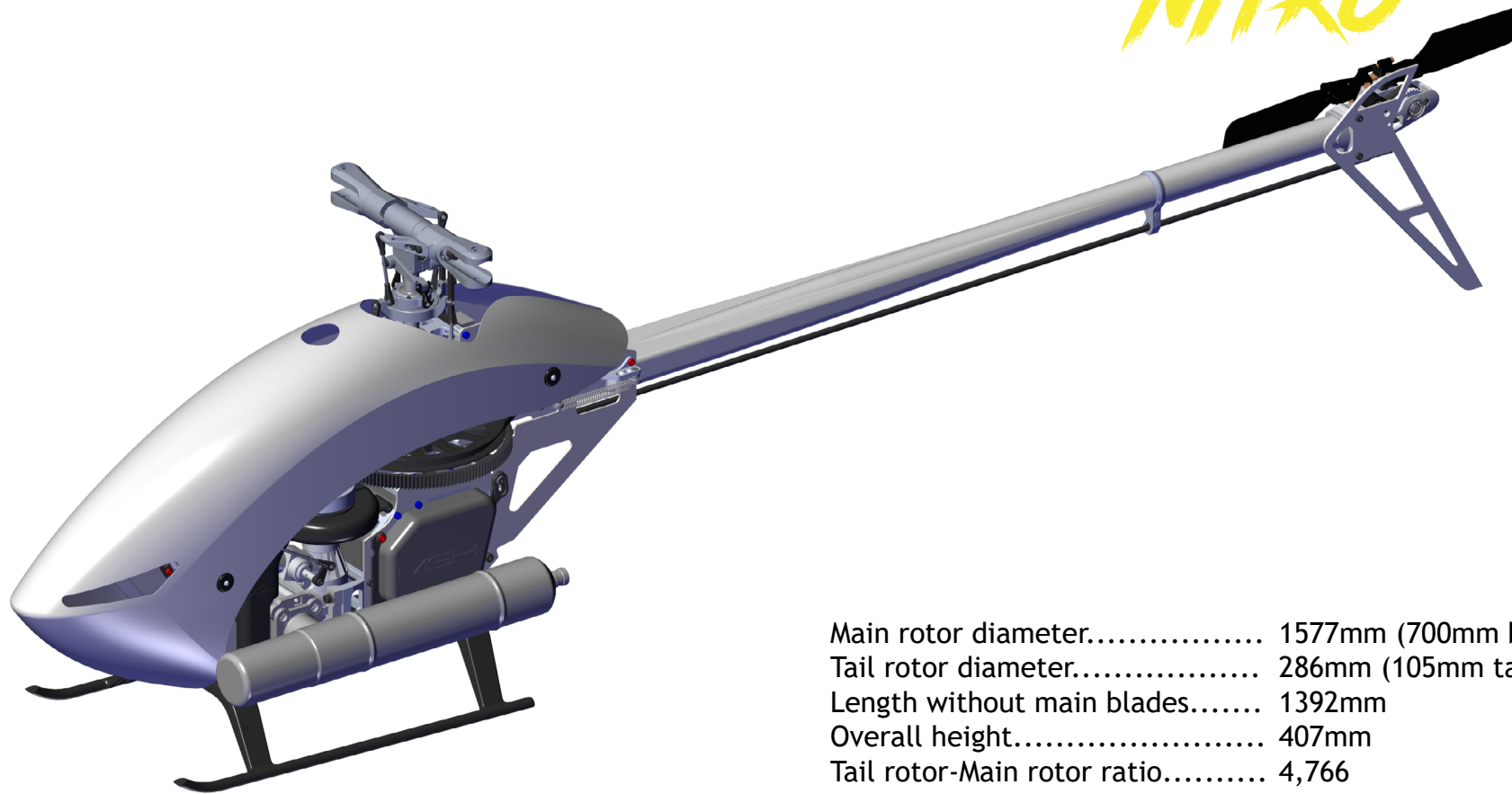


# PRÔTOS NITRO



Main rotor diameter.....	1577mm (700mm blades)
Tail rotor diameter.....	286mm (105mm tail blades)
Length without main blades.....	1392mm
Overall height.....	407mm
Tail rotor-Main rotor ratio.....	4,766
Main pulley.....	134T
Autorotation pulley.....	143T
Tail pulley.....	30T
Main Gear ratio.....	8.21

Release 1.0

Always check on [www.xlpower-rc.com](http://www.xlpower-rc.com) for a more recent version of this manual

# Always follow these rules for safety

Operate the helicopter in open areas with no people nearby.

Do NOT operate the helicopter in the following places and situations (or else you risk severe accidents):

- in places where children gather or people pass through
- in residential areas and parks
- indoors and in limited space
- in windy weather or when there is rain, snow, fog or other precipitation

If you do not observe these instructions you may be held liable for personal injury or property damage!

Always check the R/C system prior to operating your helicopter.

When the R/C system batteries get weaker, the operational range of the R/C system decreases.

Note that you may lose control of your model when operating it under such conditions.

Keep in mind that other people around you might also be operating a R/C model.

Never use a frequency which someone else is using at the same time.

Radio signals will be mixed and you will lose control of your model.

If the model shows irregular behavior, bring the model to a halt immediately and disconnect the batteries.

Investigate the reason and fix the problem.

Do not operate the model again as long as the problem is not solved, as this may lead to further trouble and unforeseen accidents.

In order to prevent accidents and personal injury, be sure to observe the following:

Before flying the helicopter, ensure that all screws are tightened.

A single loose screw may cause a major accident.

Replace all broken or defective parts with new ones, as damaged parts lead to crashes.

Never approach a spinning rotor. Keep at least 10 meters/yards away from a spinning rotor blades.

Do not touch the motor immediately after use. It may be hot enough to cause burns.

Perform all necessary maintenance.

**PRIOR TO ADJUSTING AND OPERATING YOUR MODEL, OBSERVE THE FOLLOWING**

Operate the helicopter only outdoors and out of people's reach as the main rotor operates at high rpm!

While adjusting, stand at least 10 meters

Novice R/C helicopter pilots should always seek advice from experienced pilots to obtain hints with assembly and for pre-flight adjustments.

Note that a badly assembled or insufficiently adjusted helicopter is a safety hazard!

In the beginning, novice R/C helicopter pilots should always be assisted by an experienced pilot and never fly alone!

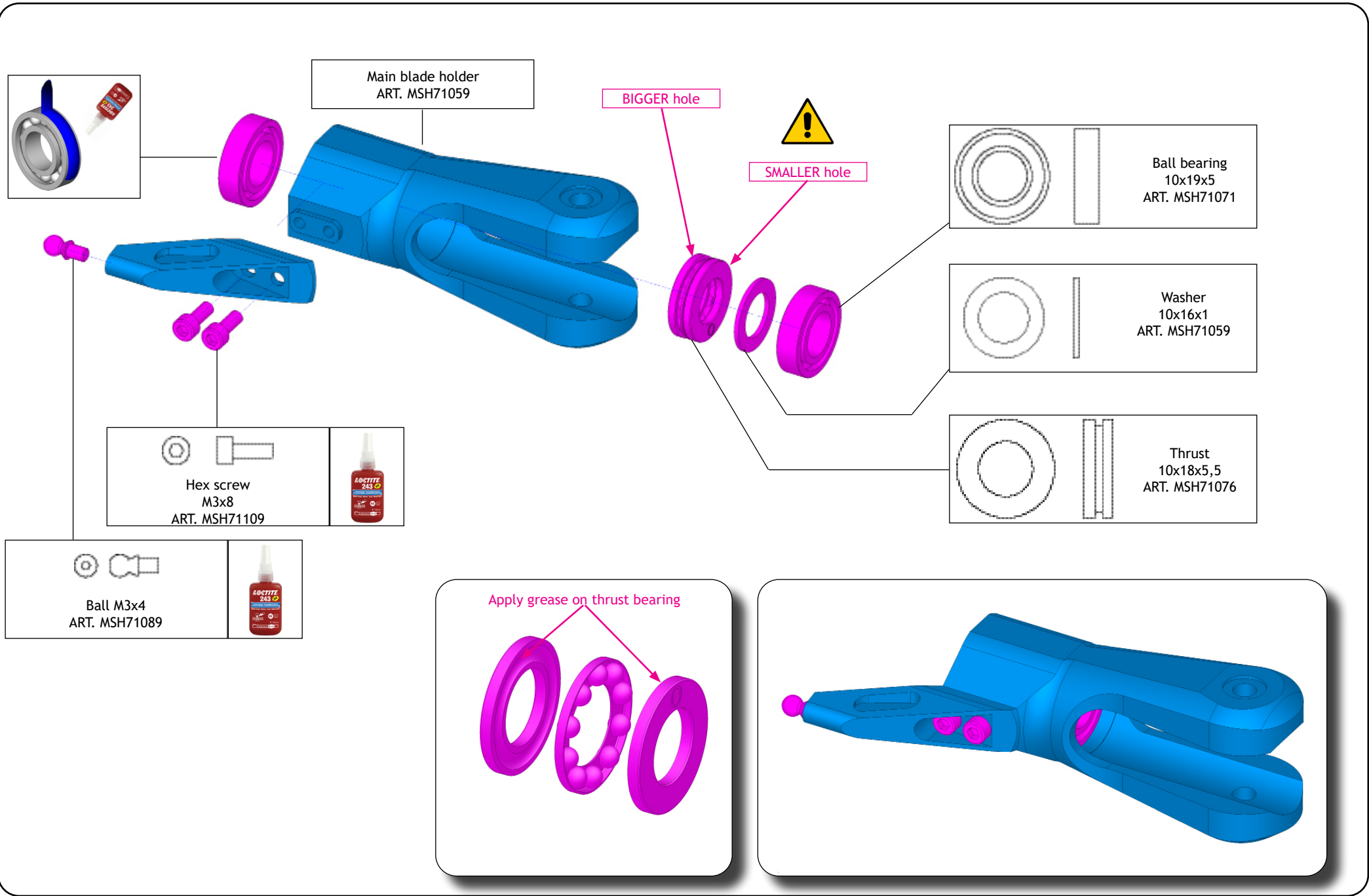
# Tools and R/C equipment required for assembly

Hexagon screw drivers : 1,5mm 2mm 2,5mm 3mm two 5 mm (For spindle)	Thrust bearing grease
12MM socket wrench	Loctite 243
Silicone Fuel Tubing	Slow curing EPOXY
GOV sensor	

Swashplate servos supported: all standard servos (qnty. 3)	Throttle servo supported: all standard servos (qnty. 1)
Tail servo supported: all standard servos (qnty. 1)	Main blades: standard full carbon blades 690mm - 716mm
Trasmitter Receiver/satellite Flybarless unit	Tail blades: standard full carbon blades 105mm to 115mm
Battery pack: LiPo 2s 800-2200mAh	Engine and pipe: os91-105 ys91-120

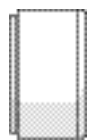


# Bag 1





## Head dampeners

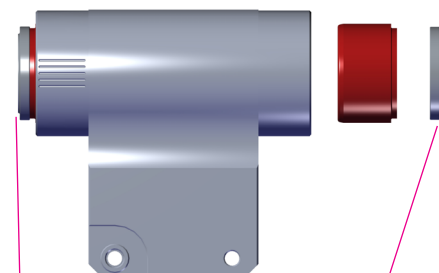
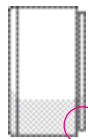
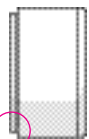


ART. MSH71056  
sport / 3D(Black)



ART. MSH71057  
Hard 3D 700 blades  
3D 800 blades(RED)  
*Optional*

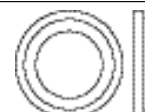
Step visible outside  
the main hub



Step outside  
the main hub



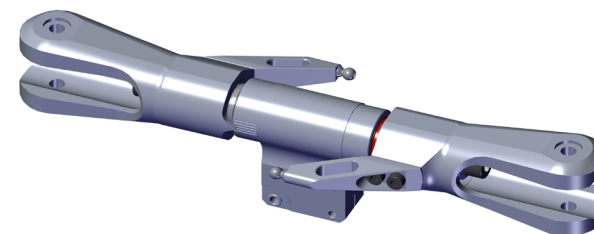
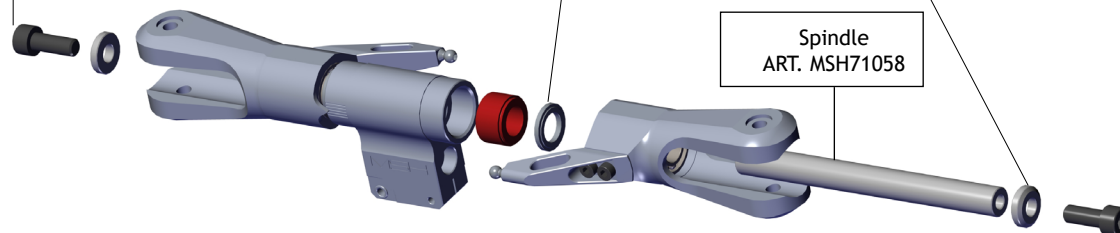
Screw M6x12  
ART. MSH71058



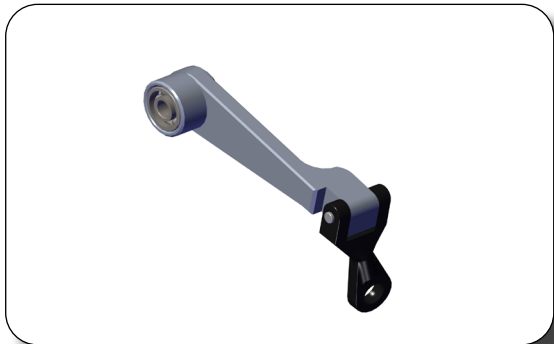
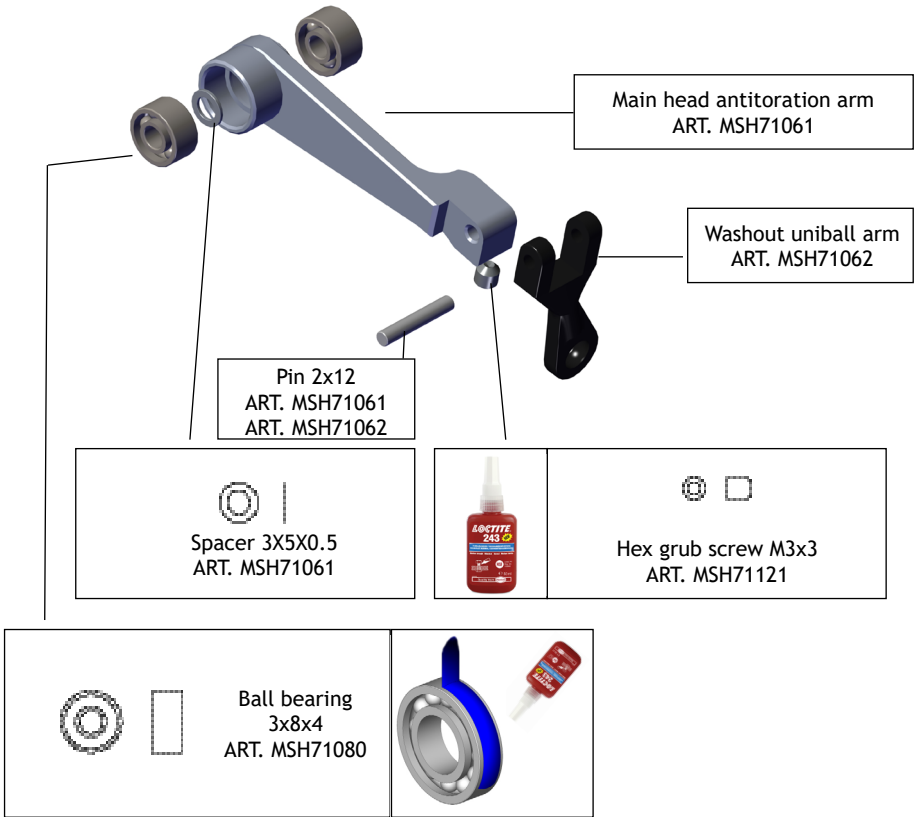
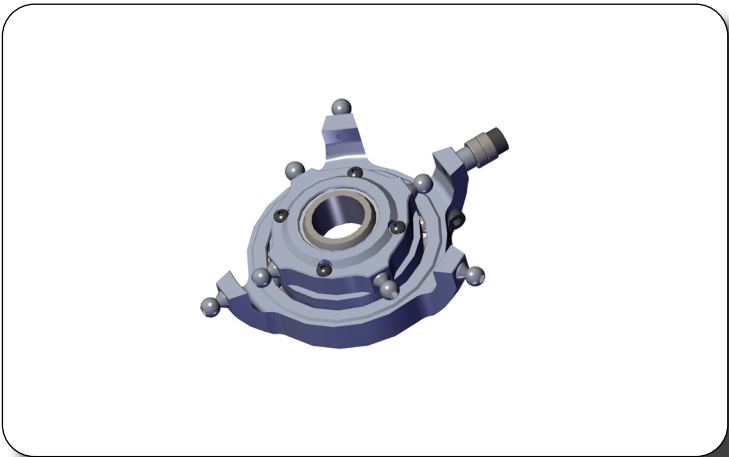
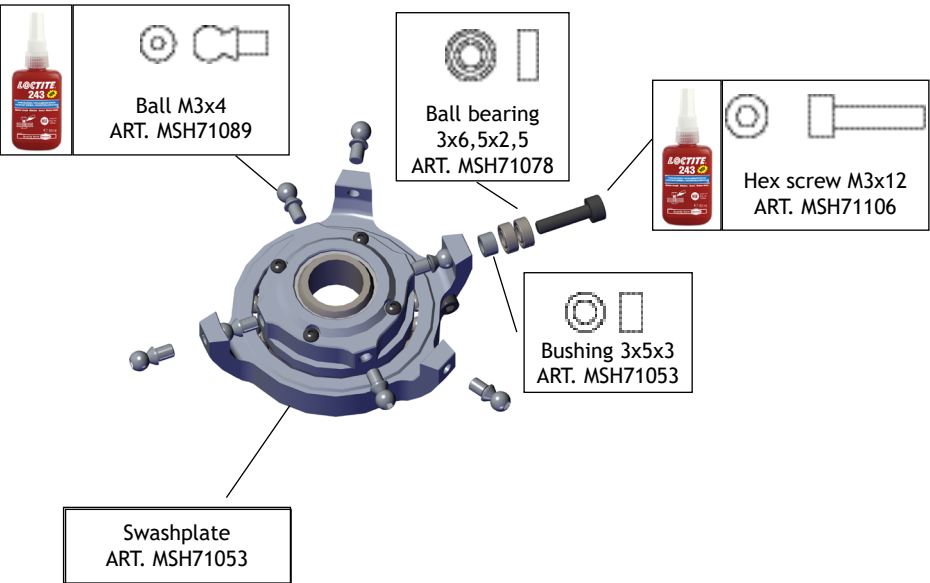
Spindle spacer  
ART. MSH70056  
ART. MSH71057

M6 Washer  
ART. MSH71058

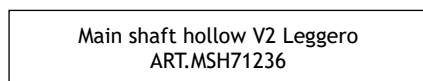
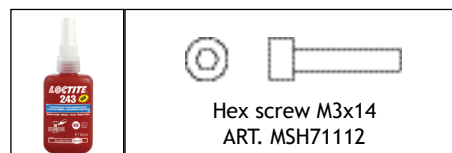
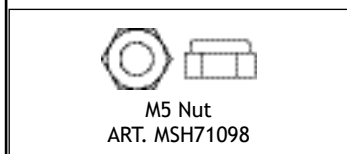
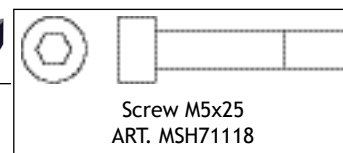
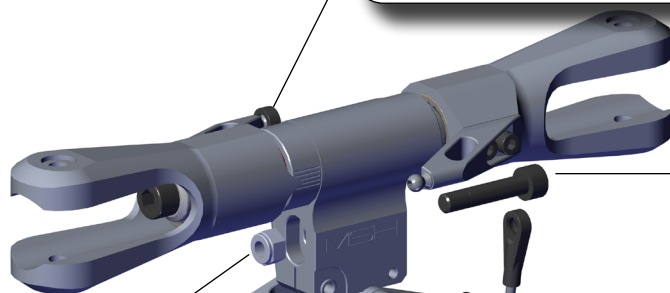
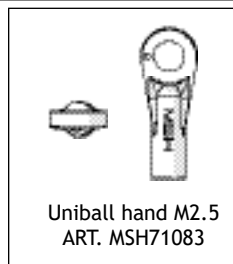
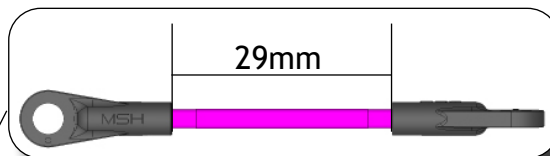
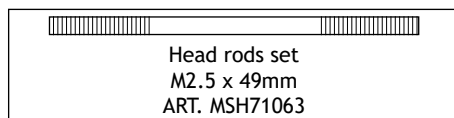
Spindle  
ART. MSH71058



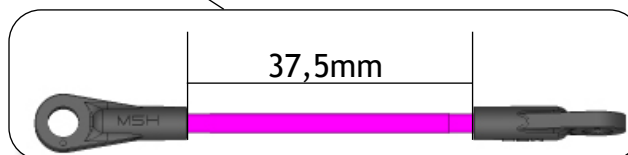
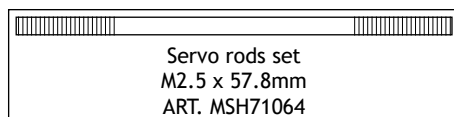
# Bag 1

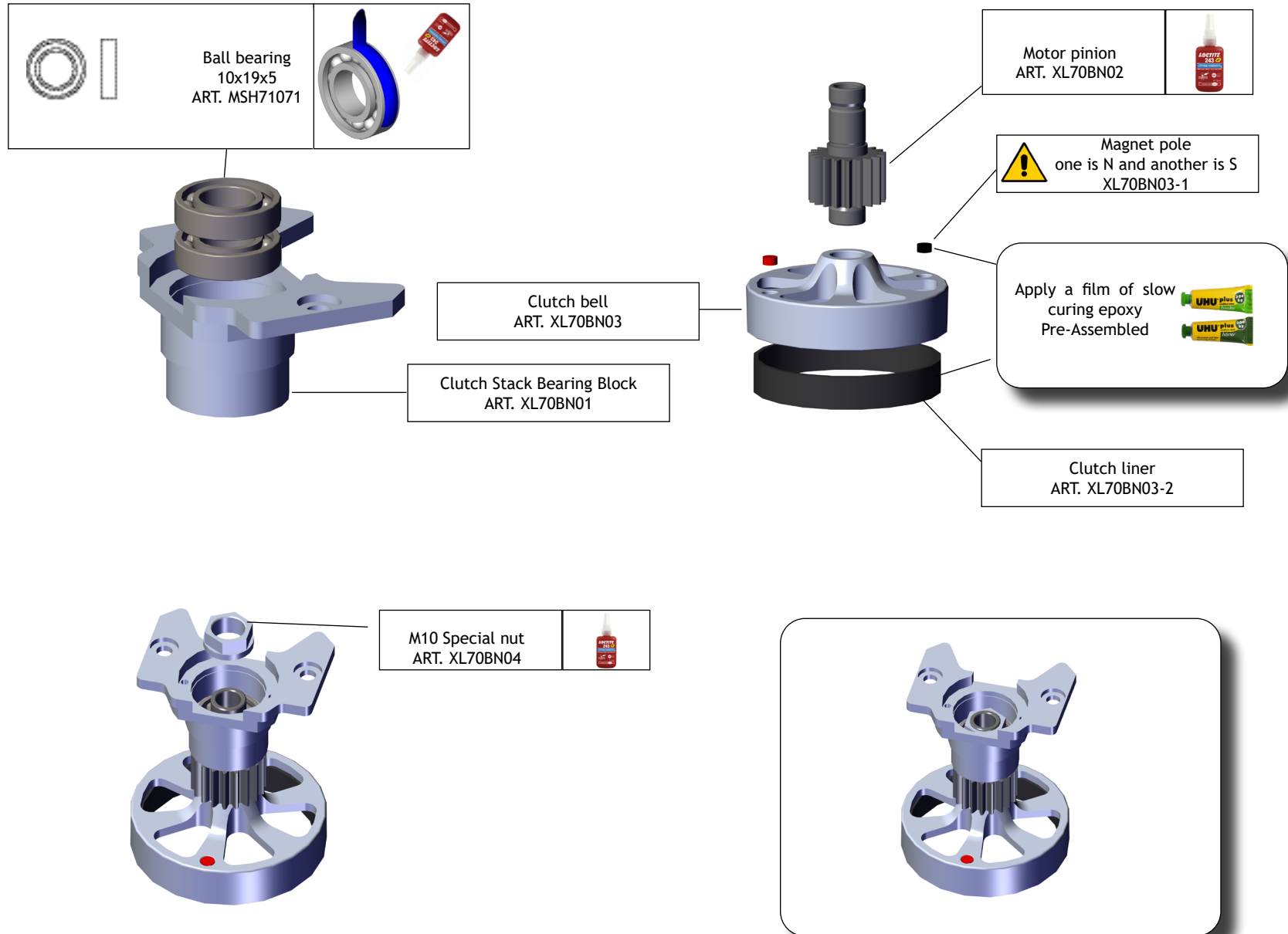


# Bag 1+2

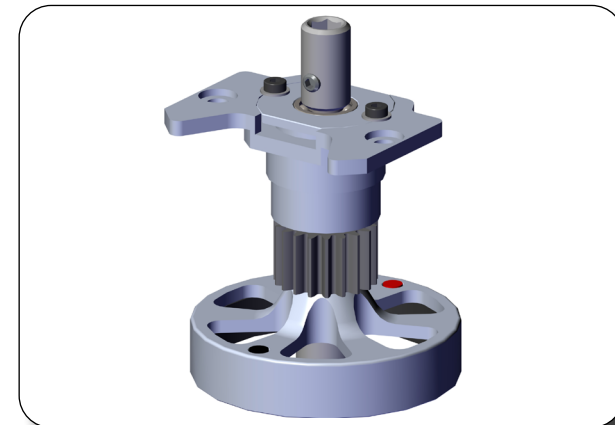
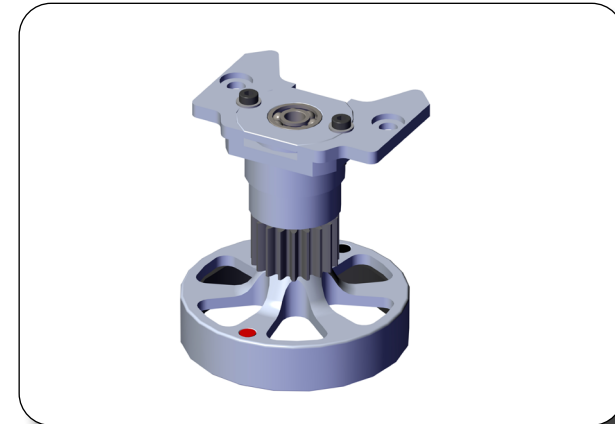
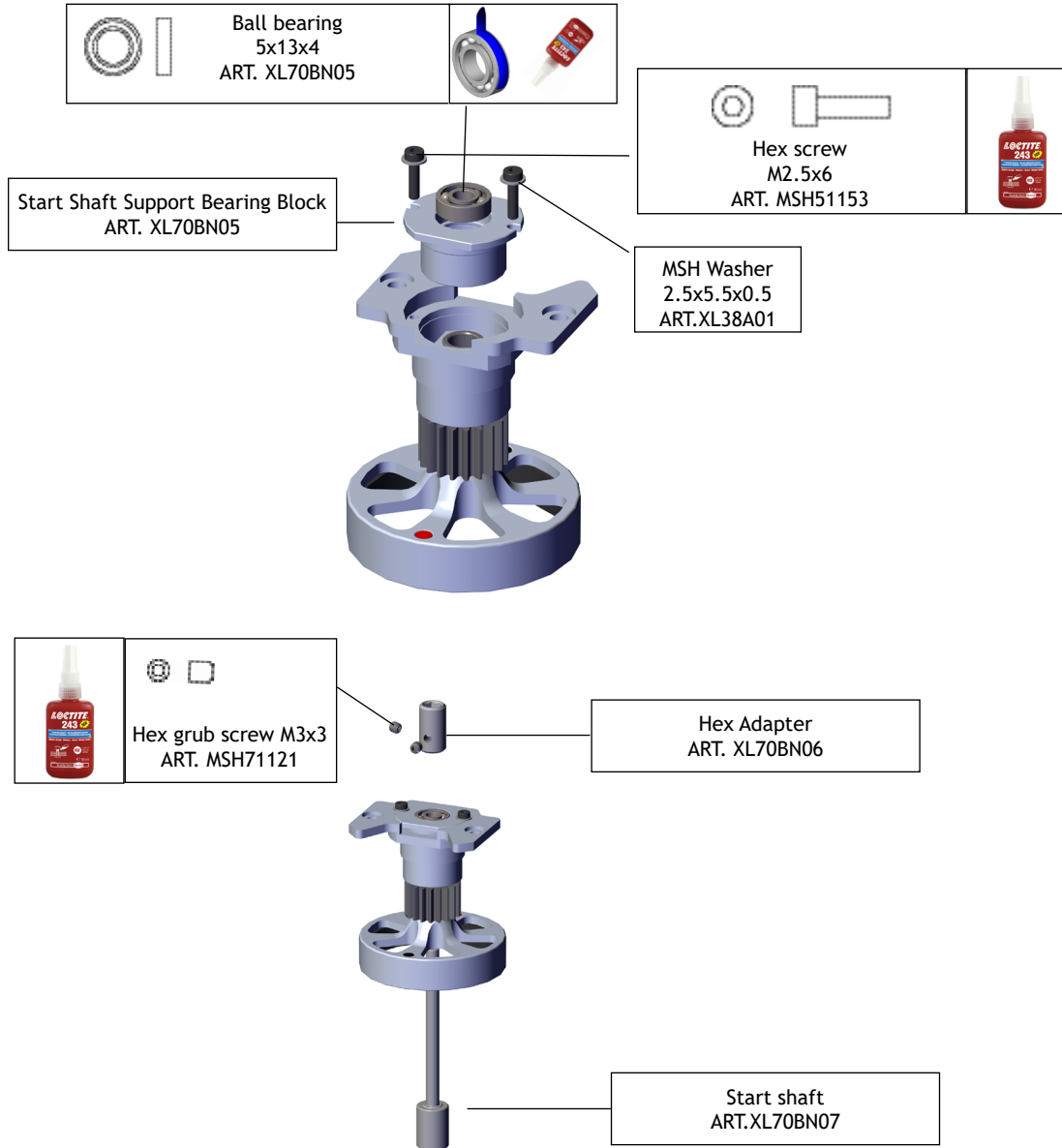


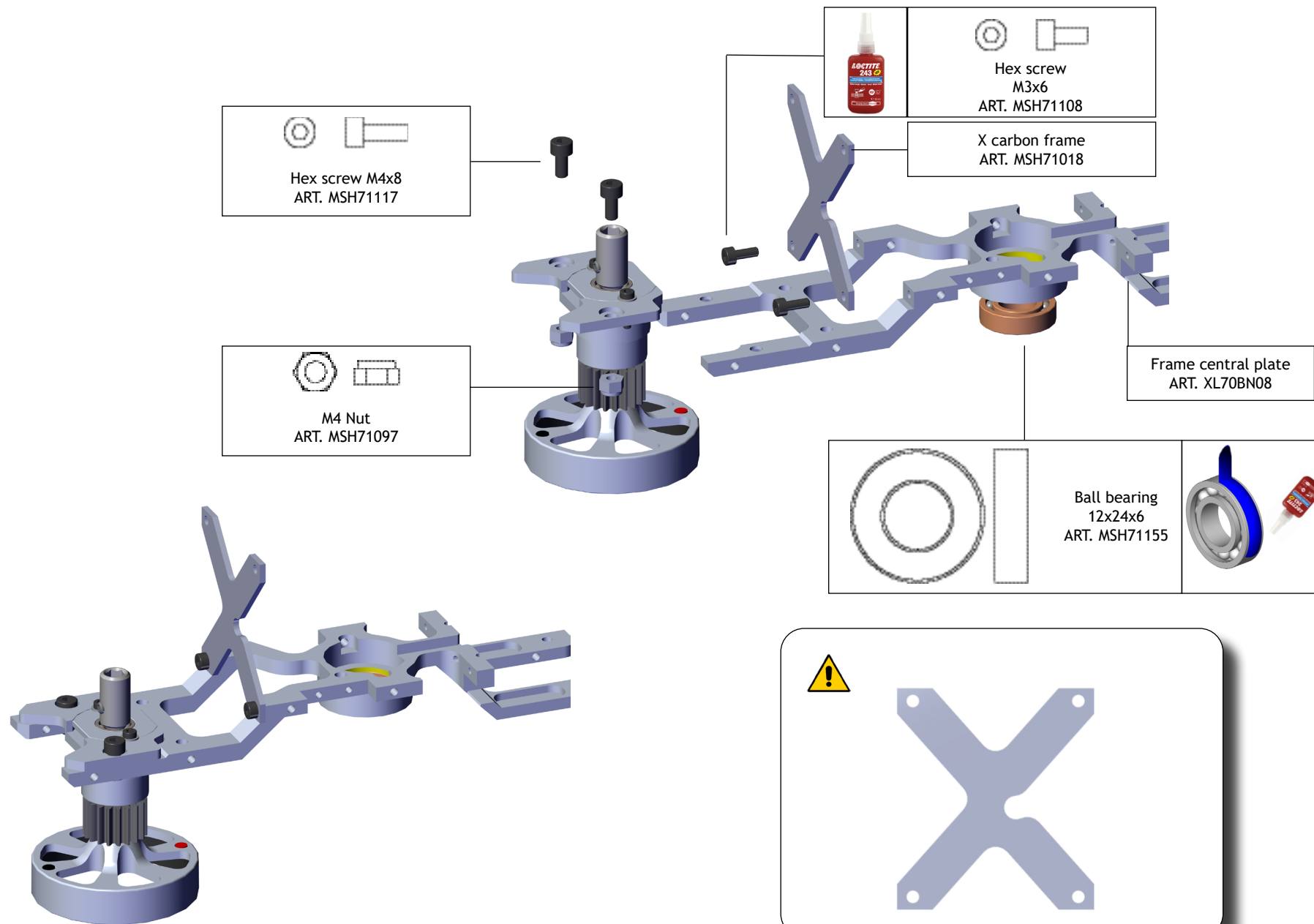
Servo rod lenght may differ slightly  
with different servo brand

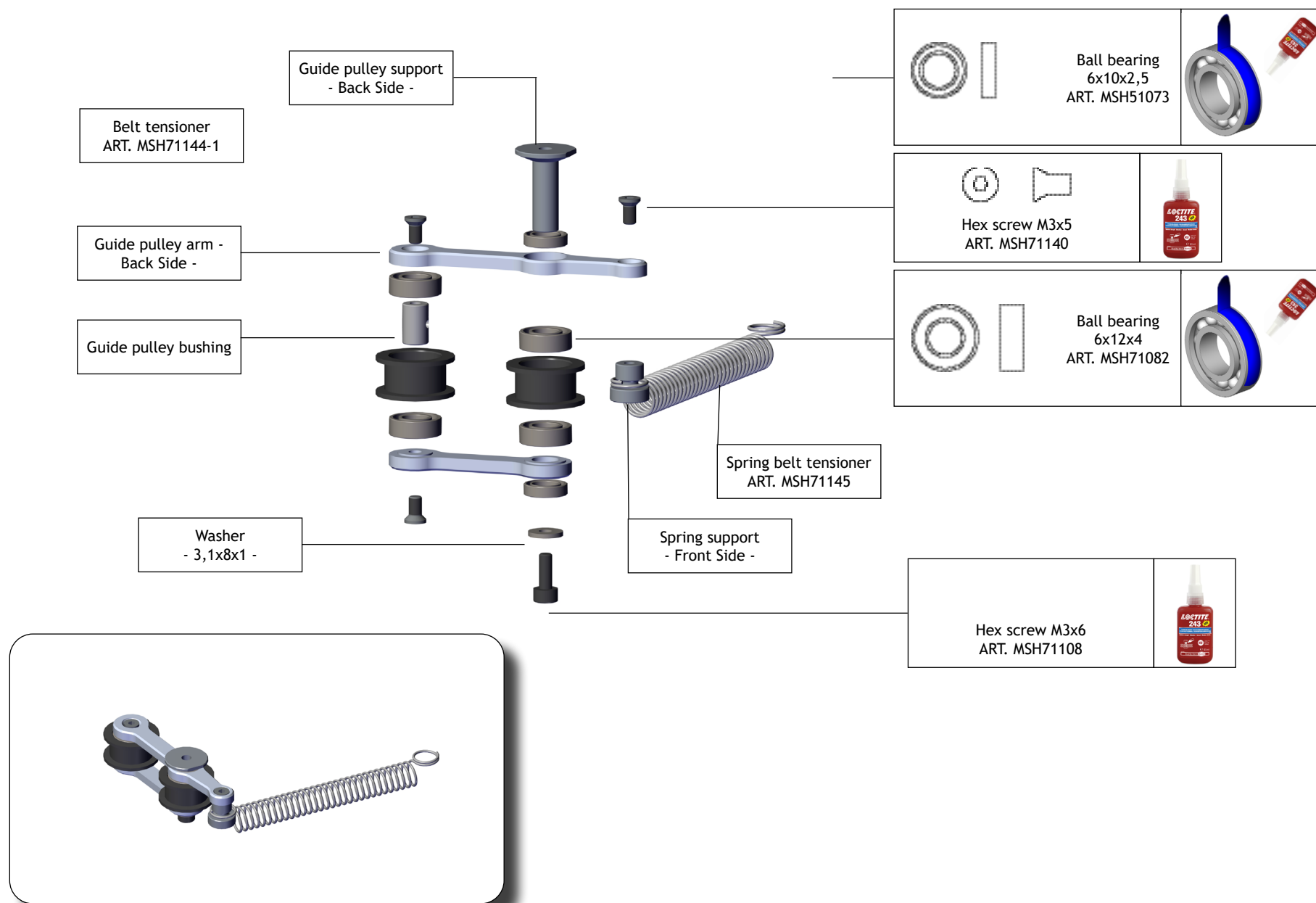


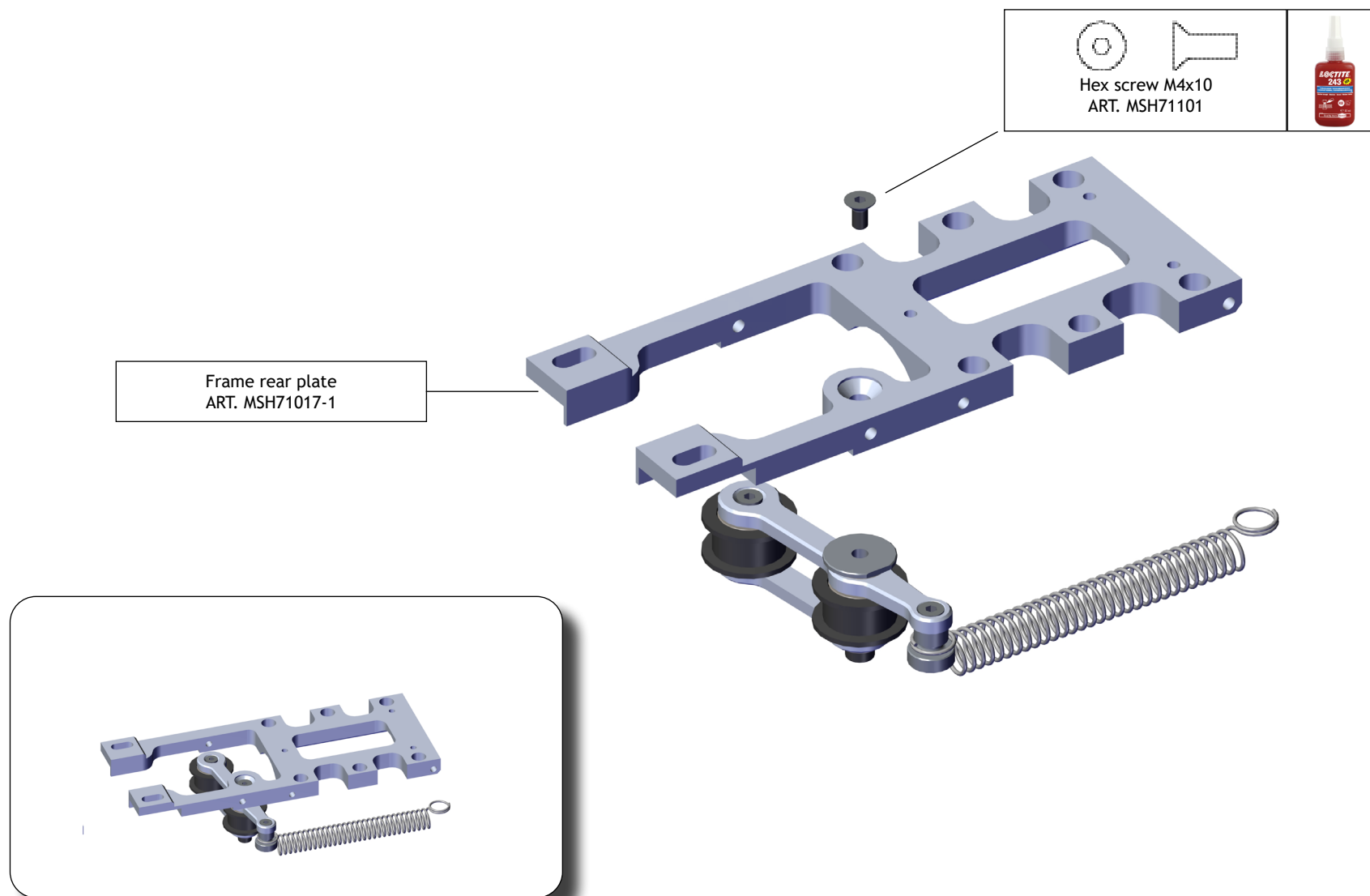


# Bag 3

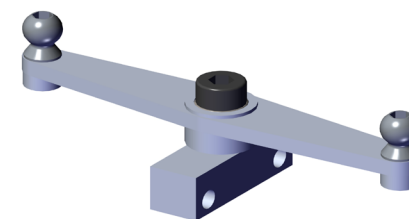
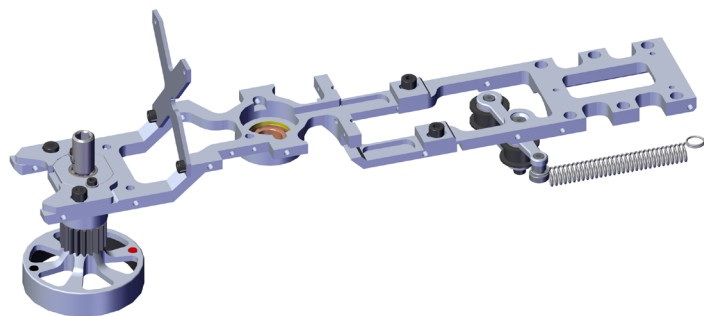
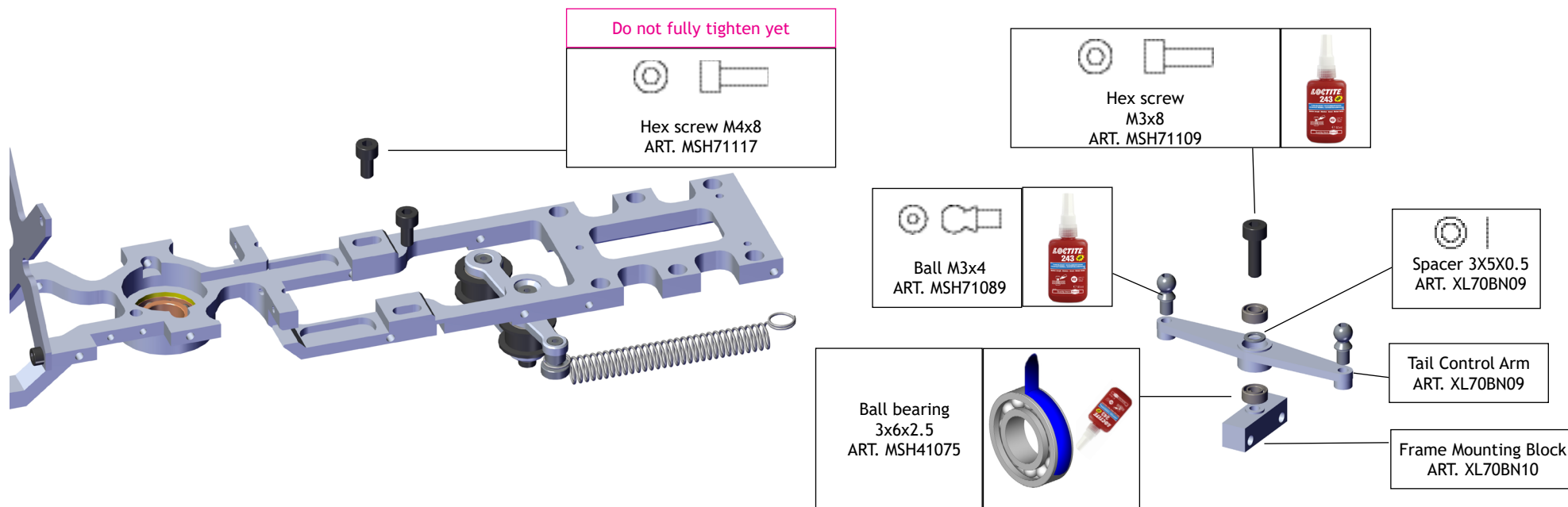


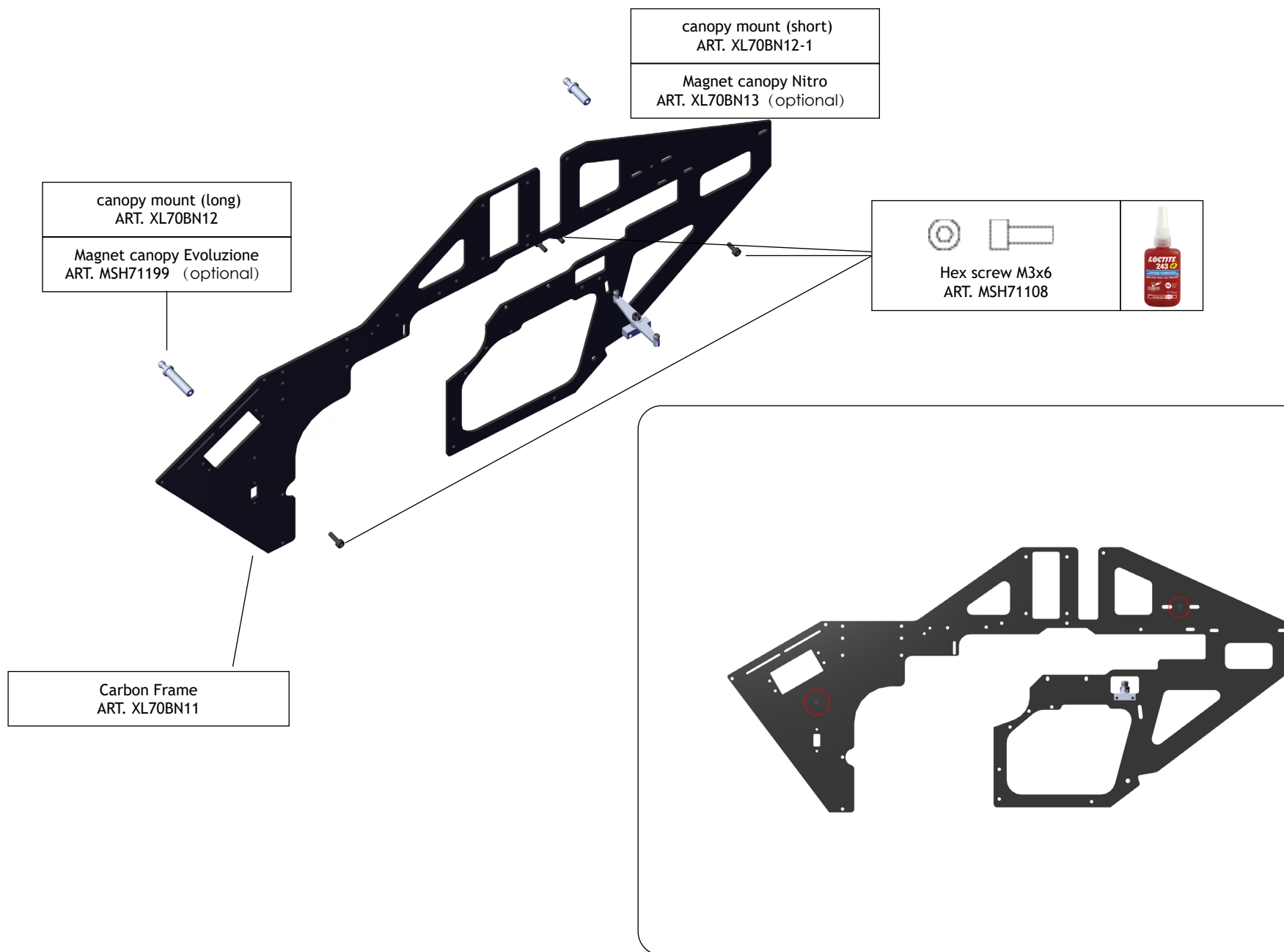












canopy mount (short)  
ART. XL70BN12-1

Magnet canopy Nitro  
ART. XL70BN13 (optional)

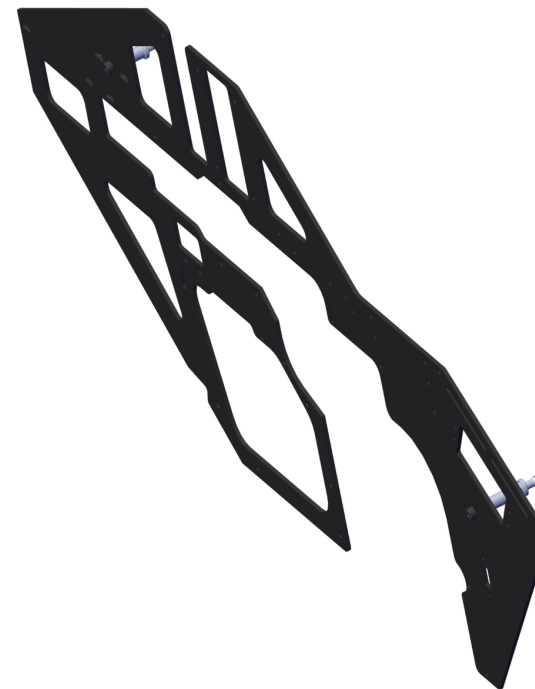
canopy mount (long)  
ART. XL70BN12

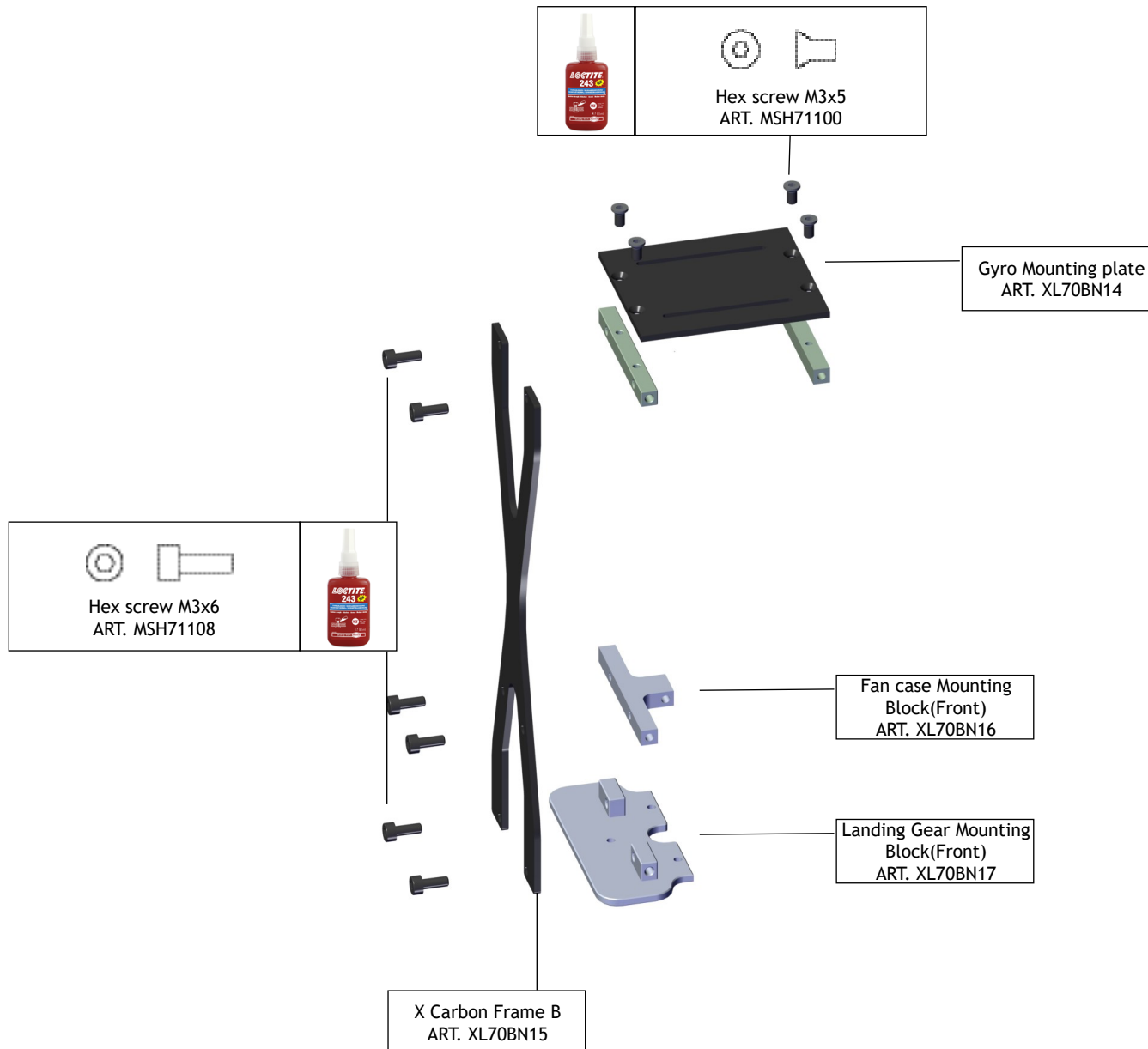
Magnet canopy Evoluzione  
ART. MSH71199 (optional)

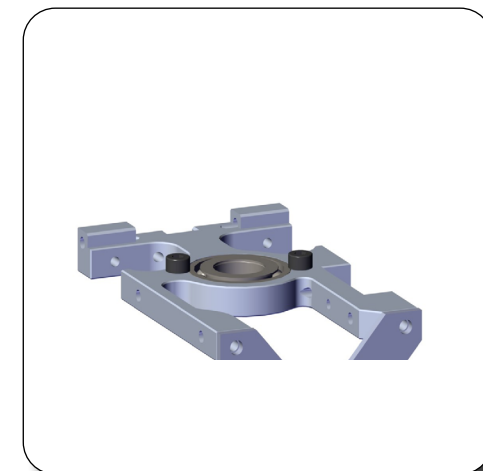
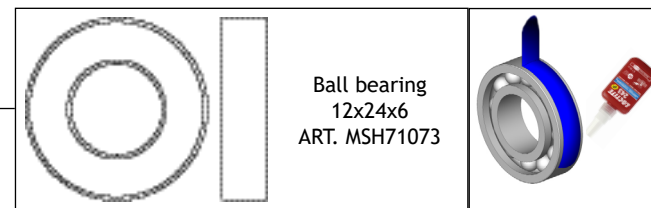
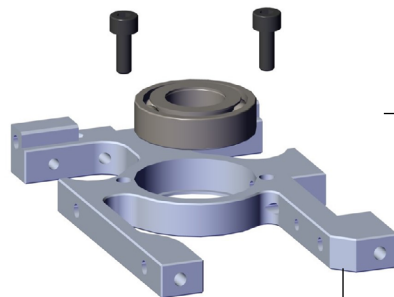
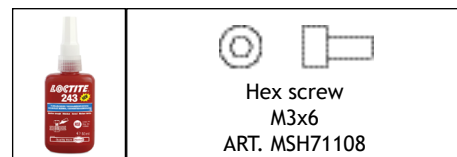
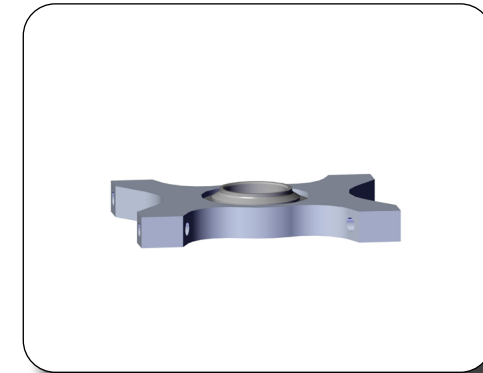
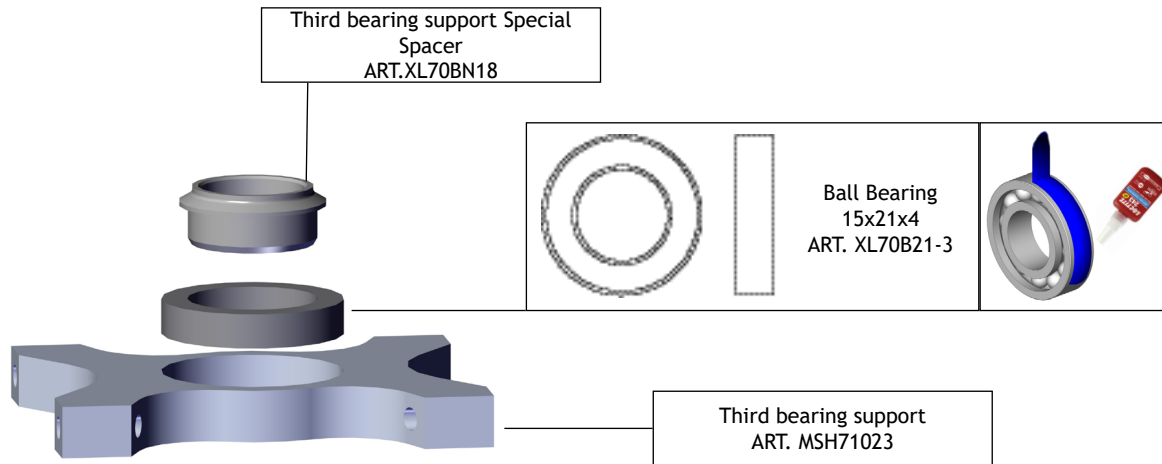
Hex screw M3x6  
ART. MSH71108

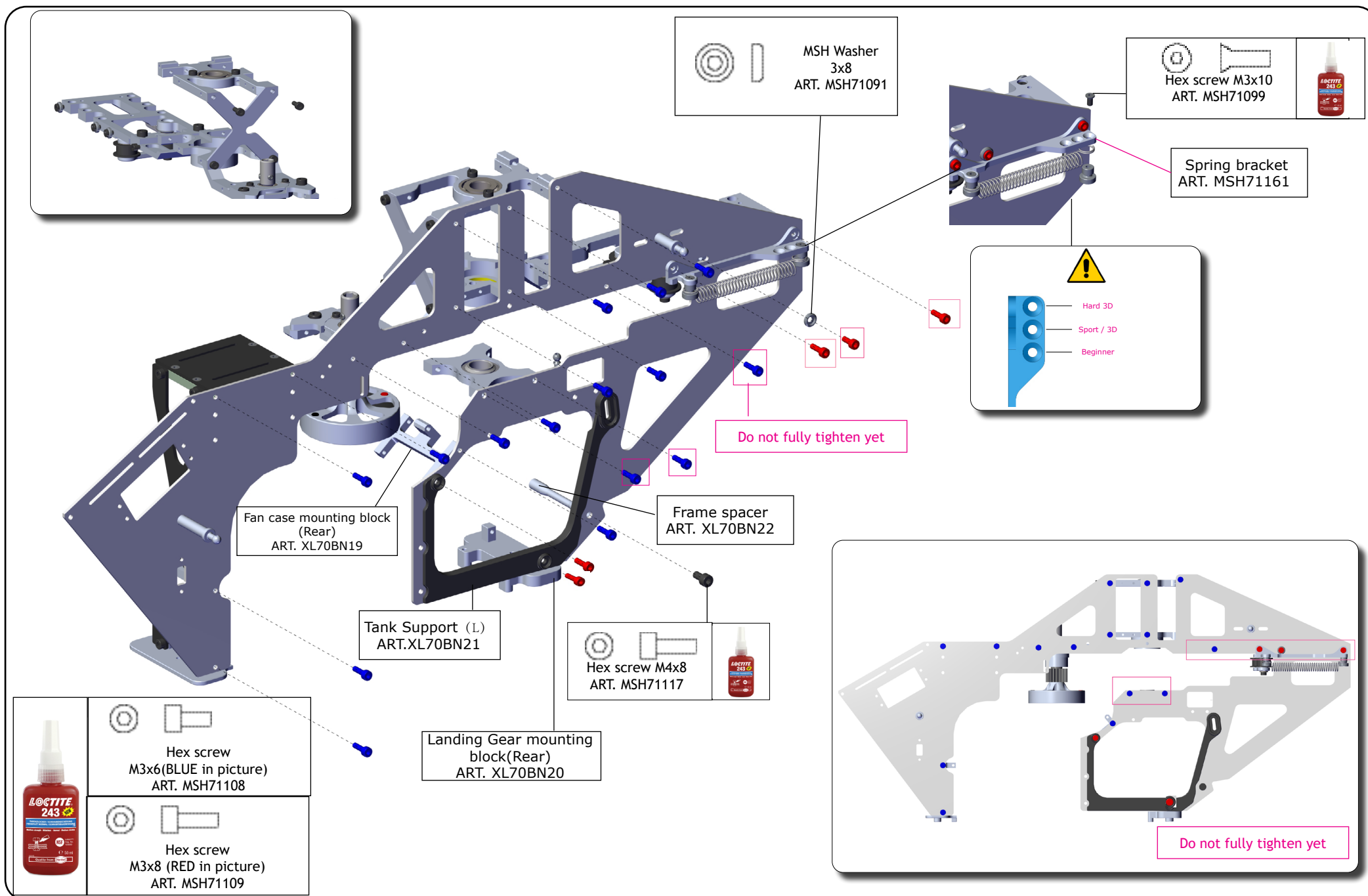


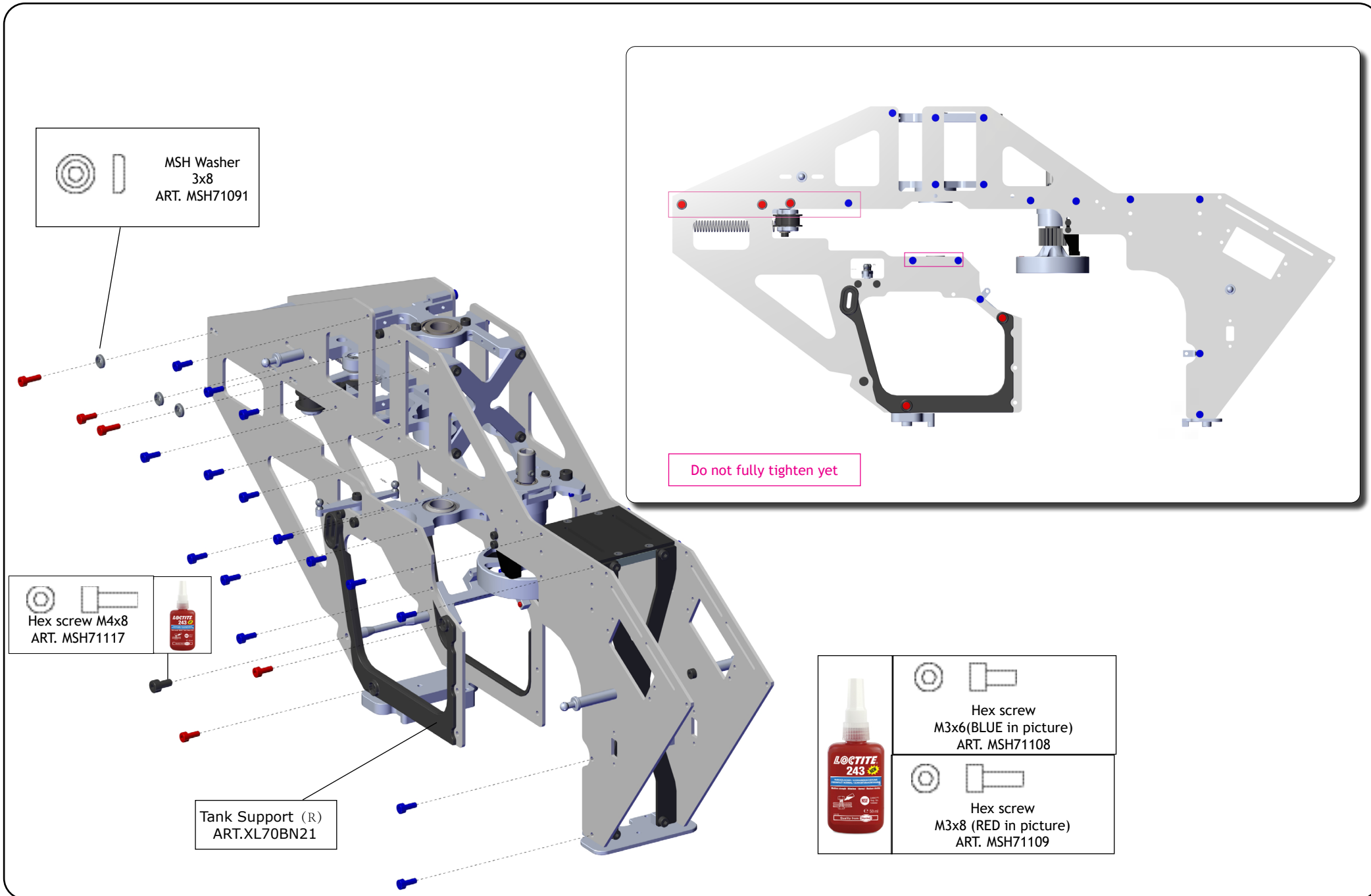
Carbon Frame  
ART. XL70BN11

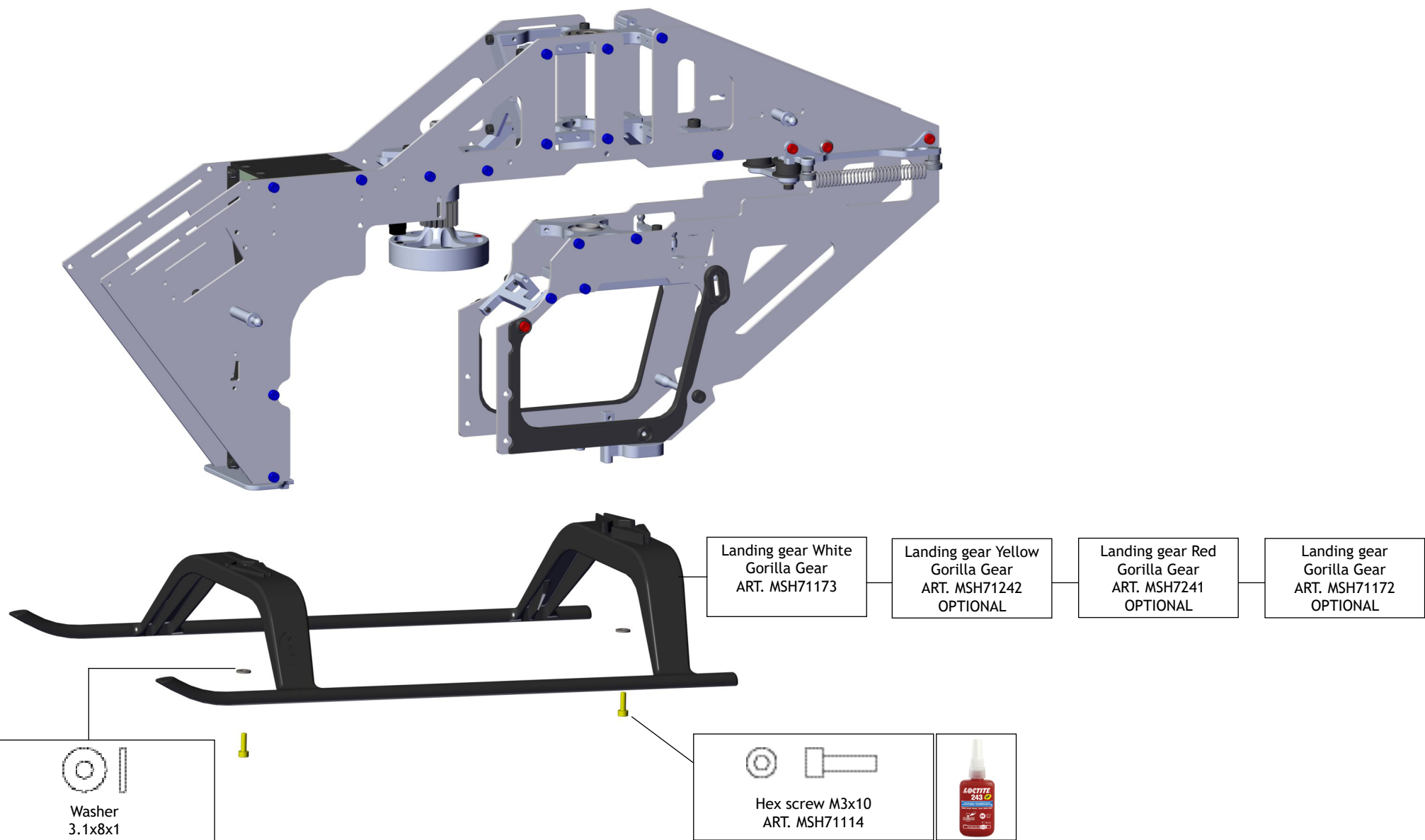




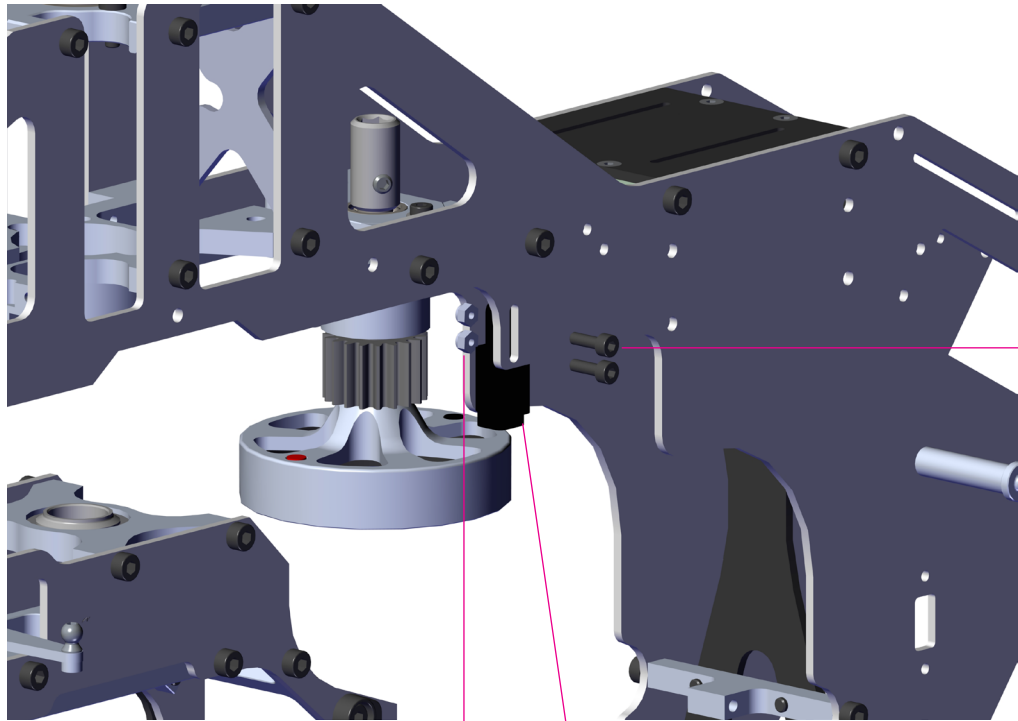












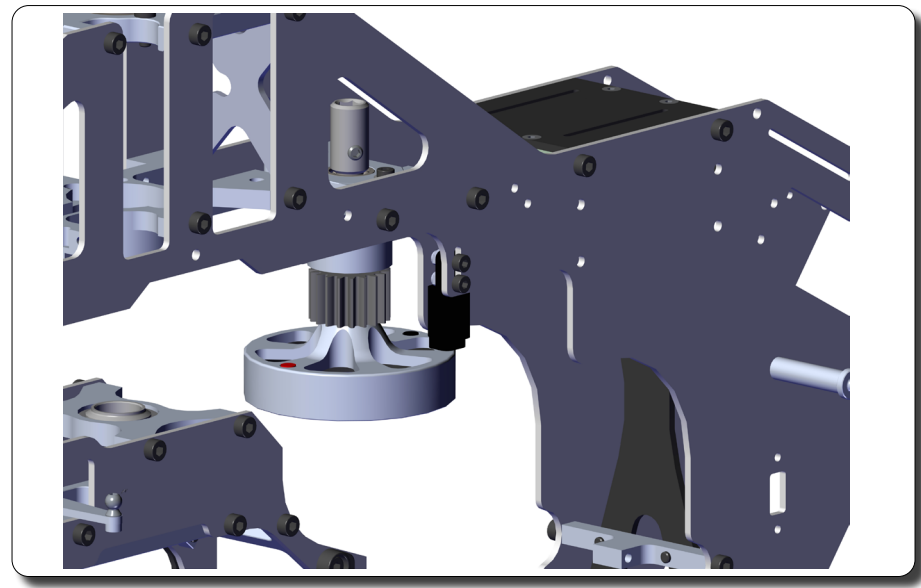
Hex screw M2.5x10  
ART. MSH51143

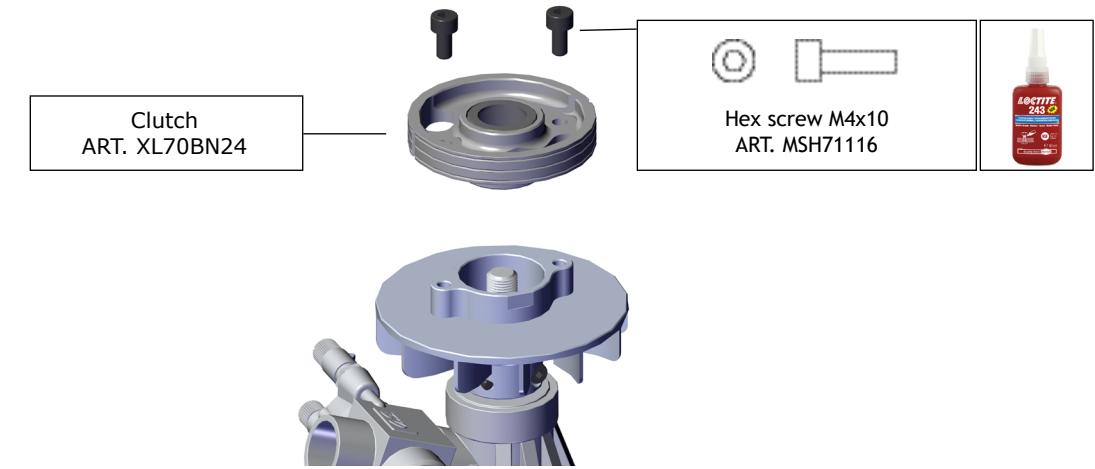
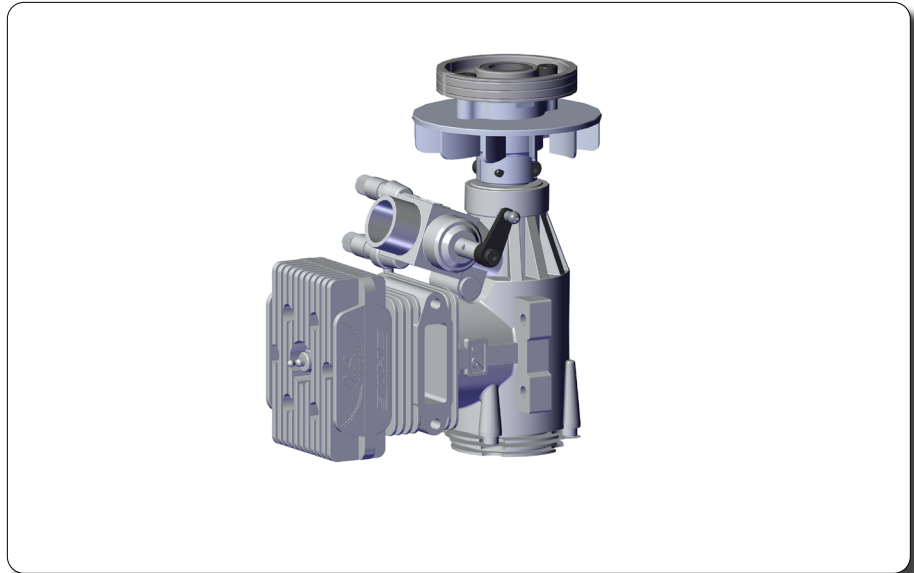
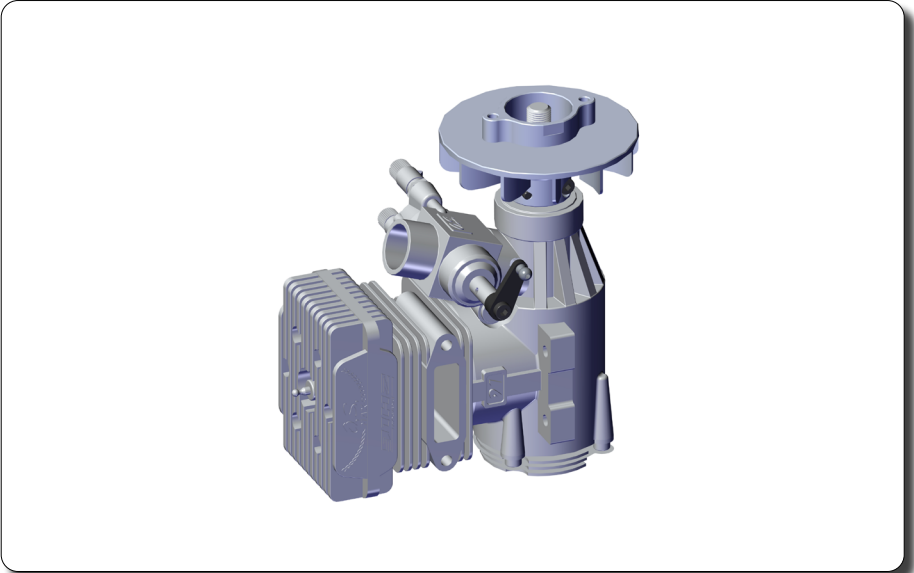
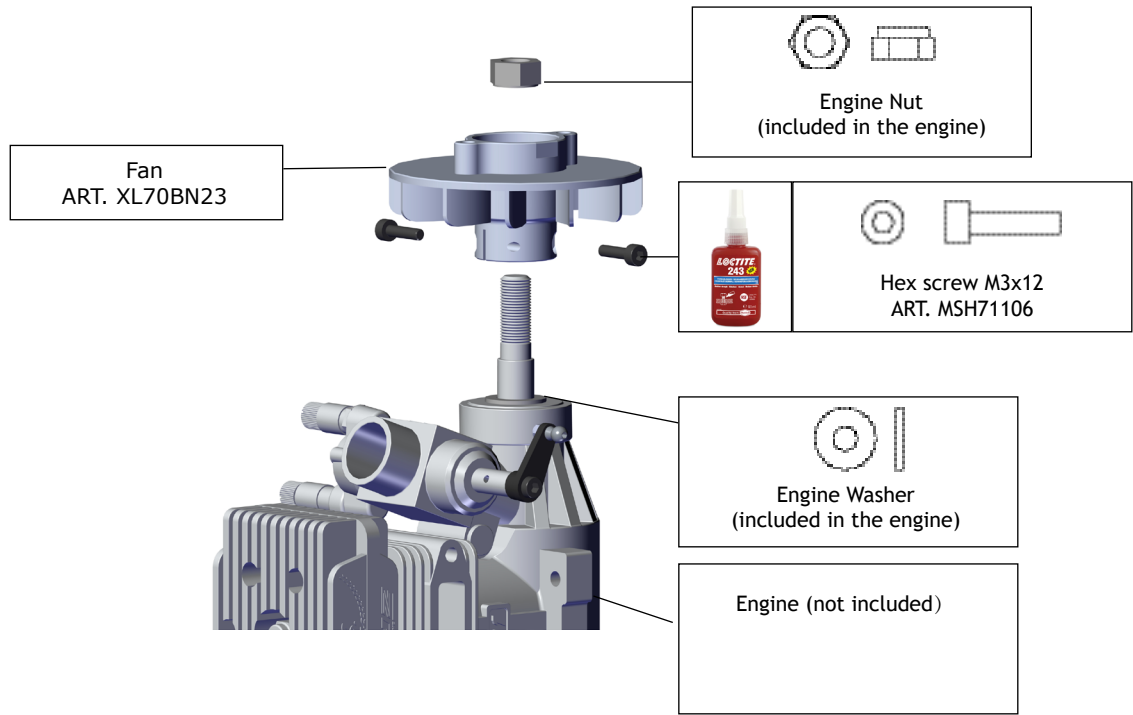


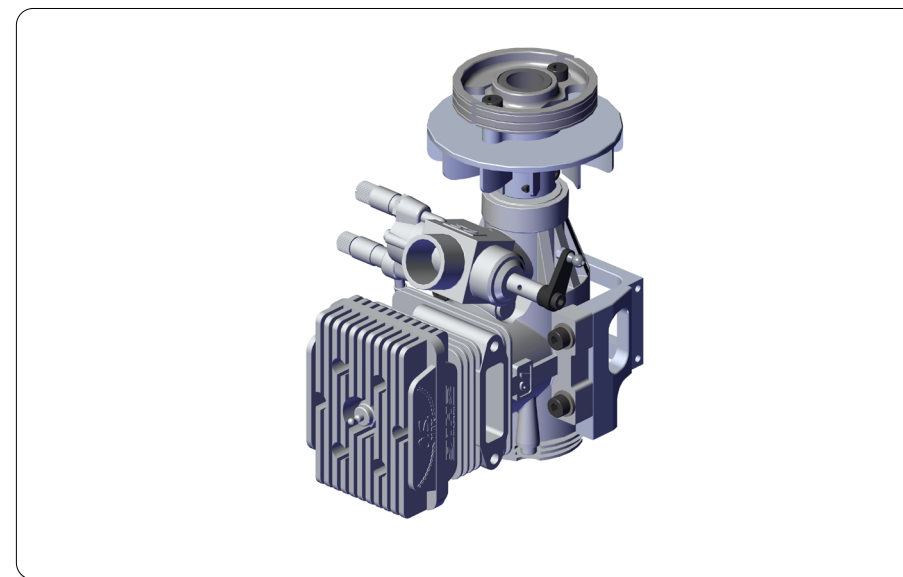
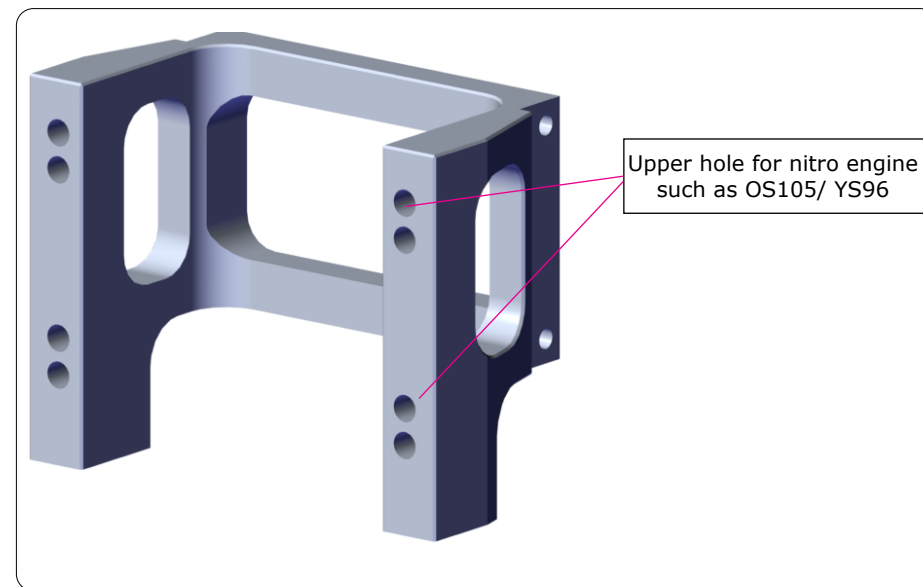
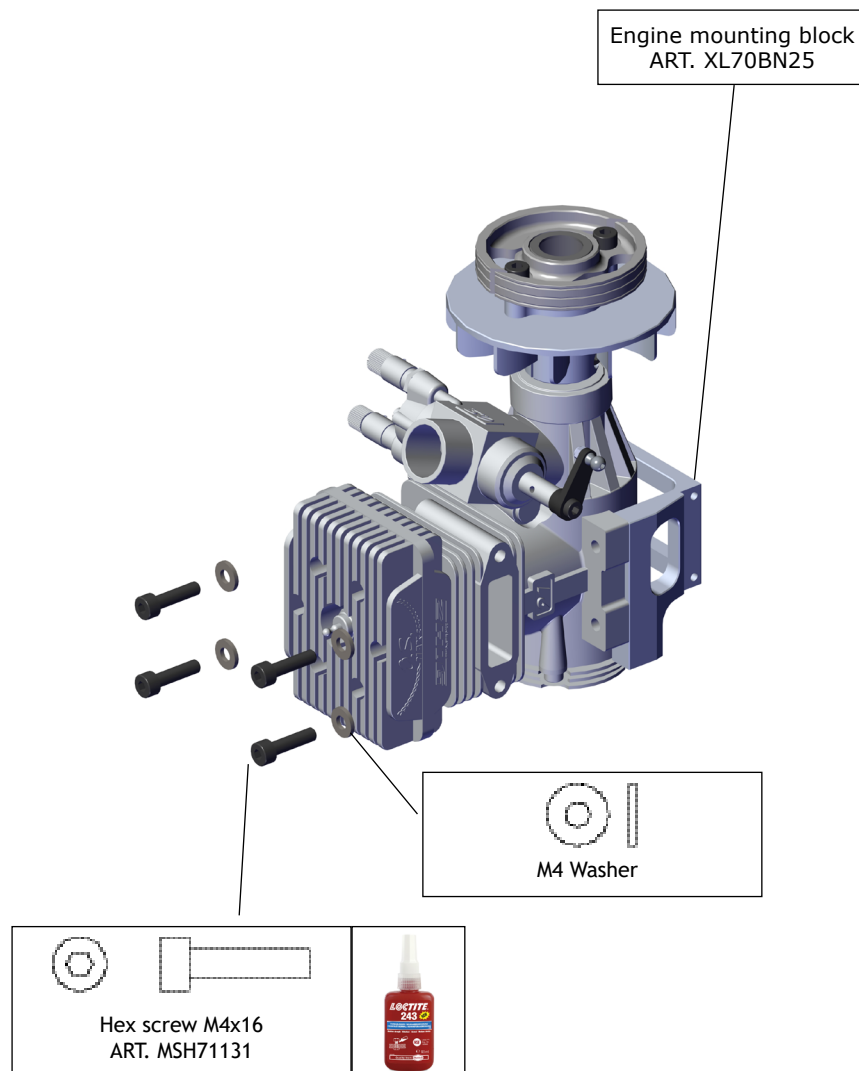
M2.5Nut  
ART. MSH51137

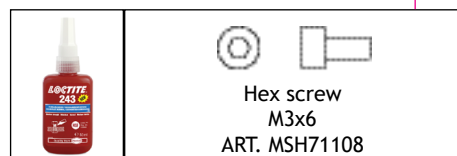
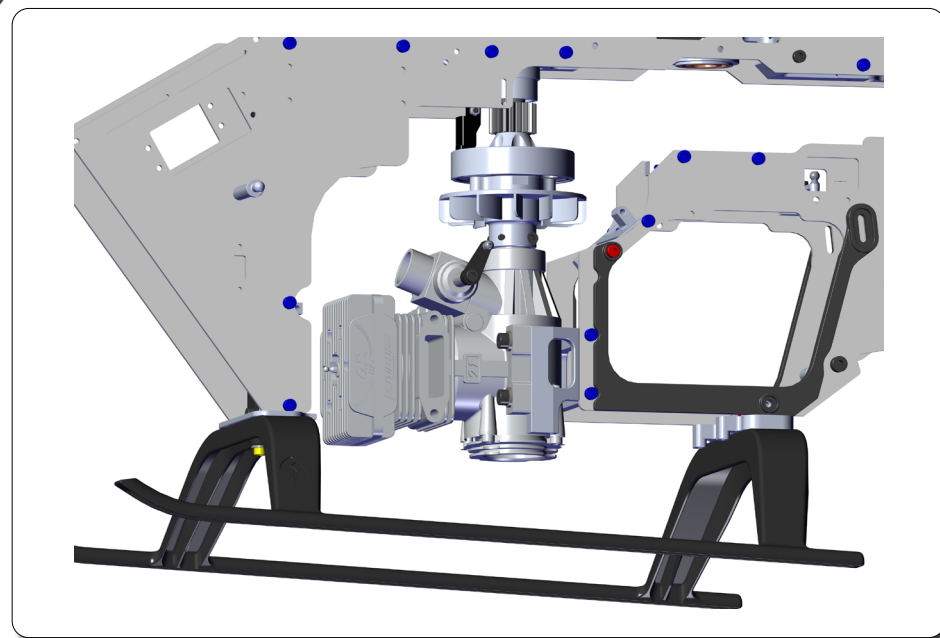
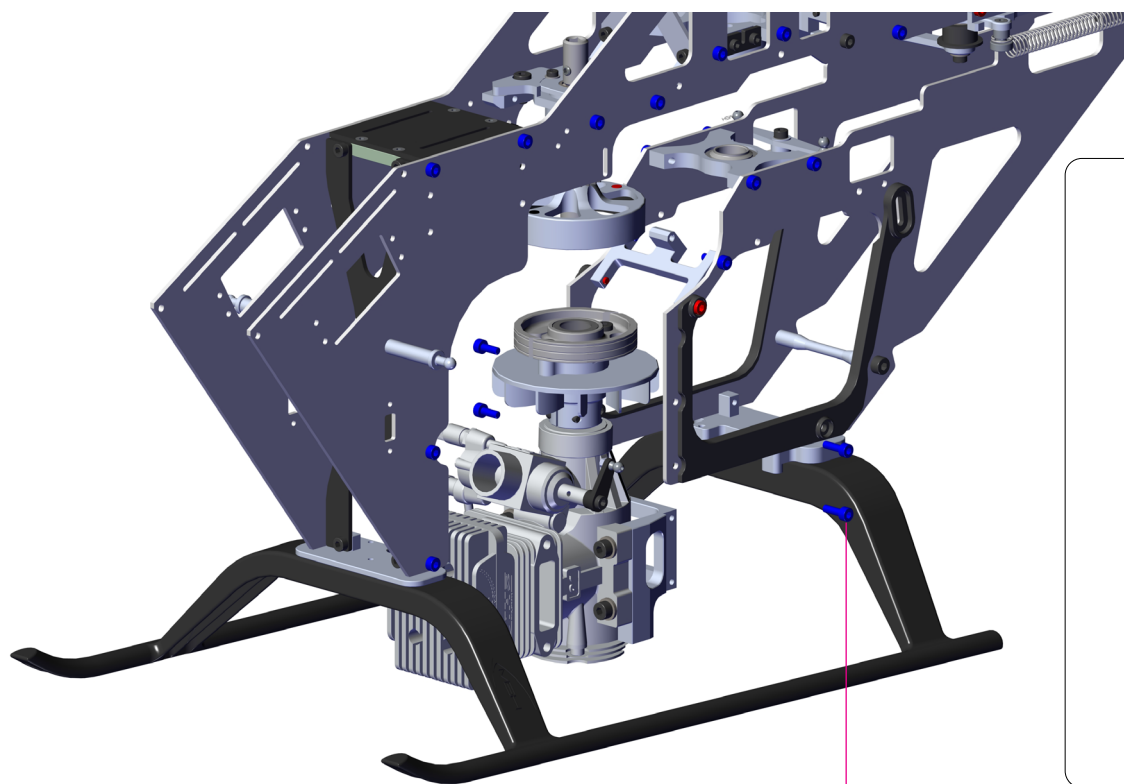


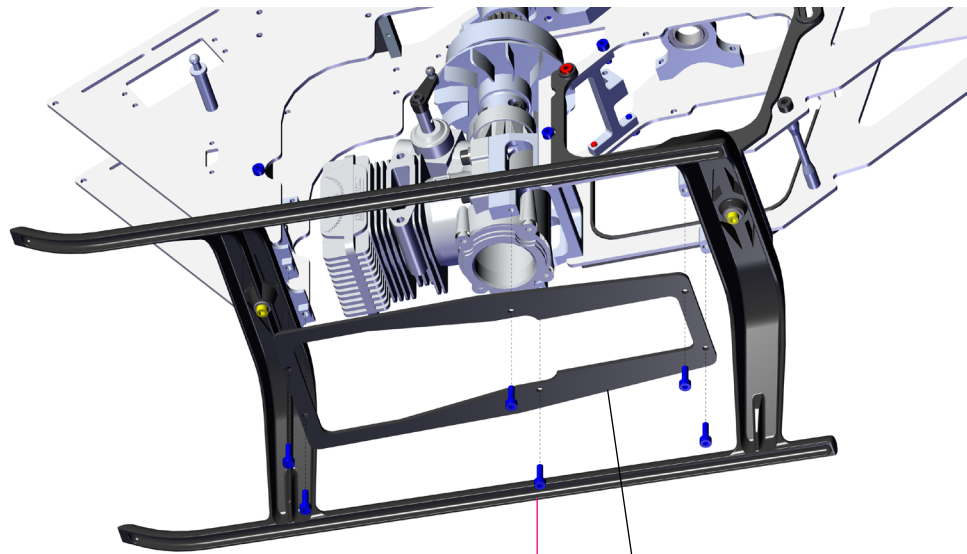
RPM Sensor(not included)  
pay attention to the gap between  
sensor and magnet







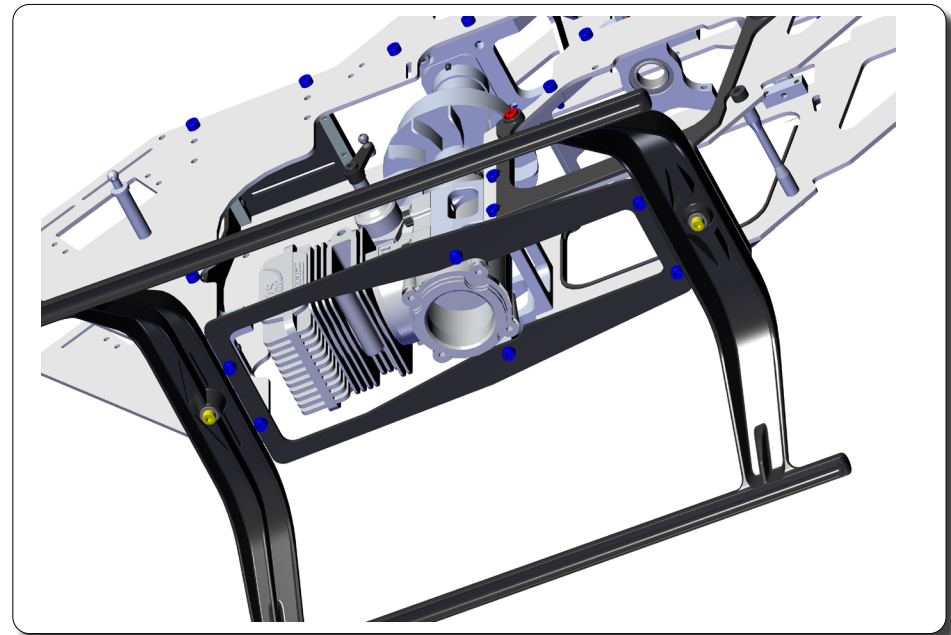


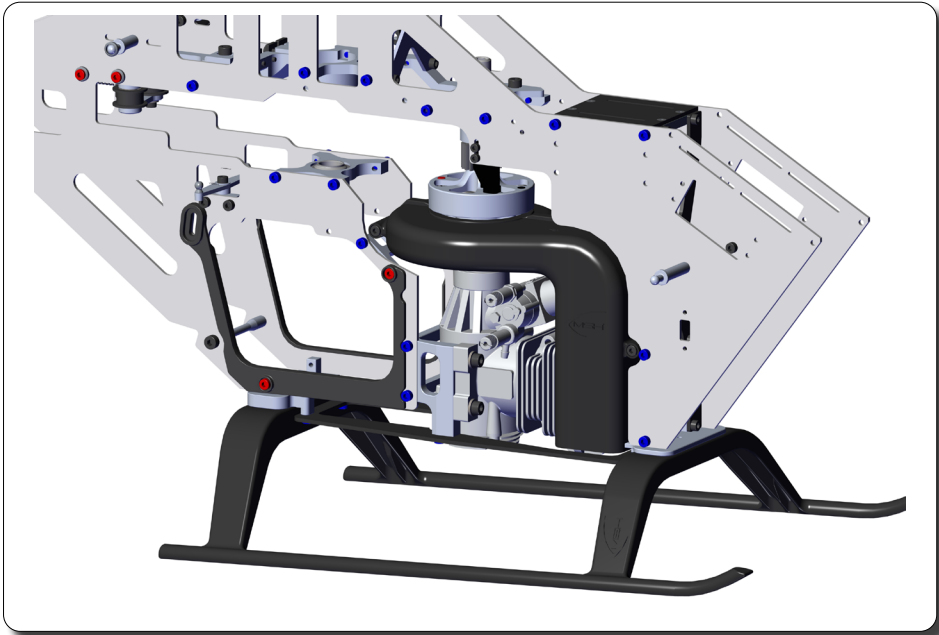
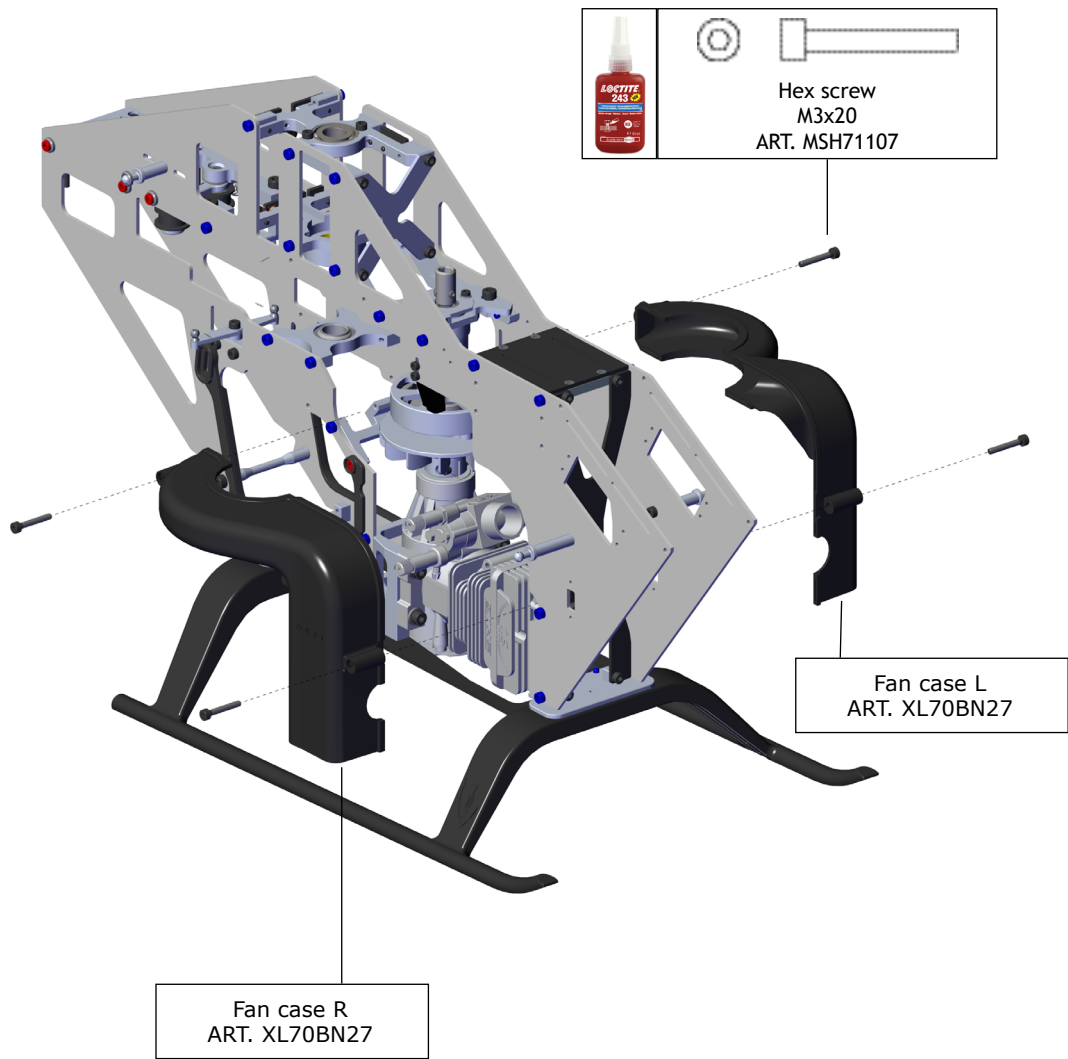


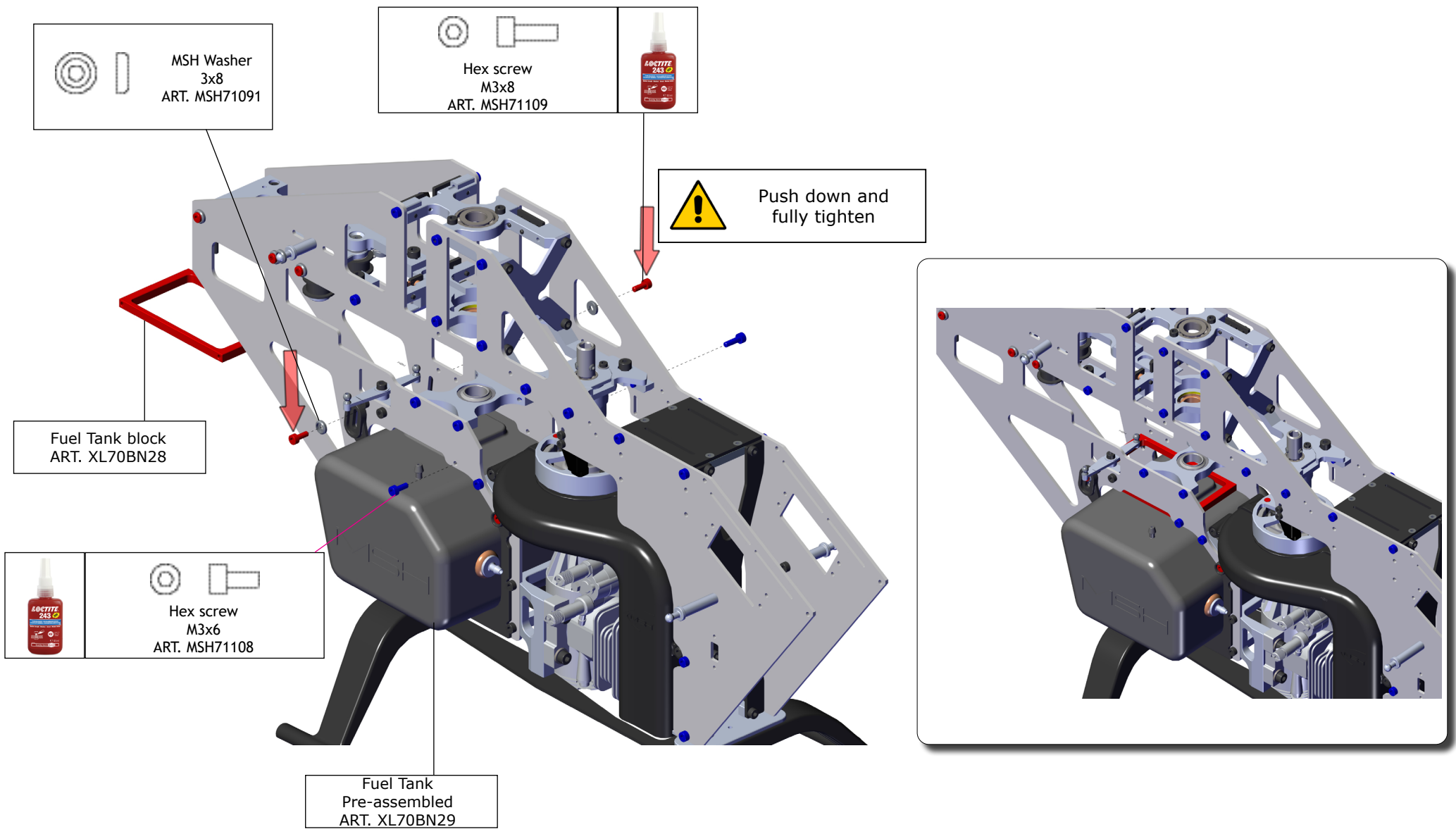
Carbon Bottom plate  
ART. XL70BN26



Hex screw  
M3x6  
ART. MSH71108





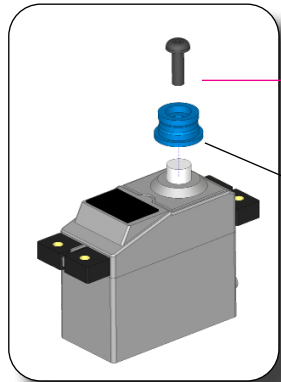




Servo horn adapter

**Futaba.**  
ART. MSH71050

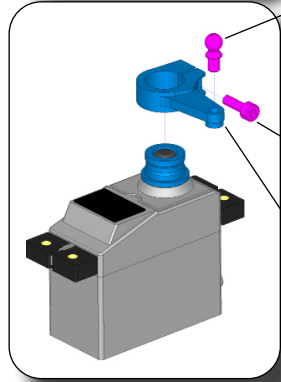
**JR**  
ART. MSH71051  
OPTIONAL



Apply loctite if servo has metal gears



Servo horn adapter

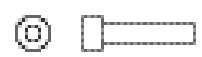
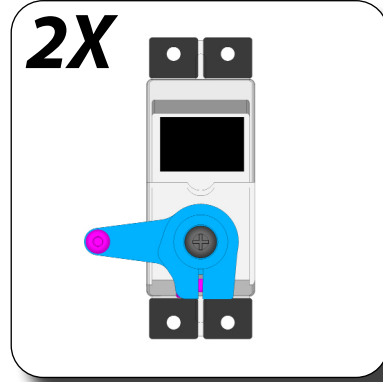
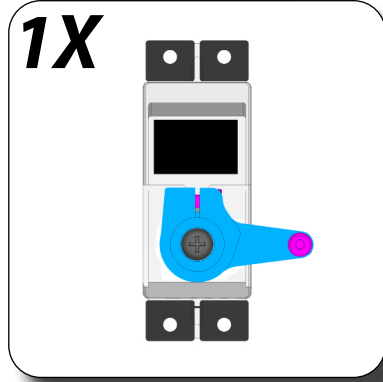


Ball M3x4  
ART. MSH71089



Hex screw  
M2,5x8  
ART. MSH71111

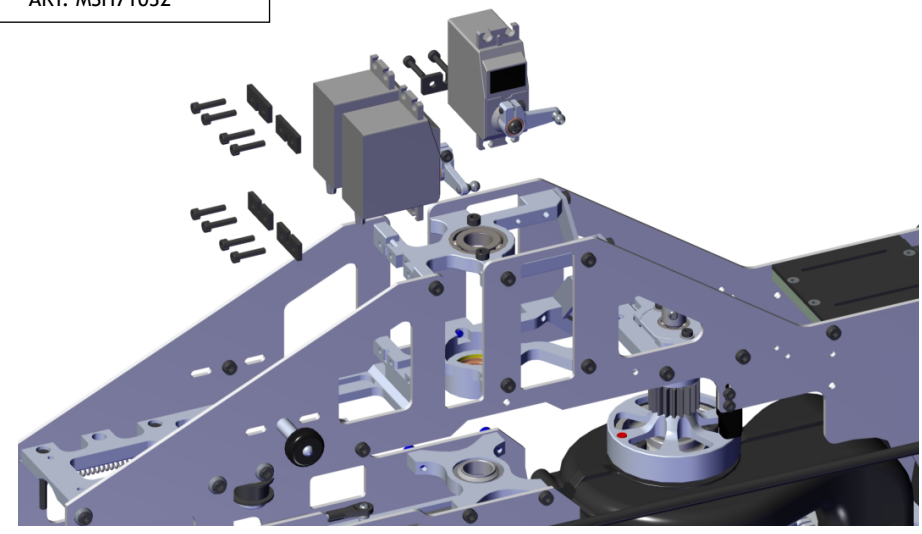
Servo horn 19mm  
MSH71052



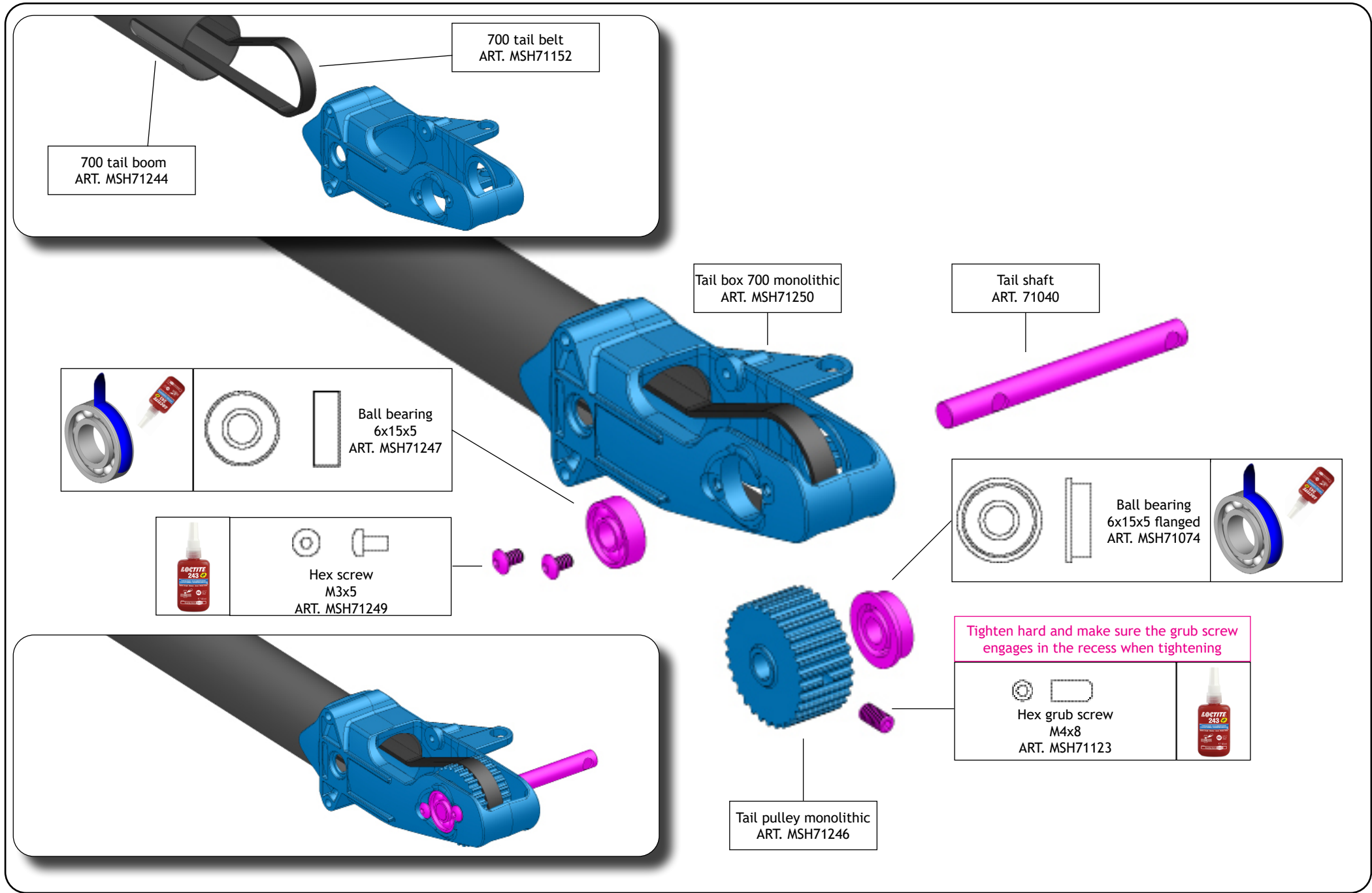
Hex screw  
M2,5x10  
ART. MSH71103

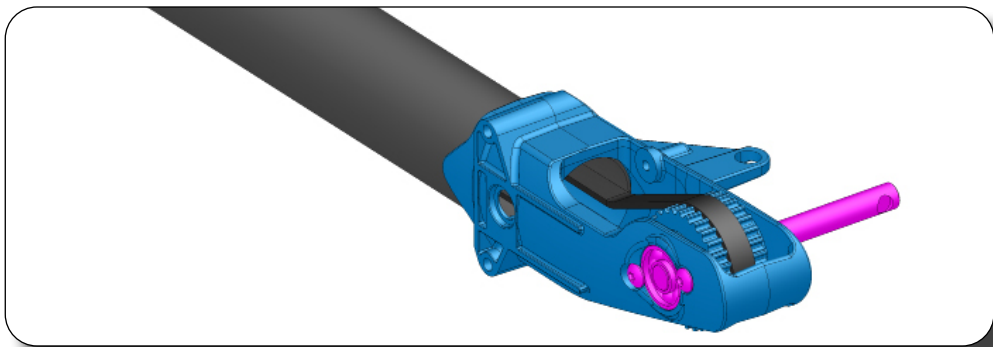
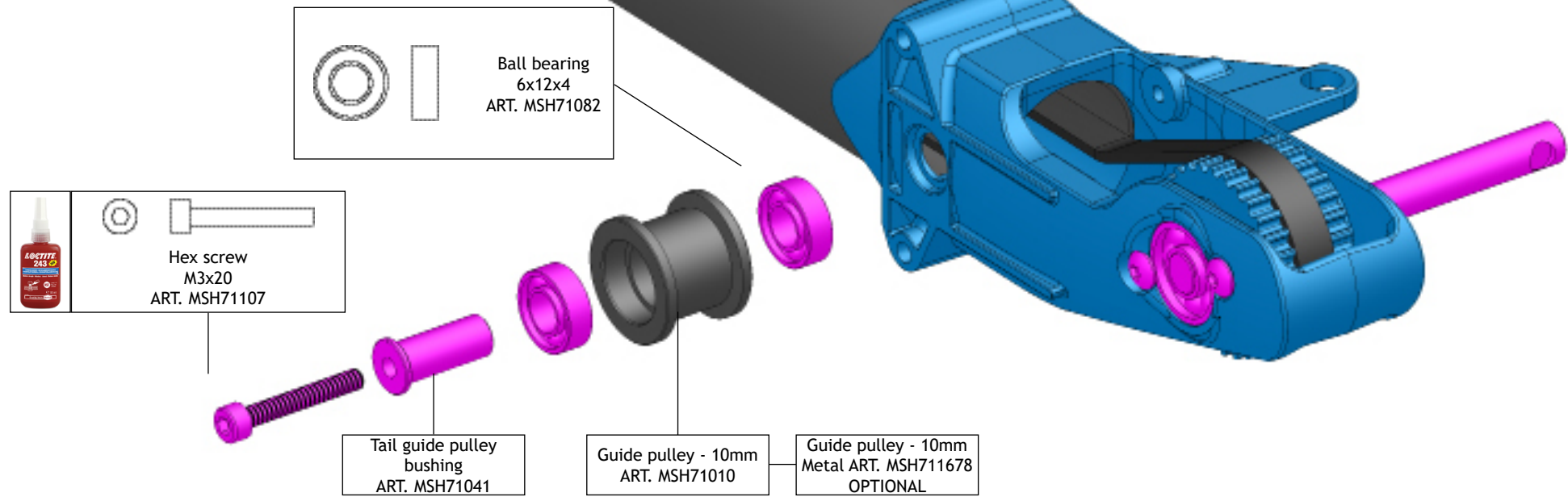


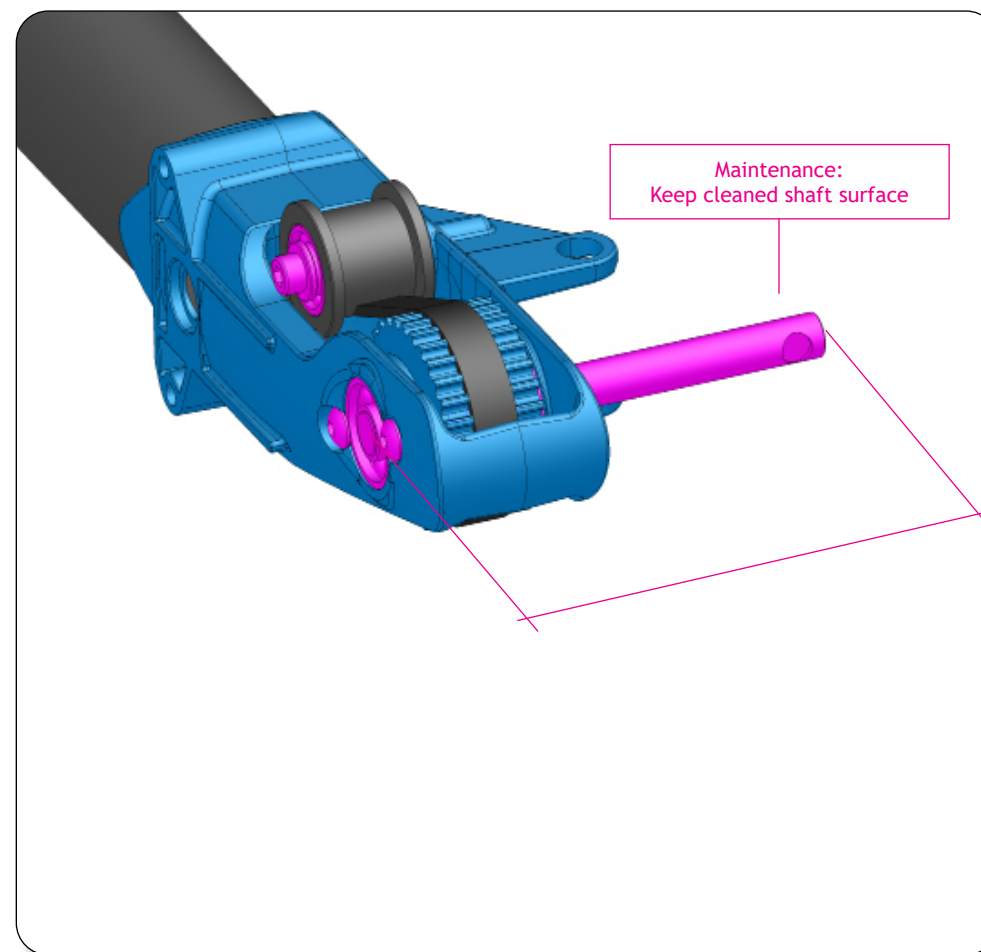
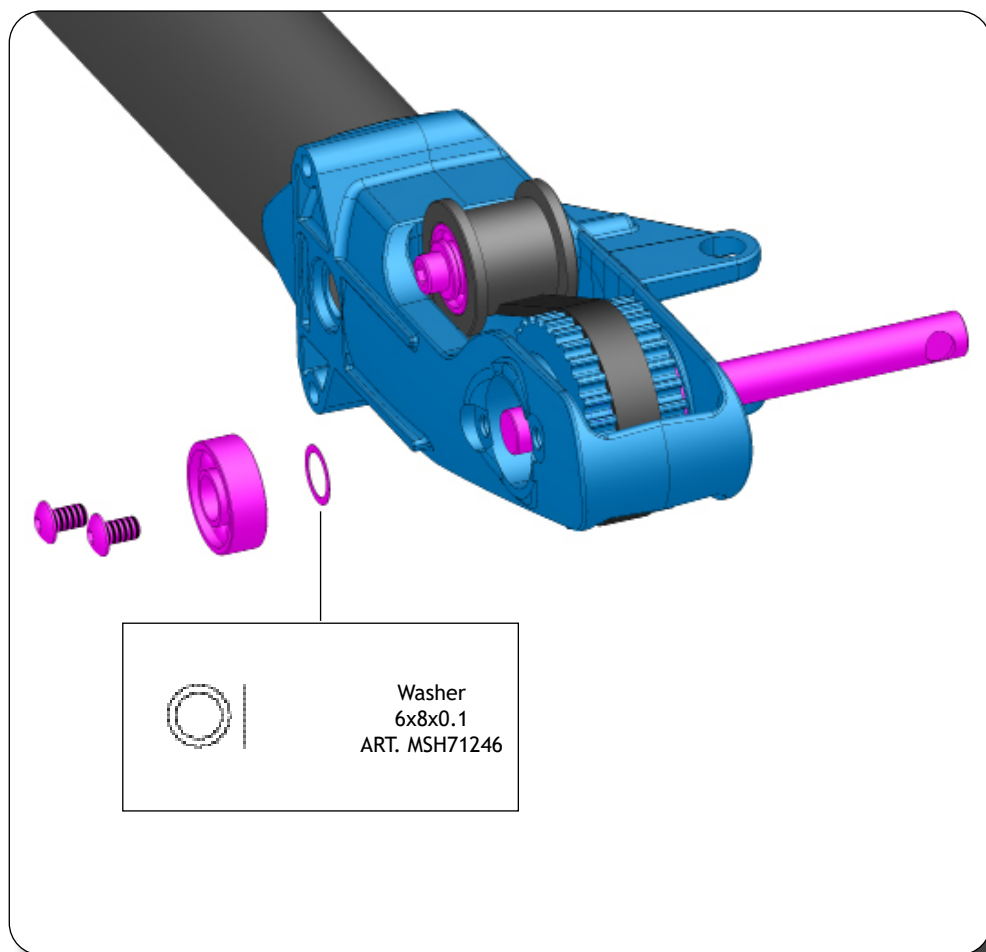
Carbon servo washer  
ART. MSH71032

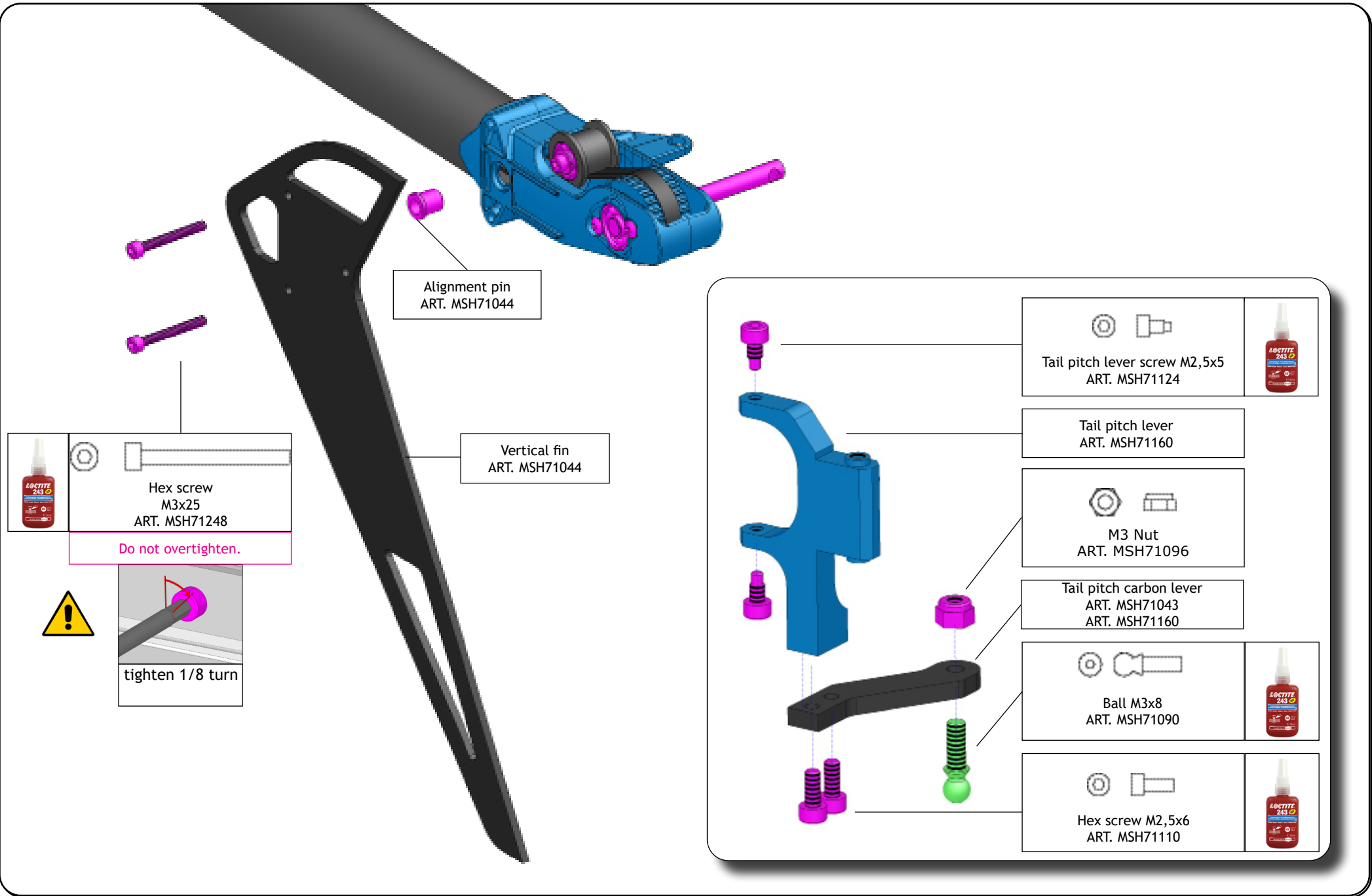




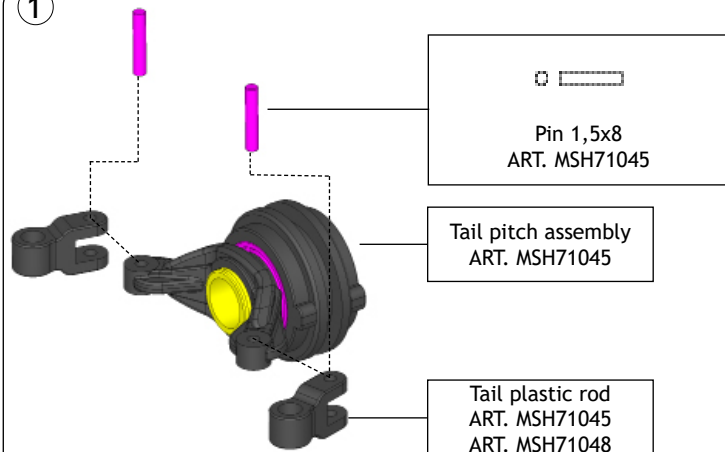




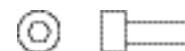




1



2



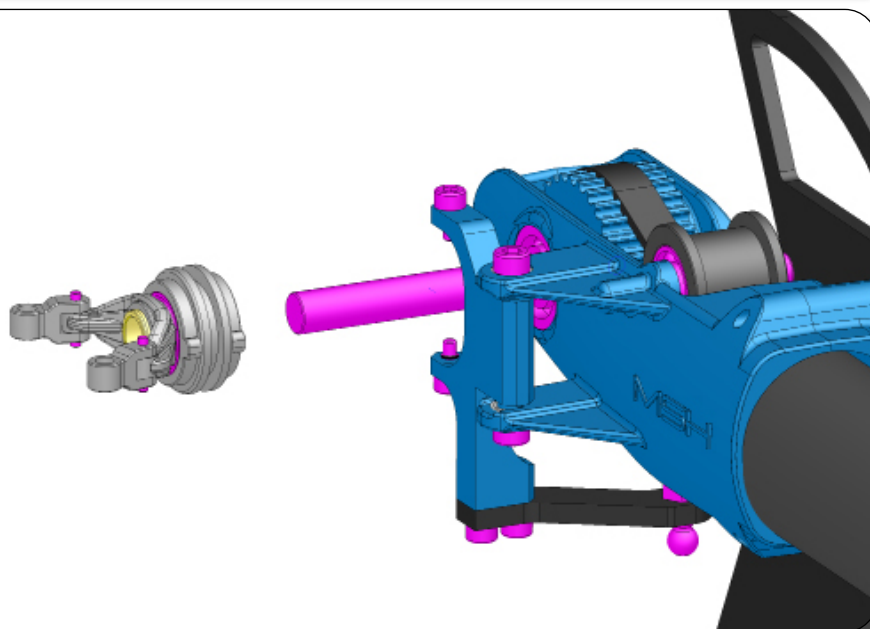
Hex screw M3x6  
ART. MSH71108

Do not fully tighten yet

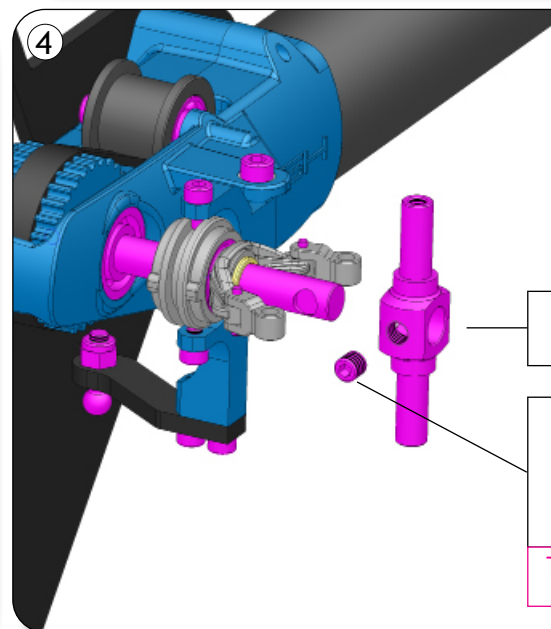


Ball bearing  
3x6x2,5  
ART. MSH71079

3



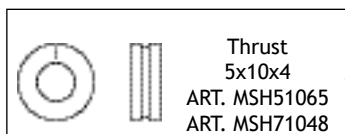
4



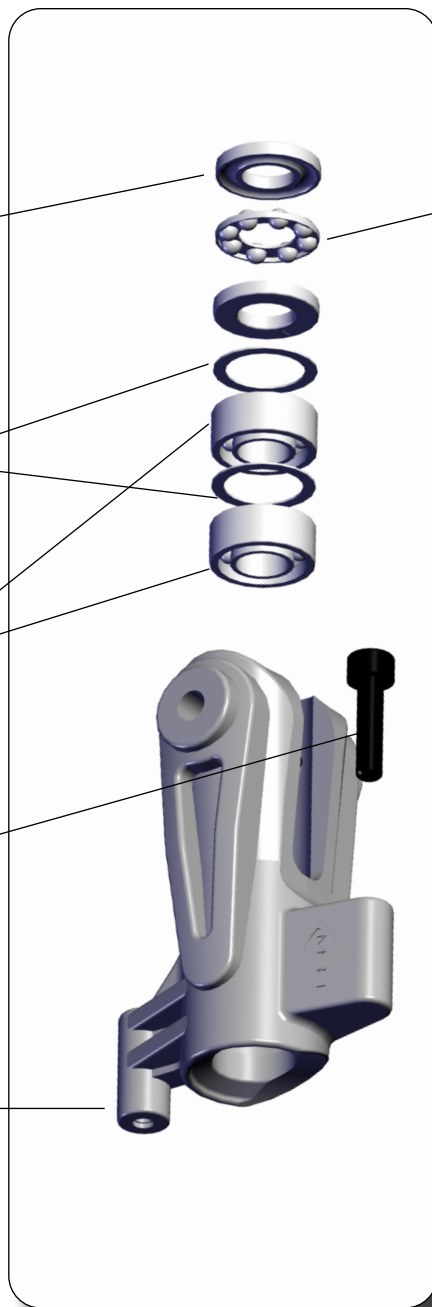
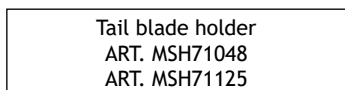
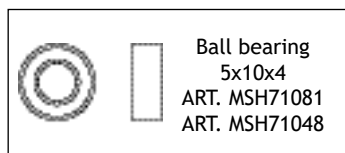
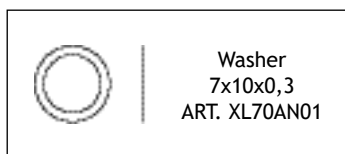
Tail spindle  
ART. MSH71046

Hex grub screw  
M4x4  
ART. MSH71122

Tighten hard and make sure the grub screw  
engages in the recess when tightening

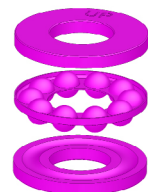


Thrust bearing inner hole smaller  
outside and bigger hole inside



Apply grease on thrust  
bearing

Internal hole SMALLER

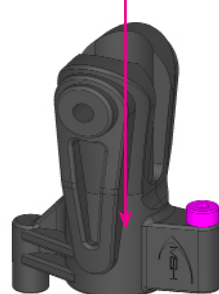


Internal hole BIGGER



**VERY IMPORTANT**  
Do not overtighten.

Push hard the bearing  
pack with a pin D=10mm  
(the main spindle for  
example)



Hex screw M3x6  
ART. MSH71108



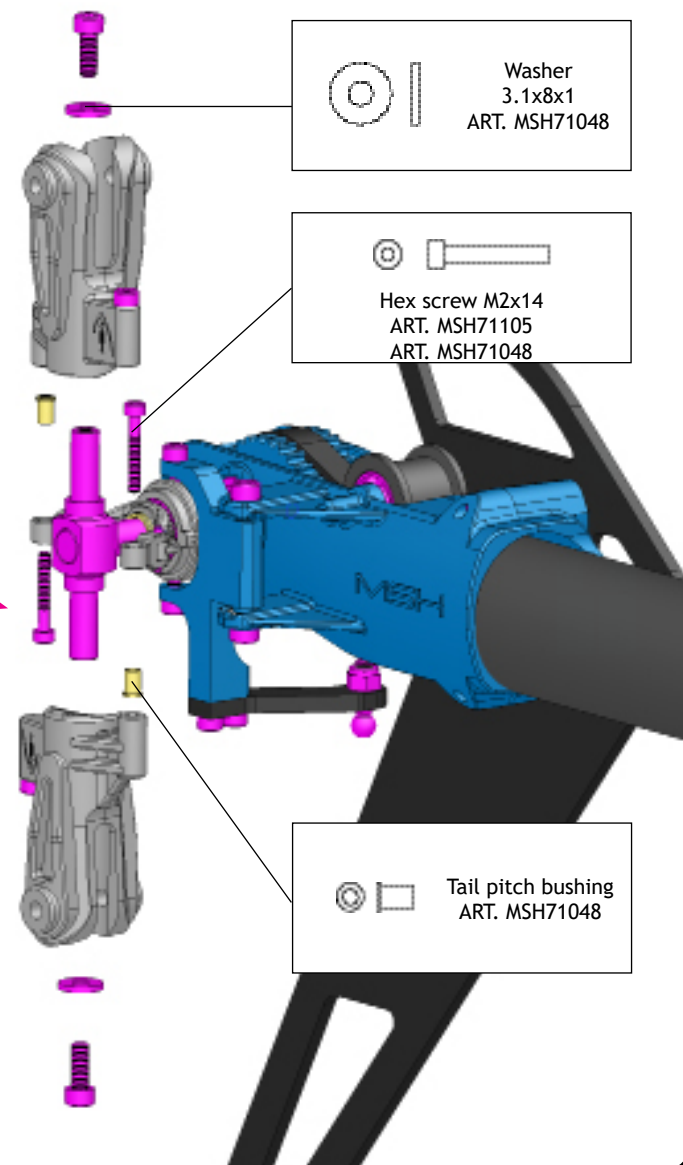
Washer  
3.1x8x1  
ART. MSH71048



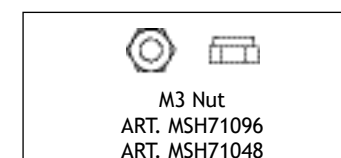
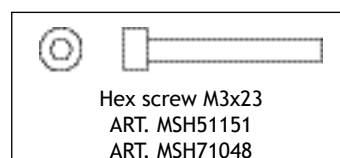
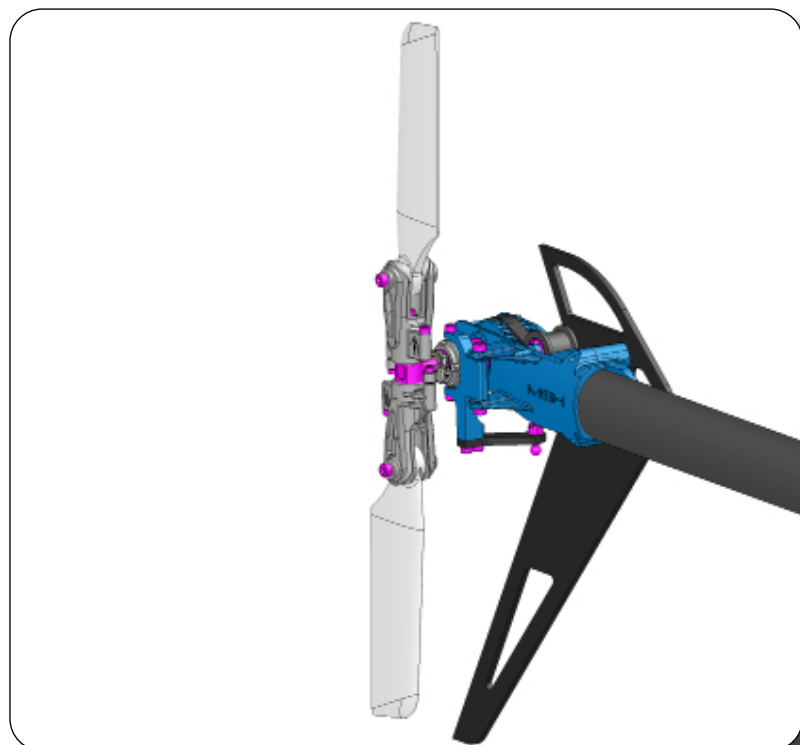
Hex screw M2x14  
ART. MSH71105  
ART. MSH71048



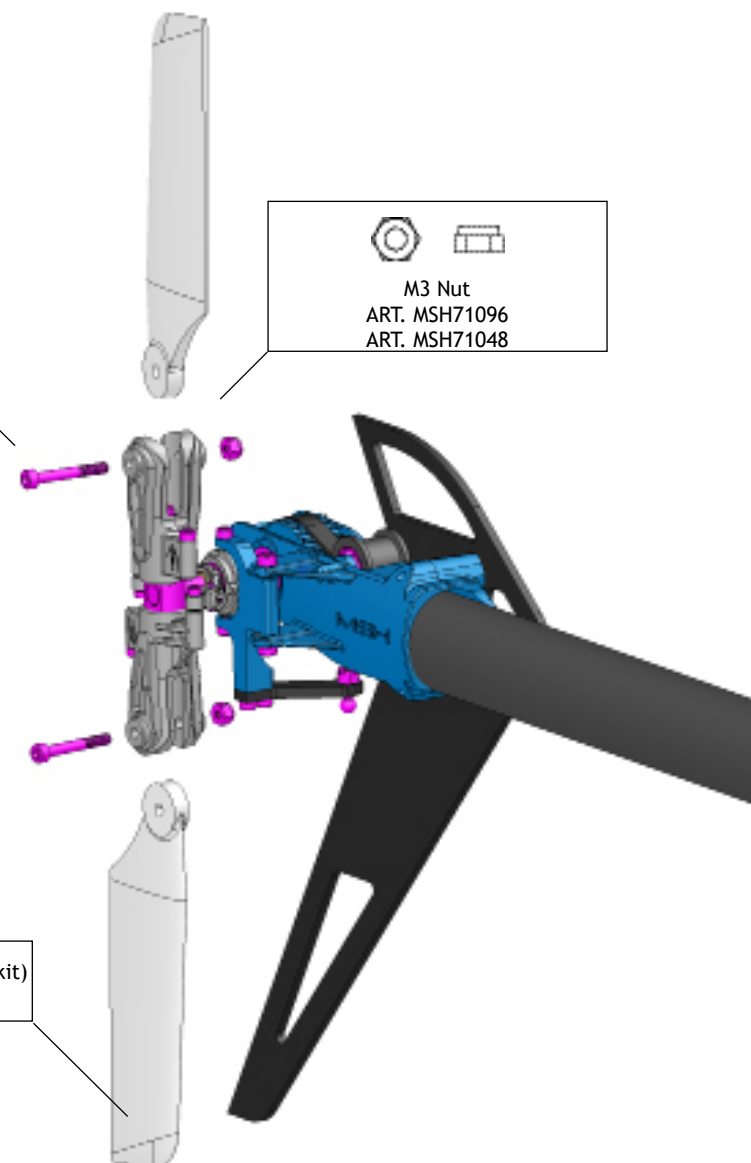
Tail pitch bushing  
ART. MSH71048

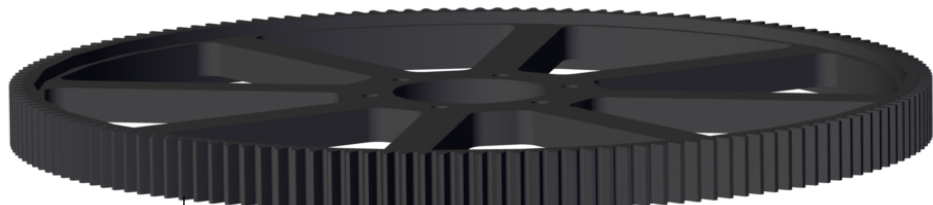
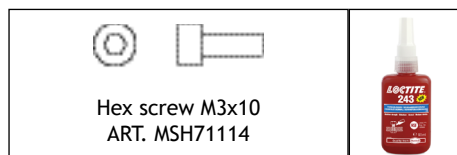




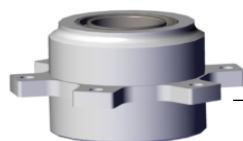


Tail blades(not included in the kit)  
ART. XL70T22





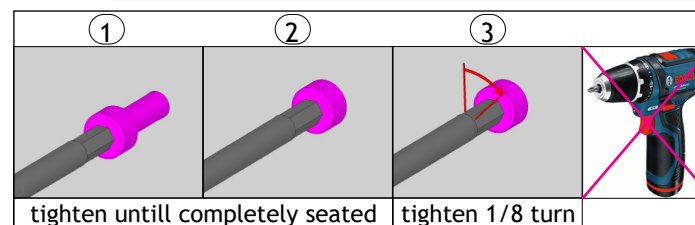
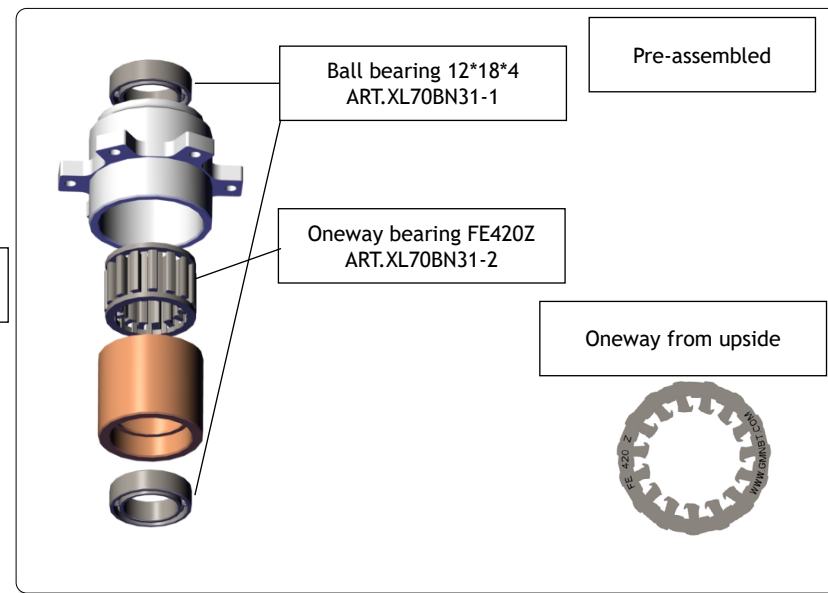
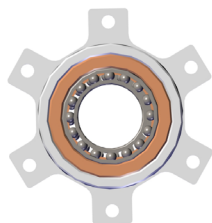
Main gear  
XL70BN30



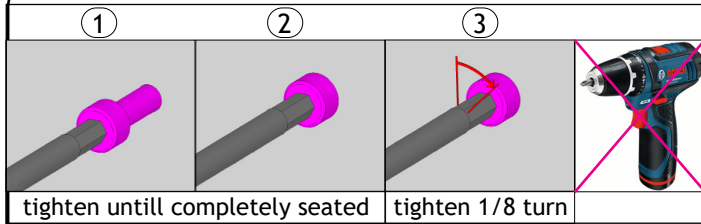
Oneway hub  
XL70BN31

Up side

Down side



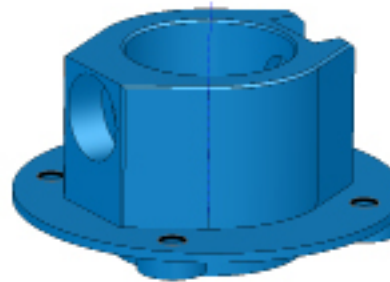
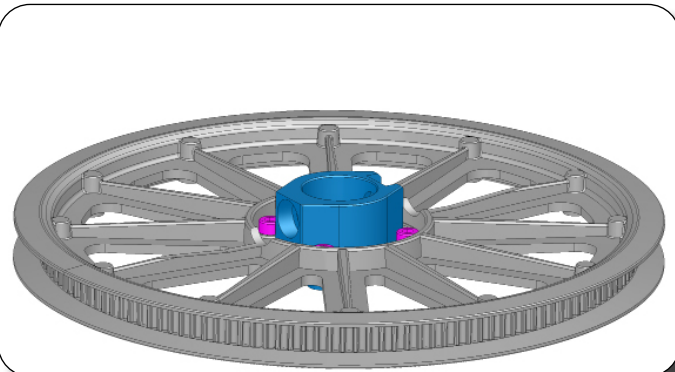
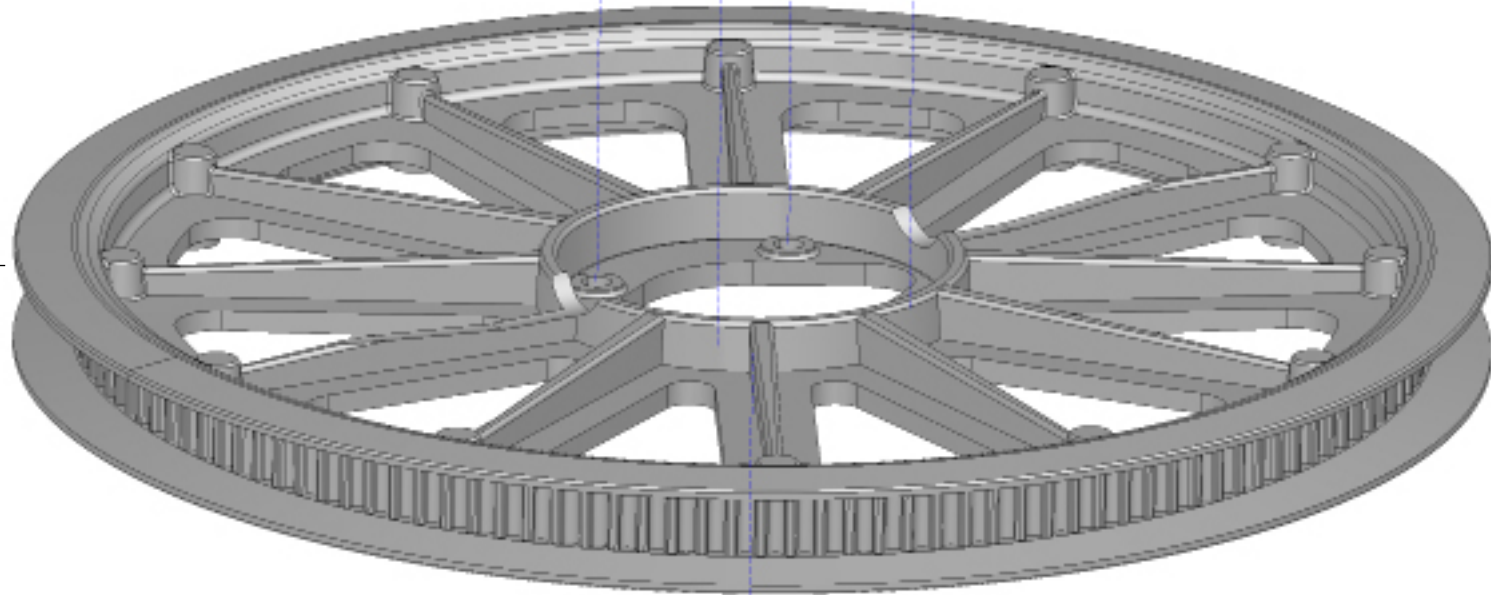




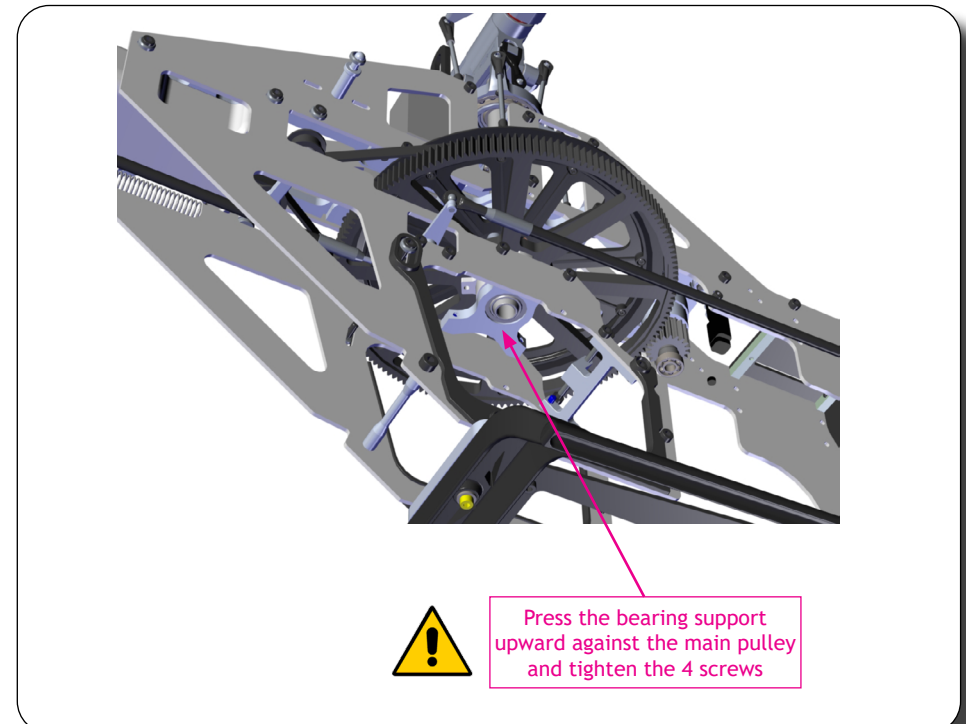
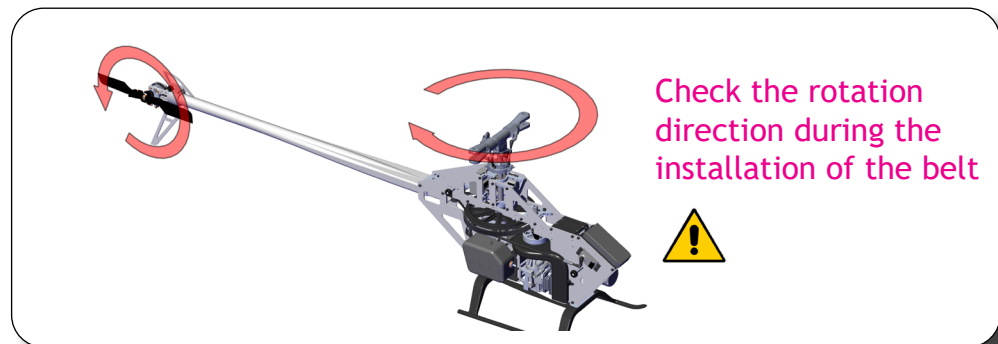
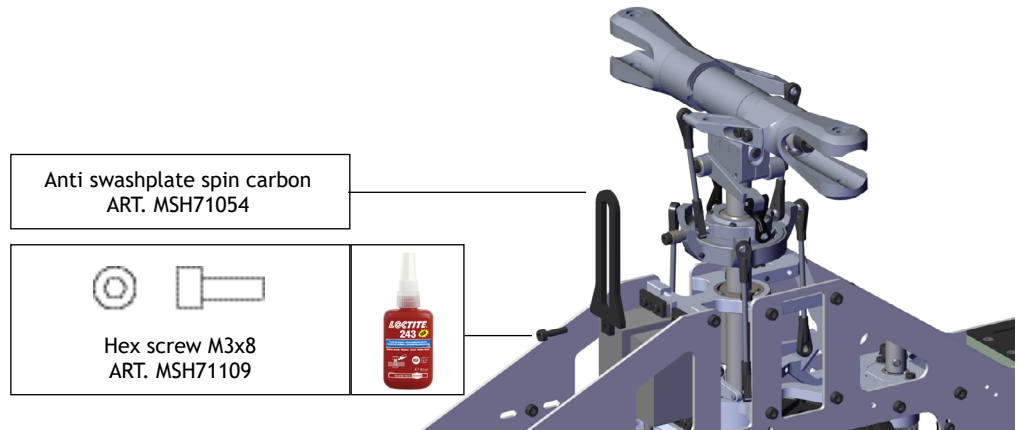
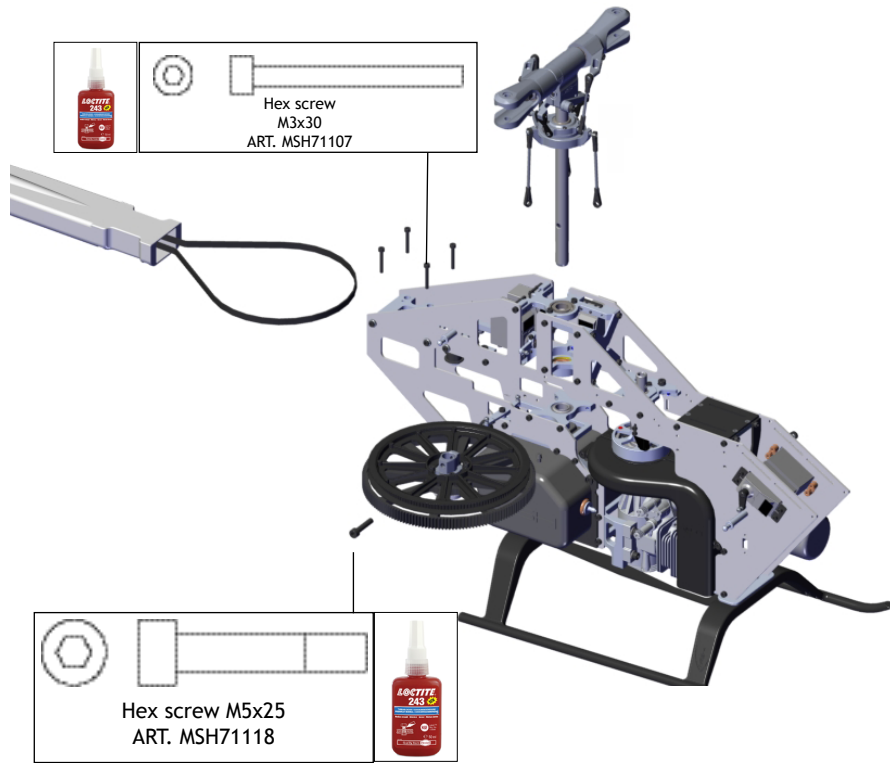
Hex screw M3x6  
ART. MSH71108



Autorotation pulley Leggero  
ART.MSH71235



Autorotation pulley support  
XL70BN32



①



Hex screw  
M2,5x10  
ART. MSH71103

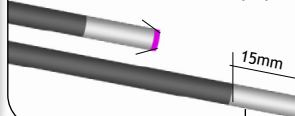
②

Tighten completely



③

Remove edges and coating  
with sandpaper



Tail control rod fitting  
ART. MSH71198

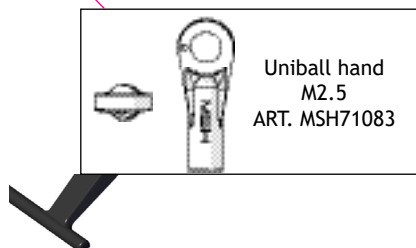
④

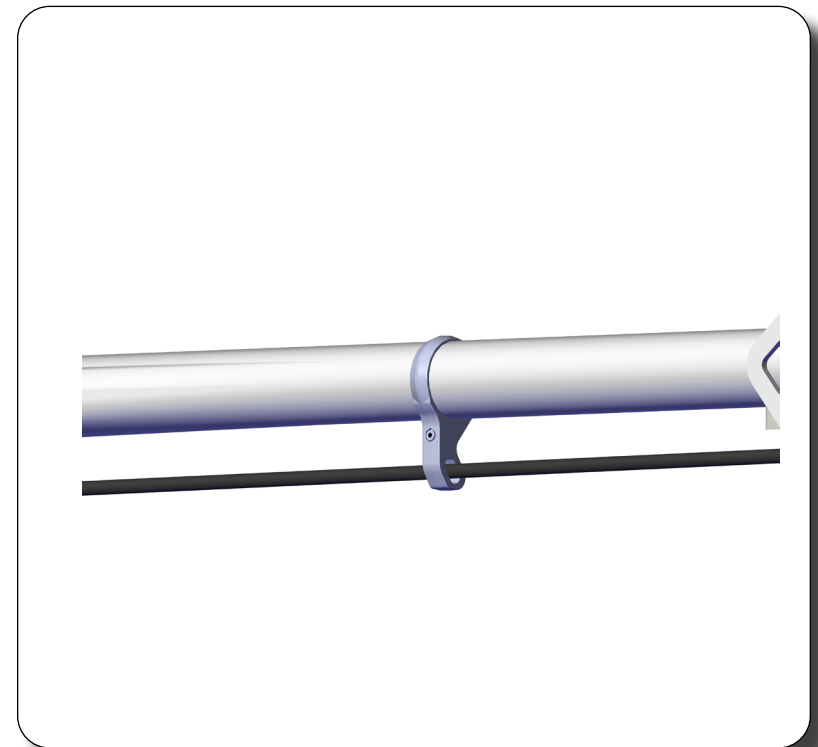
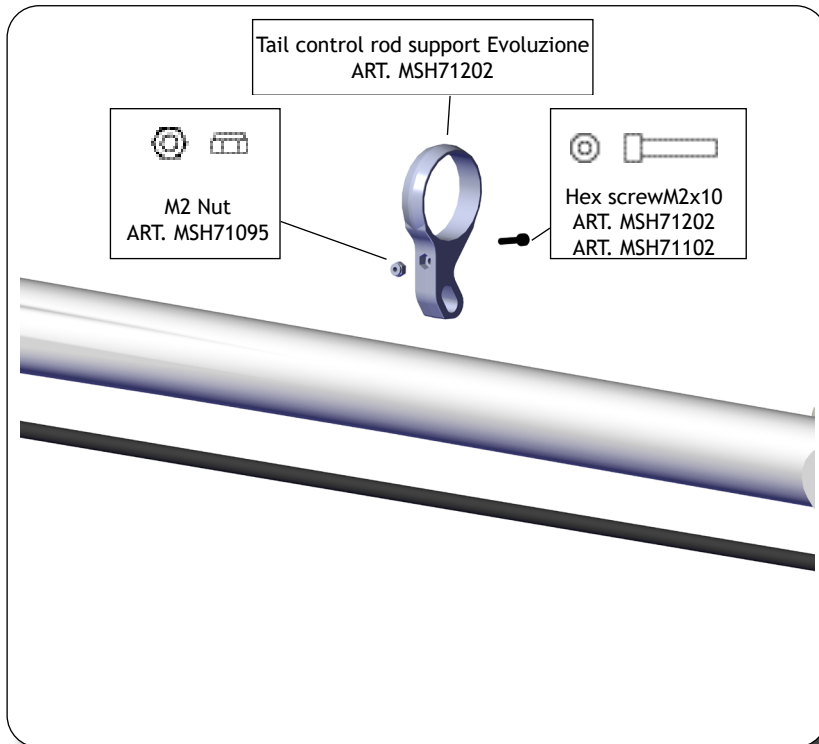
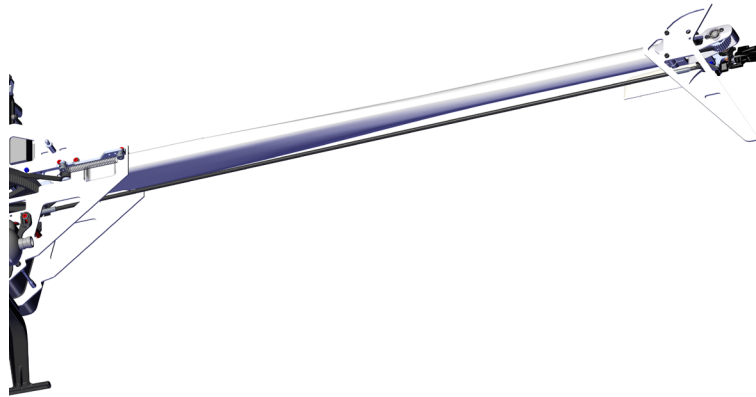
Apply a film of slow  
curing epoxy



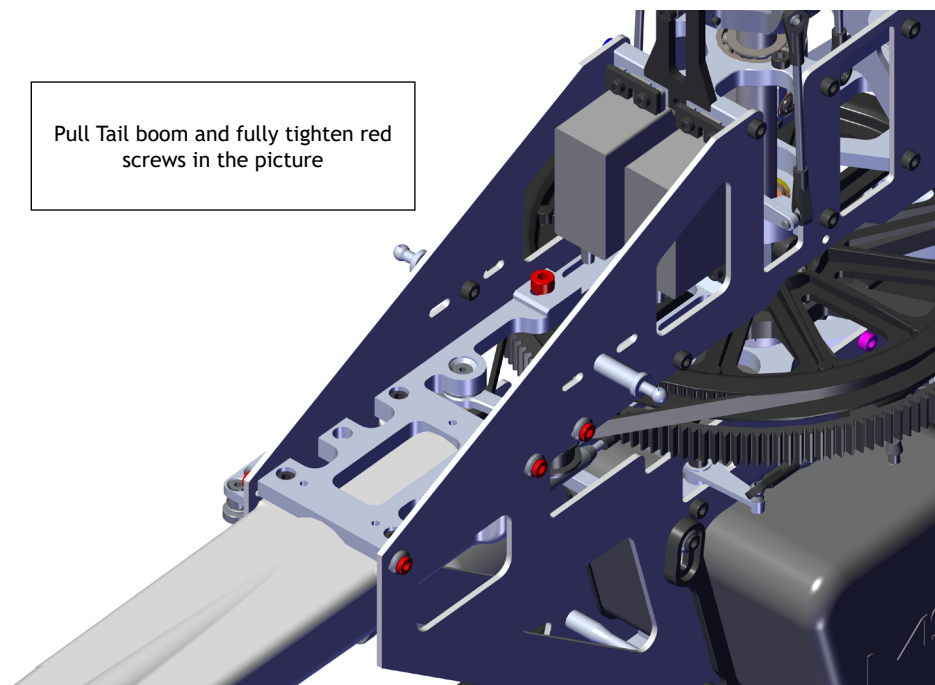
⑤

Wait completely curing and  
mount it on the model

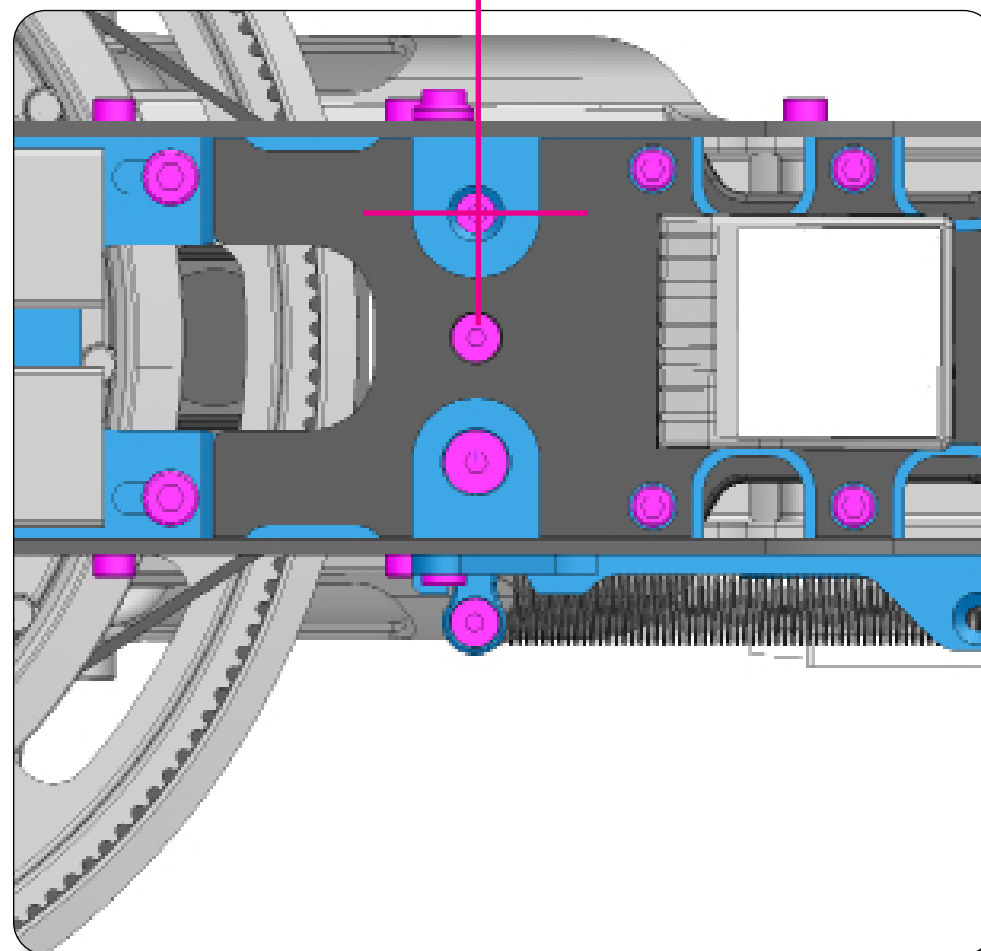


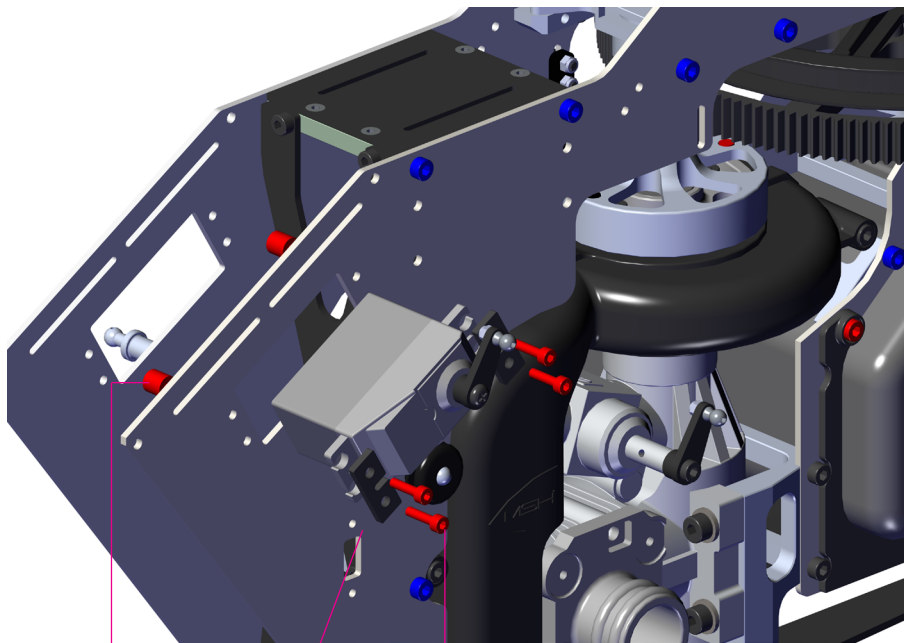


Pull Tail boom and fully tighten red screws in the picture



Belt tensioner  
correct position



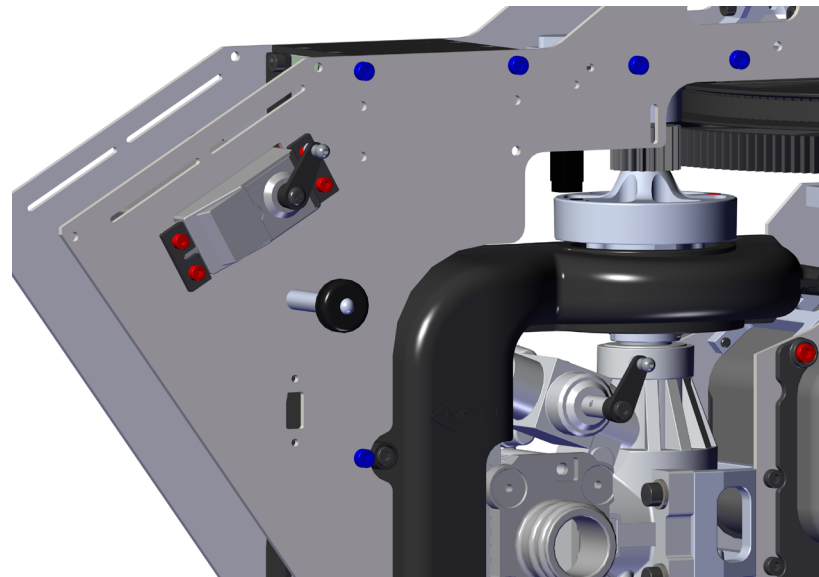
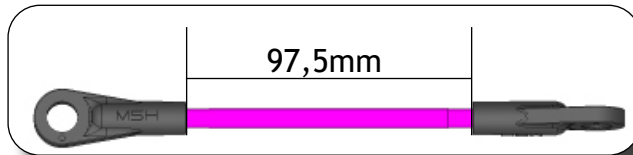


Hex screw  
M2,5x10  
ART. MSH71103

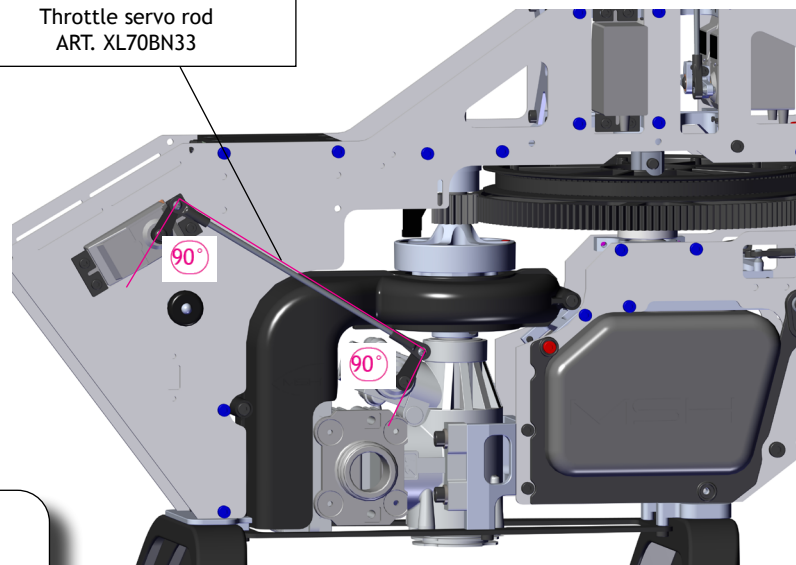
Carbon servo washer  
ART. MSH71032

Plastic servo mounting block  
ART. XL52A03

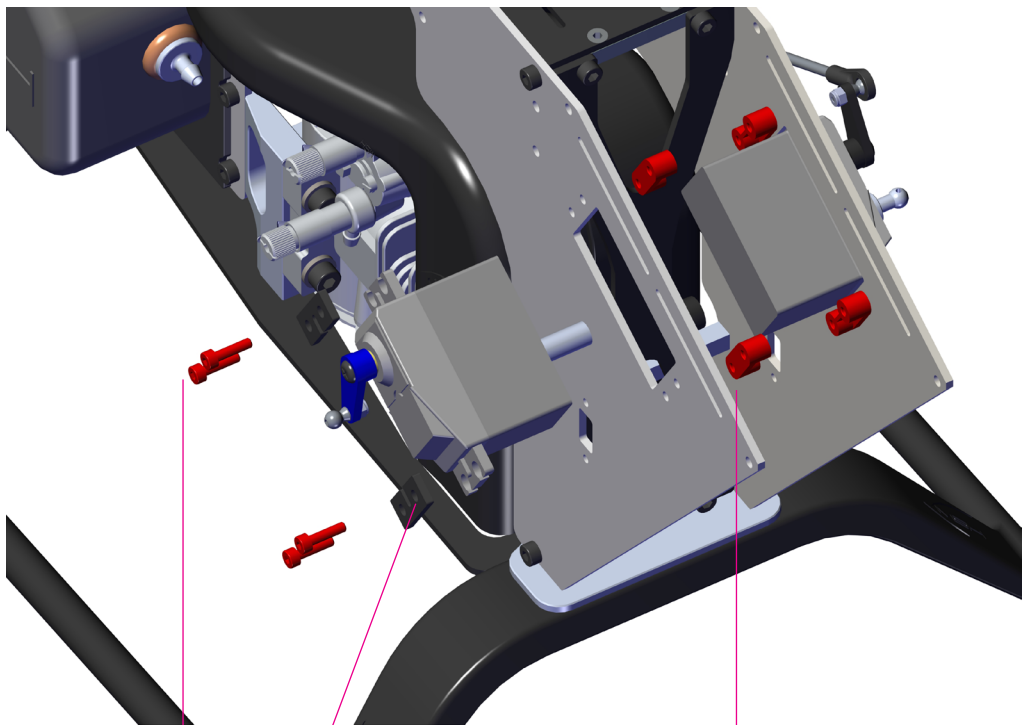
Throttle Servo rod lenght may differ slightly with different engine brand



Throttle servo rod  
ART. XL70BN33



When Throttle center.Servo rod should be 90degree with servo horn and engine is 50% opened

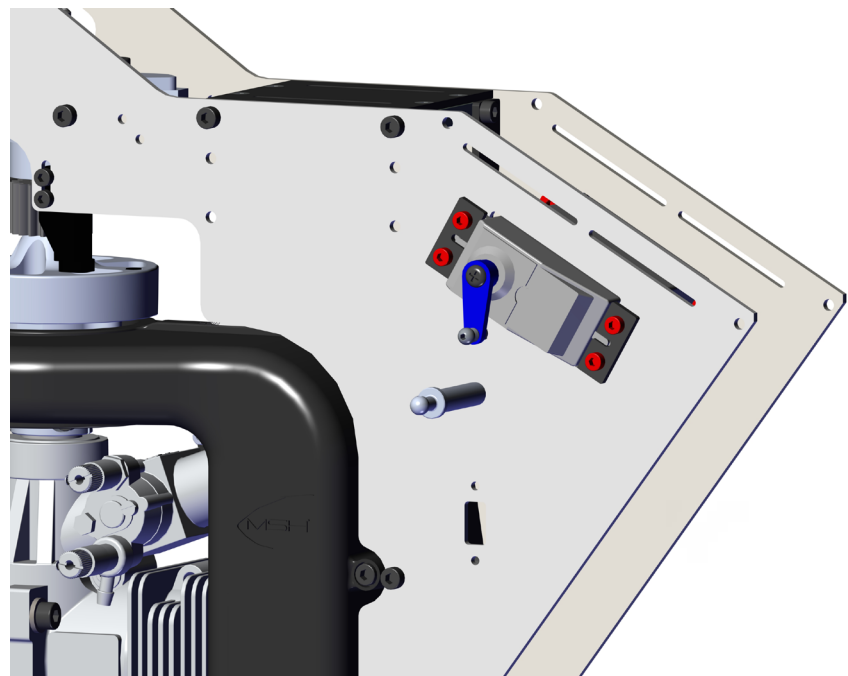


Carbon servo washer  
ART. MSH71032




Hex screw  
M2,5x10  
ART. MSH71103

Plastic servo mounting block  
ART. XL52A03






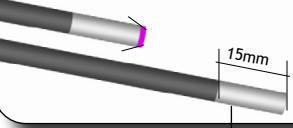
①



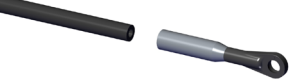
② Tighten completely




③ Remove edges and coating with sandpaper



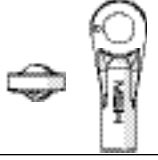
④ Apply a film of slow curing epoxy



⑤ Wait completely curing and mount it on the model

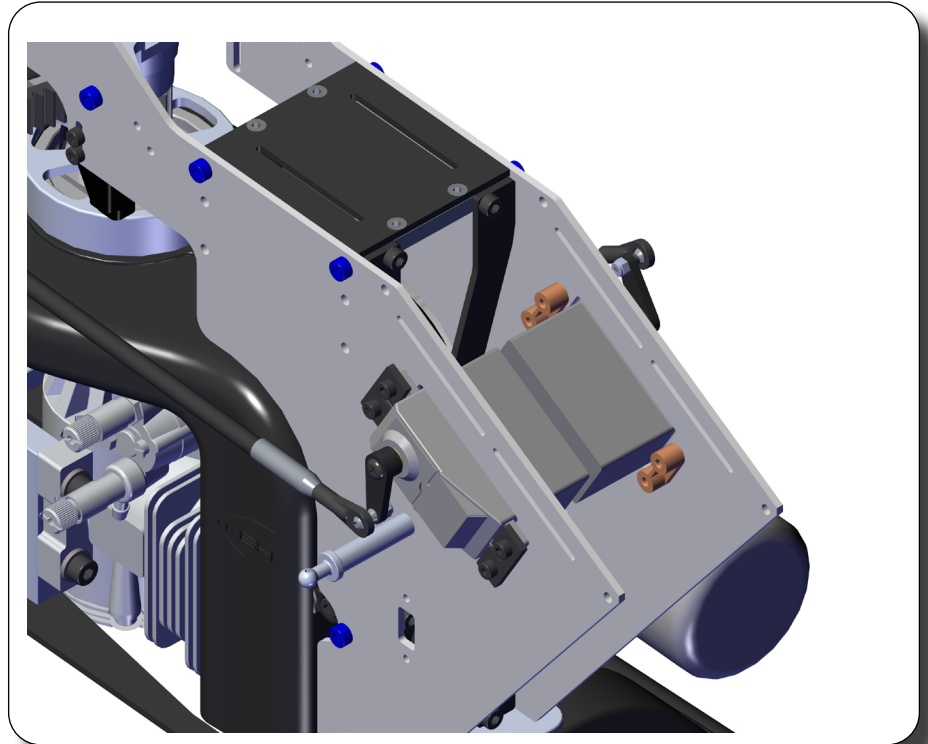
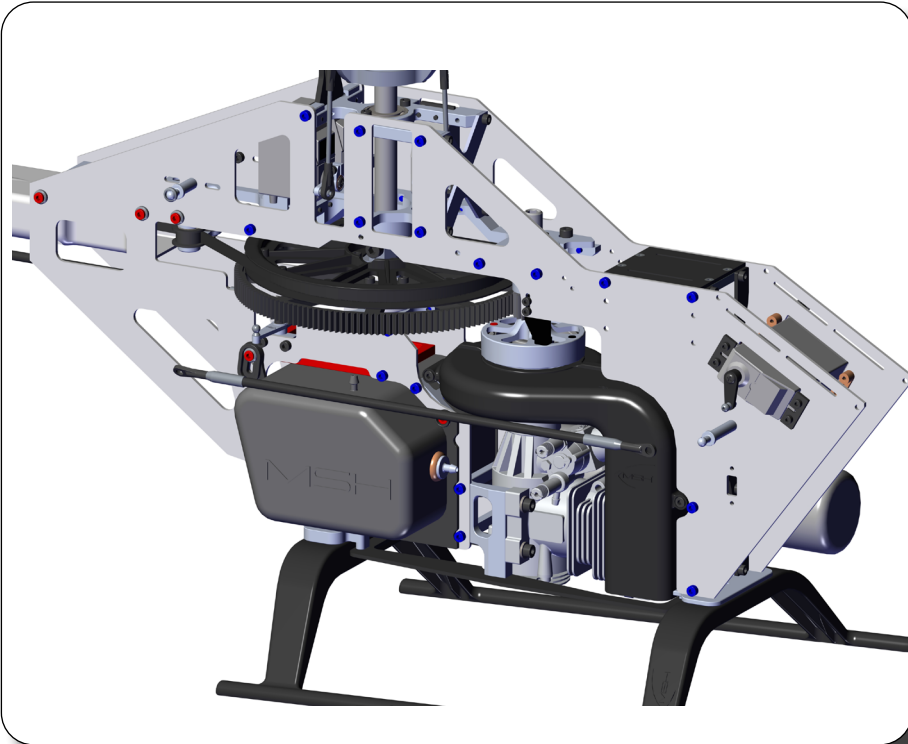


Hex screw  
M2,5x10  
ART. MSH71103

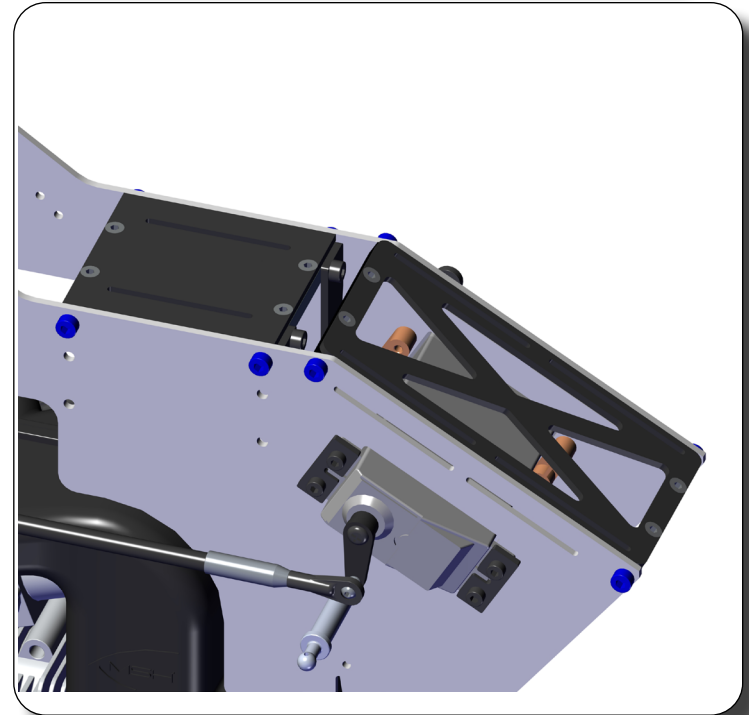
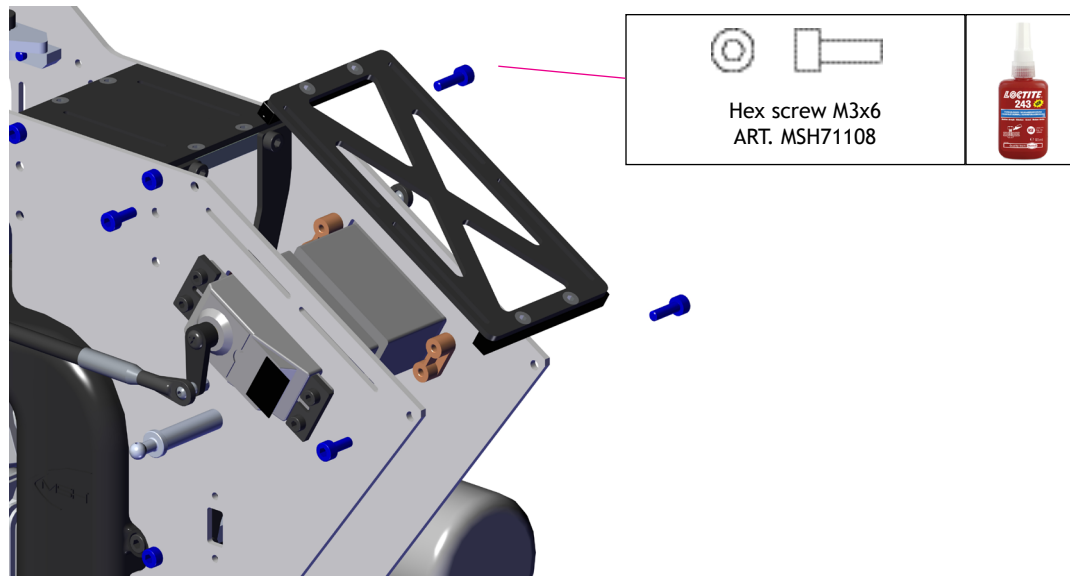
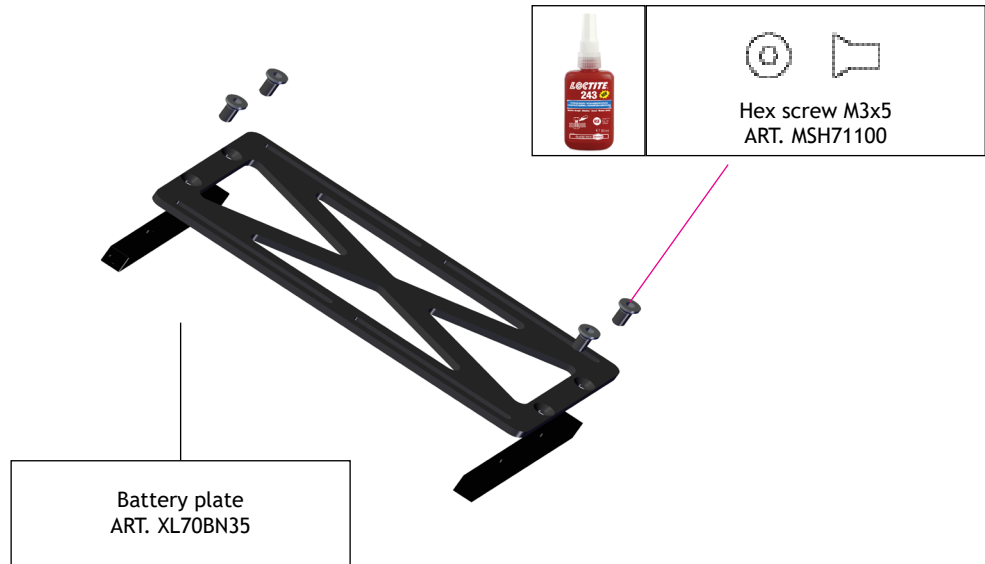


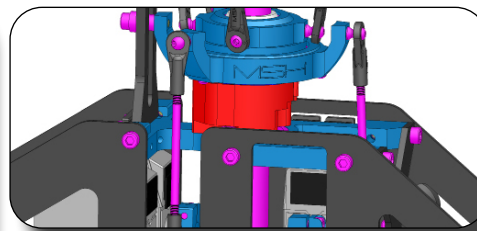
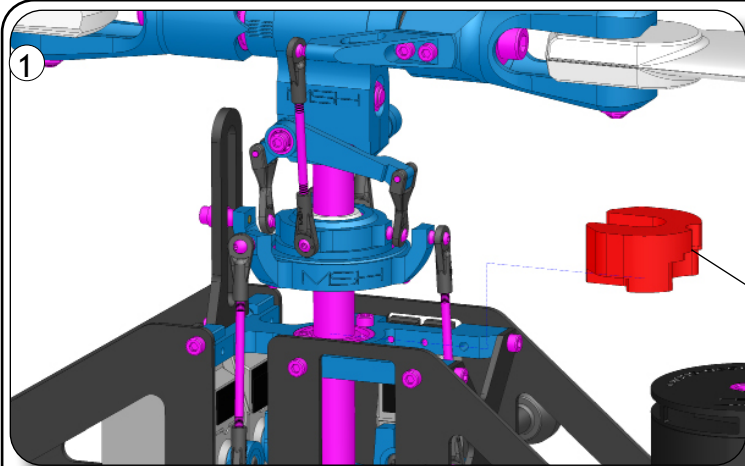
Uniball hand  
M2.5  
ART. MSH71083

Tail control rod fitting  
ART. XL70BN34

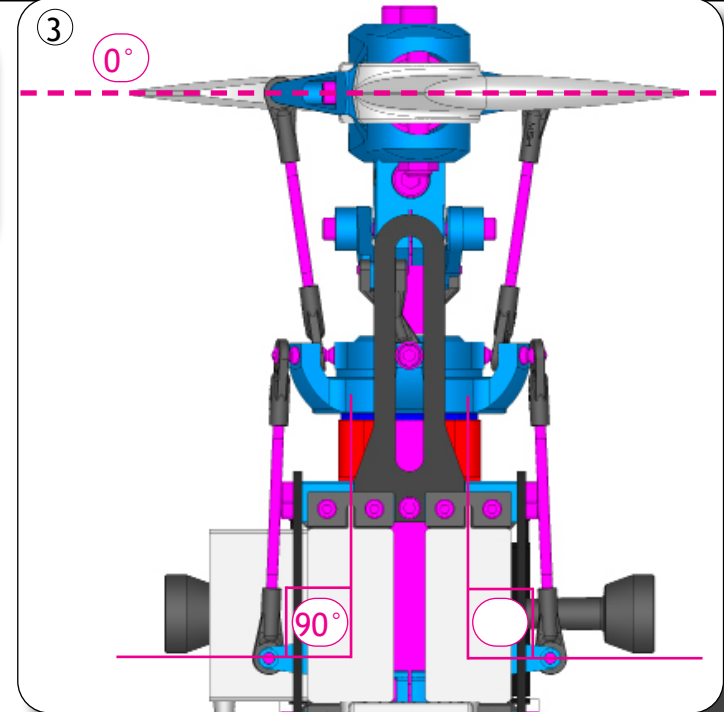
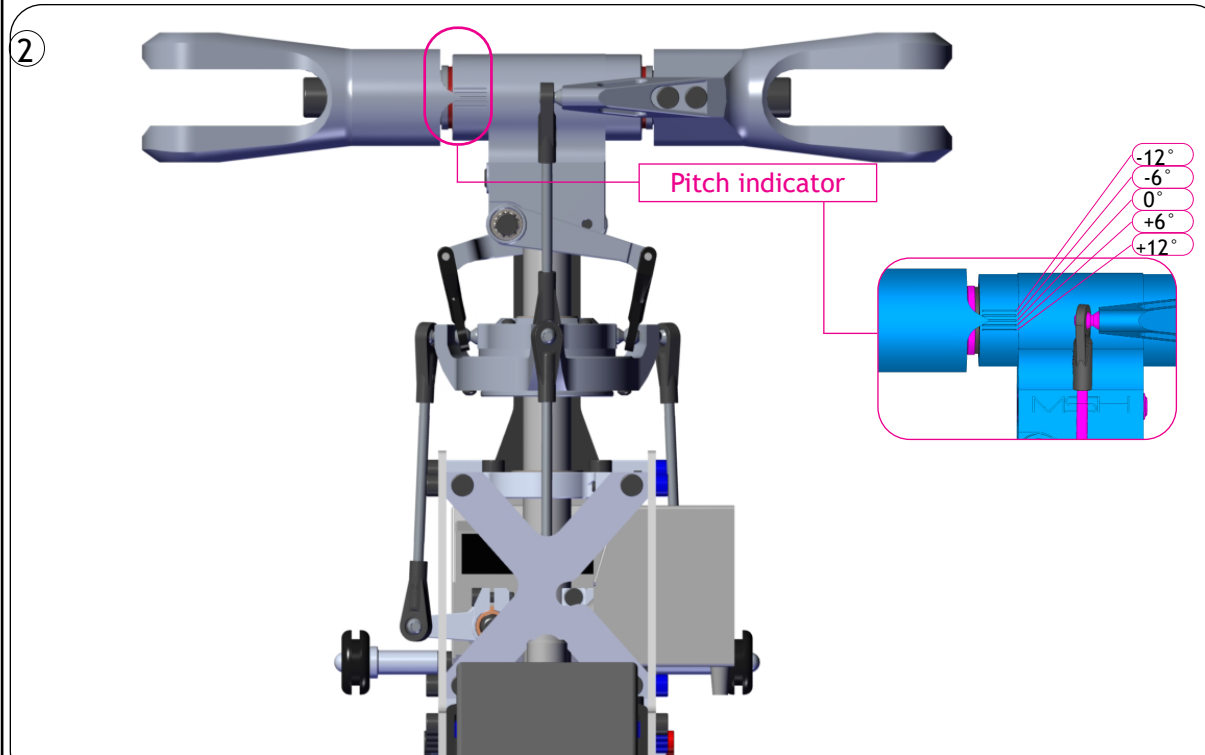




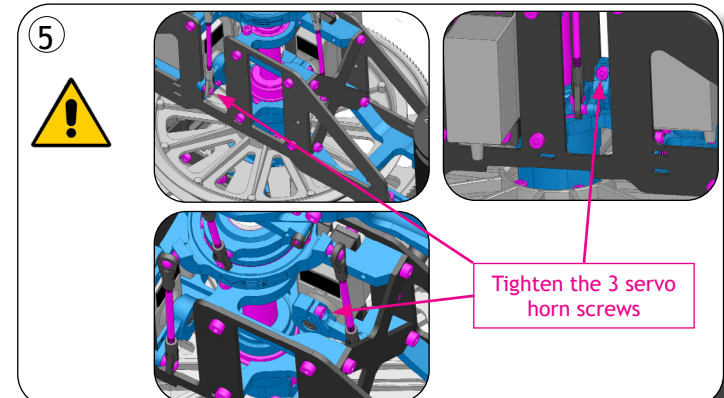




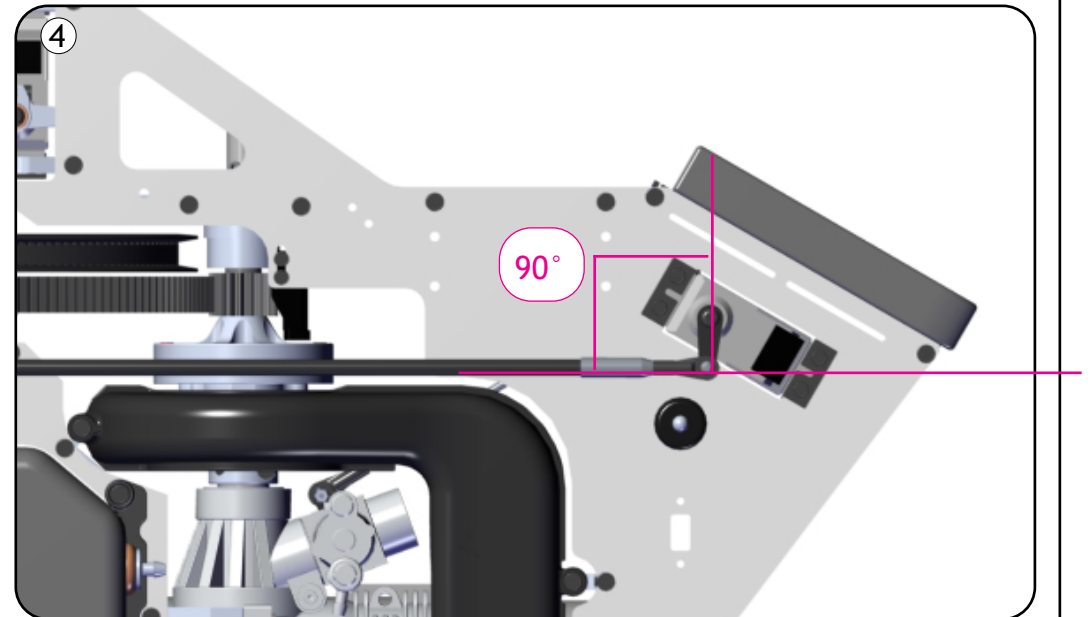
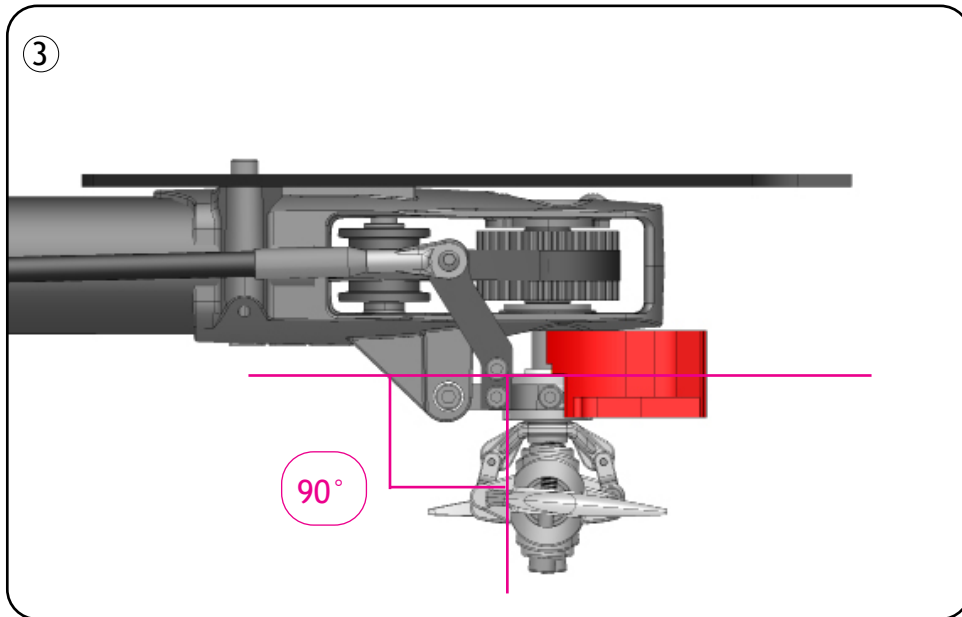
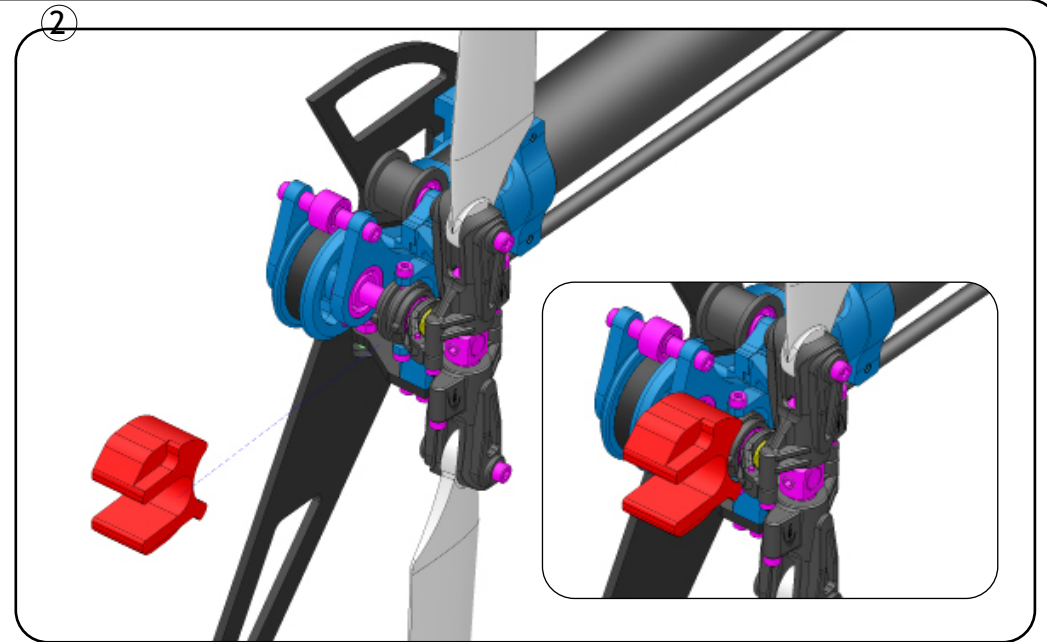
Main and tail blades pitch checker  
ART. MSH71126



4 Set transmitter and Brain to 0°



# tail blades pitch check



specification and design are subject to change without notice  
LOCTITE, UHU Plus, are registered trademarks

MSHeli s.r.l.  
Uboldo (VA)  
ITALY  
[WWW.XLPOWER-RC.COM](http://WWW.XLPOWER-RC.COM)

