

# RADIKAL

## NE40

N I T R O P O W E R



### Kit Features:

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- 8.58 :1 Main gear ratio
- 4.5:1 Tail gear ratio
- Engineered for OS 55/YS56 motors or compatible
- Carbon fiber frames for ultra-rigid and compact design
- Push/Pull CCPM control system
- Triple bearing supported 10mm hardened main shaft
- 120 degree dual race ball bearing metal swashplate
- Stainless steel damper mounted bearing torque tube for high efficiency
- Dual race ball bearing with thrust bearing supported tail blade grips

### Specifications:

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- Main Rotor Blade Diameter: 57.3 in / 145.5 cm (640 mm Blades)
- Tail Rotor Blade Diameter: 10.25 in / 26.0 cm (92 mm Blades)
- Length: 49 in / 124.50 cm
- Height: 13.7 in / 34.80 cm
- Width: 4.5 in / 11.45 cm

# CENTURY

HELICOPTER PRODUCTS

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## Thank You

Thank you for purchasing this new class of helicopters. By incorporating the use of blade sizes up to 640mm allowing 700 class flight characteristics in a smaller, you've made the right choice by going for an economical yet extremely high performance helicopter.

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## Warning!

This R/C helicopter is not a toy! It is a precision machine requiring proper assembly and setup to avoid accidents. It is the responsibility of the owner to operate this product in a safe manner as it can inflict serious injury otherwise. It is important for the user/pilot to be responsible for the damage the model is capable of inflicting on one's self and others around the model during its operation. Century Helicopter Products, affiliated individuals, and shops/sellers hold no accountability for the operation or use of this model. It is recommended that if you are in doubt of your abilities; seek assistance from experienced radio control modelers and associations. Although the helicopter is considered small in size, you must be very cautious during the operation of the model as serious damage, injury, or death can occur.

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## Flight Checklist

- Make sure your transmitter battery is fully charged.
- Turn on the transmitter FIRST prior to turning on anything else on the model.
- Inspect all parts before each flight to ensure no damage has occurred.
- Check all nuts, bolts, and screws to be sure they are securely fastened.
- Verify all parts are installed correctly and in proper working condition.
- Make sure you have control of the model prior to engaging the motor or engine.
- Allow all the components to initialize and test all controls.
- Fly the model and be sure the model is capable of a proper hover prior to performing aerobatics.
- Land the model and shut off the motor or engine.
- Turn off or unplug any battery(ies) on the model BEFORE turning off your transmitter.

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## General Guidelines

Apply thread lock to all metal to metal thread contact points. Do not apply CA (cyanoacrylate) glue or thread lock to ny-lock nuts (metal nuts with plastic inserts). Diagrams indicated by bounding boxes for screws, bearings, etc. are illustrated at a 1-to-1 ratio. All other illustrations are not drawn to scale. Throughout this manual, you will find building tips. Please follow the tips and use common sense when building.

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## Pre-Assembly Information

Upon opening the kit, all the major component parts are bagged for ease of assembly which correspond to the sections of the manual. Various assemblies have been pre-assembled however, only as a reference assembly. Final assembly is up to the user. Installation onto the particular parts, screws and nuts required for each step are packaged in the same bag as the parts. Be careful when opening each bag as not to lose any hardware. Care has been taken in filling and packing of each bag however mistakes do happen. If there is a parts shortage or missing hardware, please contact us directly or contact your place of purchase.

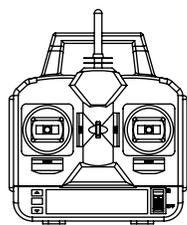
### Century Helicopter Products

1740-C Junction Ave.

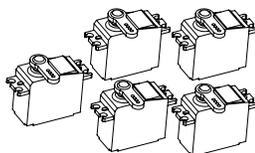
San Jose, CA. 95112

U.S.A.

[www.centuryheli.com](http://www.centuryheli.com)



6 CHANNEL  
CCPM TRANSMITTER  
(MINIMUM)



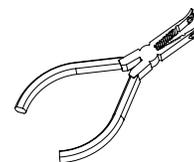
SERVOS X 5



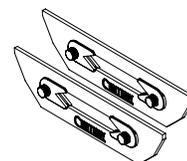
6 CHANNEL RECEIVER  
(MINIMUM)



4-WAY WRENCH



CN2034A  
BALL LINK PLIERS



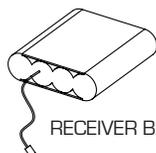
CN2050  
PADDLE GAUGE



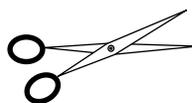
NITRO HELICOPTER  
FUEL



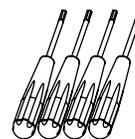
GYRO



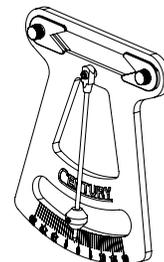
RECEIVER BATTERY



HOBBY SCISSORS



CN2017  
HEX DRIVERS  
1.5, 2.0, 2.5, 3.0 & 4.0



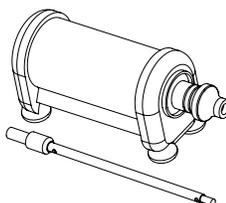
CN2027  
G-FORCE PITCH GAUGE



GLOW PLUG  
IGNITOR



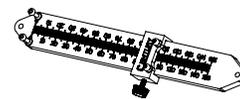
NEEDLE NOSE  
PLIERS



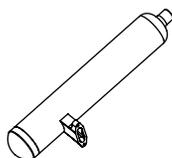
CN2057 & CN0426  
STARTER  
AND STARTER SHAFT



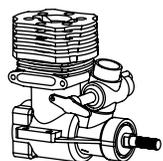
METRIC RULER OR  
SIMILAR MEASURING  
DEVICE



CN2255  
CONTROL ROD  
SETUP GAUGE



CN3038A  
SILENT POWER  
50 MUFFLER



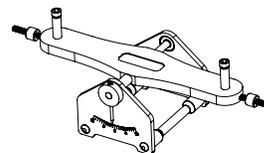
50-56 SIZE NITRO  
ENGINE



SYNTHETIC  
OIL/GREASE



ZIP TIES



CN2051  
ACCURATECH BLADE BAL-  
ANCER V.2



600-640MM ROTOR BLADES



HOBBY KNIFE

## Warranty

Century Helicopter Products assures the purchaser that should a defect in materials or workmanship occur within 30 days from the date of purchase affecting the original customer ("Purchaser") under normal use, Century Helicopter Products will assume warranty replacement or repair as seen fit. In the event the helicopter is assembled by the Purchaser and damage occurs by the Purchaser of the final product, Century Helicopter Products shall not be liable. The assembled product by the Purchaser shall accept full responsibility and liability. If the Purchaser is not prepared to accept such liability associated with the assembly or operation of the model, the kit must be immediately returned in new and unused condition to the original place of purchase.

## Warranty Period

This warranty is limited to the original customer ("Purchaser") and is non-transferable. THE PURCHASER IS RESPONSIBLE FOR TRANSPORTATION CHARGES OF ANY AND ALL REPAIRS OR REPLACEMENTS PROVIDED UNDER THIS WARRANTY. The warranty coverage will only apply to those products purchased from an authorized Century Helicopter Products dealer or distributor. This warranty can change or be modified without any prior notice and shall supersede all other warranties expressed or implied. To initiate a warranty claim, please be sure you have proof of purchase of the product. Century Helicopter Products reserves the right to inspect any and all items involved in a warranty claim. Century Helicopter Products does not warrant that the operation of the product will be uninterrupted or error-free. Century Helicopter Products will not be responsible for damage coming from failure to follow instructions relative to the products assembly and usage. This warranty does not apply to damage caused by products other than Century Helicopter Products', damage caused by accident, abuse, cosmetic damage, negligence, misuse, flood, fire, earthquake other external causes, commercial use, or modification of or to any part of the Product. This warranty does not cover damage due to improper installation, operation, maintenance, or attempted repair by anyone other than Century Helicopter Products.

**General**

1. Model aircraft will not be flown:
  - (a) In a careless or reckless manner.
  - (b) At a location where model aircraft activities are prohibited.
2. Model aircraft pilots will:
  - (a) Yield the right of way to all man carrying aircraft.
  - (b) See and avoid all aircraft and a spotter must be used when appropriate. (AMA Document #540-D-See and Avoid Guidance.)
  - (c) Not fly higher than approximately 400 feet above ground level within three (3) miles of an airport, without notifying the airport operator.
  - (d) Not interfere with operations and traffic patterns at any airport, heliport or seaplane base except where there is a mixed use agreement.
  - (e) Not exceed a takeoff weight, including fuel, of 55 pounds unless in compliance with the AMA Large Model Aircraft program. (AMA Document 520-A)
  - (f) Ensure the aircraft is identified with the name and address or AMA number of the owner on the inside or affixed to the outside of the model aircraft. (This does not apply to model aircraft flown indoors).
  - (g) Not operate aircraft with metal-blade propellers or with gaseous boosts except for helicopters operated under the provisions of AMA Document #555.
  - (h) Not operate model aircraft while under the influence of alcohol or while using any drug which could adversely affect the pilot's ability to safely control the model.
  - (i) Not operate model aircraft carrying pyrotechnic devices which explode or burn, or any device which propels a projectile or drops any object that creates a hazard to persons or property.
3. Model aircraft will not be flown in AMA sanctioned events, air shows or model demonstrations unless:
  - (a) The aircraft, control system and pilot skills have successfully demonstrated all maneuvers intended or anticipated prior to the specific event.
  - (b) An inexperienced pilot is assisted by an experienced pilot.
4. When and where required by rule, helmets must be properly worn and fastened. They must be OSHA, DOT, ANSI, SNELL or NOCSAE approved or comply with comparable standards.

**Radio Control (RC)**

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1. All pilots shall avoid flying directly over unprotected people, vessels, vehicles or structures and shall avoid endangerment of life and property of others.
2. A successful radio equipment ground-range check in accordance with manufacturer's recommendations will be completed before the first flight of a new or repaired model aircraft.
3. At all flying sites a safety line(s) must be established in front of which all flying takes place (AMA Document #706-Recommended Field Layout):
  - (a) Only personnel associated with flying the model aircraft are allowed at or in front of the safety line.
  - (b) At air shows or demonstrations, a straight safety line must be established.
  - (c) An area away from the safety line must be maintained for spectators.
  - (d) Intentional flying behind the safety line is prohibited.
4. RC model aircraft must use the radio-control frequencies currently allowed by the Federal Communications Commission (FCC). Only individuals properly licensed by the FCC are authorized to operate equipment on Amateur Band frequencies.
5. RC model aircraft will not operate within three (3) miles of any pre-existing flying site without a frequency-management agreement (AMA Documents #922- Testing for RF Interference; #923- Frequency Management Agreement)
6. With the exception of events flown under official AMA Competition Regulations, excluding takeoff and landing, no powered model may be flown outdoors closer than 25 feet to any individual, except for the pilot and the pilot's helper(s) located at the flight line.
7. Under no circumstances may a pilot or other person touch a model aircraft in flight while it is still under power, except to divert it from striking an individual. This does not apply to model aircraft flown indoors.
8. RC night flying requires a lighting system providing the pilot with a clear view of the model's attitude and orientation at all times.
9. The pilot of a RC model aircraft shall:
  - (a) Maintain control during the entire flight, maintaining visual contact without enhancement other than by corrective lenses prescribed for the pilot.
  - (b) Fly using the assistance of a camera or First-Person View (FPV) only in accordance with the procedures outlined in AMA Document #550.

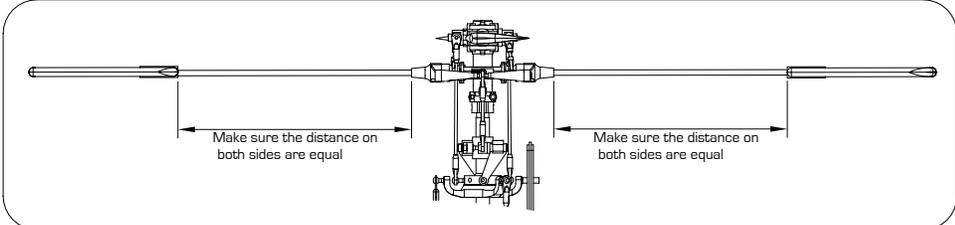
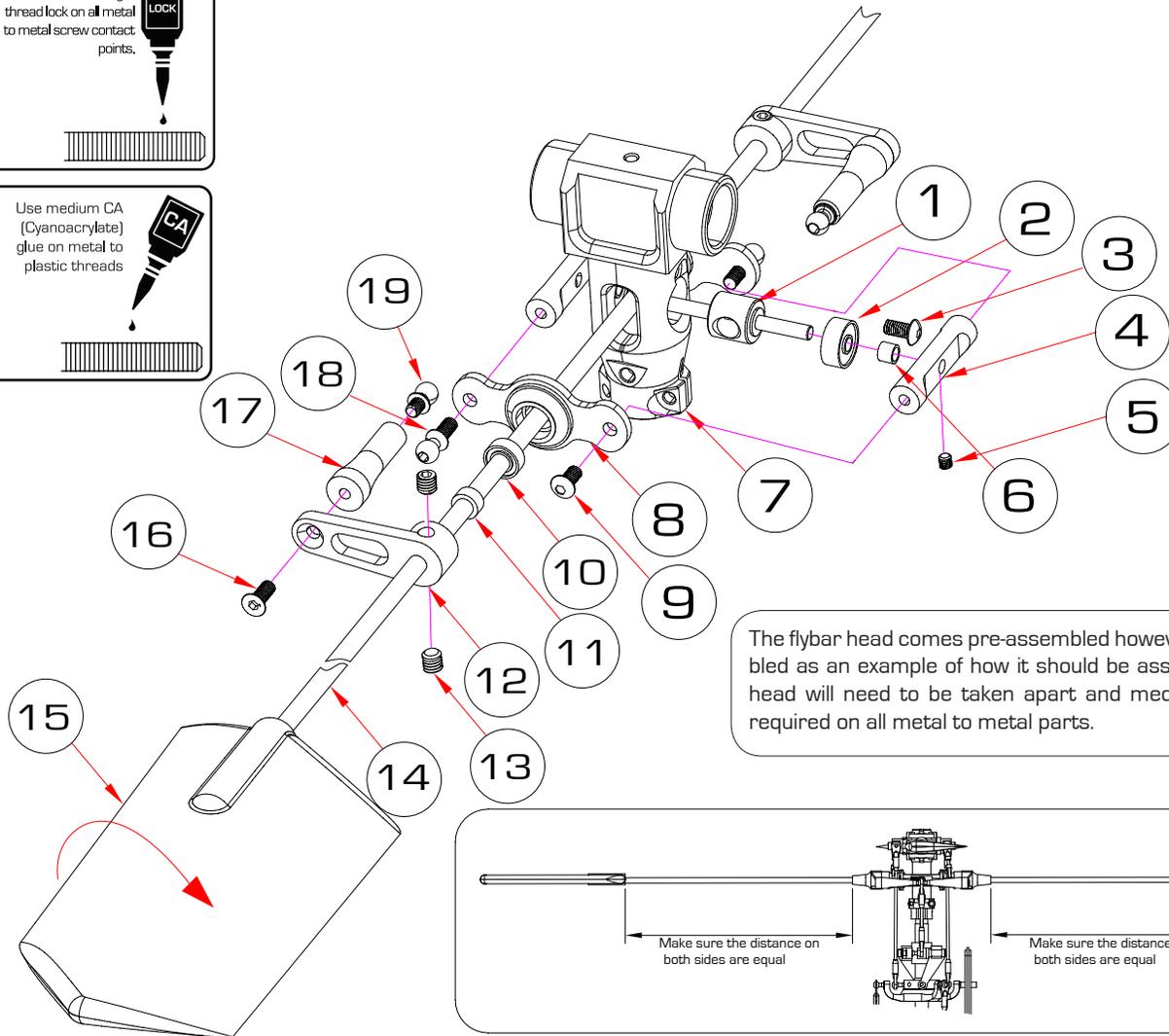
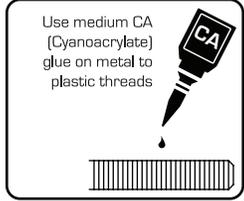
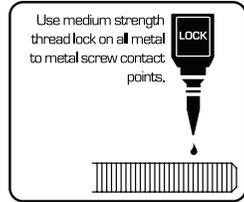
**Free Flight**

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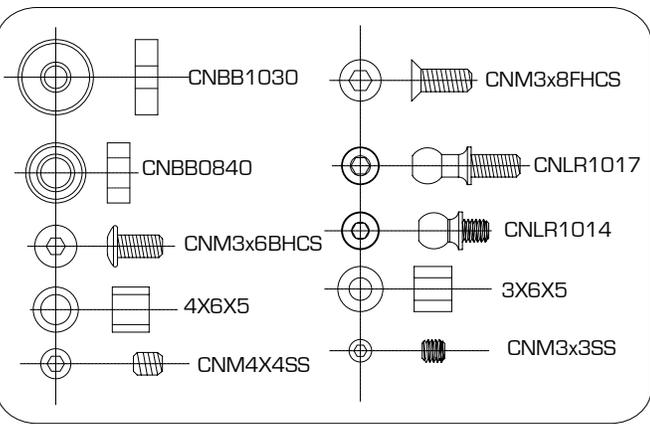
1. Must be at least 100 feet downwind of spectators and automobile parking when the model aircraft is launched.
2. Launch area must be clear of all individuals except mechanics, officials, and other fliers.
3. An effective device will be used to extinguish any fuse on the model aircraft after the fuse has completed its function.

## BAG 1

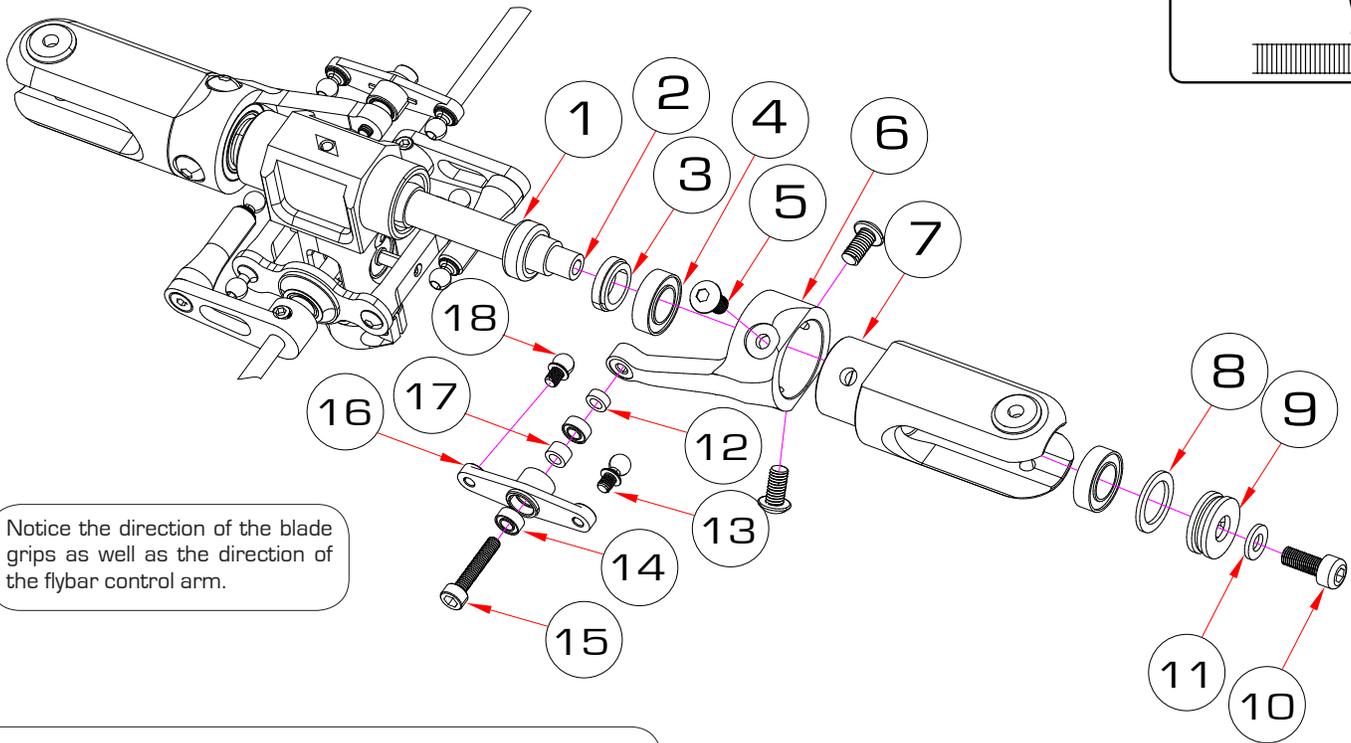
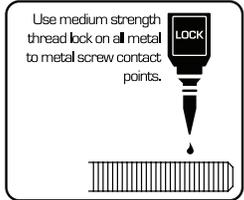
Do not open all the bags prior to starting assembly. Open the bags step by step as you go through this instruction manual. The components are bagged to make assembly easier. The next few pages will pertain to the assembly of the head. Please follow the instructions based on the head type you own. Make sure to apply threadlock to any screws going into metal.



No.	Part #	Description	Qty
1	CNE518	Seesaw Shaft( 旋转轴)	1
2	CNBB1030	3X10X4 Bearing(轴承)	2
3	CNM3x6BHCS	Button Head Cap Screw( 圆头内六角螺丝)	2
4	CNE564S	Seesaw Tie Bar Set(平衡杆控制臂)	2
5	CNE564S	M3x3 Socket Head Set Screw( 无头内六角螺丝)	2
6	CNE564S	3x6x5 Spacer( 3x6x5 铝套)	2
7	CNE556-1	Rotor Head Yoke(主旋翼中心座)	1
8	HI3167H3	Seesaw Offset Plates(平衡杆固定片)	2
9	CNM3x6BHCS	Button Head Cap Screw(圆头内六角螺丝)	2
10	CNBB0840	4X8X3 Bearing(轴承)	2
11	CNE559AS	4X6X5 Spacer(套子)	2
12	CNE559AS	Flybar Control Arm(平衡翼控制臂)	2
13	CNM4x4SS	M4x4 Socket Head Set Screw( 无头内六角螺丝)	4
14	HI6179B1	4mm Flybar(平衡杆)	1
15	HI3179A	Flybar Paddles(平衡翼)	2
16	CNM3x8FHCS	Flush Head Cap Screws(斜头内六角螺丝)M3x8	2
17	CNE559AS	Flybar Control Arm(平衡翼控制臂)	2
18	CNLR1017	M3 Ball Link Long(M3 球头螺丝)	2
19	CNLR1014	M3 Ball Link Short(M3 球头螺丝)	2

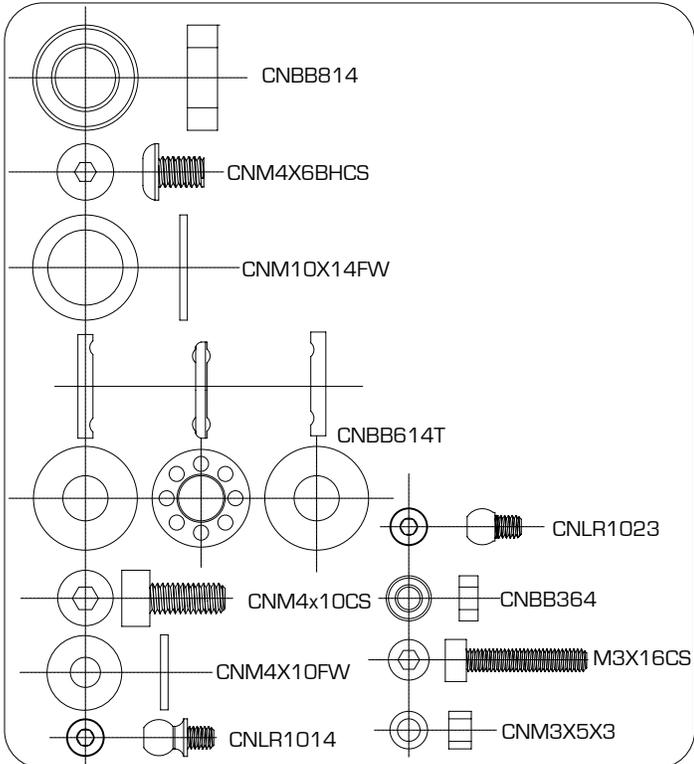
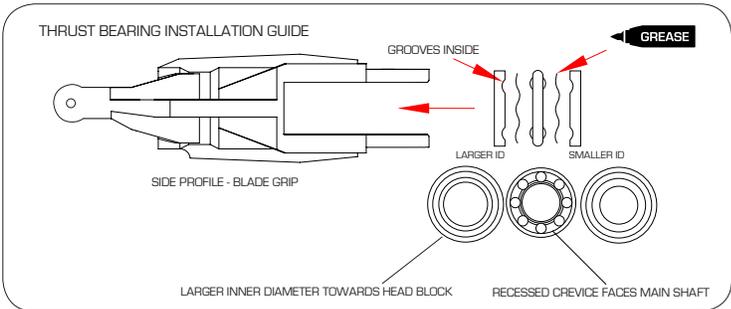


## BAG 1



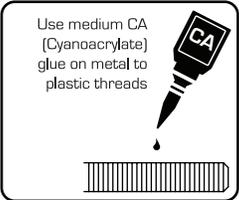
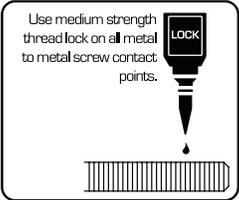
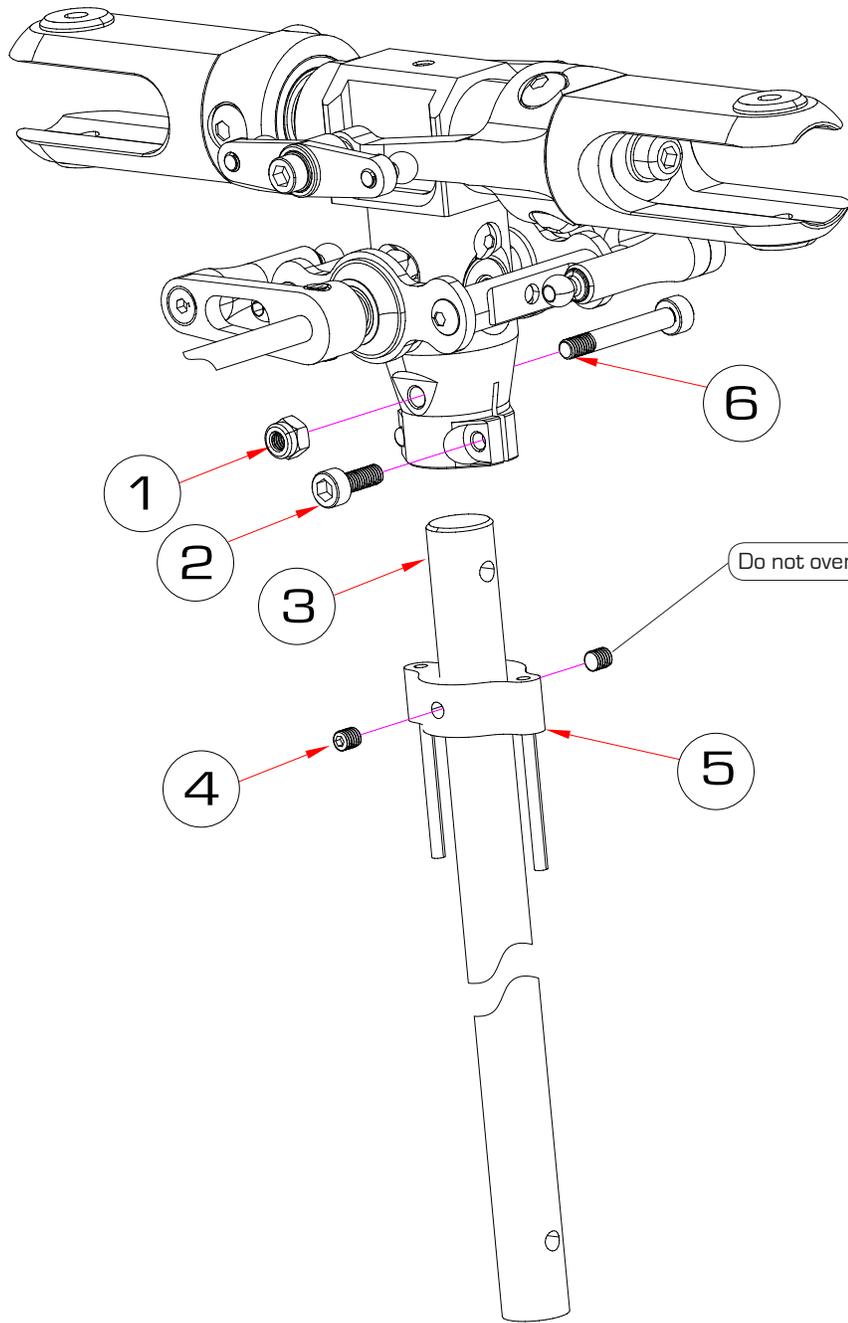
Notice the direction of the blade grips as well as the direction of the flybar control arm.

Ensure lubricant is applied to the thrust bearings. Be careful when taking the thrust bearings out of the blade grips. The radial bearings (part #4) should stay within the grips. DO NOT try to remove these as they have been factory installed. It is best to remove the grips one side at a time. Before assembly, notice the direction of the control arm on the grip. It should be assembled as indicated within this diagram.

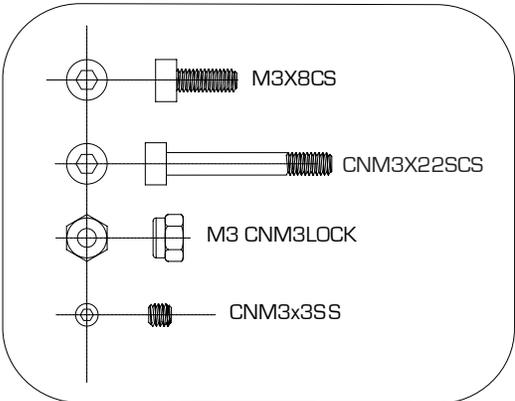


No.	Part #	Description	Qty
1	HI6181D	Rubber Dampener( 橡皮环)	2
2	CNE521A	Feathering Shaft( 横轴)	1
3	CNE522-28	T=2.8mm, Blade Grip Spacer( 间隔套)	2
4	CNBB814	8X14X4Bearing( 轴承)	4
5	CNM4x6BHCS	Button Head Cap Screw( 圆头内六角螺丝)	6
6	CNE557-2	Main Rotor Blade Grip Arms(主旋翼夹片臂)	2
7	CNE557A-1	Main Rotor Blade Grips(主旋翼夹片座)	2
8	CNM10X14FW	M10x14x1Flat Washer(平面垫片)	2
9	CNBB614T	6x14x5 Thrust Bearing(止推轴承)	2
10	CNM4X10CS	M4x10 Cap Screws( 杯头螺丝)	2
11	CNM4X10FW	M4x10x1Flat Washer(平面垫片)	2
12	HW6206	3X5X2 Spacer( 固定套)	2
13	CNLR1014	M3 Ball Link(M3 球头螺丝)	2
14	CNBB364	3X6X2.5Bearing( 轴承)	4
15	CNM3X16CS	M3x16 Cap Screws( 杯头螺丝)	2
16	CNE558S	Bell Mixer Arm(混控臂)	2
17	HW6205	3X5X3 Brass Spacer(固定套)	2
18	CNLR1023	M3 Ball Link(M3 球头螺丝)	2

BAG 1

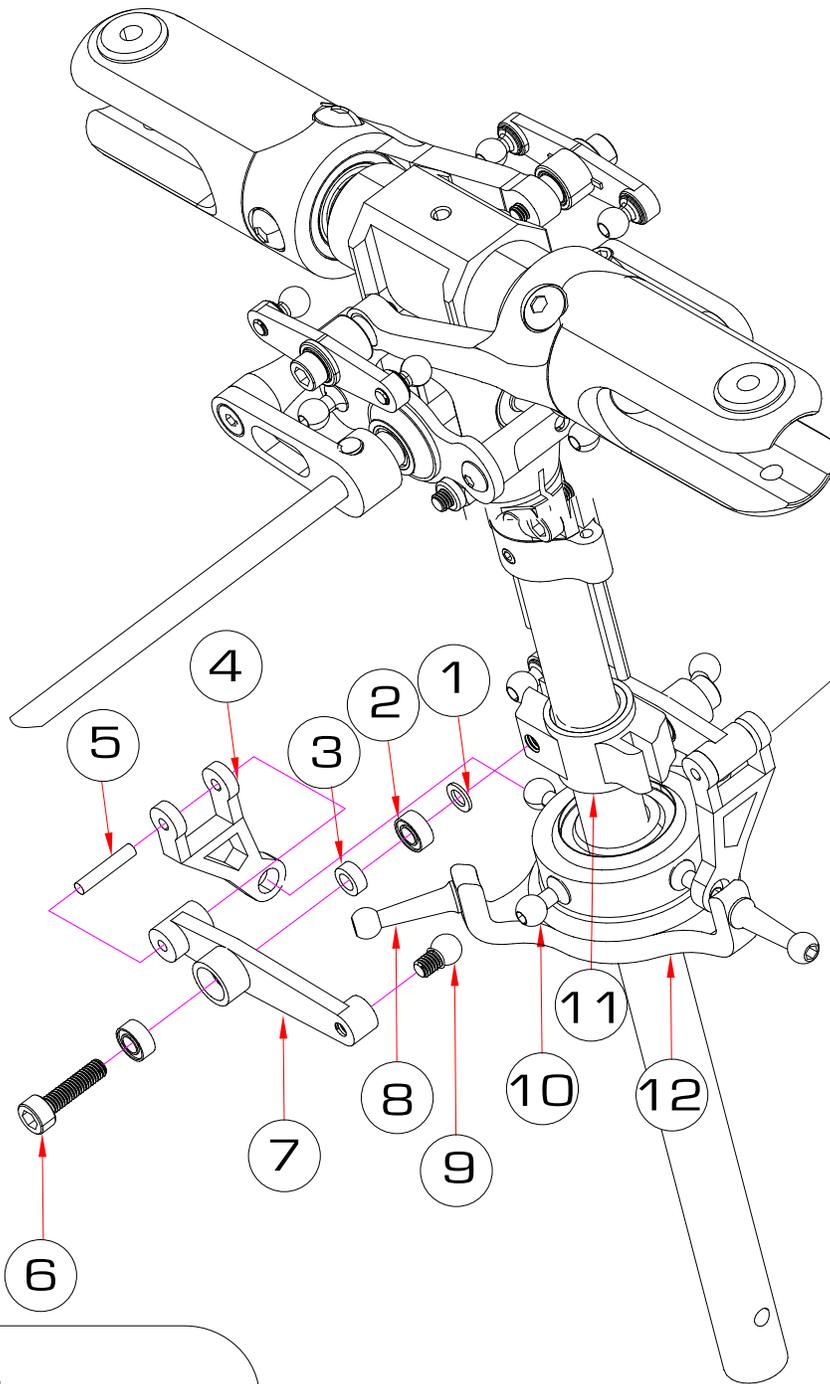
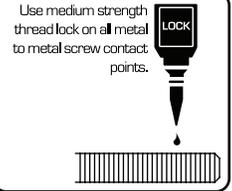


Do not over-tighten!

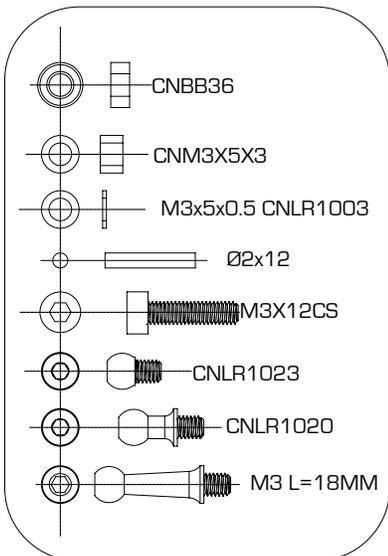


No.	Part #	Description	Qty
1	CNM3LOCK	M3 Locknut[M3 螺母]	1
2	CNM3x8CS	M3x8 Cap Screws[杯头螺丝]	2
3	HW5053	10mm Main Shaft[主轴]	1
4	CNM3x3SS	M3x3 Socket Head Set Screw[无头内六角螺丝]	2
5	CNE556-2	Aluminum Washout Guide[剪型臂导柱]	1
6	CNM3x22SCS	M3x22 Cap Screws[杯头螺丝]	1

BAG 1

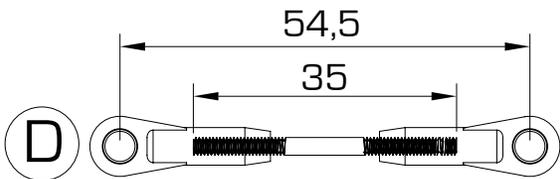
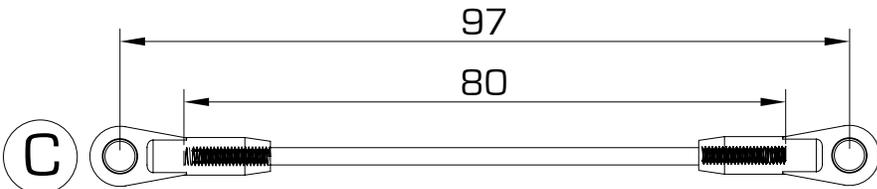
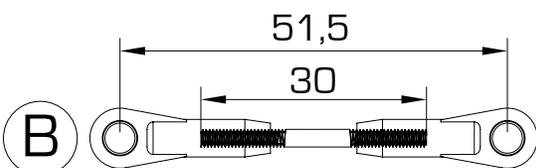
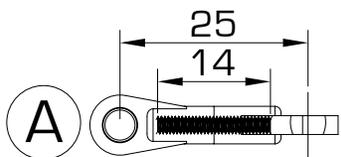
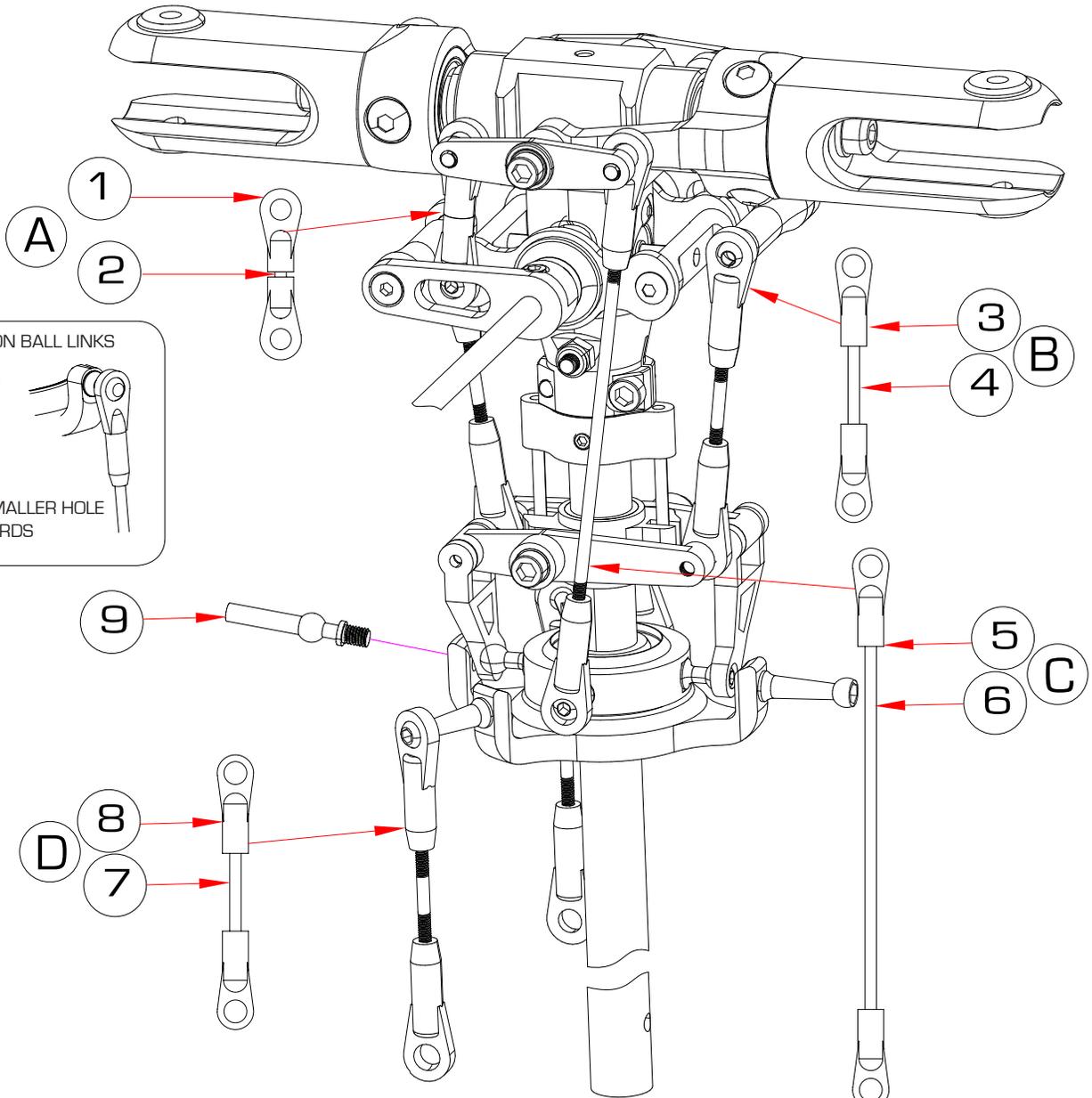
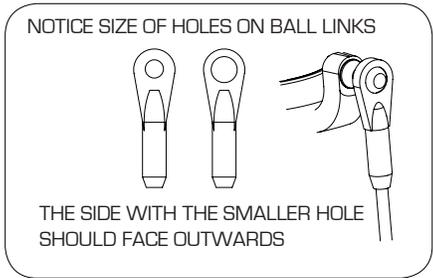
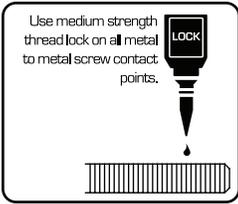


Hint: To ensure this pin does not pop out, periodically check it between flights. You also can apply a tiny drop of CA to either side of the pin.

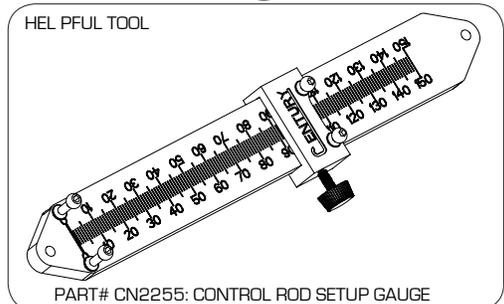


No.	Part #	Description	Qty
1	CNLR1003	3X5X0.5 Flat Washer(平面垫片)	2
2	CNBB36	3X6X2.5 Bearing(轴承)	4
3	HW6205	3X5X3 Brass Spacer(固定套)	2
4	CNE516B	Radius Link w/ Pin(三角控制臂)	2
5	CNE516B	Radius Link w/ Pin(插销)	2
6	CNM3X12CS	M3x12 Cap Screws(杯头螺丝)	2
7	CNE560S	Washout Arm(摆臂)	2
8	CNLR1021	M3 Ball Link L=18MM(M3 球头螺丝)	2
9	CNLR1023	M3 Ball Link(M3 球头螺丝)	2
10	CNLR1011	M3 Ball Link(M3 球头螺丝)	4
11	CNE594	Washout Hub (控制臂固定座)	1
12	HW5146N	NX Dual Ball Bearing Swashplate(十字盘)	1

BAG 1

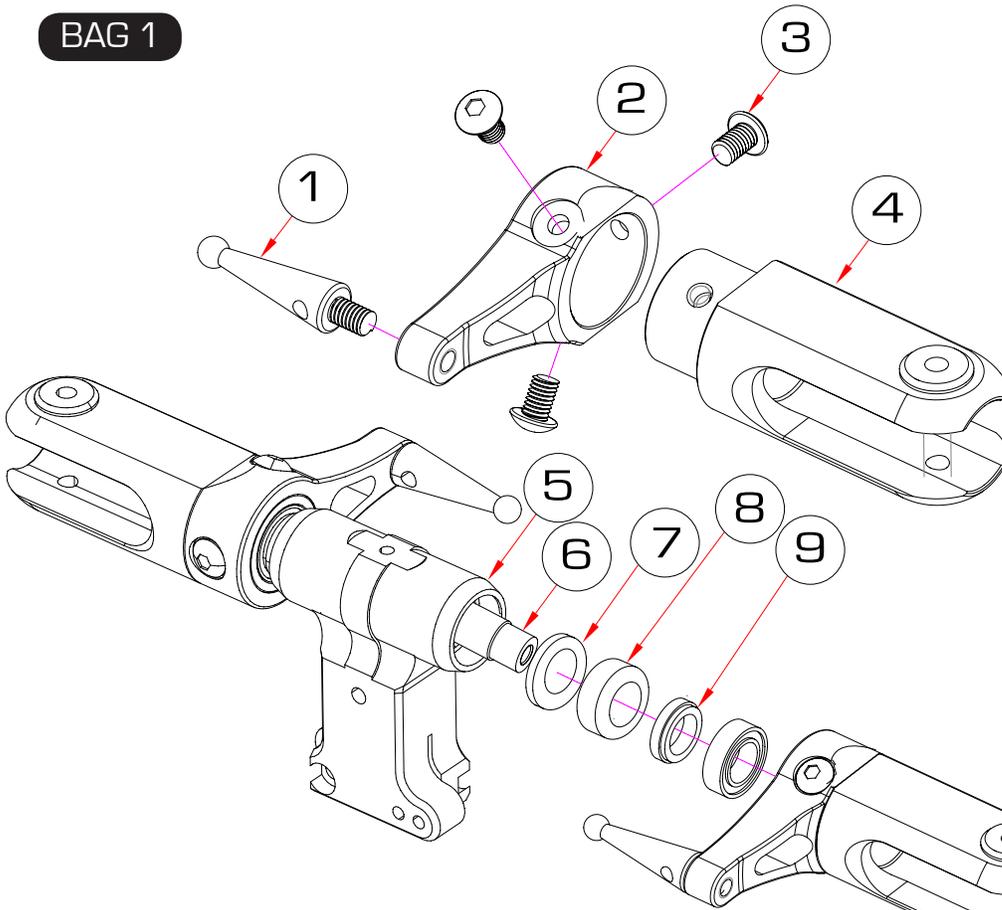


The linkage rods come pre-built. Even though they are pre-built, you will need to verify their lengths. The diagram with lengths are drawn at a true to life scale, therefore you can lay your linkages on the diagram to find the correct measurements.

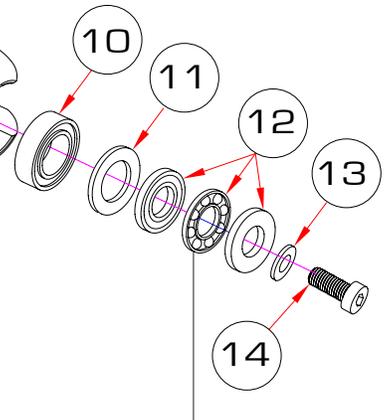
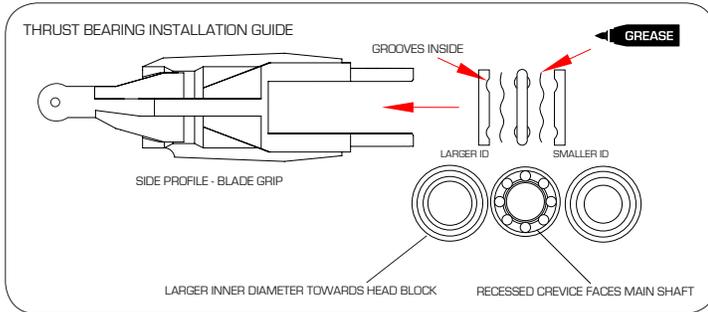
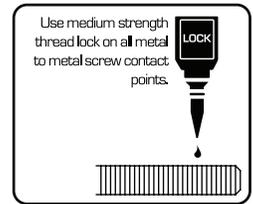


No.	Part #	Description	Qty
1	HI6145	Ball Link Set (26 Long, 4 Short)[球头连接杆]	4
2	HW5192	Pushrod Set[连杆]	2
3	HI6145	Ball Link Set (26 Long, 4 Short)[球头连接杆]	4
4	HW5192	Pushrod Set[连杆]	2
5	HI6145	Ball Link Set (26 Long, 4 Short)[球头连接杆]	4
6	HW5192	Pushrod Set[连杆]	2
7	HI6145	Ball Link Set (26 Long, 4 Short)[球头连接杆]	4
8	HW5192	Pushrod Set[连杆]	2
9	CNLR1022SP	Special Ball Link (M3 十字盘特殊球头螺丝)	1

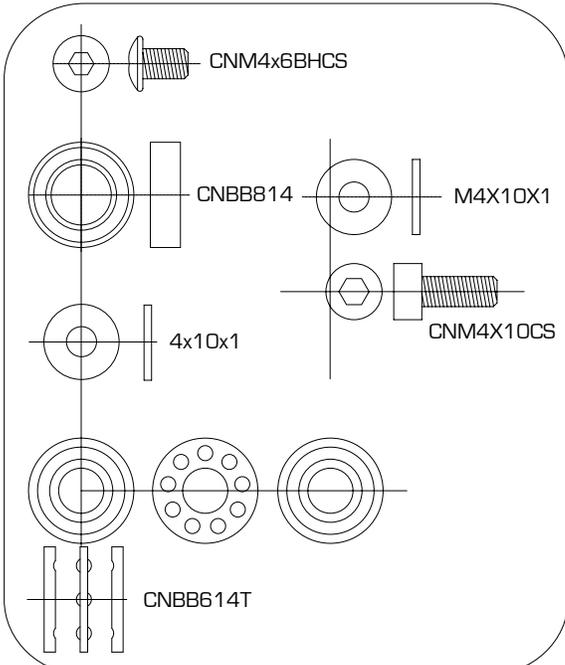
## BAG 1



The flybarless head comes pre-assembled however, it is only assembled as an example of how it should be assembled. The entire head will need to be taken apart and medium thread lock is required on all metal to metal parts. Ensure lubricant is applied to the thrust bearings. Be careful when taking the thrust bearings out of the blade grips. The radial bearings (part #9) should stay within the grips. DO NOT try to remove these as they have been factory installed. It is best to remove the grips one side at a time. Before assembly, notice the direction of the control arm on the grip. It should be assembled as indicated within this diagram.



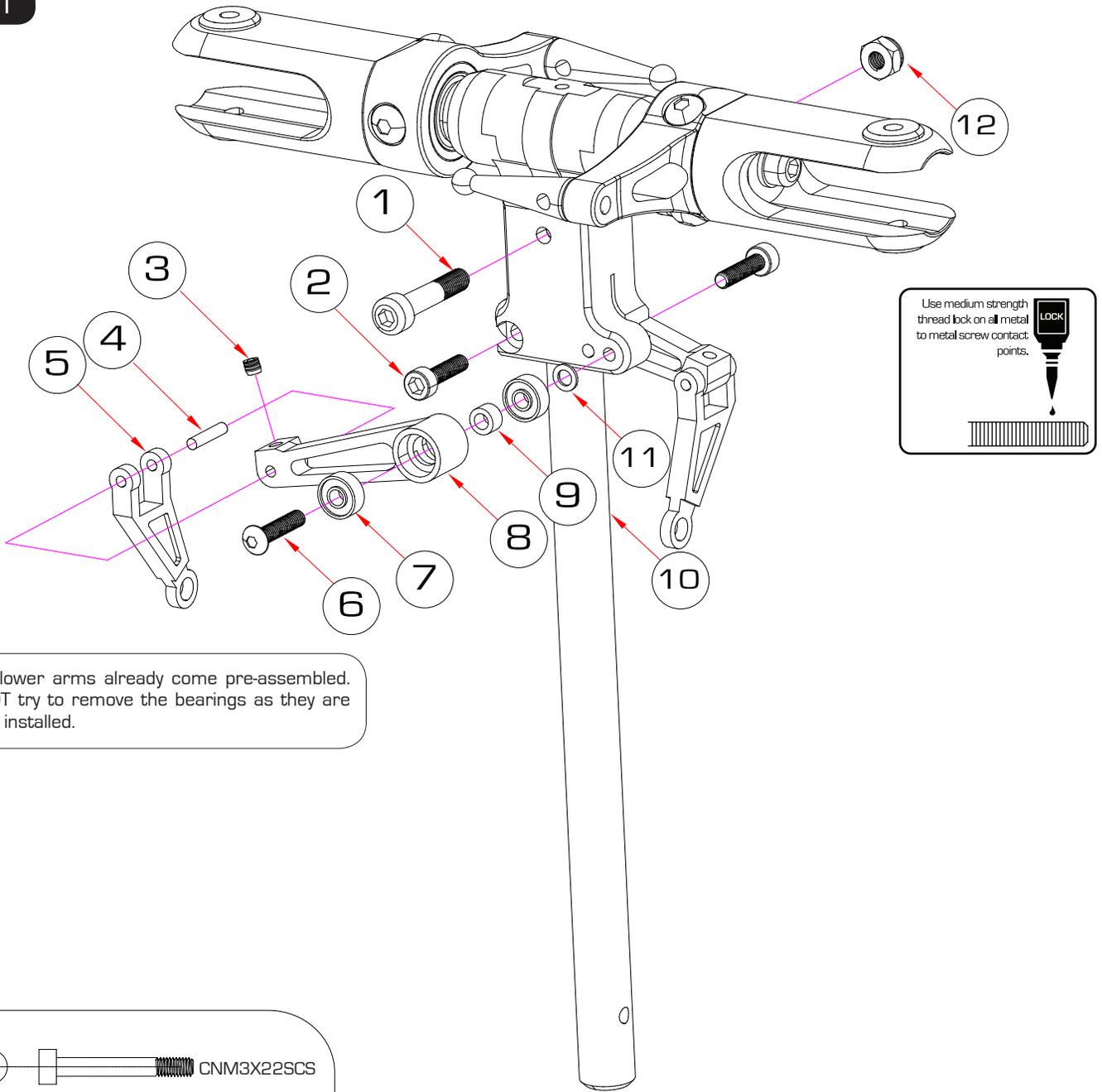
Make sure the open ball side of the thrust bearing is facing towards the rotor head.



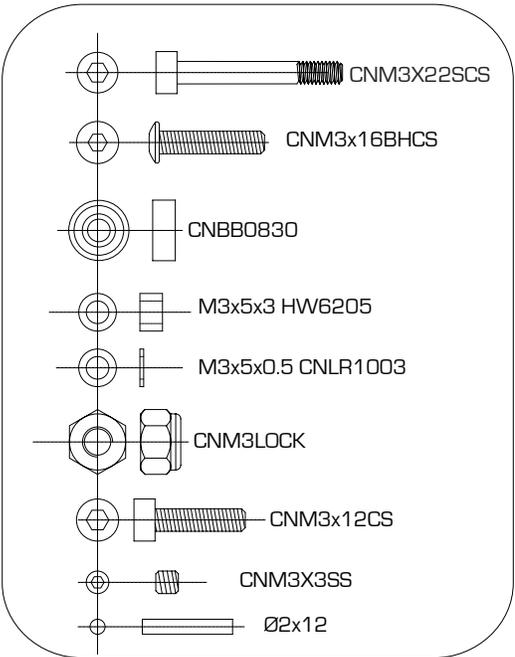
No.	Part #	Description	Qty
1	CN2517A-1	Flybarless Arm Ball(摆臂)	2
2	CN2517A-1	Flybarless Arm(摆臂座)	2
3	CNM4x6BHCS	Button Head Screw(圆头螺丝)M4x6	6
4	CN2517A-1	Main Rotor Blade Grip(主桨夹片)	2
5	CN2517A-2	Head Block(主旋翼中心座)	1
6	CNE521A	Feathering Shaft(横轴)	1
7	CN2517A-6	Head Damper Spacers(塑料圈)	2
8	HI6181D	Rubber Dampener(橡皮环)	2
9	CN2517A-25	T=2.50mm Spacer(铝套)	2
10	CNBB814	8x14x4 Bearing(轴承)	4
11	CNM10X14FW	Flat Washer(垫片)10x14x1	2
12	CNBB614T	Thrust Ball Bearing(止推轴承)6x14x5	2
13	CNM4X10FW	M4x10x1 Spacer(垫圈)	2
14	CNM4X10CS	M4x10 Cap Screws(杯头螺丝)	2

Parts diagrams are drawn on a 1-to-1 scale.

## BAG 1

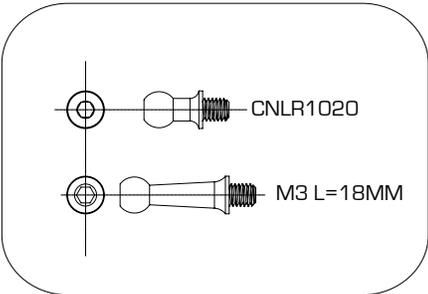
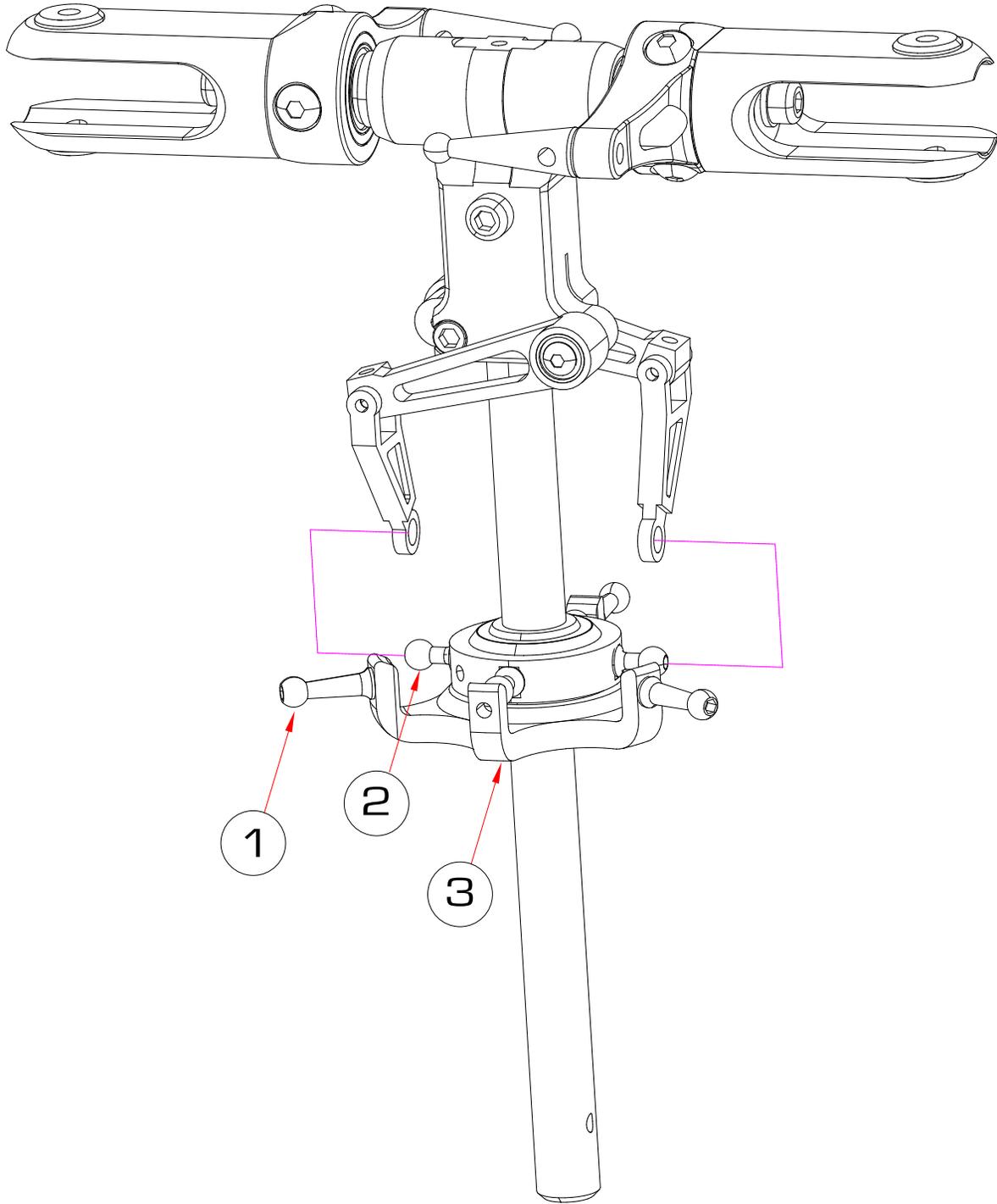


The follower arms already come pre-assembled. DO NOT try to remove the bearings as they are factory installed.



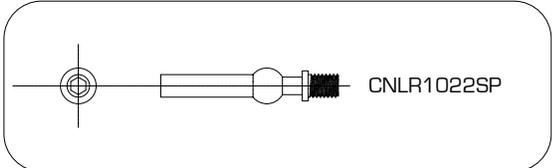
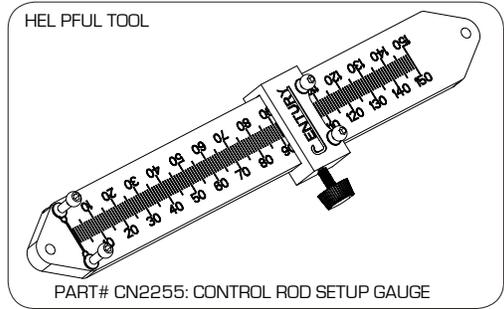
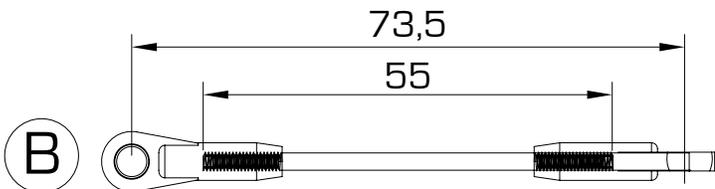
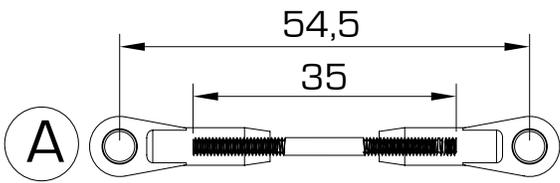
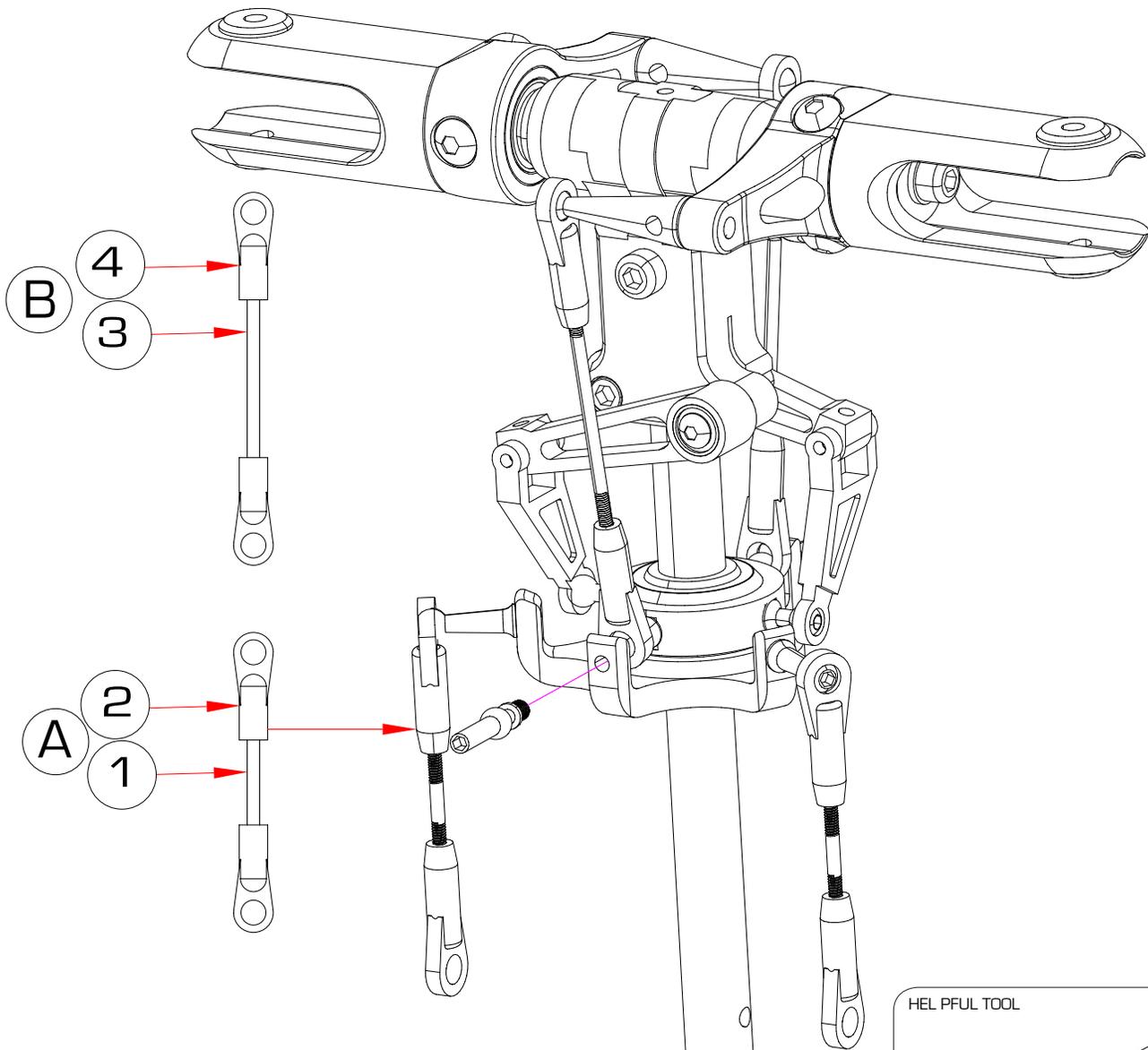
No.	Part #	Description	Qty
1	CNM3X22SCS	M3x22 Cap Screws( 杯头螺丝)	1
2	CNM3X12CS	M3x12 Cap Screws(杯头螺丝)	2
3	CNM3X3SS	M3x3 Socket Head Set Screw(无头内六角螺钻)	2
4	CN2517A-5	Radius Link w/ Pin(插销)	2
5	CN2517A-5	Radius Link w/ Pin(三角控制臂)	2
6	CNM3x16BHCS	Button Head Cap Screw( 圆头内六角螺钻)M3x16	2
7	CNBB0384	Bearing[ 滚珠轴承]3x8x3	4
8	CN2517A-5	Washout Control Arm( 剪型臂)	2
9	HW6205	Spacer(铁套)3x5x3	2
10	HW5053A	10mm Main Shaft(主轴)	1
11	CNLR1003	3x5x0.5 Micro Washer( 垫圈)	2
12	CNM3LOCK	M3 Locknut (M3防松螺母)	1

BAG 1



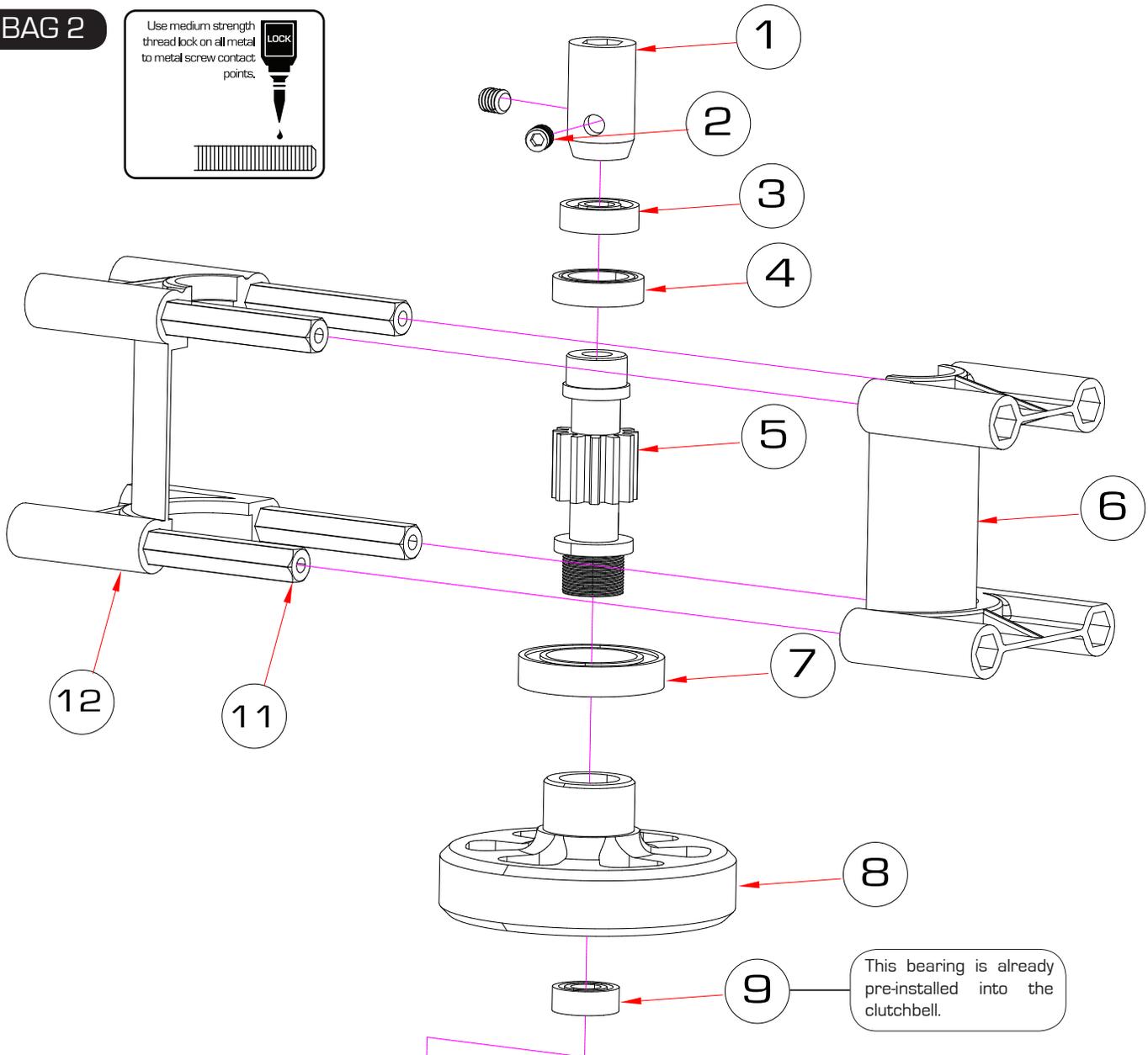
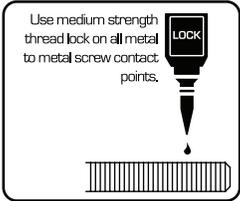
No.	Part #	Description	Qty
1	CNLR1021	M3 Ball Link L=18MM(M3 球头螺丝)	3
2	CNLR1020	M3 Ball Link(M3 球头螺丝)	4
3	HW5146N	NX Dual Ball Bearing Swashplate(十字盘)	1

BAG 1

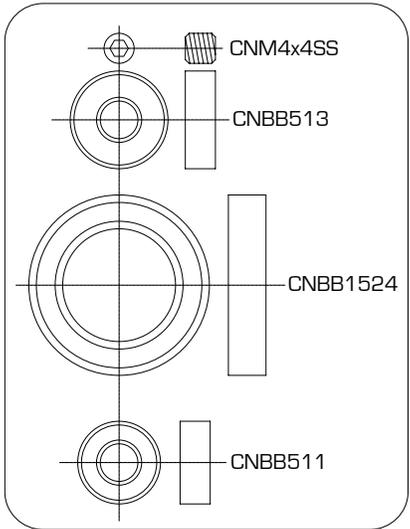


No.	Part #	Description	Qty
1	HW5192A	Pushrod Set( 连杆)	2
2	HI6145	Ball Link Set (26 Long, 4 Short)( 球头连接杆)	4
3	HW5192A	Pushrod Set( 连杆)	2
4	HI6145	Ball Link Set (26 Long, 4 Short)( 球头连接杆)	4

**BAG 2**

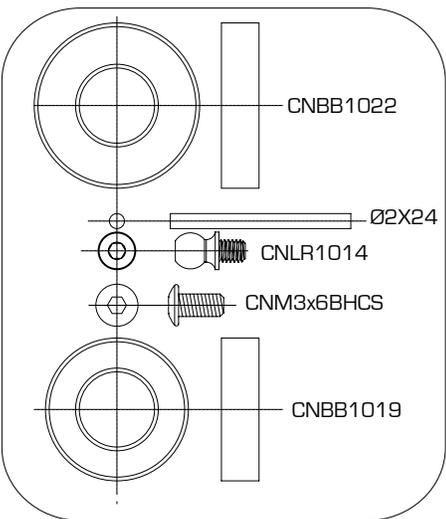
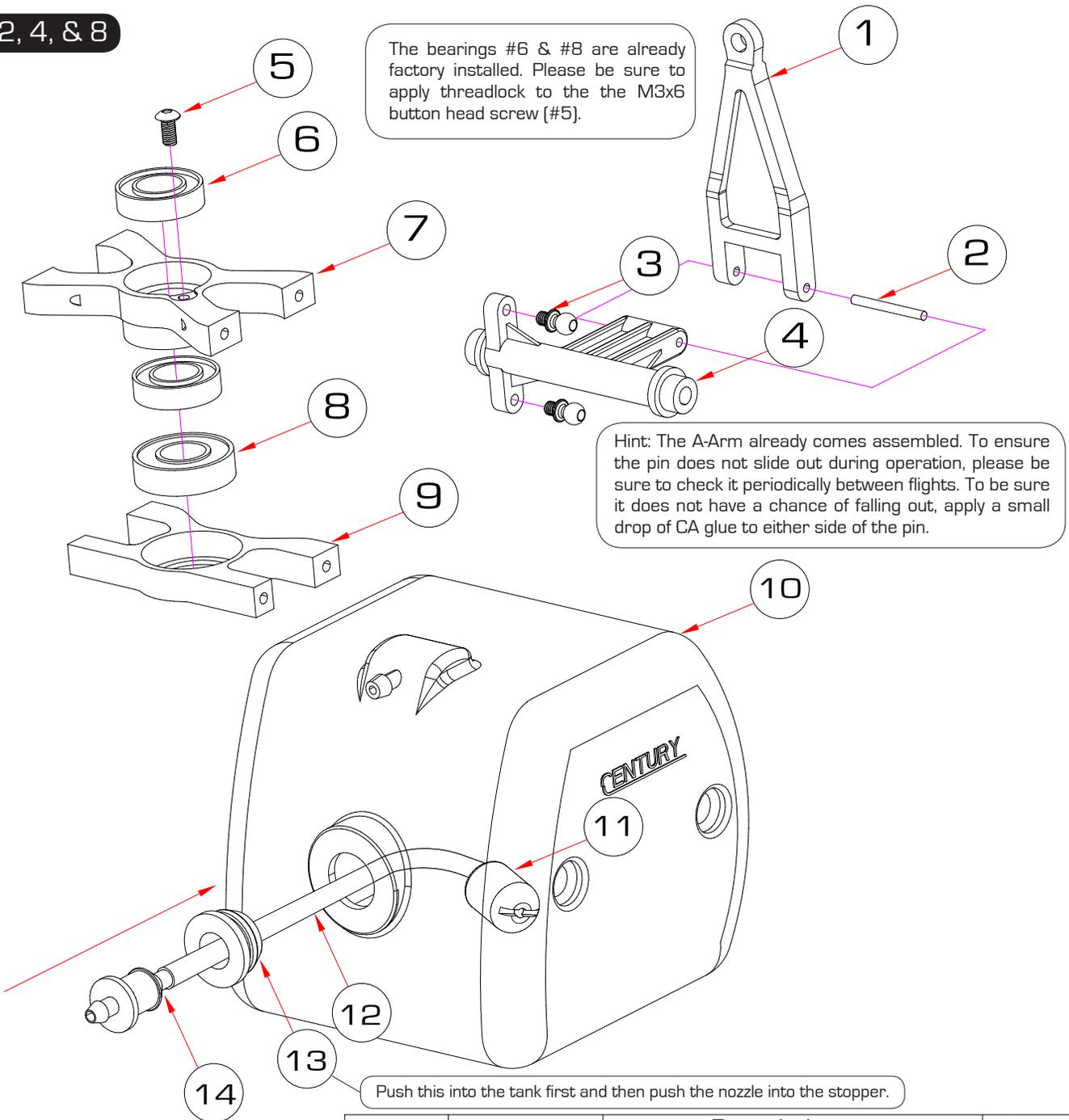


This bearing is already pre-installed into the clutchbell.



No.	Part #	Description	Qty
1	HW6002	Hex Adapter[六角启动头]	1
2	CNM4x4SS	Set Screw[无头内六角螺丝]M4x4	2
3	CNBB513	Bearing[滚珠轴承]5x13x4	1
4	CNBB1015	Bearing[滚珠轴承]10x15x4	1
5	HW5043N	Alloy Drive Gear 12T[合金传动直齿轮]	1
6	HW6007G	Bearing Block[轴承座]	1
7	CNBB1524	Bearing[滚珠轴承]15x24x5	1
8	HW5013N	Clutch Bell Assembly[离合器罩]	1
9	CNBB511	Bearing[滚珠轴承]5x11x4	1
10	HW5005N	Starting Shaft[启动轴]	1
11	HW6007GS	Long Hex Spacers[六角铝柱]L=52MM	4
12	HW6007G	Bearing Block[轴承座]	1

BAG 2, 4, & 8



No.	Part #	Description	Qty
1	HI5032	A Control Arm[A 型控制臂]	1
2	HI5032	Pin[插销]Ø2x24	1
3	CNLR1014	M3 Ball Link[M3 球头螺丝]	2
4	HI5032	A-Arm Block[A 型控制臂座]	1
5	CNM3x6BHCS	Button Head Cap Screw[ 圆头内六角螺丝]M3x6	1
6	CNBB1019	Bearing[滚珠轴承]10x19x5	2
7	HW6042GU	Upper Bearing Block[ 主轴上轴承座]	1
8	CNBB1022	Bearing[滚珠轴承]10x22x6	1
9	HW5042	Lower Main Shaft Bearing Block [ 主轴下轴承座]	1
10	HI5139N	Fuel Tank[ 油箱]	1
11	HI5139N	Clunk[ 吸油嘴]	1
12	HI5139N	Fuel Line[ 塑胶油管]	1
13	HI5139N	Rubber Stopper[ 油箱塞]	1
14	HI5139N	Nozzle[出油嘴]	1

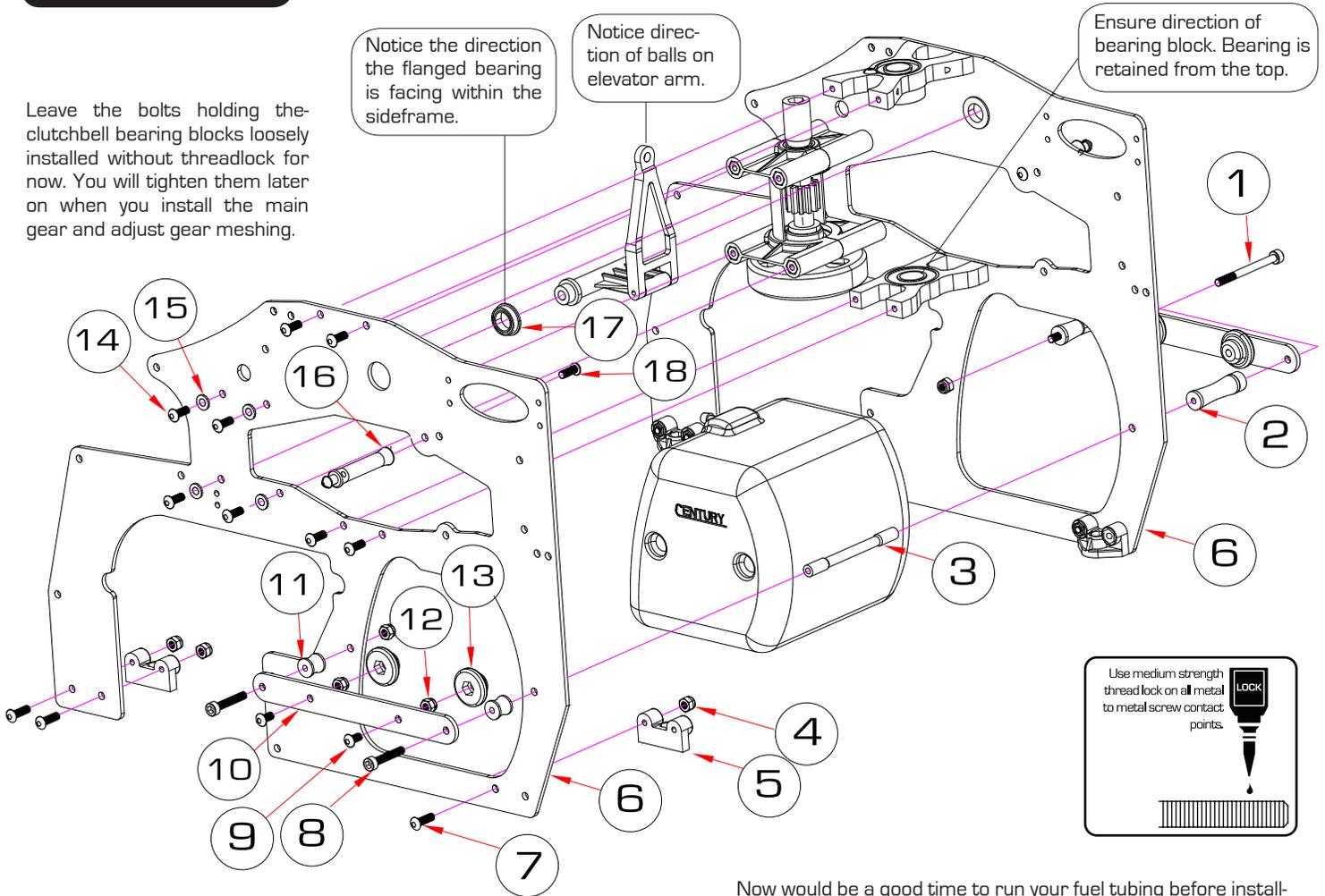
## BAG 3, 4, 6, & 8

Leave the bolts holding the clutchbell bearing blocks loosely installed without threadlock for now. You will tighten them later on when you install the main gear and adjust gear meshing.

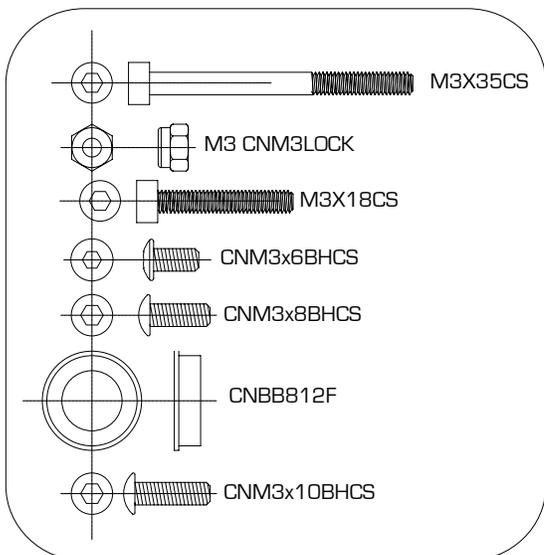
Notice the direction the flanged bearing is facing within the sideframe.

Notice direction of balls on elevator arm.

Ensure direction of bearing block. Bearing is retained from the top.

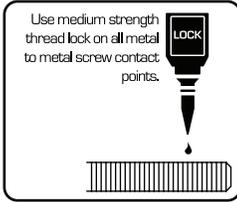


Now would be a good time to run your fuel tubing before installing the fuel tank into the frames. At this time, your fuel nozzles on the tank are easier to access. Please refer to page 33 of this manual to see how the fuel tubing should be routed.



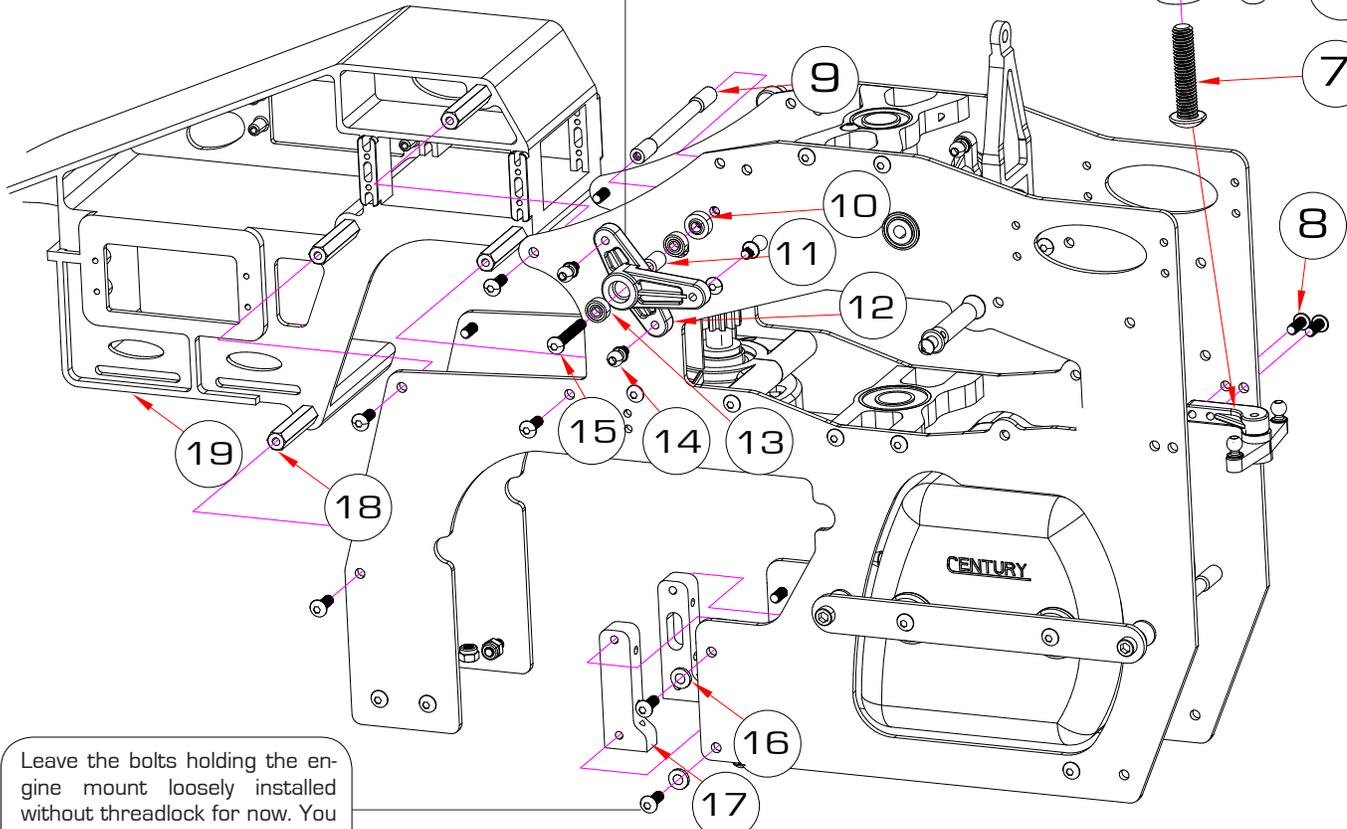
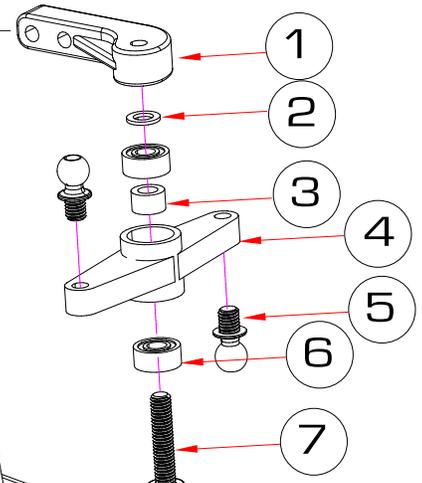
No.	Part #	Description	Qty
1	CNM3X35CS	M3x35 Cap Screws(杯头螺丝)	2
2	HW5004N	Threaded Spacer(铝柱)L=24mm	2
3	HW5004N	Threaded Spacer(铝柱)L=53mm	1
4	CNM3LOCK	M3 Locknut(M3螺母)	6
5	HI5005N	Strut Holder(脚架固定座)	4
6	HI5115NR	Main Frames Right(右侧板)	1
6	HI5115NL	Main Frames Left(左侧板)	1
7	CNM3X10BH	Button Head Cap Screw(圆头内六角螺絲)M3x10	6
8	CNM3X18CS	M3x18 Cap Screws(杯头螺絲)	2
9	CNM3x6BHCS	Button Head Cap Screw(圆头内六角螺絲)M3x6	4
10	HW5004N	Fuel Tank Isolator Plate(油箱固定板)	2
11	HW5004N	Threaded Spacer(铝柱)L=8mm	2
12	CNM3LOCK	M3 Locknut(M3螺母)	4
13	HW5004N	Fuel Tank Isolator Grommet(油箱固定胶圈)	4
14	CNM3x8BHCS	Button Head Cap Screw(圆头内六角螺絲)M3x8	16
15	CNM3x8FW	M3x8x1 Flat Washer(平面垫片)	8
16	HW6125B	Canopy Standoff(机头罩支架)	2
17	CNBB812F	Elevator Lever Flange Bearing(带边滚珠轴承)	2
18	CNM3x8BHCS	Button Head Cap Screw(圆头内六角螺絲)M3x8	2

**BAG 2, 3**

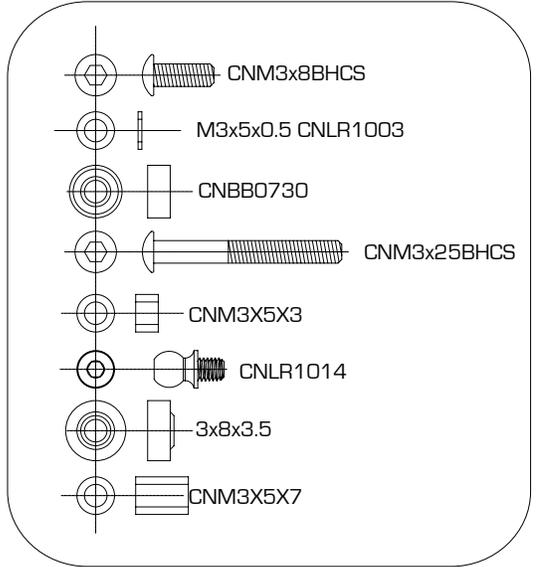


The rudder bellcrank is already pre-assembled. Leave this loosely installed onto the frames for now as you may need to remove this when installing the tailboom assembly.

The aileron bellcranks come pre-assembled.



Leave the bolts holding the engine mount loosely installed without threadlock for now. You will tighten them later on when you install the main gear and adjust gear meshing.

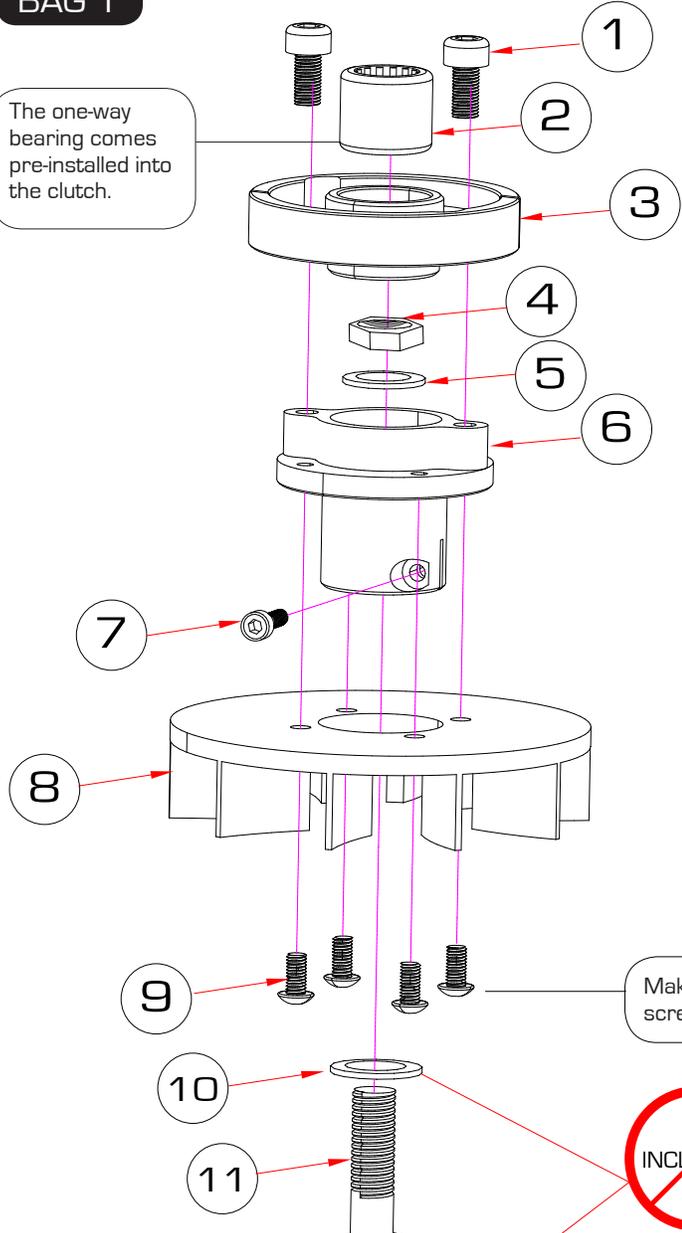


No.	Part #	Description	Qty
1	HI5002	Rudder Bellcrank Mount[摆臂座]	1
2	CNLR1003	3X5X0.5 Flat Washer[平面垫片]	1
3	CNE552	3X5X3.35 Brass Spacer(固定套)	1
4	HI5001	Rudder Bellcrank[摆臂]	1
5	CNLR1014	M3 Ball Link[M3球头螺丝]	2
6	CNBB0730	3X7X3 Bearing[轴承]	2
7	CNM3x14BHCS	M3 Ball Link[M3球头螺丝]	1
8	CNM3x8BHCS	Button Head Cap Screw[圆头内六角螺丝]M3x8	14
9	HI6031S3	Threaded Spacer[铝柱]L=53mm	1
10	HI6031G	Bellcrank Spacer[垫片]3x8x3.5	2
11	HI6031G	Bellcrank Spacer[垫片]3x5x7	2
12	HI6031G	Bellcrank[左右控制臂]	2
13	CNBB0730	Bearing[滚珠轴承]3x7x3	4
14	CNLR1014	M3 Ball Link[M3球头螺丝]	6
15	CNM3x25BHCS	Button Head Cap Screw[圆头内六角螺丝]M3x25	2
16	CNM3x8FW	M3x8x1 Flat Washer[平面垫片]	4
17	HW5018N	Engine Mount[引擎固定座]	2
18	HW6007GS	Long Hex Spacers[六角铝柱]L=52MM	4
19	HI5015	Electronics Mounting Tray[接受器座]	1

BAG 1

The one-way bearing comes pre-installed into the clutch.

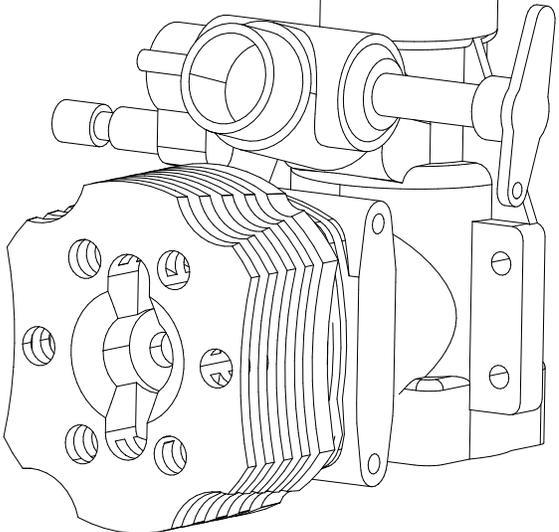
Use medium strength thread lock on all metal to metal screw contact points.



Make sure to apply threadlock to these screws.

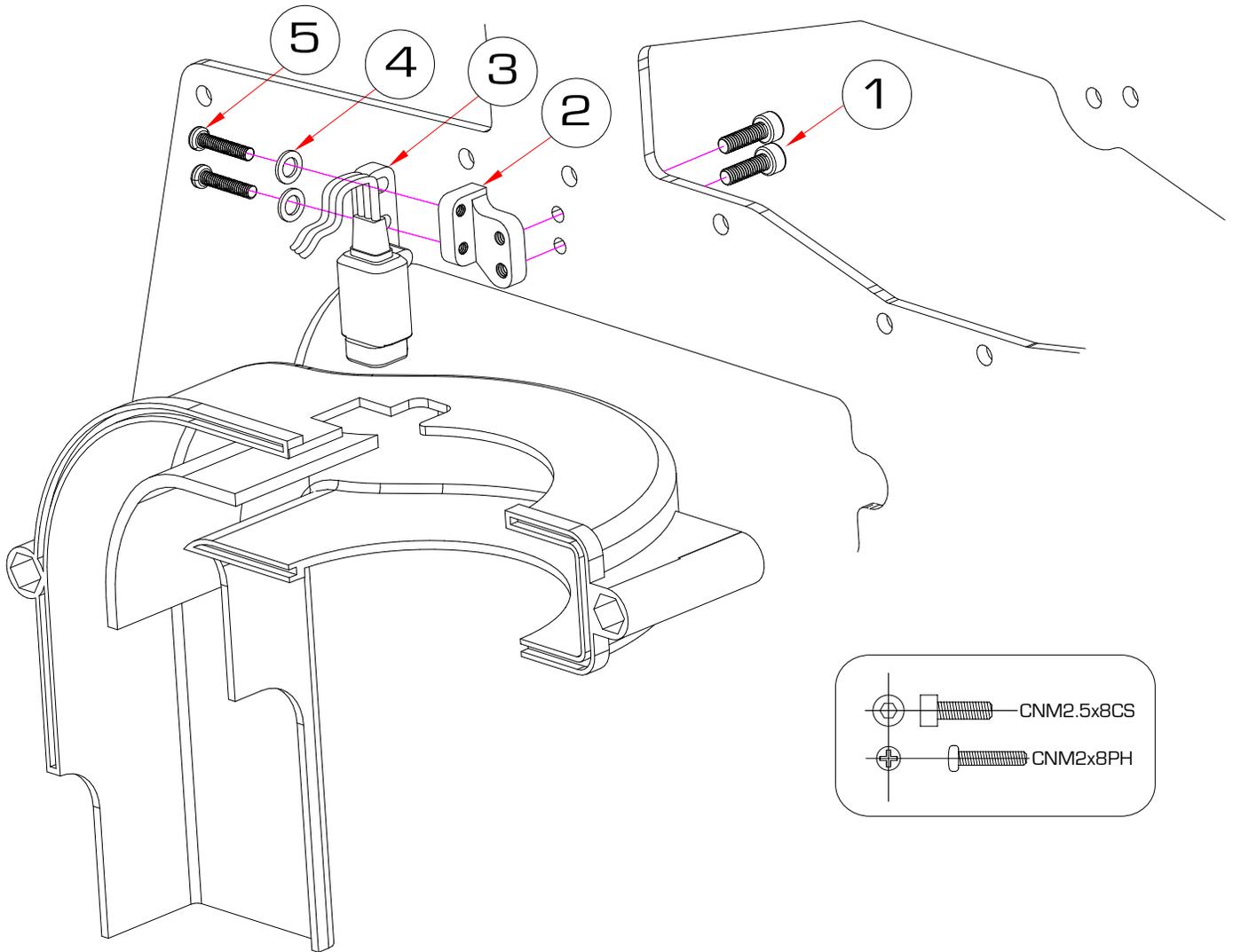
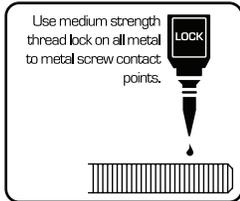


- CNM4x8CS
- CNM2.5x8CS
- CNM6x10FW
- CNM9.5x14FW
- CNM3x6BHCS



No.	Part #	Description	Qty
1	CNM4x10CS	M4X10 Cap Screws[ 杯头螺丝]	2
2	CNBB1014A	Clutch One way Bearing (10mm) (单向轴承)	1
3	HW5011N	Clutch Shoe 59mm (离合器)	1
4	NOT INCLUDED	M6 Nut[ 螺母]	1
5	CNM6X10FW	M6x10x1Flat Washer[平面垫片]	1
6	HW5012N	Cooling Fan Hub [ 风扇座]	1
7	CNM2.5x8CS	Cap Screw[ 杯头内六角螺丝M2.5x8]	1
8	HI5009N	Cooling Fan[ 风扇]	1
9	CNM3x6BHCS	Button Head Cap Screw[ 圆头内六角螺丝M3x6]	4
10	NOT INCLUDED	M9.5x14x1Flat Washer[平面垫片]	1
11	NOT INCLUDED	Engine[ 引擎]	1

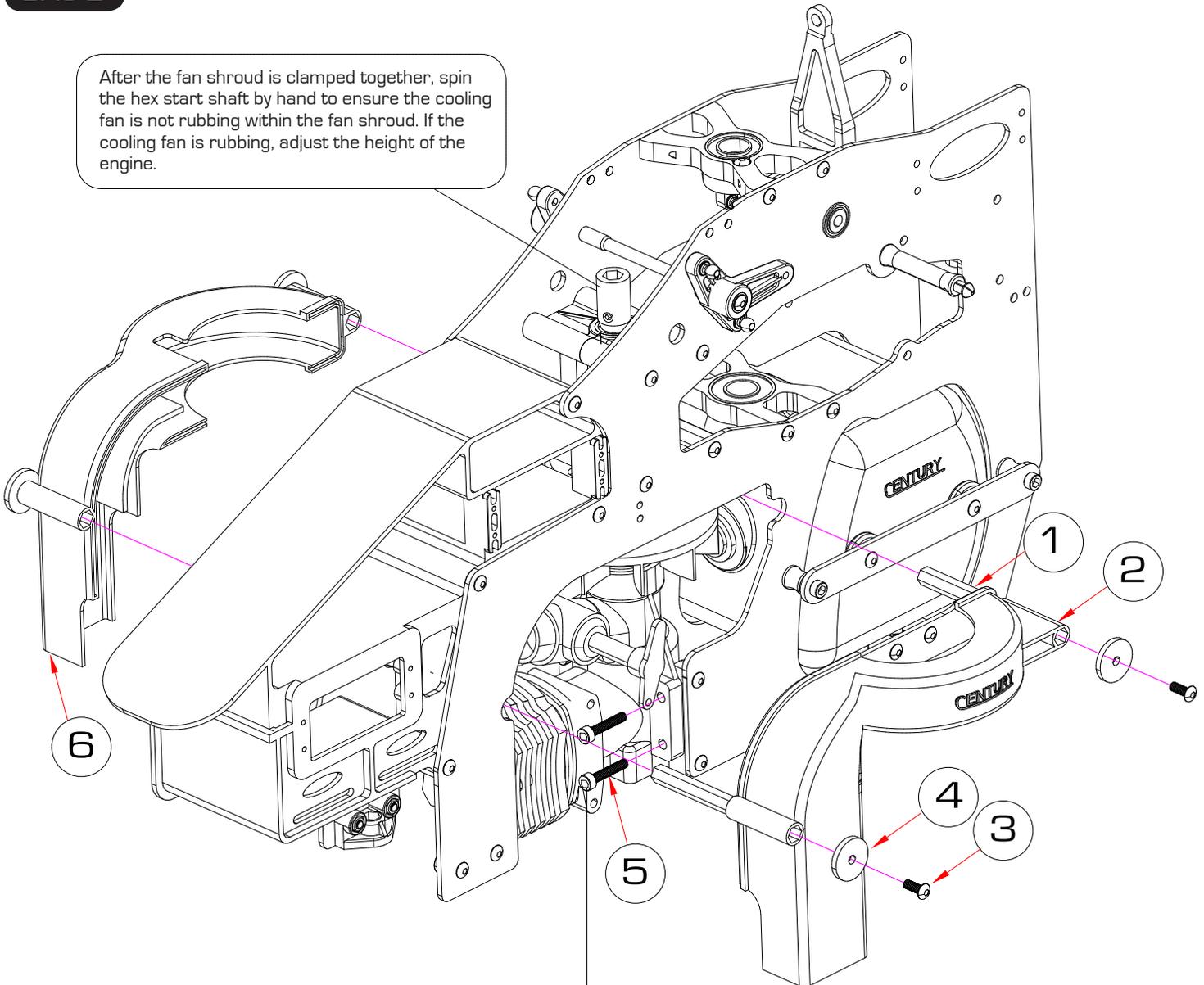
BAG 2



No.	Part #	Description	Qty
1	CNM2.5x8CS	Cap Screw( 杯头内六角螺丝 )M2.5x8	2
2	HW5019N	Governor Sensor Mounting Bracket(定速器固定座)	1
3	NOT INCLUDED	Governor Sensor(定速器)	1
4	CNM4x6FW	M4x6x0.5Flat Washer(平面垫片)	2
5	CNM2X10PH	M2x10 Phillips Screw(圆头十字螺丝)	2

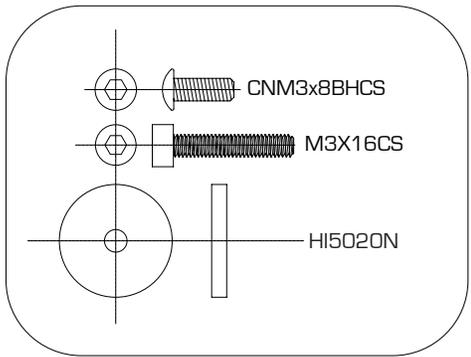
BAG 2

After the fan shroud is clamped together, spin the hex start shaft by hand to ensure the cooling fan is not rubbing within the fan shroud. If the cooling fan is rubbing, adjust the height of the engine.



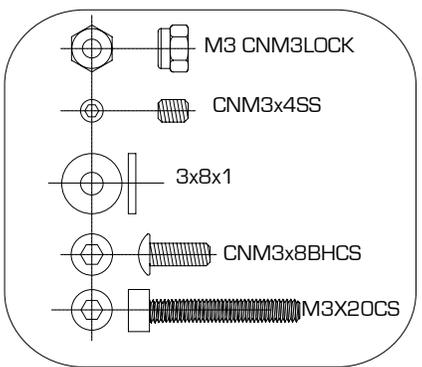
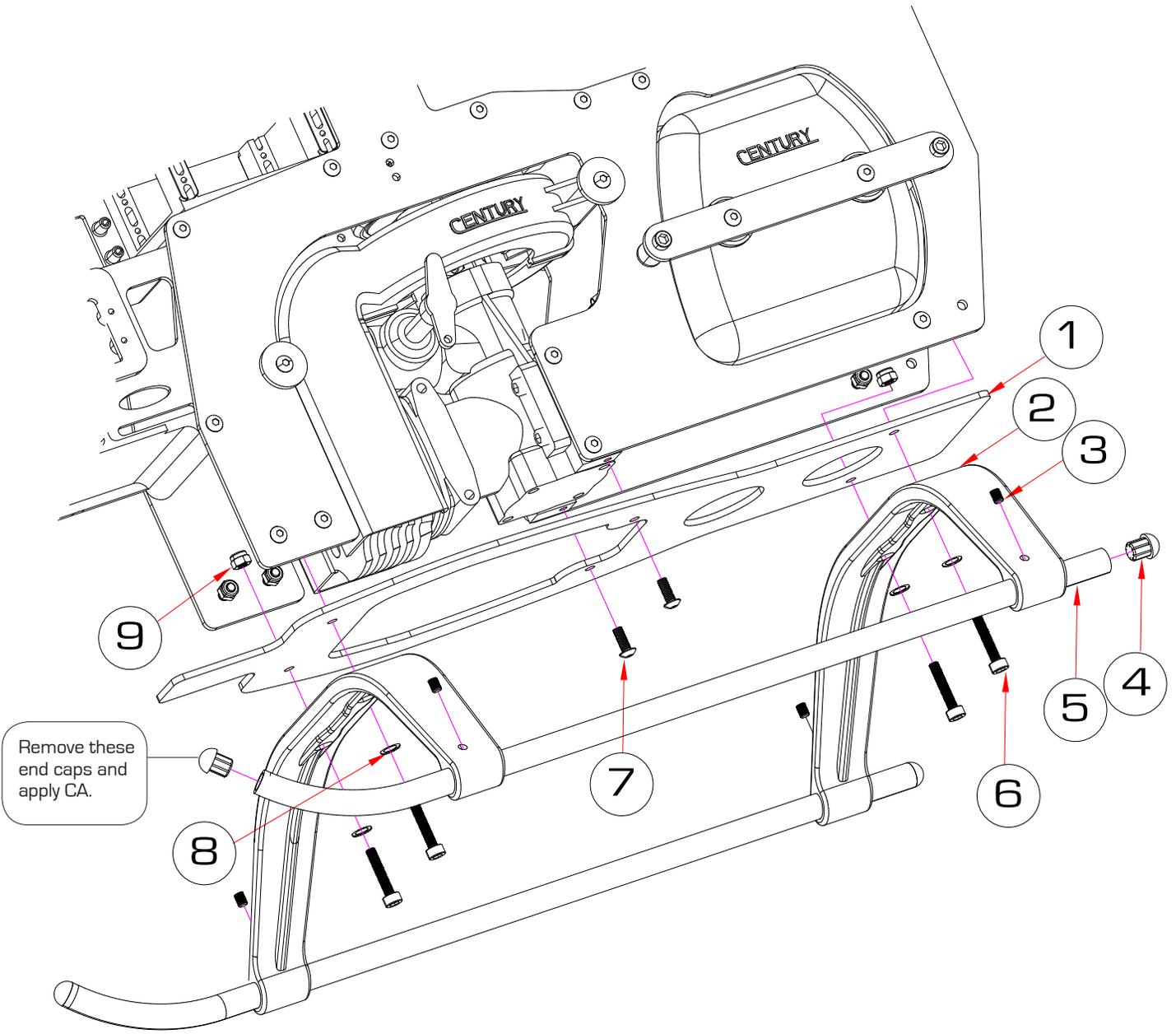
Once you are sure the fan is not rubbing within the fan shroud, tighten these bolts.

The hex starting system is a regular replacement part and will wear due to normal use. Apply a small drop of light oil into the hex starter to prevent premature wear during insertion and removal of the starter wand.



No.	Part #	Description	Qty
1	HI5020N	Long Hex Spacers(六角铝柱)L=56MM	2
2	HI5020N	Plastic Cooling Shroud(风扇罩)	1
3	CNM3x8BHCS	Button Head Cap Screw(圆头内六角螺约M3x8)	4
4	HI5020N	M3x15x2Flat Washer(平面垫片)	4
5	CNM3X16CS	M3x16 Cap Screws(杯头螺丝)	4
6	HI5020N	Plastic Cooling Shroud(风扇罩)	1

BAG 5, 6



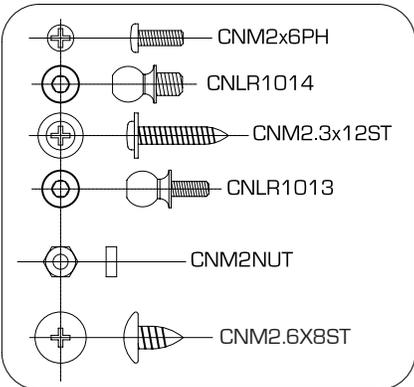
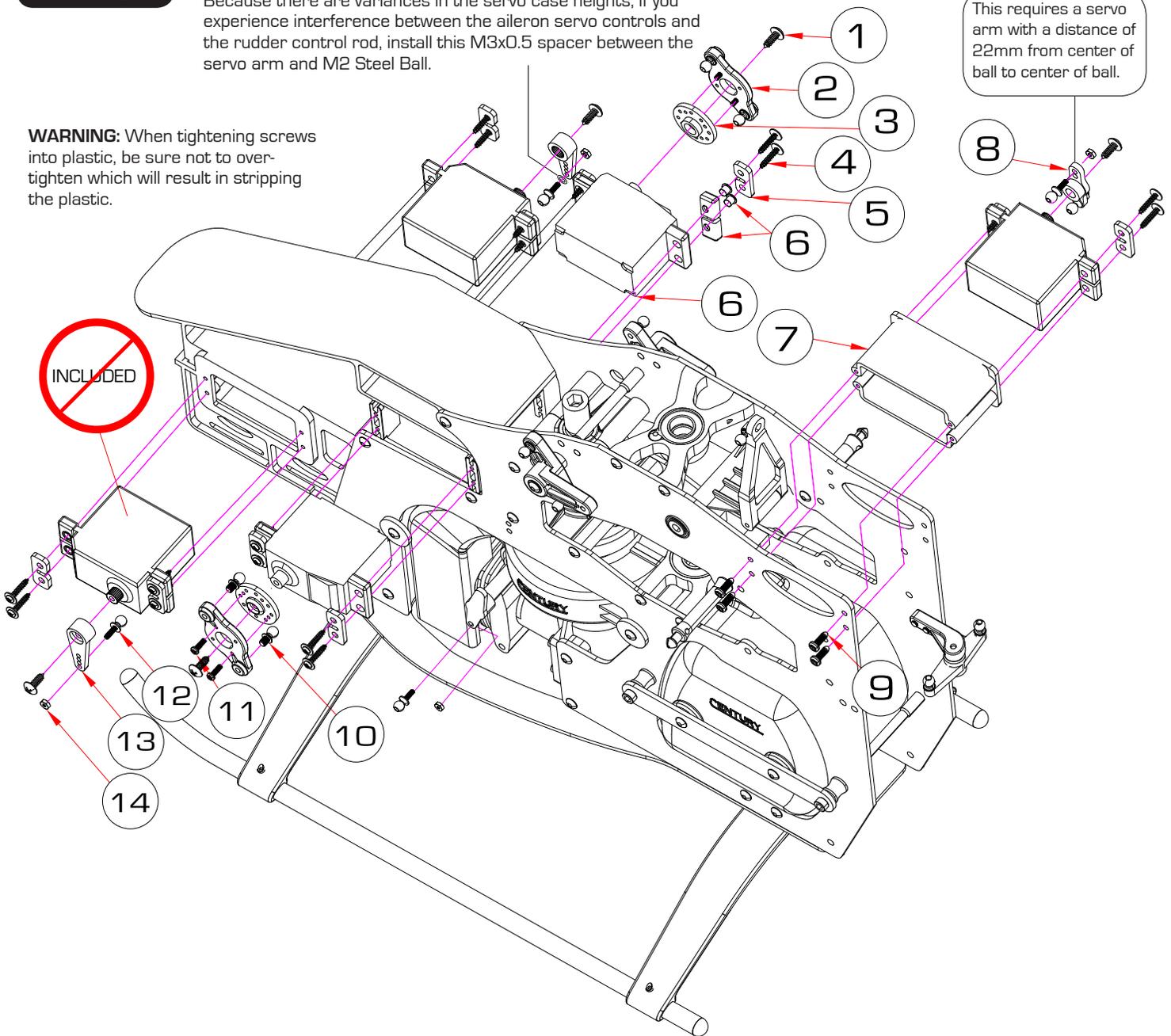
No.	Part #	Description	Qty
1	HI5116N	Bottom Frame(机身底板)	1
2	HI5122	Plastic Struts(脚架)	2
3	CNM3x4SS	Set Screw[无头内六角螺絲M3x4	4
4	HW5123N	Tripod Stopper[脚架塞]	4
5	HW5123N	Aluminum Skids with Caps [脚架弯管]	2
6	CNM3x20CS	M3x20 Cap Screws[杯头螺絲]	4
7	CNM3x8BHCS	Button Head Cap Screw[圆头内六角螺絲M3x8	2
8	CNM3x8FW	M3x8x1 Flat Washer[平面垫片]	4
9	CNM3LOCK	M3 Locknut[M3螺母]	6

## BAG 2 , 3

Because there are variances in the servo case heights, if you experience interference between the aileron servo controls and the rudder control rod, install this M3x0.5 spacer between the servo arm and M2 Steel Ball.

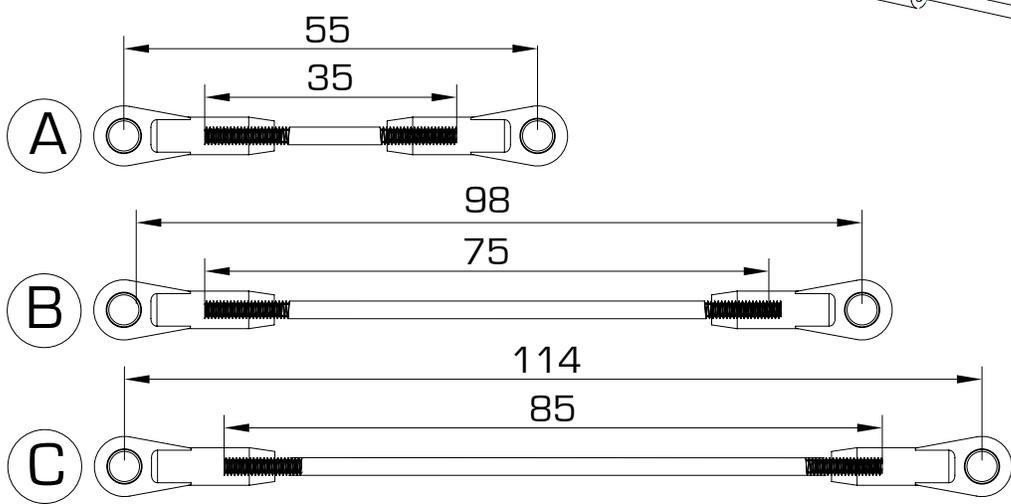
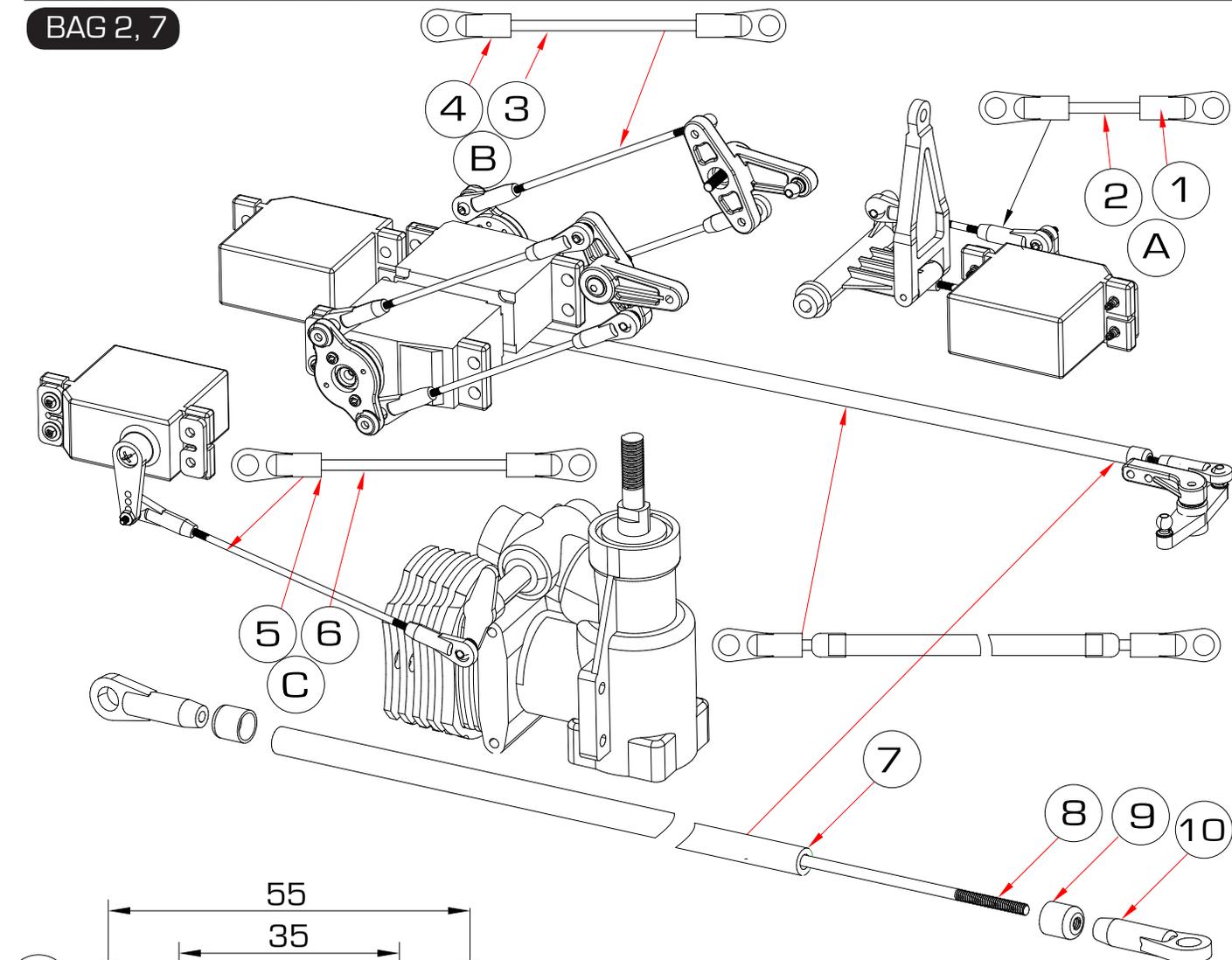
This requires a servo arm with a distance of 22mm from center of ball to center of ball.

**WARNING:** When tightening screws into plastic, be sure not to over-tighten which will result in stripping the plastic.

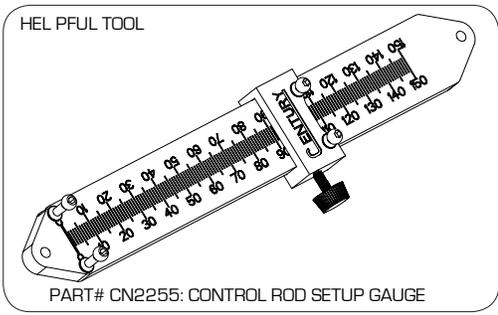


No.	Part #	Description	Qty
1	NOT INCLUDED	M3x6 Self Tapping Screws( 尖尾自攻螺丝)	5
2	HW6192C	Servo Control Arm( 伺服机控制臂)	2
3	NOT INCLUDED	Servo Arm( 伺服机控制臂)	2
4	CNM2.3x12ST	M2.3x12 Self Tapping Screws( 尖尾自攻螺丝)	20
5	HI3205A	Servo Fixed Plate( 伺服机固定板)	10
6	NOT INCLUDED	Servo( 伺服机)	5
7	HI5016	Elevator Servo Mount( 升降伺服机座)	1
8	NOT INCLUDED	Servo Arm( 伺服机控制臂)	1
9	CNM2.6x8ST	M2.6x8 Self Tapping Screws( 尖尾自攻螺丝)	4
10	CNLR1014	M3 Ball Link( M3 球头螺丝)	4
11	CNM2x6PH	Phillips Screw( 十字螺丝) M2x6	4
12	CNLR1013	Steel Ball 2mm Thread( M2 球头螺丝)	5
13	NOT INCLUDED	Servo Arm( 伺服机控制臂)	2
14	CNM2NUT	M2 Nut( M2 螺母)	5

BAG 2, 7



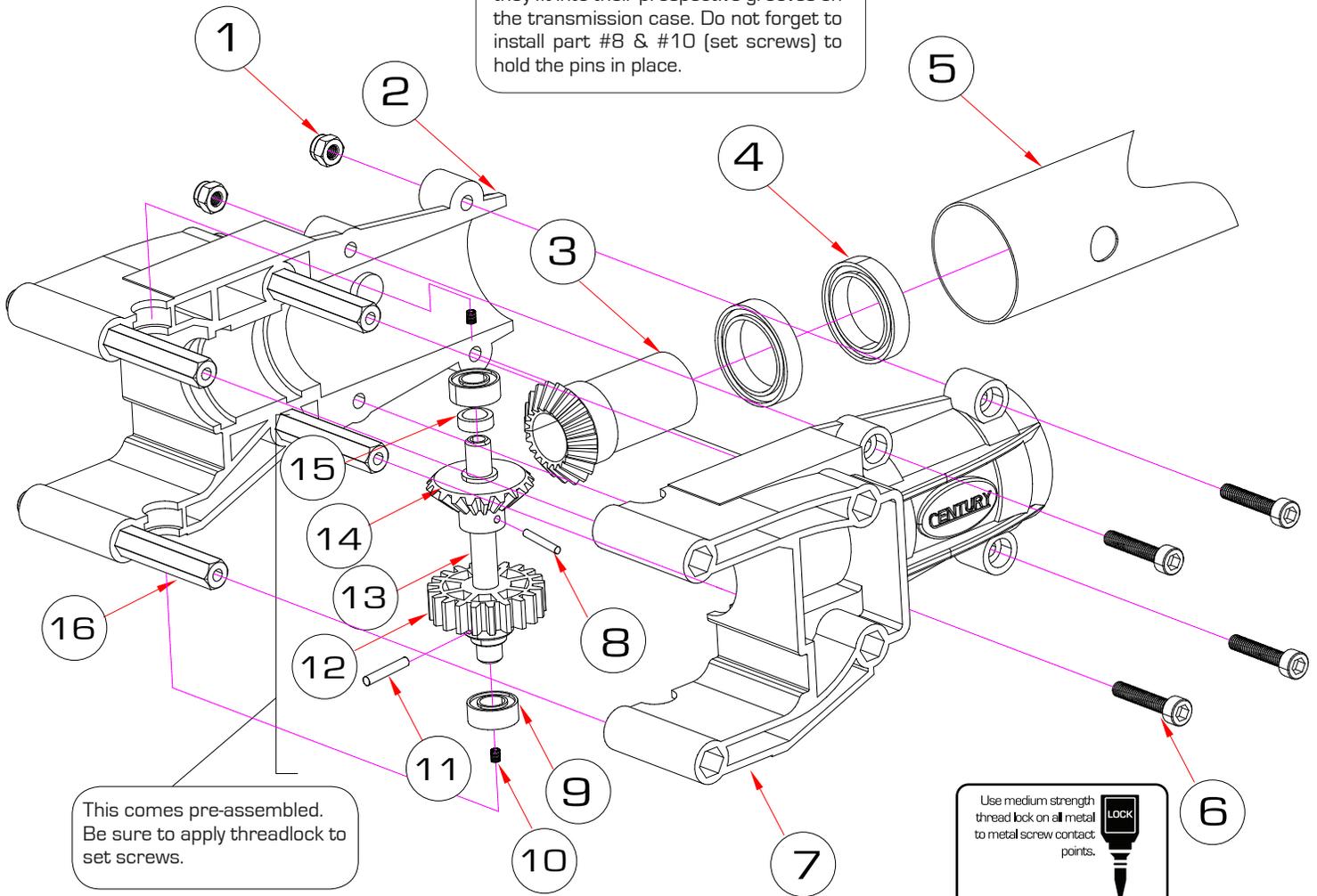
The linkage rods come pre-built. Even though they are pre-built, you will need to verify their lengths. The diagram with lengths are drawn at a true to life scale with the exception of the tail control rod, therefore you can lay your linkages on the diagram to find the correct measurements. The ball links are heavy duty ball links and must be sized properly to provide the smoothest operation of the head. A ball link sizing tool such as part number CN2055ABL should be used on all plastic links to provide the smoothest operation.



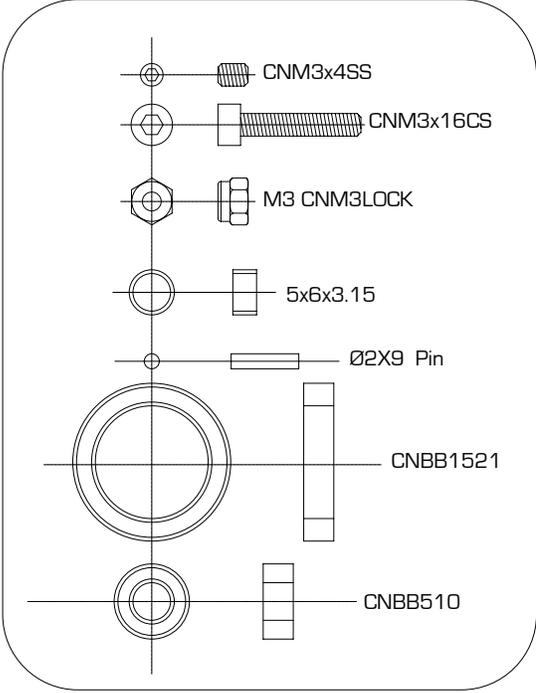
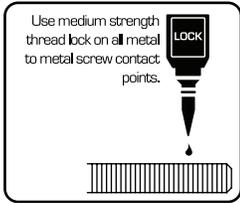
No.	Part #	Description	Qty
1	HI6145	Ball Link Set (26 Long, 4 Short)[球头连接杆]	4
2	HW5192C	Pushrod Set[连杆]	2
3	HW5192C	Pushrod Set[连杆]	4
4	HI6145	Ball Link Set (26 Long, 4 Short)[球头连接杆]	8
5	HI6145	Ball Link Set (26 Long, 4 Short)[球头连接杆]	2
6	HW5192C	Pushrod Set[连杆]	1
7	HW5043A	Carbon Fiber Tube[碳纤维管]	1
8	HW5043A	Pushrod Set[连杆]	1
9	HW5043A	Fastening Nut[紧固螺母]	2
10	HW5043A	Ball Link Set (26 Long, 4 Short)[球头连接杆]	2

BAG 4, 7

When installing the bearings, be sure they fit into their prospective grooves on the transmission case. Do not forget to install part #8 & #10 (set screws) to hold the pins in place.

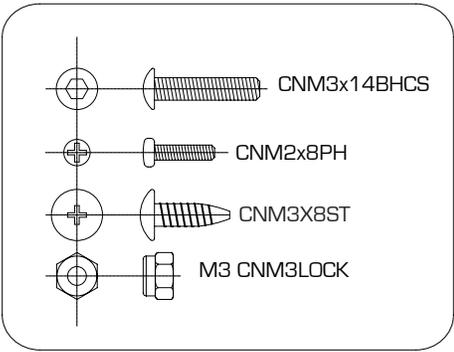
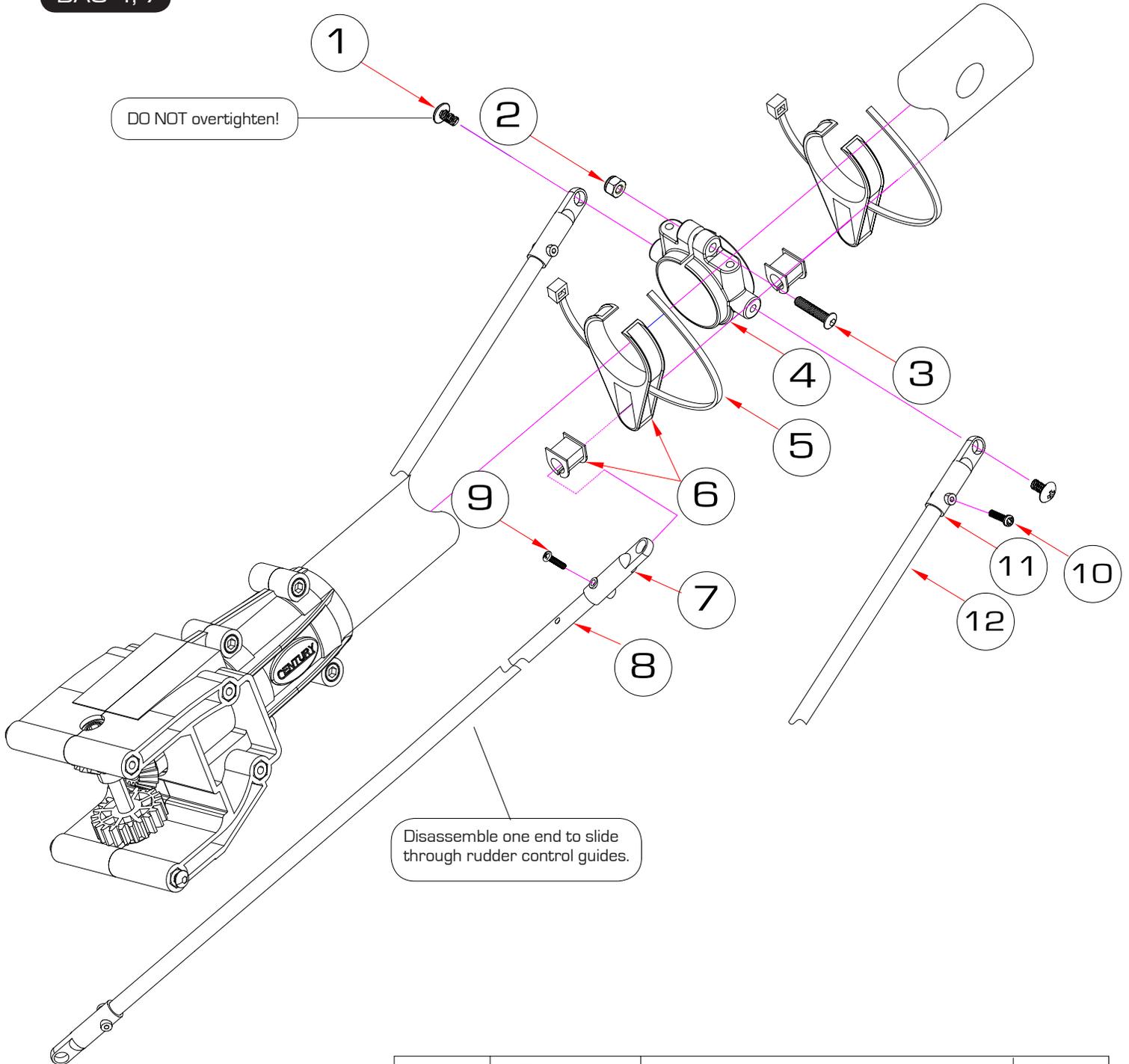


This comes pre-assembled. Be sure to apply threadlock to set screws.



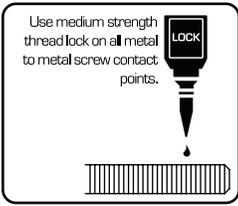
No.	Part #	Description	Qty
1	CNM3LOCK	M3 Locknut(M3 螺母)	4
2	HI6060C	Front Transmission Case(尾管夹片)	1
3	HW3057A	20T Bevel Gear(20T 伞齿轮)	1
4	CNBB1521	15x21x4 Bearing(轴承)	2
5	HW5062	640 Tail Boom L=715mm(640 尾管)	1
6	CNM3x16CS	M3X16 Cap Screw( 杯头螺丝)	4
7	HI6060C	Front Transmission Case(尾管夹片)	1
8	HW3057A	2X9 Pin( 圆柱销)	1
9	CNBB510	5X10X4 Bearing( 轴承)	2
10	CNM3X4SS	M3X4 Set Screw( 无头角螺丝)	2
11	HI6533B	2X9 Pin( 圆柱销)	1
12	HI6533A	21T Gear(正齿轮)	1
13	HW6059A	Bevel Gear Shaft( 伞齿轮轴)	1
14	HW3057A	20T Bevel Gear(20T 伞齿轮)	1
15	HW6059A	5x6x3.15 Fixed Set Off( 固定套)	1
16	HW6007GS	L=52.5mm Hex Spacers( 六角铝柱)	4

**BAG 4, 7**

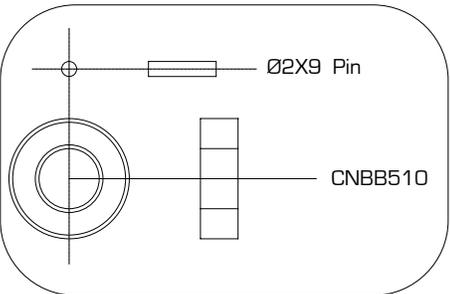
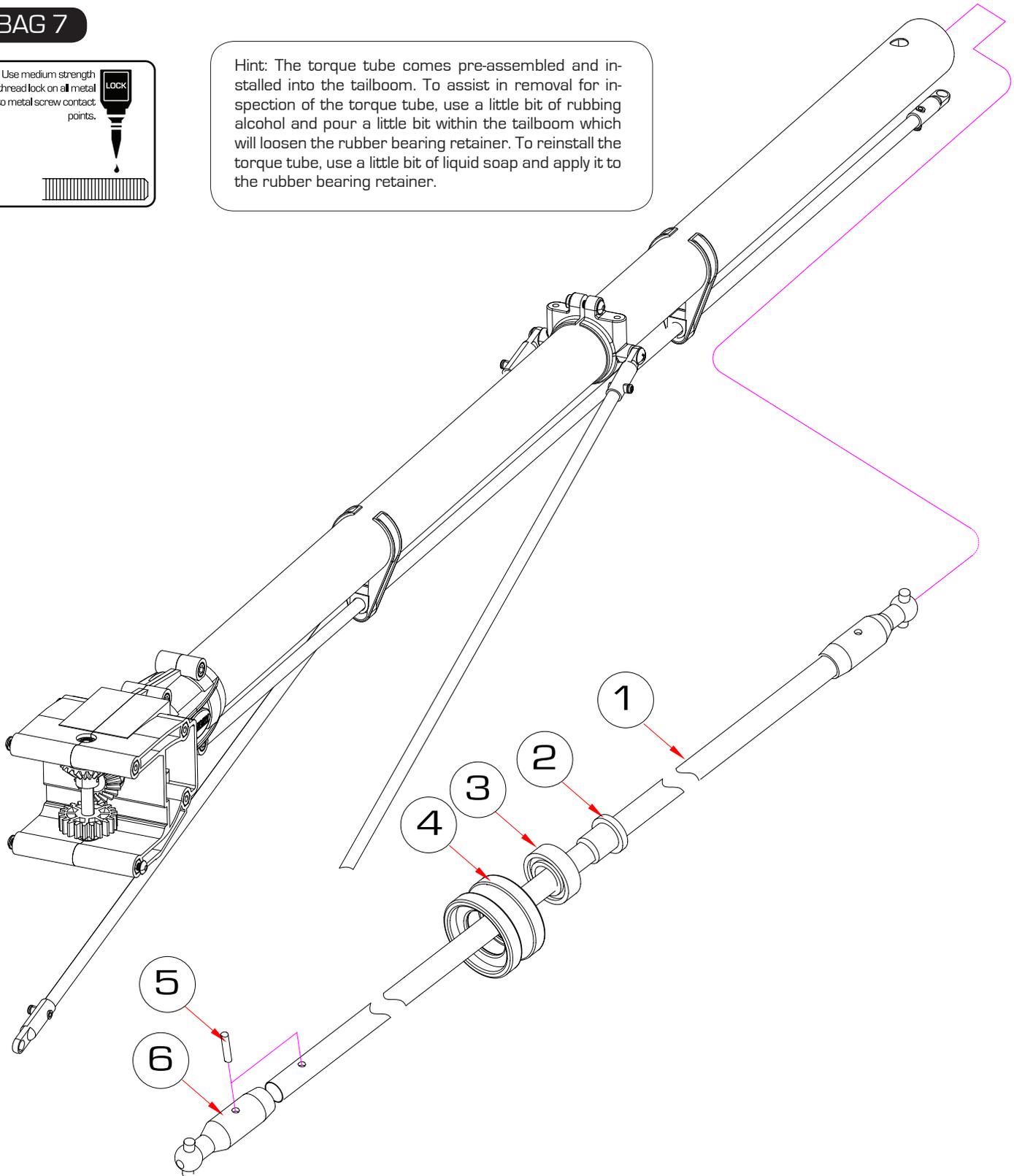


No.	Part #	Description	Qty
1	CNM3X8ST	M3X8 Self Tapping Screw(割尾自攻螺丝)	2
2	CNM3LOCK	M3 Locknut(M3 螺母)	1
3	CNM3x14BHCS	M3x14 Button Head Screw(圆头内六角螺丝)	1
4	HI6068A	Horizontal Fin Mount(水平翼固定座)	1
5	HI6106B	Zip Tie(束带)	2
6	HI6106B	Adjustable Tail Guides(尾拉杆固定座)	2
7	HW5043B	Tail Boom Support Strut End(连杆头)	2
8	HW5043B	L=695mm Tail Control Rod(尾舵控制连杆)	1
9	CNM2X8PH	M2x8 Phillips Screw(圆头十字螺丝)	2
10	CNM2X8PH	M2x8 Phillips Screw(圆头十字螺丝)	4
11	HW5202	Tail Boom Support Strut End(连杆头)	4
12	HW5202	L=520mm Rod End(尾支撑杆)	2

**BAG 7**

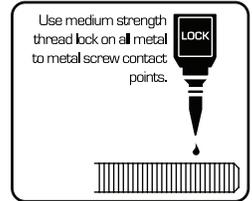


Hint: The torque tube comes pre-assembled and installed into the tailboom. To assist in removal for inspection of the torque tube, use a little bit of rubbing alcohol and pour a little bit within the tailboom which will loosen the rubber bearing retainer. To reinstall the torque tube, use a little bit of liquid soap and apply it to the rubber bearing retainer.

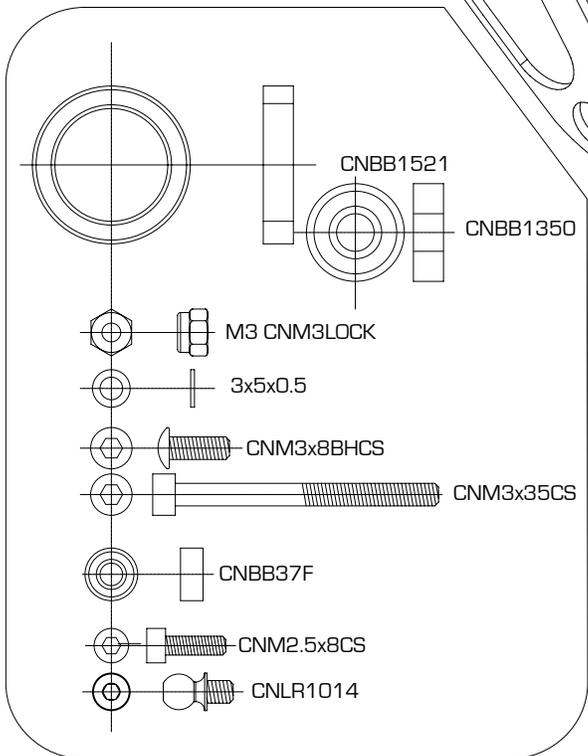
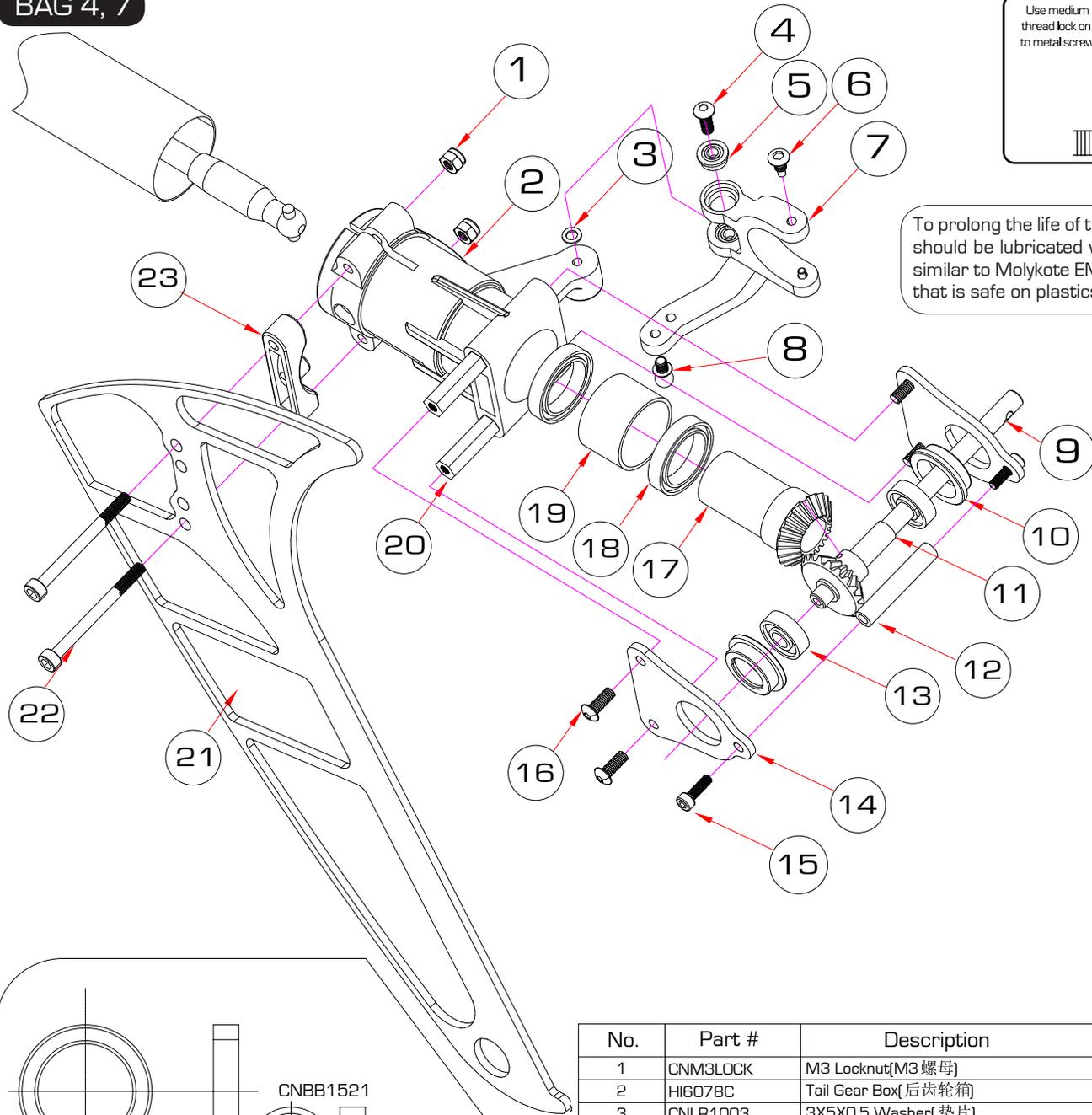


No.	Part #	Description	Qty
1	HW5063	L=720mm Stainless Steel Torque Tube( 空心不锈钢管)	1
2	HW5063	Bearing Sleeve( 轴承内轴套)	1
3	CNBB816	8X16X5 Bearing( 轴承)	1
4	HW5063	Rubber Bearing Retainer( 橡胶尾管塞)	1
5	HW5063	2X9 Pin(圆柱销)	2
6	HW5063	Dog-Bone End( 勾股球头)	2

## BAG 4, 7



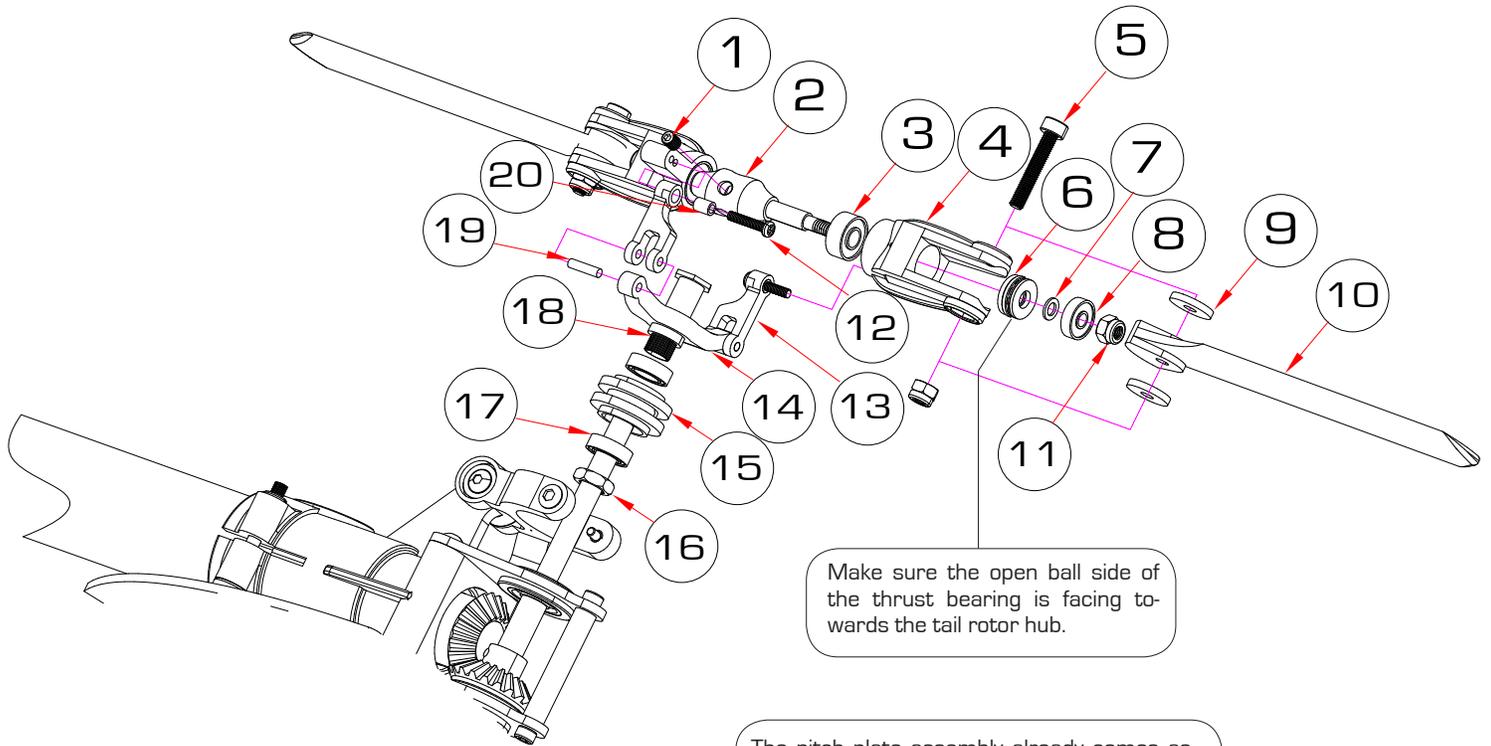
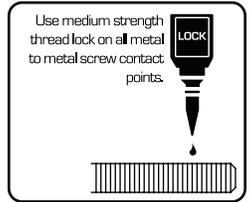
To prolong the life of the gears they should be lubricated with a grease similar to Molykote EM-30L grease that is safe on plastics.



No.	Part #	Description	Qty
1	CNM3LOCK	M3 Locknut[M3 螺母]	2
2	HI6078C	Tail Gear Box[后齿轮箱]	1
3	CNLR1003	3X5X0.5 Washer[垫片]	2
4	CNM3X8BHCS	M3X8 Button Head Screw[圆头螺丝]	2
5	CNBB0730F	3X7X3 Bearing[带边轴承]	2
6	HI6102B	Special Guide Screw[驱动螺丝]	2
7	HI6102B	Pitch Arm[尾拉杆摆臂]	1
8	CNLR1014	L=9.6mm M3 Linkage Ball[9.6 球头螺丝]	1
9	HW5073	Tail Shaft[尾翼轴]	1
10	HW5079	Metal Bearing Retainer[金属轴承套]	2
11	HW6074B	5x6x12.85mm Bevel Output Gear[固定套]	1
12	HW6078B	Threaded Spacer[铝柱]Ø5x27	1
13	CNBB1350	5x13x4 Bearing[滚珠轴承]	2
14	HW6078D	Gearbox Plate[齿轮箱侧板]	2
15	CNM2.5X8CS	M2.5x8 Cap Screw[杯头螺丝]	2
16	CNM3X8BHCS	M3X8 Button Head Screw[圆头螺丝]	4
17	HW3057A	20T Bevel Gear[20T 伞齿轮]	1
18	CNBB1521	15x21x4 Bearing[轴承]	2
19	HI6078C	Bearing Spacer[轴承间隔套]	1
20	HI6078BS	L=26.5mm Hex Spacers[六角铝柱]	2
21	HW5067	Vertical Fin[垂直翼]	1
22	CNM3X35CS	M3X35 Cap Screw[杯头螺丝]	2
23	HI6078C	Tail Boom Positioning Block[尾管定位块]	1

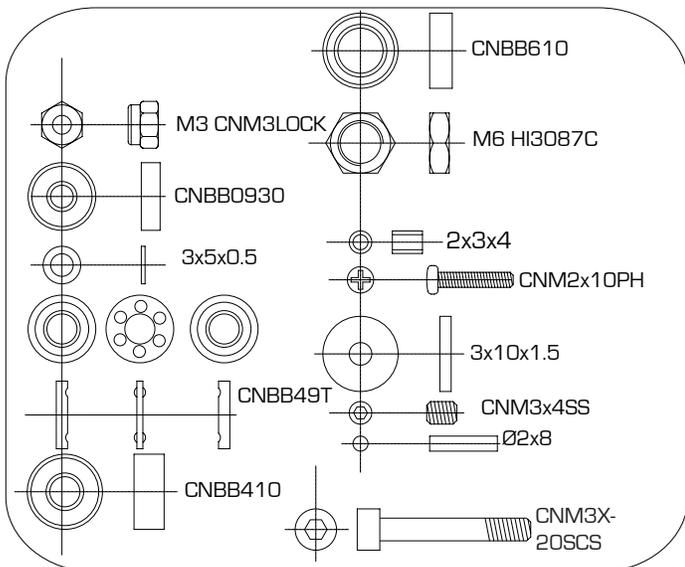
## BAG 2

The tail assembly comes assembled for your example only. It is necessary to disassemble the tail blade grips to apply thrust bearing grease to the thrust bearings. It is also important to remove the set screw from the tail rotor hub and apply medium threadlock to this set screw.



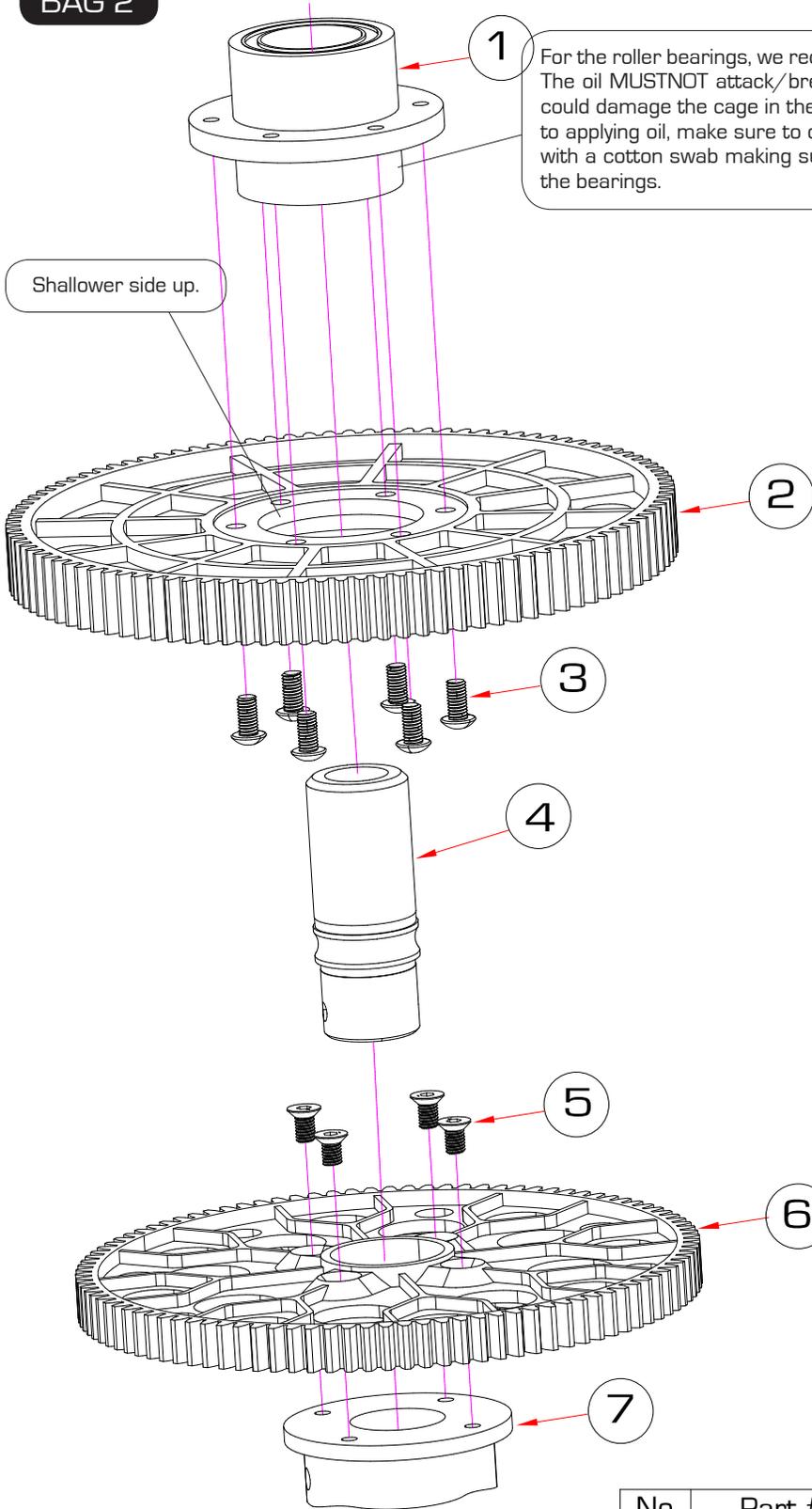
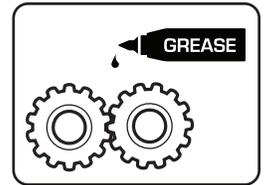
Make sure the open ball side of the thrust bearing is facing towards the tail rotor hub.

The pitch plate assembly already comes assembled. It is not necessary to disassemble this part.



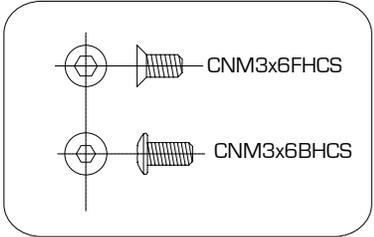
No.	Part #	Description	Qty
1	CNM3X4SS	M3X4 Set Screw[无头螺丝]	1
2	HW3098C	Steel Tail Rotor Hub[尾旋翼中心座]	1
3	CNBB510	5X10X4 Bearing[轴承]	2
4	HI6096B	Tail Rotor Grip [尾旋翼夹片]	2
5	CNM3X20SCS	M3X20 Cap Screw[杯头螺丝]	2
6	CNBB49T	4X9X4 Thrust Bearing[止推轴承]	2
7	CNLR1003	3X5X0.5 Washer[垫片]	2
8	CNBB0930	3X9X2.5 Bearing[轴承]	2
9	HW6204A	3x10x1.5 Micro Washer[垫片]	4
10	HI6099A	Tail Rotor Blades[尾旋翼]	2
11	CNM3LOCK	M3 Locknut[M3 螺母]	4
12	CNM2X10PH	M2x10 Phillips Screw[圆头十字螺丝]	2
13	HI3089A	Link[连杆]	2
14	HI3087C	Control Arm[控制臂]	1
15	HI3087C	Pitch Plate Guide[轴承座]	1
16	HI3087C	Brass Nut[铜螺母]	1
17	CNBB610	6x10x3 Bearing[轴承]	2
18	HI3087C	Brass Screw[铜螺丝]	1
19	HI3089A	2X8 Pin[圆柱销]	2
20	HI3089A	2x3x4 Copper Sleeve[铜套]	2

**BAG 2**



1 For the roller bearings, we recommend a very light oil. The oil **MUSTNOT** attack/break down plastic as this could damage the cage in the one-way bearing. Prior to applying oil, make sure to clean the roller bearings with a cotton swab making sure there is no debris in the bearings.

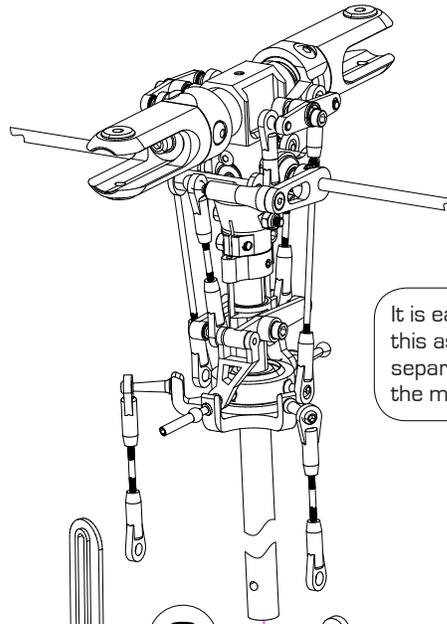
If in the future your one-way bearing or sleeve is worn or damaged, it is highly recommended to replace the sleeve and one-way bearing hub at the same time.



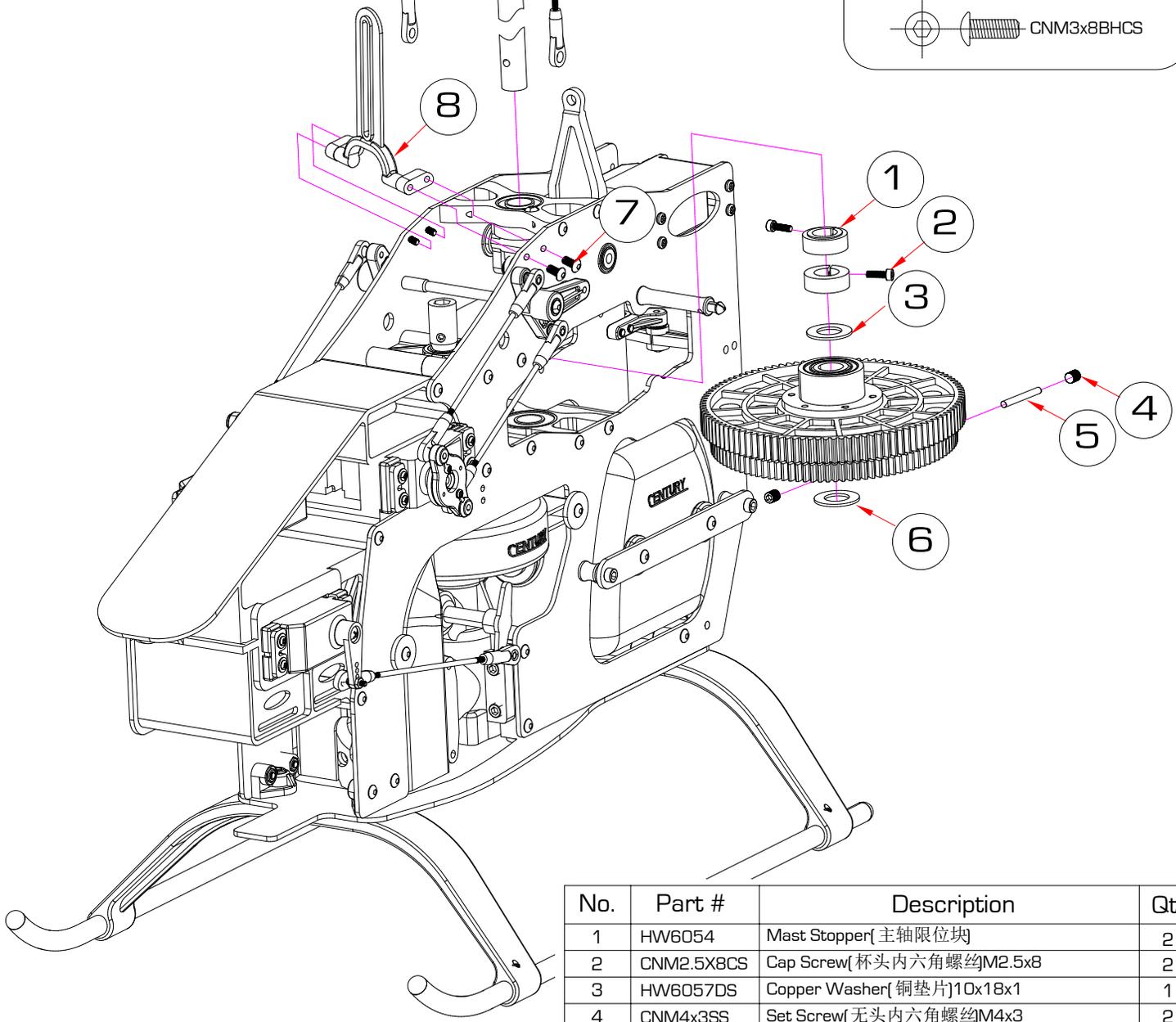
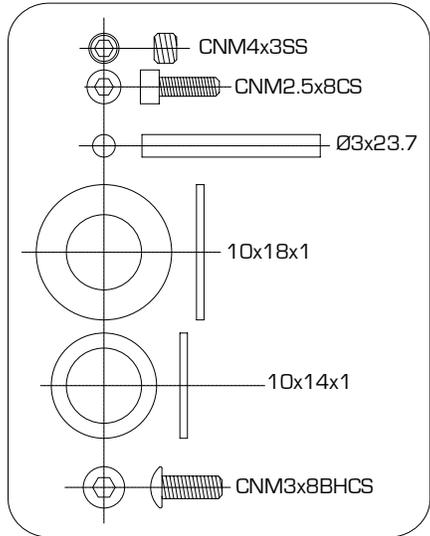
No.	Part #	Description	Qty
1	HW5057	One-Way Bearing[ 单向轴承座]	1
2	HI5056	103T Main Gear[ 主直齿轮]	1
3	CNM3x6BHCS	Button Head Cap Screw[ 圆头内六角螺丝M3x6]	6
4	HW6057C	Main Gear Iron Sets[ 主齿轮铁套]	1
5	CNM3x6FHCS	Flush Head Cap Screws[ 斜头内六角螺丝M3x6]	4
6	HI6057	Tail Drive Gear[ 96T副齿轮]	1
7	HW6057A	Driven Tail Hub[ 传动齿轮座]	1

**BAG 2, 3**

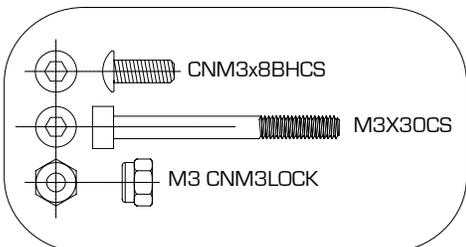
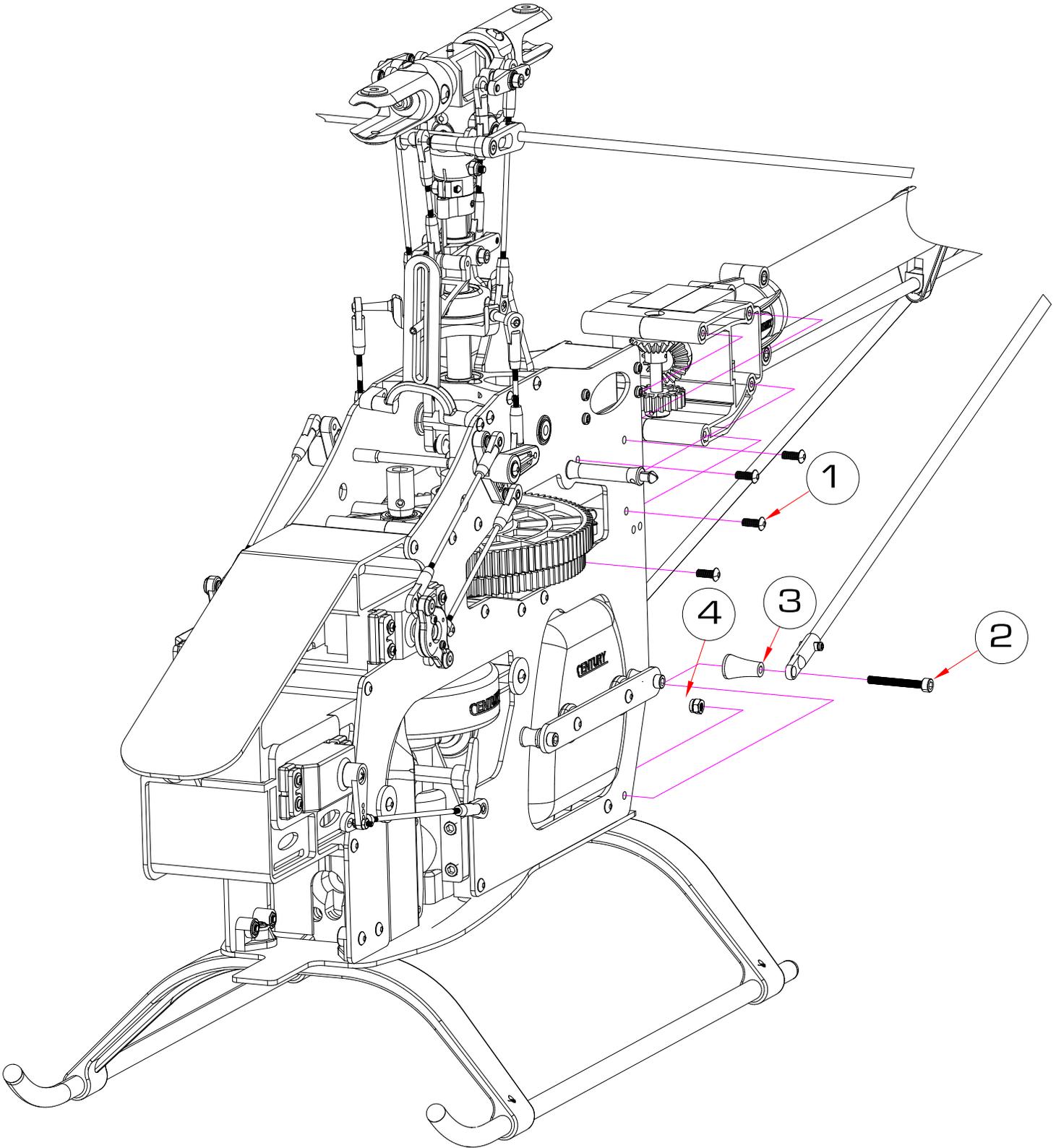
Use medium strength thread lock on all metal to metal screw contact points.

It is easier to perform this assembly if you separate the head from the main shaft.

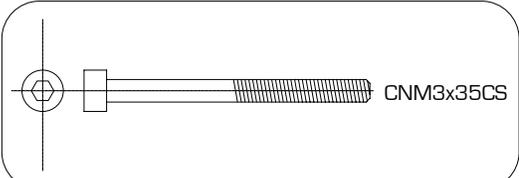
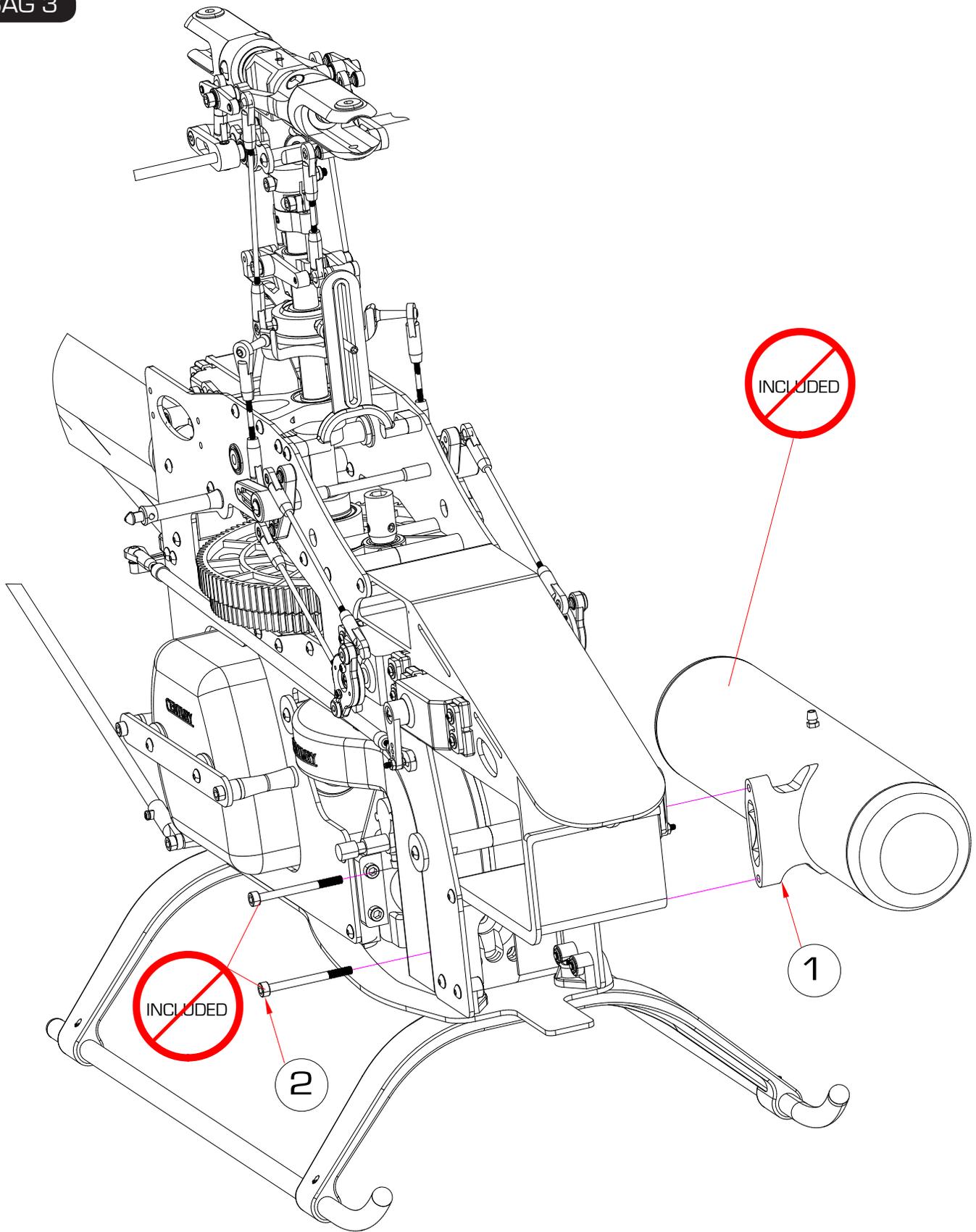


No.	Part #	Description	Qty
1	HW6054	Mast Stopper[ 主轴限位块]	2
2	CNM2.5X8CS	Cap Screw[ 杯头内六角螺钉M2.5x8]	2
3	HW6057DS	Copper Washer[ 铜垫片]10x18x1	1
4	CNM4x3SS	Set Screw[ 无头内六角螺钉M4x3]	2
5	HW6057AS	Pin[ 插销]Ø3x23.7	1
6	HW5057DS	Copper Washer[ 铜垫片]10x14x1	1
7	CNM3x8BHCS	Button Head Cap Screw[ 圆头内六角螺钉M3x8]	4
8	HI5003	Anti-Rotation Bracket[A 臂滑座]	1

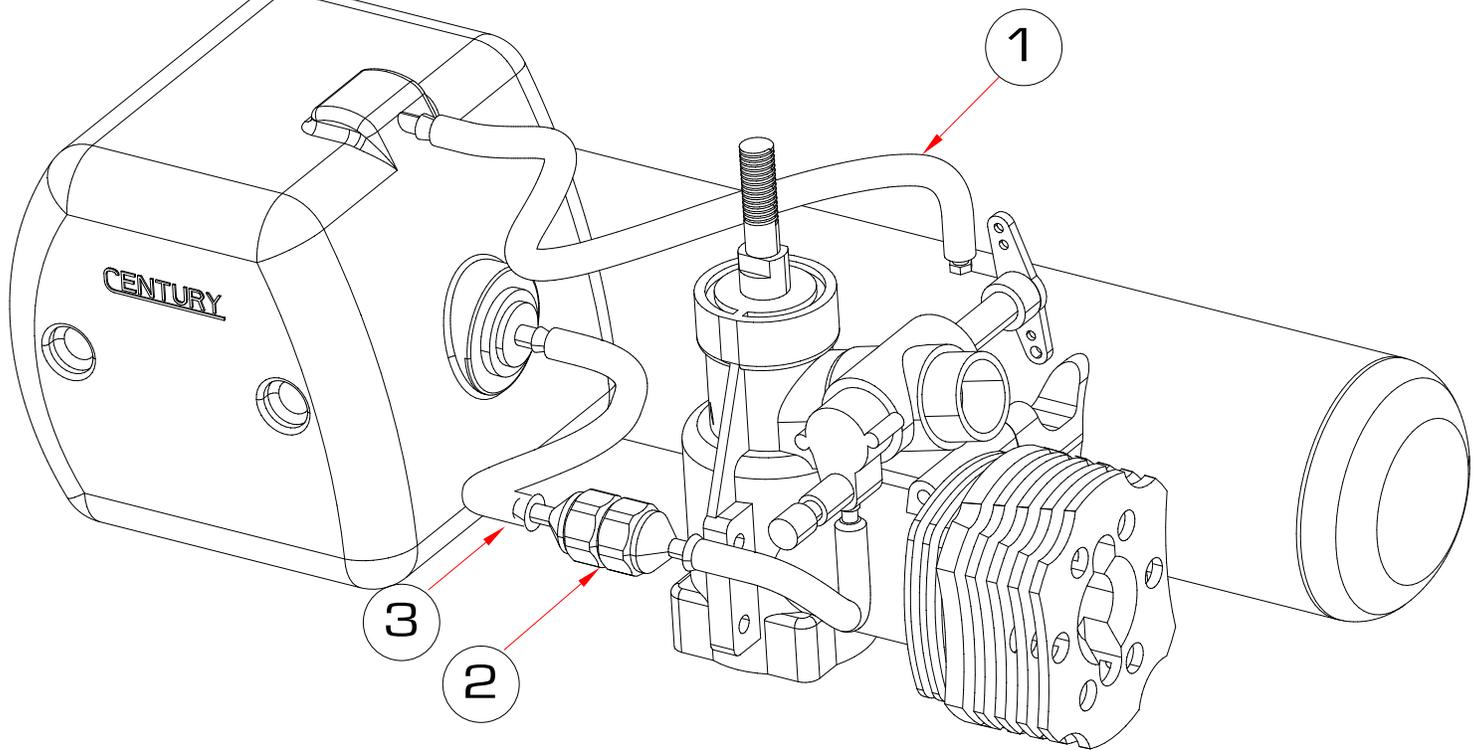


No.	Part #	Description	Qty
1	CNM3x8BHCS	Button Head Cap Screw[ 圆头内六角螺丝]M3x8	8
2	CNM3x30CS	M3x30 Cap Screws[ 杯头螺丝]	2
3	HW6202BS	Aluminum Post[ 铝柱]	2
4	CNM3LOCK	M3 Locknut[M3 螺母]	2

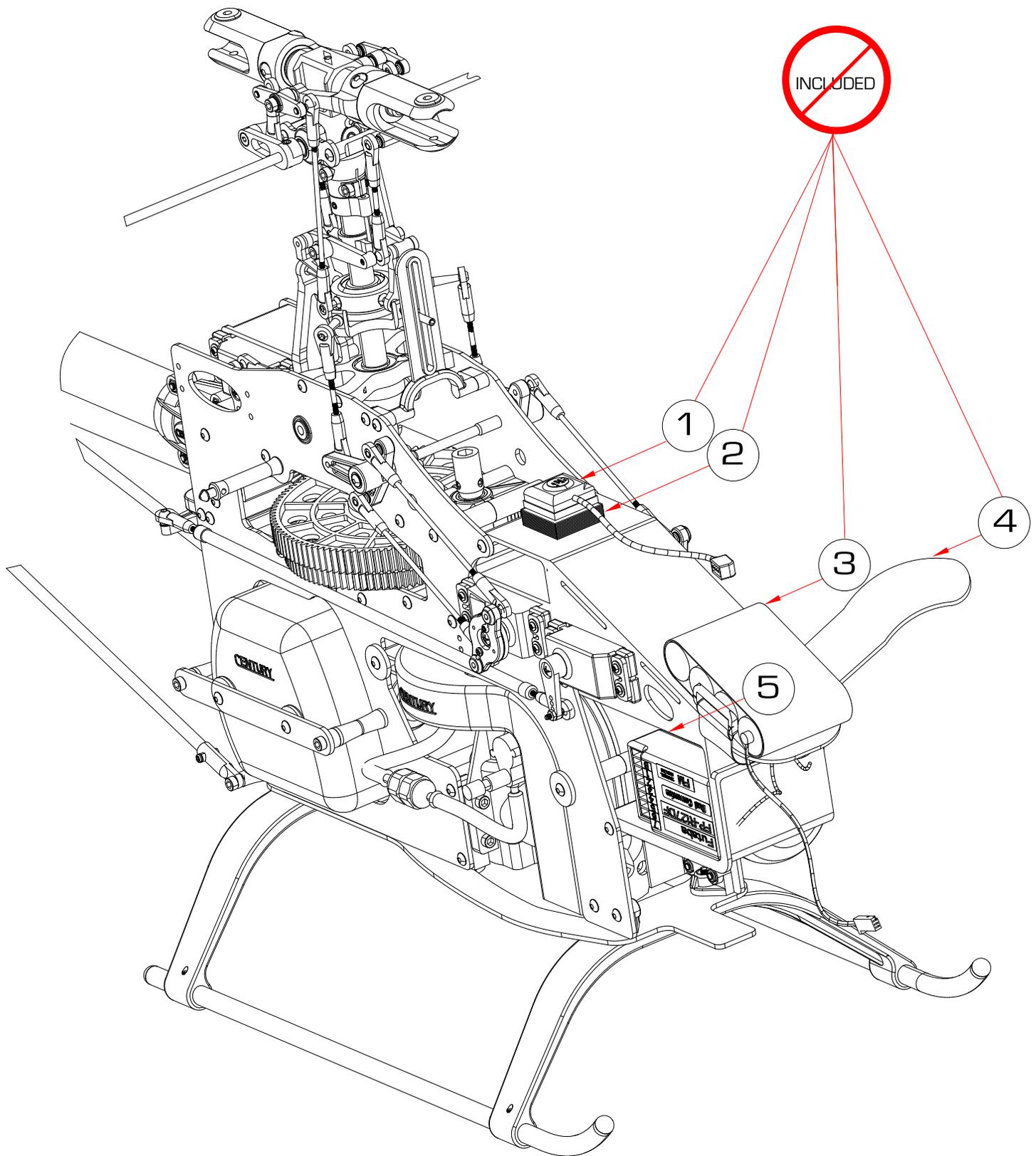
**BAG 3**



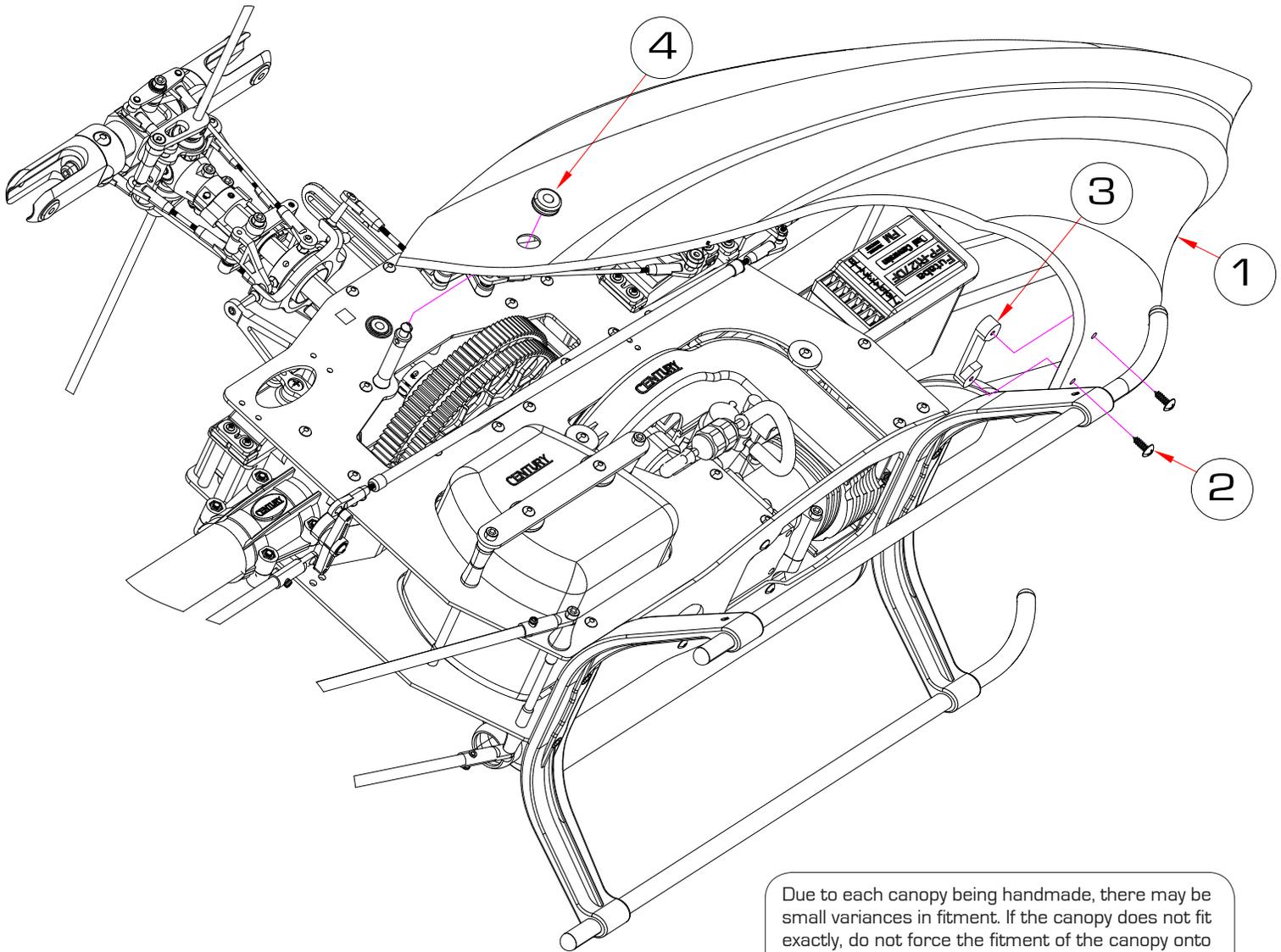
No.	Part #	Description	Qty
1	CN3038B	Speed Torpedo HV2 Muffer( 排气管)	1
2	CNM3X35CS	M3x35 Cap Screws( 杯头螺丝)	2



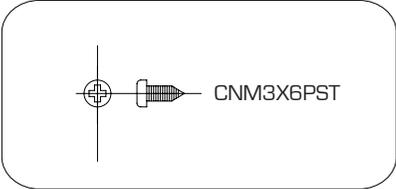
No.	Part #	Description	Qty
1	CNA1003	Fuel Tubing( 气压管)	1
2	NOT INCLUDED	Fuel Filter( 滤油器)	1
3	NOT INCLUDED	Fuel Tubing(油管)	2



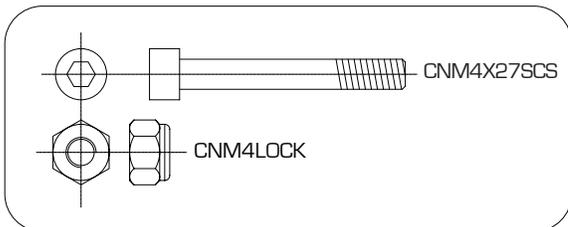
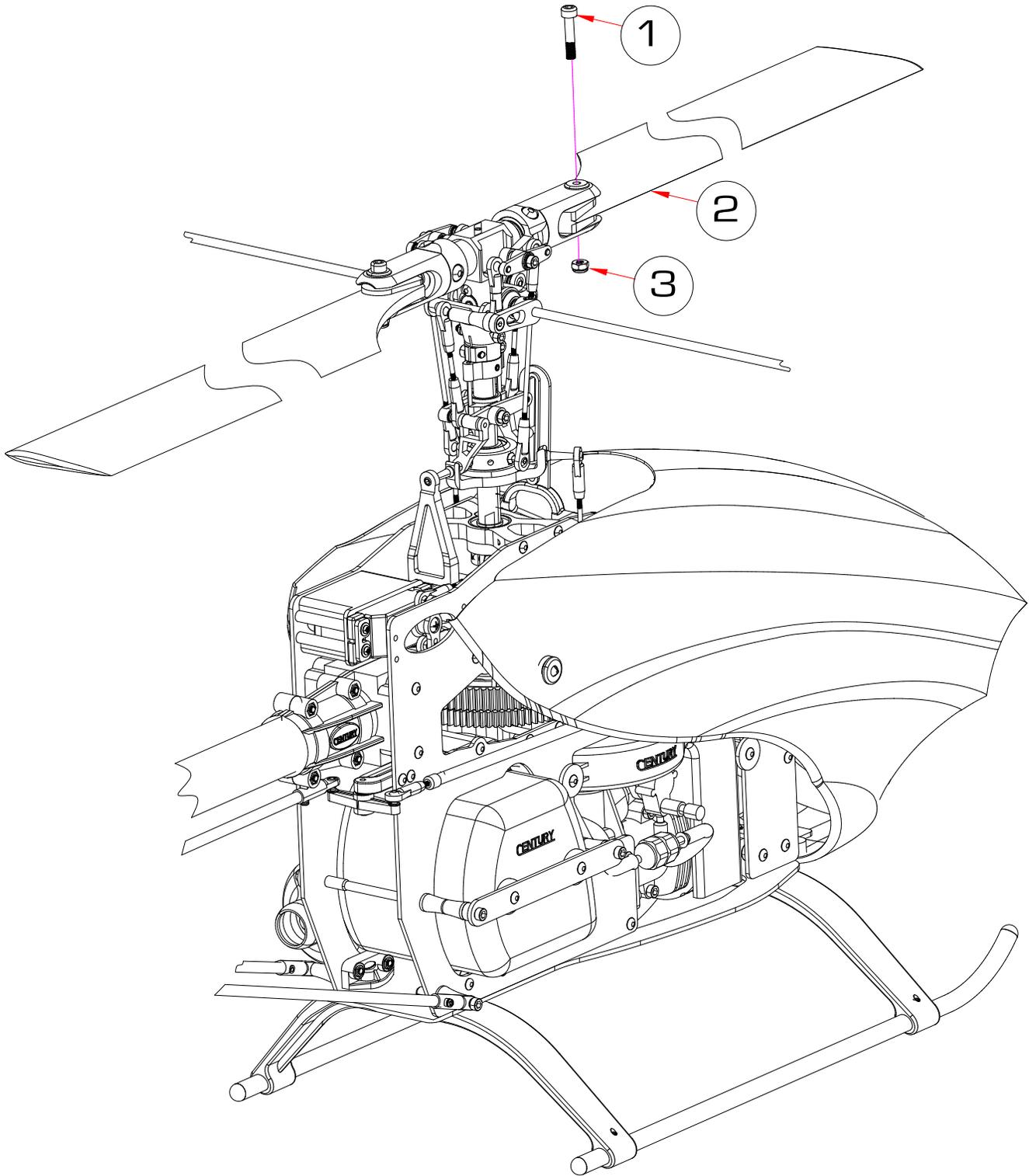
No.	Part #	Description	Qty
1	NOT INCLUDED	Gyro(陀螺仪)	1
2	NOT INCLUDED	Gyro Isolation Foam(防震垫片)	1
3	NOT INCLUDED	Receiver Battery(电池)	1
4	NOT INCLUDED	Hook & Loop Strap(束带)	1
5	NOT INCLUDED	Receiver(接收机)	1



Due to each canopy being handmade, there may be small variances in fitment. If the canopy does not fit exactly, do not force the fitment of the canopy onto the frames. Check where the canopy could be hitting the frames and use a dremel style tool or similar and shave away parts of the canopy that could be interfering with fitment or interfering with control systems. When working with fiberglass, ensure you do not inhale the fiberglass dust when sanding or removing material.



No.	Part #	Description	Qty
1	HI5130N	N640 Painted Canopy(机头)	1
2	CNM3X6PST	M3x6 Phillips Tapping Screws(尖尾螺丝)	2
3	HI3129	Canopy Bracket(机头固定座)	1
4	CN2210A	Canopy Grommet(橡皮环)	2



No.	Part #	Description	Qty
1	CNM4X27SCS	Cap Screw[ 杯头内六角螺丝]M4X27	2
2	NOT INCLUDED	Rotorblades[ 螺旋桨]	2
3	CNM4LOCK	M4 Locknut[M4 螺母]	2

Congratulations on finishing the build of the Radikal N640 helicopter. Please follow your instruction manuals on setting up your transmitter and electronics.







***RADIKAL***

**NE40**

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1740-C Junction Ave.  
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