Manual

LOGO 700

Mikado Model Helicopters

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Thank you very much for your purchase of the Mikado LOGO 700 XXtreme. Prior to installation, please read and understand this manual completely and follow all instructions exactly. If any instructions are not clear to you or if you have any questions, you must contact us. You can reach Mikado on the LOGO-Forum on www.vstabi.info or contact the Mikado support hotline via email or phone. Do not under any circumstances fly this helicopter if you are unsure of setup or assembly.

This helicopter is not suitable for beginners. It is expected that you have some experience in assembling and operating an RC helicopter (model size LOGO 400 to LOGO 600, for example). You are required to adhere to the safety instructions of this manual.

The LOGO 700 XXtreme comes partially pre-assembled, i.e. the structural components are already screwed together. However, the screws are not yet secured with Loctite. Throughout the manual you will not always be asked to secure each screw. Nevertheless, you must secure all screws in all components yourself. In addition, it is necessary that you secure all other screwed connection, by which you will assemble the different components of the LOGO 700 XXtreme. We recommended to use securing glue Loctite 243 (blue). Please follow the recommendations of the Loctite manufacture and allow proper curing time for the Loctite prior to flying the model.

Safety Instructions:

RC Helicopters are not toys and must be treated with due diligence. Unless you use this helicopter responsibly it can cause of severe injury and immense damage. Inappropriate use of this product can result in injury or death. Each user must have the appropriate knowledge and skill to operate any RC Helicopter. Manufacturer / reseller assumes no liability for the use or operation of this helicopter.

You are responsible for any injury and damage that may be caused by this helicopter. It is recommended that your radio components be tested prior to installing in this helicopter. Improper radio installation or inadequate battery voltage can result in the loss of control of the helicopter. Proper knowledge of your radio equipment is required prior to flying this helicopter. You must check if other persons are using an RC-controlled model or device simultaneously, as this may result in interference. If the helicopter behaves in an unusual or strange way, you must land it immediately and turn off the power. Please meticulously check all of your radio gear and find/fix the problem before you continue to operate the helicopter This is to avoid any accidents. As one irregularity can cause other defects or problems, an increased risk of failure will ensue, if the first problem is not fixed.

Additional precautions for the prevention of injuries or damage:

Before you power on the helicopter, you must ensure that all screws and associated hardware are secured. One single lose screw can cause the helicopter to become uncontrollable resulting in a crash or injury to personnel.

Also it is very important that you must check the model frequently and exchange any parts that show signs of deterioration or wear.wearing out. Failure to complete frequent pre and post flight inspections will result in flying an unsafe model and increasing the risk of damaging the helicopter and possibly injuring yourself and/or others. Use only original Mikado parts and electronic components which are recommended by Mikado.

Always keep a minimum of 10 yards away from a spinning rotor head. Components that run hot such as the ESC and Motor should never be touched until ample cool down time has been provided.

Before powering on the helicopter:

Never operate the helicopter inside closed rooms as this helicopter is intended for operation outside and may only be operated in sites where operation of Radio Control models is permitted. . Keep the helicopter at safe distance to any persons or live animals at all times. When trimming, keep a minimum distance of 10 yards for safety and never operate the helicopter alone. Always take someone with you, who can help in emergency situations.
The helicopter must also not be operated in the following circumstances:

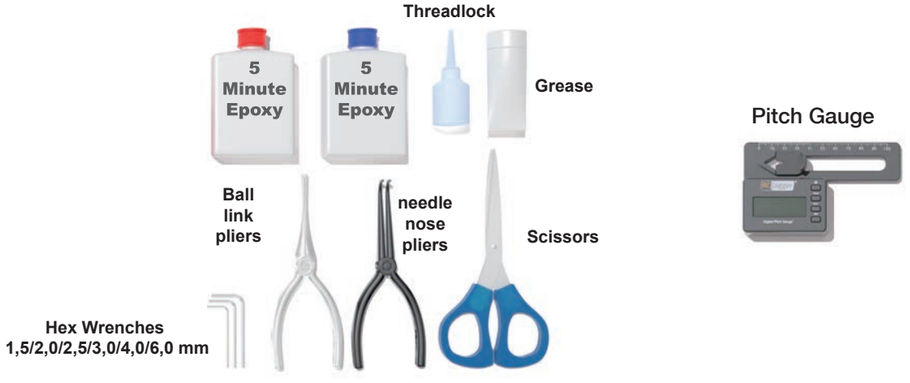
- when children are present or in places where people are gathering
- close to houses or in park areas
- inside any rooms or buildings
- places with limited space
- in adverse weather conditions, such as rain, snow, hail or during strong winds
- Near trees or High Tension wires

Techical specifications which must be obeyed during the operation of the LOGO 700 XXtreme:

- maximum rotor head rpm: 2100 U/min.
- maximum pitch travel: +/- 12°
- Length of rotor blades: 700 to 750mm
- Lipo battery: 2x 6S 5000 mAh
- admissible temperature 0° - 35° Celsius

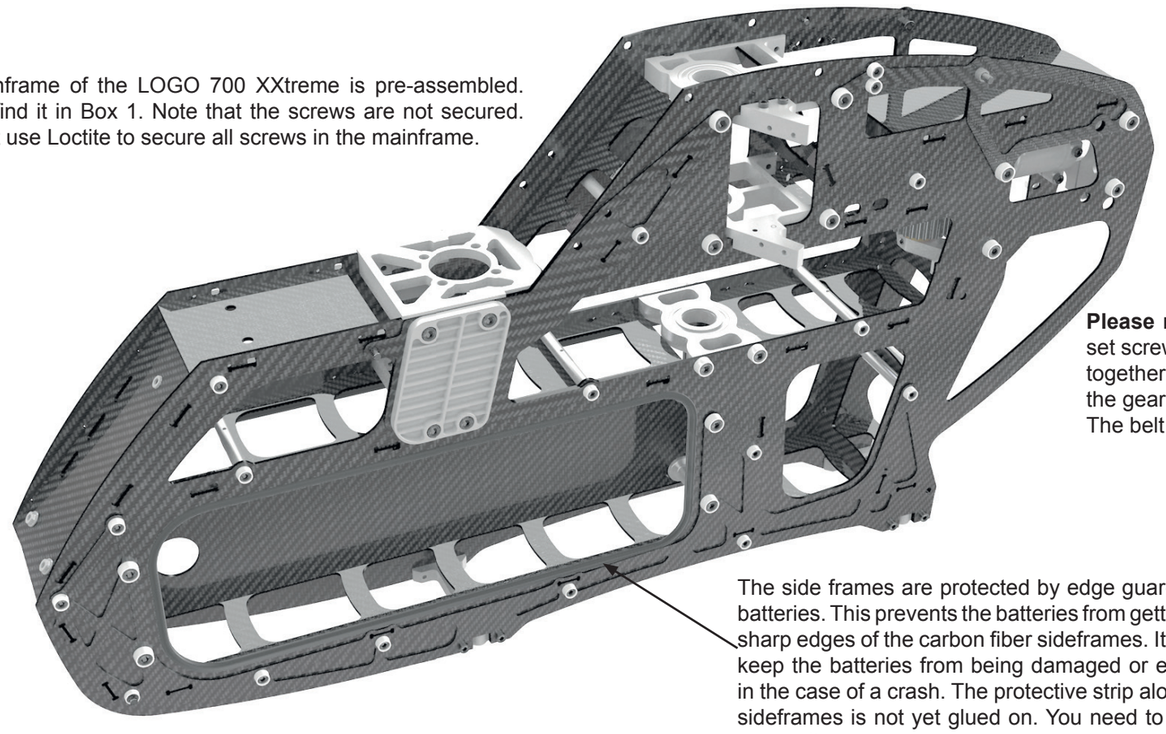
If these values are exceeded, the electronic components may experience overload. This may result in damage or a crash of the helicopter.

Before the first flight, you must check proper functioning of the motor, the ESC and the VBar. To do this, please refer to the respective manuals. For safety reasons, these tests should be performed without mounting the main rotor blades and the tail rotor blades. It is advisable to fly moderately during the first flights. This is because you need to get used to the new size of this helicopter during the first few flights. Do not underestimate the size and power of this helicopter. Keep a safe distance from the ground to provide for ample reaction time.



1

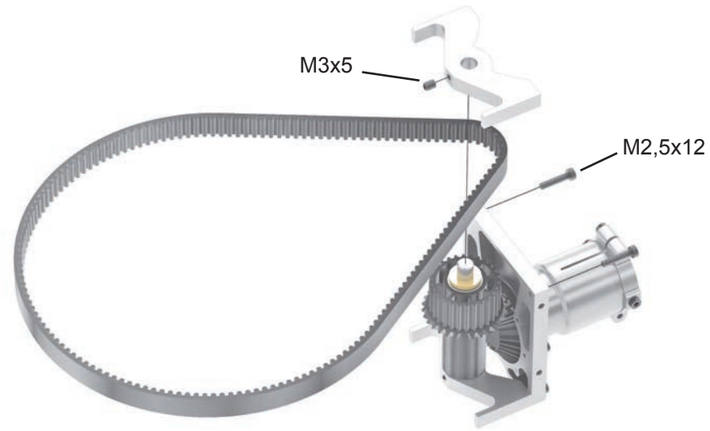
The mainframe of the LOGO 700 XXtreme is pre-assembled. You will find it in Box 1. Note that the screws are not secured. You must use Loctite to secure all screws in the mainframe.



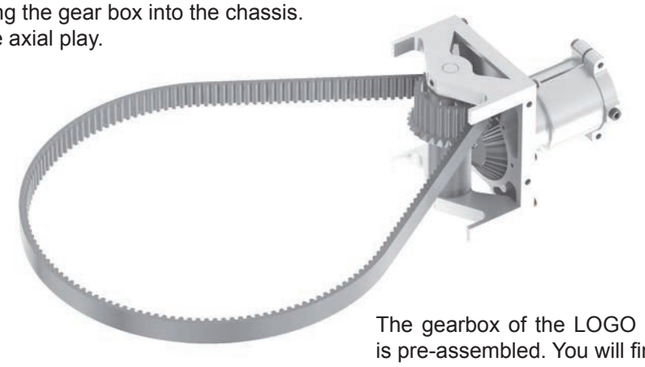
Please check if the RC-plate is fitted tightly between the frames, so that it cannot move.
If the RC-plate is loose, please apply glue (CA glue or 5-min epoxy) to fix. A moving RC-plate can lead to vibrations and malfunction of the gyro sensor!

The side frames are protected by edge guard in the area of the batteries. This prevents the batteries from getting damaged on the sharp edges of the carbon fiber sideframes. It is very important to keep the batteries from being damaged or even short-circuiting in the case of a crash. The protective strip along the edges of the sideframes is not yet glued on. You need to apply superglue to secure it.

2

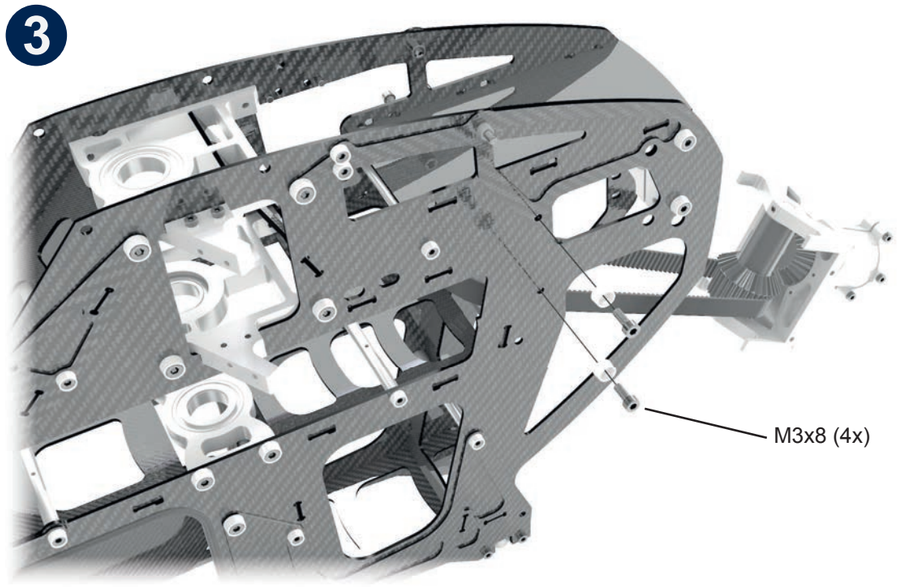


Please note, when assembling the gear box: First tighten the set screw M3x5. While doing so, press the upper and lower frames together. Then secure the two hex screws M2.5x12. Finally check the gear mesh before installing the gear box into the chassis.
The belt pulley must not have axial play.



The gearbox of the LOGO 700 XXtreme is pre-assembled. You will find it in Bag 2. You must use Loctite to secure all screws in the gearbox.

3



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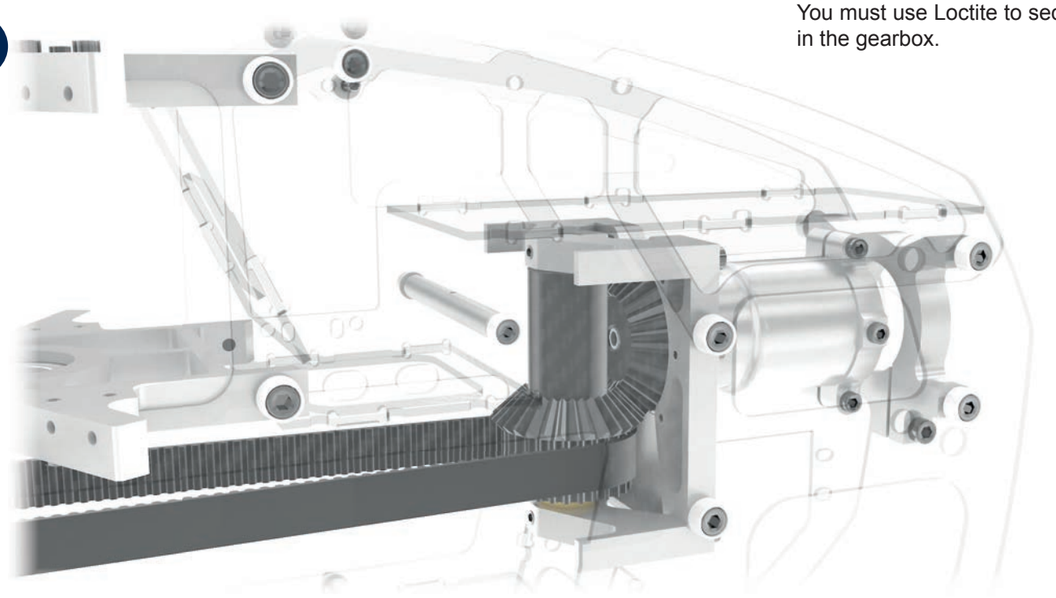
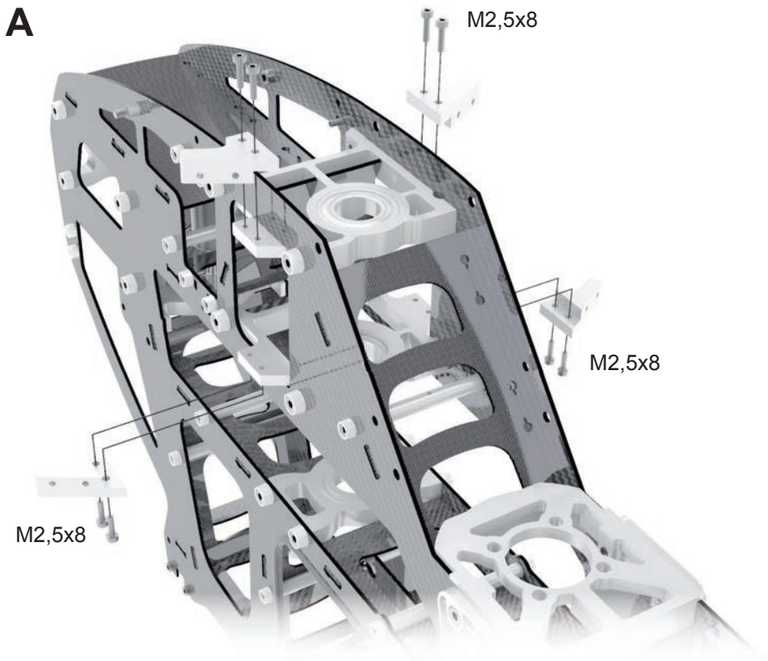
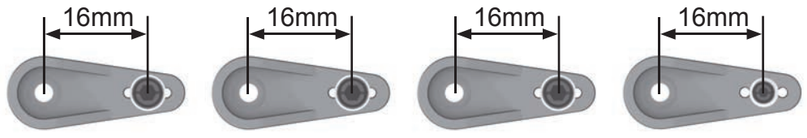


2 Servo Mounting

1 A





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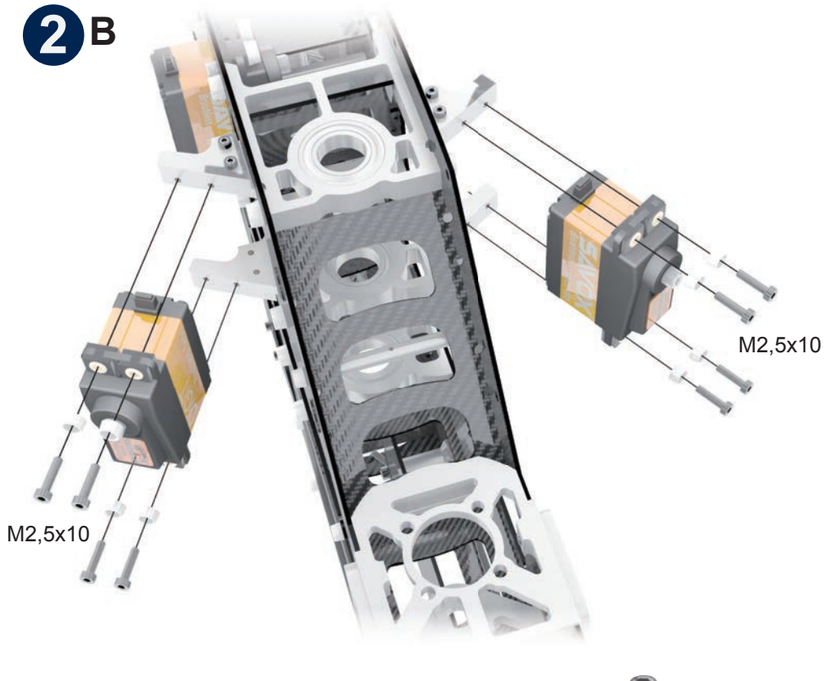
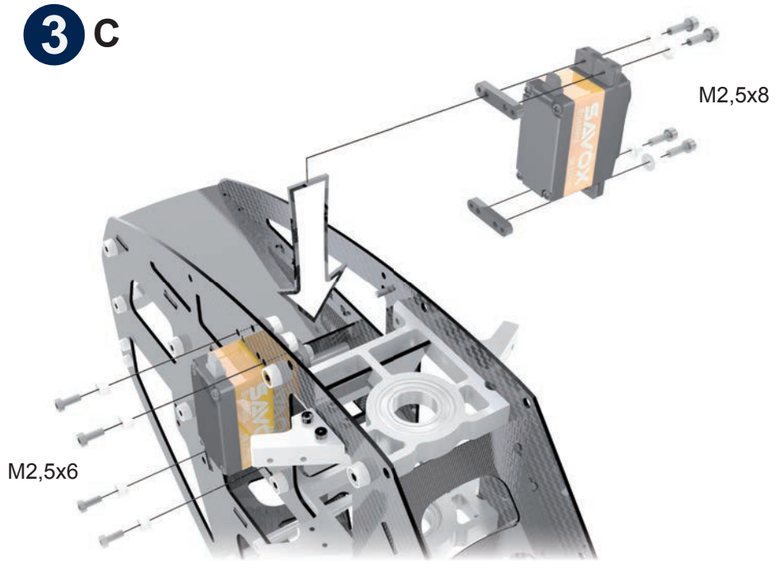
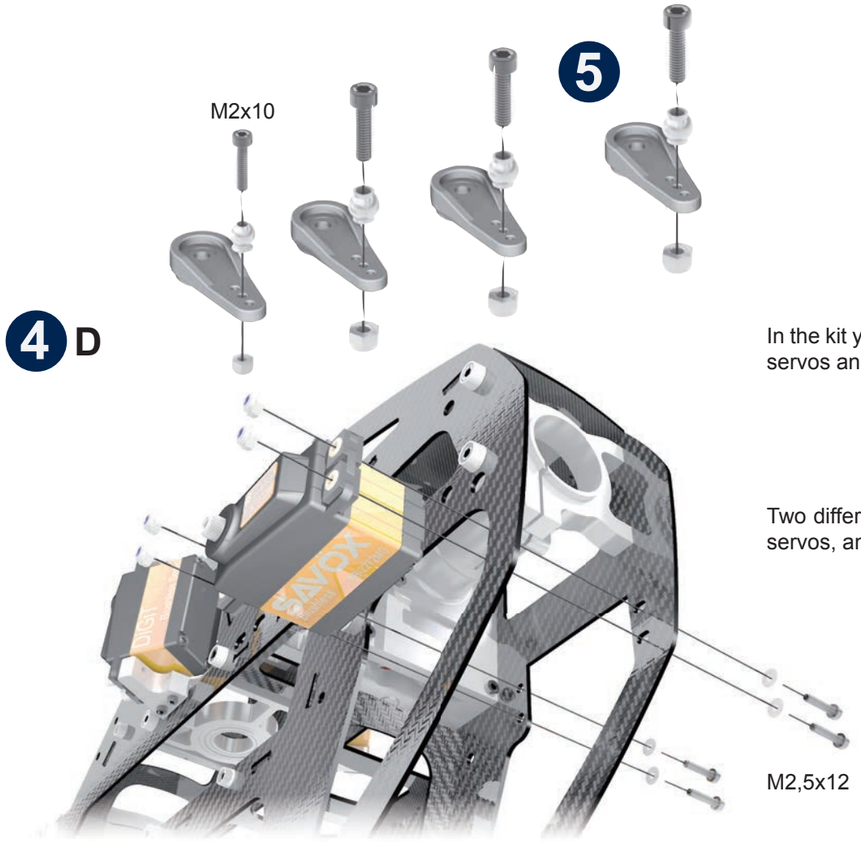


3 C



4 D

5



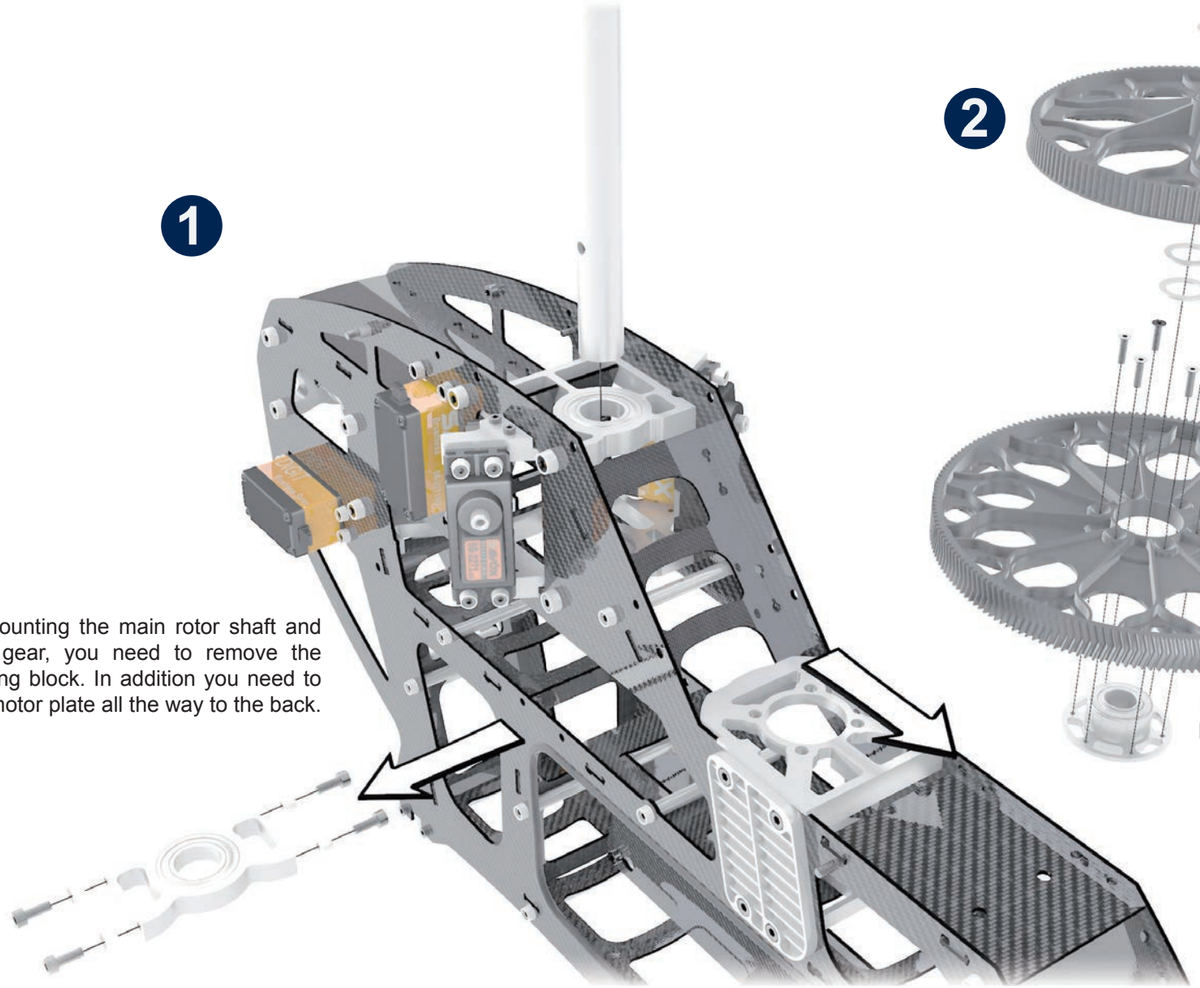
Bag 3

4x	M2,5
3x	M3
1x	M2
4x	M2,5x6
12x	M2,5x8
8x	M2,5x10
4x	M2,5x12
3x	M3x12
1x	M2x10
20x	M2,5
3x	
1x	

In the kit you will find servo mounting sets for Futaba/JR HV (11mm) servos and Savöx HV (10mm) servos

Two different sets of servo arms are included in the kit, one for JR servos, and one for Futaba/Savöx servos.

3 Main Gear

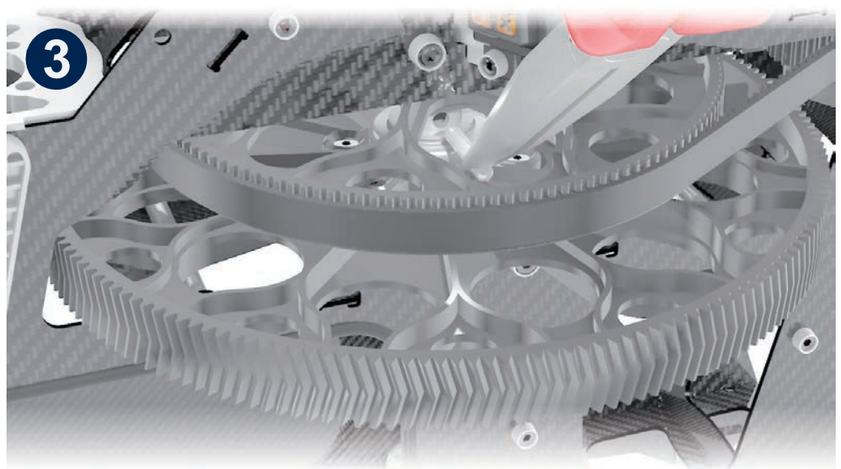


Before mounting the main rotor shaft and the main gear, you need to remove the third bearing block. In addition you need to push the motor plate all the way to the back. werden.

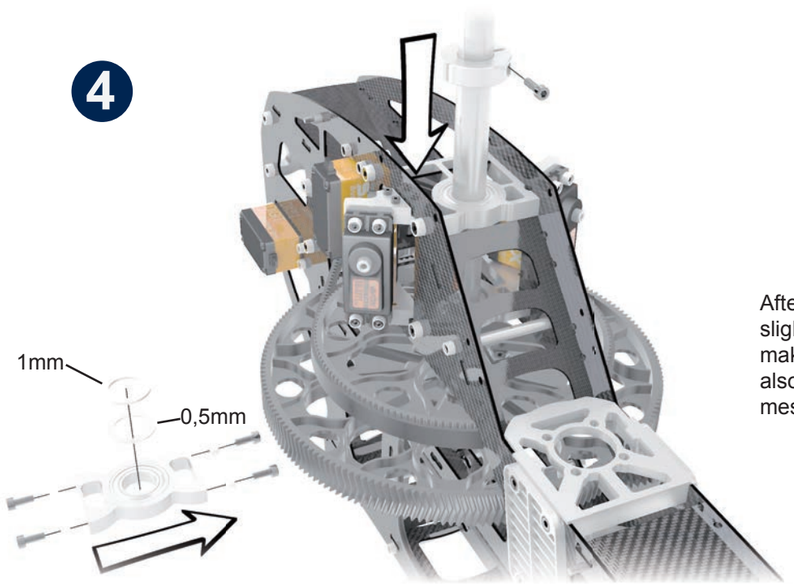
Please apply oil to the one-way bearing

Bag 4

6x	M3x12
2x	M3x12
1x	4x20
3x	14x20x1
2x	14x20x0,5

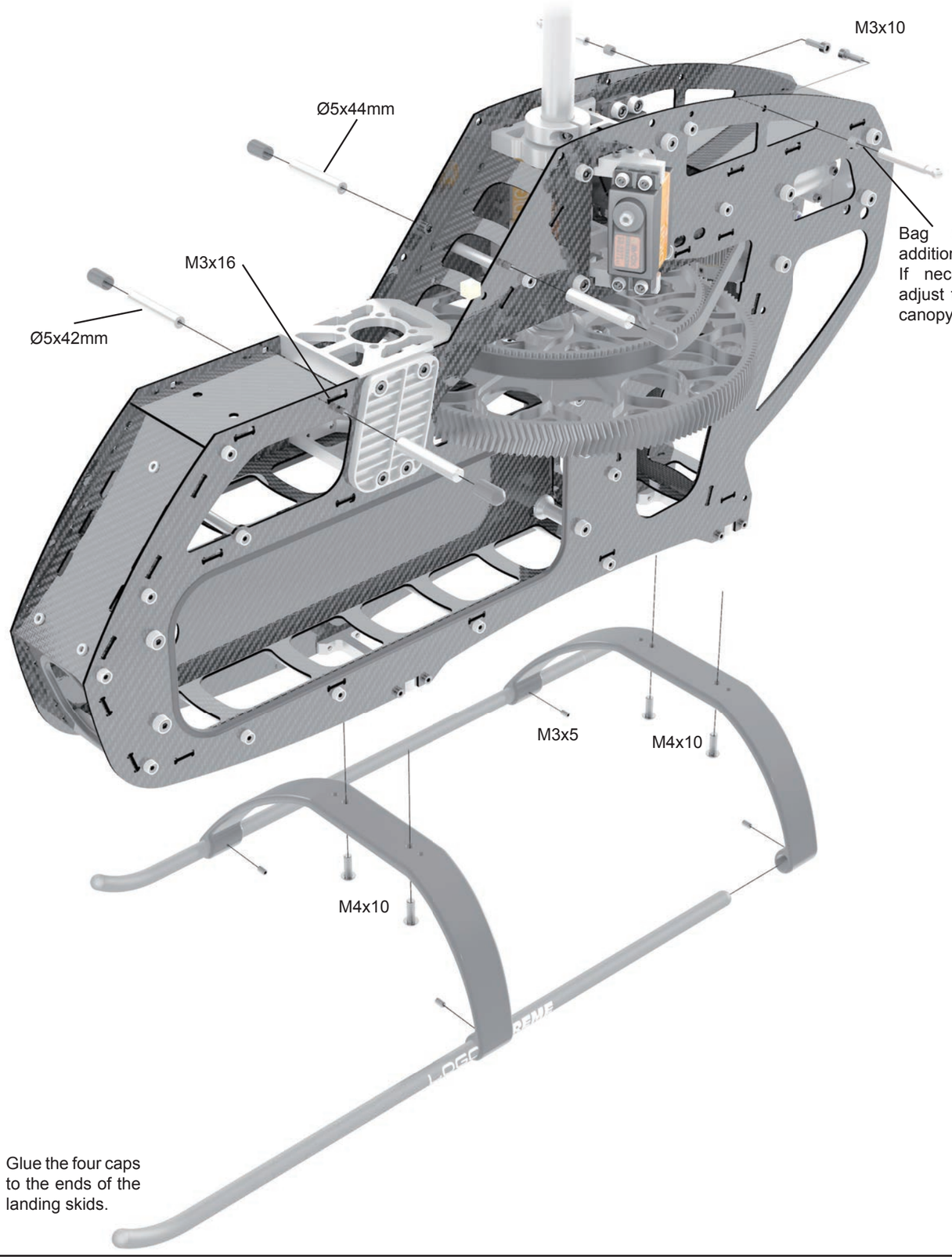


For mounting the 4 mm pin, it is useful to use a pair of needle nose pliers.



After mounting the main gear, it will show slight axial play. This is intended and will make installation of the pinion easier. It will also facilitate the correct setting of the gear mesh.

4 Landing Struts and Canopy Holder



Bag 5 contains two additional 1 mm washers. If necessary, you may adjust the distance of the canopy bolts with these.

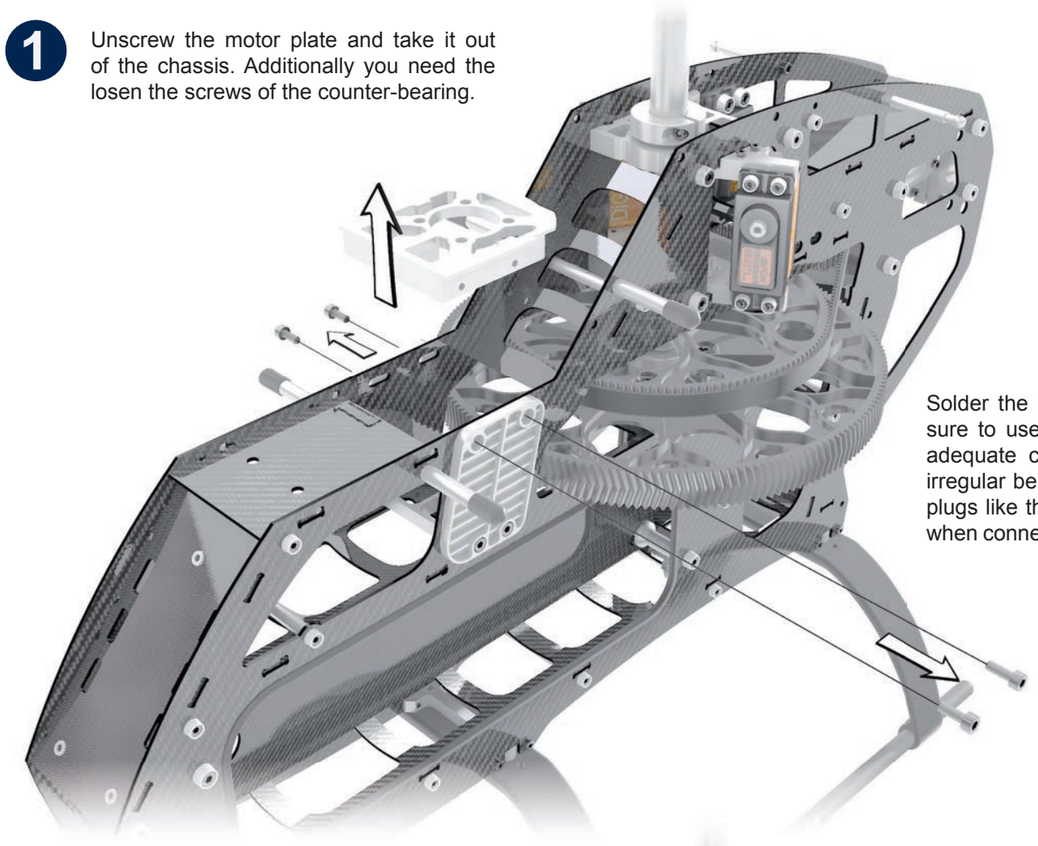
Bag 5

4x	M4x10
4x	M3x16
2x	M3x10
4x	M3x5
2x	3x5x1,2
2x	M3x6

Glue the four caps to the ends of the landing skids.

5 Motor Installation

1 Unscrew the motor plate and take it out of the chassis. Additionally you need the losen the screws of the counter-bearing.



2

Solder the 5.5 mm gold connectors to the motor. Make sure to use a soldering iron large enough to create an adequate connection. A poor connection can lead to irregular behavior of the motor or the ESC. High-current plugs like these need to be perfectly isolated at all times when connected. Otherwise there is a high risk of shorting.

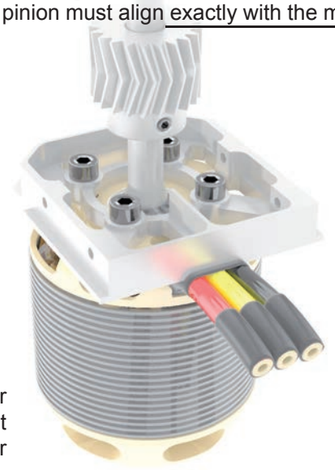
Please check that the end of the motor bolts do not go in too far. Ensure that there is a proper space between motor winding and cable.

Bag 6

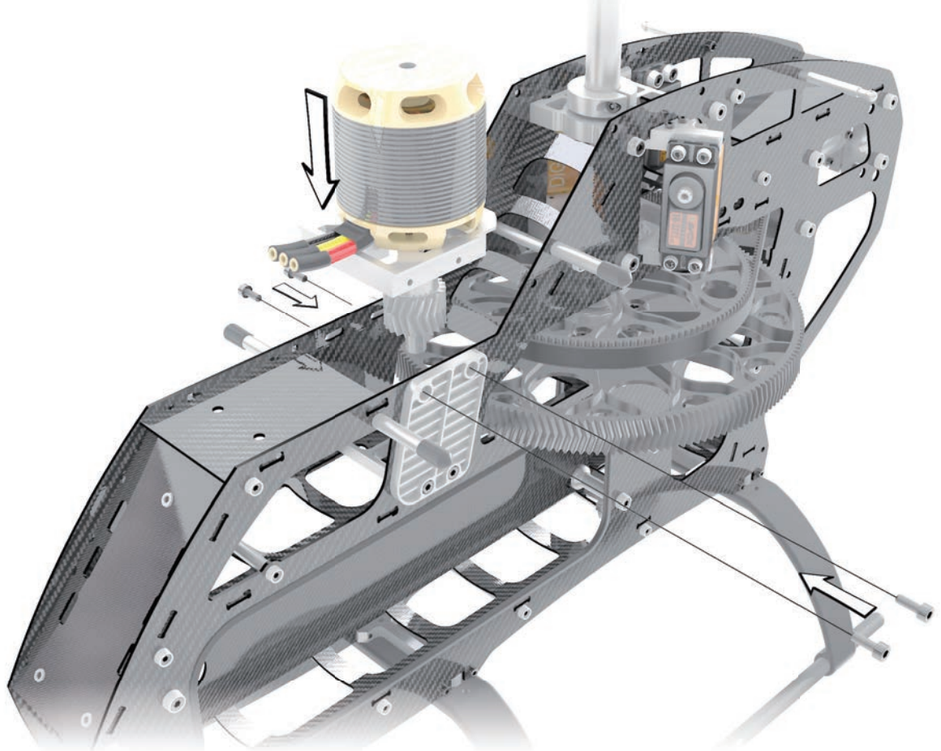
4x	M4x10
1x	M4x5
4x	4x9x1

The 11mm distance is only an aproximate value. Please note prior to seeting final mesh: The center line of the herringbone pinion must align exactly with the main gear .

11mm



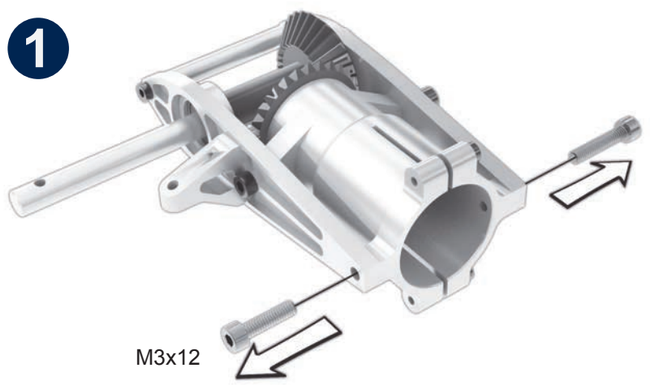
3



4

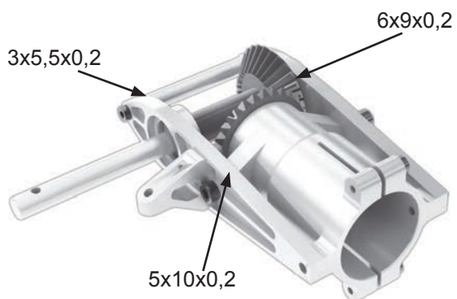
The connection between the motor pinion and the main gear needs to show a slight gear mesh.

6 Tail Rotor



Please use here the two carbon spacers 3x9,5x1,6mm

Mount the distance ring so that its surface with the shoulder shows in the direction of the ball bearing.



Please check the gear back lash after every flight. If gear back lash has increased, please add washers.

Note that the disk with the smaller inner diameter needs to be installed on the outsinde. The disk with the larger inner diameter is installed on the inside. You can distinguish the two disks by sliding them (temporarily) onto the 5 mm tail shaft. Only the disk with the smaller inner diameter will sit tightly.

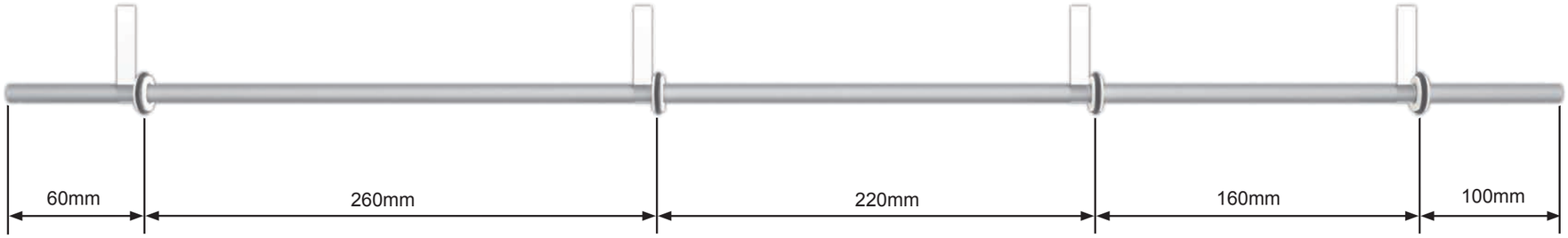
Bag 7

- 2x M3x8
- 2x M2x10
- 1x M2,5x16
- 2x M3x20
- 2x M3
- 1x M2,5
- 2x 3x7x0,5
- 2x 5x10x4
- 4x 5x10x4
- 6x 4,5x2
- 2x 7x10x0,5
- 2x 5x7,8x0,6
- 2x

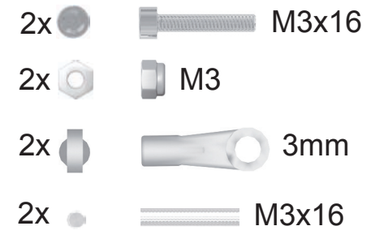
- 1x M3x24
- 1x M2x12
- 1x 3x5x12,2
- 1x M2
- 2x 3x6x2,5
- 1x 3x5x0,5
- 1x

1 Torque Tube assembly

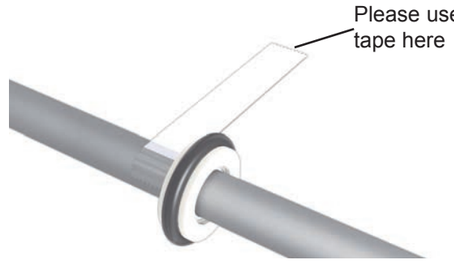
You need to mount the torque tube. To do so, please position the four torque tube holders on the aluminium boom. Then glue them on. Using adhesive tape in addition will prevent the holders from moving, should they become lose.



Bag 8 + 12

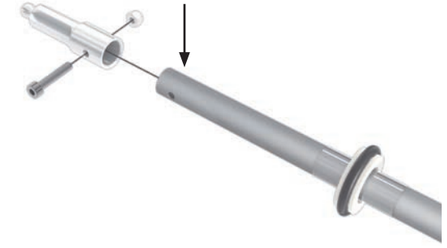


2



3

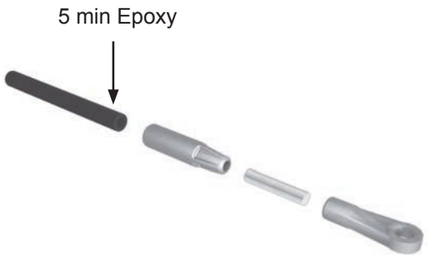
5 min Epoxy



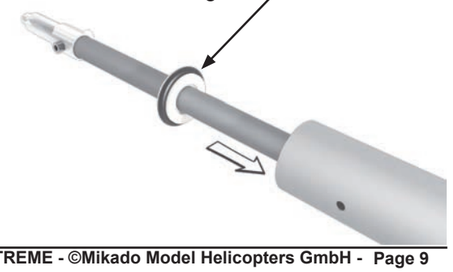
Before pushing in the torque tube, please ensure that the inside of the boom is clean. If necessary, clean it out with a piece of cloth.

Important: Before pushing in the mounted torque tube, generously apply grease to all four O-rings and to the inner surface of the tail boom.

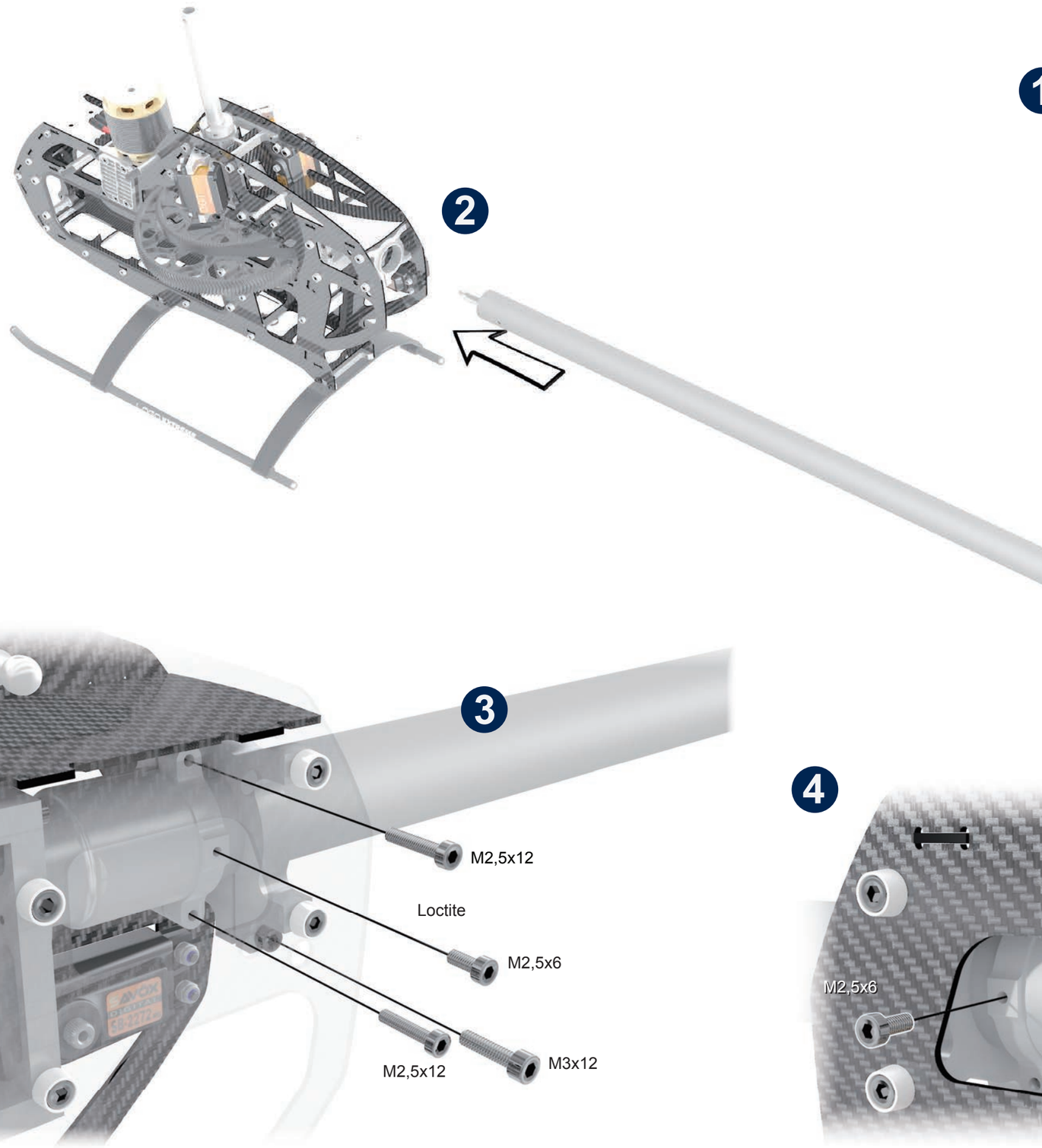
4 Carbon tail rotor push rod

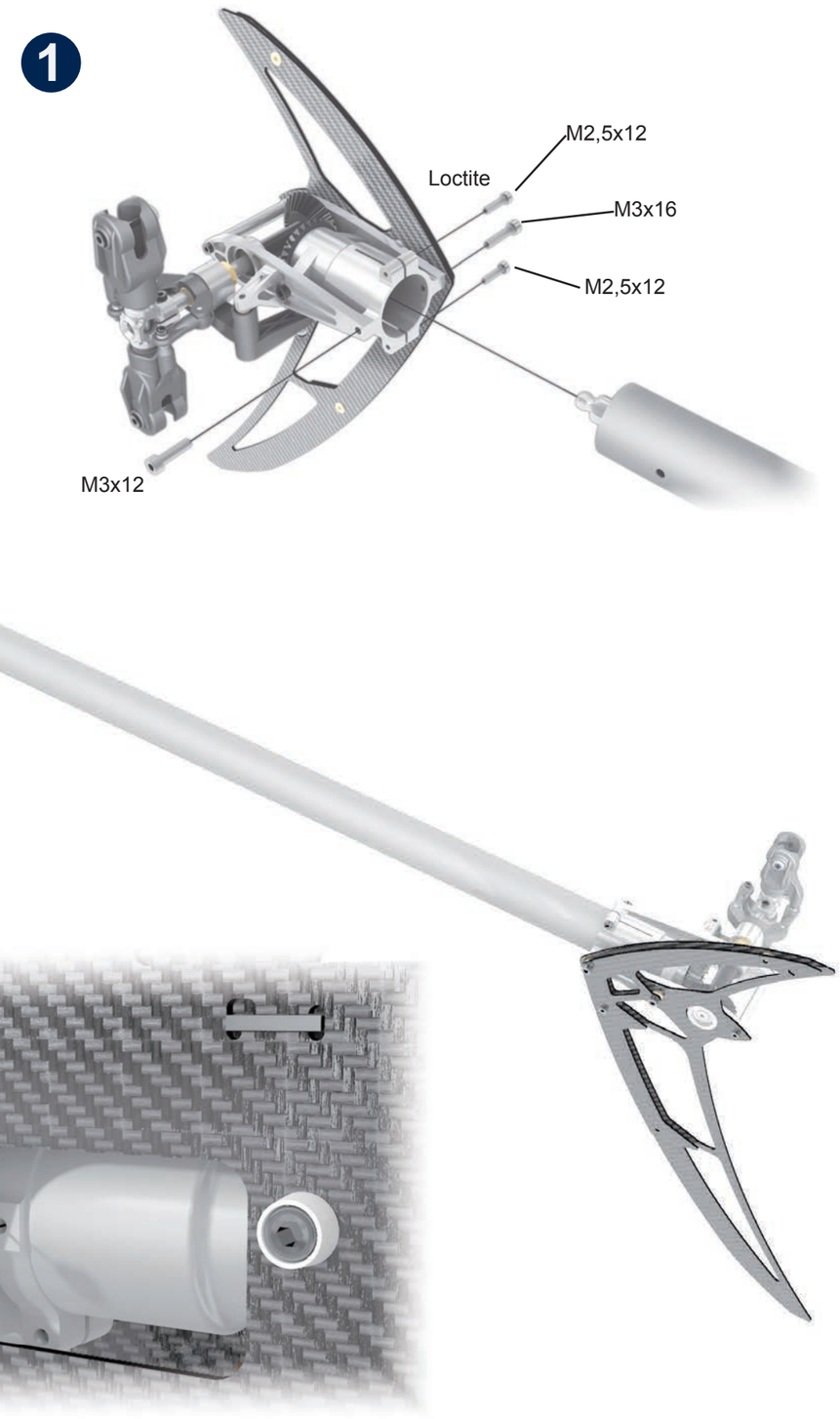


Please apply grease to the O-rings

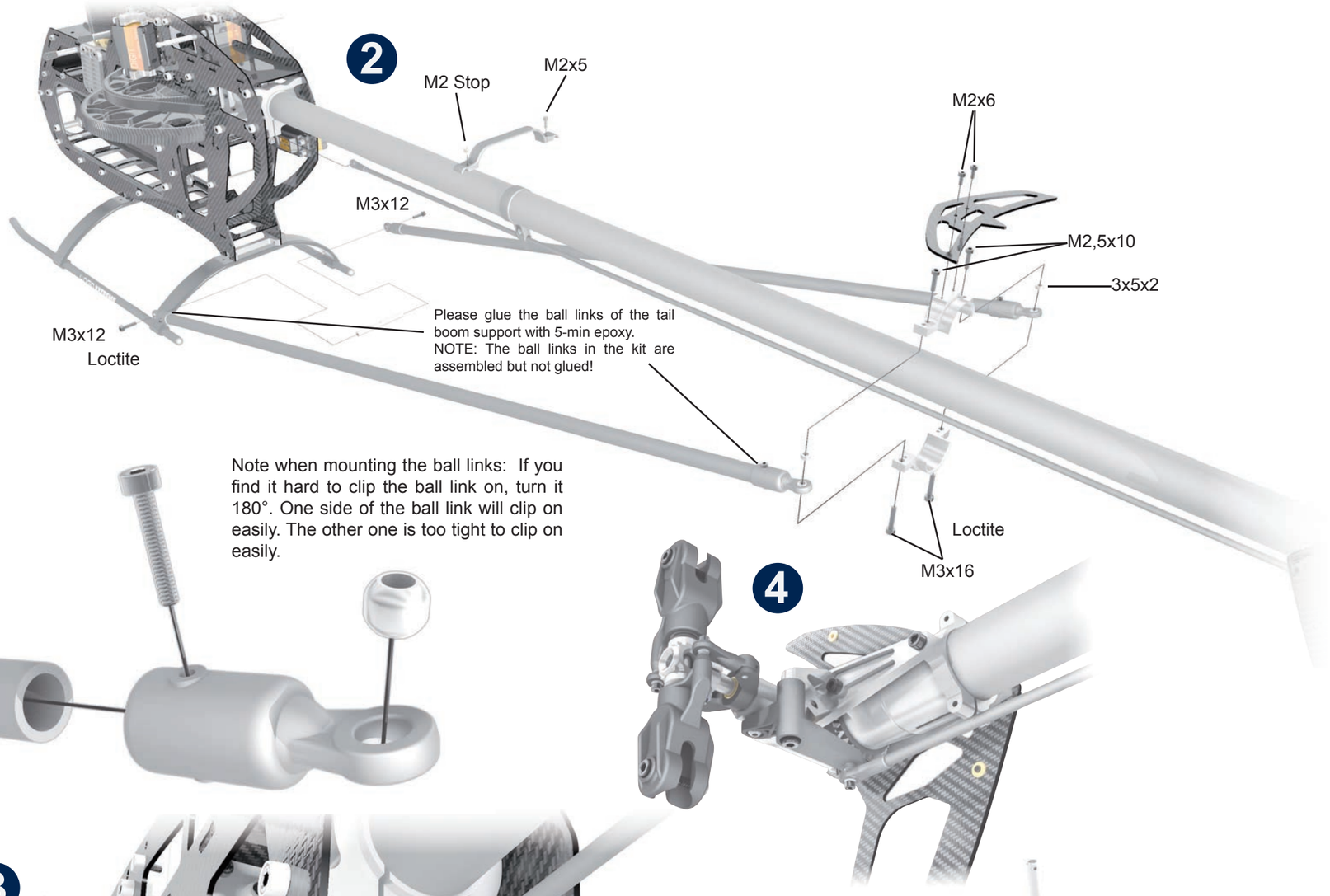


8 Tail Boom Mounting





9 Tail Boom Brace



Bag 8

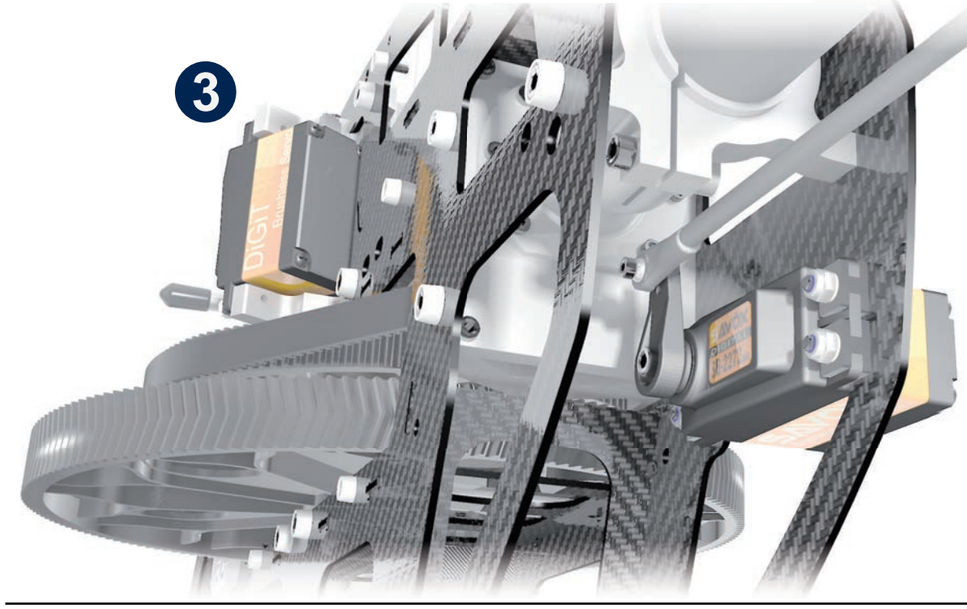
2x	M3x12
4x	M2x12
4x	6mm
2x	3x5x2
1x	M2x5
1x	M2
2x	M3x16
2x	M2,5x10
2x	M2x6

1

Note when mounting the ball links: If you find it hard to clip the ball link on, turn it 180°. One side of the ball link will clip on easily. The other one is too tight to clip on easily.

4

3



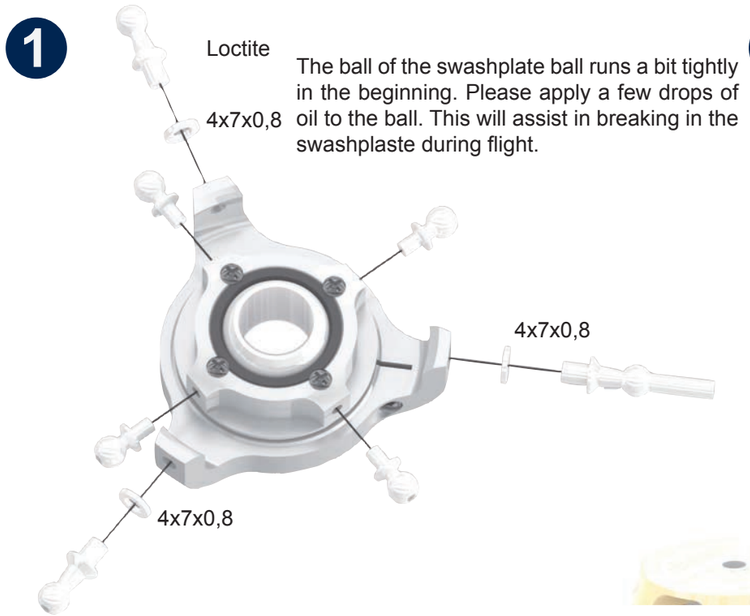
10 Swashplate

1

Loctite

4x7x0,8

The ball of the swashplate ball runs a bit tightly in the beginning. Please apply a few drops of oil to the ball. This will assist in breaking in the swashplaste during flight.



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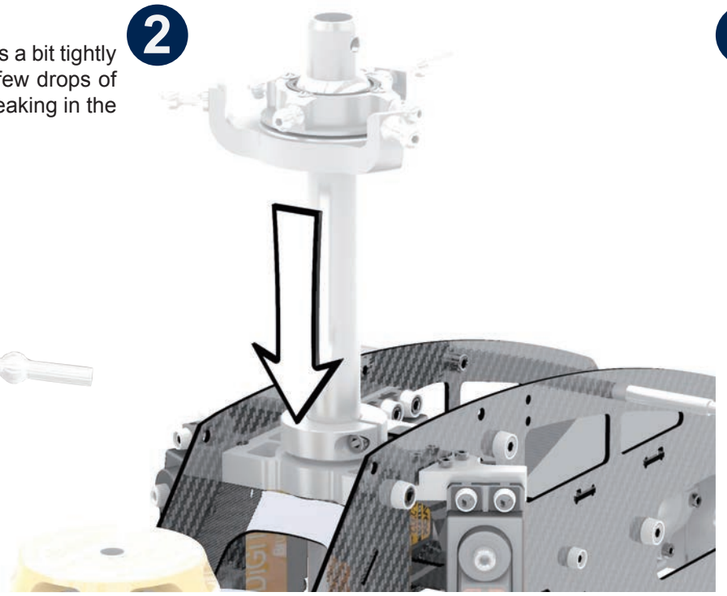

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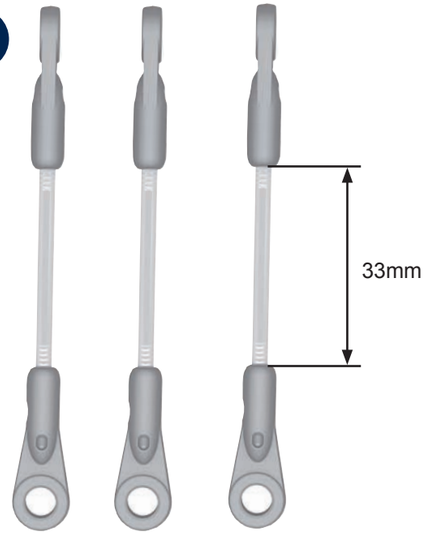


Bag 9

5x M2,5x6

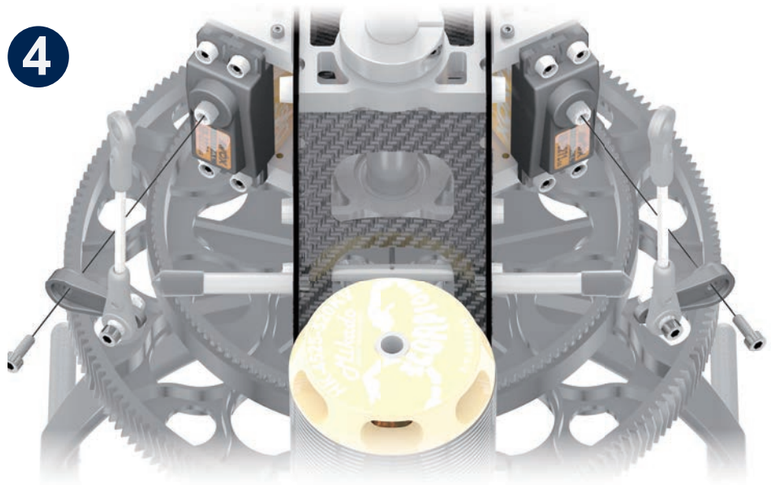
3x 4x7x1

6x

5x M2,5

Note when mounting the ball links: If you find it hard to clip the ball link on, turn it 180°. One side of the ball link will clip on easily. The other one is too tight to clip on easily.

4



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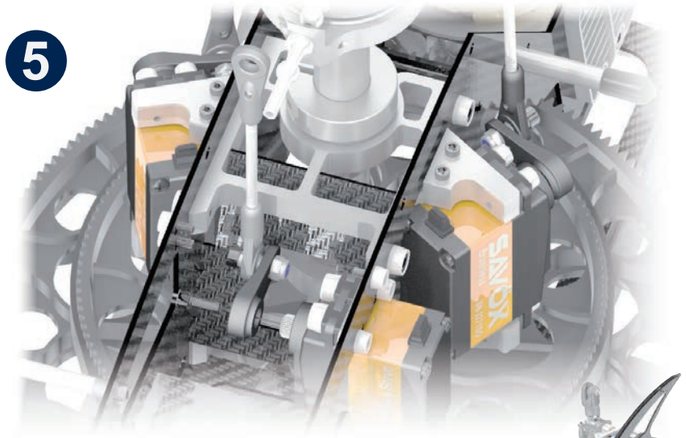

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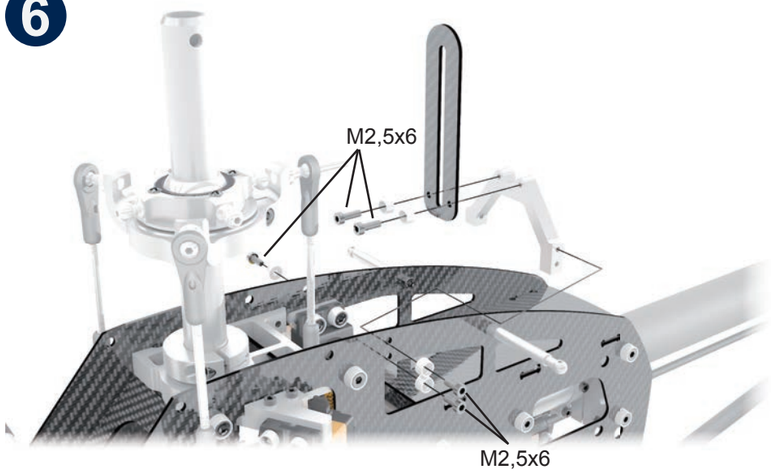
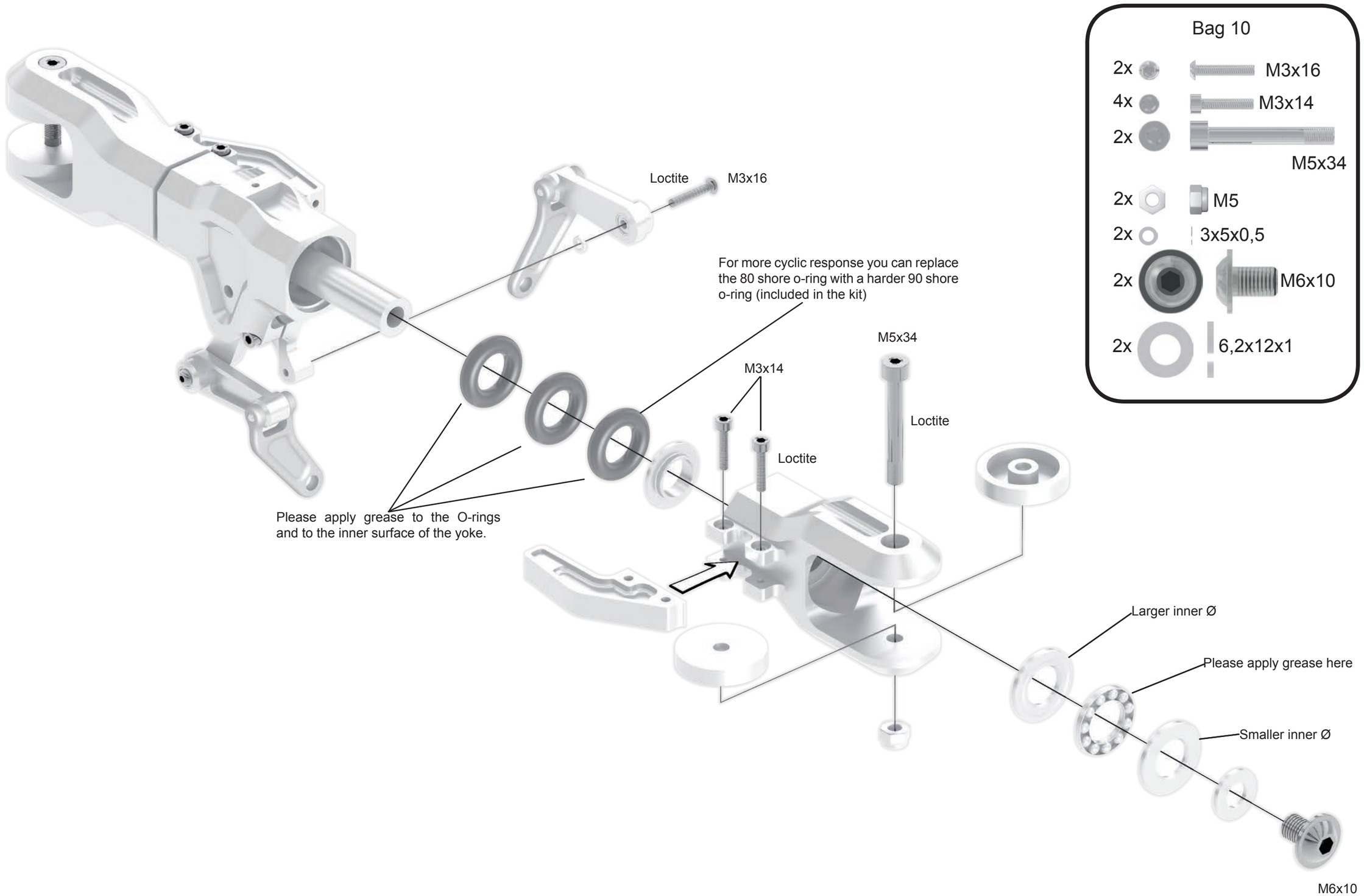
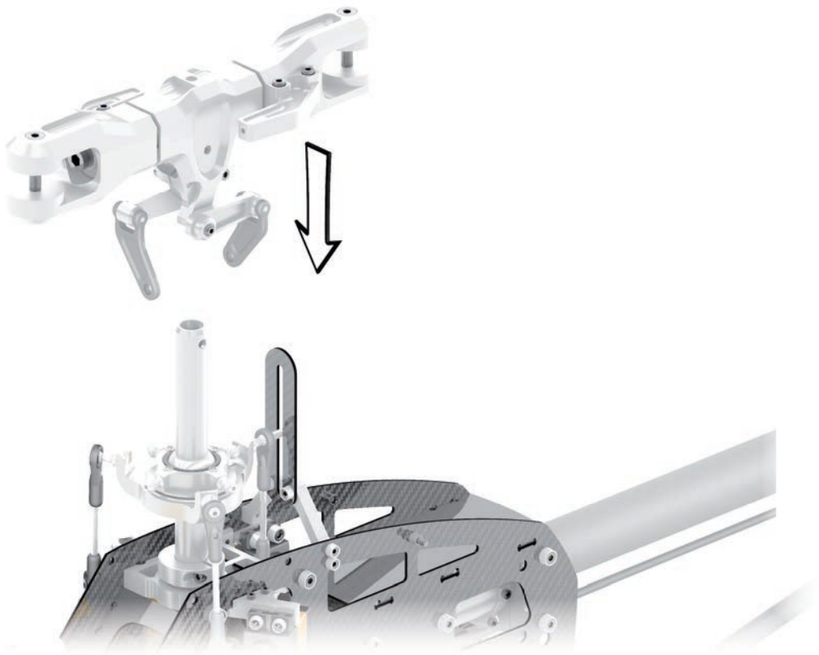


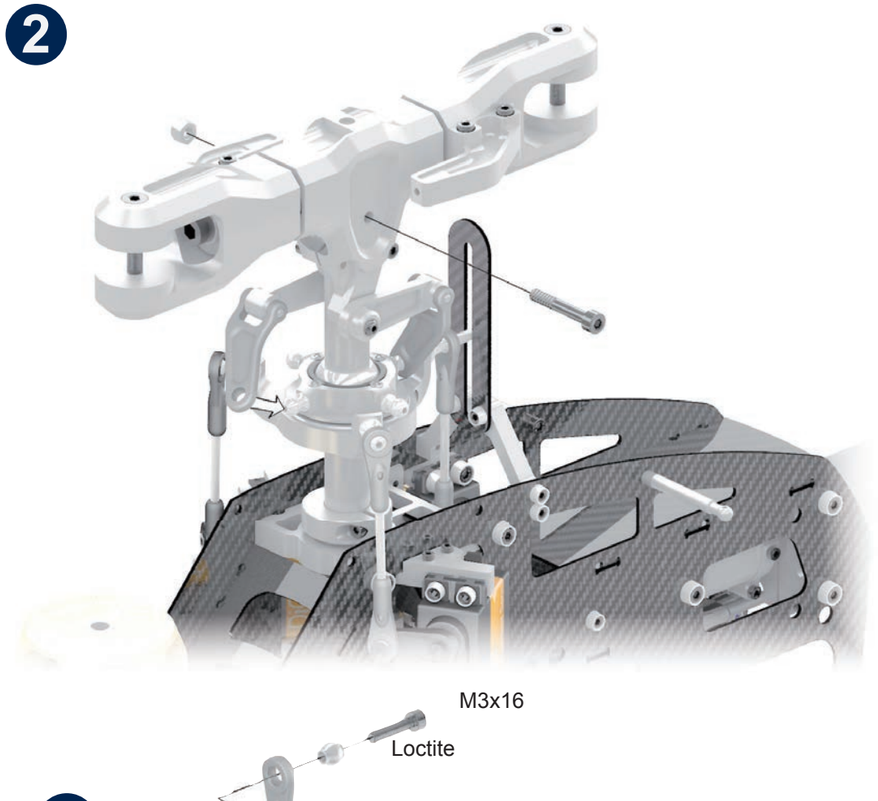

Bag 10
2x M3x16
4x M3x14
2x M5x34
2x M5
2x 3x5x0,5
2x M6x10
2x 6,2x12x1
Loctite
M3x16
For more cyclic response you can replace the 80 shore o-ring with a harder 90 shore o-ring (included in the kit)
M5x34
M3x14
Loctite
Loctite
Please apply grease to the O-rings and to the inner surface of the yoke.
Larger inner Ø
Please apply grease here
Smaller inner Ø
M6x10

11 Rotor Head

1



2



Bag 10

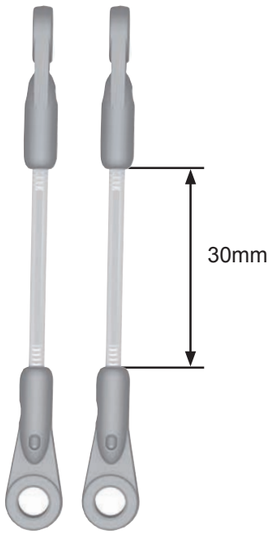
4x M3x16

1x M4x25

2x

4x M4 Stop

4x

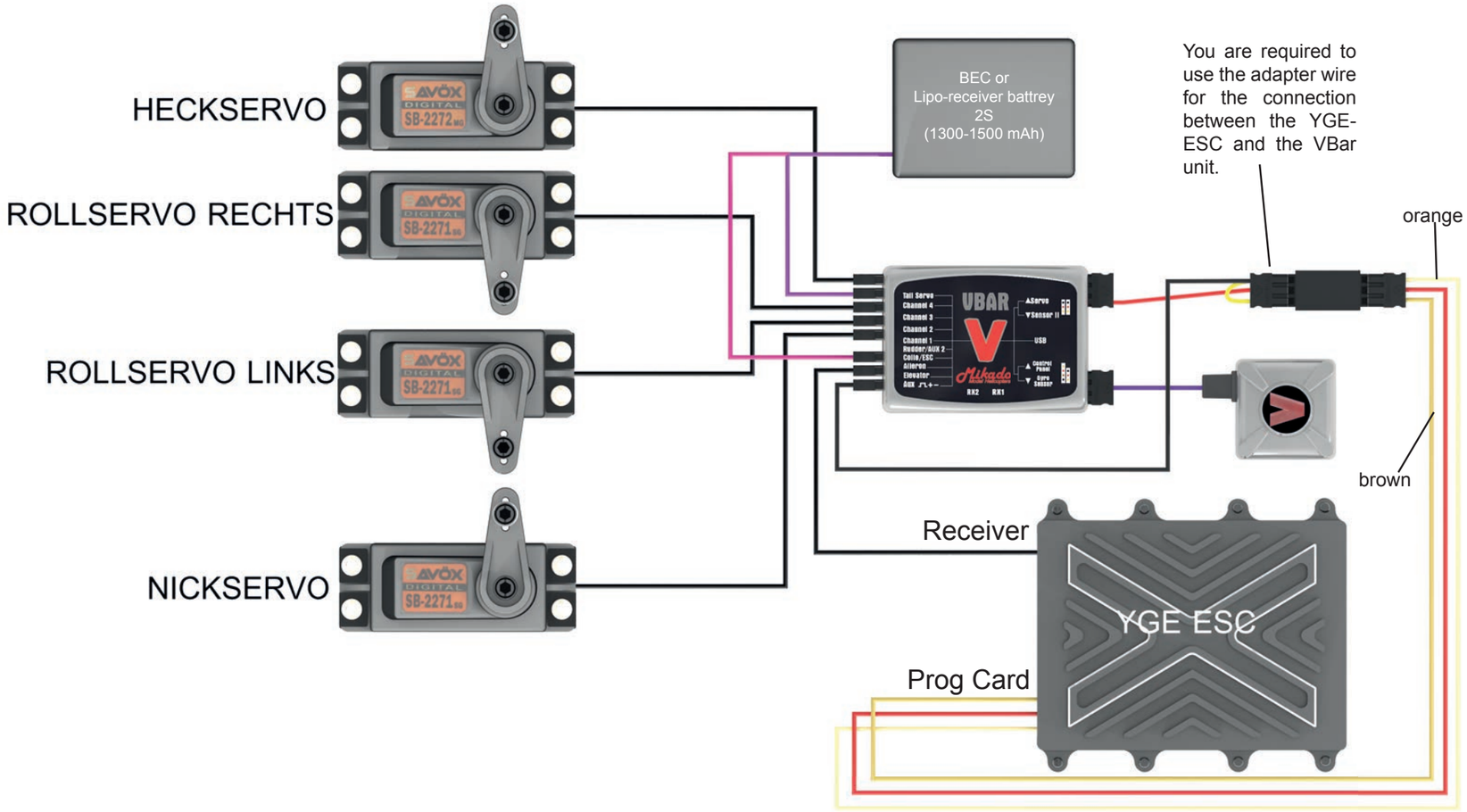


Note when mounting the ball links: If you find it hard to clip the ball link on, turn it 180°. One side of the ball link will clip on easily. The other one is too tight to clip on easily.

3

4

12 Wiring RC Components

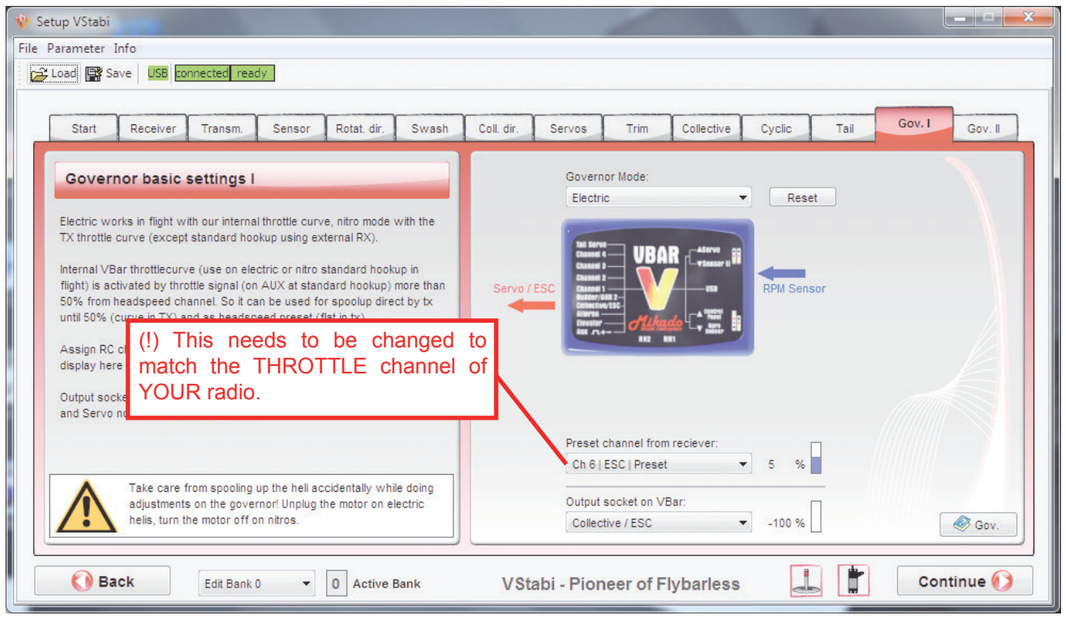


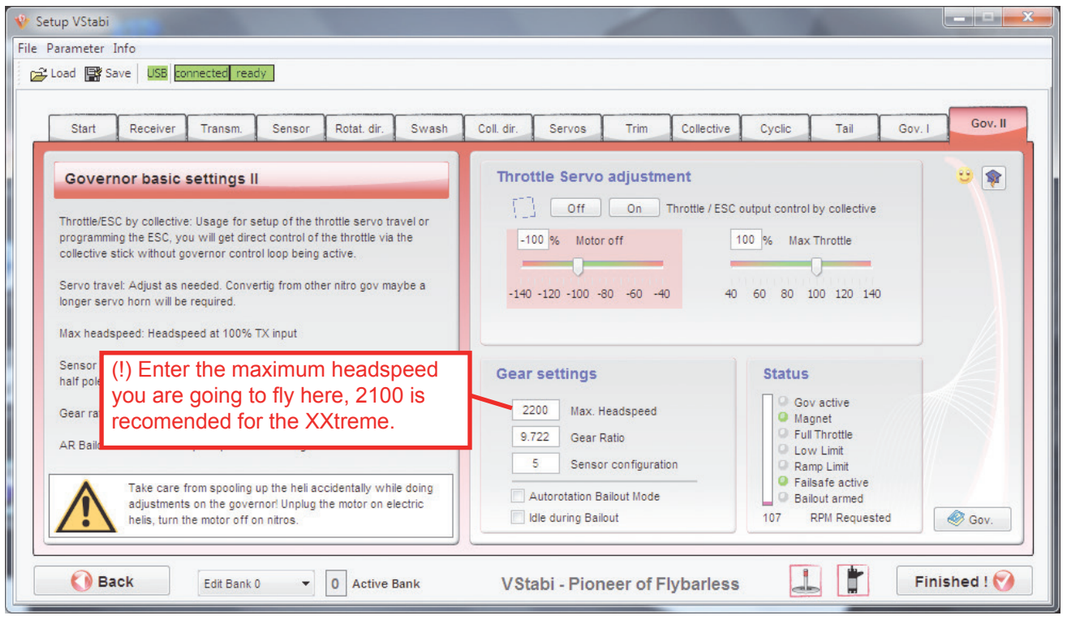
YGE ESC:
The YGE 160 provided in this combo is a special version ESC which is already programmed. It will function exclusively in combination with the governor function of VBar. For programming the governor function, please follow the steps in the VBar software shown in the two screen shots below. Should you intend to use the YGE 160 with any other application, it is necessary that it is re-programmed. Information on re-programming can be obtained from YGE (www.YGE.de). More information on the VBar Governor function can be obtained on www.vstabi.info.

VBar:
The VBar provided here contains the 5.3 PRO Software.
For programming the VBar for LOGO 700 XXtreme, please use the setup wizard.

BEC/receiver battery:
We highly recommend using a BEC that can provide two power leads to the Receiver/RC Components.

Wiring:
Please note: With a carbon frame like the one in this LOGO 700 XXtreme, all wires must be placed in such a way that they cannot be damaged by any sharp edges during operation of the helicopter. Please apply the fabric tube and the edge guard provided in this kit. Both types of protection are also available individually from Mikado.

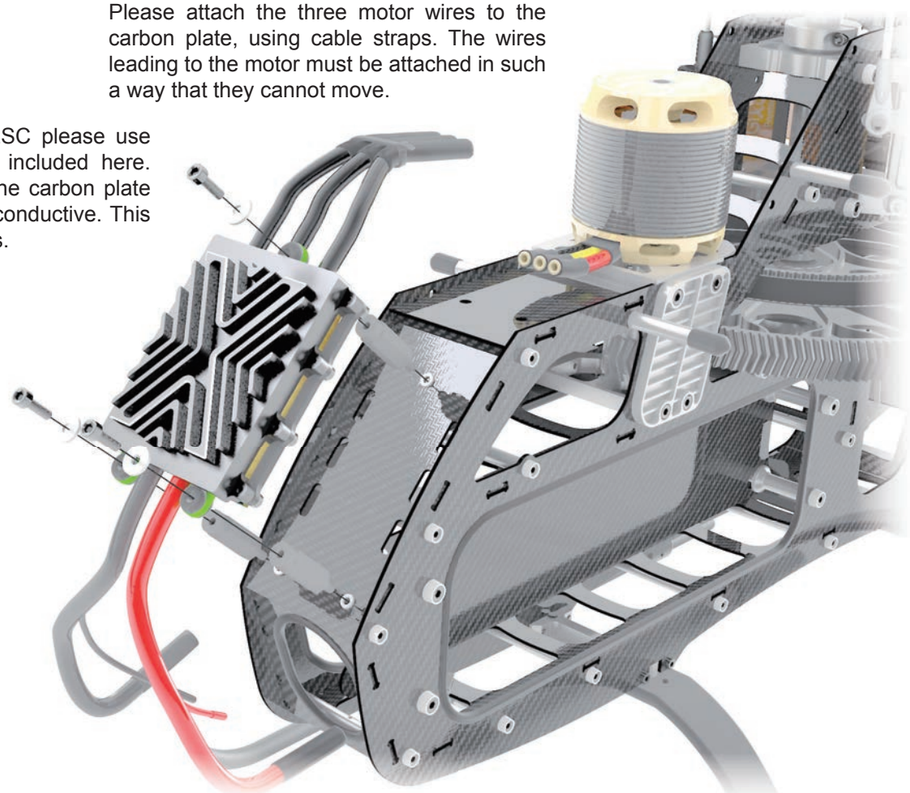


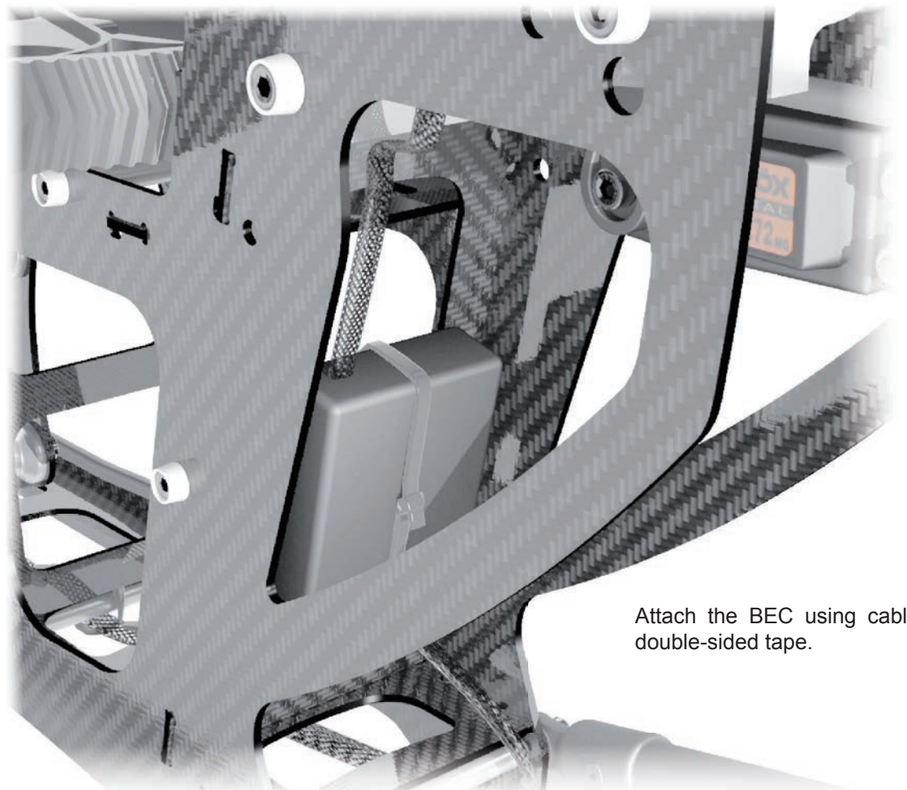


13 Mounting ESC and Voltage Regulator

Please attach the three motor wires to the carbon plate, using cable straps. The wires leading to the motor must be attached in such a way that they cannot move.

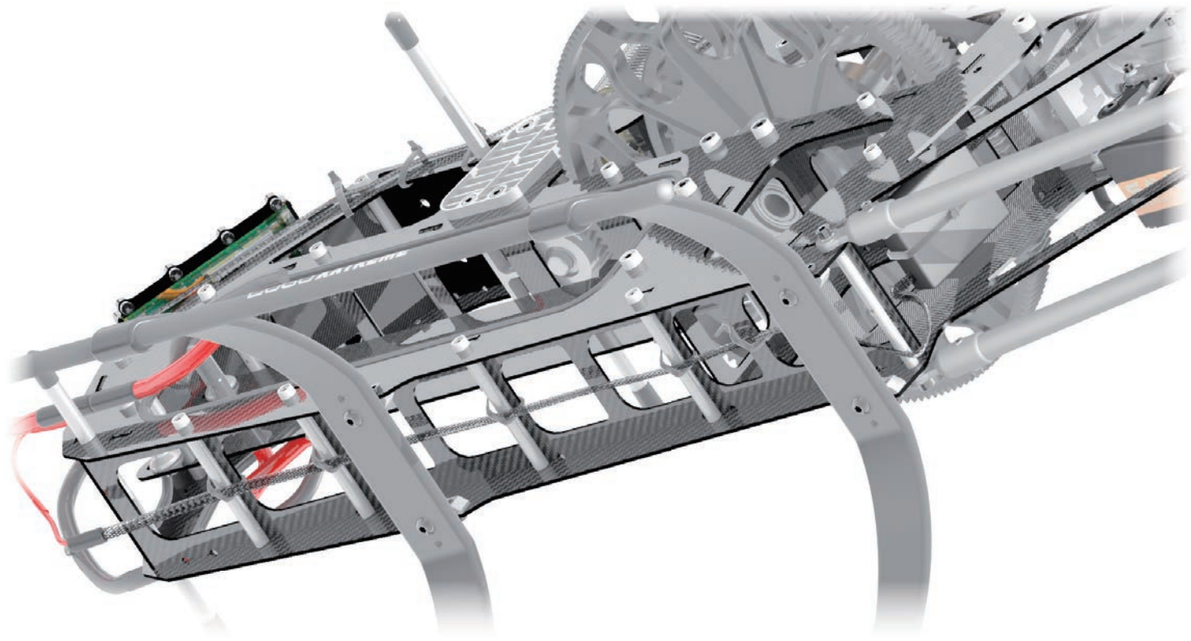
For mounting the ESC please use the plastic spacers included here. The connection to the carbon plate must not be electroconductive. This is to avoid short-outs.



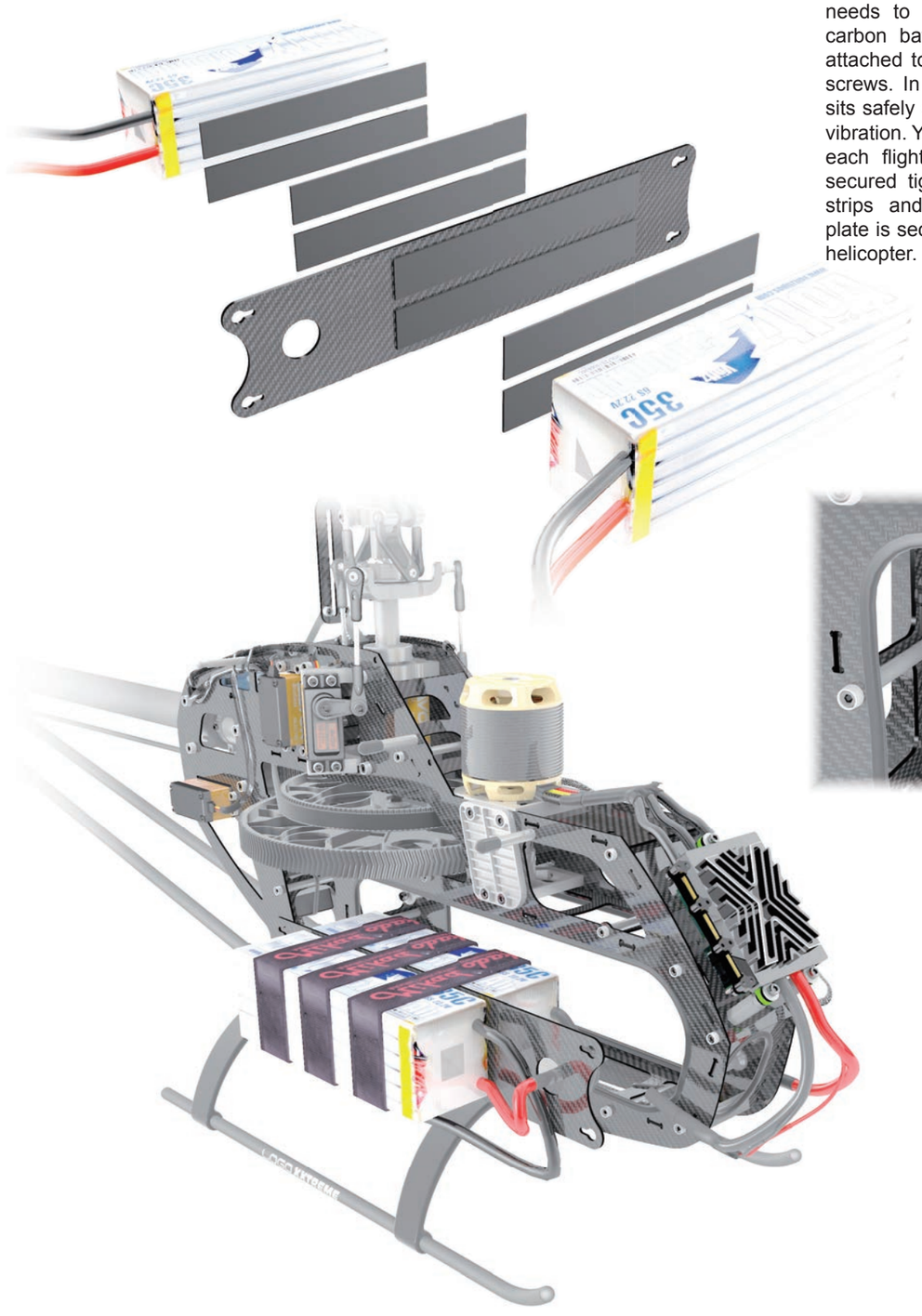


Attach the BEC using cable straps and double-sided tape.

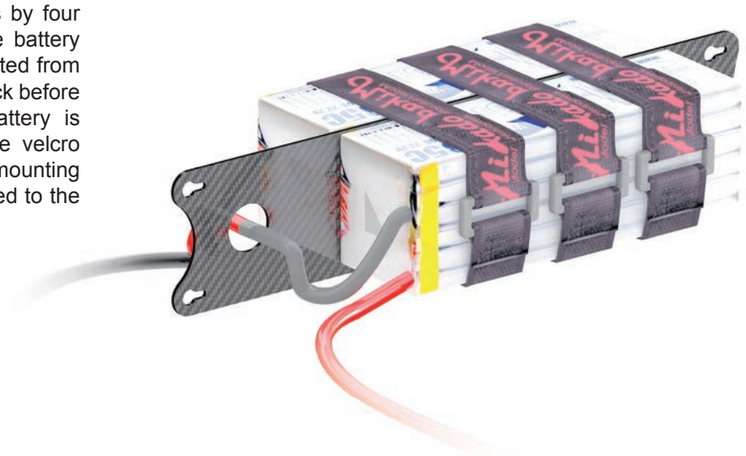
Take special care when placing the wires. Check that the wires cannot rub against the sharp edges of the chassis even if the helicopter should vibrate violently. We recommend to use the fabric tube included here, to protect the wires in suitable places. You may order additional fabric tube (Mikado item no. 4594)



14 Battery Mounting

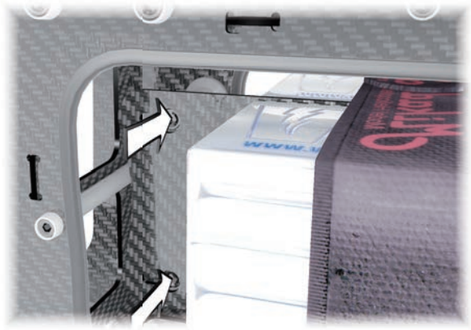


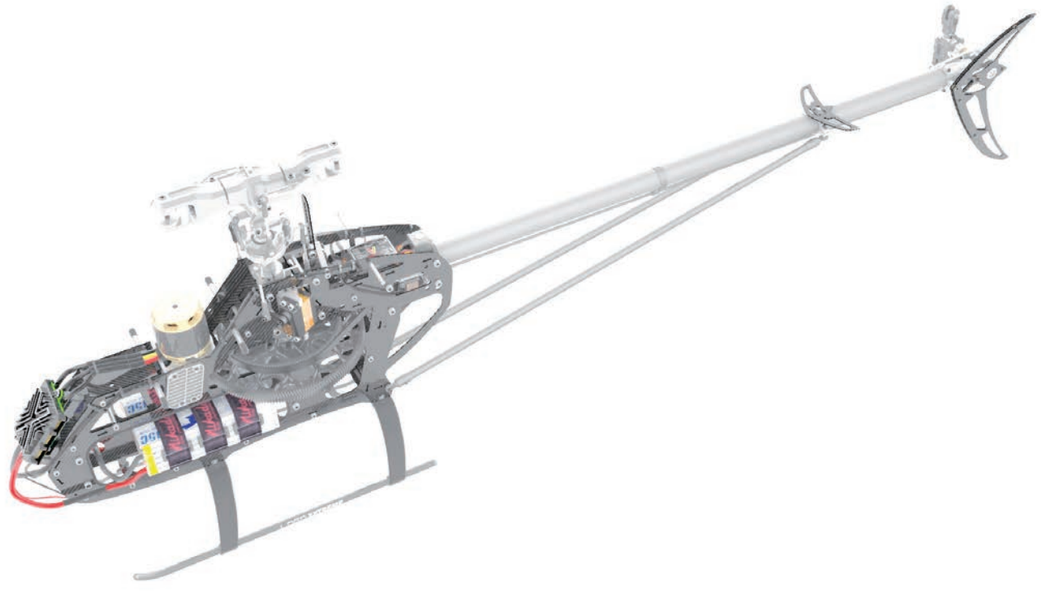
The 12-cell lipo battery to be used with the LOGO 700 XXtreme needs to be mounted on the carbon battery plate, which is attached to the chassis by four screws. In this way the battery sits safely and is protected from vibration. You must check before each flight that the battery is secured tightly by three velcro strips and that the mounting plate is securely fastened to the helicopter.



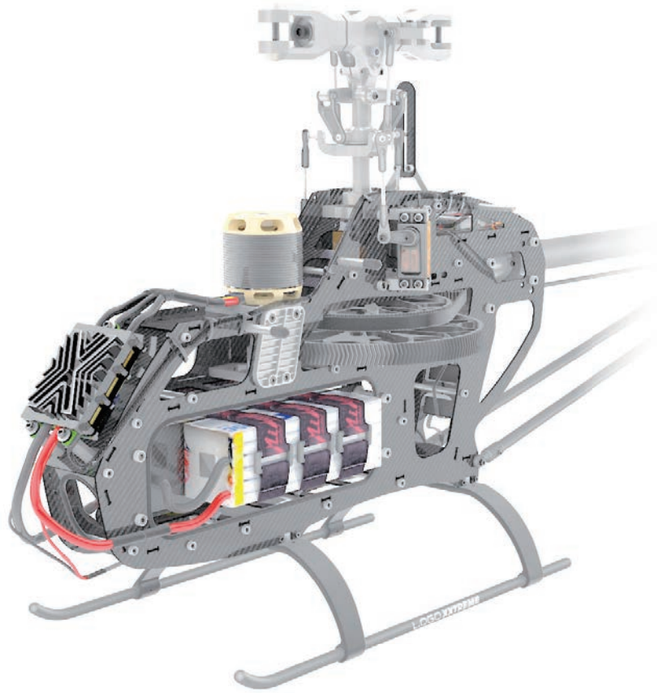
The gold connectors of the batteries should have a minimum diameter of 4 mm. Make sure to use a soldering iron large enough to create an adequate connection. A poor connection can lead to irregular behaviour of the motor or the ESC. High-current plugs like these need to be perfectly isolated at all times when connected. Otherwise there is a high risk of shorting.

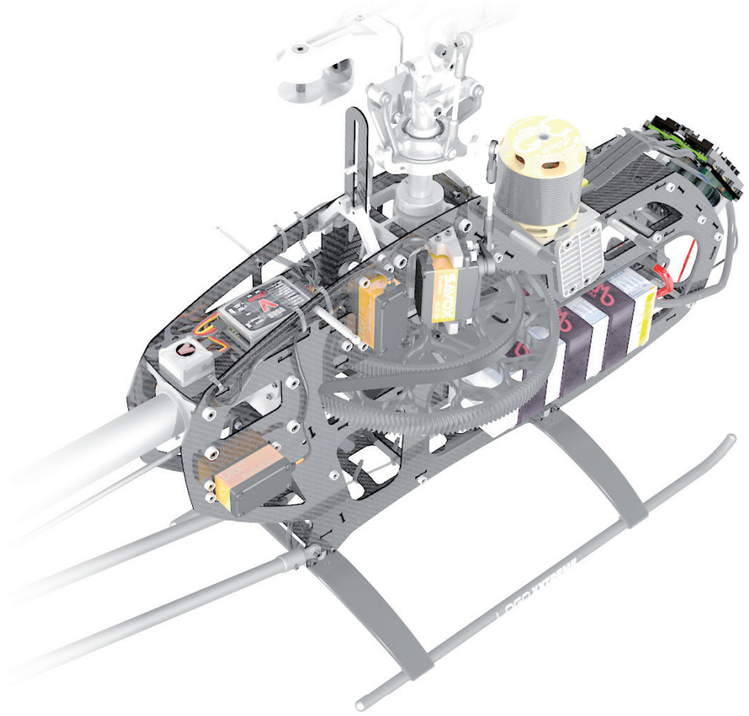
Prior to each flight, check that the connection is tight. There is a high risk of fire should the battery be damaged by a sharp edge during a crash. Therefore never fly the helicopter with out the edge guard.

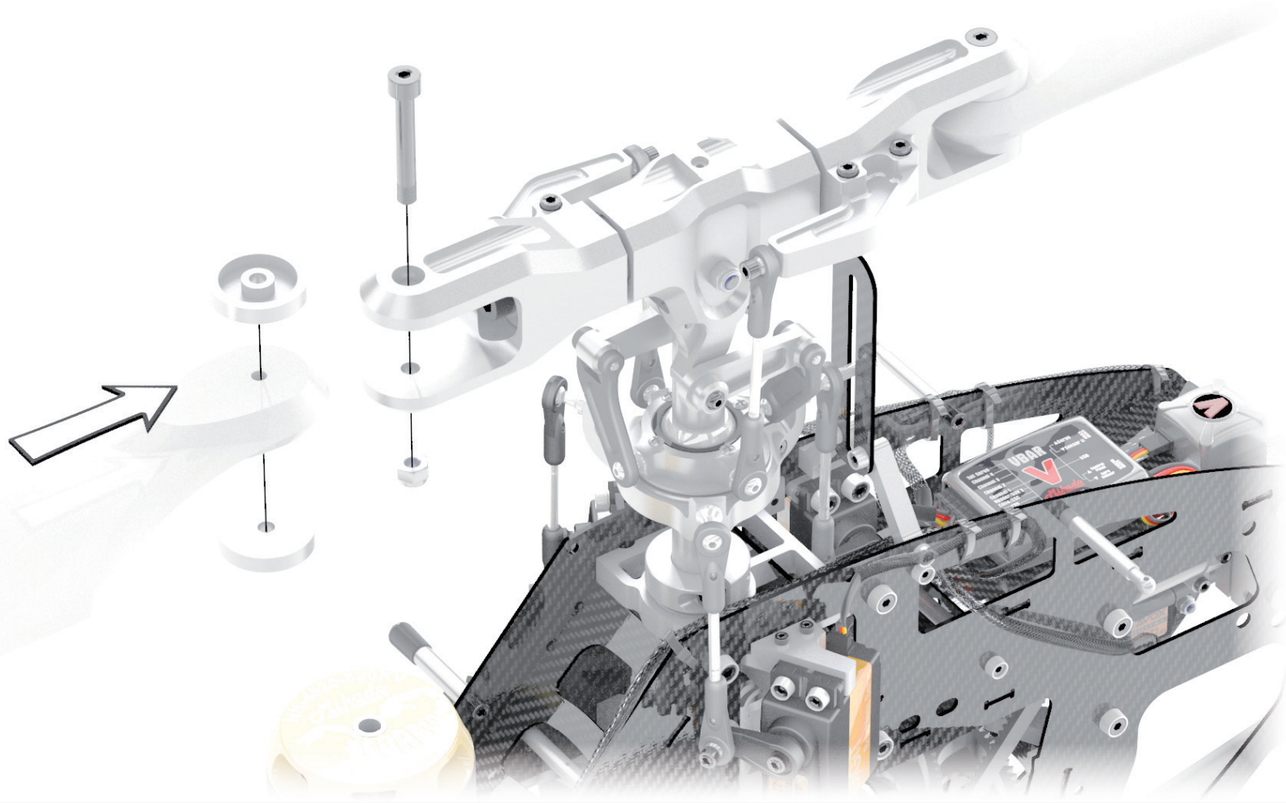


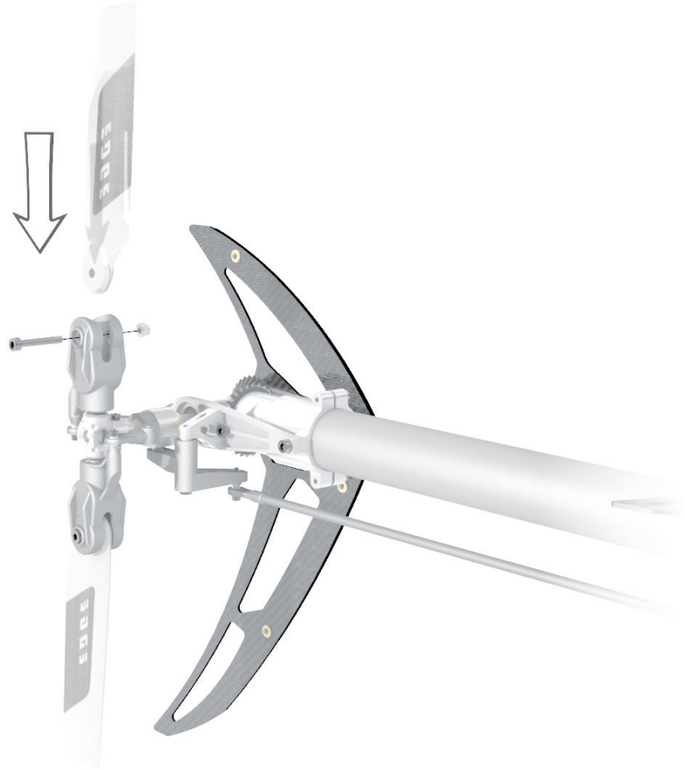


15 Main Rotor Blades and Tail Rotor Blades









The canopy of the LOGO 700 XXtreme is mounted via six attachment points. The four attachment points in the front ensure that the canopy sits well on the chassis during flight. have a guiding function. In the back, the canopy is attached by two rubber grommets. You will find another, high-quality, set of rubber grommets included in the kit. You may use these, if desired.

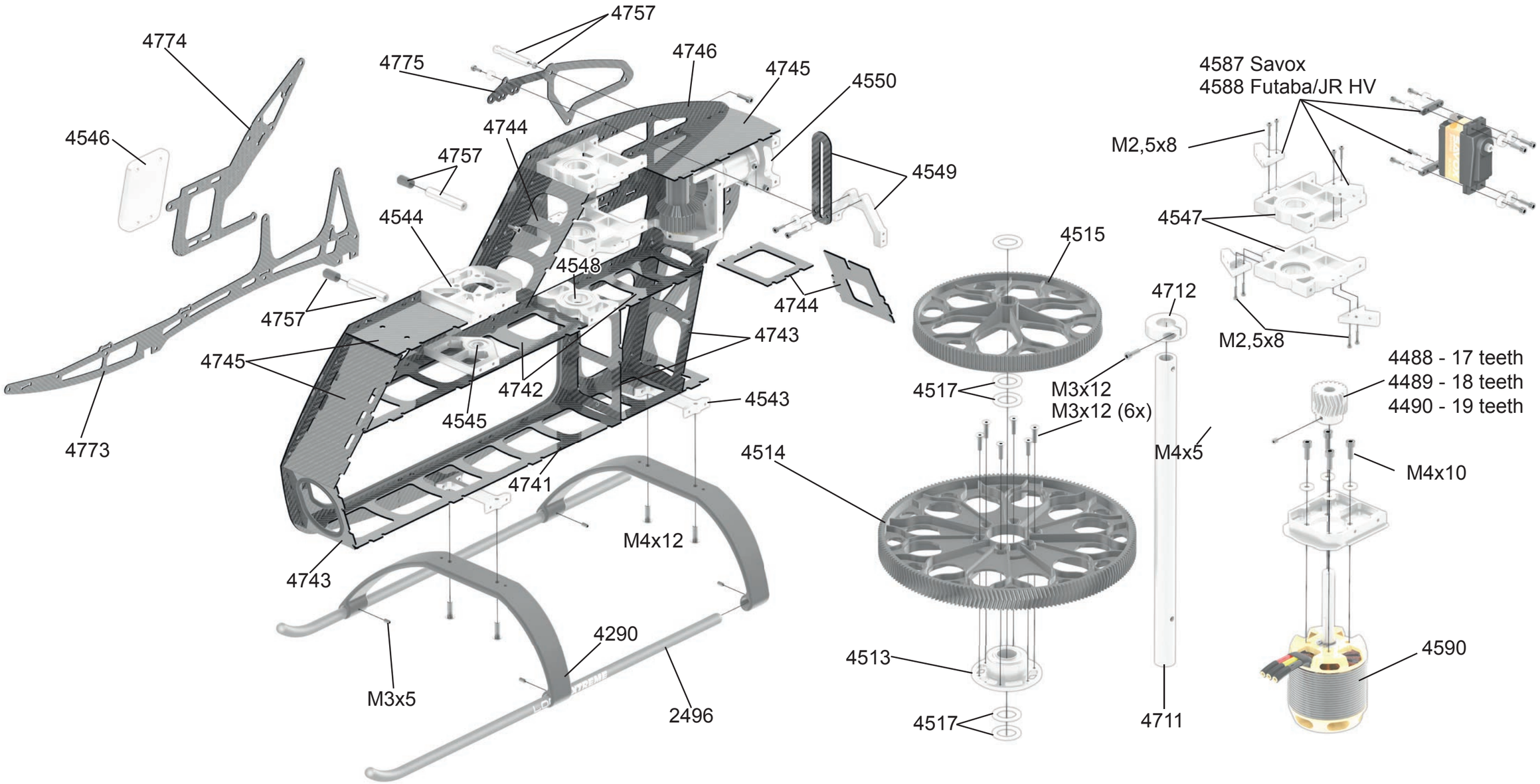
Important note: A special feature of the Logo 700 XXtreme canopy ist that it the back part is fully closed. This back area is connected via two pins and magnets. Take your time when mounting and dismounting the canopy. Use proper care when sliding the canopy over the rotor shaft.

Before each flight, check that the canopy sits securely. If the canopy sits too lose, this can deteriorate the flight performance of the helicopter. If the canopy becomes lose during flight the helicopter will crash.

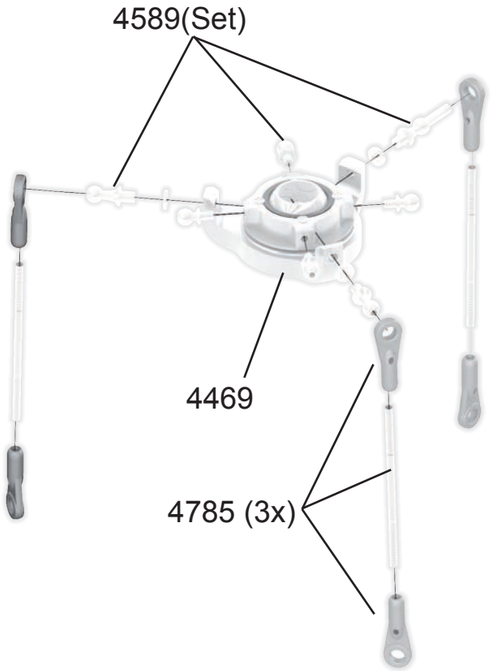
This canopy is 100% hand-made. Small irregularities in the surface, the airbrush design or color are normal. They do not constitute a reason for complaint

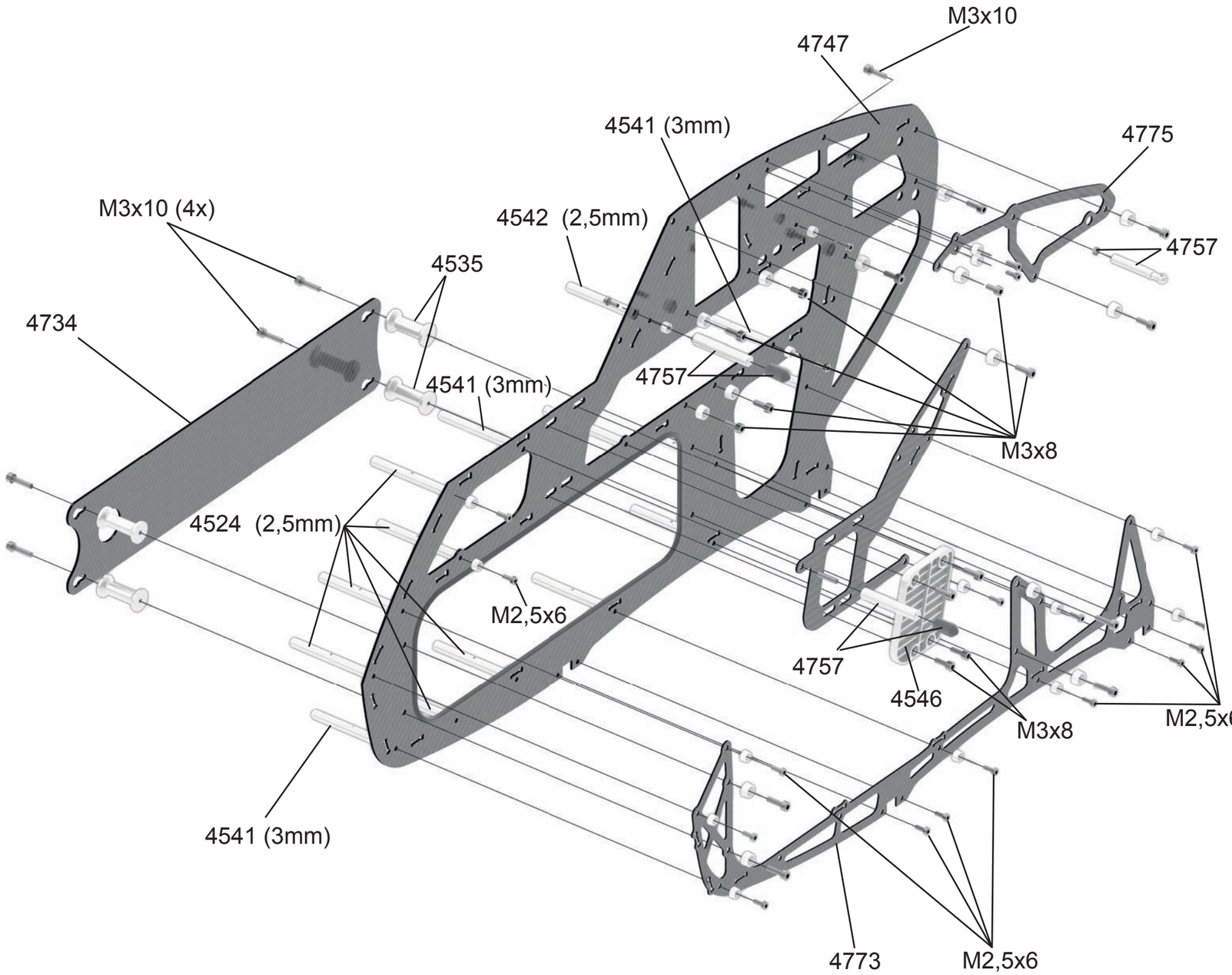
Please mount here the edge protector strip (included in the kit) and fix it with speed glue.

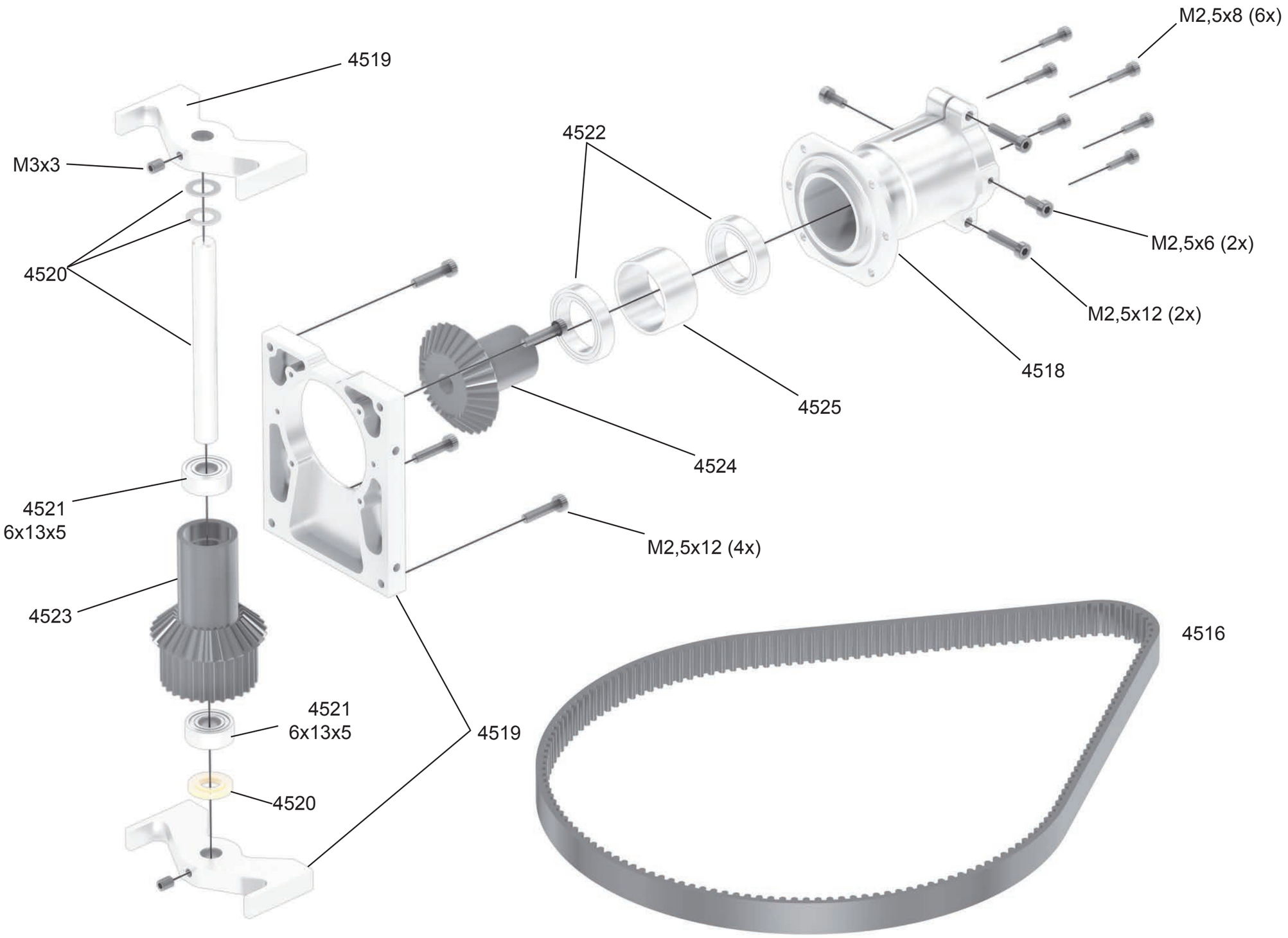
17 Overview Spare Parts Mainframe



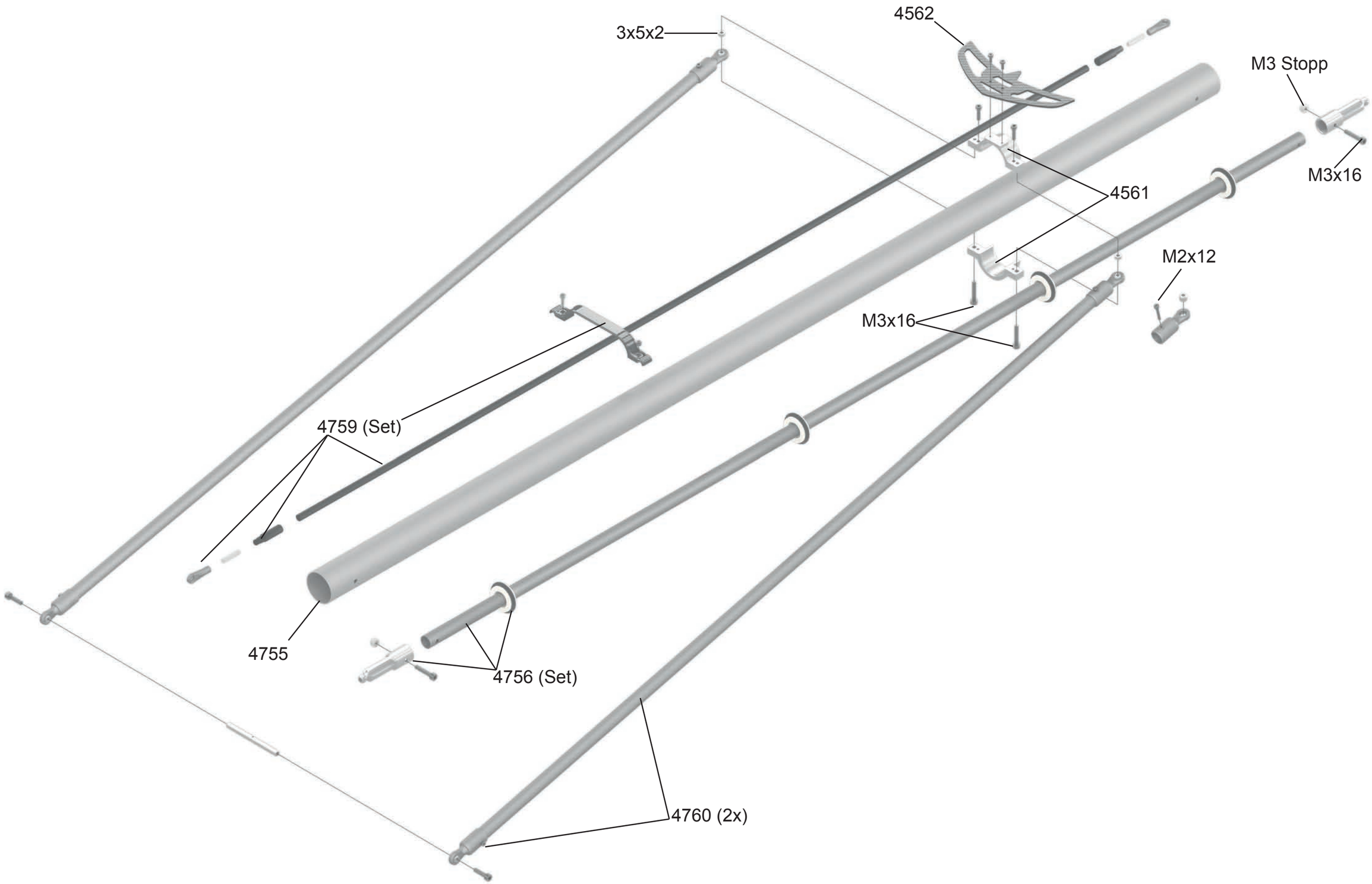
17 Overview Spare Parts Mainframe



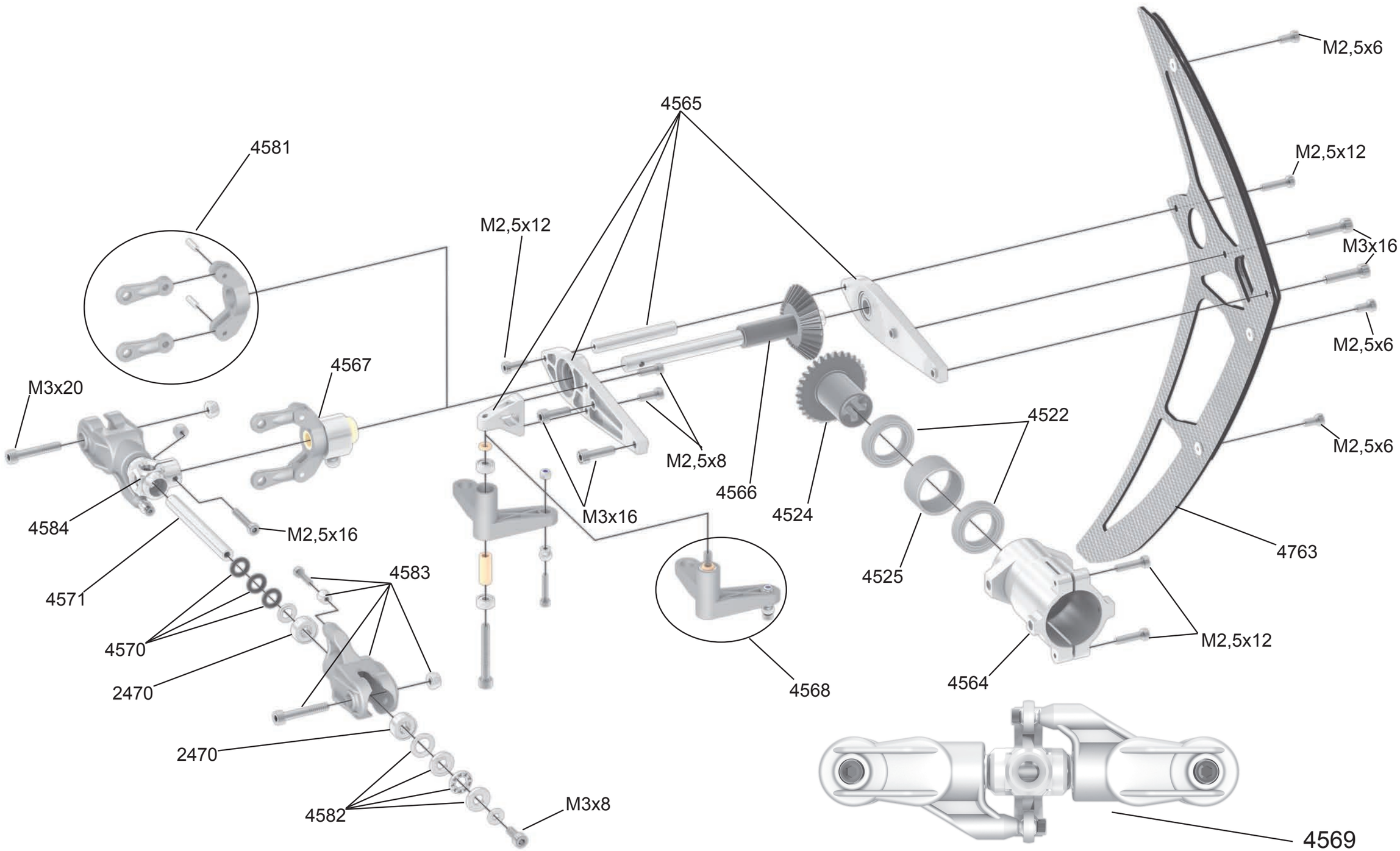


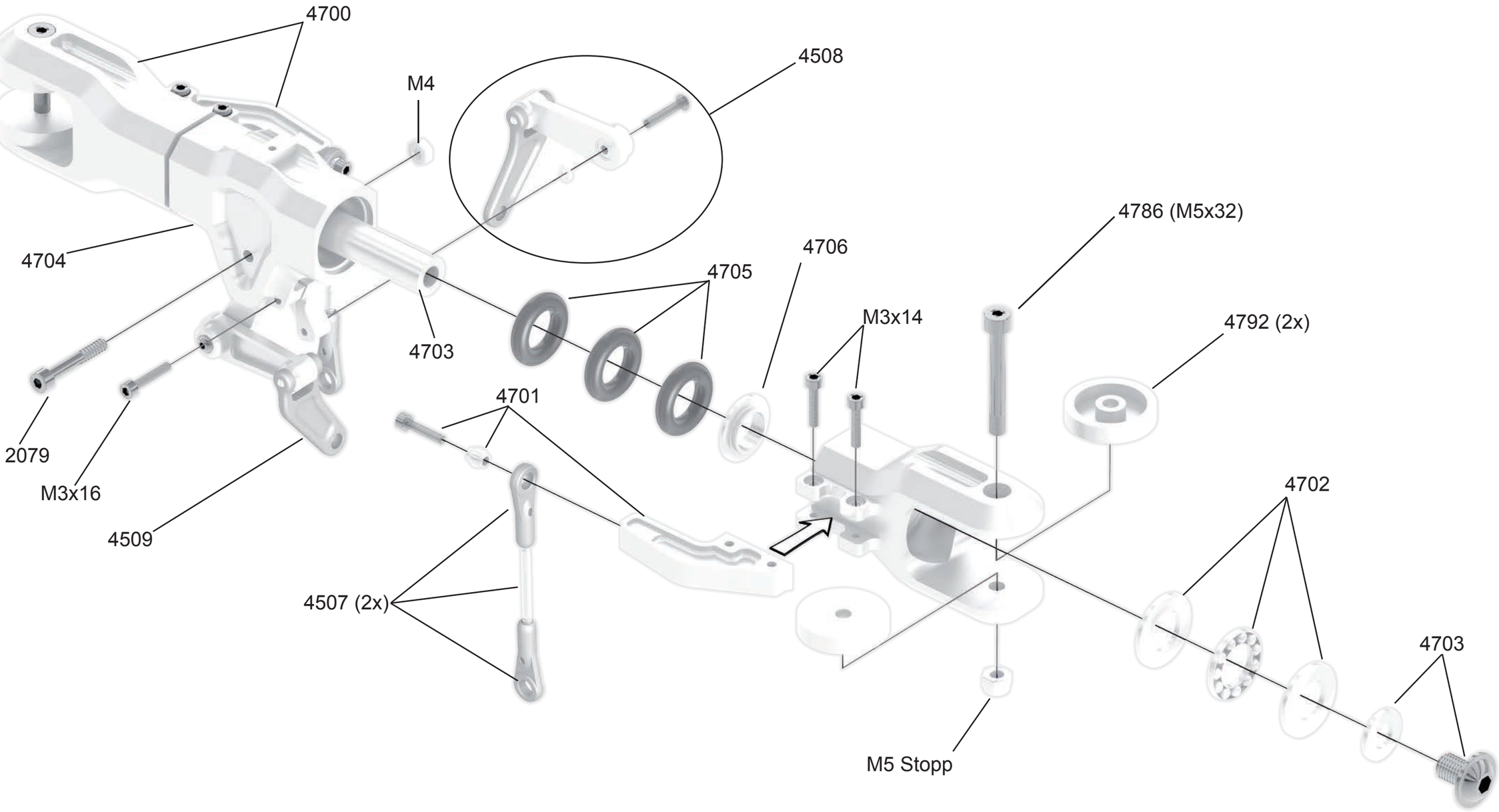

M2,5x8 (6x)
4519
4522
M3x3
4520
M2,5x6 (2x)
M2,5x12 (2x)
4518
4525
4524
4521
6x13x5
M2,5x12 (4x)
4523
4516
4521
6x13x5
4519
4520

19 Overview Spare Parts Tail Boom



20 Overview Spare Parts Tail Rotor




4700
M4
4508
4704
4705
4706
4786 (M5x32)
4703
M3x14
4792 (2x)
4701
2079
M3x16
4509
4507 (2x)
4702
4703
M5 Stopp