

MANUAL

IL GOBLIN
SAB HELI DIVISION

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IL GOBLIN

THE ITALIAN HELI

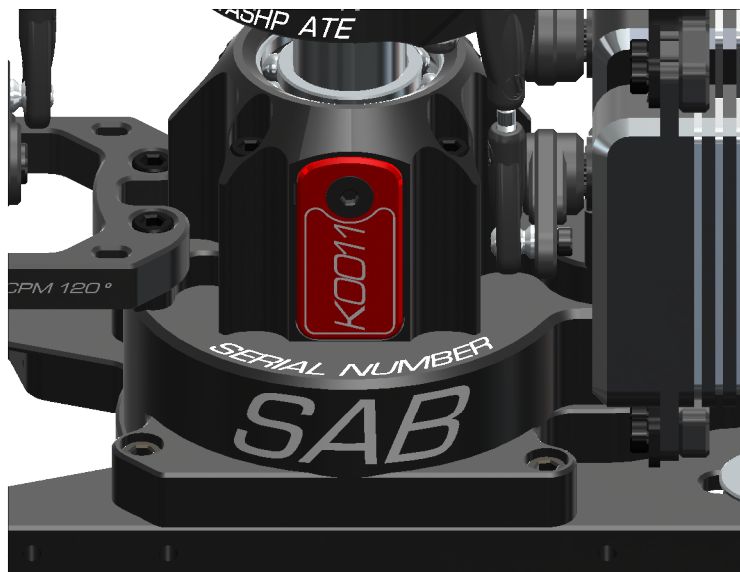
KSE

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.

The Serial number is also engraved in the Aluminum part.

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

SAB Heli Division

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ILGOBLIN KSE [SG762] TECHNICAL SPECIFICATIONS



Minimum tail blade size: 105mm
Maximum tail blade size: 115mm

- **AIRFRAME weight:** 2272 gr (no blades, no battery, no electronics).
- **Main rotor diameter:** 1558 mm (with 682 mm blade).
- **Main blade length:** 650 to 730mm.
- **Tail rotor diameter:** 292 mm (with 110 mm tail blade).
- **Tail blade length:** 105 to 115 mm.
- **Main shaft:** 15 mm, Tail shaft: 8 mm.
- **Molded carbon tail boom .**

KIT Includes:

- 21T motor pulley (other pulley sizes available).
- 2 battery trays with integrated connectors.

- **Cyclic Servos:** Standard size 40mm.
- **Tail Servo:** Standard size 40mm.
- **Main Rotor Ratio:** 11.8 to 8.8 (21T included: 10.1:1).
- **Tail Rotor Ratio:** 5.1-4.9:1 (26T included: 4.9:1).
- **Motor:** 12S, 480/560 KV.
- **Battery room:** 50x60x300 mm.

- S682 Orange (682 mm main blade).
- S110 Orange (110 mm tail blade).



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.
- *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 designated for 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.

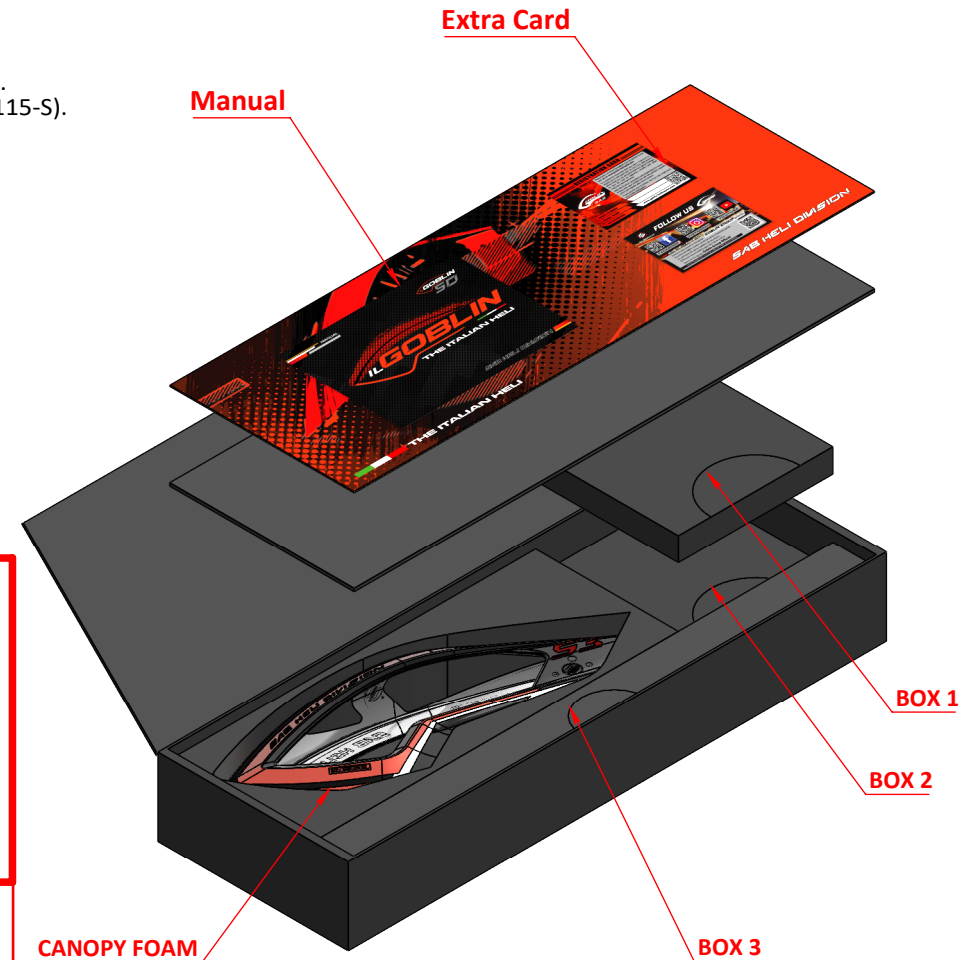
ADDITIONAL COMPONENTS REQUIRED

- *Electric Motor
- *Speed controller
- *Batteries: 12S – 4200/5500mAh
- *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. Try-Flow Oil).
- *Synthetic grease (eg. Microlube 261).
- *Cyanoacrylate adhesive.
- *Pitch Gauge (for set-up).
- *Soldering equipment (for motor wiring).

INSIDE THE MAIN BOX THERE ARE:



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>Box xx, BAGxx</p> <p>Indicates that for this assembly phase you need materials that are: BOX xxx, BAG xxx.</p>	<p>Use CA Glue</p>	<p>Use Proper Lubricant</p>

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.



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Goblin K&E

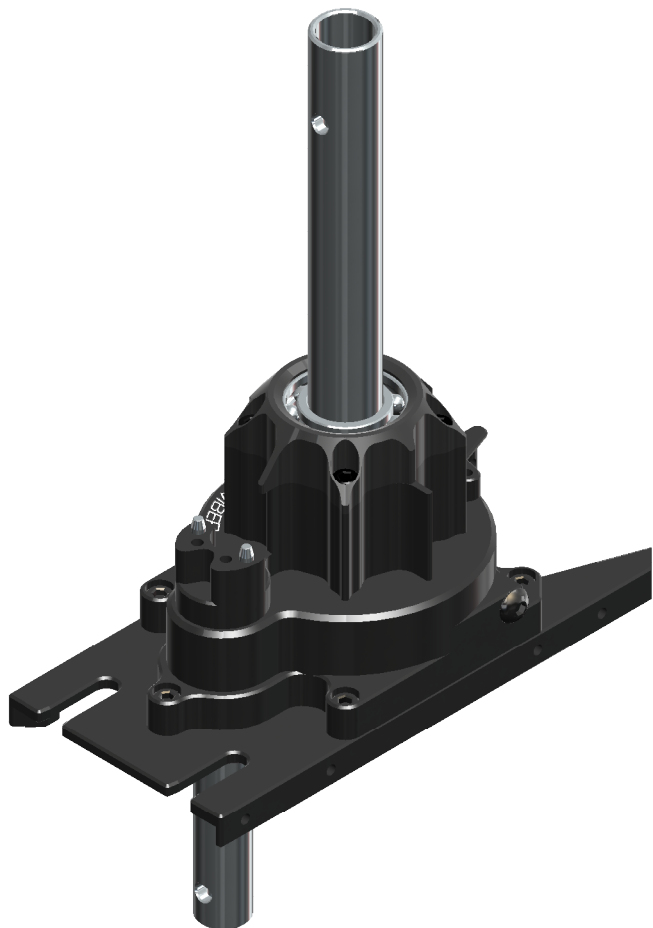
TRANSMISSION GROUP ASSEMBLY

BOXES 1-2 , BAG FOR PAGE 5

TRANSMISSION GROUP ASSEMBLED AND VERIFIED

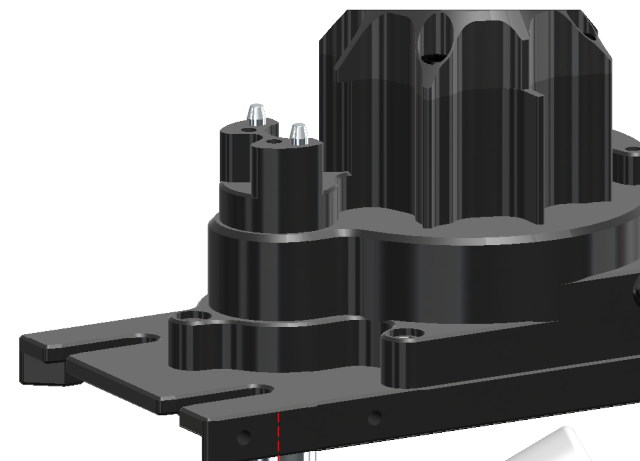
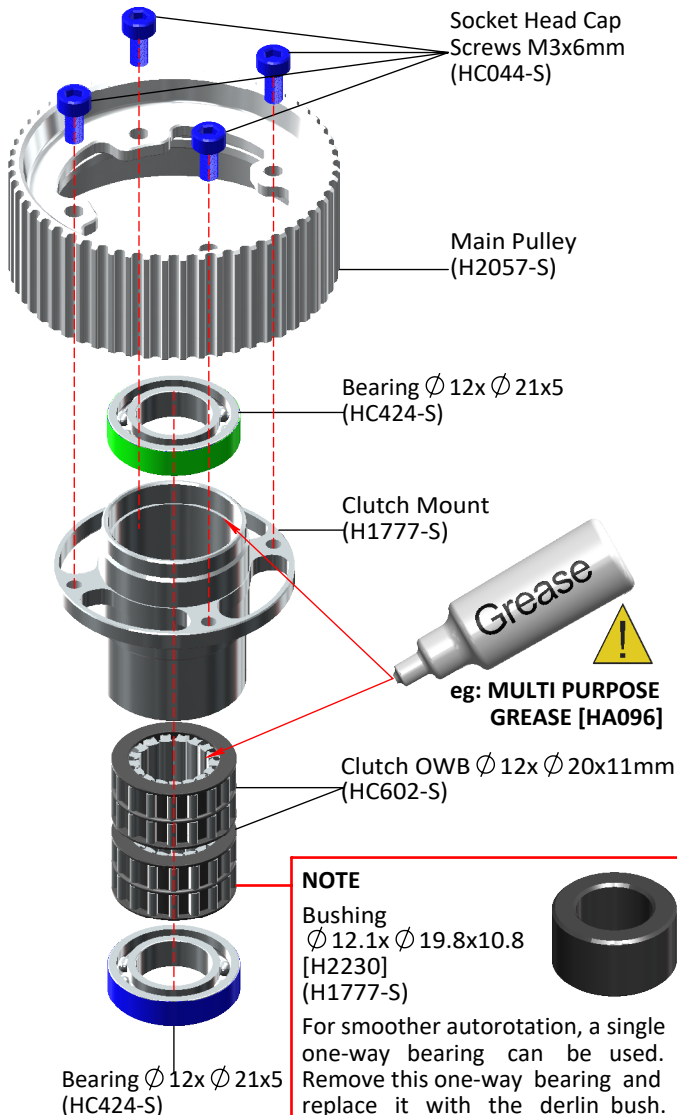
The unit is ready to use. Check page 38 for more information.

Already Assembled With Loctite



MAIN PULLEY ASSEMBLY

Already Assembled With Loctite



Bushing $\varnothing 12.1x \varnothing 15x1.4$ [H1275] (H1777-S)

eg: MULTI PURPOSE GREASE [HA096]

FREE TURN PULLEY

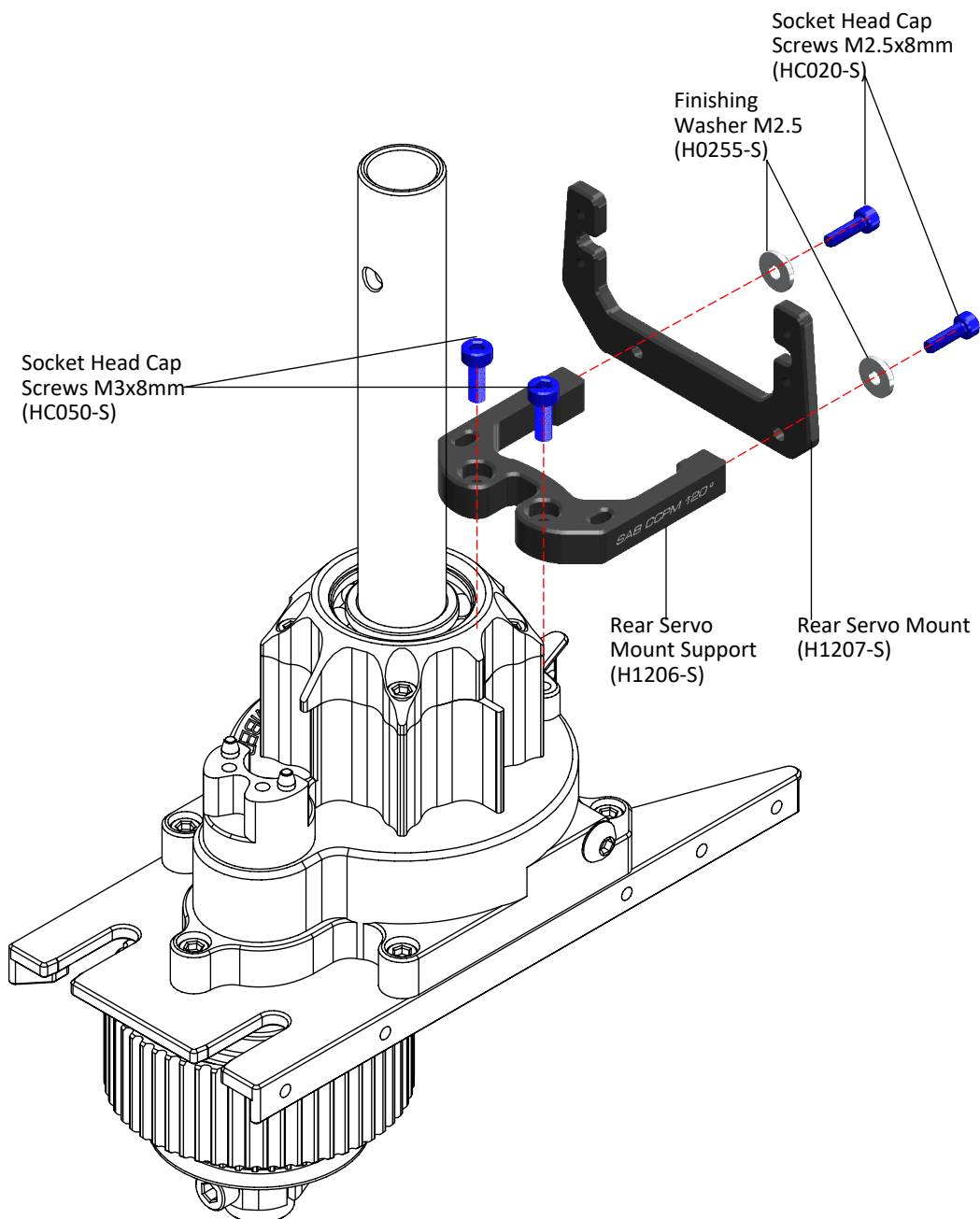
Front Tail Pulley Assembly (H1778-S)

Already Assembled With Loctite

Socket Head Cap Screw Shoulder M4x21.5mm (HC545-S)

Shim $\varnothing 12.1x \varnothing 16x0.1mm$ [HC538] (H2057-S)
Use to remove play

Nylon Nut M4 (HC212-S)

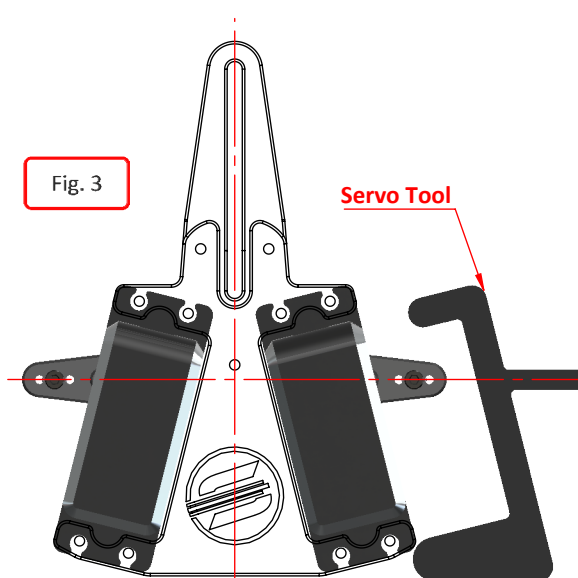
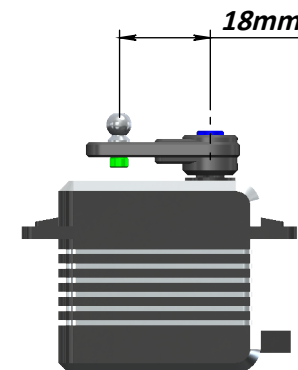
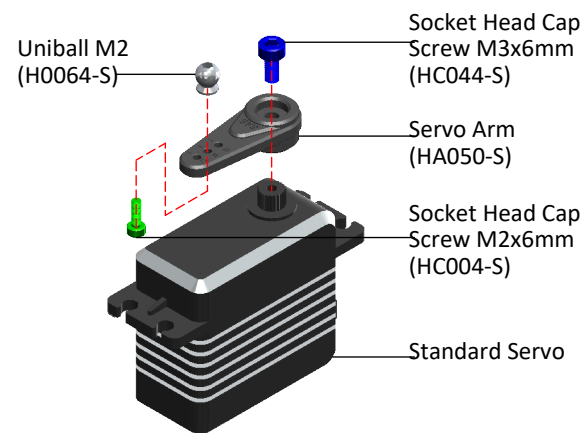


SERVO ASSEMBLY

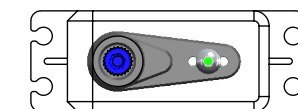
The linkage ball must be positioned 18 mm out on the servo arm. The recommended servo arm to use is: SAB p/n [HA050/HA051].

Ensure the alignment of the servo arms (and sub trim is set) before installation of 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)**



Front Servos



Rear Servo



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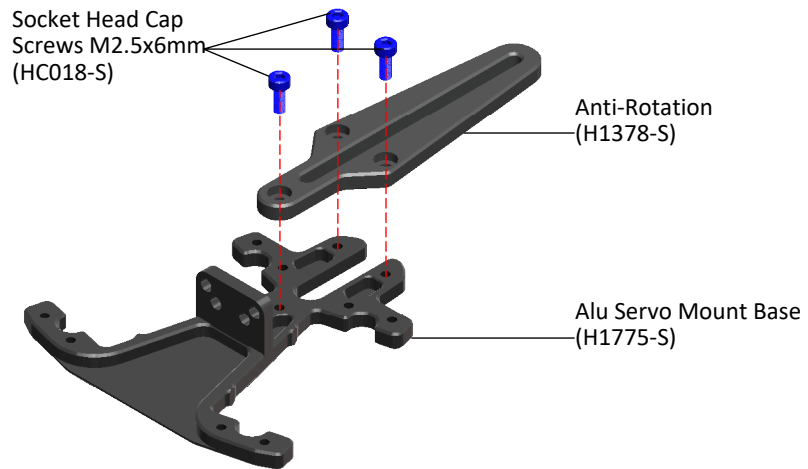
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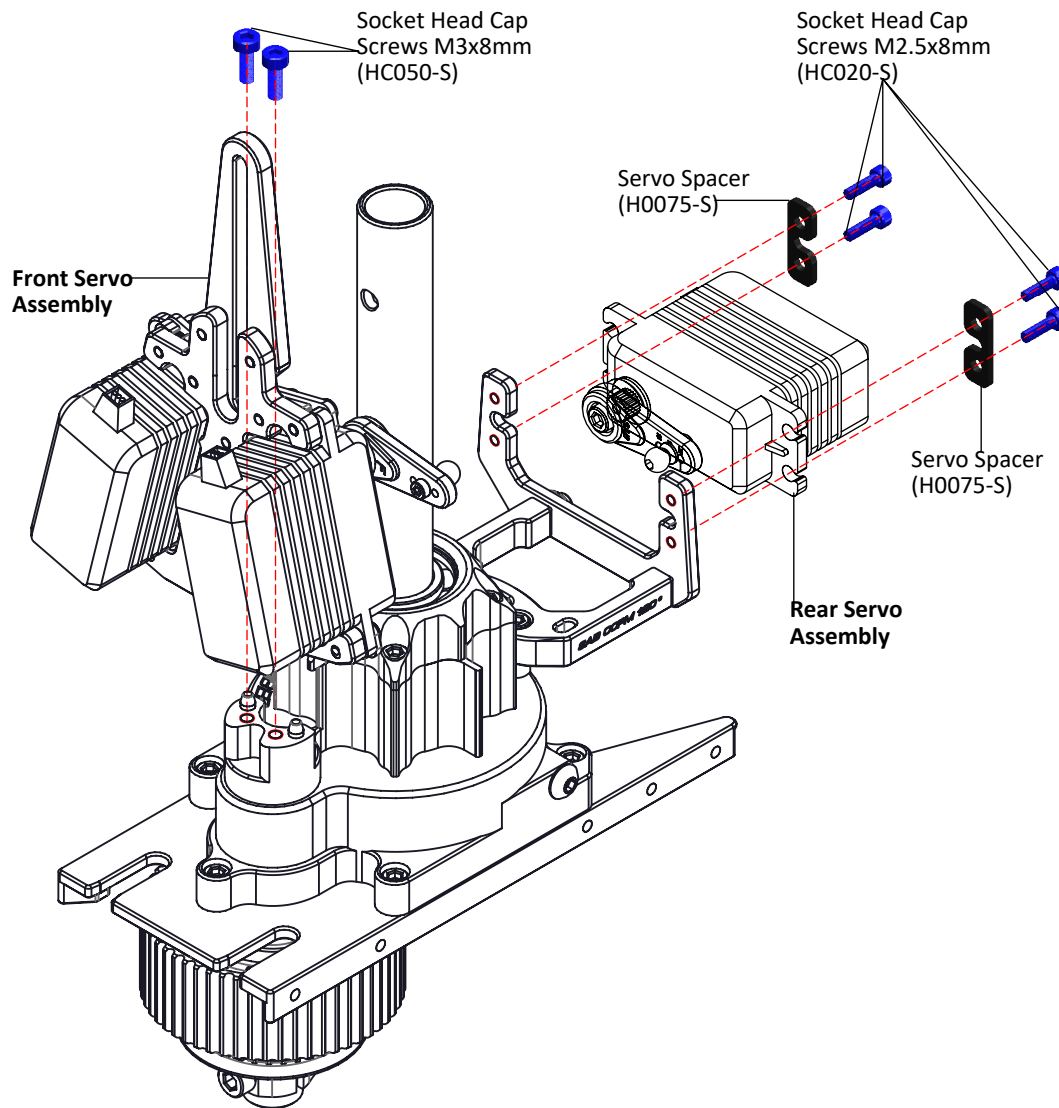
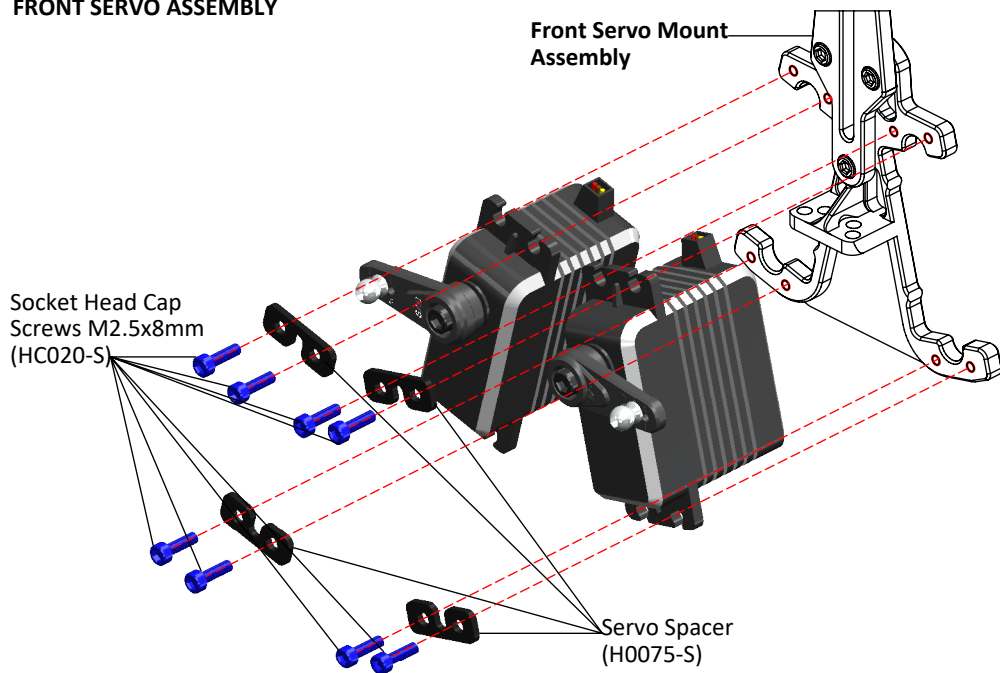
SWASHPLATE SERVO ASSEMBLY

BOX 1, BAG FOR PAGE 7

FRONT SERVO MOUNT ASSEMBLY



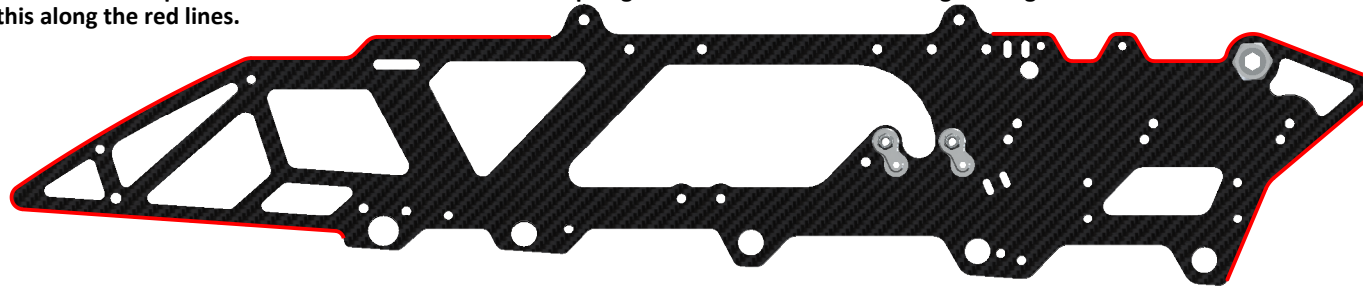
FRONT SERVO ASSEMBLY



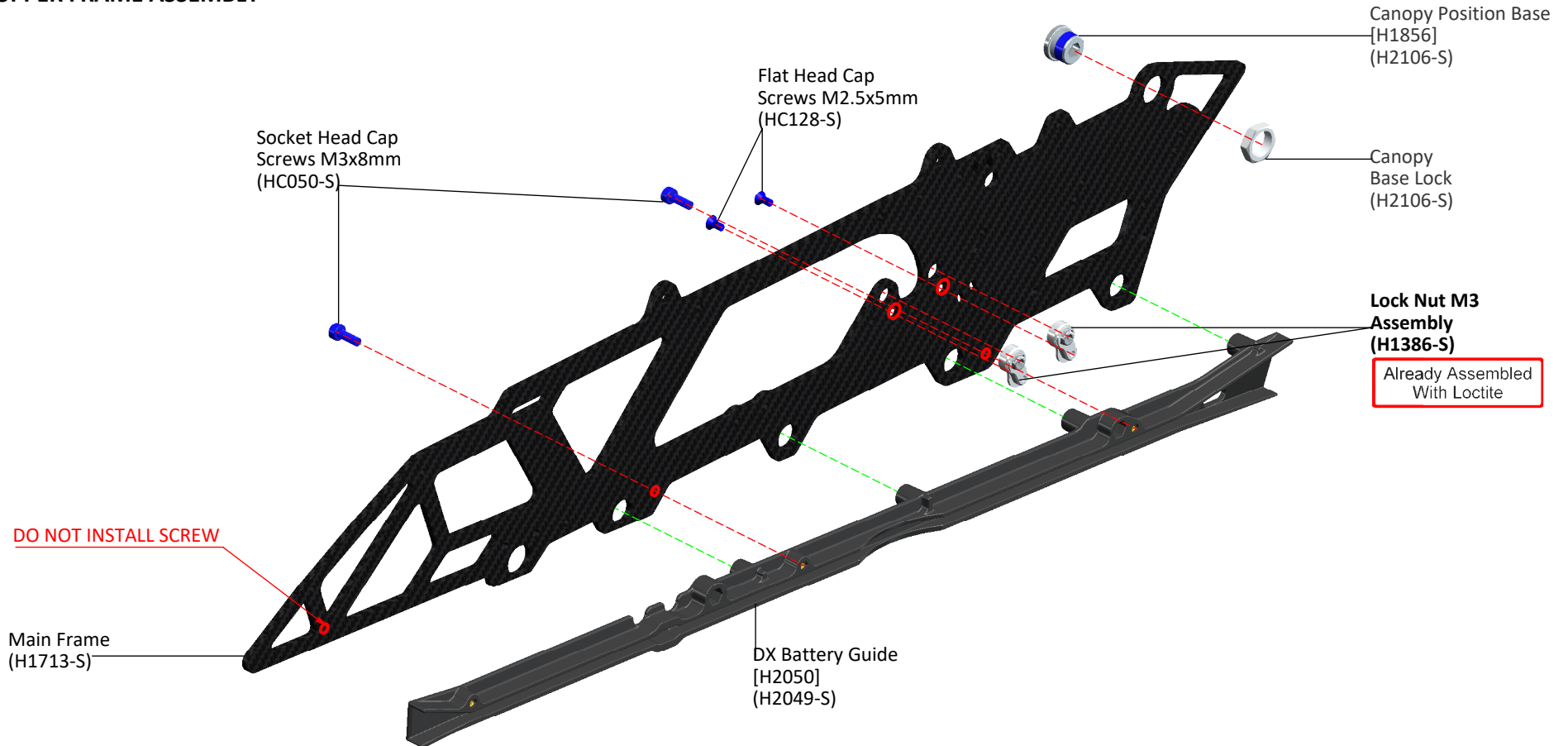
CARBON FRAME



The manufacturing process of the carbon parts often leaves micro-burrs and sharp edges. We recommend de-burring the edges to minimize the risks of electrical wire cuts, etc. It is very important to do this along the red lines.



RIGHT UPPER FRAME ASSEMBLY





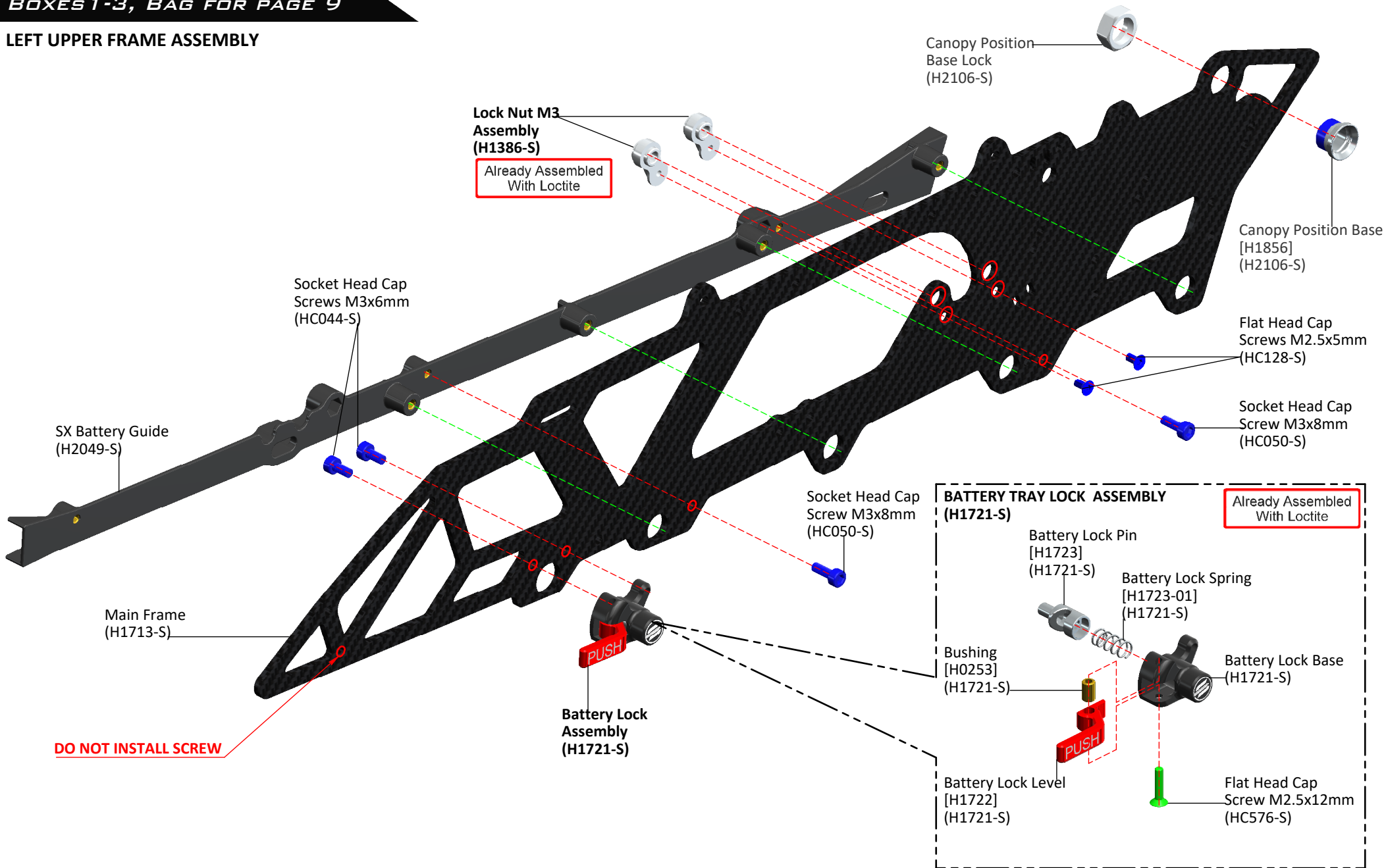
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GOBLIN K&E

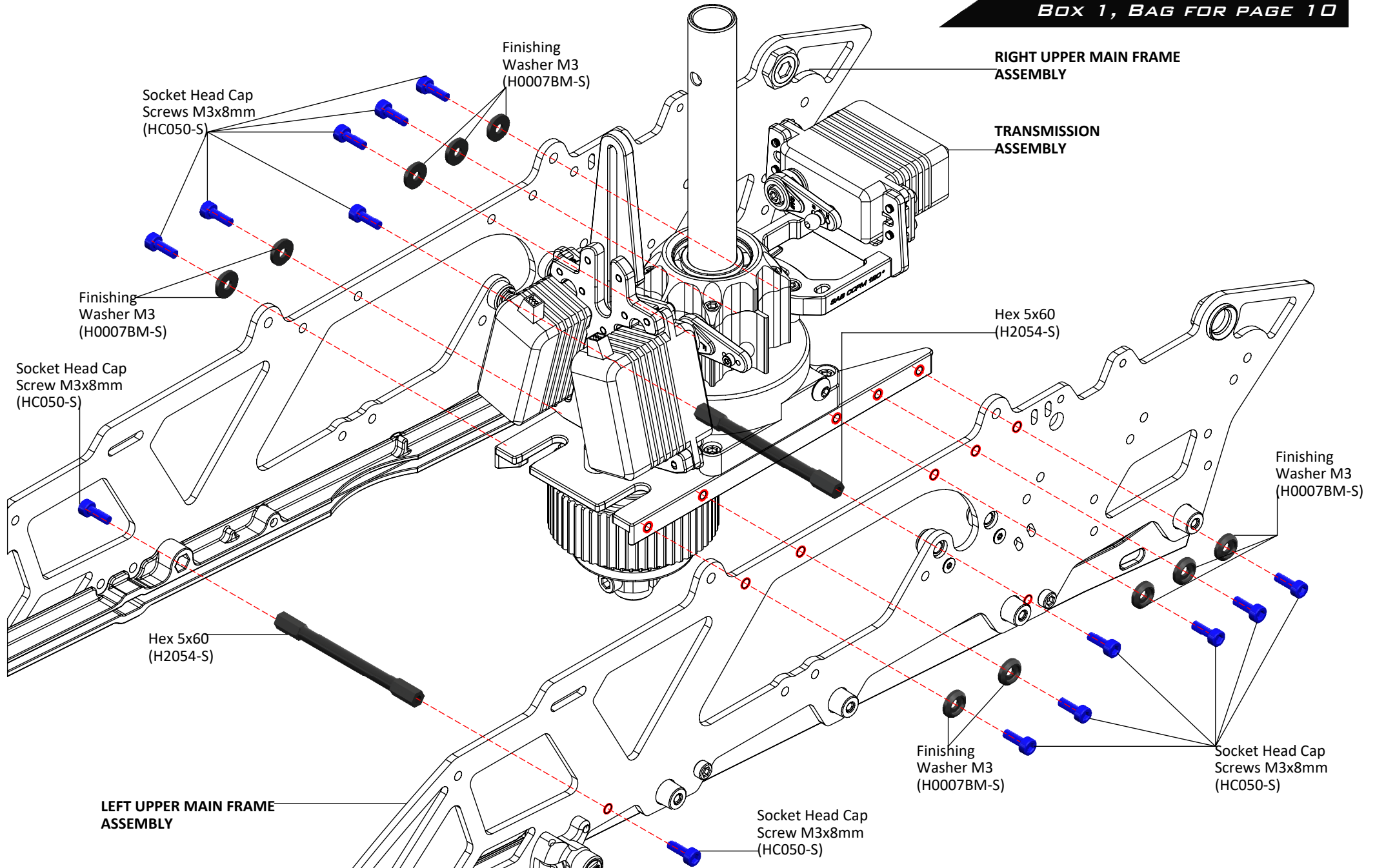
FRAME GROUP ASSEMBLY

BOXES 1-3, BAG FOR PAGE 9

LEFT UPPER FRAME ASSEMBLY



BOX 1, BAG FOR PAGE 10





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BOXES 1-2, BAG FOR PAGE 11

RADIUS ARM ASSEMBLY

...X2

Flanged Bearing
Ø 3x Ø 7x3mm
(HC402-S)

Spacer Arm
Ø 3x Ø 5x2.7mm
[H0134]
(H0421-S)



Radius Arm
(H0421-S)

Flanged Bearing
Ø 3x Ø 7x3mm
(HC402-S)



PLEASE USE GREEN THREAD LOCK to secure the bearings to the radius arms. Failure to secure the bearing will result in excessive slop/play.

LINKAGE ROD A ASSEMBLY

...X3



Plastic Ball Link M3
(H2210-S)

Linkage Rod M3x50mm
(H0417-S)

Plastic Ball Link M3
(H2210-S)

Right Thread

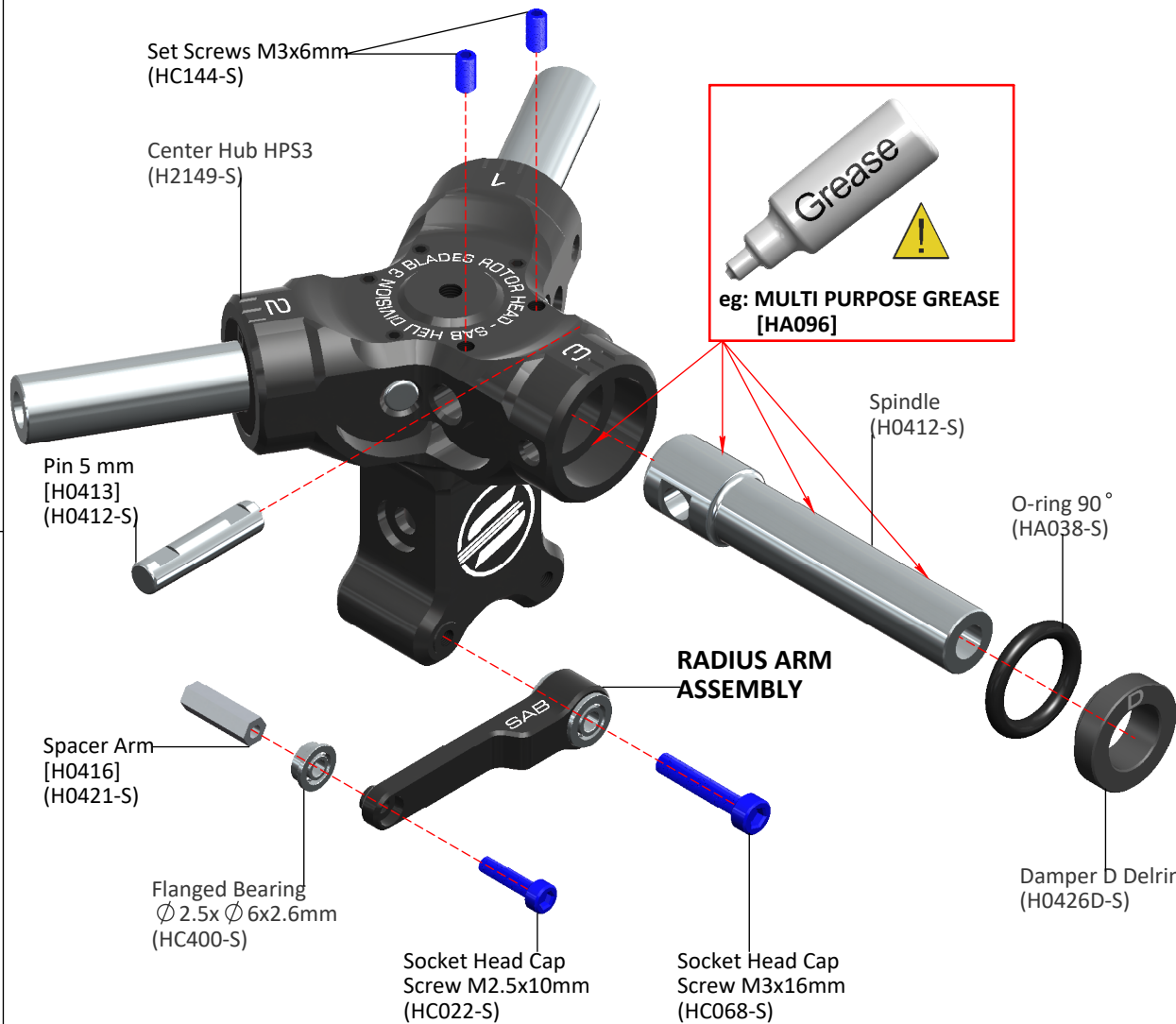
Left Thread



Approx 75-76mm

Note: You can use HA016 to easily thread the plastic link onto the rods.

CENTER HUB ASSEMBLY



Set Screws M3x6mm
(HC144-S)

Center Hub HPS3
(H2149-S)

Pin 5 mm
[H0413]
(H0412-S)

Spacer Arm
[H0416]
(H0421-S)

Flanged Bearing
Ø 2.5x Ø 6x2.6mm
(HC400-S)

Socket Head Cap
Screw M2.5x10mm
(HC022-S)

RADIUS ARM
ASSEMBLY

Socket Head Cap
Screw M3x16mm
(HC068-S)

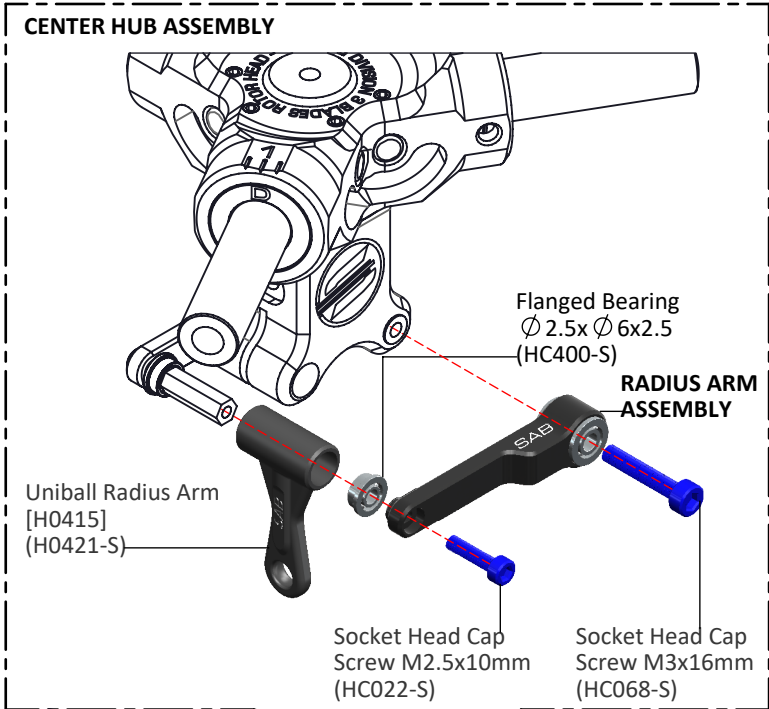


Spindle
(H0412-S)


O-ring 90°
(HA038-S)

Damper D Delrin
(H0426D-S)

NOTE: Different configurations are available. Read page 36.



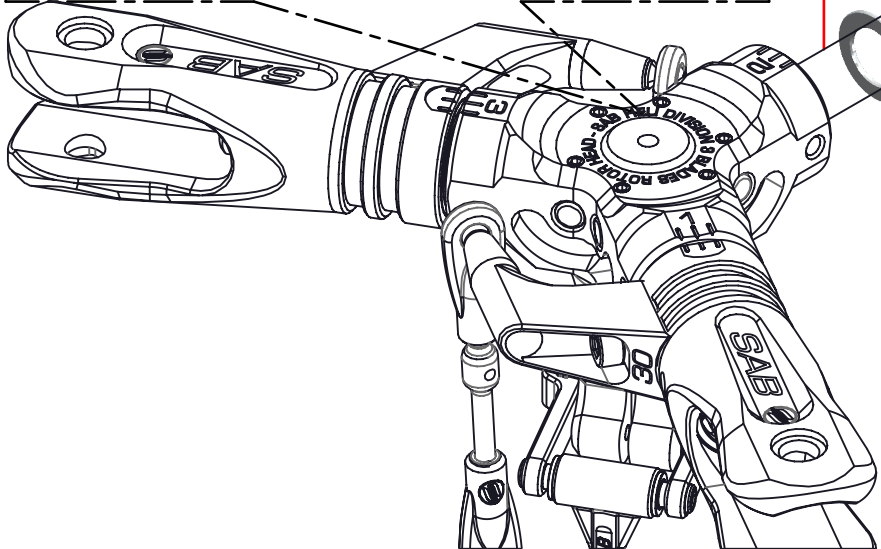
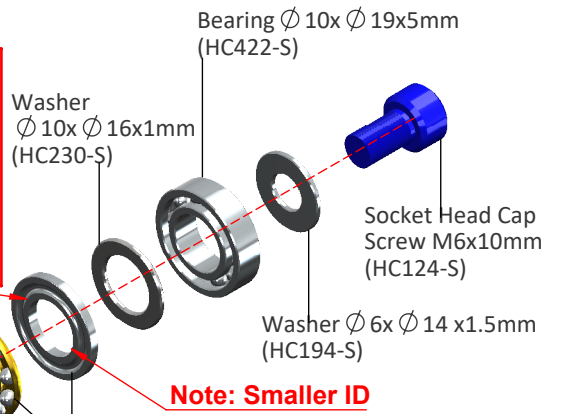
NOTE:



Shim $\phi 10 \times \phi 16 \times 0.2$ mm [HC232-S] [Bag Shims]. After approximately 40/50 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.



eg: MULTI PURPOSE GREASE [HA096]




Suggested: Use this hole to apply grease after several flights



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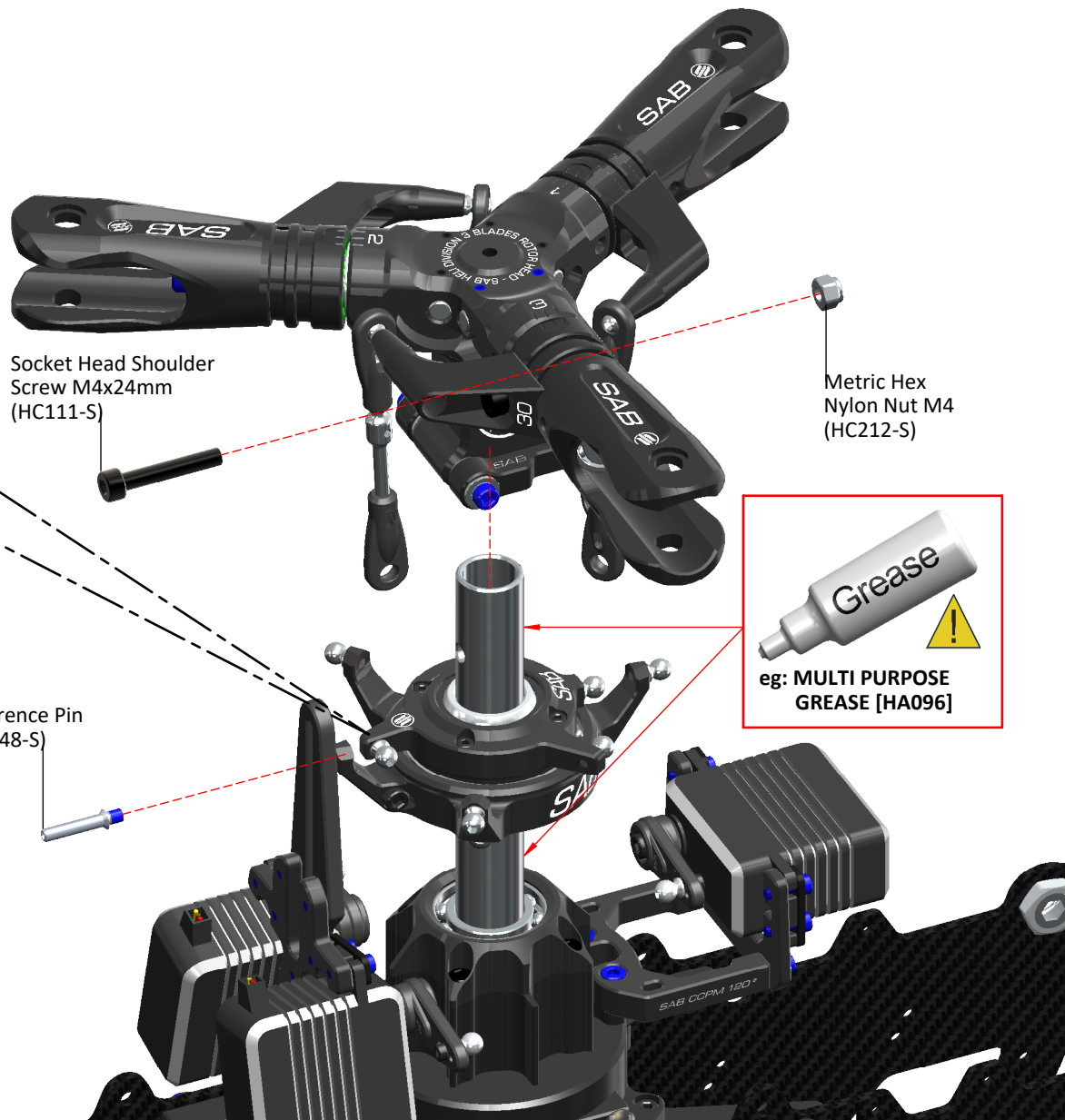
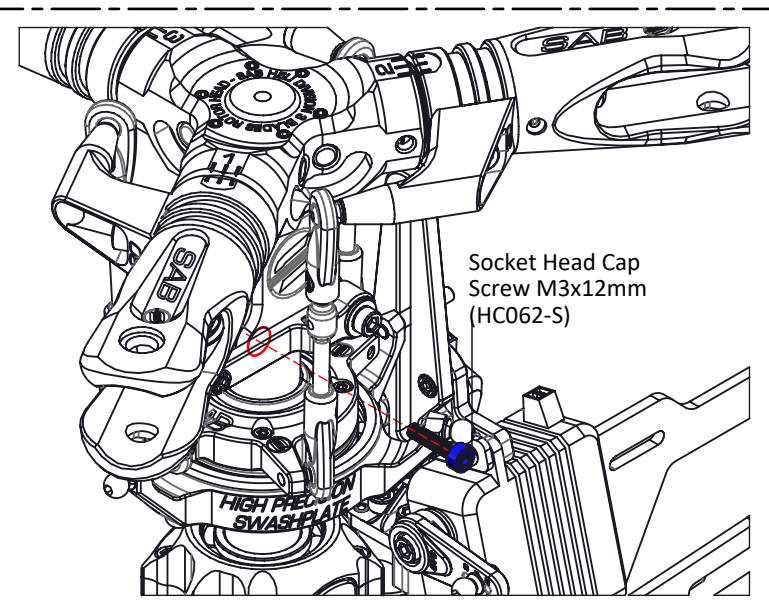
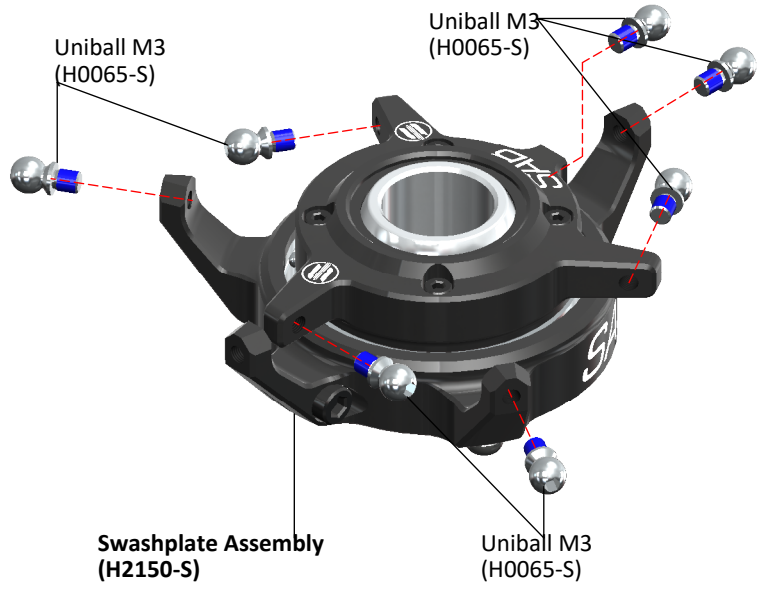
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ASSEMBLING OF THE MODULES

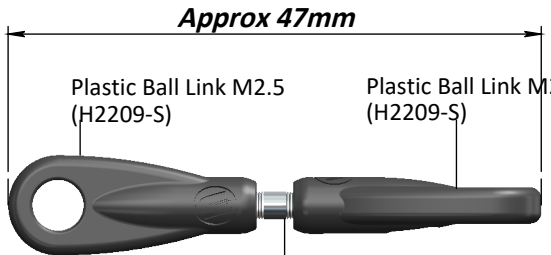
BOXES 1-2, BAG FOR PAGE 13

SWASHPLATE ASSEMBLY



LINKAGE ROD B ASSEMBLY ... X3

Approx 47mm

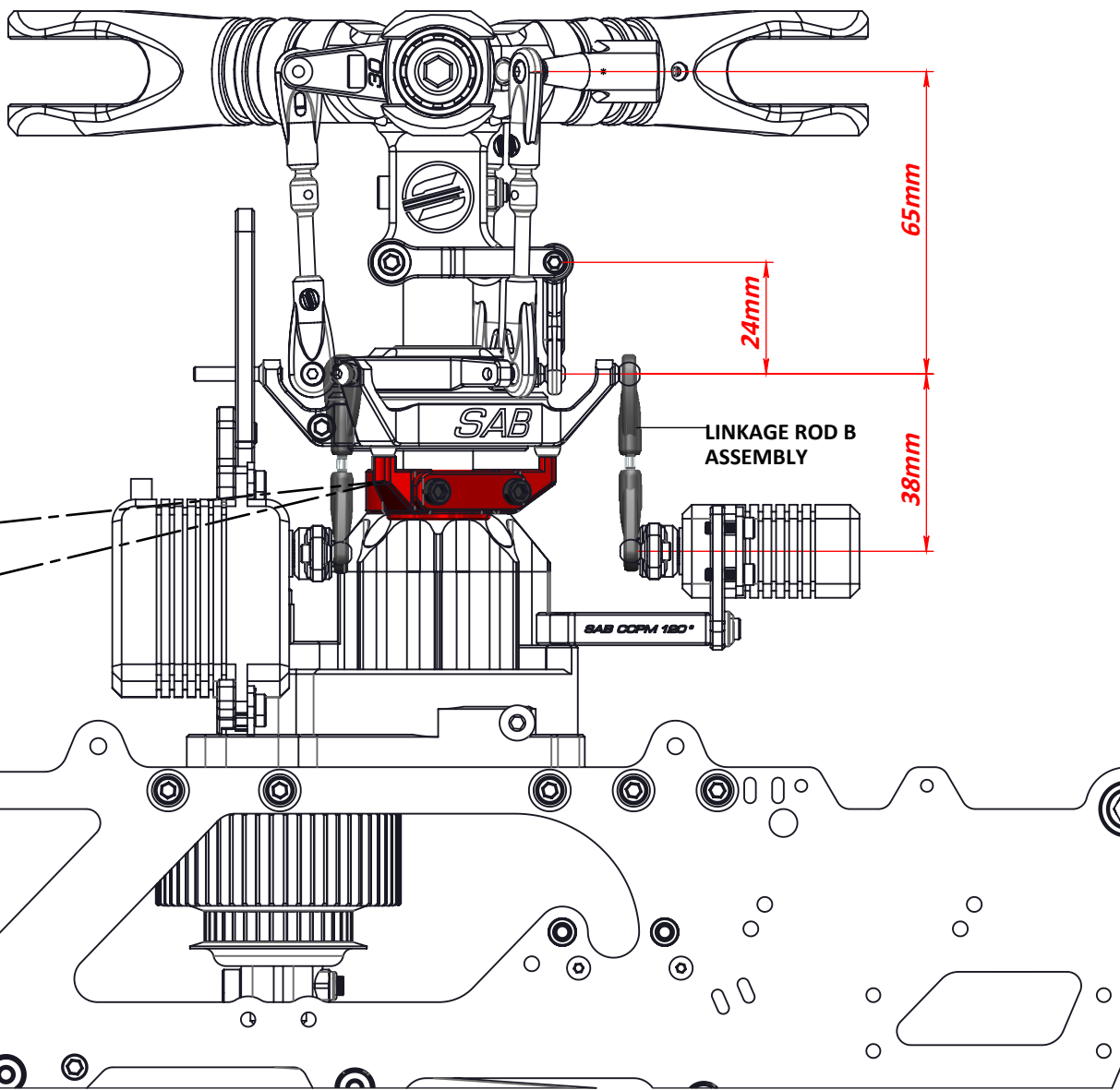



Plastic Ball Link M2.5 (H2209-S) Plastic Ball Link M2.5 (H2209-S)

Set Screw M2.5x18mm (HC140-S)

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

SUGGESTED:
You can use the Swashplate Leveler H2207-S (Not included KIT)





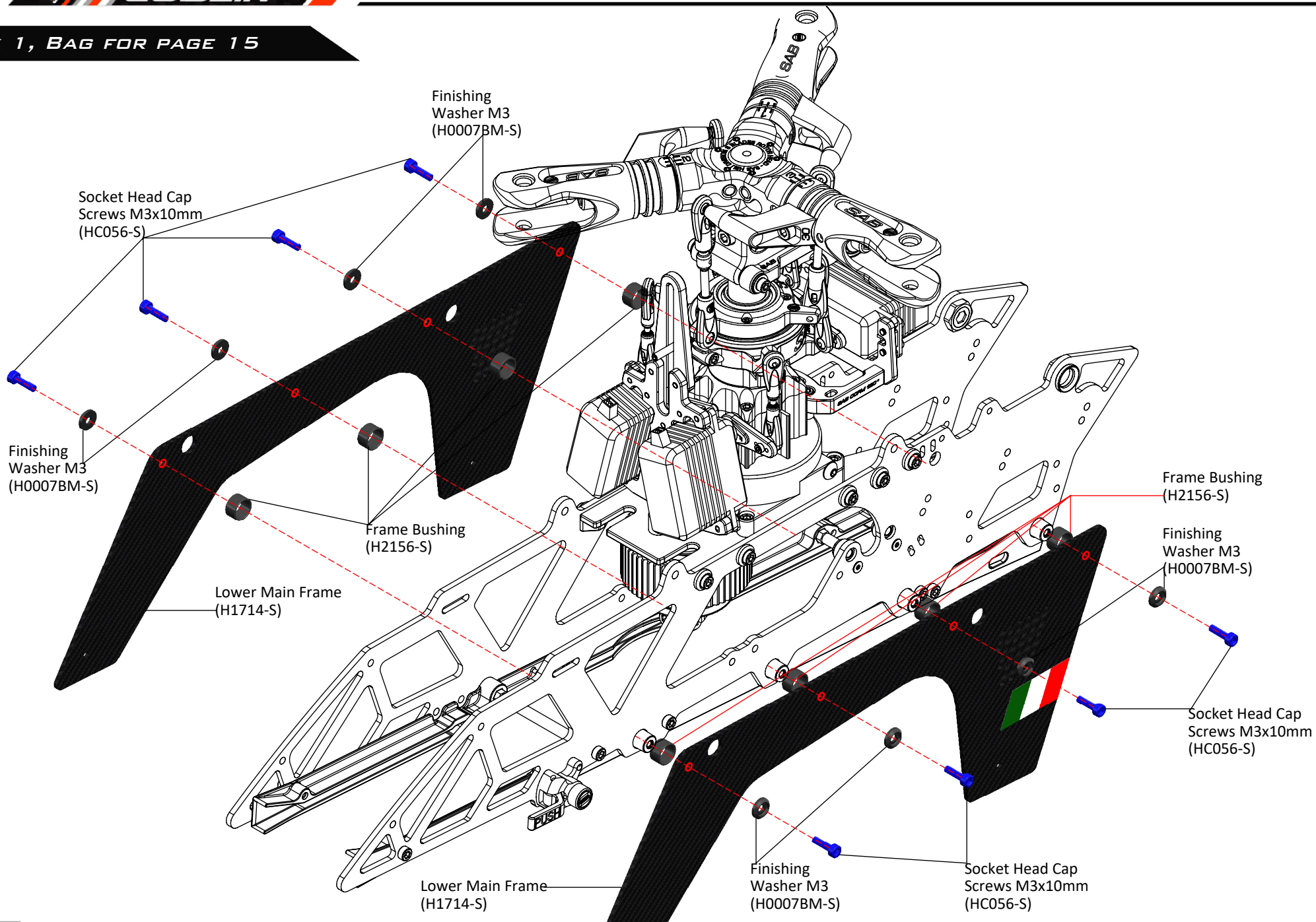
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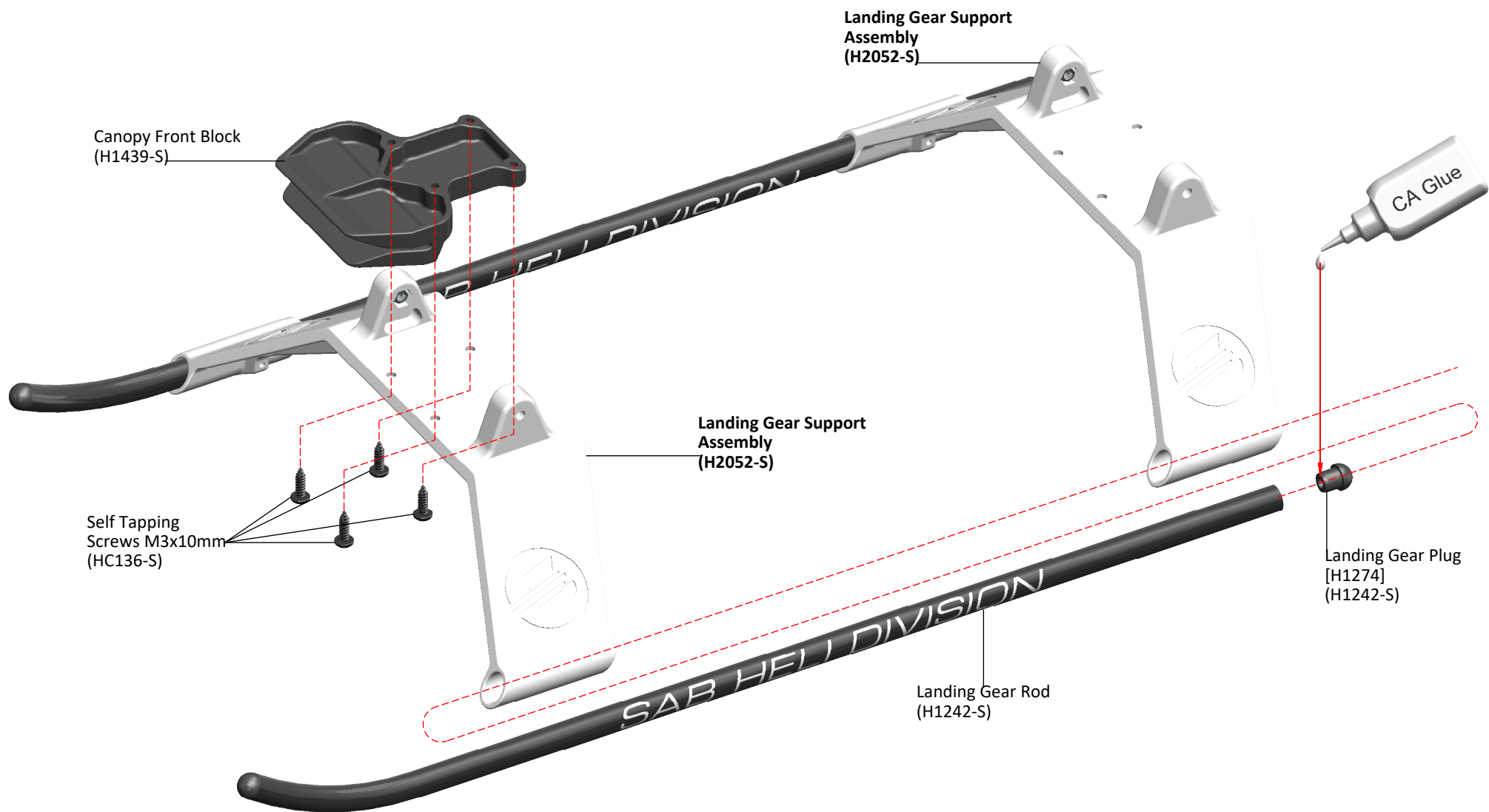
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LOWER SIDE FRAME INSTALLATION

BOX 1, BAG FOR PAGE 15





TRANSMISSION SETUP

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 212 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:

H0175-18-S - **18T** Pinion = ratio **11.8:1**

H0175-22-S - **22T** Pinion = ratio **9.6:1**

H0175-19-S - **19T** Pinion = ratio **11.2:1**

H0175-23-S - **23T** Pinion = ratio **9.2:1**

H0175-20-S - **20T** Pinion = ratio **10.6:1**

H0175-24-S - **24T** Pinion = ratio **8.8:1**

H0175-21-S - **21T** Pinion = ratio **10.1:1**

H0175-25-S - **25T** Pinion = ratio **8.4:1**

ILGOBLIN PRO KSE CONFIGURATIONS					
Battery	Motor	ESC	Pinion (a, b)	RPM Max (a, b)	Pitch
12S 4500/5500 mAh	Xnova 4530-525kv lightning	HV260 V5	21T / 22T	2100/2200	± 13
	Pyro 800-480	Kosmik 250HV YGE 205HVT	23T / 24T		
	Scorpion HK5-5024-535kV	SCORPION II 14-200A	20T / 21T		

Rev:01



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INSTALLATION OF THE MOTOR/ESC

BOXES 1-2, BAG FOR PAGE 19

3rd Bearing Support Assembly (H0143-S)

Install the support after mounting the motor and installing the pulley. H0143-S does not need to be used with an 8mm motor shaft.

Motor Mount Assembly (H2056-S)

Already Assembled With Loctite

Socket Head Cap Screw M3x6mm (HC044-S)

Washer $\phi 5.3 \times \phi 15 \times 1 \text{mm}$ (HC188-S)

Metric Hex Nylon Nut M5 (HC218-S)

Set Screw M4x6mm (HC153-S)

Motor Pulley 21T (H0175-21-S)

Flat Head Cap Screws M4x6mm (HC351-S)

Motor Bushing [H0176] (H0175-S)

Use with 6mm motor shaft

ESC MOUNT ASSEMBLY

Flat Head Cap Screws M3x5mm (HC132-S)

CF ESC Mount [H1719] (H1718-S)

ESC Mount Spacer (H1718-S)

NOTE:
Motor wires pointing forward.

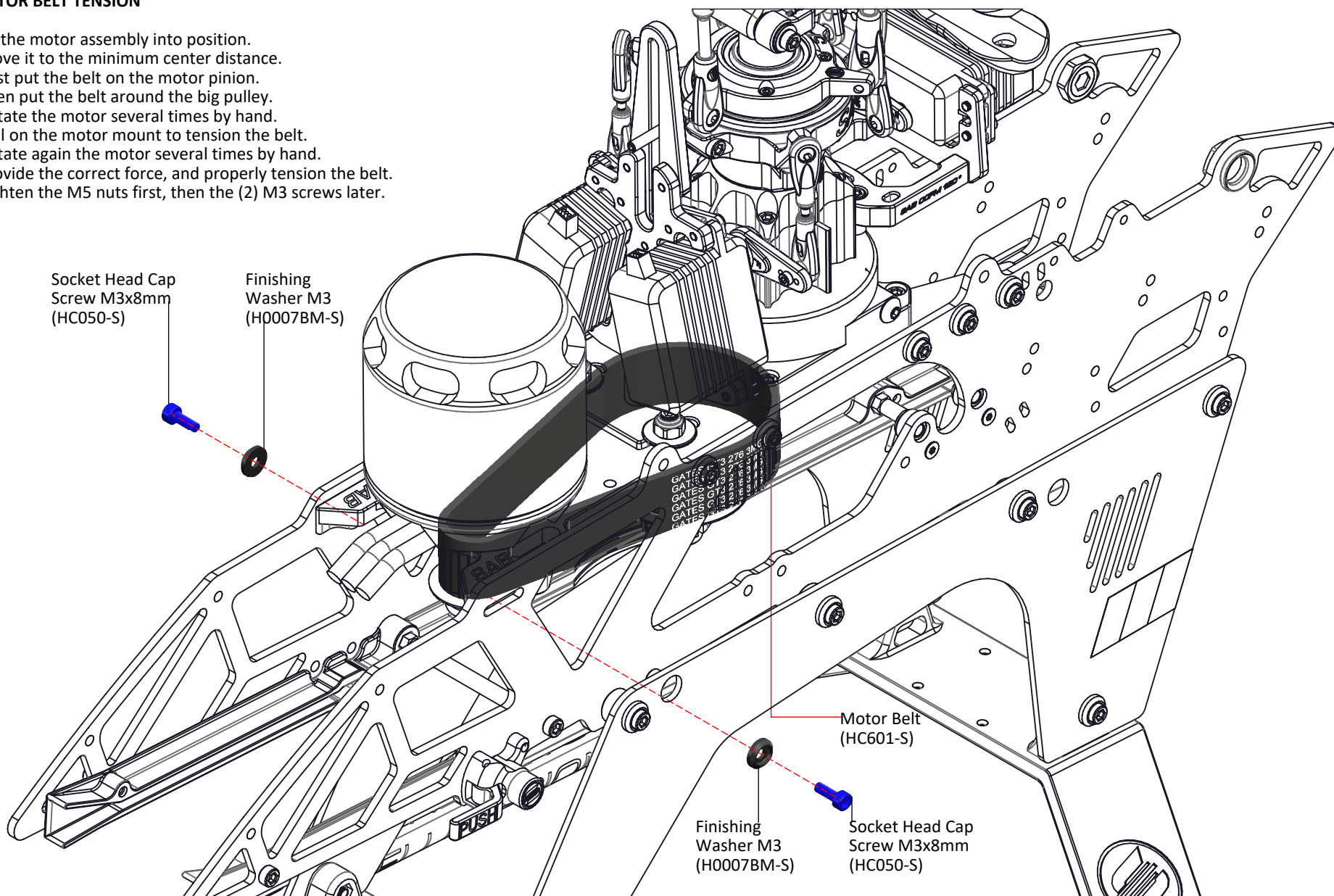
MIN : 28mm. Not use 3rd Bearing Support
MIN : 34mm. With 3rd Bearing Support
MAX: 40mm.

26.5-27.5mm

$\phi 8$ 5mm

MOTOR BELT TENSION

- *Fit the motor assembly into position.
- *Move it to the minimum center 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.





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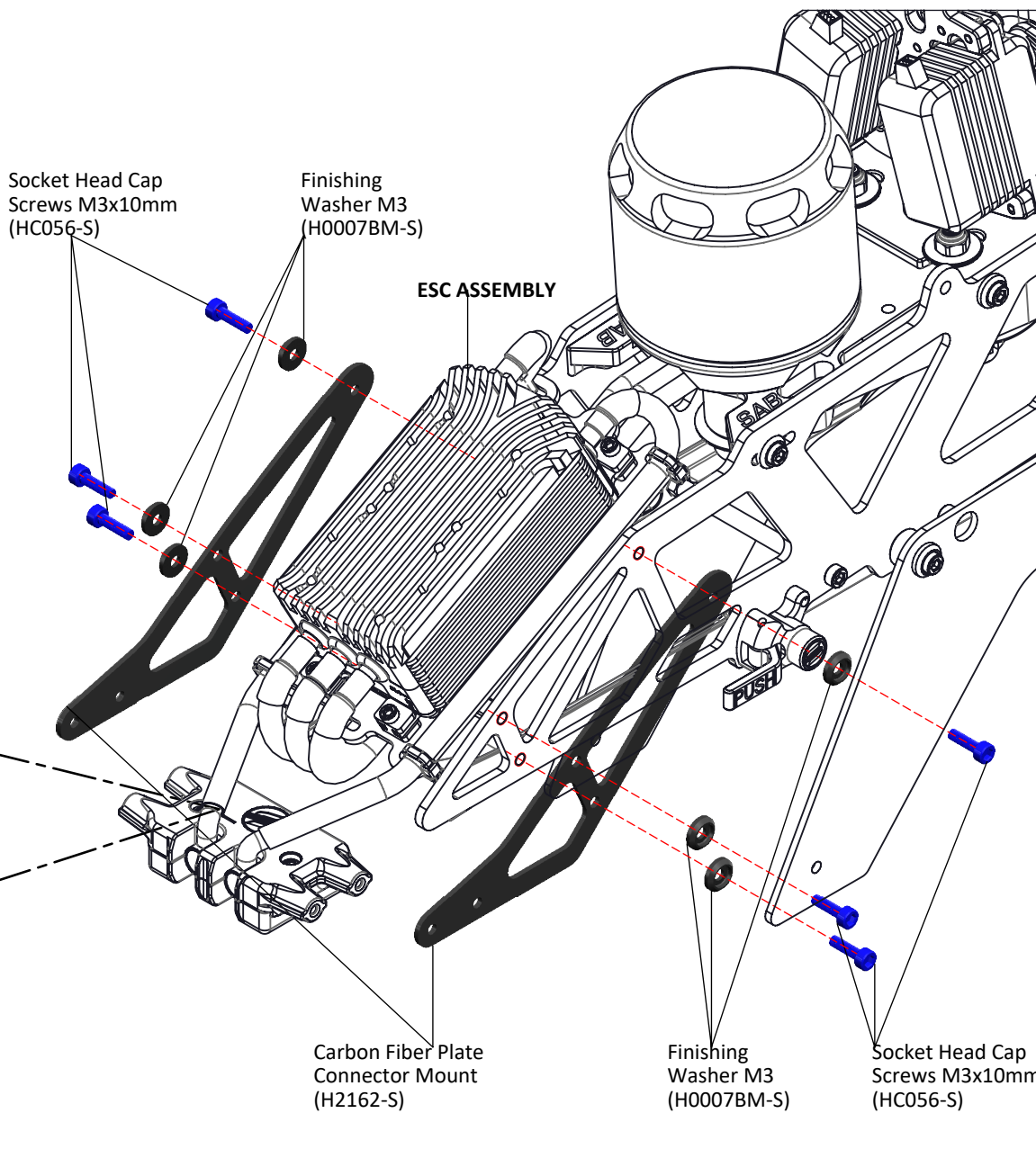
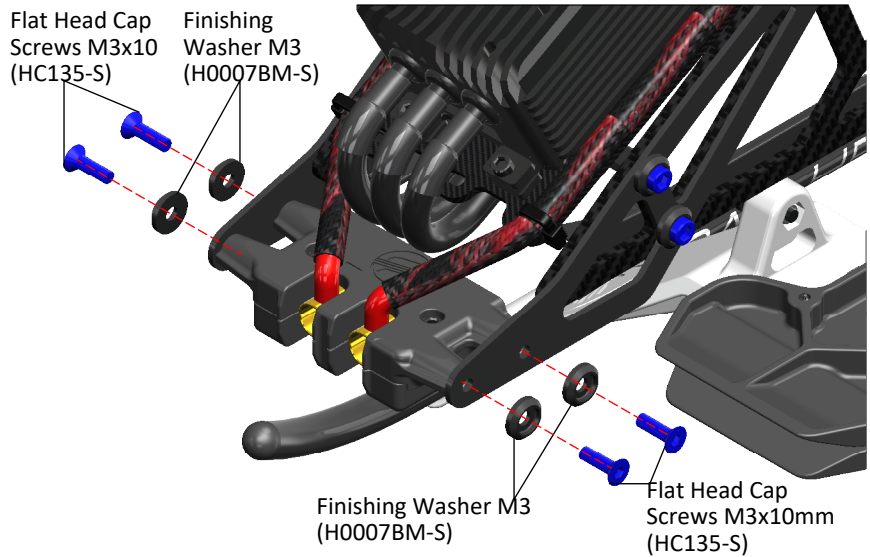
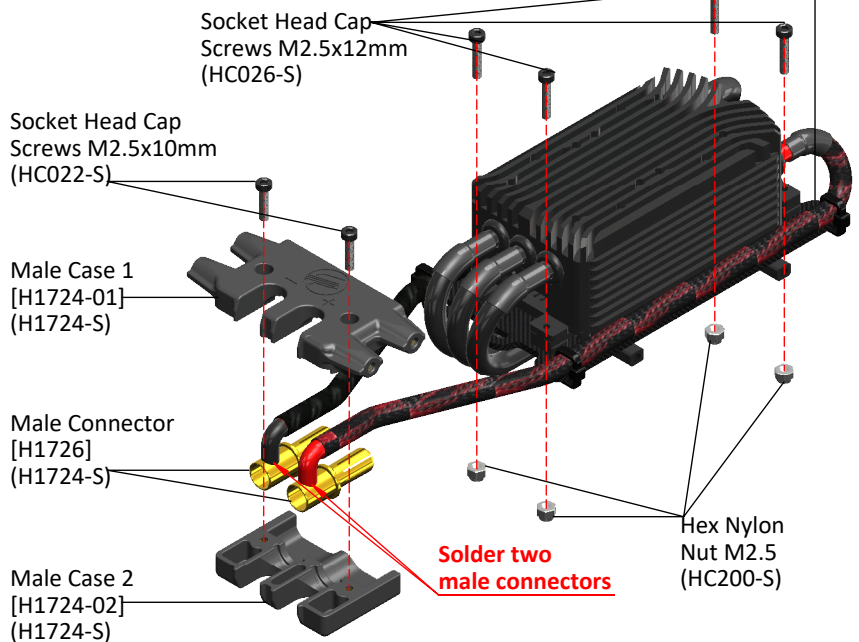
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INSTALLATION OF THE MOTOR/ESC

BOX 1, BAG FOR PAGE 21

ESC Support Assembly



BOXES 1-2, BAG FOR PAGE 22

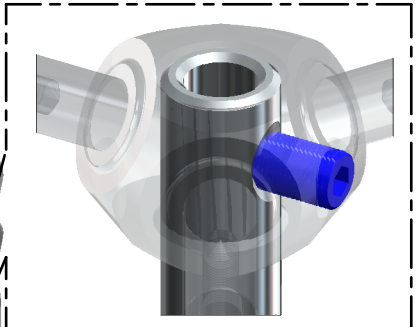
NOTE:
It is a normal for the tail to feel a bit tight after initial assembly as the tail spindle preload is usually high when the helicopter is brand new. The preload will loosen up after 2-5 flights allowing the system to become smooth.



Tail Blade Grip Assembly (H1893-S)
Already Assembled With Loctite

Bearing $\phi 5 \times \phi 10 \times 4 \text{mm}$ (HC411-S)
Already Assembled

C Shim [HC449]
Use in case tail grip are too play



Tail Hub HPS3 (H2193-S)

Spacer $\phi 7.5 \times \phi 10 \times 0.5 \text{mm}$ [H0349] (H0330-S)

Tail Shaft HPS3 (H2194-S)

Set Screw M4x6mm (HC153-S)

Button Head Cap Screw M3x6mm (HC094-S)

Bushing (H0435-S)

Smaller ID

Thrust Bearing $\phi 5 \times \phi 10 \times 4 \text{mm}$ (HC435-S)

Larger ID



Socket Head Cap Screws M2x6mm (HC004-S)

Bushing $\phi 2 \times \phi 3 \times 3$ [H0076] (H0056-S)

Tail Pitch Slider Assembly (H2195-S)
Already Assembled With Loctite

Washer $\phi 2.2 \times \phi 5 \times 0.3$ (HC170-S)

Tail Pitch Slider Link (H0056-S)



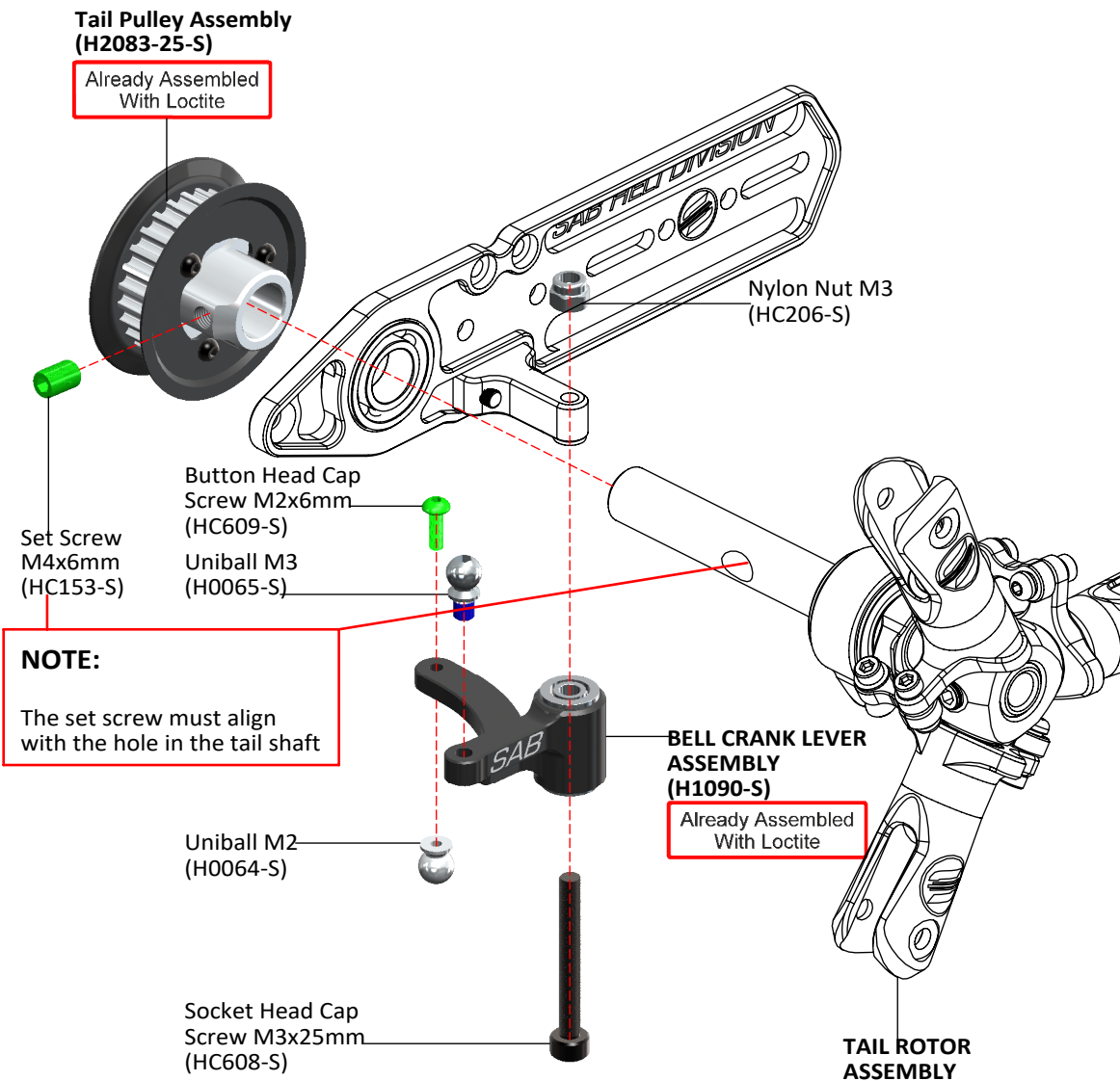
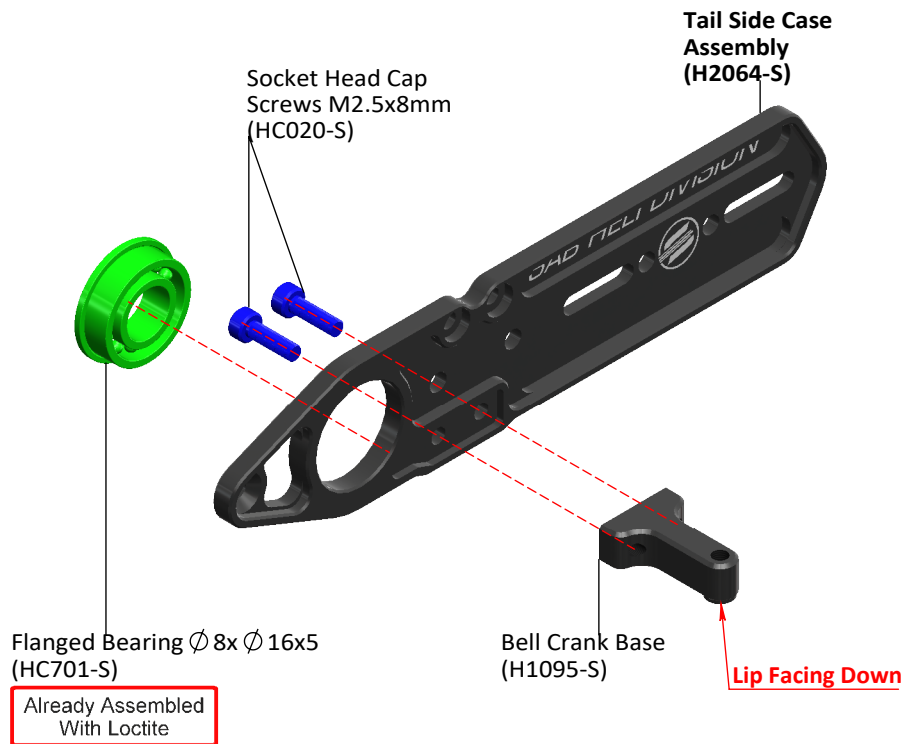
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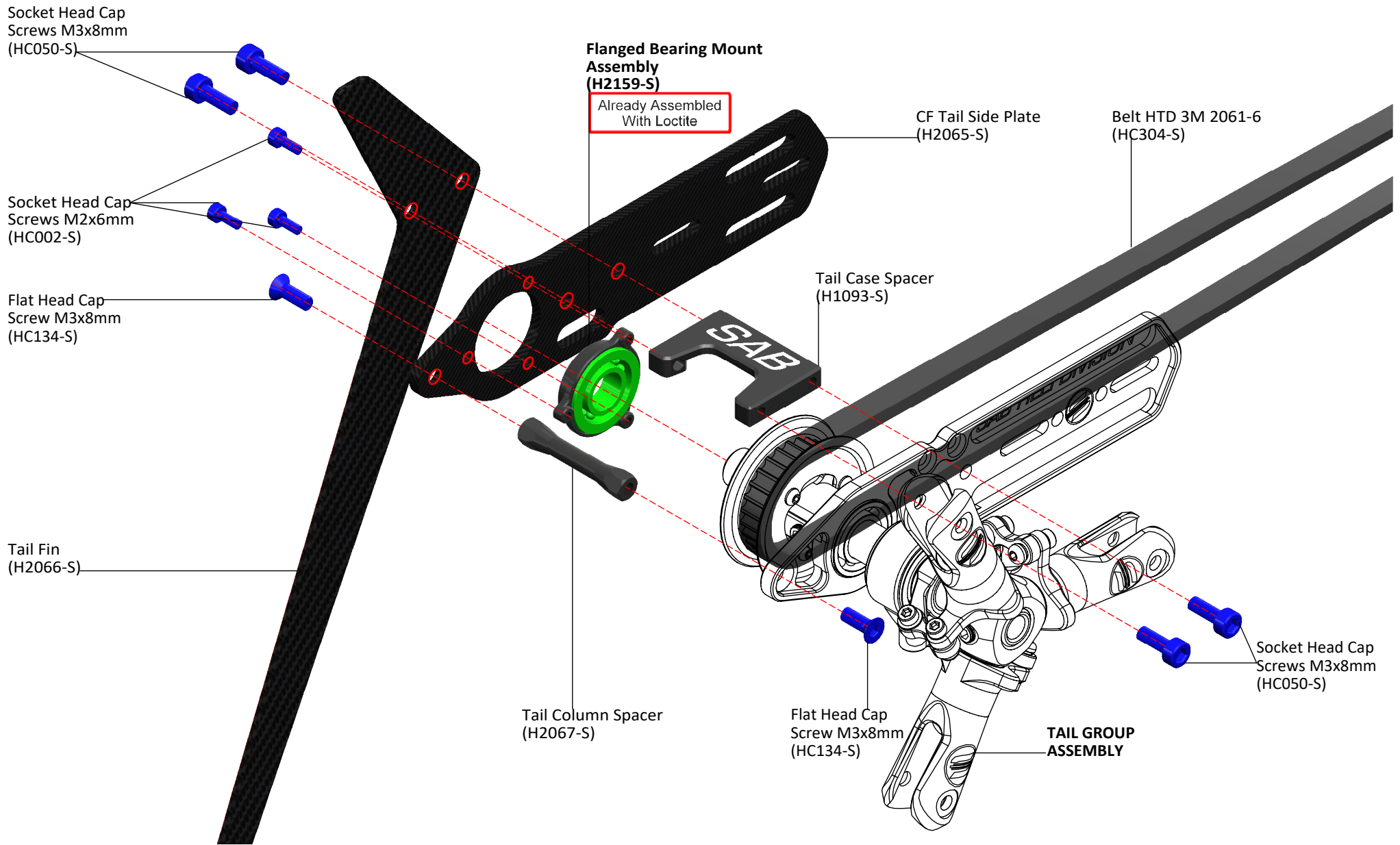
Goblin

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TAIL GROUP ASSEMBLY

BOXES 1-2, BAG FOR PAGE 23







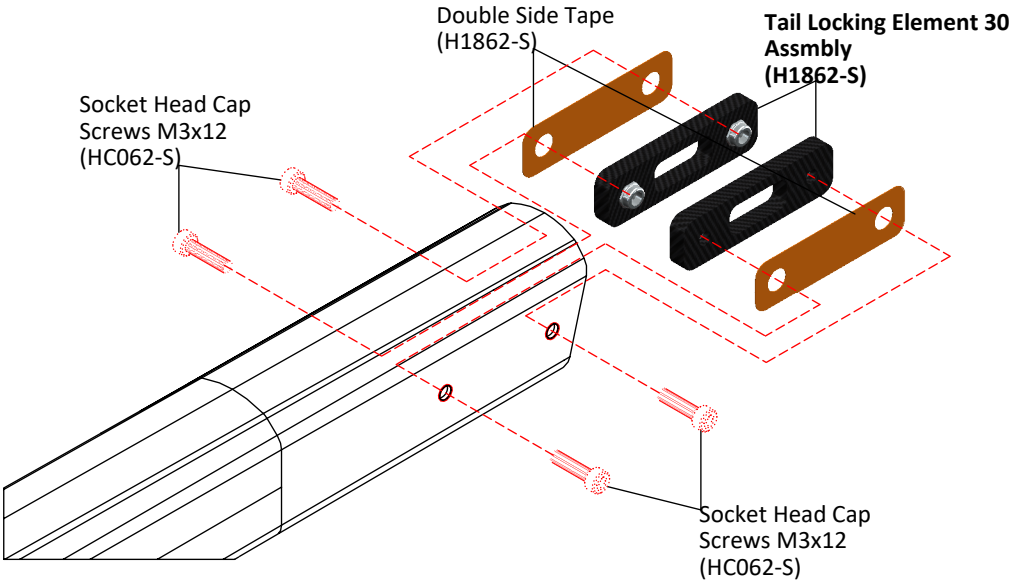
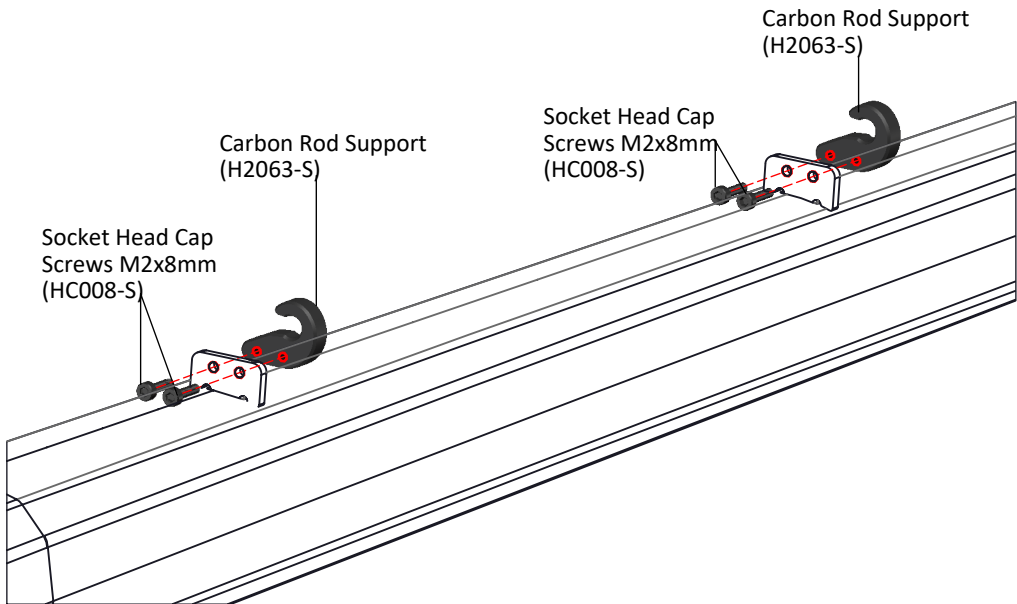
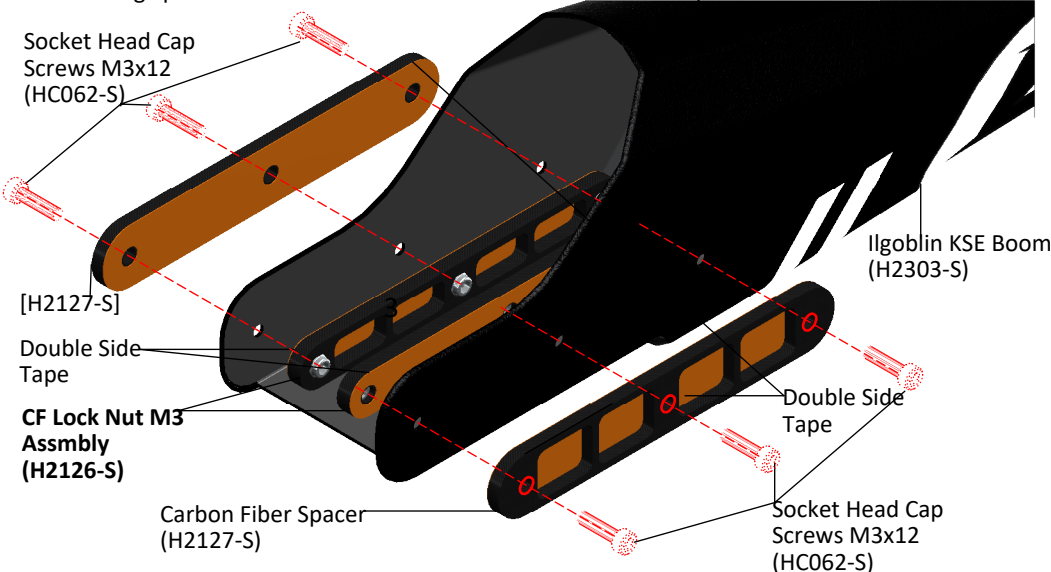
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Goblin KSE

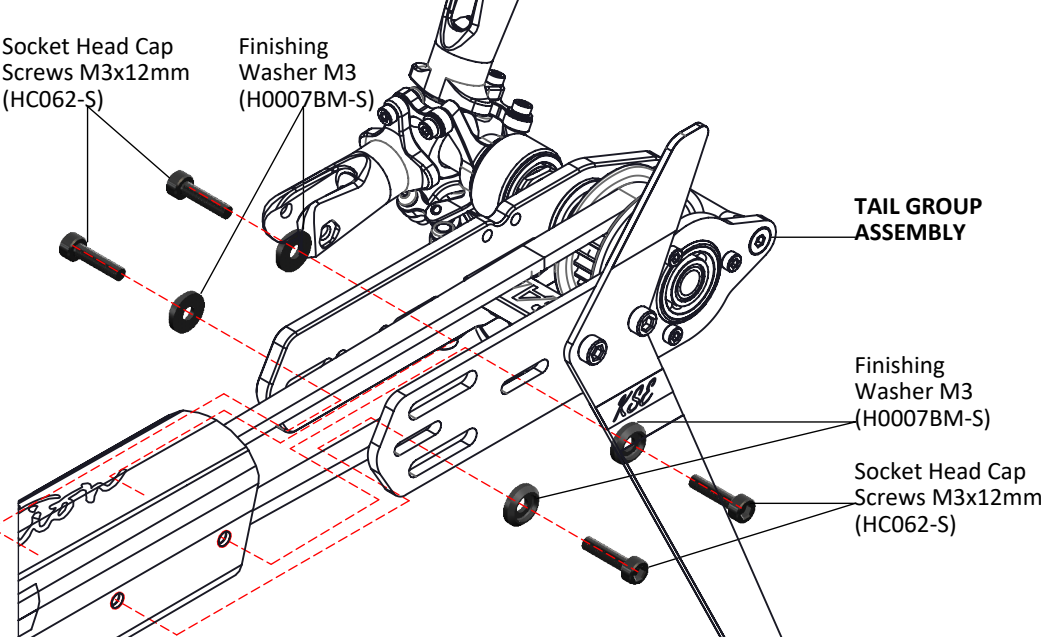
TAIL BOOM ASSEMBLY

BOXES 1-3, BAG FOR PAGE 25

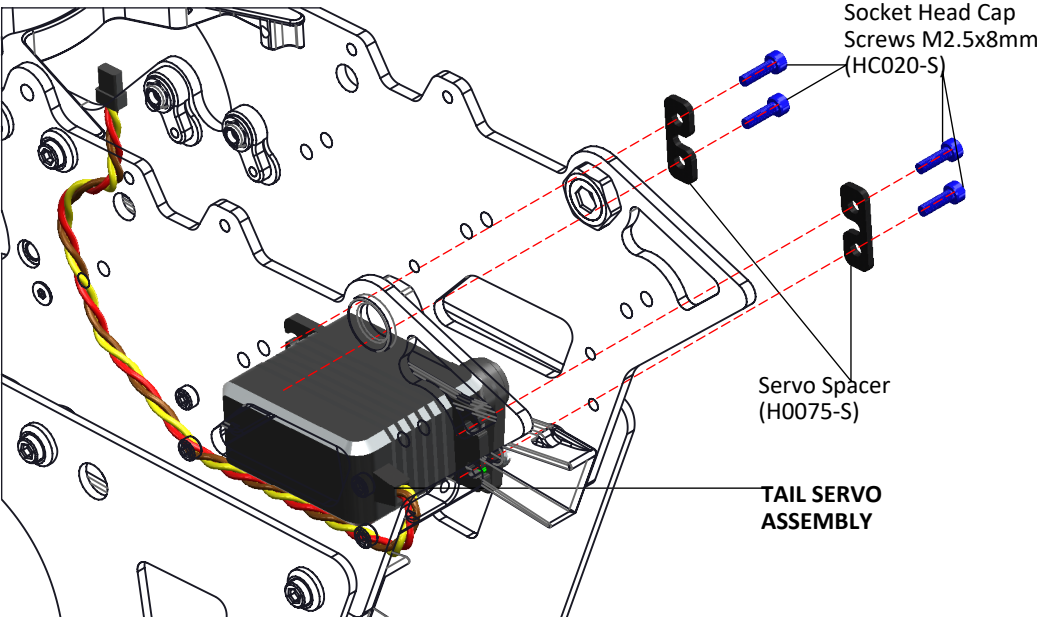
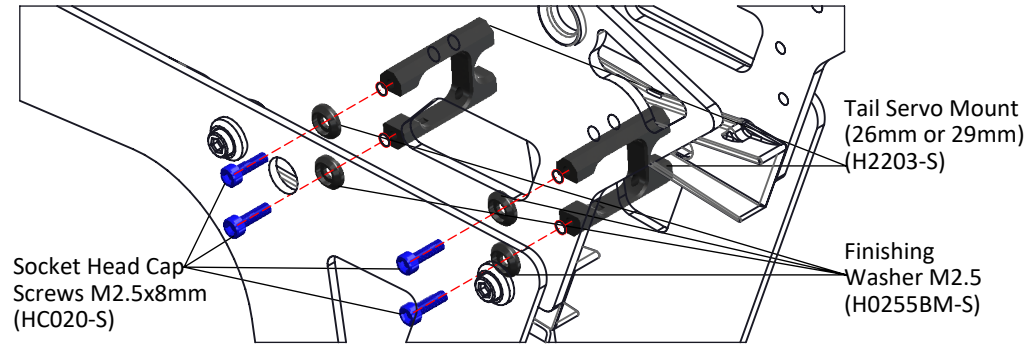
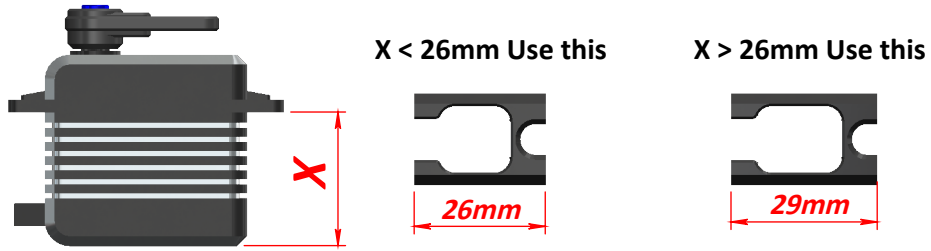
SUGGESTION: You can use M3x12 screws to aid in mounting the spacer and locking piece to the boom. Remove all screws after complete.



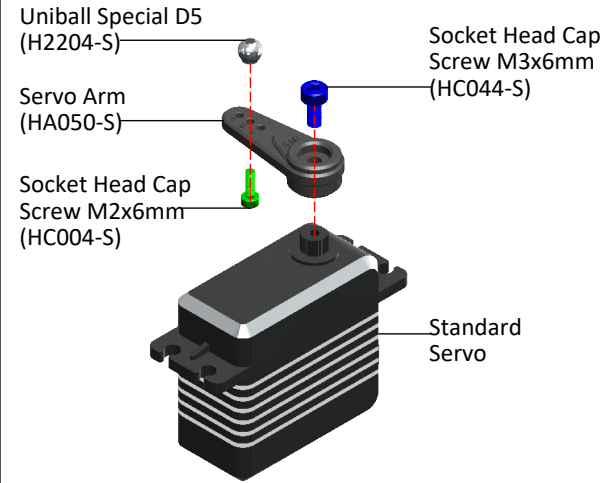
NOTE: Do not tighten the M3x12 at this moment.



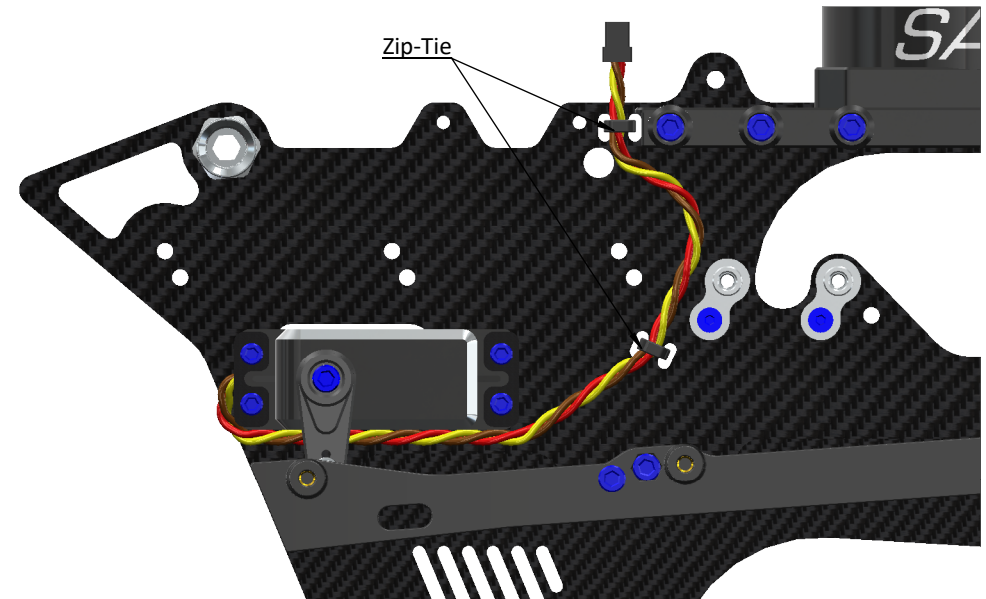
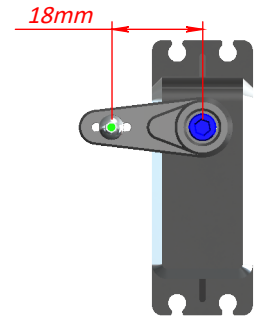
CHOICE OF TAIL SERVO MOUNT



TAIL SERVO ASSEMBLY



The distance between the axis and the ball must be around 18mm





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TAIL BOOM ASSEMBLY

BOX 1, BAG FOR PAGE 27

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 6 M3 screws.

*Rotate the tail drive several times by hand.

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



Fig. 1

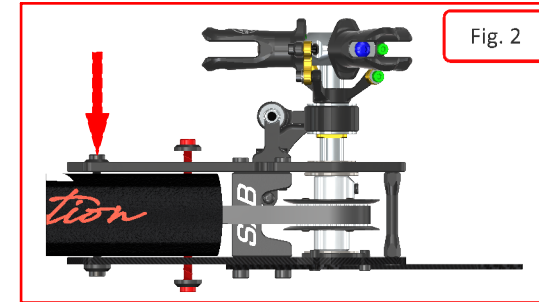
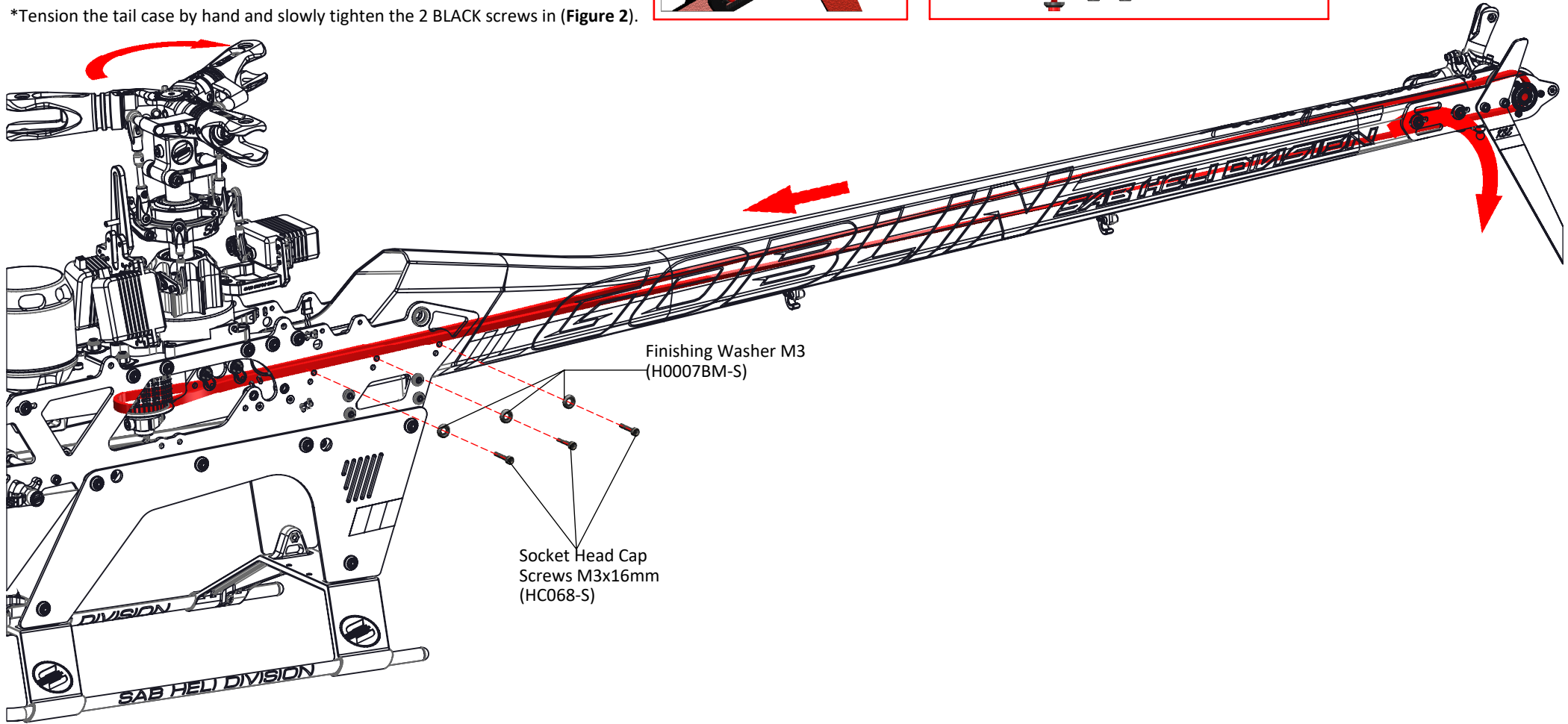


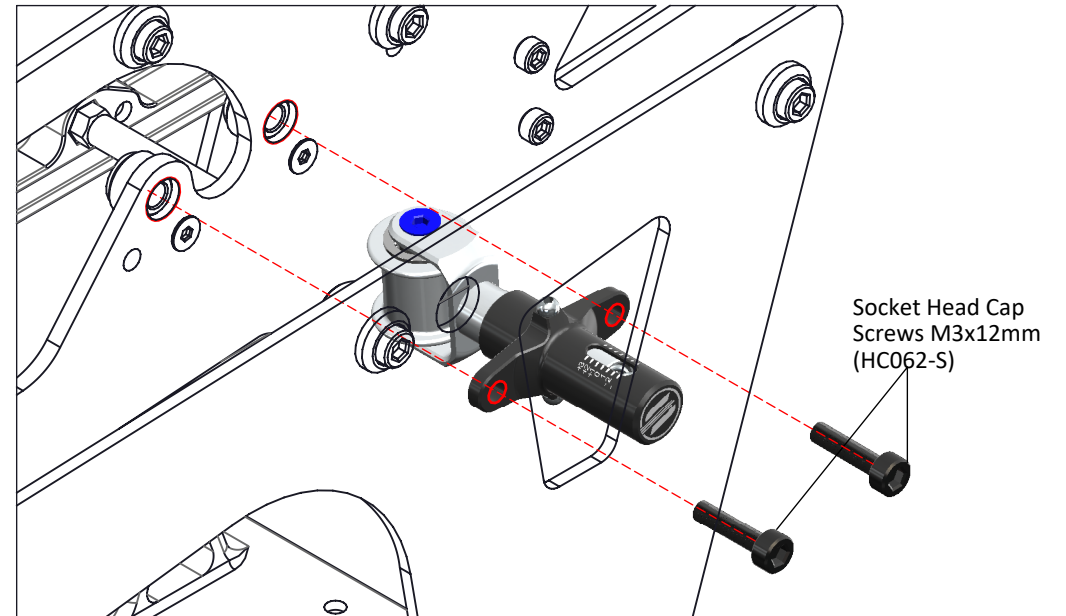
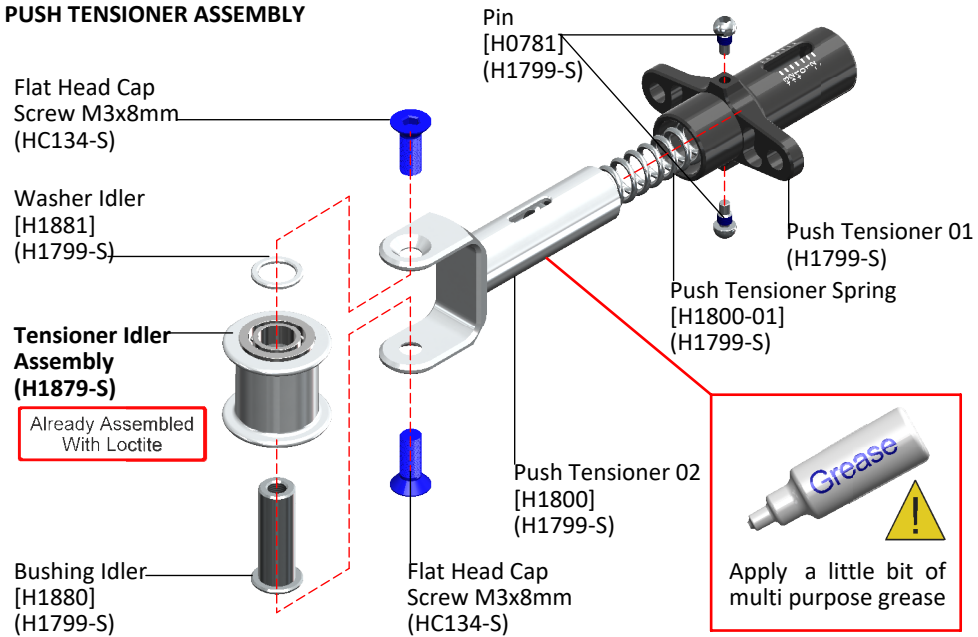
Fig. 2



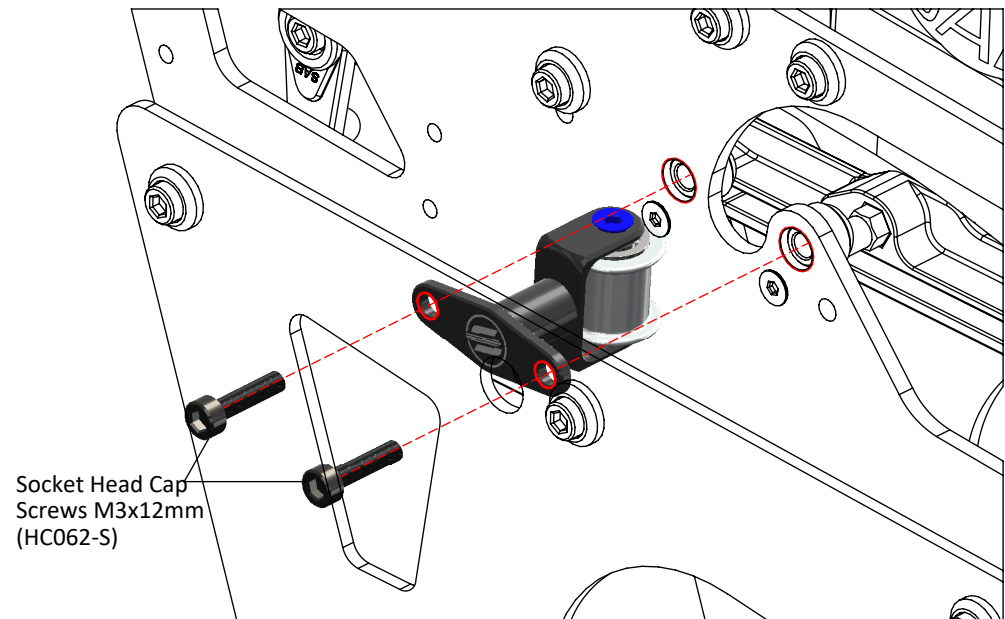
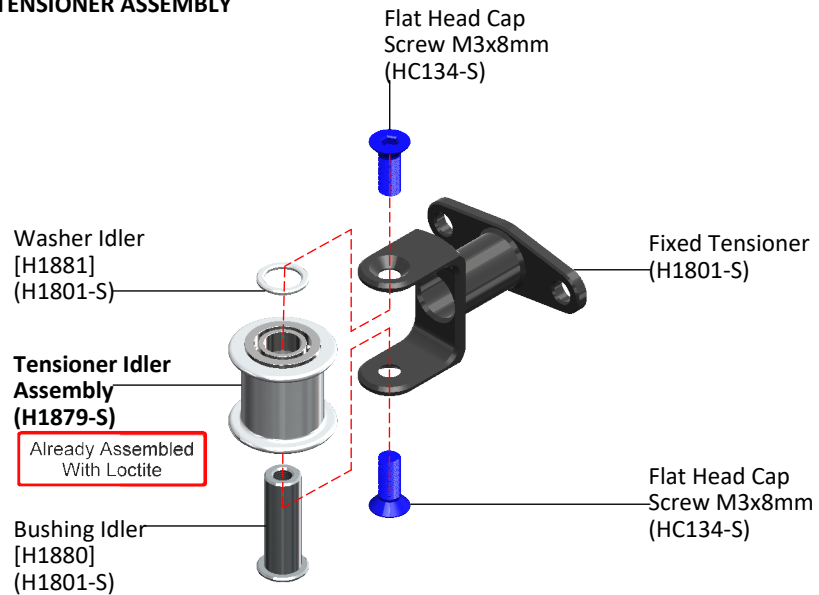
Finishing Washer M3 (H0007BM-S)

Socket Head Cap Screws M3x16mm (HC068-S)

PUSH TENSIONER ASSEMBLY



FIXED TENSIONER ASSEMBLY





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 screw, then push the tail side in the direction indicated by the red arrow. While pushing, tighten the BLUE screw.

Figure 2, Loosen the 2 RED screws and the YELLOW screw, then push the tail side as indicated by the red arrow. While pushing, tighten the YELLOW screw. Continue adjusting step by step until the tail belt is sufficiently tight. Note that a Hard 3D flying style will require more tension; once you achieve the desired tension, ensure all screws are tight and the tail shaft is perfectly aligned and straight.

Figure 3, The tail output shaft must be perpendicular to the boom mid-line.

Figure 4, The indicator on the tensioner needs to reach "Zero".

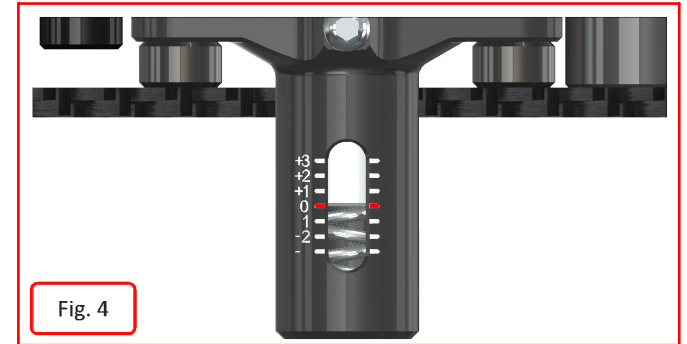


Fig. 4

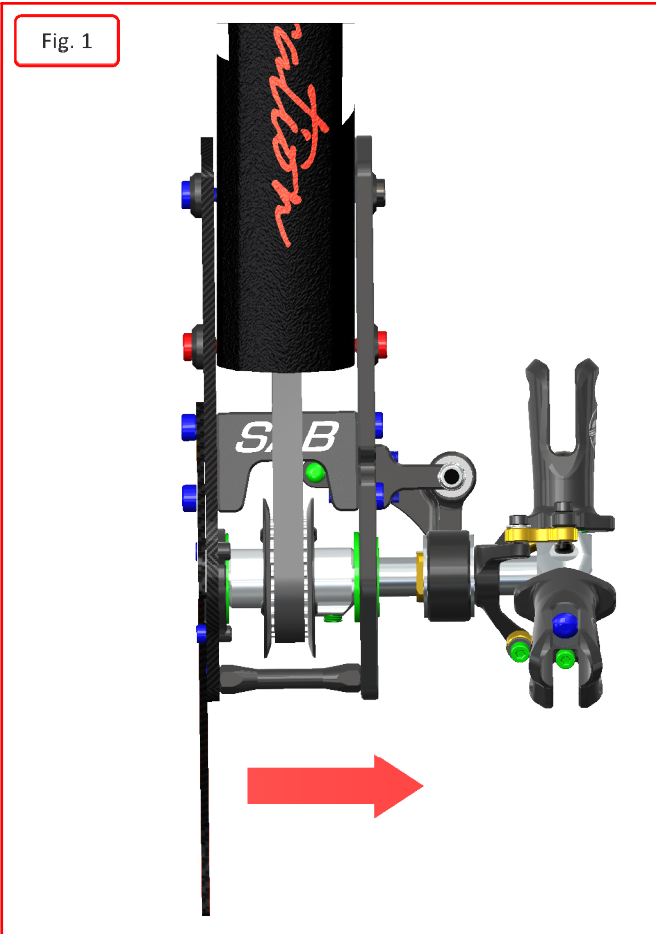


Fig. 1

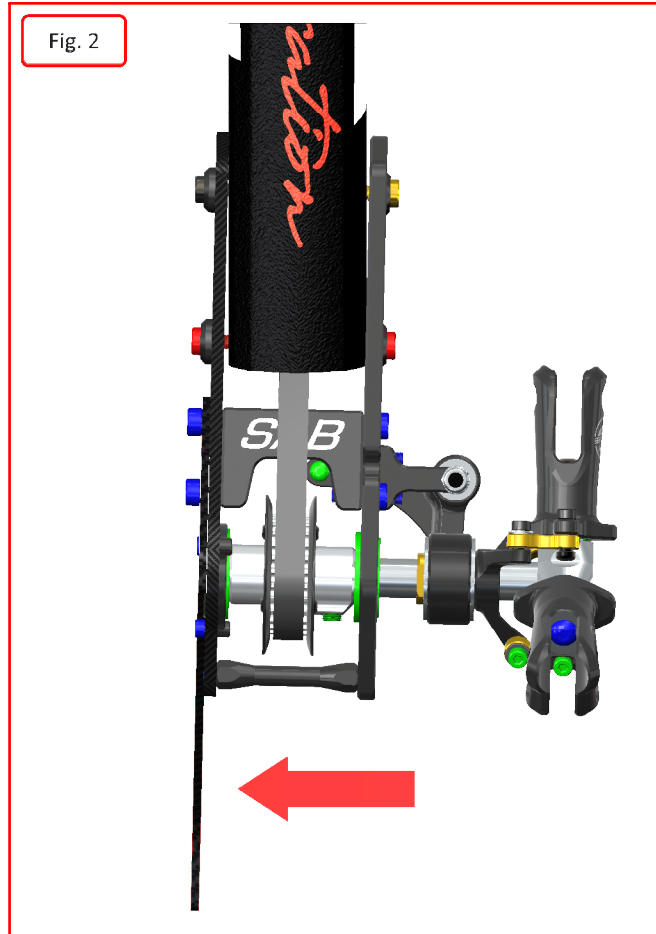


Fig. 2

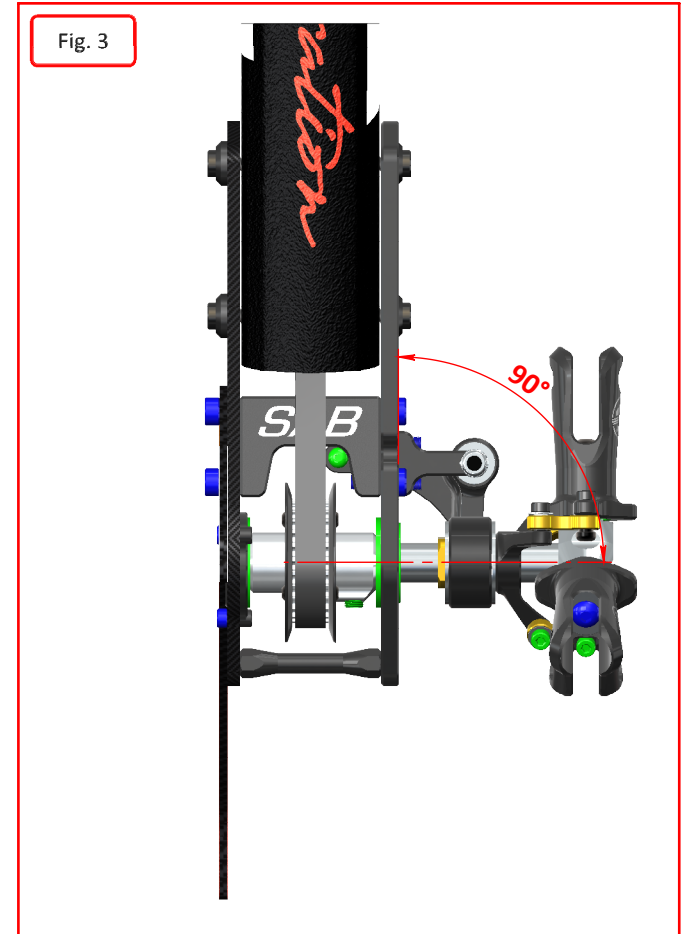
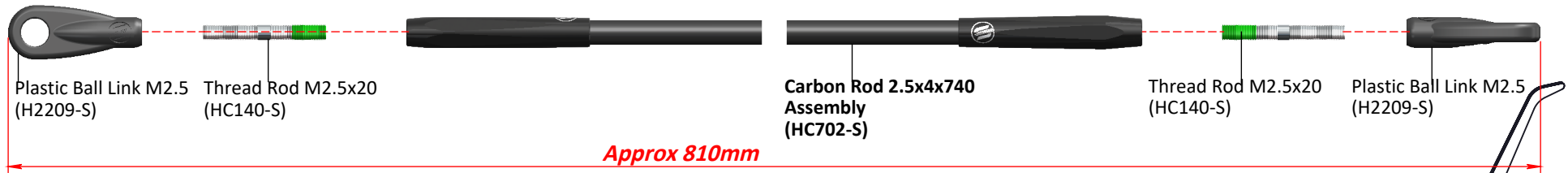
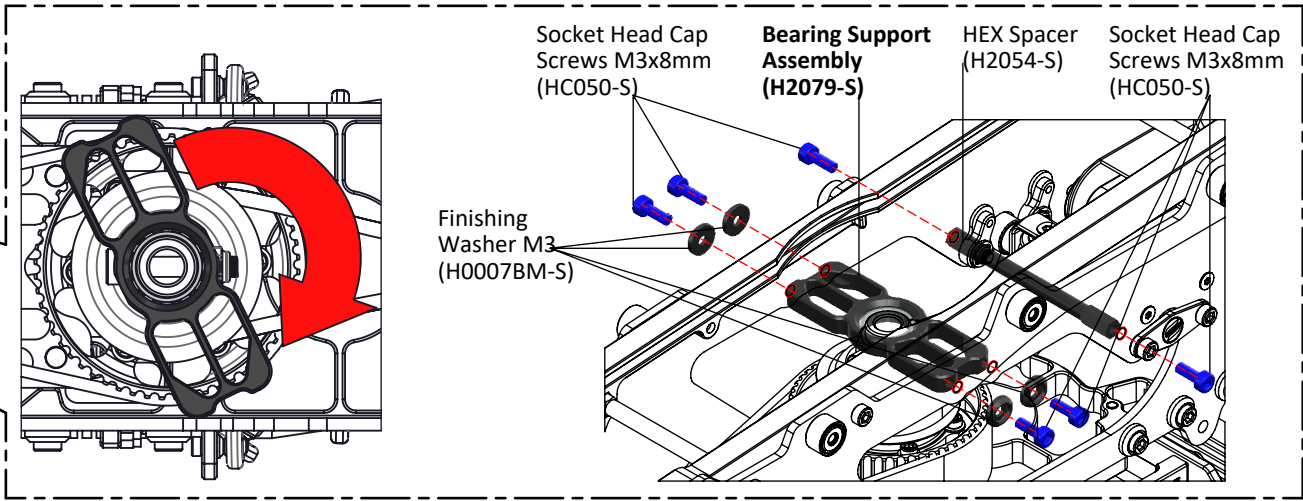
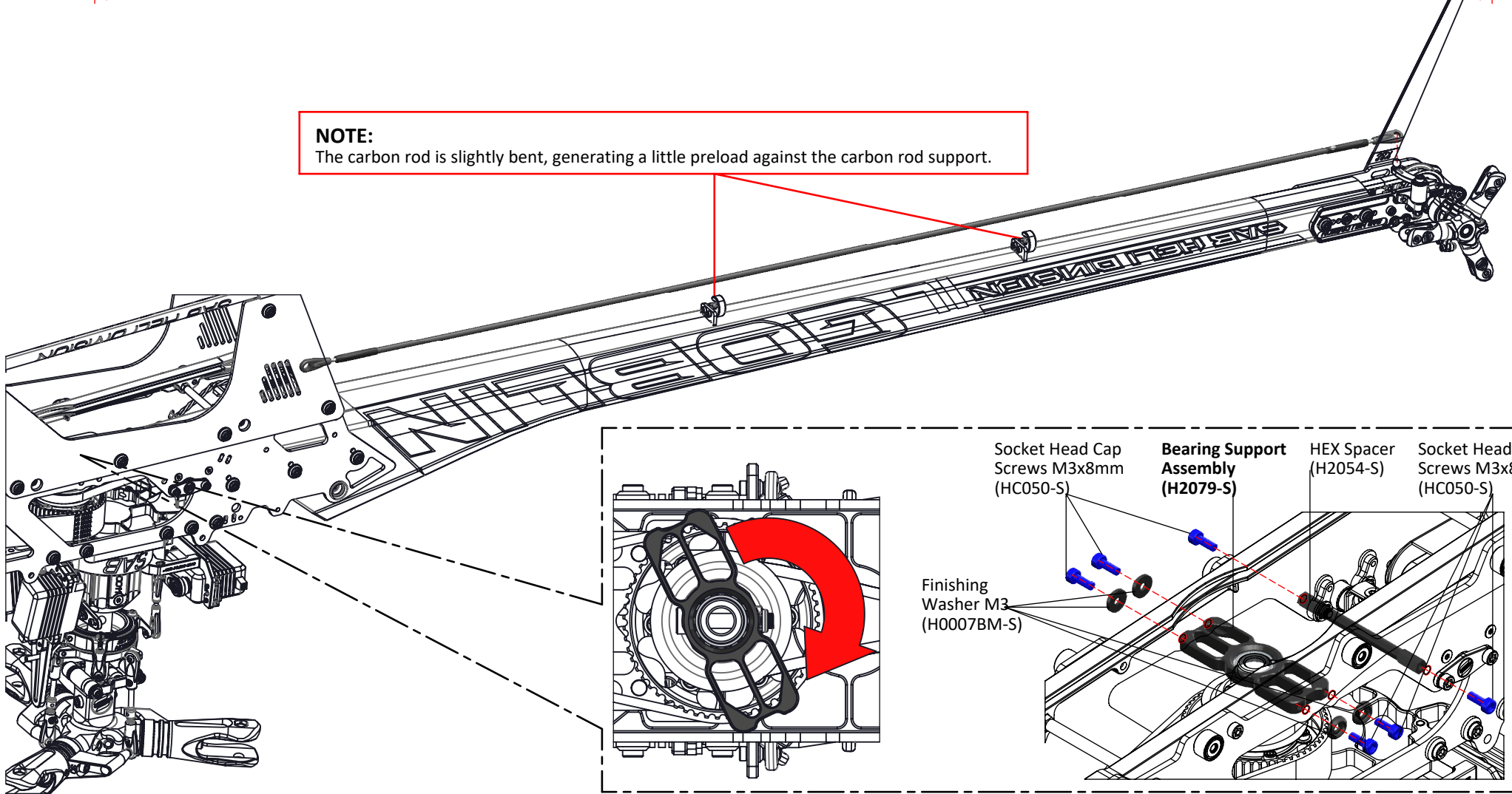


Fig. 3

BOX 3, BAG FOR PAGE 30



NOTE:
The carbon rod is slightly bent, generating a little preload against the carbon rod support.





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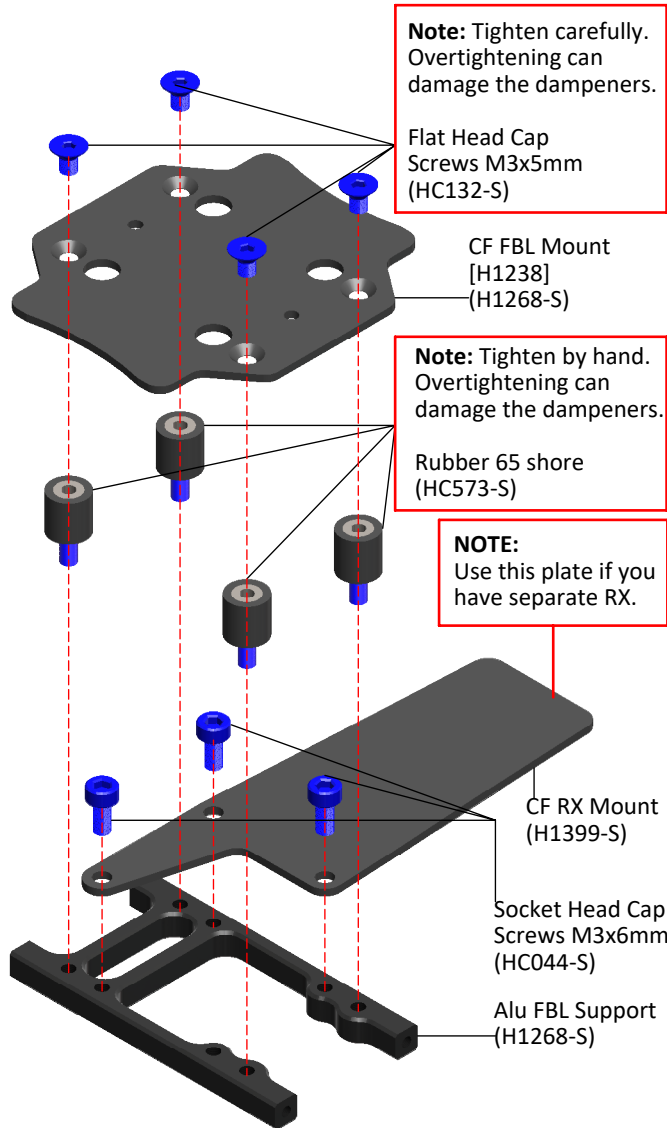
GOBLIN

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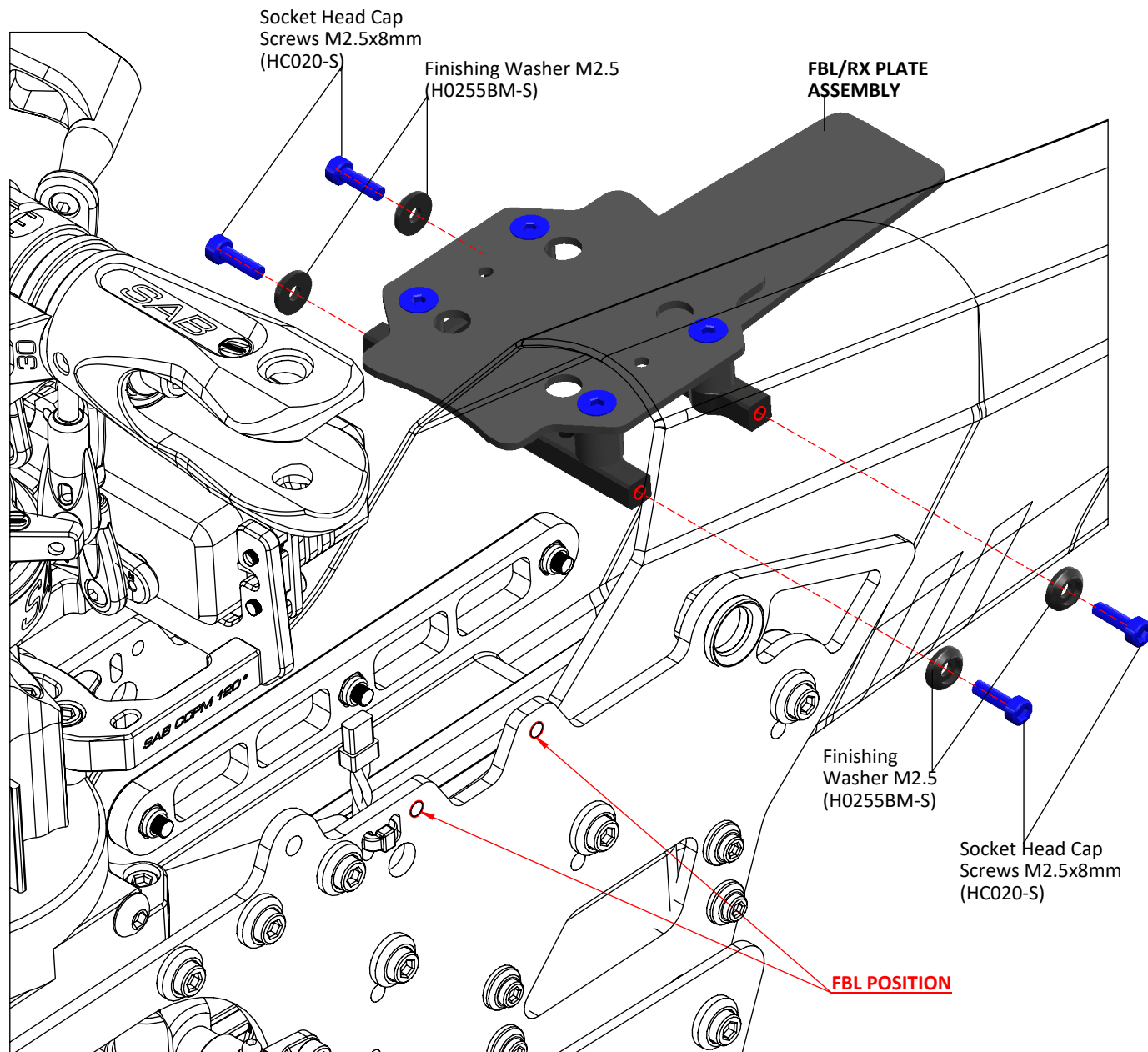
BOX 1, BAG FOR PAGE 31

FBL/RX PLATE ASSEMBLY

NOTE: 2mm thick tape for the gyro is recommended.



If you do not want to use the dampeners, you can setup a rigid FBL mount support using the screws and bushings contained in bag 31-2

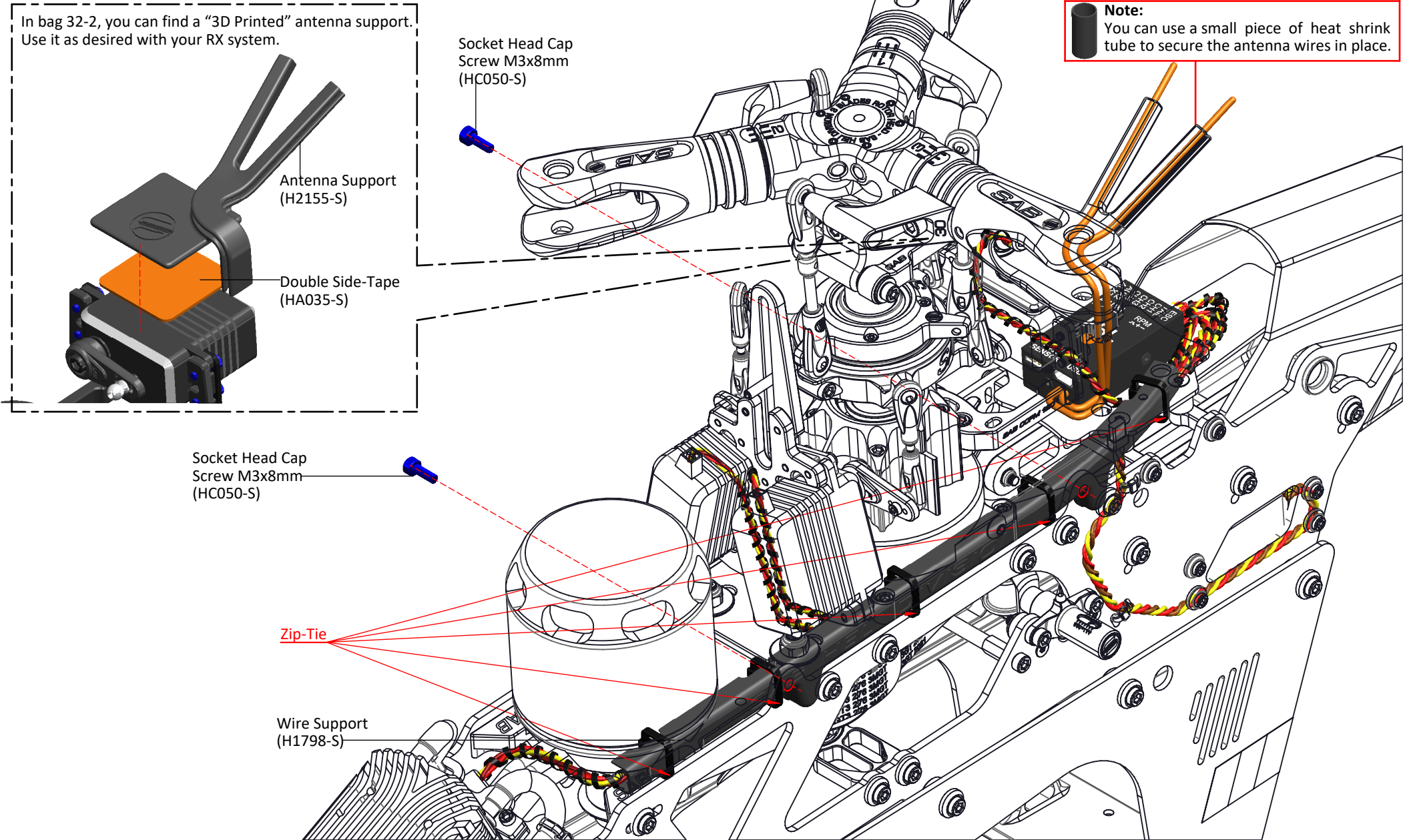


BOX 1, BAG FOR PAGE 32

In bag 32-2, you can find a "3D Printed" antenna support. Use it as desired with your RX system.

Socket Head Cap Screw M3x8mm (HC050-S)

Note: You can use a small piece of heat shrink tube to secure the antenna wires in place.



Zip-Tie

Wire Support (H1798-S)

Socket Head Cap Screw M3x8mm (HC050-S)

Antenna Support (H2155-S)

Double Side-Tape (HA035-S)



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BOX 1, BAG FOR PAGE 33

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.

Fig. 1



Canopy Grommet (HA021-S)

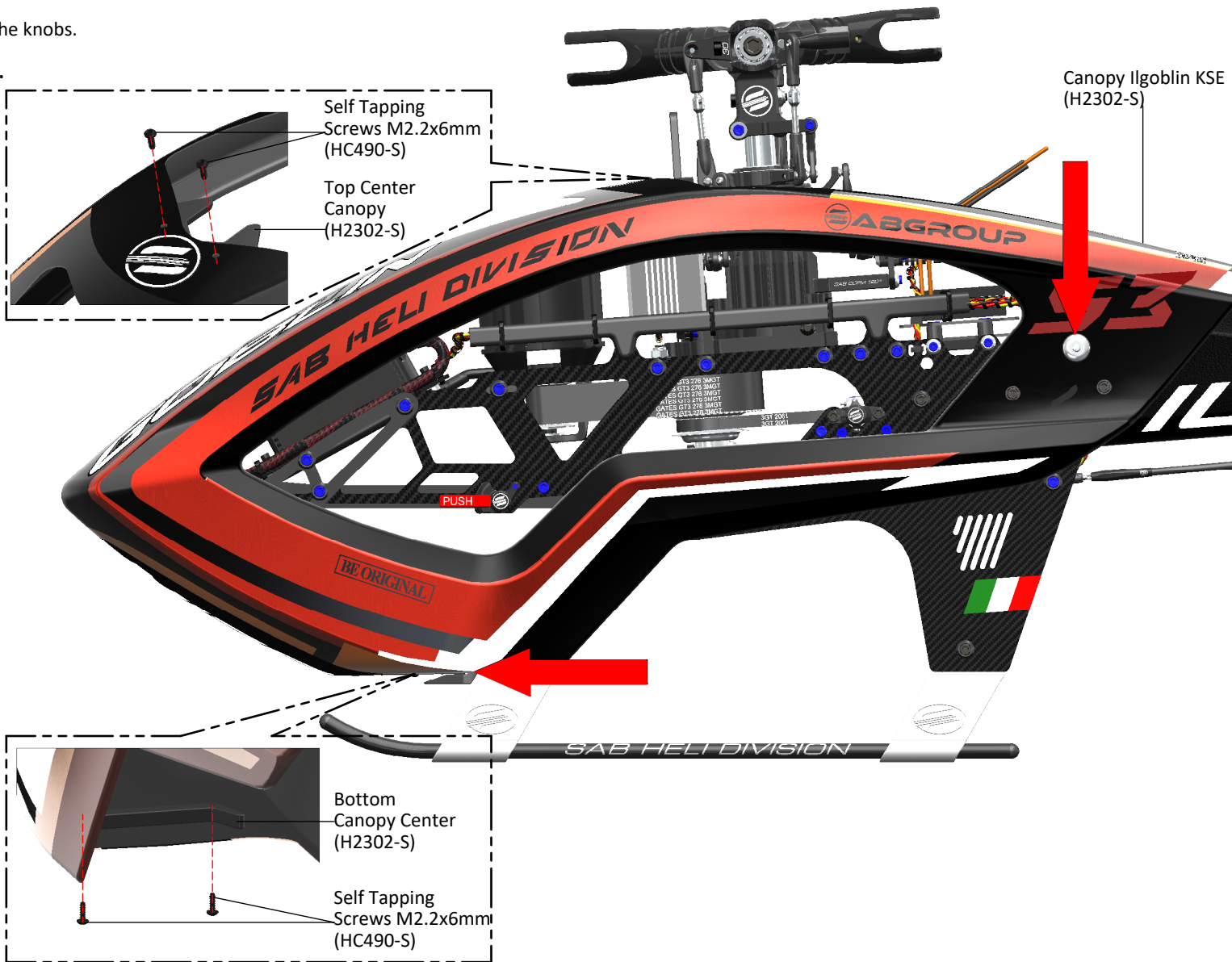
Fig. 2



Canopy knobs Assembly (H2106-S)

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.



Self Tapping Screws M2.2x6mm (HC490-S)

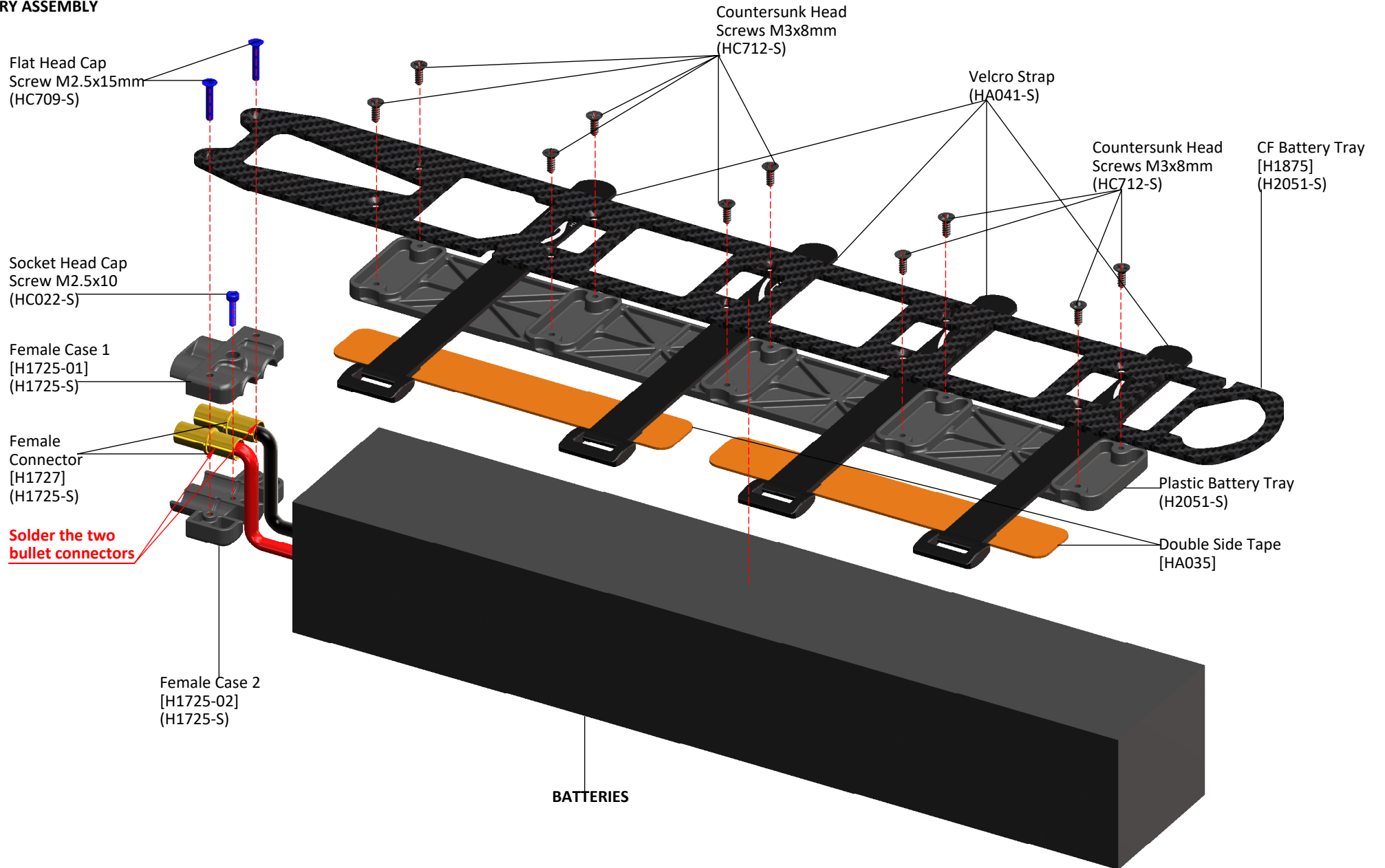
Top Center Canopy (H2302-S)

Canopy Ilgoblin KSE (H2302-S)

Bottom Canopy Center (H2302-S)

Self Tapping Screws M2.2x6mm (HC490-S)

BATTERY ASSEMBLY





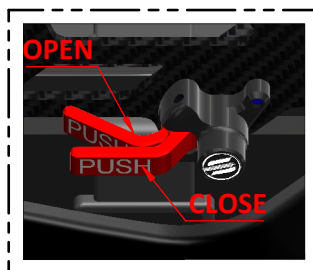
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INSTALLATION BATTERY



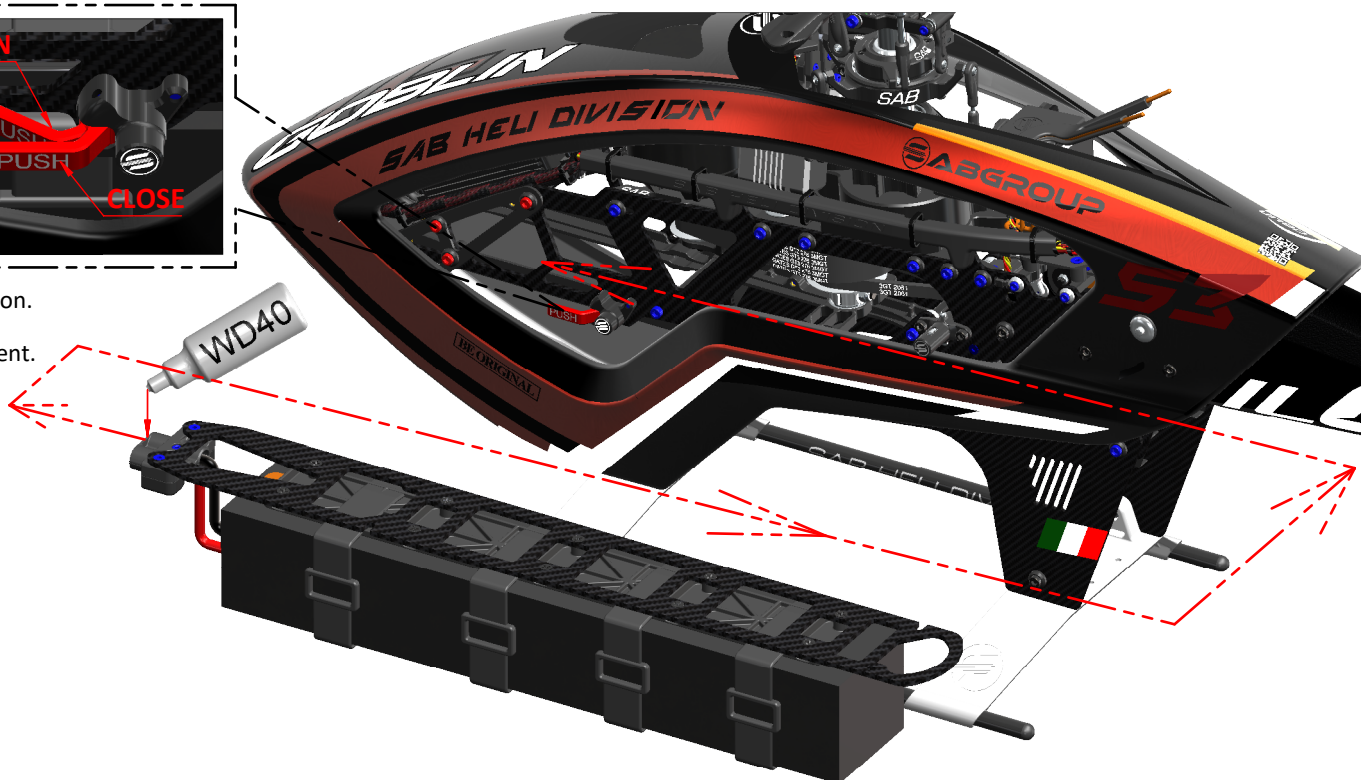
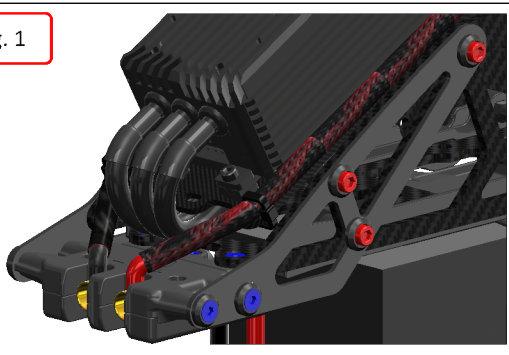
Before permanently mounting the batteries onto the battery tray, check the ideal position for the best center of gravity.



Ensure Correct Connector Alignment

- * Ensure the connector is correctly aligned before proceeding.
- * Place the battery tray with the connector into its designated position.
- * Unscrew the 3+3 M3 screws of the carbon support **Fig.1**.
- * Slightly move the components as needed to ensure proper alignment.
- * Tighten the screws securely.

Fig. 1



BOX 1, BAG FOR PAGE 36

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 2200rpm.
 - *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, 1800 RPM.
- After this first flight, do a general check of the helicopter. Verify that all screws are correctly tightened.

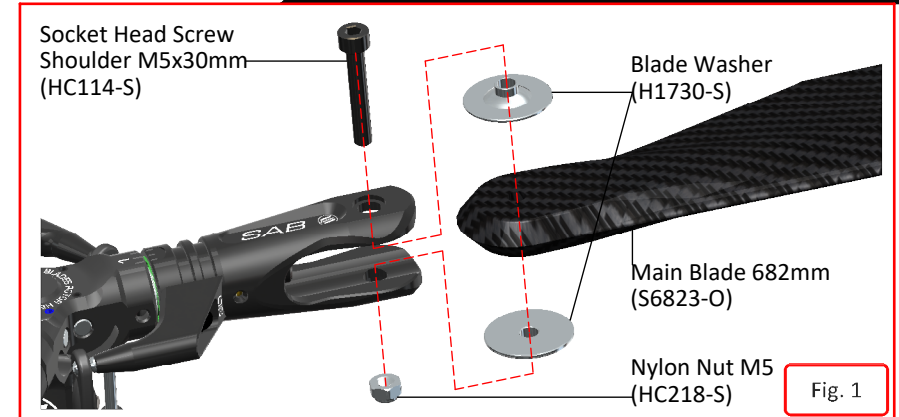


Fig. 1

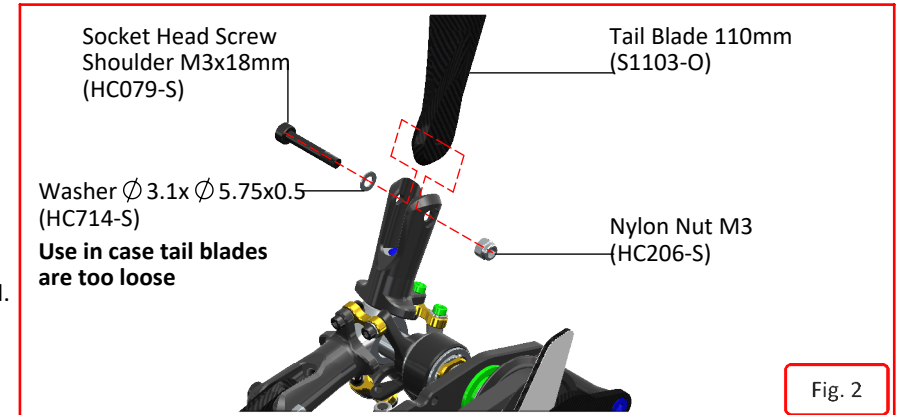


Fig. 2

IN FLIGHT

ABOUT HEAD

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

O-ring

- 80 Shore: Soft for smooth response
- 90 Shore: Firm for direct and precise response

Damper

- A = Max movement of the spindle, feeling more elastic.
- B = Medium.
- C = Min movement of the spindle, feeling more direct.

The kit includes B damper H1046-B with 90 Shore O-ring [other Setting >>p/n H1135-S, HC530-S].

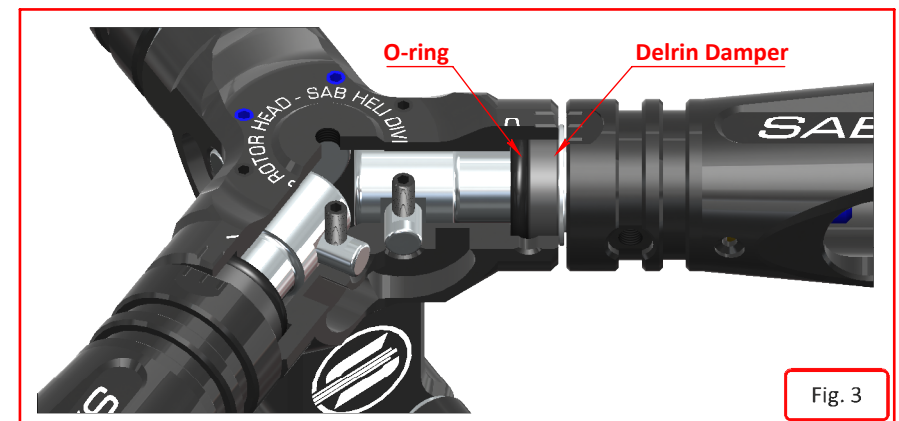


Fig. 3



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MAINTENANCE

Take a look at the red parts.

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

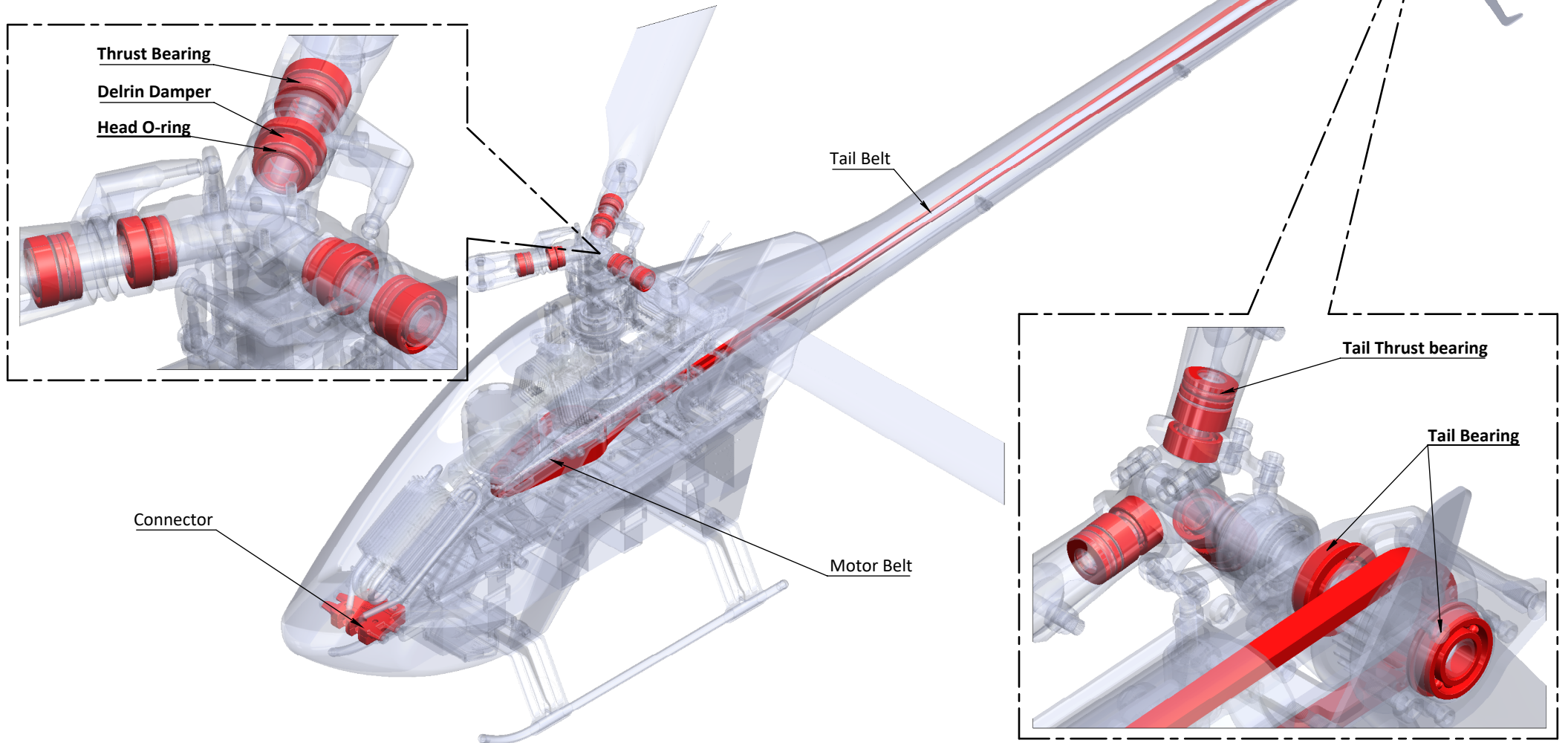
The lifespan of these components varies according to the type of flying.

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.



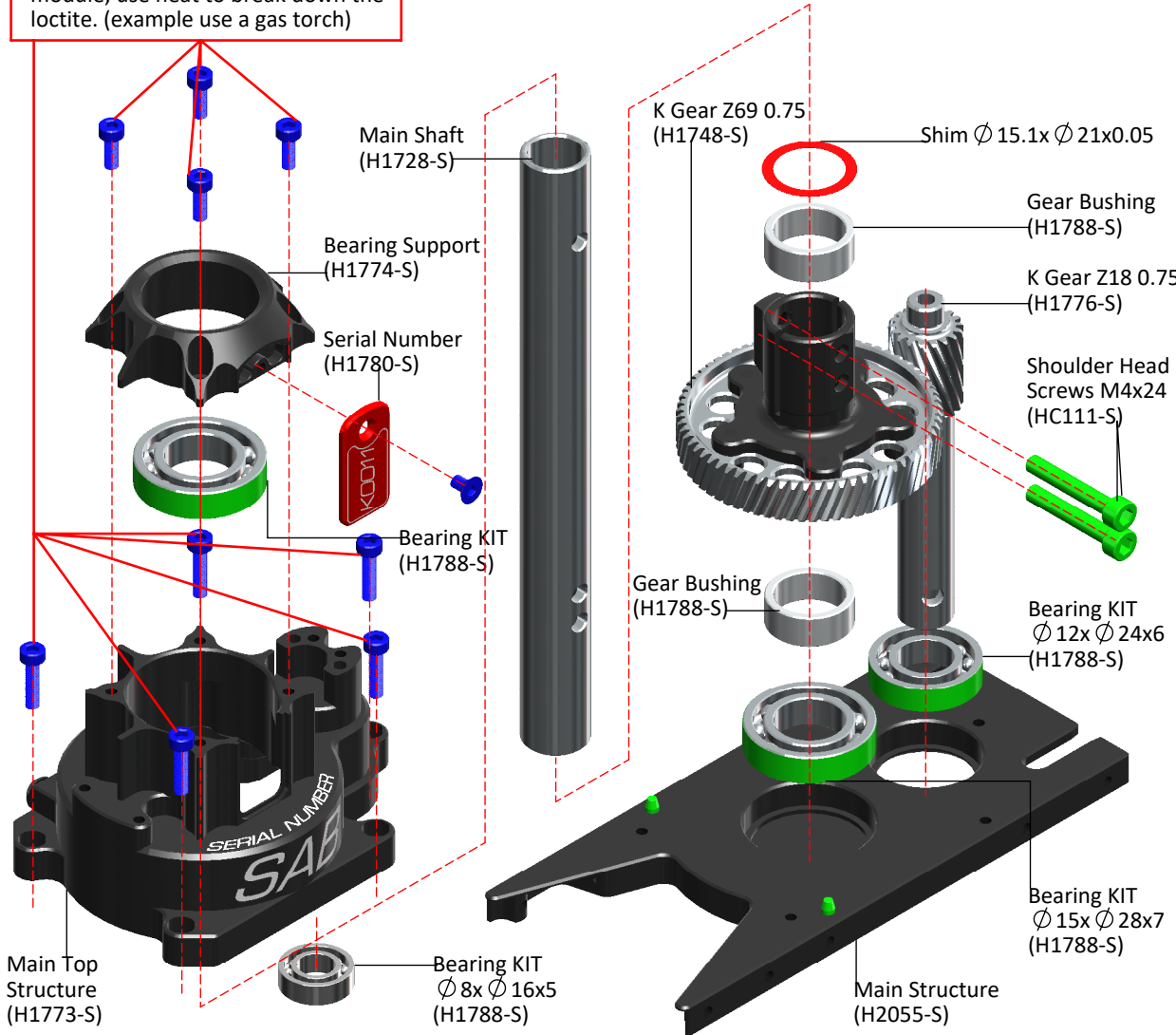
TRANSMISSION MODULE

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

Explode and Spare Parts

NOTE:

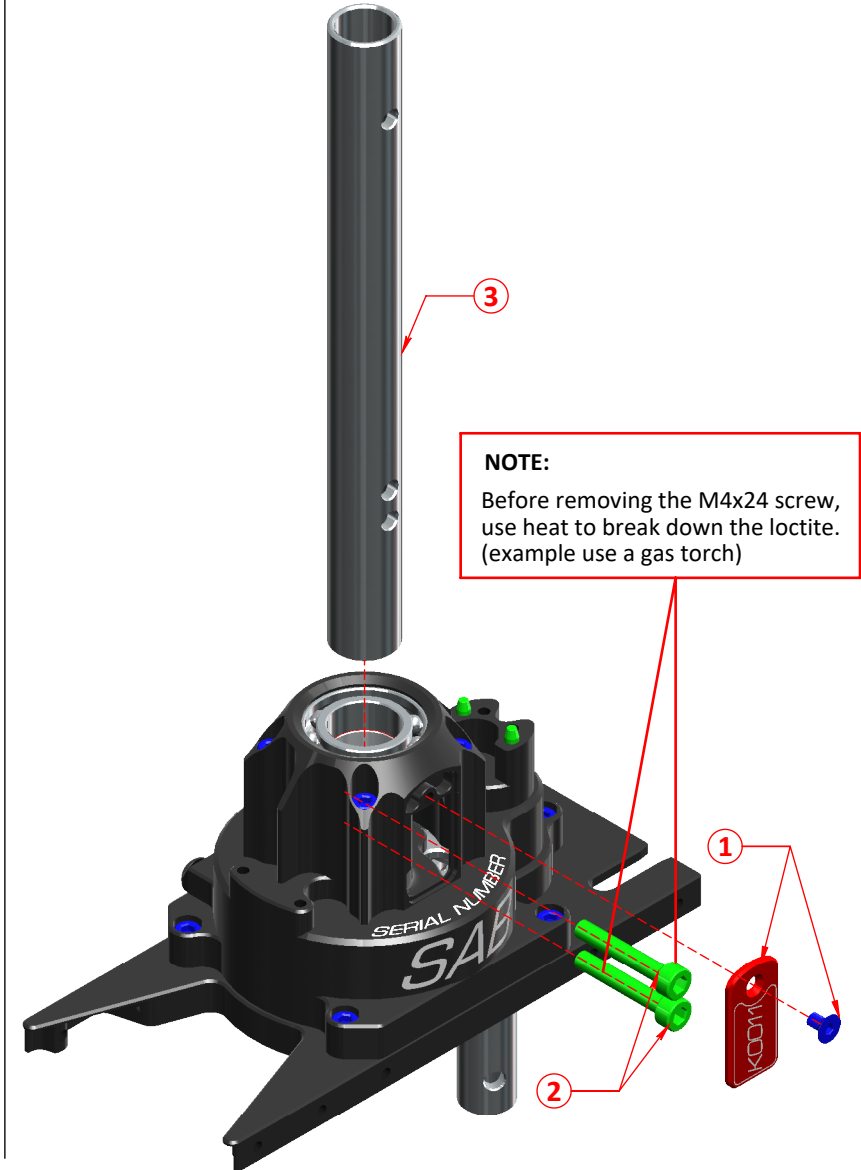
Before opening the transmission module, use heat to break down the loctite. (example use a gas torch)



MAIN SHAFT REPLACEMENT

For replacing the main shaft:

- *Remove the serial number plate.
- *Remove the two M4x24 screws.
- *Remove and replace the main shaft.
- *Screw in the two M4x24 screws, with high force and using green loctite.



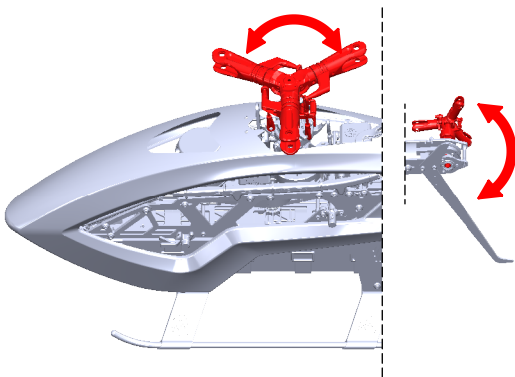


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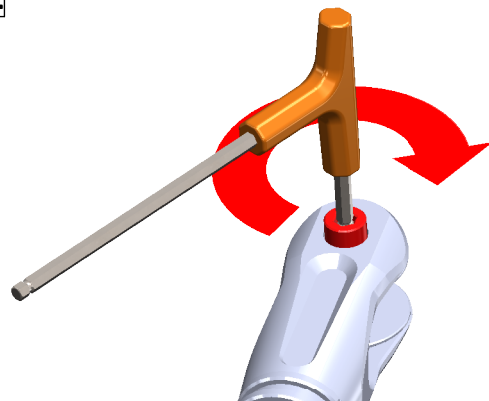
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CHECK LIST

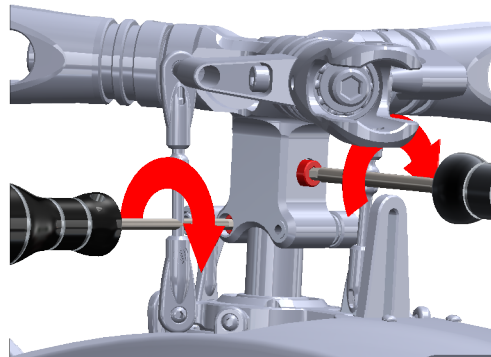
1 Check the dampening on the main and tail rotor to be the same as always.



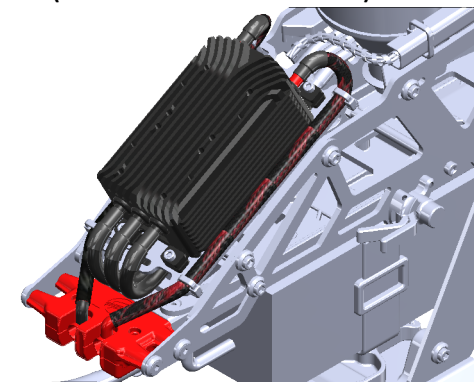
2 Tighten the main blades before flight.



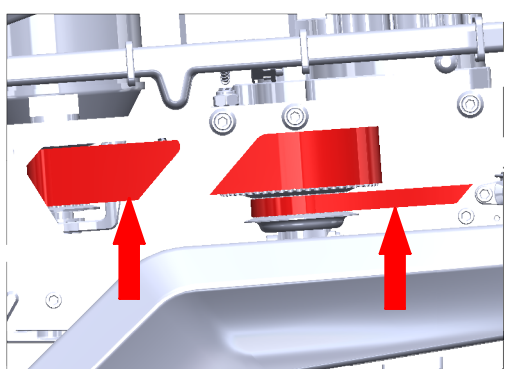
3 Check main hub screws(M4 and 2 M3) Ensure they are tight.



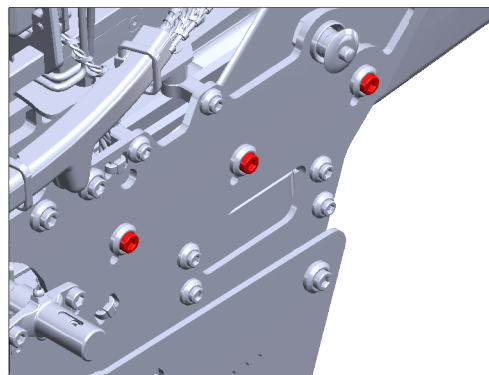
4 Check all power connectors (Good mechanical connection).



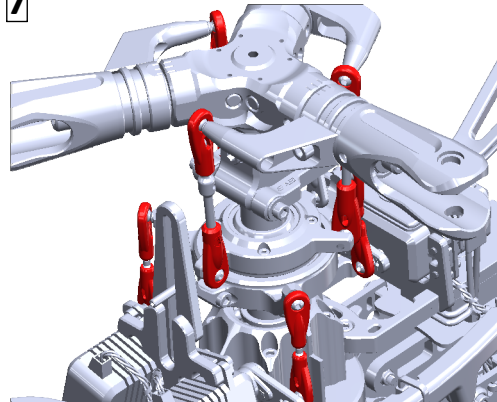
5 Check Tail & Motor belt tension. The tension has to be tight.



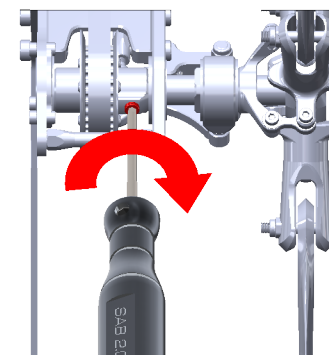
6 Check the 6 M3 screws. Ensure they are tight.



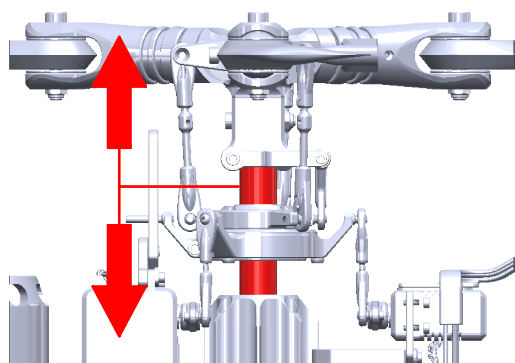
7 Check the Main Linkages & Servo Linkages



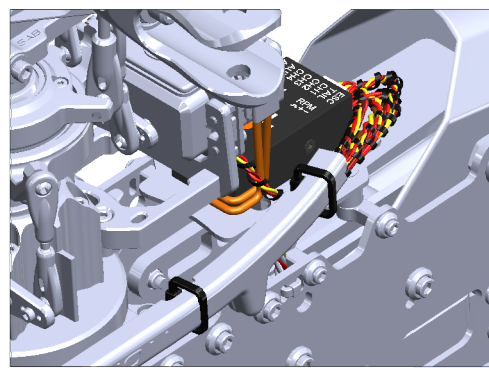
8 Check tail pulley set screws: Ensure they are tight. (It is suggested use a bit of Green Loctite.)



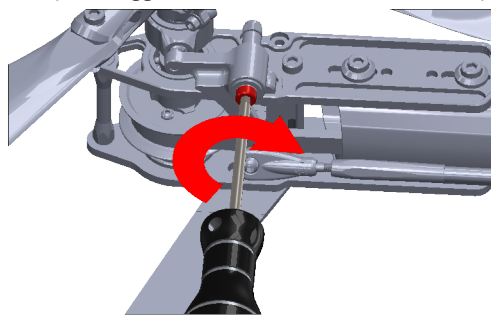
9 Check for vertical play of the main shaft.



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





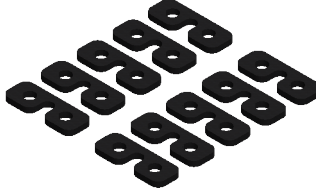

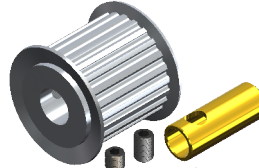










11 Check the M3 bell crank: Belt crank movement must be smooth and the screw locked. (It is suggested use a bit of Green Loctite.)



12 Be sure the follow parts are properly lubricated

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



<p>Finishing Washer M3 [H0007BM-S]</p>  <p>- 10 x Finishing Washer M3.</p>	<p>Unibal M2 [H0064-S]</p>  <p>- 5 x Unibal M2. - 5 x Unibal Spacer. - 5 x Head Cap Screws M2x6mm. - 5 x Head Cap Screws M2x8mm.</p>	<p>Servo Spacer [H0075-S]</p>  <p>- 10 x Servo Spacer.</p>	<p>Main Spindle [H0079-S]</p>  <p>- 1 x Main Spindle. - 2 x Washer $\phi 6.1 \times \phi 14 \times 1.8 \text{mm}$. - 2 x Button Head Cap Screws M6x10.</p>	<p>Motor Pulley [H0175-18/25-S]</p>  <p>- 1 x Motor Pulley Z18/25. - 1 x Motor Bushing. - 1 x Set Screw M4x4. - 1 x Set Screw M4x6.</p>
<p>Plastic Radius Arm [H0205-S]</p>  <p>- 2 x Plastic Radius Arm.</p>	<p>Finishing Washer M2,5 [H0255BM-S]</p>  <p>- 10 x Finishing Washer M2,5.</p>	<p>Tail Pitch Slider Link [H0261-S]</p>  <p>- 2 x Tail Pitch Slider Link. - 2 x Bushing $\phi 2 \times \phi 3 \times 3$. - 2 x Head Cap Screws M2x6mm.</p>	<p>Tail Spindle [H0329-S]</p>  <p>- 1 x Tail Spindle. - 2 x Button Head Cap Screws M4x6.</p>	<p>Spacer Set For Tail Rotor [H0330-S]</p>  <p>- 2 x Tail Oring Damper. - 2 x Washer $\phi 5 \times \phi 8.9 \times 0,75 \text{mm}$. - 2 x Washer $\phi 7.5 \times \phi 10 \times 0,5 \text{mm}$.</p>
<p>Spindle [H0412-S]</p>  <p>- 2 x Spindle. - 2 x Pin 5mm. - 4 x Head Cap Screws M2.5x6mm. - 2 x Head Cap Screws M4x10mm - 2 x Washer $\phi 6,3 \times \phi 15 \times 1 \text{mm}$</p>	<p>Linkage Rod M3x50 [H0417-S]</p>  <p>- 2 x Linkage Rod M3x50. - 4 x Plastic Ball Linkage.</p>	<p>Radius Arm [H0421-S]</p>  <p>- 2 x Radius Arm. - 1 x Spacer Hex. - 1 x Unibal Radius Arms. - 2 x Spacer Arm $\phi 3 \times \phi 5 \times 2.7 \text{mm}$. - 2 x Head Cap Screws M3x16mm. - 2 x Head Cap Screws M2.5x10mm. - 2 x Flanged Bearing $\phi 2.5 \times \phi 6 \times 2.5$. - 4 x Flanged Bearing $\phi 3 \times \phi 7 \times 3$.</p>	<p>Damper [H0426D-S]</p>  <p>- 3 x H0426-D. - 3 x Orings 90 shore. - 3 x Washers $\phi 10 \times \phi 16 \times 1 \text{mm}$. - 3 x Washers $\phi 10 \times \phi 16 \times 0.2 \text{mm}$.</p>	
<p>Pin M2 [H0435-S]</p>  <p>- 3 x Pin M2. - 3 x Spacer $\phi 2 \times \phi 3 \times 3 \text{mm}$. - 3 x Tail Pitch Slider Link. - 6 x Head Cap Screws M2x6mm.</p>	<p>Reference Pin [H1048-S]</p>  <p>- 1 x Reference Pin.</p>	<p>Bell Crank Clever [H1090-S]</p>  <p>- 1 x Bell Crank Lever Assembled. - 1 x Head Cap Screw M3x22mm. - 1 x Head Cap Screw M2x6mm. - 2 x Washer $\phi 3.2 \times \phi 6 \times 0.1 \text{mm}$.</p>	<p>Tail Case Spacer [H1093-S]</p>  <p>- 1 x Tail Case Spacer. - 4 x Head Cap Screws M3x8mm.</p>	<p>Bell Crank Support [H1095-S]</p>  <p>- 1 x Bell Crank Support. - 2 x Head Cap Screws M2.5x8mm.</p>

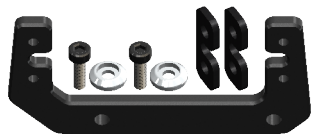


Back Servo Mount Support
 [H1206-S]



- 1 x Back Servo Mount Support.
- 2 x Head Cap Screws M3x8mm.

Back Servo Mount
 [H1207-S]



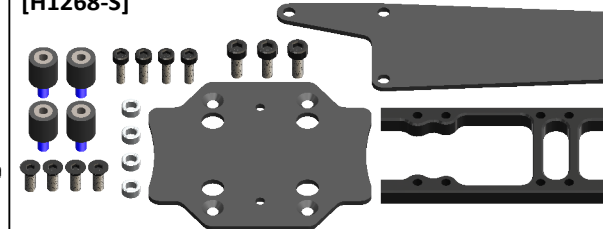
- 1 x Back Servo Mount.
- 2 x Finishing Washer M2.5.
- 2 x Servo Spacer.
- 2 x Head Cap Screws M2.5x8mm.

Landing Gear Rod D8x335
 [H1242-S]



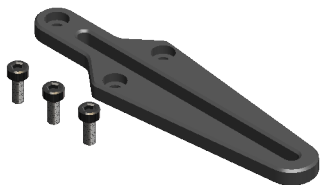
- 2 x Landing Gear Rod D8x335.
- 4 x Plastic Plug.

FBL/RX Plate Support
 [H1268-S]



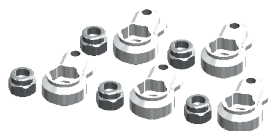
- 1 x FBL/RX Plate Support SET.

Anti-rotate Swashplate
 [H1378-S]



- 1 x Anti-rotate Swashplate.
- 2 x Head Cap Screws M2.5x6.

Lock Nut M3
 [H1386-S]



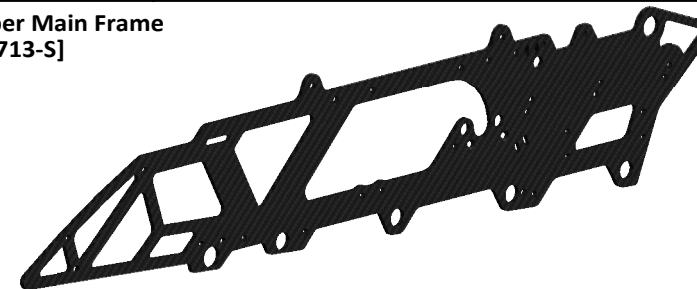
- 5 x Lock Nut M3.
- 5 x Nylon Nut M3.

Canopy Front Lock
 [H1439-S]



- 1 x Canopy Front Lock.
- 4 x Self Tapping Screws M3x10.

Upper Main Frame
 [H1713-S]



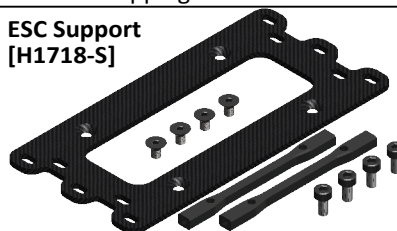
- 1 x Upper Main Frame.

Lower Main Frame
 [H1714-S]



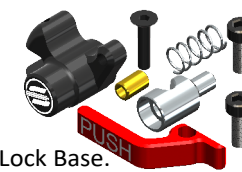
- 1 x Downer Main Frame.

ESC Support
 [H1718-S]



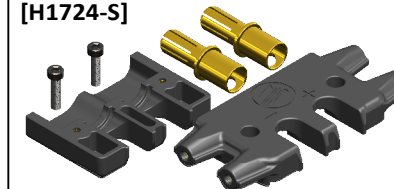
- 1 x ESC Plate.
- 2 x ESC Frame Spacer.
- 4 x Head Cap Screws M3x6.
- 4 x Flat Cap Screws M3x5.

Battery Lock
 [H1721-S]



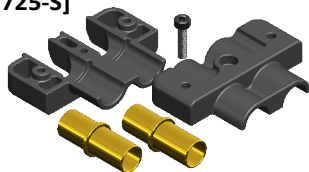
- 1 x Battery Lock Base.
- 1 x Battery Lock Level.
- 1 x Battery Lock Pin.
- 1 x Battery Lock Spring.
- 1 x Bushing $\varnothing 2,5 \times \varnothing 4 \times 6,3$.
- 1 x Flat Cap Screw M2.5x12.
- 2 x Head Cap Screws M3x6.

Male Connector
 [H1724-S]



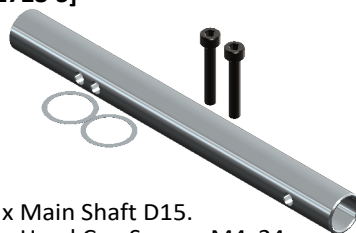
- 1 x Male Connector Case 01.
- 1 x Male Connector Case 02.
- 2 x Male Connector.
- 2 x Head Cap Screws M2.5x10.

Female Connector
 [H1725-S]



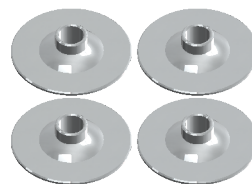
- 1 x Male Connector Case 01.
- 1 x Male Connector Case 02.
- 2 x Male Connector.
- 1 x Head Cap Screws M2.5x10.

Main Shaft D15
 [H1728-S]



- 1 x Main Shaft D15.
- 2 x Head Cap Screws M4x24.
- 2 x Shim $\varnothing 15.1 \times \varnothing 18 \times 0.1$.

Main Blade Washer
 [H1730-S]



- 4 x Main Blade Washer.

Main Gear Z68
 [H1748-S]

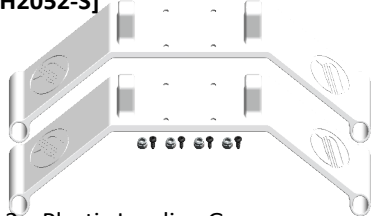


- 1 x Main Gear Z68.
- 1 x Main Gear Mount.
- 5 x Head Cap Screws M3x6mm.
- 2 x Shoulder Cap Screw M4x24mm.

<p>Bottom Gear Box Case [H1773-S]</p> <ul style="list-style-type: none"> - 2 x Pin D3x6. - 1 x Bottom Gear Box Case. - 1 x Button Cap Screws M4x6. - 1 x Ball Bearing $\varnothing 8x \varnothing 16x5$. 	<p>Top Gear Box Case [H1774-S]</p> <ul style="list-style-type: none"> - 1 x Top Gear Box Case. - 4 x Head Cap Screws M3x8. - 1 x Ball Bearing $\varnothing 15x \varnothing 28x7$. 	<p>Front Servo Mount [H1775-S]</p> <ul style="list-style-type: none"> - 1 x Front Servo Mount. - 1 x Servo Align Tool. - 2 x Head Cap Screws M3x8. 	<p>Double Clutch System [H1777-S]</p> <ul style="list-style-type: none"> - 1 x Double Clutch System SET. 	
<p>Front Tail Pulley Z34 [H1778-S]</p> <ul style="list-style-type: none"> - 1 x Front Tail Pulley Z34. - 1 x Nylon Nut M4. - 2 x Shim $\varnothing 12.1x \varnothing 16x0.1$. - 1 x Shouldered Cap Screw M4x21.5. 	<p>Serial Number [H1780-S]</p> <ul style="list-style-type: none"> - 1 x Serial Number. - 1 x Flat Cap Screw M3x5. 	<p>Bearing Transmission KIT [H1788-S]</p> <ul style="list-style-type: none"> - 2 x Bushing $\varnothing 15.1x \varnothing 19x7.5$. - 1 x Ball Bearing $\varnothing 8x \varnothing 16x5$. - 1 x Ball Bearing $\varnothing 12x \varnothing 24x6$. - 2 x Ball Bearing $\varnothing 15x \varnothing 28x7$. - 2 x Shim $\varnothing 15.1x \varnothing 18x0.1$. 	<p>Blade Grip Arm 30 [H1789-S]</p> <ul style="list-style-type: none"> - 2 x Blade Grip Arm 30. - 2 x Uniball M3. - 2 x Head Cap Screws M4x10mm. 	<p>Main Blade Grip [H1790-S]</p> <ul style="list-style-type: none"> - 1 x Main Blade Grip. - 1 x Washer $\varnothing 10x \varnothing 16x1$. - 1 x Washer $\varnothing 6,1x \varnothing 14x1,8$. - 1 x Head Cap Screw M6x10mm. - 1 x Thrust Bearing $\varnothing 10x \varnothing 18x5,5$. - 2 x Ball Bearing $\varnothing 10x \varnothing 19x5$.
<p>Plastic Wire Cover [H1798-S]</p> <ul style="list-style-type: none"> - 1 x Plastic Wire Cover. - 2 x Head Cap Screws M3x8mm. 	<p>Push Tensioner [H1799-S]</p> <ul style="list-style-type: none"> - 1 x Push Tensioner SET. 	<p>Fixed Tensioner [H1801-S]</p> <ul style="list-style-type: none"> - 1 x Fixed Tensioner SET. 	<p>Tail Locking Element 30 [H1862-S]</p> <ul style="list-style-type: none"> - 2 x Tail Locking Element 30. - 2 x Tail Locking Element 30 Tape. - 4 x Nylon Nut M3. 	<p>Tail Belt Idler D9x12.5 [H1879-S]</p> <ul style="list-style-type: none"> - 2 x Tail Belt Idler D9x12.5. - 4 x Flanged Bearing $\varnothing 5x \varnothing 9x3$.
<p>Tail Blade Grip [H1893-S]</p> <ul style="list-style-type: none"> - 2 x Tail Blade Grip. - 2 x Washer $\varnothing 7,5x \varnothing 10x0,5$. - 2 x Button Cap Screws M4x6mm. - 4 x Ball Bearing $\varnothing 5x \varnothing 10x4$. - 2 x Thrust Bearing $\varnothing 5x \varnothing 10x4$. 	<p>Battery Guide 700 [H2049-S]</p> <ul style="list-style-type: none"> - 1 x Battery Guide SX 700. - 1 x Battery Guide DX 700. 	<p>Plastic Battery Tray [H2051-S]</p> <ul style="list-style-type: none"> - 1 x Plastic Battery Mount. - 1 x Carbon Fiber Battery Tray. - 10 x Countersunk Head Screws M3x8mm. - 2 x Double-sided Tape 1mm. - 4 x Strap 20x250. 		

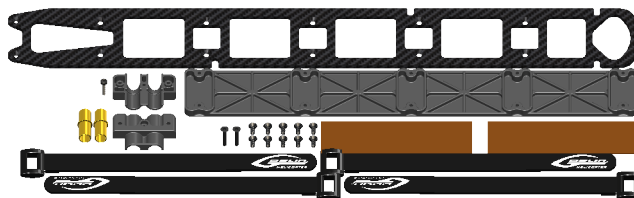


Plastic Landing Gear [H2052-S]



- 2 x Plastic Landing Gear.
- 4 x Nylon Nut M3.
- 4 x Tapping Head Screws M2.2x6.

Plastic Battery Tray with Connector [H2053-S]



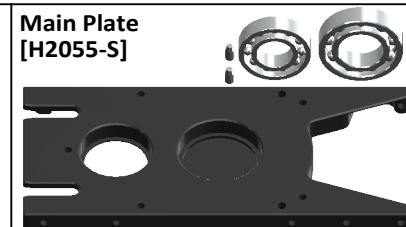
- 1 x Plastic Battery Tray with Connector SET.

HEX 5 Spacer M3x60 [H2054-S]



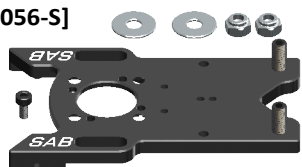
- 2 x HEX 5 Spacer M3x60.

Main Plate [H2055-S]



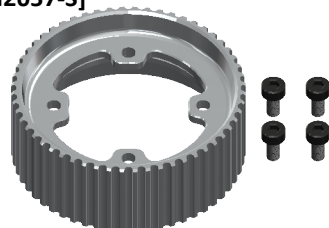
- 1 x Main Plate.
- 2 x Pin 3x6.
- 1 x Ball Bearing $\phi 12x \phi 24x6$.
- 1 x Ball Bearing $\phi 15x \phi 28x7$.

Motor Mount [H2056-S]



- 1 x Motor Mount 700.
- 1 x Head Cap Screw M3x6mm.
- 2 x Washer $\phi 5,3x \phi 15x1$.
- 2 x Nylon Nut M5.
- 2 x Set Screw M5x16mm.

Main Pulley [H2057-S]



- 1 x Main Pulley Z56.
- 4 x Head Cap Screws M3x4.

Carbon Rod Support [H2063-S]



- 2 x Carbon Rod Support.
- 4 x Head Cap Screws M2x8.

Alu Tail Side Plate [H2064-S]



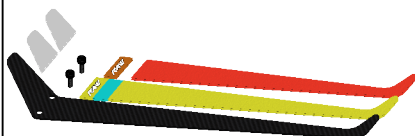
- 1 x Alu Tail Side Plate.
- 1 x Flanged Bearing $\phi 8x \phi 16x5$.

Carbon Fiber Tail Side Plate [H2065-S]



- 1 x Carbon Fiber Tail Side Plate.

Carbon Fiber Tail Fin [H2066-S]



- 1 x Carbon Fiber Tail Fin.
- 2 x Head Cap Screws M3x8.
- 1 x Orange Sticker.
- 1 x Yellow Sticker.

Tail Column Spacer [H2067-S]



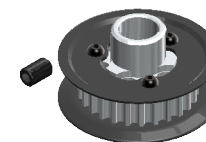
- 1 x Tail Column Spacer.
- 2 x Flat Head Cap Screws M3x8.

3rd Bearing Support [H2079-S]



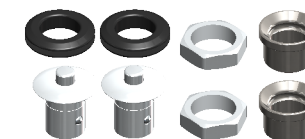
- 1 x 3rd Bearing Support.
- 4 x Finishing Washer M3.
- 4 x Head Cap Screws M3x8mm.
- 1 x Ball Bearing $\phi 12x \phi 21x5$.

Tail Pulley Z25 [H2083-25-S]



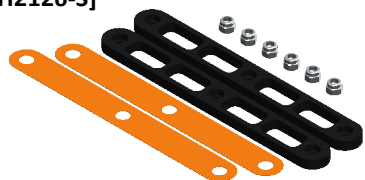
- 1 x Tail Pulley Z25.
- 2 x Tail Pulley Z25 WS.
- 6 x Button Cap Screws M2x4mm.
- 1 x Set Screw M4x6mm.

Canopy Quick Release [H2106-S]



- 2 x Canopy Quick Release.

Carbon Fiber Lock Nut M3 Boom [H2126-S]



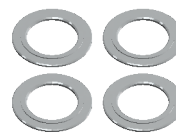
- 2 x CF Lock Nut M3 Boom.
- 2 x CF Lock Nut M3 Boom Tape.
- 6 x Nylon Nut M3.

Carbon Fiber Spacer Boom [H2127-S]



- 2 x CF Spacer Boom.
- 2 x CF Spacer Boom Tape.

Washer $\phi 10.1x \phi 16x1$ with LIP [H2146-S]



- 4 x Washer $\phi 10.1x \phi 16x1$.

Center Hub HPS3 [H2149-S]



- 1 x Center Hub HPS3.
- 1 x Shoulder Screw M4x24mm.
- 1 x Head Cap Screw M3x12mm.
- 6 x Set Screws M3x6mm.
- 1 x Nylon Nut M4.


























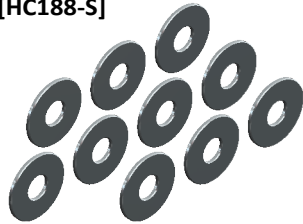
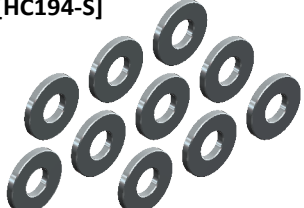



Swashplate [H2150-S]

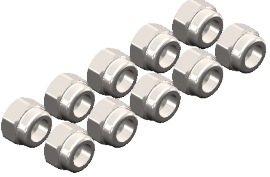
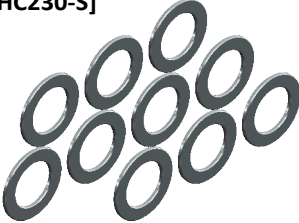






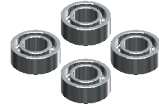



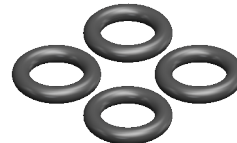

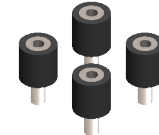


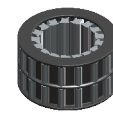


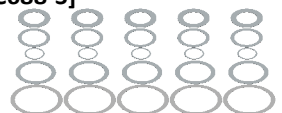
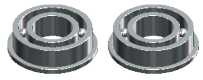
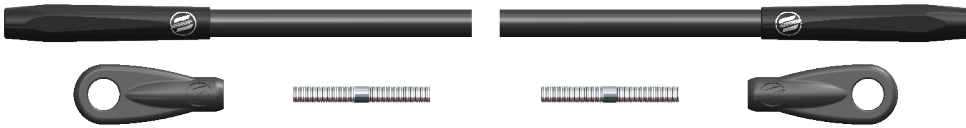




- 1 x Swashplate Assembly.
- 7 x Uniball M3.
- 1 x Reference Pin.

<p>SLS Antenna 700 [H2155-S]</p>  <p>- 1 x SLS Antenna 700. - 1 x Double-sided Tape.</p>	<p>Frame Bushing [H2156-S]</p>  <p>- 8 x Frame Bushing.</p>	<p>Tail Bearing Mount [H2159-S]</p>  <p>- 1 x Tail Bearing Mount. - 3 x Head Cap Screws M2x5. - 1 x Flanged Bearing 8x16x5.</p>	<p>700 Connector Plate [H2162-S]</p>  <p>- 2 x 700 Connector Plate.</p>	<p>Tail Hub HPS3 [H2193-S]</p>  <p>- 1 x Tail Hub. - 1 x Set Screw M4x6mm. - 3 x Button Cap Screws M4x6mm.</p>
<p>Tail Shaft HPS3 [H2194-S]</p>  <p>- 1 x Tail Shaft HPS3. - 2 x Set Screws M4x6mm.</p>	<p>Tail Pitch Slider [H2195-S]</p>  <p>- 1 x Tail Pitch Slider Assembled.</p>	<p>Tail Servo Mount [H2203-S]</p>  <p>- 2 x Tail Servo Mount 29mm. - 2 x Tail Servo Mount 26mm. - 4 x Head Cap Screws M2.5x8.</p>	<p>Uniball Special D5 [H2204-S]</p>  <p>- 5 x Uniball Special D5. - 5 x Head Cap Screws M2x6.</p>	<p>Plastic Ball Linkage M2.5 [H2209-S]</p>  <p>- 10 x Plastic Ball Linkage M2.5.</p>
<p>Plastic Ball Linkage M3 [H2210-S]</p>  <p>- 10 x Plastic Ball Linkage M3.</p>	<p>Pinion Z18xD12 [H2229-S]</p>  <p>- 1 x Pinion Z18xD12.</p>	<p>Carbon Orange Canopy [H2302-S]</p>  <p>- 1 x Hardware SET. - 1 x Carbon Orange Canopy.</p>		<p>Carbon Orange Boom [H2303-S]</p>  <p>- 1 x Hardware SET. - 1 x Carbon Orange Boom.</p>
<p>Main Blade [S6823O]</p>  <p>- 3 x Orange Main Blade 682mm.</p>			<p>Tail Blade [S1103O]</p>  <p>- 3 x Orange Tail Blade 110mm.</p>	<p>Main Blade Holder [HA090-S]</p>  <p>- 1 x Main Blade Holder.</p>



<p>[HC002-S]</p>  <p>- 10 x Socket Head Cap Screws M2x5mm.</p>	<p>[HC004-S]</p>  <p>- 10 x Socket Head Cap Screws M2x6mm.</p>	<p>[HC018-S]</p>  <p>- 10 x Socket Head Cap Screws M2.5x6mm.</p>	<p>[HC020-S]</p>  <p>- 10 x Socket Head Cap Screws M2.5x8mm.</p>	<p>[HC022-S]</p>  <p>- 10 x Socket Head Cap Screws M2.5x10mm.</p>	<p>[HC032-S]</p>  <p>- 10 x Socket Head Cap Screws M2.5x18mm.</p>
<p>[HC044-S]</p>  <p>- 10 x Socket Head Cap Screws M3x6mm.</p>	<p>[HC050-S]</p>  <p>- 10 x Socket Head Cap Screws M3x8mm.</p>	<p>[HC056-S]</p>  <p>- 10 x Socket Head Cap Screws M3x10mm.</p>	<p>[HC062-S]</p>  <p>- 10 x Socket Head Cap Screws M3x12mm.</p>	<p>[HC068-S]</p>  <p>- 10 x Socket Head Cap Screws M3x16mm.</p>	<p>[HC079-S]</p>  <p>- 2 x Socket Head Cap Shoulder Screws M3x18mm. - 2 x Nylon Nut M3.</p>
<p>[HC096-S]</p>  <p>- 10 x Button Head Cap Screws M4x6mm.</p>	<p>[HC102-S]</p>  <p>- 10 x Socket Head Cap Screws M4x10mm.</p>	<p>[HC111-S]</p>  <p>- 10 x Head Cap Shoulder Screws M4x24.</p>	<p>[HC114-S]</p>  <p>- 2 x Head Cap Shoulder Screws M5x30. - 2 x Nylon Nut M5.</p>	<p>[HC124-S]</p>  <p>- 10 x Socket Head Cap Screws M6x10mm.</p>	<p>[HC128-S]</p>  <p>- 10 x Flat Head Cap Screws M2.5x5mm.</p>
<p>[HC132-S]</p>  <p>- 10 x Flat Head Cap Screws M3x5mm.</p>	<p>[HC134-S]</p>  <p>- 10 x Flat Head Cap Screws M3x8mm.</p>	<p>[HC135-S]</p>  <p>- 10 x Flat Head Cap Screws M3x10mm.</p>	<p>[HC136-S]</p>  <p>- 10 x Self Tapping Head Cap Screws M3x10mm.</p>	<p>[HC140-S]</p>  <p>- 10 x Thread Rod M2.5x20.</p>	<p>[HC153-S]</p>  <p>- 10 x Set Screw M4x6.</p>
<p>[HC181-S]</p>  <p>- 10 x Washer ϕ 3x ϕ 7x1.</p>	<p>[HC188-S]</p>  <p>- 10 x Washer ϕ 5.3x ϕ 15x1.</p>	<p>[HC194-S]</p>  <p>- 10 x Washer ϕ 6.1x ϕ 14x1.8.</p>	<p>[HC200-S]</p>  <p>- 10 x Nylon Nut M2.5.</p>	<p>[HC206-S]</p>  <p>- 10 x Nylon Nut M3.</p>	<p>[HC212-S]</p>  <p>- 10 x Nylon Nut M4.</p>

<p>[HC218-S]</p>  <p>- 10 x Nylon Nut M5.</p>	<p>[HC230-S]</p>  <p>- 10 x Washer ϕ10xϕ16x1.</p>	<p>[HC304-S]</p>  <p>- 1 x Belt HTD 3M 2061-6mm.</p>	<p>[HC335-S]</p>  <p>- 4 x O-ring 2.62x4.42, Shore 70.</p>		
<p>[HC351-S]</p>  <p>- 10 x Flat Head Cap Screws M4x6mm.</p>	<p>[HC400-S]</p>  <p>- 4 x Flanged Bearing ϕ2,5xϕ6x2,6mm.</p>	<p>[HC402-S]</p>  <p>- 4 x Flanged Bearing ϕ3xϕ7x3mm.</p>	<p>[HC406-S]</p>  <p>- 4 x Ball Bearing ϕ5xϕ9x3mm.</p>	<p>[HC411-S]</p>  <p>- 4 x Ball Bearing ϕ5xϕ10x4mm.</p>	<p>[HC422-S]</p>  <p>- 2 x Ball Bearing ϕ10xϕ19x5mm.</p>
<p>[HC435-S]</p>  <p>- 2 x Thrust Bearing ϕ5xϕ10x4mm.</p>	<p>[HC438-S]</p>  <p>- 2 x Thrust Bearing ϕ10xϕ18x5.5mm.</p>	<p>[HC529-S]</p>  <p>- 4 x O-ring 95 Shore.</p>	<p>[HC545-S]</p>  <p>- 10 x Head Cap Shoulder Screws M4x21.5mm.</p>	<p>[HC573-S]</p>  <p>- 4 x Rubber Pin M3 65 Shore.</p>	<p>[HC576-S]</p>  <p>- 10 x Flat Head Cap Screws M2.5x12mm.</p>
<p>[HC601-S]</p>  <p>- 1 x Belt HTD 3M 276-19mm.</p>	<p>[HC602-S]</p>  <p>- 1 x Clutch OWB ϕ12xϕ20x11mm.</p>	<p>[HC608-S]</p>  <p>- 10 x Socket Head Cap Screws M3x25mm.</p>	<p>[HC609-S]</p>  <p>- 10 x Button Head Cap Screws M2x6mm.</p>	<p>[HC688-S]</p>  <p>- 5 x Shims ϕ10xϕ16x0.2. - 5 x Shims ϕ2.1xϕ16x0.1. - 5 x Shims ϕ8.1xϕ10x0.1. - 5 x Shims ϕ15.1xϕ21x0.05. - 5 x Shims ϕ23xϕ25.9x0.05.</p>	
<p>[HC701-S]</p>  <p>- 2 x Flanged Bearing ϕ8xϕ16x5mm.</p>	<p>[HC702-S]</p>  <p>- 1 x Carbon Rod KIT.</p>	<p>[HC709-S]</p>  <p>- 10 x Flat Head Cap Screws M2.5x15mm.</p>	<p>[HC712-S]</p>  <p>- 10 x Countersunk Head Screws M3x8mm.</p>		



"The IL Goblin Pro KSE elevates 3-blade flying to a whole new level. With a more robust transmission case, redesigned tail rotor, upgraded head design, and the cutting-edge 5682mm blades, it sets the standard as the strongest and most precise 3-blade helicopter available. Its striking orange carbon fiber scheme adds a distinctive touch, making it truly one of a kind.."

Kyle Stacy
Kyle Stacy



The manual can be downloaded here



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IL GOBLIN KSE SG762
Release 1.0 - December 2024

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