

The Quick Fly



TABLE OF CONTENTS

INTRODUCTION	3
CUSTOMER SERVICE	4
FEATURES	5
FRE-ASSEMBLY INFORMATION	6
REQUIRED TOOLS	7
HARDWARE & OPTIONAL ACCESSORIES	8
OTHER HARDWARE & OPTIONAL ACCESSORIES	9
OTHER REQUIREMENTS	11
PART LIST	12
SECTION 1: FRAMES	13
SECTION 2: TAIL ASSEMBLY	25
SECTION 3: CONTROL SYSTEM	31
SECTION 4: ROTOR HEAD	34
SECTION 5: LINKAGES	39
SECTION 6: SETTINGS	44
FRE-FLIGHT CHECKS	51
WARNINGS	51
ADJUSTMENTS	52
HOW TO HOVER	53
HOW TO FLY FORWARD	55
AFTER FLIGHT CHECKS	57
WHAT IF THE HELICOPTER CRASHED	57
SPECIFICATION	57

INTRODUCTION

Congratulation and thank you for the purchase of great product! It is our sole desire for you to enjoy the quality workmanship and performance of any of our electric Li-Po powered helicopters. We believe we have the latest designs and technology incorporated into our model helicopters. Our CNC parts are produced using the best high density materials & anodized using material hardening finishes with the tightest of tolerances. Our new helicopters feature the latest advances in R/C helicopter design. The simple and mechanically superior EMS design (also known as CCPM) ensures a helicopter that will be more responsive and more stable than any other R/C helicopter you have ever flown. Three servos are attached directly to the Swashplate to ensure precise control. This kit features all metal construction, and a carbon or composite frames are standard. Along with great products, our staffs are RC guys that fly and have hands on experience with total manufacturing & testing of our helicopters. In addition, we stand behind all our products 100% with satisfaction guaranteed.

In the past several years, we have been devoting ourselves to developing electric powered helicopters. We feel that our electrics now are more powerful, smoother, and more responsive than most of the nitro machines in the market. In addition, there is less time for maintenance and no more getting dirty of oil and gas. With new technology of batteries and electric motors, the flying time and the efficiency increase significantly day by day. We believe so much in our electric helicopters that we have given out for reviews to our fellow hobbyists EP kits of four different motors and Li-Po battery classes. Electric powered helicopters are here now to stay and will in time be bigger than the current nitro market. The market has some very mixed ideas about electric and their safety. Our staff is here to answer all of your technical questions. Our kits will be shipped 100% complete and we can assure you that once you fly your EP helicopter you will love it.

The **Fly**

We believe you hold in your hands one of the best helicopters manufactured in the world today. The brand new Fly is the newest version of our smaller Quick line. It is a smaller, yet powerful machine which uses only one 6S battery. This baby carries the power and punch of the **Q16** delivered smoothly throughout the entire range of its electric motor. The **Fly Sport** version features a G10 fiberglass frame, and molded main blade grips and tail blade grips. Our helicopters are carefully designed and tested, and manufactured of the highest quality materials available.

In a short time, you can be flying.

We ask that you please read the entire manual before starting the construction of the Fly, and if you have any questions our technical support staff can be reached at

(610) 282-4811 M-F 9-6, Sat. 9-4 Eastern time,

or by email at: ***see below page 4***

For the latest information and updates, please visit our website at

www.quickworldwide.com

CUSTOMER SERVICE

<p>Quickworldwide 201 South 3rd. St. & 309 N. Coopersburg, PA 18036</p> <p>Phone: (610)-282-4811</p> <p>Fax: (610)-282-4816</p>	<p><u>Websites:</u> http://www.hhiheli.com http://www.quickheli.com http://www.giantscaleplanes.com</p> <p><u>E-mail:</u> www.quickworldwide.com</p>
<p><u>Office Hours:</u></p> <p>Mon – Fri: 8:30 – 6:00 Sat: 8:30 – 1:30 (Eastern Daylight Time)</p>	
<p>Technical Support Personnel:</p> <p>Irwin - Irwin@quickworldwide.com. Jon - jon@quickworldwide.com Chris - chris@quickworldwide.com Rollin – rollin@quickworldwide.com</p>	



Fly

- 1. Frame Construction:** Fly frames are made of the highest quality Carbon Fiber or Black G-10. These frames are not only rigid but will provide excellent vibration absorption.
- 2. Belt driven Tail:** Smooth, reliable, and low maintenance.
- 3. High Quality Ball Bearings:** Fly offers ball bearings on all moving parts.
- 4. EMS Collective System:** The EMS Collective design allows ease of setup with fewer moving parts. EMS demonstrates overall design simplicity and represents the future of helicopter technology.
- 5. Control Linkages:** The control linkages provided with the Quick Learner Kit are high quality ranging from (2.3mm to 2.6mm) stainless steel rods with Delrin® acetal resin rod ends.
- 6. Single Blade Axle Design:** simple, very responsive, with exceptionally consistent flight characteristics.
- 7. Advanced Airfoil Fly-bar Paddles:** These paddles will provide the best flight characteristics for both 3D & Sport flying: Smooth forward flight, with quick response upon demand.
- 8. Low Cost:** Fly is designed in small size so it uses only one 6S Battery. But it is a powerful and smooth machine. In addition, Fly has low cost replacement parts.
- 9. Extremely Light Weight:** When fully equipped, it is weighs in @ 5.7 lbs (2.610 kg)

PRE-ASSEMBLY INFORMATION

Warning

The radio-controlled model helicopter contained in this kit is not a toy. Rather, it is a sophisticated piece of equipment. This product is not recommended for use by children without adult supervision. Radio controlled models such as this are capable of causing both property damage and/or bodily harm to both the operator/assembler and spectators if not properly assembled and operated. Hobbies & Helis assumes no liability for damage that could occur from the mis-assembly and/or use/misuse of this product.

Academy of Model Aeronautics

We strongly encourage all prospective and current R/C aircraft pilots to join the Academy of Model Aeronautics. The AMA is a non-profit organization that provides services to model aircraft pilots. As an AMA member, you will receive a monthly magazine entitled Model Aviation, as well as a liability insurance plan to cover against possible accident or injury. All AMA charter aircraft clubs require individuals to hold a current AMA sporting license prior to the operation of their model. For further information, please contact AMA at:

Academy of Model Aeronautics

5161 East Memorial Drive

Muncie, IN 47302-9252

USA



Phone: (317) 287-1256

www.modelaircraft.org

Before you begin

Quick Helicopter kits are packaged with care and attention to detail. We recommend when you are ready to begin building this model that you examine the kit carefully, inspect the contents of each package, and read and understand these instructions thoroughly before starting assembly. It is suggested that you purchase a parts box for the small fasteners and hardware, or use small bowls or other containers.

REQUIRED TOOLS

 <p>Phillips Screw Driver</p>	 <p>Ball End Drivers HHI7050 or Bit Link Driver HHI7051</p>	 <p>Bubble Blade Balancer HHI7010 High Point Balancer DUB499</p>
 <p>Composite Paddle Gauges HHI7000</p>	 <p>HHI7320 – 6pc Nut & Allen Driver Set</p>  <p>Ball Link Pier MAT1001</p>	 <p>Pitch Gauge HHI7001</p>  <p>Universal FlybarLock HHI7040</p>
 <p>Ruler</p>	 <p>Hobby Knife</p>	 <p>Needle Nose Pliers</p>  <p>Scissors</p>

Dremel Tools and sandpapers would be helpful.

HARDWARE & OPTIONAL ACCESSORIES

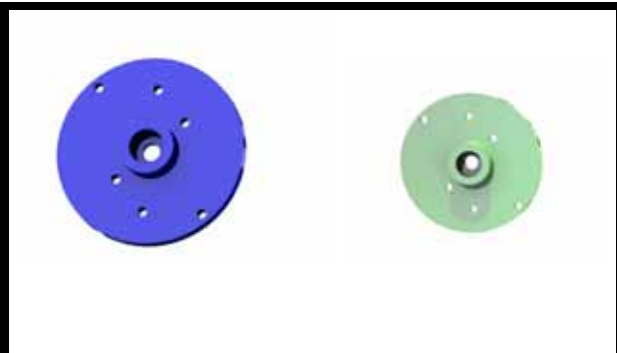
GLUES AND THREAD LOCK COMPOUNDS

 <p>Ca Glue. ...GBG1</p>	 <p>JB Weld...JBW8265S</p>	 <p>Loctite.PT40</p>
---	---	--

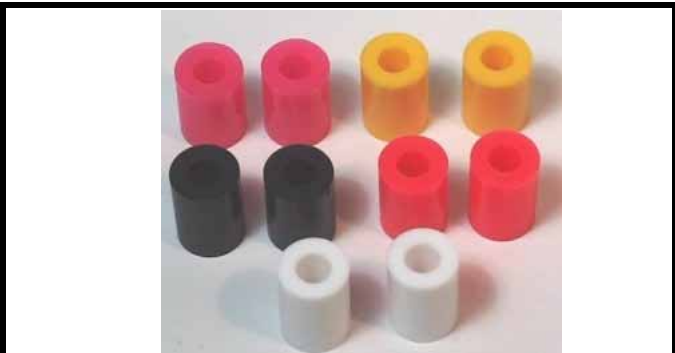
RADIO MOUNTING ACCESSORIES

 <p>Velcro Pads (VEL1)</p>	 <p>Receiver Hold down Straps HHI55** 2 pk \$4.99 (yellow, orange, Pink, Black) HHI55-4 4 pk \$8.99 (2yellow & 2orange or 2Pink & 2Black)</p>
 <p>Wire Ties HHIWT01X</p>	 <p>Spiral Wrap HHI2811 3' Combo Pk (3' small, 3' medium) HHI2812 5' Combo Pk (5' small, 5' medium)</p>
 <div data-bbox="472 1545 829 1667" style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>HHI 2200 Receiver Strong Box</p> </div>	

OTHER HARDWARE & OPTIONAL ACCESSORIES



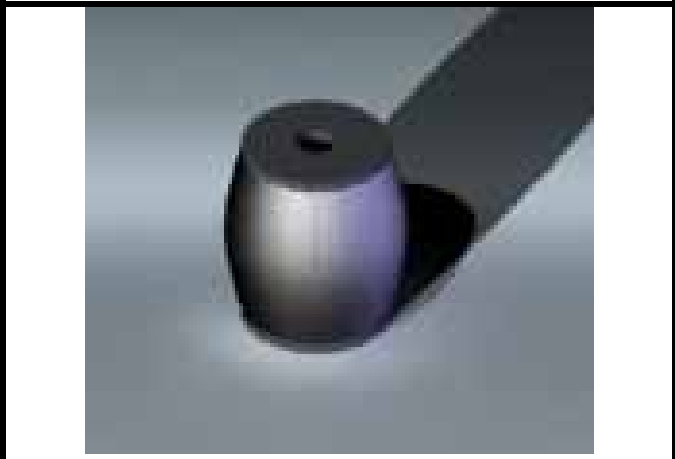
Servo Wheels
HHI1010B(blue), HHI1010G(GOLD)



60 SIZE SKID STOPS
HHI 200 AVAILABLE IN COLORS



SERVO ARM SET



HHI 2004B
LANDING GEAR DAMPENERS



**BASE LOAD ANTENNA
HHI 53****

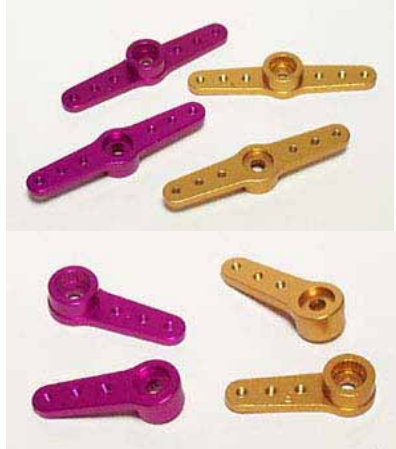
**AVAILABLE IN BLUE, GOLD, PURPLE
AND IN 40, 50, AND 72 MHz**



**3MM FLYBAR STIFFENERS
HHI 402**



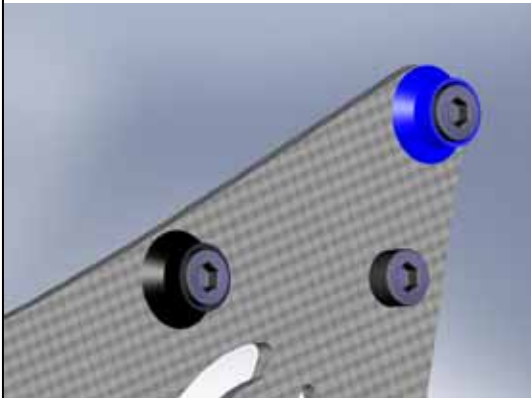
**60 SIZE SKID STOPS
HHI 200 AVAILABLE IN COLORS**



SERVO ARM SET



**LANDING GEAR DAMPENERS
HHI 2004**



FINISHING CAPS

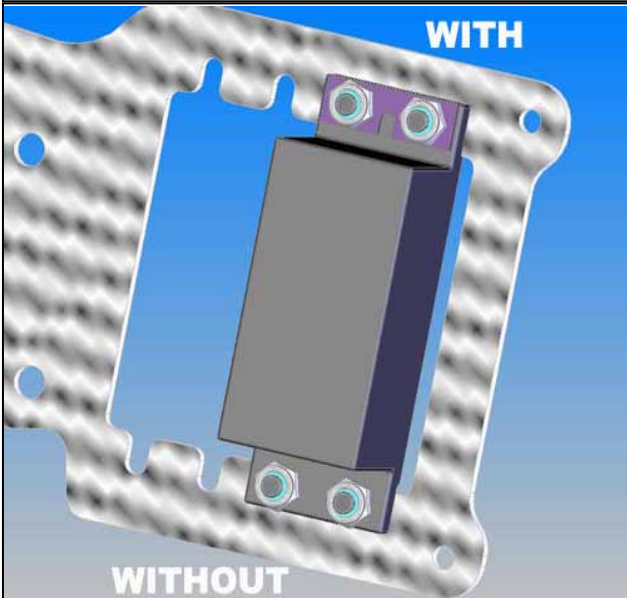
- Adds color and style
- Distributes force across larger surface area

3mm

4mm

(20 pcs in a package) (8 pcs in a package)

BLACK	HHIM11100B	HHIM11100
BLUE	HHIM11103	HHIM11108
GOLD	HHIM11101	HHIM11106
GREEN	HHIM11100G	---
PURPLE	HHIM11100	HHIM11105
RED	HHIM11100R	---
SILVER	HHIM11100	HHIM11107



SERVO FIXING PLATES

- Transmits force of fastener to plastic instead of rubber

HHI 1205 SERVO MOUNT KIT

- Includes hardware and fixing plates to mount 5 servos

OTHER REQUIREMENTS

Radios:

Any radio that supports EMS/CCPM Mixing will work fine. Hobbies & Helis & its distributors carry various lines of helicopter radios.

Note: Please consult the instruction for your Gyro for setting the overall travel and limits to ensure proper operation and travel of Tail Pitch Slider.

Servos:

Any sport servo will offer acceptable performance. However, because servos operate all critical functions of the helicopter, they can be the single most important component that contributes to proper function of the helicopter. Due to the nature of EMS collective, we suggest the use of digital servos to enhance and ensure matched servo timing without servo interaction.

Loctite Warning (CRITICAL):

This is a general warning about the use of Loctite and its importance. ***Loctite must be used anywhere that a metal fastener*** i.e. (M2, M3, M4 Cap Head Bolts, Set Screws etc.) ***is threaded into a metal part*** i.e. (Bearing Blocks, Cross-members, etc.). **Failure to use Loctite can result in loosening of critical operating components, loss of control of the model, and can lead to a crash.**

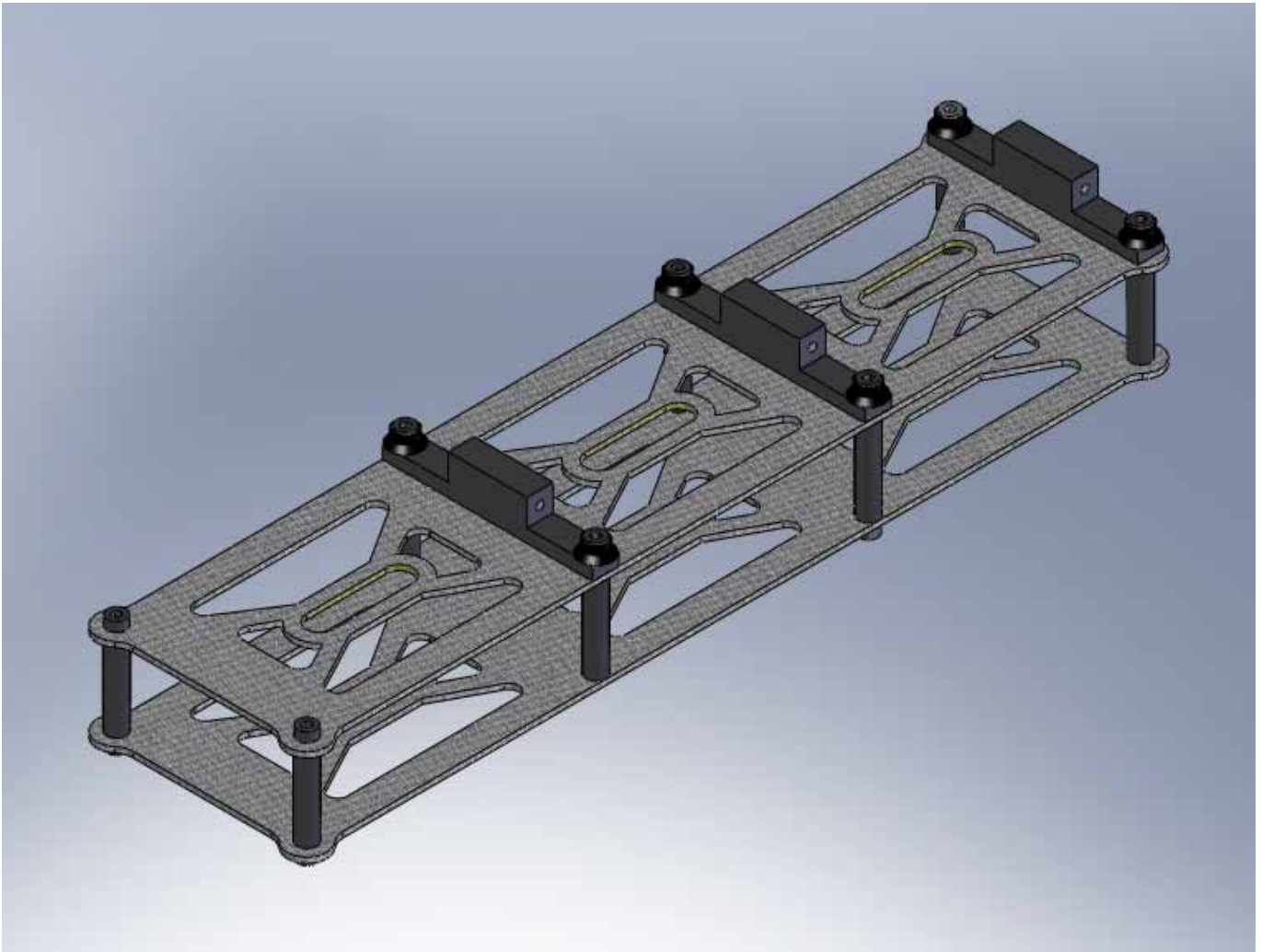
PART LIST

- In your kit, parts are bagged according to each major assembly and are labeled “Bag 1, Bag 2, etc.” You will note that the heading for each assembly indicates which bag correlates with each assembly.
- For a good installation, only open up the bag that you need for particular assembly.
- Please check the parts in that bag against the parts list shown for each assembly as well as each subassembly to make sure there are no missing parts.
- Small parts such as nuts and bolts can be put into containers or trays to prevent losing parts.
- Part No. with ***** means that part is not included in the kit.
- The colors of drawings in this manual may look different from the parts you have in the kit.

No.	Bag No.	Description	Quantity	Check
1	Box 1	Hardware	1	
2	Bag 2	Linkage	1	
3	Bag 3	Frames	1	
4	Bag 4	Control System	1	
5	Bag 5	Main Gear & Shaft	1	
6	Bag 6	Tail Transmission	1	
7	Bag 7	Head	1	
8	Bag 8	Tail Pulley Gear & Pitch Slider	1	
9	Bag 9	Tail Rotor	1	
10	Bag 10	Tail Plates & Pitch Lever	1	
11	Bag 11	Fins, Mount, & Push Rod Guide	1	
12	Bag 12	Landing Gear	1	
13	Loose in Box	Canopy	1	
		Carbon Push Rod	1	
		Tail Gear Belt	1	
		Tail Boom	1	
		Flybar	1	
		Decal Sheet	1	
		Instruction CD	1	

ASSEMBLY

SECTION 1: Lower Frame



Parts List

Step 1

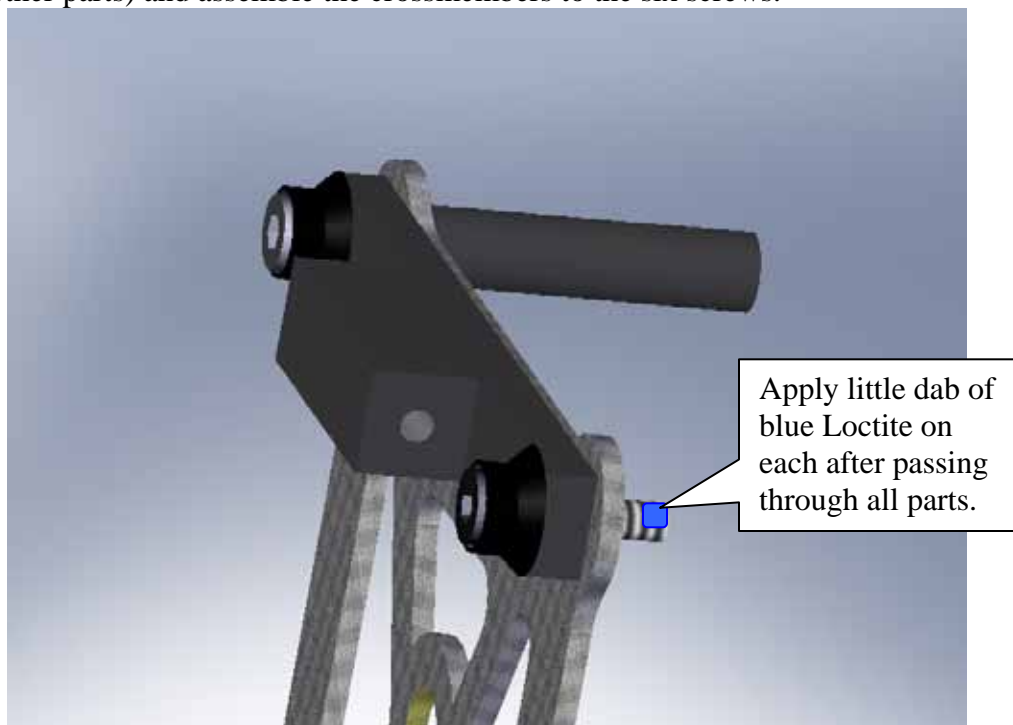
Lower Frame Assembly

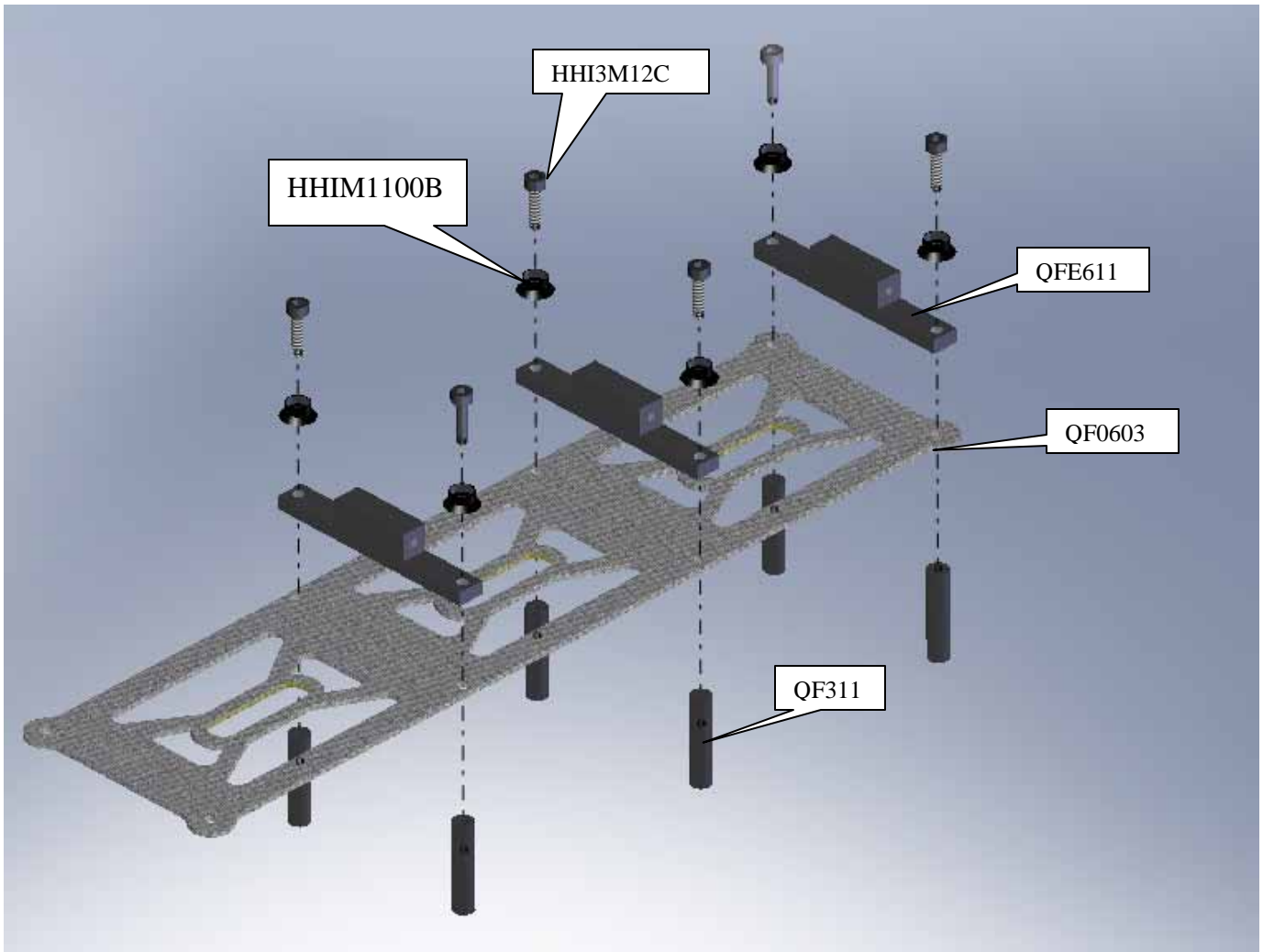
ITEM NO.	QTY.	Bag #	PART NO.	DESCRIPTION
1	2	Bag 1	QFE0603	lower frame
2	8	Bag 1	QF311	M3x6x26 CROSSMEMBER
3	3	Bag 1	QFE611	Upper to Lower Frame Mount
4	6	HB	HHI3M12C	DIN912-12 M3x12 SHCS
5	6	HB	HHI3M08C	DIN912-12 M3x8 SHCS
6 <u>Optional</u>	6	PK	HHIM1100B	3mm screw cap (black)

Prepare the work area. You will need your 3mm Allen screw driver and a bottle of blue Loctite. Be sure you remove any machine oil from the hardware so the Loctite will bond well with the materials to be fastened.

Note: If building with the raised tail effect skip to Step 4

Insert six 3 x 14mm screws through the upper to lower frame mounts and down through the lower frame piece. You can then apply a little dab of Loctite to each screw tip as shown below (without getting Loctite on the other parts) and assemble the crossmembers to the six screws.

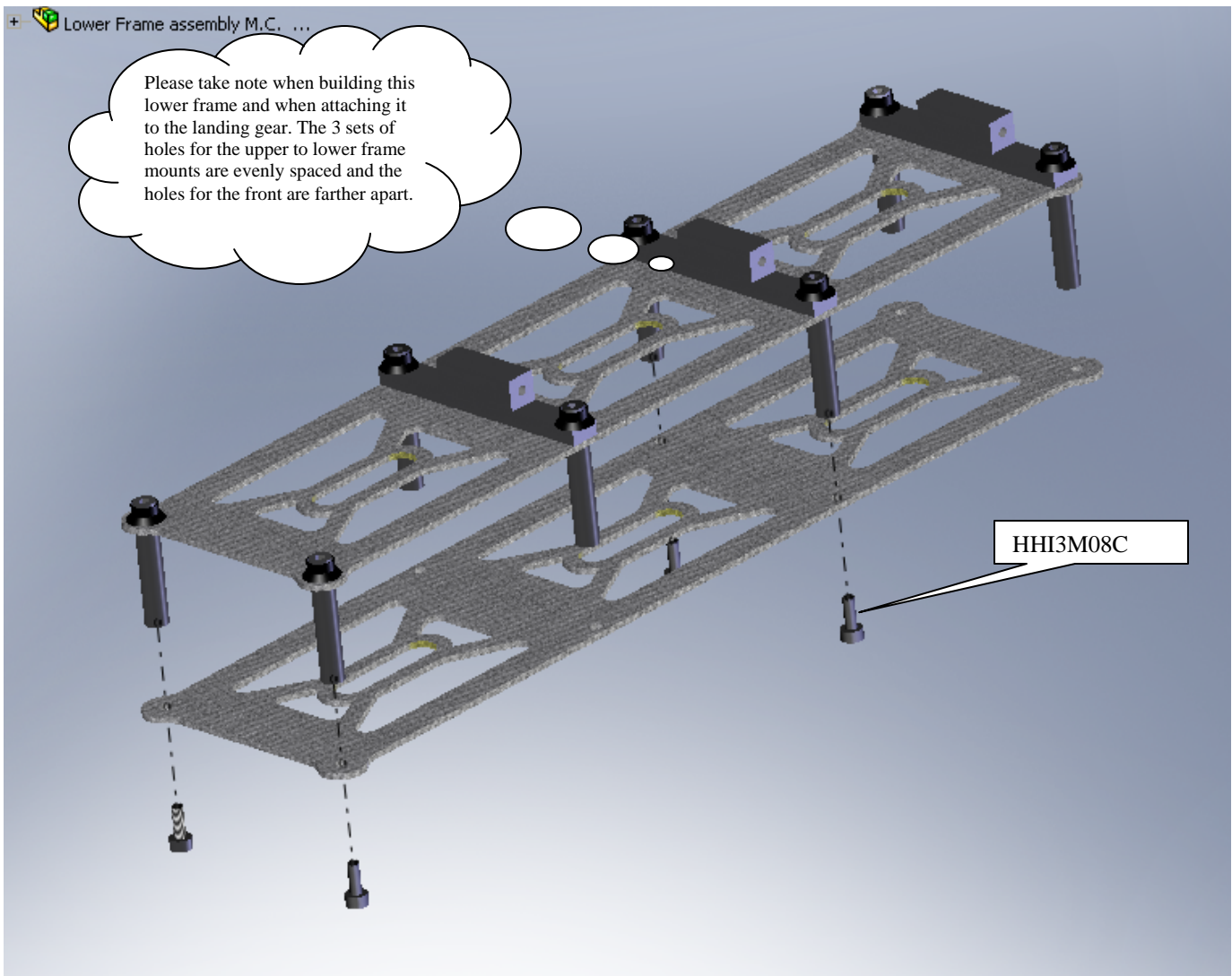




[Step 1 Lower Frame assembly .avi](#) Try this link to view the assembly animation.

Step 2

Assemble Bottom of Lower Frame to Assembly.

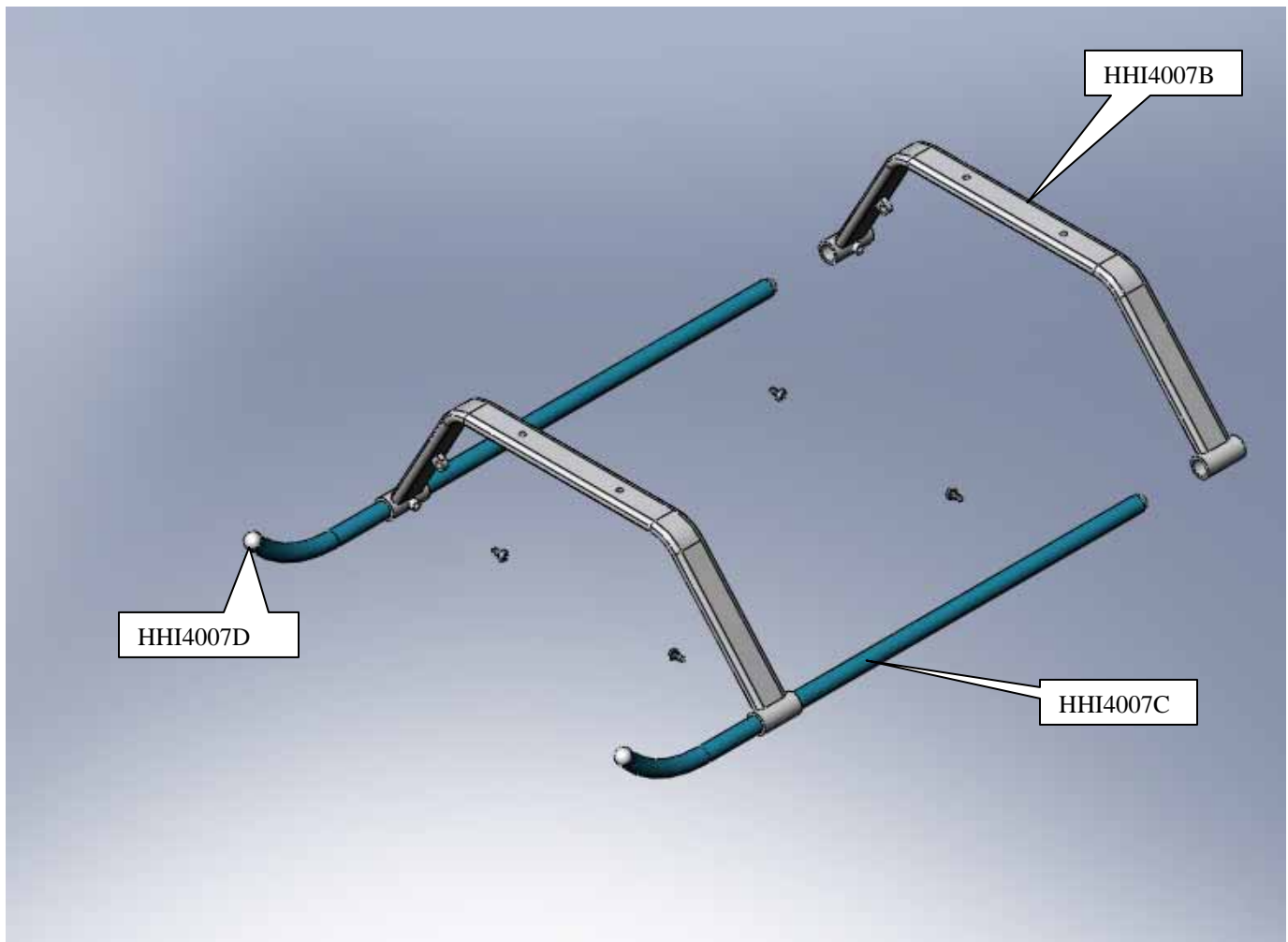


Parts List

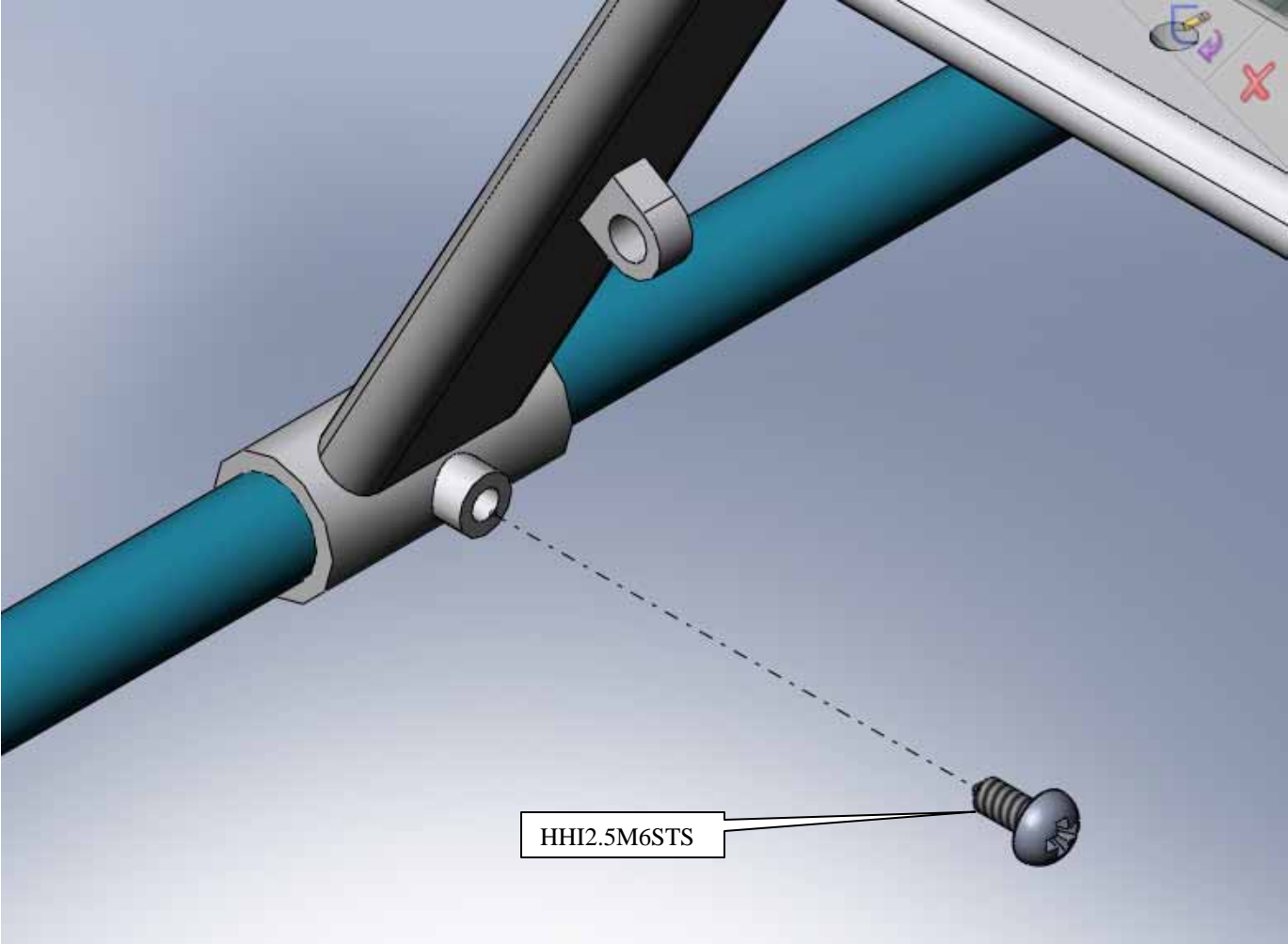
Step 3

Landing Gear Assembly

No.	Part No.	Description	Qty	No.	Part No.	Description	Qty
1	HHI4007B	Landing Gear Strut	2	5	****	CA Glue	1
2	HHI4007C	Landing Gear Skid	2	6	HHI3M16C	M3x16 Cap Head Bolt	4
3	HHI4007D	Landing Gear End Cap	4	7	HHI03MLN	M3 Locknut	4
4	HHI2.5M6STS	M2.5x6 Self Tapping Screws	4				



And here is a close up.



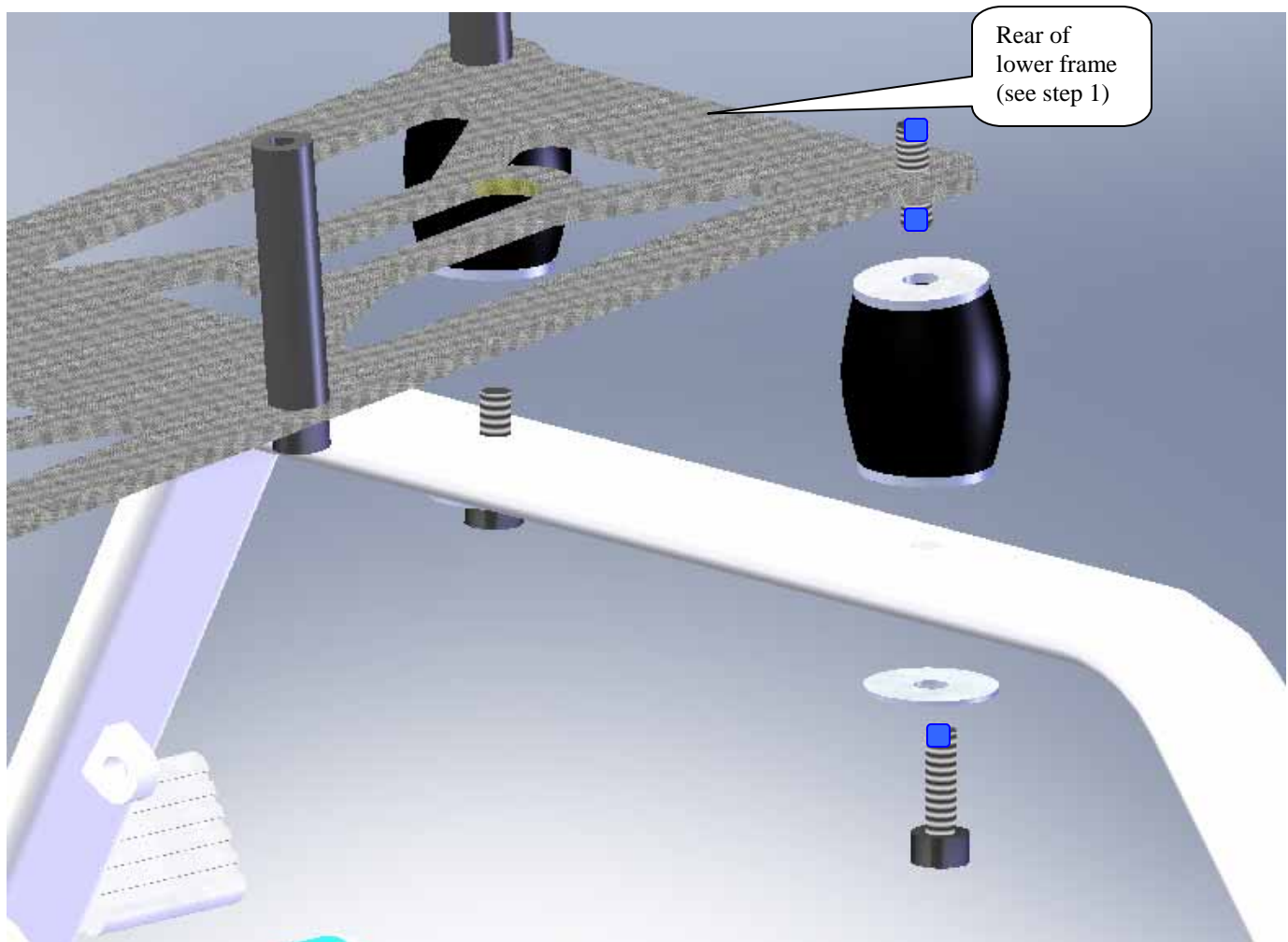
Step 4

Raised Tail

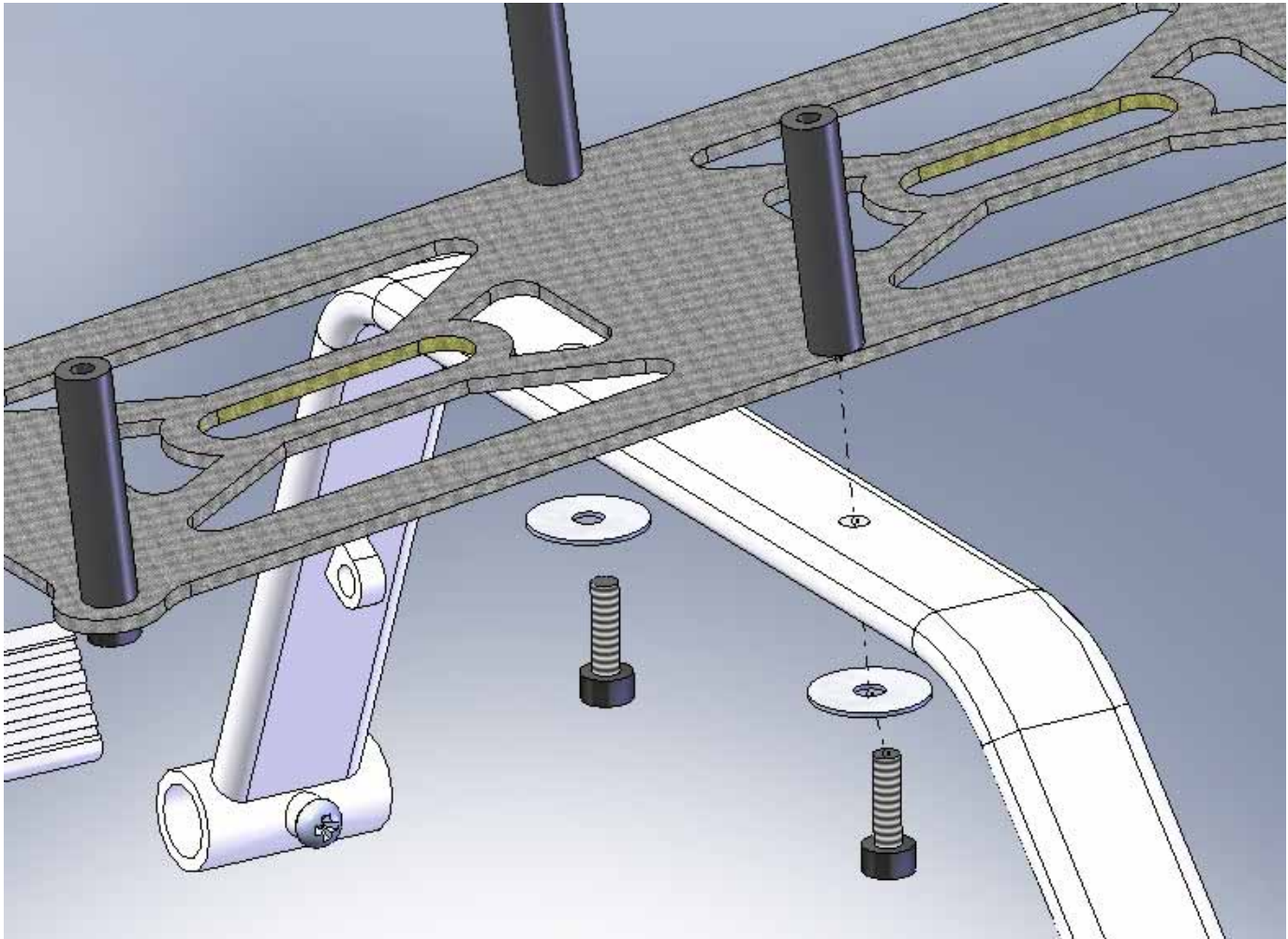
If you decided to build with 4 dampeners or no dampeners move on to step 0.

Begin now with the parts from Step 3 (Landing Gear) although you can build the Landing Gear first you will find the angles involved on the frame and struts will cause tension as you try to fasten the frame bottom to the struts. To make it easier attach the struts to the bottom frame piece as shown. The rear strut attached to the dampeners with 2 x 10 mm SHCS and a 3 x 13 flat washer for each. Then you use a 3 x 10mm set screw to attach each dampener up through the frame and to the crossmembers as shown below.

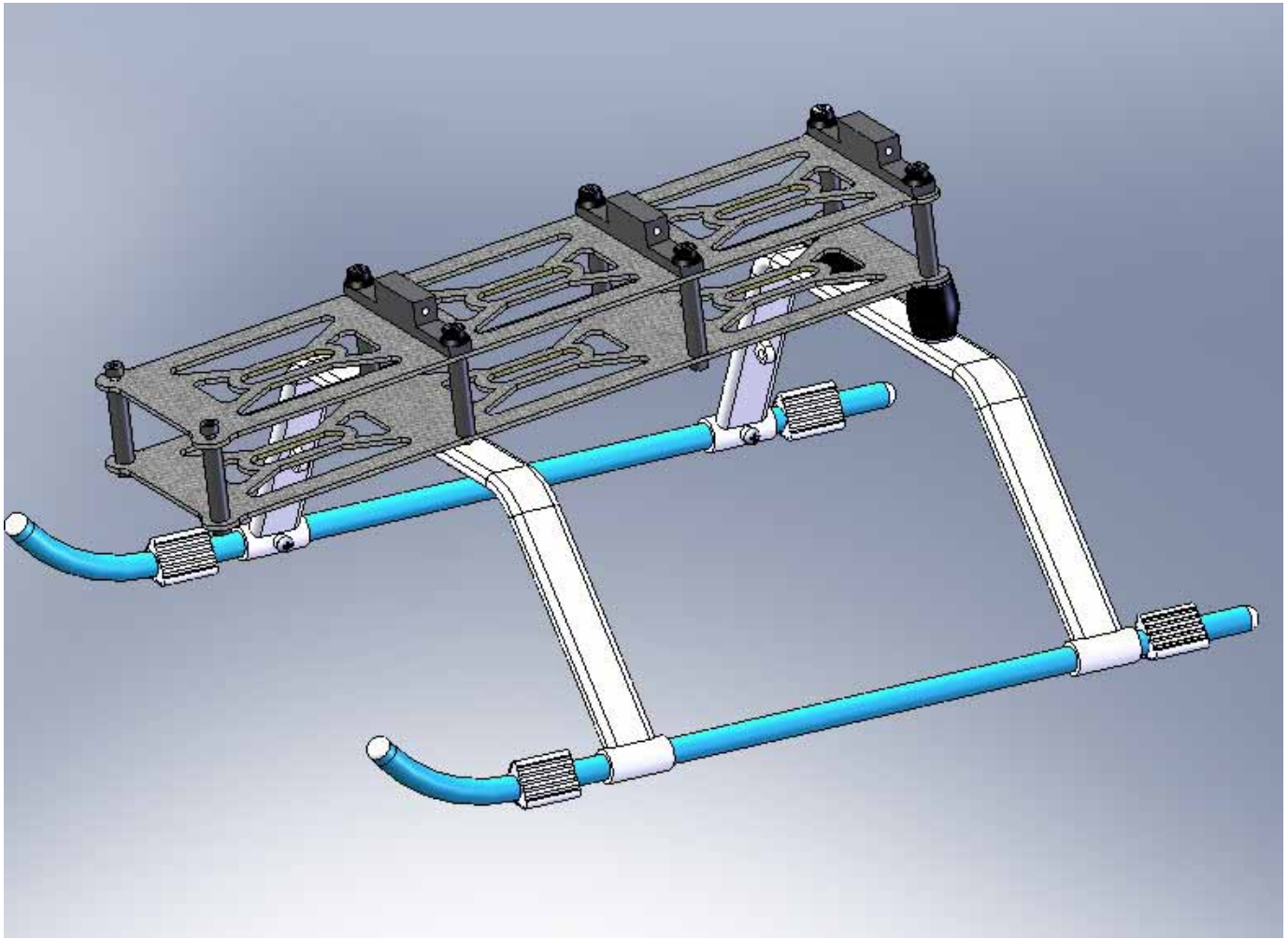
Remember the job will be much neater if you put the screw through all the parts except the last one before you apply the Loctite. See (Step 1).

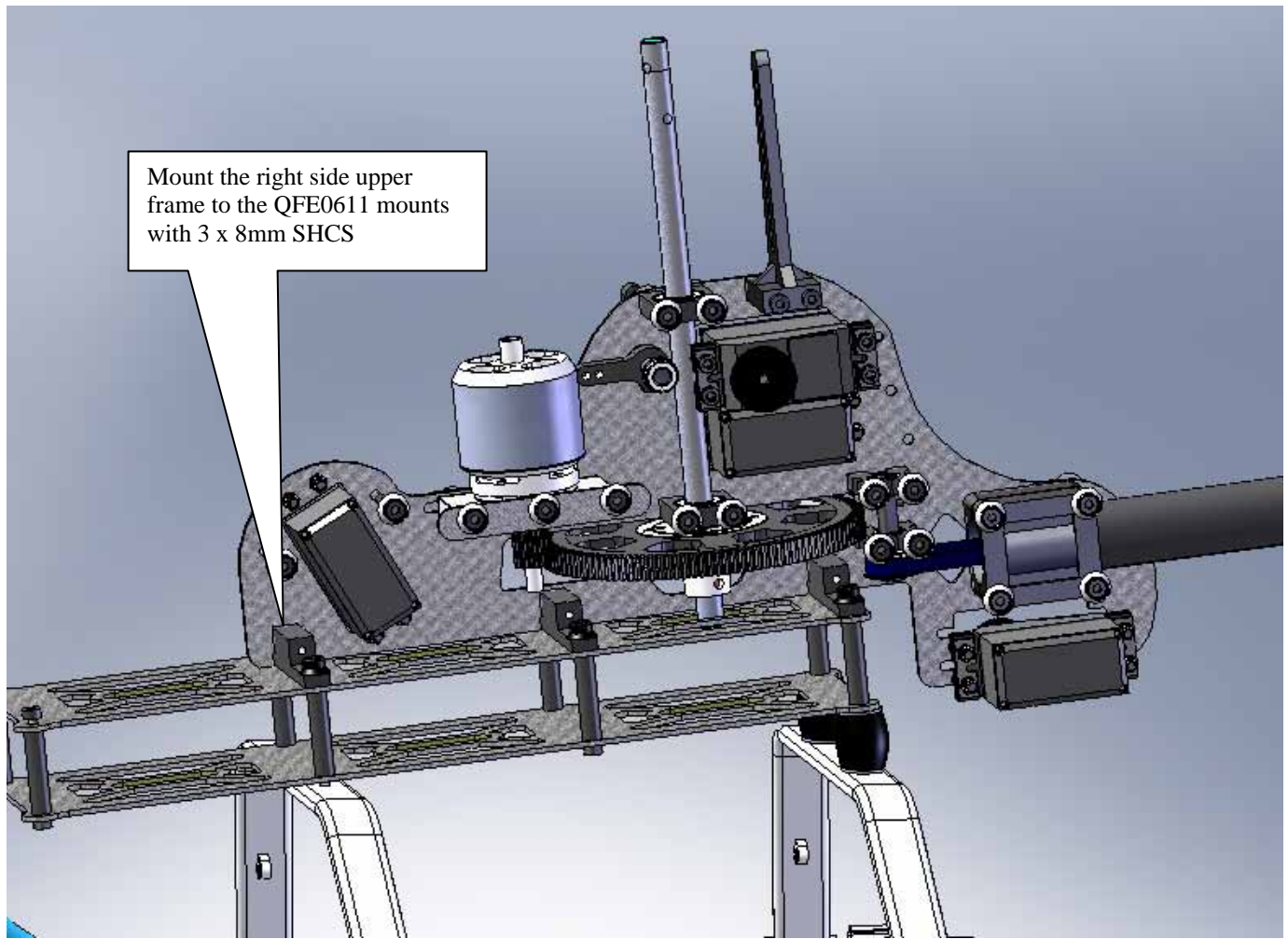


Continuing mount the front strut to the frame bottom with 2 x 12mm SHCS and the flat washers indicated earlier. Attaching the frame to the struts without the skids now will make it easier to build the lower frame and landing gear assemblies.

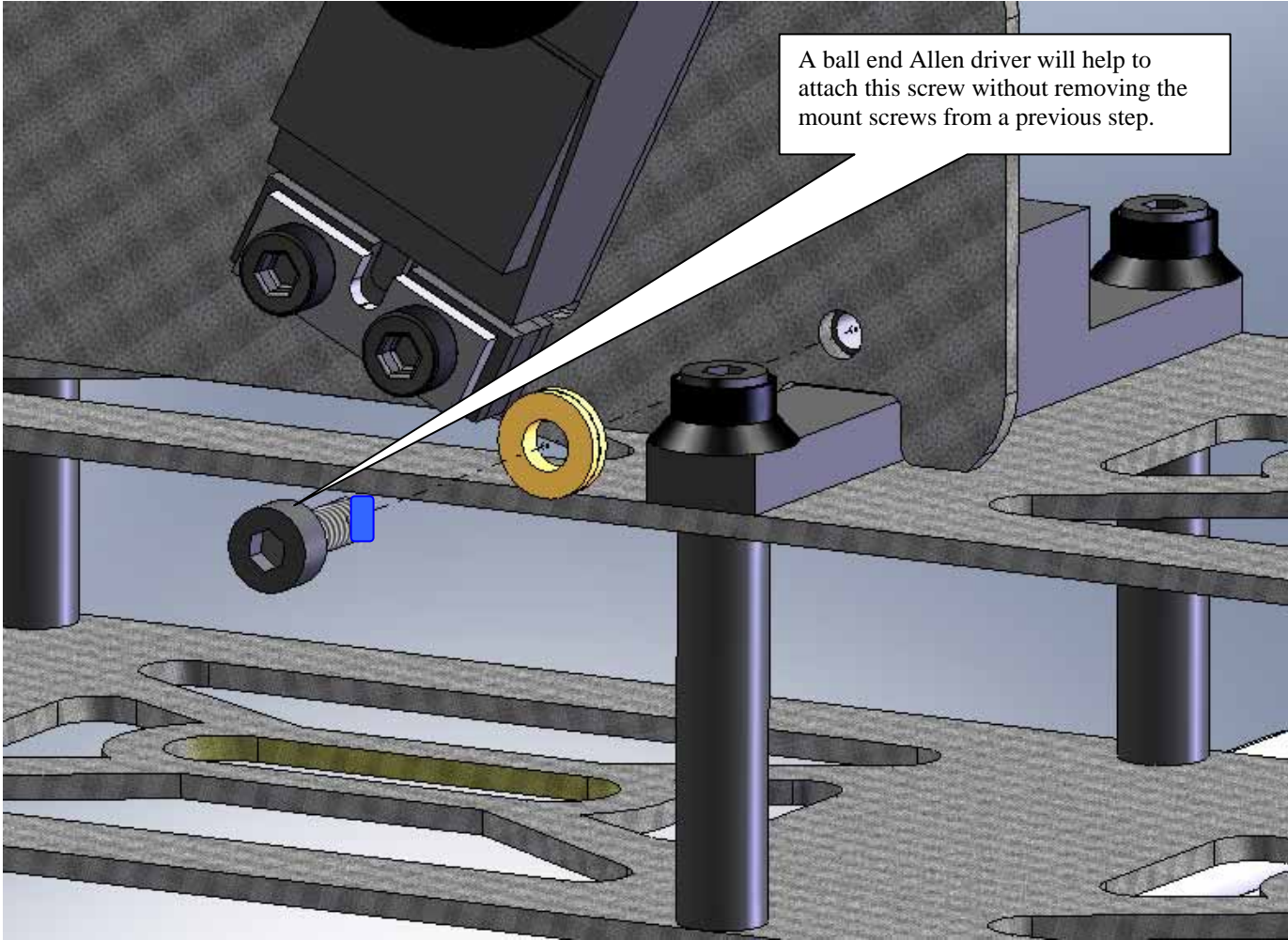


As you continue you can again refer to Step 1 for building the lower frame to complete these steps. When finished your helicopter should look as shown below.





From this side you can see a close-up of the upper to lower frame mounting method. We like to use Nord locks here as it distributes the locking force over a greater area of the frame and in 3D flying this area will get a lot of stress.

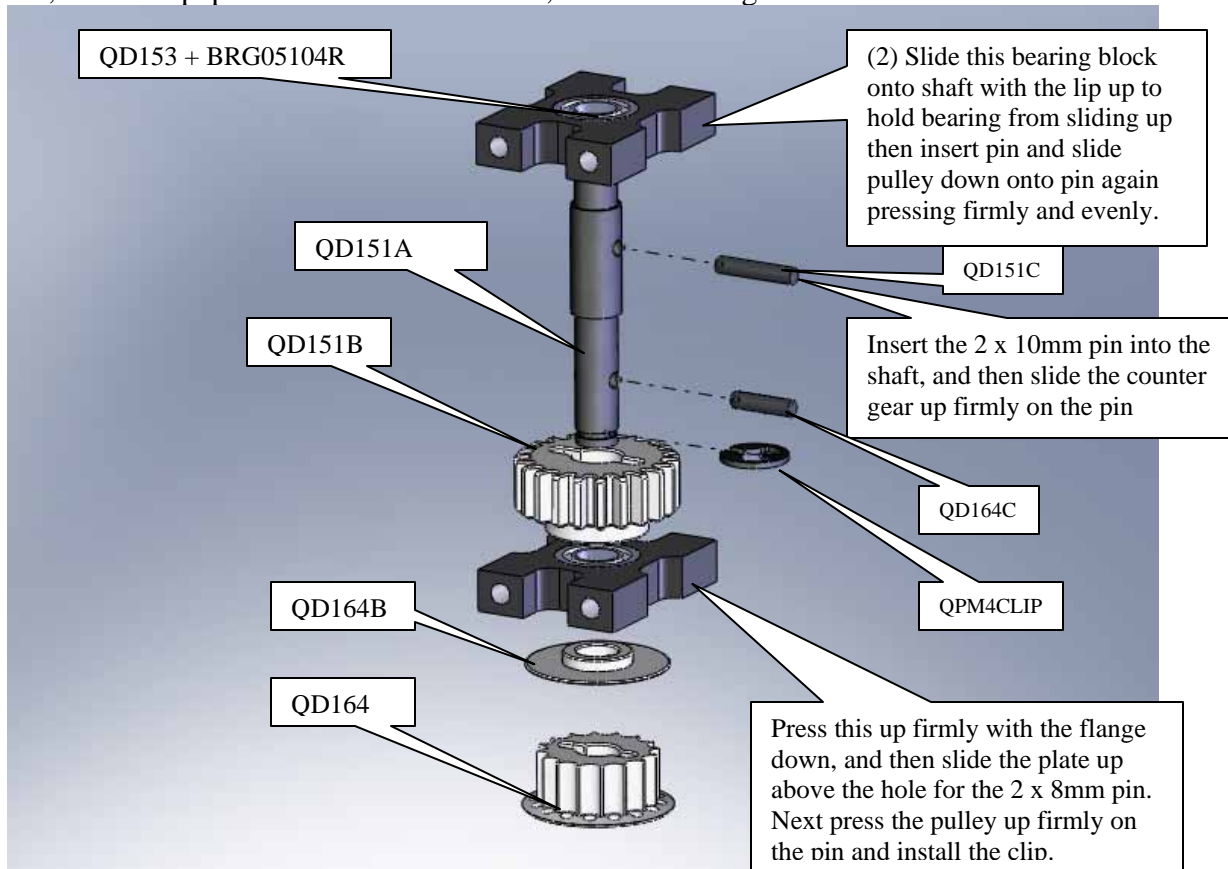


1-1 TAIL TRANSMISSION ASSEMBLY

Bag 6

No	Part No.	Description	Qty	
1	QD151B	Counter Gear	1	-Install Counter Gear to Counter Gear Shaft using Counter Gear Lock Pin (No. 3) and Washer to secure it. Apply JP Weld glue around the pin. -Put Counter Gear Bearing Block (Upper one) in with the Flange facing up -Install Counter Gear Bearing Block (Lower one) with the Flange facing up -Install Pulley Gear Plate (No. 6) -Insert Pulley Gear Lock Pin (No. 7). Apply JP Weld glue around the pin. -Install Pulley Gear and retain with M4 E-clip
2	QD151D	Counter Gear Shaft	1	
3	QD151C	M2x10 Counter Gear Lock Pin	1	
4	QPM4CLIP	M4 E-clip	1	
5	QD153	Counter Gear Bearing Block	2	
6	QD164B	Pulley Gear Plate	1	
7	QD164C	M2x8 Pulley Gear Block Pin	1	
8	QD164	Pulley Gear	1	
9	*****	JP Weld glue	1	

Counter Gear Shaft is designed to fit tightly in bearings on the Bearing Blocks. So before you do the following assembly, check to see if the shaft can go in the bearings or not. If not, use sand paper to sand it down a little, it will come right in.



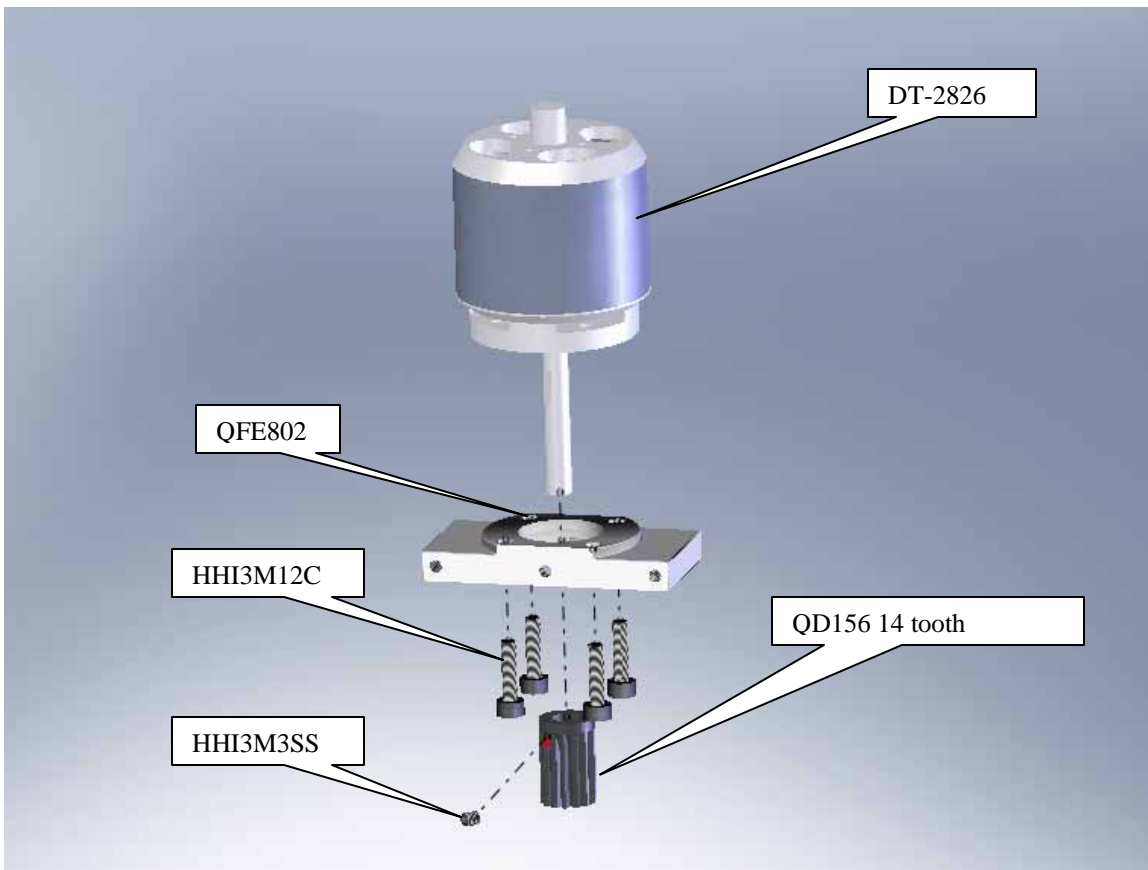
[Q8 tail transmission assembly.avi](#) Use this link to view animation.

1-2 MOTOR MOUNT ASSEMBLY

No.	Part No.	Description	Qty
1	*****	Motor	1
2	QDE802	Motor Mount (from Bag 3)	1
3	*****	Pinion Gear	1
4	*****	M3x5 Set Screw	1
5	HHI3M12C	M3x12 Cap Head Bolt (from Bag1)	4

*****Part No. with ***** means that part is not included in the kit.

Note: All the hardware such as Cap Head Bolts, Lock Nuts, etc. is in Bag 1. Whenever you see them on the list, find them in Bag 1. It is very important to use a Dial Indicator to check the run out of the Pinion Gear shaft. Most of the vibration problems come from this. The run out should be no more than 0.003 inch (0.08 mm.)

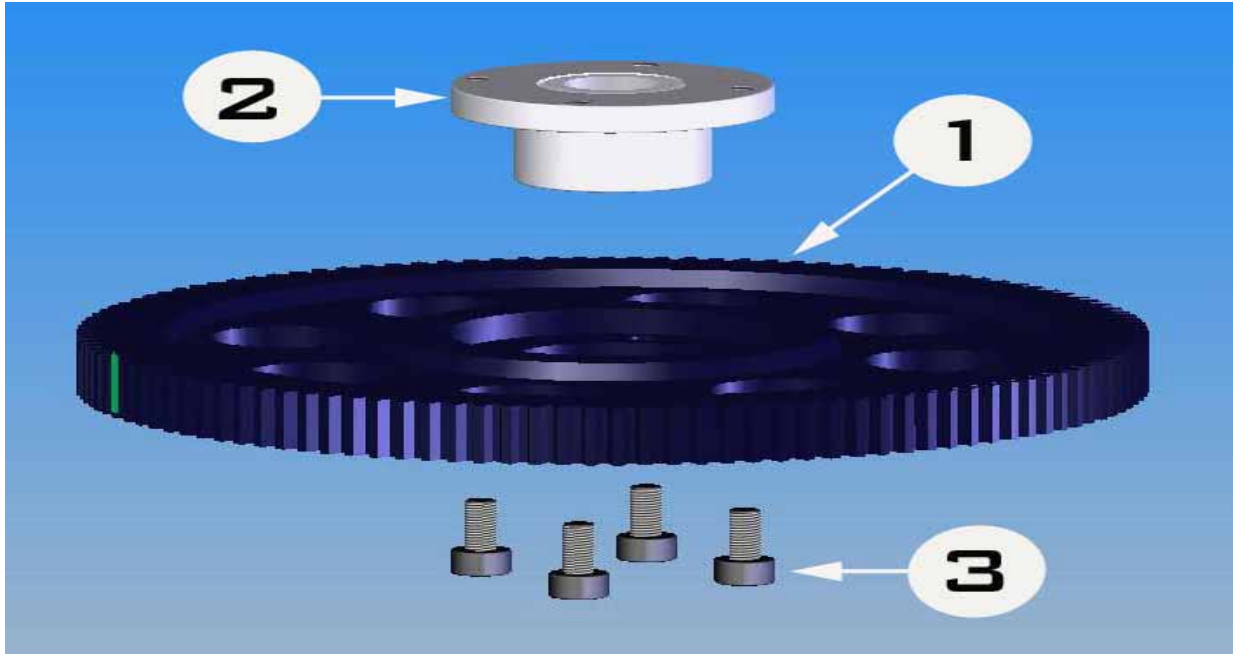


Note: Axi motor is shown. If you have *Quickpower Outrunner 2826/10*, you need only two M3x12 Cap Head Bolts (item # 5) to mount the motor. Use two holes on the motor mount that should be diagonal.

1-3 MAIN GEAR ASSEMBLY

Bag 5

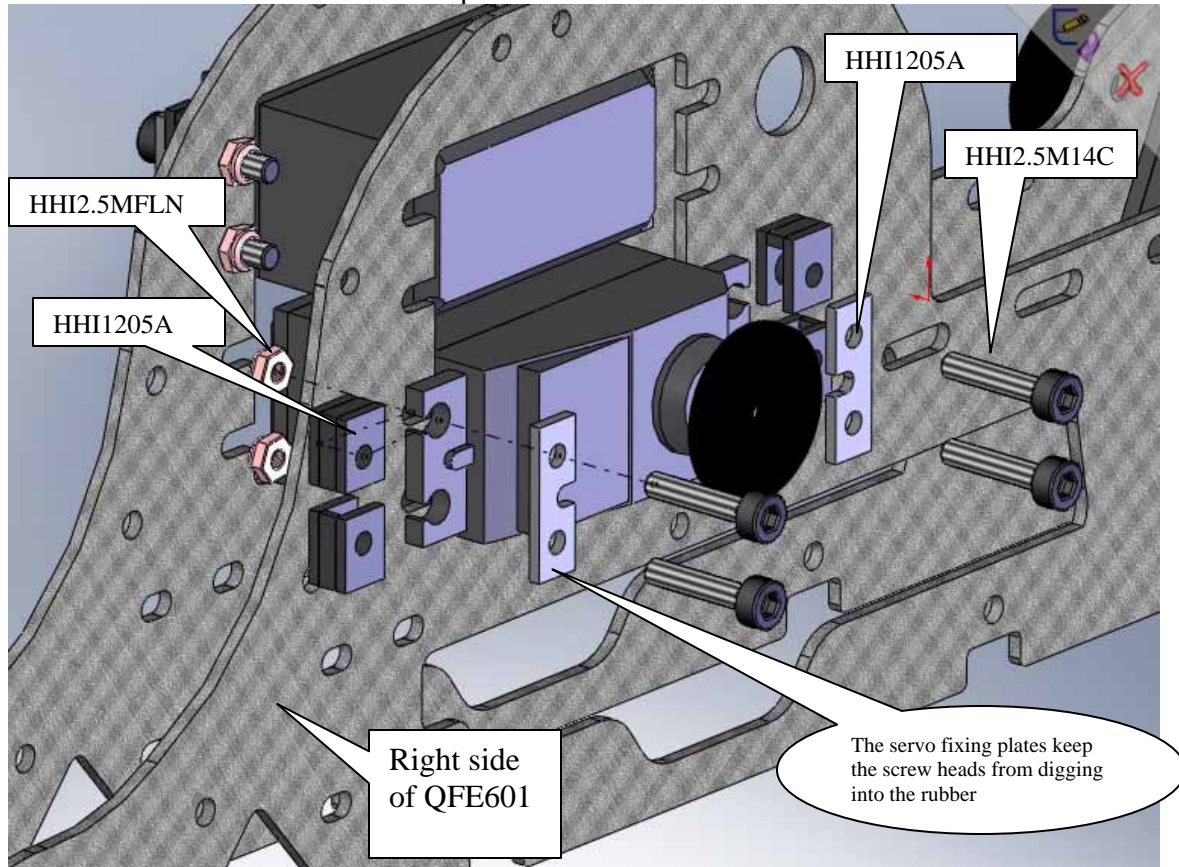
No.	Part No.	Description	Qty	*Sport version: QD154 Pro Version is shown
1	QD155	Main Gear	1	
2	QD158*	Main Gear Hub	1	
3	HHI3M6C	M3x 6 Cap Head Bolt	4	



1-4 RIGHT AILERON, PITCH, AND RUDDER SERVOS ASSEMBLY

No.	Part No.	Description	Qty
1	QFE801C*	Frame (from Bag 3)	1
2	****	Servo	3
3	HHI2.5M14	M2.5x14 Cap Head Bolt	12
4	HHI2.5MLN	M2.5 Locknut	12

*Sport version: QFE801

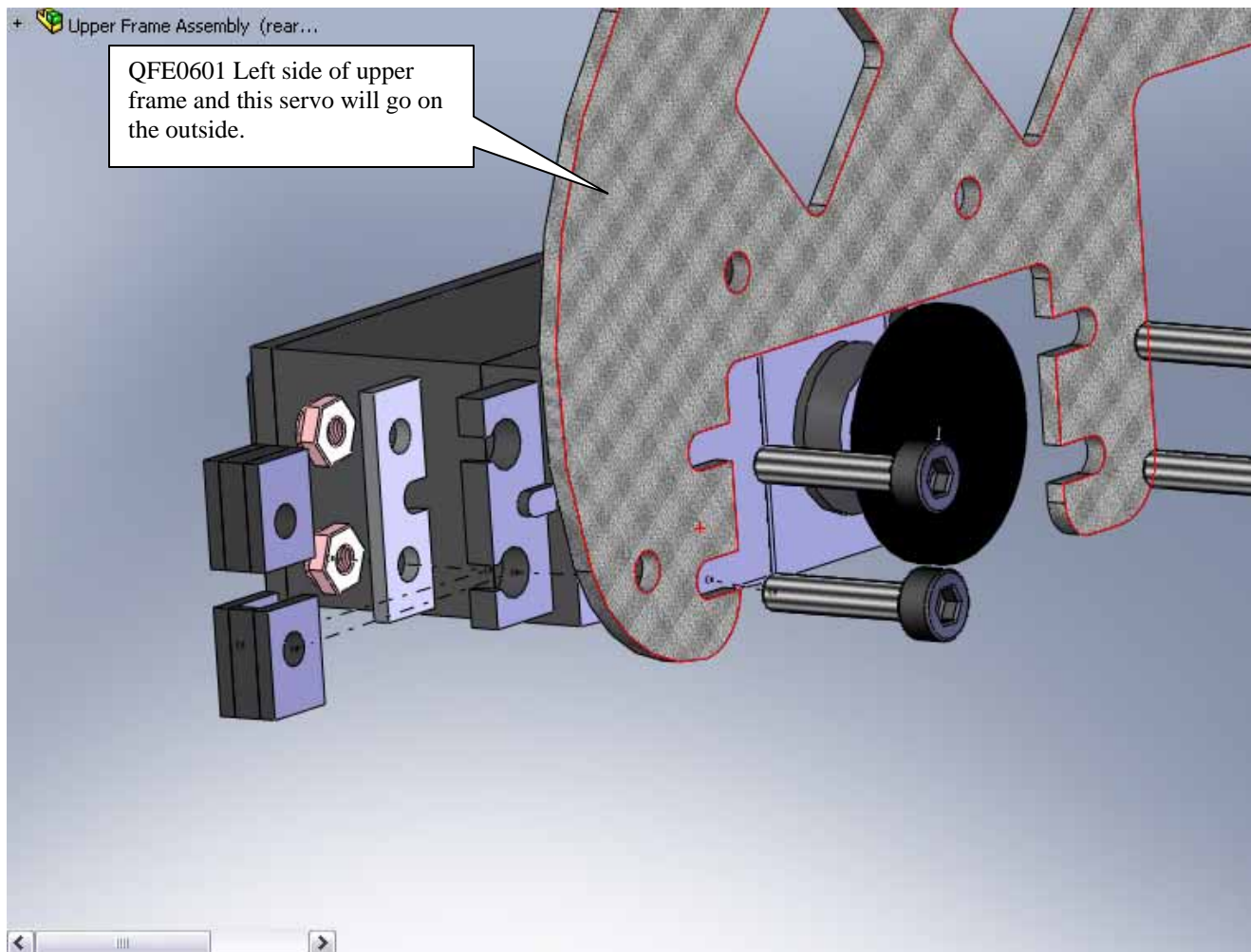


Note: If the servos come with anti-vibrating rubber, insert them on the servos first. We recommend using the servo fixing plates to protect and get the best performance from the servos. Please see “*Hardware & Optional Accessories*” for more details.

1-5 LEFTAILERON SERVO ASSEMBLY

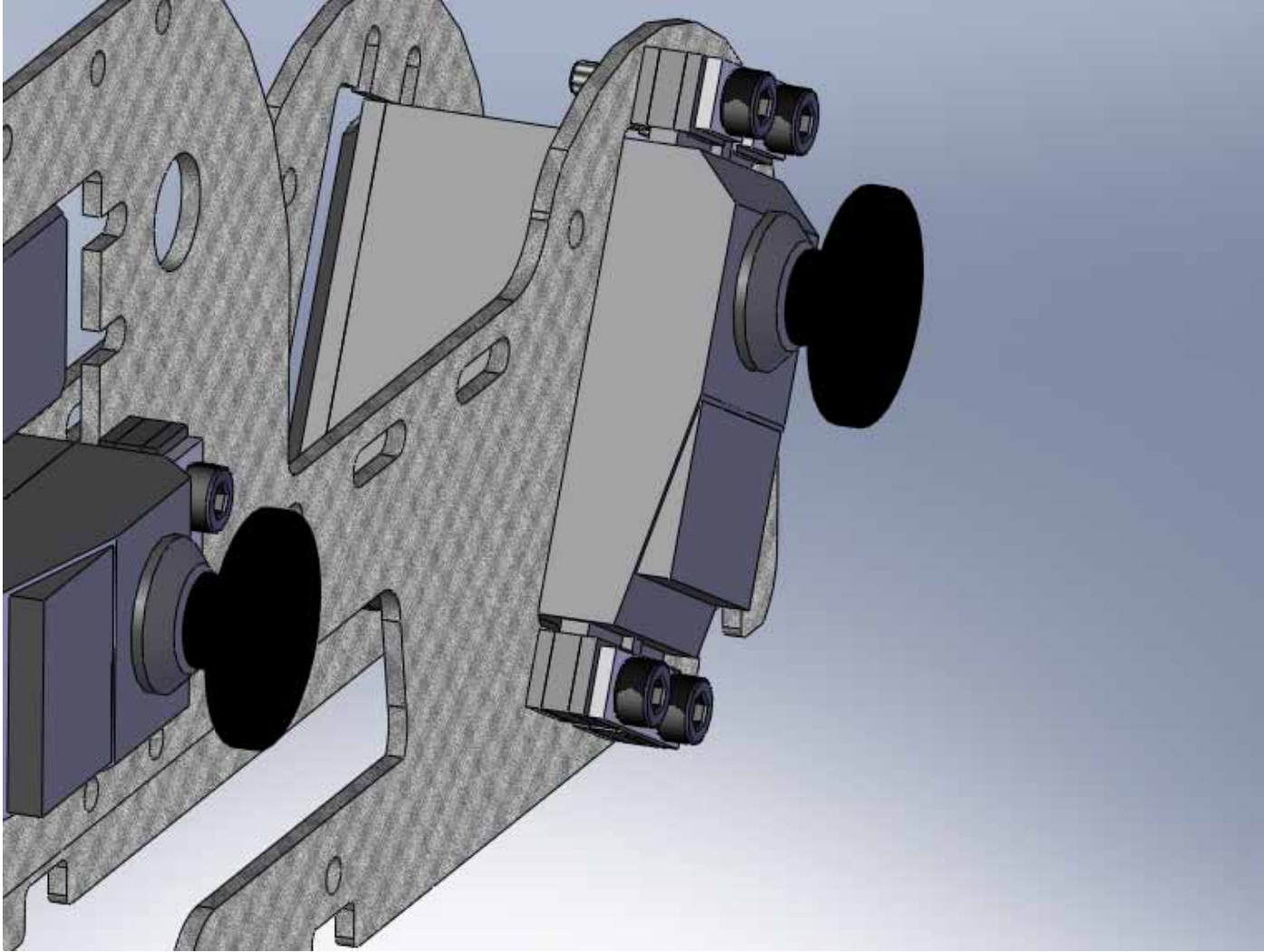
No.	Part No.	Description	Qty
1	QFE801C*	Frame (from Bag 3)	1
2	****	Servo	3
3	HHI2.5M14	M2.5x14 Cap Head Bolt	4
4	HHI2.5MLN	M2.5 Locknut	4

*Sport version: QFE801



Note: If the servos come with anti-vibrating rubber, insert them on the servos first. We recommend using the servo fixing plates to protect and get the best performance from the servos. Please see “*Hardware & Optional Accessories*” for more details.

The front servo will attach the same as the right Aileron and look like this when finished.



1-6 Right SIDE ASSEMBLY

No.	Part No.	Description	Qty	No.	Part No.	Description	Qty
1	QF158	Anti-rotation Guide (Bag 3)	1	14	QFE806	Landing Gear Support (Bag 12)	2
2	HHI3M14C	M3x14 Cap Head Bolt	4	15	QT161	Boom Holder Half (Bag 3)	2
3	QT305	M3x6x5 Spacer (Bag 3)	4	16	HHI3M35C	M3x35 Cap Head Bolt	10
4	QFE0612	Motor Frame Doublers (Bag 3)	2	17	HHI3M06C	M3x6 Cap Head Bolt	1
5	HHI3MLN	M3 Locknut	3	18	HHI3M07FW	M3x7 Flat Washer	7
6	1-3	Main Gear Assembly	1	19	QD158A*	Main Shaft (Bag 5)	1
7	QF110	M3x6x24 Cross Member	8	20	QD157	Upper Main Shaft Collar (Bag 5)	1
8	HHI3M08C	M3x8 Cap Head Bolt	18	21	HHI3M05SS	M3x5 Set Screw	4
9	1-5	Frame Assembly from step 1-5	1	22	HHI3M18C	M3x18 Cap Head Bolt	1
10	1-1	Tail Transmission Assembly	1	23	QD158C**	Lower Main Shaft Collar (Bag 5)	1
11	1-2	Motor Mount Assembly	1	24	QD158B**	Main Shaft Sleeve (Bag 5)	1
12	QD183	Main Shaft Bearing Block (Bag 5)	2	25	QFE810	M3x6x24 Half Round Cross Member	2
13	QFE184C*	Receiver Plate (Bag 3)	1	26	HHI3M06F	M3x6 Flat Head Bolt	2

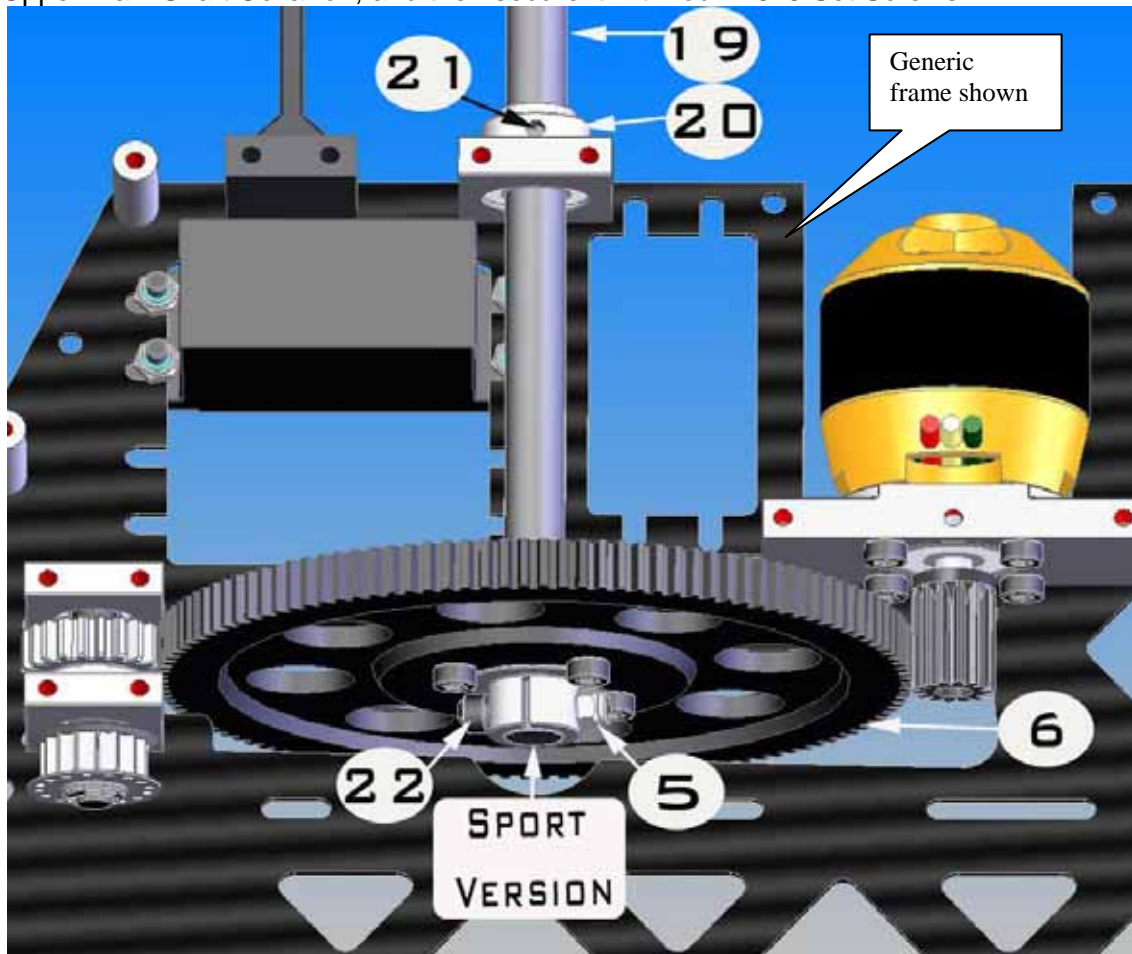
*Sport version: QFE184, QD156

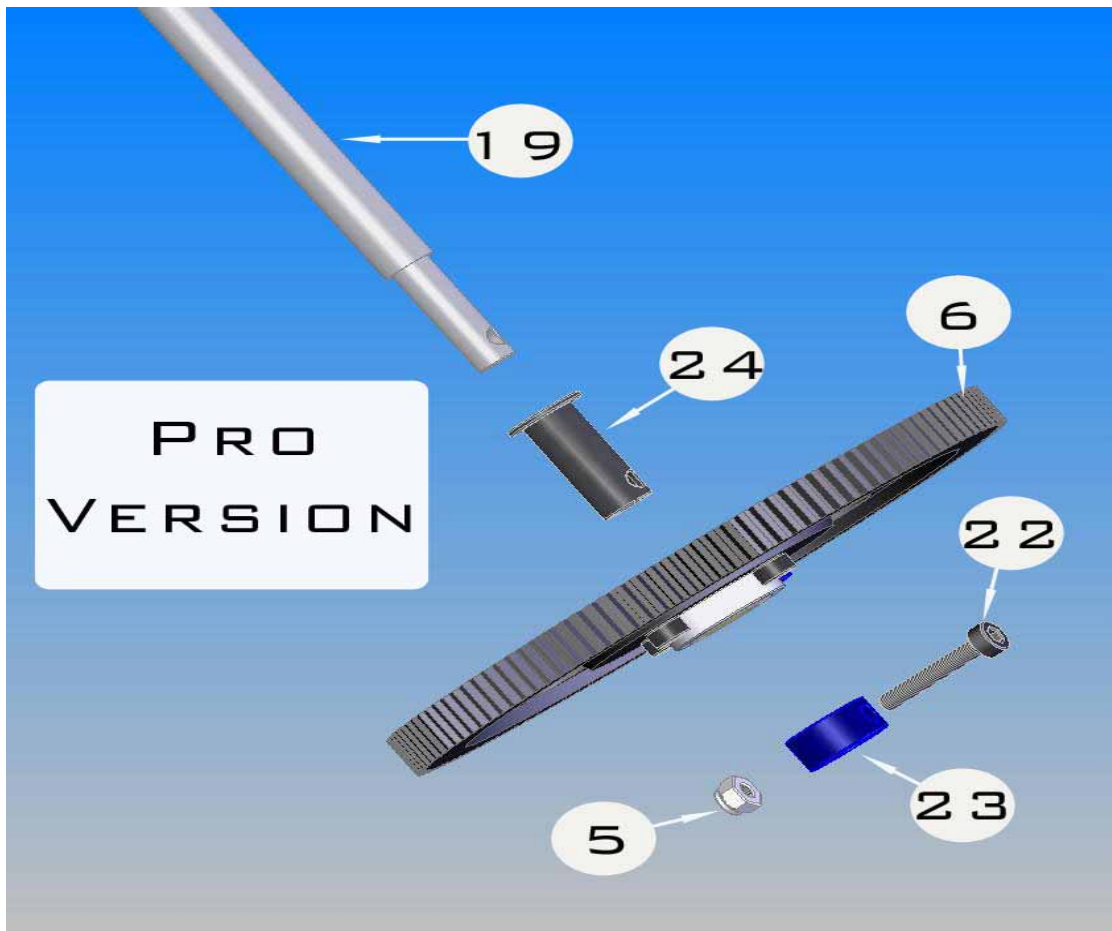
** Sport version does not have this part

- The Flanges of Main Shaft Bearing Blocks face each other.



- Slide the Main Gear Assembly in, insert the Main Shaft through the Main Shaft Bearing Blocks. Then secure the Gear with one M3x18 Cap Head Bolt and one M3 Locknut. For Pro version, put the Lower Main Shaft Collar first before securing it.
- Put the Upper Main Shaft Collar on, and then secure it with four M3x5 Set Screws.

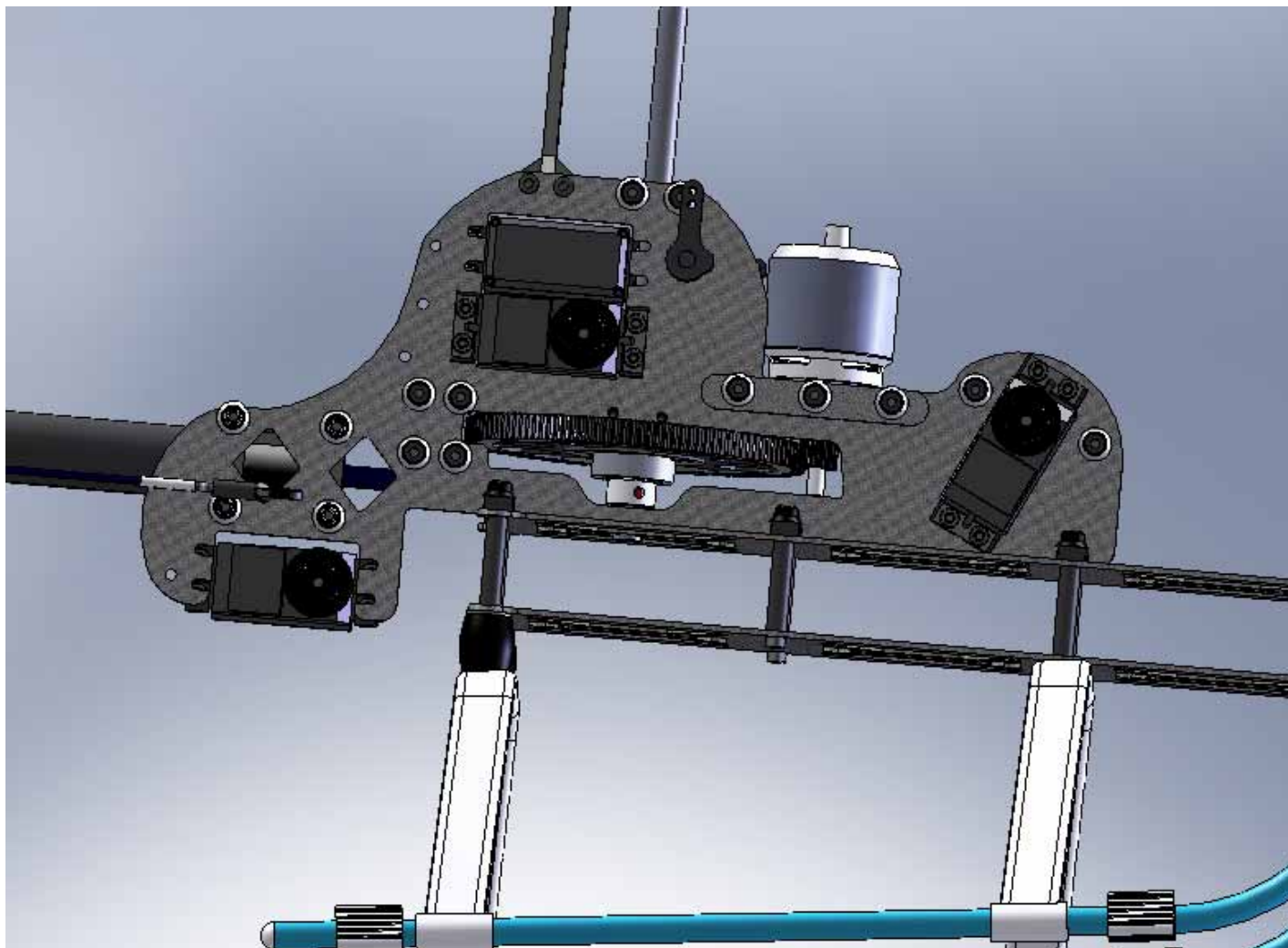




- Repeat this doubler installation step for the Right Side.

1-7 FRAME INSTALLATION

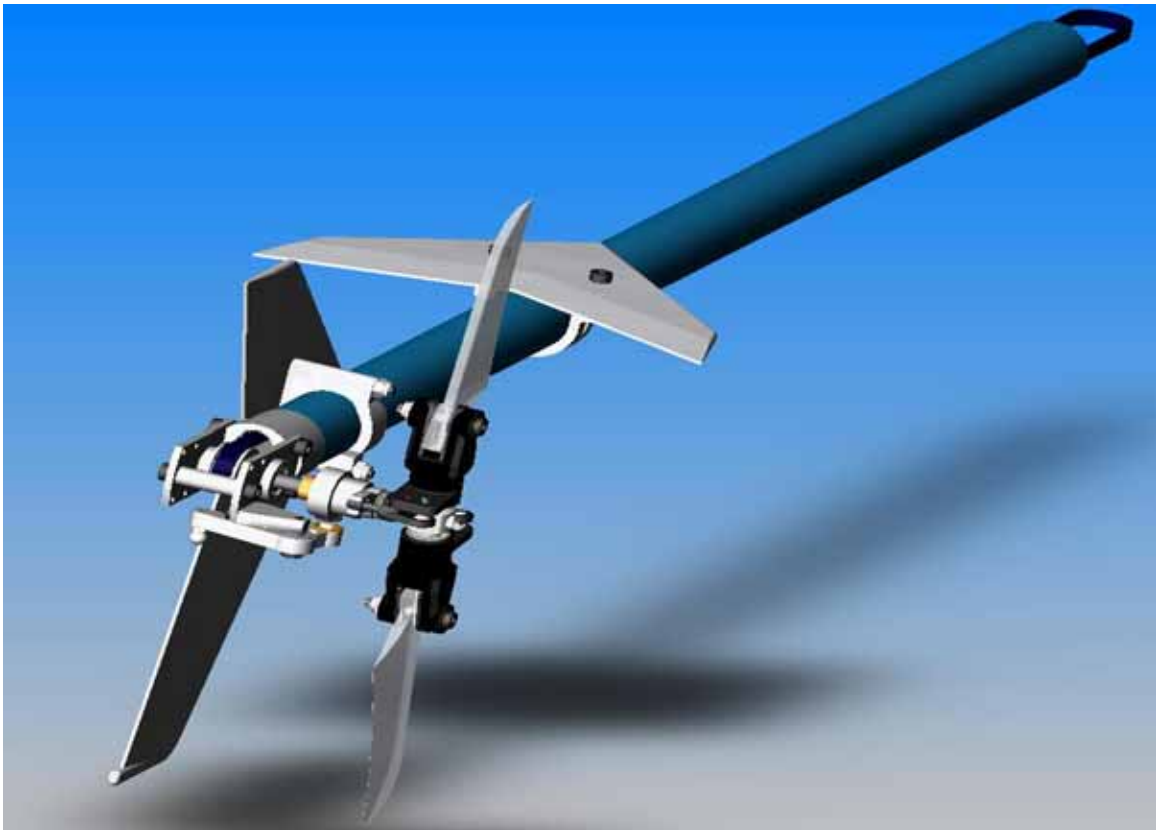
No.	Part No.	Description	Qty	Attach the Left Side Assembly and the Right Side Assembly together; secure them with Cap Head Bolts and Locknuts. Don't tighten four nuts at Tail Boom Holder Halves to tight since you are going to install the Tail later.
1	1-6	Left Side Assembly	1	
2	1-4	Right Side Assembly	1	
3	HHI3M06C	M3x6 Cap Head Bolt	1	
4	HHI3M08C	M3x8 Cap Head Bolt	18	
5	HHI3MLN	M3 Locknut	10	
6	HHI3M07FW	M3x7 Flat Washer	7	



Adjust the Tail Transmission and Motor Mount to get proper gear matches. Trick: fold a piece of tablet paper of 20x100mm (1x4 inch) along a long side and then insert it between the gears. Bring the gears together. Tighten the screws on the Tail Transmission/Motor Mount up and take the piece of paper off.



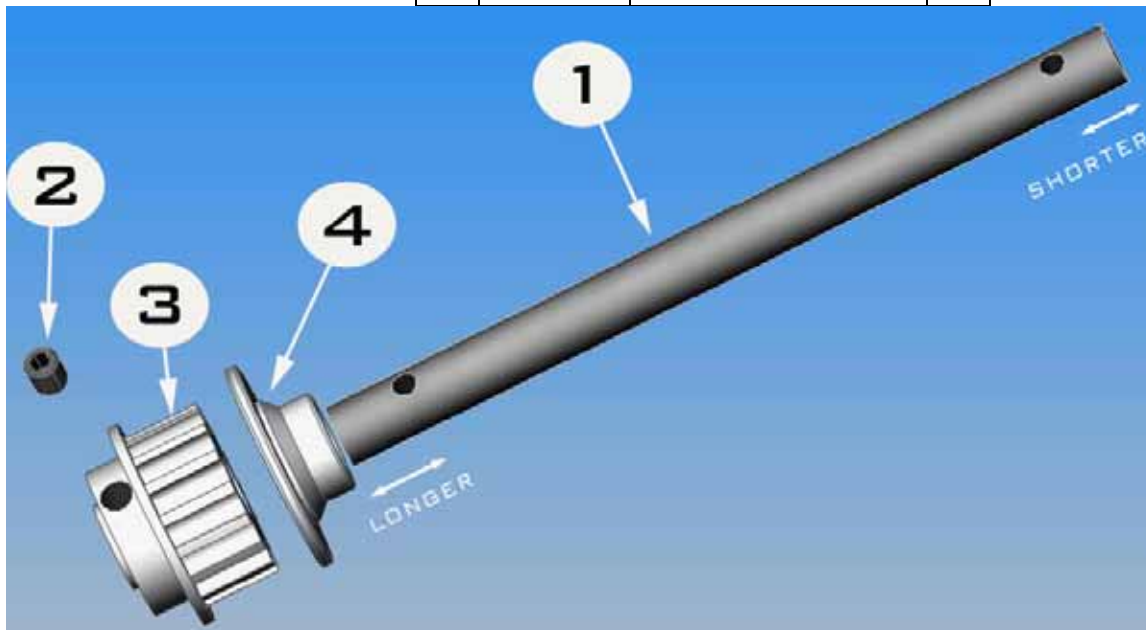
SECTION 2: TAIL ASSEMBLY



2-1 TAIL PULLEY GEAR SUBASSEMBLY

Bag 8

No.	Part No.	Description	Qty
1	QT157	Tail Output Shaft	1
2	HHI3M05SS	M3x5 Set Screw	1
3	QT163A	Tail Pulley Gear	1
4	QT163B	Tail Gear Side Plate	1

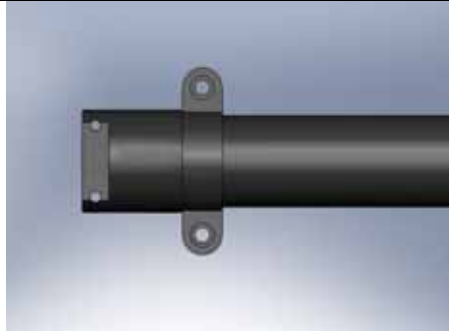


2-2 TAIL ROTOR SUBASSEMBLY

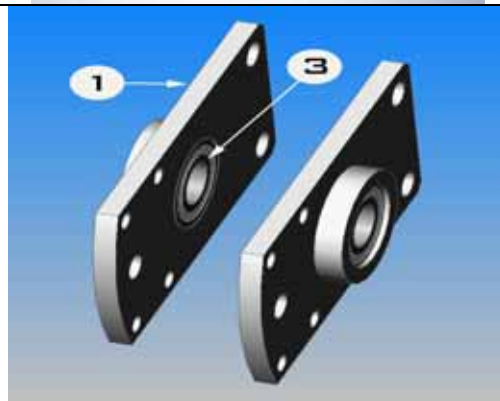
Bag 8, 10

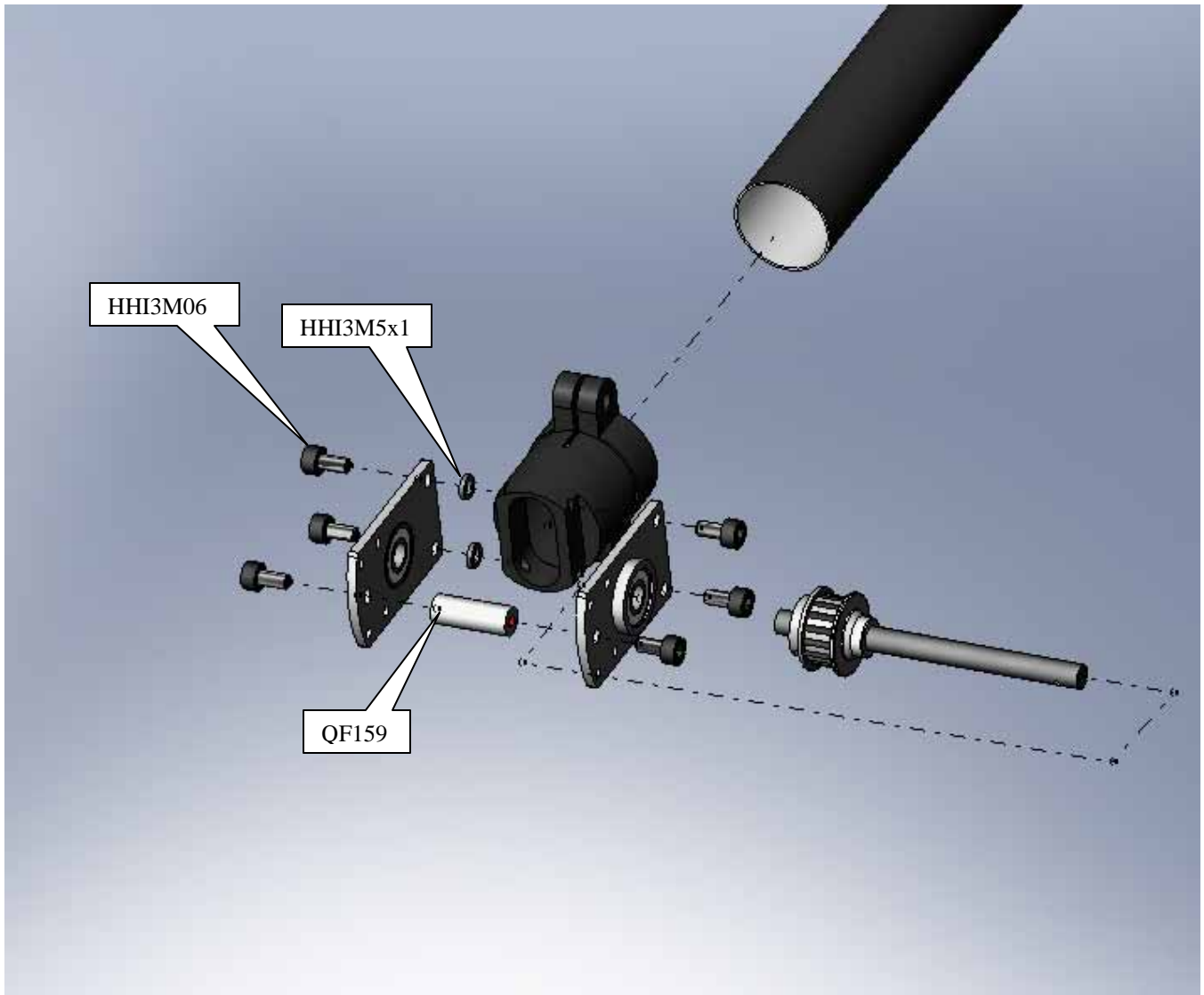
No.	Part No.	Description	Qty	No.	Part No.	Description	Qty
1	QT103	Tail Case Side Plate	2	10	QP150B	M2.3 Medium Ball Link(Bag 2)	2
2	QT151A	Tail Pitch Lever Mount	1	11	QT350	Tail Pitch Slider	1
3	BRG05114R	5X11X4 Bearing	2	12	QD351	Tail Pitch Control Lever	1
4	HHI2M06P	M2x6 Phillip Screw	2	13	HHI3M5X1	M3x5x1 Spacer	4
5	QT154	Tail Boom (in Box)	1	14	HHI3M16C	M3x16 Cap Head Bolt	1
6	QT155	Timing Belt (in Box)	1	15	HHI03MLN	M3 Locknut	1
7	HHI3M6C	M3x6 Cap Head Bolt	6	16	2-1	Tail Pulley Gear Subassy.	1
8	QT159	Tail Case Cross Member	1	17	HHI2.5M06C	M2.5x6 Cap Head Bolt	1
9	HHI3M4PS	M3x4 Pivot Ball Stud	2	18	HHI3M7FW	M3x7 Flat Washer	1

Optionally, to prevent the Boom End from rotating, drill a 2.3mm hole in the side of the Boom End, then secure with an M2.5x6 Cap Head Bolt. We have not had issues of this split end boom rotating.



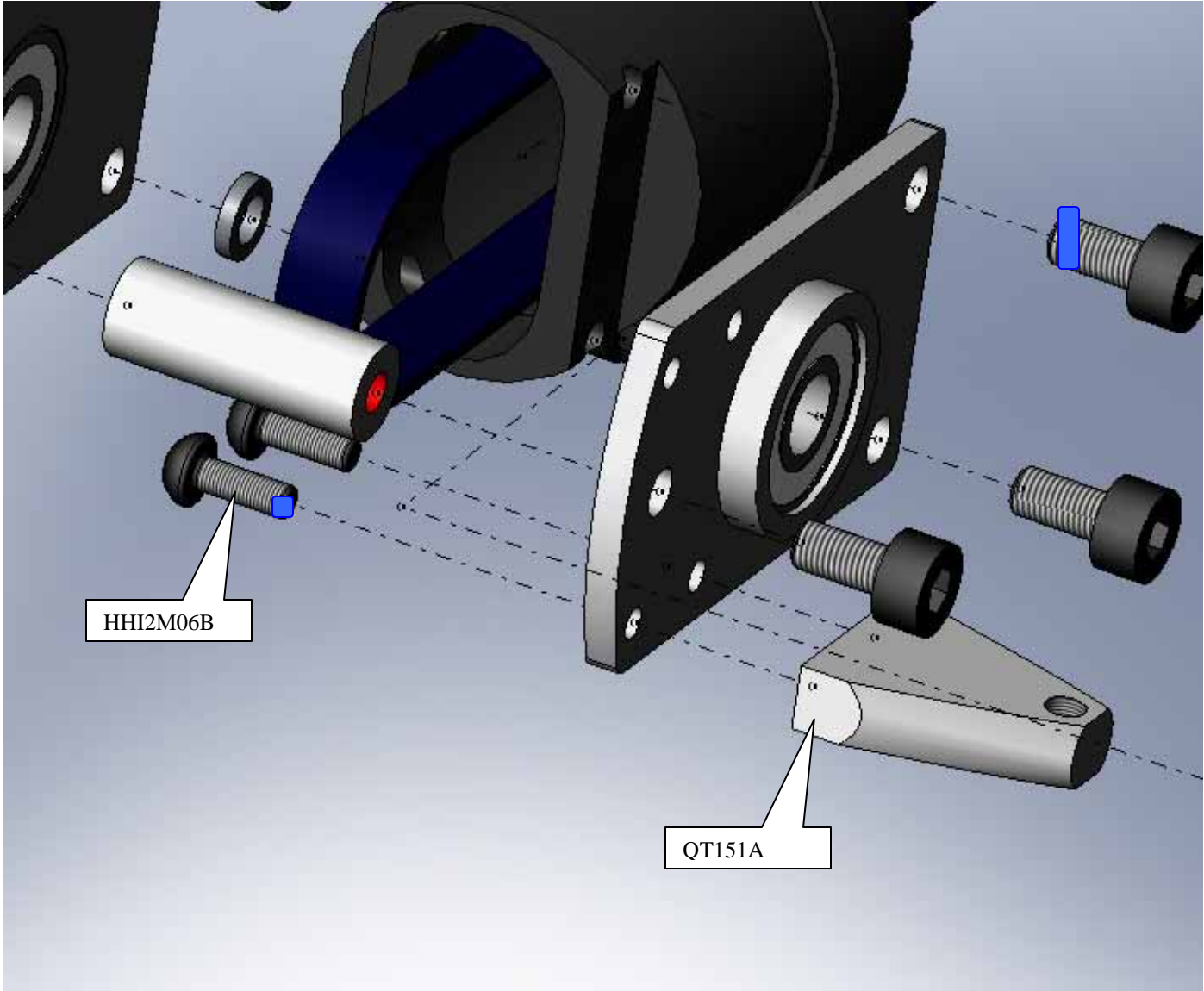
Install the Bearings into the Tail Case Side Plates. The flange should be inside.





Note: Put three M3x5x1 Spacers between the Left Tail Case Side Plate and the Boom End and Tail Cross Member. If your Tail Cross Member is long enough (16mm), you do not need the spacer for it. Normally you just need one M3x5x1 Spacer between the Tail Pitch Control Lever and Tail Pitch Lever Mount but you may need two of them in some cases (if you do not have enough clearance for the lever.)

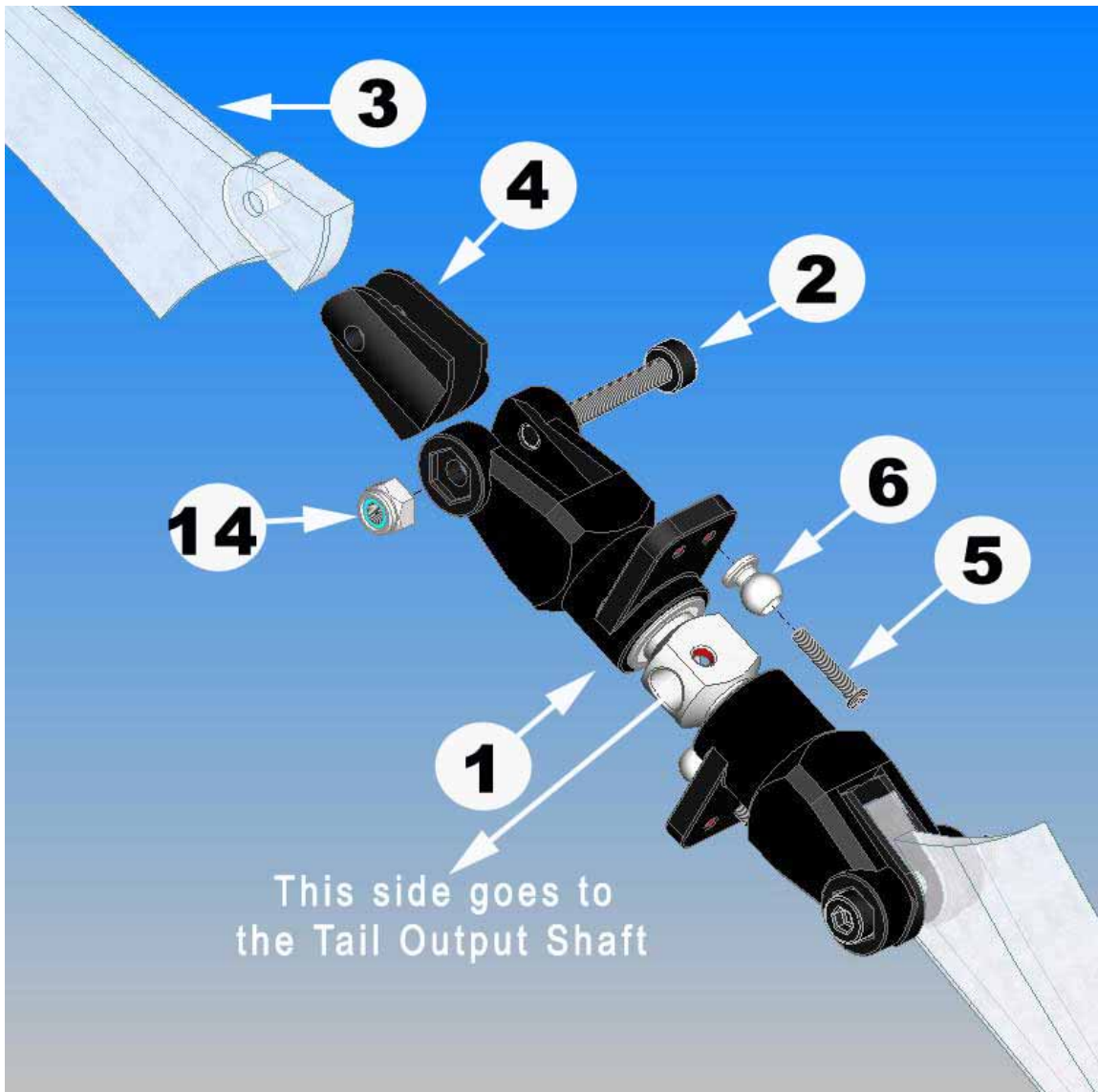
Install the pitch arm mount as shown below.



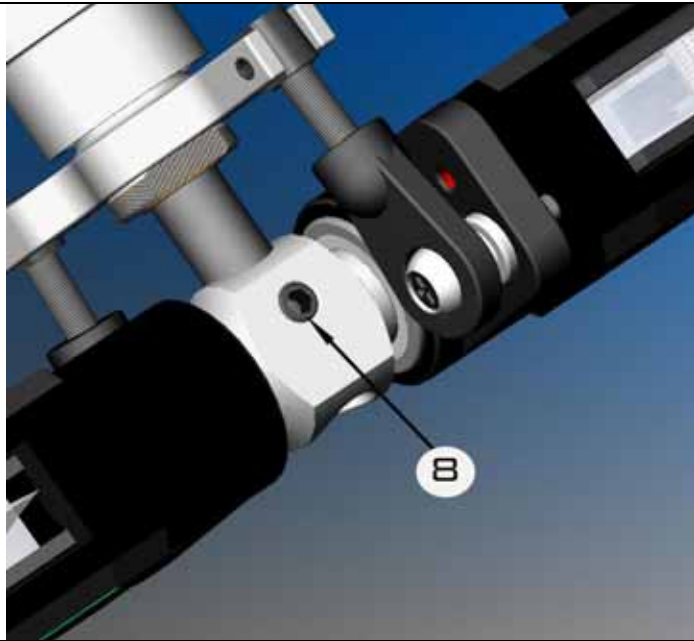
2-3 TAIL ROTOR INSTALLATION

Bag 9, 11

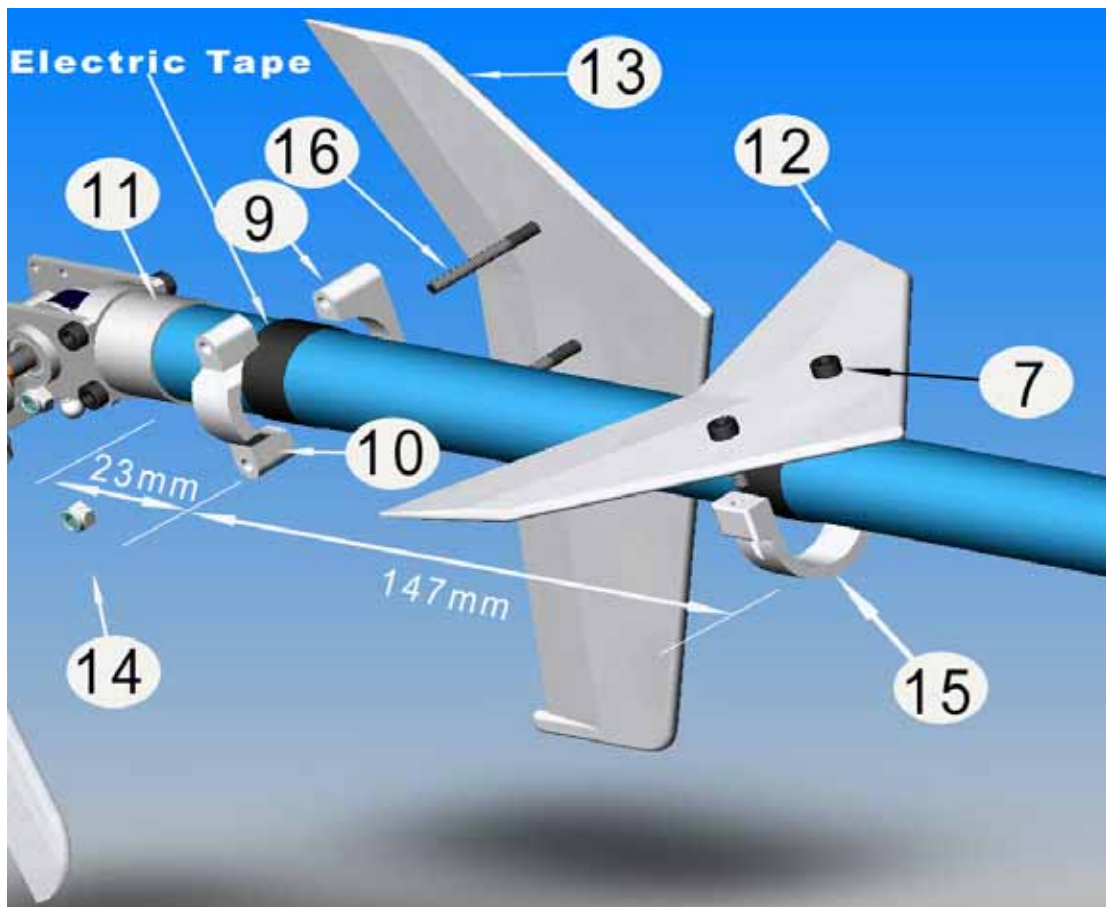
No.	Part No.	Description	Qty	No.	Part No.	Description	Qty
1	QUIP100	Dual Bearing Tail Rotor	1	10	QT360B	Vertical Fin Mount B	1
2	HHI3M20C	M3x20 Cap Head Bolt	2	11	2-2	Tail Rotor Subassembly	1
3	QEP1080	Tail Blade	2	12	HHI174H	Horizontal Fin*	1
4	QT365B	Tail Blade Spacer	4	13	HHI174V	Vertical Fin*	1
5	HHI2M08P	M2x8 Phillip Screw	2	14	HHI03MLN	M3 Locknut	4
6	QP124	Shim Ball	2	15	QT160	Horizontal Fin Mount	1
7	HHI3M12C	M3x12 Cap Head Bolt	2	16	HHI3M30C	M3x30 Cap Head Bolt	2
8	HHI3M05SS	M3x5 Set Screw	1	18	****	Electric Tape	1
9	QT360A	Vertical Fin Mount A	1	*Carbon Fin Set is also available for option.			

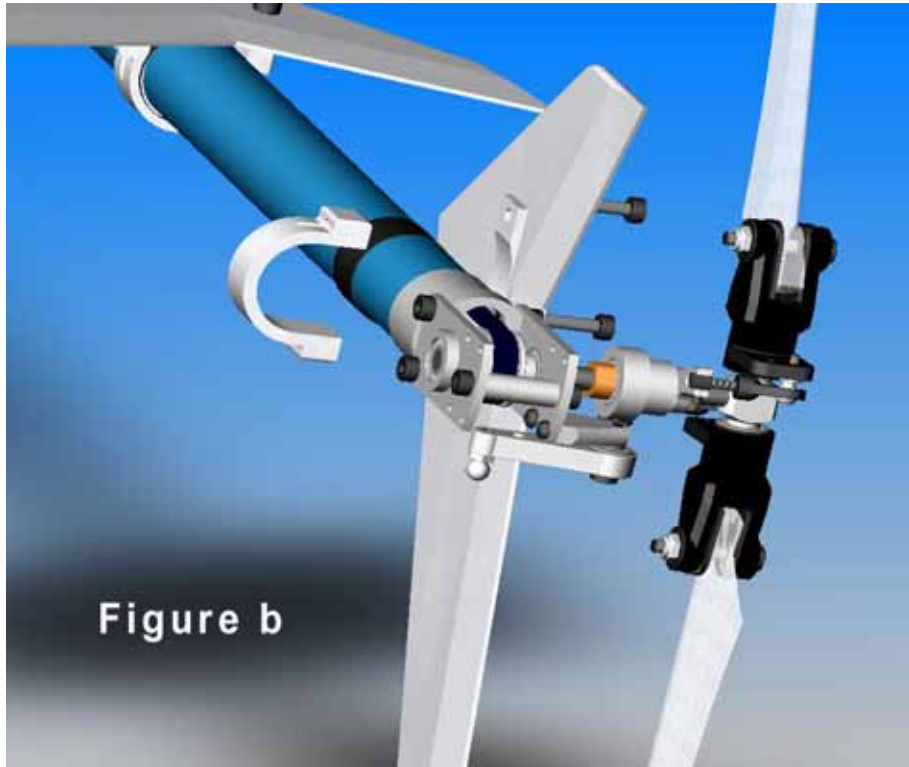


After installing all the parts as shown above, slide this subassembly on the output shaft then secure it with one M3x5 Set Screw. Now put the Ball Links on the Shim Balls.



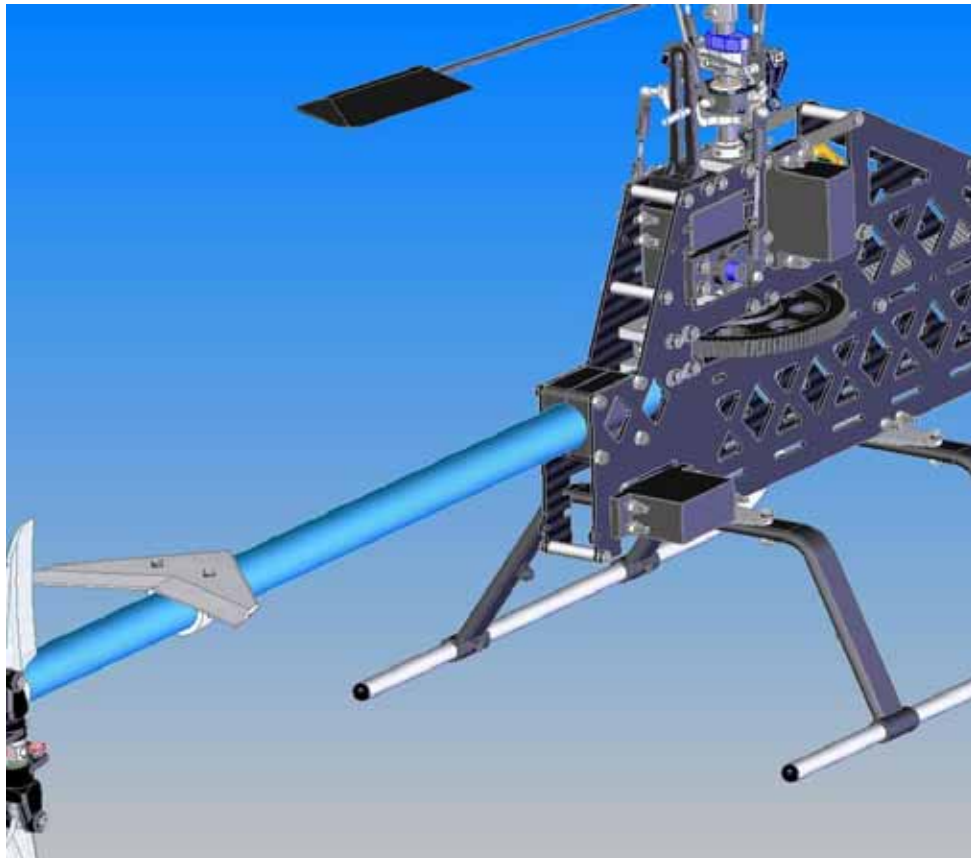
Put the electric tape around the boom couple rounds before you install the fins. Sometimes for the Vertical Fin Set, you may have one piece of Vertical Fin Mount and one Vertical Fin molded with other mount. It works same as the other but the way you install is a little bit different (see figure b). The Cap Head Bolt for this version should be M3x12; the Locknuts are not needed.



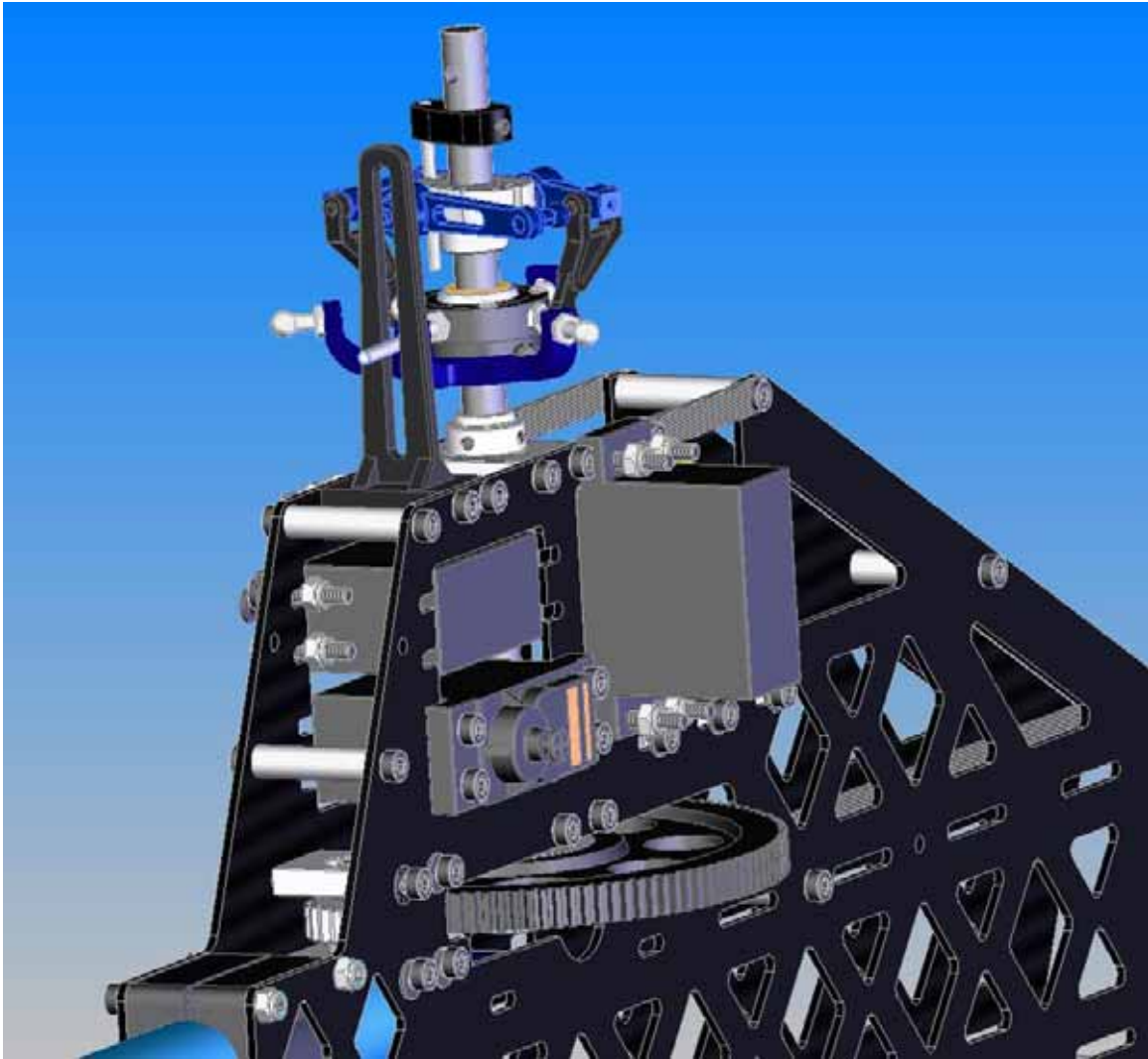


2-4 INSTALLATION OF THE TAIL & FRAME

Note for installing the timing belt: Turn the Tail assembly so that the Tail Output Shaft pointing upward put the belt onto the Transmission, then twist the Tail Assembly 90° to the right. Make sure the belt not too tight or loose. Tighten four locknuts.



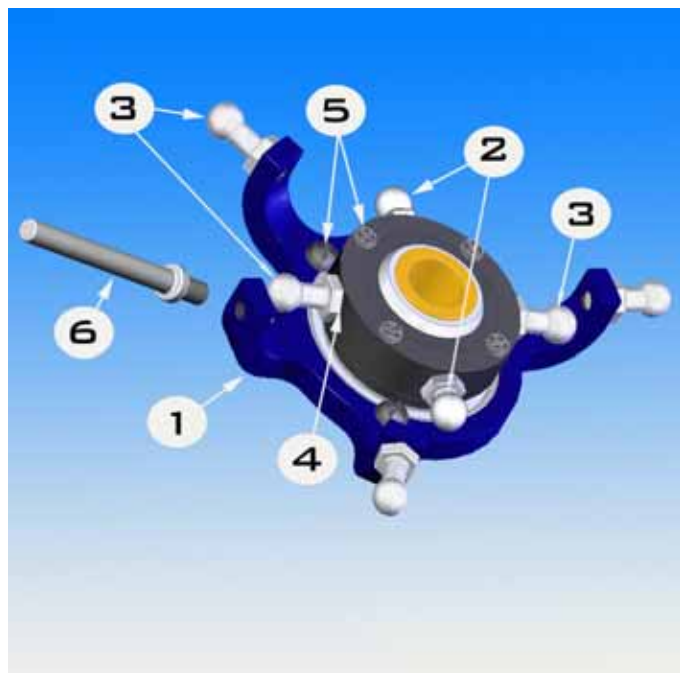
SECTION 3: CONTROL SYSTEM



3-1 SWASHPLATE ASSEMBLY

Bag 4

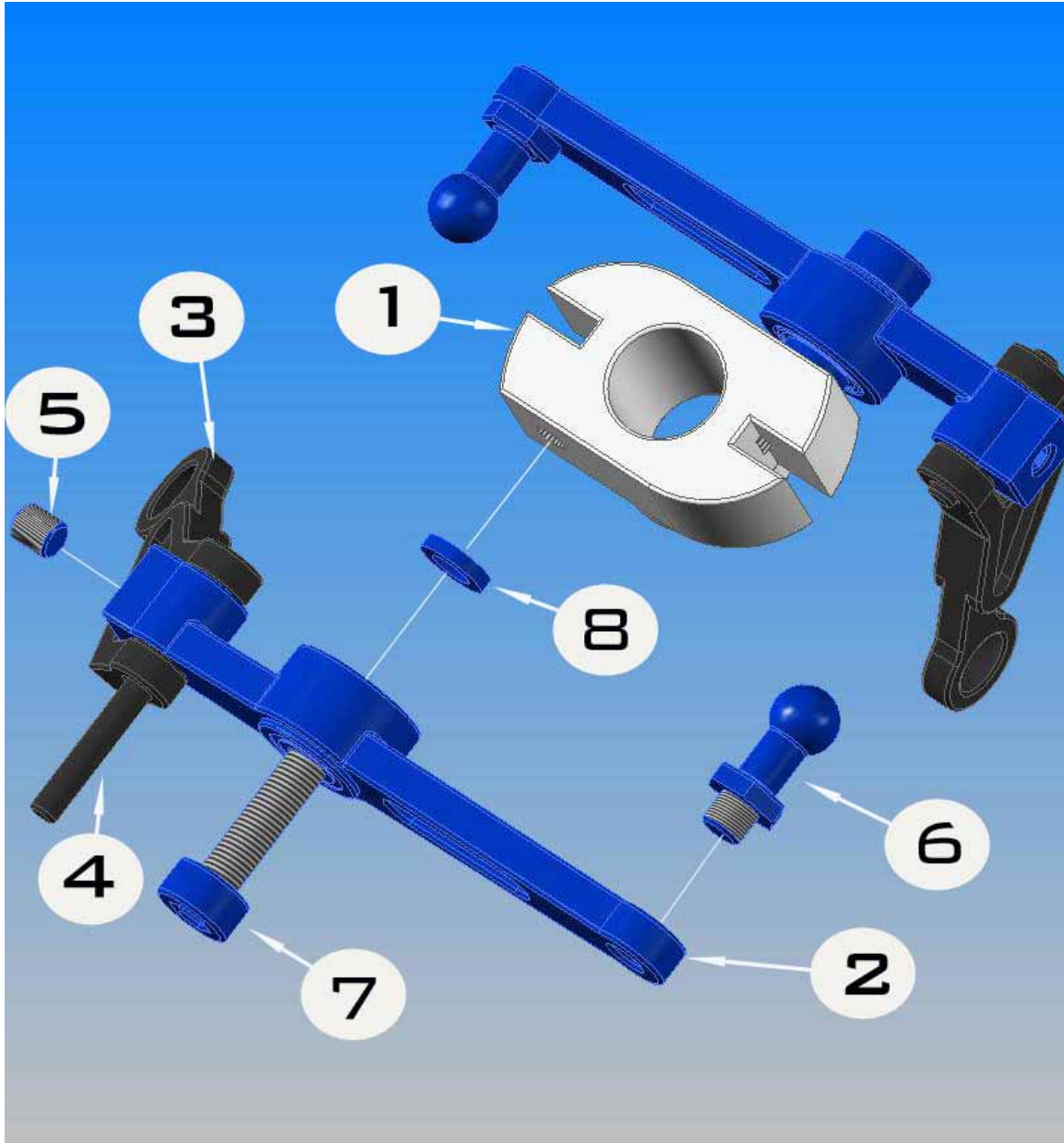
No.	Part No.	Description	Qty
1	QCE151	Swashplate	1
2	HHI3M4PS	M3x4Pivot Ball Stud	2
3	HHI3M7PS	M3x7Pivot Ball Stud	5
4	HHI3M7FW	M3x7 Flat Washer	4
5	HHI2M04B	M2X4 Phillip Screws	7
6	QC107	Anti-rotation Pin	1



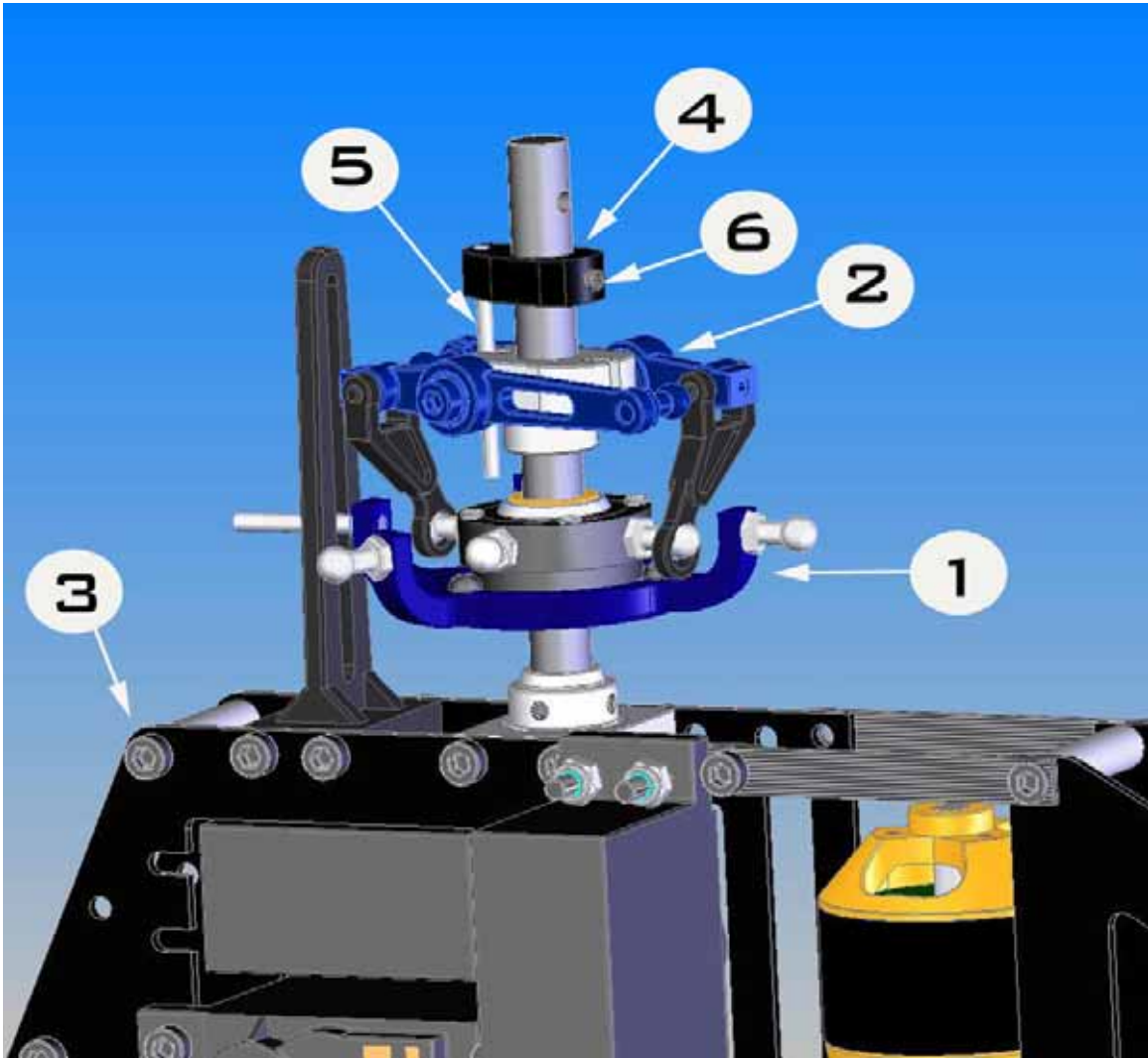
3-2 WASHOUT ASSEMBLY

Bag 4

No.	Part No.	Description	Qty	No.	Part No.	Description	Qty
1	QC104	Washout Base	1	5	HHI3M05SS	M3x5 Set Screw	2
2	QC105A	Washout Arm	2	6	HHI3M7PS	M3x7Pivot Ball Stud	2
3	QC358	Washout Link	2	7	HHI3M10C	M3x10 Cap Head Bolt	2
4	QC606	Washout Link Pin	2	8	HHI3M5X1	M3X5X1 Spacer	2

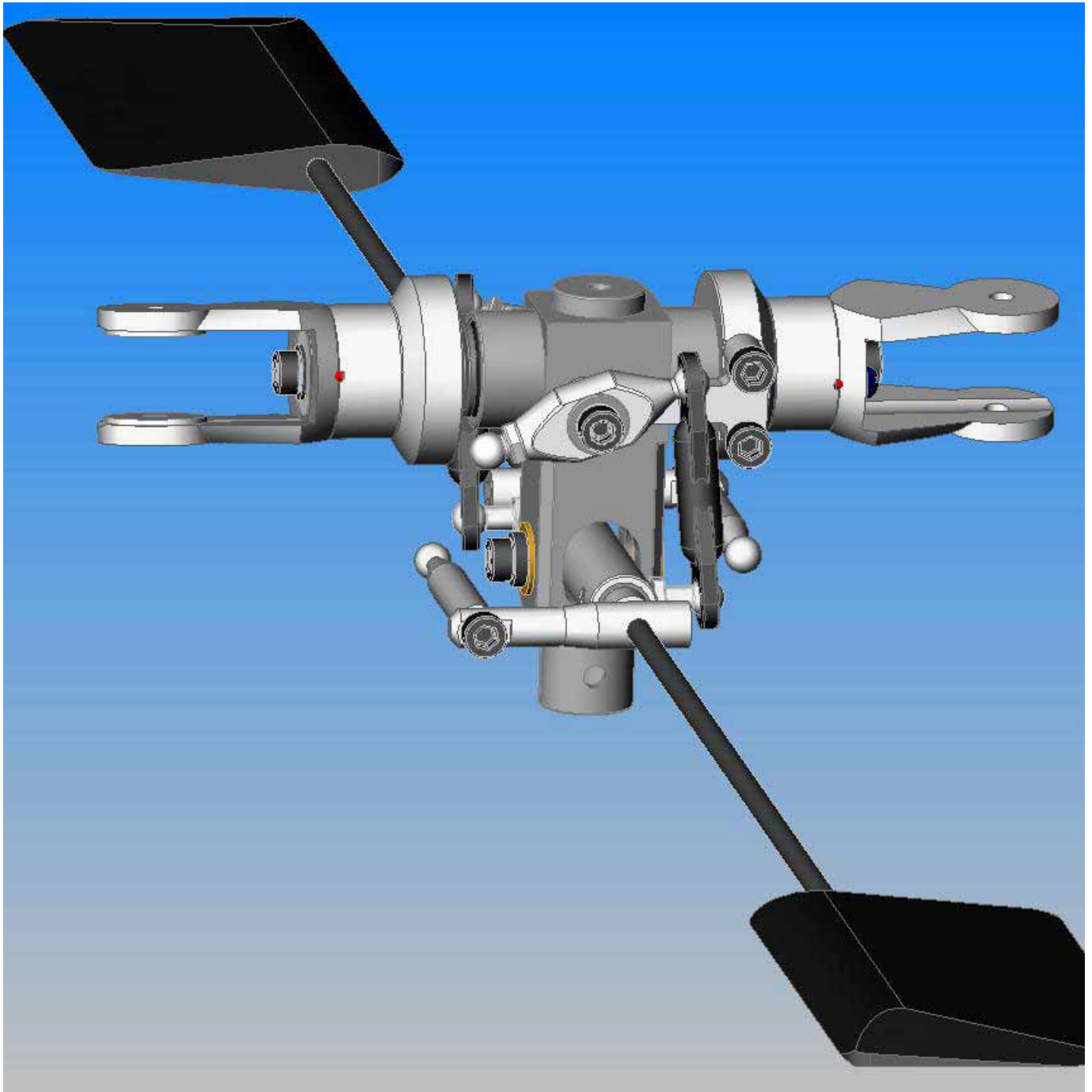


No.	Part No.	Description	Qty
1	3-1	Swashplate Assembly	1
2	3-2	Washout Assembly	1
3	3-3	Helicopter (up to step 3)	1
4	QC150A	Washout Anti-rotation Base	1
5	QC150B	Washout Anti-Rot Guide Pin	1
6	HHI3M05SS	M3x5 Set Screw	1



Note: Do not tighten the Set Screw too tight; wait until you put the Head on. The gap between the Head and the Washout Anti-rotation Base will be about 2 mm and the Pin will be almost line up with one of the two little gaps of the Head (see Step 4-3).

SECTION 4: ROTOR HEAD



4-1 MAIN ROTOR HUB ASSEMBLY

Bag 7

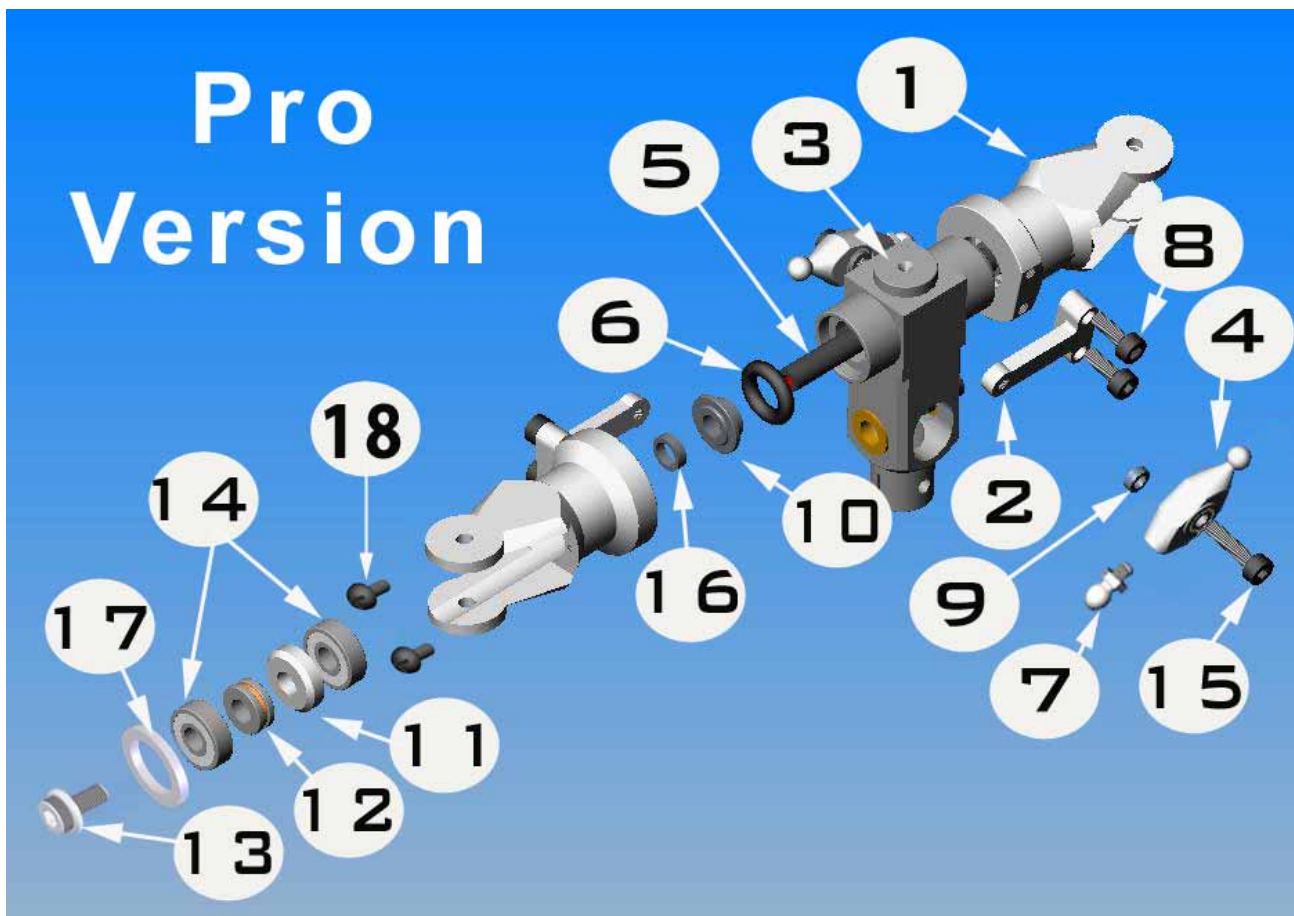
No.	Part No.	Description	Qty	No.	Part No.	Description	Qty
1	QH156A*	Main Blade Grip*	2	10	QHL153	Head Spindle Spacer	2
2	QH102	Pitch Arm**	2	11	QH159***	Thrust Bearing Spacer	2
3	QHL151	Center Hub	1	12	BRG05104T***	5x10x4 Thrust Bearing	2
4	QH152	Hiller Arm	2	13	HHI3M06CF	M3x6 Flange Cap Head Bolt	2
5	QH150	Head Spindle	1	14	BRG05134R	5x13x4 Regular Bearing	4
6	QH354	Dampener O-Ring	2	15	HHI3M12C	M3x12 Cap Head Bolt	2
7	HHI3M7PS	M3x7 Pivot Ball Stud	2	16	QF312***	5x7x2 Spacer	2
8	HHI3M08C	M3x8 Cap Head Bolt**	4	17	QH170***	M9x13x1.45 Thrust Bearing Spacer	2
9	QF567	M3X5X3 Spacer	2	18	HHI2M04P***	M2x4 Phillips Screw	4

*Sport version: QH156B.

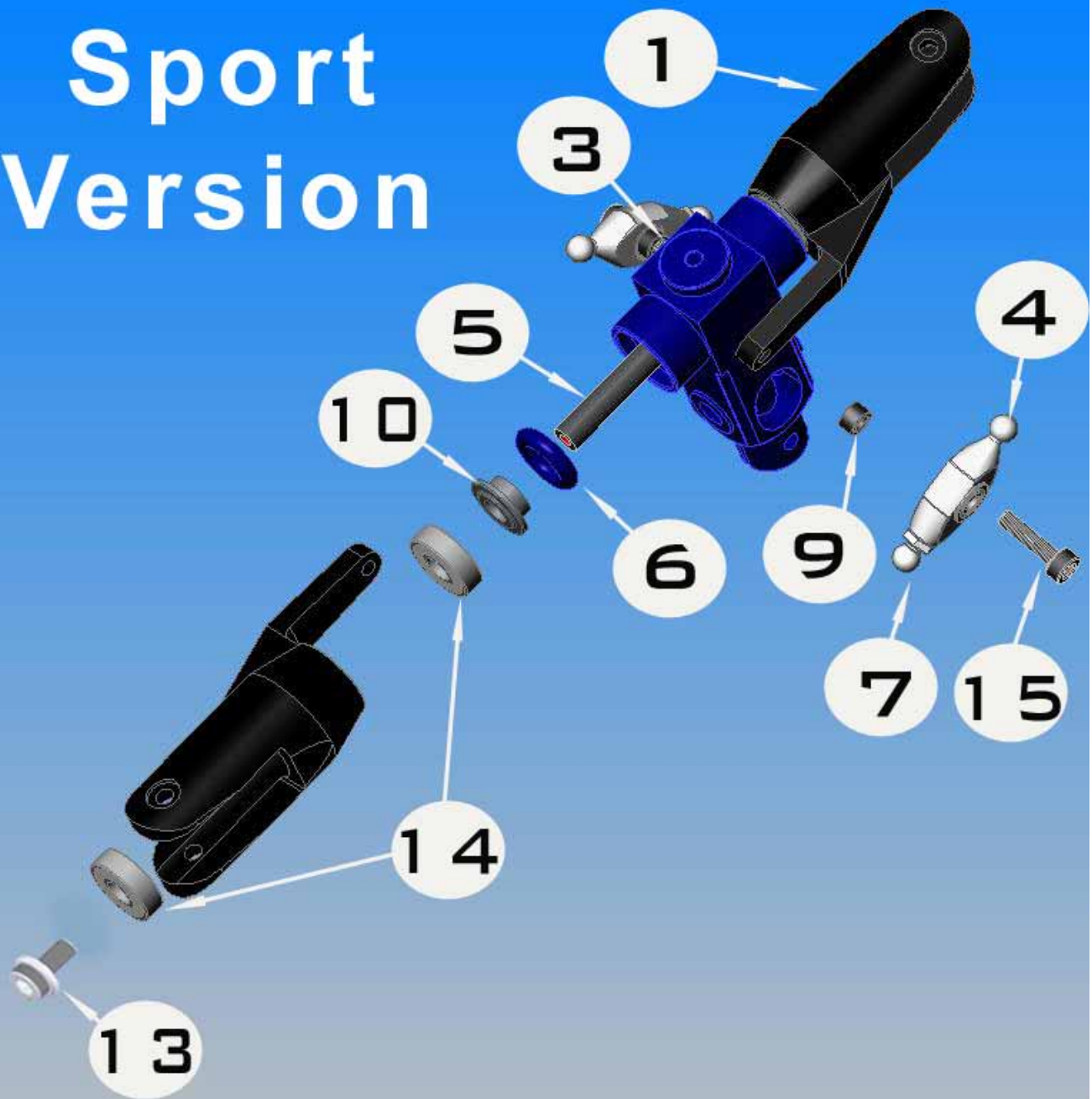
**Sport version: Pitch Arms is built in the Main Blade Grips so there are no M3x8 Cap Head Bolts.

***Sport version does not have these parts.

- Note: Remember to apply grease for bearings. Thrust Bearing has 3 parts: two races and bearing. The bigger race should be toward the Center Hub. The smaller race should be toward the blade. Although the drawing does not show the other side of the head, you should repeat the same assembly for that side. Parts may look differently from the ones you have in the kit.



Sport Version

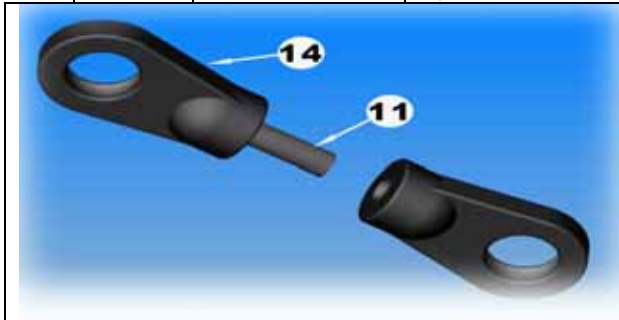


Note: Remember to apply grease for bearings.

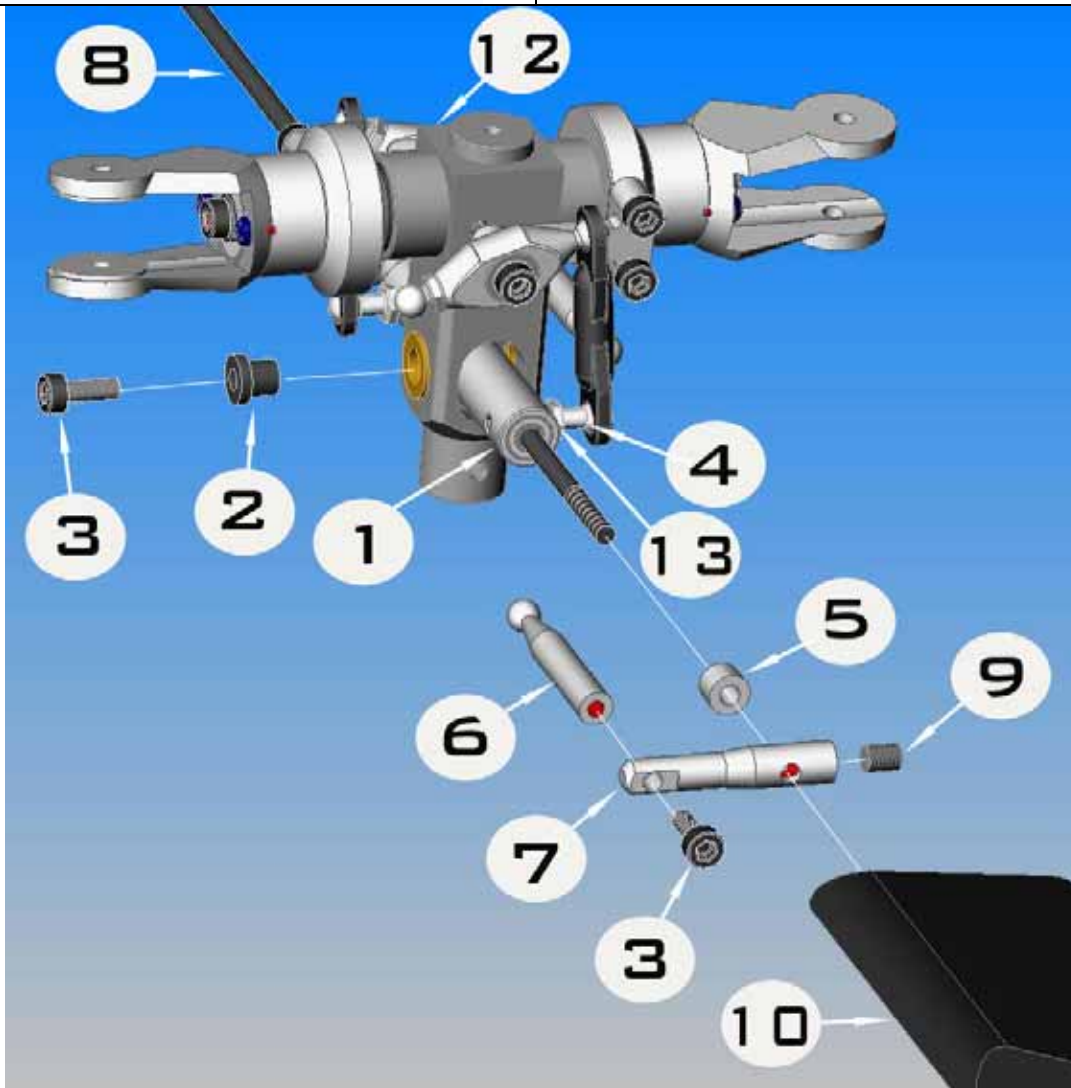
4-2 FLYBAR & SEESAW ASSEMBLY

Bag 7

No.	Part No.	Description	Qty	No.	Part No.	Description	Qty
1	QH157	Seesaw	1	8	QUISP14	3mm Standard Flybar (in	1
2	QH158	Seesaw Collar	2	9	HHI4M04SS	M4x4 Set Screw	2
3	HHI3M8C	M3x8 Cap Head Bolt	4	10	QH649	3mm Fly-Bar Paddle (Bag	2
4	HHI3M7PS	M3x7 Pivot Ball Stud	2	11	HHIR23010	2.3x10 Linkage Rod (Bag	2
5	QH162	Flybar Spacer	2	12	4-1	Main Rotor Hub Assembly	1
6	QH144	Fly-Bar Control Arm A	2	13	HHI3FW	M3 Flat Washer	2
7	QH145	Fly-Bar Control Arm B	2	14	HHI2020	Short Ball End (Bag 2)	4



- Screw two Short Ball Ends until they hit each other.
- There are two holes in the paddles. For regular setup, use the hole that is further from the letter "Quick" on the paddles.
- Although the drawing does not show the other side of the head, you should repeat the same assembly for that side.
- Fly-bar should be balanced on the Seesaw.

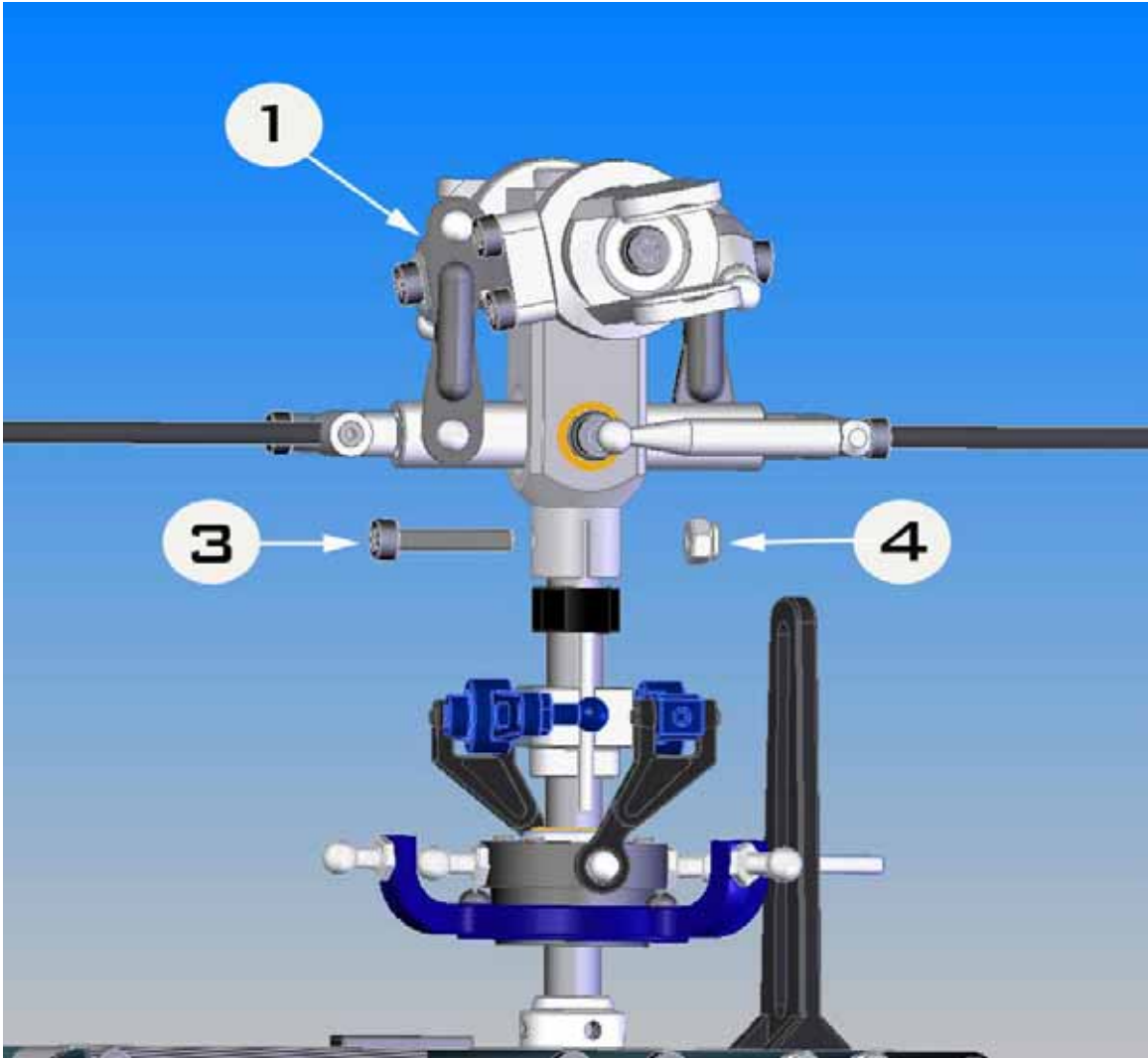


Warning: To prevent the Flybar Paddle from falling off the Flybar, make sure to apply Epoxy Glue/JP Weld to the thread on Flybar after Radio Setup.

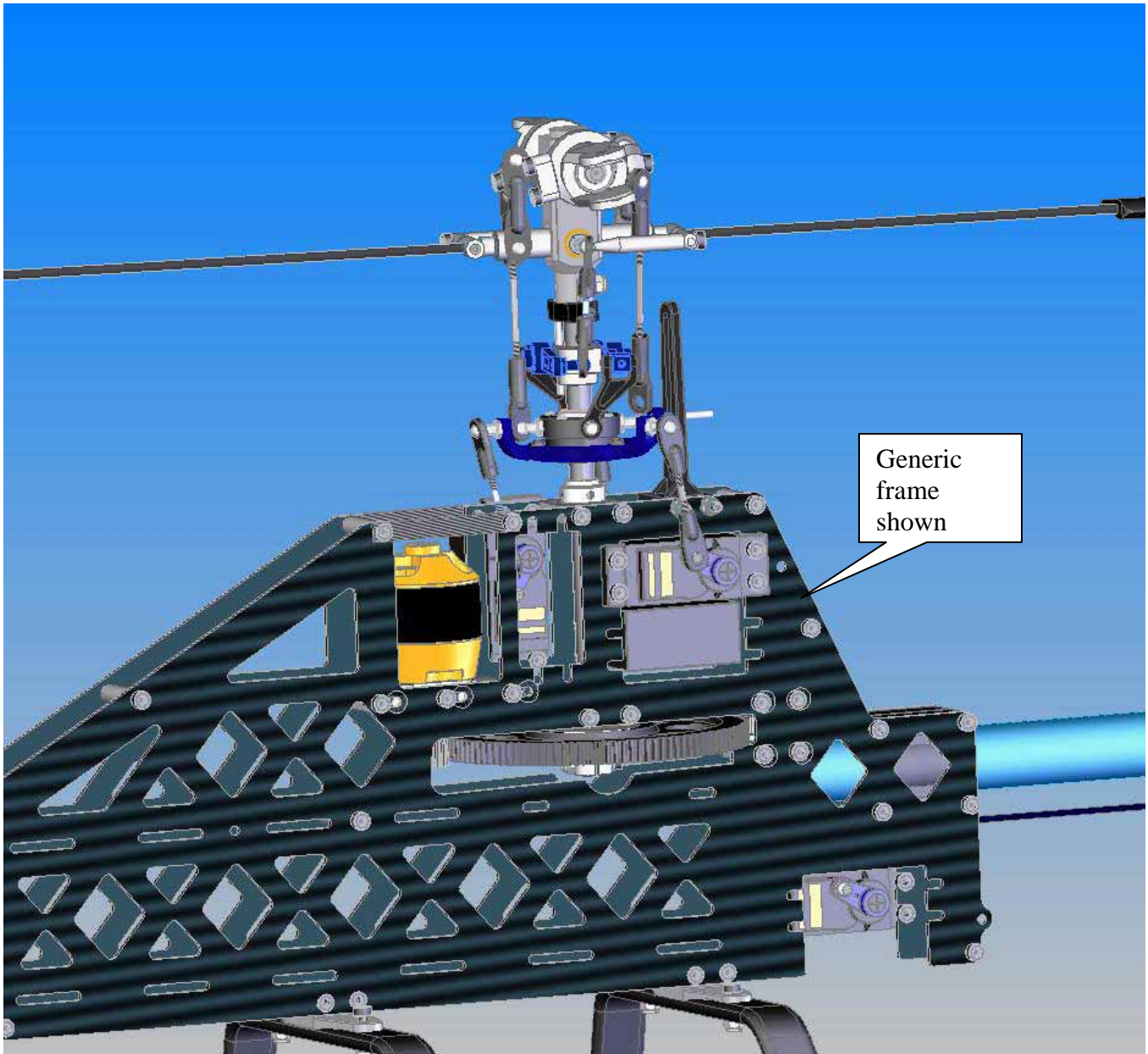
4-3 ROTOR HEAD INSTALLATION

No.	Part No.	Description	Qty
1	4-2	Fly-Bar Seesaw Assembly	1
2	3-3	Helicopter (up to step 3)	1
3	HHI3M20C	M3x20 Cap Head Bolt	1
4	HHI03MLN	M3 Locknut	1

Install the Head Assembly into the Main Shaft, and then secure it by one M3x20 Cap Head Bolt and one M3 Locknut.



SECTION 5: LINKAGES



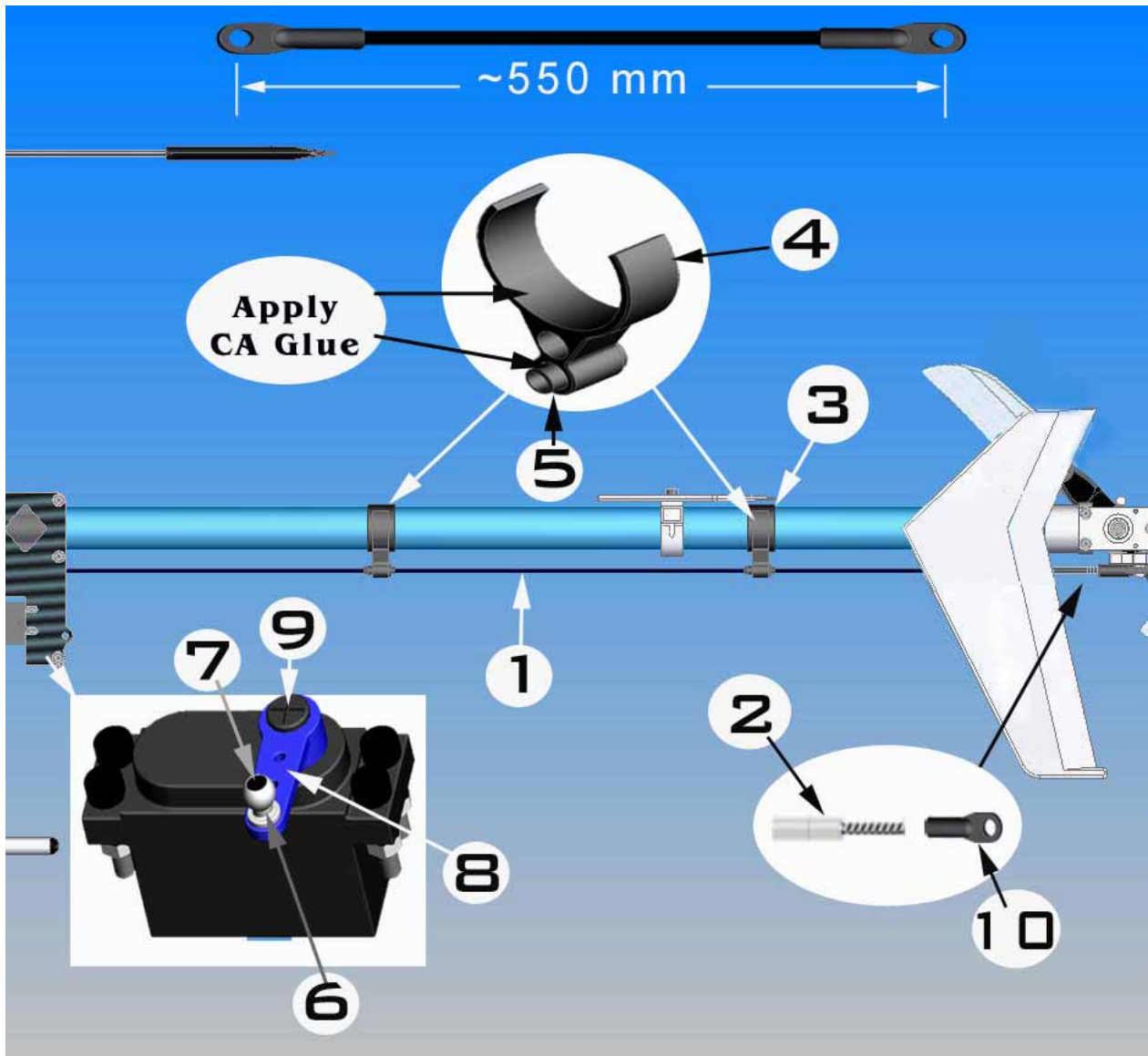
5-1 RUDDER PUSH ROD INSTALLATION

Bag 11

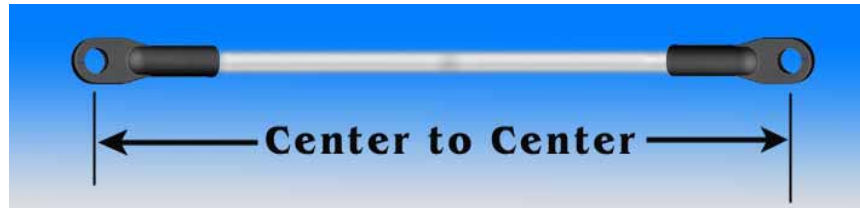
No.	Part No.	Description	Qty
1	HHI4070	Rudder Push Rod (in Box)	1
2	HHI4070E	Rudder Push Rod End	2
3	*****	Electric Tape	1
4	HHI2900L	Rudder Pushrod Guide	2
5	HHI2900I	Rudder Pushrod Guide Insert	2
6	QP124	Shim Ball	1
7	HHI2M08P	M2x8 Phillip Screw	1
8	*****	Servo Arm	1
9	*****	M3 Servo Phillip Screw	1
10	HHI2022	2.3 Long Ball End	2
11	*****	CA Glue	1

.The length of the Rudder Rod measured from center to center should be around 550 mm.

.Put electric tape around the Boom before installing the Rudder Push Guide in, so you can remove them later.



No.	Part No.	Description	Qty
1	HHI2022	2.3 Long Ball End	6
2	HHI2021	2.3 Medium Ball End	8
3	HHIR23020	2.3x20mm Rod	2
4	HHIR23025	2.3x25mm Rod	1
5	HHIR23035	2.3x35mm Rod	1
6	HHIR23050	2.3x50mm Rod	3



Coding the Rod Assembly:

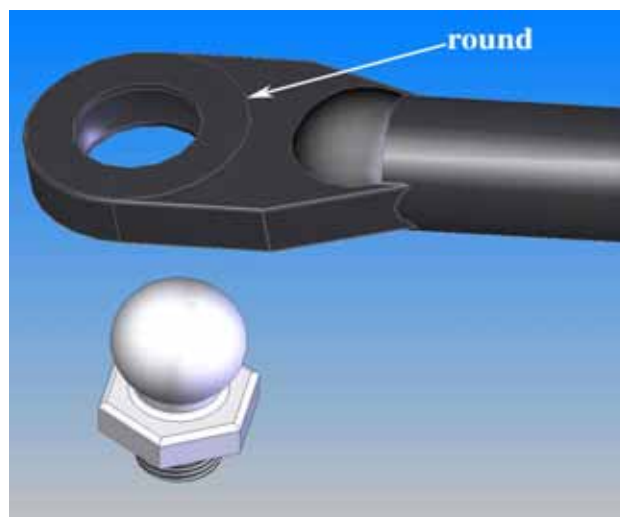
All the Linkage should be assembled with dimensions measured center to center and coded as followings:

No.	Code	Rod Description	Link Ball End used	Center to Center	Qty	The lengths of linkages are used for reference only. Final adjustments might need to be made after setup.
1	A	2.3x20mm Rod	Medium	38 mm	2	
2	B	2.3x25mm Rod	Medium	46 mm	1	
3	C	2.3x35mm Rod	Medium	50.5 mm	1	
4	D	2.3x50mm Rod	Long	73 mm	1	
5	E	2.3x50mm Rod	Long	83 mm	2	

Note: Look close to a ball end; you will see one side is different from the other. One has a round marked on it. The other is just plain. When installing a ball link into a pivot ball stud (or a shim ball) the side with a round should face away from a ball stud (or shim ball.)

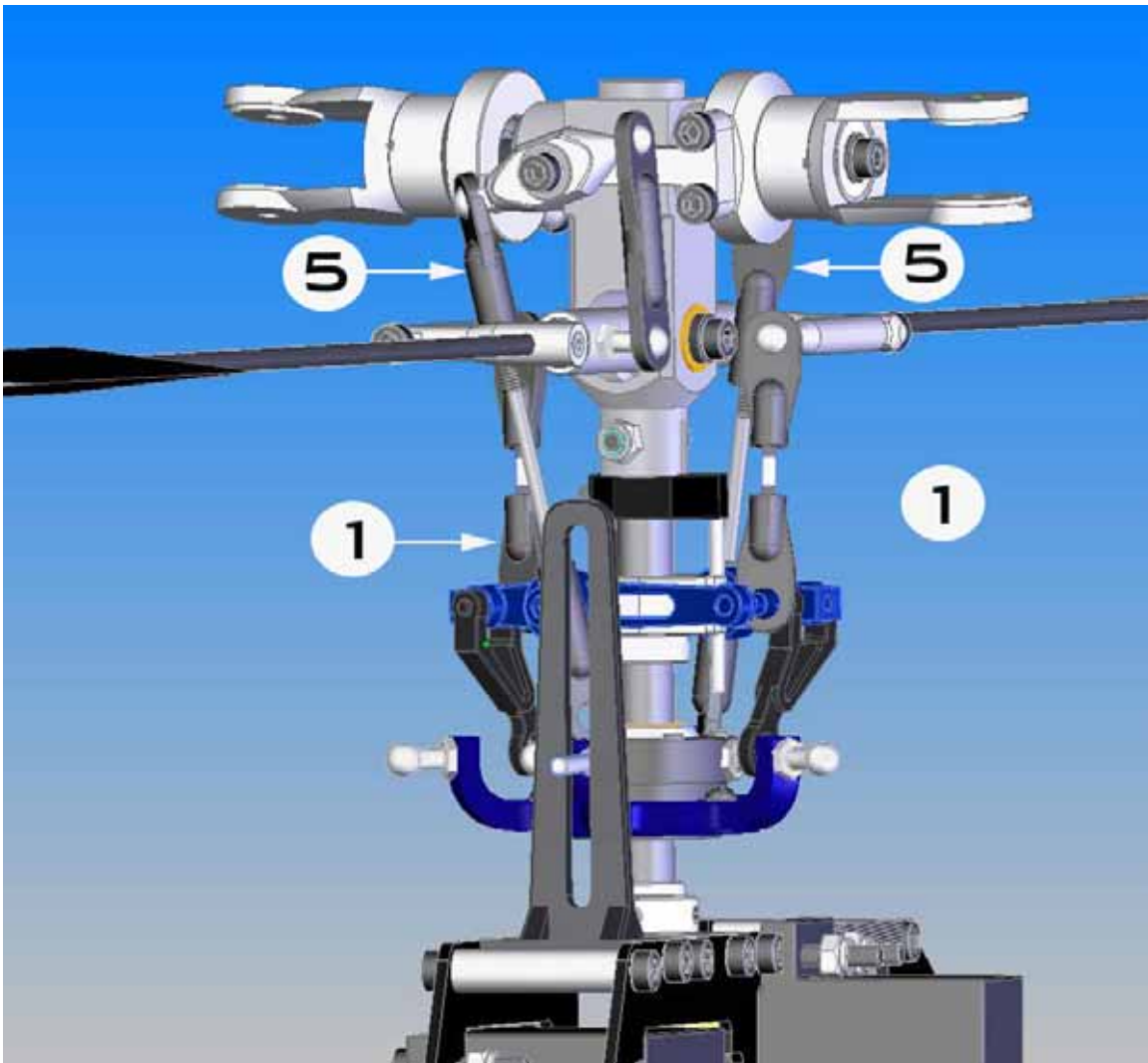
Special Note:

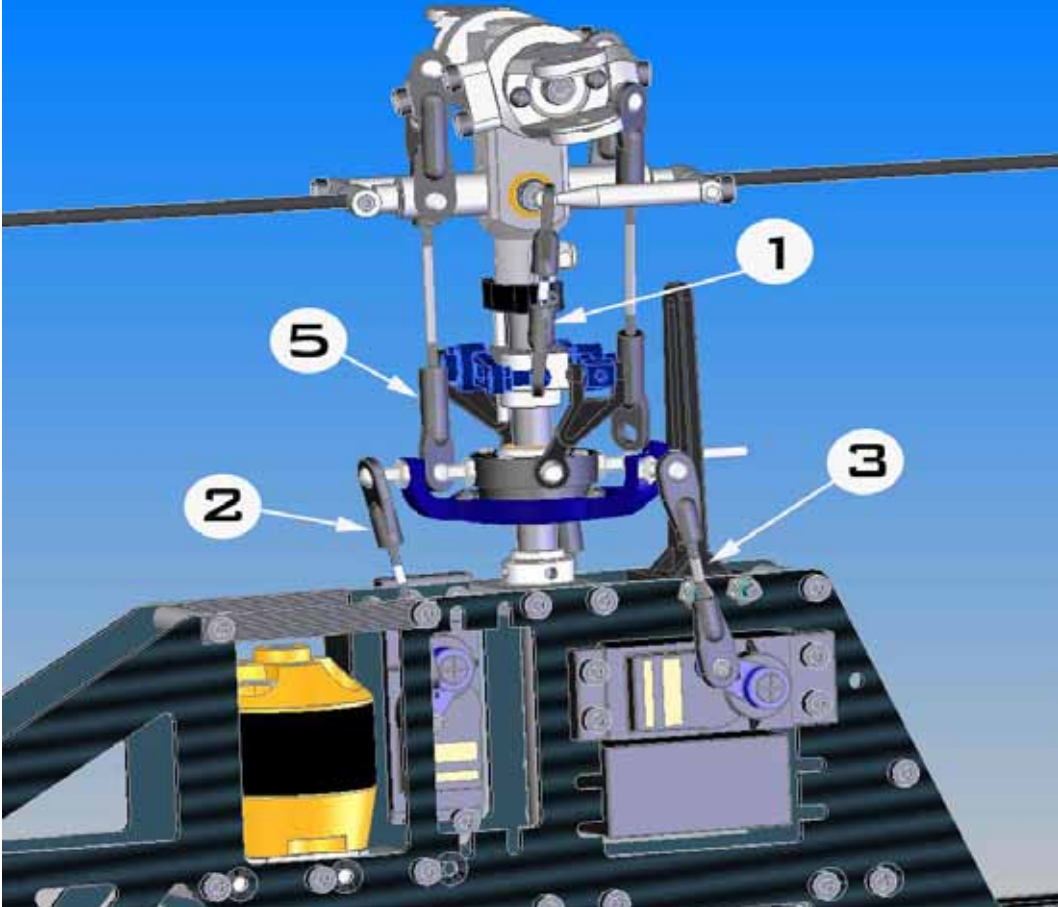
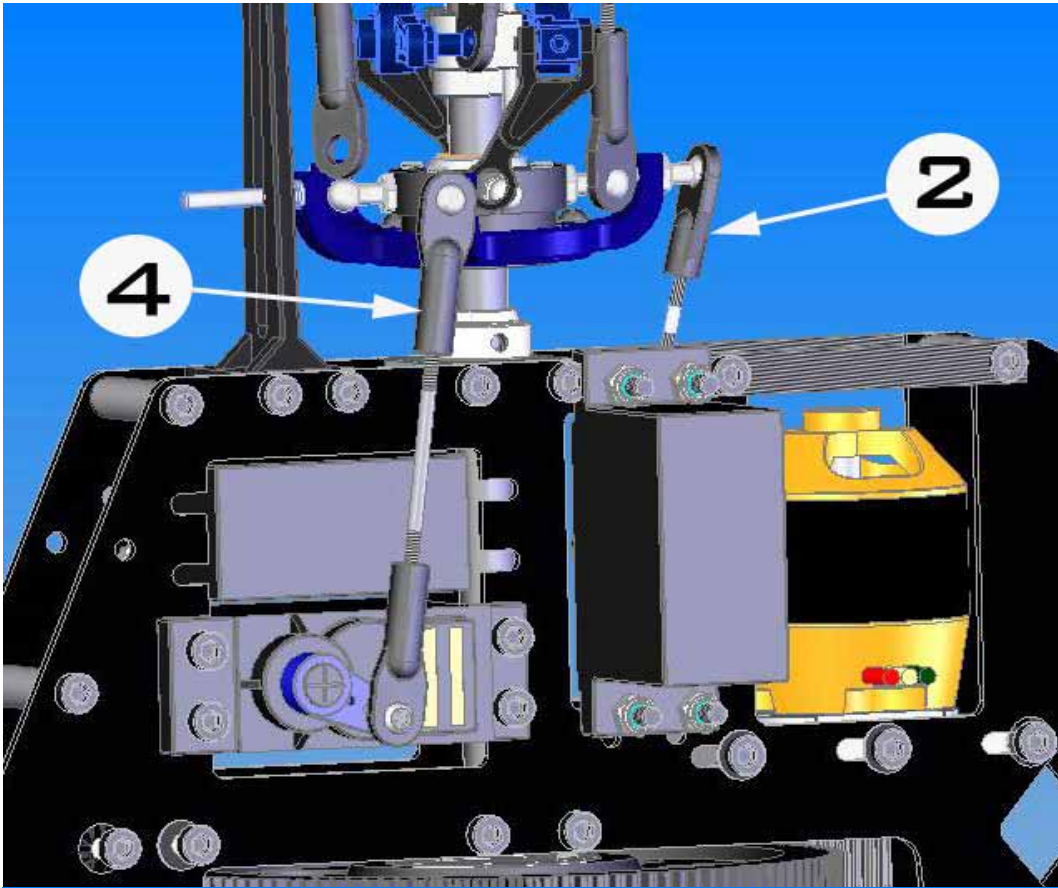
Linkage rods may be 2.3 to 2.6 mm diameter it makes no real difference whether you received one or the other or some combination of each.



5-3 LINKAGE INSTALLATION

No.	Part No.	Description	Qty	Install Shim Balls into the Servo Arms using M2x8 Phillip Screws. Then install the Servo Arms into the Servos using the Servo Phillip Screws come with the Servos.
1	A	2.3x20mm Rod Assembly	2	
2	B	2.3x25mm Rod Assembly	1	
3	C	2.3x35mm Rod Assembly	1	
4	D	2.3x50mm Rod Assembly	1	
5	E	2.3x50mm Rod Assembly	2	
6	5-3	Helicopter (up to step 5)	1	
7	****	Servo Arm	3	
8	QP124	Shim Ball	3	
9	HHI2M08P	M2x8 Phillip Screw	3	
10	****	Servo Phillip Screw	3	

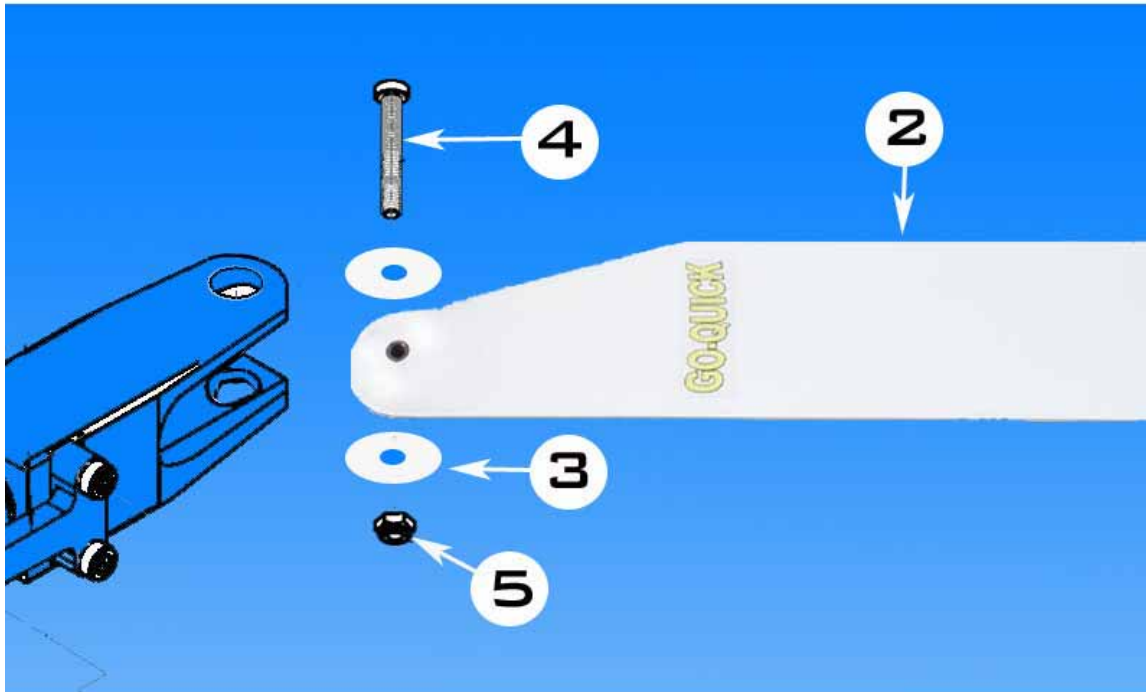




SECTION 6: SETTINGS

6-1 MAIN BLADE INSTALLATION

No.	Part No.	Description	Qty
1	6-2	Helicopter (up to step 6)	1
2	*****	Main Blade	2
3	*****	Main Blade Washer	4
4	HHI3M22	M3x22 Cap Head Bolt	2
5	HHI03MLN	M3 Locknut	2



6-2 SETTING UP RADIO

No.	Part No.	Description	Qty
1	7-1	Helicopter (up to step 7-1)	1
2	*****	Radio	1
3	*****	Receiver	1
4	*****	Gyro	1
5	*****	Speed Controller	1
6	*****	Battery for Receiver	1
7	*****	Main Battery	***
8	*****	Battery Connector	1

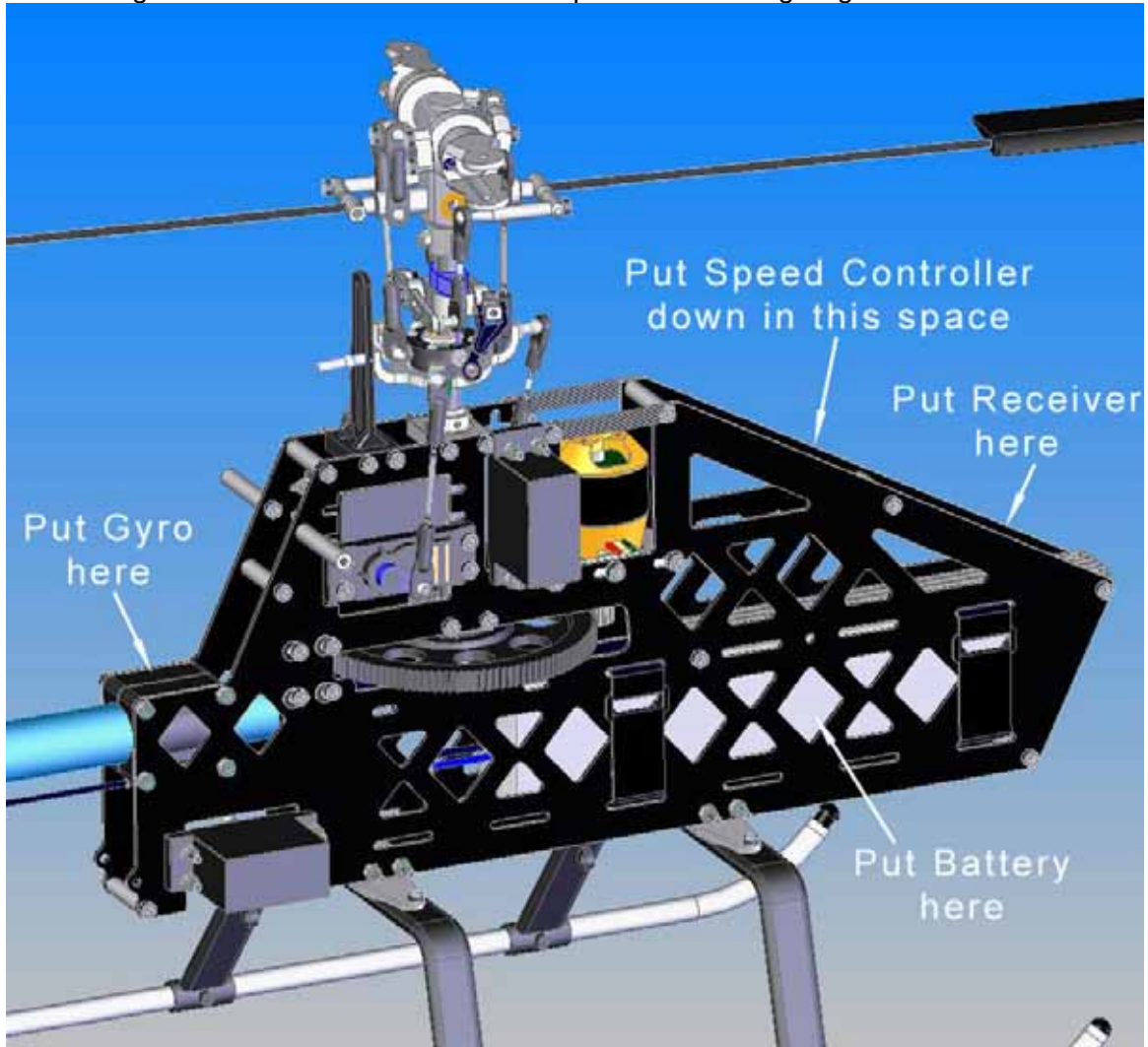
CCPM Helicopter Setup (for all Quick Helicopters)

Before setting up the radio, you have to install the receiver, gyro, speed controller, and batteries for your helicopter. See your radio, receiver, speed controller, and gyro manuals for how to hook up.

General

Instead of giving you the exact length of each linkage rod we will explain to you what you are trying to achieve. This is the same for all Quick helicopters. Another thing worth

mentioning is that all controls on our helicopters are leading edge controlled. We have



three such controls on our helicopter and they are Main blades, Tail blade and flybar control arms. For example the main blade pitch arms should be mounted so they are in front of the blades in the direction of travel, clockwise if you look at the helicopter from above, see picture 4.

Your radio manual will be needed during this set up.

Swashplate

First, set your radio so that all travel values are at 100%. If you have a radio with Swash Mixing set, set those values to 50% (Aileron, Elevator, and Pitch.) Then use servo reversing so that all servos are moving in the right direction. If Pitch operates reversed, change the value in the Swash Mixing from + to -.

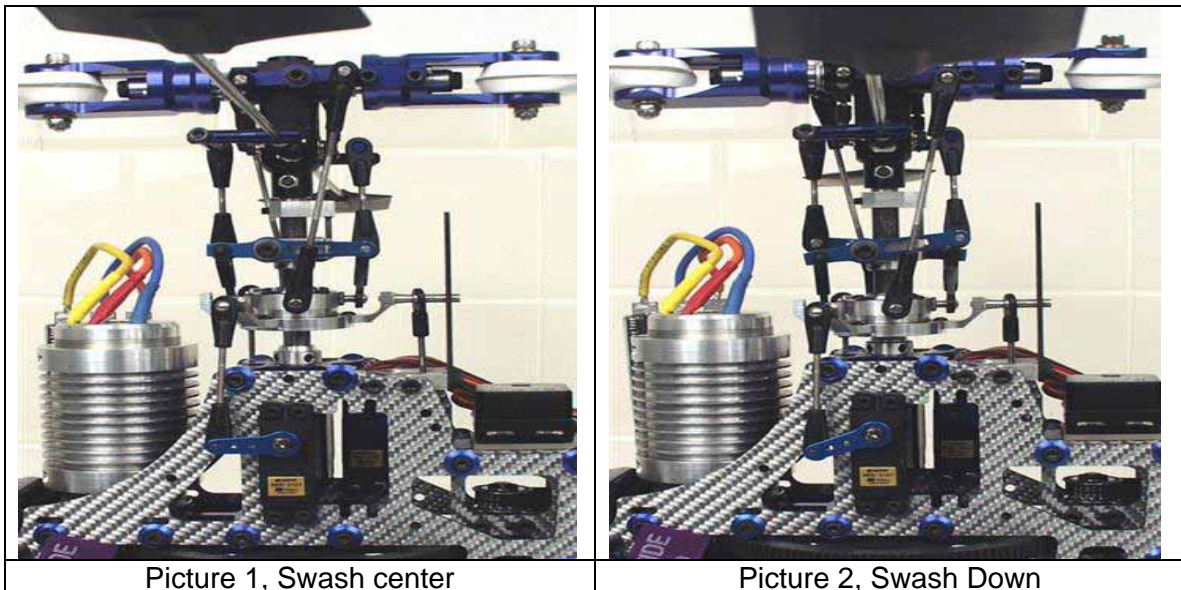
Step 1: First set your radio up so that all servos are moving in the right direction and adjust all travel values to 100%. If you have a radio with Swash mixing values set those to 50% (Pitch, Aileron and Elevator).

Now center both radio sticks (including "throttle") and center all trim and sub-trim values. When this is done turn your receiver pack on. Now mount the servo arms at a 90° angle towards the linkage rod. In our non push pull helis this will be horizontal. Use the mounting position on the servo arm that will be closest to 90°, not all servos will line up

100% correct. If they are visible off from the 90° position the use the sub-trim function in your radio for fine tuning, do not use regular trim for this, see picture 1.

Now you have a good start and the rest of the setup will become easier.

Step 2: Connecting the Swashplate at the right distance. This is done by moving your Pitch (throttle) stick all the way down, see picture 2. When the servos are in this position adjust the length of the linkage rods so the Swashplate is located towards the bottom, but still leaves enough room for left/right (aileron) and front/back (elevator) travel. During such travel, portions of the Swashplate will move below the Swashplate position archived during Pitch full down radio stick position. So make sure you leave enough room for this extra travel, see picture 2 for recommended height. Also make sure that all 3 linkage rods between the servo arms and the Swashplate are the same, so the Swashplate is level. It should not tilt in any direction; unless your right radio stick is moved. If it tilts, and all linkage rods are the same length, then go back to step one and make sure your three servo arms have the same neutral position (horizontal on non push pull helis).

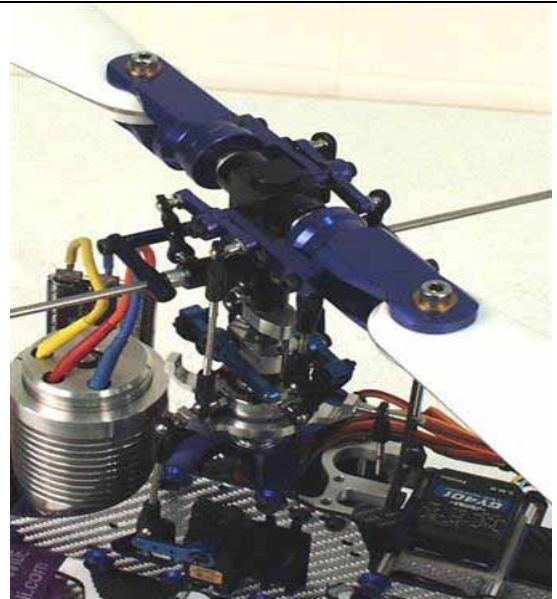


Step 3: Connecting the Washout assembly. Connect the fixed length plastic “A” arms to the Swashplate, connect to the two longer pivot studs, if all four are the same length then any two will do. The next step is to adjust the length of the linkage rod between the Washout Arm and the Flybar connection point. Turn your radio and receiver back on and center both sticks. Now adjust the length of the flybar linkage so the washout arms are level (horizontal), see picture 1. Also make sure your flybar arms and flybar-paddles are level (horizontal), when adjusting the linkage. After the length is adjusted make sure that you have free travel in all directions and stick positions. When the Pitch stick is all the way up it should look like picture 3. As you can see there is still plenty of room for aileron and elevator travel. Now adjust the Washout Anti-rotation pin height so the pin is still in the guide slot of the washout base during all travel positions. For the Left/Right Washout Anti-rotation position, line the attachment point of the plastic washout “A” arm on the Swashplate up with flybar linkage connection point. The imaginary line between these points should be vertical.

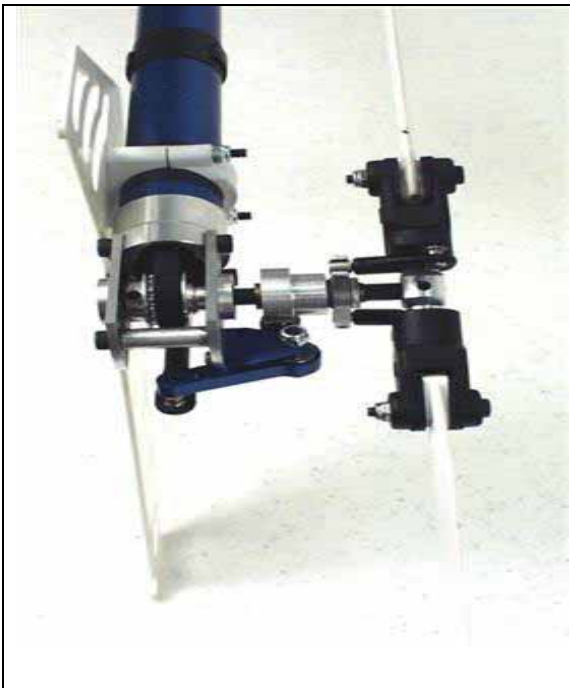
Now you are almost done, only one set of links left, and the length of those links will be depending on your desired setup whether it's Aerobatic or normal flying. Please refer to the Pith travel setup table for this final link length.



Picture 3, Swash Up



Picture 4, Head



Picture 5, Tail Center



Picture 6, Tail Positive Thrust



Picture 7, Tail Negative Thrust



Picture 8, Tail

Pitch Travel Setup		
Collective Position	Normal Flying	Aerobatic
Up (100%)	+10°	+10°
Center (50%)	+5°	+0°
Down (0%)	-3°	-10°

Throttle Curve Setup				
Collective Position	Fuel		Electric (non governor mode)	
	Normal Flying	Aerobatic	Normal Flying	Aerobatic
Up (100%)	100%	100%	85%	85%
Center (50%)	70%	60%	75%	75%
Down (0%)	10%	100%	0%	85%

Tail

First adjust the servo arm position like you did with the swash, make sure your trim and sub-trim values are centered. Attach the servo arm so it's 90° to the tail pushrod (vertical). Now adjust your two plastic ball ends, for the push rod, so they are screwed on about half way onto the threaded pushrod guide end piece. This will allow you have maximum amount of adjustment available in both directions. Use the outer holes on the tail blade grips for the ball link attachments. When this is done cut the carbon pushrod to a length that will achieve about 3° of positive pitch on your tail blades, when the servo is in its neutral (vertical) position. Then glue the two end pieces on to the pushrod with CA glue, don't forget to insert the pushrod guides first.

When this is done you should have 3° of positive tail blade pitch. The tail should spin counter clockwise looking at the right side of the helicopter with the nose to your right and tail to your left. See pictures 5-8.

Note: Please consult the instruction for your Gyro for setting the overall travel and limits to ensure proper operation and travel of Tail Pitch Slider.

Throttle

The throttle curve will be affected by several conditions; some of them are, motor choice, blades choice, elevation, temperature, helicopter weight and type of helicopter. So in order to explain this I will explain what you are looking for. Your goal is to achieve a constant head speed once the helicopter is airborne. If you add pitch (climb) you need to add power (throttle) to compensate for the added resistance a higher blade pitch creates. If during climb your head speed drops, then you need to add throttle to that particular stick position, and reversed if you have an increase in rpm. If during max climb out you experience an increase in head speed then you need to give the blades a higher pitch, do not try to adjust the max climb rpm by reducing throttle. There are other ways of achieving this by using cyclic mixing, however we will stay away from this for now. Follow the pitch guidelines in the table above, and if you need more pitch at max power because the rpm is increasing, then add pitch. 10° is just a guideline and will work in most setups, but a powerful motor or a light helicopter might need more. For rpm adjustment during anything other than full stick deflection you should use the throttle.

A short recap, adjust throttle to adjust rpm during anything other than full collective. At full collective adjust the pitch. See the Throttle table for general setup.

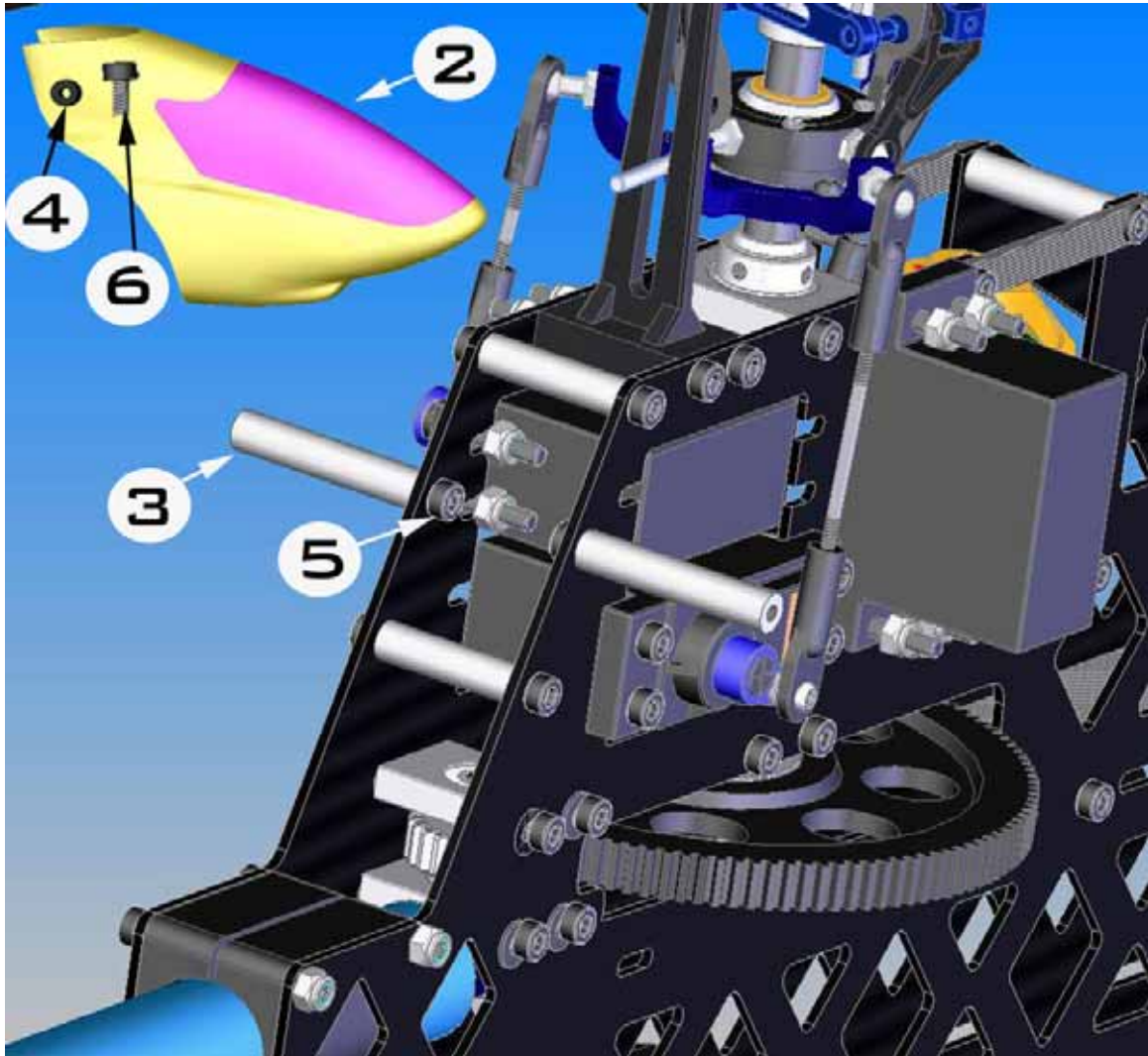
Final Words

These are guidelines and will get you going but might not be 100% accurate in regards to all helicopters. Especially the throttle curve table should be considered as initial guidelines. As mentioned before it's greatly affected by your equipment. As you become more familiar and proficient with your helicopter you can change the pitch and throttle curves to your flying style.

6-3 MOUNTING CANOPY

No.	Part No.	Description	Qty
1	7-2	Helicopter (up to step 7-2)	1
2	HHI8010	Canopy (in box)	1
3	QF332	Canopy Stand-off	2
4	HHI2802	Canopy Grommet	2
5	HHI3M8C	M3x8 Cap Head Bolt	2
6	HHI3M12C	M3x12 Cap Head Bolt	2

- Install the 2 Canopy Standoff using 2 M3x8 Cap Head Bolts.
- Put the Canopy on the helicopter, mark the right positions for 2 holes, and then drill two 5.5mm holes.
- Install the Canopy Grommets on the Canopy.
- Secure the Canopy by 2 M3x12 Cap Head Bolts.



FRE-FLIGHT CHECKS

- The rotor flybar and shaft must be straight.
 - The flybar and control paddles must tilt in the proper direction and operates smoothly throughout the whole range.
 - Check the swashplate to make sure it move smoothly and clean.
 - When control input are given to tilt the swashplate, make sure no control arms or pushrods are binding.
 - Check the two control paddles for level, parallel, and proper direction.
 - Make sure the batteries are fully charged.
 - Make sure the radio and receiver are on and all controls operate properly before flight.
 - There should be no interference of radio signal in your flying zone. Range check the radio.
- Always grab onto the helicopter main rotor head when turning on the helicopter.

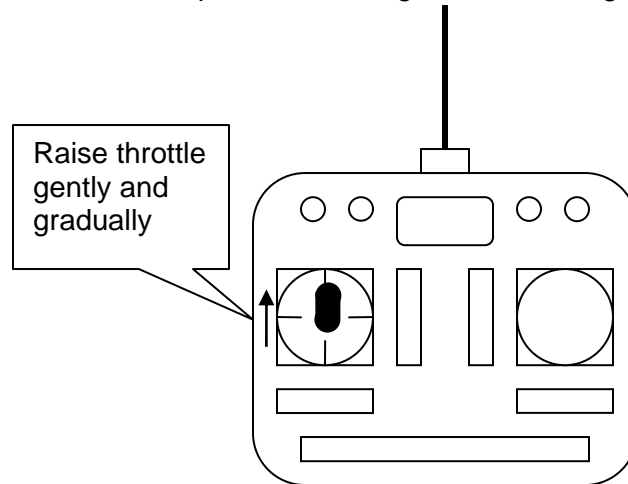
WARNINGS

- Do not operate helicopters in rainy, windy, or snowy condition.
- Operate helicopter in a safe zone away from crowds, traffic, or distractions.
- Use the proper batteries to prevent damage to the motor and equipment.
- Make sure all the batteries are fully and properly charged.
- Make sure all the controls operate properly before flight.
- The main and tail rotors blades operate at very high speed (rpm); therefore, make sure nothing can come into contact with them while they are spinning.
- Perform a range check on the radio before flying.
- Make sure the transmitter and receiver are turned on before plugging in the main power battery/batteries.
- Keep a safe distance when operating a helicopter.
- Do not fly for a long period of time. Take some rests during flights.
- Motors are often very hot after operation. So be careful when handling or touching them immediately after flying.

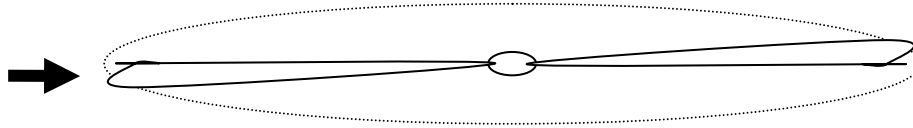
ADJUSTMENTS

Tracking Adjustment: The tips of the main rotor blades should follow the same path when they rotate. We call the main rotor blades are in track.

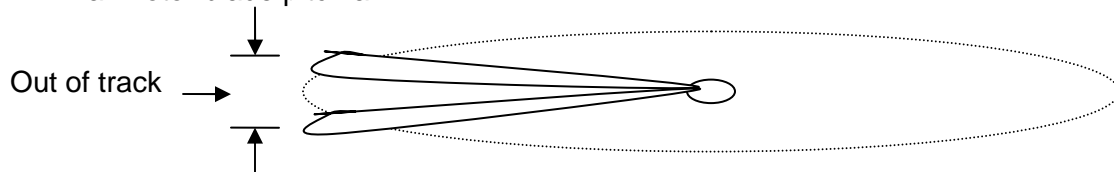
- (a) Rev up the motor until the helicopter becomes light on its landing gear.



- (b) If the main rotor blades are in track , it's good.



- (c) If the blades are out of track, then adjust one of the pushrods that connect to the main rotor blade pitch arm.

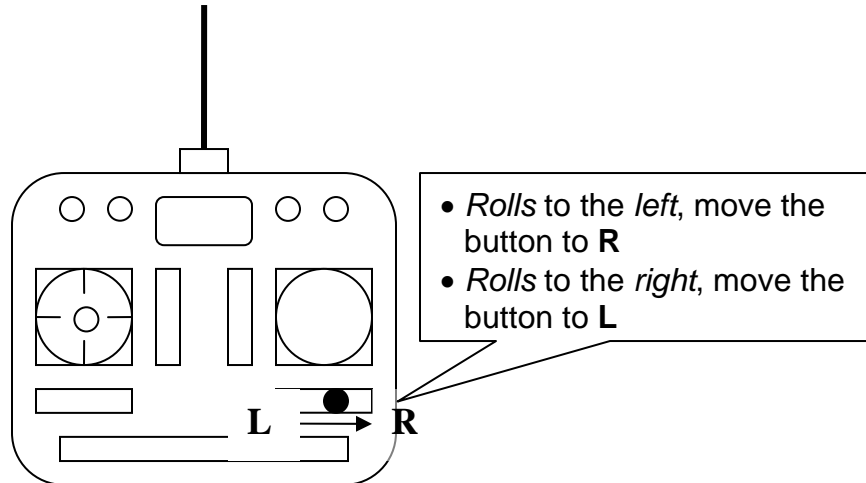


Repeat steps (a) to (c) until the blades are in track.

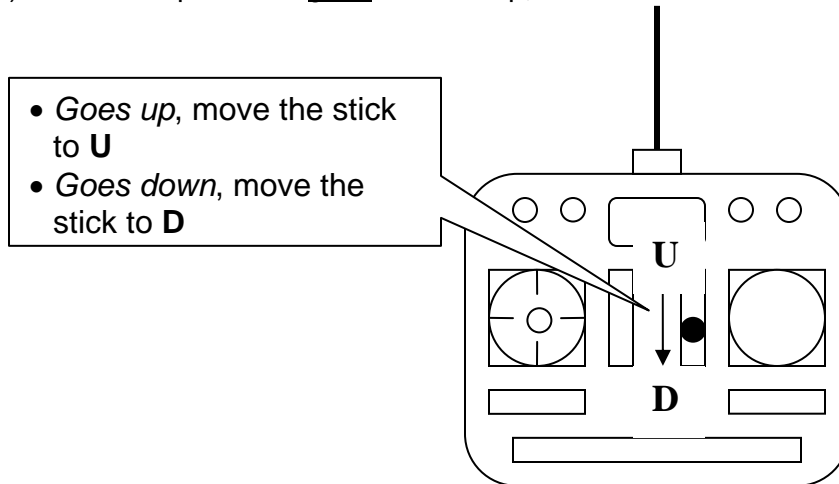
Trimming: Most of new built helicopters are unstable. But if you trim your helicopter properly, you will stop it from drifting away or yawing by itself quickly. Followings are instructions for trimming your helicopter.

- (a) If the helicopter nose starts to yaw left or right, adjust the tail rotor push rod to compensate. If using a Heading Hold Gyro, do not adjust the trim lever on the radio.

- (b) If the helicopter rolls to left or right, then:



(c) If the helicopter nose goes down or up, then:



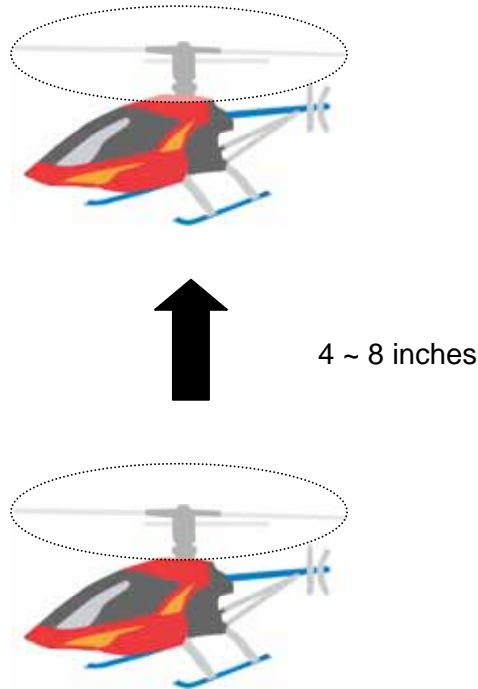
HOW TO HOVER

Basic maneuver for a pilot is learning how to hover a helicopter. When the helicopter is floating in a stationary position in the air, we call that hovering. Use the following procedure to practice your hovering:

- (a) Make sure everything is clear in the flying zone. Stand at least 30 feet (10 meters) behind the helicopter.
- (b) Check the main rotor fore/aft and left/right cyclic to make sure the main rotor is following to your cyclic command before taking off. Make sure the helicopter nose will swing in your desired directions by moving the tail rotor control stick.
- (c) Now, increase the throttle/collective gently to lift the helicopter landing gear off the ground to no more than 4 inches (10 cm). At the beginning, it is very difficult for the

pilot to keep the helicopter from moving. It will also be difficult to know if the helicopter is in trim or not for a beginner. Keep going on the practice close to ground you will develop your skills.

- (d) Keep practicing lifting your helicopter no more than 8 inches (20cm) from the ground until you feel comfortable with control commands. Once you can keep it at one place, then it is time to slowly increase the height a few inches in each flight. Soon, you will be able to hover the helicopter confidently at a few feet high. Beginners should always practice hovering close to ground since in an emergency situation; you can drop the throttle and collective quickly without making any big damage.

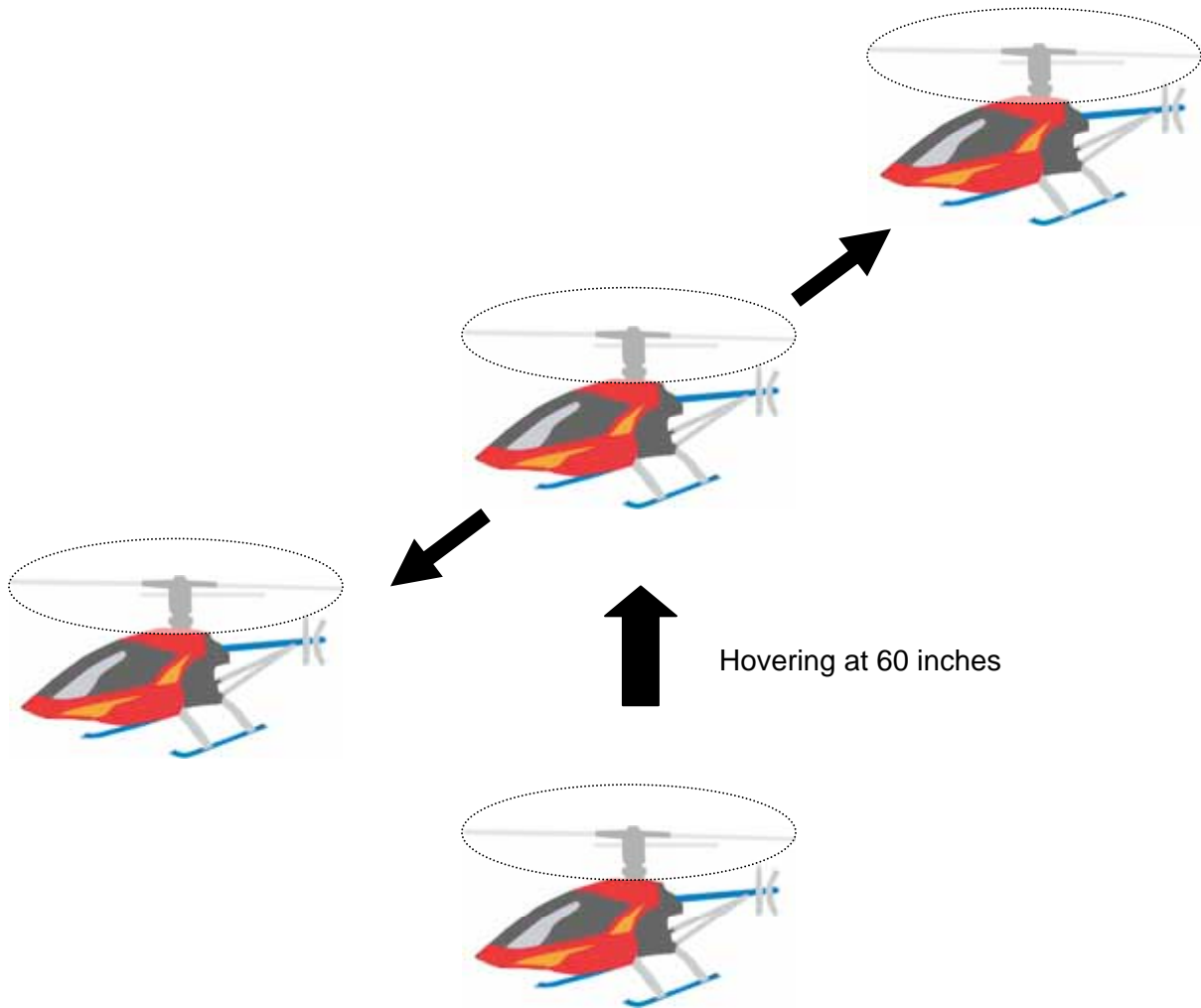


- (e) Stand behind the helicopter so you can watch the nose of the helicopter. A left tail rotor command will yaw the helicopter nose to the left, and a right command will yaw to the right. Also, a left cyclic command will cause the helicopter to translate left., Start practice hovering while standing to either side of the model after you can comfortably hover the helicopter at 3 feet (1m) high without drifting. Finally, you need to learn hovering the model from any positions. When you can confidently hover a helicopter at any altitude and at any position, you have mastered most of the fundamental control movements of a helicopter.

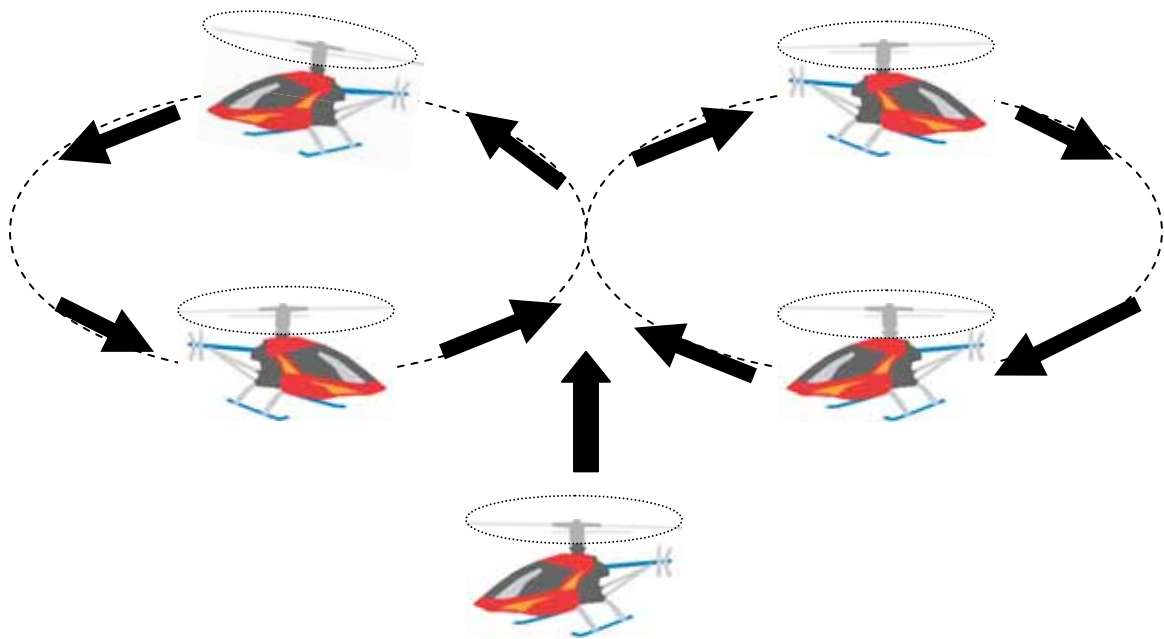
HOW TO FLY FORWARD

Once you have mastered hovering flight:

- (a) Let's begin the exercise of changing positions by practice moving the helicopter to the left or right slowly from 60 inches (1.5 m) above the ground.



(b) Once you have been comfortable with all the movements and controls in the previous step, start using some tail rotor control to make the helicopter point slightly to the left or right as you fly it to the left or right. Keep practicing the figure-eight path as shown below, you will master all basic control movements of a helicopter.



AFTER FLIGHT CHECKS

After each flight, the helicopter should be thoroughly inspected:

- (a) Unplug the batteries.
- (b) Check every bolt, nut, and screw to make sure none has loosened due to vibration.
- (c) Check every rotating and movable part like head rotor, swashplate, tail rotor...to ensure they still move smoothly and properly.
- (d) Check all movable parts, such as gears, ball links, belt, etc. for unusual wear.
- (e) Clean up the helicopter then lubricate every moving part with oil to ensure a smooth operation in the future.
- (f) Keep the helicopter in a cool and dry place. Avoid storage under direct sun light or near heat.
- (g) Please replace any damaged parts if they are discovered during maintenance.

WHAT IF THE HELICOPTER CRASHED

Turn off everything and check the helicopter immediately. If any item is damaged, replace the damaged parts to ensure safe operation. Do not try to glue any broken or damaged plastic or carbon parts specially broken rotor blades. The followings are parts that should be inspected right away:

- Main and tail rotor blades.
- Flybar, main shaft, head spindle, and tail output shaft.
- All the gears.
- Tail boom and supports for cracks.
- Vertical and horizontal fins.
- Frames.
- All pushrods.
- Servos, motor, and batteries.

SPECIFICATION

Blades	17-19 inches (440-475 mm)
Length	35 inches (889 mm)
Height	13.75 inches (349 mm)
Full Equipped Weight	4.90 lbs (2.22 kg)
Batteries	Lithium Polymer 6S-1P (long cell)
Motor	Axi 2826/6 OEM KV-2000
Frame Thickness	1.5-1.65 mm
Spindle	5mm
Main Shaft	8mm
Canopy	Fiberglass