is ready to use
Check page 40 for more information.



FOAM 1, BAG 2



STANDARD SIZE SERVOS

Standard size servos can be used [p/n H1217-S & H1207-S]
(not included in the KIT)



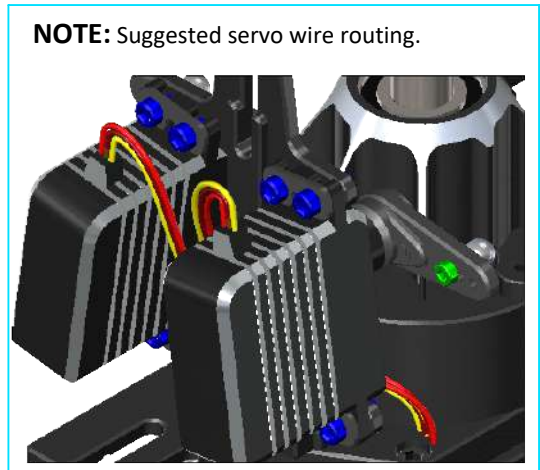
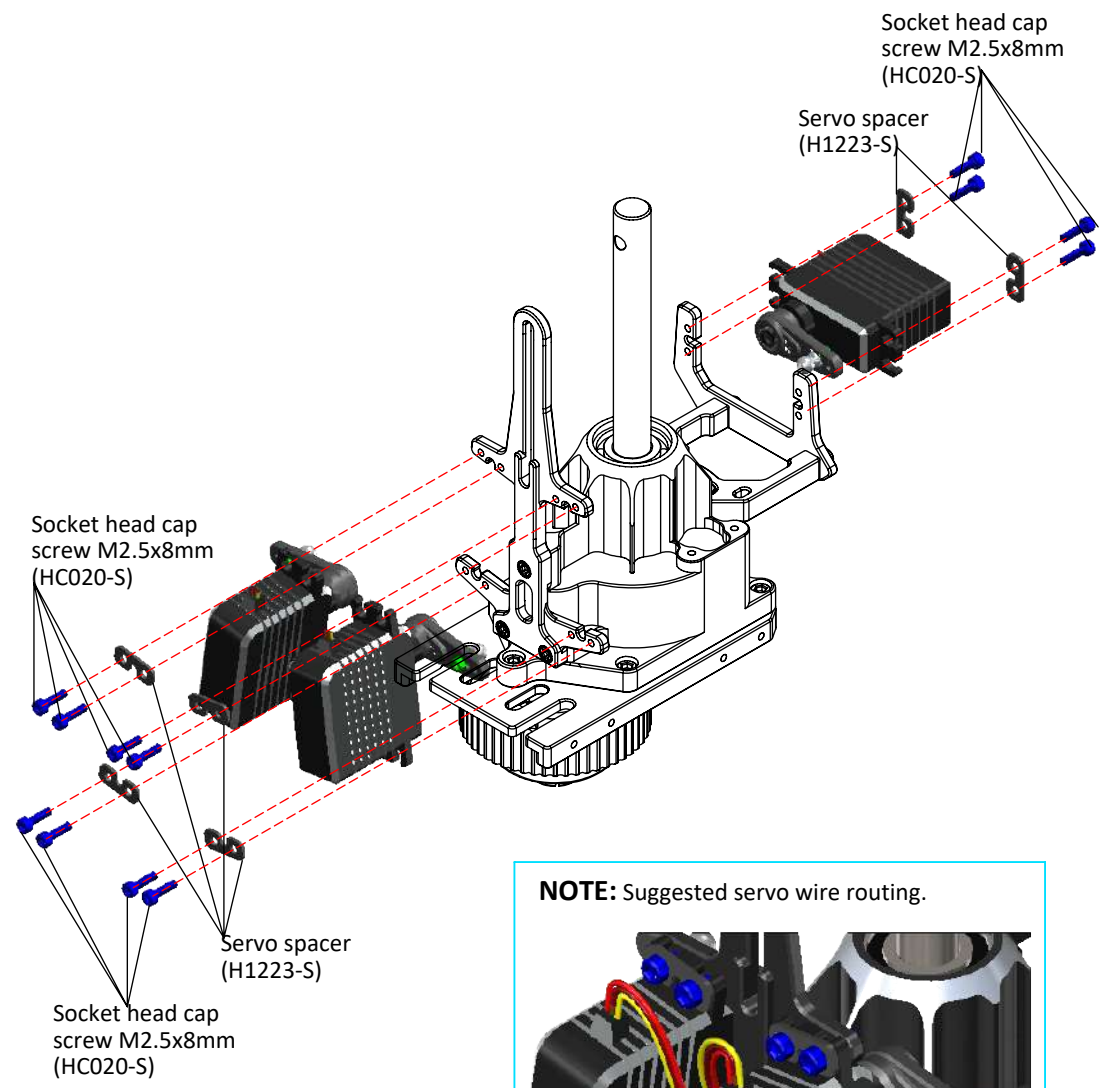
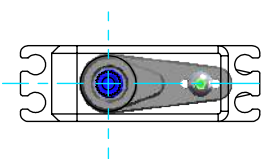
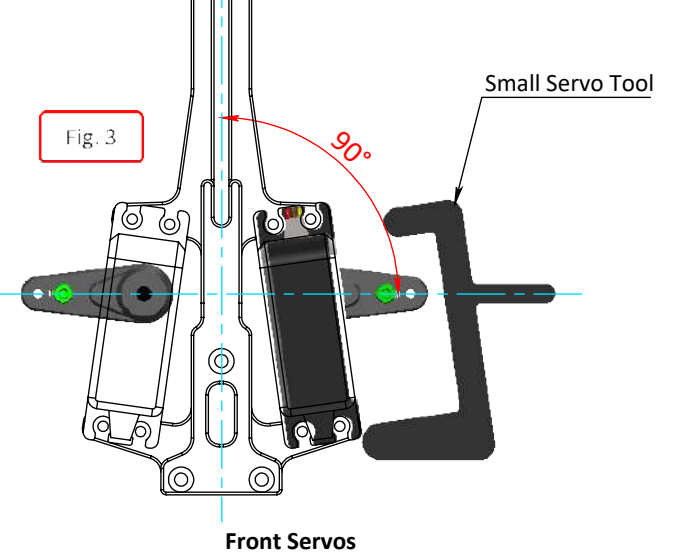
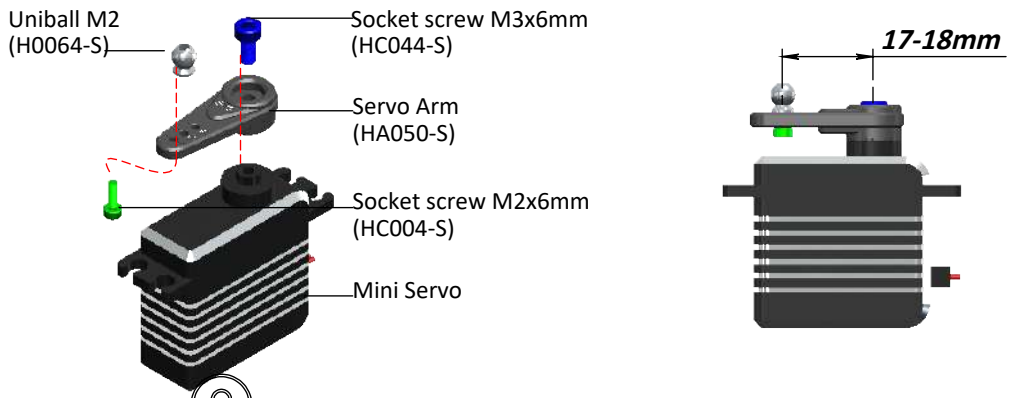
BAG 3

SERVO ASSEMBLY

The linkage ball must be positioned 17-18 mm out on the servo arm. The recommended servo arm to use is: SAB p/n [HA050/HA051].

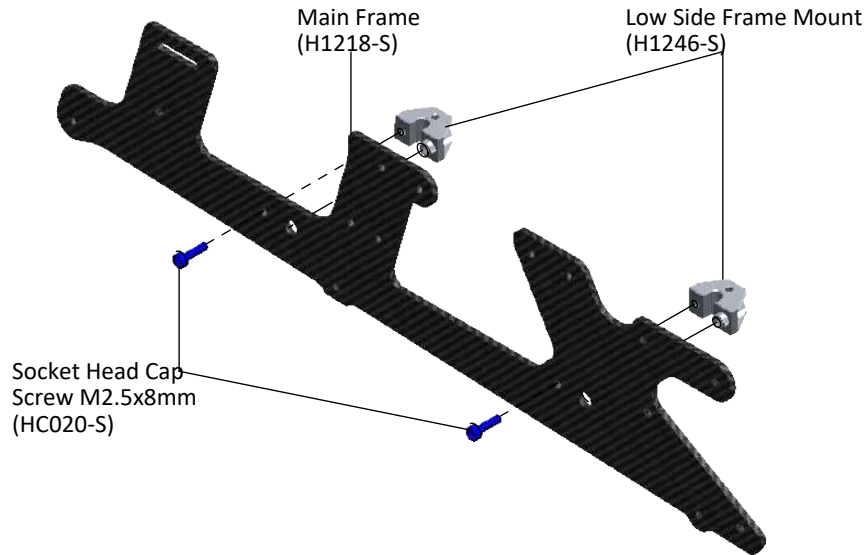
Ensure the alignment of the servo arms (and sub trim set) before installing the servos in the model.

Proceed with installation following the instructions below. You can use the G10 servo tool to align the front servo arms with the theoretical horizontal line. **(Figure 3)**

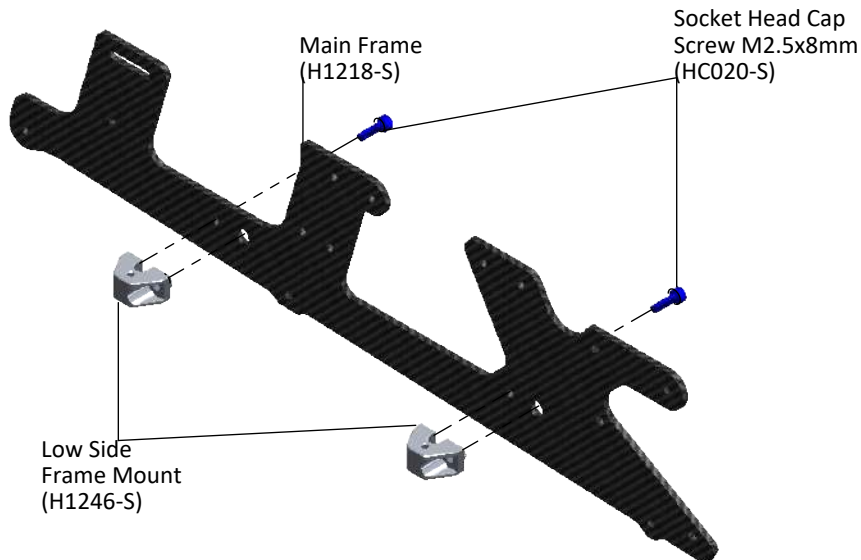


BAG4.0, BAG4.1

RIGHT FRAME ASSEMBLY

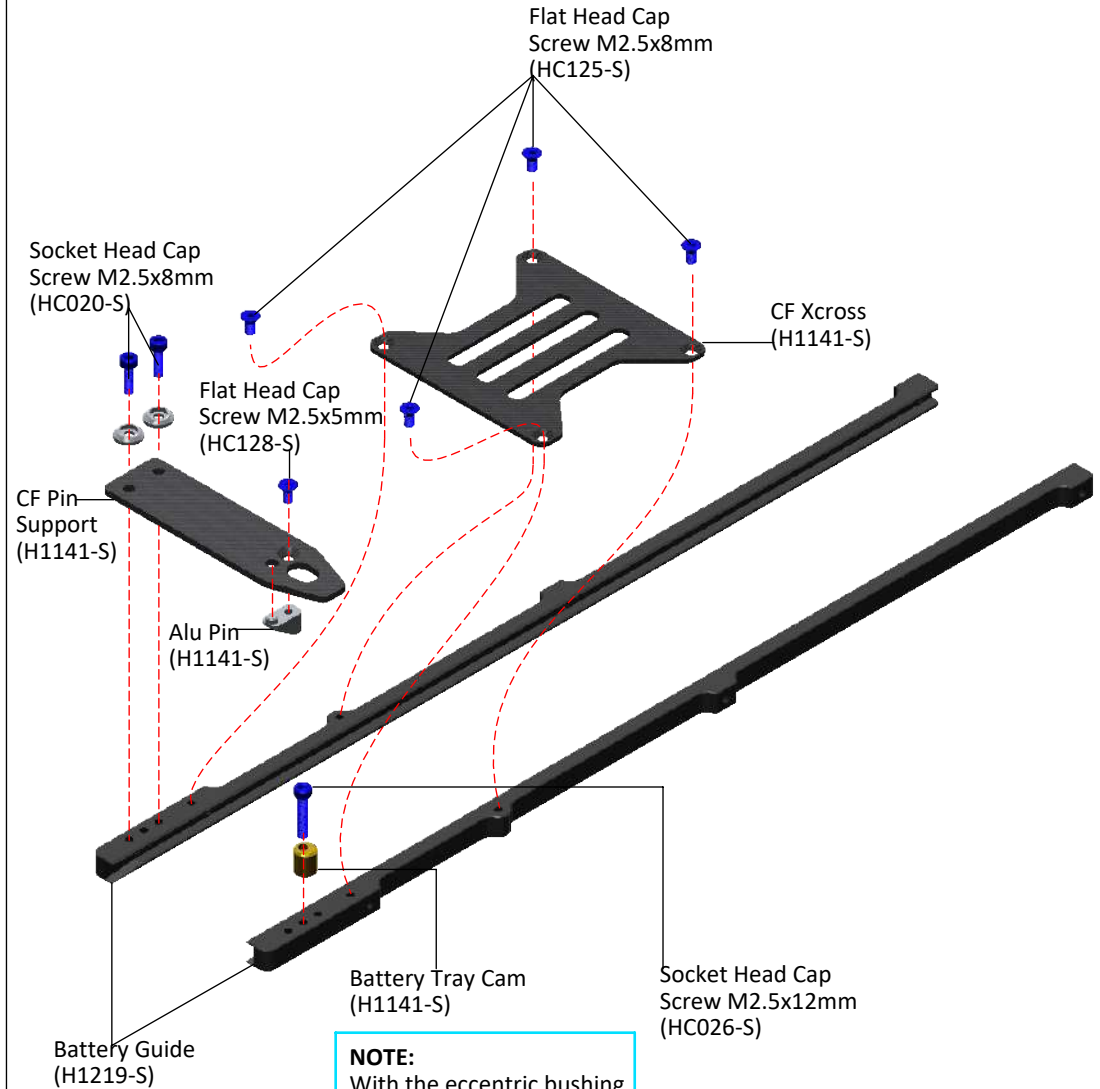


LEFT FRAME ASSEMBLY



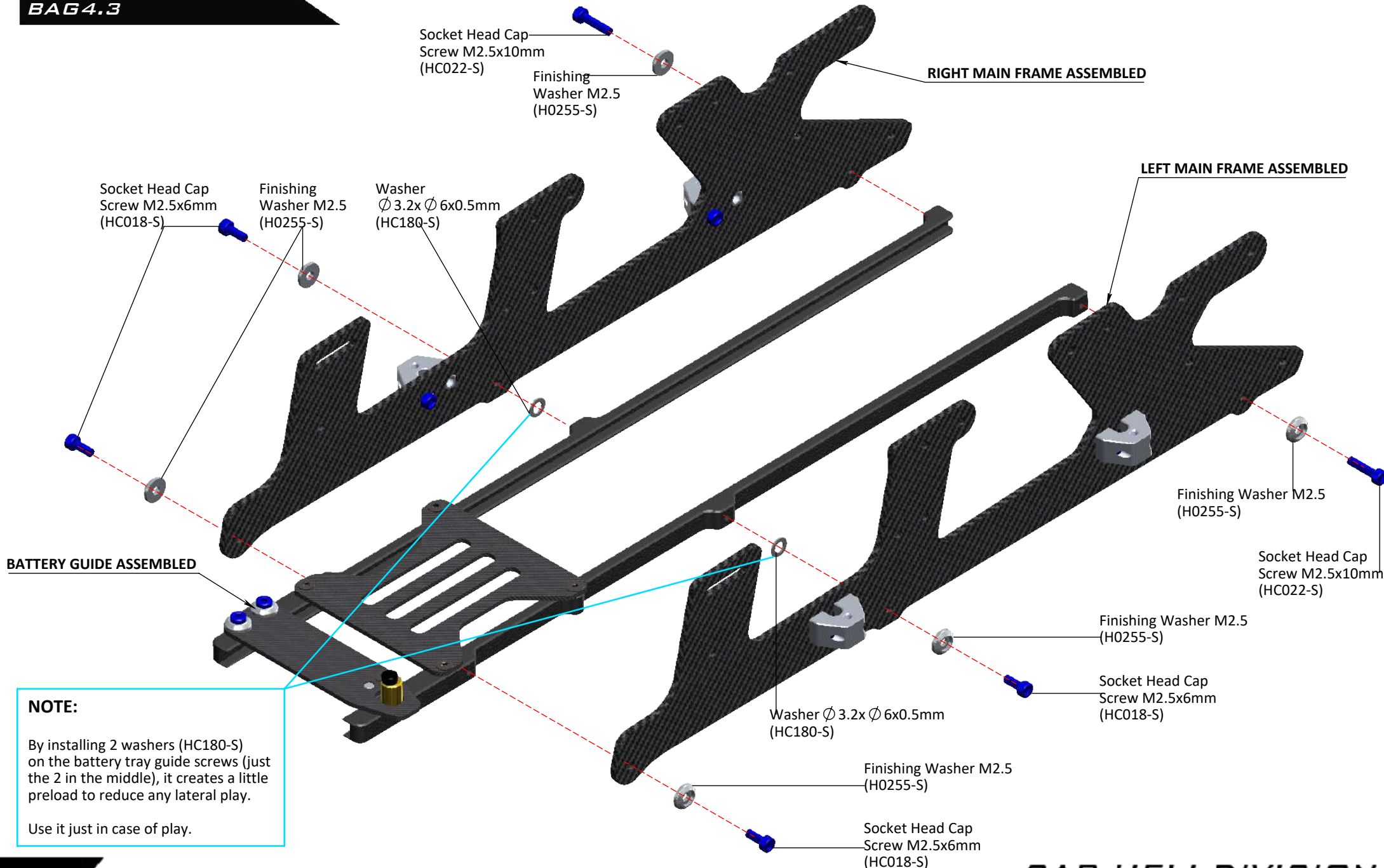
BAG4.2

BATTERY GUIDE ASSEMBLY

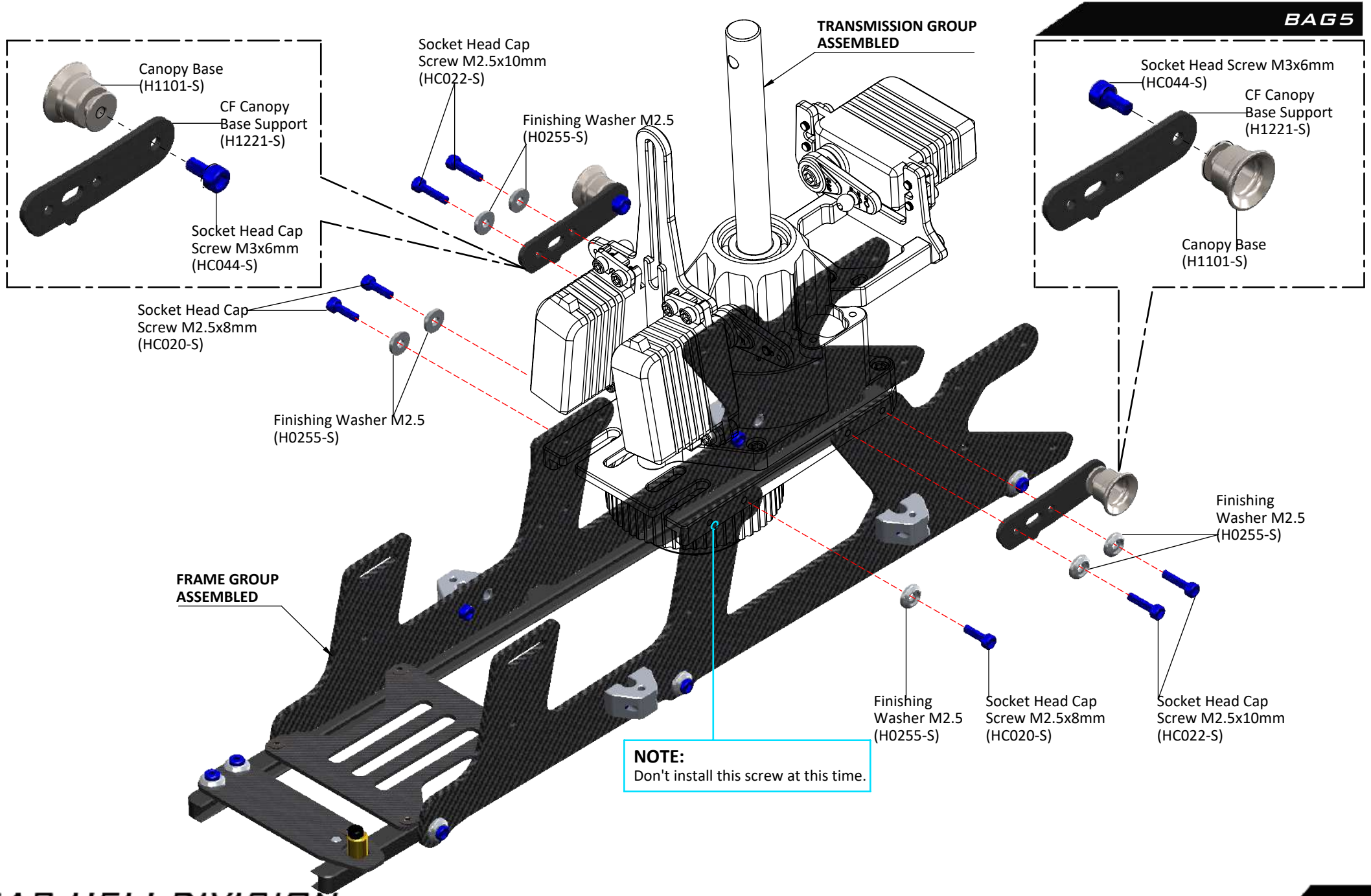


NOTE:
With the eccentric bushing, you can adjust the play of the battery tray.

BAG4.3

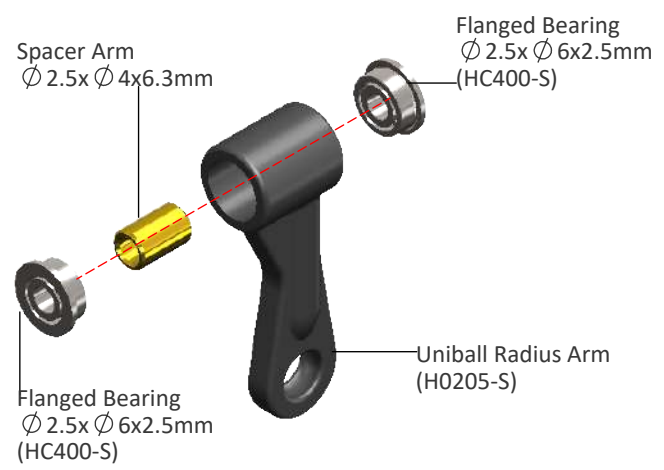


NOTE:
 By installing 2 washers (HC180-S) on the battery tray guide screws (just the 2 in the middle), it creates a little preload to reduce any lateral play.
 Use it just in case of play.

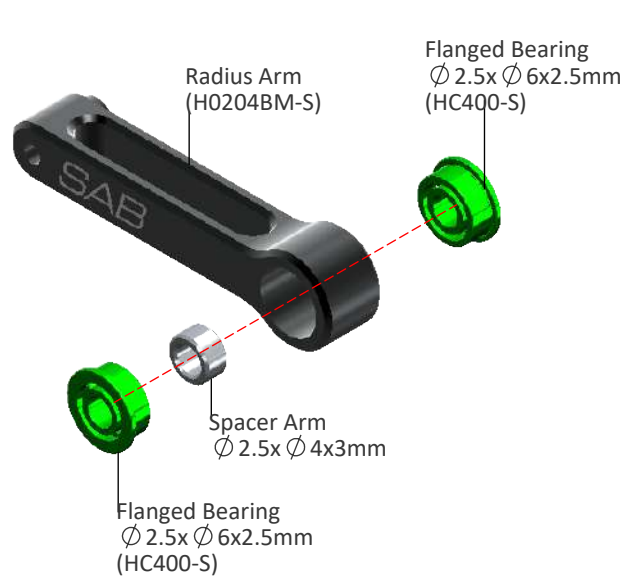


FOAM 2, BAG 6

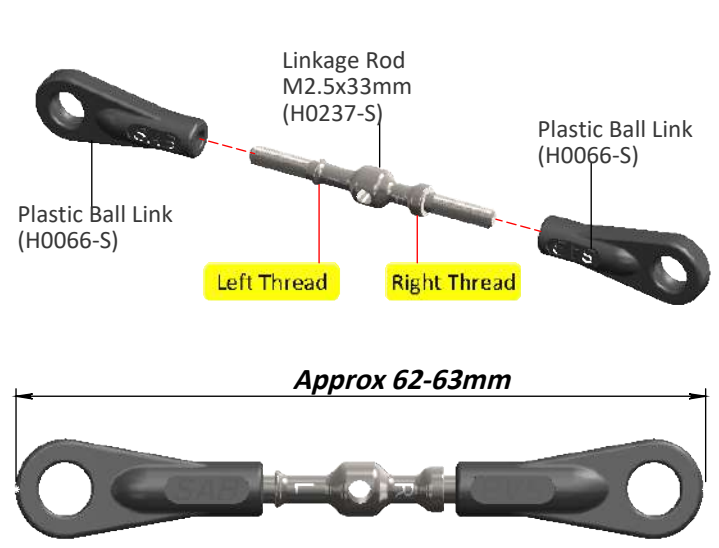
UNIBALL RADIUS ARM ASSEMBLY ...X2



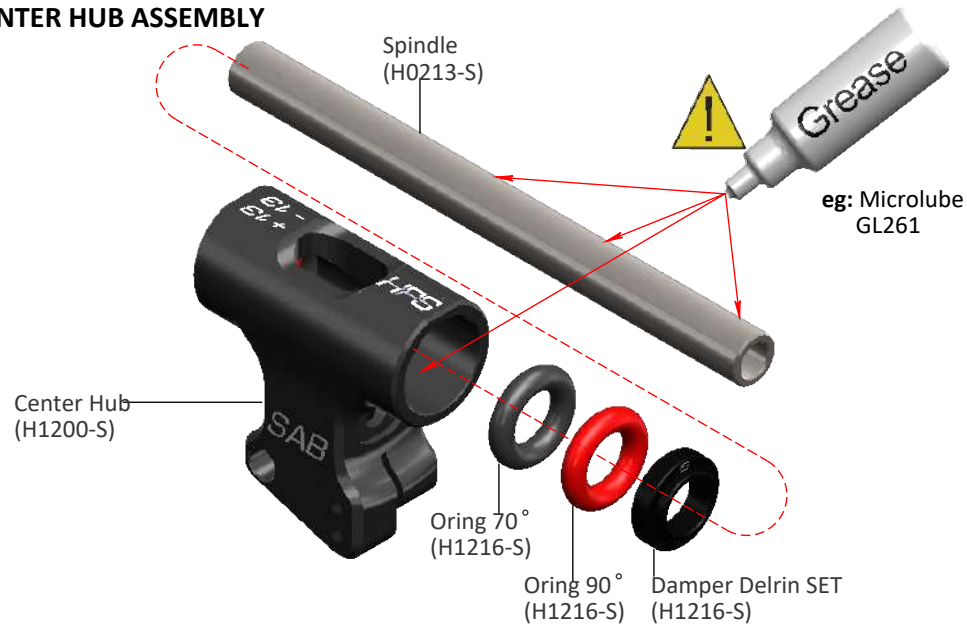
RADIUS ARM ASSEMBLY ...X2



LINKAGE ROD ASSEMBLY ...X2

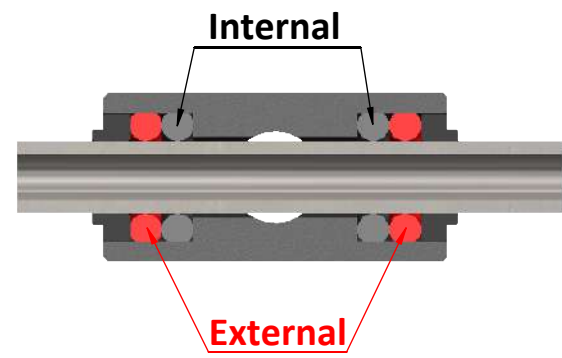


CENTER HUB ASSEMBLY

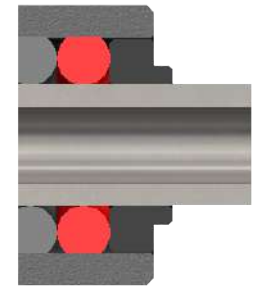


O-RING SET UP

- Internal = 70°, External = 90° → Sport & 3D flight.
- Internal = 90°, External = 90° → Hard 3D.



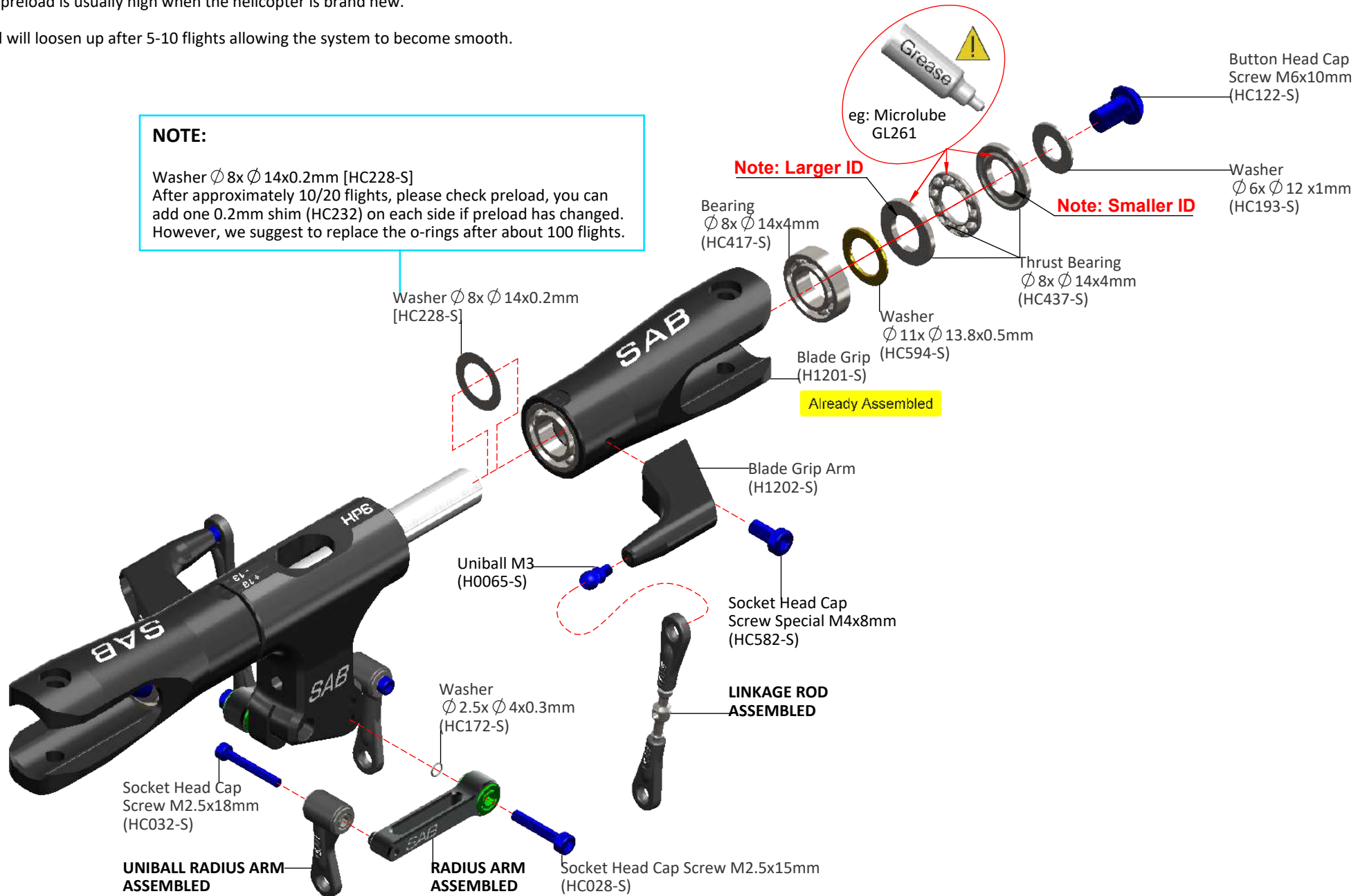
NOTE: The small lip faces out towards the blade grip.



It is a normal (especially with the 90° + 90° O-ring set-up) to feel tight after initial assembly as the axial preload is usually high when the helicopter is brand new.

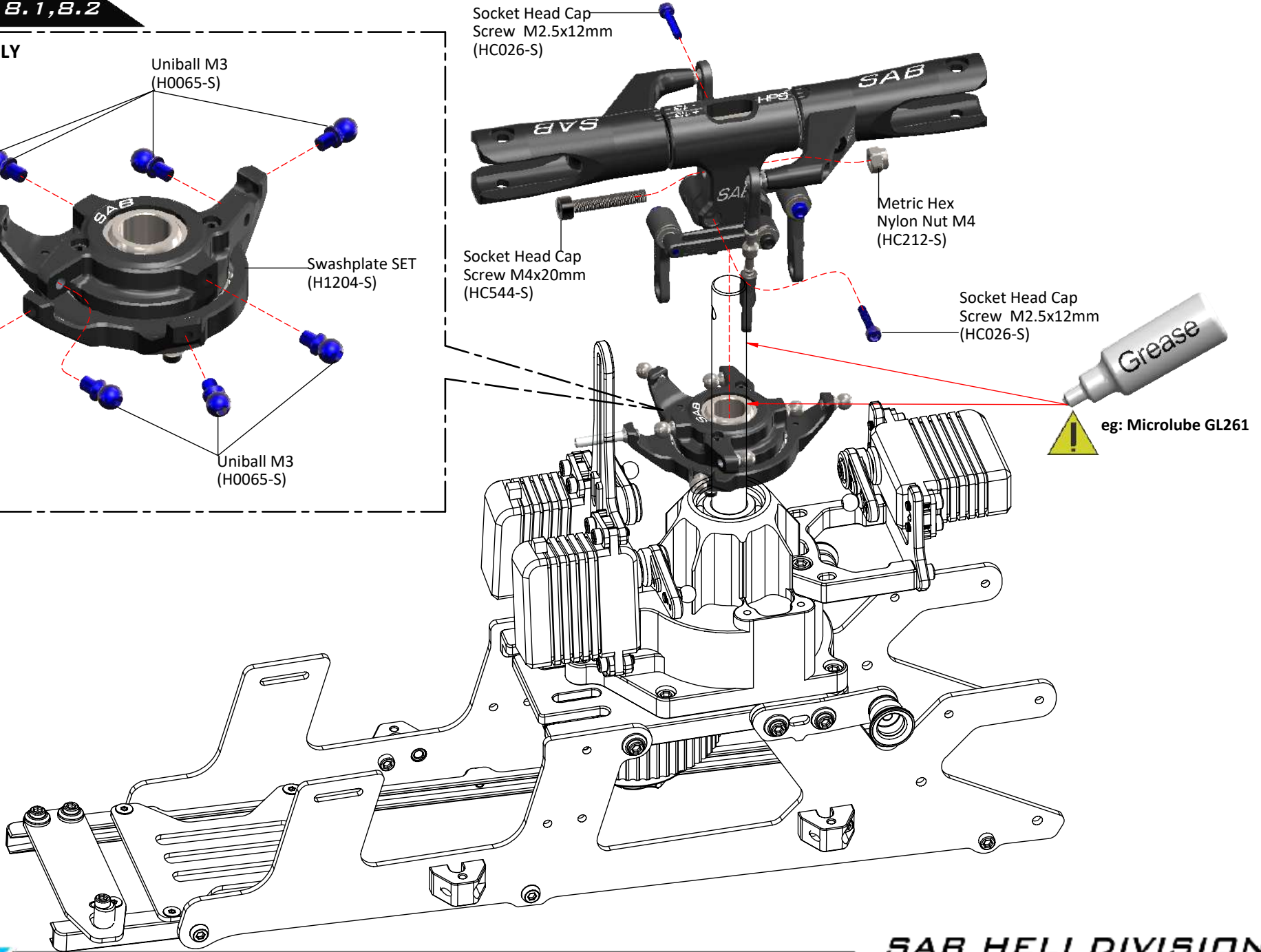
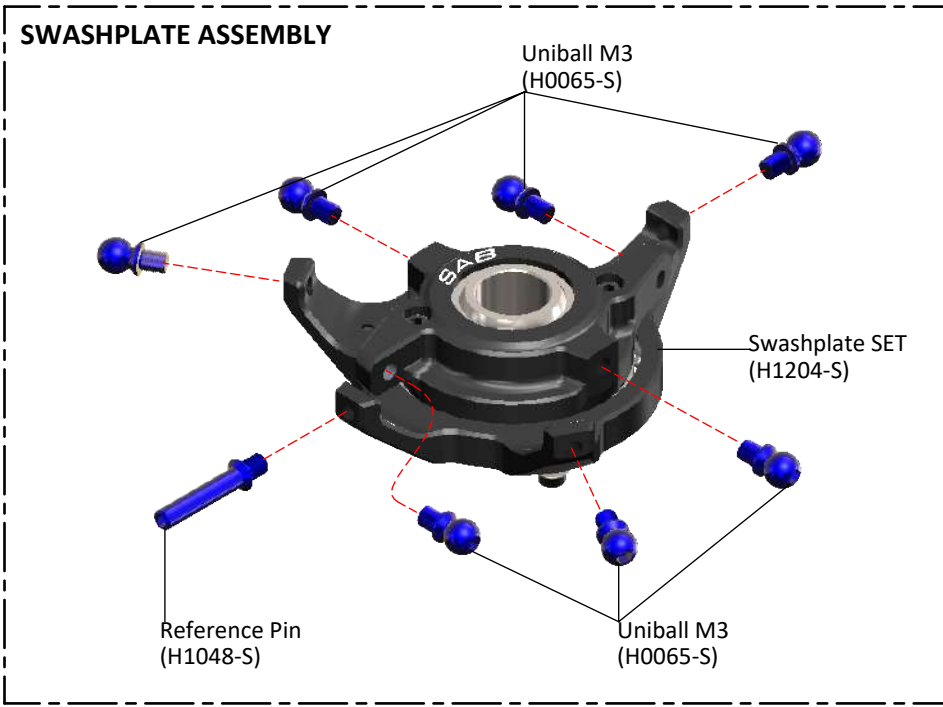
The preload will loosen up after 5-10 flights allowing the system to become smooth.

NOTE:
 Washer $\phi 8 \times \phi 14 \times 0.2 \text{mm}$ [HC228-S]
 After approximately 10/20 flights, please check preload, you can add one 0.2mm shim (HC232) on each side if preload has changed. However, we suggest to replace the o-rings after about 100 flights.



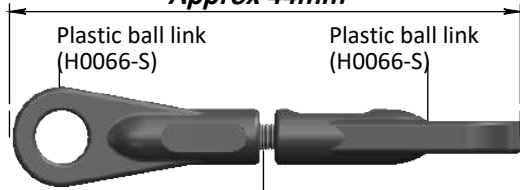
FOAM 2, BAGs 8.1,8.2

SWASHPLATE ASSEMBLY



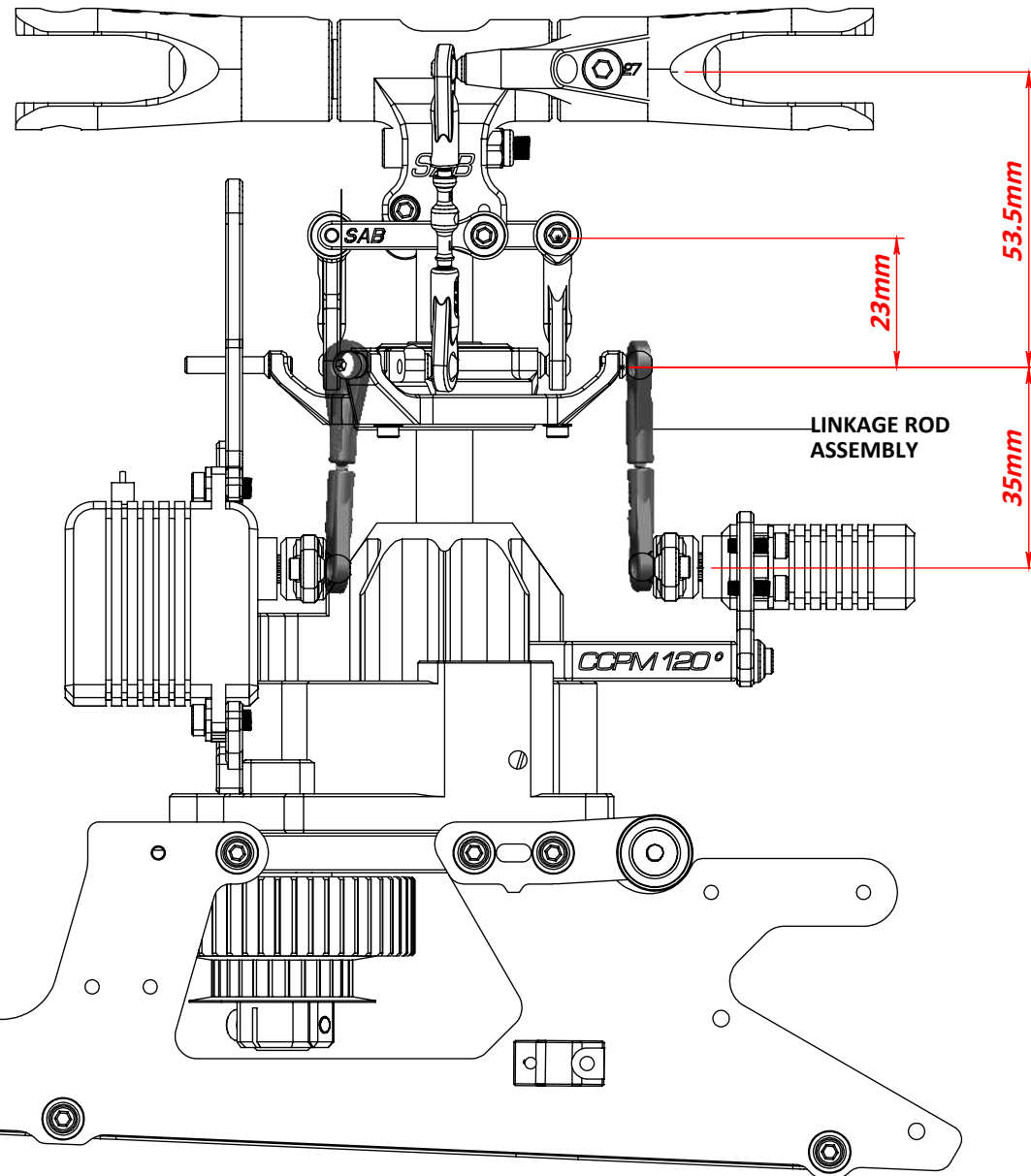
LINKAGE ROD ASSEMBLY ... x3

Approx 44mm



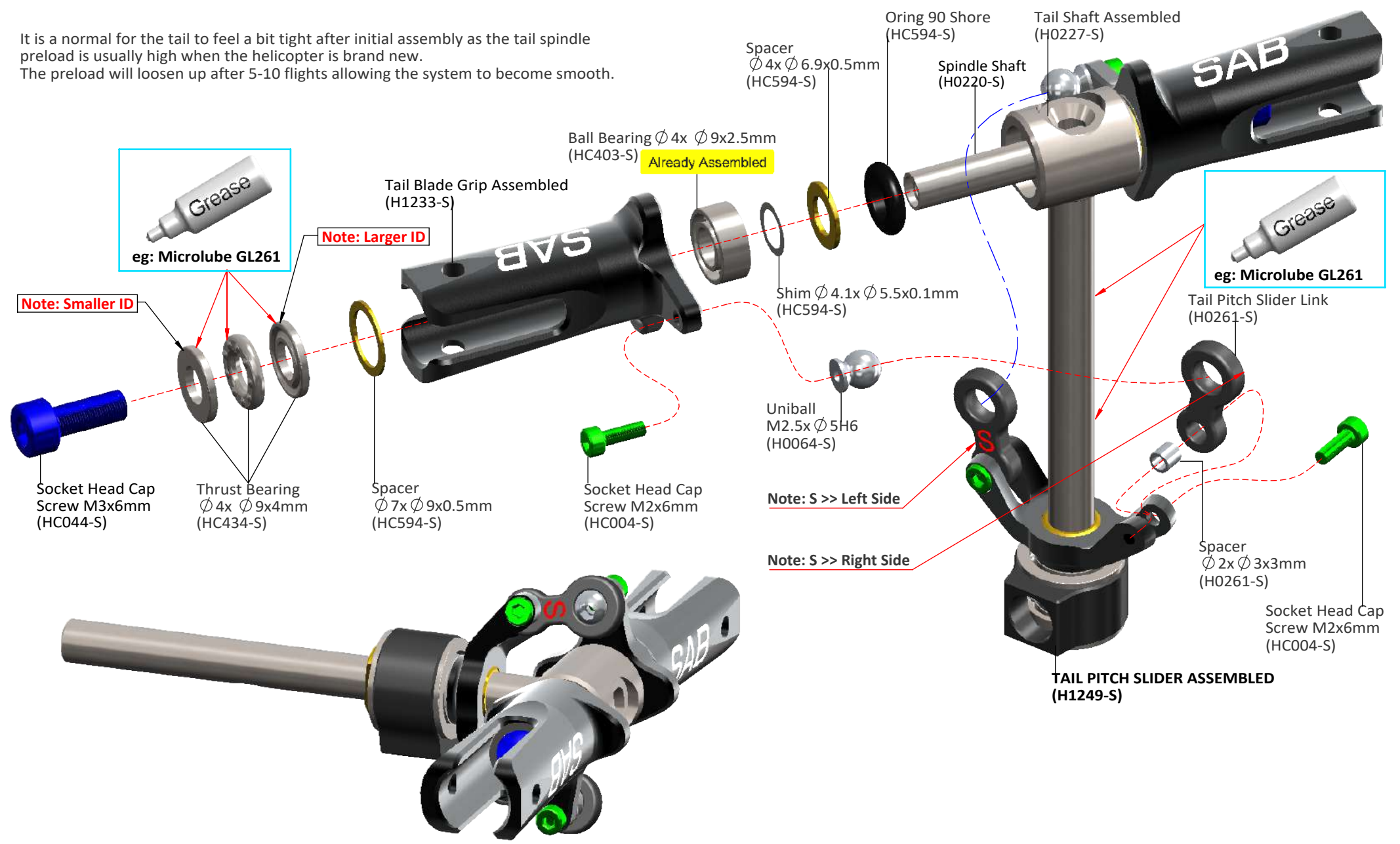
Set Screw M2.5x18mm
(HC140-S)

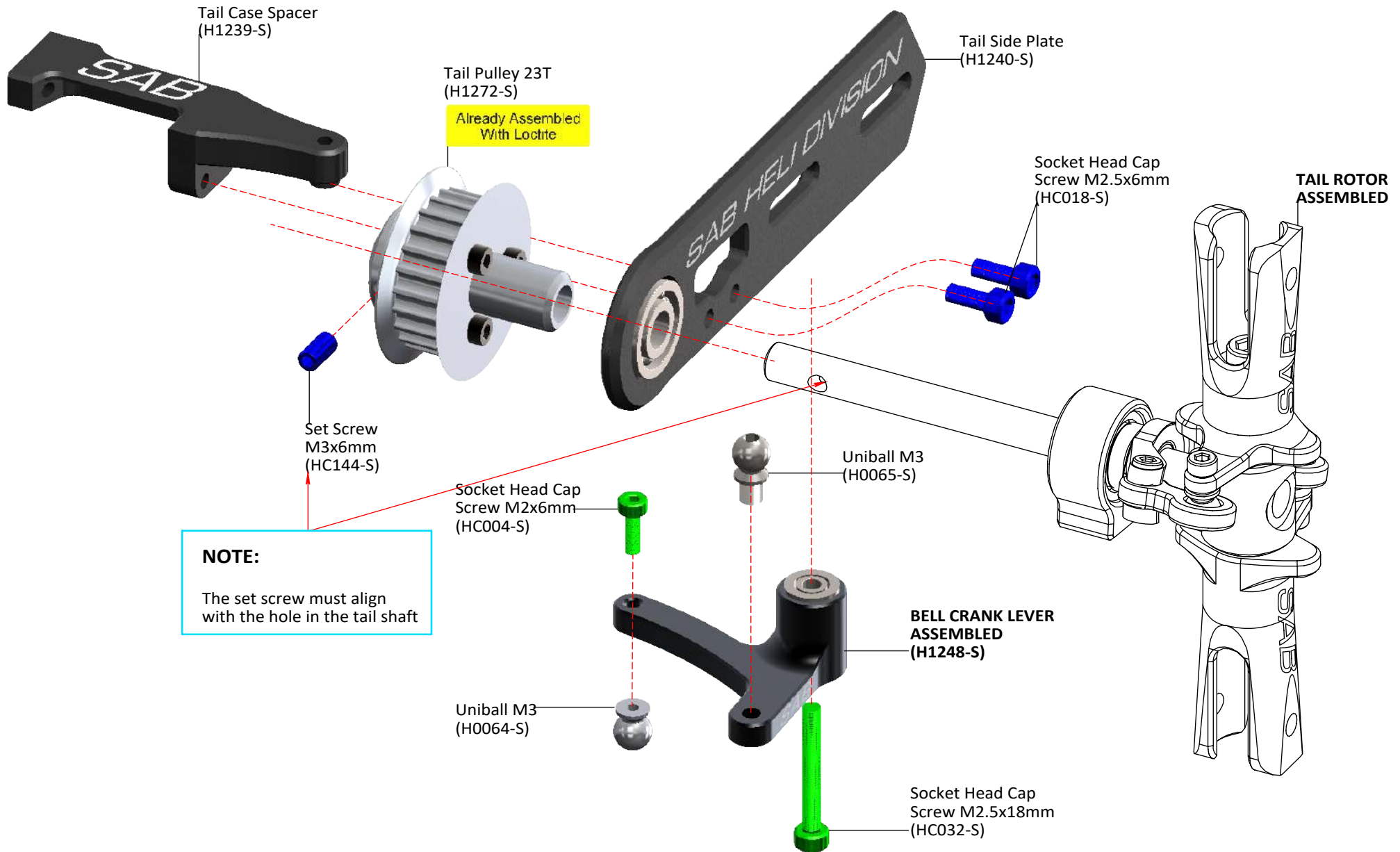
Initial length for the rods from the servos to the swash plate.



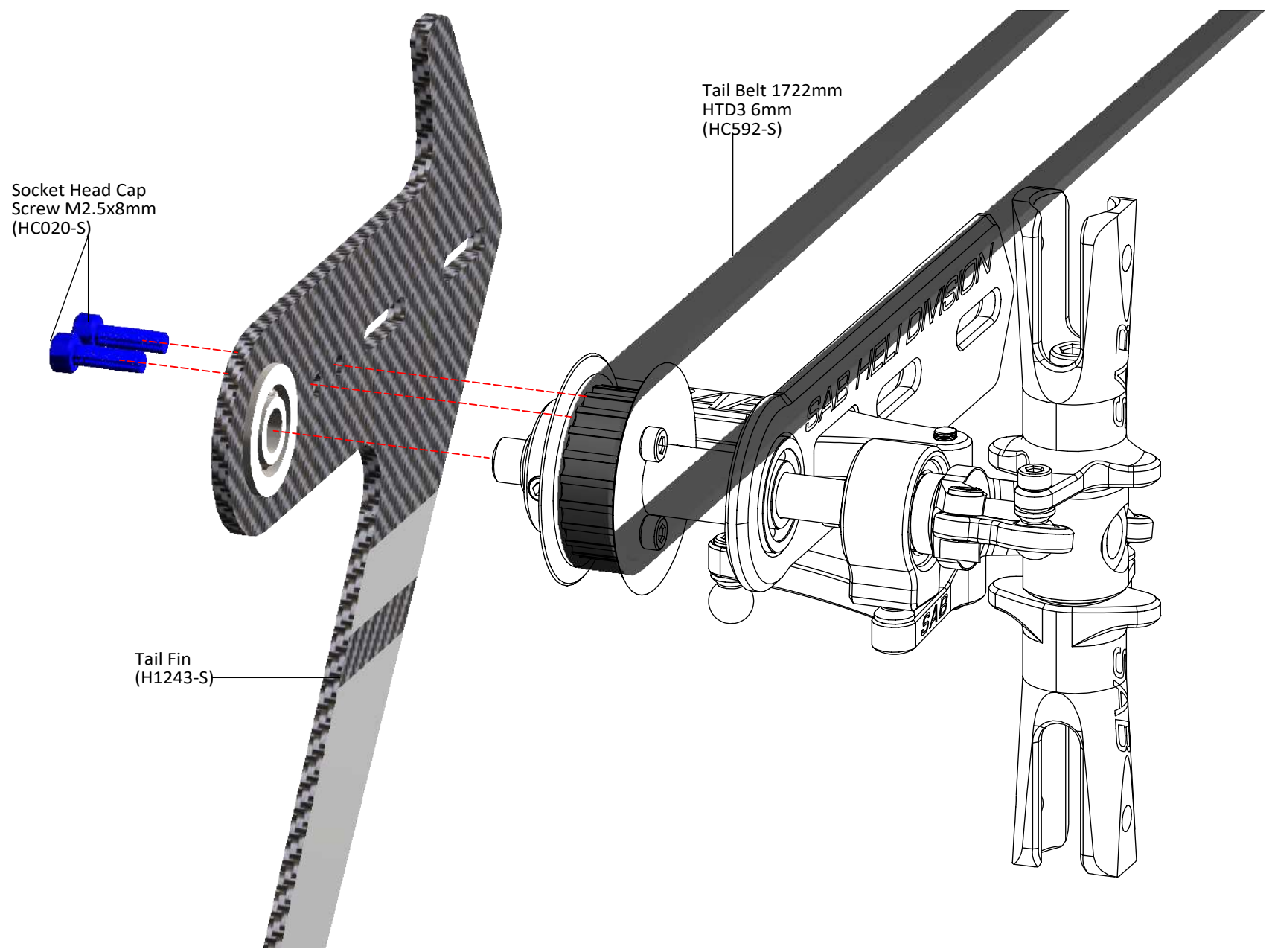
FOAM 2, BAG 9

It is normal for the tail to feel a bit tight after initial assembly as the tail spindle preload is usually high when the helicopter is brand new. The preload will loosen up after 5-10 flights allowing the system to become smooth.

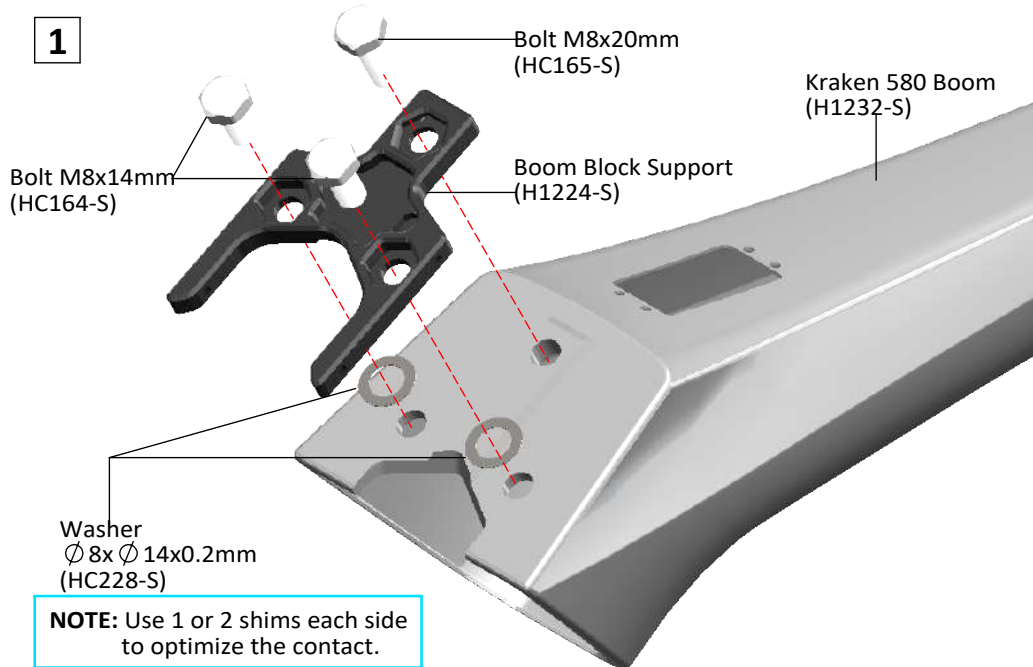




BAG 1 1

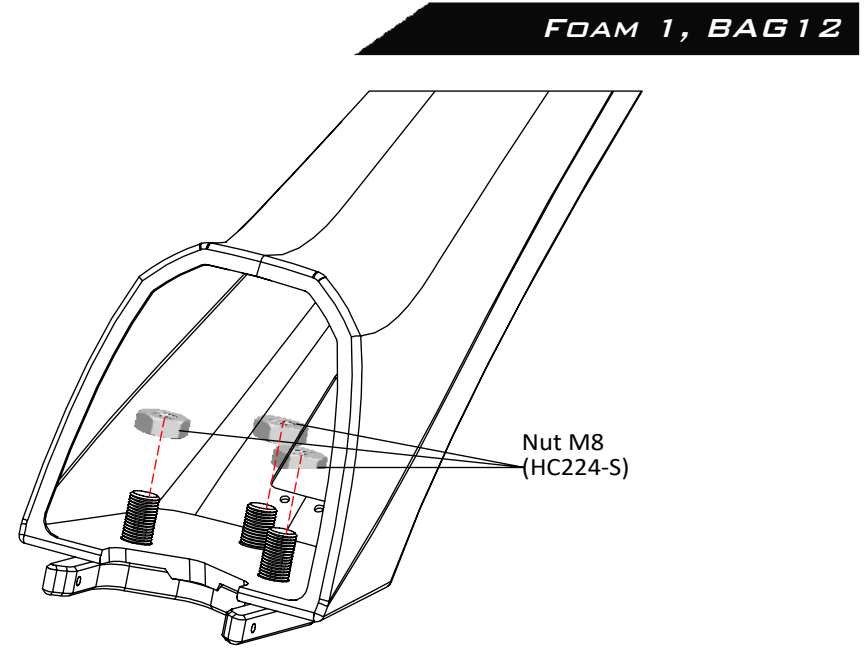


1

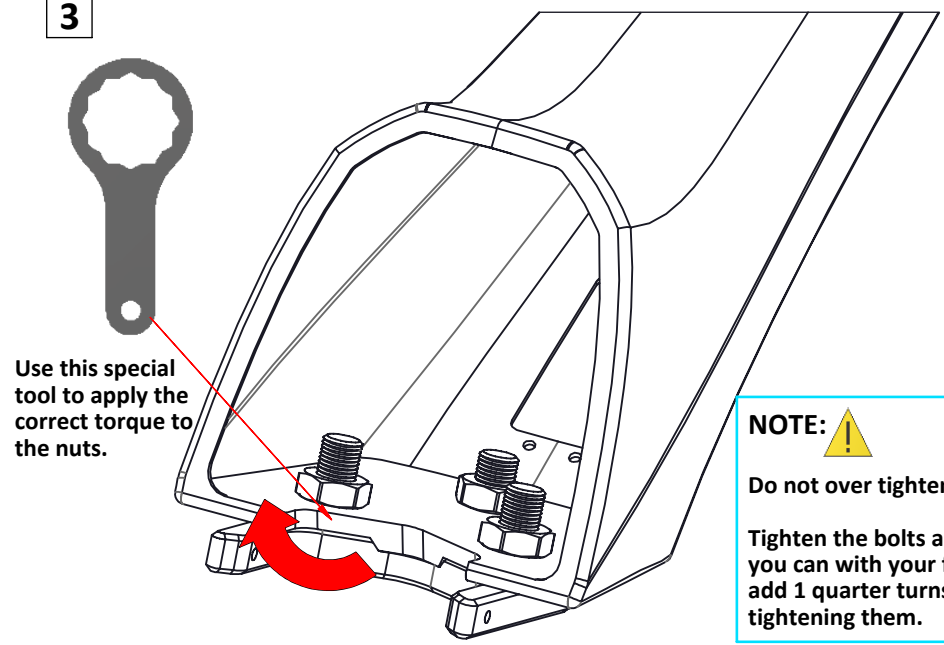


NOTE: Use 1 or 2 shims each side to optimize the contact.

2

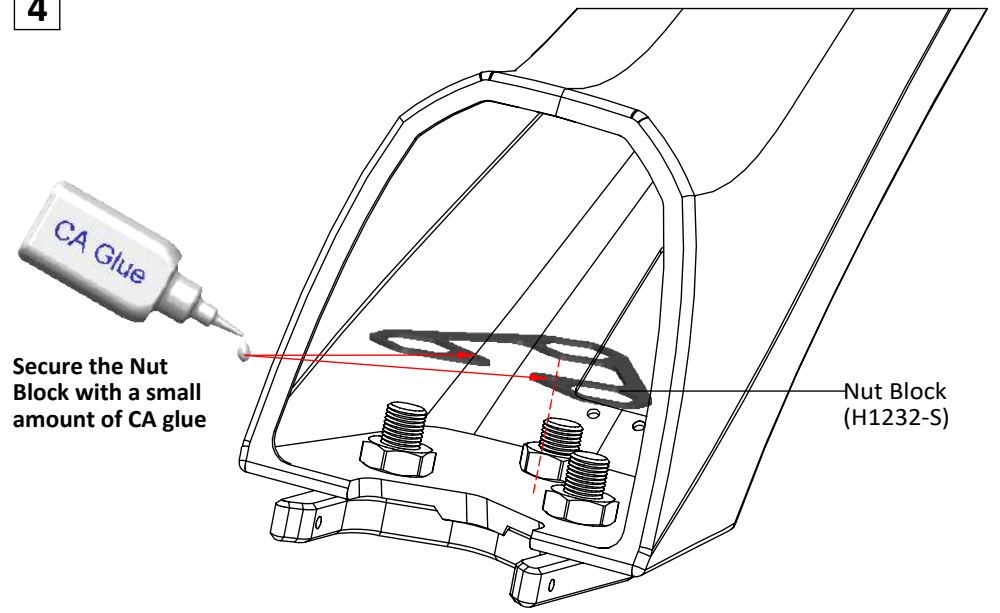


3

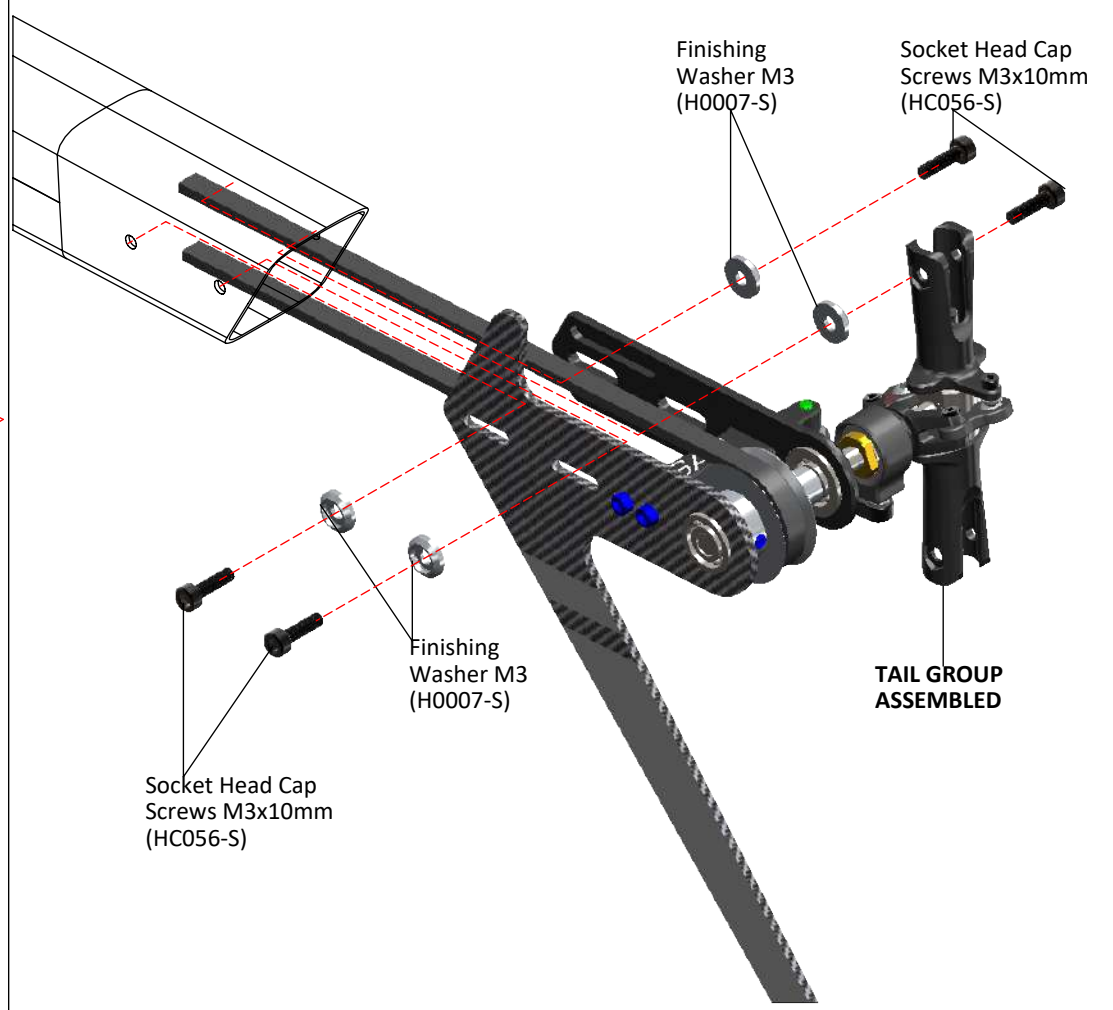
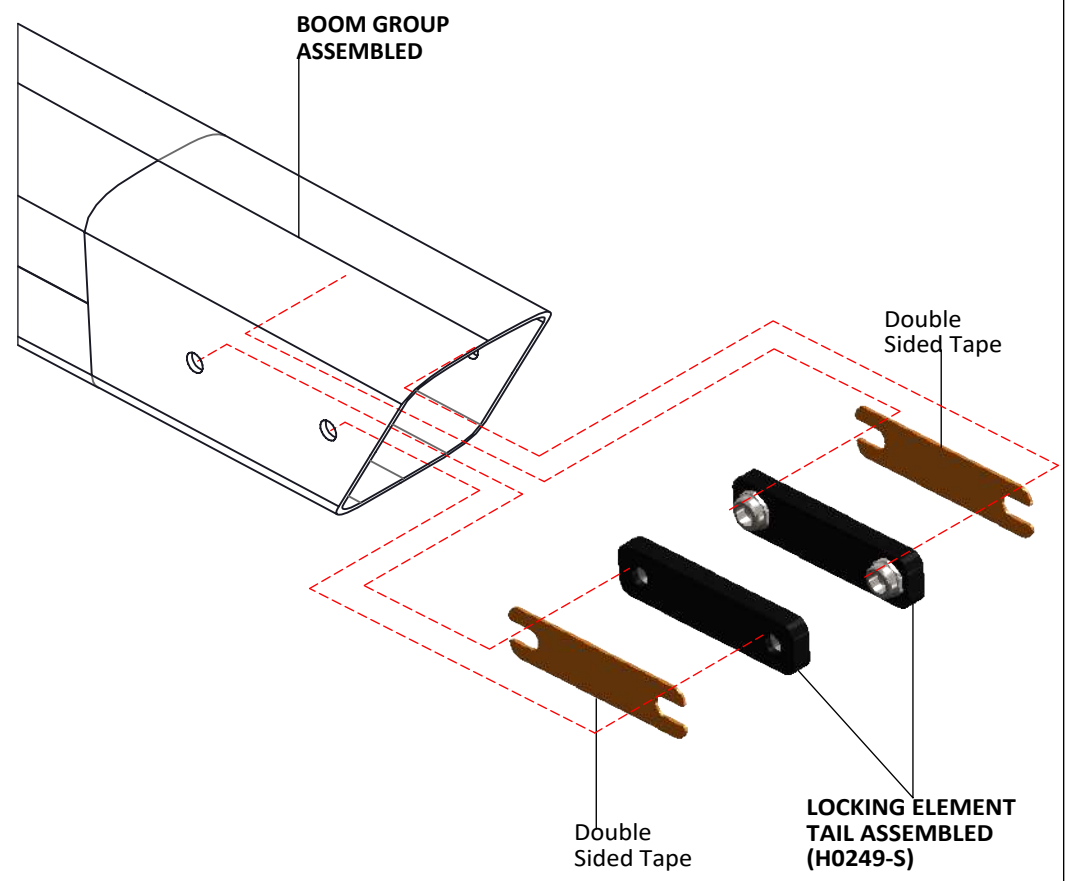


NOTE: ⚠
Do not over tighten the nuts.
Tighten the bolts as tight as you can with your fingers, then add 1 quarter turns to finish tightening them.

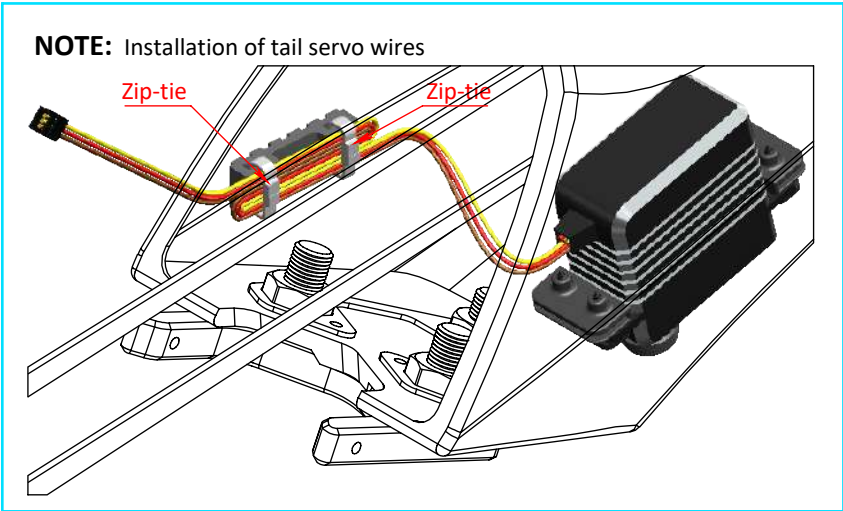
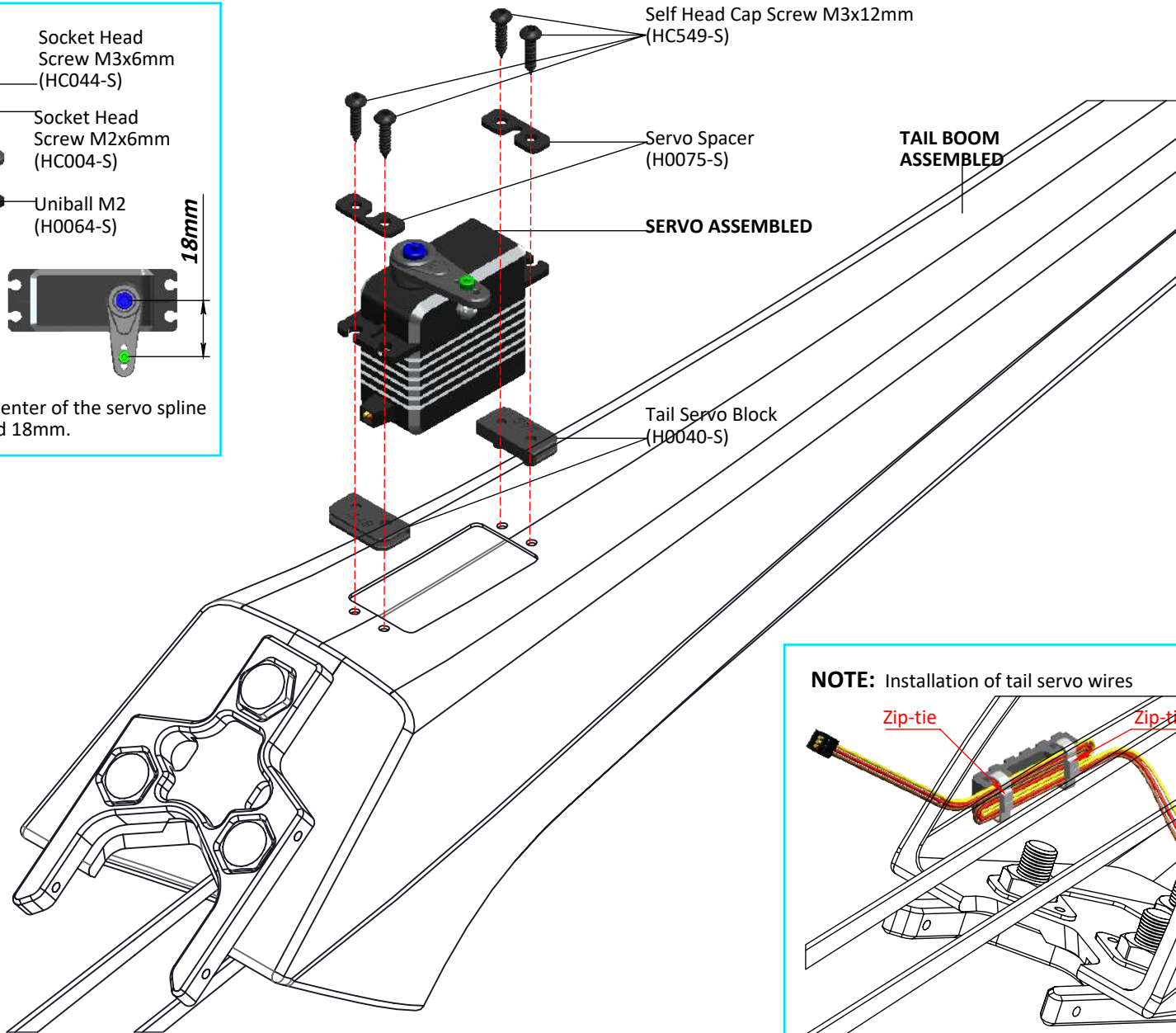
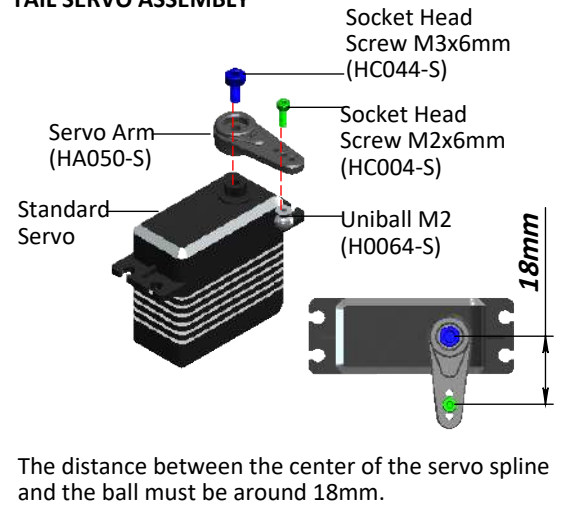
4




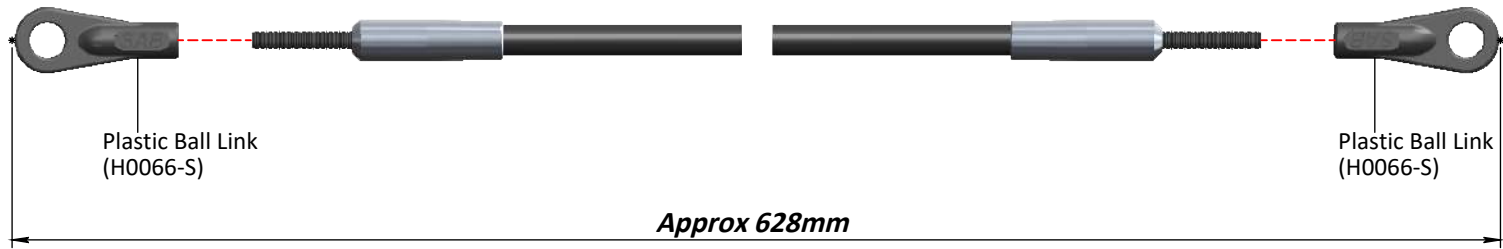
BAG 13



TAIL SERVO ASSEMBLY



 Before installing the plastic link on the threaded rod, be sure that you have waited at least 12 hours for the glue to fully cure.

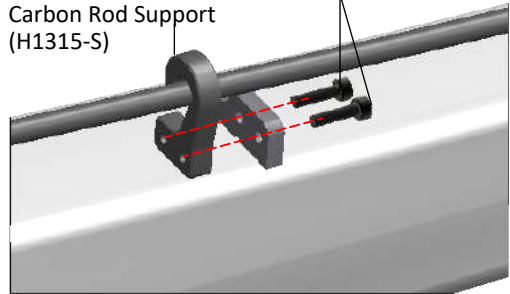


NOTE:
Before installing the plastic link onto the ball, be sure the tail push rod moves smoothly. You can open up H1315-S if you need to.

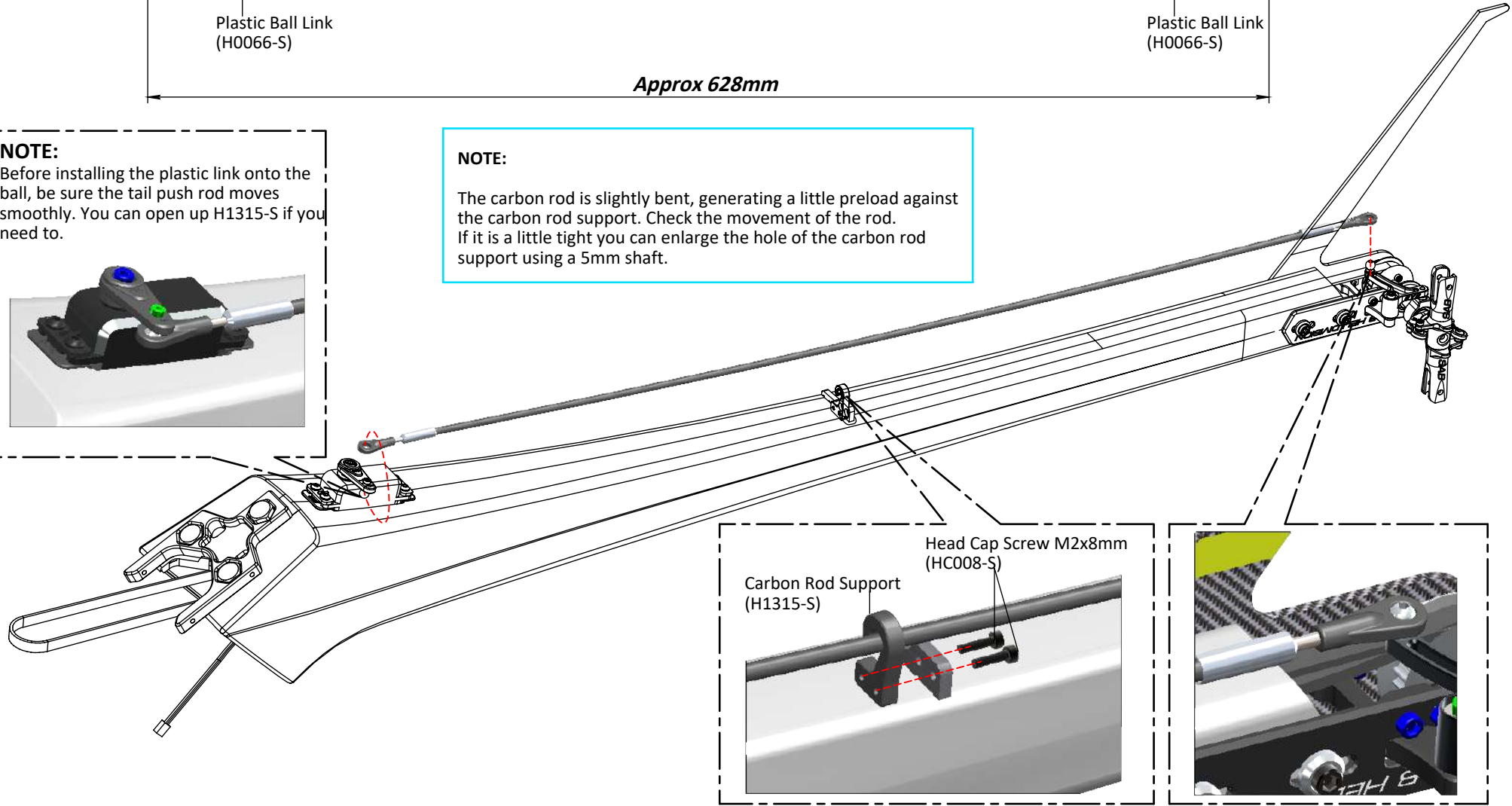


This note and image provide instructions on ensuring the tail push rod moves smoothly before installing the plastic link. The image shows a close-up of the tail push rod assembly with a red dashed circle highlighting the area where the plastic link will be attached.

NOTE:
The carbon rod is slightly bent, generating a little preload against the carbon rod support. Check the movement of the rod. If it is a little tight you can enlarge the hole of the carbon rod support using a 5mm shaft.



This note and image provide instructions on ensuring the carbon rod is properly preloaded. The image shows a close-up of the carbon rod support (H1315-S) with a red dashed circle highlighting the hole where the carbon rod is inserted.



It is important to choose the right reduction ratio to maximize efficiency based on your required flight performance.
 It is recommended to use wiring and connectors appropriate for the currents generated in a helicopter of this class.
 If you are using a head speed calculator which requires a main gear and pinion tooth count, use 207 teeth for the main gear
 (this takes into account the two stage reduction) and the tooth count of your pulley as the pinion count.

BELOW IS A LIST OF AVAILABLE REDUCTION RATIOS:

- | | | | |
|--|--|---|---|
| H0015-18-S - 18T Pinion = ratio 11.5:1 | H0015-20-S - 20T Pinion = ratio 10.3:1 | H0015-22-S - 22T Pinion = ratio 9.4:1 | H0015-24-S - 24T Pinion = ratio 8.6:1 |
| H0015-19-S - 19T Pinion = ratio 10.9:1 | H0015-21-S - 21T Pinion = ratio 9.8:1 | H0015-23-S - 23T Pinion = ratio 9.0:1 | H0015-25-S - 25T Pinion = ratio 8.3:1 |
| | | | H0015-26-S - 26T Pinion = ratio 8.0:1 |

These are pulleys for motors with a 6 mm shaft. Each pulley includes an adapter for motors with a 5 mm shaft.

GOBLIN KRAKEN 580 CONFIGURATIONS (BLADES 570mm)					
BATTERY	MOTOR	ESC	Pulley (A, B)	RPM Max (A, B)	Pitch
6S-5500 mAh (5000/5500 mAh)	Kontronik Pyro 650-103 L	HW 120A V4 Scorpion Tribunus II 06-120A KOLIBRI 140 LV-I YGE 135LVT PHOENIX EDGE 130	23T / 24T	2350 / 2460	
	HKIV-4025-1100KV (6mm) X-NOVA 4025-1120 Kv		22T / 23T	2420 / 2520	± 13
	EGODRIFT Tengu 4025HT/1190kV		21T / 22T	2450 / 2550	
12S-3000 mAh (2800/3200 mAh)	HKIV-4025-520KV (6mm) X-NOVA 4025-560	HW 130A V4 Scorpion Tribunus 12-130A KOLIBRI 140 HV-I YGE Aureus 135 PHOENIX EDGE LITE 130	23T / 24T	2550 / 2650	± 13
	EGODRIFT Tengu 4025HS/550kV				
	Pyro 650-62 L		21T / 22T	2550 / 2650	

NOTE: For safety reason we recommend not exceeding 2600 RPM.

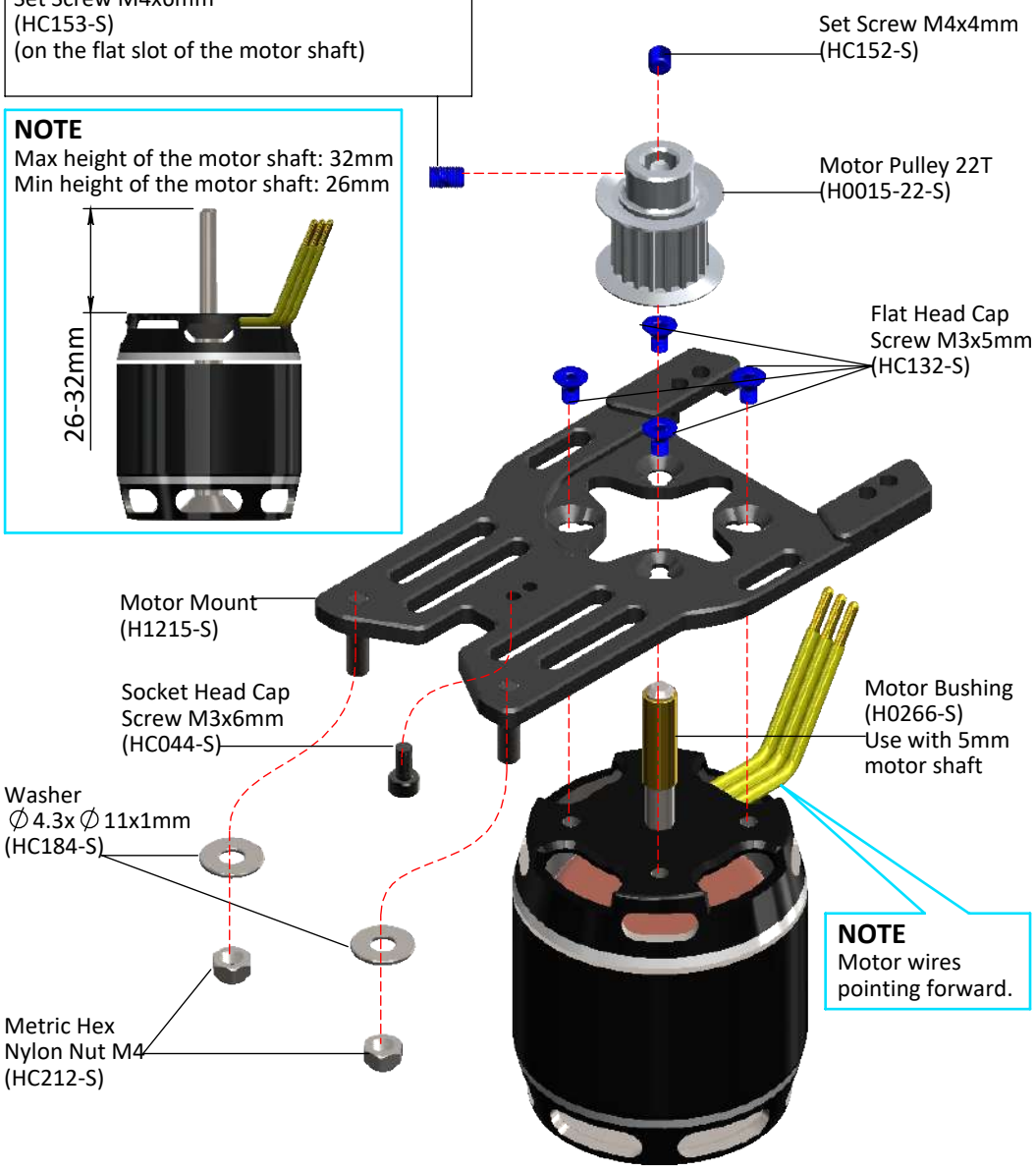
When using 600mm main blades, we recommend a reduction of about 100 RPMs. We also recommend going down one tooth on the motor pulley for better governing.

NOTE: When using 600mm main blades, we recommend not exceeding 2500 RPM for safety reasons.

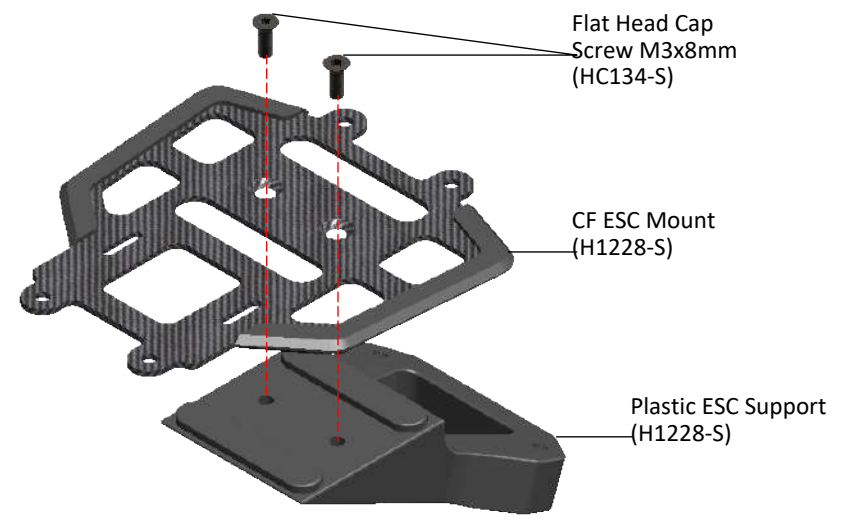
FOAM 1, BAG 16

Set Screw M4x6mm (HC153-S)
(on the flat slot of the motor shaft)

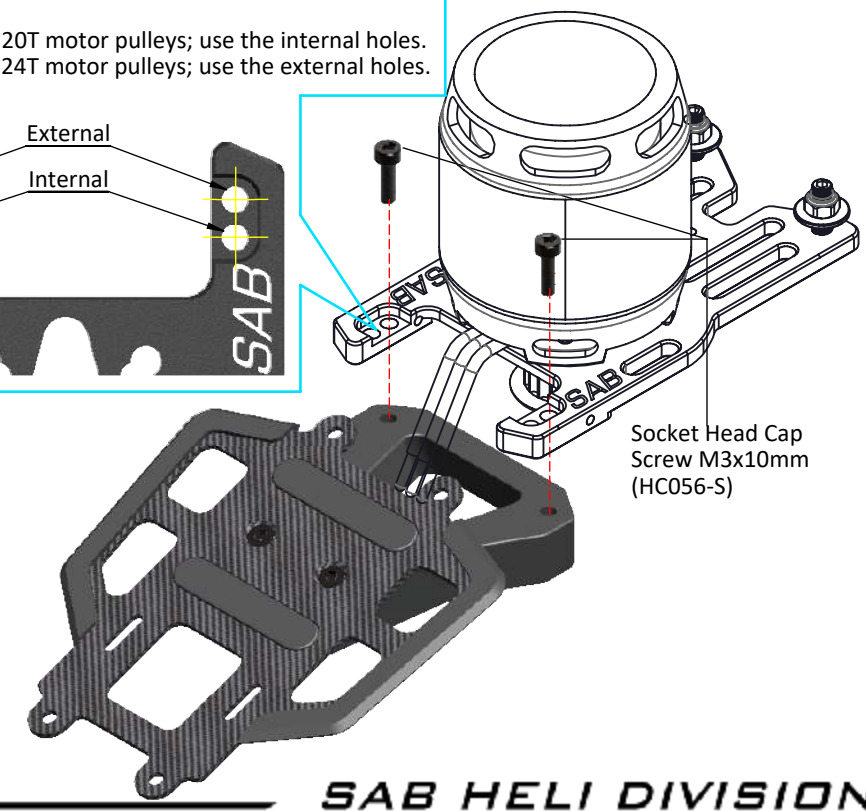
NOTE
Max height of the motor shaft: 32mm
Min height of the motor shaft: 26mm

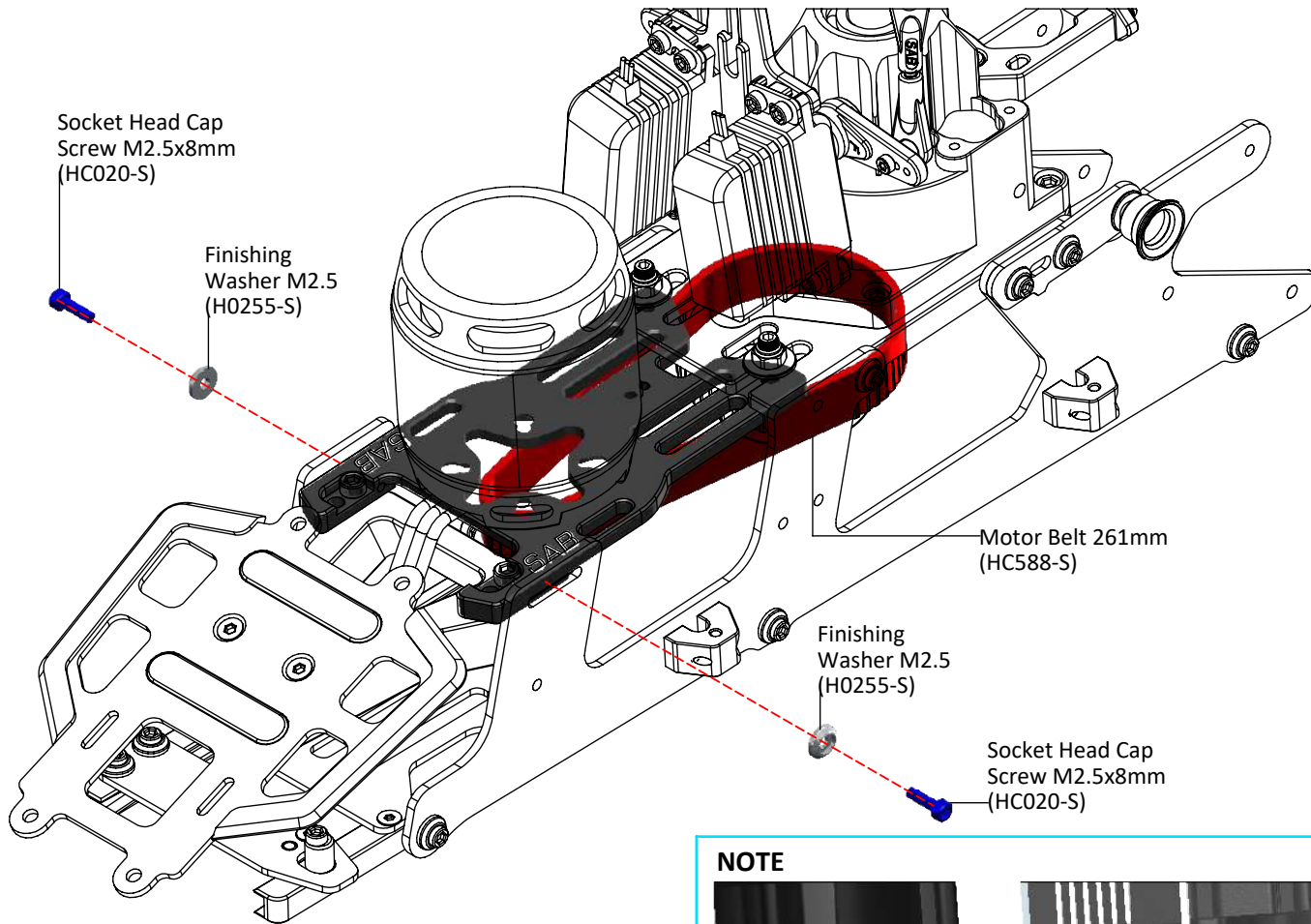


NOTE
Motor wires pointing forward.



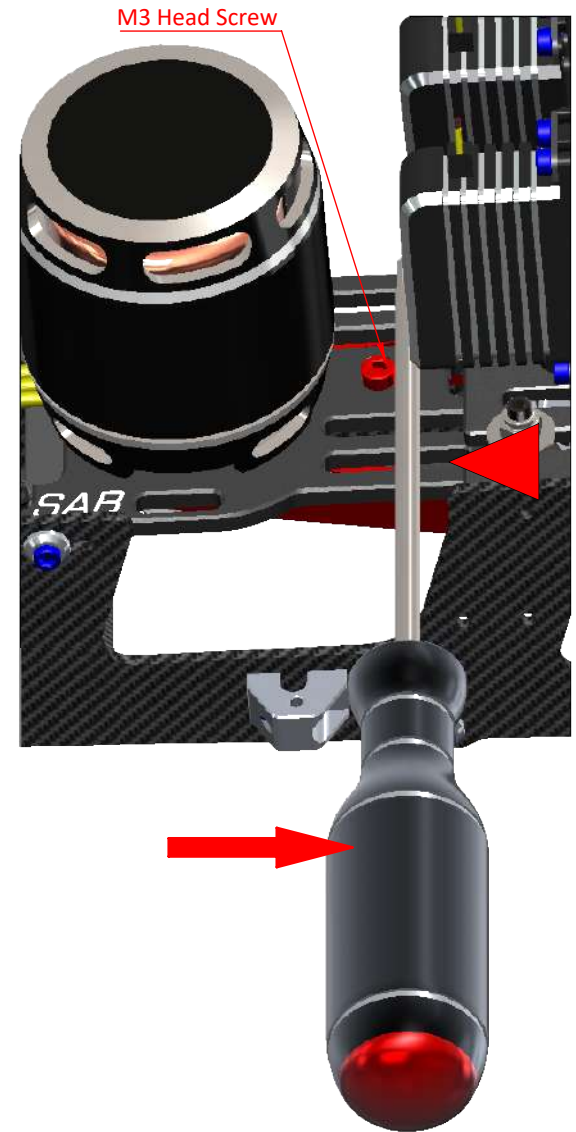
NOTE
With 18, 19 and 20T motor pulleys; use the internal holes.
With 21, 22, 23, 24T motor pulleys; use the external holes.



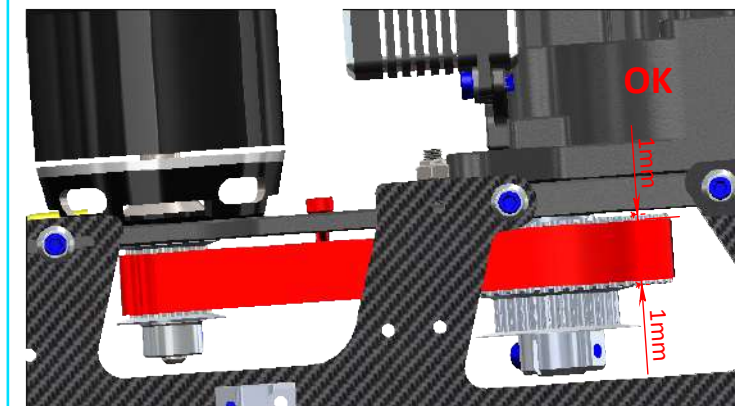


NOTE

You can use a 4-5mm shaft as a lever to set proper motor belt tension.

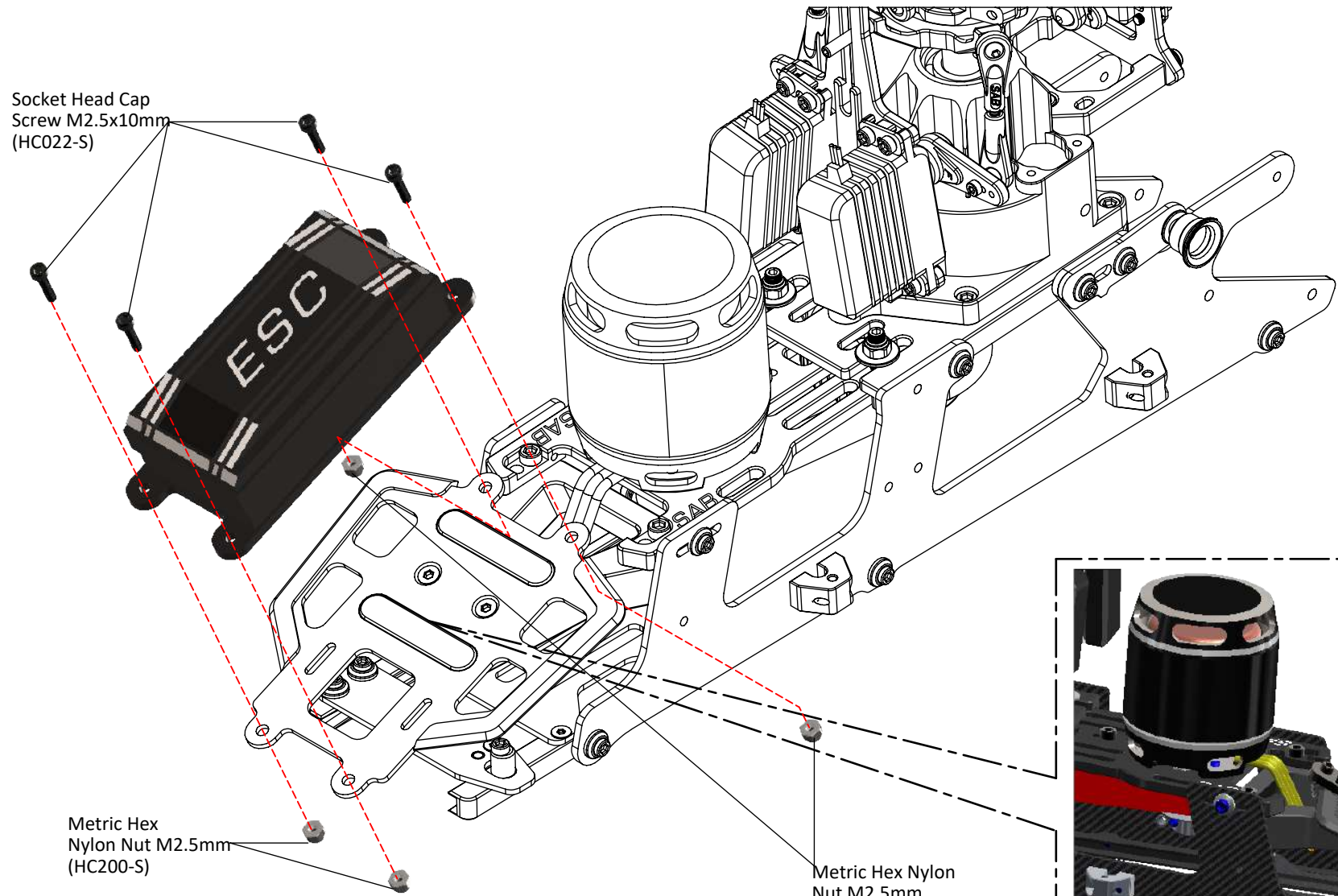


NOTE



MOTOR BELT TENSION

- *Fit the motor assembly into position.
- *Move it to the minimum centre distance.
- *First put the belt on the motor pinion.
- *Then put the belt around the big pulley.
- *Rotate the motor several times by hand.
- *Pull on the motor mount to tension the belt.
- *Rotate again the motor several times by hand.
- *Provide the correct force, and properly tension the belt.
- *Tighten the M5 nuts first, then the (2) M3 screws later.



BAG 19

TAIL BOOM ASSEMBLY

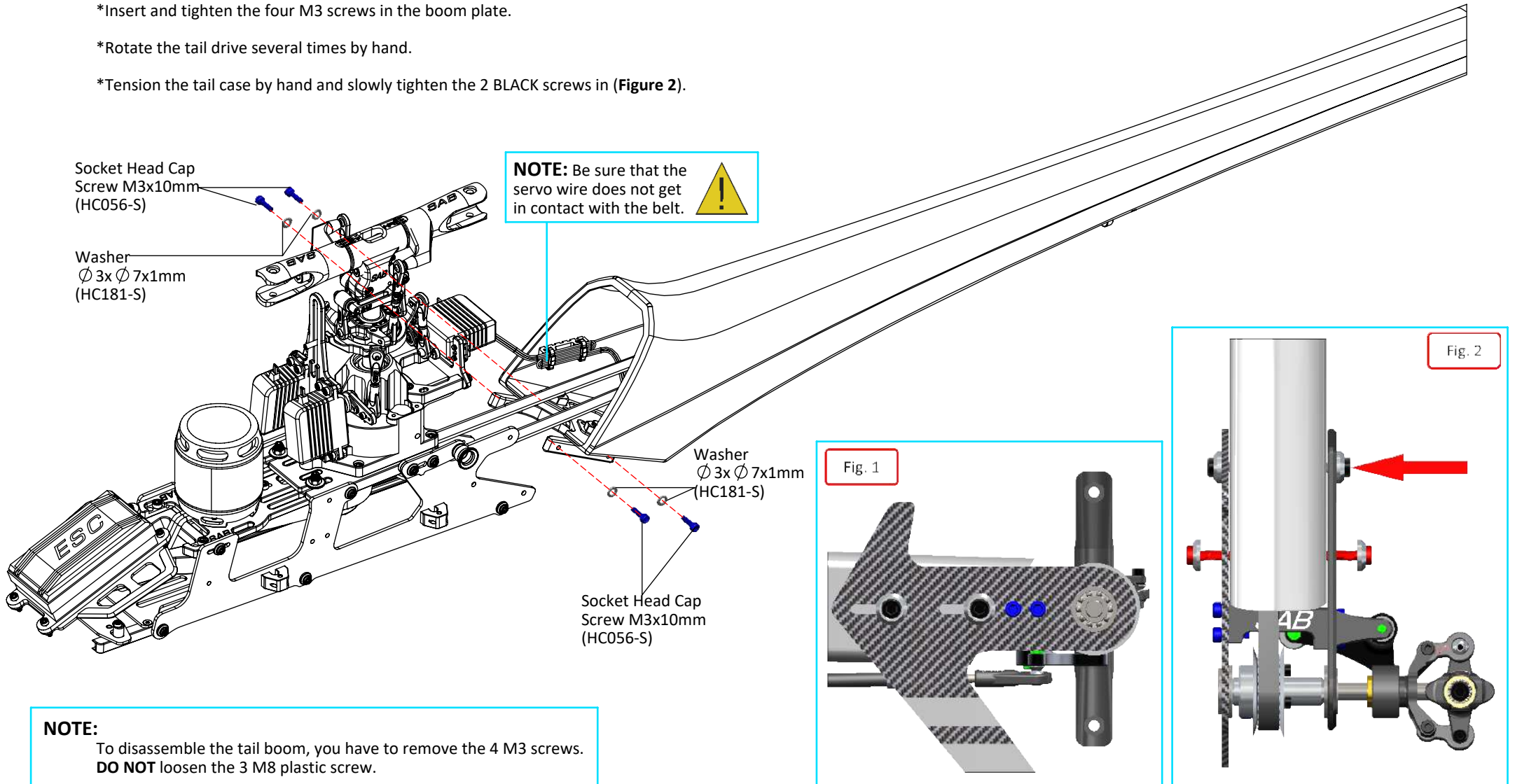
To fit the tail belt, loosen the tail case by loosening the 4 M3 screws (**Figure 1**).

*Install the belt onto the tail front pulley, checking the direction of rotation.

*Insert and tighten the four M3 screws in the boom plate.

*Rotate the tail drive several times by hand.

*Tension the tail case by hand and slowly tighten the 2 BLACK screws in (**Figure 2**).



TAIL BELT TENSION

To provide the correct tail belt tension, you can use the "zig-zag" method.

Figure 1, Loosen the 2 **RED** screws and the **BLUE** and push the tail side plate in according with red arrow. Tighten the **BLUE** screw while you are pushing.

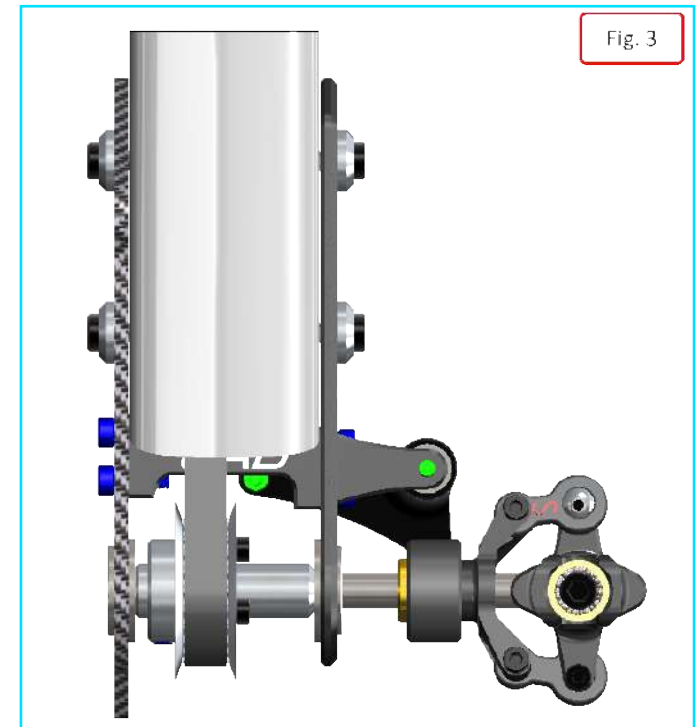
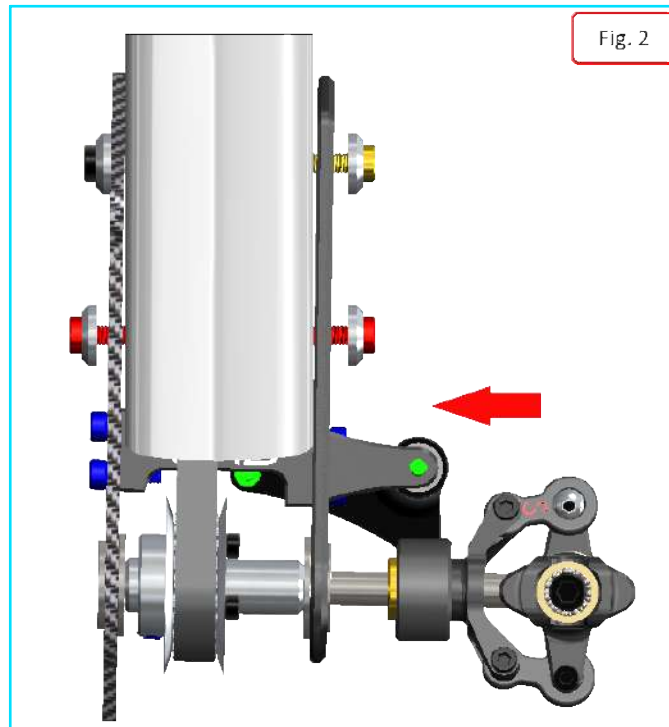
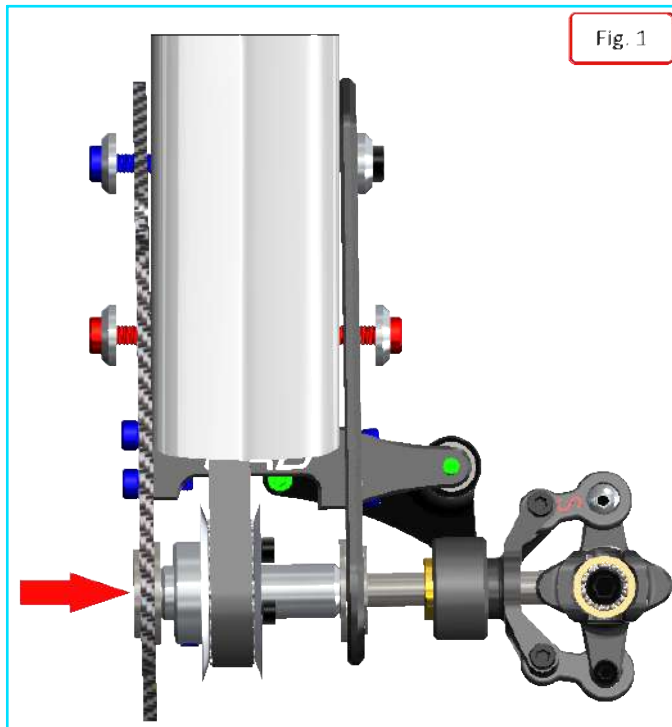
Figure 2, Loosen the 2 **RED** screws and the **YELLOW** and push the tail side plate in according with red arrow. Tighten the **YELLOW** screw while you are pushing.

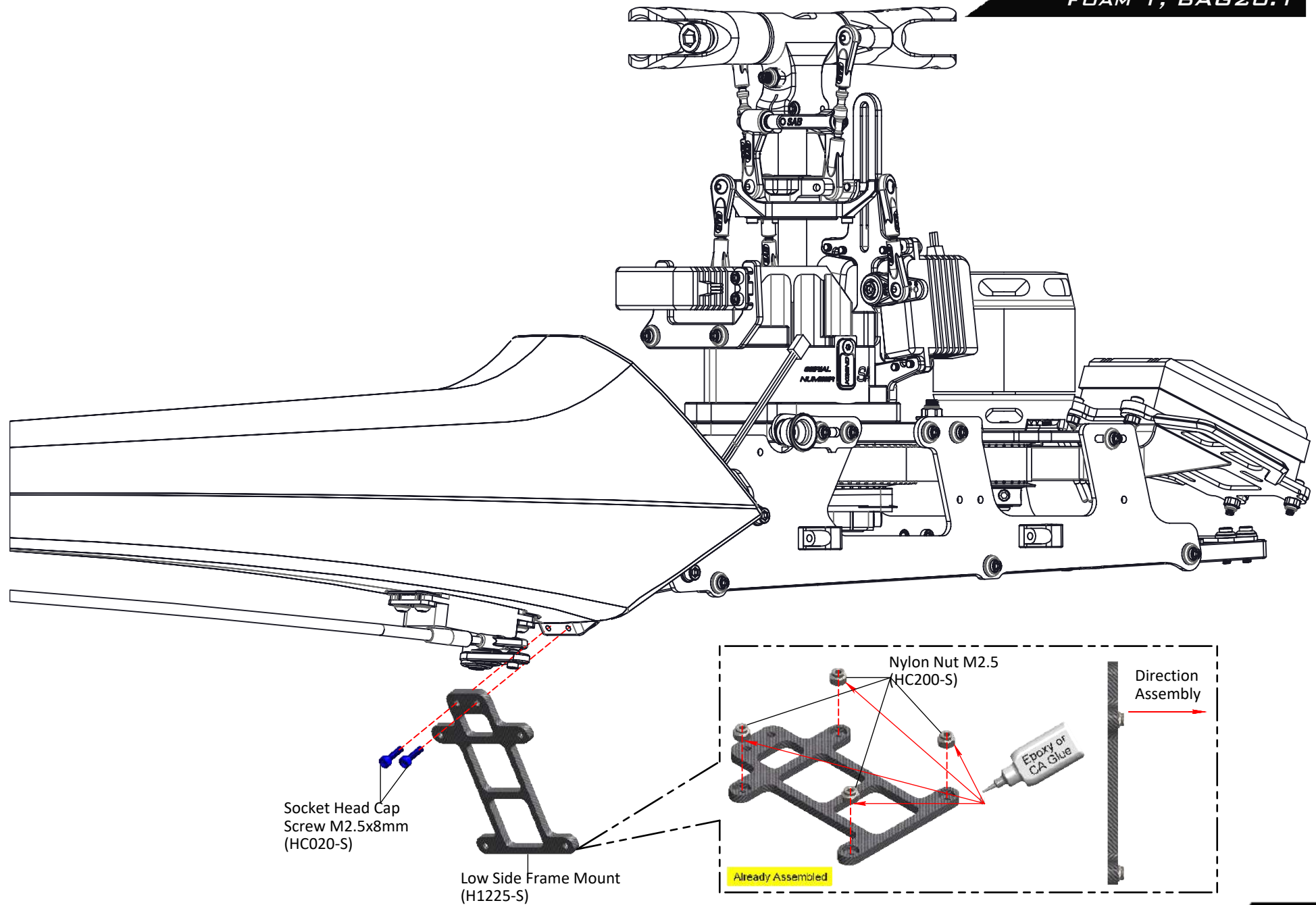
You can proceed step by step until the tail belt is tight enough.

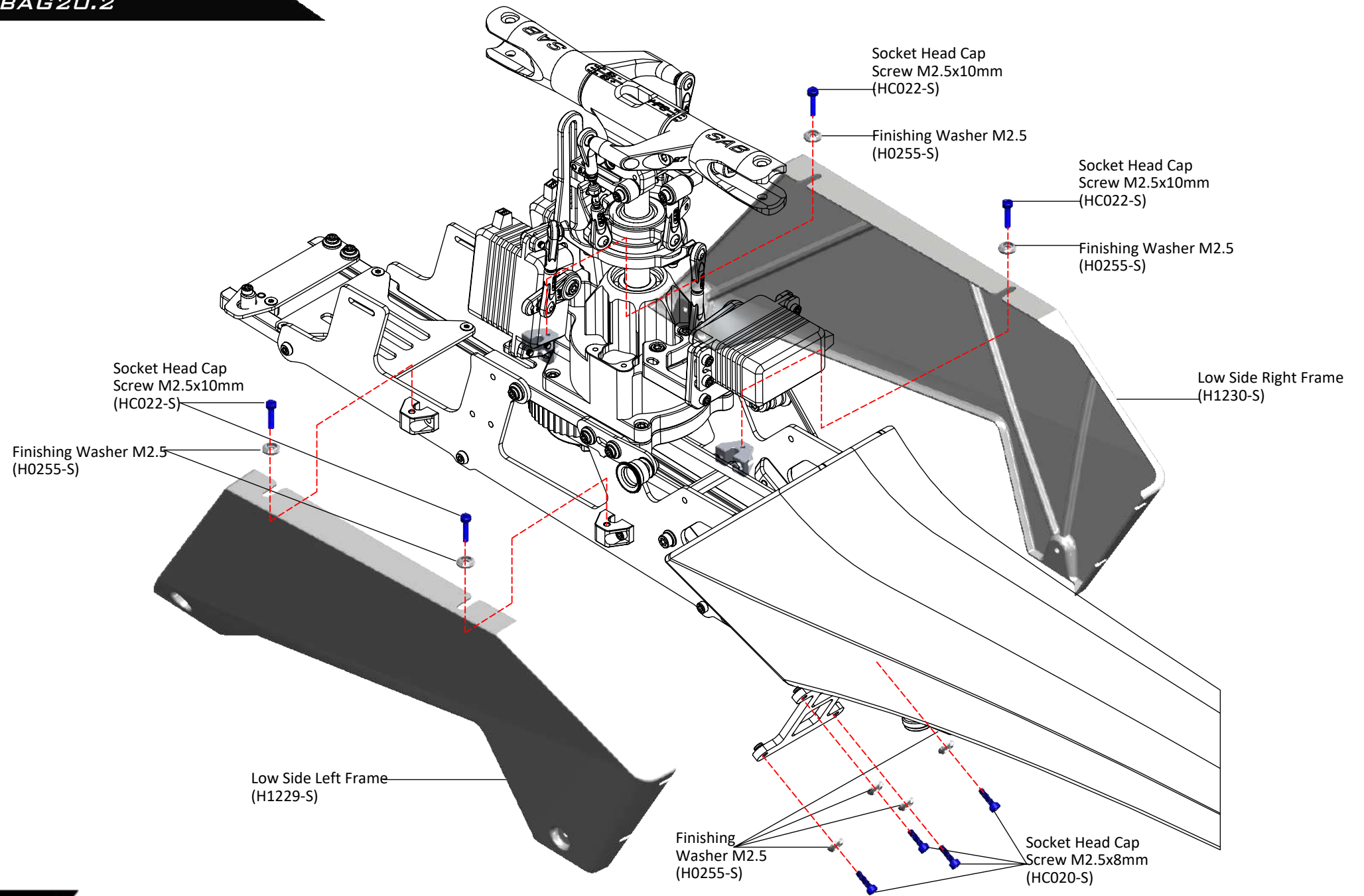
Hard 3D style will require more tension; Sport flight style less.

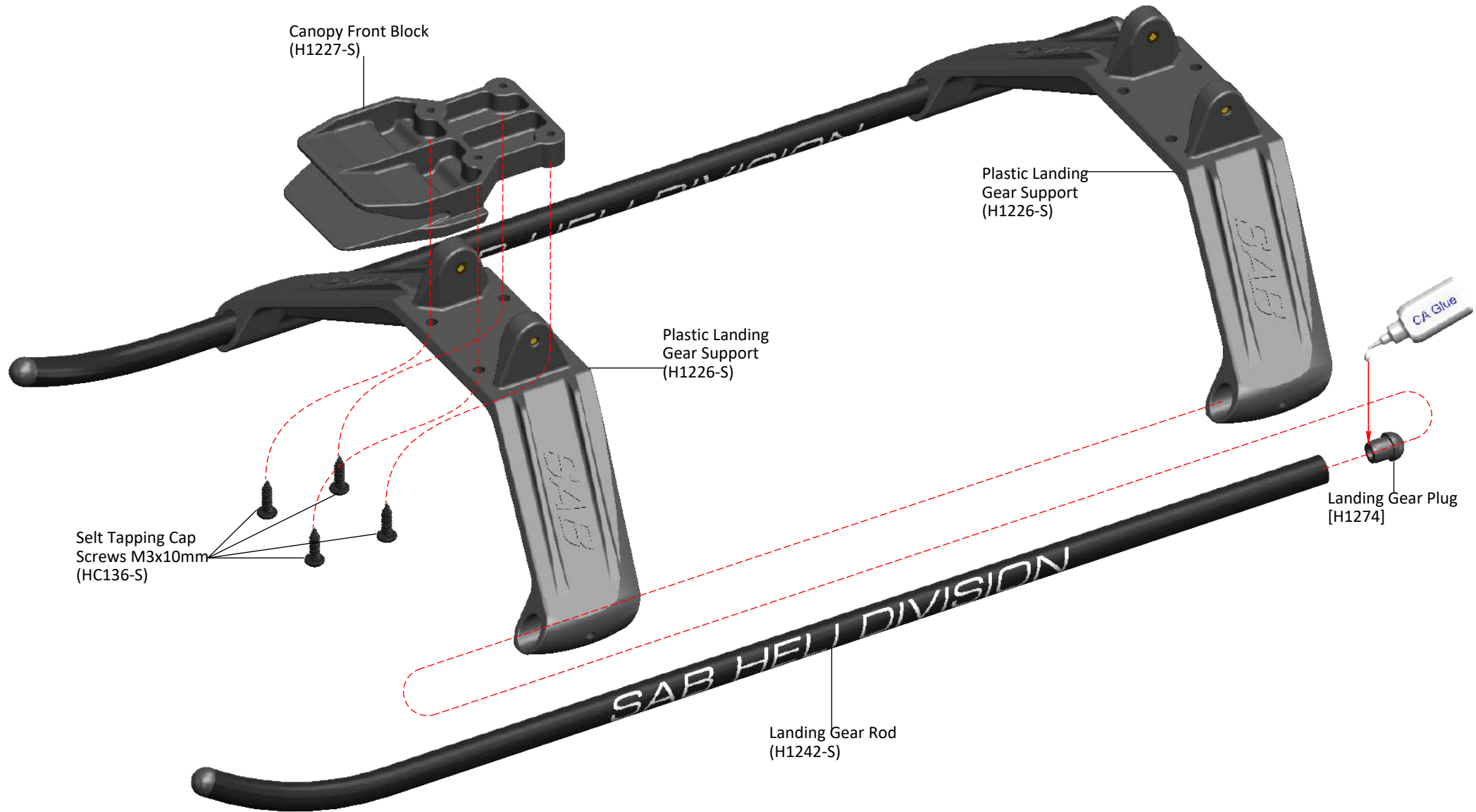
When you set your perfect tension, you can tighten all screws making sure the tail shaft is perfectly straight.

(**Figure 3**, tail output shaft must be perpendicular with the boom).

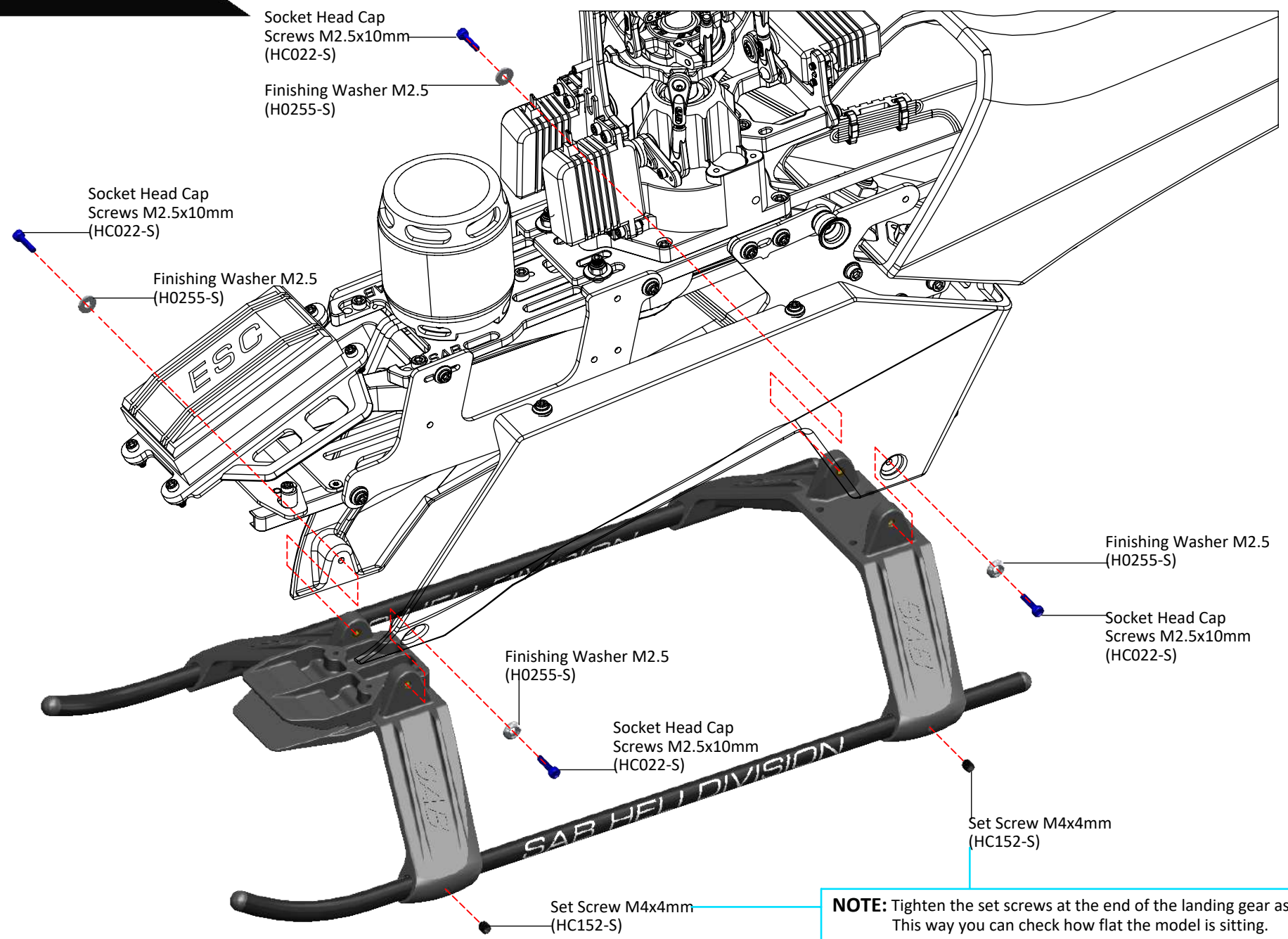






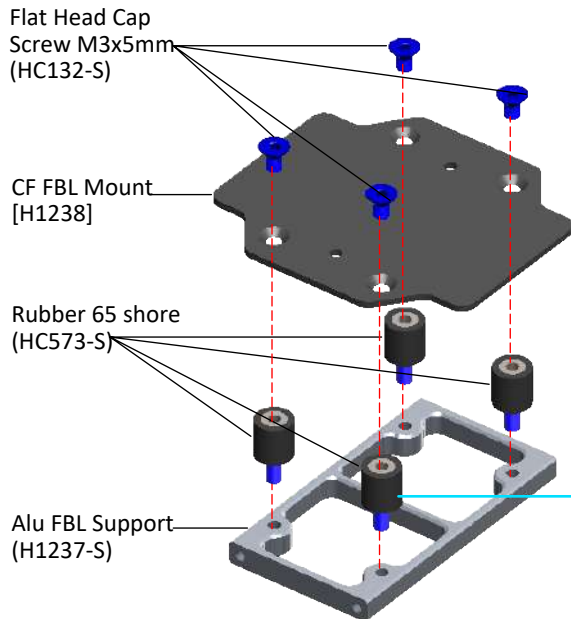
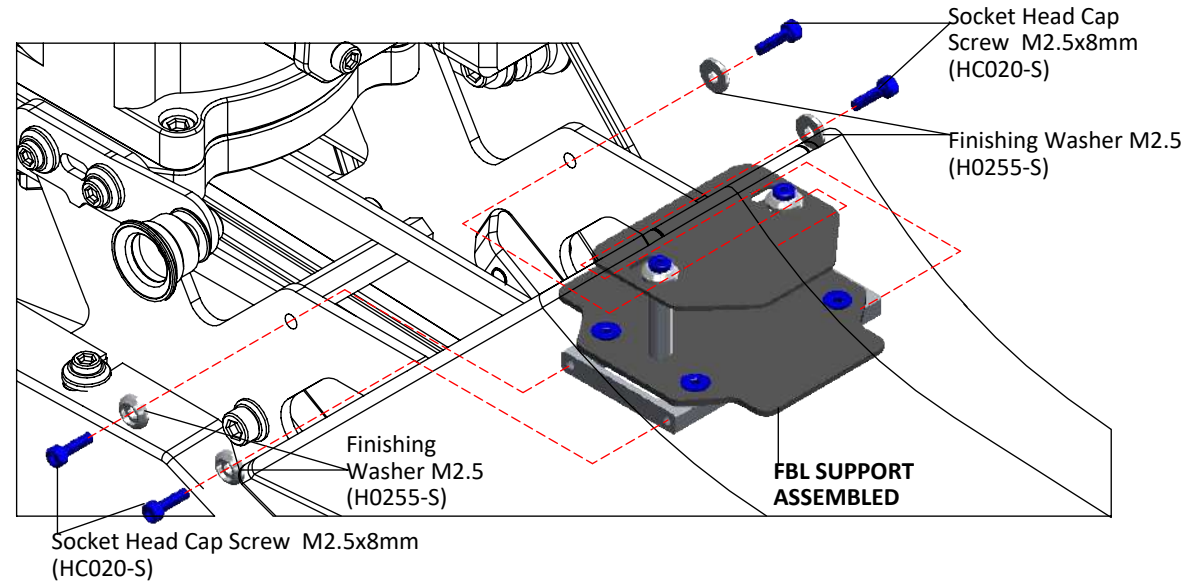
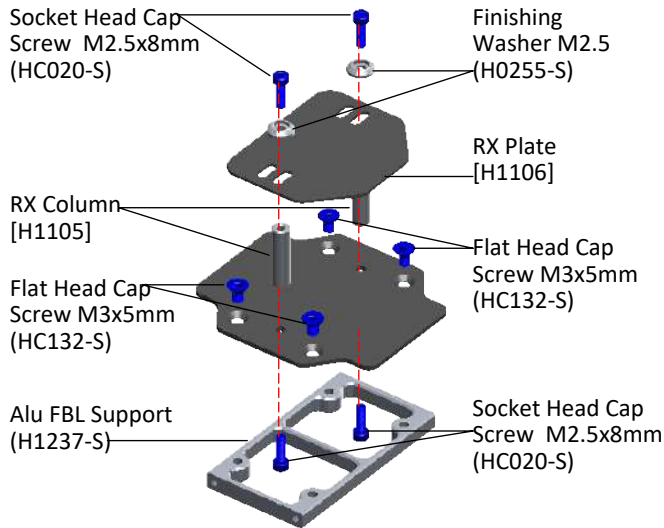


BAG22



NOTE: Tighten the set screws at the end of the landing gear assembly. This way you can check how flat the model is sitting.

We suggest installing the flybarless mount without the shock absorber. This will give you the most direct feeling of the model. You can use the small plate to support any separate RX.



RUBBER DAMPENERS

However, if you have issues with rescue feature of the FBL unit, you can use the rubber dampeners to reduce any kind of vibrations.

The sensor used for the RESCUE function is different from the flight management sensor. The filtration capability is different.

Our testing showed that the support system with the rubber dampeners can improve the filtering capability.

Normally the rescue function has a feature for checking the correct initialization. Verify the absence of anomalies.

By Using rubber dampeners it is not suggested to install the RX on the plate H1237.

The bottom surface of the rear servo is a good location to install an external RX (with double-sided tape).

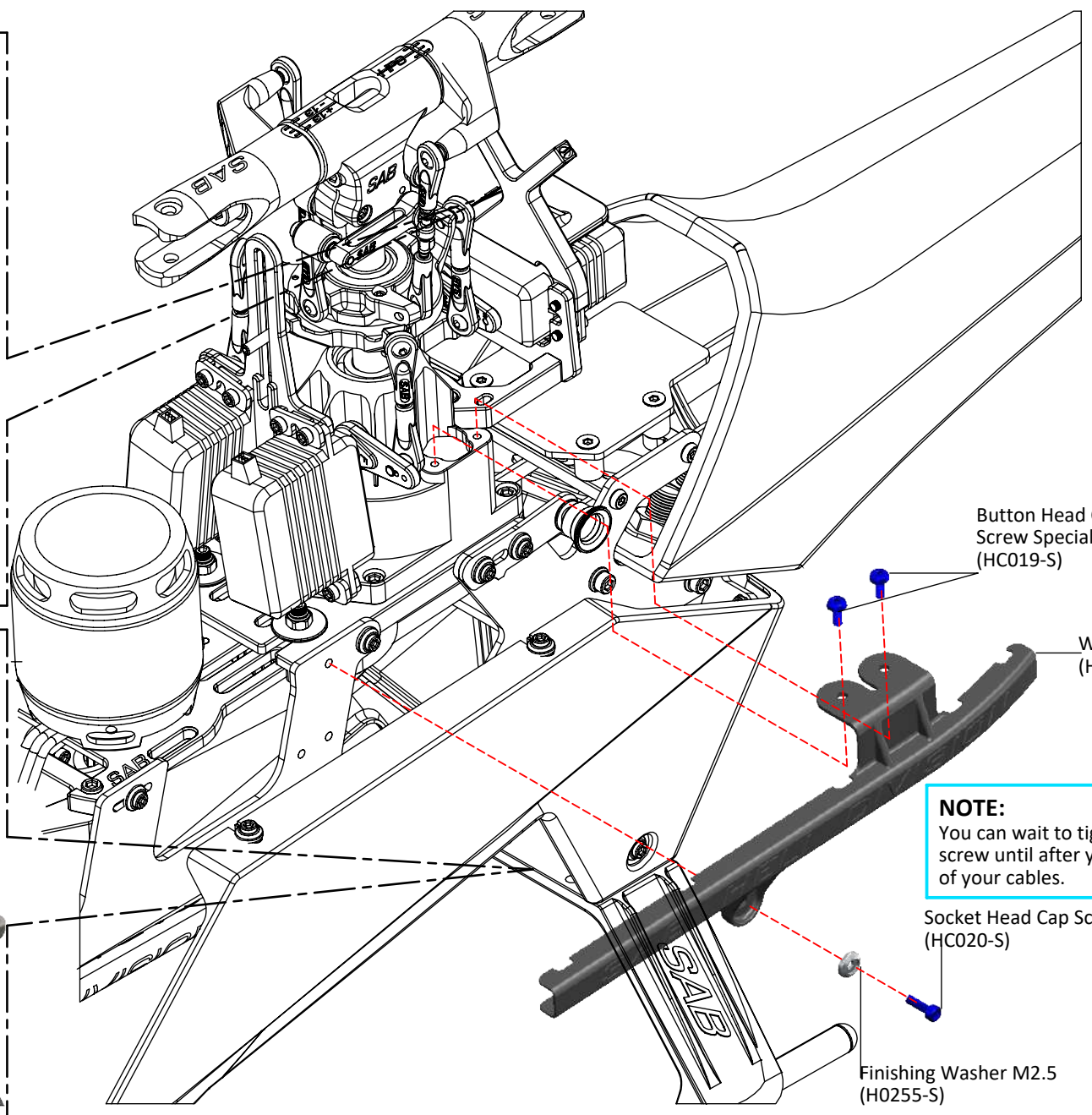
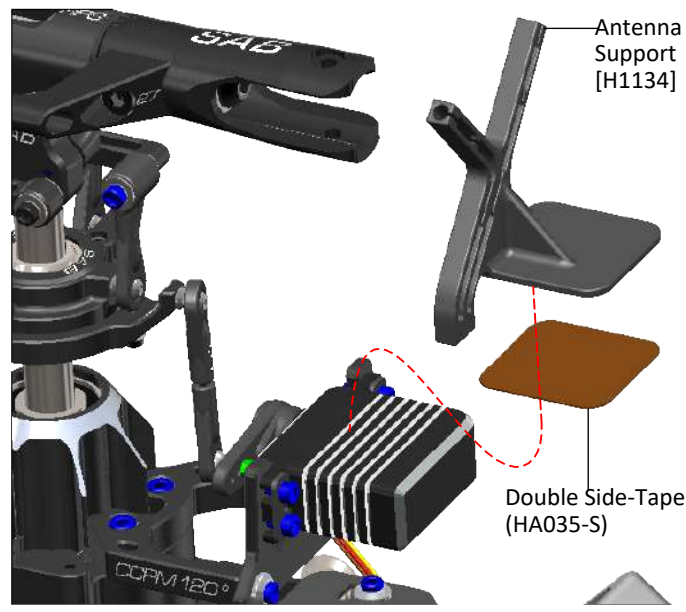
NOTE:

Tighten the rubber dampeners with your fingers. No need to use tools.

Note: Use Thread Locker Medium Strength

BAGS 24, 28

In bag 28, you can find a "3D Printed" antenna support. Use it as desired with your RX system.



Button Head Cap Screw Special M2.5x6mm (HC019-S)

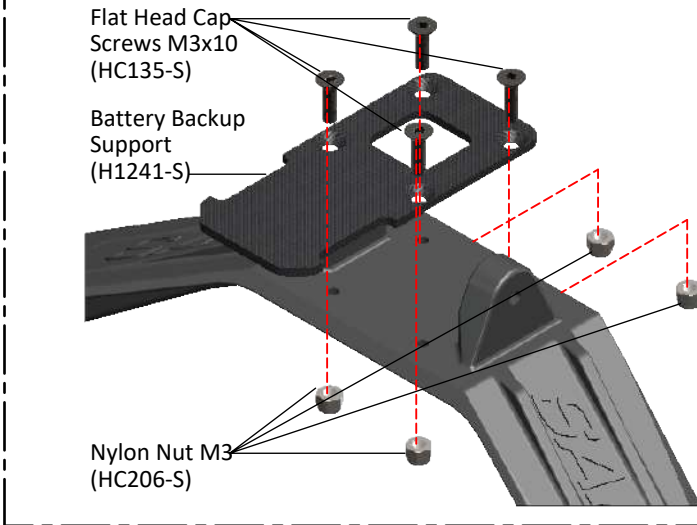
Wire Support (H1107-S)


NOTE:
You can wait to tighten this screw until after you run all of your cables.

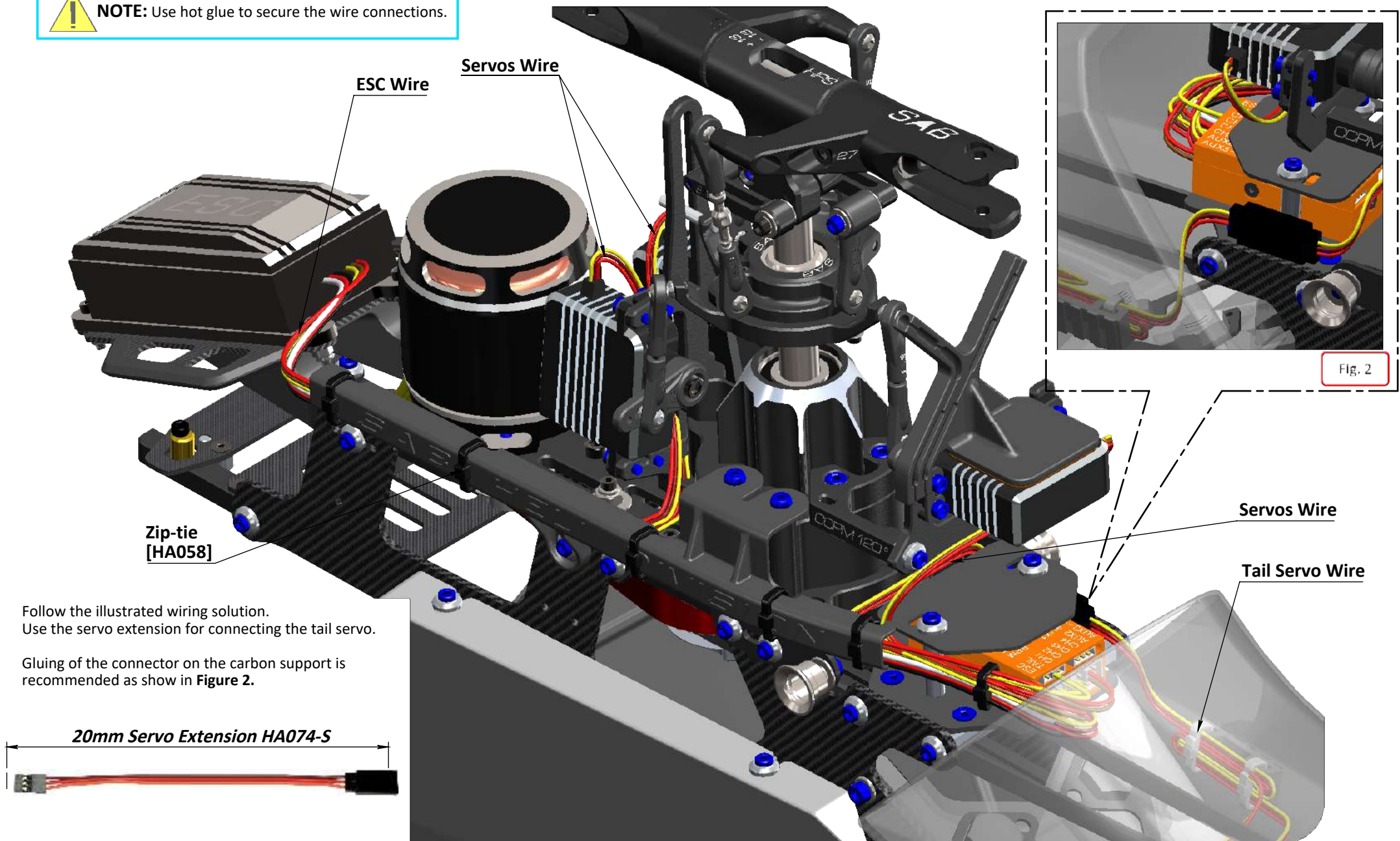
Socket Head Cap Screw M2.5x8 (HC020-S)

Finishing Washer M2.5 (H0255-S)

BAG 29

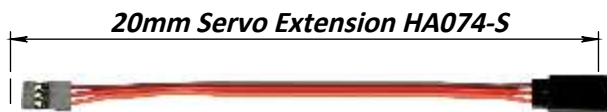


 **NOTE:** Use hot glue to secure the wire connections.




Follow the illustrated wiring solution.
Use the servo extension for connecting the tail servo.

Gluing of the connector on the carbon support is recommended as show in **Figure 2**.



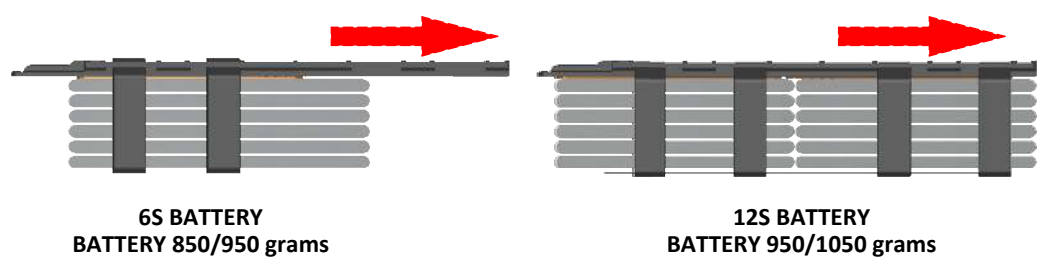
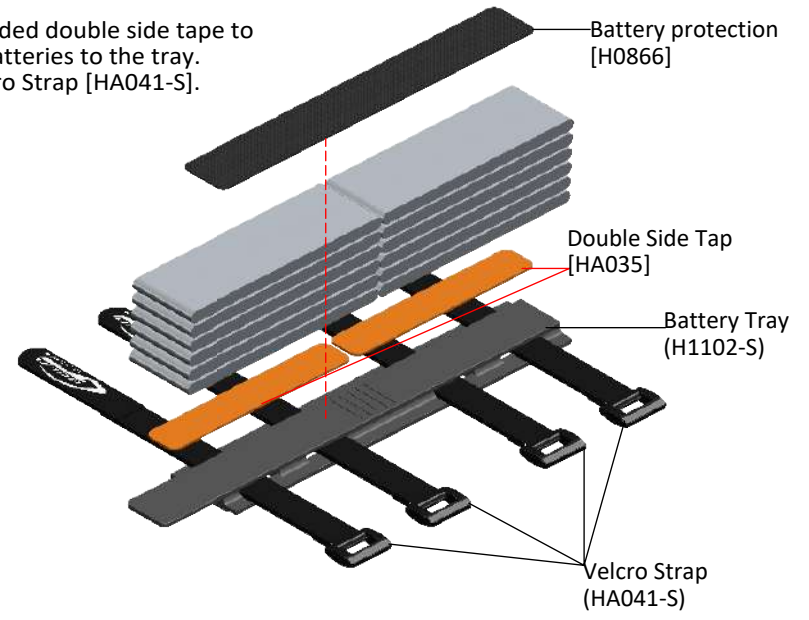
BAG25

 Before permanently mounting the batteries onto the battery tray, check the ideal position for the best center of gravity.



BATTERIES

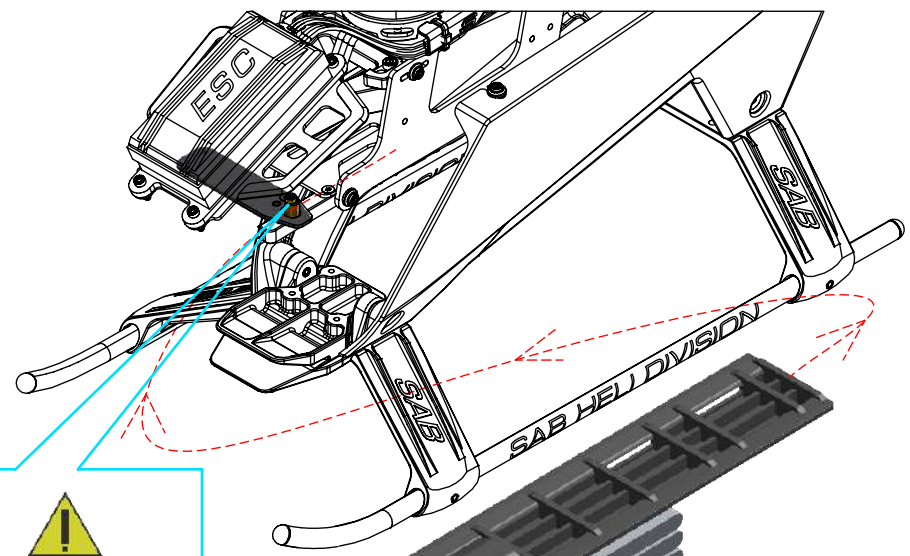
Use the included double side tape to secure the batteries to the tray. Use the Velcro Strap [HA041-S].




6S BATTERY



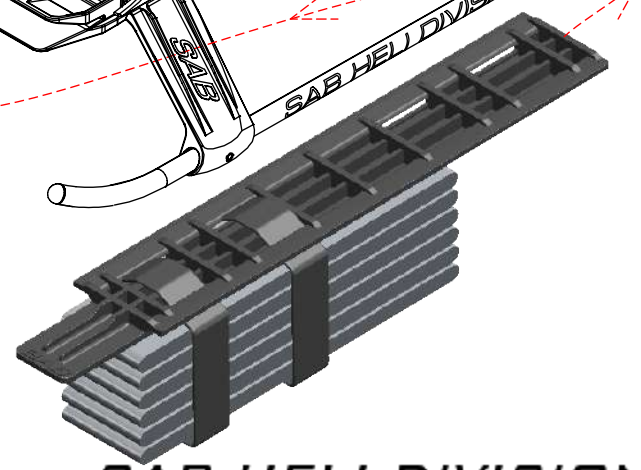
12S BATTERY



IMPORTANT 

Before flying, make sure that the locking pin is back in its resting position, blocking the battery tray in the correct position


NOTE:
With the eccentric bushing you can adjust the tray play.

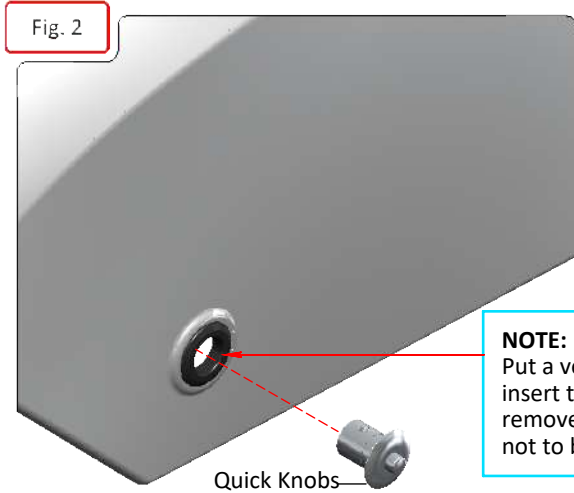
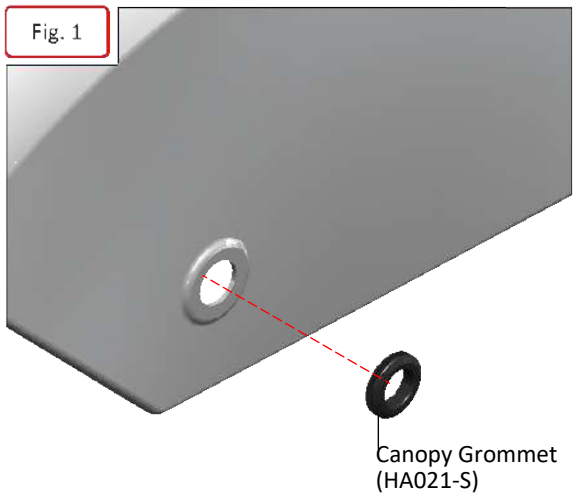


CANOPY

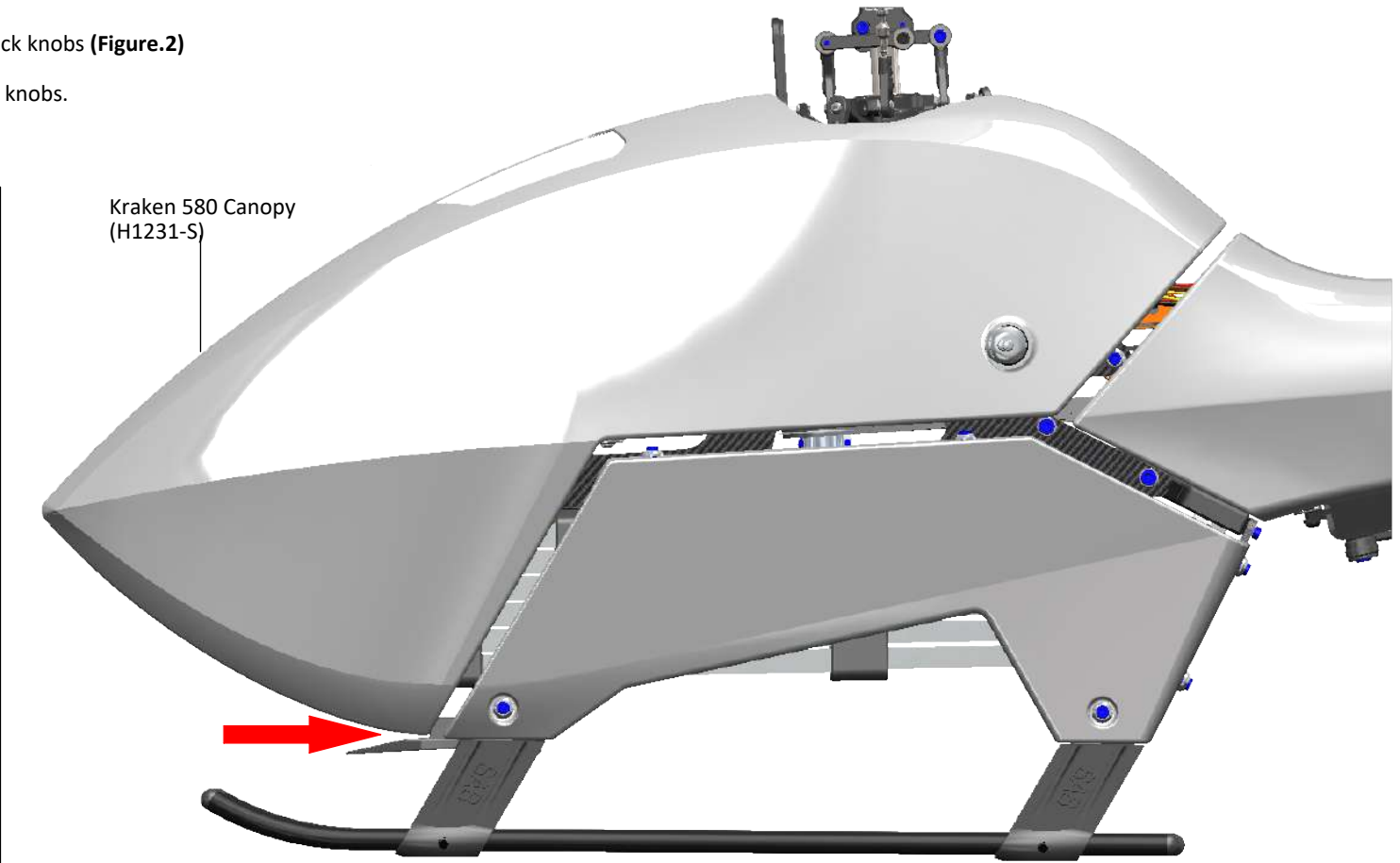
*Install Canopy grommets (**Figure.1**) and the two quick knobs (**Figure.2**)

*Fit the canopy in the red arrow zone, and insert the knobs.

 *Confirm the canopy is secure prior to each flight.



NOTE:
Put a very small drop of CA glue on the grommet and then insert the quick release canopy mount. This way when you remove the canopy, the mounts can not come off. Be careful not to block the quick release mechanism with glue.



BAG27

OPERATIONS BEFORE FLIGHT

- *Set up the remote control and the flybarless system with utmost care.
- *It is advisable to test the correct settings of the remote and flybarless system without main blades or tail blades fitted.
- *Check that all wiring is isolated from the carbon/aluminum parts. It is good practice to protect them at the points where they are at most risk.
- ***Be sure of the gear ratio, verifying carefully the motor pulley in use. The forces acting on the mechanics increase enormously with increasing of rpm. Although the Goblin can fly at high rpm, for safety reasons we suggest to not exceed 2600rpm (2500 rpm with 600mm main blades configurations).**

- *Fit the main blades and tail blades. (Figure.1 and Figure.2)
- *Please make sure the main blades are tight on the blade grips, you should be able to violently jerk the head in both directions and the blades should not fold. Failure to tighten the blades properly can result in a boom strike. To fold the blades for storage, it is advisable to loosen them.
- *Check the collective and cyclic pitch. For 3D flight, set about +/-13°.
- *It is important to check the correct tracking of the main blades.
- On the Goblin, in order to correct the tracking, adjust the main link rod. This is provided with a right/left thread system that allows continuous fine adjustments of the length of the control rod; for this adjustment it is not necessary to detach the ball link.
- *Confirm the canopy is secure prior to each flight.
- * Make sure that the battery locking pin is back in its resting position, blocking in correct way the battery tray.

- ***Perform the first flight at a low headspeed, 2000 RPM.**
- ***After this first flight, do a general check of the helicopter. Verify that all screws are correctly tightened.**

IN FLIGHT ABOUT HEAD

The HPS head allows for a very broad range of dampening setups (Figure 3). The dampers are composed of 2 O-ring (that defines the rigidity) and a technopolymer damper (that defines the maximum possible movement of the spindle). Using different Oring and dampers you can get different responses of the model.

Oring

- 70 Shore: Soft for smooth response
- 90 Shore: Firm for direct and precise response
- A = Max movement of the spindle, feeling more elastic.
- B = Medium.
- C = Min movement of the spindle, feeling more direct.

In the kit, there is the damper is B (Spare parts H1216-S).
[All Setting >>p/n H1216-S].

ABOUT THE TAIL

The standard SETUP is optimized for 3d flight, headspeed 2400-2600 rpm. If you prefer flying at low speed (< 2200 rpm), for best results we recommend changing the tail pulley to increase tail rotor rpm. In this way, you will have extremely precise tail control even at low RPM. This pulley is available in the upgrade list [H0310-S]
If you want to fly under 2000 rpm, we suggest to use bigger 105 mm tail blades.

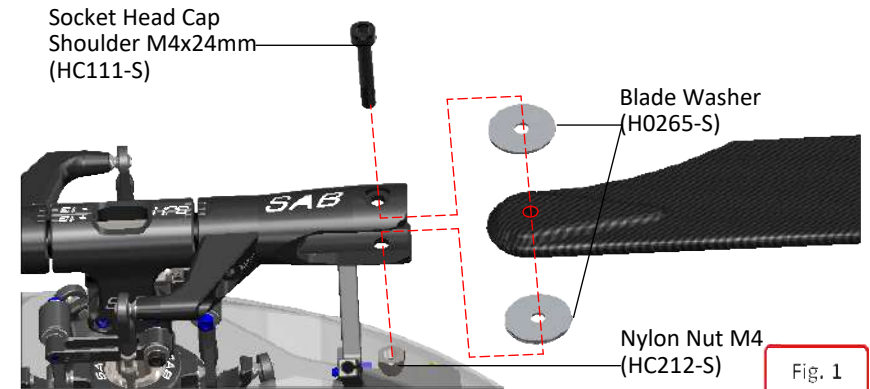


Fig. 1

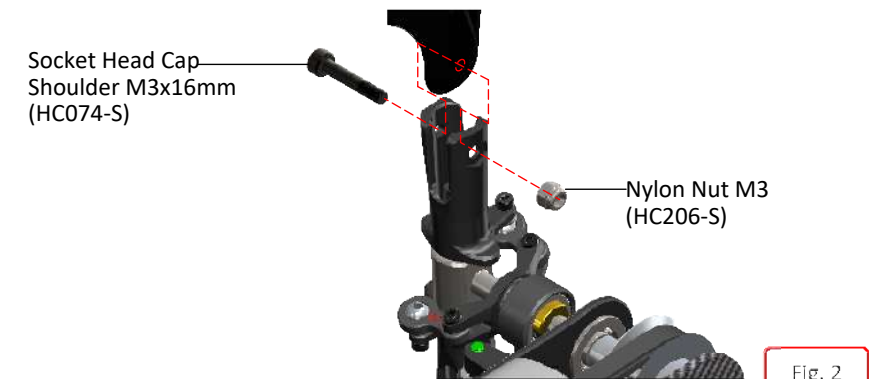


Fig. 2

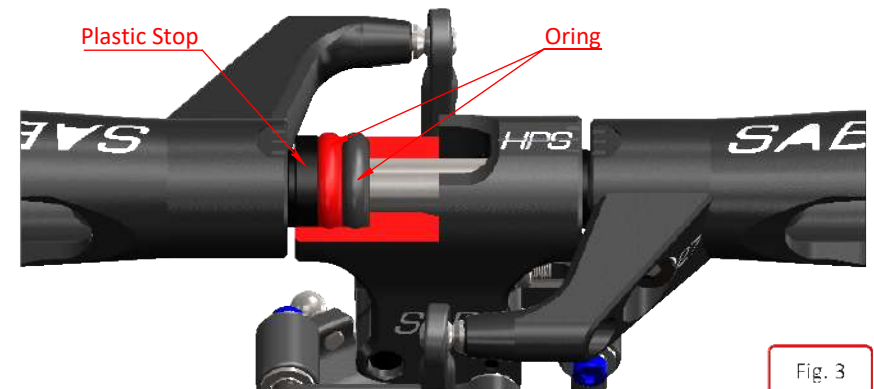


Fig. 3

MAINTENANCE

Take a look at the red parts.

Check them frequently. All other parts are not particularly subject to wear.


The lifespan of these components varies according to the type of flying.

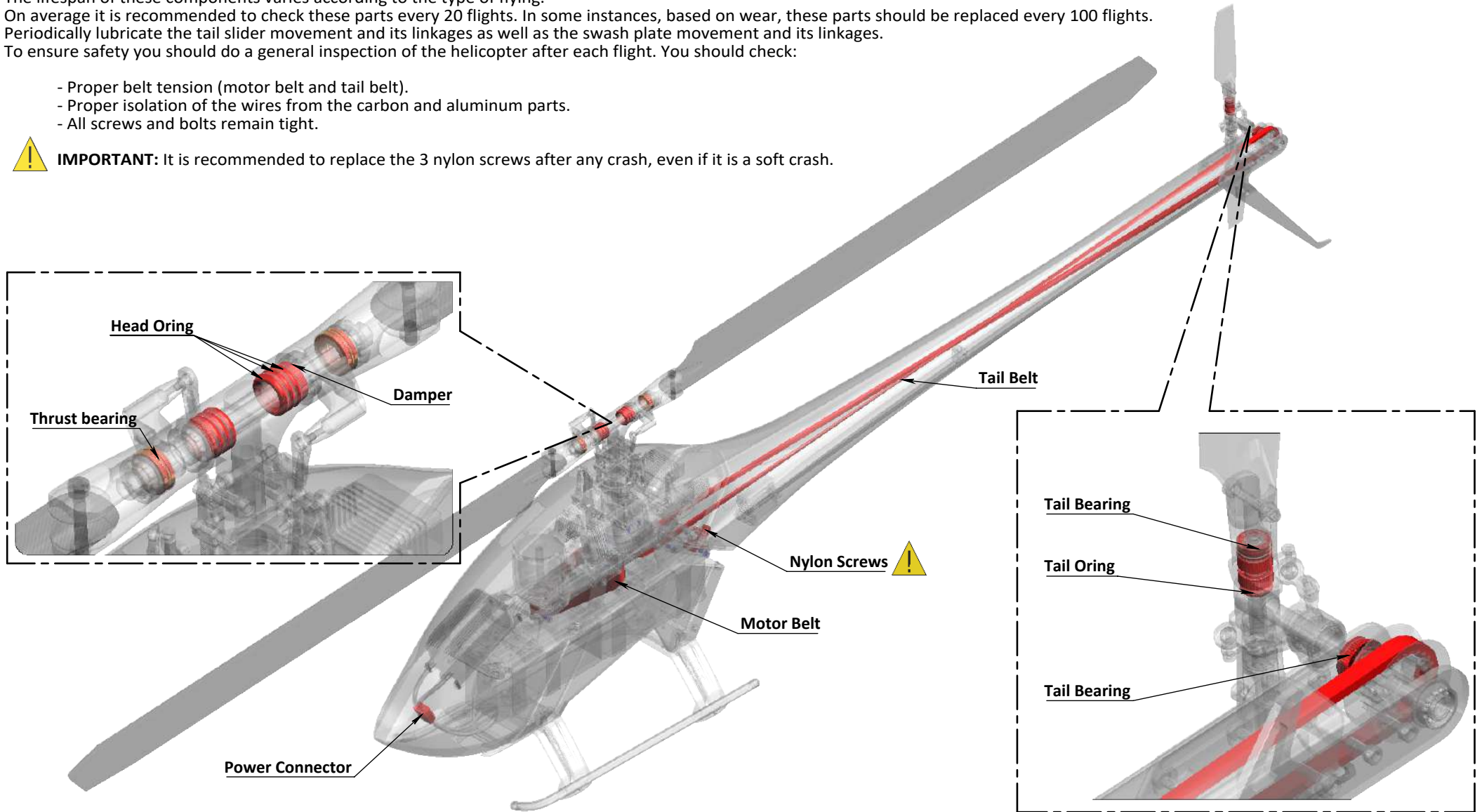
On average it is recommended to check these parts every 20 flights. In some instances, based on wear, these parts should be replaced every 100 flights.

Periodically lubricate the tail slider movement and its linkages as well as the swash plate movement and its linkages.

To ensure safety you should do a general inspection of the helicopter after each flight. You should check:

- Proper belt tension (motor belt and tail belt).
- Proper isolation of the wires from the carbon and aluminum parts.
- All screws and bolts remain tight.

 **IMPORTANT:** It is recommended to replace the 3 nylon screws after any crash, even if it is a soft crash.



1 Check the dampening on the main and tail rotor to be the same as always.

2 Tighten the main blades before flight.

3 Check main hub screws (M4x22 and 2xM2.5x12). Ensure they are tight.

4 Check all power connectors (Good mechanical connection).

5 Check Tail & Motor belt tension. The tension has to be tight.

6 Check the 4 M3x10 Tail group screws. Ensure they are tight.

7 Check the Main Linkages & Servo Linkages

8 Check tail pulley set screws: Ensure they are tight. (It is suggested use a bit of Green Loctite.)

9 Check for vertical play of the main shaft.

10 Check if the FBL-RX connectors are OK (hot glue is recommended).

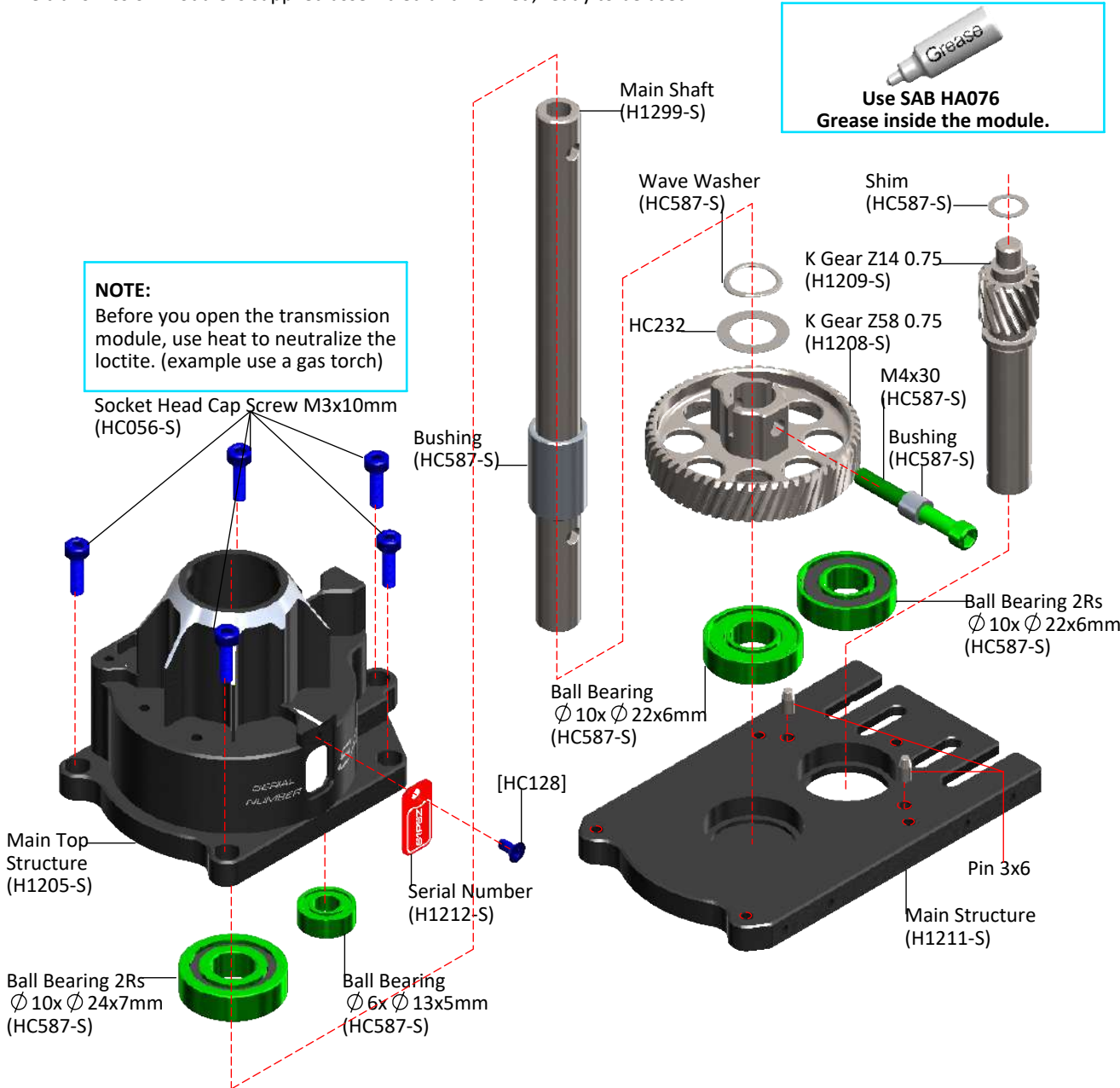
11 Check the M2.5x18 bell crank: Belt crank movement must be smooth and the screw fully tightened. (It is suggested use a bit of Green Loctite.)

12 Be sure the following parts are properly lubricated

- *Main shaft/swashplate
- *Tail slider/tail shaft
- *Carbon rod/carbon rod support
- *All thrust bearings
- *All plastic ball connections

TRANSMISSION MODULE

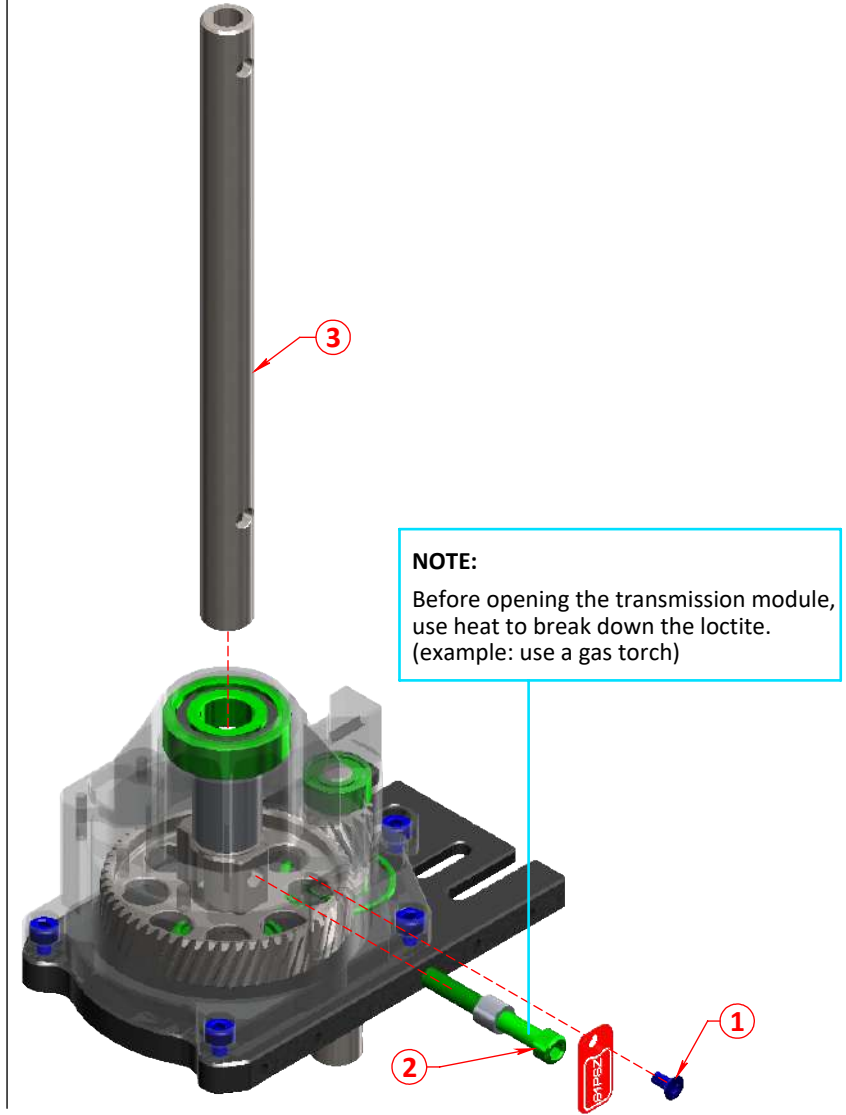
The transmission module is supplied assembled and verified, ready to be used.

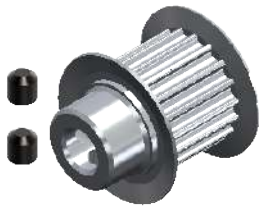






MAIN SHAFT REPLACEMENT

For replacing the main shaft:

- *Remove the serial number plate
- *Remove the **M4** screw
- *Remove and replace the main shaft
- *Screw in the **M4** screw, with high force and using green loctite



<p>Finishing Washer M3 [H0007-S]</p>  <p>- 10 x Finishing Washers M3.</p>	<p>Motor Pulley 19T - 26T [H0015-19-S to H0015-26-S]</p>  <p>- 1 x Motor Pulley. - 2 x Set Screw M4x4mm.</p>	<p>Tail Servo Lock [H0040-S]</p>  <p>- 2 x Tail Servo Locks. - 2 x Servo Spacers. - 4 x Head Cap Screws M2.5x12mm.</p>	<p>Uniball M2 5H6 [H0064-S]</p>  <p>- 5 x Uniballs M2 5H6. - 5 x Uniball Spacers. - 5 x Head Cap Screws M2x8mm. - 5 x Head Cap Screws M2x6mm.</p>	<p>Uniball M3x4 5H3 [H0065-S]</p>  <p>- 5 x Uniballs M3x4 5H3.5.</p>
<p>Plastic Ball Link [H0066-S]</p>  <p>- 10 x Plastic Ball Link.</p>	<p>Servo Spacer [H0075-S]</p>  <p>- 10 x Servo Spacers.</p>	<p>Radius Arm HPS [H0204BM-S]</p>  <p>- 2 x Radius Arm. - 2 x Spacer Arm 2.5x4x6.3. - 2 x Spacer Arm 2.5x4x3mm. - 2 x Uniball Radius Arm. - 8 x Flanged Bearing ϕ 2.5x ϕ 6x2.5. - 2 x Washer 2.5x4x0.3mm. - 2 x Socket Head Cap Screw M2.5x15. - 2 x Socket Head Cap Screw M2.5x18.</p>	<p>Radius Plastic Arm [H0205-S]</p>  <p>- 2 x Radius Plastic Arm.</p>	<p>Main Spindle [H0213-S]</p>  <p>- 1 x Tail Spindle. - 2 x Button Cap Screws M6x10mm. - 2 x Washer.</p>
<p>Tail Spindle [H0220-S]</p>  <p>- 1 x Tail Spindle. - 2 x Socket Cap Screws M3x6mm.</p>	<p>Tail Spindle [H0227-S]</p>  <p>- 1 x Tail Shaft. - 1 x Tail Hub. - 1 x Set Screws M3x8mm.</p>	<p>Main Linkage [H0237-S]</p>  <p>- 2 x Main Linkage. - 4 x Plastic Uniball.</p>	<p>Locking Element Tail [H0249-S]</p>  <p>- 2 x Locking Element Tail. - 4 x Socket Head Cap M3x10mm. - 4 x Finishing Washer M3. - 4 x Nylon Nut M3. - 2 x Double Side Tape.</p>	<p>Finishing Washer M2.5 [H0255-S]</p>  <p>- 10 x Finishing Washer M2.5.</p>
<p>Plastic Tail Linkage [H0261-S]</p>  <p>- 2 x Plastic Tail Linkage. - 2 x Grip Link Bushing. - 2 x Head Cap Screws M2x6mm.</p>	<p>Reference Pin [H1048-S]</p>  <p>- 1 x Reference Pin.</p>	<p>Quick Release Canopy [H1101-S]</p>  <p>- 2 x Quick Release Canopy. - 2 x Socket Head Cap Screw M3x6.</p>	<p>Battery Tray [H1102-S]</p>  <p>- 1 x Plastic Battery Tray. - 2 x Double side Tape. - 1 x Battery Protection. - 4 x Veclo Strap.</p>	

Wire Cover [H1107-S]



- 1 x Wire Cover.
- 1 x Finishing Washer M3.
- 1 x Head Cap Screws M3x8mm.
- 2 x Button Cap Screws M2.5x6mm.

Battery Carbon SET [H1141-S]



- 1 x Cross Battery.
- 1 x Carbon Pin Support.
- 1 x Head Cap M2.5x12mm.
- 2 x Head Cap M2.5x8mm.
- 5 x Flat Screws M2.5x5mm.
- 1 x Alu Pin.
- 1 x Brass lever.
- 2 x Washer M2.5.

Center Hub [H1200-S]



- 1 x Center Hub.
- 1 x Socket Head Cap M4x20mm.
- 2 x Socket Head Cap M2.5x12mm.
- 1 x Nylon Nut M4.

Main Blade Grips [H1201-S]



- 1 x Blade Grip.
- 1 x Thrust Bearing $\phi 8x \phi 14x4mm$.
- 2 x Bearing $\phi 8x \phi 14x4mm$.
- 1 x Washer $\phi 11x \phi 13.5x0.5mm$.
- 1 x Socket Head Cap M4x10mm.

Swashplate [H1204-S]



- 1 x Swashplate Assembly.
- 7 x Uniball M3.
- 1 x Reference Pin.

Rear Servo Support [H1206-S]



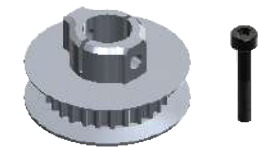
- 1 x Rear Servo Support.
- 2 x Socket Head Cap M3x8mm.

Main Pulley [H1213-S]



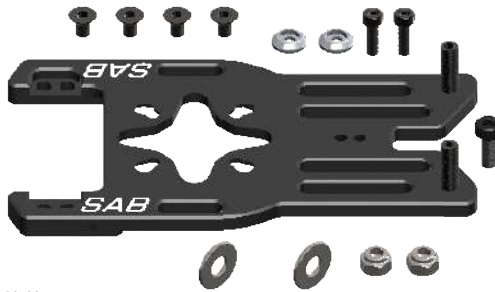
- 1 x Main Pulley.
- 1 x One Way Bearing $\phi 10x \phi 14x12$.
- 2 x Ball Bearing $\phi 10x \phi 15x12mm$.
- 1 x Bushing $\phi 10x \phi 13x1.5$.

Front Tail Pulley [H1214-S]



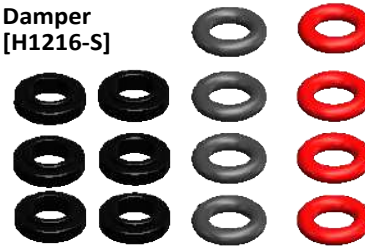
- 1 x Front Tail Pulley.
- 1 x Socket Head Cap Shoulder M3x18mm.

Motor Mount [H1215-S]



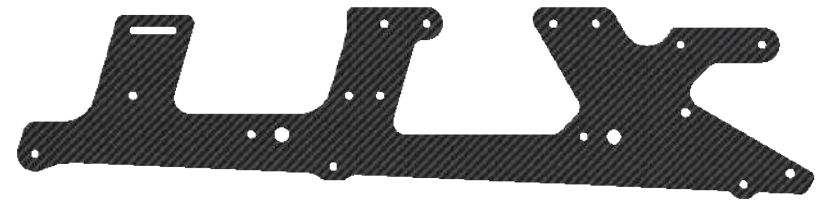
- 1 x Motor Mount.
- 2 x Set Screws M4x15mm.
- 2 x Washers $\phi 4.3x \phi 11x1$.
- 2 x Nylon Nuts M4.
- 2 x Finishing Washers M2.5.
- 2 x Head Cap Screws M2.5x8mm.

Damper [H1216-S]



- 2 x Damper A.
- 2 x Damper B.
- 2 x Damper C.
- 4 x Oring 70°.
- 4 x Oring 90°.

Main Frame [H1218-S]



- 1 x Main Frame.

Battery Tray Guide [H1219-S]



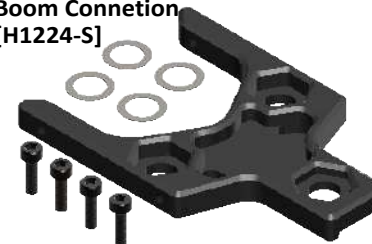
- 2 x Battery Tray Guide.
- 4 x Button Cap Screws M2.5x6mm.
- 2 x Head Cap Screws M2.5x10mm.
- 2 x Washer $\phi 3.2x \phi 6x0.5mm$.

Carbon Canopy Base Support [H1221-S]



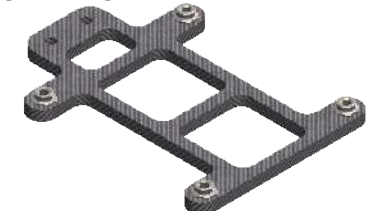
- 2 x Carbon Canopy Base Support.

Boom Connexion [H1224-S]



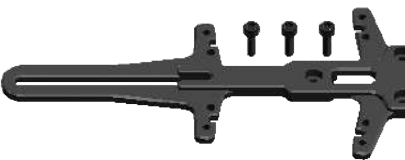
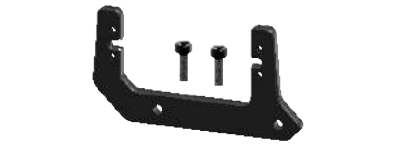


















- 1 x Boom Connexion.
- 4 x Head Cap Screws M3x10mm.
- 4 x Shim $\phi 8x \phi 14x0.2mm$.













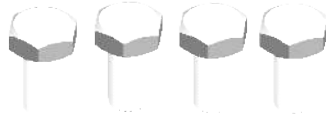
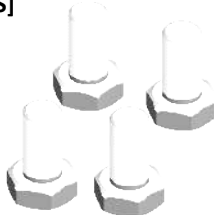











Low Side Frame Connection [H1225-S]



- 1 x Low Side Frame Connection.
- 4 x Nylon Nut M2.5.

<p>Plastic Landing Gear Support [H1226-S]</p>  <ul style="list-style-type: none"> - 1 x Plastic Landing Gear Support. - 2 x Set Screws M4x4mm. 	<p>Canopy Front Block [H1227-S]</p>  <ul style="list-style-type: none"> - 1 x Canopy Front Block. - 4 x Self Tapping Screws M3x10mm. 	<p>ESC Support [H1228-S]</p>  <ul style="list-style-type: none"> - 1 x Plastic ESC Support. - 1 x CF ESC Plate. - 2 x Flat Cap Screw M3x8mm. - 2 x Socket Head Cap M3x10mm. - 4 x Ny Lon Nut M3. 	<p>Low Side Frame SX [H1229-S]</p>  <ul style="list-style-type: none"> - 1 x Low Side Frame SX. 	
<p>Low Side Frame DX [H1230-S]</p>  <ul style="list-style-type: none"> - 1 x Low Side Frame DX. 	<p>Canopy Kraken 580 [H1231-S]</p>  <ul style="list-style-type: none"> - 1 x Canopy Kraken 580. - 2 x Canopy Grommet. 	<p>Tail Boom Kraken 580 [H1232-S]</p>  <ul style="list-style-type: none"> - 1 x Tail Boom Kraken 580. - 2 x Locking Element Tail. - 4 x Metric Hex Nylon Nuts M3. - 2 x Double Sided Tapes. - 1 x Nut Block. - 4 x Socket Head Cap Screws M3x10mm. - 4 x Finishing Washer M3. 		
<p>Tail Blade Grips [H1233-S]</p>  <ul style="list-style-type: none"> - 2 x Tail Blade Grip. - 4 x Bearing $\phi 4 \times \phi 9 \times 2.5 \text{mm}$. - 2 x Spacer $\phi 7 \times \phi 9 \times 0.5 \text{mm}$. - 2 x Thrust Bearing $\phi 4 \times \phi 9 \times 4 \text{mm}$. - 2 x Socket Head Cap Screw M3x6mm. - 2 x Socket Head Cap Screw M2x6mm. 	<p>FBL Support [H1237-S]</p>  <ul style="list-style-type: none"> - 1 x Alu FBL Support. - 1 x FBL Plate Mount. - 4 x Head Cap Screws M2.5x8. - 4 x Finishing Washer M2.5. - 4 x Flat Screws M3x5mm. - 4 x Rubber Column. 	<p>Tail Case Spacer [H1239-S]</p>  <ul style="list-style-type: none"> - 1 x Tail Case Spacer. - 4 x Head Cap Screws M2.5x6mm. 	<p>Tail Side Plate [H1240-S]</p>  <ul style="list-style-type: none"> - 1 x Tail Side Plate. - 1 x Flanged Bearing $\phi 5 \times \phi 13 \times 4 \text{mm}$ 	<p>Landing Gear Rod [H1242-S]</p>  <ul style="list-style-type: none"> - 2 x Landing Gear Rod. - 4 x Plug.
<p>Tail Fin [H1243-S]</p>  <ul style="list-style-type: none"> - 1 x Tail Fin. - 1 x Orange Stickers. - 1 x Green Stickers. - 1 x Yellow Stickers. - 1 x White Stickers. 	<p>Low Side Frame Mount [H1246-S]</p>  <ul style="list-style-type: none"> - 2 x Low Side Frame Mount. - 2 x Socket Head Cap M2.5x8mm. 	<p>Tail Bell Crank Lever [H1248-S]</p>  <ul style="list-style-type: none"> - 1 x Bell Crank Lever Assembled. - 1 x Head Cap Screws M2.5x18mm. - 1 x Head Cap Screws M2x6mm. - 1 x Uniball M2. - 1 x Uniball M3. 	<p>Tail Pitch Slider [H1249-S]</p>  <ul style="list-style-type: none"> - 1 x Tail Pitch Slider Assembled. 	

<p>Front Servo Mount 35mm [H1261-S]</p>  <p>- 1 x Front Servo Mount 35mm. - 3 x Head Cap Screws M2.5x8mm.</p>	<p>Rear Servo Mount 35mm [H1262-S]</p>  <p>- 1 x Rear Servo Mount 35mm. - 2 x Socket Head Cap M2.5x8mm.</p>	<p>Tail Pulley [H1272-S]</p>  <p>- 1 x Tail Pulley 23T. - 1 x Set Screw M3x8mm. - 4 x Head Cap Screws M2x12mm.</p>	<p>Linkage Tail Support [H1315-S]</p>  <p>- 1 x Linkage Tail Support. - 2 x Head Cap Screws M2.5x8mm.</p>	<p>Blade Grip Arm 27 [H1342-S]</p>  <p>- 2 x Blade Grip Arm. - 2 x Head Cap Screw M4x8mm. - 2 x Uniball M3x4 Ø5 H3.5.</p>
<p>[HC004-S]</p>  <p>- 8 x Head Cap Screws M2x6mm.</p>	<p>[HC008-S]</p>  <p>- 8 x Head Cap Screws M2x8mm.</p>	<p>[HC018-S]</p>  <p>- 8 x Head Cap Screws M2.5x6mm.</p>	<p>[HC019-S]</p>  <p>- 8 x Button Special Screws M2.5x6.</p>	<p>[HC020-S]</p>  <p>- 8 x Head Cap Screws M2.5x8mm.</p>
<p>[HC022-S]</p>  <p>- 8 x Head Cap Screws M2.5x10mm.</p>	<p>[HC026-S]</p>  <p>- 8 x Head Cap Screws M2.5x12mm.</p>	<p>[HC028-S]</p>  <p>- 8 x Head Cap Screws M2.5x15mm.</p>	<p>[HC032-S]</p>  <p>- 5 x Head Cap Screws M2.5x18mm.</p>	<p>[HC044-S]</p>  <p>- 5 x Head Cap Screws M3x6mm.</p>
<p>[HC050-S]</p>  <p>- 8 x Head Cap Screws M3x8mm.</p>	<p>[HC056-S]</p>  <p>- 8 x Head Cap Screws M3x10mm.</p>	<p>[HC062-S]</p>  <p>- 8 x Head Cap Screws M3x12mm.</p>	<p>[HC074-S]</p>  <p>- 2 x Head Cap Shoulder M3x16mm. - 2 x Nylon Nut M3.</p>	<p>[HC079-S]</p>  <p>- 2 x Head Cap Shoulder M3x18mm. - 2 x Nylon Nut M3.</p>

<p>[HC111-S]</p>  <p>- 8 x Head Cap Shoulder M4x24mm.</p>	<p>[HC122-S]</p>  <p>- 8 x Button Cap Screws M6x10mm.</p>	<p>[HC125-S]</p>  <p>- 8 x Flat Cap Screws M2.5x8mm.</p>	<p>[HC128-S]</p>  <p>- 8 x Flat Cap Screws M2.5x5mm.</p>	<p>[HC132-S]</p>  <p>- 8 x Flat Cap Screws M3x5mm.</p>
<p>[HC134-S]</p>  <p>- 8 x Flat Cap Screws M3x8mm.</p>	<p>[HC136-S]</p>  <p>- 8 x Self Tapping Screws M3x10mm.</p>	<p>[HC140-S]</p>  <p>- 8 x Set Screws M2.5x18mm.</p>	<p>[HC144-S]</p>  <p>- 8 x Set Screws M3x6mm.</p>	<p>[HC152-S]</p>  <p>- 8 x Set Screws M4x4mm.</p>
<p>[HC153-S]</p>  <p>- 8 x Set Screws M4x6mm.</p>	<p>[HC154-S]</p>  <p>- 8 x Set Screws M4x15mm.</p>	<p>[HC164-S]</p>  <p>- 4 x Bolt M6x14mm.</p>	<p>[HC165-S]</p>  <p>- 4 x Bolt M6x20mm.</p>	<p>[HC184-S]</p>  <p>- 5 x Washer $\phi 4.3 \times \phi 11 \times 1$mm.</p>
<p>[HC193-S]</p>  <p>- 5 x Washer $\phi 6 \times \phi 12 \times 1$mm.</p>	<p>[HC200-S]</p>  <p>- 8 x Metrix Nylon Nut M2.5.</p>	<p>[HC206-S]</p>  <p>- 8 x Metrix Nylon Nut M3.</p>	<p>[HC212-S]</p>  <p>- 8 x Metrix Nylon Nut M4.</p>	<p>[HC224-S]</p>  <p>- 4 x Nut M8.</p>
<p>[HC242-S]</p>  <p>- 3 x Thread Rod M2.5x40.</p>	<p>[HC400-S]</p>  <p>- 4 x Flanged Bearing $\phi 2.5 \times \phi 6 \times 2.6$.</p>	<p>[HC403-S]</p>  <p>- 4 x Ball Bearing $\phi 4 \times \phi 9 \times 2.5$ mm .</p>	<p>[HC412-S]</p>  <p>- 4 x Flanged Bearing $\phi 5 \times \phi 13 \times 4$mm.</p>	<p>[HC416-S]</p>  <p>- 2 x Flanged Bearing $\phi 7 \times \phi 11 \times 2.5$.</p>

<p>[HC417-S]</p>  <p>- 2 x Ball Bearing $\varnothing 8x \varnothing 14x4$.</p>	<p>[HC420-S]</p>  <p>- 4 x Ball Bearing $\varnothing 10x \varnothing 15x4$.</p>	<p>[HC430-S]</p>  <p>- 2 x Rad Bearing $\varnothing 30x \varnothing 37x4$.</p>	<p>[HC434-S]</p>  <p>- 2 x Thrust Bearing $\varnothing 4x \varnothing 9x4$.</p>	<p>[HC437-S]</p>  <p>- 2 x Thrust Bearing $\varnothing 10x \varnothing 14x4$.</p>	<p>[HC544-S]</p>  <p>- 8 x Head Cap Screw M4x20mm.</p>
<p>[HC549-S]</p>  <p>- 8 x Tapping Screw M3x12mm.</p>	<p>[HC582-S]</p>  <p>- 8 x Head Screw Special M4x8.</p>	<p>[HC586-S]</p>  <p>- 1 x Carbon Rod $\varnothing 2.5x \varnothing 4x570$. - 2 x Plastic Ball Linkage. - 2 x Thread Rod M2.5x40. - 2 x Aluminum Bush.</p>	<p>[HC587-S]</p>  <p>- 1 x Wave Washer $\varnothing 10x \varnothing 15x0.3$. - 2 x Pin 3x6mm. - 1 x Ball Bearing $\varnothing 10x \varnothing 24x7$mm. - 1 x Ball Bearing 10 x 22 x 6 mm. - 1 x Ball Bearing 2RS$\varnothing 10x \varnothing 22x6$. - 1 x Ball Bearing $\varnothing 6x \varnothing 13x5$mm. - 1 x Head Cap Shoulder M4x30. - 1 x Bushing. - 1 x Shim $\varnothing 6x \varnothing 9x0.2$mm.</p>		<p>[HC588-S]</p>  <p>- 1 x Motor Belt GT3-282-19 mm.</p>
<p>[HC592-S]</p>  <p>- 1 x Tail Belt 1722mm HTD3.</p>	<p>[HC594-S]</p>  <p>- 2 x Spacer $\varnothing 7x \varnothing 9x0,5$mm. - 2 x Grip Link Bushing. - 2 x Spacer $\varnothing 4x \varnothing 6,9x0,5$mm. - 2 x Spacer $\varnothing 8x \varnothing 12,5x0,5$mm. - 2 x Spacer $\varnothing 11x \varnothing 13,8x0,5$mm. - 2 x Spacer Arm $\varnothing 2,5x \varnothing 4x6,3$mm. - 2 x Oring 90°.</p>		<p>[HA021-S]</p>  <p>- 2 x Canopy Grommet.</p>		<p>[HA035-S]</p>  <p>- 2 x Double side tape 30x100x1.</p>
<p>[HA041-S]</p>  <p>- 2 x Strap 20x250mm.</p>	<p>[HA050-S]</p>  <p>- 4 x Futaba servo arm.</p>	<p>[HA051-S]</p>  <p>- 4 x JR servo arm.</p>	<p>[HA075-S]</p>  <p>- 1 x Free Wheel Clutches grease.</p>	<p>[HA076-S]</p>  <p>- 1 x Tranmissions module grease.</p>	<p>[HA078-S]</p>  <p>- 1 x Foam Blade Holder 580.</p>
<p>MAIN BLADES 570 WHITE (BW0570)</p>  <p>- 2 x Main Blades 570 White.</p>			<p>TAIL BLADES 95 WHITE (BW5095)</p>  <p>- 2 x Tail Blades 95 White.</p>		



Carefully check your model before each flight to ensure it is airworthy.

Consider flying only in areas dedicated to the use of model helicopters.

Check and inspect the flying area to ensure it is clear of people and obstacles.

Rotor blades can rotate at very high speeds! Be aware of the danger they pose.

Always keep the model at a safe distance from other pilots and spectators.

Avoid maneuvers with trajectories towards a crowd.

Always maintain a safe distance from the model.

GOBLIN KRAKEN 580

Release 1.0 - June 2020

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