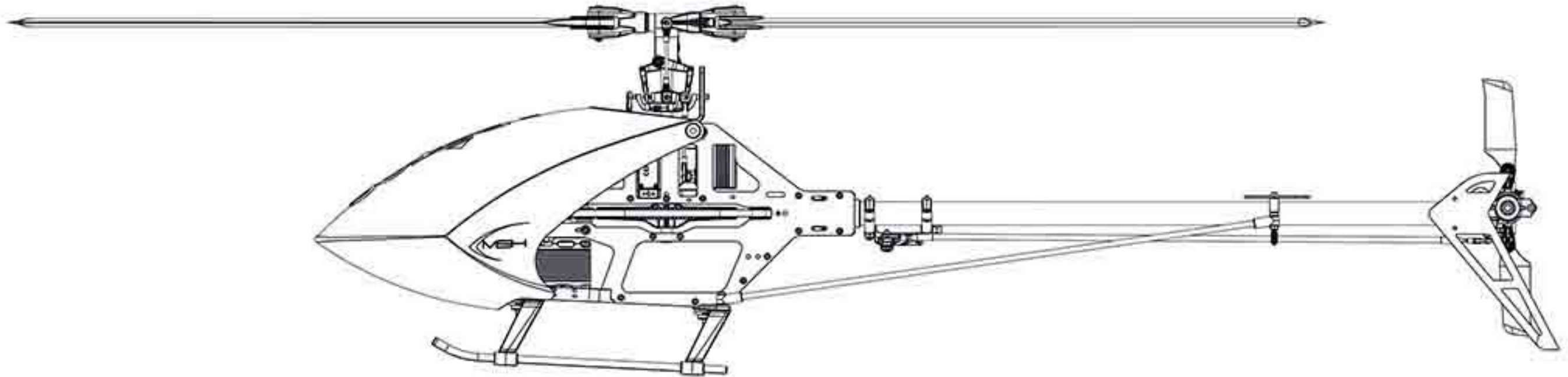


# PRÔTOS

## 4 8 0



LENGHT:	928MM
HEIGHT:	270MM
WIDTH:	148MM
MAIN BLADE SIZE:	425MM — 480MM
TAILBLADE SIZE:	68MM
MOTOR PINION:	15T — 20T 5MM DIAMETER(15T INCLUDED)
MAIN GEAR:	108T
TAIL PINION:	22T
MAIN TO TAIL GEAR RATIO:	4.9
RTF WEIGHT:	1800G
MAX BATTERY SIZE:	44*47*140MM



# 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!

# Bag 1

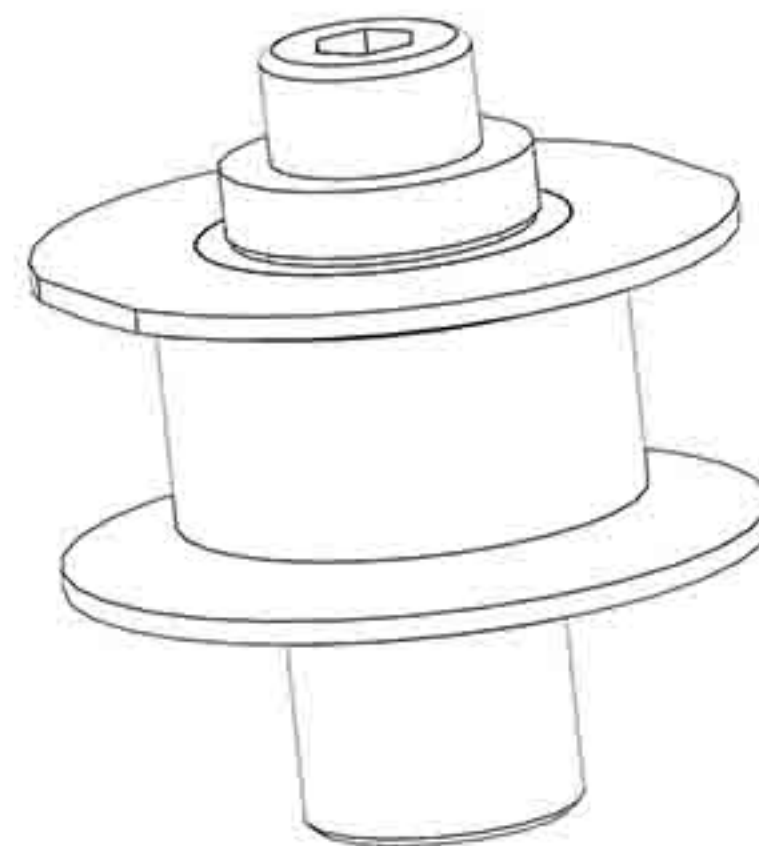
Hex Screw M2\*4 (Add Loctite 243)  
ART.MSH41141

Washer 2\*5\*0.3  
ART.XL48A01

Bearing 3\*8\*3  
ART.MSH51072

Guide pulley  
ART.MSH51034

Guide pulley Mount  
ART.XL48B01



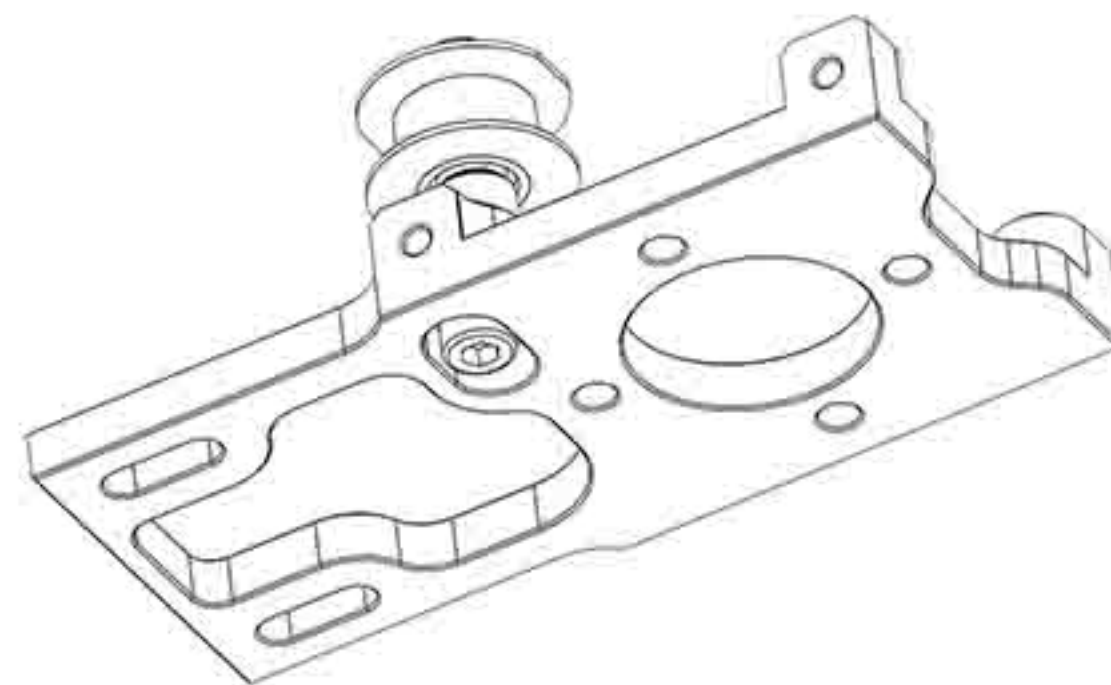
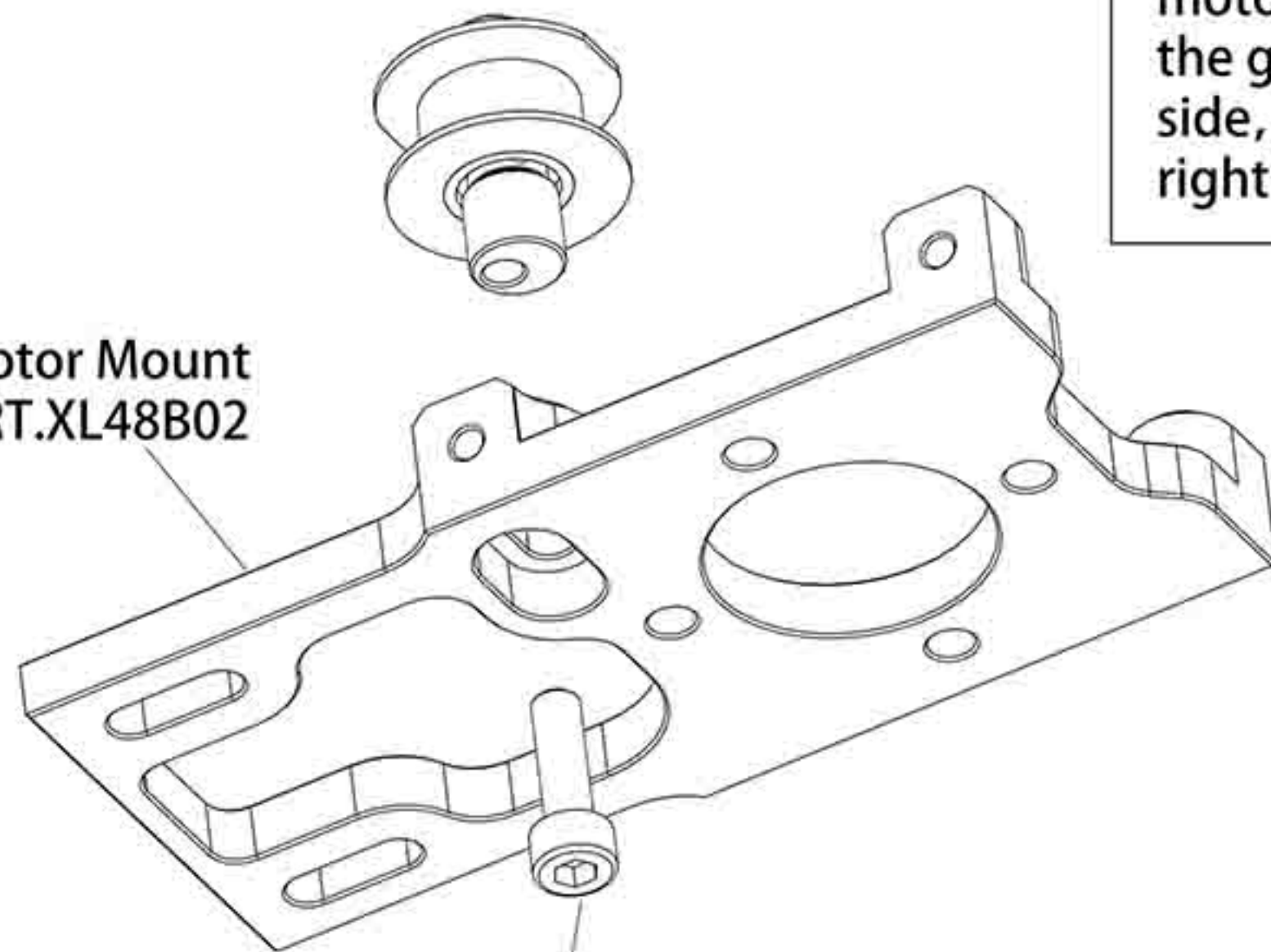
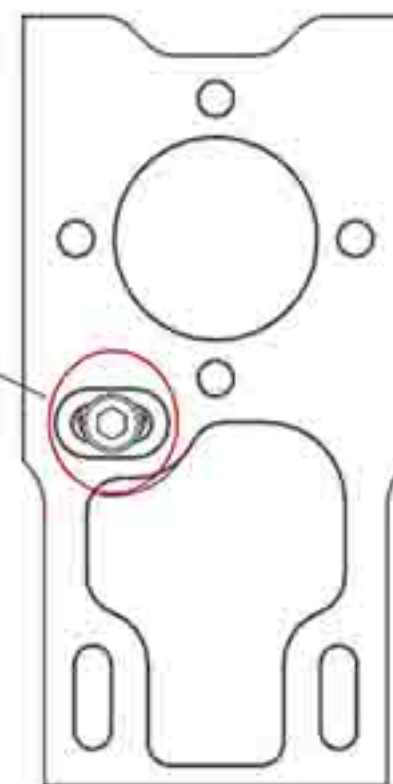


# Bag 1

Motor Mount  
ART.XL48B02

Screw M3\*8 (Add Loctite 243)  
ART.MSH51152

When use bigger  
motor pinion move  
the guide pulley left  
side, smaller pinion  
right side



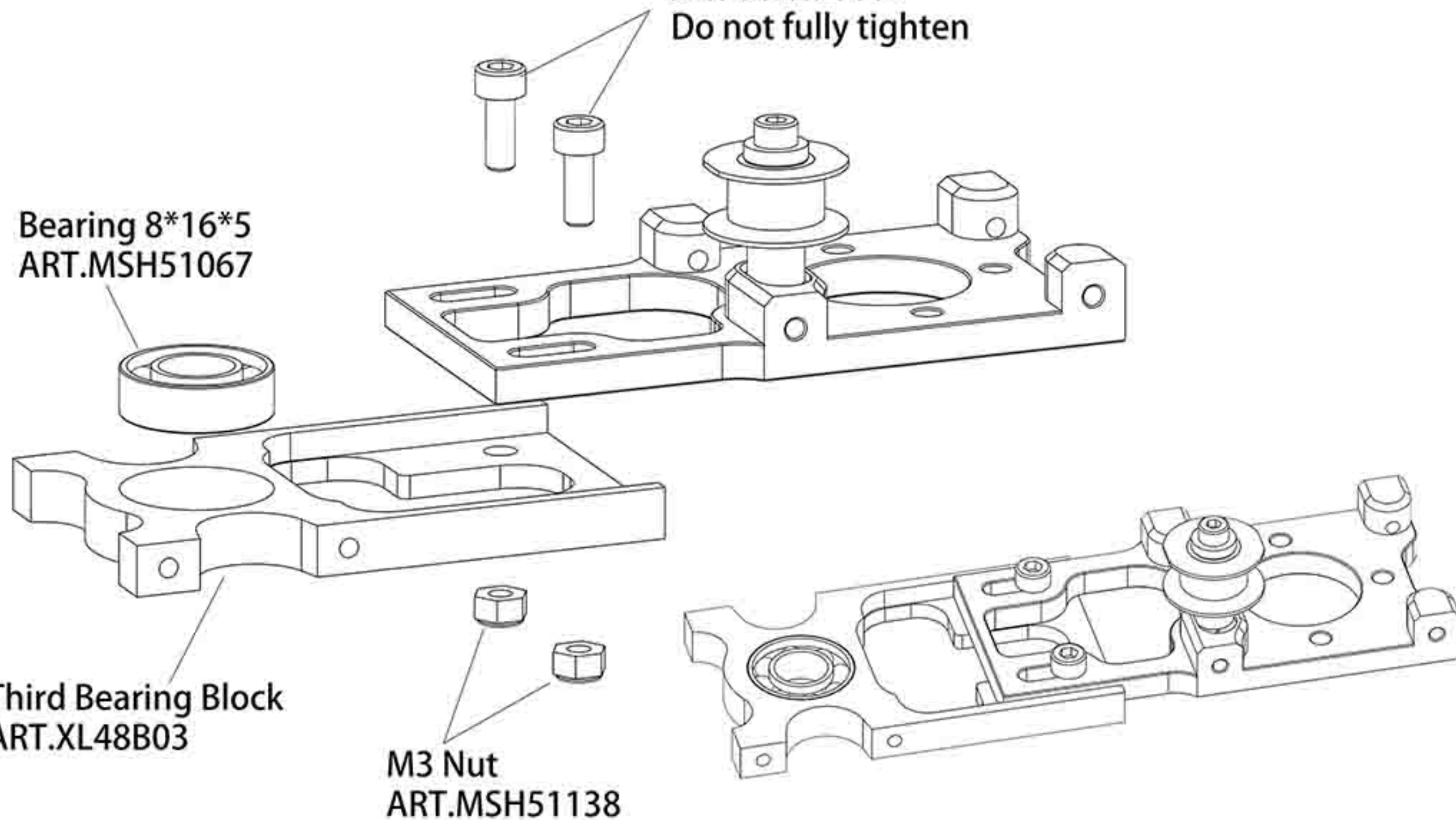
# Bag 1

Screw M3\*10  
ART.MSH71114  
Do not fully tighten

Bearing 8\*16\*5  
ART.MSH51067

Third Bearing Block  
ART.XL48B03

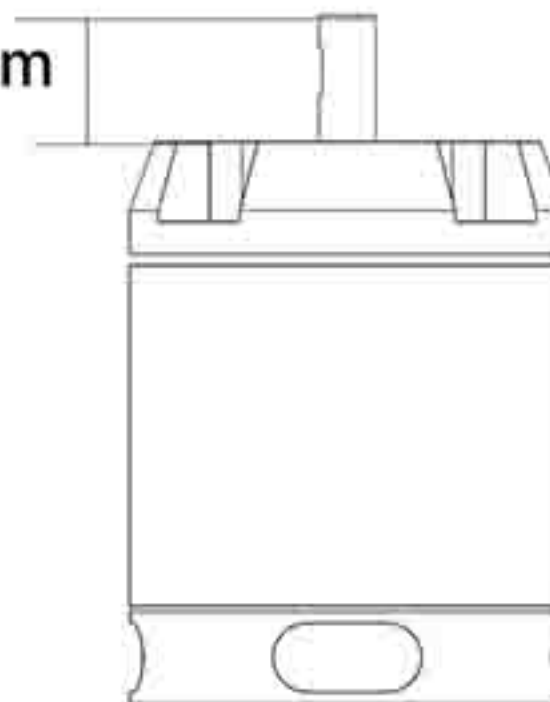
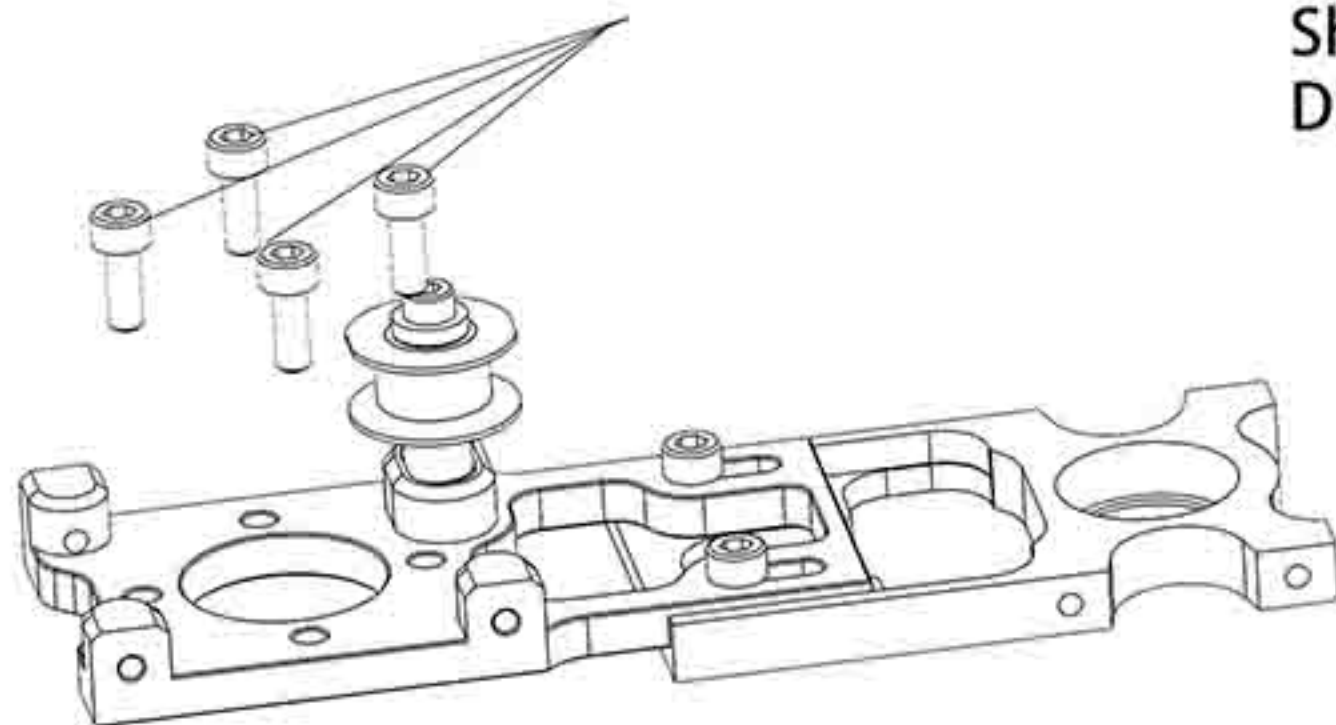
M3 Nut  
ART.MSH51138



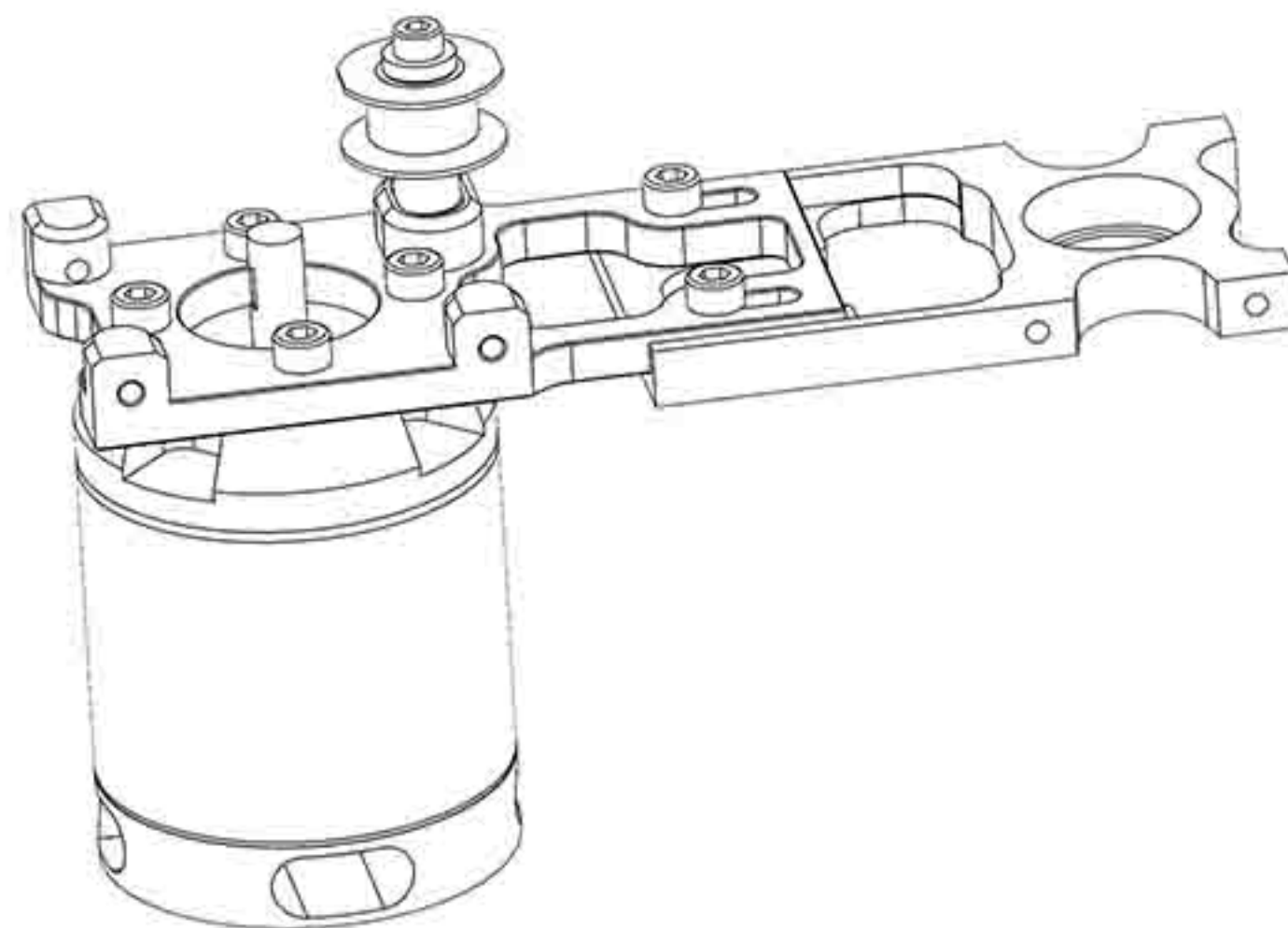
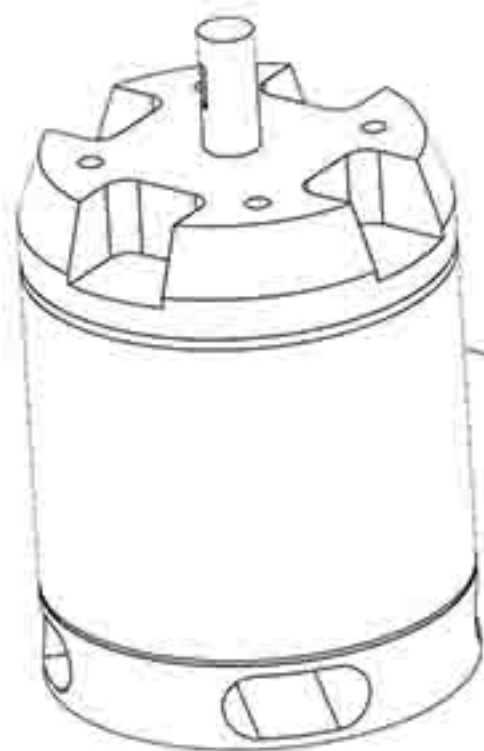
# Bag 1

Screw M3\*8(Add Loctite 243)  
MSH51152

Shaft Length:10.5mm  
Diameter: 5mm



Motor suggestion  
3026/3220/3226/4015  
800KV-1000KV  
5mm shaft  
Not included in the kit



# Bag 1

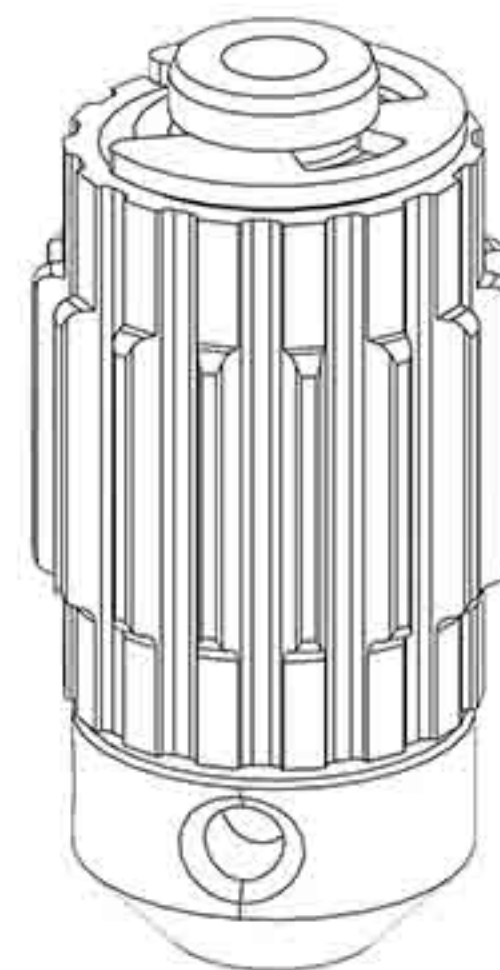
Washer 6\*8\*0.1  
ART.XL48A02

Seeger RS 5  
ART.MSH51013

Pinion 15T  
ART.MSH51013

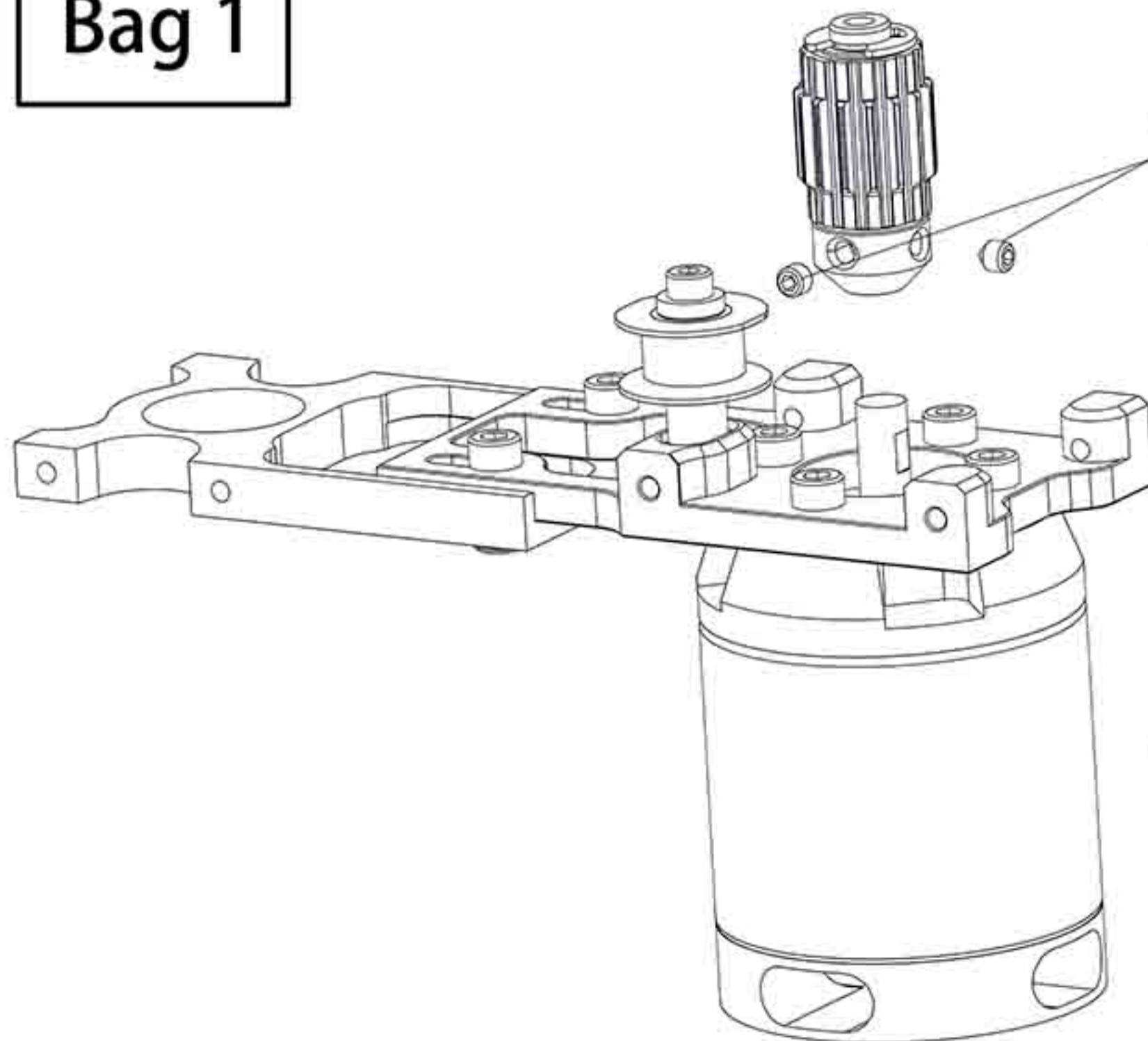
Motor adapter  
ART.MSH51098

While inserting make  
sure that the pinion  
spins freely clockwise  
looking from above

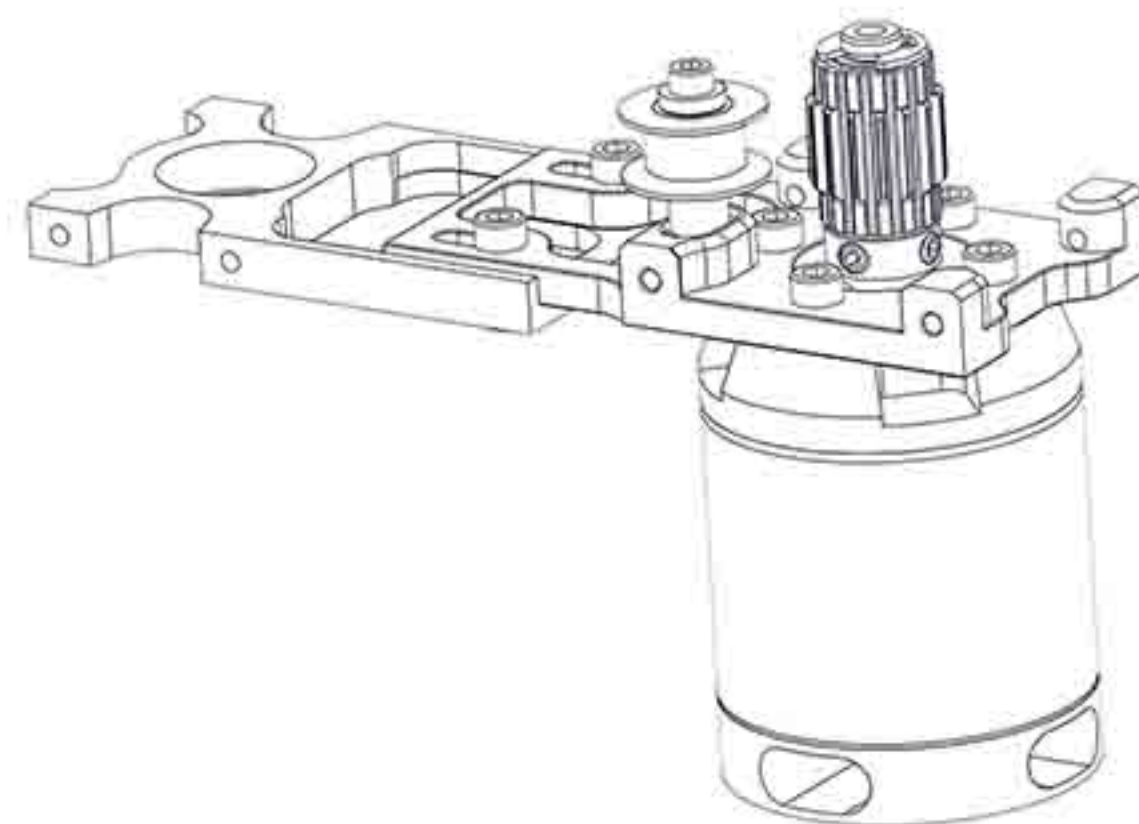




# Bag 1



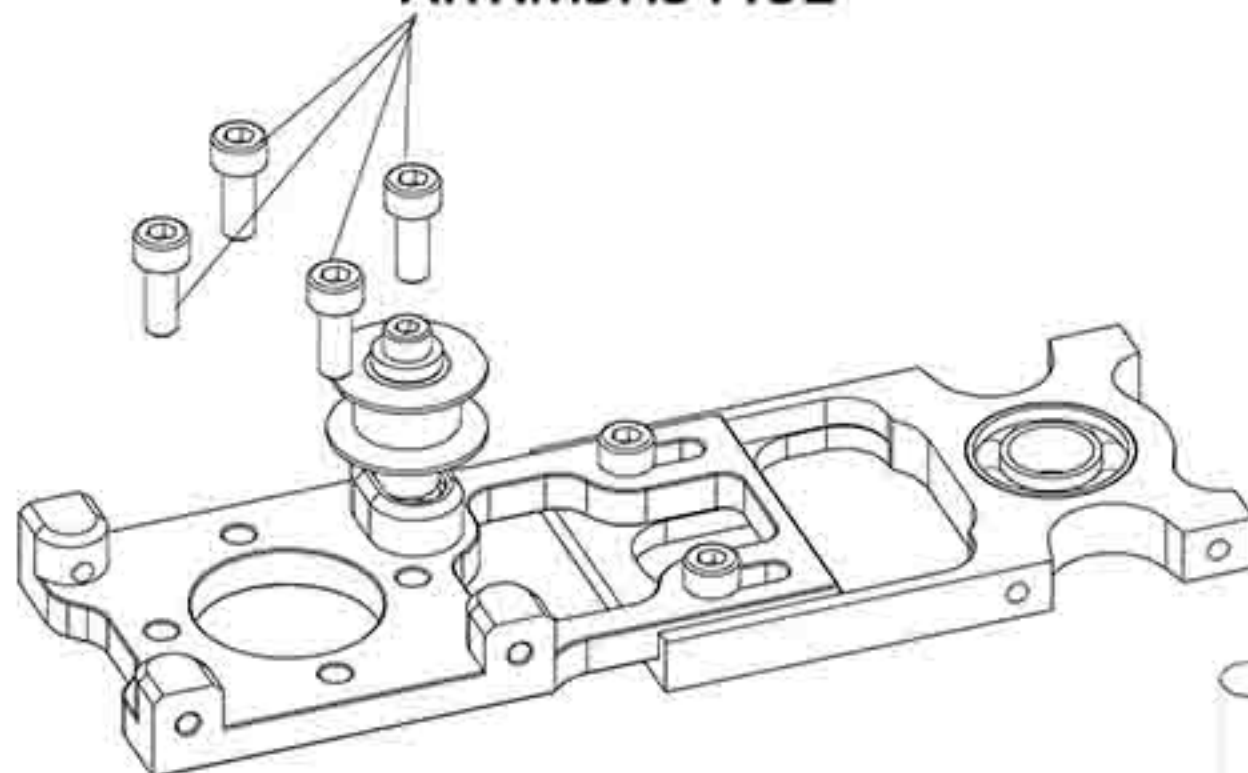
M3\*3 Hex Grub Screw  
(Add Loctite 243)  
ART.MSH51159



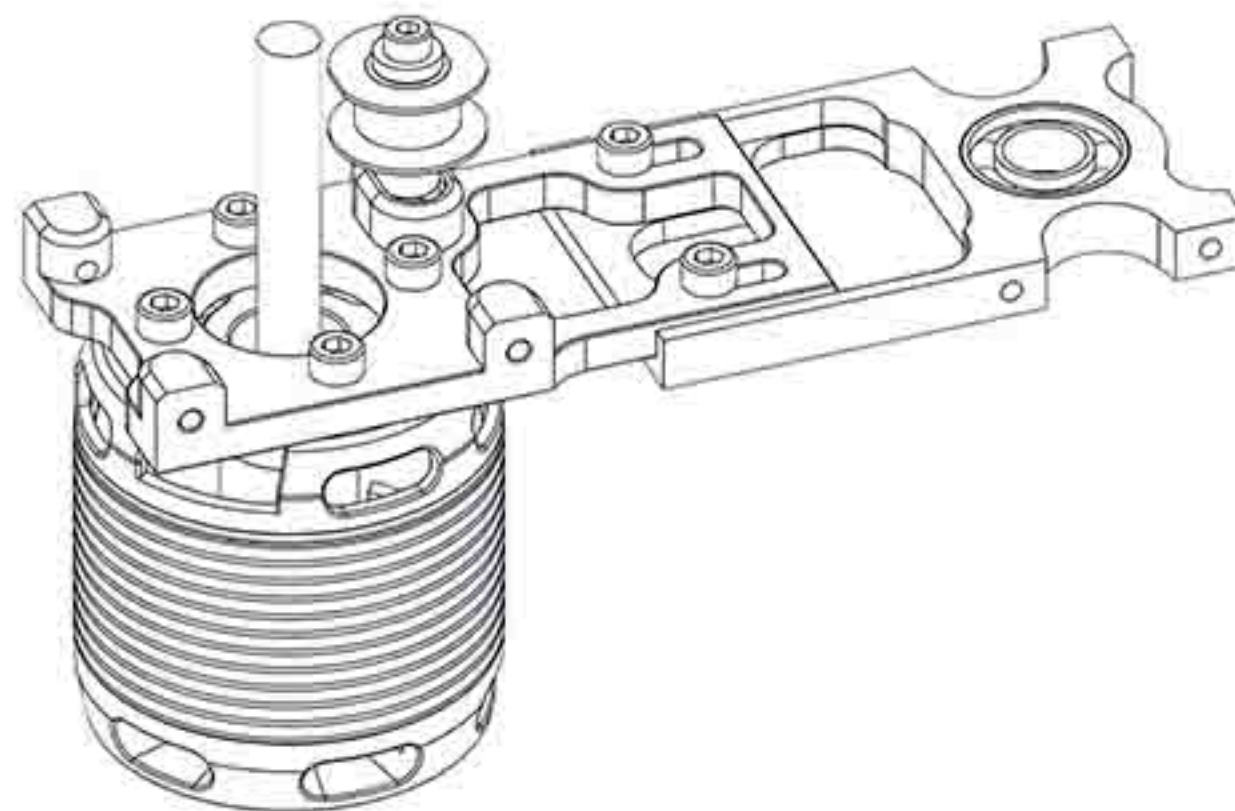
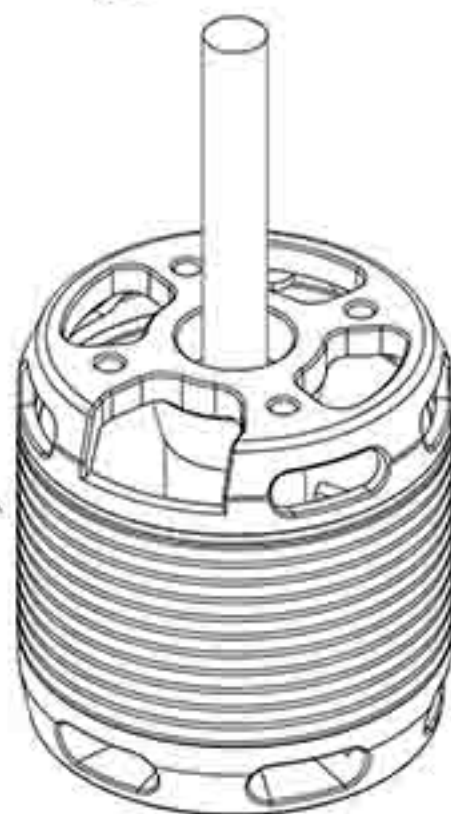


# Bag 1

Screw M3\*8 (Add Loctite 243)  
ART.MSH51152



Motor (Special Shaft)  
ART.XL48M01  
Not included in the kit



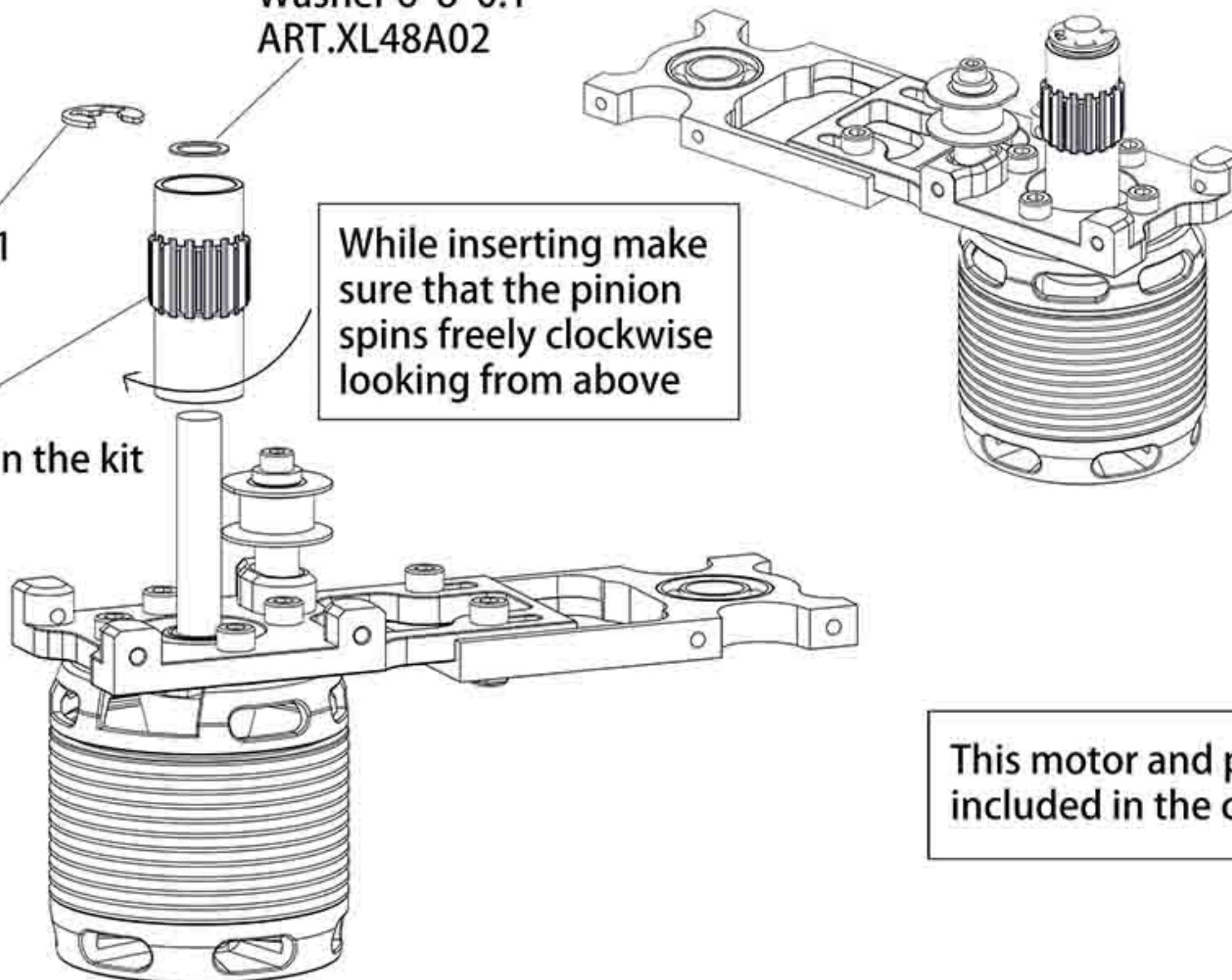
# Bag 1

Washer 6\*8\*0.1  
ART.XL48A02

Seeger RS 5  
ART.XL48G01

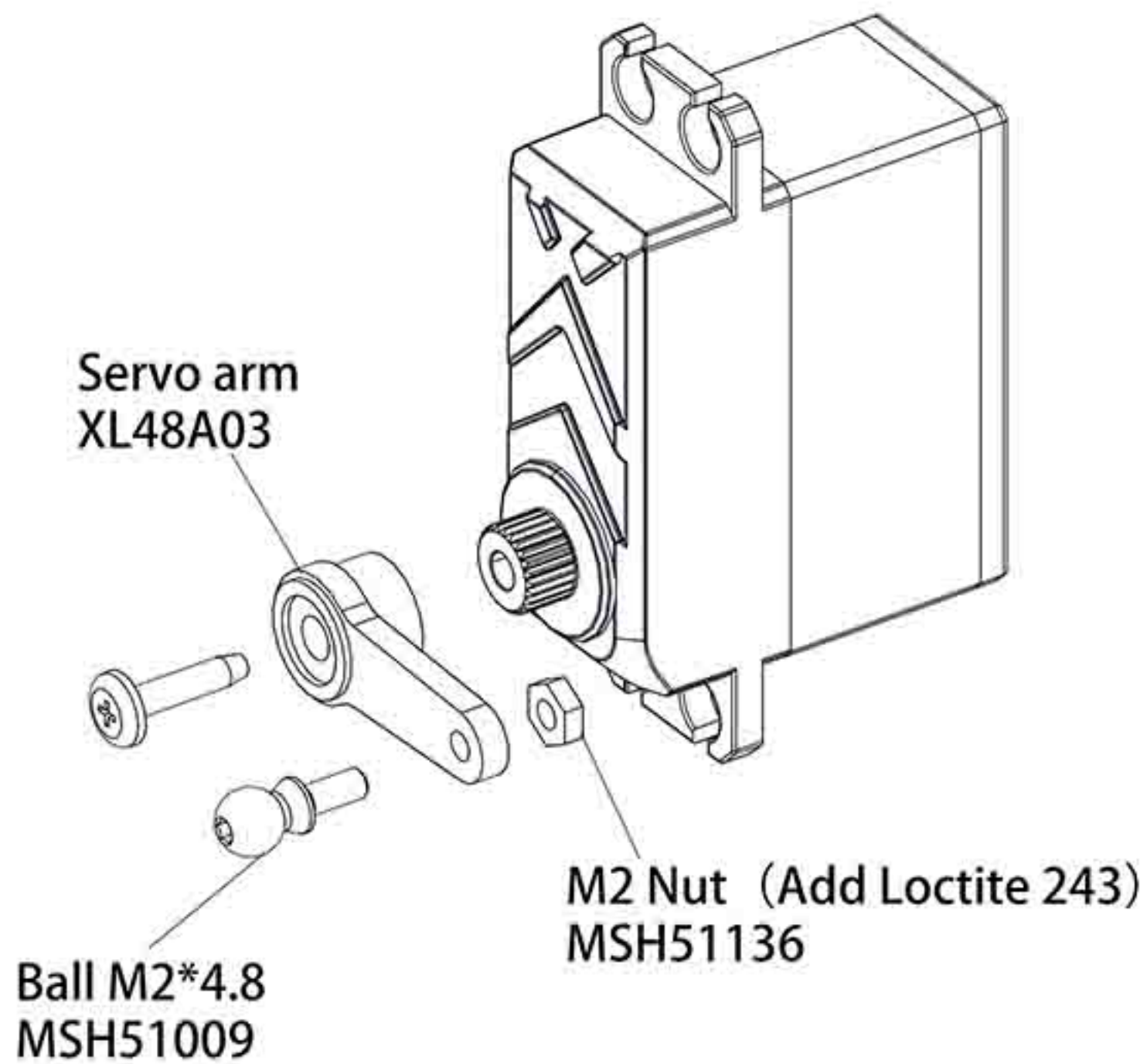
Pinion 15T L  
ART.XL48G01  
Not included in the kit

While inserting make  
sure that the pinion  
spins freely clockwise  
looking from above

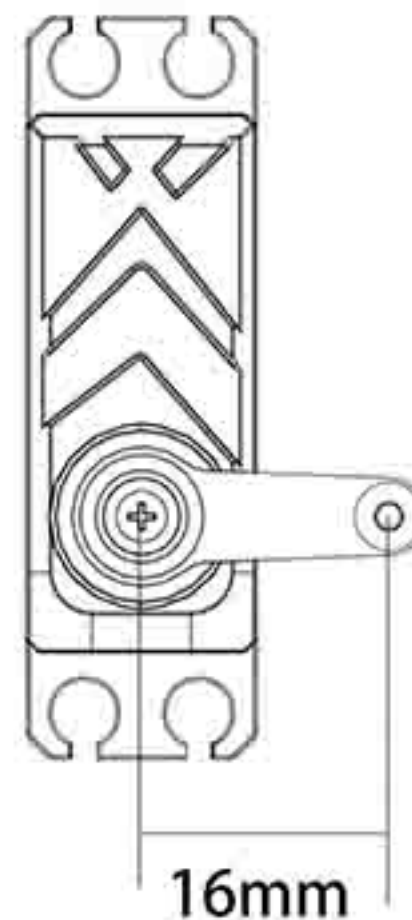


This motor and pinion is  
included in the combo

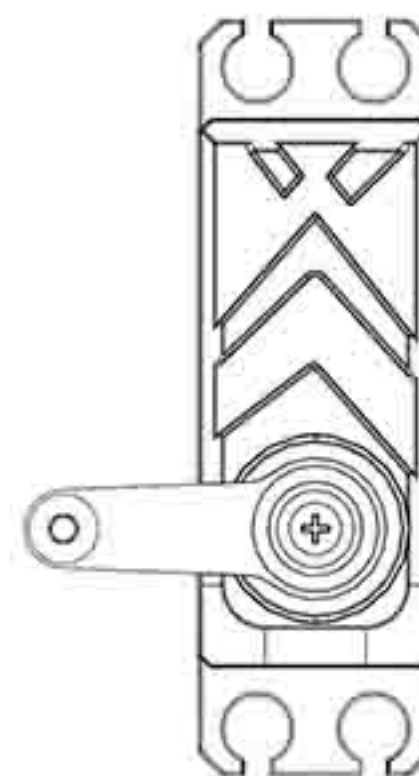
## Bag 2



2X



1X



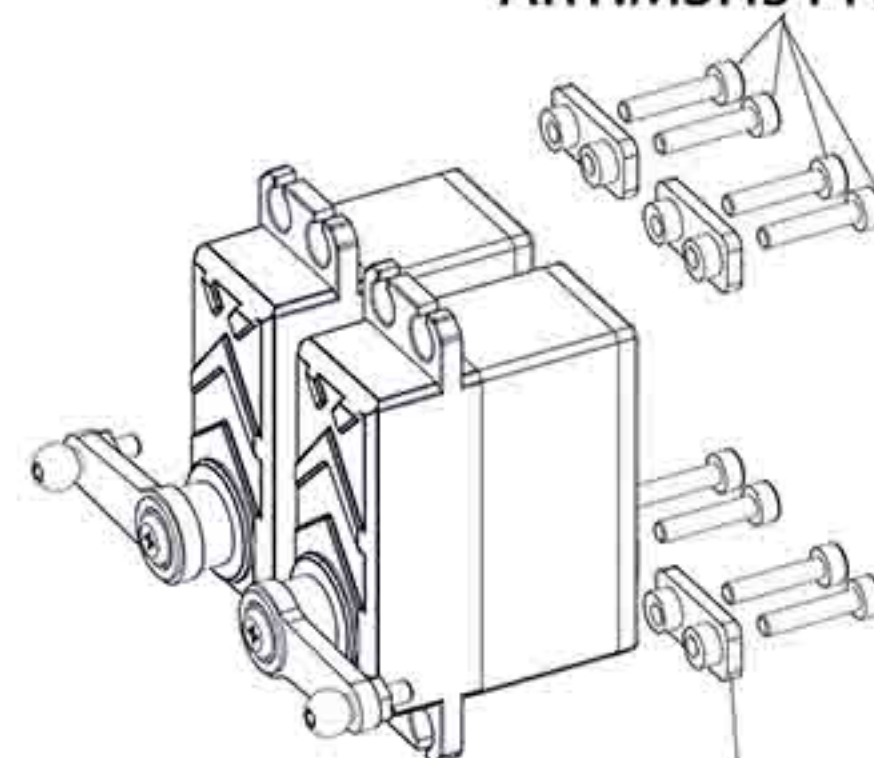


## Bag 2

Bearing 8\*16\*5  
ART.MSH51067

Servo Frame  
ART.MSH51082

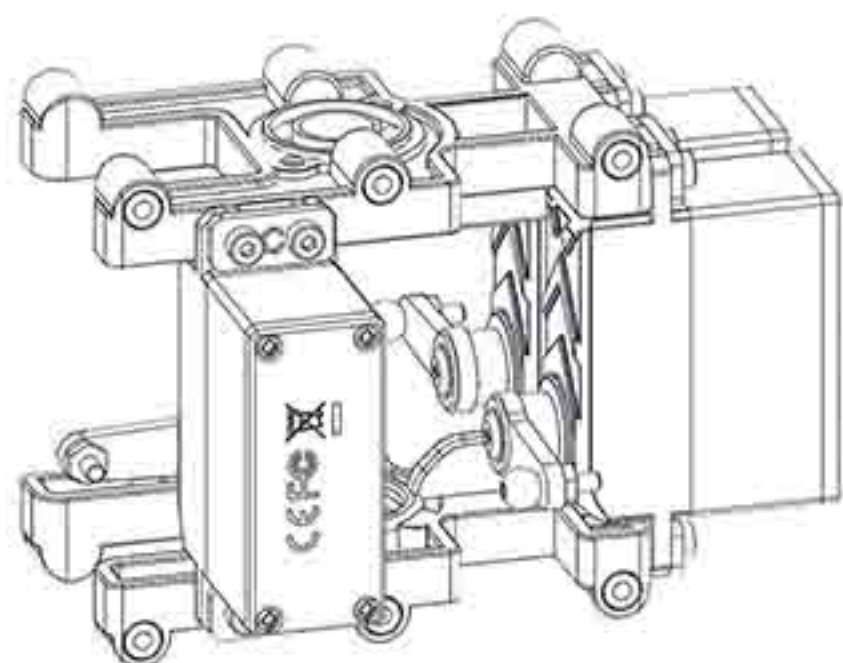
Screw M2\*10  
ART.MSH51141



Servo Adapter  
ART.MSH51037

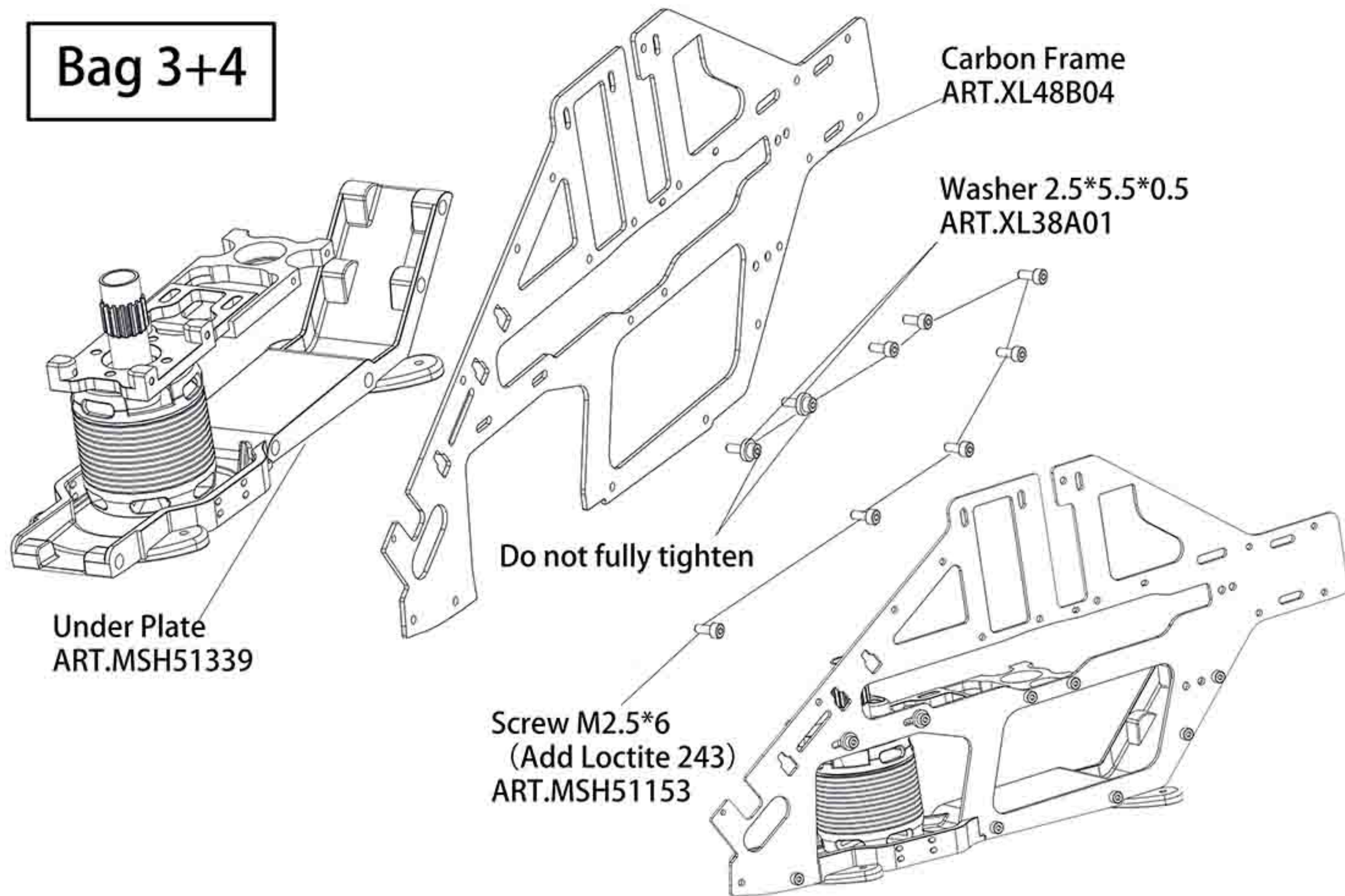
Bearing 8\*16\*5  
ART.MSH51067

Screw M2\*10  
ART.MSH51141

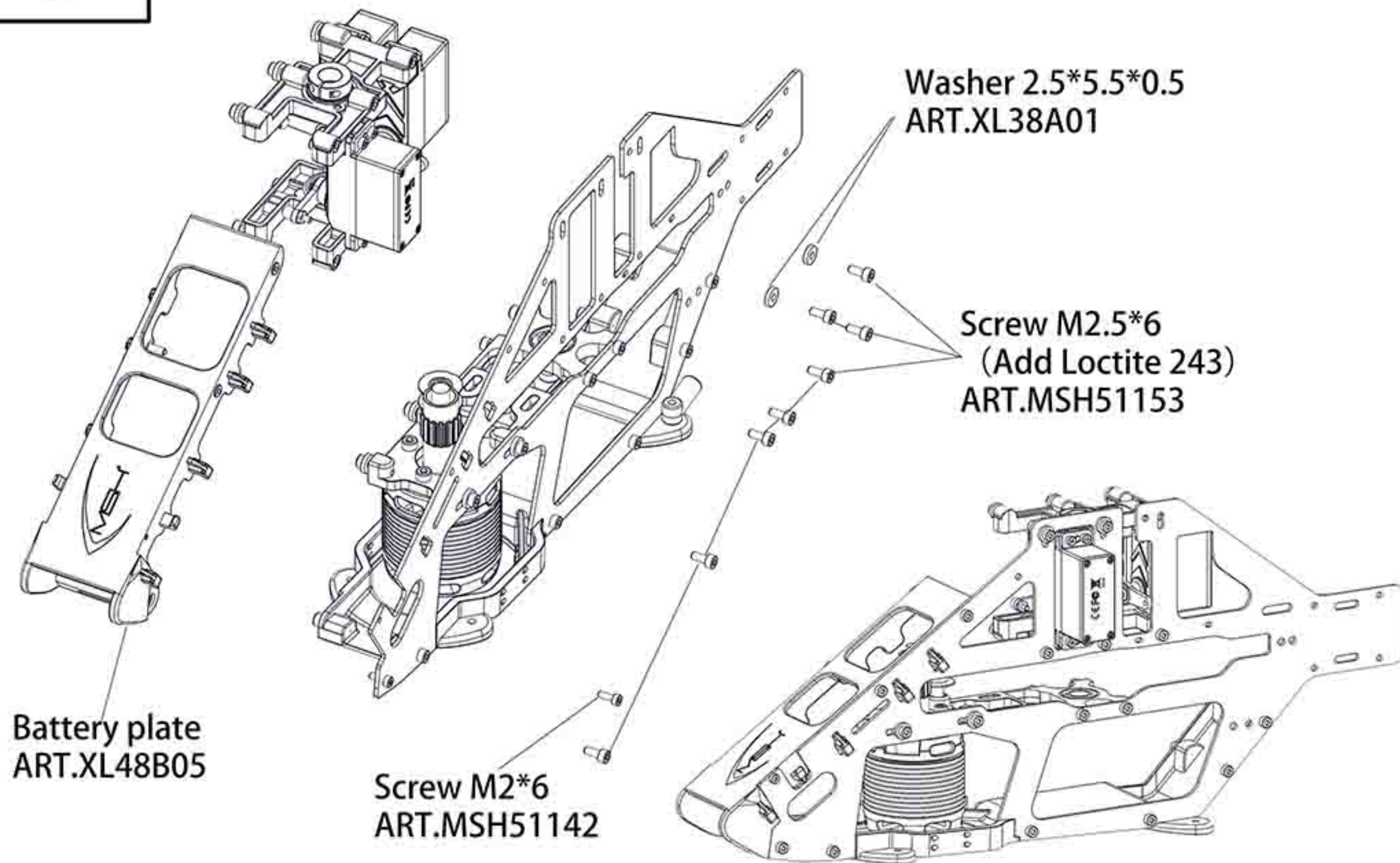




## Bag 3+4



## Bag 4





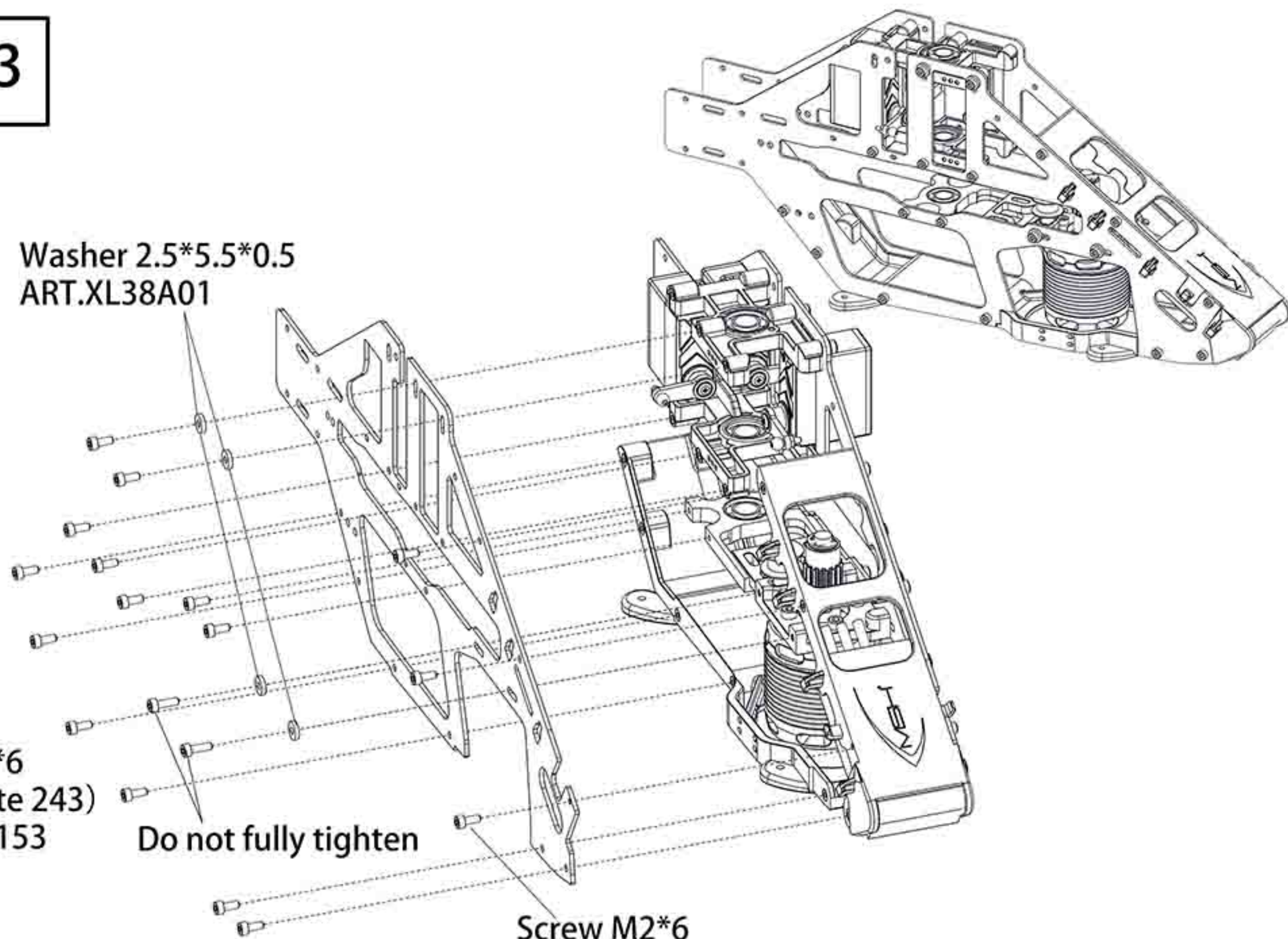
# Bag 3

Washer 2.5\*5.5\*0.5  
ART.XL38A01

Screw M2.5\*6  
(Add Loctite 243)  
ART.MSH51153

Do not fully tighten

Screw M2\*6  
ART.MSH51142



# Bag 4

Screw M2.5\*16 (Do not fully tighten)  
ART.MSH51145

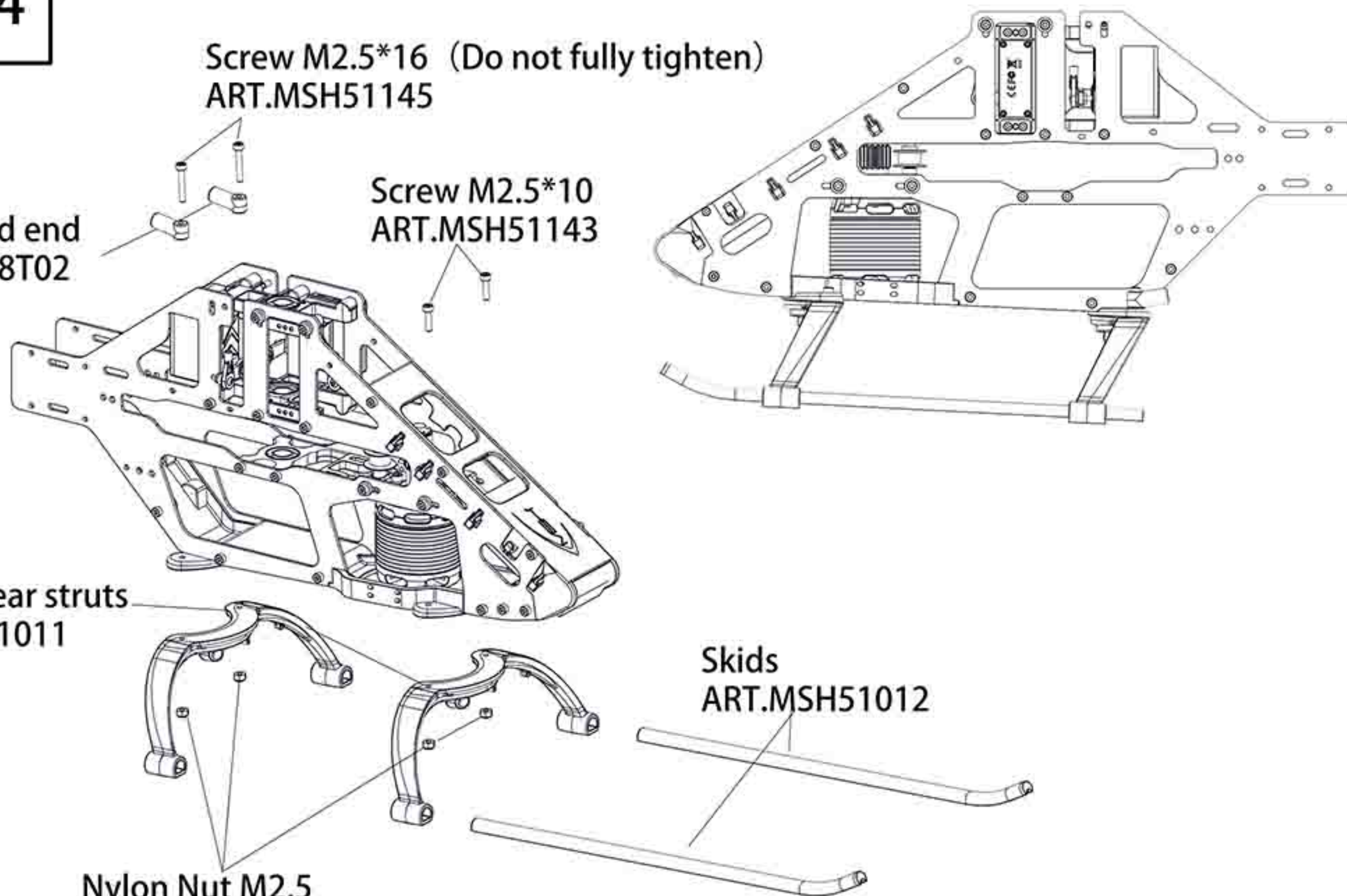
Brace rod end  
ART.XL48T02

Screw M2.5\*10  
ART.MSH51143

Landing gear struts  
ART.MSH51011

Nylon Nut M2.5  
ART.MSH51137

Skids  
ART.MSH51012





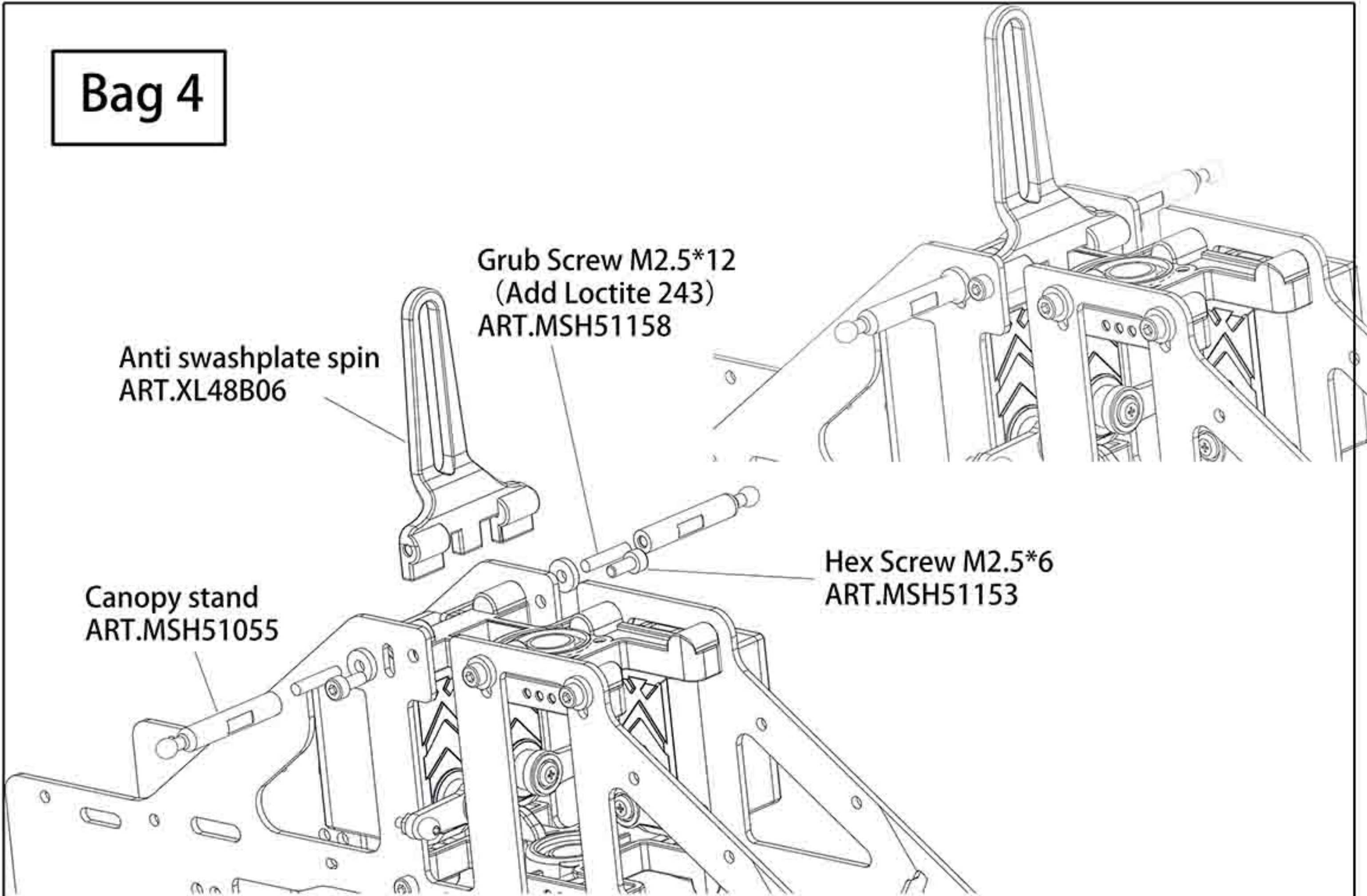
## Bag 4

Anti swashplate spin  
ART.XL48B06

Grub Screw M2.5\*12  
(Add Loctite 243)  
ART.MSH51158

Canopy stand  
ART.MSH51055

Hex Screw M2.5\*6  
ART.MSH51153



## Bag 5

Hex screw M2\*6  
(Add Loctite 243)  
Pull up main shaft  
and fully tighten  
MSH51142

Main shaft  
XL48B07

Main shaft lock  
MSH51005

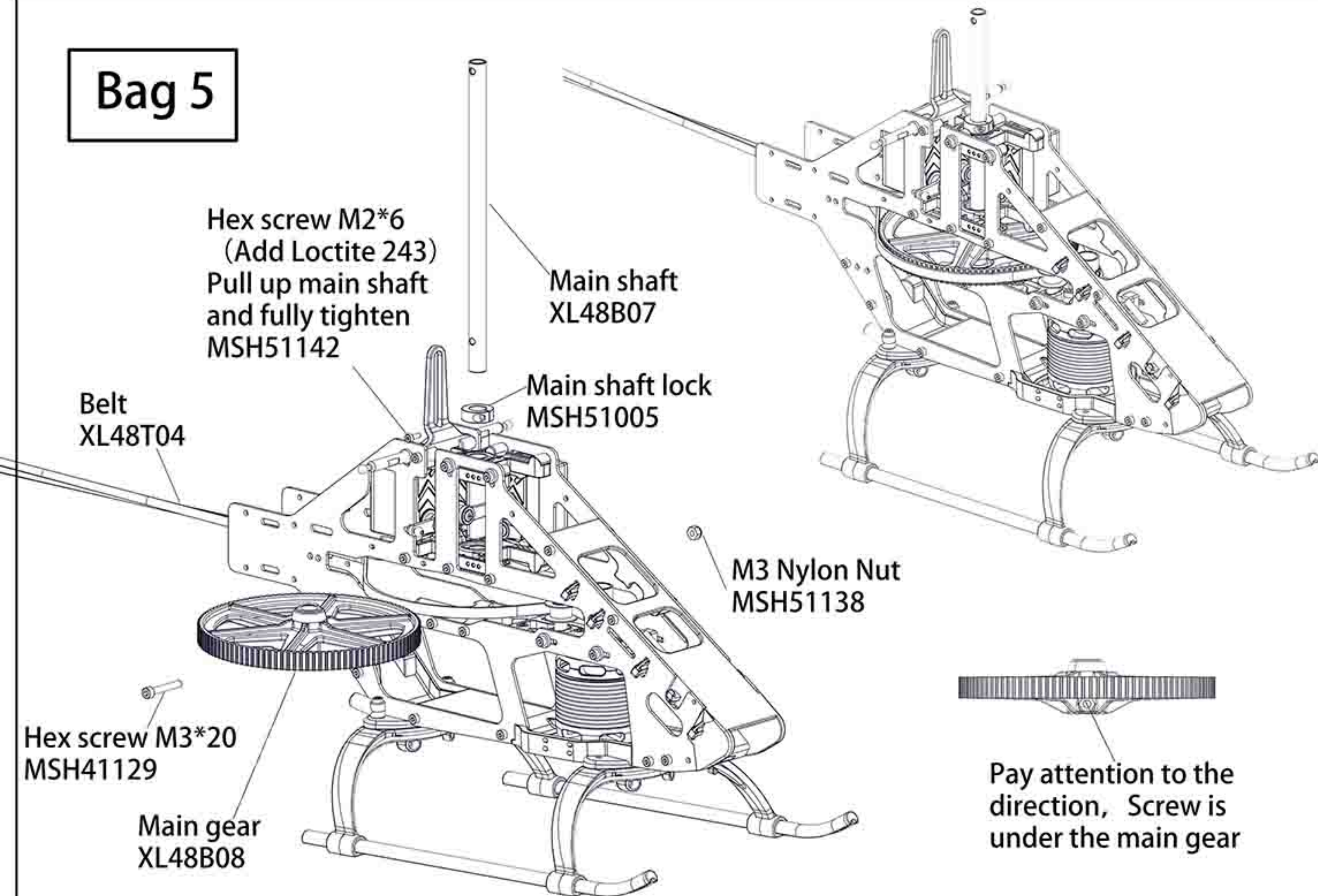
Belt  
XL48T04

M3 Nylon Nut  
MSH51138

Hex screw M3\*20  
MSH41129

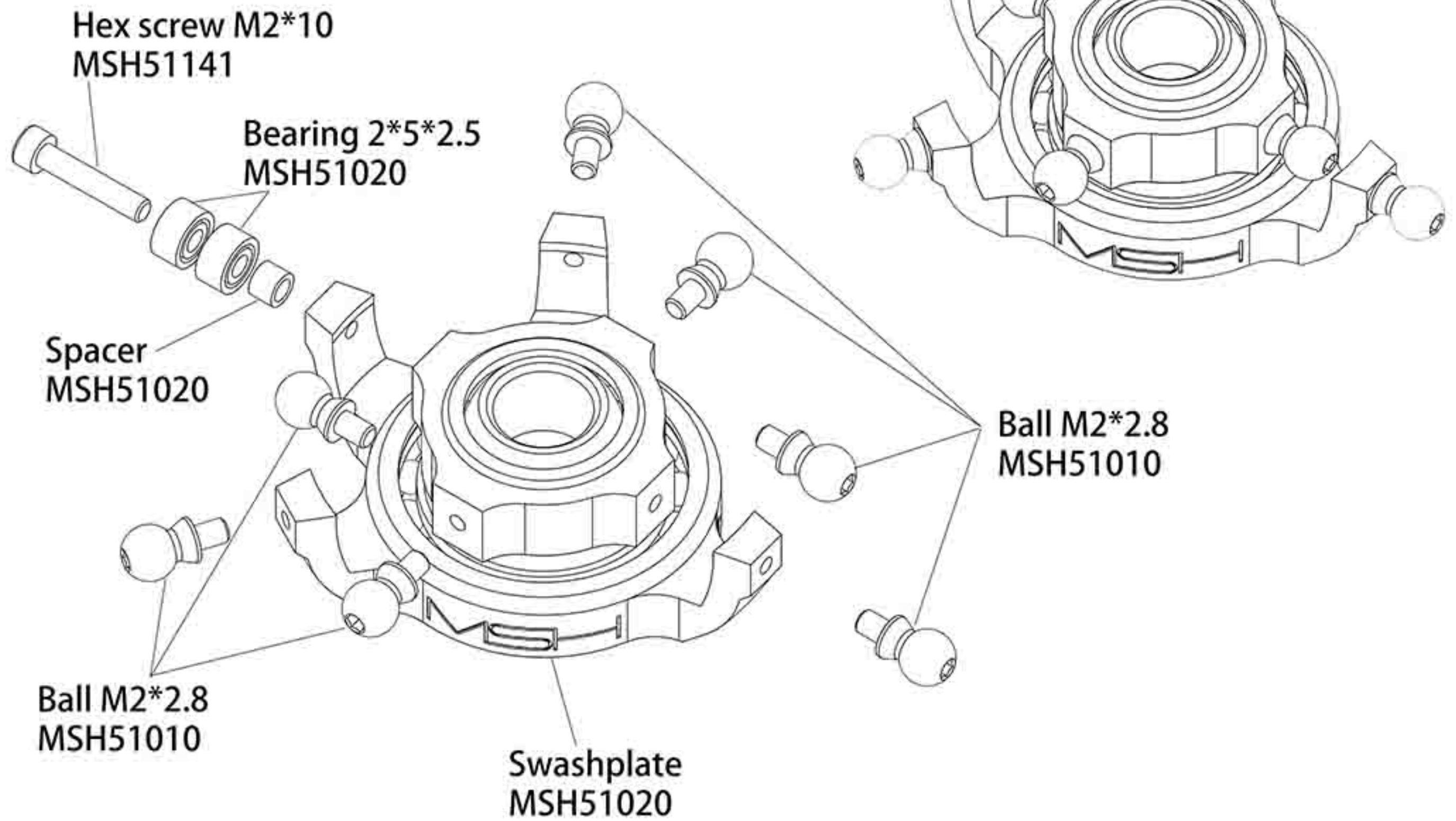
Main gear  
XL48B08

Pay attention to the  
direction, Screw is  
under the main gear





Bag 6

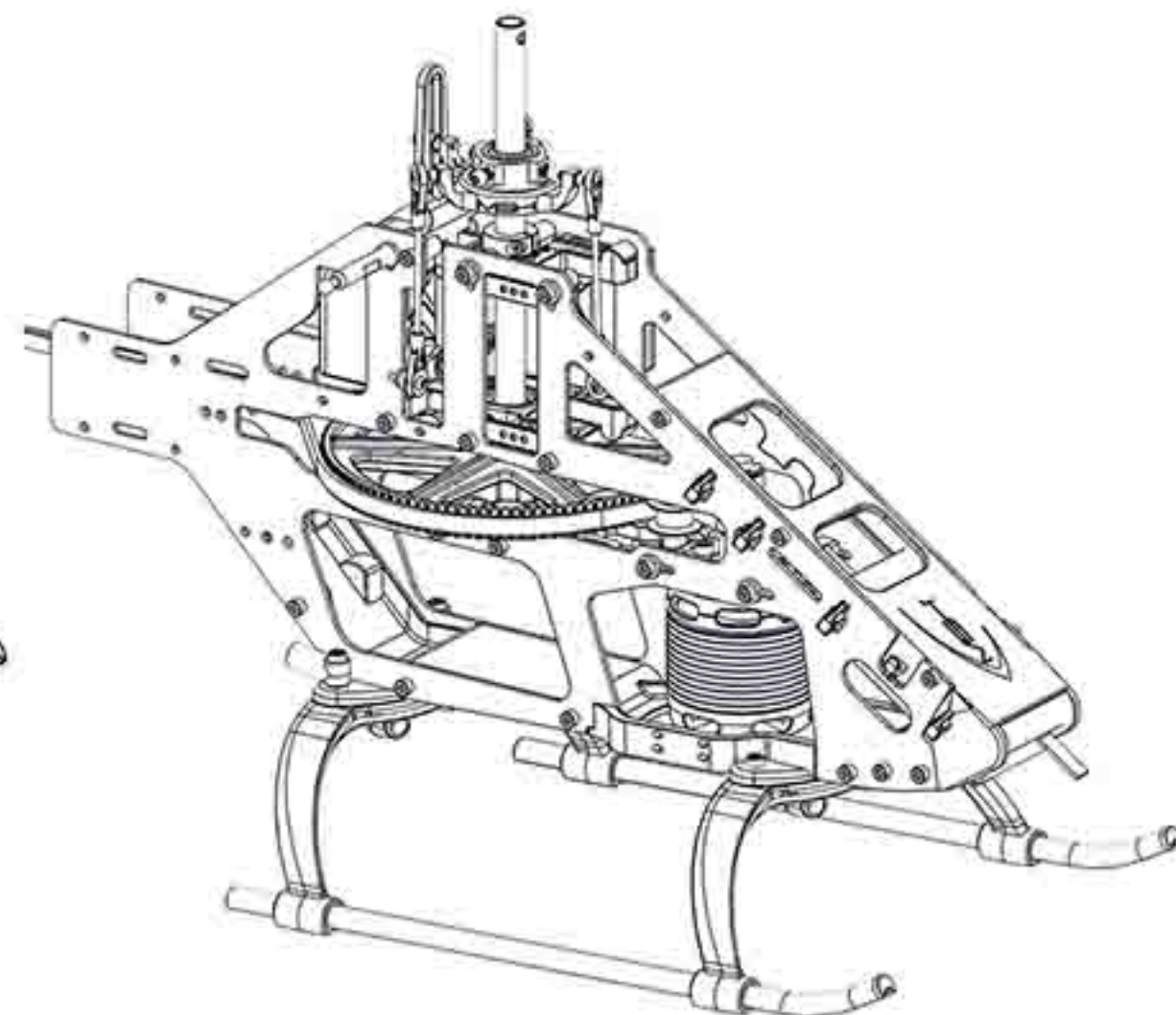
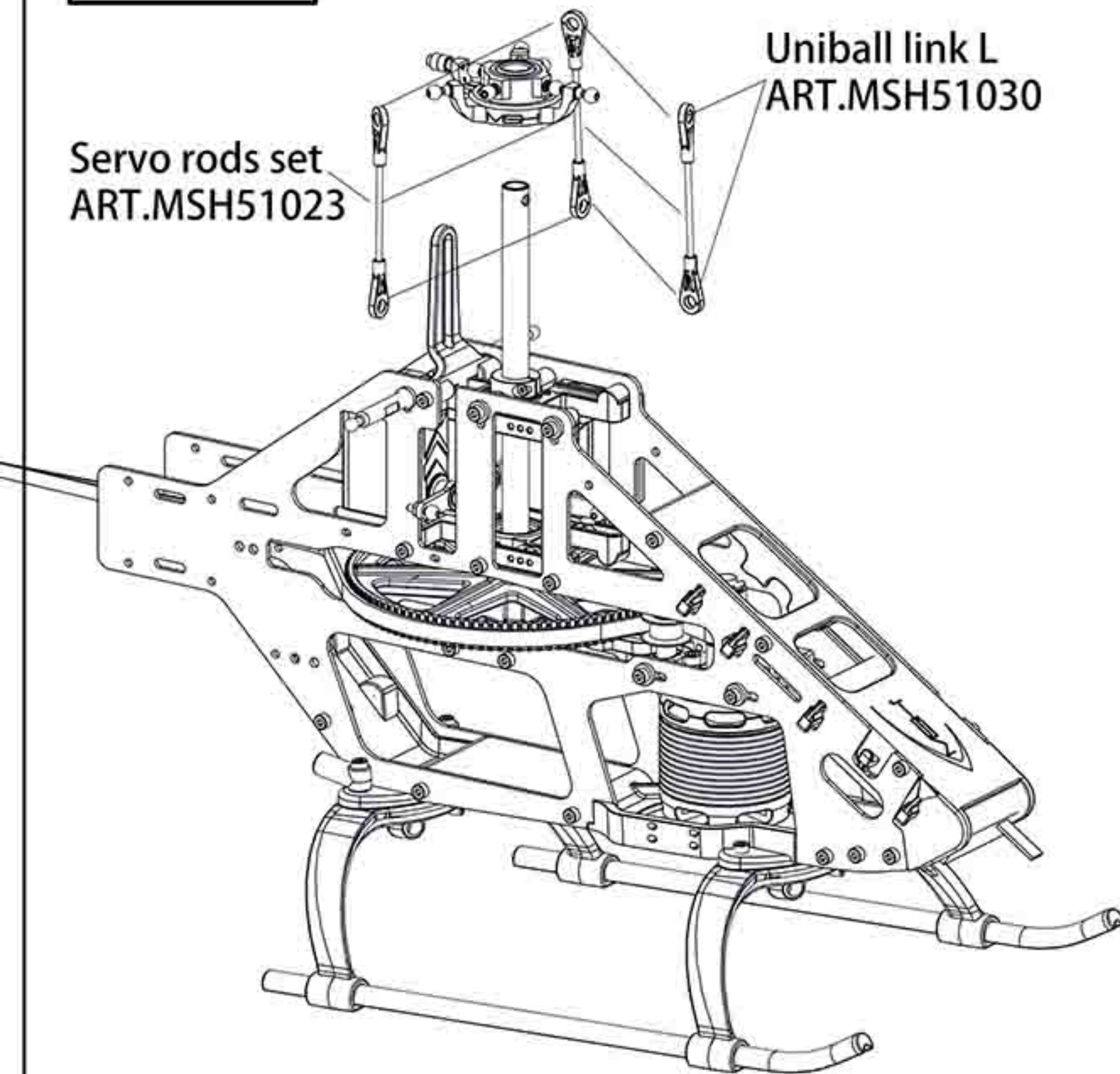


# Bag 6

Servo rods set  
ART.MSH51023

Uniball link L  
ART.MSH51030

28mm





## Bag 6

Wash out uniball arm  
ART.MSH51336

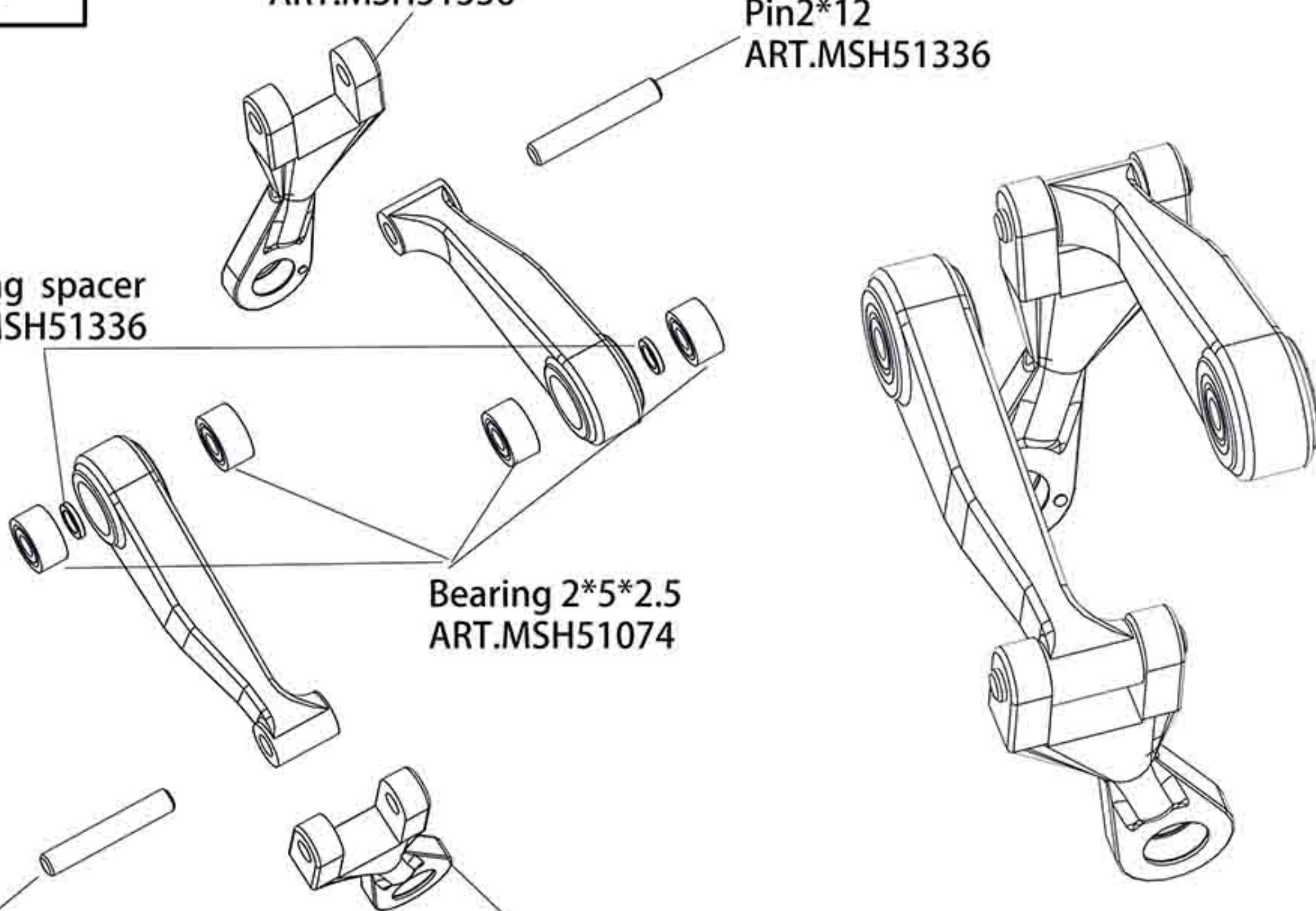
Pin2\*12  
ART.MSH51336

Bearing spacer  
ART.MSH51336

Bearing 2\*5\*2.5  
ART.MSH51074

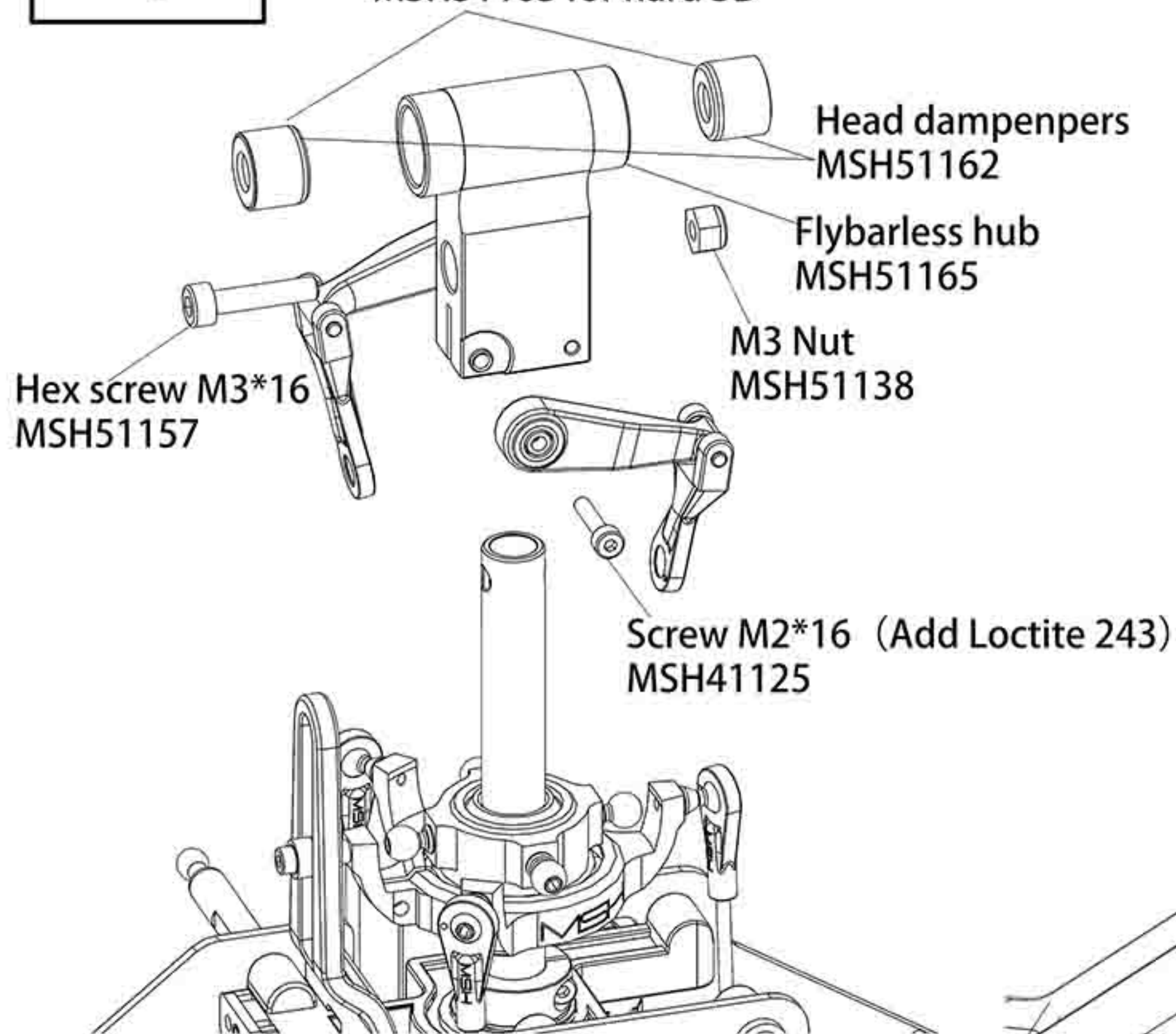
Pin2\*12  
ART.MSH51336

Wash out uniball arm  
ART.MSH51336

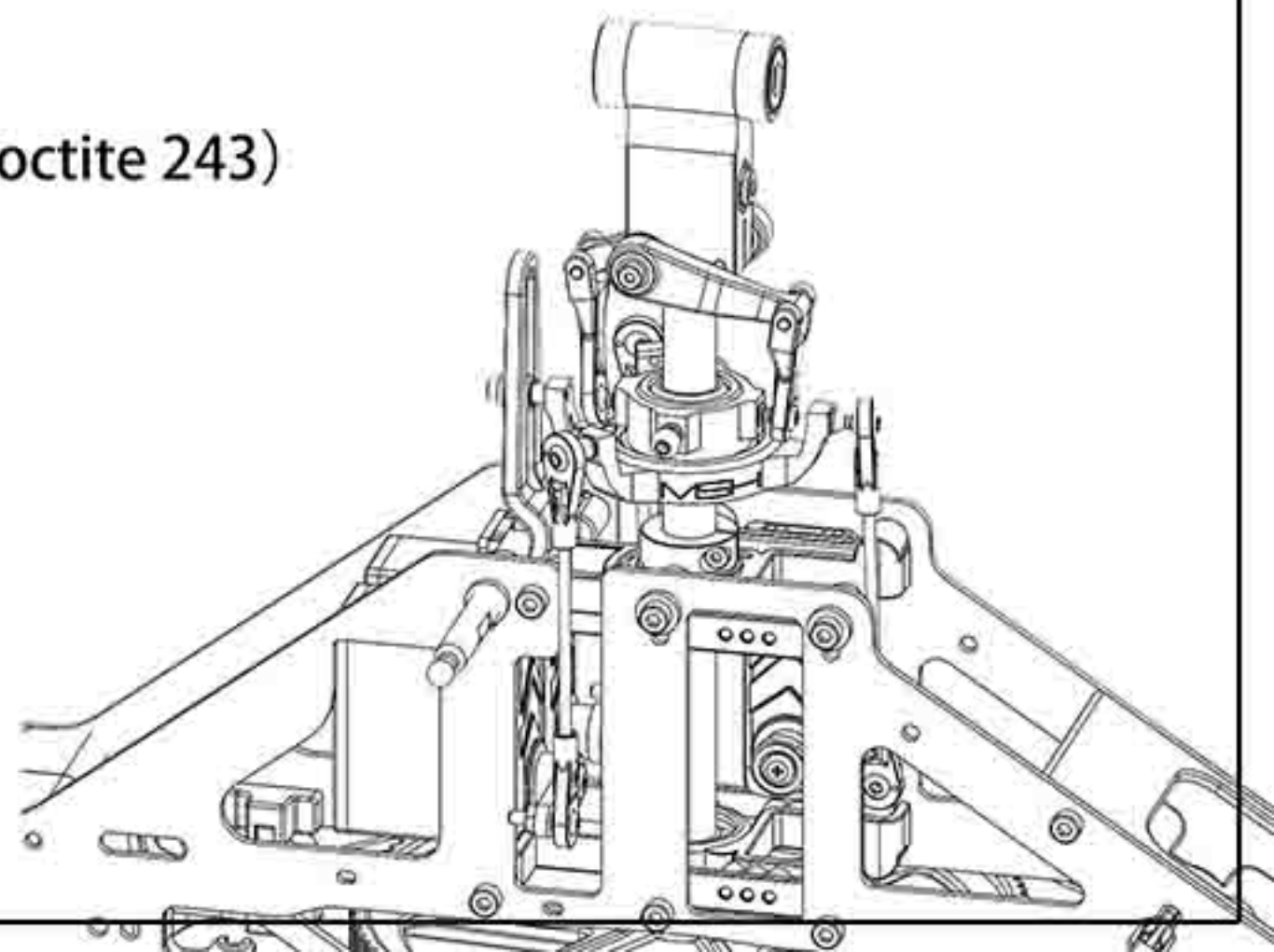
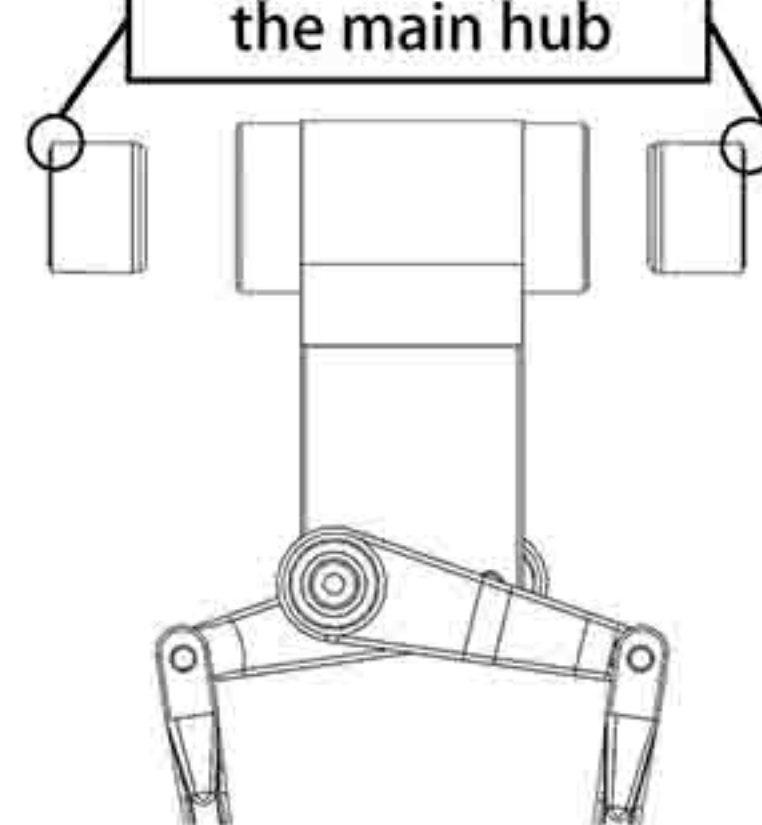


## Bag 6

Optional  
MSH51163 for hard 3D

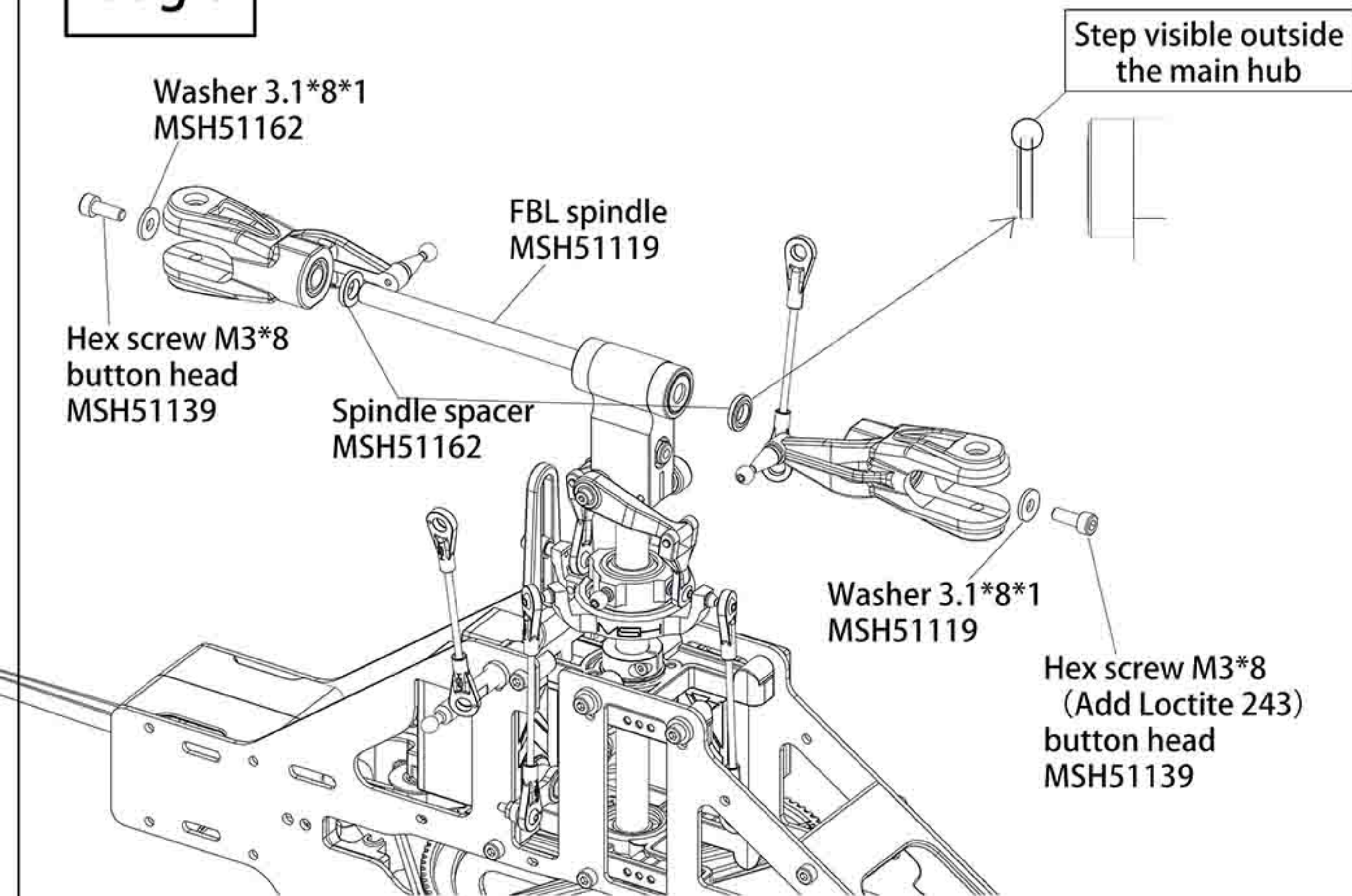


Step visible outside  
the main hub

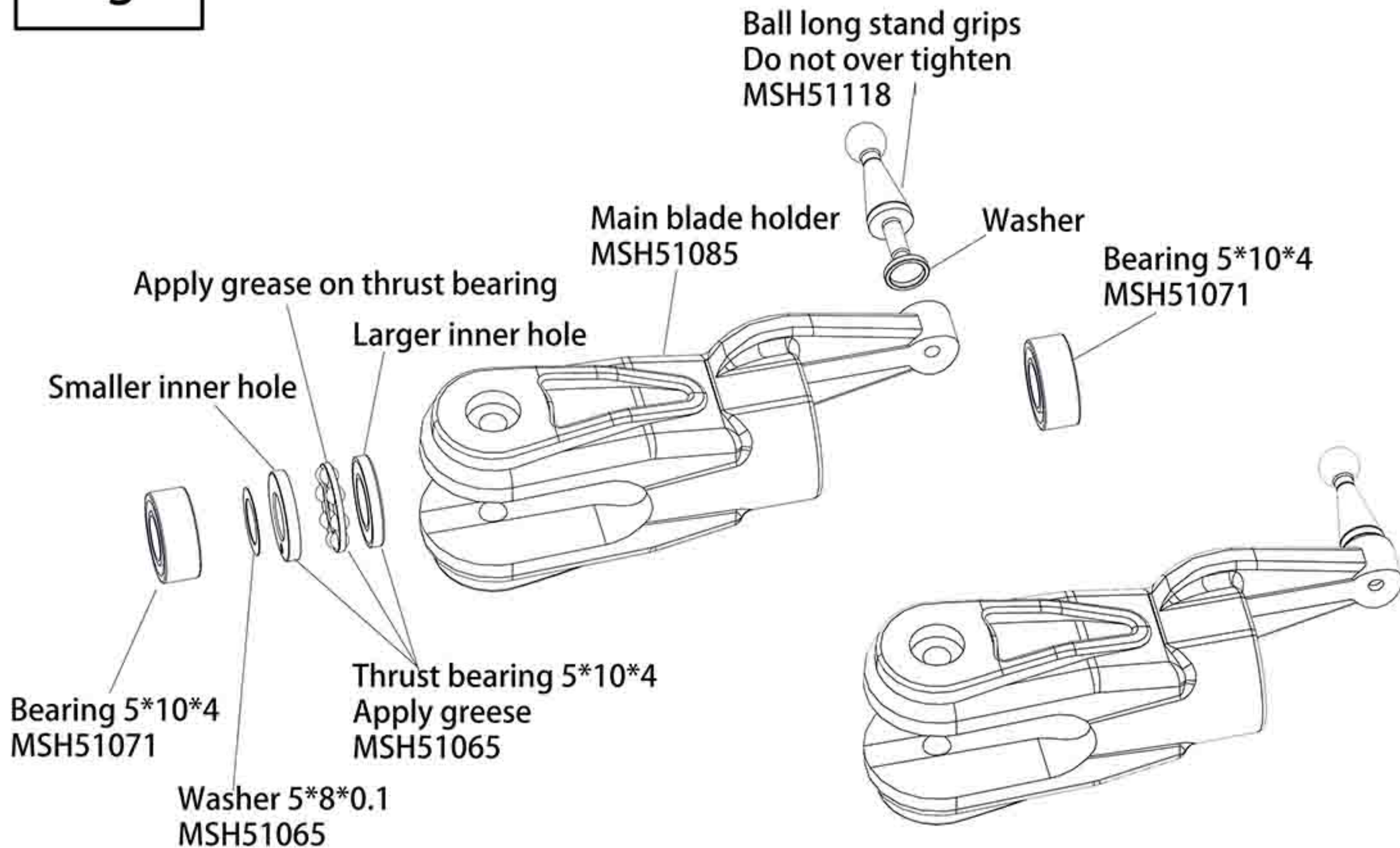




# Bag 6

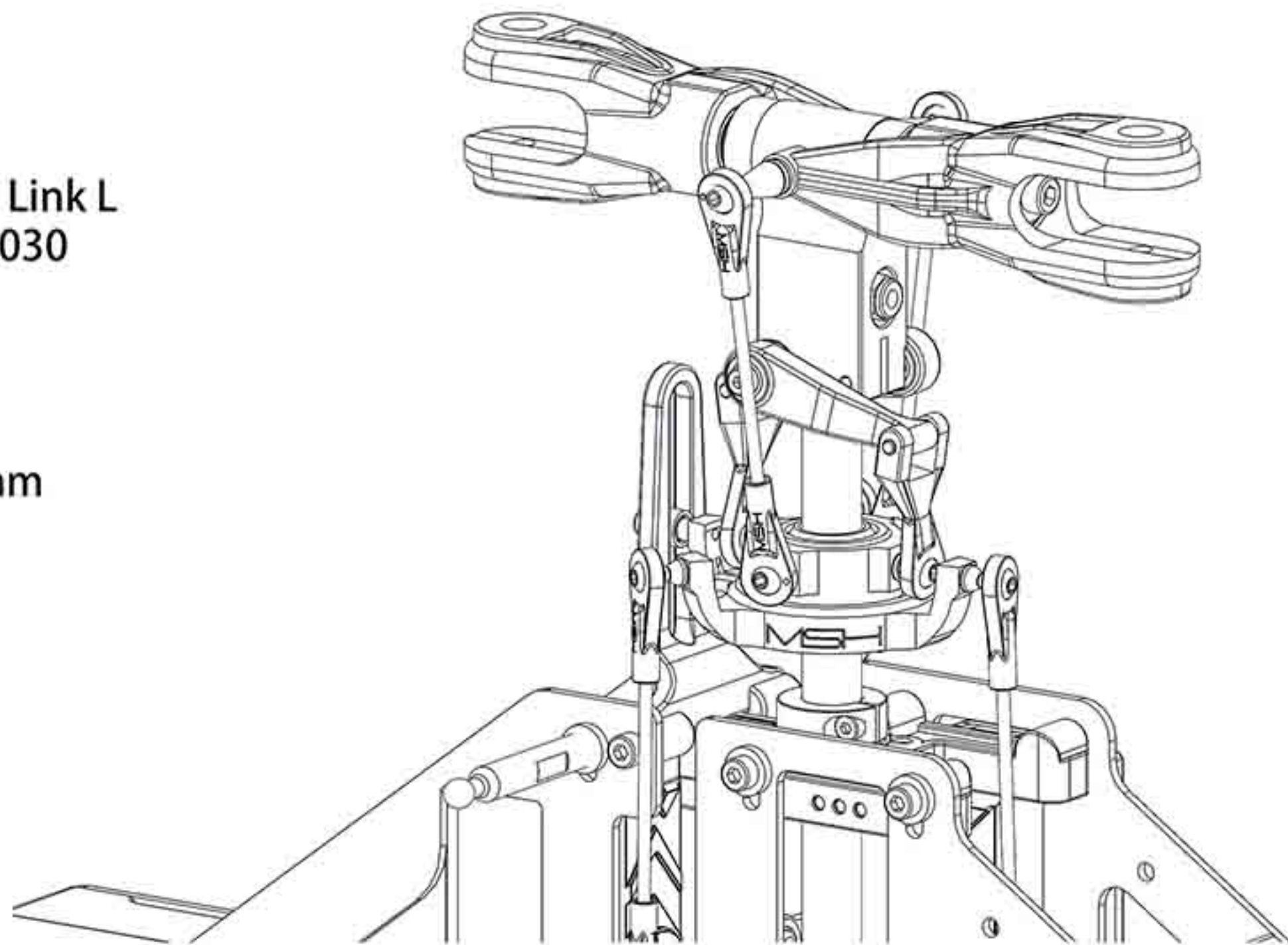
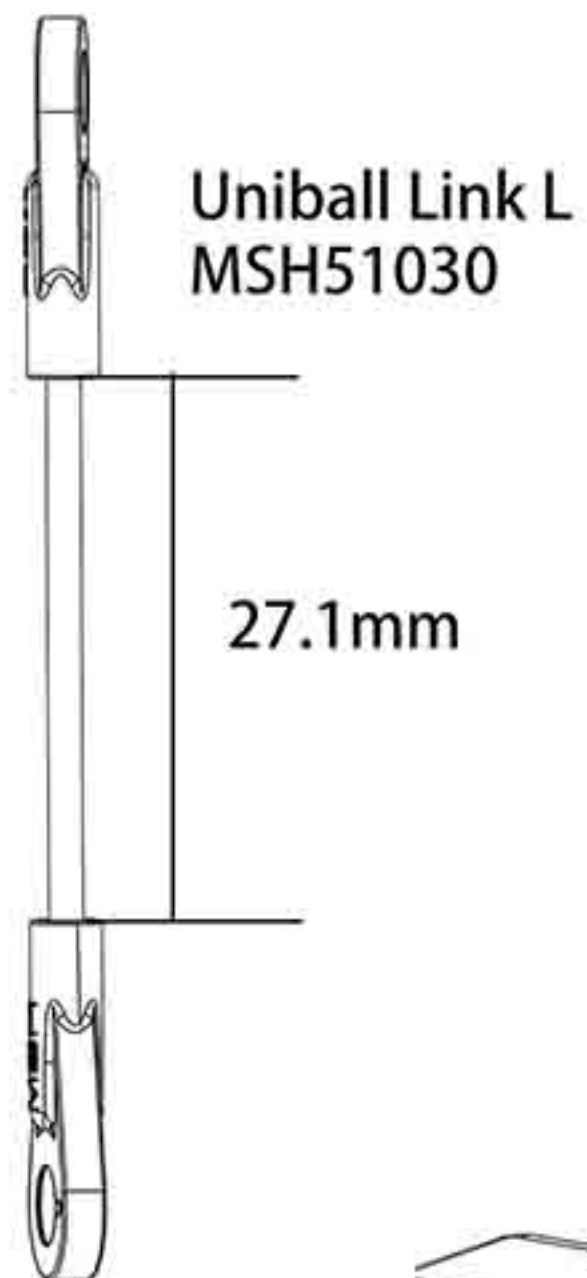


## Bag 6

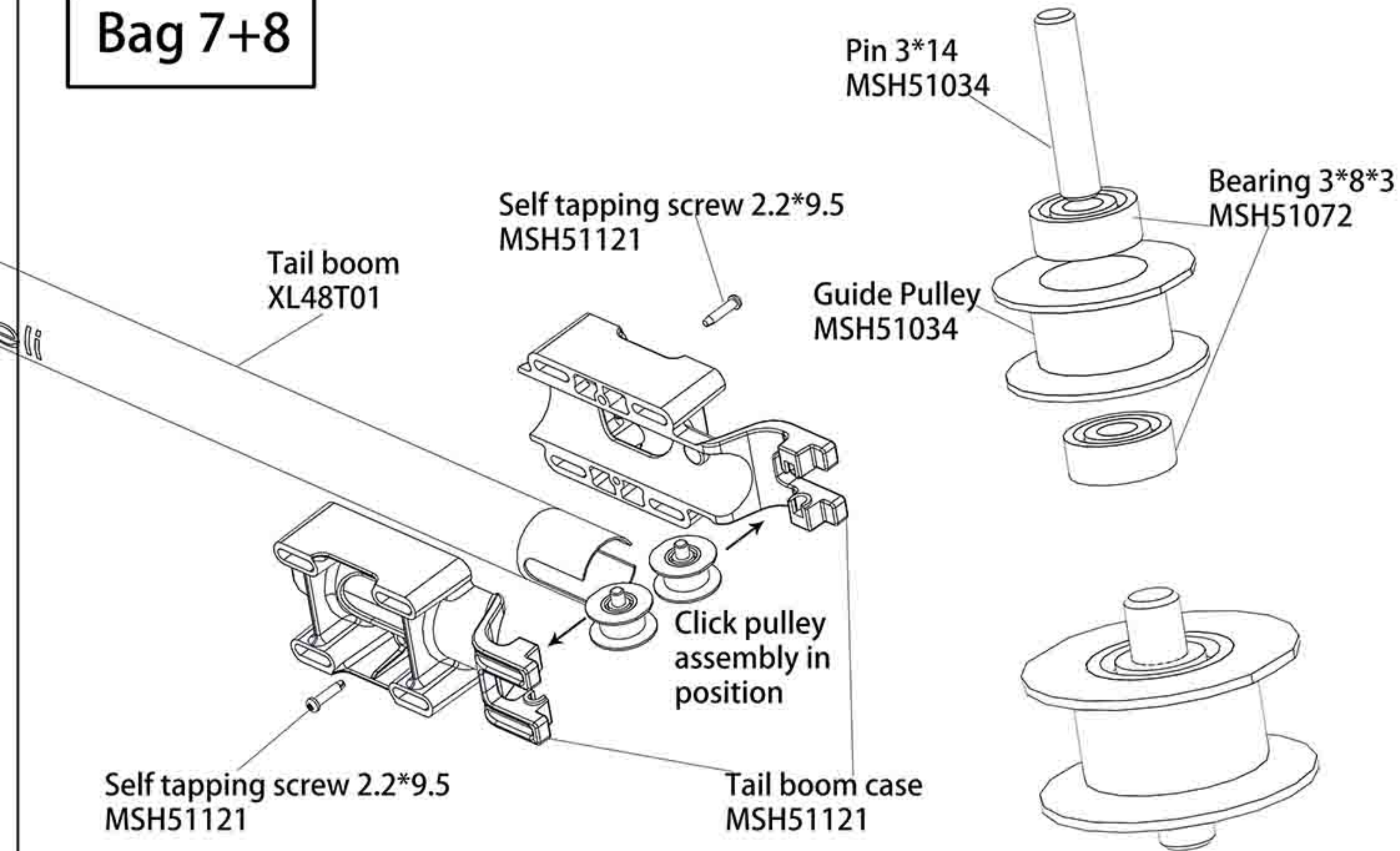




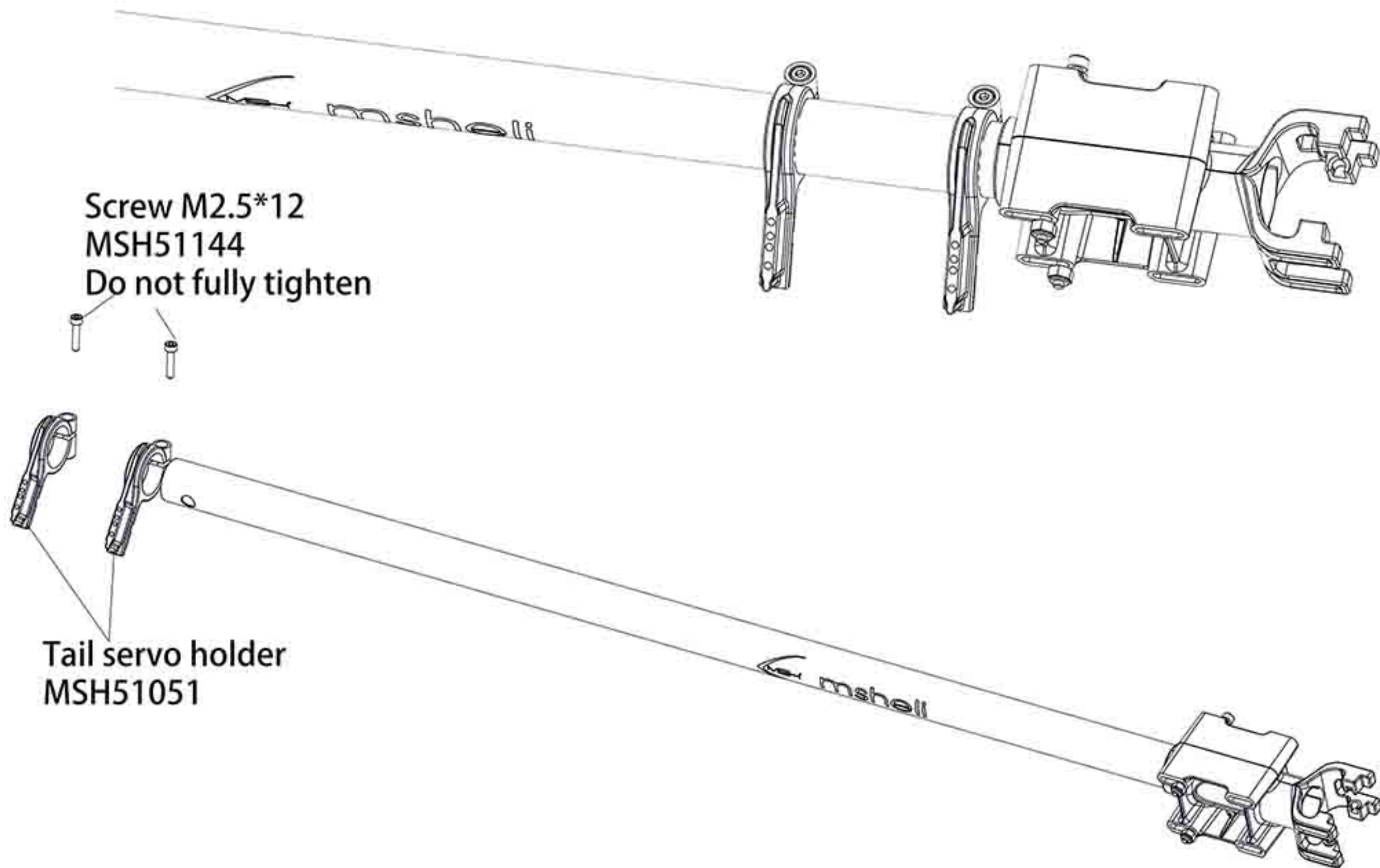
# Bag 6



# Bag 7+8

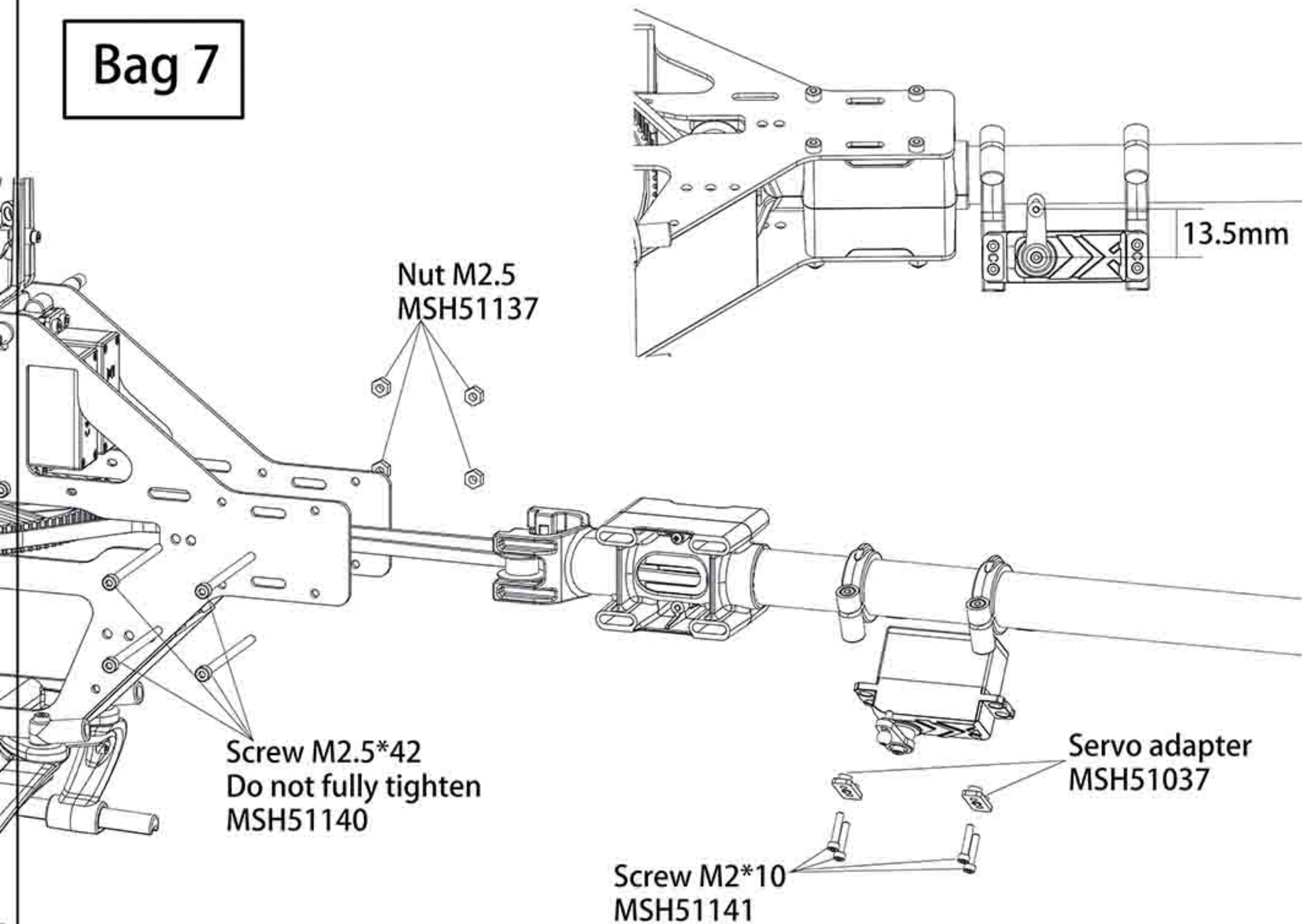


# Bag 7





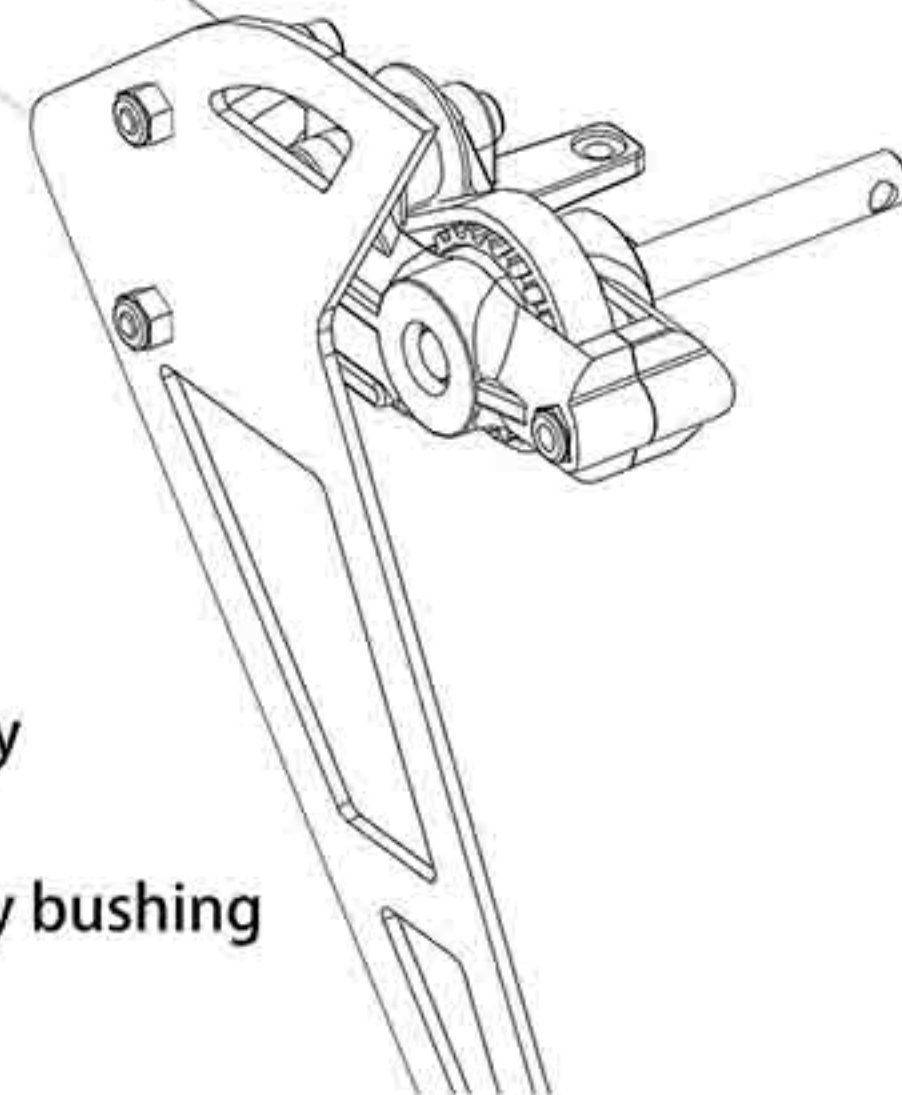
# Bag 7



# Bag 9



Pay attention to the belt direction



Nylon nut M2.5  
MSH51137

Tail box L  
MSH51044

Bearing 3\*8\*3  
MSH51072

Guide pulley  
MSH51033

Guide pulley bushing  
2.5\*3\*7.8  
MSH51033

Vertical fin  
MSH51050

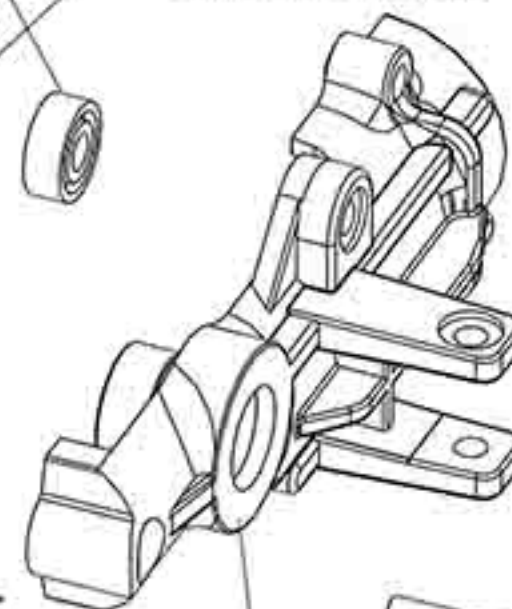
Bearing  
5\*10\*4  
MSH51071

Washer 5\*7.5\*0.2  
XL48A03

Pin 1.5\*12  
XL48T05

Tail shaft  
XL48T07

Tail pulley  
XL48T05



Screw M2.5\*20  
MSH51146

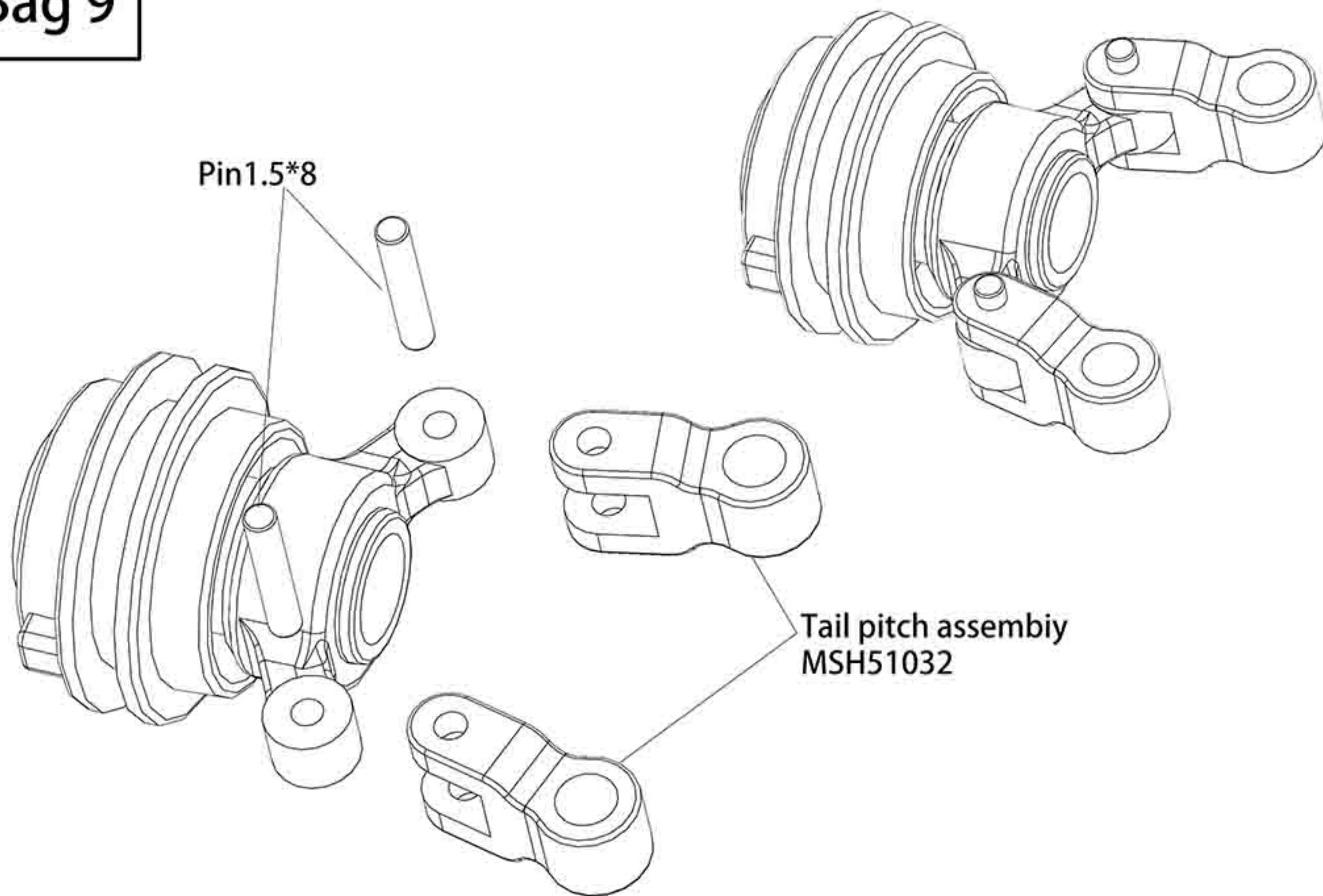
Do not over tighten

Screw M2.5\*16  
MSH51145

Tail box R  
MSH51044

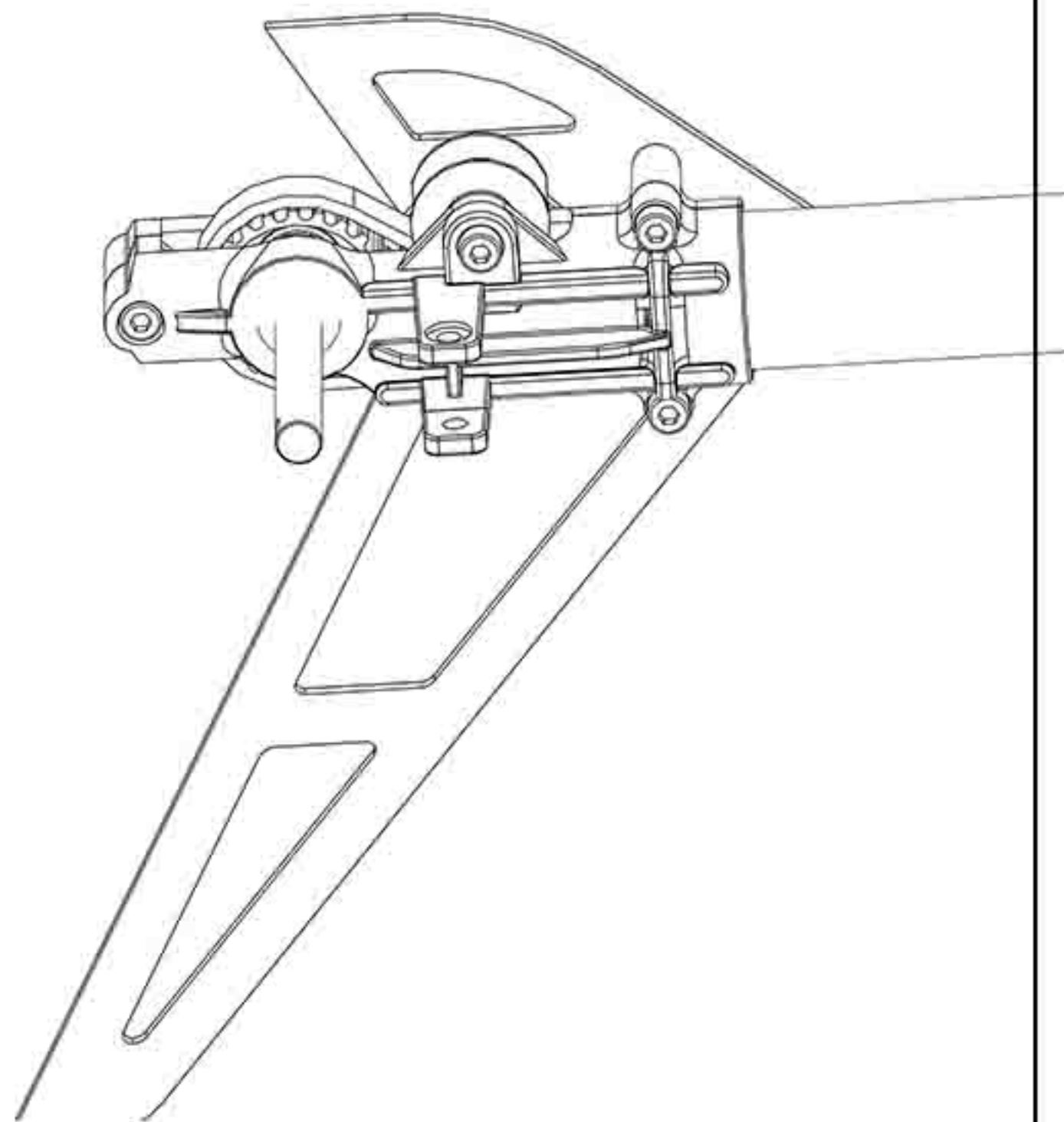
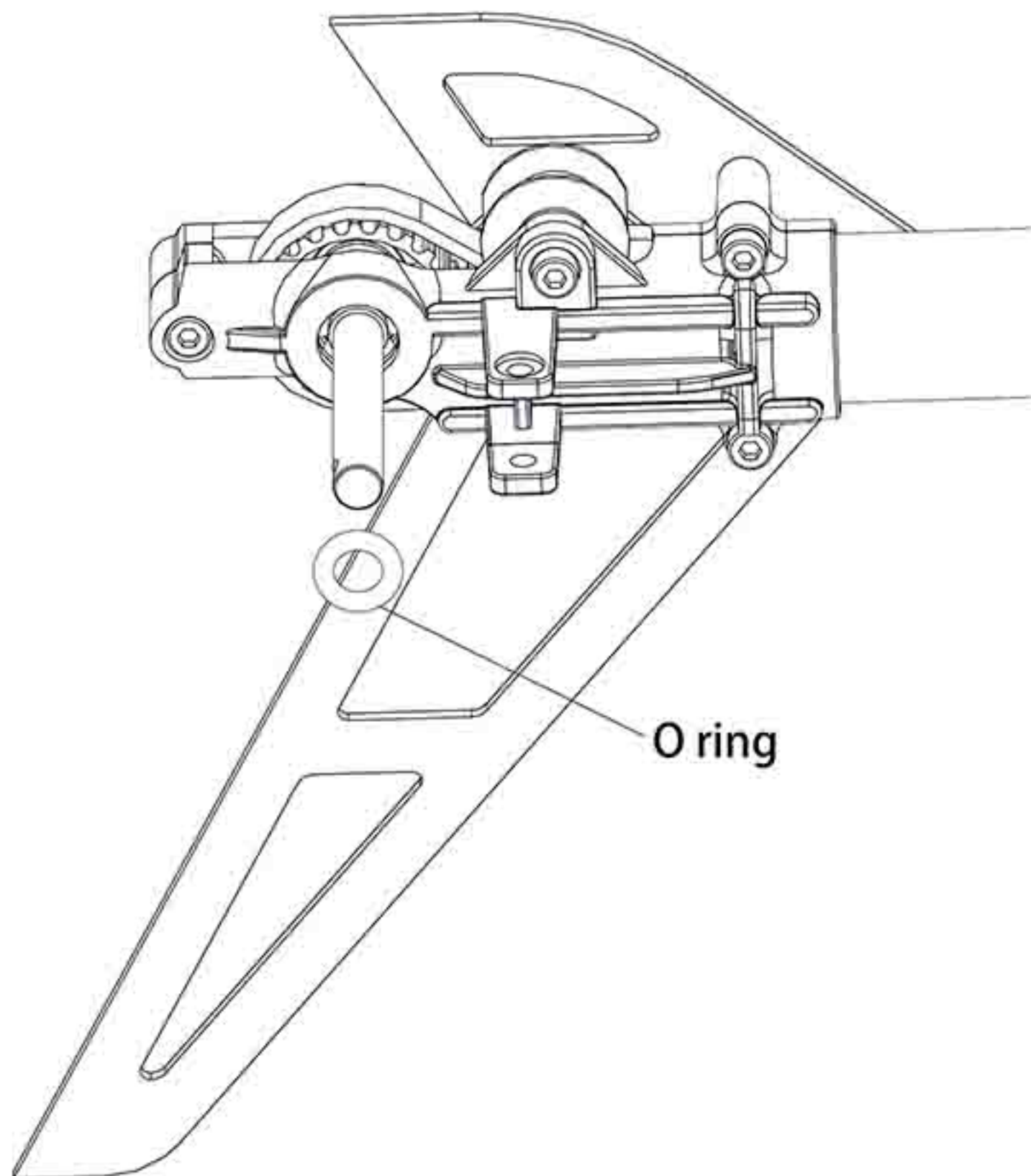


# Bag 9

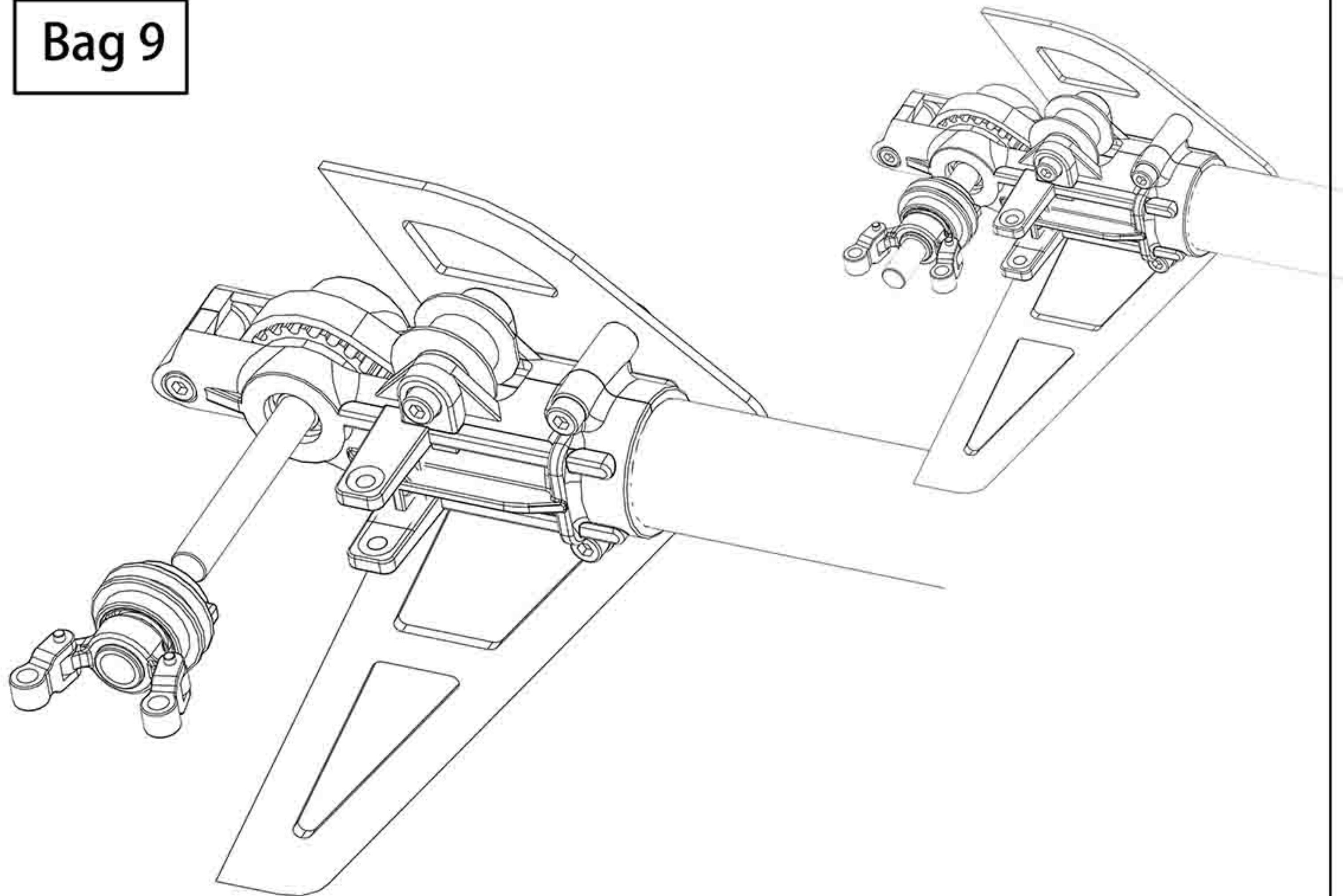




# Bag 9

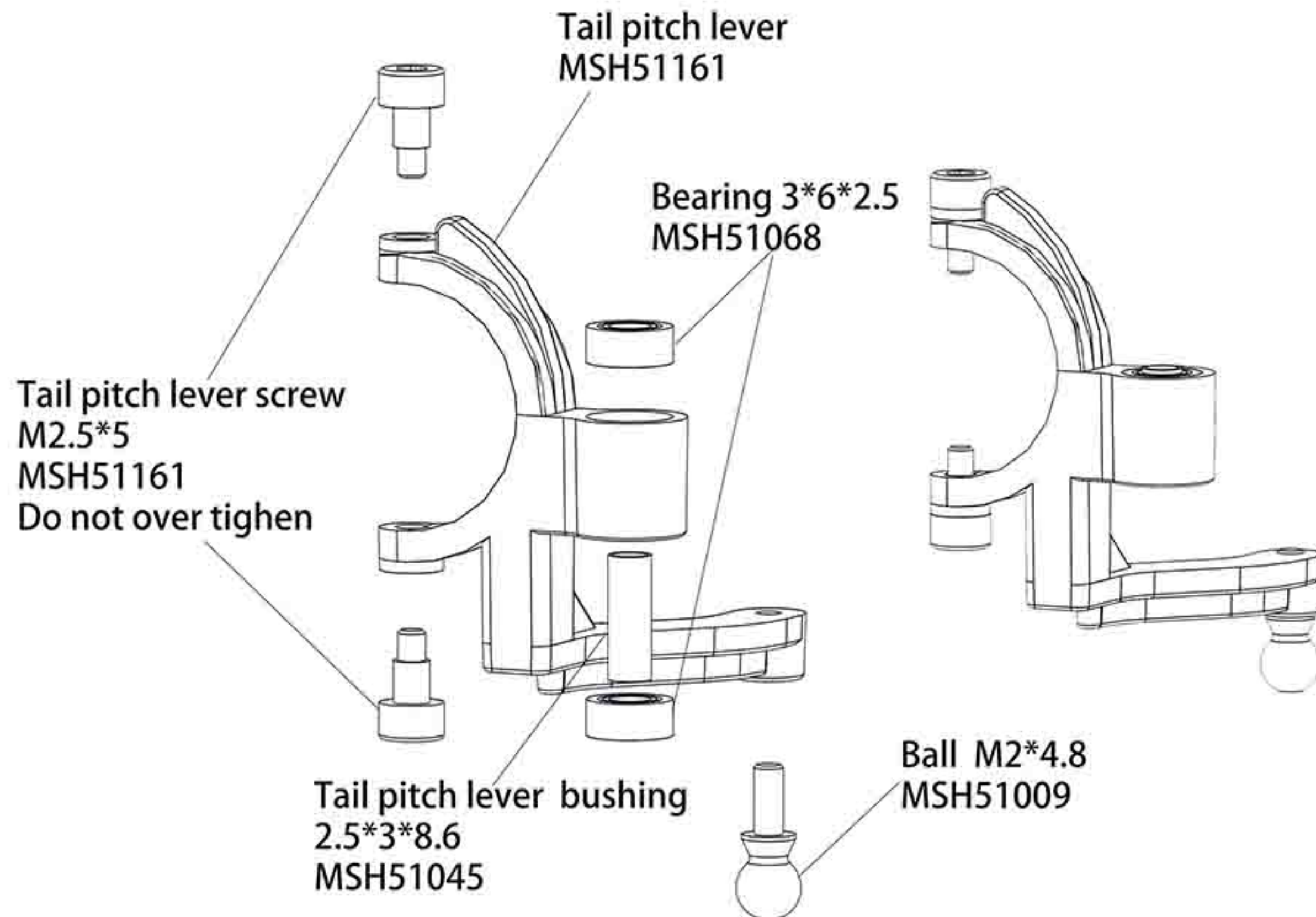


# Bag 9



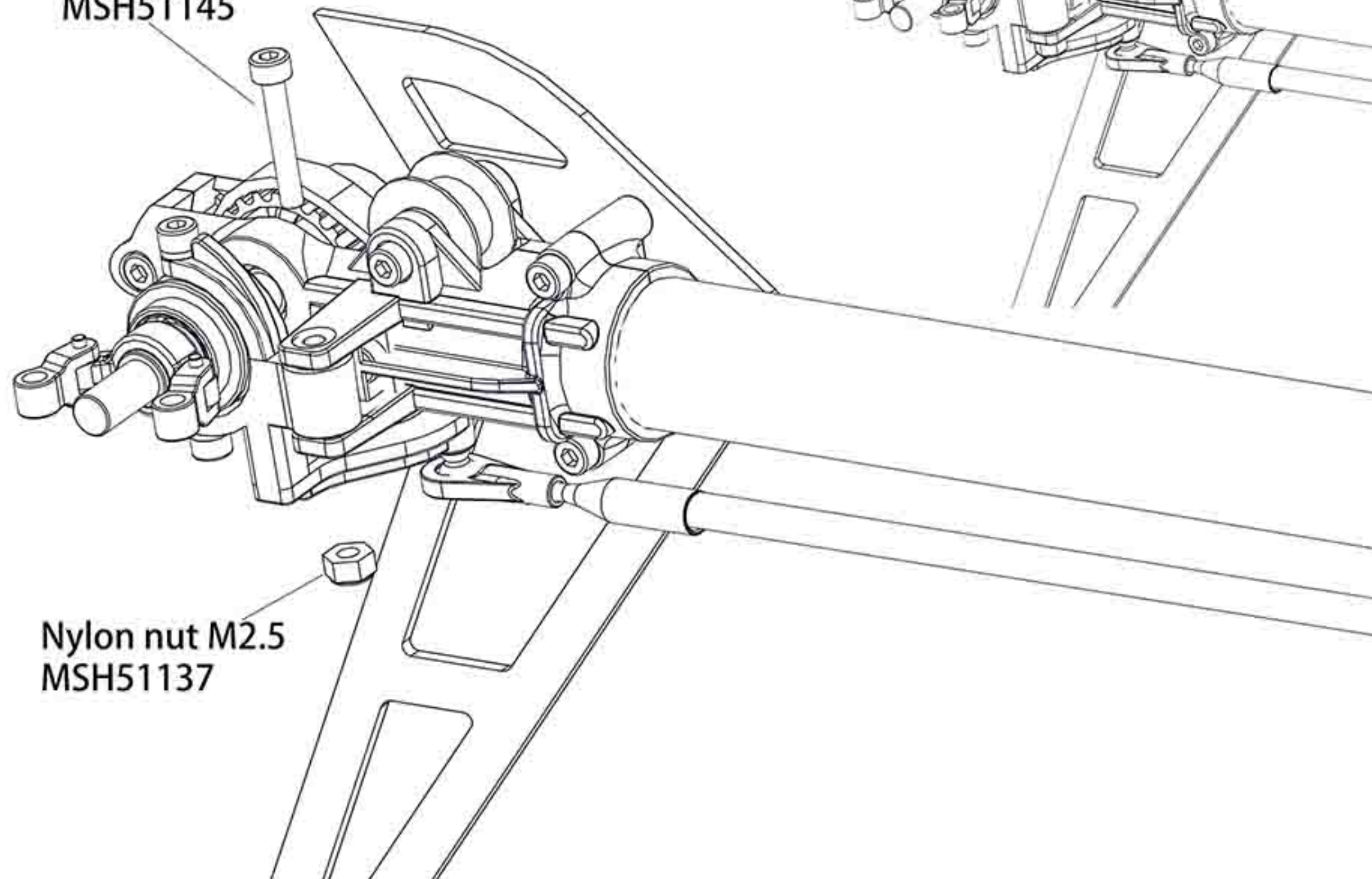


# Bag 9



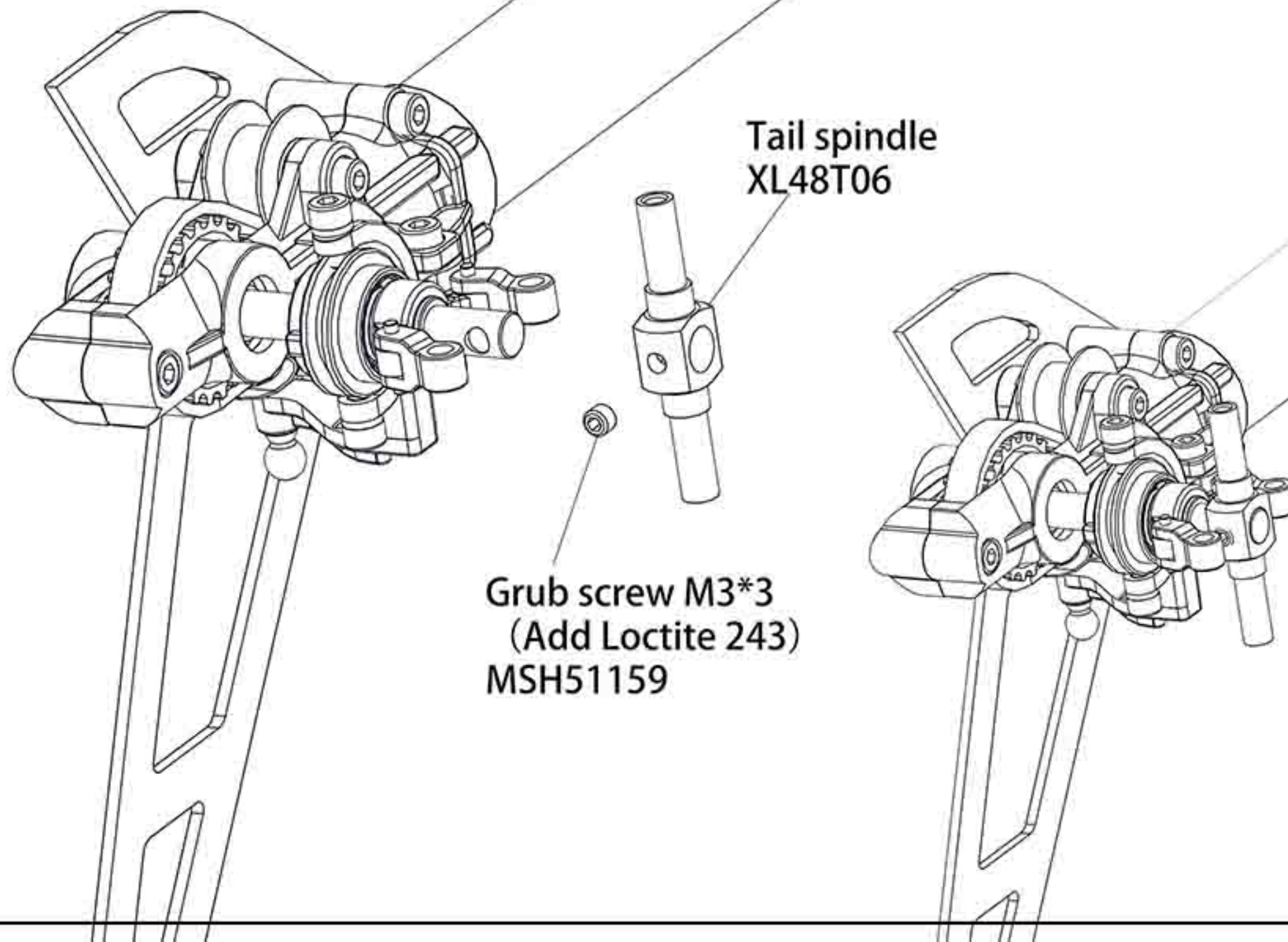
## Bag 9

Screw M2.5\*16  
Do not over tighten  
MSH51145





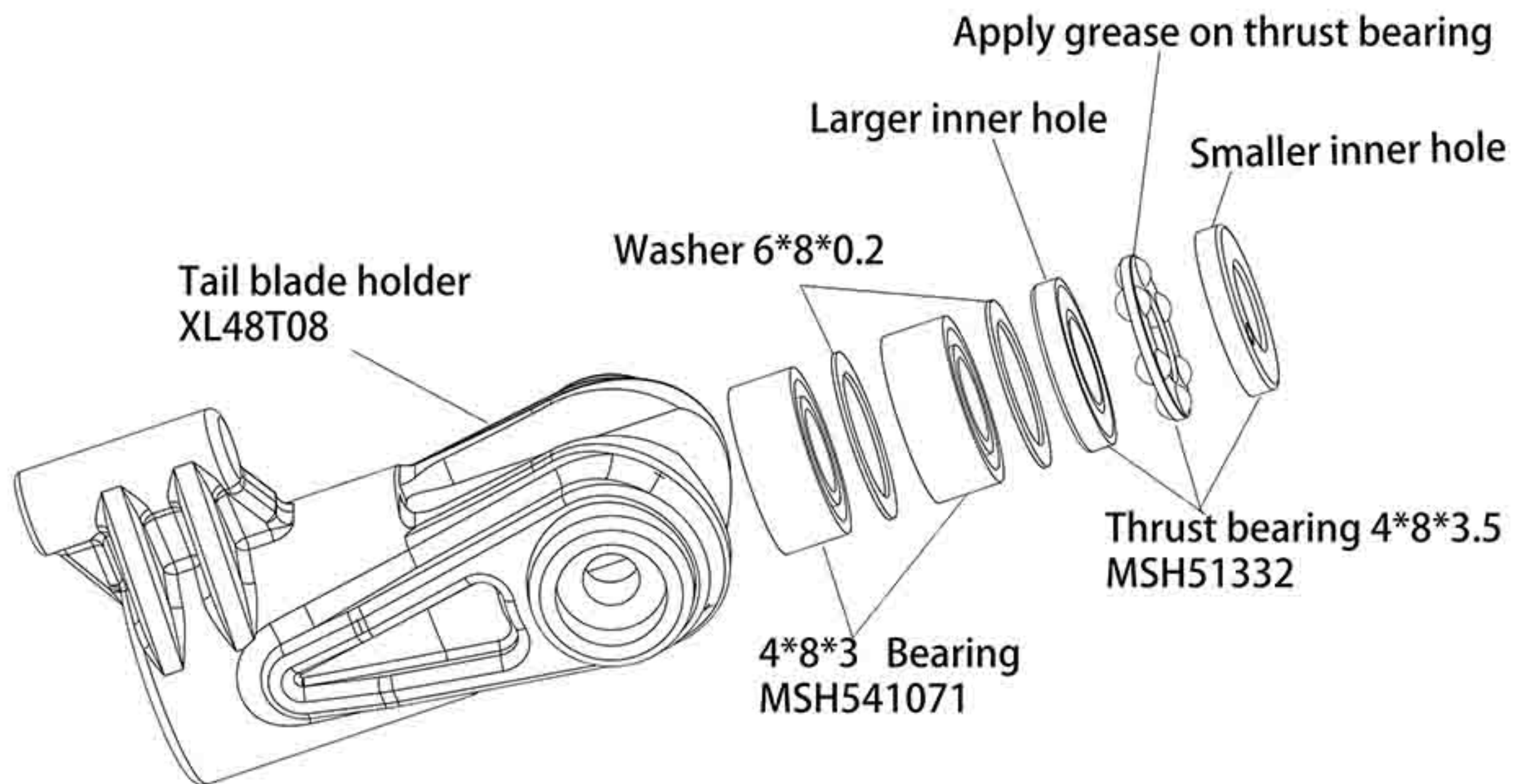
## Bag 9



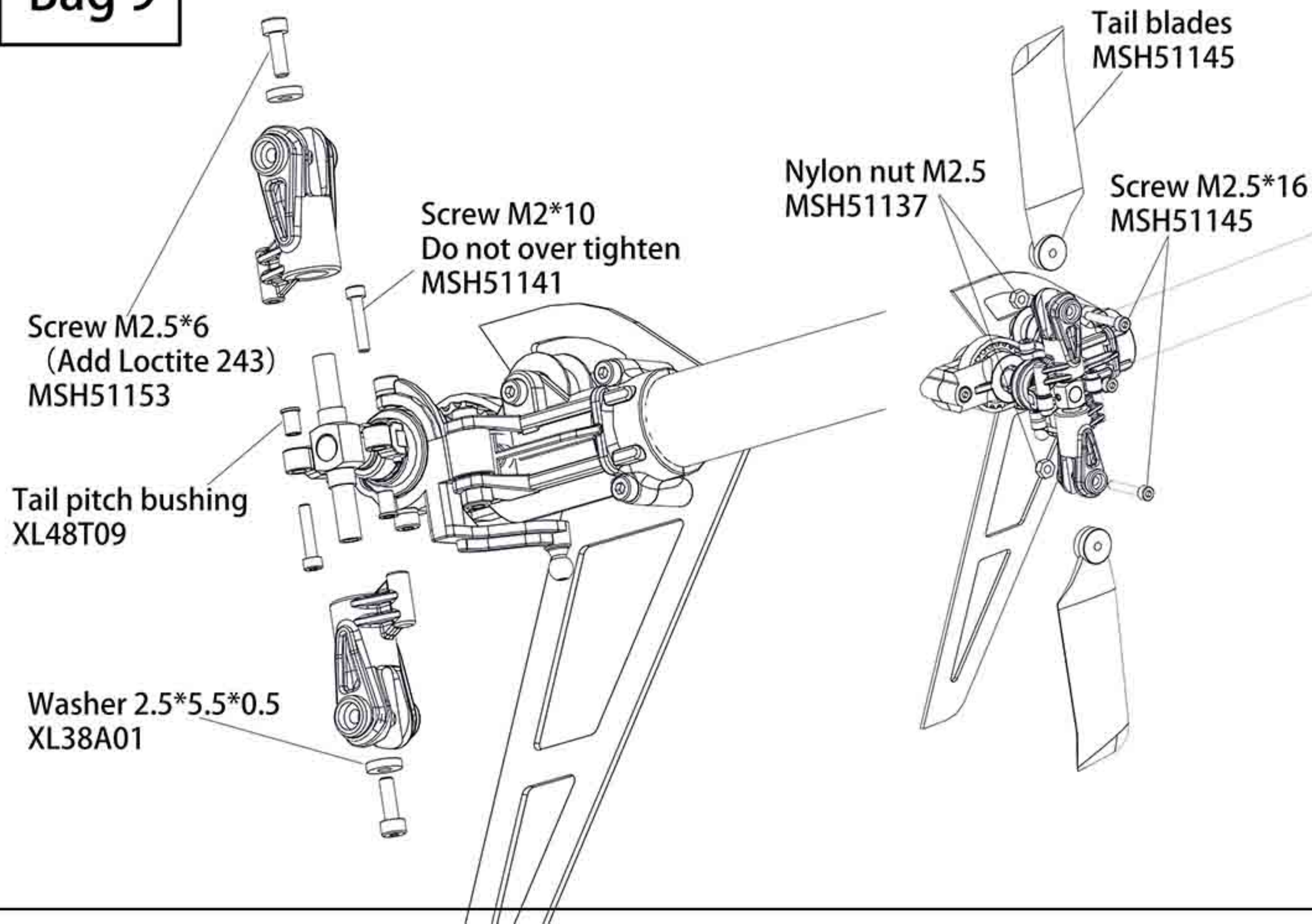
Tail spindle  
XL48T06

Grub screw M3\*3  
(Add Loctite 243)  
MSH51159

## Bag 9

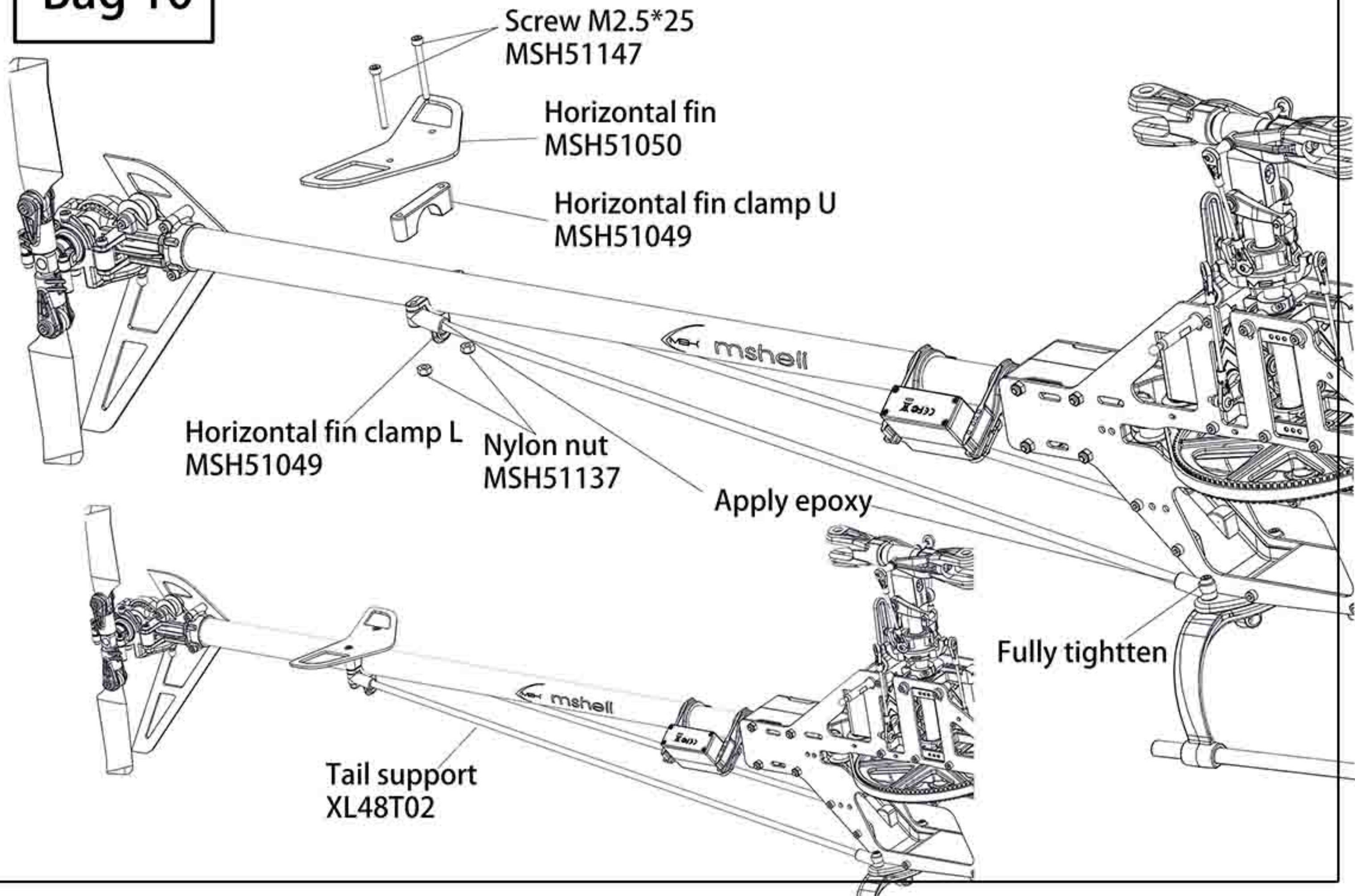


# Bag 9

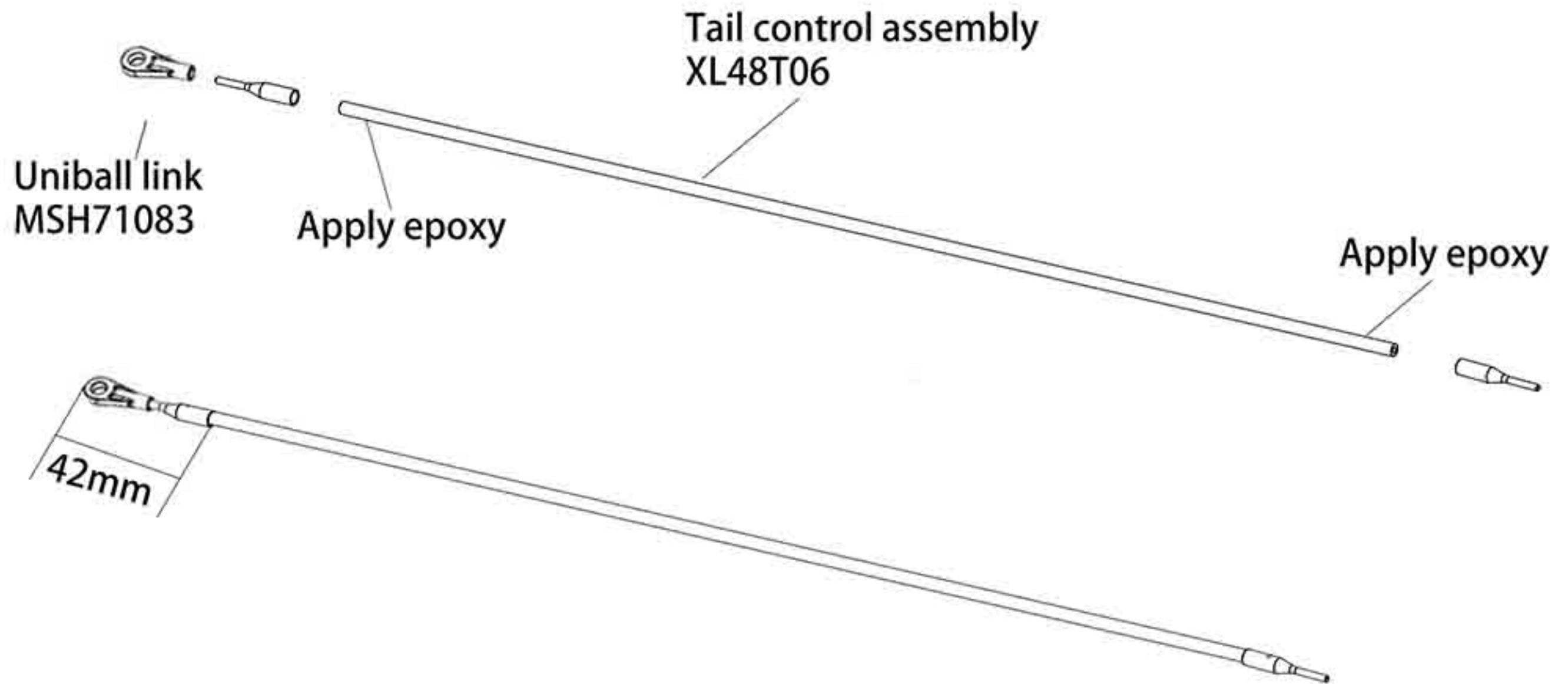




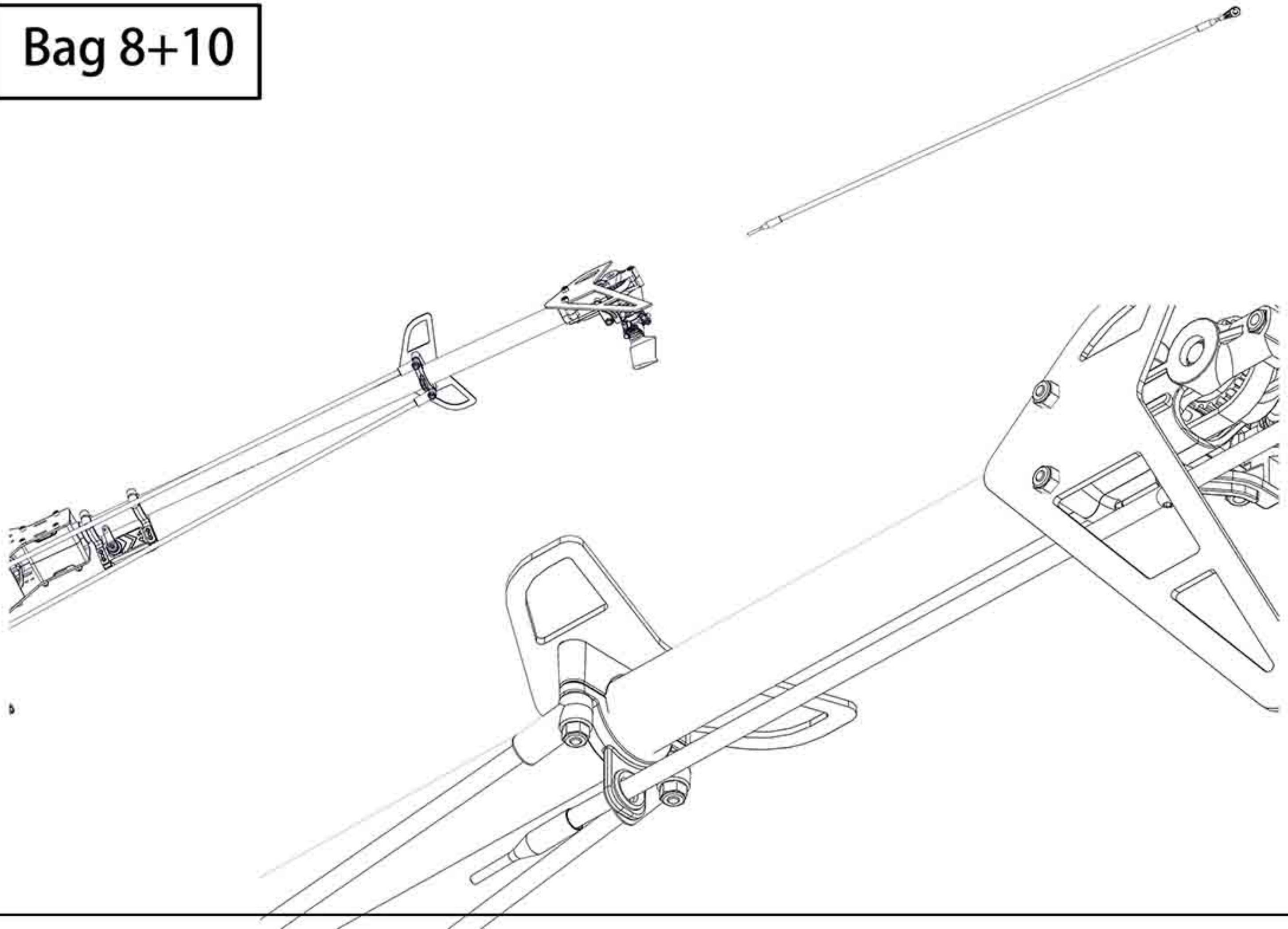
# Bag 10



# Bag 8+10

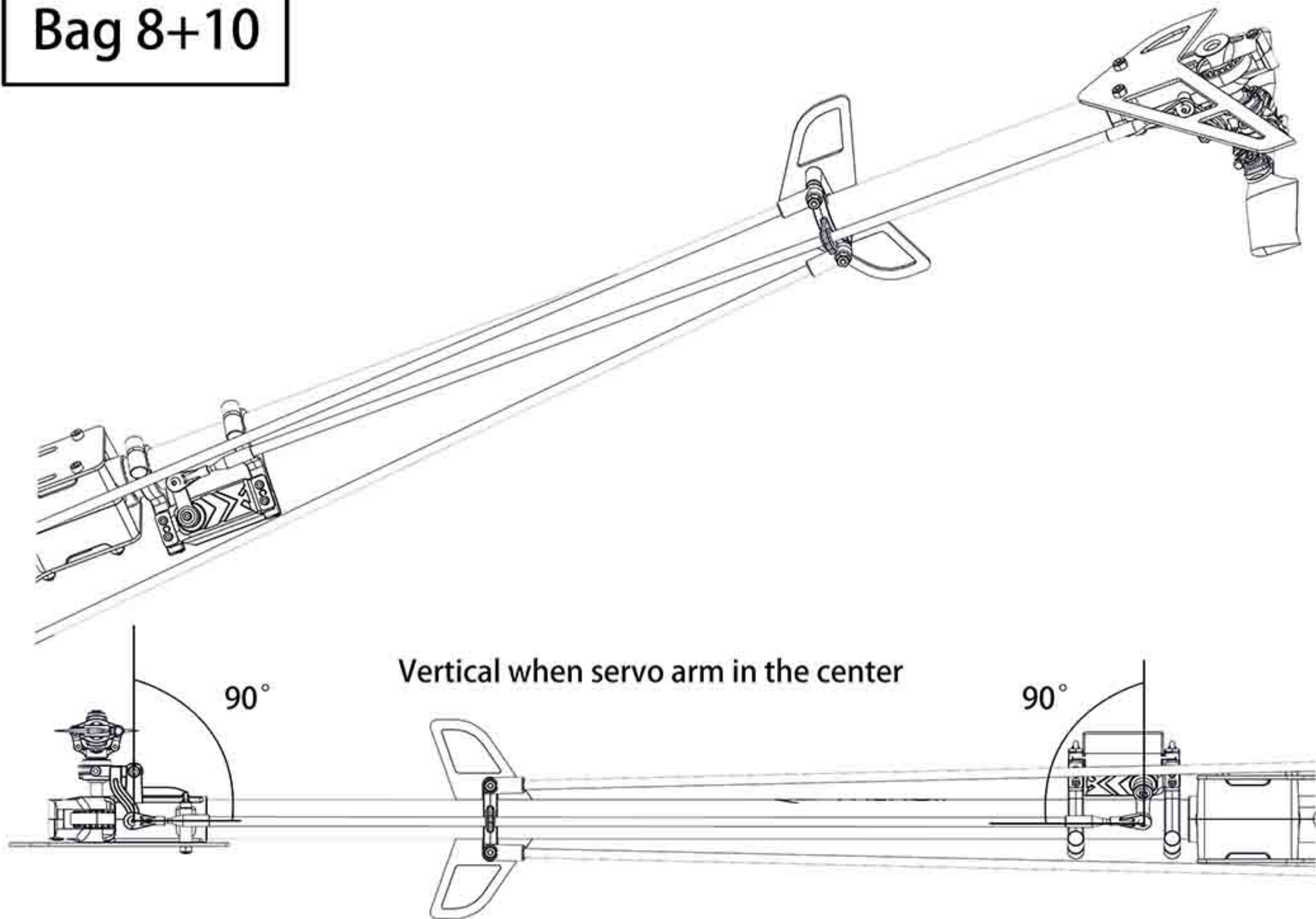


# Bag 8+10

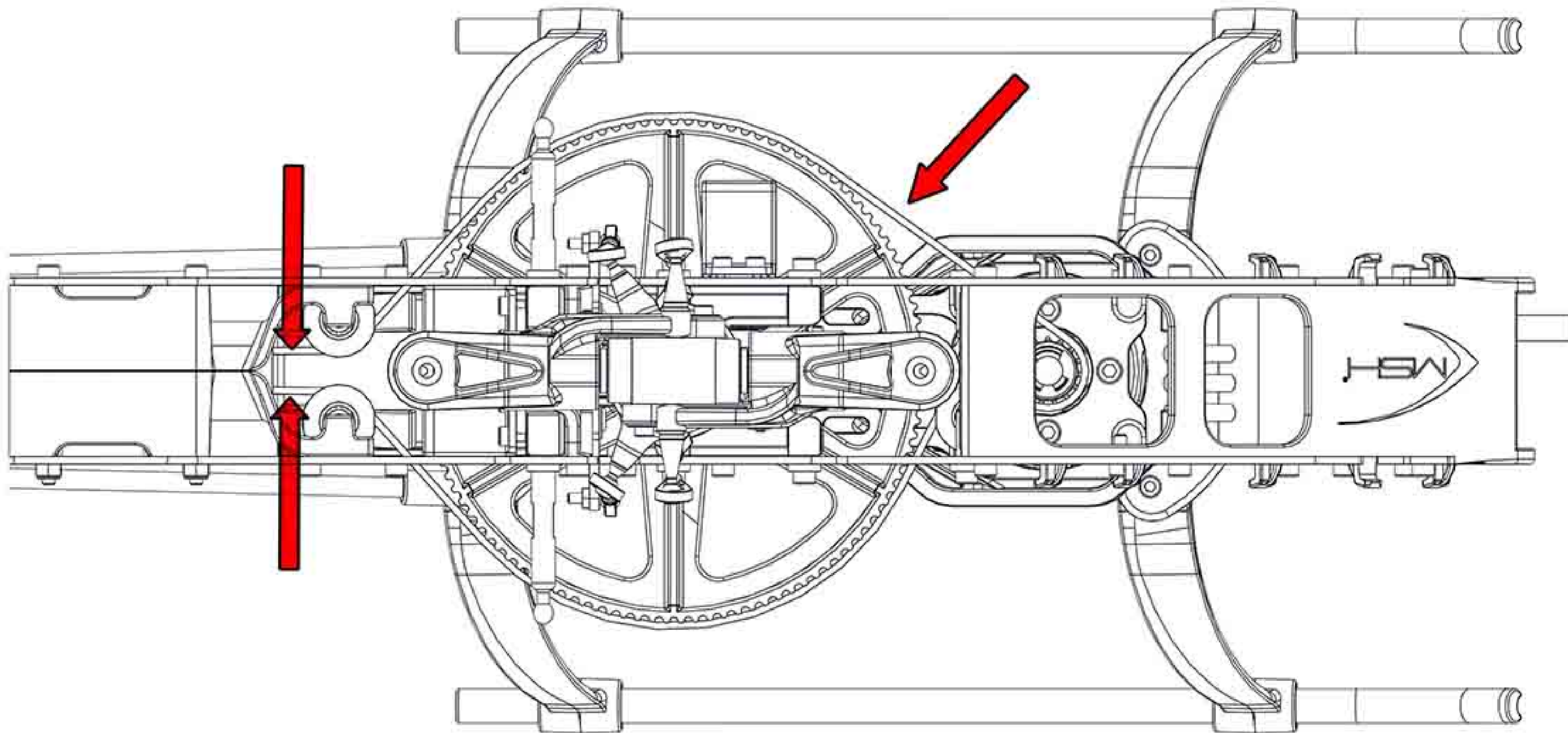




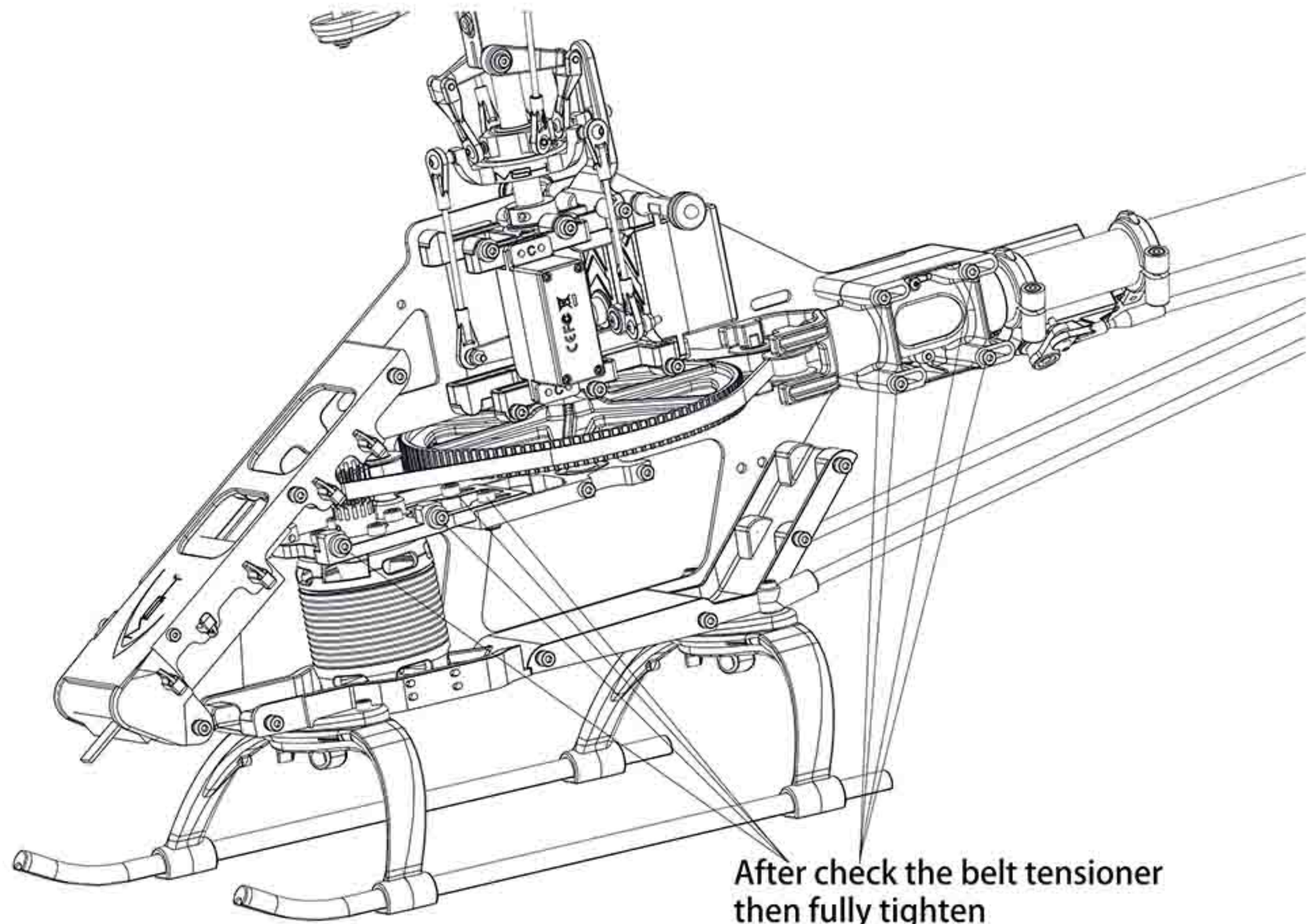
# Bag 8+10



Check belt tensioner  
Belt can move 1-2mm is ok







After check the belt tensioner  
then fully tighten