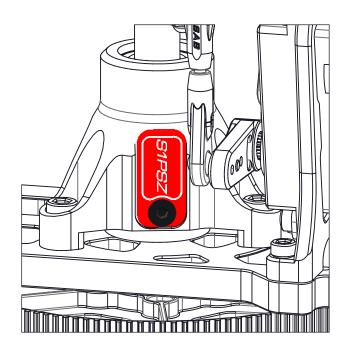


THE ITALIAN HELI





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 printed laser on the Aluminum part.

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

SAB Heli Division

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GOBLIN MINI GENESIS TECHNICAL SPECIFICATIONS



- AIRFRAME weight: 1080gr (with blades and motor, no battery and electronics).
- Main rotor diameter: 935mm (with 420 mm blades).
- Main blade length: 380 to 420 mm.
- Tail rotor diameter: 192 mm (with 72 mm tail blades).
- Tail blade length: 55 to 72 mm.
- Main shaft 8 mm, Tail shaft 5 mm.
- Molded carbon tail boom.

KIT Includes:

- 1 Motor Pulley 20T.
- 1 Battery Tray with straps and connectors.

- Cyclic Servos: Micro size 23 mm.
- Tail Servo: Mini size 35 mm.
- Main Rotor Ratio: 1:6.3 to 1:5.
- Tail Rotor Ratio : 4:1.
- Maximum battery size: 40x51x135mm.
- Recommended battery: 6S 2200/2700 mAh.
- Recommended battery weight: approximately 350-420gr.
- 420mm Main Blades.
- 72mm Tail Blades.

DISCLAIMER/WARRANTY



IMPORTANT SAFETY WARNING



- * This radio-controlled helicopter is not a toy. It should only be assembled, setup and operated by an adult.
- * This radio-controlled helicopter is a technically complex device which must 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.
- * 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.
- * 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.
- * Fly only in areas dedicated to the use of model helicopters.
- * Follow all control procedures for your radio frequency system >>>> Follow instructions and information provided by radio system, electronic speed controller, flight control system (gyro) manufacturers regarding safety, radio frequency control, setup/configuration, operations and other best practices.
- * It is necessary that you know your radio system well. Check all functions of the transmitter before every flight. >>>> It is crucial that you know your radio system, electronic speed controller and flight control system well. Properly check all their functions and connections 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

ASSUMPTION OF RISK

Neither SAB Heli Division nor its agents have any control over the assembly, maintenance, and use of this product.

For this reason, SAB Heli Division is not responsible for injury, death or damage to people, things and / or to the product.

By assembling any component of this product, the user declares to have read and understood the following terms and conditions and agrees to be bound by them.

Failure to observe the above warnings and precautions may increase the risk of serious injury or death to yourself or surrounding people, damage to the product, or both.

SAB Heli Division shall not even 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.

By the act of use, setup, or assembly the user accepts all resulting liability.

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.

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 an unused condition to the place of purchase.

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 non infringement, 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

- * Motor size: 3215-3220; 900-1000 Kv/V.
- *Speed controller: 6S capable, 60-80 Amps.
- *Batteries: 6S 2200/2700 mAh.
- *1 flybarless 3 axis control unit.
- *Radio power system.
- *3 Micro cyclic servos.
- *1 Mini 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).

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:



Important



Indicates that for this assembly phase you need materials that are: BOX xxx, BAG xxx.











need to use: **Thread Locker Medium** Strength

(SAB HA116-S)

Use CA Glue







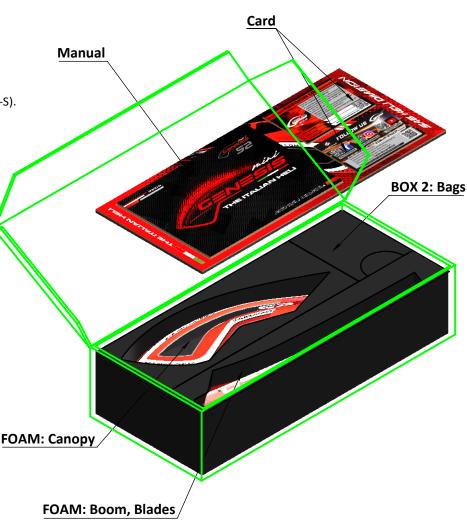
need to use: **Retaining compound**

(SAB HA115-S)



Use Proper Lubricant

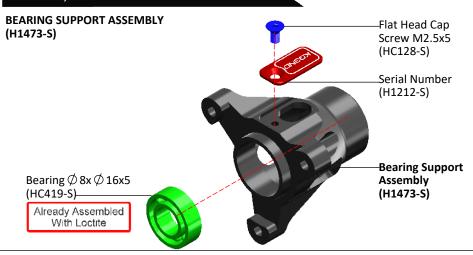
INSIDE THE MAIN BOX THERE ARE:



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.

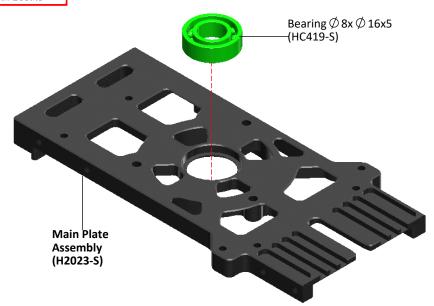




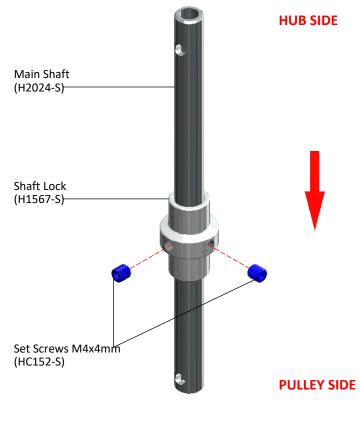


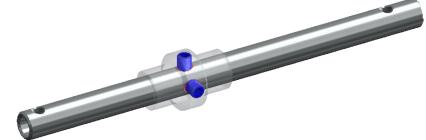
MAIN PLATE ASSEMBLY (H2023-S)

Already Assembled With Loctite



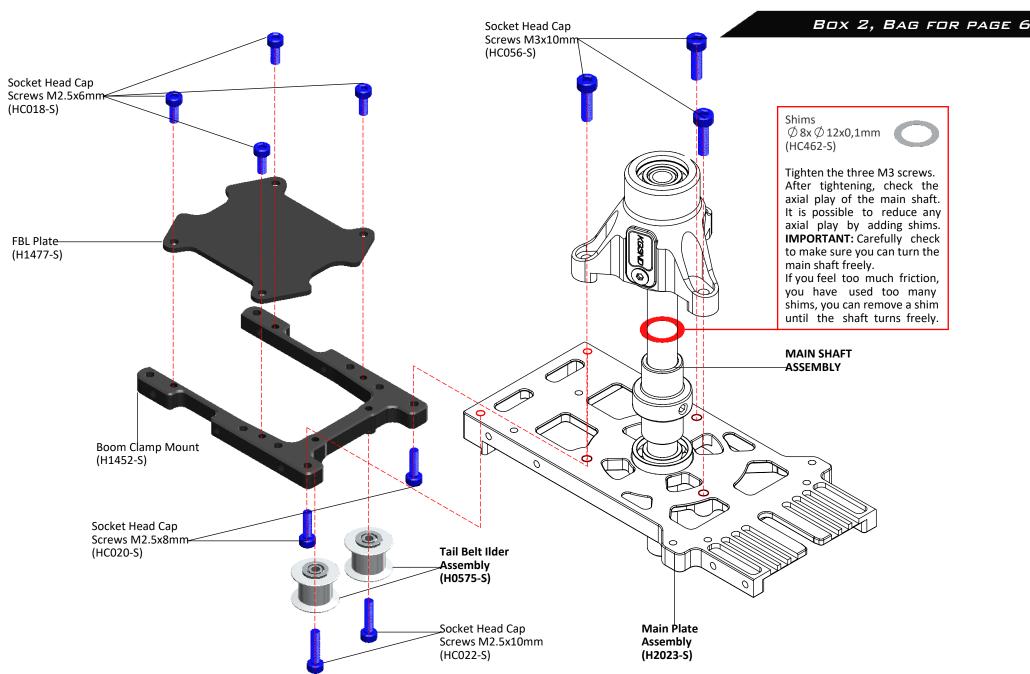
MAIN SHAFT ASSEMBLY





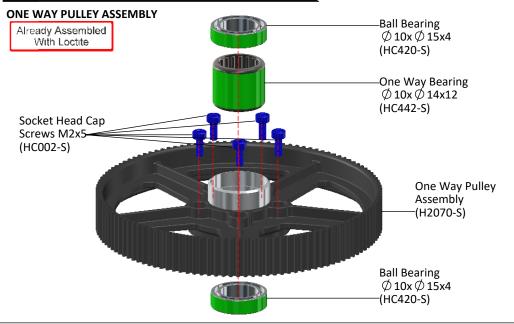
TRANSMISSION GROUP ASSEMBLY

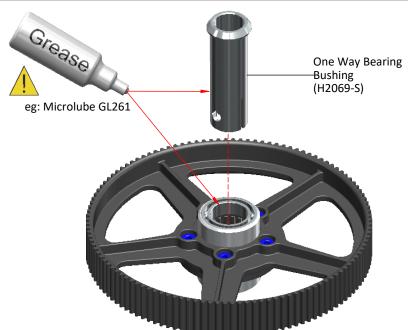


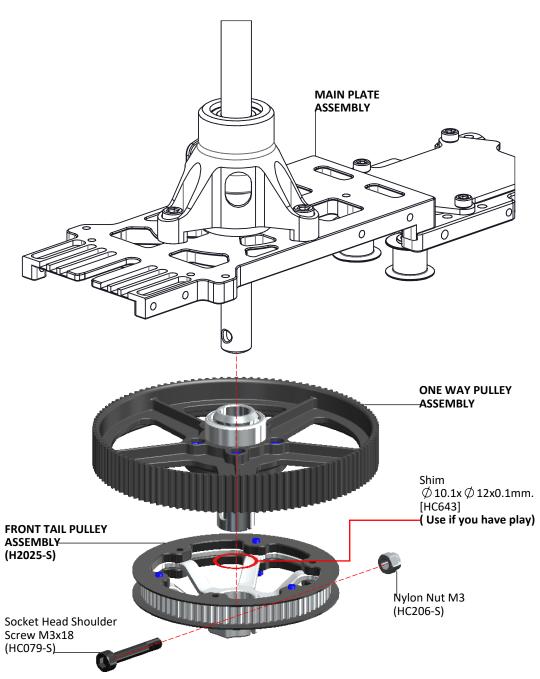












ASSEMBLY OF THE SWASHPLATE SERVOS



SERVO ASSEMBLY

The linkage ball must be positioned 13-15mm out on the servo arm.

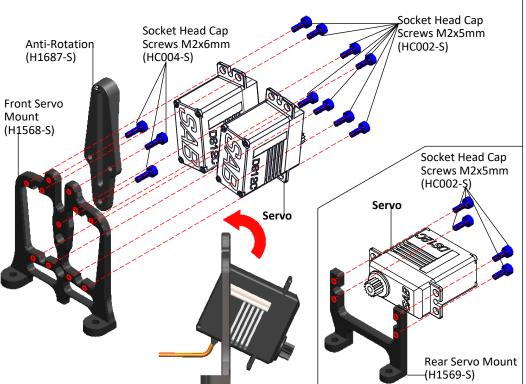
The recommended servo arm to use is: SAB p/n [HA052].

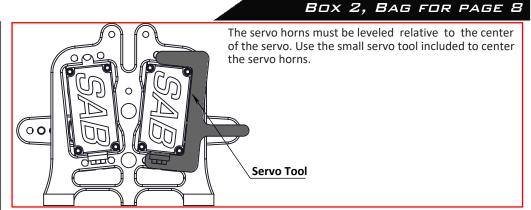
Ensure the alignment of the servo arms before installation of the servos in the model.

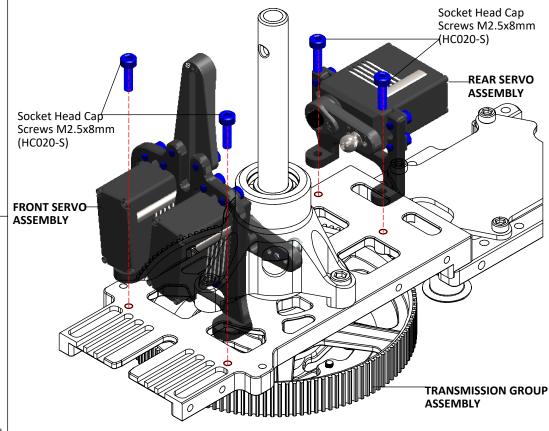
Proceed with installation following the instructions below.



Note: Do not over tighten the uniball, be careful not to strip the plastic



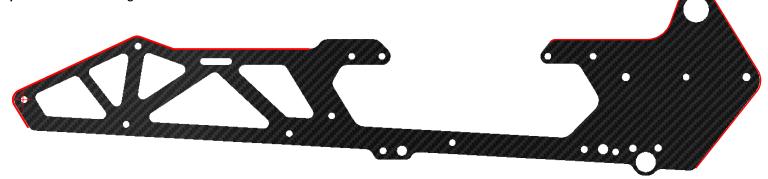


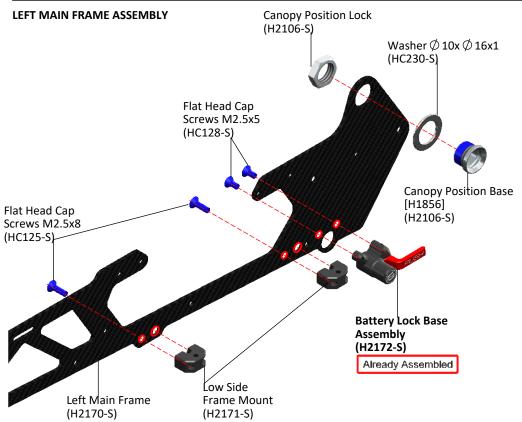


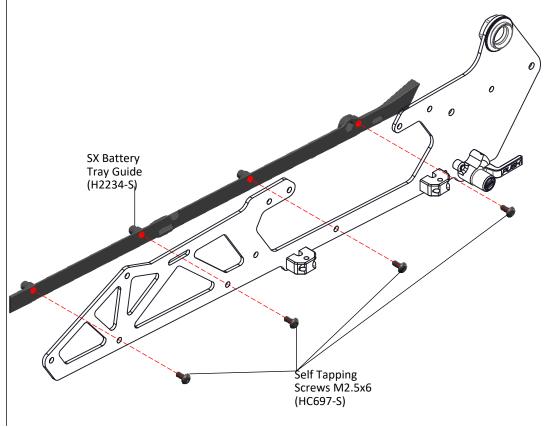


CARBON FRAME

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.



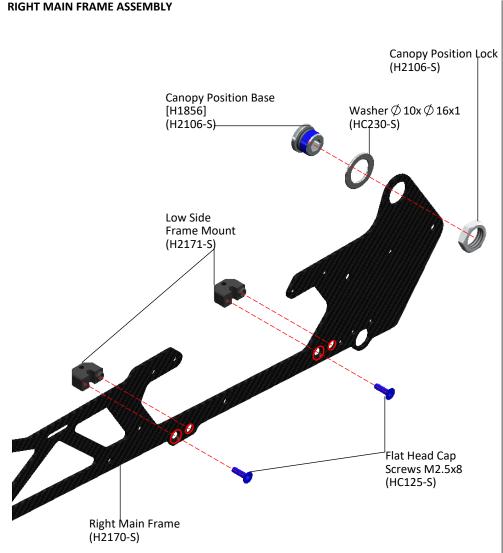


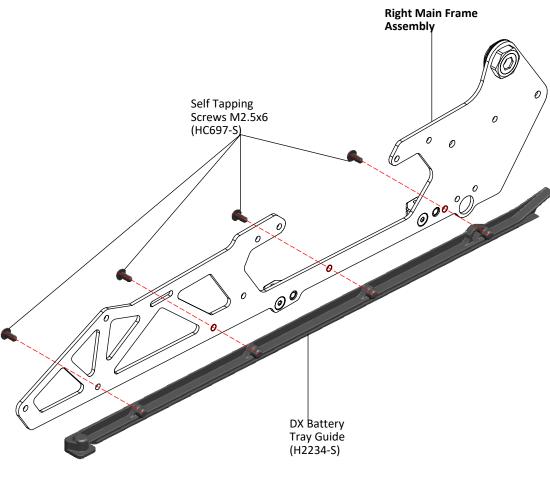


FRAME GROUP ASSEMBLY

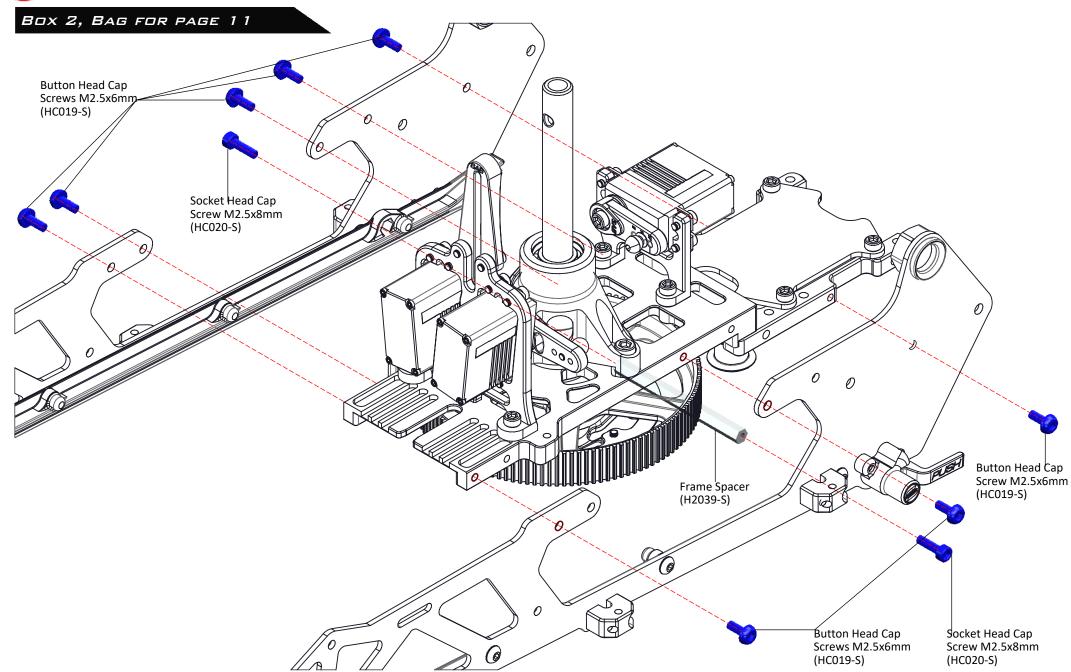


BOX 2, BAG FOR PAGE 10







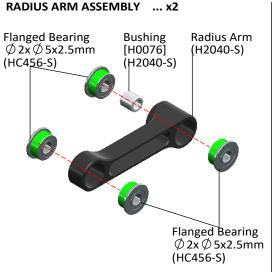


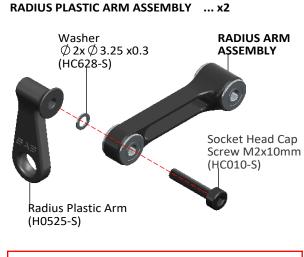
HEAD ASSEMBLY

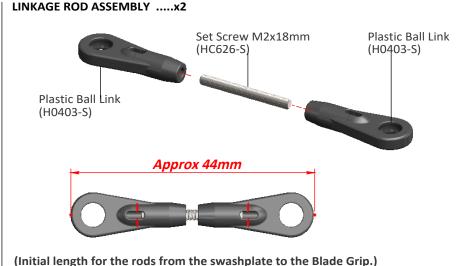


PLEASE USE GREEN THREAD LOCK to secure the bearings to the radius arms. Failure to secure the bearing will result in excessive slop/play.

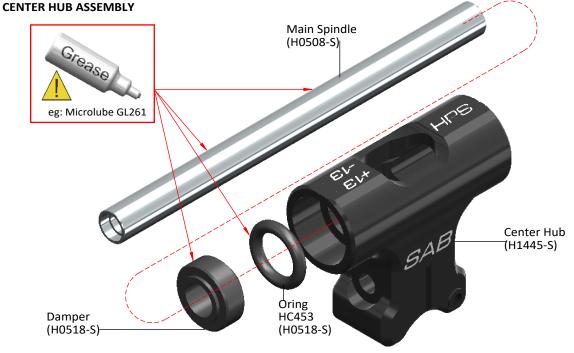
BOX 2, BAG FOR PAGE 12

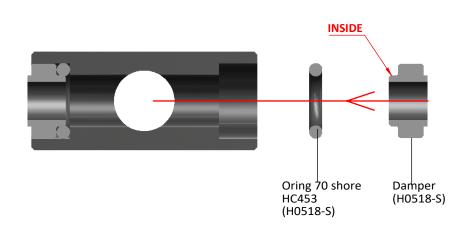




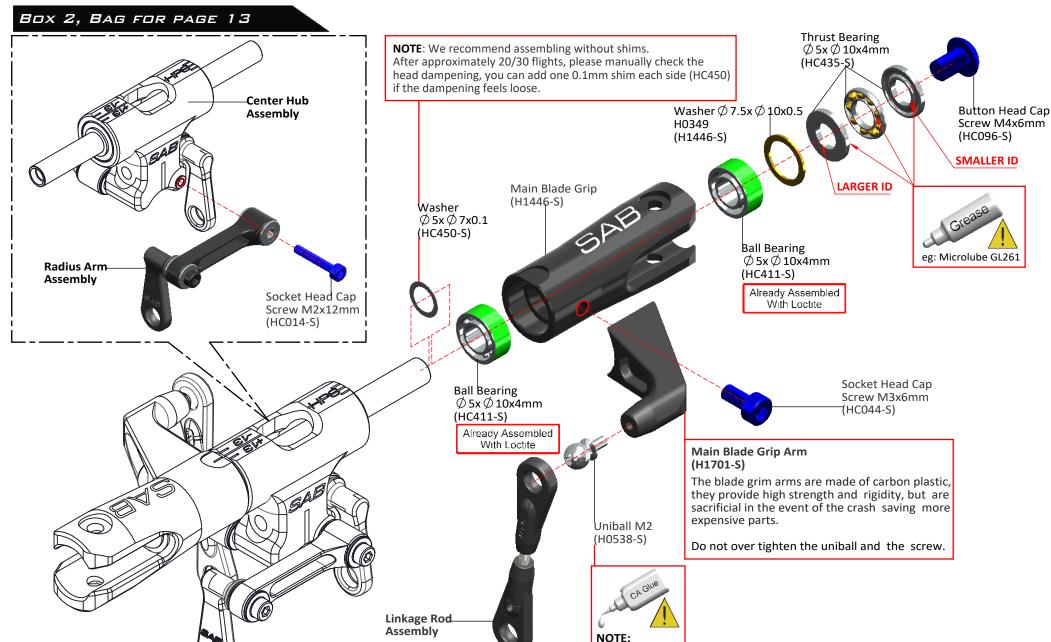


NOTE: Tighten with care, the arm must move freely.





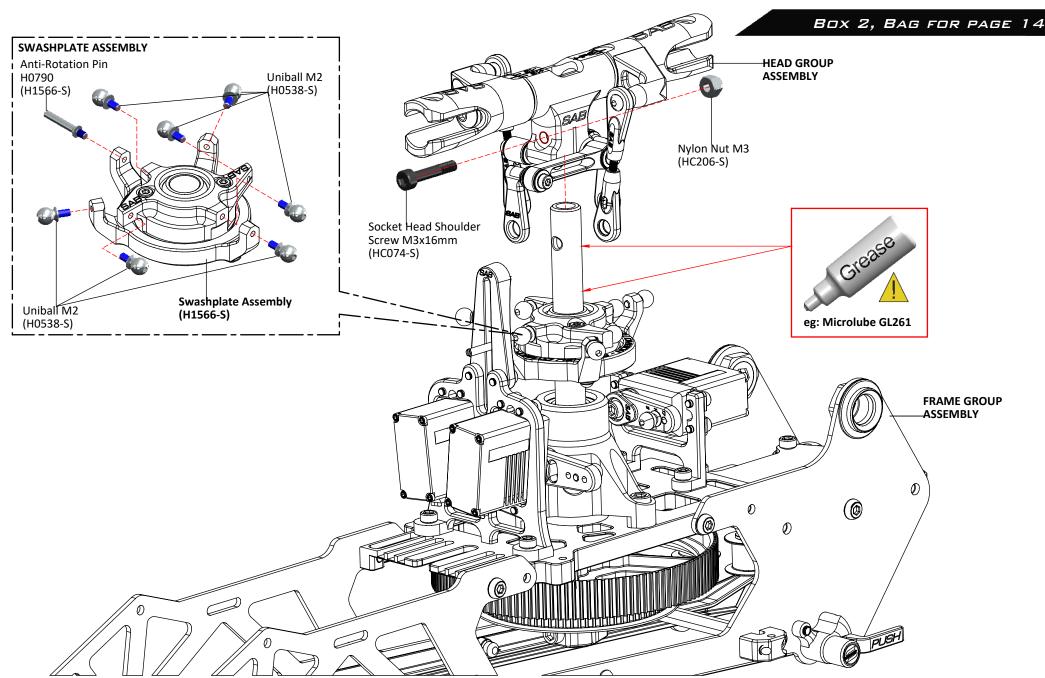




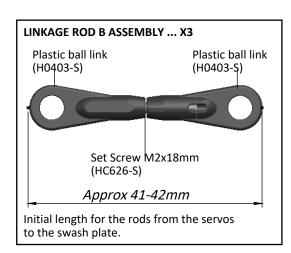
Put a very small drop of CA glue.

ASSEMBLY OF THE MODULES





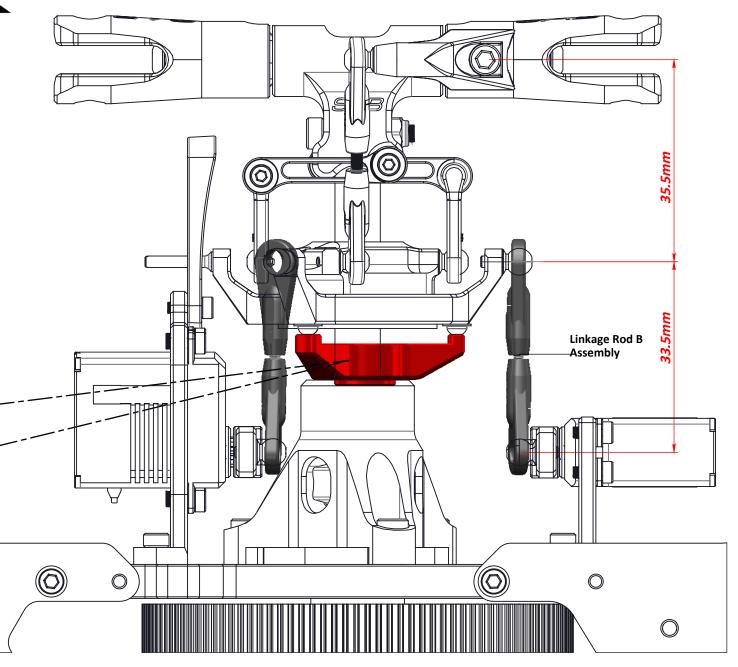






You can use the Swashplate Leveler H1686-S (Not included KIT)





MOTOR GROUP ASSEMBLY



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 120 teeth for the main gear

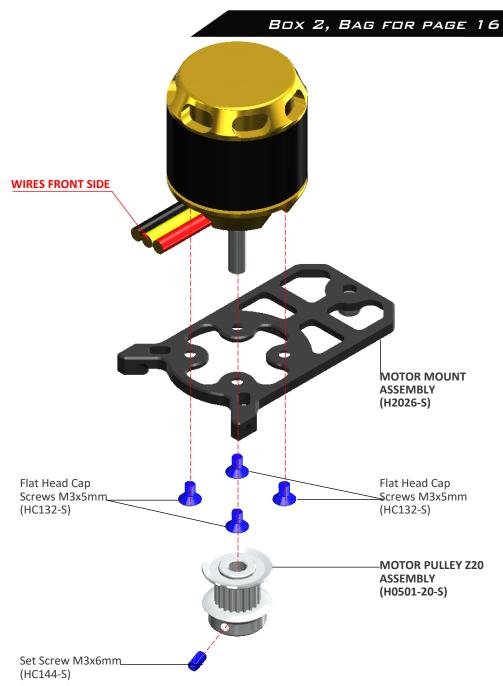
BELOW IS A LIST OF AVAILABLE REDUCTION RATIOS:

H0501-19-S - 19T Pinion = ratio	6.3:1	H0501-22-S - 22T Pinion = ratio	5.5 : 1
H0501-20-S - 20T Pinion = ratio	6.0:1	H0501-23-S - 23T Pinion = ratio	5.2 : 1
H0501-21-S - 21T Pinion = ratio	5.7 : 1	H0501-24-S - 24T Pinion = ratio	5.0 : 1

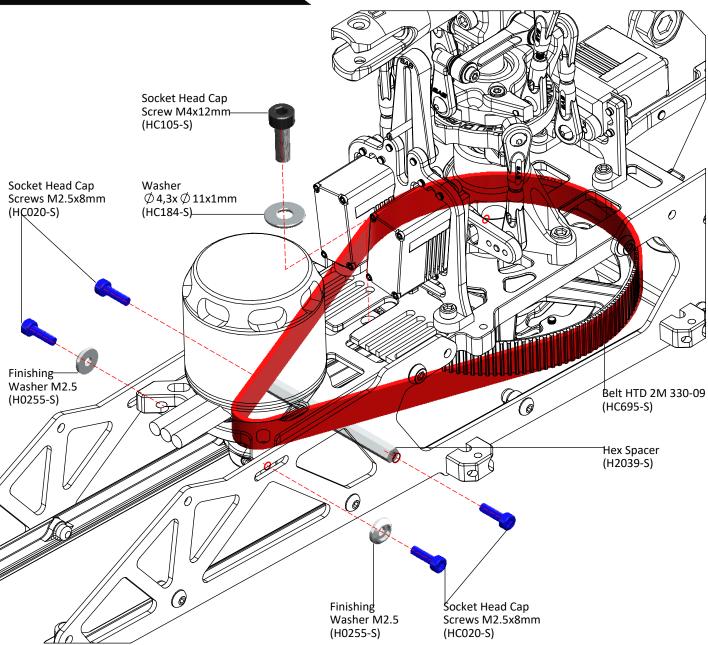
GOBLIN RAW 420 CONFIGURATIONS (BLADES 420mm)					
MOTOR	ESC	Motor Pulley	RPM Max	Pitch	
Scorpion HK5 3220-955		19T - 20T	3100 - 3200		
XNOVA 3220-950	Scorpion Tribunus III 06-80A	20T - 21T	3100 - 3200		
TENGU 3220HS / 960KV	Platinum 80A V4	19T - 20T	3100 - 3200		
MINIPYRO 400-10		18T - 19T	3100 - 3200	± 12.5	
XNOVA 3215-945	KOLIBRI 90LV-I	19T - 20T	3000 - 3100		
XNOVA 2820-920	YGE 95LVT	20T - 21T	3000 - 3100		
TENGU 3220HS / 900KV		20T - 21T	3000 - 3100		

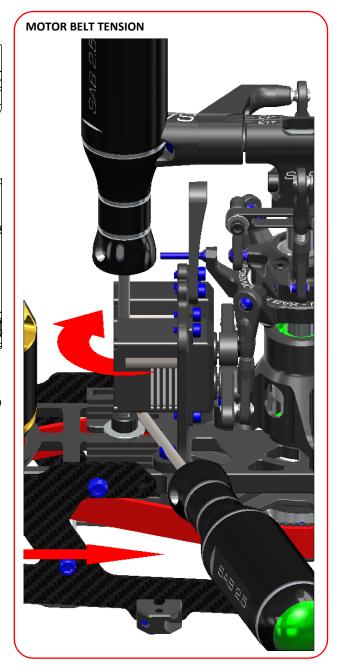


NOTE: For safety reason we recommend not exceeding 3200 RPM.





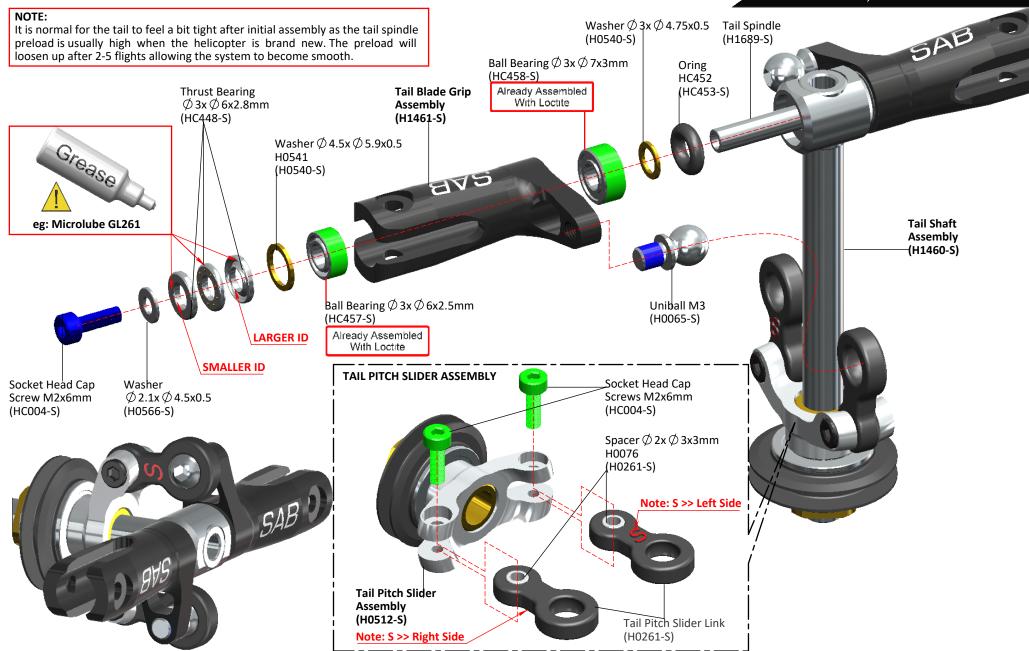




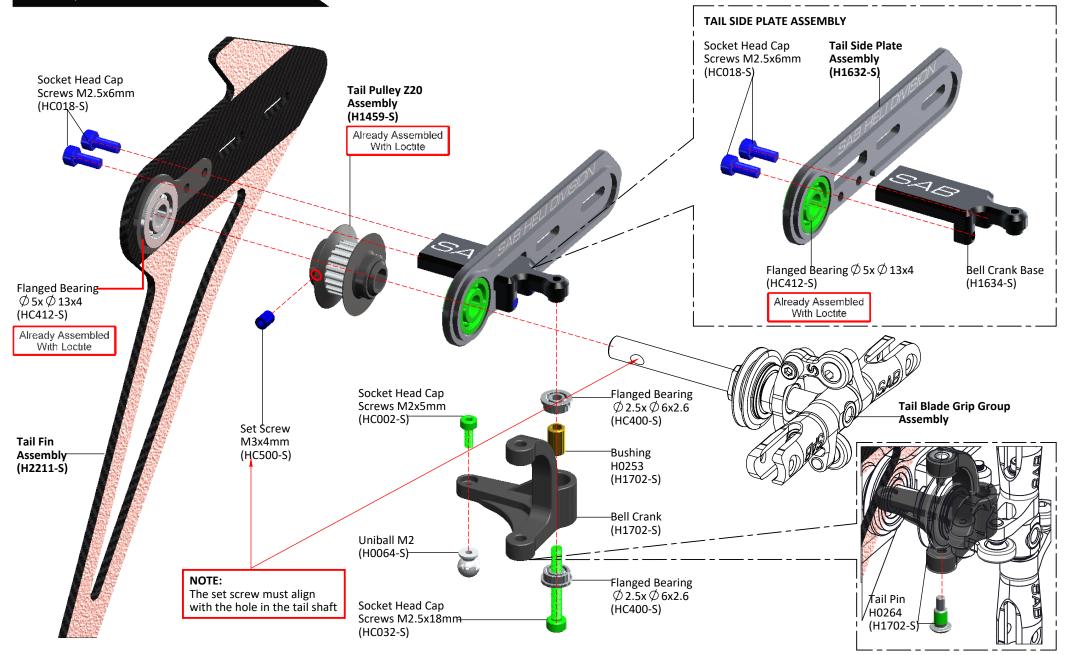
TAIL GROUP ASSEMBLY



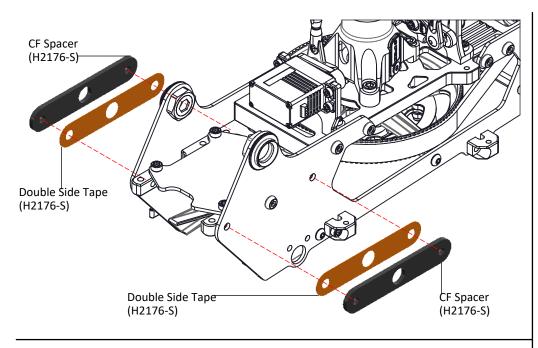


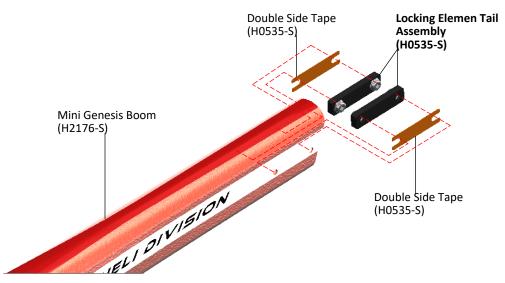


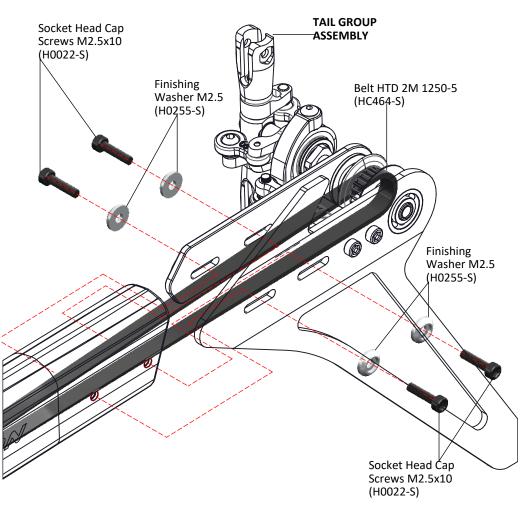






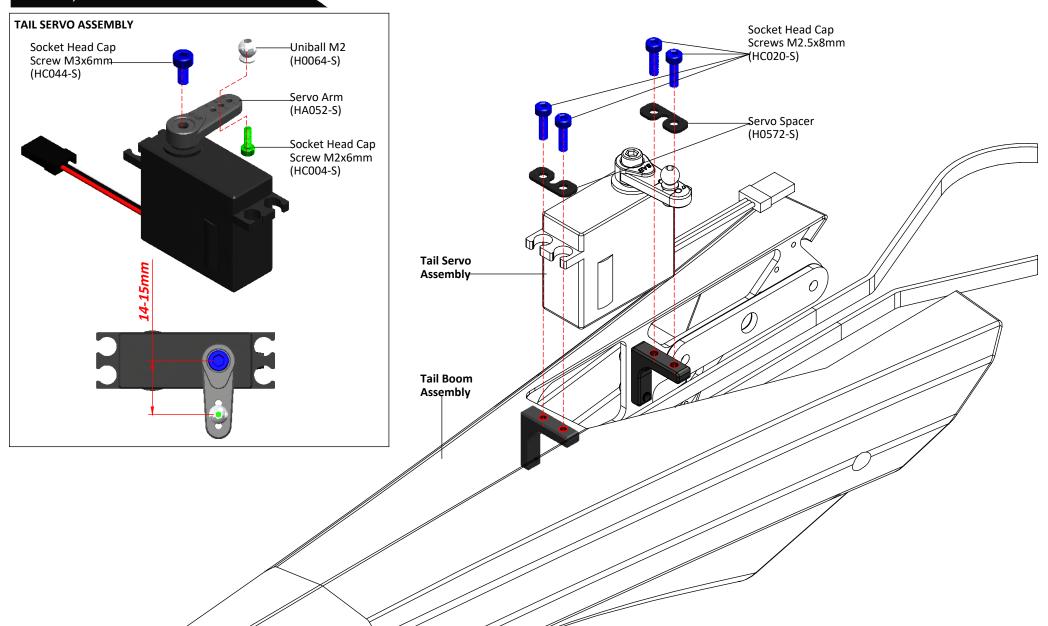




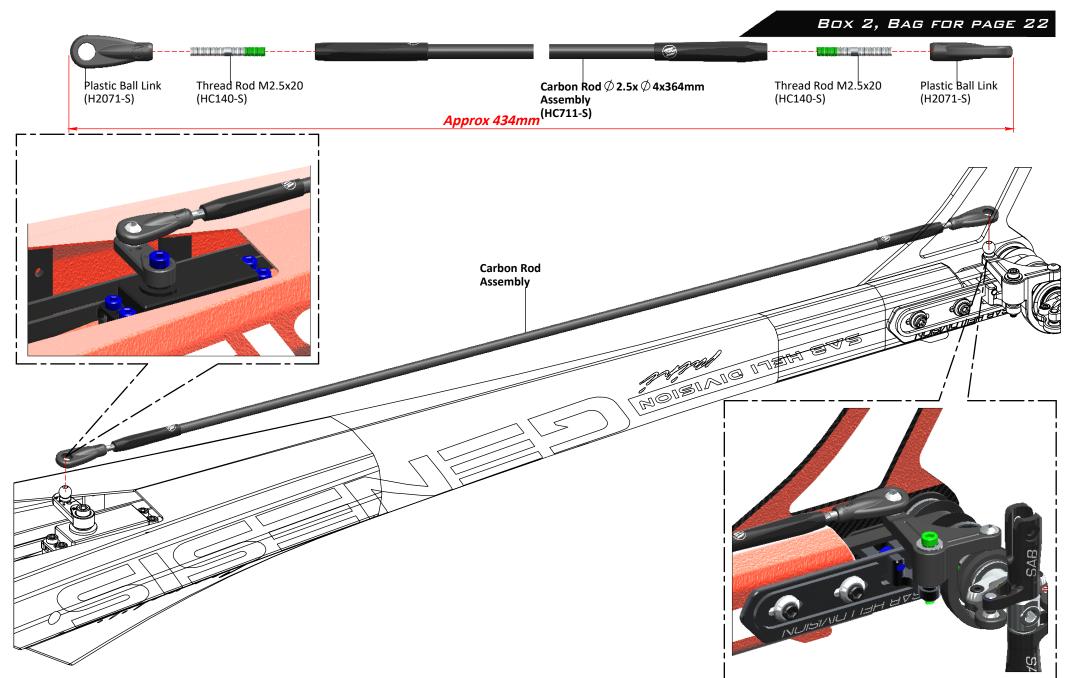




Box 2, Bag for page 21





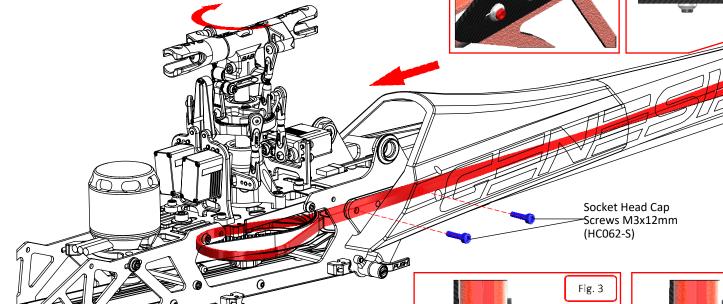




TAIL BOOM ASSEMBLY

To fit the tail belt, loosen the tail case by loosening the 4 M2.5 screws (Figure 1).

- *Install the belt onto the tail front pulley, checking the direction of rotation.
- *Insert and tighten the 4 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).



TAIL BELT TENSION

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

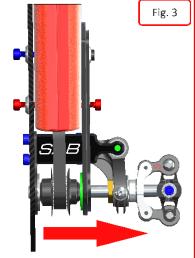
Figure 3, Loosen the 2 **RED** screws and the **BLUE** and push the tail side in according with red arrow. Tighten the **BLUE** screw while you are pushing.

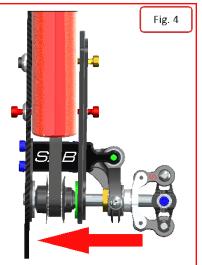
Figure 4, Loosen the 2 **RED** screws and the **YELLOW** and push the tail side in according with red arrow. Tighten the **YELLOW** screw while you are pushing. You can proceed step by step until the tail belt is tight enough.

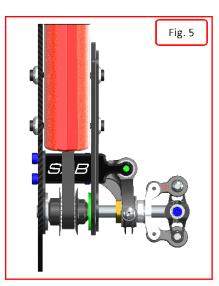
Hard 3D style will require more tension; Sport flight style less.

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

(Figure 5, tail output shaft have to be perpendicular to the boom mid line .)

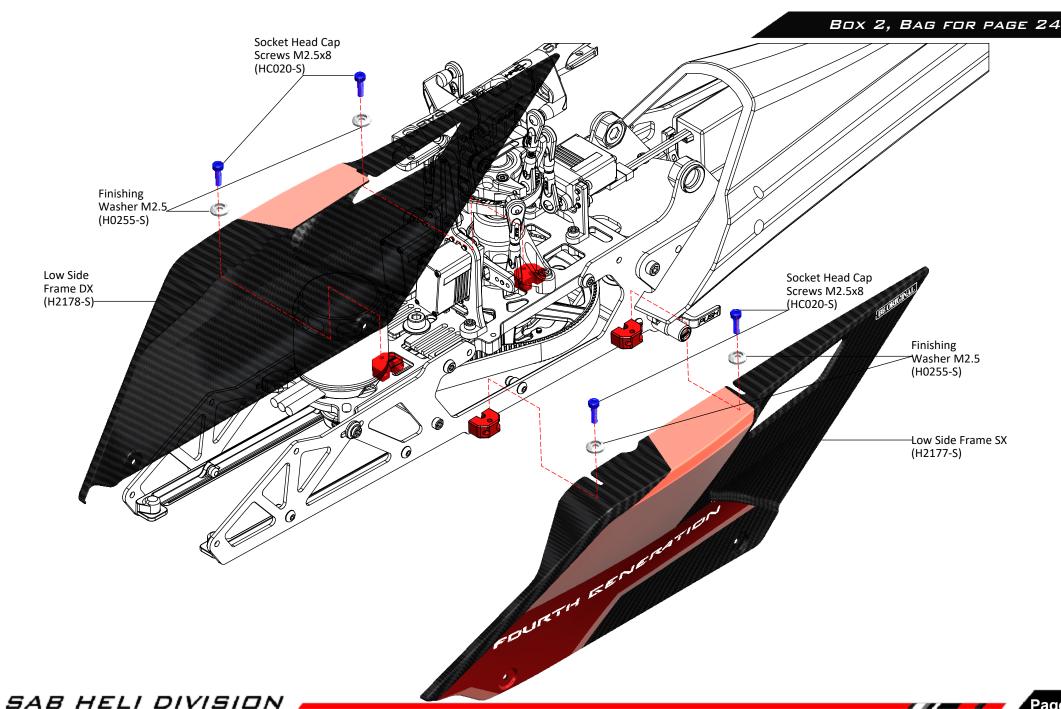




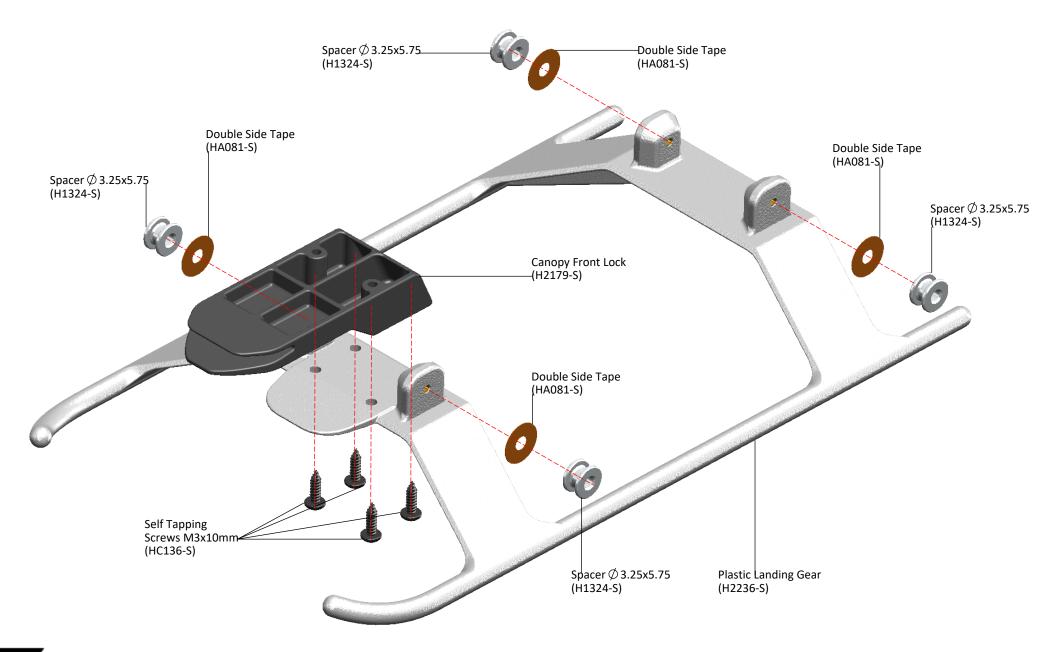


LOW SIDE FRAME INSTALLATION





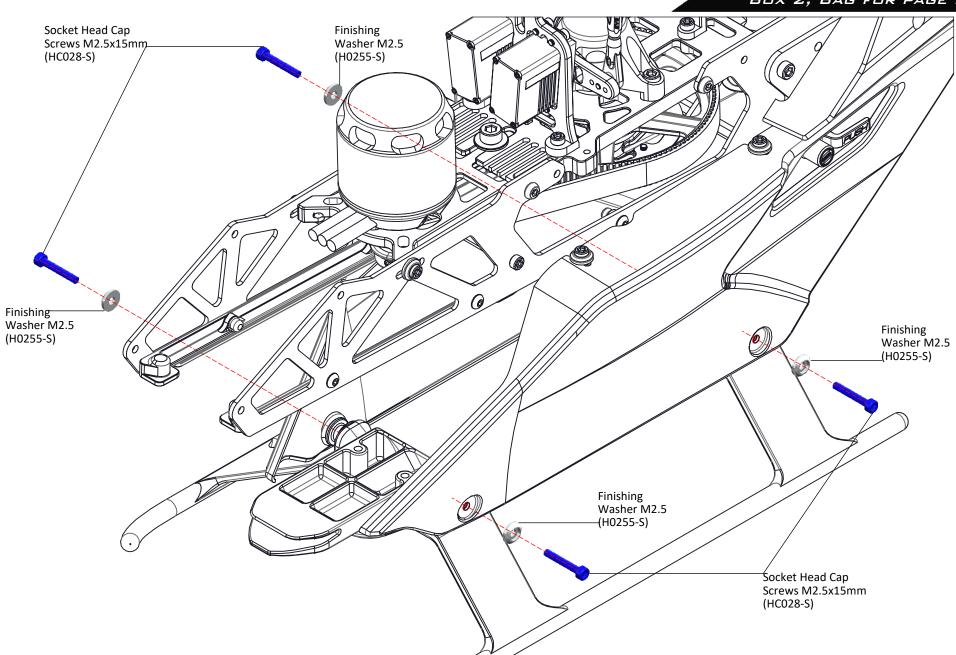




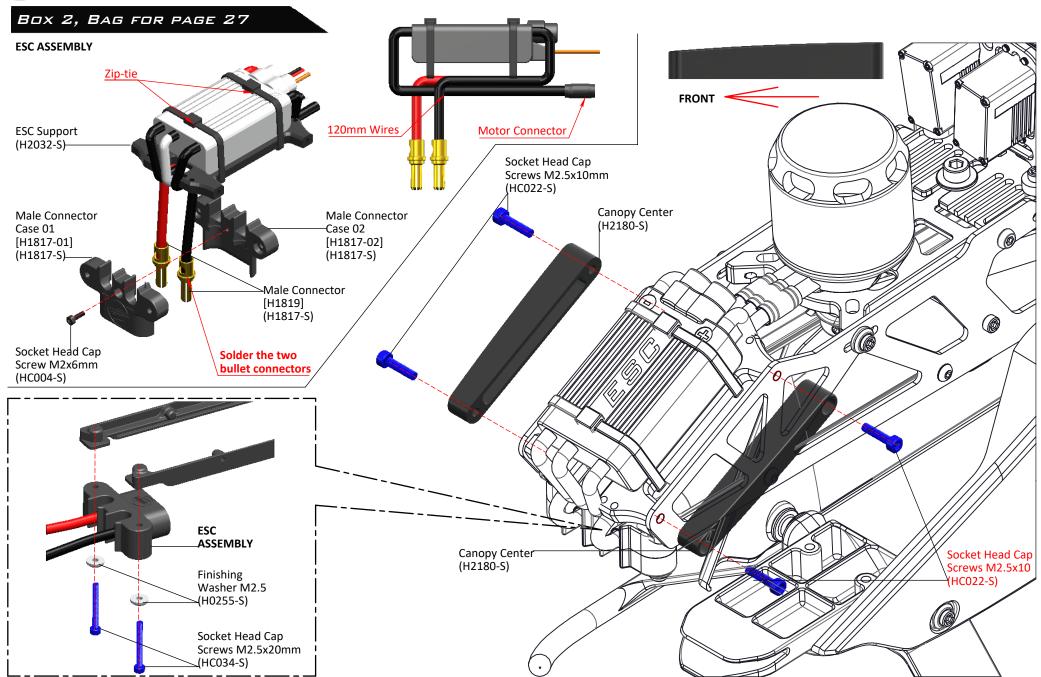
LANDING GEAR INSTALLATION



BOX 2, BAG FOR PAGE 26

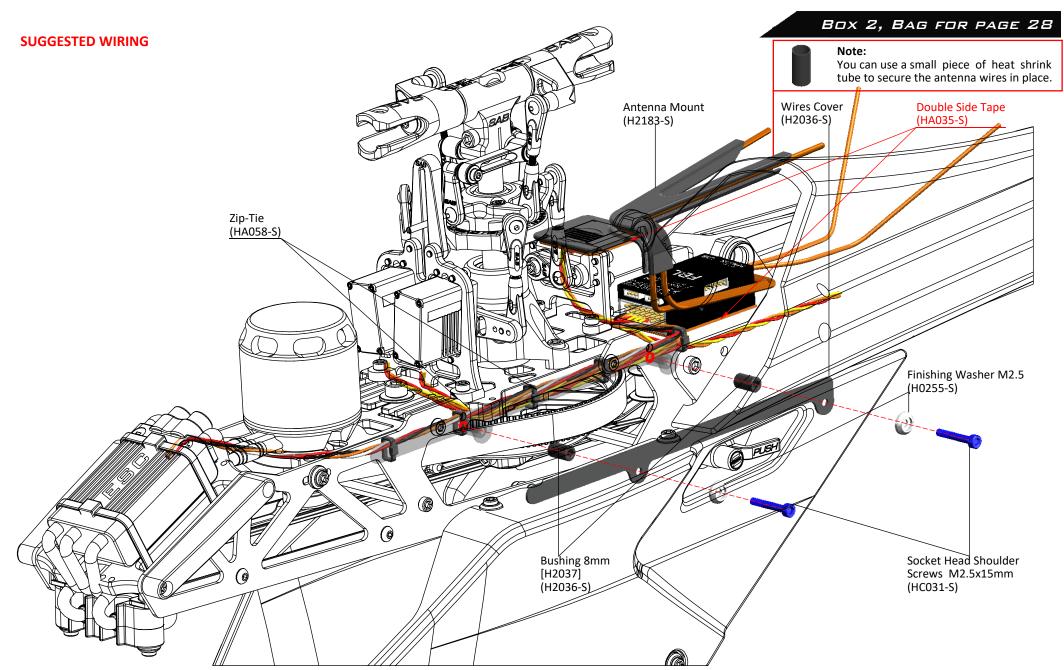






INSTALLATION OF THE ESC/FBL







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.

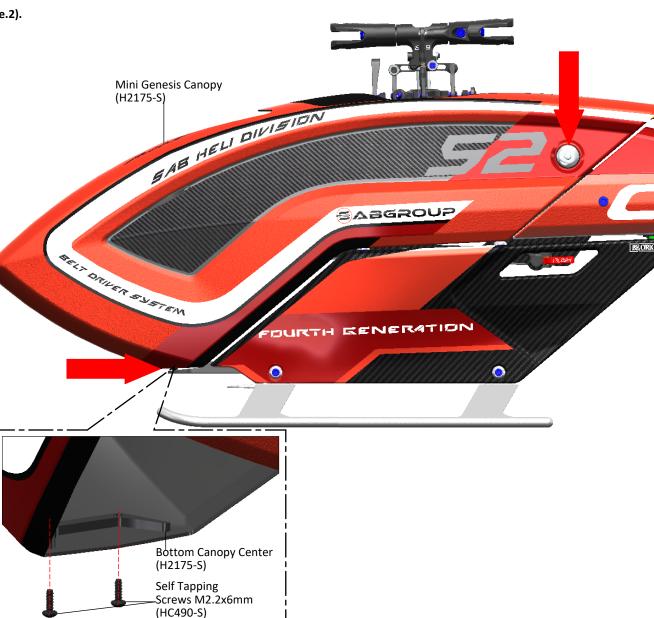
A.

*Confirm the canopy is secure prior to each flight.





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.



INSTALLATION OF THE BATTERY



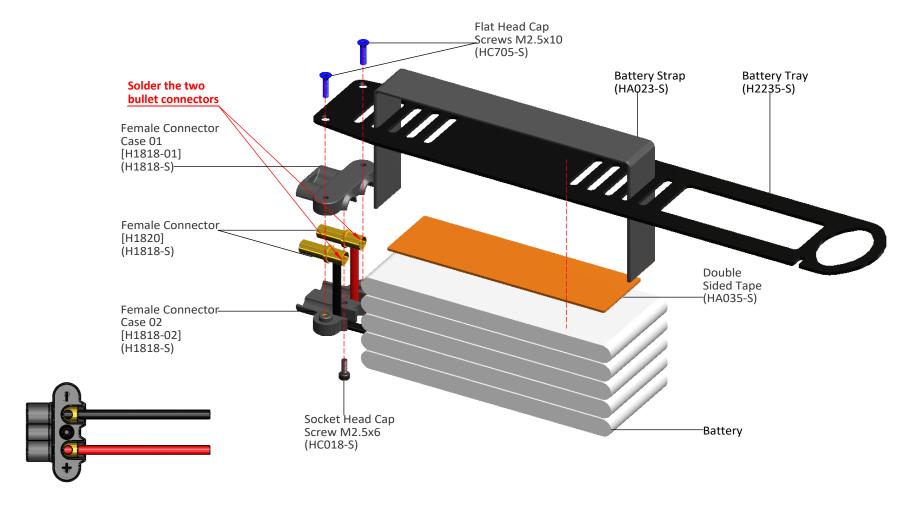
BOX 2, BAG FOR PAGE 30

BATTERY ASSEMBLY

Use the included double sided tape to secure the battery to the tray. Use the Velcro Strap [HA023-S].

CAUTION:

Please be extremely careful when soldering and installing the female connectors to the battery and installing them on the connector case. Lack of diligence and carefulness during this step could cause the connectors to make contact causing severe injury or death.





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



CLOSED



Box 2, Bag for page 32

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 increase of rpm. Although the Goblin can fly at high rpm, for safety reasons we suggest to not exceed 3200rpm.

- *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, 2200/2300 RPM.

After this first flight, do a general check of the helicopter. Verify that all screws are correctly tightened.

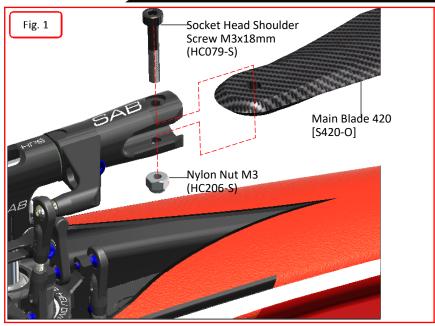
FIRST FLIGHT

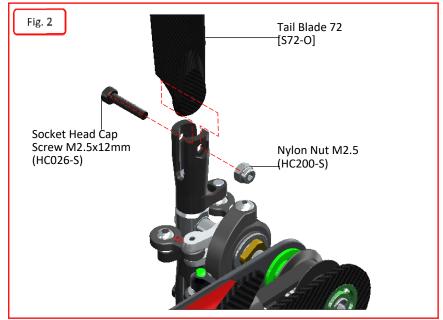
- * Check that the connectors to the FBL / RX are all inserted correctly and secure.
- * We suggest initially using a tail gain setting in your FBL system between 40 to 50%.

* Check that the battery is securely locked and properly seated in the guides. The locking lever must always be oriented with the word closed facing upwards.

- * Perform the first flight at a low head speed, not exceeding 2200 rpm. After this first flight, do a general check of the helicopter. Verify that all the screws and bolts are correctly tightened.
- * It's very important to check the model over before every flight, check all bolts, screws, belts, ball links, etc.
- * If the model is making any strange noises check the blades balance.

 If you want to fly high RPM (over 3000 rpm) you can replace the tail pulley with H1742-S 21T.







MAINTENANCE

Take a look at the red parts.

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

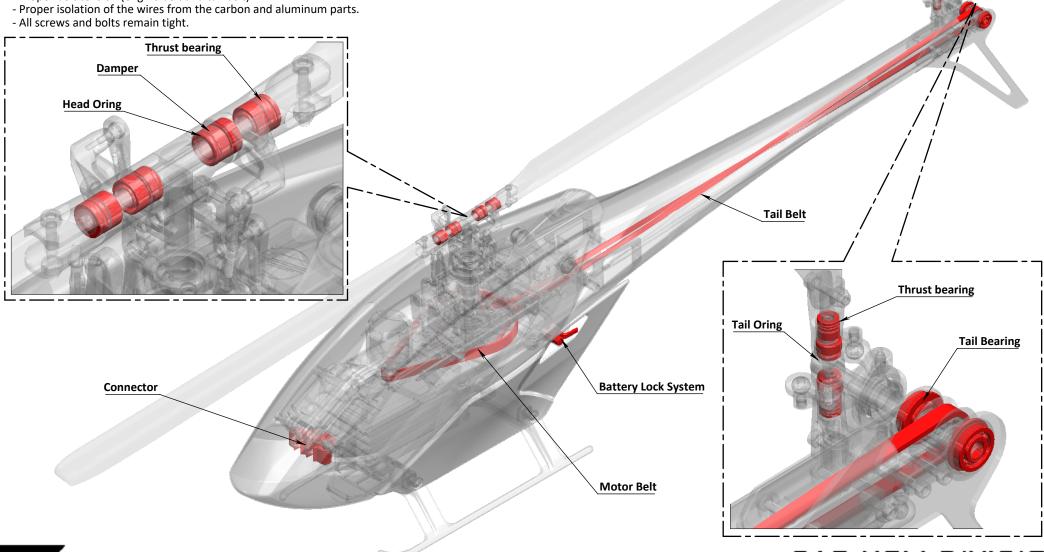
The lifespan of these components varies according to the type of flying.

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.

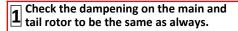
Periodically lubricate the tail slider movement and its linkages as well as the swash plate movement and its linkages.

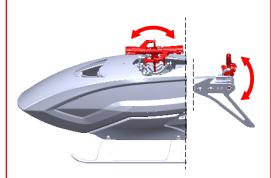
To ensure safety you should do a general inspection of the helicopter after each flight. You should check:

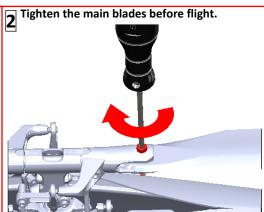
- Proper belt tension (engine belt and tail belt).



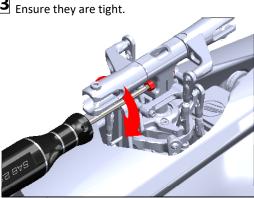




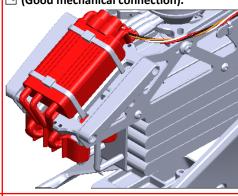




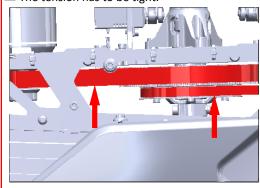
Check main hub screws M3
Ensure they are tight.



Check all power connectors (Good mechanical connection).



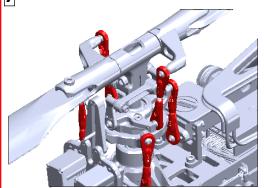
5 Check Tail belt tension. The tension has to be tight.



6 Check the 4 M2.5 Tail group screws. Ensure they are tight.

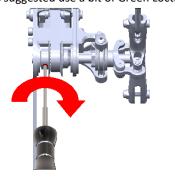


Check the Main Linkages & Servo Linkages

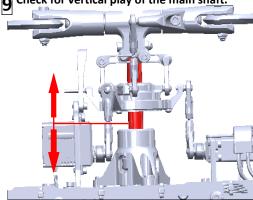


Check tail pulley set screw: Ensure it is tight.

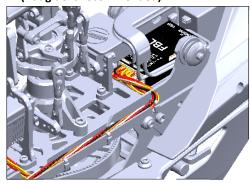
(It is suggested use a bit of Green Loctite.)



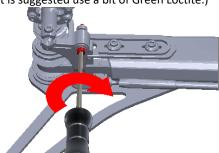
Check for vertical play of the main shaft.



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



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



Be sure Be sure the following parts are properly

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









- 5 x Uniball Spacers.
- 5 x Socket Head Cap Screws M2x6mm.
- 5 x Socket Head Cap Screws M2x8mm.



- 5 x Plastic Ball Link M2.

Damper Set [H0518-S]



- 2 x Damper.
- 2 x Oring 106, 1.78 x 6.75.
- 2 x Shims \emptyset 5x \emptyset 7 x 0,1mm.
- 2 x Washer \emptyset 7,5 x \emptyset 10x0,5.
- 2 x Button Head Cap Screws M4x6mm.

Washer \emptyset 2,1x \emptyset 4,5x0,5 [H0566-S]



- 10 x Washer \emptyset 2,1x \emptyset 4,5x0,5.

Uniball M3 [H0065-S]



- 5 x Uniball M3.

Motor Pulley 19T-24T [H0501-19-24-S]



- 1 x Motor Pulley Assembly 19T-24T.
- 1 x Set Screw M3x6mm.

Radius Plastic Arm [H0525-S]



- 2 x Radius Plastic Arm.
- 2 x Washer \emptyset 2.2x \emptyset 5 x 0.3mm.

Servo Spacer [H0572-S]



- 4 x Servo Spacer.

Finishing Washer M2.5 [H0255-S]



- 10 x Finishing Washer M2.5.

Main Spindle [H0508-S]



- 1 x Main Spindle.
- 2 x Button Head Cap Screws M4x6mm.

Uniball M2 [H0538-S]



- 5 x Uniball M2.

Tail Belt Ilder [H0575-S]



- 1 x Tail Belt Ilder.
- 2 x Flanged Bearing \emptyset 2,5x \emptyset 6x2,6.

Plastic Linkage [H0261-S]



- 2 x Plastic Linkage.
- 2 x Spacers.
- 2 x Socket Head Cap Screws M2x6mm.

Tail Spitch Slider [H0512-S]



- 1 x Tail Spitch Slider 01.
- 1 x Tail Spitch Slider 02.
- 1 x Tail Spitch Slider 03.
- 2 x Flanged Bearing \emptyset 7x \emptyset 11x2.5.

Tail Spacers Set [H0540-S]



- 2 x Washer \emptyset 3 x \emptyset 4.75x0.5.
- 2 x Washer \emptyset 4.5x \emptyset 5.9x0,5.
- 2 x Washer \emptyset 2,1x \emptyset 4,5x0,5.
- 2 x Socket Head Cap Screws M2x6mm.
- 2 x Oring 2012, DI=2,9, S=1,78.

Serial Number [H1212-S]



- 1 x Serial Number.
- 1 x Flat Head Cap Screw M2.5x5mm.

SPARE PARTS



Spacer ∅ 3.25x5.75 [H1324-S]



- 4 x Spacer Ø 3.25x5.75.

Tail Pulley 20T [H1459-S]



- 1 x Tail Pulley 20T. - 1 x Set Screw M3x4mm.
- **Bearing Support** [H1477-S]



- 4 x Socket Head Cap Screws M2.5x6mm.

Rear Servo Mount [H1569-S]



- 1 x Rear Servo Mount.
- 2 x Socket Head Cap Screws M2.5x8mm.

Center Hub [H1445-S]



- 1 x Center Hub.

Tail Shaft

[H1460-S]

- 1 x Tail Shaft.

- 2 x Tail Oring.

- 7 x Uniball M2.

- 1 x Reference Pin.

Alu Tail Side Plate

[H1632-S]

- 1 x Swashplate ASM.

- 1 x Alu Tail Side Plate.

- 1 x Flanged Bearing Ø 5x Ø 13x4.

- 1 x Tail Hub.

Swashplate

[H1566-S]

- 1 x Socket Head Shoulder Screw M3x16mm.
- 1 x Nylon Nut M3.



- 2 x Main Blade Grip.
- 4 x Bearing \emptyset 5x \emptyset 10x4. - 2 x Washer \emptyset 7.5x \emptyset 10x0,5.
- 2 x Thrust Bearing \emptyset 5x \emptyset 10x4.
- 2 x Button Head Cap Screws M4x6mm.

Tail Blade Grip [H1461-S]



- 2 x Bearing \emptyset 3x \emptyset 6x2.5.
- 2 x Washer \emptyset 4,5 x \emptyset 5.9x0,5.
- 2 x Washer \emptyset 2.1 x \emptyset 4.5x0.5.
- 2 x Socket Head Cap Screws M2x6mm.
- 2 x Thrust Bearing \emptyset 3 x \emptyset 6x2.8.

Main Shaft Block [H1567-S]



- 1 x Main Shaft Block.
- 2 x Set Screws M4x4mm.

Tail Case Spacer [H1634-S]



- 1 x Tail Case Spacer.
- 2 x Socket Head Cap Screws M2.5x6mm.



- 1 x Boom Lock Suppor



- 1 x Bearing \emptyset 8x \emptyset 16x5.
- 3 x Socket Head Cap Screws M3x10mm.



- 1 x Front Servo Mount.
- 1 x Micro Servo Tool.
- 2 x Socket Head Cap Screws M2.5x8mm.

Anti-rotation [H1687-S]



- 1 x Anti-Rotation.
- 3 x Socket Head Cap Screws M2x6mm.









Tail Spindle [H1689-S]



- 1 x Main Spindle.
- 2 x Socket Head Cap Screws M2x6mm.
- 2 x Washer \emptyset 2.1x $\dot{\emptyset}$ 4.5x0.5.

Female Connector Case (Battery Side) [H1818-S]



- 2 x Female Connector.
- 1 x Female Connector Case UP.
- 1 x Female Connector Case DOWN.
- 1 x Socket Head Cap Screw M2.5x6mm.
- 2 x Socket Head Cap Screws M2.5x12mm.



- 1 x Motor Mount.
- 2 x Finishing Washer M2.5.
- 2 x Socket Head Cap Screws M2.5x8mm.
- 1 x Socket Head Cap Screw M4x15mm.
- 1 x Washer \emptyset 4.3x $\mathring{\emptyset}$ 11x1.



- 2 x Radius Arm.
- 2 x Bushing.
- 2 x Radius Plastic Arm.
- 2 x Socket Head Cap Screws M2x10mm.
- 2 x Socket Head Cap Screws M2x12mm.
- 2 x Shims \emptyset 2x \emptyset 3.5x0.3.
- 4 x Flanged Bearing \emptyset 2x \emptyset 5x2.5.

Blade Grip Arm [H1701-S]



- 2 x Blade Grip Arm.
- 2 x Uniball M2.
- 2 x Socket Head Cap Screws M3x6mm.

Bell Crank Clever [H1702-S] - 1 x Bushing. - 2 x Tail Pin.

- 1 x Uniball M2.
- 1 x Bell Crank Clever
- 1 x Socket Head Cap Screw M2x5mm.
- 2 x Flanged Bearing \bigcirc 2.6x \bigcirc 6x2.6.
- 1 x Socket Head Cap Screw M2.5x18mm.



- 2 x Male Connector.

- 1 x Male Connector Case UP
- 1 x Male Connector Case DOWN.
- 2 x Finishing Washer M2.5.
- 1 x Socket Head Cap Screw M2x6mm.
- 2 x Socket Head Cap Screws M2.5x20mm.



Main Shaft [H2024-S]





- 1 x Front Tail Pulley ASM.
- 1 x Socket Head Shoulder Screw M3x16mm.
- 1 x Nvlon Nut M3.



- 1 x ESC Plate.



Wire Cover [H2036-S]



- 2 x Bushing.



- 1 x Hex Spacer M2.5x46.
- 4 x Socket Head Cap Screws M2.5x8mm.

Plastic Ball Linkage M2.5 [H2071-S]



- 10 x Plastic Ball Linkage M2.5.

One Way Bearing Bushing [H2069-S]



- 1 x One Way Bearing Bushing.



- 1 x Main Pulley Assembly.
- 2 x Shims \emptyset 10.1x \emptyset 12x0,1.

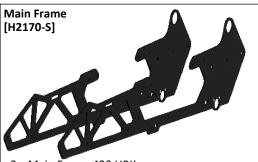
SPARE PARTS



Quick Release Canopy [H2106-S]



- 2 x Quick Release Canopy SET.



2 x Main Frame 420 URK.

Low Side Frame Mount [H2171-S]

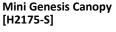


- 2 x Low Side Frame Mount.
- 2 x Flat Head Cap Screws M2.5x8mm.

Battery Lock [H2172-S]



- 1 x Battery Lock Base.
- 1 x Battery Lock Push.
- 1 x Battery Lock Pin.
- 1 x Battery Lock Spring.
- 1 x Bushing.
- 2 x Flat Head Cap Screws M2.5x5mm.
- 1 x Flat Head Cap Screw M2x8mm.





- 1 x Mini Genesis Canopy.
- 2 x Canopy Grommet.

Mini Genesis Boom [H2176-S]



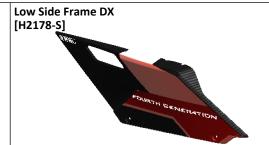
- 1 x Mini Genesis Boom.
- 2 x G10 Plate Boom Spacer.
- 2 x G10 Plate Boom Spacer Tape.

- 2 x Tail Element Locking 20.
- 4 x Nylon Nut M2.5.
- 2 x Double Side Tape.

Low Side Frame SX [H2177-S]



- 1 x Low Side Frame SX.



- 1 x Low Side Frame DX.

Canopy Front Lock [H2179-S]



- 1 x Canopy Front Lock.
- 4 x Self Tapping Screws M3x10mm.

Canopy Centering [H2180-S]



- 2 x Canopy Centering.
- 4 x Socket Head Cap Screws M2.5x10mm.

Antenna Support
[H2183-S]

1 x Antenna Support.1 x Double Side Tape.



- 1 x raii Fin.
- 2 x Tail Fin Sticker.
- 1 x G10 Bearing Spacer.
- 2 x Finishing Washer M2.5.
- 2 x Socket Head Cap Screws M2.5x6mm
- 2 x Socket Head Cap Screws M2.5x10mm.
- 1 x Flanged Bearing \bigcirc 5x \bigcirc 13x4mm.

Battery Tray Guide [H2234-S]

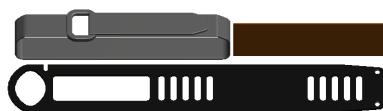


- 1 x SX Battery Guide.
- 1 x DX Battery Guide.
- 1 x HEX Spacer.





Battery Tray [H2235-S]



- 1 x Battery Tray.
- 1 x Battery Strap.
- 1 x Double Side Tape.

Battery Tray Connector [H2239-S]

- 1 x Battery Tray.
- 1 x Battery Strap.
- 1 x Double Side Tape.
- 1 x Female Case UP. - 1 x Female Case DOWN.
- 2 x Female Connector.
- 1 x Socket Head Cap Screw M2.5x6mm.
- 2 x Flat Head Cap Screws M2.5x10mm.



Landing Gear [H2236-S]



- 1 x White Landing Gear.
- 4 x Finishing Washer M2.5.
- 4 x Socket Head Cap Screws M2.5x15mm.

Canopy Grommet [HA021-S]



- 5 x Canopy Grommet

Battery Velcro Strap 440mm L20mm [HA023-S]



- 2 x Battery Velcro Strap 440mm L20mm.

Double Side Tape 1mm



- 2 x Double Side Tape 1mm.

Zip Tie 2.5 x 200mm [HA058-S]

- 50 x Zip Tie 2.5 x 200mm.

Double Side Tape [HA081-S]



- 14 x Double Side Tape.
- 4 x Rubber Washer.

Blade Holder [HA119-S]



- 1 x Blade Holder.

Orange Tail Blade 72 [S72-O]



- 2 x Orange Tail Blade 70mm.

Orange Main Blade 420mm [S420-O]



- 2 x Orange Main Blade 420mm.

SPARE PARTS



Socket Head Cap Screws M2x5mm [HC002-S]	Socket Head Cap Screws M2x6mm [HC004-S]	Socket Head Cap Screws M2x10mm [HC010-S]	Socket Head Cap Screws M2x12mm [HC014-S]	Socket Head Cap Screws M2.5x6mm [HC018-S]
	99999			
- 10 x Head Cap Screws M2x5mm.	- 10 x Head Cap Screws M2x6mm.	- 10 x Head Cap Screws M2x10mm.	- 10 x Head Cap Screws M2x12mm.	- 10 x Head Cap Screws M2.5x6mm.
Button Head Cap Screws M2.5x6mm [HC019-S]	Socket Head Cap Screws M2.5x8mm [HC020-S]	Socket Head Cap Screws M2.5x10mm [HC022-S]	Socket Head Cap Screws M2.5x12mm [HC026-S]	Socket Head Cap Screws M2.5x15mm [HC028-S]
- 10 x Button Cap Screws M2.5x6mm.	- 10 x Head Cap Screws M2.5x8mm.	- 10 x Head Cap Screws M2.5x10mm.	- 10 x Head Cap Screws M2.5x12mm.	- 10 x Head Cap Screws M2.5x15mm.
Socket Head Shoulder Screws M2.5x15 [HC031-S]	Socket Head Cap Screws M2.5x18mm [HC032-S]	Socket Head Cap Screws M2.5x20mm [HC034-S]	Socket Head Cap Screws M3x6mm [HC044-S]	Socket Head Cap Screws M3x10mm [HC056-S]
- 10 x Head Shoulder Screws M2.5x15.	- 10 x Head Cap Screws M2.5x18mm.	- 10 x Head Cap Screws M2.5x20mm.	- 10 x Head Cap Screws M3x6mm.	- 10 x Head Cap Screws M3x10mm.
Socket Head Cap Screws M3x12mm [HC062-S]	Socket Head Shoulder Screws M3x16 [HC074-S]	Socket Head Shoulder Screws M3x18 [HC079-S]	Button Head Cap Screws M4x6mm [HC096-S]	Socket Head Cap Screws M4x12mm [HC105-S]
- 10 x Head Cap Screws M3x12mm.	- 2 x Head Shoulder Screws M3x16. - 2 x Nylon Nut M3.	- 2 x Head Shoulder Screws M3x18. - 2 x Nylon Nut M3.	- 10 x Button Cap Screws M4x6mm.	- 10 x Head Cap Screws M4x12mm.







SPARE PARTS



Ball Bearing Ø 3x Ø 6x2.5mm [HC457-S]	Ball Bearing Ø 3x Ø 7x3mm [HC458-S]	Shims Ø 8x Ø 12x0.1mm [HC462-S]	Belt HTD 2M 1250-5 [HC464-S]	
- 4 x Ball Bearing Ø 3x Ø 6x2.5mm. Set Screws M3x4mm	- 4 x Ball Bearing Ø 3x Ø 7x3mm. Set Screws M2x18mm	- 10 x Shims Ø 8x Ø 12x0.1mm. Shims Ø 2x Ø 3.5x0.3mm	- 1 x Belt HTD 2M 1250-5. Flat Head Cap Screws M2x8mm [HC685-S]	Belt HTD 2M 330-09 [HC695-S]
[HC500-S]	[HC626-S]	[HC628-S]	[Incoos-s]	HTD 2M 330-09 HID 2M 330-09
- 10 x Set Screws M3x4mm.	- 10 x Set Screws M2x18mm.	- 10 x Shims Ø 2x Ø 3.5x0.3mm.	- 10 x Flat Cap Screws M2x8mm.	- 1 x Belt HTD 2M 330-09.
Self Tapping Screws M2.5x6mm [HC697-S]	Flat Head Cap Screws M2.5x10mm [HC705-S]	Carbon Rod \oslash 2.5x \oslash 4x364mm [HC711-S]		
88888				
- 10 x Self Tapping Srews M2.5x6mm.	- 10 x Flat Cap Screws M2.5x10mm.	- 1 x Carbon Rod 2.5x4x364mm Asse - 2 x Plastic Ball Linkage M2.5. - 2 x Thread Rod M2.5x20mm.	embled.	

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 RAW 420 COMPETITION

Release 1.0 - March 2024

WORLD DISTRIBUTION

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