

Main rotor diameter.....	864mm (380mm blades)
Tail rotor diameter.....	181mm (67mm tail blades)
Length without main blades.....	800mm
Length with main blades.....	1003mm (380mm blades)
Overall height.....	235mm
Tail rotor-Main rotor ratio.....	4,27 (4.43 optional)
Main pulley.....	120T
Autorotation pulley.....	94T
Tail pulley.....	22T (21T optional)

Always check on www.xlpower-rc.com for a more recent version of this manual

Pages	Content
3	safety rules
4	tools required for assembly
5	R/C equipment required to complete
6	how to read this manual
7	motor pinion teeth choice
8-25	main frame assembly
26-34	head assembly
35-48	tail assembly
49	ESC, BEC
50	canopy installation
51-56	Metal Tail upgrade (optional)
57	Alu main blade holder set (optional)
58	Metal Tail blade holder upgrade(optional)

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!

XLPOWER

Tools required for assembly



 <p>Hexagon screw drivers : 1,5mm 2,0mm two 2,5mm (spindle)</p>	 <p>Thrust bearing grease</p>
 <p>where indicated use Thread lock MEDIUM</p> 	 <p>Slow curing EPOXY</p>

Tools required for assembly



Swashplate servos supported:
all micro servos (qnty. 3)

Tail servo supported:
all micro and mini servos (qnty. 1)

Main blades:
standard full carbon blades
380mm

Battery pack:
LiPo 6s 1800mAh

Trasmitter
Receiver/satellite
Flybarless unit

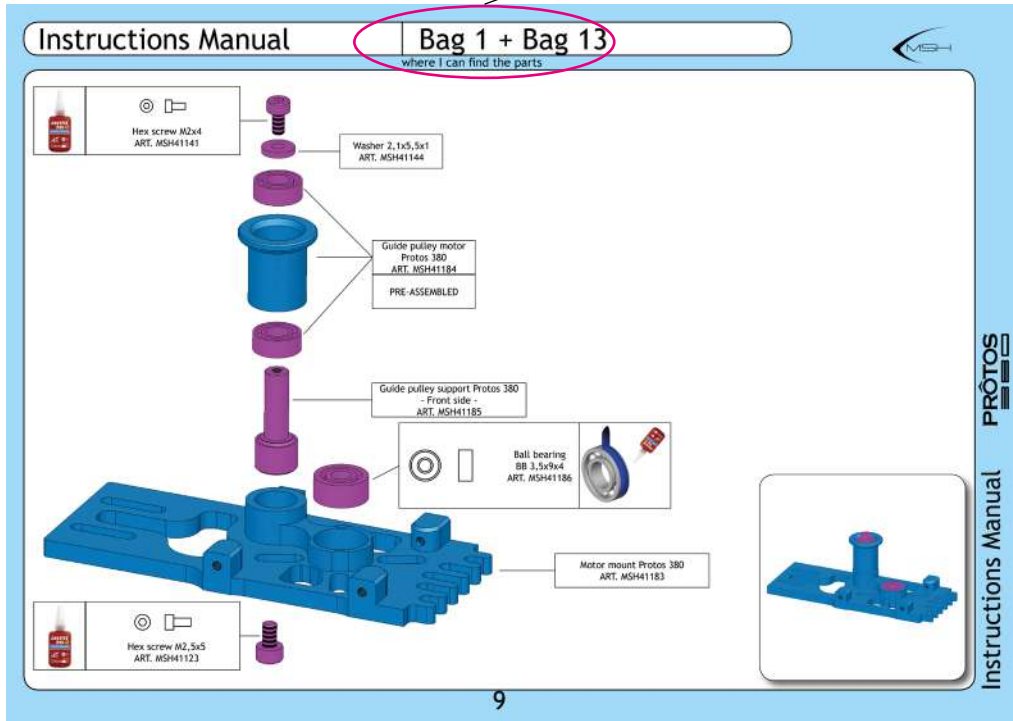
Motor:3215 motor or other
5mm shaft motor arround
1000kv
ESC:50A or more

How to read this manual

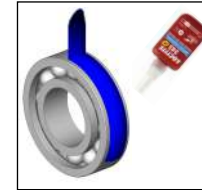


①

Box and bag where you can find washers, bearings, screws and parts



③



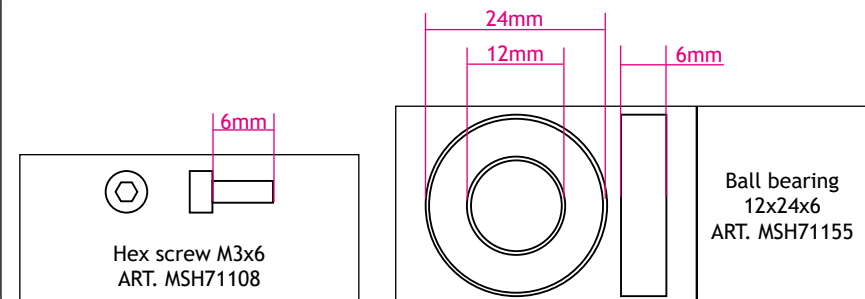
Apply a thin layer of threadlock on the external part of the ball bearing

④

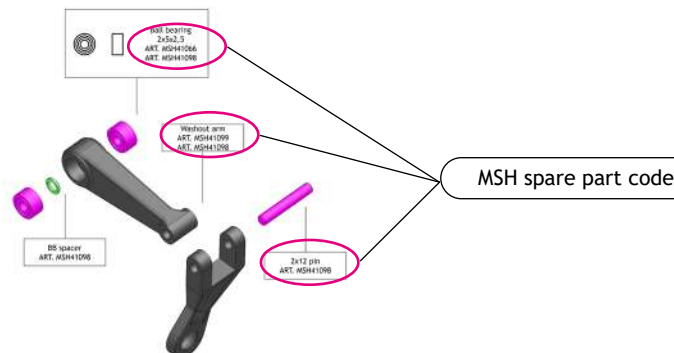


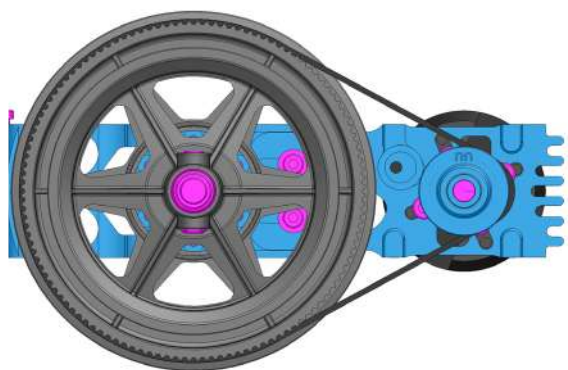
Pay attention to the instruction step behind this icon

⑤

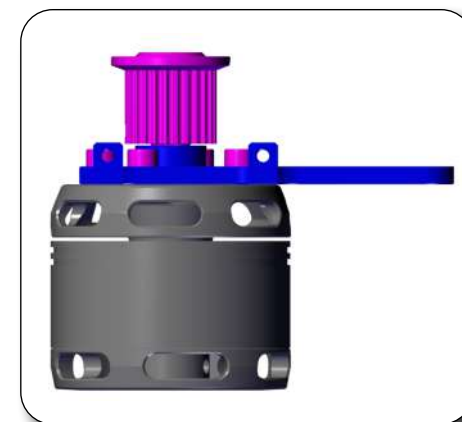
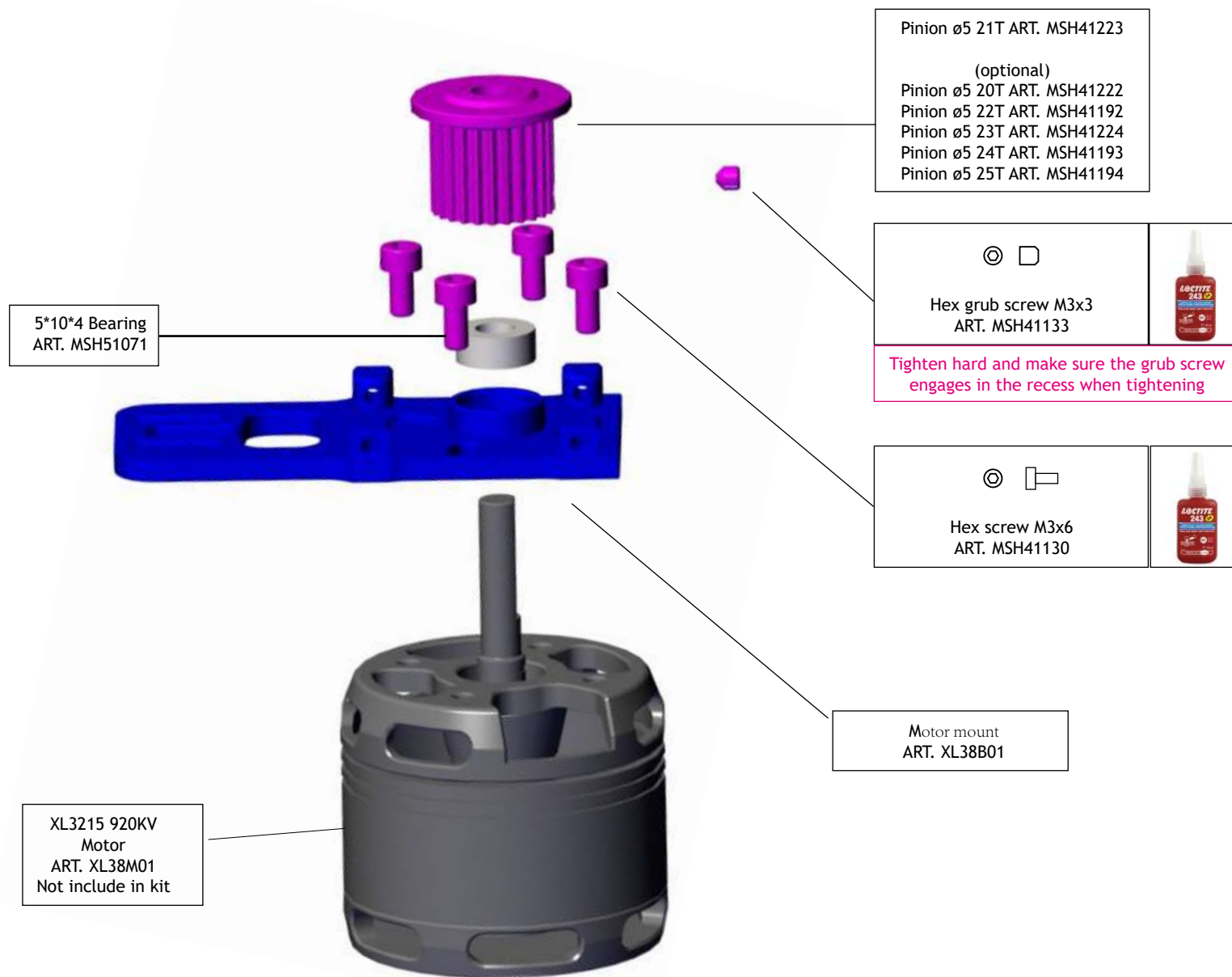


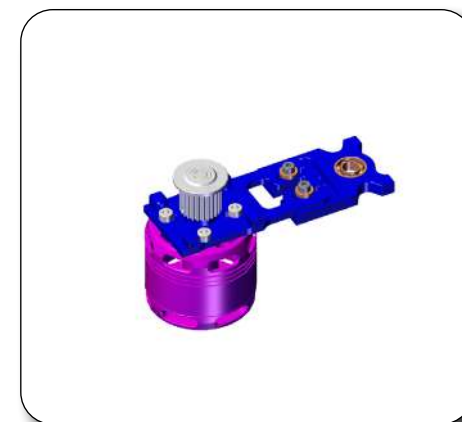
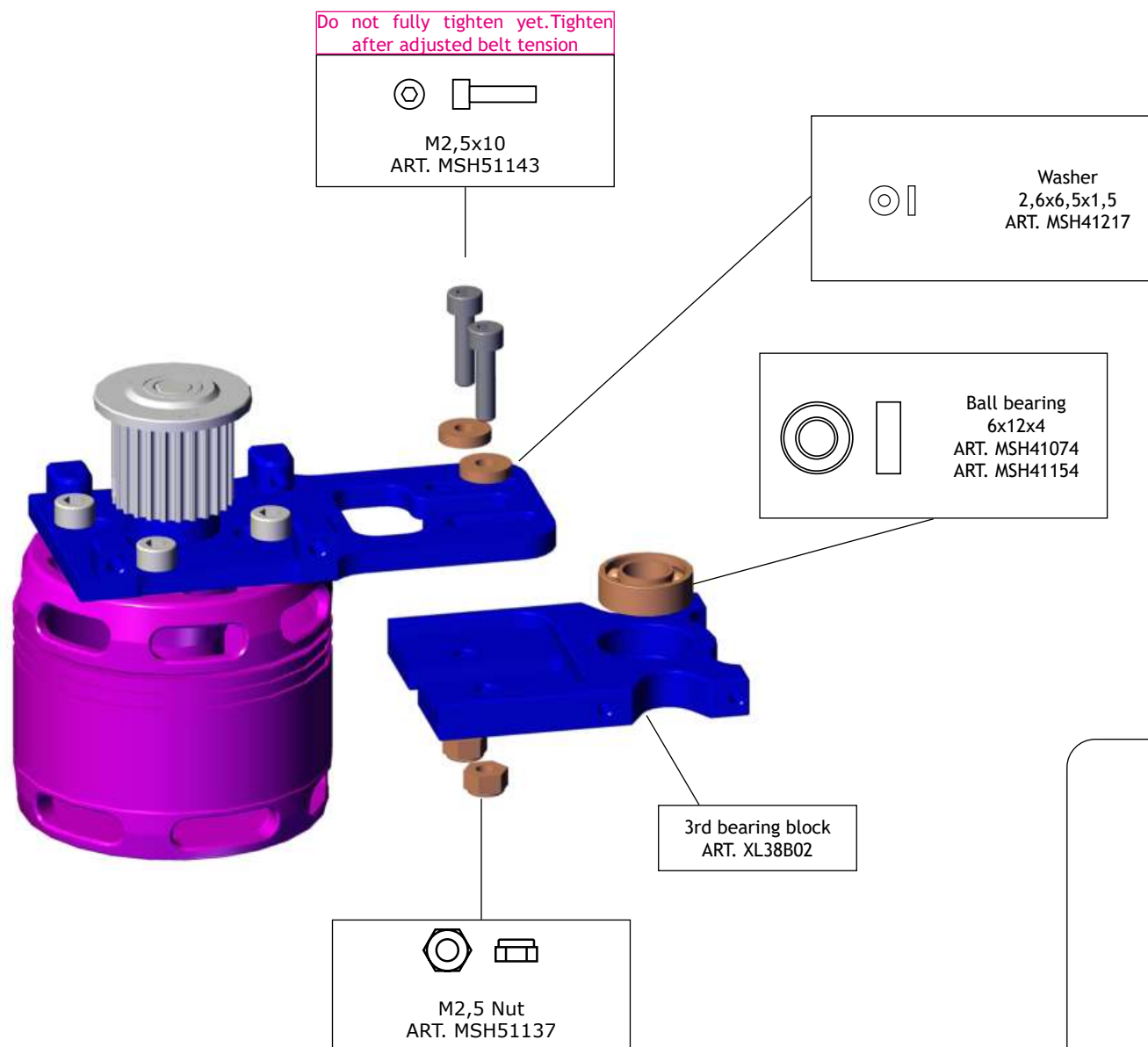
②





	Stock	Sport	Hard 3D	Extreme 3D
920 Kv ø 5mm	21T	20-22T	23-24T	25T





where I can find the parts

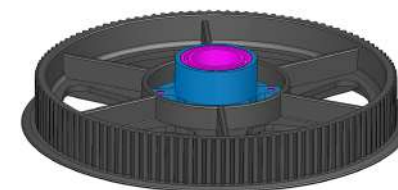
Oneway Bearing HF1012 (Pre-assembled)
ART. XL52A15

Oneway hub
ART. XL38B03

Main pulley
ART. MSH41146

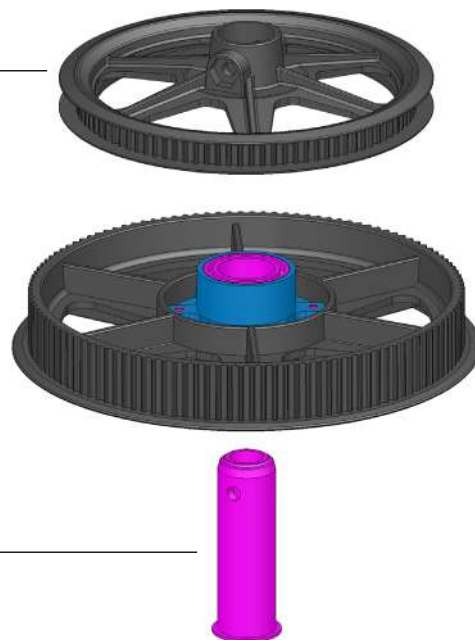
Hex screw M2x4
ART. MSH41141

Ball bearing (Pre-assembled)
10x15x4

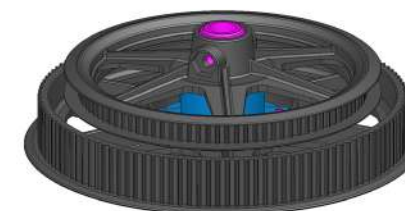


Autorotation pulley
ART. MSH41147

Oneway shaft
ART. XL38B04


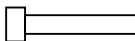


Main pulley assembly
ART. MSH41145



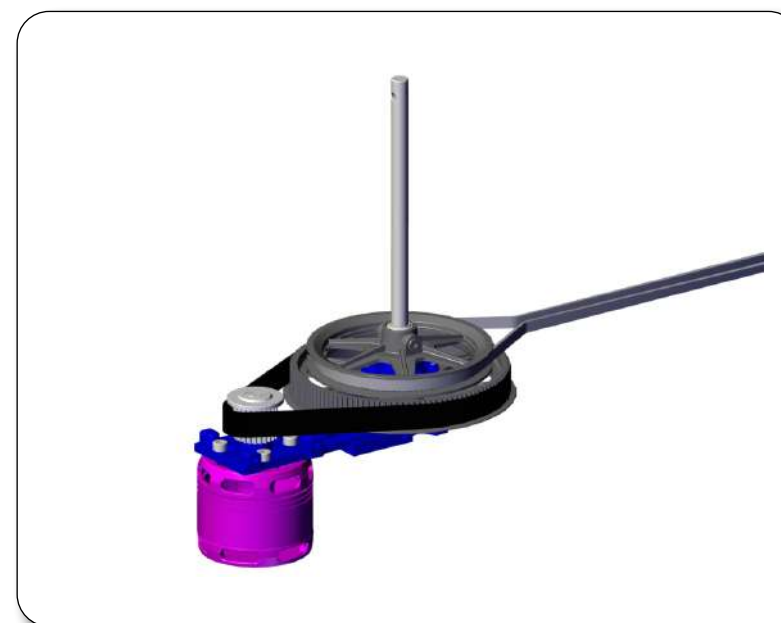
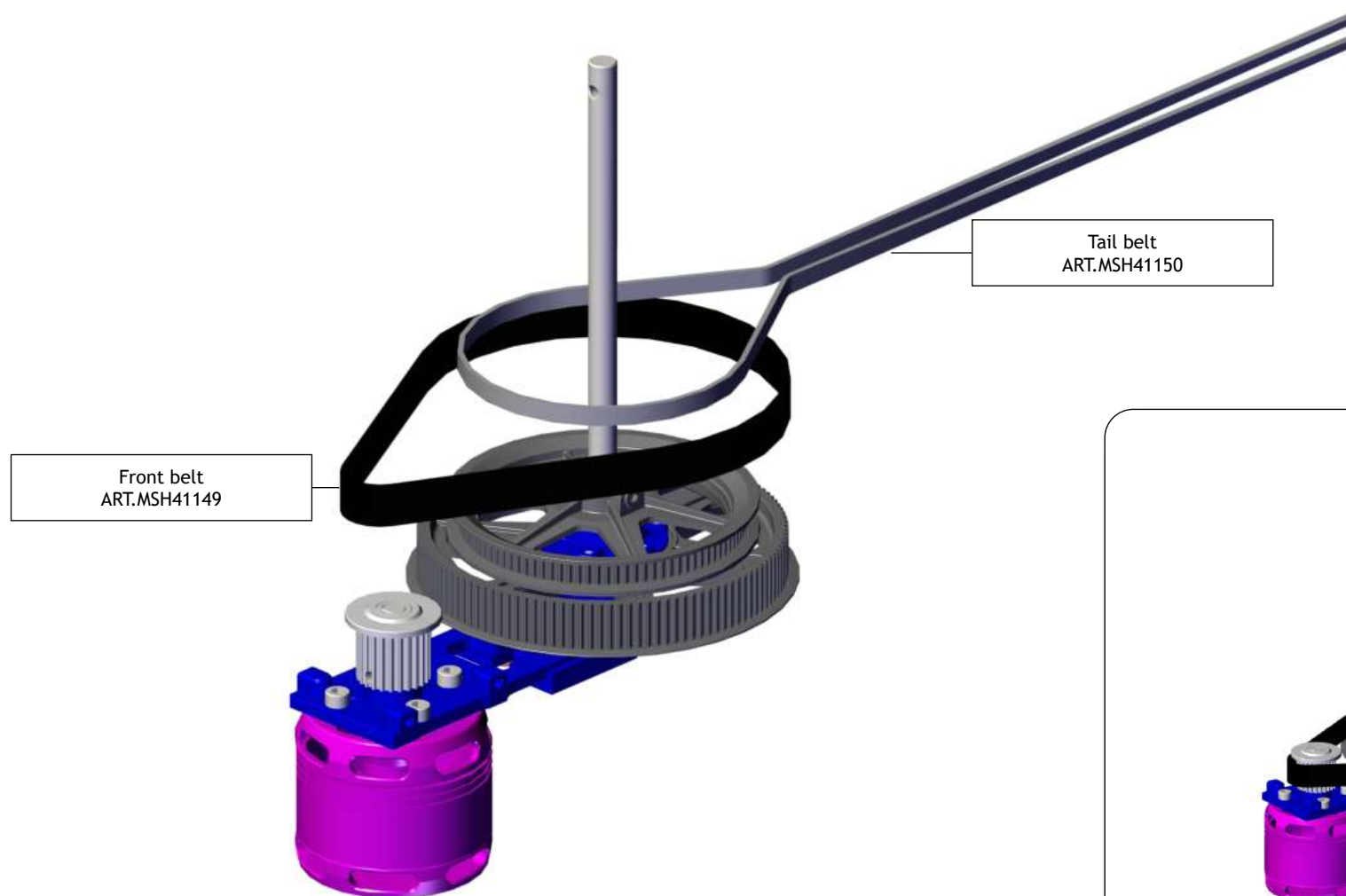
Main shaft Protos 380
ART.MSH41148

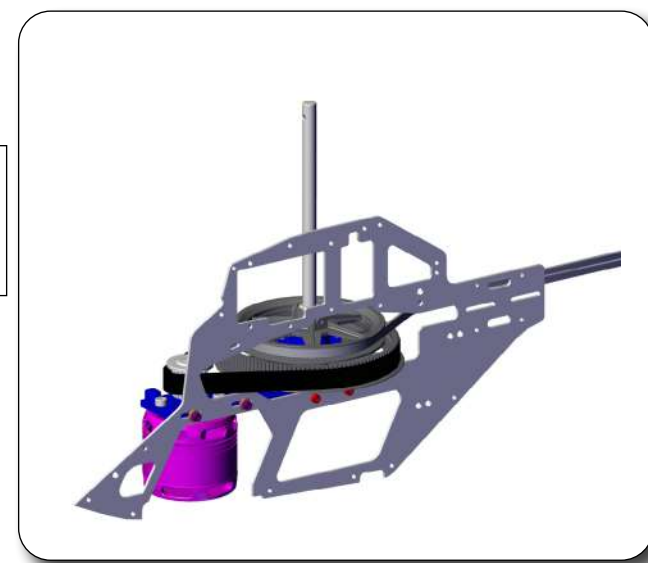
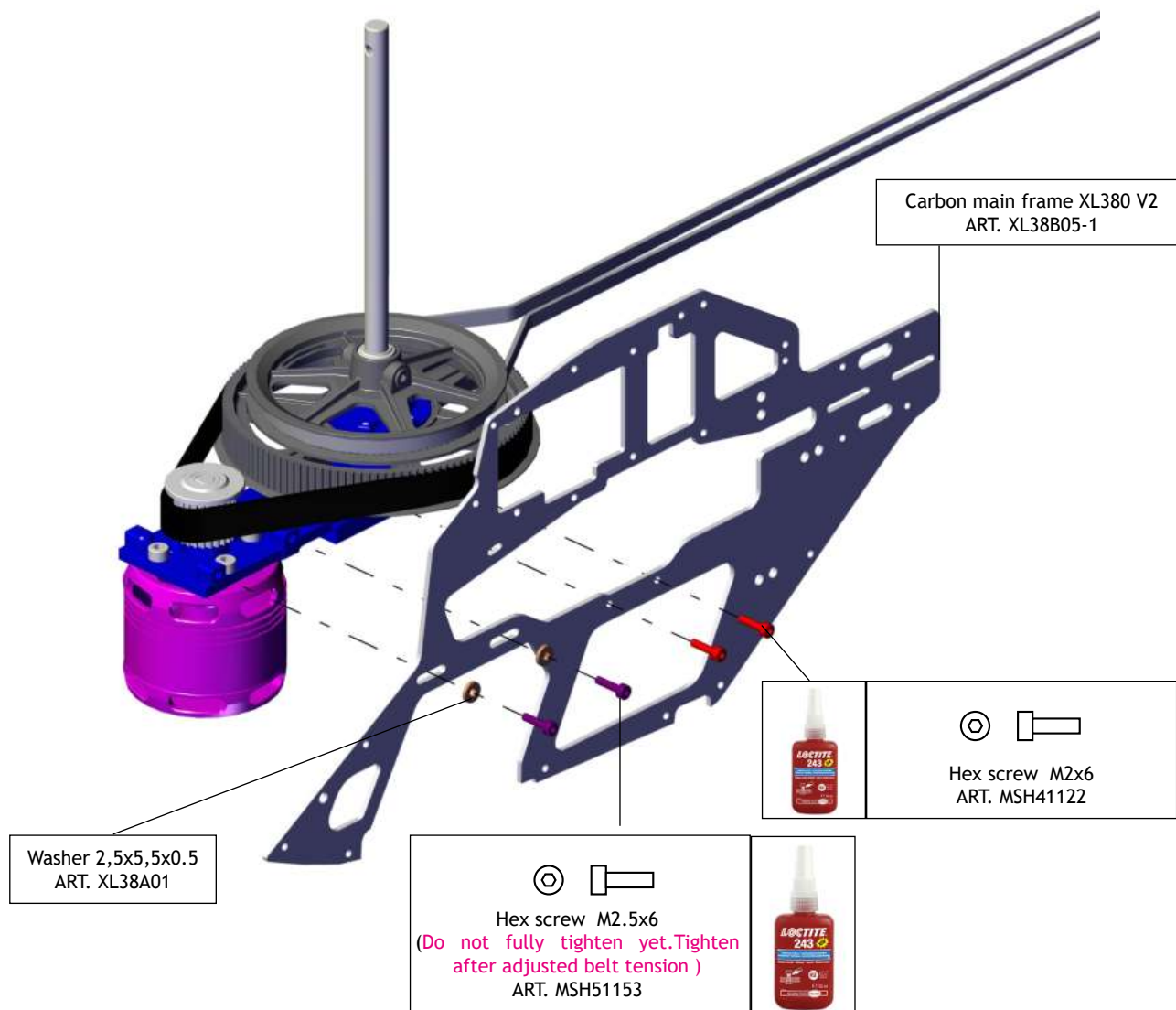
 
M2,5 Nut
ART. MSH51137

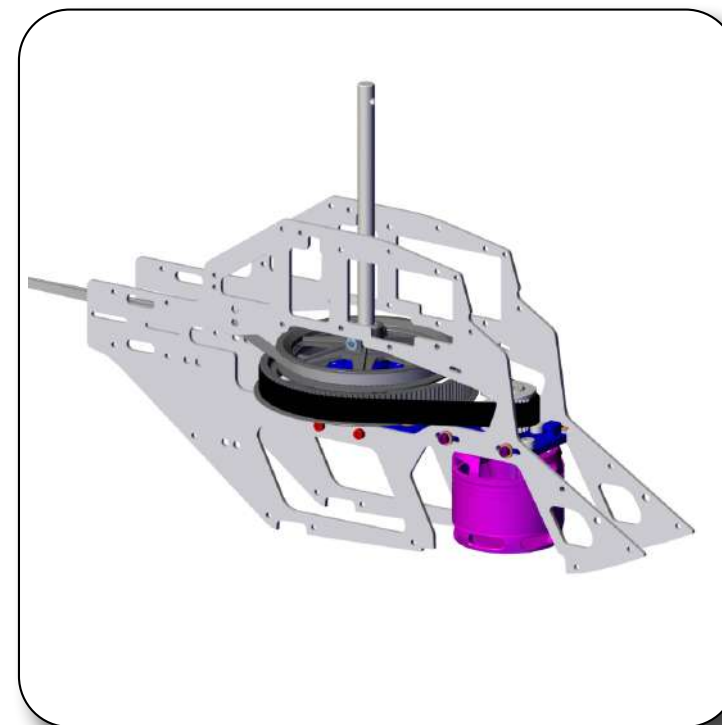
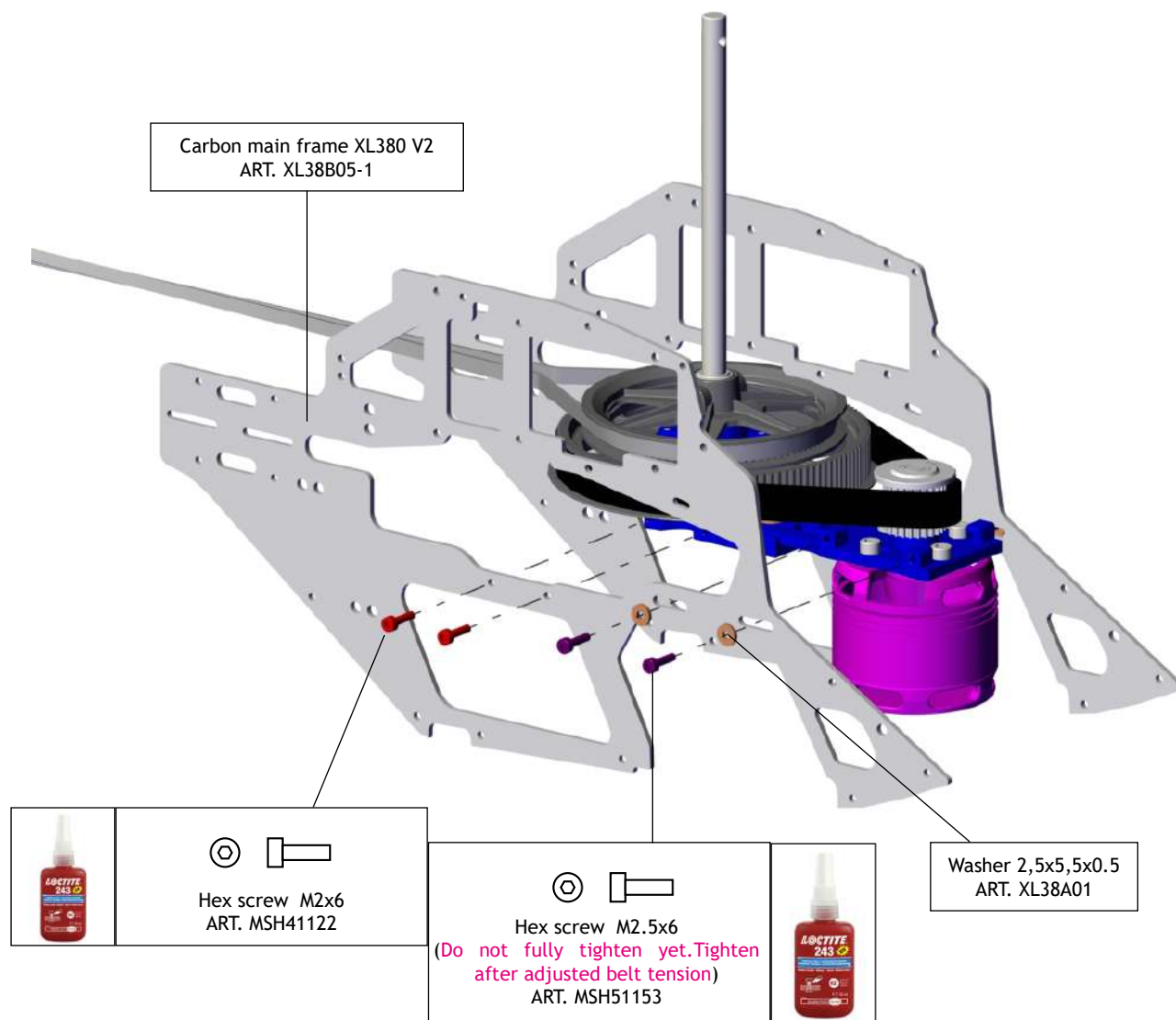
 
M2,5x16
ART. MSH51145

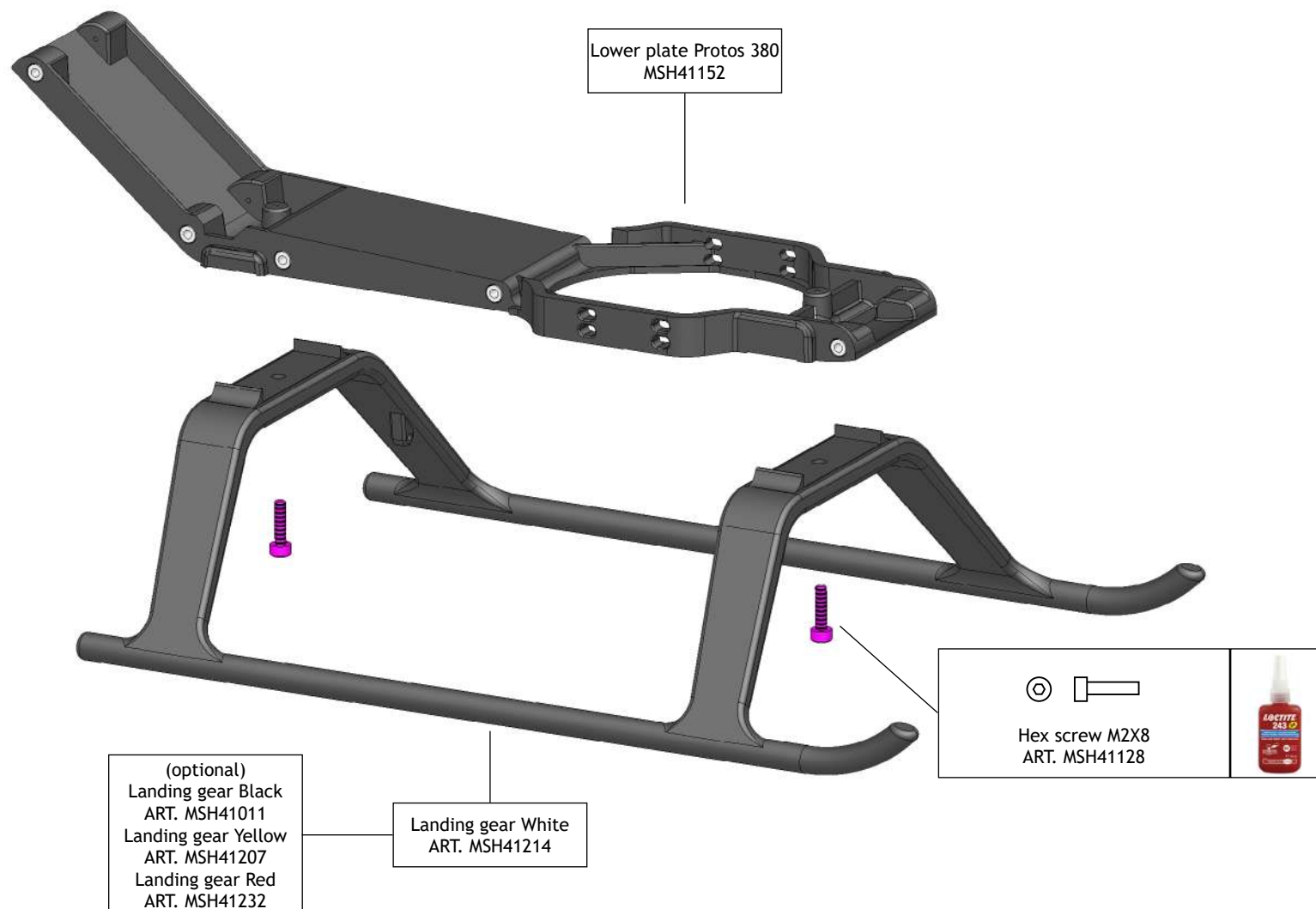
This side up

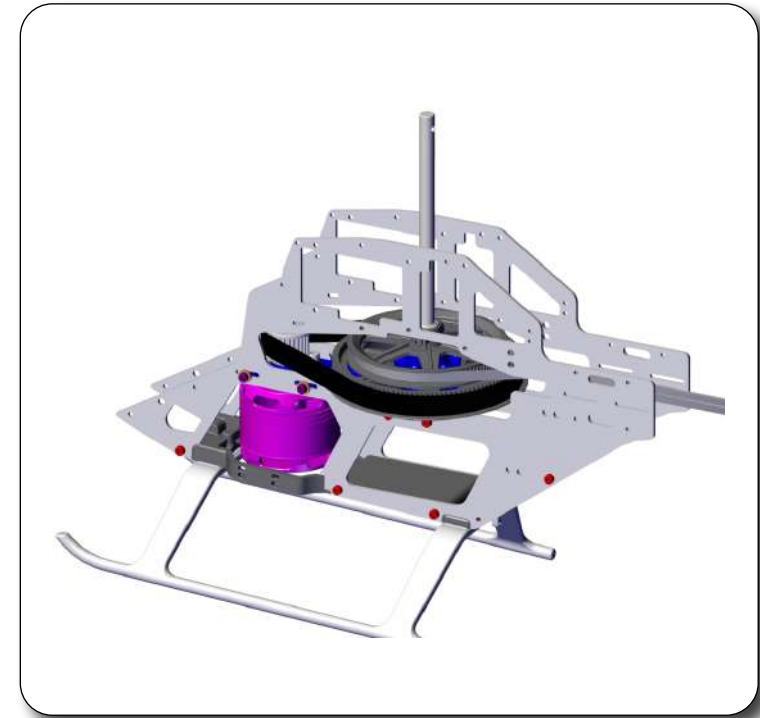
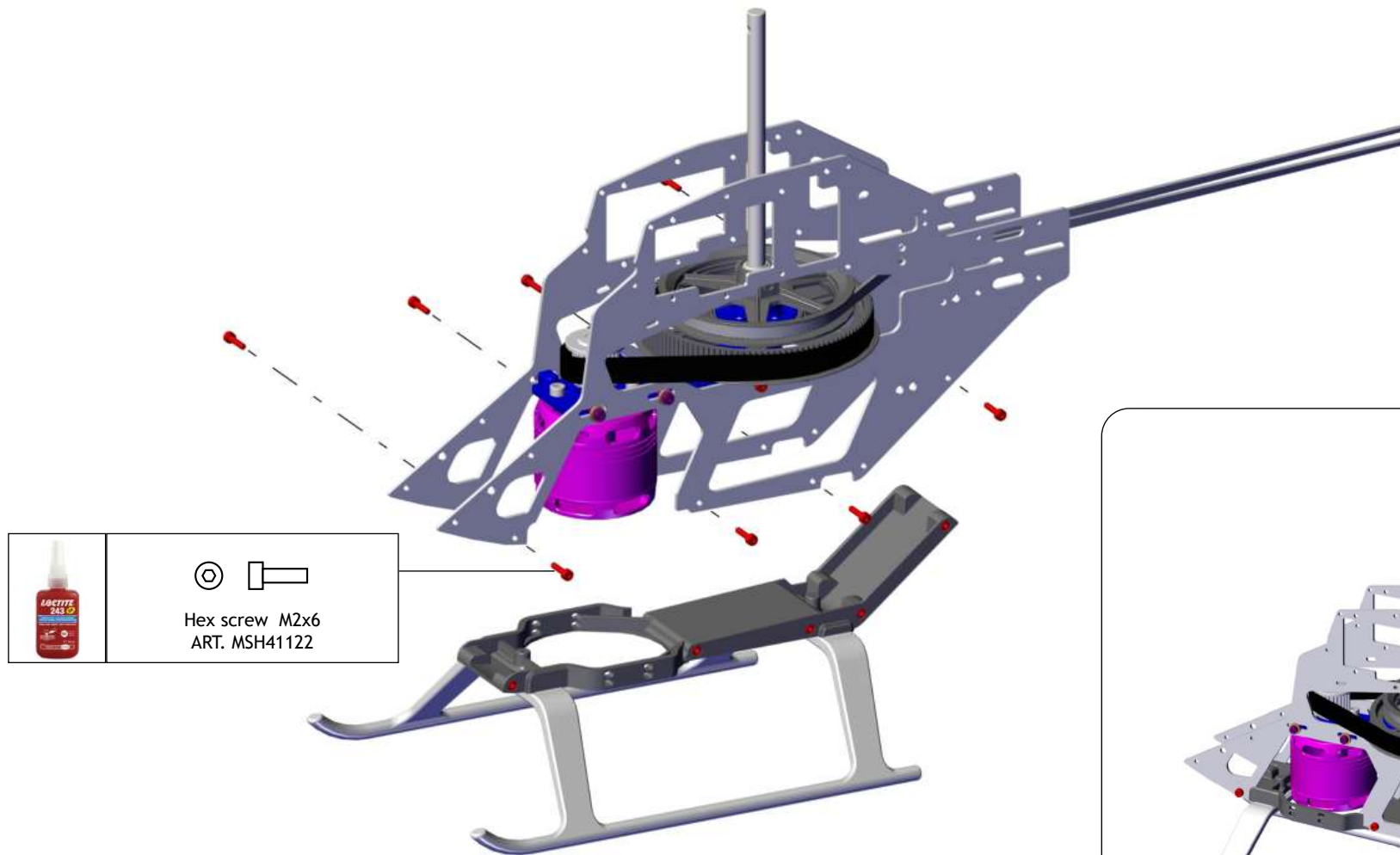


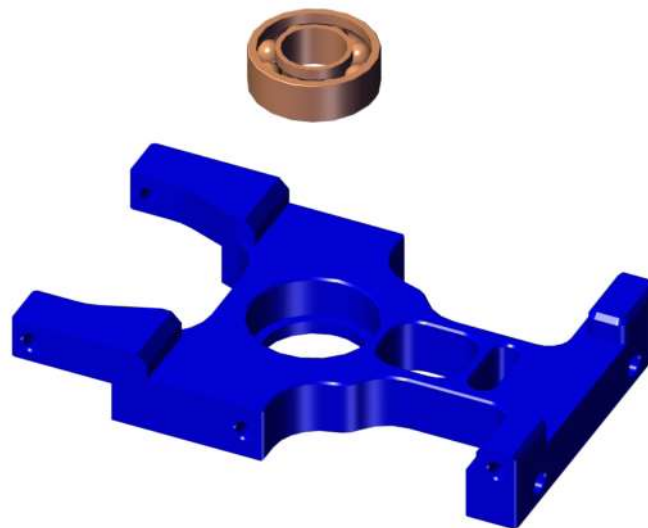
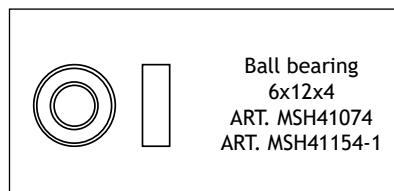




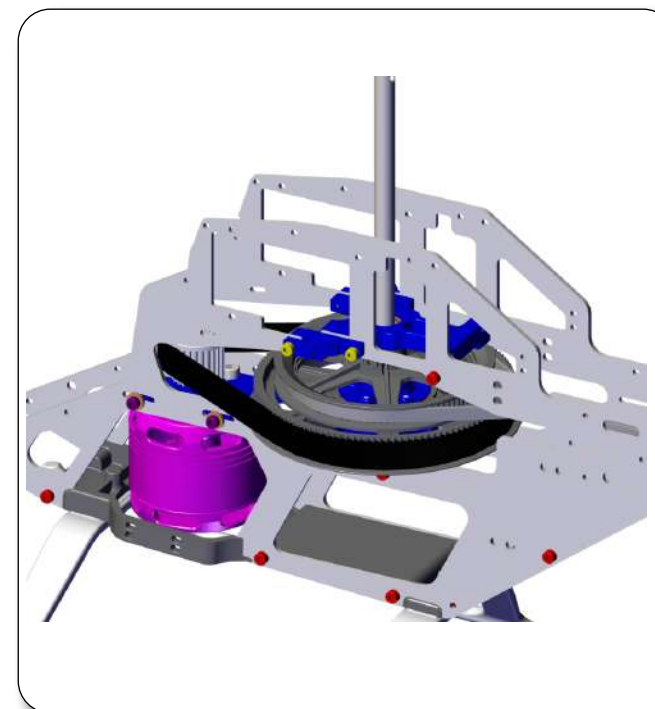
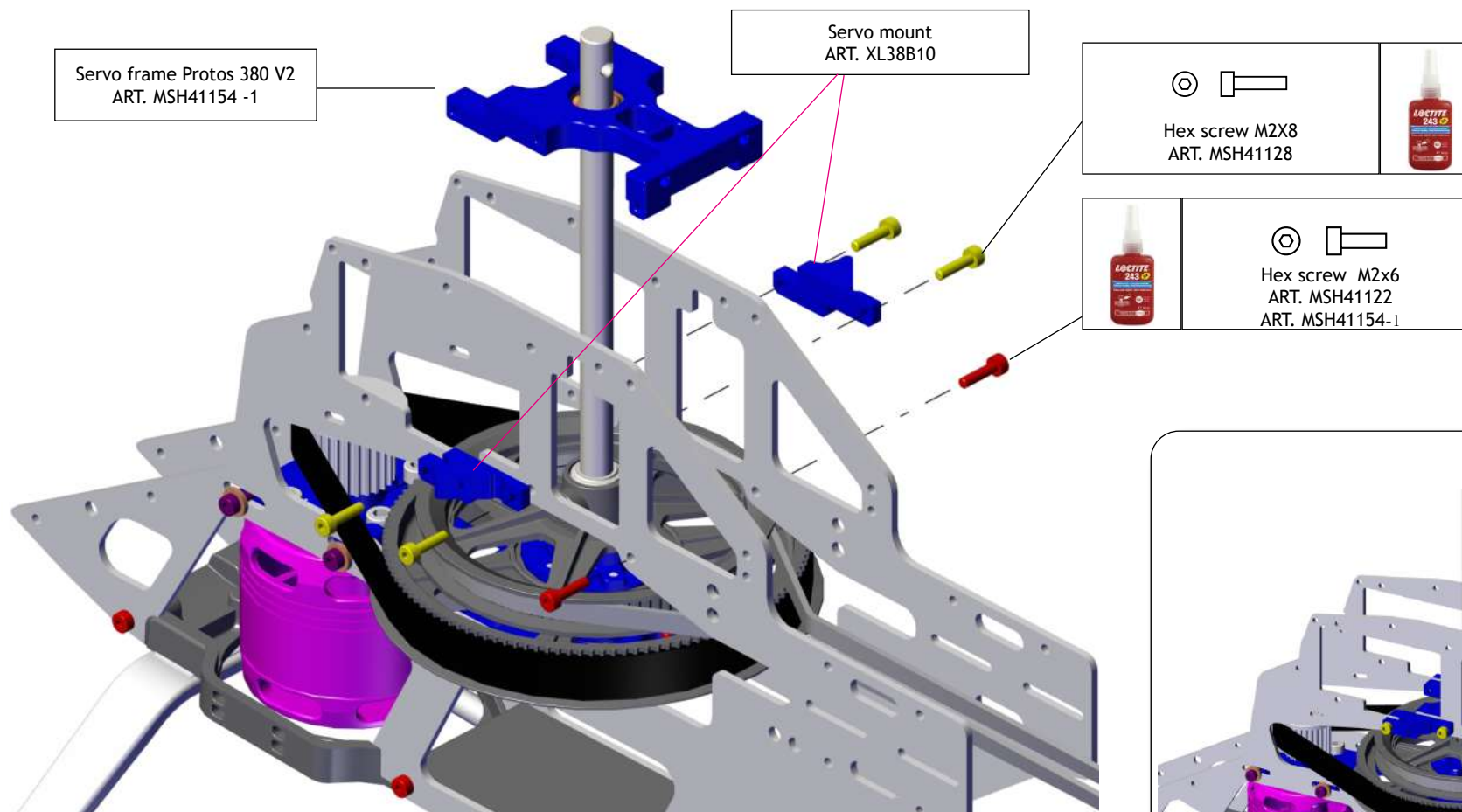


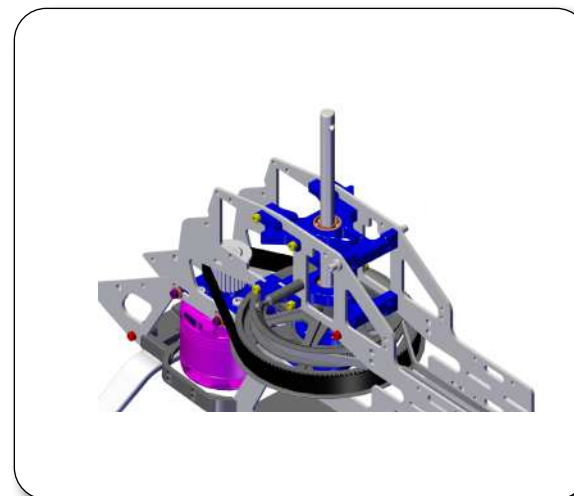
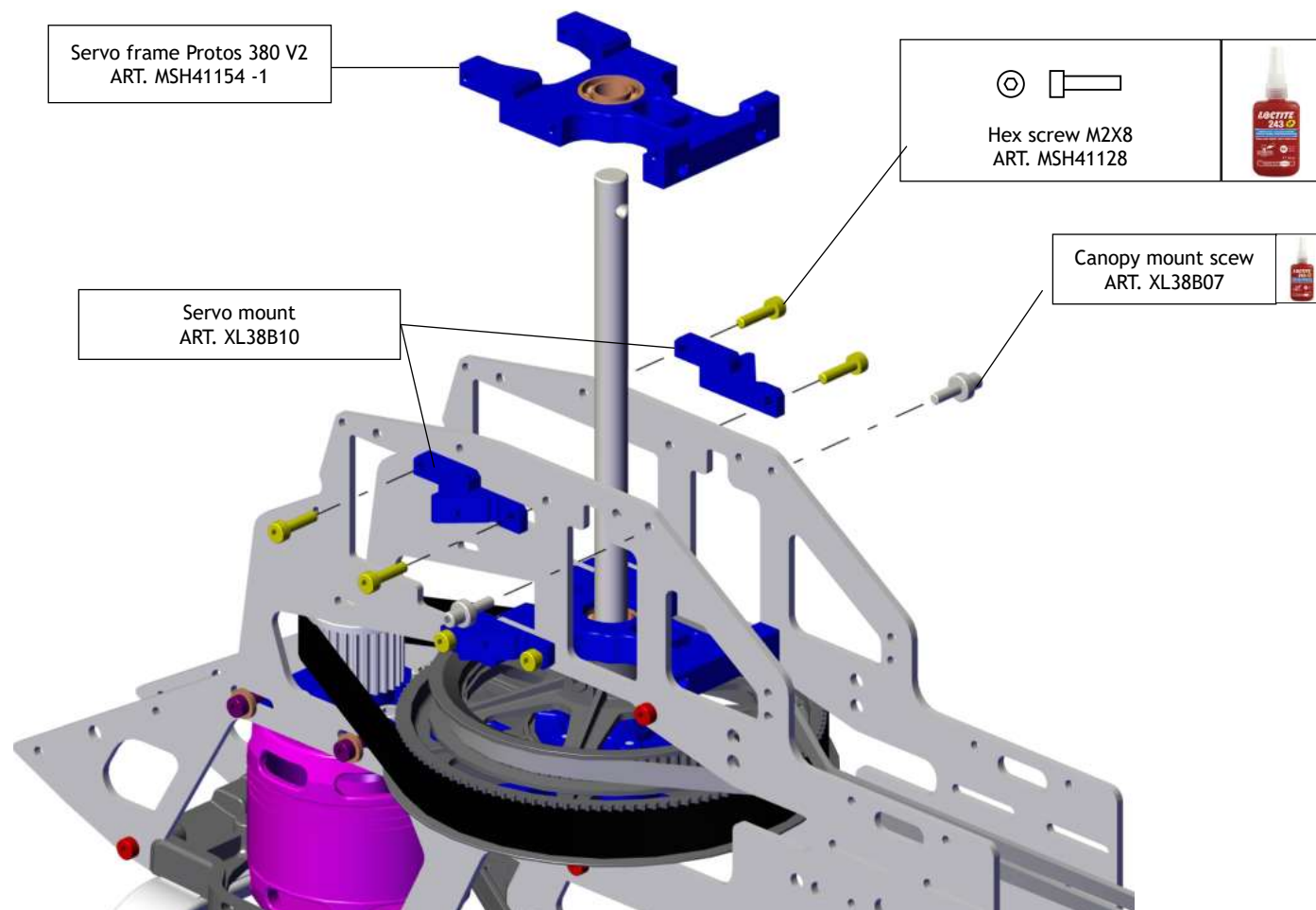


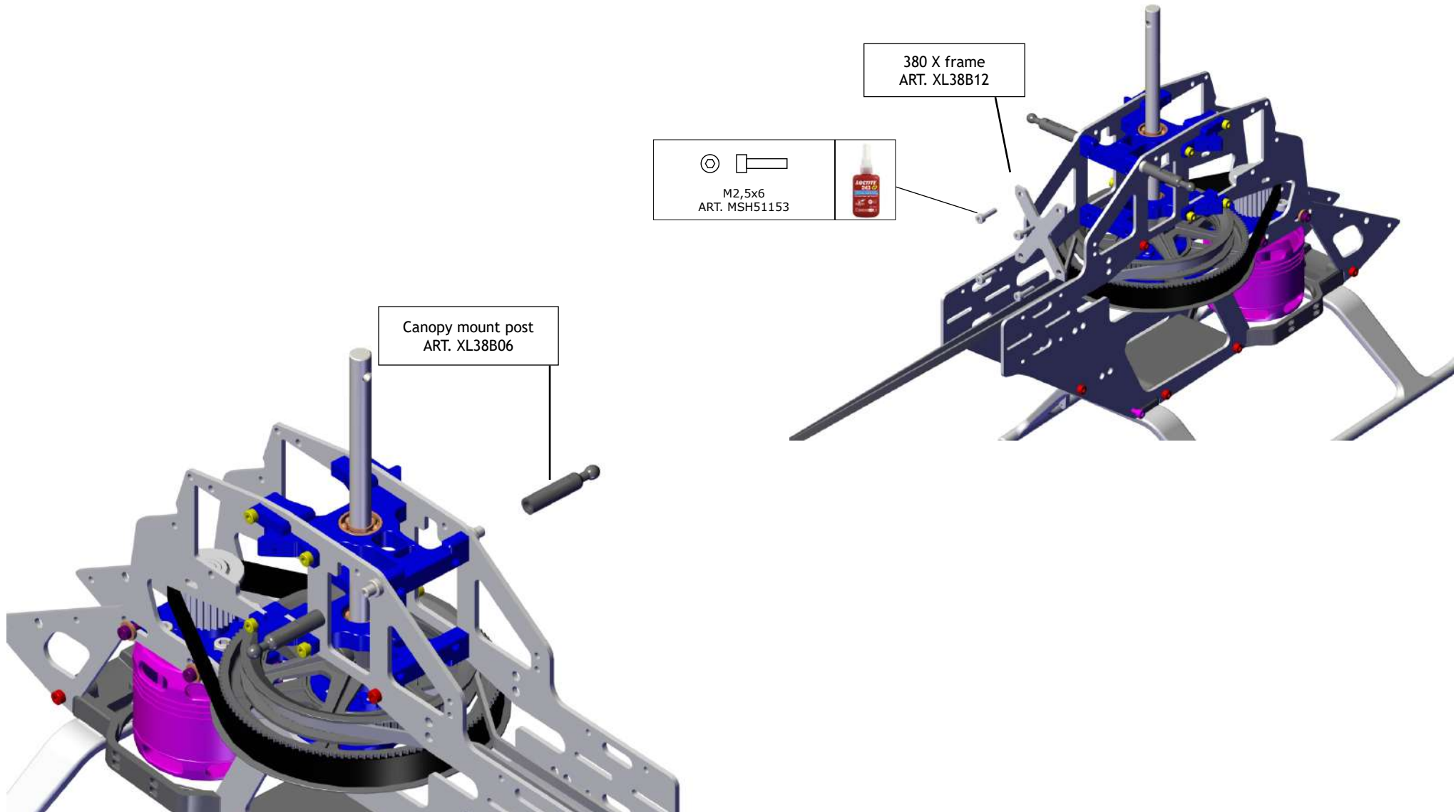


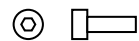
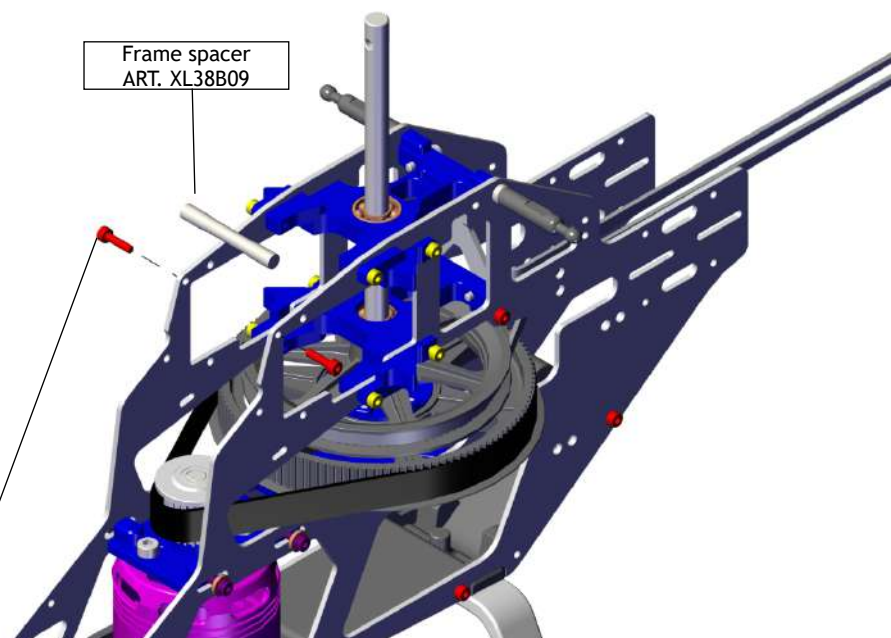
2X

Servo frame Protos 380 V2
ART. MSH41154 -1

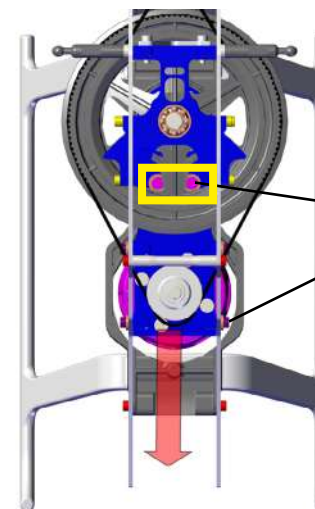




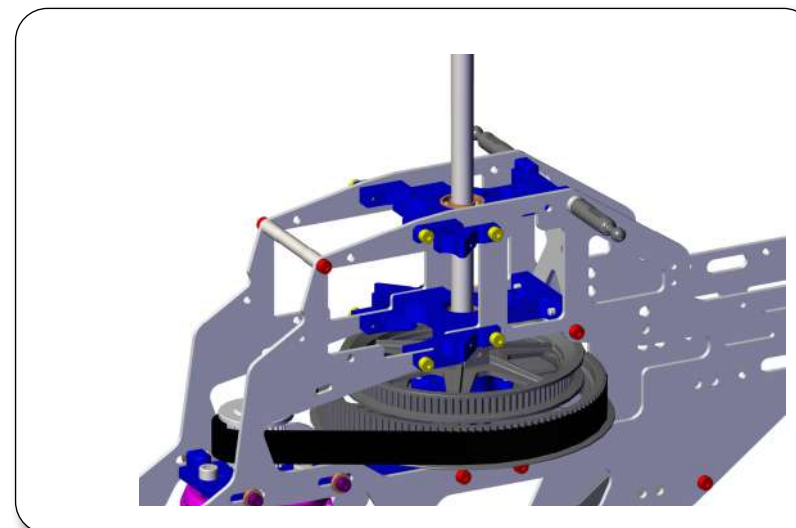




Hex screw M2x6
ART. MSH41122



Pull the motor mount and
fully tighten M2.5*6 and
M2.5*10 screw



Servo arm 23T
ART.XL38B08
NOT INCLUDED in kit

Optional
25T for GDW and KST
ART.XL38B08-5

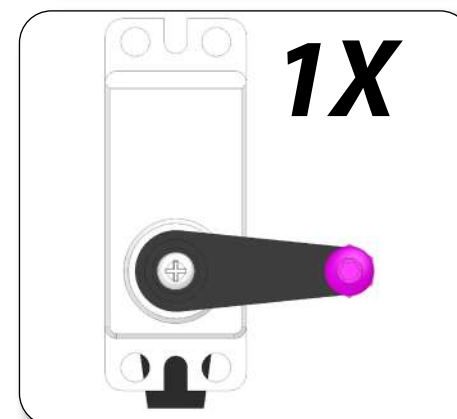
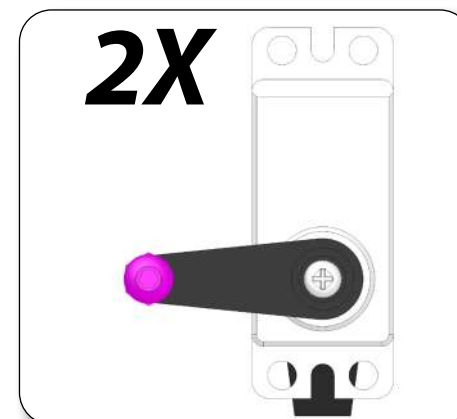
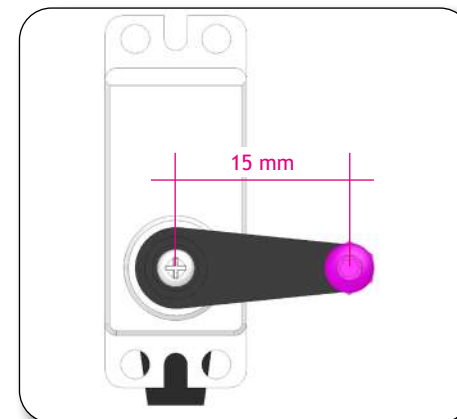
NOT INCLUDED

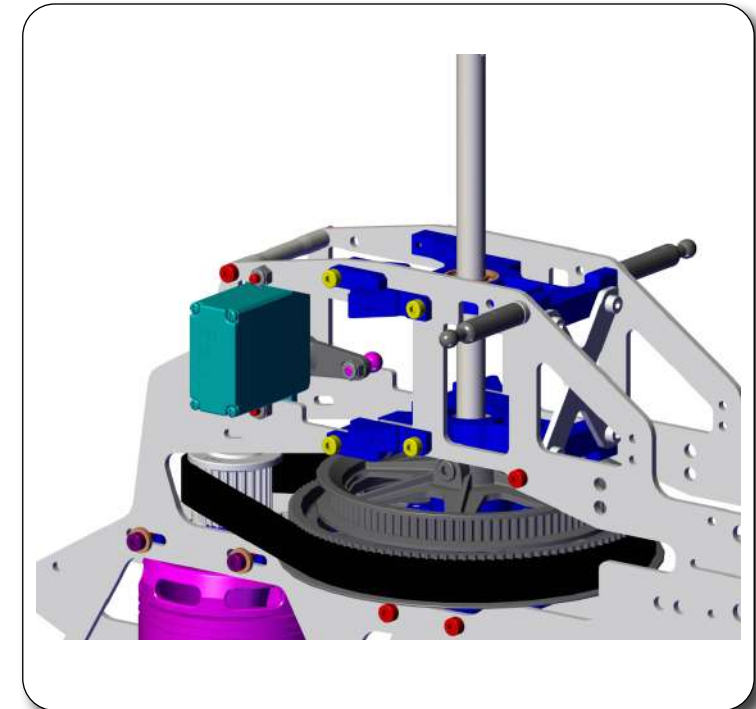
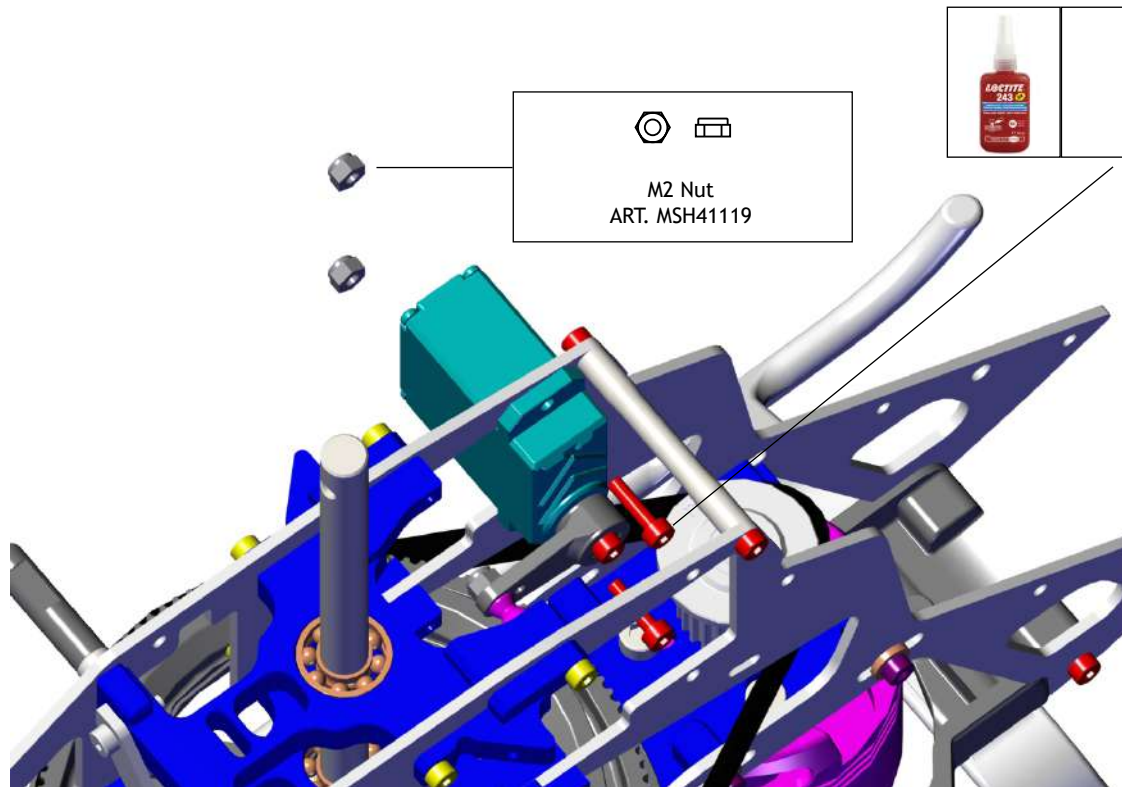


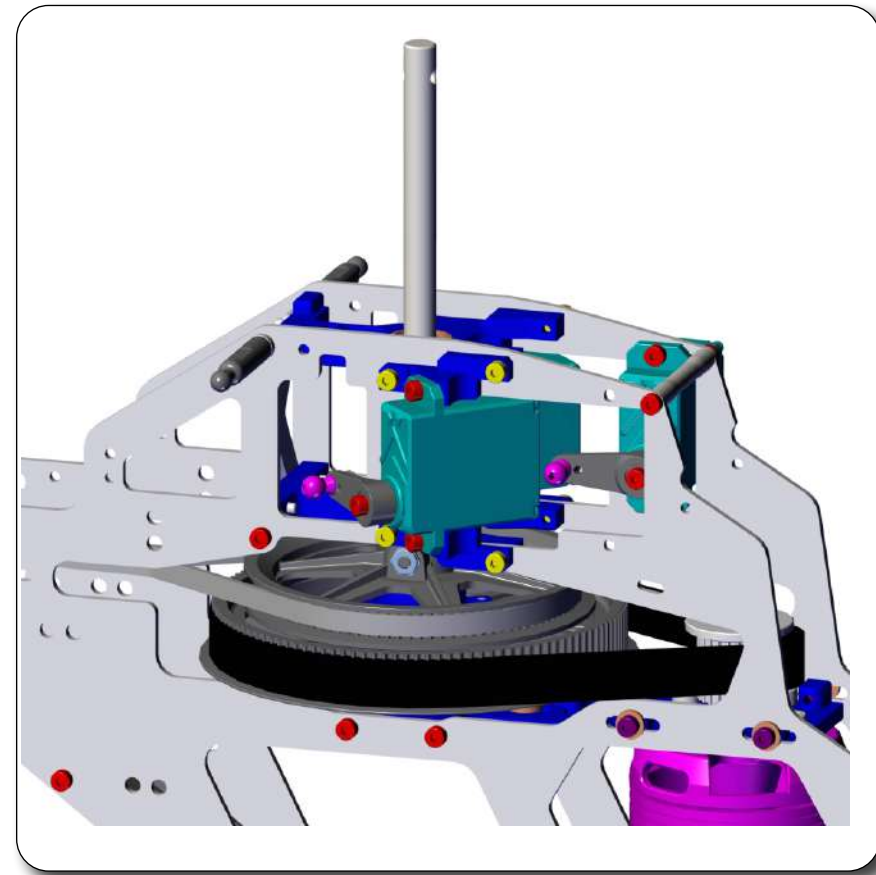
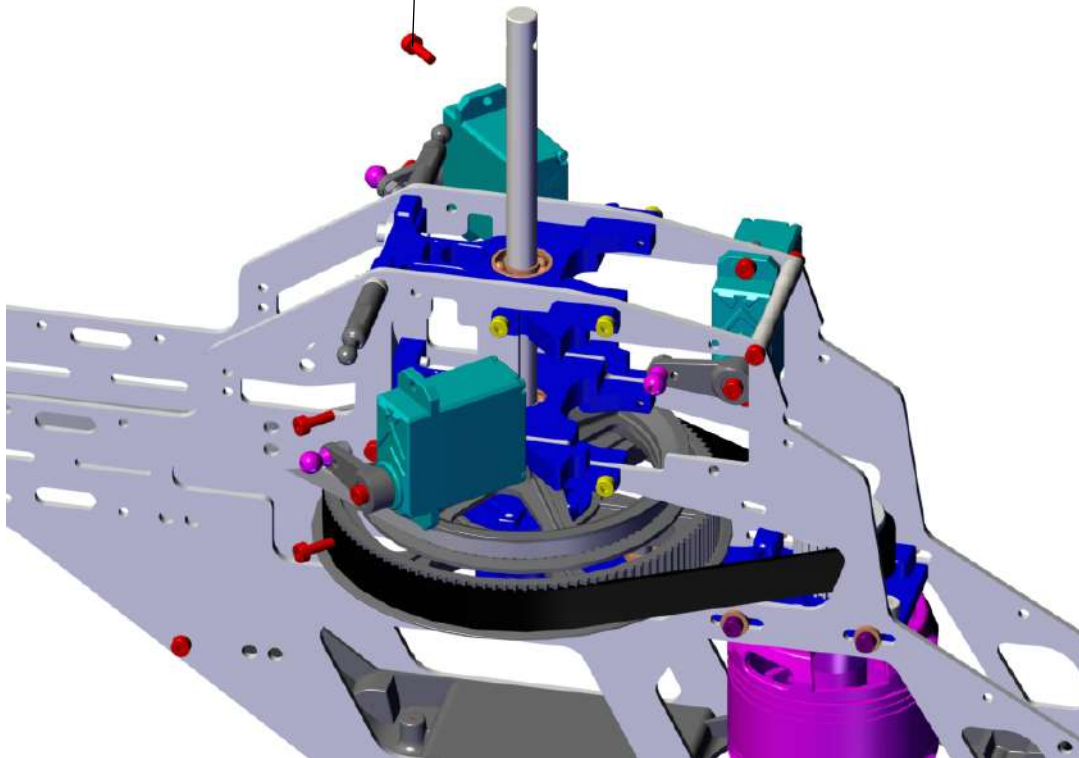
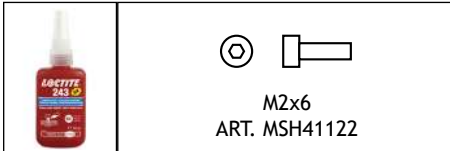
Ball M2x4.8
ART. MSH41009

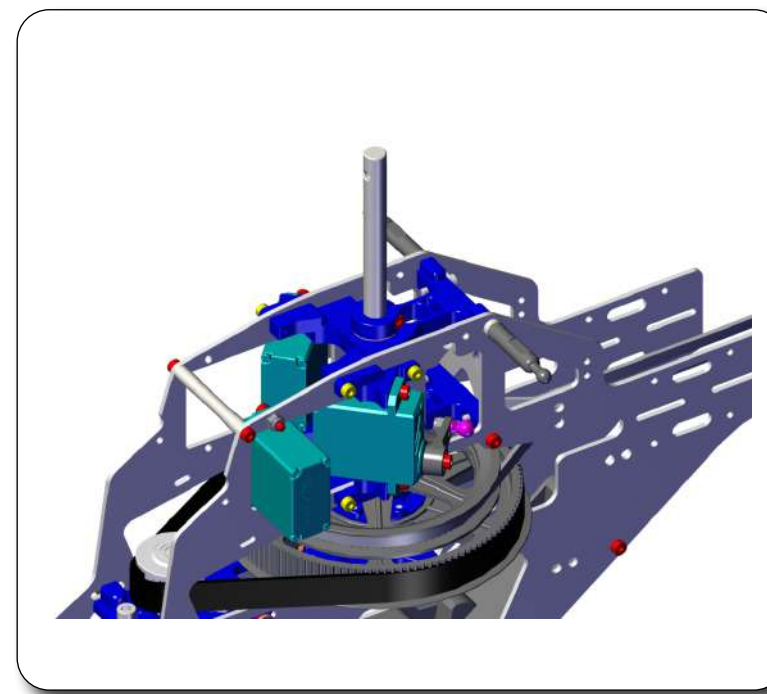
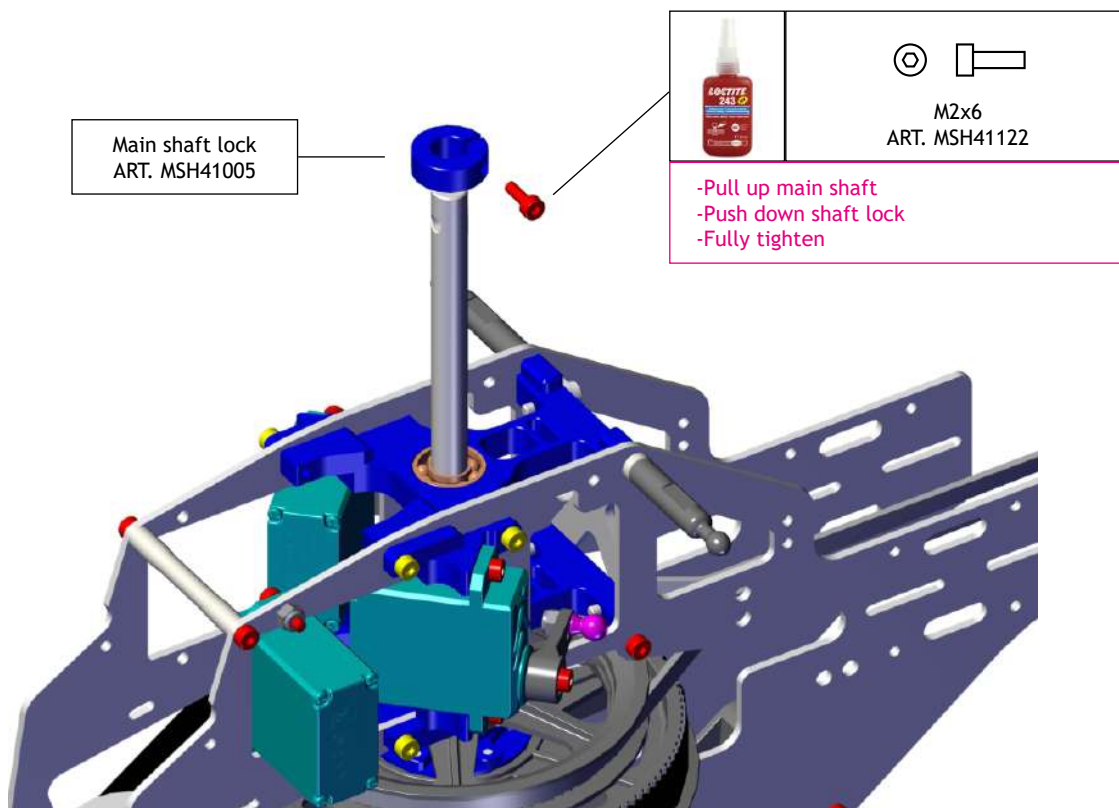


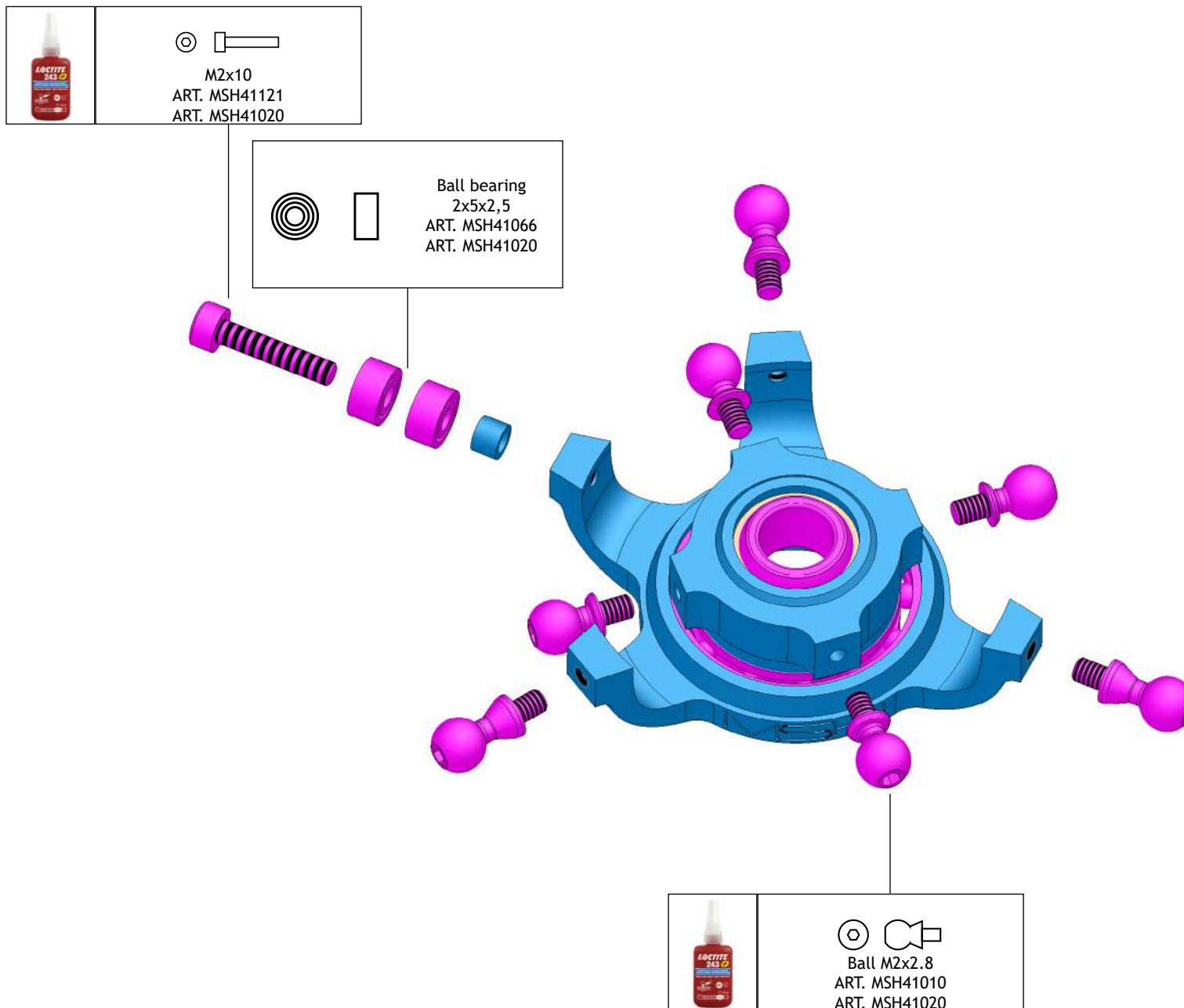
M2 Nut
ART. MSH41119

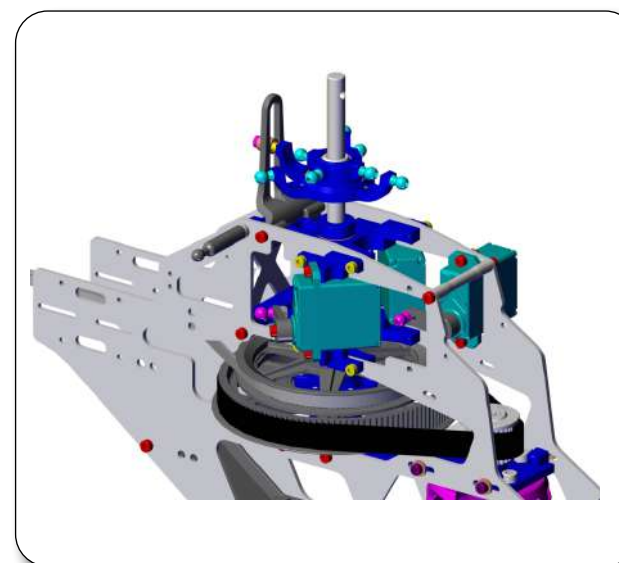
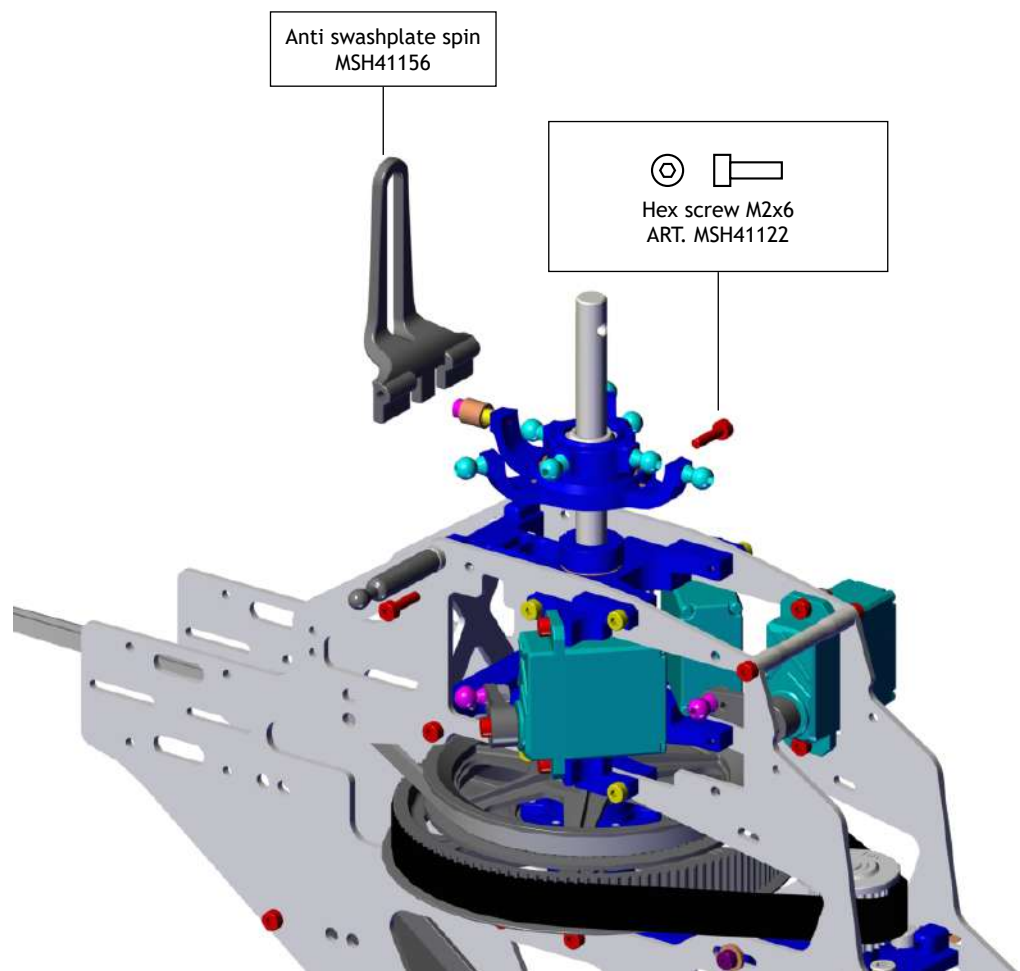








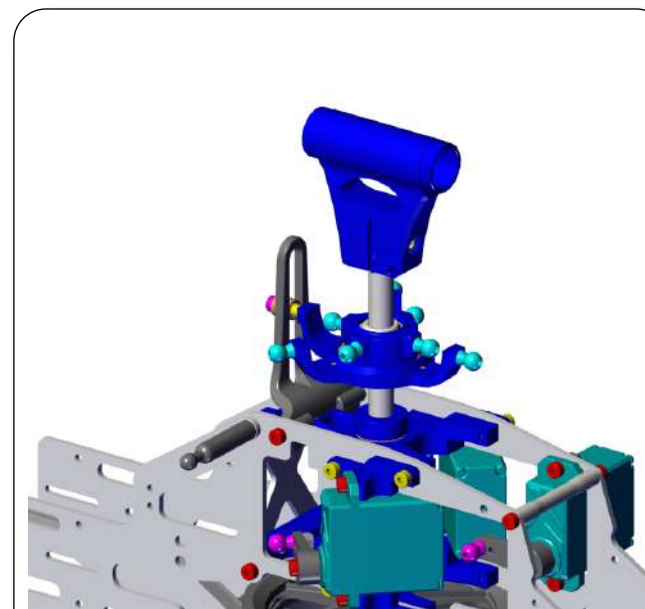
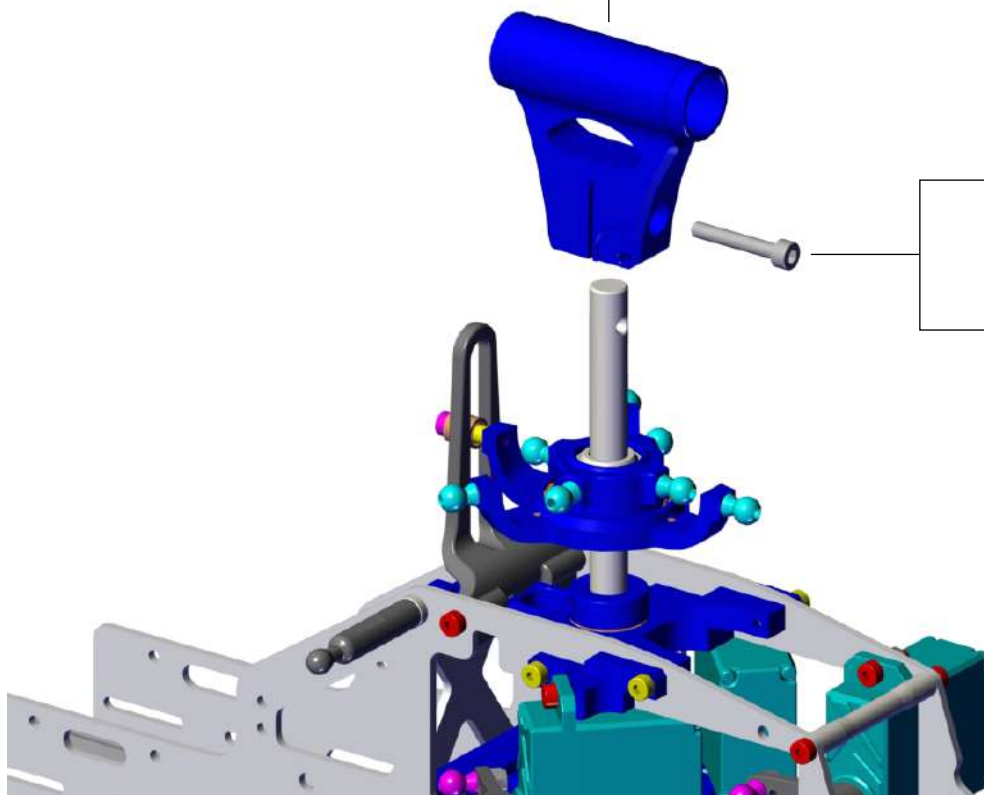


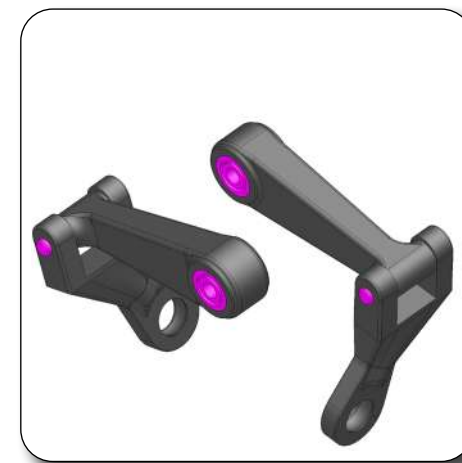
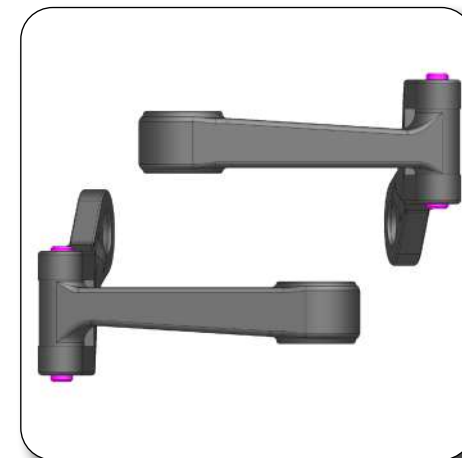
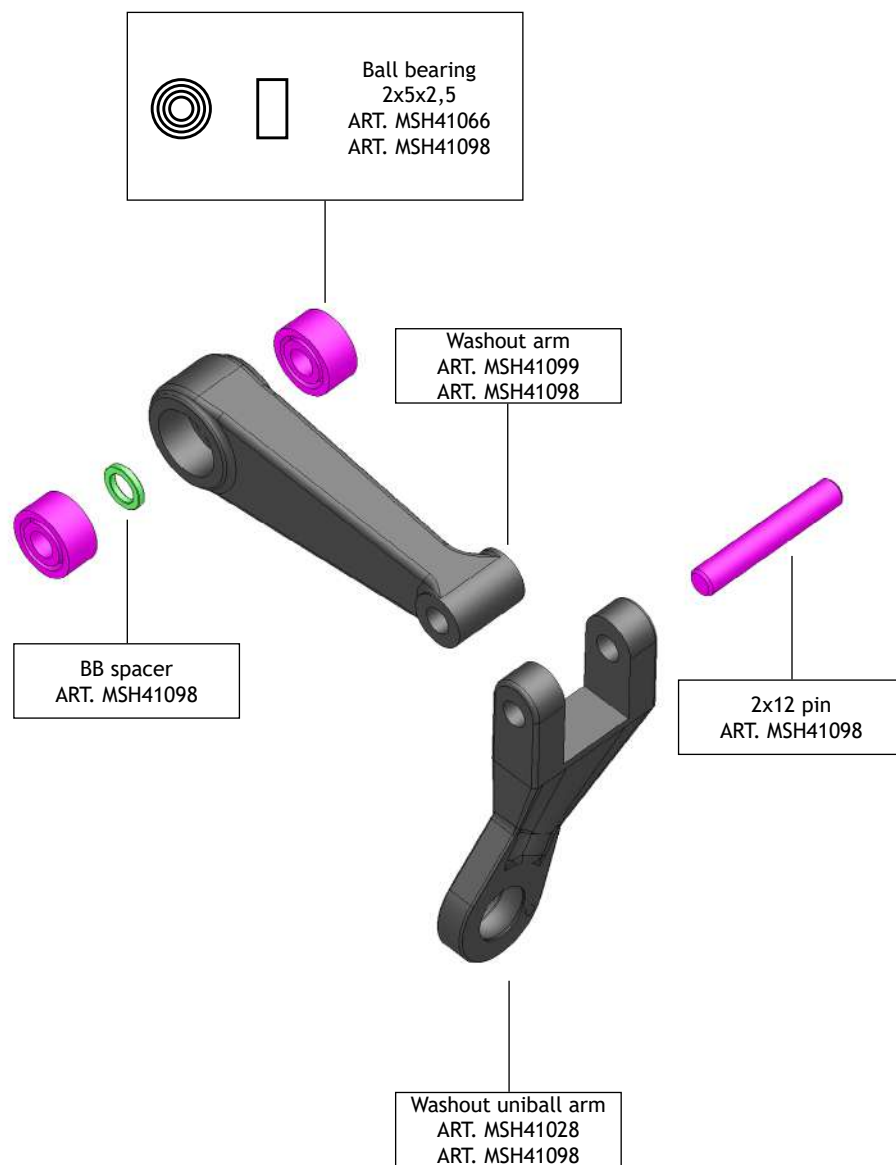


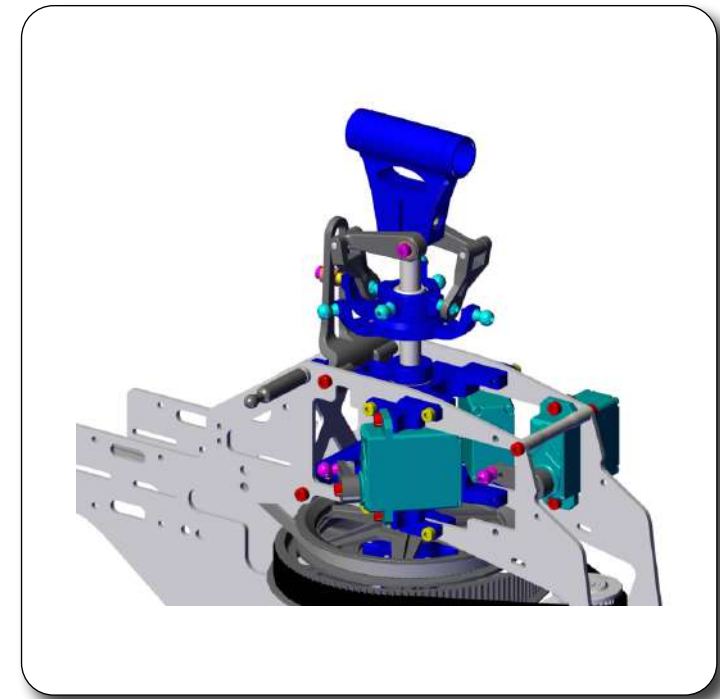
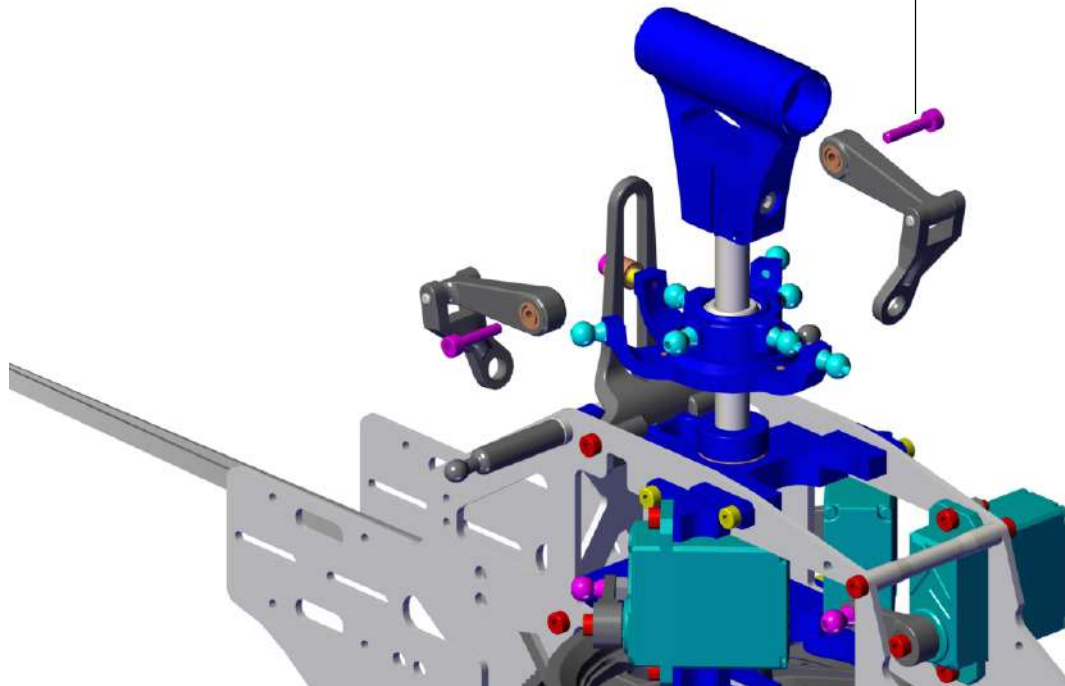
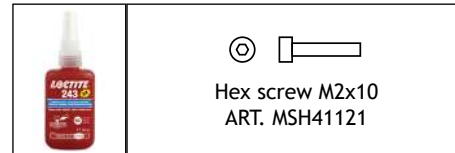
Main hub Protos 380
ART. MSH41157

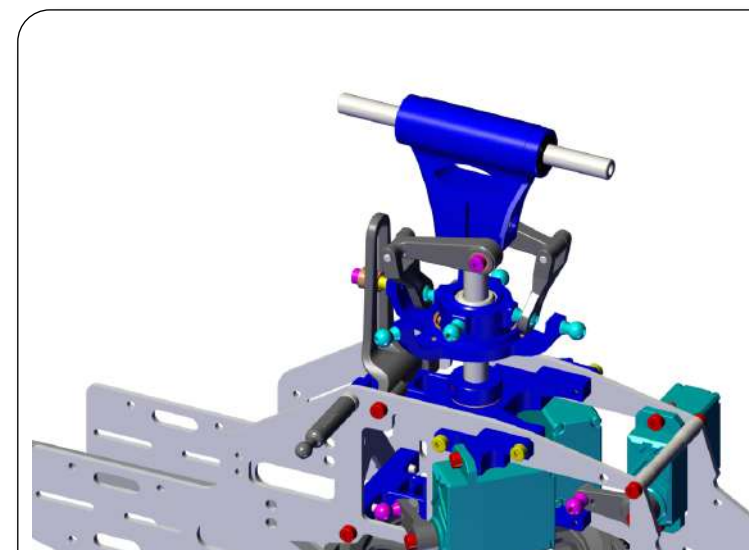
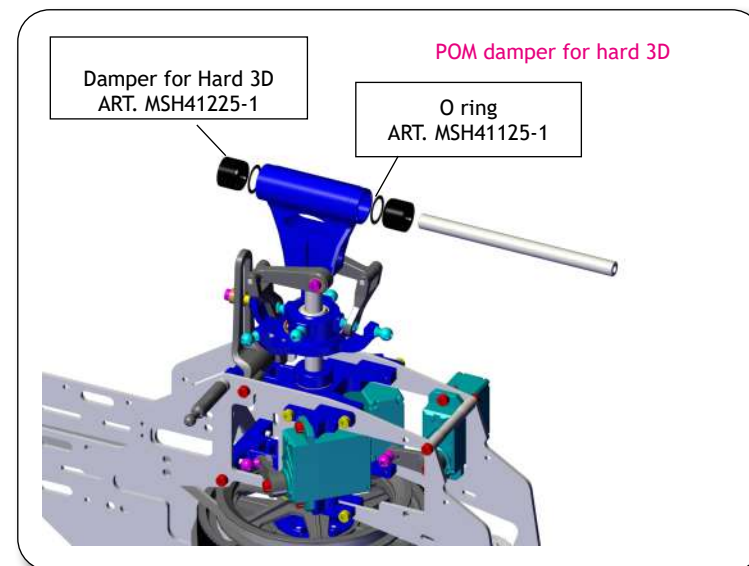
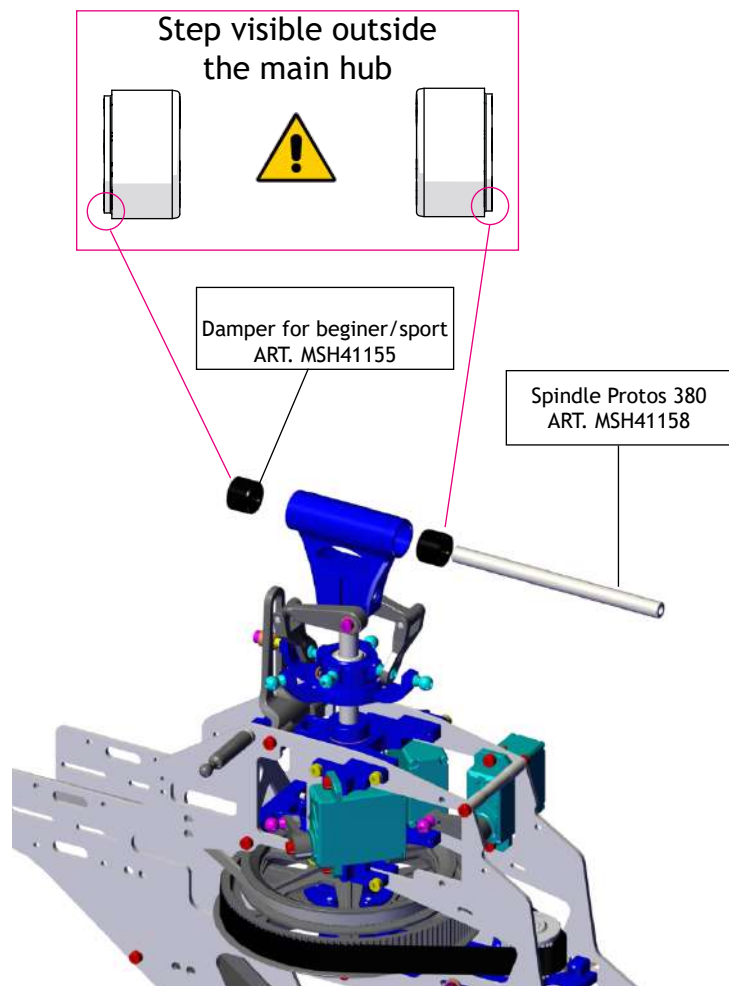


Hex screw M2,5x16
ART. MSH51145

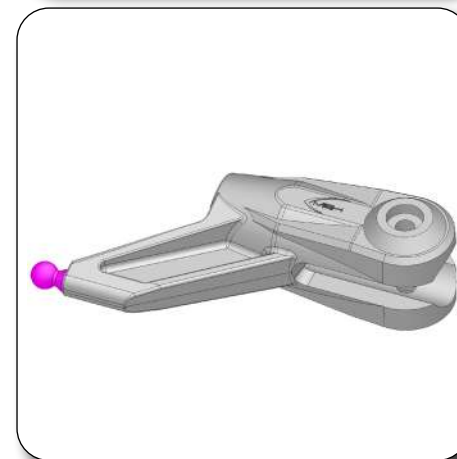


2X





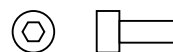
For Metal grip upgrade manual
pls check page 57



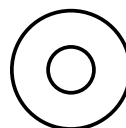
Step outside
the main hub



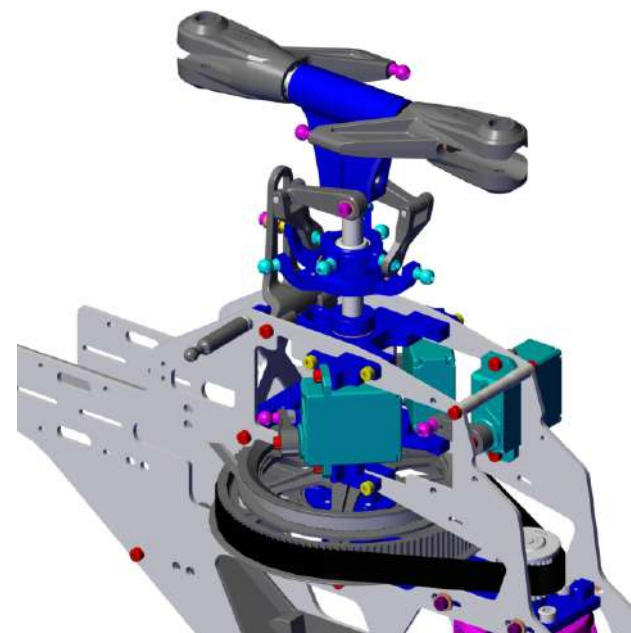
Spindle spacer
ART. MSH41158

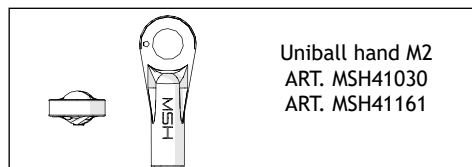


Hex screw M3x8
ART. MSH51152
ART. MSH41158

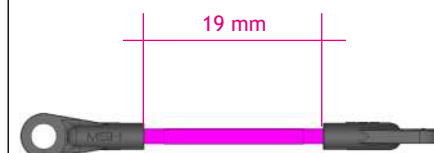


Washer
3x8x1
ART. MSH41158

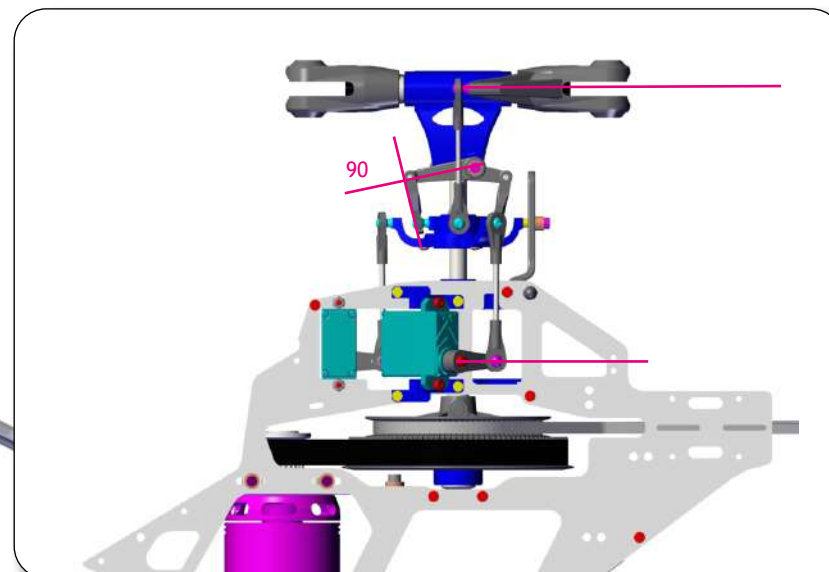
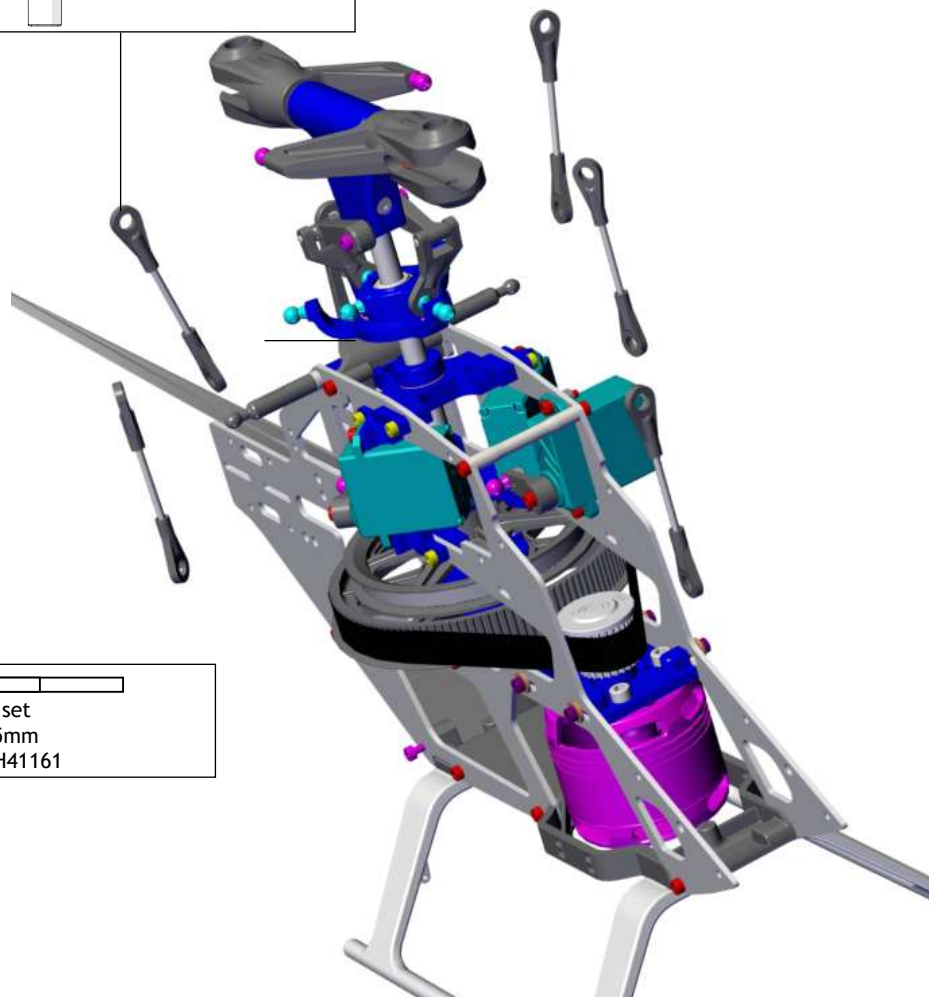
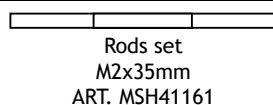




5X



Servo rod lenght may differ slightly with different servo brand.
check 0degree and servo arms are level.



2X



Ball bearing
2.5x7x2.5
ART. MSH41034
ART. MSH41067



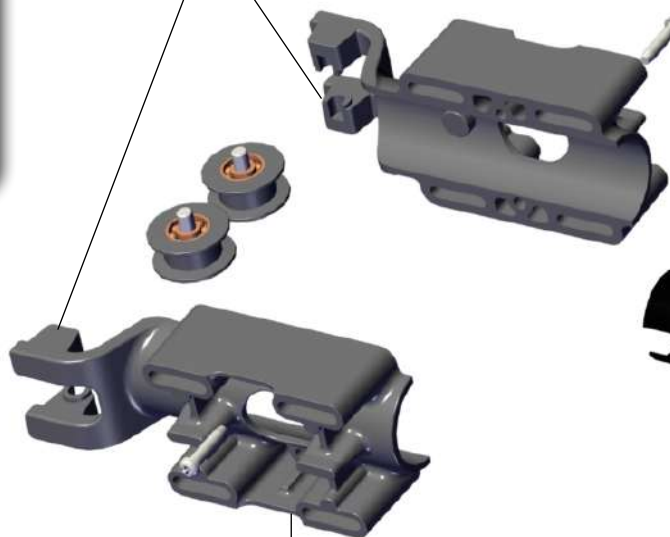
Guide pulley
ART. MSH41034

Pin 2.5*12
ART. MSH41034



Click in position

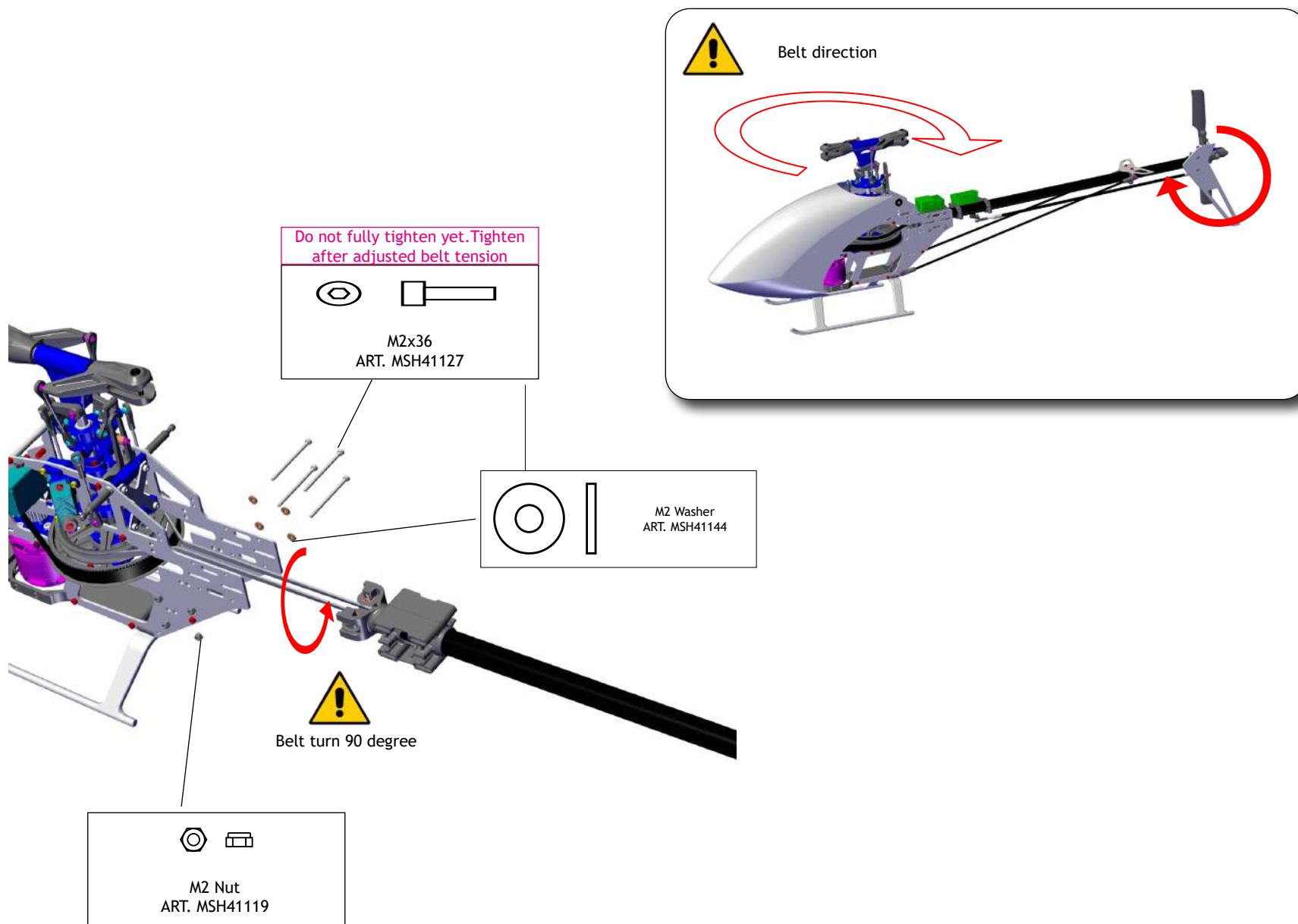
Self tapping screw
ART. MSH41056

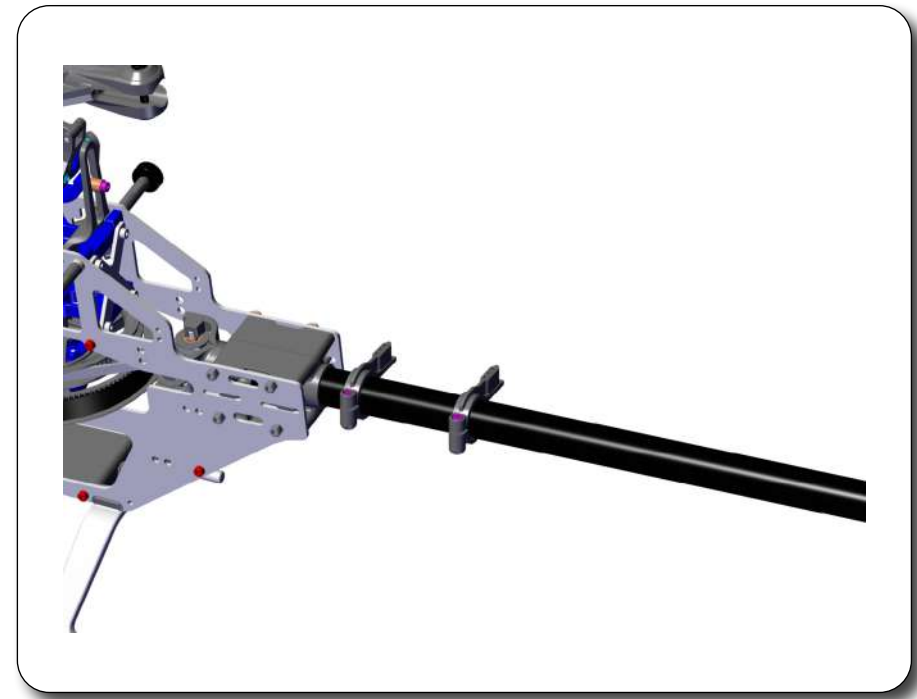
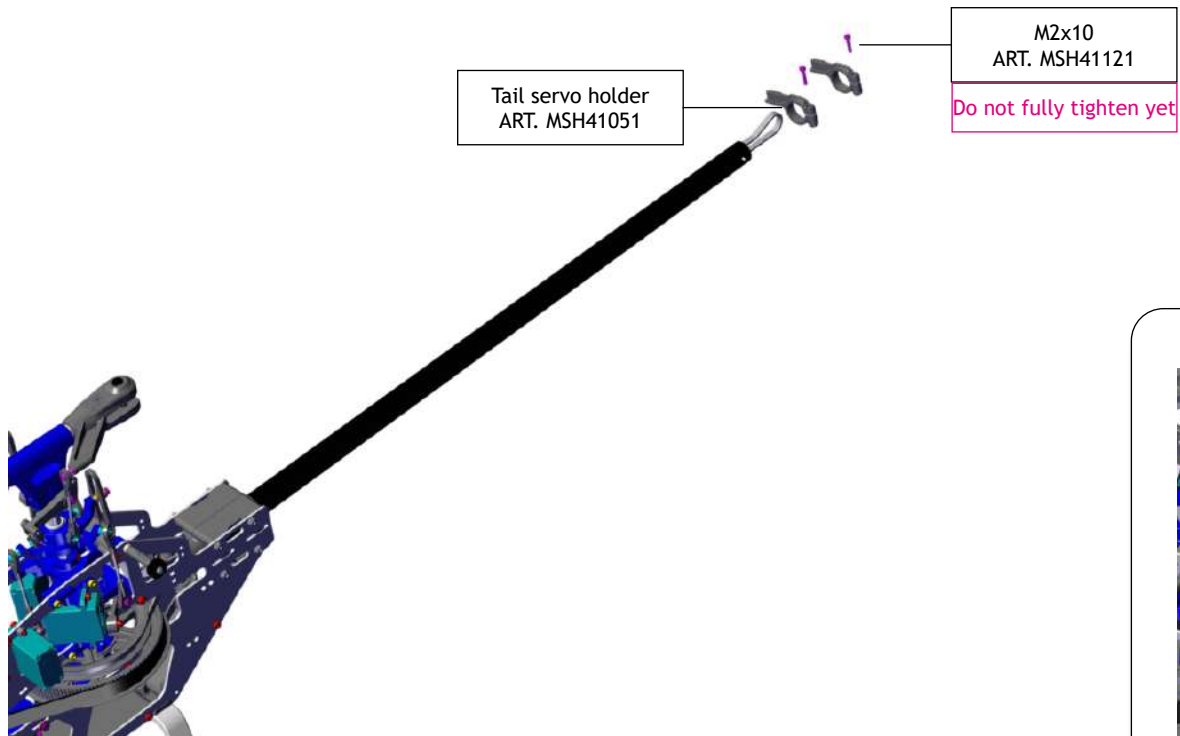


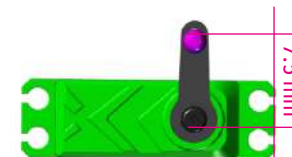
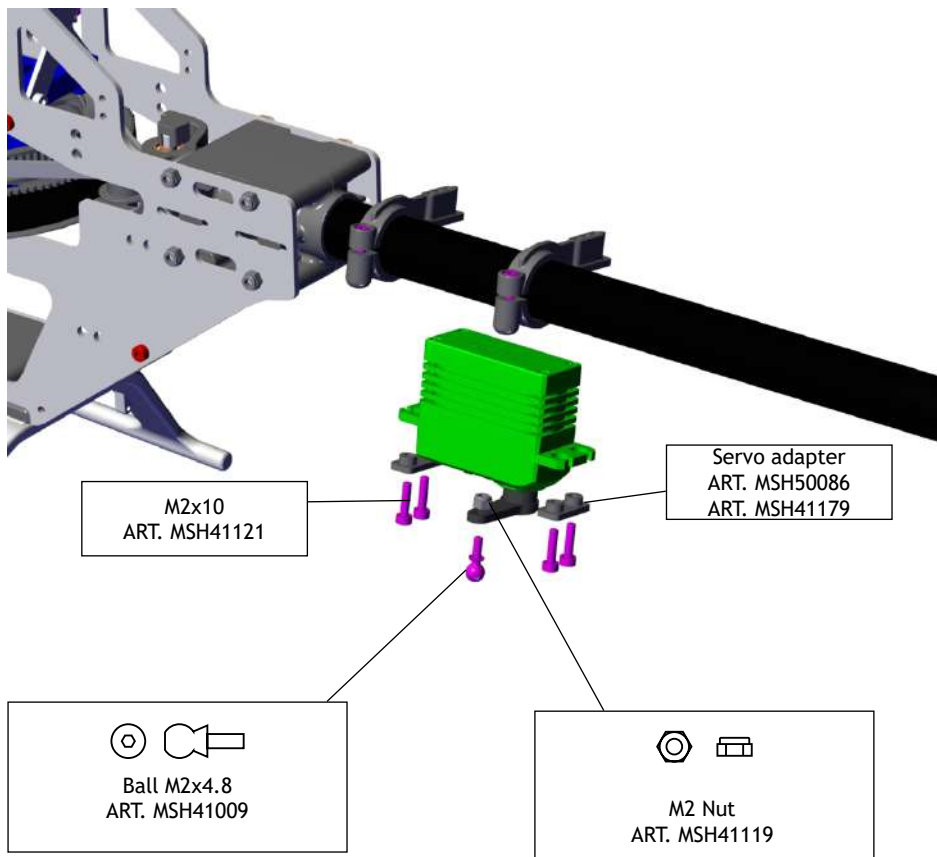
Tail Boom clamp
ART. MSH41056

Boom XL380
ART. XL38T01

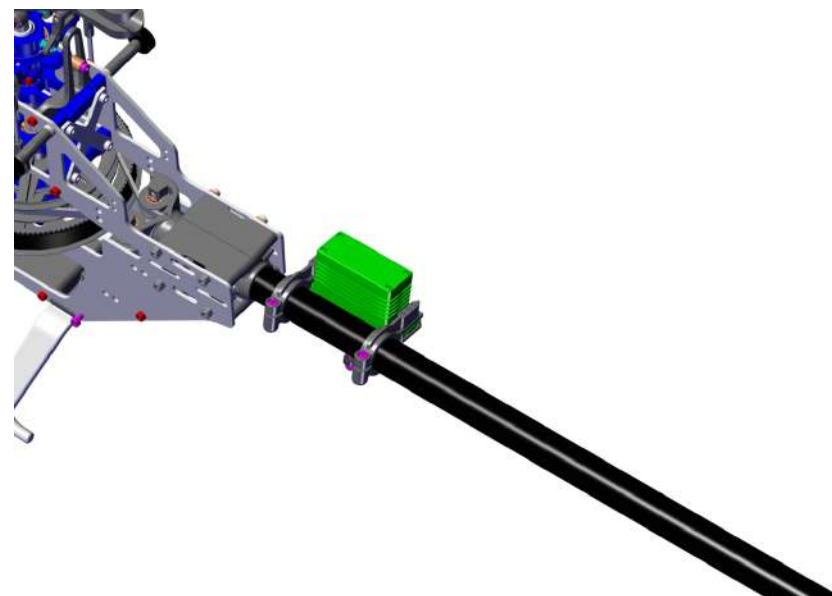


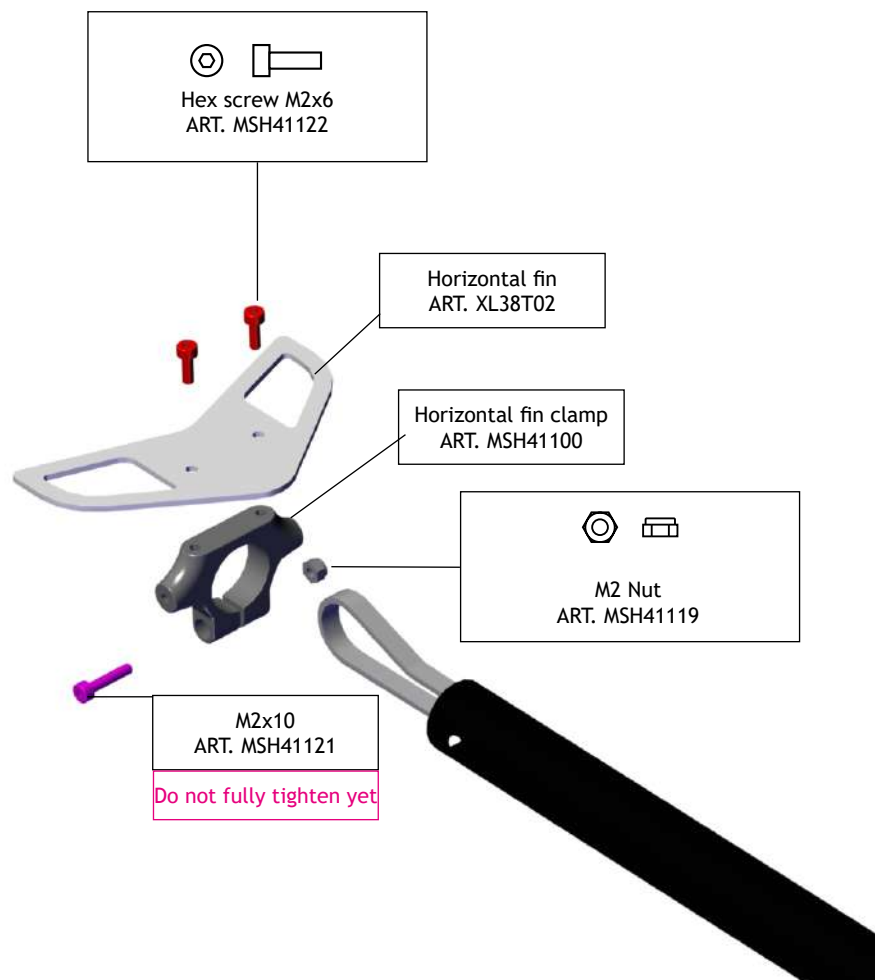


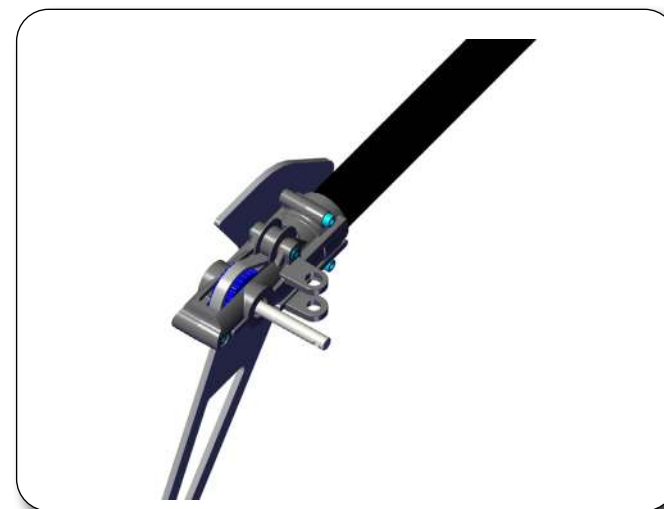
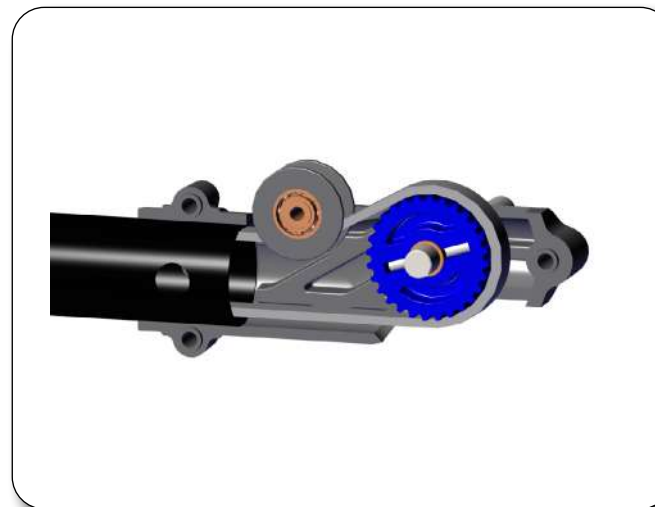
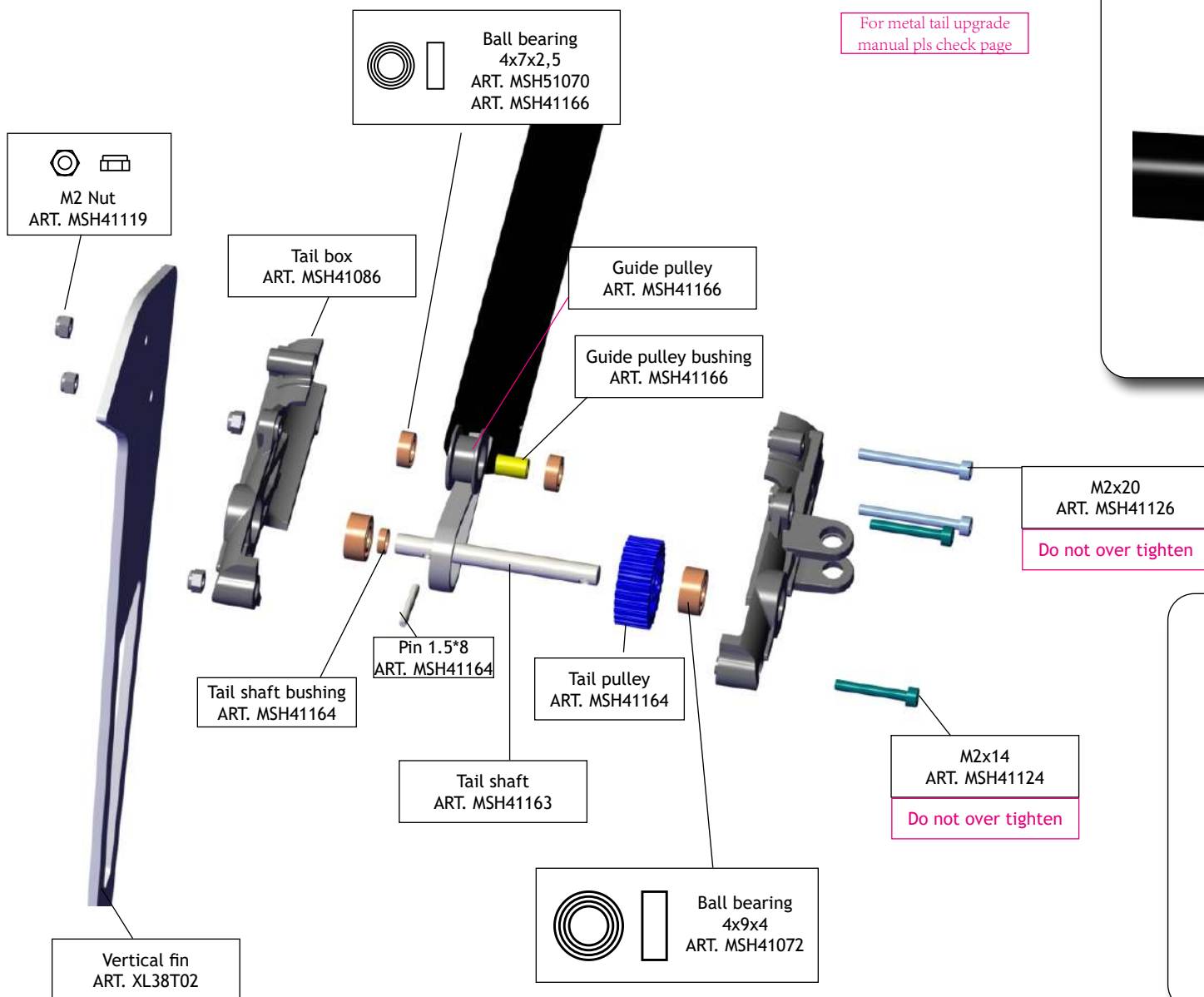


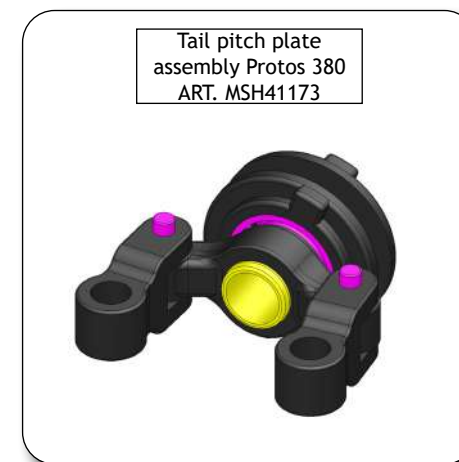
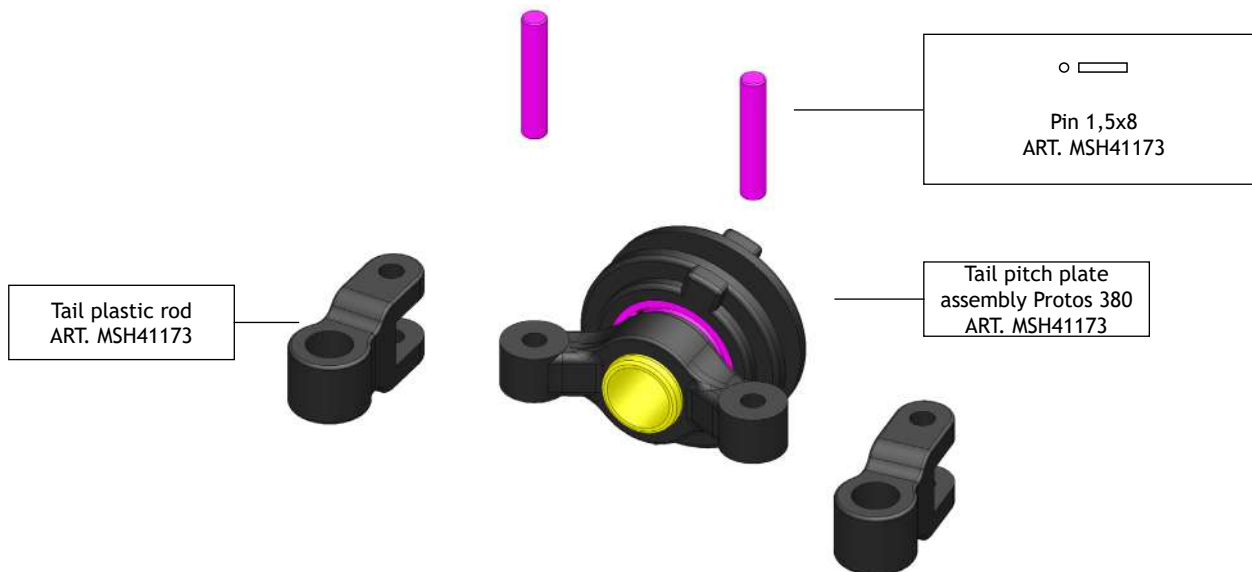
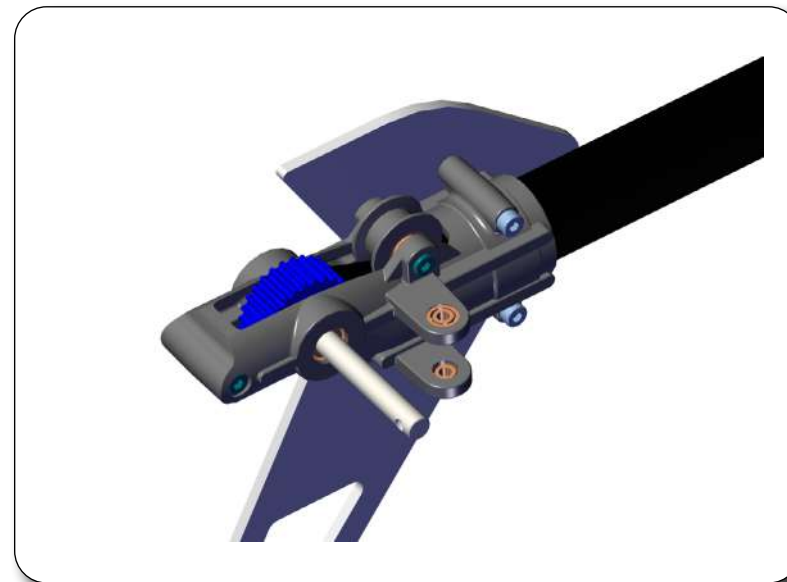
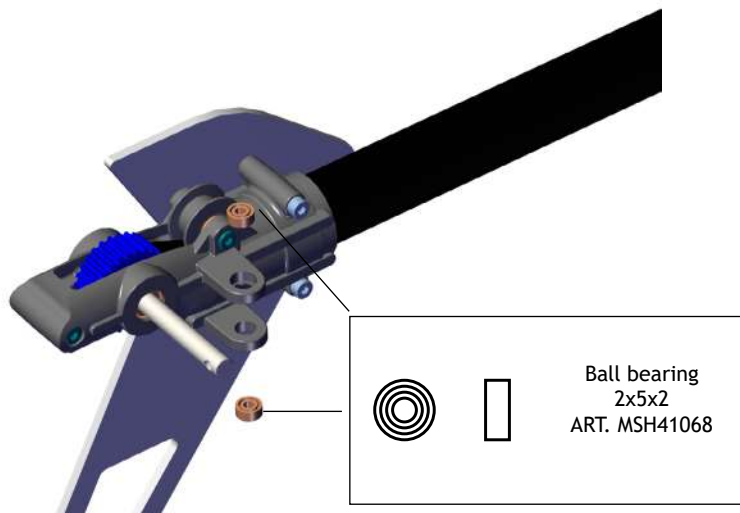


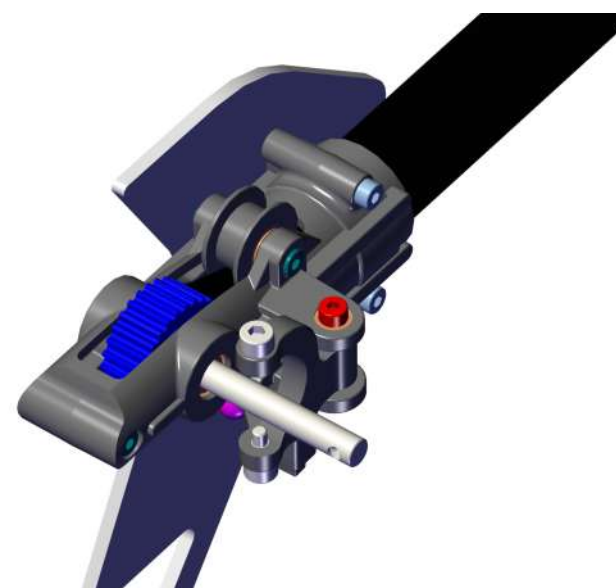
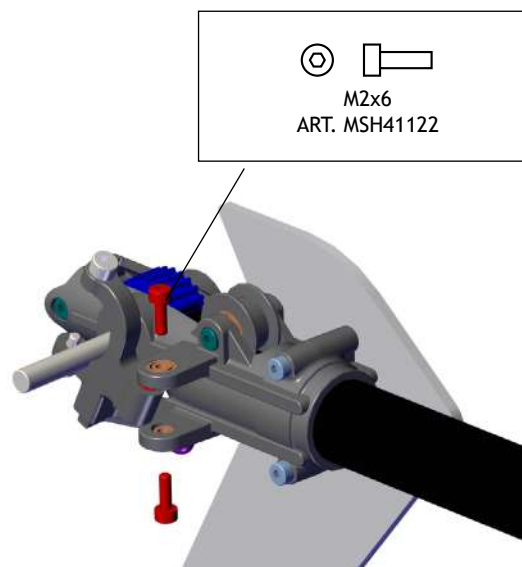
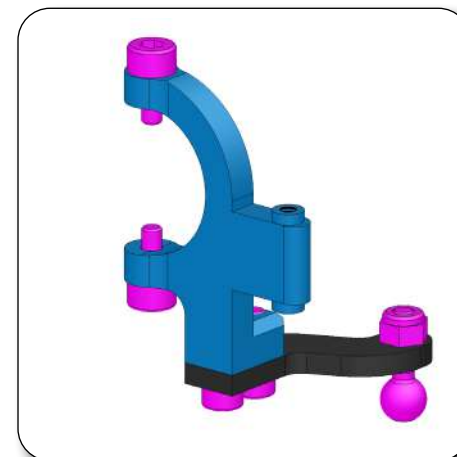
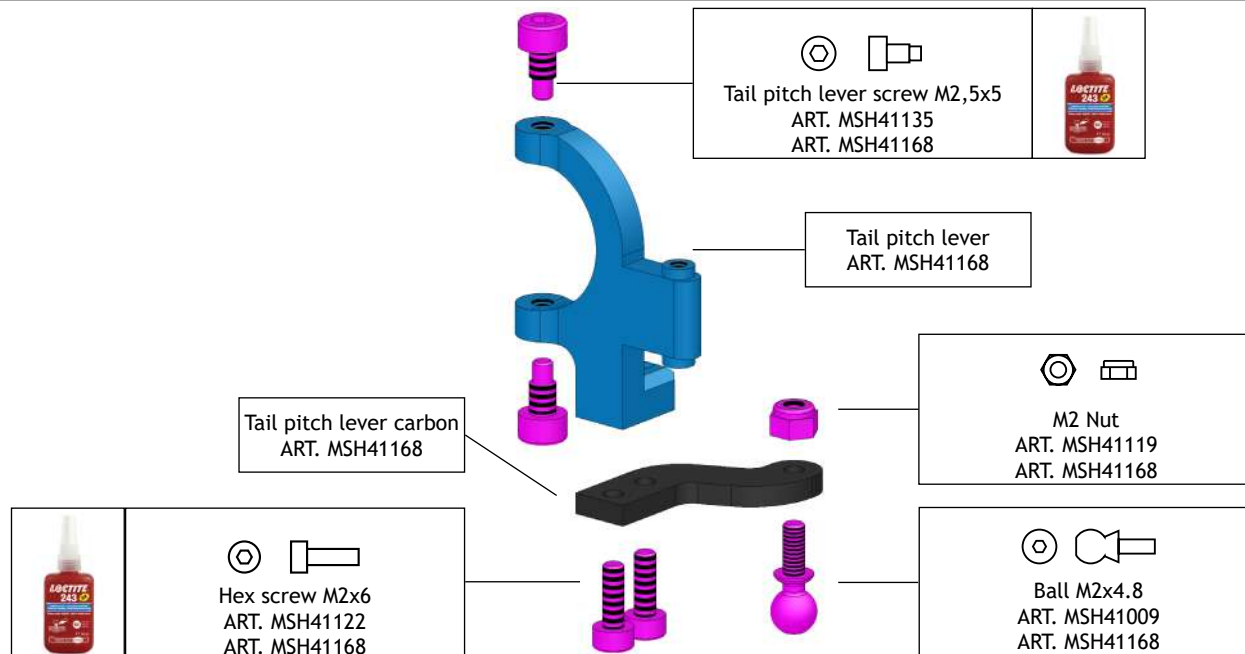
Servo horn length may differ with different servo brand. Keep your tail endpoint around 100 in gyro setting

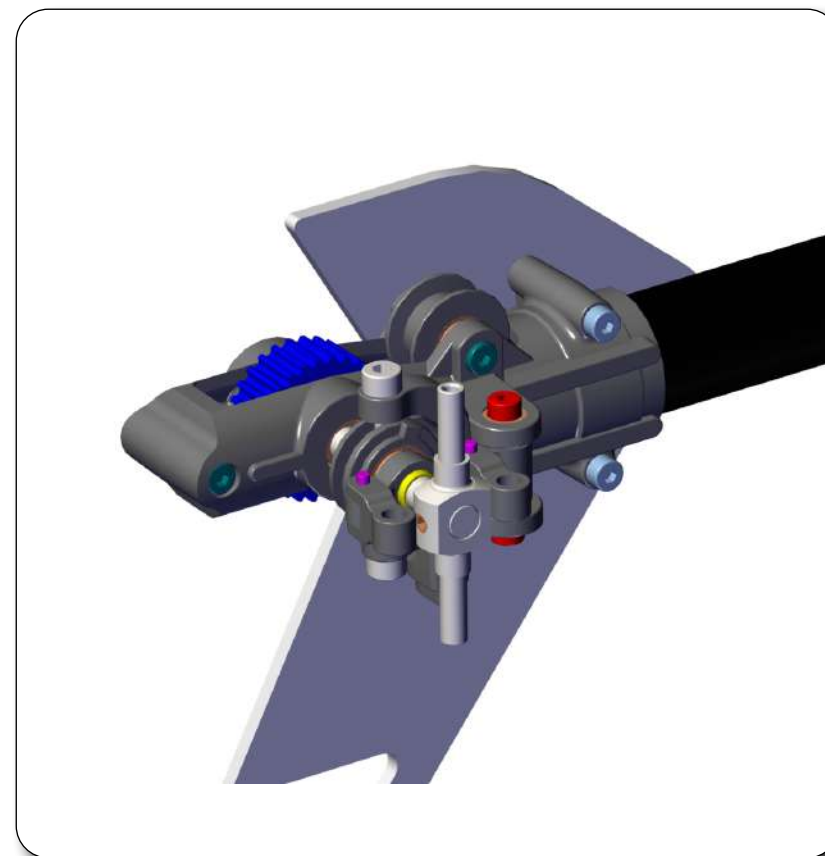
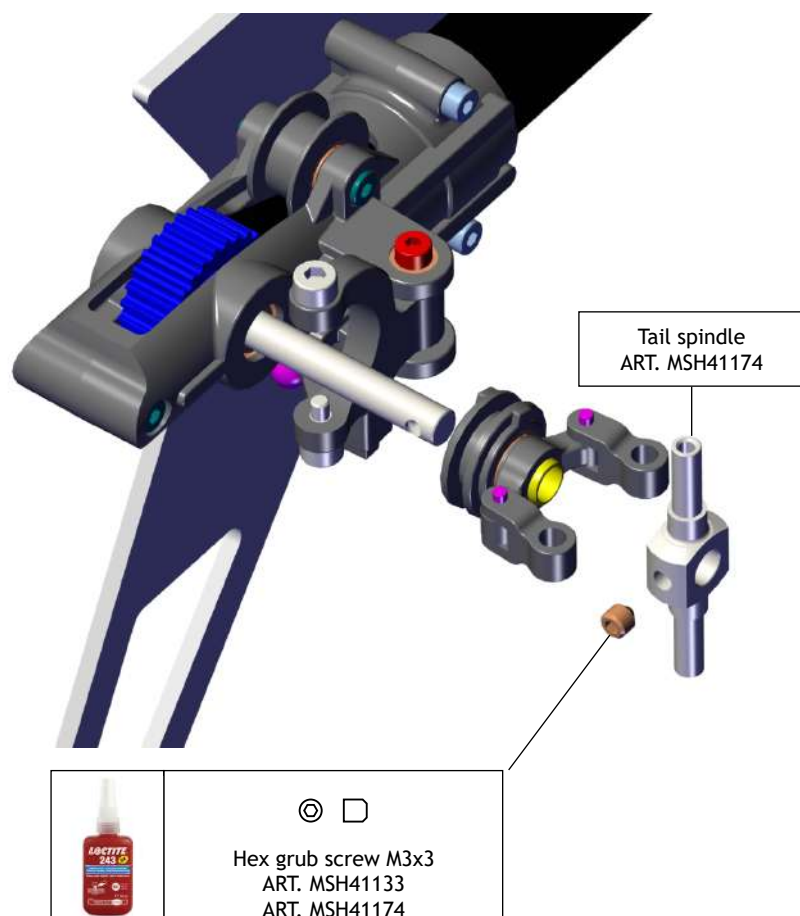




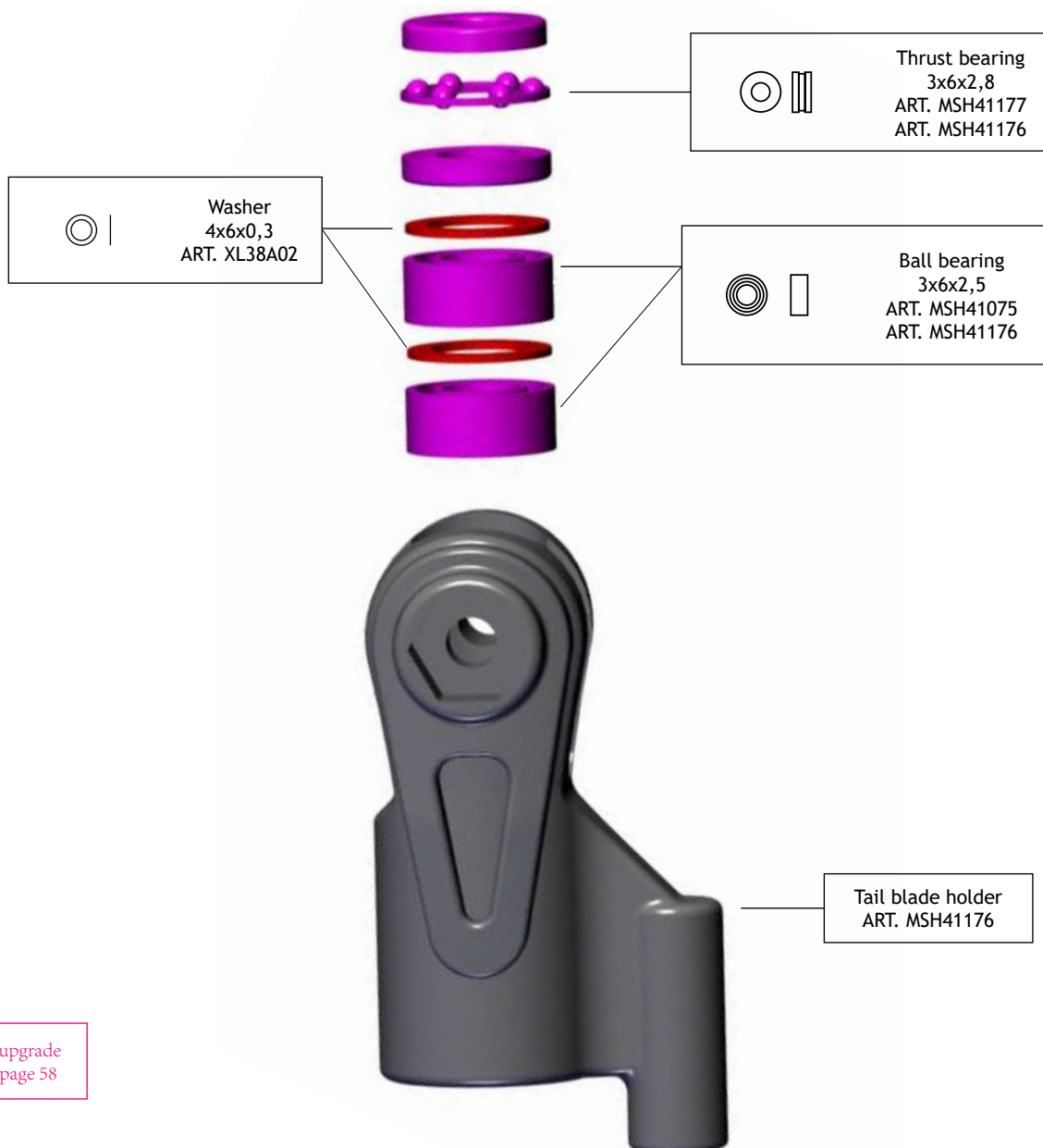








2X



For metal tail grip upgrade
manual pls check page 58



Attention: bearing must be in place

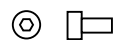
Apply grease on thrust
bearing

Internal hole SMALLER



Internal hole BIGGER





Hex screw M2x4
ART. MSH41141



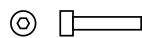
Special Washer
ART. MSH41174



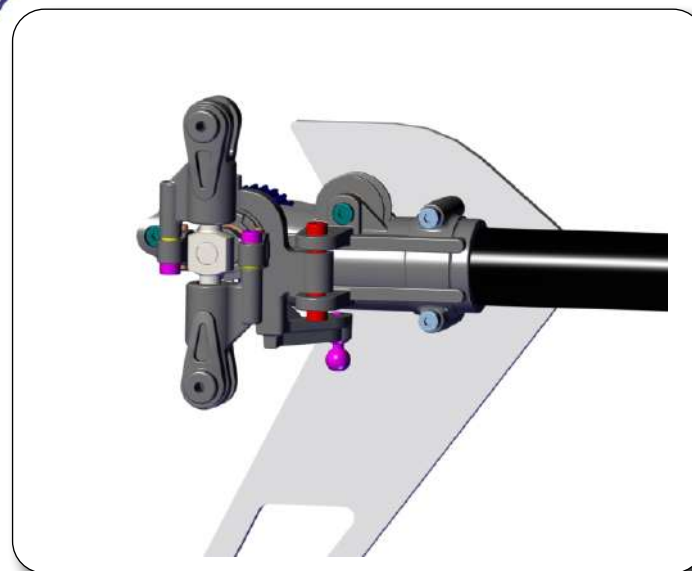
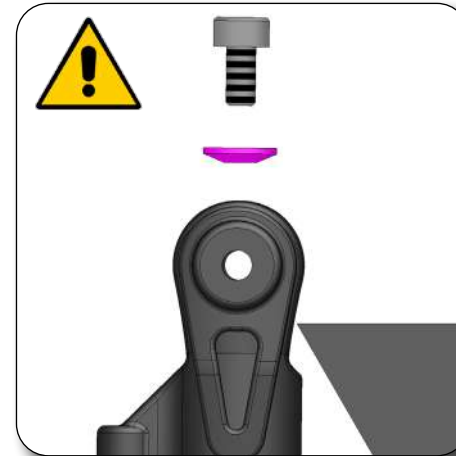
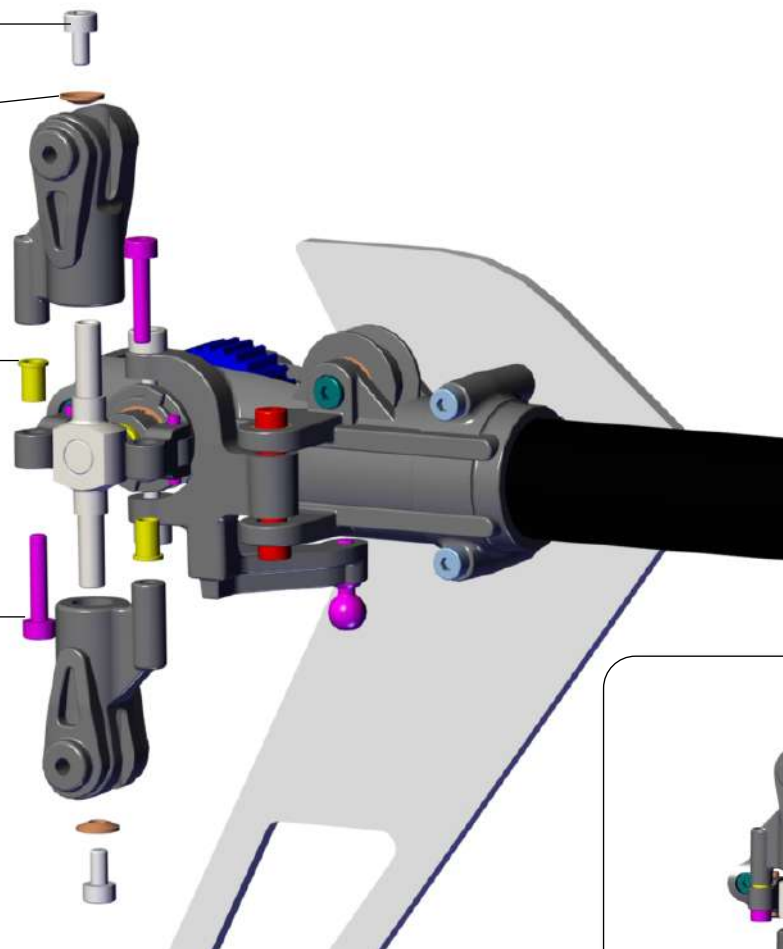
Tail pitch bushing
ART. MSH41176

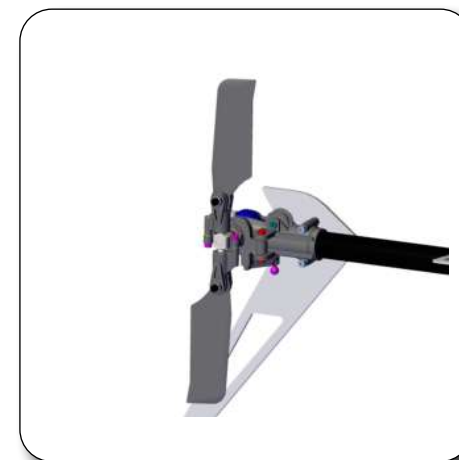
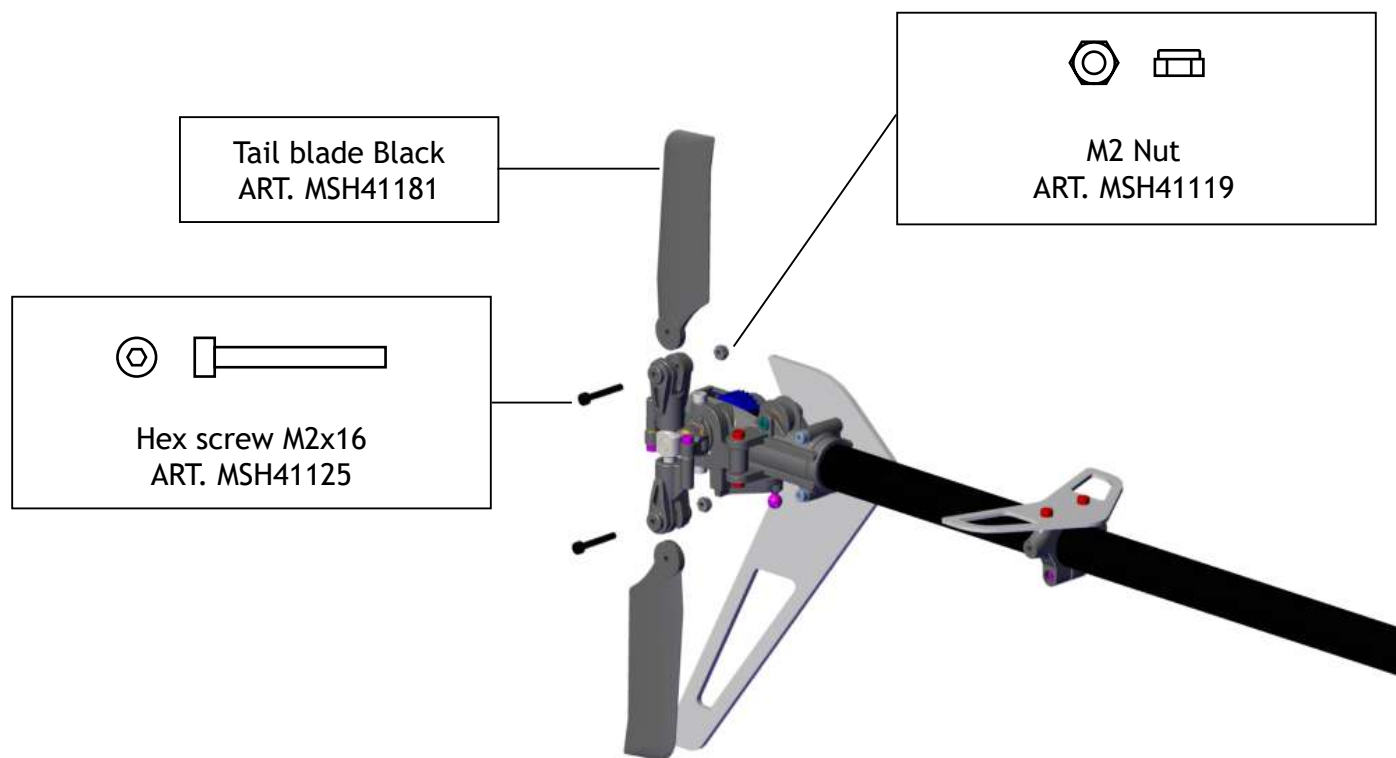


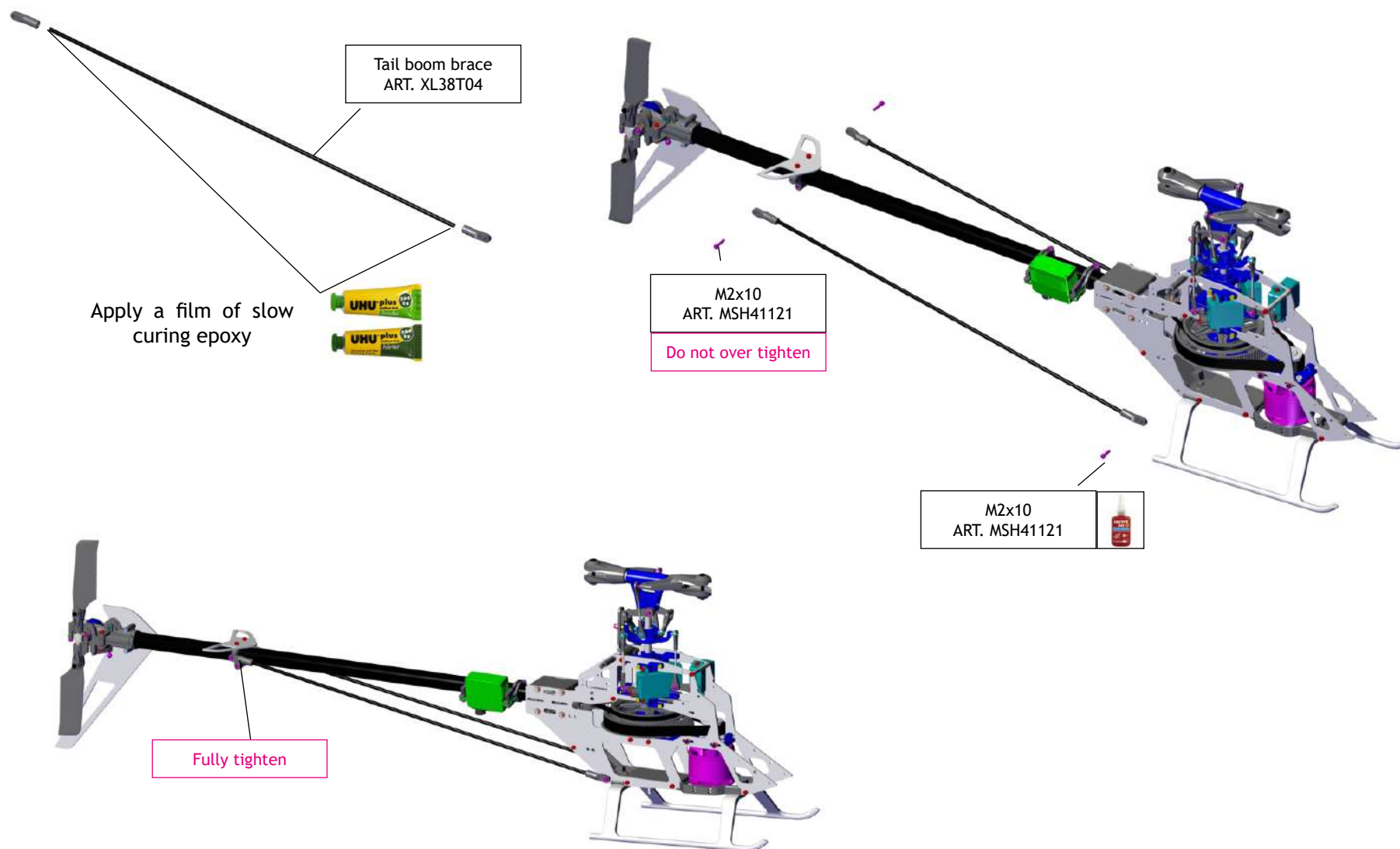
VERY IMPORTANT
Do not overtighten.



Hex screw M2x10
ART. MSH41121
ART. MSH41176







①



Uniball Link M2,5
ART. MSH41083

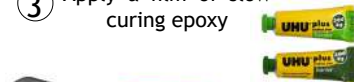
②

Remove coating with sandpaper



③

Apply a film of slow curing epoxy



④

Wait completely curing and
Mount it on the model

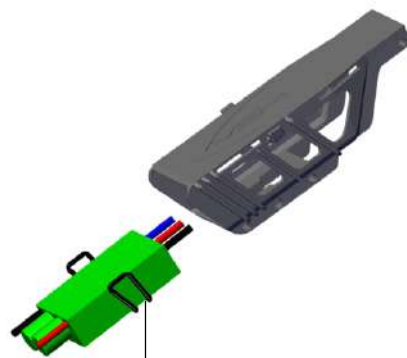


Tail control assembly
ART. XL38T03

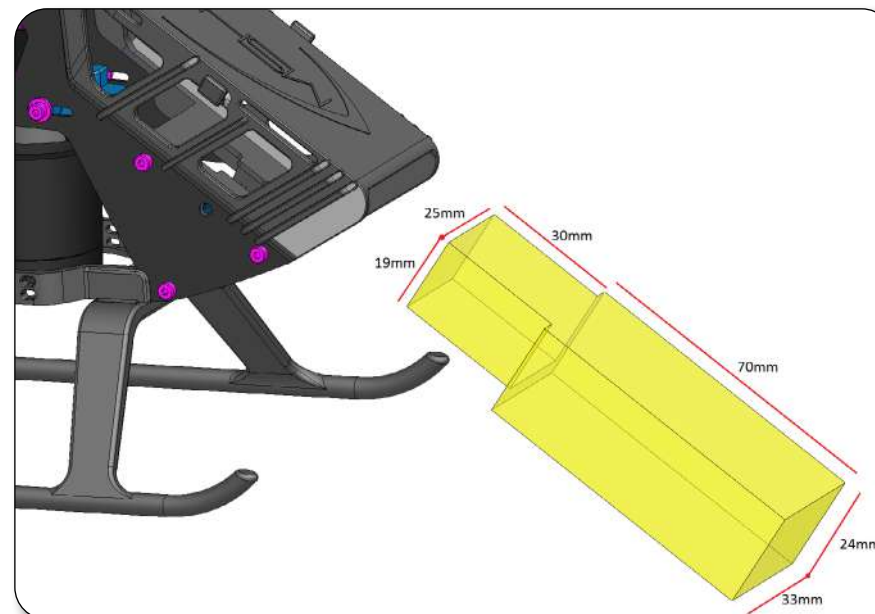
39 mm



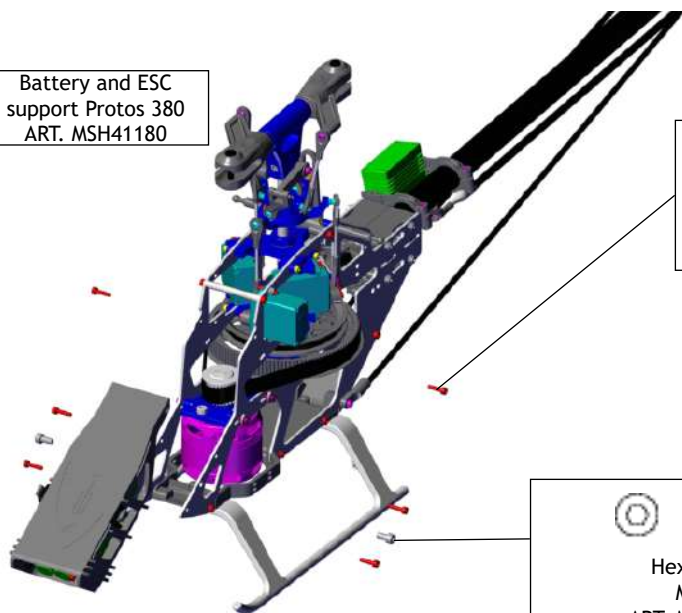
Fully tighten M2*10 after finish
center adjustment
(Do not over tighten)



ESC O-ring
ART. MSH41227



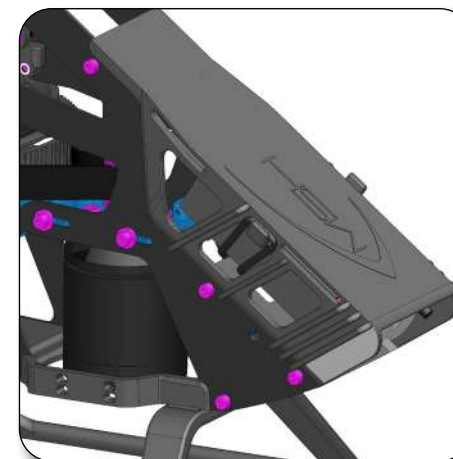
Battery and ESC
support Protos 380
ART. MSH41180



Hex screw M2x6
ART. MSH41122
ART. MSH41180



Hex screw
M3x6
ART. MSH41130



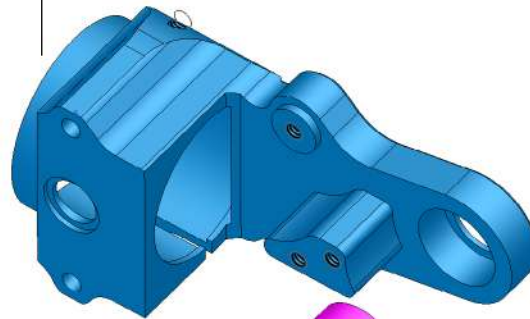


where I can find the parts



Optional
ART. MSH41086-2

Metal Tail box
ART. MSH41086-1



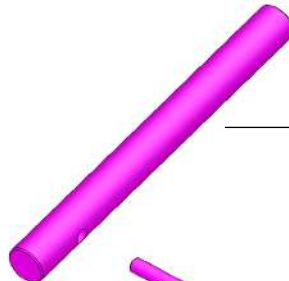
Tail pulley Protos 380
ART. 41164



Ball bearing
4x9x4
ART. MSH41072



Tail shaft Protos 380
ART. MSH41163



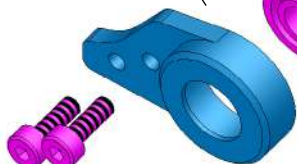
Tail pulley bushing
Protos 380
ART. MSH41164



Pin 1,5x8
ART. MSH41164



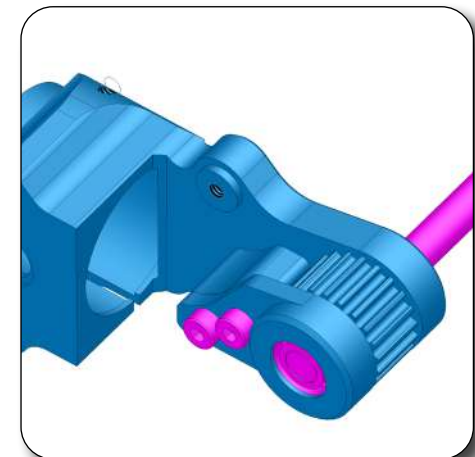
Tail box cover with BB
ART. MSH41165



Ball bearing
4x9x4
ART. MSH41072

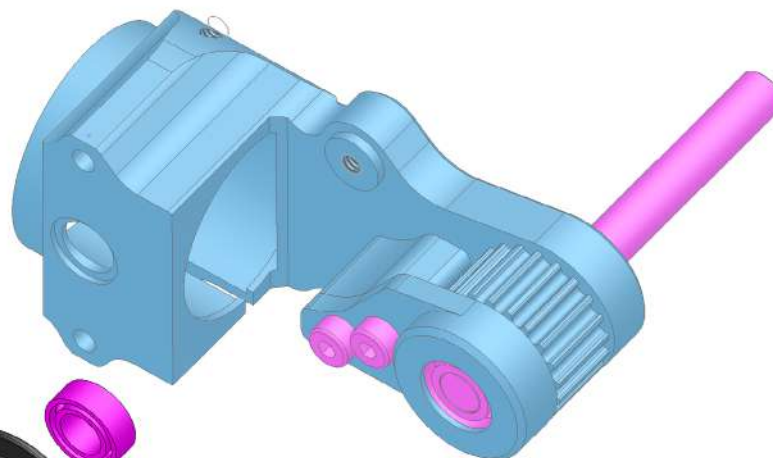


M2x6
ART. MSH41122
ART. MSH41165





Optional
ART. MSH41086-2

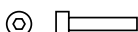


Guide pulley
ART. MSH41166

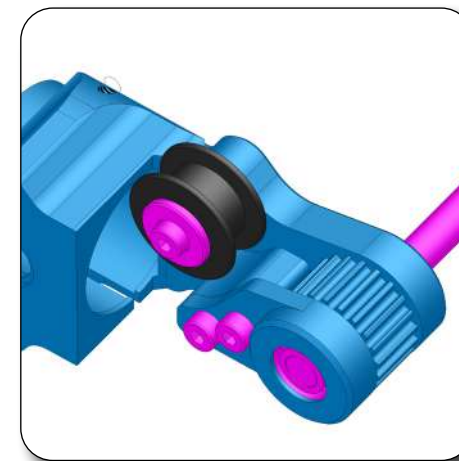
Guide pulley bushing
ART. MSH41166

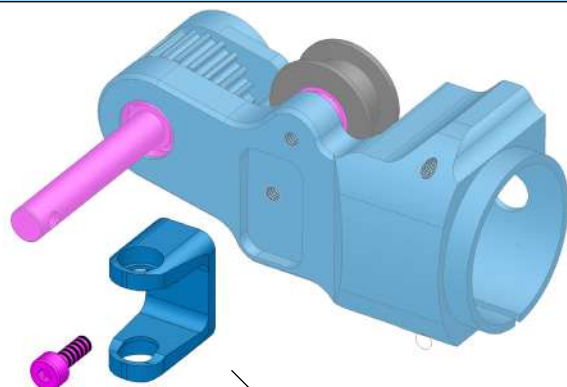


Ball bearing
4x7x2,5
ART. MSH51070
ART. MSH41166



Hex screw M2x10
ART. MSH41121
ART. MSH41166



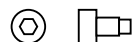
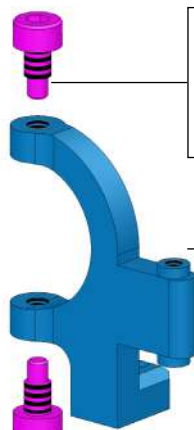
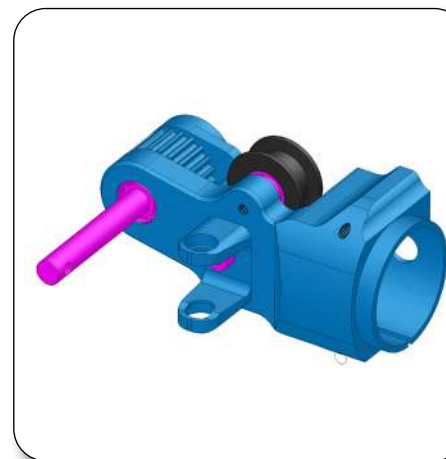


Optional
ART. MSH41086-2



Hex screw M2x6
ART. MSH41122
ART. MSH41167

Tail pitch support
ART. MSH41167



Tail pitch lever screw M2,5x5
ART. MSH41135
ART. MSH41168



Tail pitch lever
ART. MSH41168

Tail pitch lever carbon
ART. MSH41168

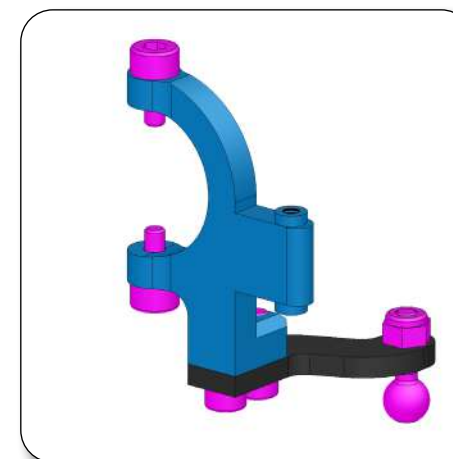


M2 Nut
ART. MSH41119
ART. MSH41168



Ball M2x4,8
ART. MSH41009
ART. MSH41168

Hex screw M2x6
ART. MSH41122
ART. MSH41168





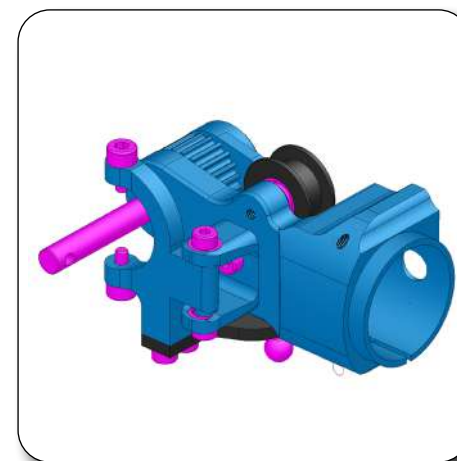
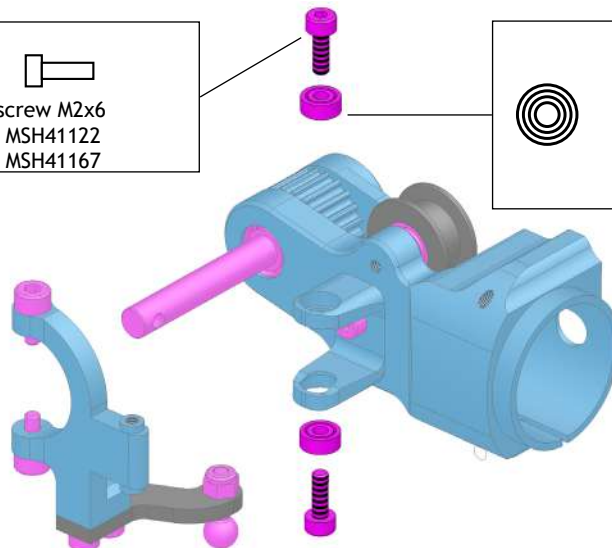
Hex screw M2x6
ART. MSH41122
ART. MSH41167

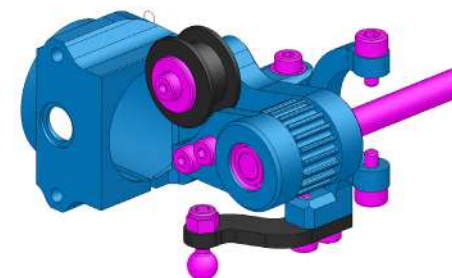
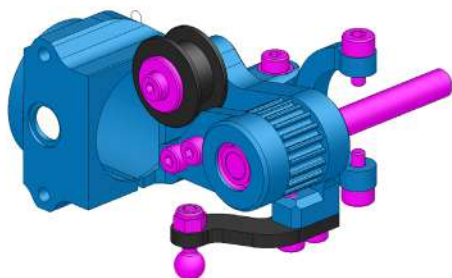


Ball bearing
2x5x2
ART. MSH41066
ART. MSH41167

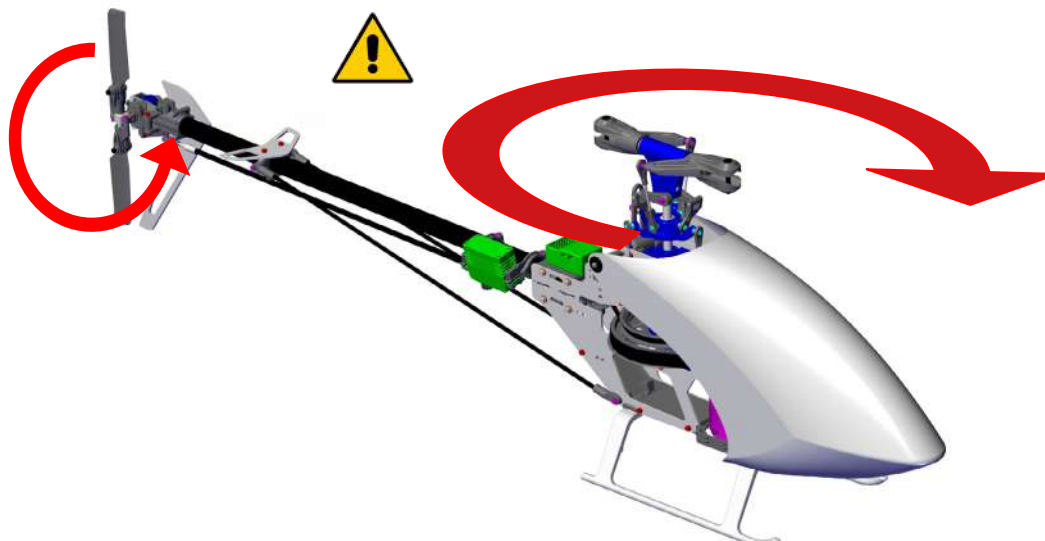


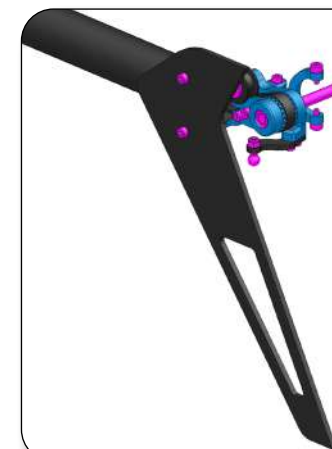
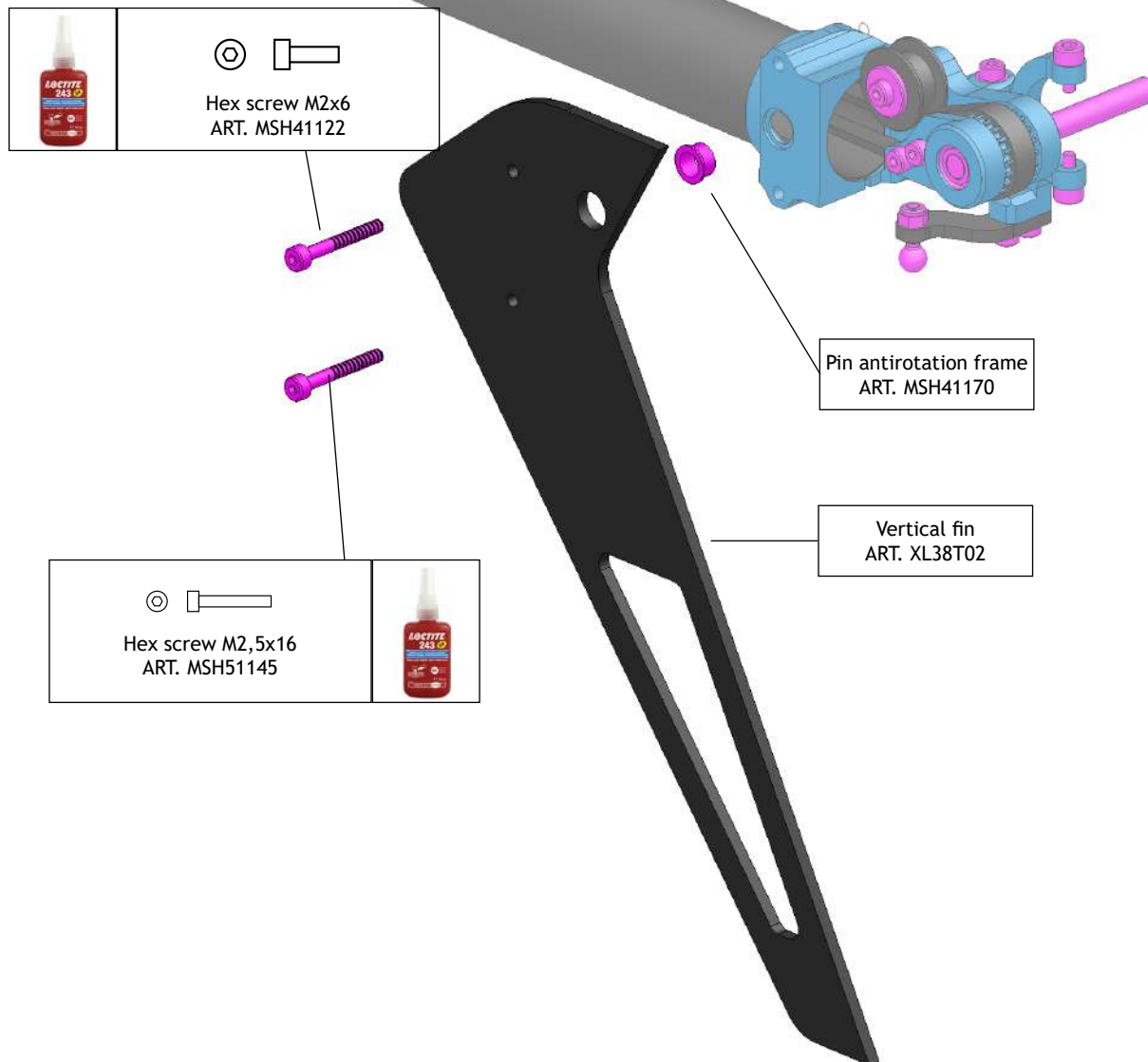
Optional

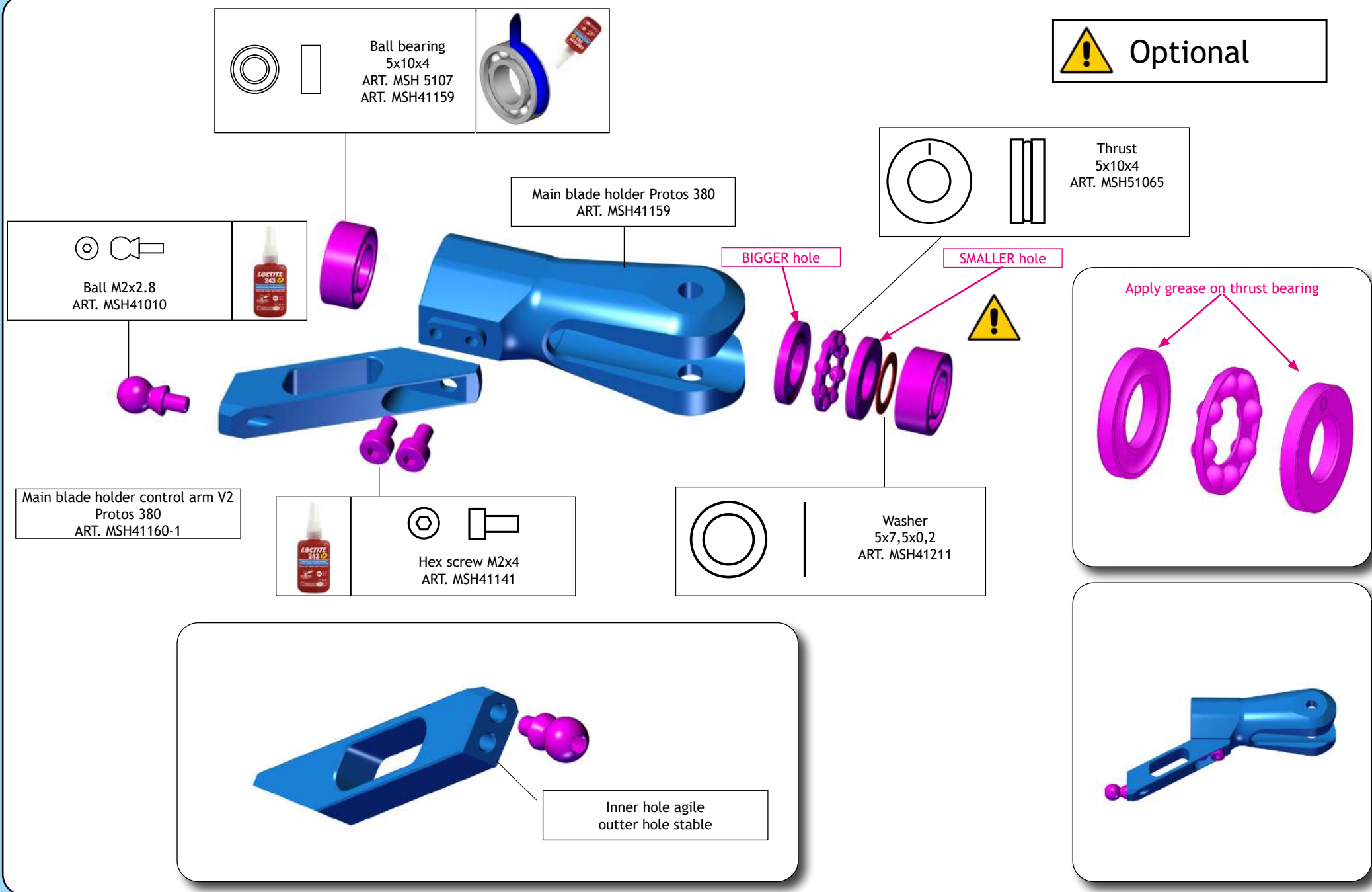


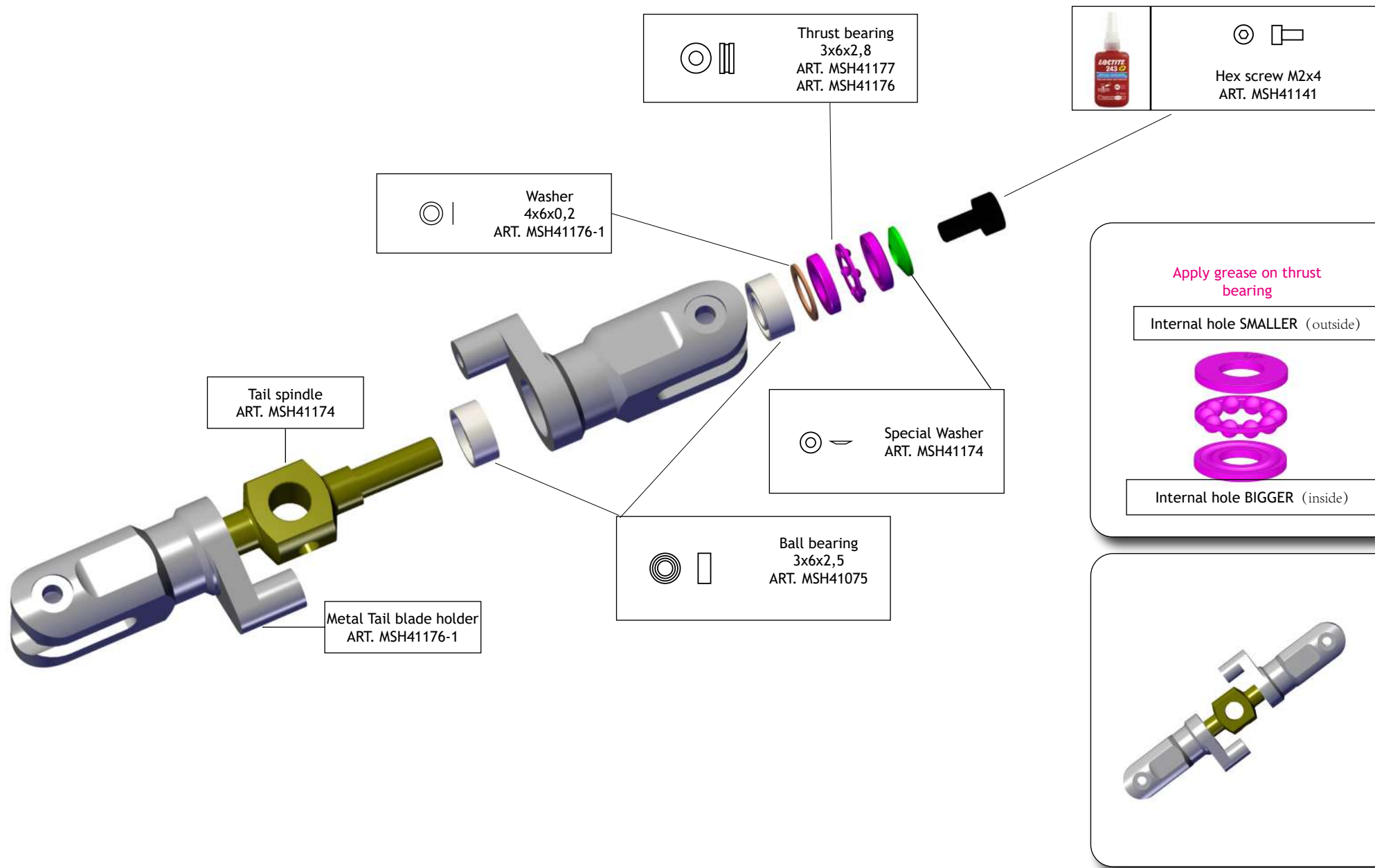


Check the rotation direction during the installation of the belt









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