RC-TEK Ltd. SKYSHARK 450 REFERENCE MANUAL

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Frame Assembly

On each page of this manual the parts required for each step will be listed below along with a set of images showing the stages of each part of the build.

When you see this symbol  apply a little threadlock to the end of the screw before assembly. When reassembling make sure you clean off any old threadlock from any parts.

Note: When putting the canopy mounts together make sure you have them protruding from opposite sides of the frame as per image 2 below. The screws in image 5 only need to be finger tight at this stage, We will tighten them properly once we add the boom in a later step.

Parts Required


Frame A x 2


Screw 7mm x 2

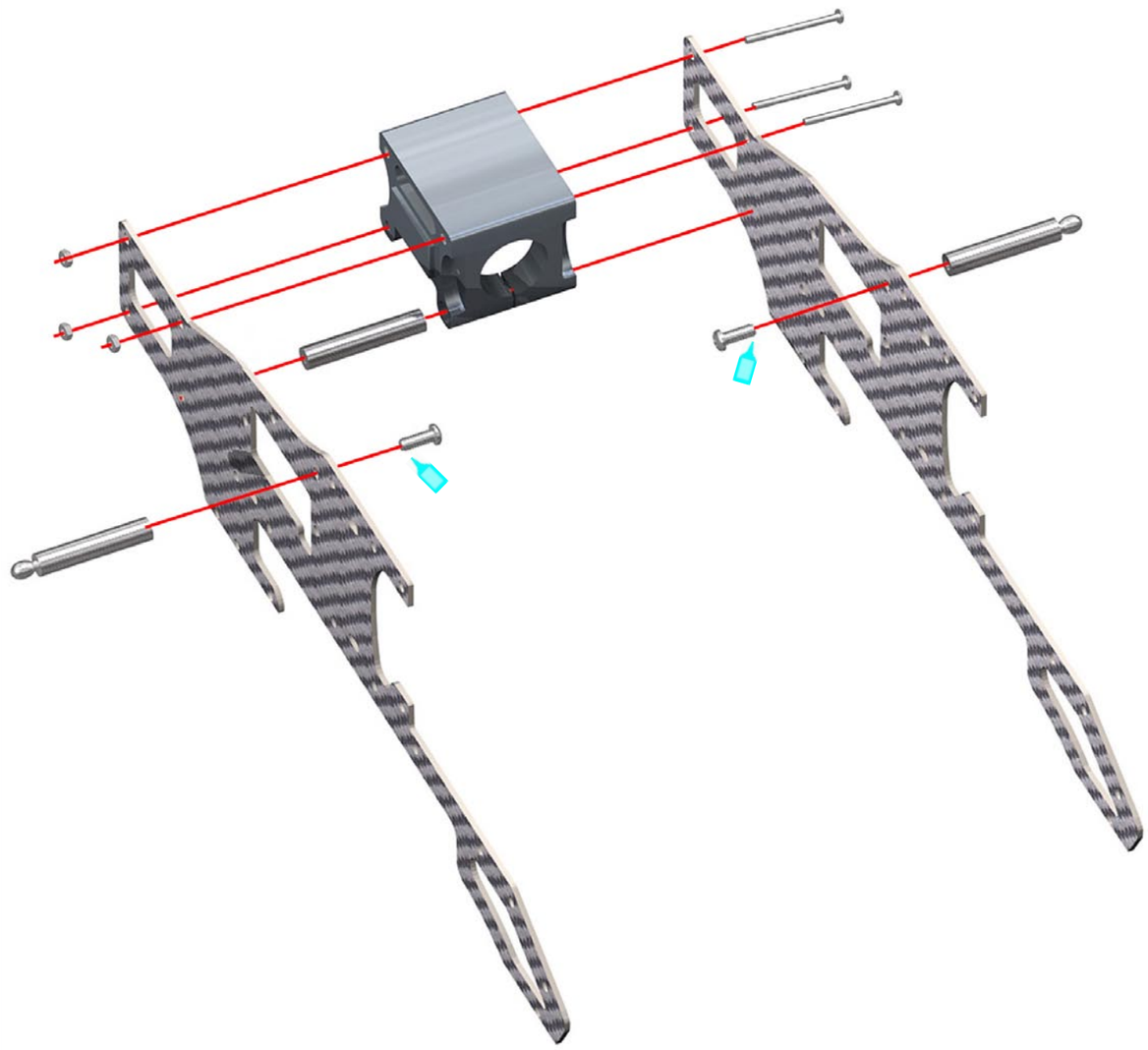

Canopy Mount x 2


Boom Clamp x 1


Standoff x 1


Screw 27mm x 3


M3 Nut x 3



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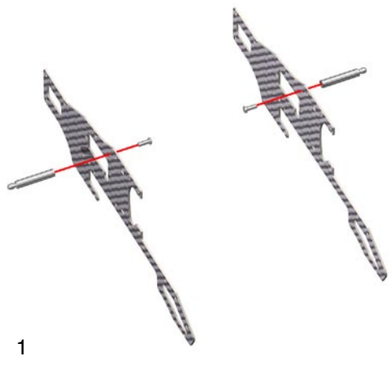
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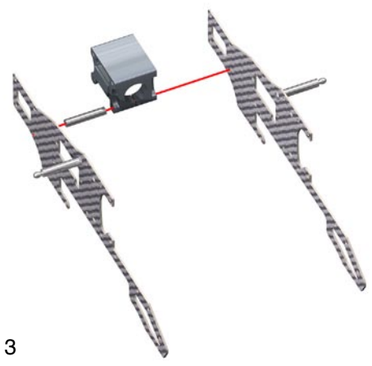
2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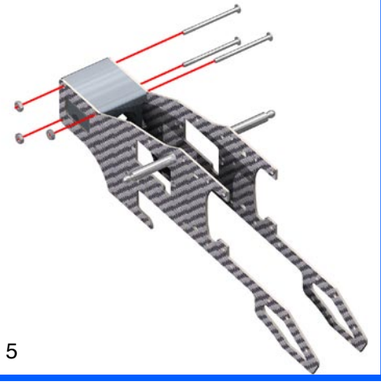
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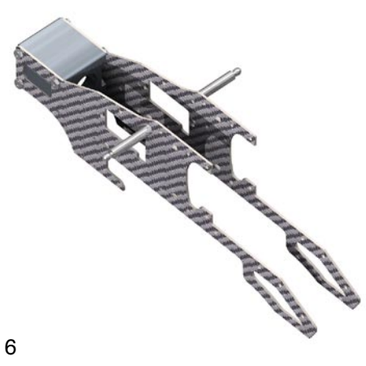

6

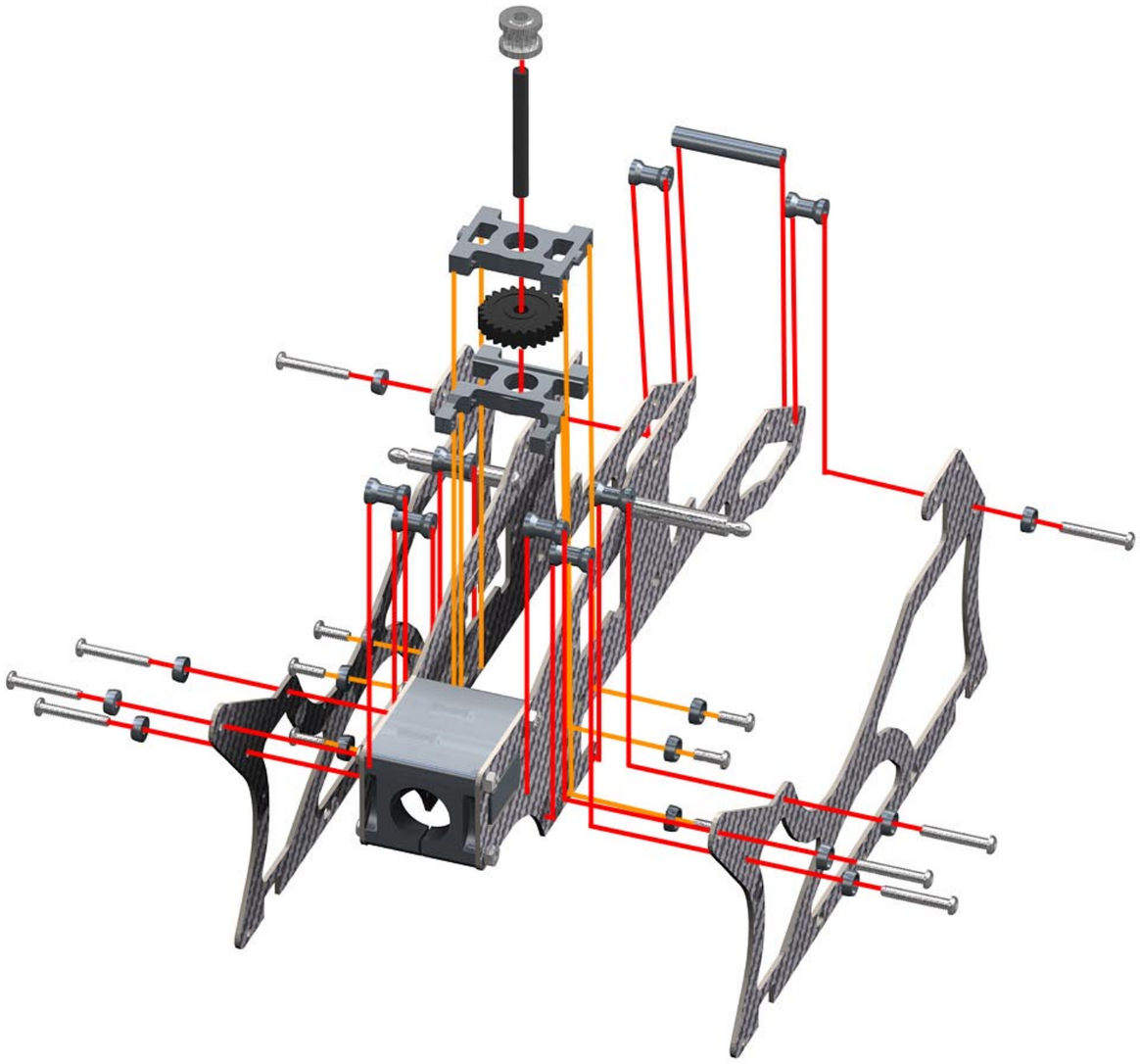
Frame Assembly Continued

This step will add the lower frames, the tail gears & bearing block.

There looks to be a lot to do in this section but both sides are identical.

It will probably be easier to follow the smaller images below as they show fewer items and the best order in which to put them together.

Note: When adding the lower frames, screws and spacers for images 4 & 5 it is best to put them all in finger tight resting the model on something flat to make sure the frames are parallel and then removing one screw at a time add threadlock and screw in tight.



Threadlock all screws per notes on the left

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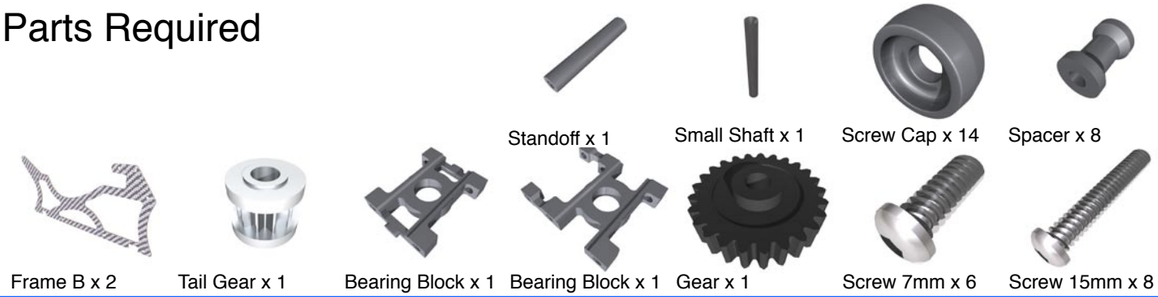
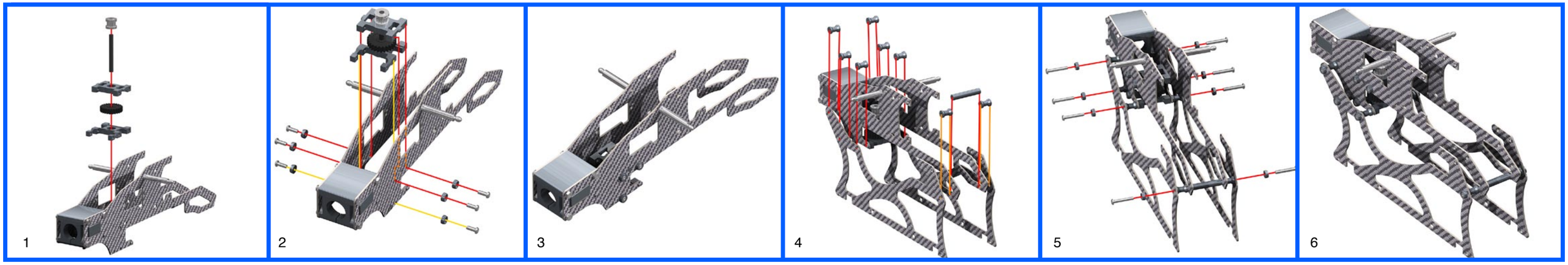
Parts Required



Standoff x 1 · Small Shaft x 1 · Screw Cap x 14 · Spacer x 8

Frame B x 2 · Tail Gear x 1 · Bearing Block x 1 · Bearing Block x 1 · Gear x 1 · Screw 7mm x 6 · Screw 15mm x 8



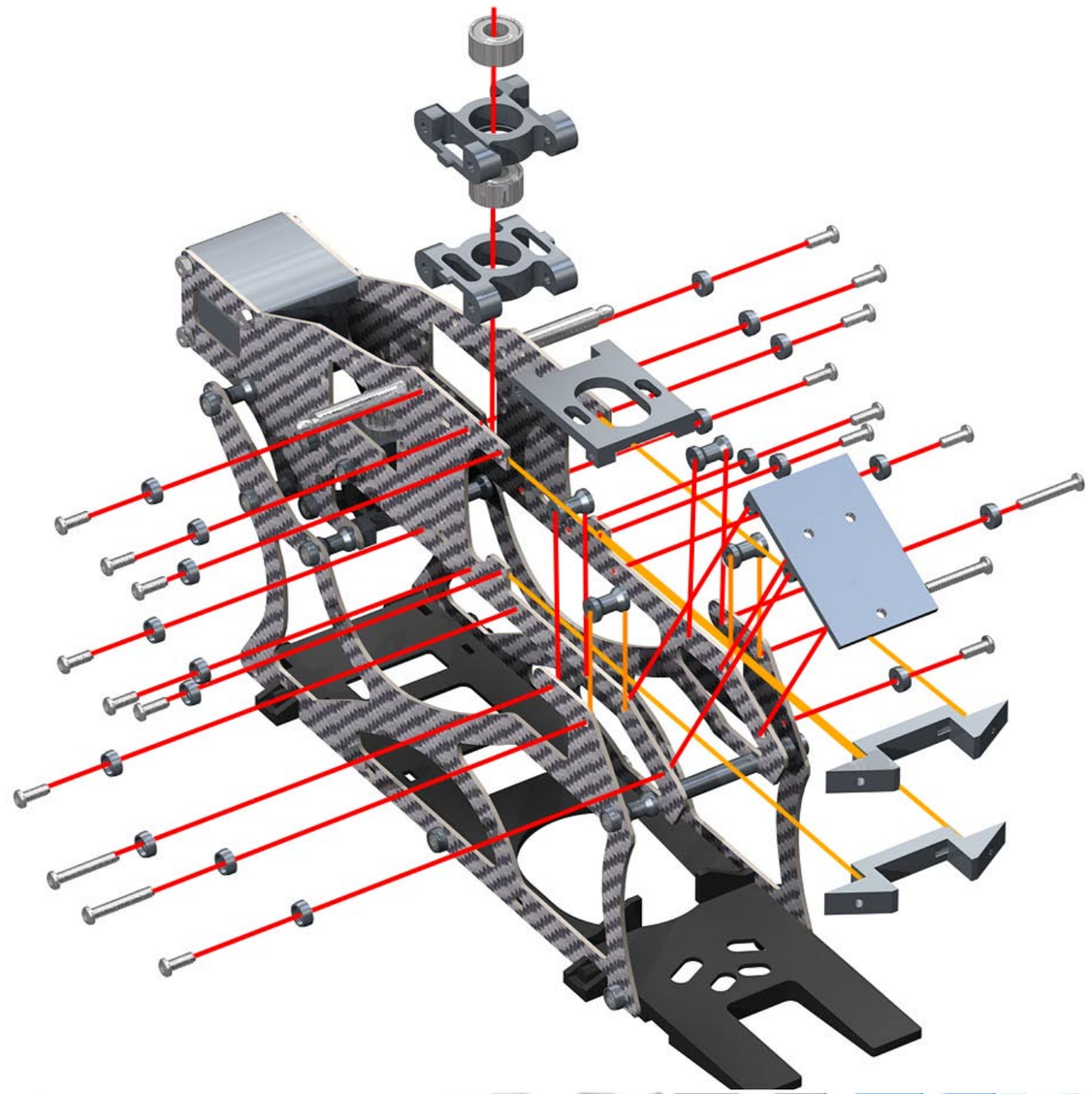
Frame Assembly Continued

This is the last part of the frame assembly adding the rest of the screws, the Battery mounting plate, Base plate, Servo Mounts & Main Shaft bearing block.

Again there looks to be a lot to do in this step.

It will be easier to follow the smaller images below as they show fewer items and the best order in which to put them together.

Note: All Screws on this page will need threadlock, the threadlock symbol has not been placed by each screw as the image is already quite complex.



Threadlock all screws per notes on the left

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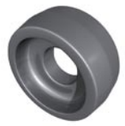
Parts Required

Battery Plate x 1

Servo mount x 2



Screw Cap x 20

Spacer x 4

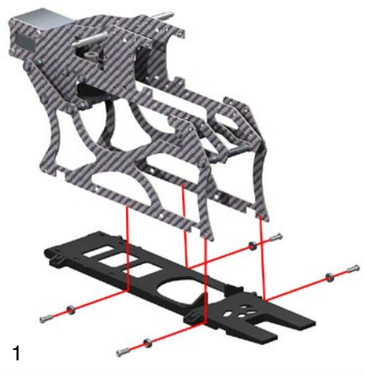
Bearing 10.5x5 x 2

Bearing Block x 2

Metal Plate x 1

Screw 7mm x 16

Screw 15mm x 4



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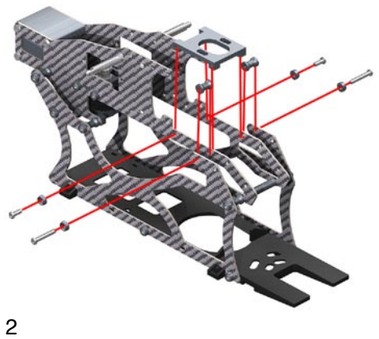

2

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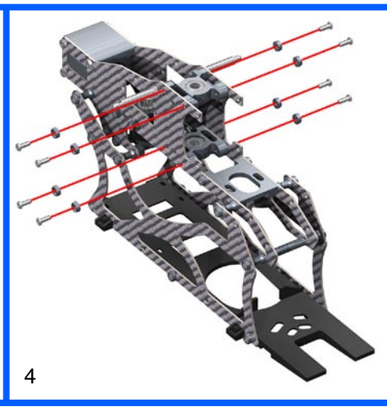

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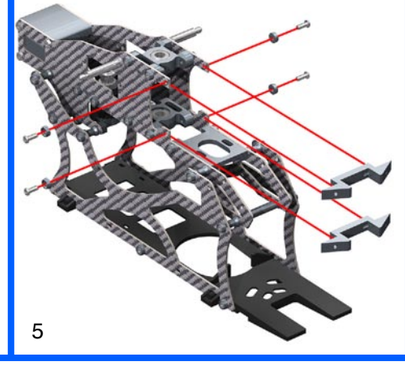

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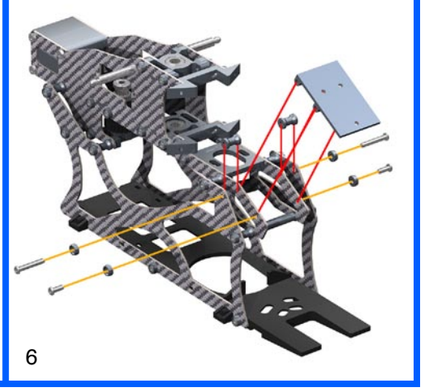


6

Skids Assembly, Battery Plate & Swash Restraint

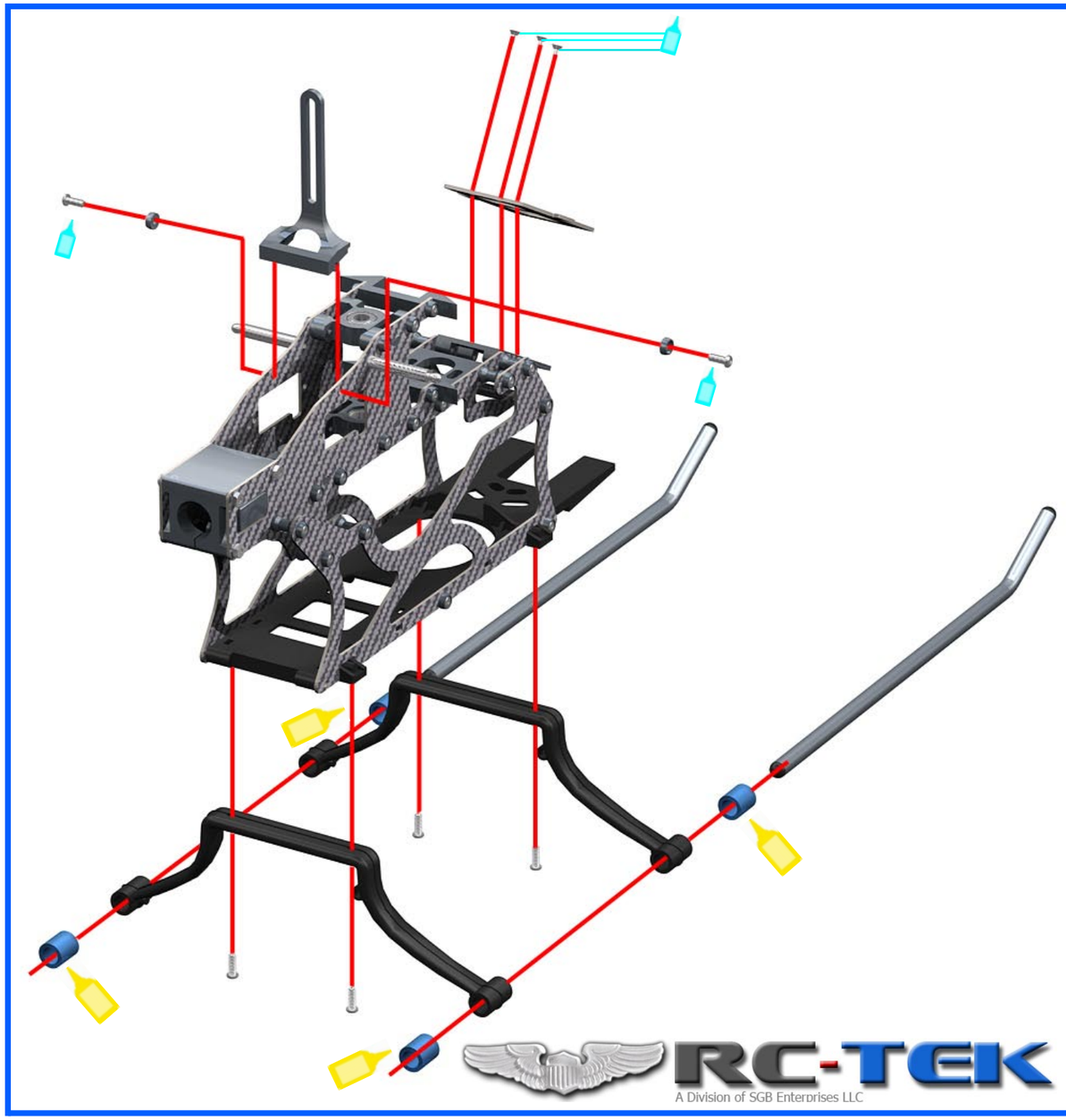
Now we will add the skids assembly and the last parts that go on to the frames.

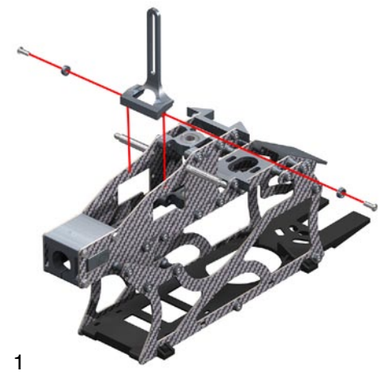
This section is quite straight forward, Should any problems occur the images below should help.

Note: The black ends on the skid pipes are shown connected on the image these will need CA.
To glue the rubber stoppers on the skids slide them past the place where they need to sit then add the glue to the skid pipe before sliding in to place to avoid getting ca all over the pipes.

Add CA Glue where you see this symbol

Parts Required

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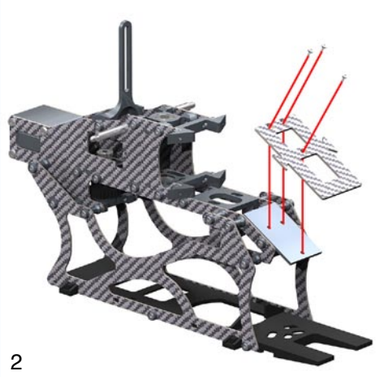
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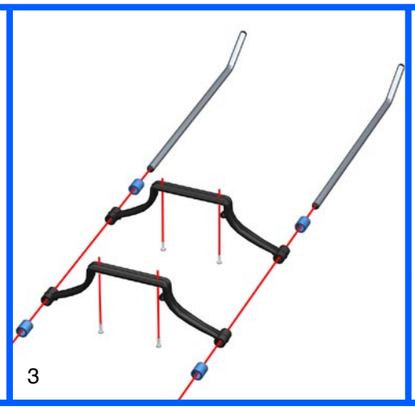
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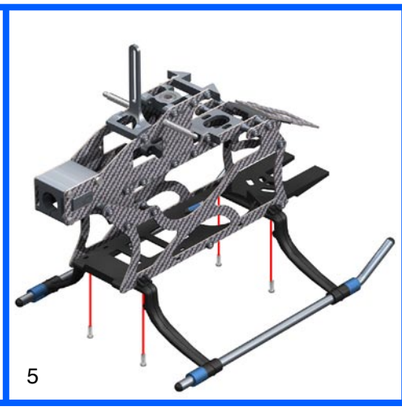
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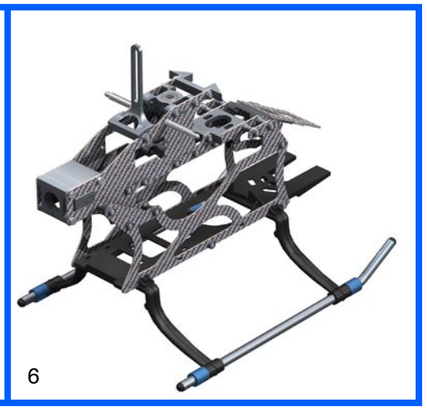

6

Tail Assembly

This step starts the tail assembly adding the tail hub, belt, boom and tail shaft.

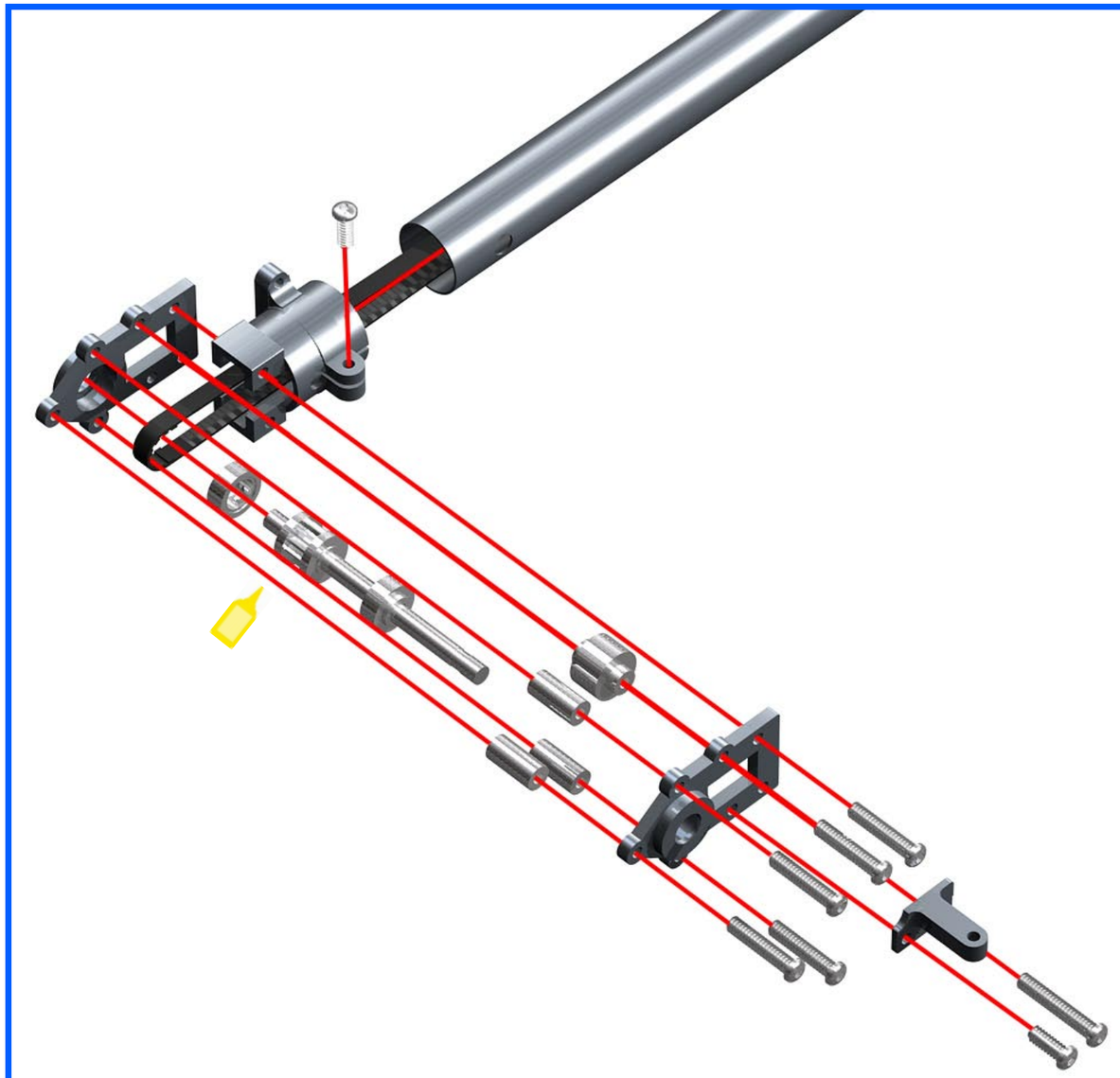
This section is quite straight forward, Should any problems occur the images below should help.

Note: Add CA to the tail shaft then slide on the tail gear before assembly

Parts Required

Standoff x 3 | Tail arm x 1 | Tail hub x 1 | Pitch x 1 | Boom x 1

Tail Belt x 1 | Tail Gear x 1 | Tail pulley x 1 | Bearing x 2 | Tail shaft x 1 | Screw 7mm x 2 | Screw 15mm x 6



Threadlock all screws on this page

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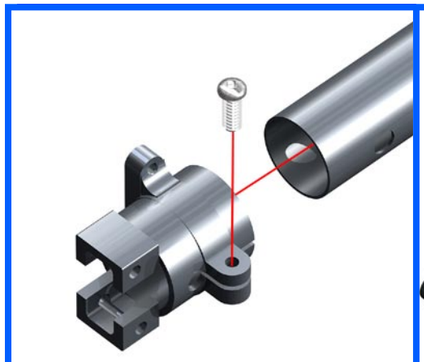
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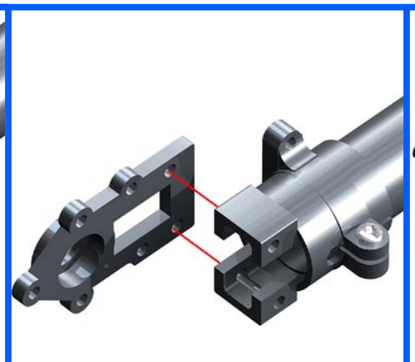
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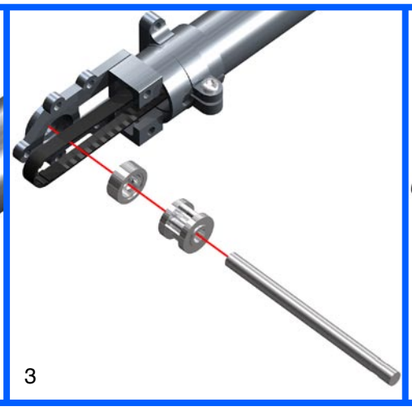
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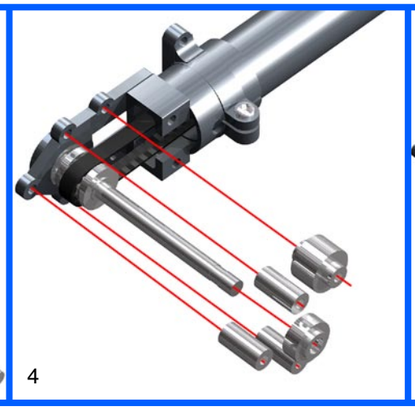
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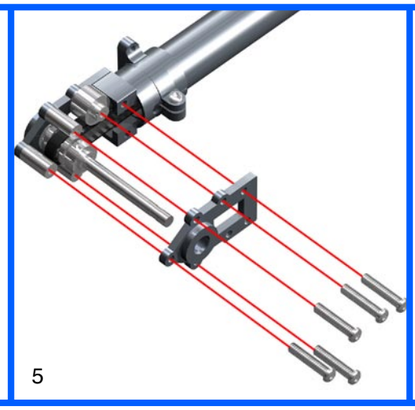
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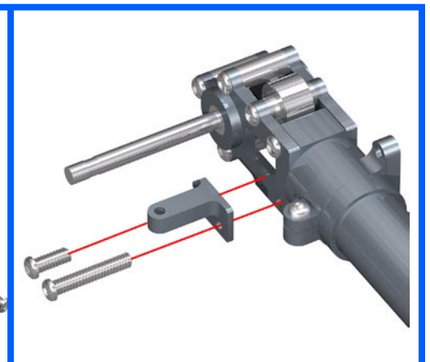
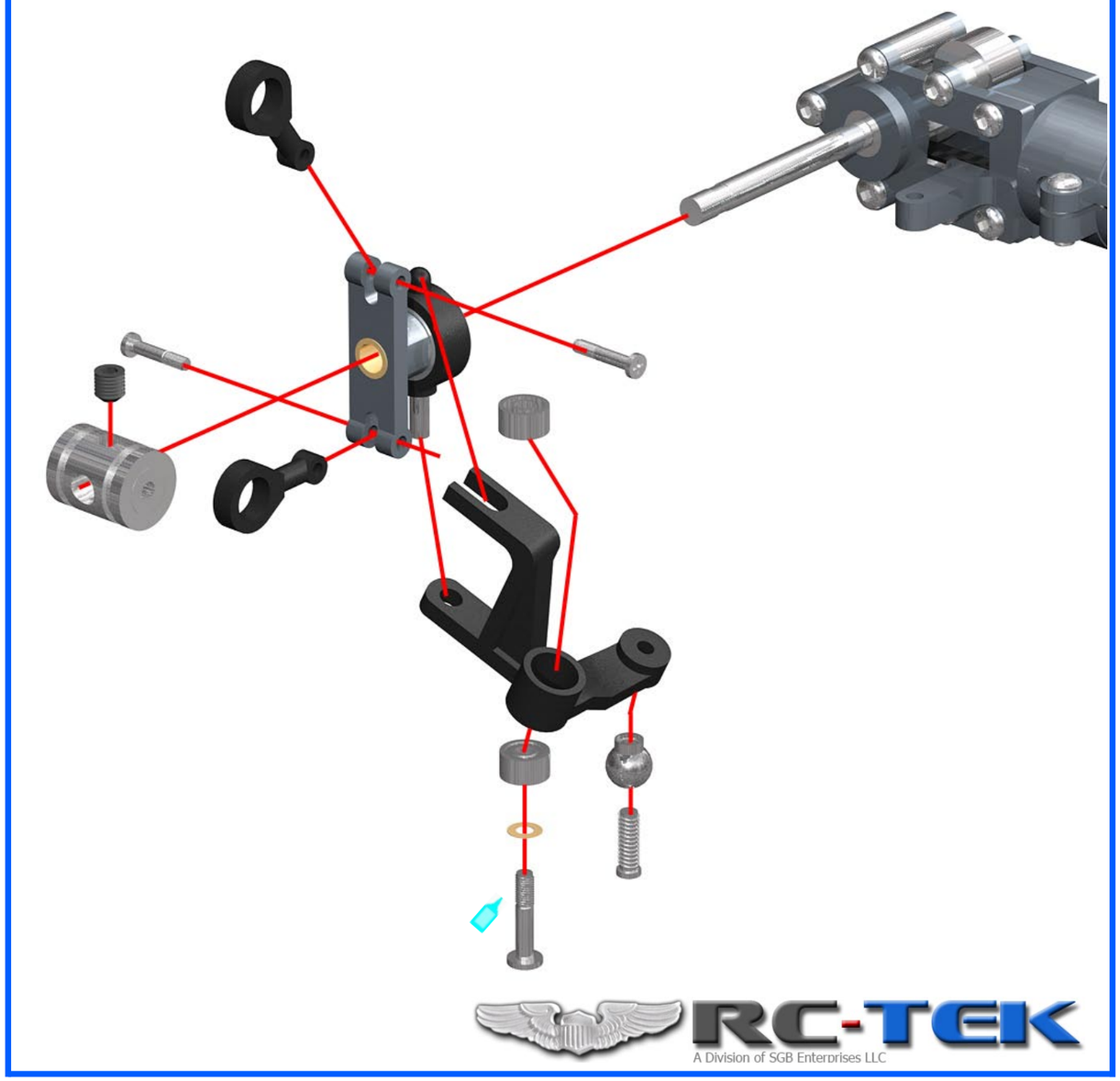

6

Tail Pitch Slider

This step will add the tail pitch slider.

The only part that may cause a small problem in this section may be the plastic pitch arm, it does require a small amount of force to get it on to the pitch slider hub. Image 1 below shows the angle to slide the arm on to the hub before snapping in place.

Note: Do not over tighten the screws in images 2 & 4 so that the pitch slider and ball link arms move freely, if they are a little stiff back the screws off slightly. When adding threadlock to the screw in image 4 it may be better to add it to the mount so not to get threadlock in the bearings.



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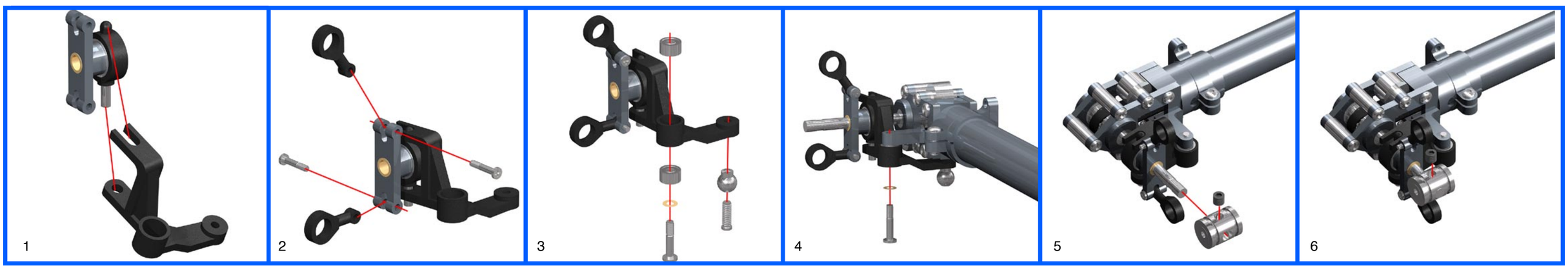
Parts Required

Pitch Slider x 1 | Slider arm x 1 | Grub Screw x 1 | Tail Hub x 1

Ball link x 1 | Screw 7mm x 1 | Link arm x 2 | Washer x 1 | Bearing 5x2x2.5 x2 | Screw 7mm x 2 | Screw 10mm x 1

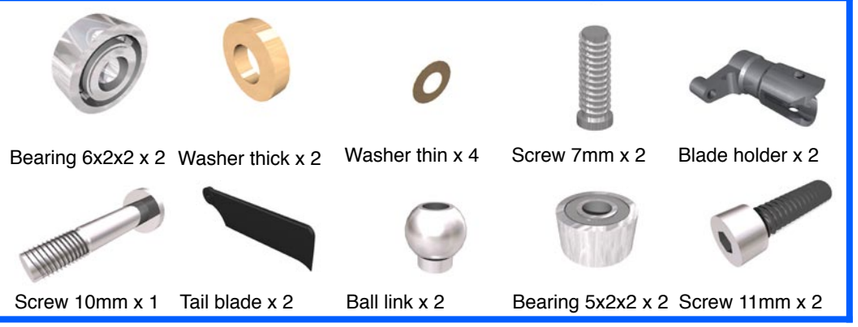


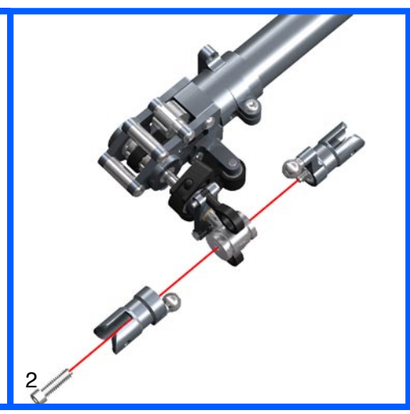
Tail Blade holders and Blades

This is the penultimate section in completing the tail assembly.

Note: When adding the threadlock to the 2 blade holder screws it will probably be better to add it to the blade hub so not to get threadlock in the bearings. You will need 2 screwdrivers when tightening the 2 blade holder screws, using 1 will just cause the screws to turn in the bearings. Do not overtighten as the blade holders need to move freely and it may crush the inner races of the bearings. Do not overtighten the blade screws (image 5) the blades need to be secure but able to move in there holders when a small amount of force is applied

Parts Required

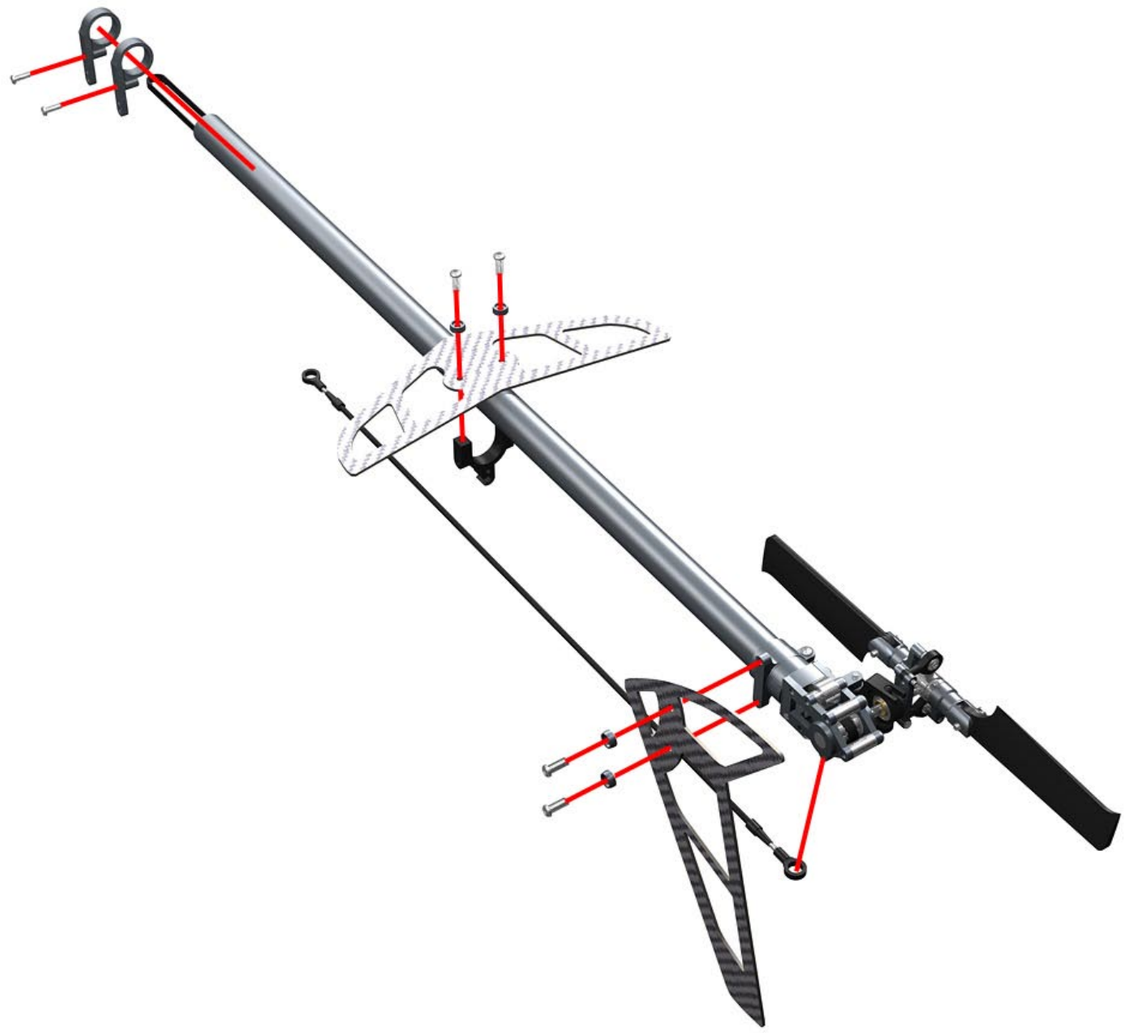




Tail assembly completion

This step will complete the tail assembly adding the Horizontal, Vertical fins tail control rod and boom mounted tail servo holders.

Note: Do not add threadlock to the servo holder screws (image 5) untill you come to add the tail servo so you can get the correct placement. The screws in image 4 need only be finger tight untill we add the boom struts in the next section in order to slide the horizontal fin into place.



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Parts Required


1


2


3

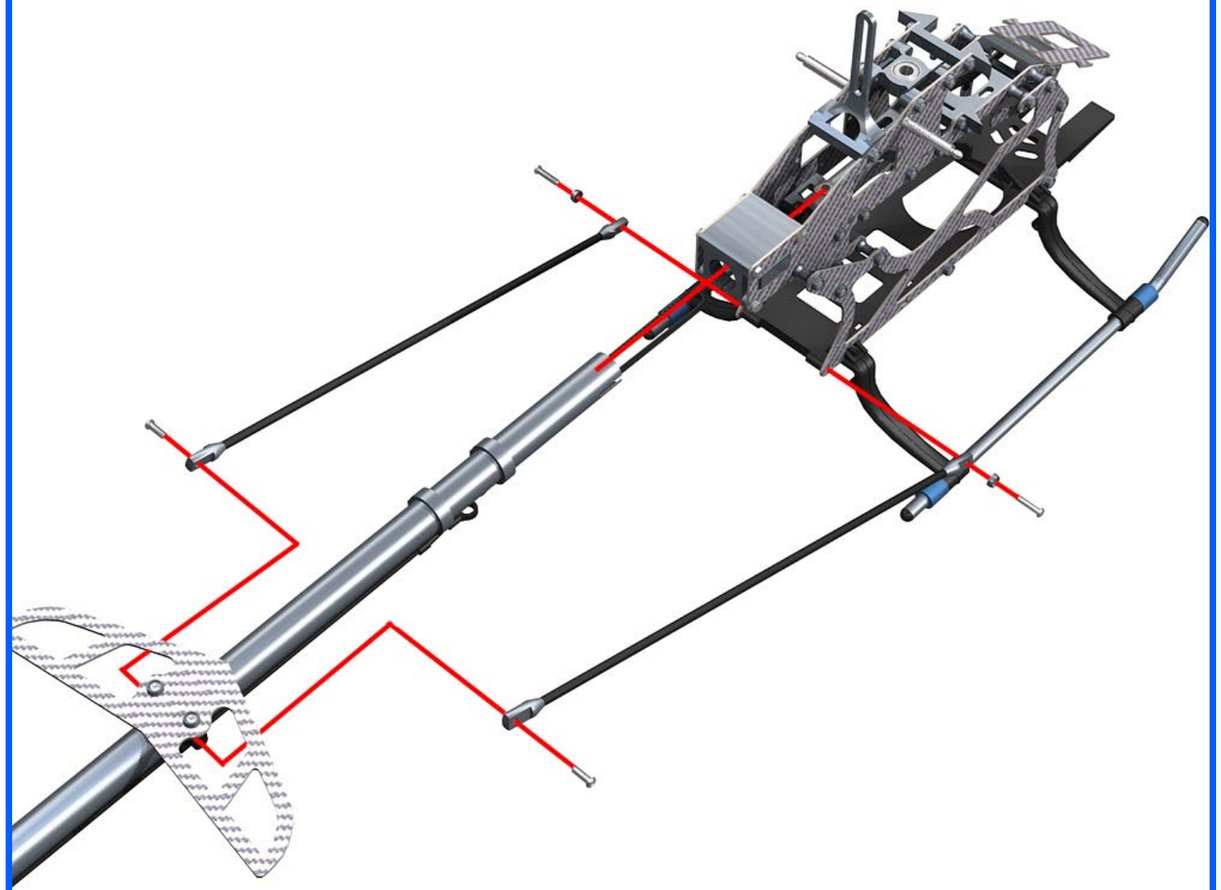

4


5


6

Attaching the Tail assembly to the frames

Note: Before inserting the tail section into the rear of the frames the tail belt needs to be rotated 90 degrees anti clockwise, do not twist more than 90 degrees as this will cause the tail to grind or lock up when turning the main blades. The screws in the boom hub may need to be loosened slightly before inserting the boom, once the boom has been inserted and the belt placed over the gear the boom can be pulled backward to apply tension to the belt then the hub screws can be tightened. When squeezing the belt together between the boom hub and tail gear both sides of the belt should not touch each other but stop about 3 quarters of the way.



Parts Required

Boom Stay x 2 Screw 9mm x 2 Screw 13mm x 2 Screw cap x 2

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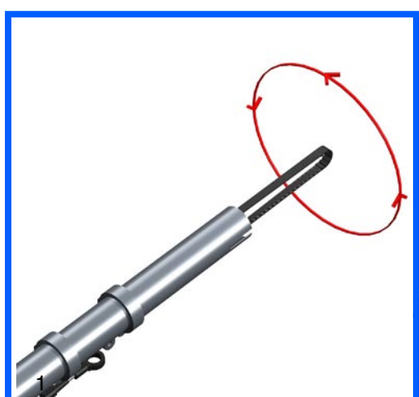
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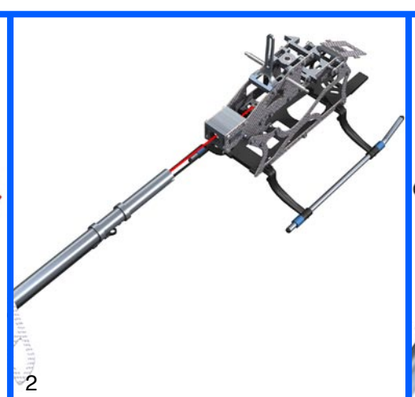
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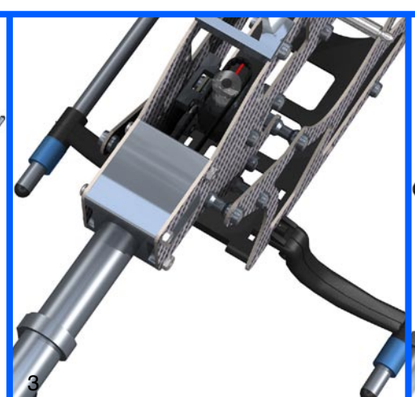
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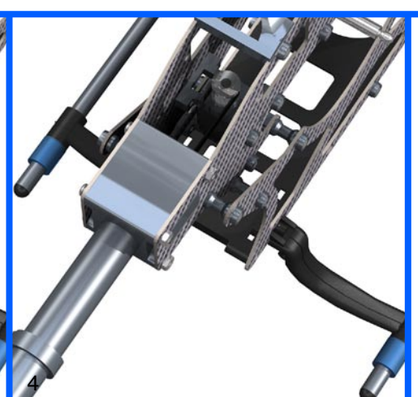
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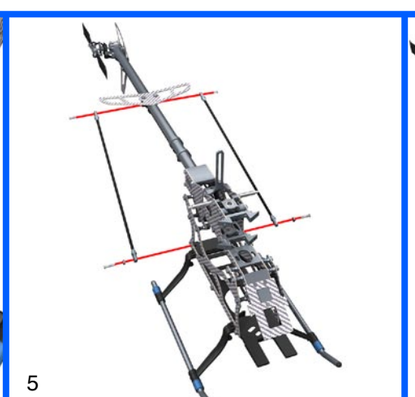
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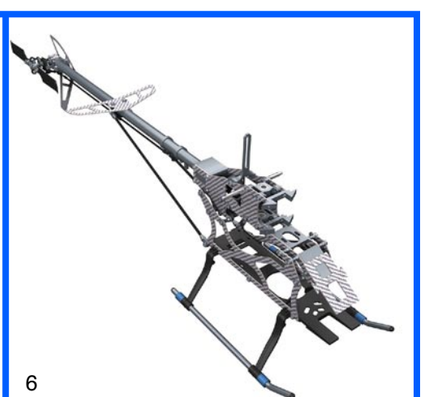
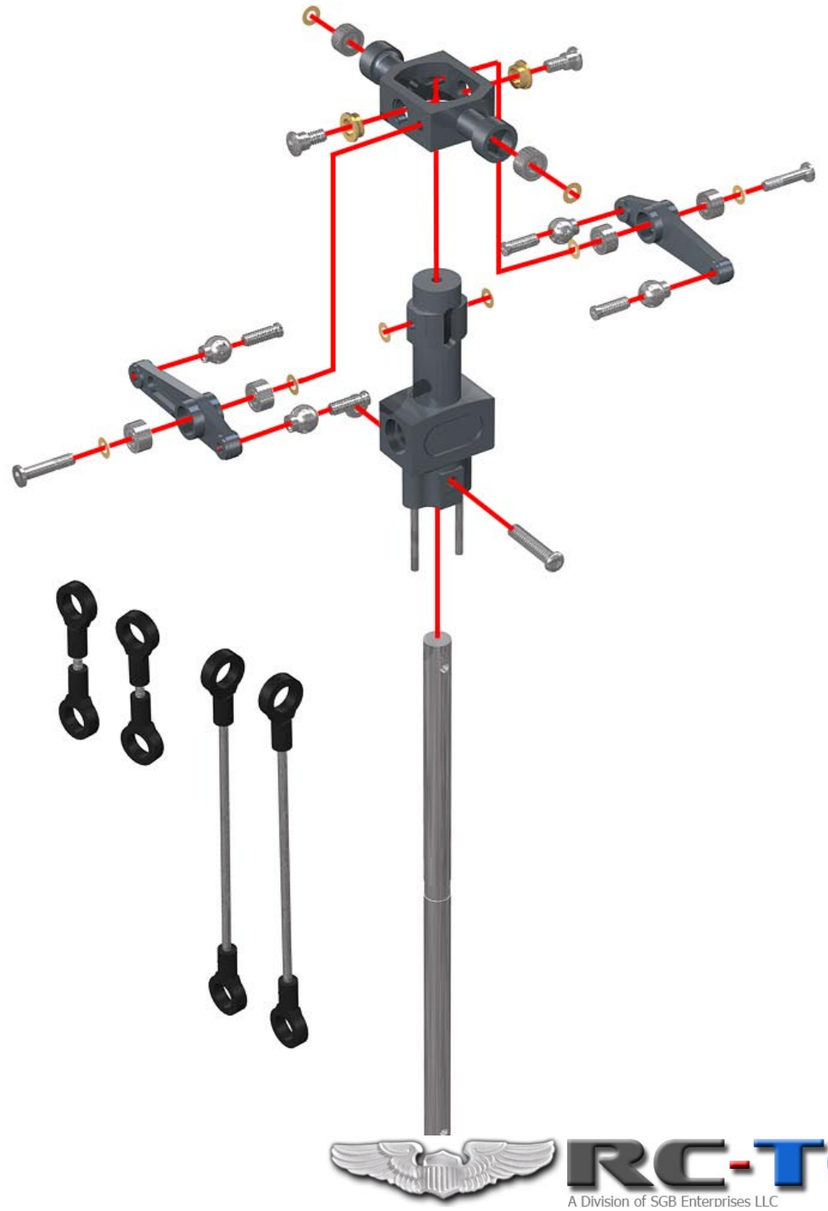

6

Rotorhead Assembly

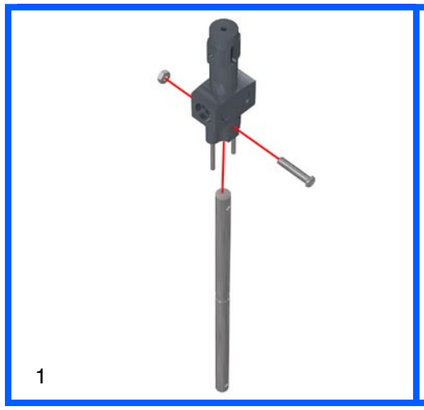
This is the first step in asembling the rotorhead be sure to double check the amount of washers needed for each section.

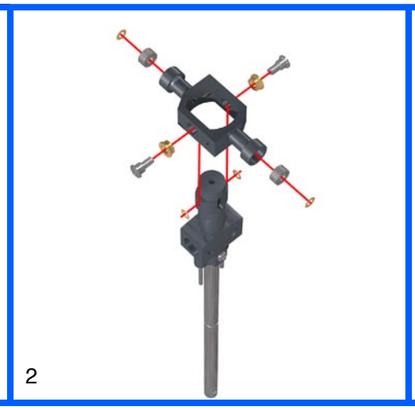
The images below show the best order in which to put the head together.

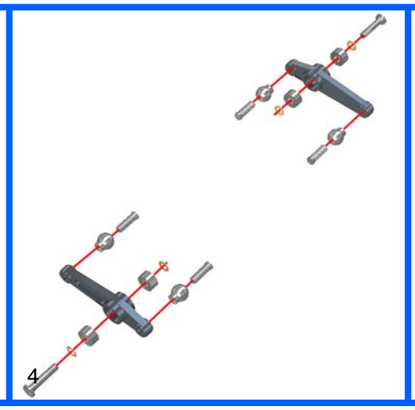
Note: Do not overtighten the screws in image 2 and 6, the flybar rocker and washout arms should move freely.

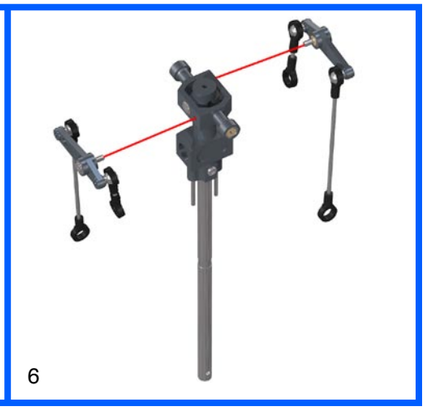


Parts Required





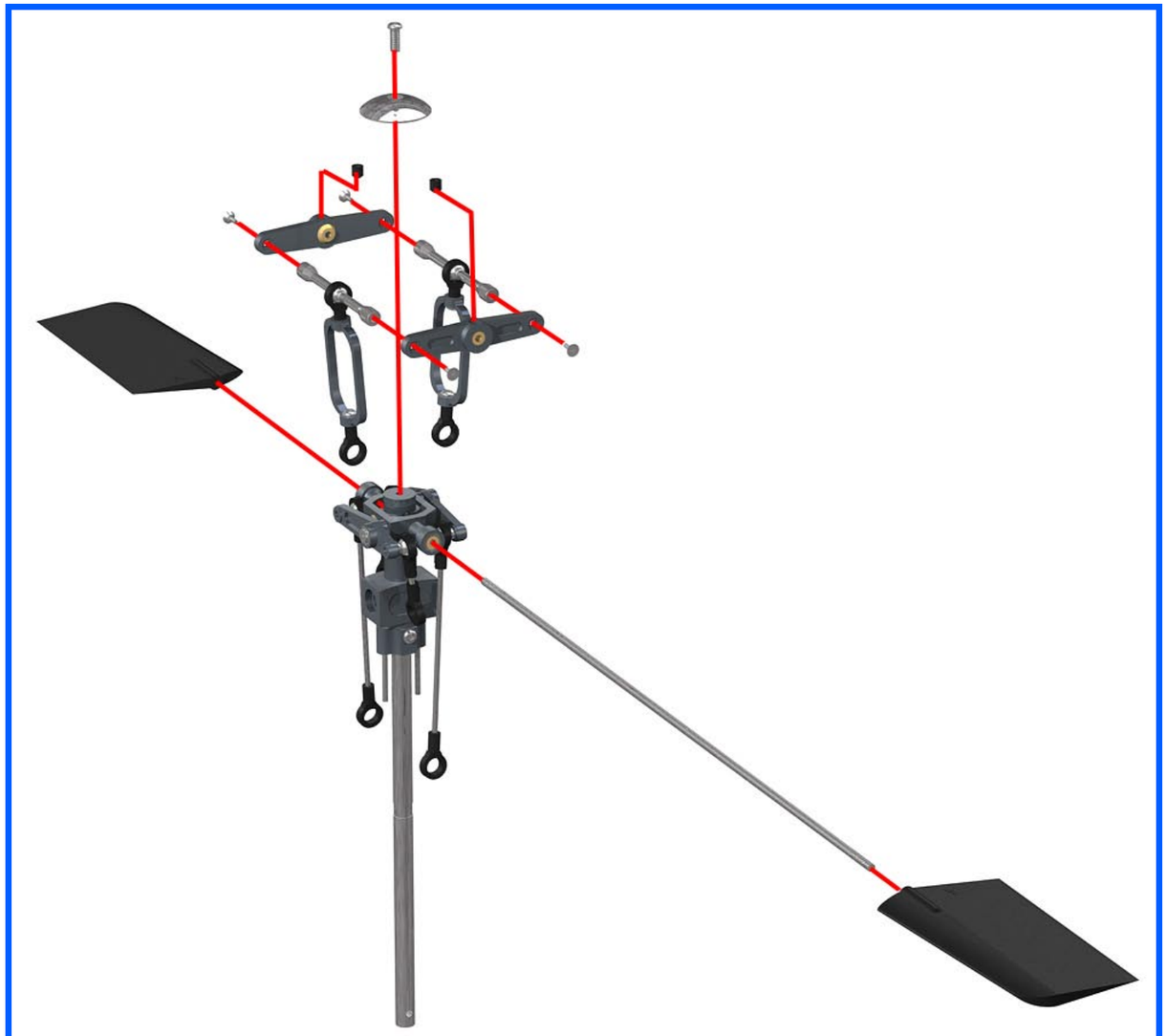




Flybar carrier and head button

This step will add the flybar carrier, flybar and blades to the main rotorhead hub.

Note: Before threadlocking the 2 grub screws (image 4) make sure the flybar is centered and there is the same distance from either end to the flybar carrier arms, once centered tighten one grub screw to hold the flybar in place then threadlock the other grub screw tighten then remove threadlock and tighten the first grub screw.



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Parts Required


Flybar blade x 1


Screw 5mm x 4


Ball link long x 2


Flybar arm x 2


Ball link short x 2


Frame Screw x 2


Grub Screw x 2

Screw 5mm x 4

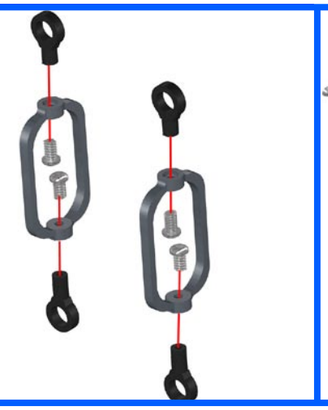

Flybar x 1


Screw 7mm x 1


Head Button x 1


Flybar loop x 2


Flybar link x 2


1


2


3


4


5

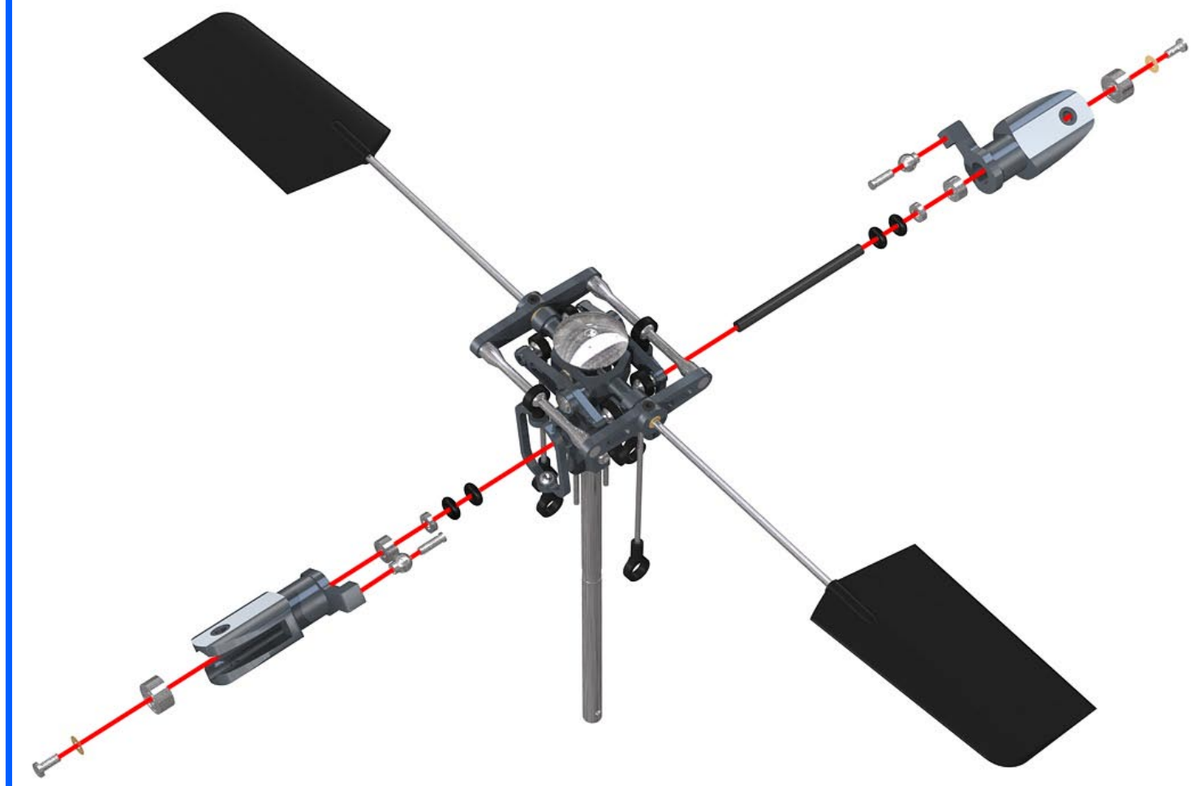

6

Main Blade Holders

Now we will add the main blade holders on to the rotorhead.

It is easier to build one side of the blade holders first, push 2 o-rings on to the feathering shaft then the washer then the smaller bearing. Then place the feathering shaft assembly in to 1 of the blade holders, place the larger bearing and small brass washer on to the screw and isert into the blade holder screwing in to the feathering shaft. Pass the feathering shaft through the blade hub and complete the opposite side.

Note: When adding threadlock it will be better to add it to the end of the feathering shaft to avoid getting threadlock in the bearings. Be sure to check the orientation of the blade holders the side with the ball link on should face the trailing edge side of the blade.



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Parts Required


Bearing 6mm x 2


Feathering Shaftx1


O-Ring x 4

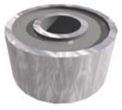

Screw x 8


Screw 7mm x 2


Ball link x 2

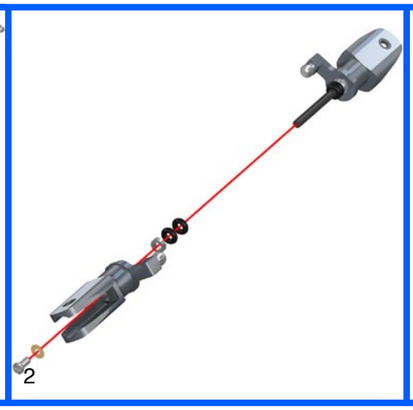

Spacer x 2


Blade Holder x 2


Bearing 8mm x 6


Washer thin x 2

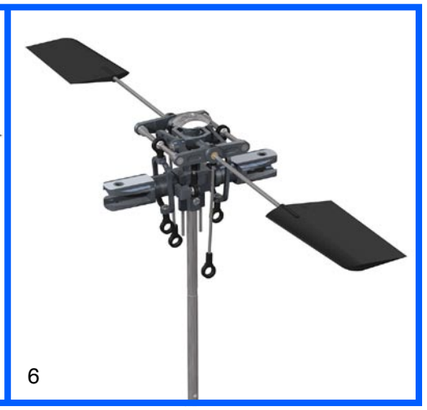

1


2


3


4


5


6

Washout Assembly.

In this step we will add the washout assembly.

As per image 1 below build the 2 washout arms first makeing sure the ball link goes on the inside of the arm with the centre standoff sticking out away fromo the ball link.

Note: As with any moveing parts you do not want to over tighten the screws in images 2 & 3 below to allow smooth movement but you also do not want any play in the parts. When pulling on the washout arms there should be no lateral movement but they should rotate freely. Also note the way the 2 black washout arms face inwardsas per image 4.

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Parts Required


Washer thin x 4


Screw 7mm x 2


Washout arm x 2


Washout link x 2

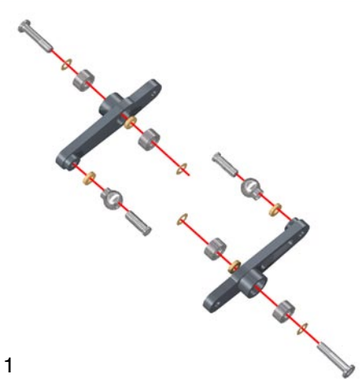

Bearing 5x2x2 x 4

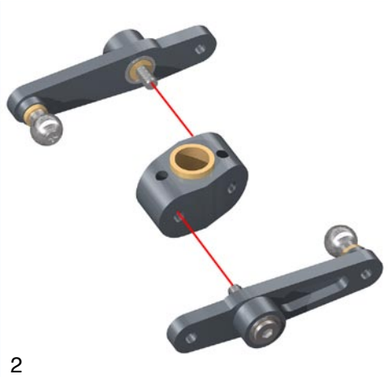

Washer thick x 4


Ball Link x 2


Screw 7mm x 2


Washout hub x 1


1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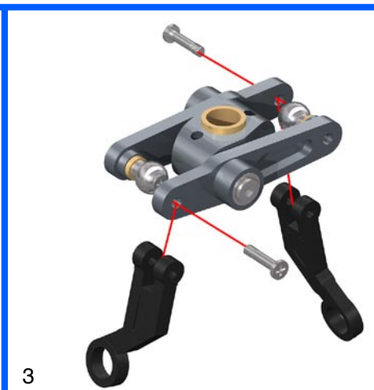
3


4


5


6

Swashplate Assembly

Screw all 4 ball links on to the upper part of the swashplate. Screw only 2 ball links on to the lower part of the swashplate leaving one arm with no ball link. Th 3rd arm will have a longer ball link that will go through the swash restraint in the next step.

Note: Add threadlock to all the screws with the ball links making sure not to get any on the rotating parts of the swashplate. There are 3 links to add in this section 2 long 1 small. There lengths are as per the dimensions on the right.

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Parts Required

Collar x 1

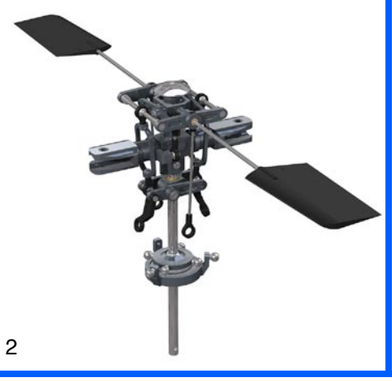
Swashplate x 1

Grub screw x 1

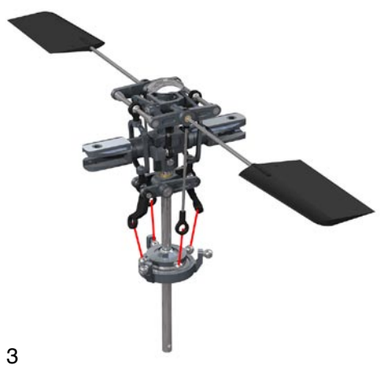
Screw 7mm x 6

Ball link x 6

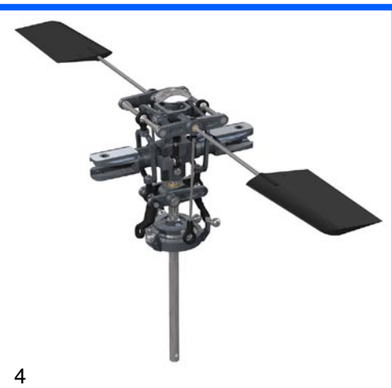
1



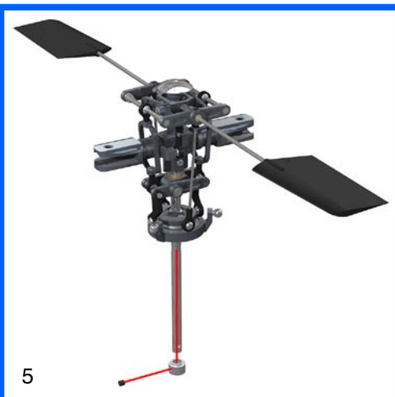
2



3



4



5

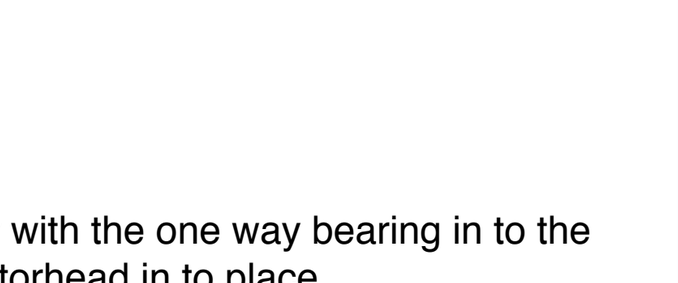
6

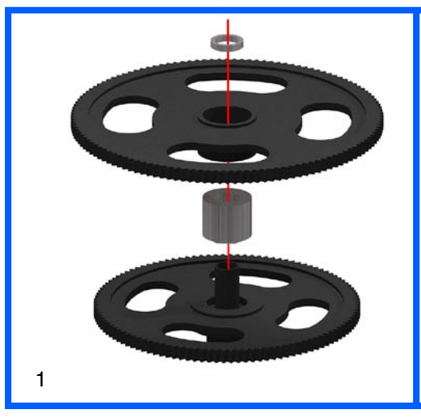
Adding the rotorhead and Main gear to the frames.

Add the main gear assembly with the one way bearing in to the frames when lowering the rotorhead in to place.

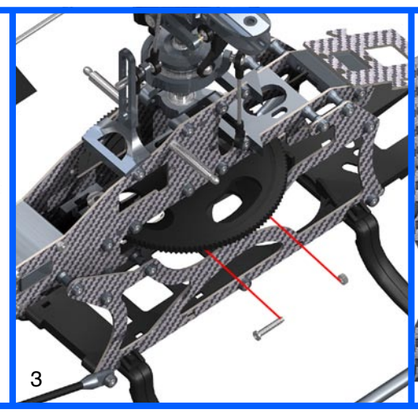
Note: There is not much to note in this section other than the bolt in image 3 will go through the gear assembly through the main shaft then out the otherside of the gears.

Parts Required

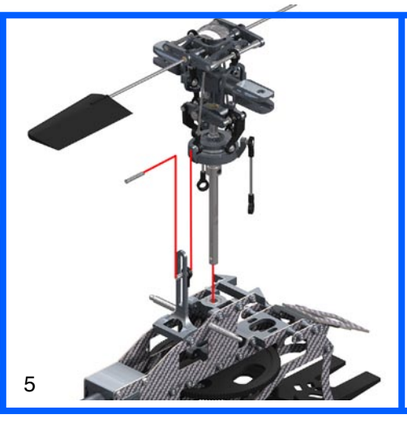



1


2


3


4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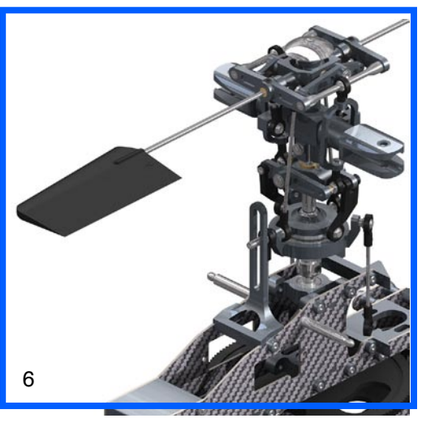

6

Main Blades

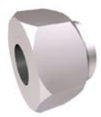
This is the last step of the build adding the main blades completing the model.

Note: The 2 nylock nuts are locking nuts so will not need any threadlock. The main blades should be tight in the blade holders but should be moveable when a small amount of force is apllied.

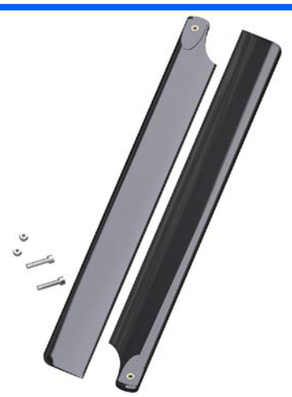
Parts Required


Main Blade x 2


Screw 19mm x 2


Nylock Nut x 2


1


2


3


4


5


6

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