INSTRUCTION MANUAL

Bell 407

True Scale

Bell Helicopter
A Textron Company
OFFICIAL LICENSED PRODUCT
68-22512-60848

1/13 CCPM OUTDOOR RC HELICOPTER

ROBAN

SPECIFICATIONS:

Motor:*	1x 2222 2000KV brushless outrunner, 6S capable
Speed controller:*	1x 45A brushless, 6S capable
Servo:*	3x 9g metal gear cyclic, 1x 9g metal gear tail servo
Rotor Blades:	320mm slim
Battery:*	22.2V 1250mAh 25C
Flight time:	5 minutes
Takeoff weight:	1200g
Flight Stabilization:*	3 axis flybarless
Radio Control:*	min. 6 channel with pitch and throttle curves

**) Optionally available equipment*

INTRODUCTION

Thank you for your confidence in the product. We congratulate you on your choice to purchase a quality product, which results from a long time development.

The TRUE SCALE Bell 470 is readily mounted in the fuselage. It is fitted to the use of standard 450 sized electronic components. Complete electronics are available from Roban optionally, but must be installed, wired and adjusted properly.

We wish you a lot of fun with our helicopter!

Being a full scale product, Roban´s Bell 407 profits from an outstanding design as well as from perfect outdoor usability. With acrobatic flight capability and a fully gyro stabilized flybarless multi blade head, the Roban Bell 407 is intended for intermediate helicopter pilots. And although the Roban Bell 407 is easy to control right out of the box, please take the time to read through this manual completely in order to assure you are getting the maximum out of this stunning and technically top edge product.

Warning

A RC aircraft is not a toy! If misused, it can cause serious bodily harm and damage to property. Fly only in open areas, preferably at AMA (Academy of Model Aeronautics) approved flying sites, following all instructions included with your radio. Keep loose items that can get entangled in the rotor blades away from the main blades, including loose clothing, or other objects such as pencils and screwdrivers. Especially keep your hands away from the rotor blades. Rotors become invisible once spinning.

Before Starting Assembly

Before starting any assembly and preparing your Roban Bell 407 for flight, remove each component from the box for inspection. Closely inspect all components for damage. If you find any damaged or missing parts, contact the place of purchase.

Note on Lithium Polymer Batteries

Lithium Polymer batteries are significantly more volatile than alkaline or Ni-Cd/Ni-MH batteries used in RC applications. All manufacturer's instructions and warnings must be followed closely.

Mishandling of Li-Po batteries can result in fire. Always follow your local waste disposal instructions when disposing of Lithium Polymer batteries.

Using the Manual

This manual is divided into sections to help make assembly, adjustment and preparing for flight easier to understand, and to provide breaks between each major section. Remember to take your time and follow all directions.

Safety Precautions

This is a sophisticated hobby product and not a toy. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision.

The product manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or injury.

Safety, Precautions and Warnings

As the user of this product you are solely responsible for operating it in manner that does not endanger yourself and others or result in damage to the product or the property of others. This model is controlled by a radio signal that is subject to interference from many sources outside your control. This interference can cause momentary loss of control so it is advisable to always keep a safe distance in all directions around your model, as this margin will help to avoid collisions or injury.

-Never operate your model with low transmitter batteries.
-Always operate your model in an open area away from cars, traffic, or people.
-Avoid operating your model in the street where injury or damage can occur.
-Never operate the model out into the street or populated areas for any reason.
-Carefully follow the directions and warnings for this and any optional support equipment that you use.
-Keep all chemicals, small parts and anything electrical out of the reach of children.
-Moisture causes damage to electronics. Avoid water exposure to all equipment not specifically designed and protected for this purpose.
-Never lick or place any portion of your Roban Bell 407 in your mouth as it could cause serious injury or even death.

Locking

As with any RC model helicopter, all fasteners installed into metal parts must use blue loctite® #222 and all bearings installed in holders must use red loctite® #641.

ROBAN BELL 407 STANDARD KIT Contents

No.:	Item
1.	Mechanics Sets, partially assembled
2.	Fuselage, completely assembled
3.	Blades
4.	Electronic Set (PNP version, optional)

5. Scale accessories and installation accessories
6. Decals
7. Instruction Manual

Required Consumables:

Blue thread lock
Red thread lock
30 minute epoxy
CA or Super Glue
Foam backed tape
Zip ties
Tape

Tools:

Hobby knife
Hex screw driver set
Phillips screw driver set
Needle nose pliers
Diagonal cutting pliers
Soldering equipment
Wire strippers

Terms and Definitions

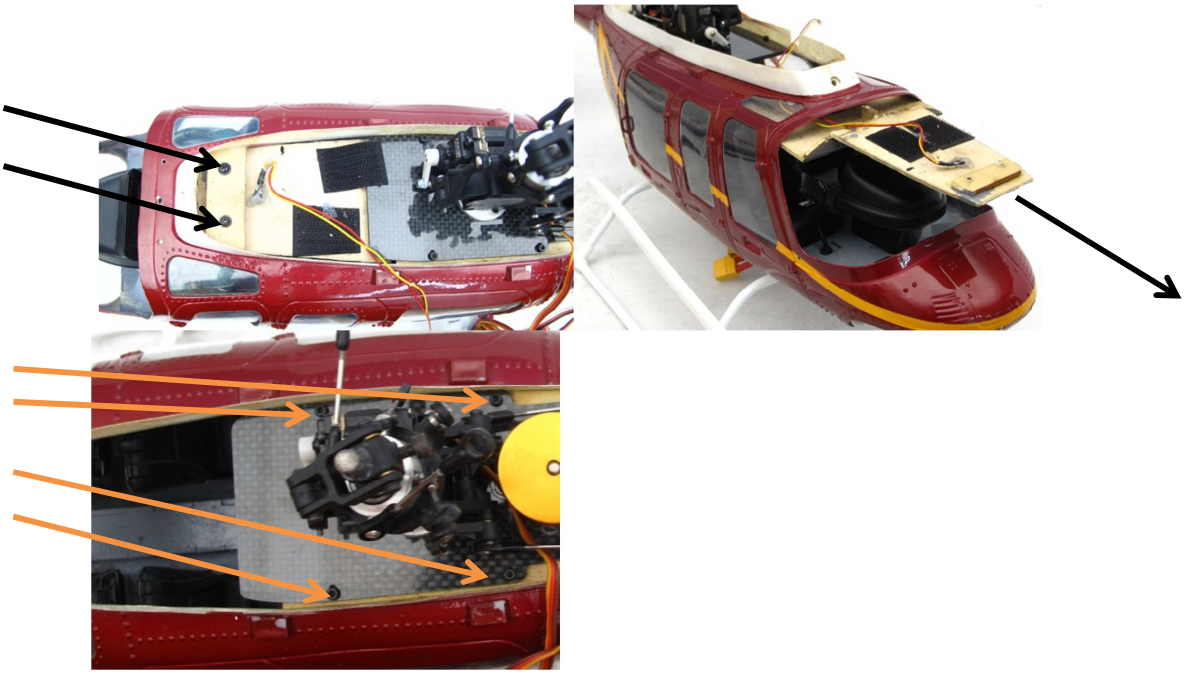
Fuselage – the scale hull of the helicopter
Pitch- rotating the aircraft around the pitch axis (elevator, nick)
Yaw- rotating the aircraft around the vertical axis (rudder)
Roll- rotating the aircraft around longitudinal axis (aileron)
Collective pitch- changing all the blades pitch the same amount
Cyclic- Changing the blades pitch by tilting the swash plate
TX- transmitter
RX receiver
Electronic Speed Controller- (ESC)
Term: Pitch, Elevator, Fore/Aft cyclic or Nic, have the same meaning
Term: Collective Pitch is not the same as Pitch
Term: Yaw and Rudder, have the same meaning
Term: Roll and Aileron, have the same meaning
The Throttle and Collective Pitch stick are combined; this is typical for model helicopters

SECTION A – MECHANIC ASSEMBLY

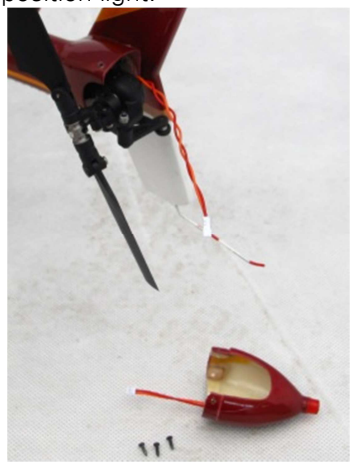
NOTE: As with any RC model helicopter, **all** fasteners installed into metal parts must use blue thread lock and **all** bearings installed into metal bearing blocks must use red bearing lock, wipe off excess.

The Mechanics are preassembled and installed into the mechanics. In order to mount the electrical equipment, you have to uninstall the mechanics first.

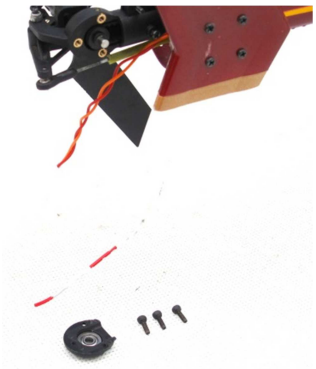
1) Remove Mechanics
   a) Remove the two screws holding the ceiling first and remove the ceiling. Then remove the six main frame screws as shown.



2) Remove tail frame
   a) Remove the screws that lock the tail frame cover in place. Remove tail cover, gently unplug the connector for the position light.



b) Remove the screws as shown from the tail frame and remove the tail frame as shown including the bearing. Disconnect the servo linkage. Then push the other bearing in the frame out of its block, only this way you can release the tail belts tension. Remove belt from pulley. Remove tail frame from tail boom by removing all three screws.

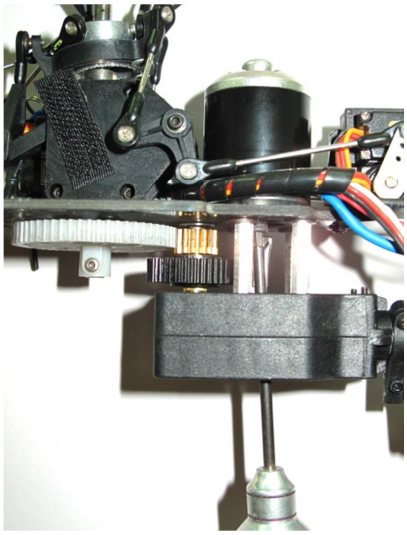


3) Remove Mechanics

a) Now gently pull the mechanics out of the fuselage as shown.

SECTION B – INSTALLATION OF ELECTRONIC COMPONENTS

1) Install Motor
   a) Install Pinion gear on motor. Eventually add a flat with a file to the motor shaft for security where the grub screw engages the shaft. Make sure the pinion gear is installed at the appropriate height to fully engage the main gear.
   b) Install motor in main frame. Adjust the gear mesh. The tail boom holder does have access holes so than an allen key can pass through it and access the motor holding screws.

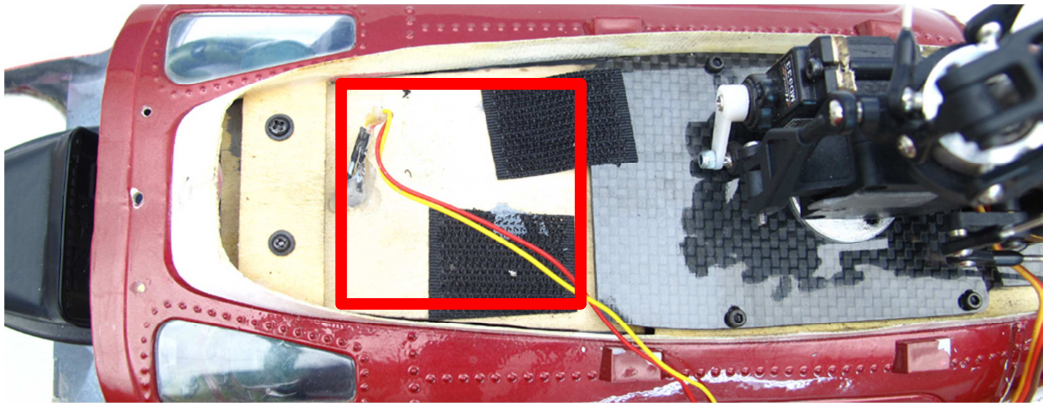


2) Install Cyclic Servos
   a) Install ball links on the servo levers, the distance between ball link center and servo shaft should be at 12.5mm. Install all three cyclic servos as shown in their mounting positions. Please see exhibit A step 9 and 12. Eventually use washers, depending on the servo you are using to correct the mounting position.
   b) Mount the main rotor head as show in exhibit A step 5 and connect it to the swash plate.

3) Install Tail Servo
   a) Install ball link as shown in exhibit A step 14 and 16 on the servo lever, the distance between ball link center and servo shaft should be at 12.5mm.
   b) Install servo as shown in the proper position in the tail servo holder.

4) Install Gyro

   Note: In order to fly this helicopter properly, it is necessary to connect a flybarless 3 axis gyro unit between your receiver and the servos. Flying this helicopter with a single axis tail gyro will lead to a very unpredictable and hard to control flying behavior. You mustn´t use other equipment than flybarless 3 axis gyros. A 3 axis gyro is included with the optional electronic set and also separately available. Yet any good 3 axis gyro for flybarless rotor heads is suitable for the use on this helicopter.
   a) Install the 3 axis gyro and connect all servos properly following the gyro instruction manual. Use the foam tape supplied with the gyro to install the gyro in the marked area after you reinstalled the mechanics. It is not recommended to install the gyro on the carbon fiber main frame. Some gyros require a special setup of two layers of foam tape to reduce sensitivity to vibrations.



b) Connect the Gyro to the RX following the gyro instruction manual.

5) Install ESC
   a) Solder the supplied battery connector prolonging wire to the ESC.
   b) Connect the motor to the ESC
   c) Connect ESC to RX.
   d) The ESC will have to be disconnected from the motor and RX before installing the mechanics. Do not fix it with tape or zip ties for now.

SECTION C – ADJUSTMENTS AND ELECTRONIC SETUP

NOTE: The main rotor blades are matched by weight and marked as matched pairs with stickers A and B in order to distinguish them. Please do not remove the stickers nor the balancing tape stripes on the rotor blades. Please do not mount the rotor blades before you reach the according step in the assembly manual. Mount the rotor head and the servo rods as shown in Exhibit A-5.

1) Servo Setup
   a) Make sure that all servo levers are mounted so that the servo lever is rectangular to the servo housing while centered. You might have to power up the servos to determine this position.
   b) For the three cyclic servos, it is important to match that when all three servos are in their center positions, the swash plate must be leveled and at its 0 degree CP position. This equals a distance between the lower edge of the swashplate to the upper end of the servo support of 10.5mm. Depending on the servos you are using, the lengths of the pushrods might differ slightly from the suggested lengths below: servo to L-lever 51.5mm, L-lever to swashplate 34mm, swashplate to blade grip 45mm, measured ball link center to center.
   c) First of all, mount the tail rotor frame again which you dismounted in Section A-1 and connect the tail servo linkage. For the tail servo, make sure that the servo is producing 0 degrees pitch on the tail rotor blades once in centered position.
2) Test Motor
   a) Dismount the rotor blades, if you have mounted them already. Please turn the motor with your hand and check if the gear meshing between motor pinion and main gear is appropriate. Make sure that the tail belt is tensioned properly. The main rotor has to spin counter clockwise if viewed from above the helicopter, the tail rotor blades have to spin clockwise if the viewed from the left side. Then power up the motor via ESC and verify that the motor does spin in the proper direction (nothing will happen if it spins in the wrong direction), eventually correct the direction.
3) Test Gyro / RX Setup

a) In order to test your gyro, please follow your gyros instruction manual. Gyro gain settings and fine tuning has to be done after the helicopter is installed into the fuselage. Please be advised that the swash plate is a 140deg and not a 120deg CCPM.
b) If using the Roban 3 axis gyro, please use the following parameters (online)

4) Test TX
   a) In order to test your TX and the proper setup, please follow your radio controls user manual. Fine tuning and trimming can be adjusted once the helicopter is installed into the fuselage. For now a mere reaction to your control inputs does suffice.

SECTION D – INSTALLATION INTO THE FUSELAGE

1) Mechanics
   a) Dismount the tail frame, as in Section A-1.
   b) The battery connector has to reach the battery compartment, so that you can connect the battery later on. We recommend to disconnect the ESC from the Motor and receiver. Then make sure the battery connector reaches the battery compartment, as the area will be inaccessible once the mechanics are installed. Then install the mechanics into the fuselage as shown. Make sure to lock the mechanics securely. Mount the cabin ceiling and lock it in place.

   c) Reinstall the tail frame and the tail cover by reversing the steps in section A step 1. Check by turning the motor with your hand if the mechanics operate smoothly.
   d) Connect the ESC to the motor and receiver again.

2) Position light
   a) Connect the LED position light plug with an AUX port on your RX. If your RX doesn´t provide enough ports, you have to Y-Wire the black and red line to the ESCs Servo wire, or your LEDs will not turn on.

b) Arrange all wires properly, make sure that the motor hatch can enclose all electronic parts without problems.

3) Securing Cables and Wires
   a) The helicopter´s mechanics are built very compact. It is necessary that you make sure that all wires and cables are locked in secure spaces using zip ties or spiral cords. Make sure that no wire touches any mechanical part and is secured against movements.
4) Battery
   a) Make sure that the battery is always pushed all the way forward in the battery compartment. The helicopter has an inclinded main shaft, the main shaft has to be perpenciular to the ground, the helicopters tail will, as on the real helicopter, slightly hang down.

SECTION E – FINAL ADJUSTMENTS

1) TX Setup
   a) Almost all 3 axis gyros on the market require that you switch the CCPM mixing inside your radio control off and provide unmixed AIL; ELE and PIT inputs. That will be a 90 degree swash plate program on most radio controls.
   b) For the throttle curve, Please program 0% at 0, 50% at 85, 100% lever position at 100% throttle signal.
   c) For the pitch curve, please adjust it to -2deg at 0%, 5deg at 50% and 11deg at 100% lever position. Please adjust this with a pitch gauge.

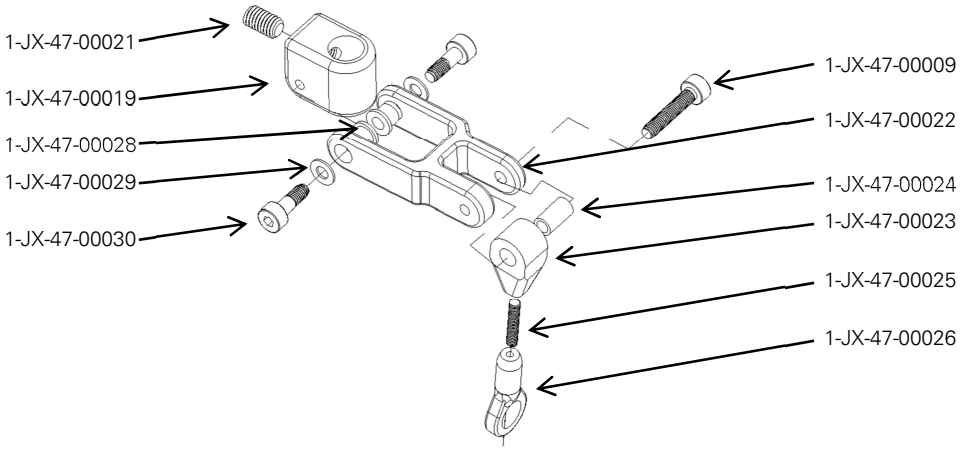
2) Main Rotor Blades
   a) Mount the rotor head again, and connect it to the swash plate.
   b) Please be aware that the blades supplied are balanced by pairs and labeled with stickers indicating A and B to distinguish the pairs. Each pair of rotor blades has to be mounted on the exact opposite grip, at 180deg from each other to gain proper center of gravity on the main rotor hub. Failure to do so results in vibrations, which can lead to poor gyro performance or electronic failure (bad gyro readings) or even mechanical failure due to overloaded parts on the cyclic swash plate system. Do not try to fly if you experience vibrations.
   c) Make sure that you remember to identify your rotor blades in the event of taking them off.
   d) Make sure to adjust your main rotor blade tracking.

3) Test fly
   a) Carefully fly your helicopter outdoors at calm wind conditions to check your setup. Adjust your radio and gyro to fulfill your needs.
   b) After you are sure that all components are working perfectly, unmounts the rotor head, install the motor hatch as shown and mount the rotor head again.

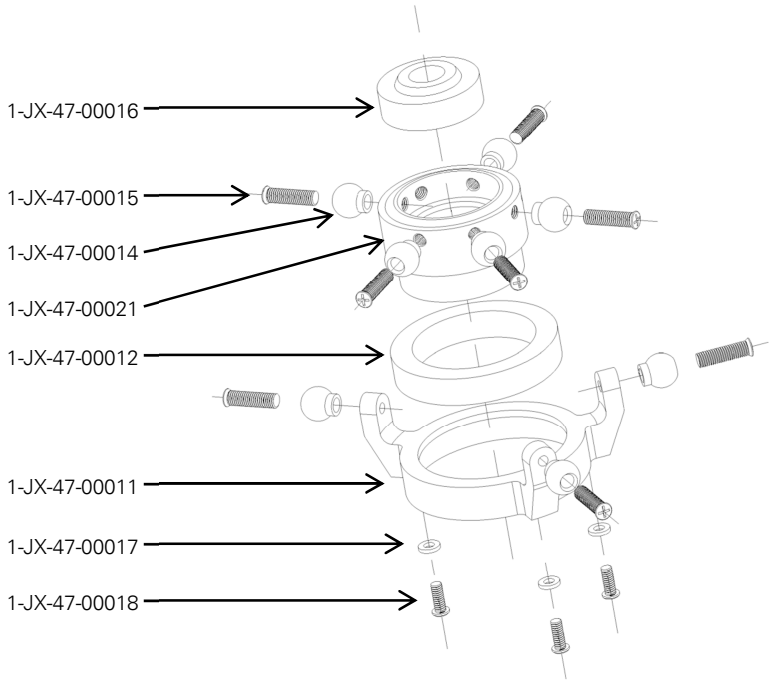
EXHIBIT A – MECHANICAL ASSEMBLY

NOTE: As the helicopter is readily assembled the following explosion drawings are a guide to the according spare part numbers, but also a guide on how to setup the mechanics.

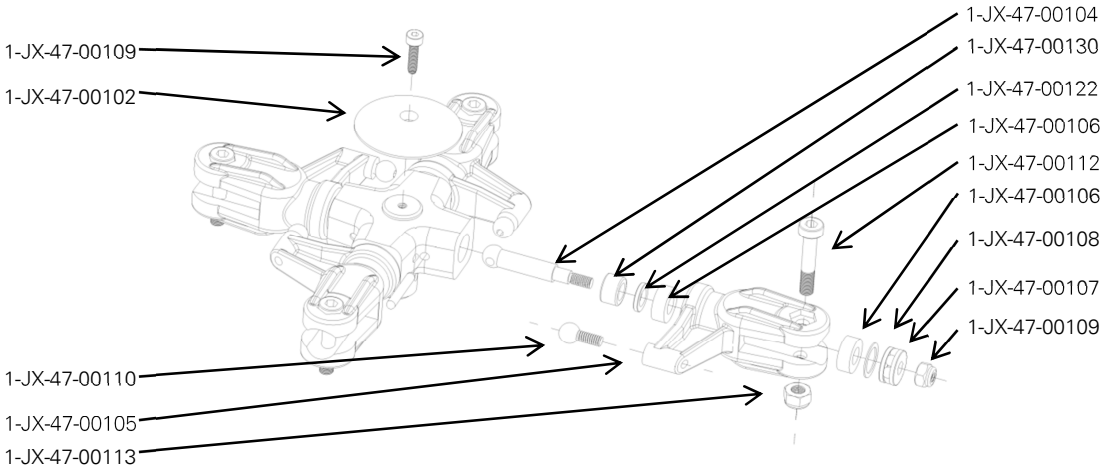
1) Swash plate hub



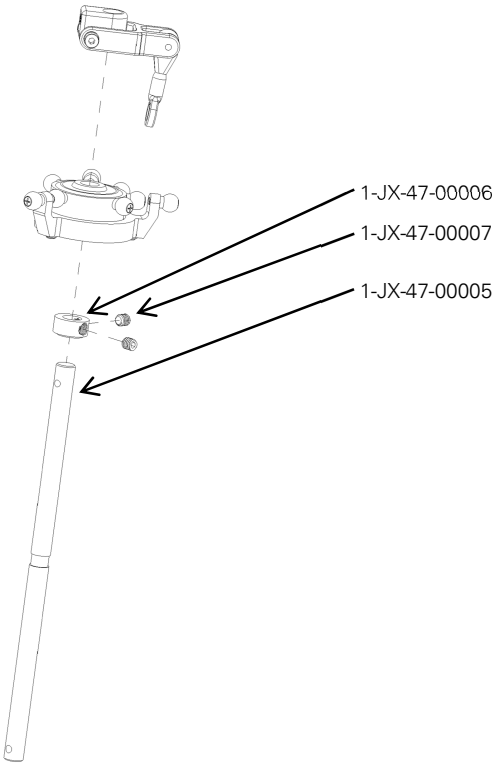
2) Swash plate



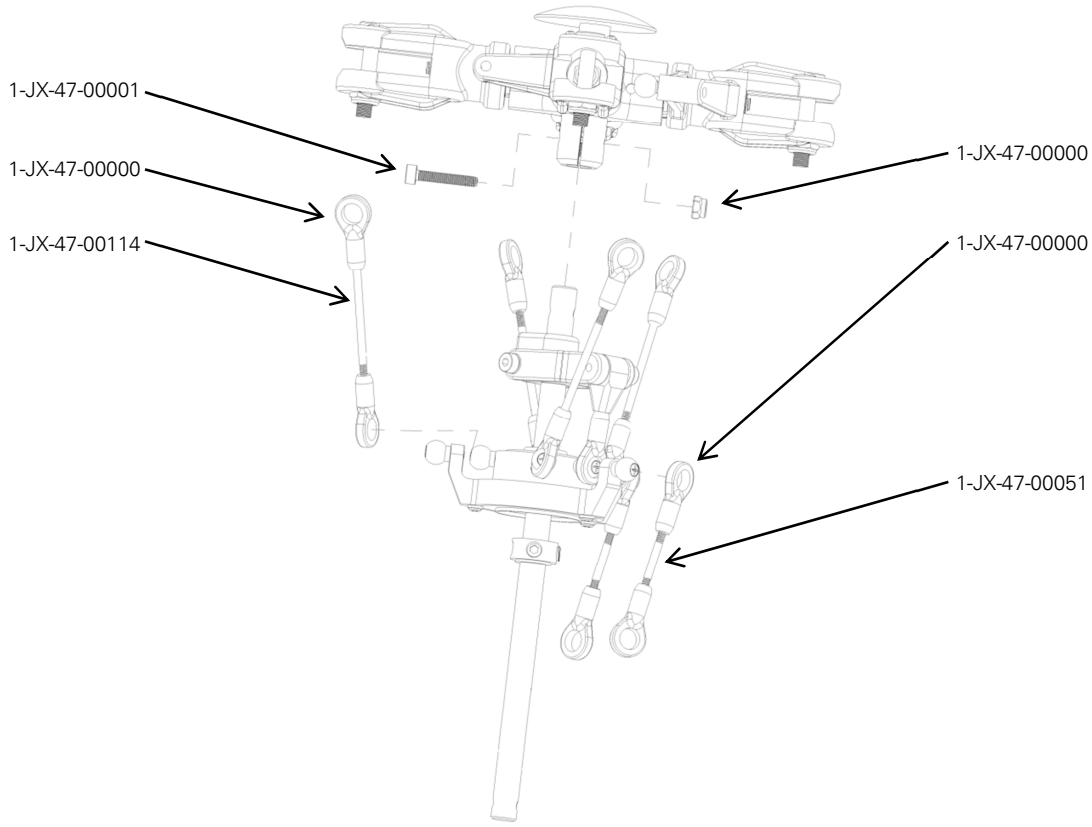
3) Rotor head



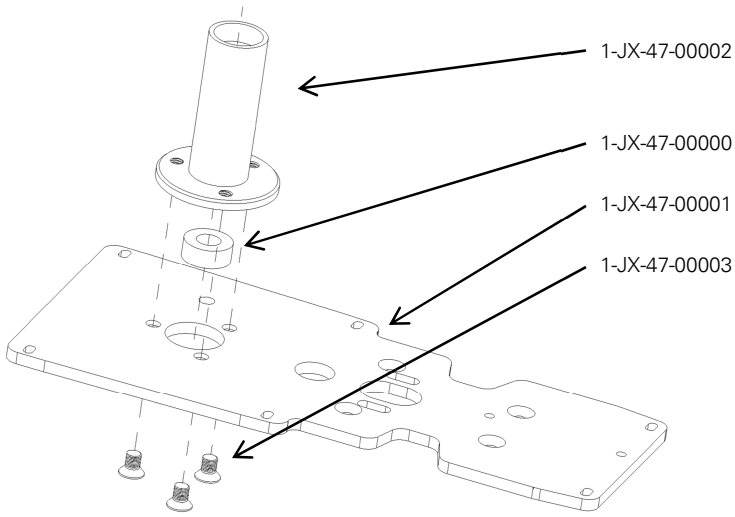
4) Main Shaft



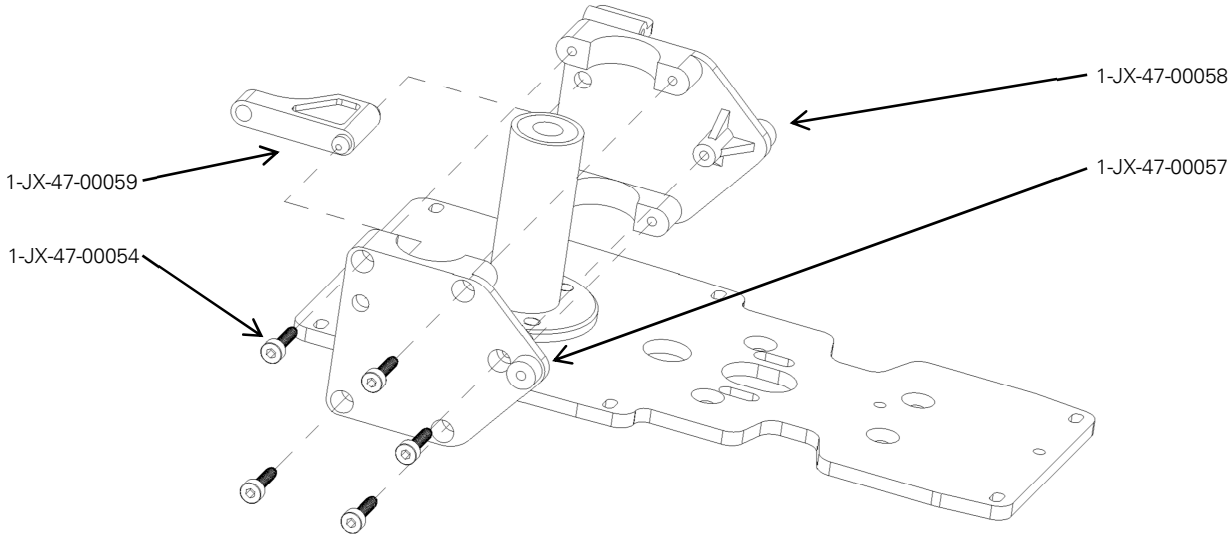
5) Complete CCPM assy



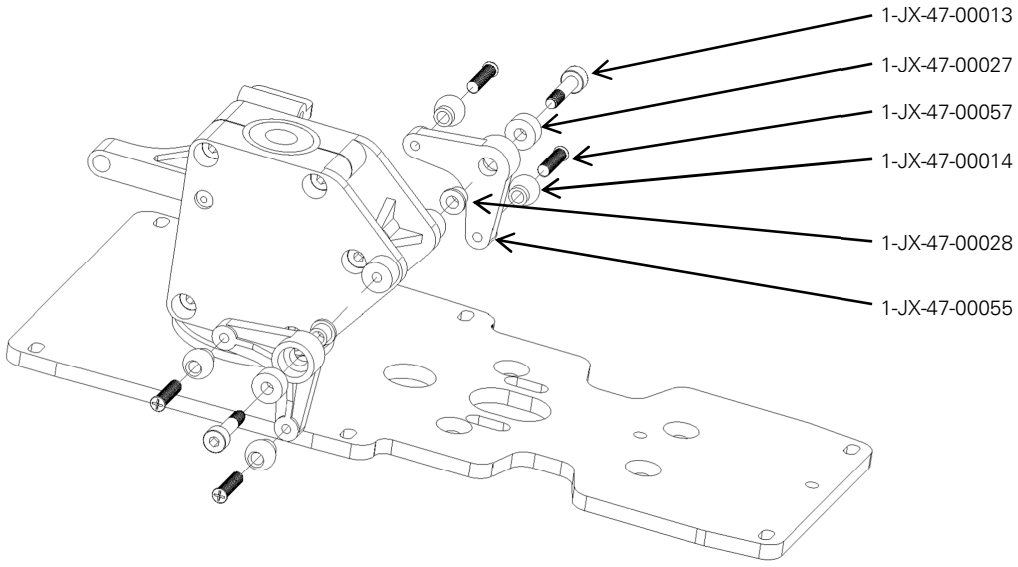
6) Main Frame



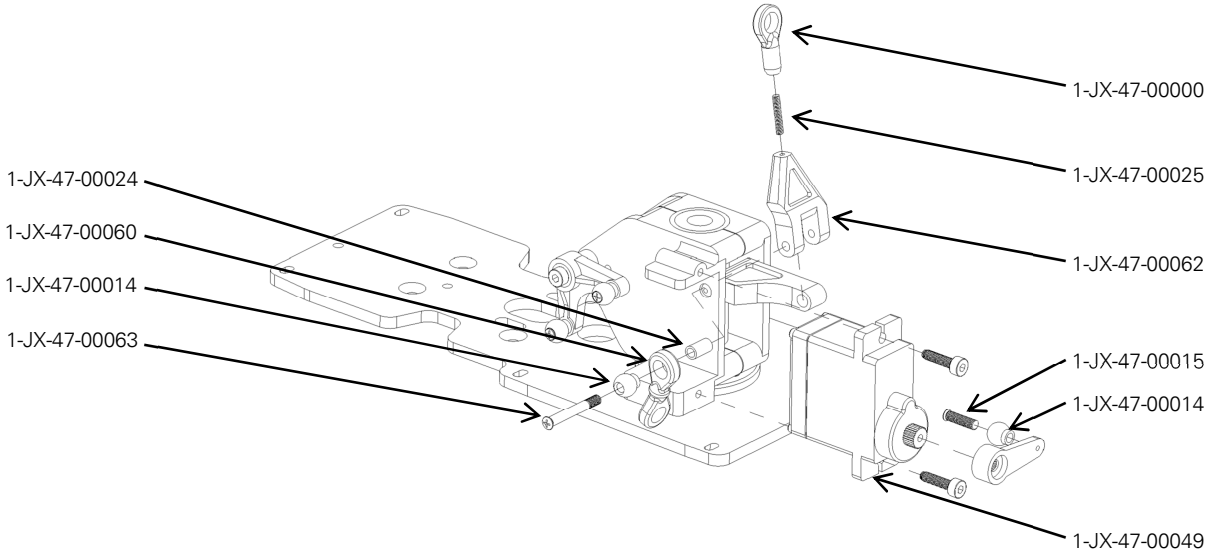
7) Front servo holder



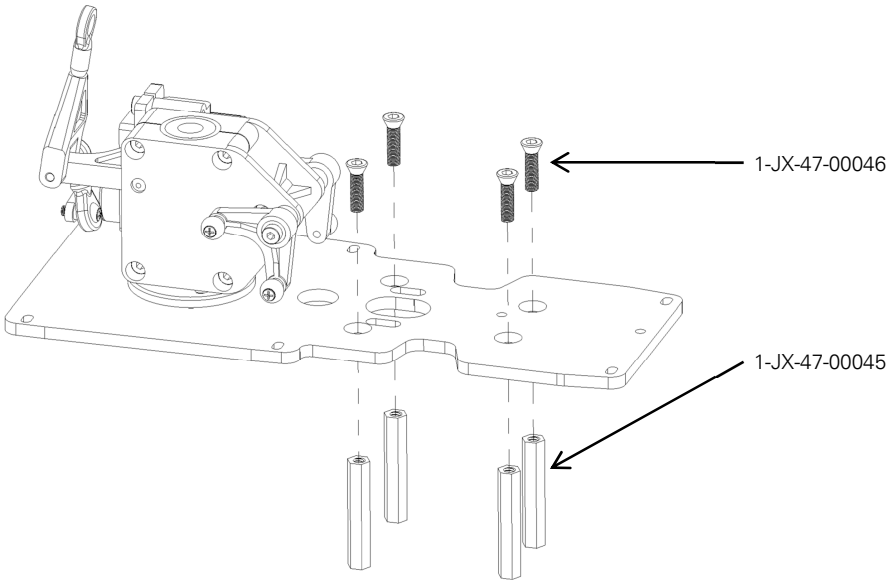
8) Servo levers



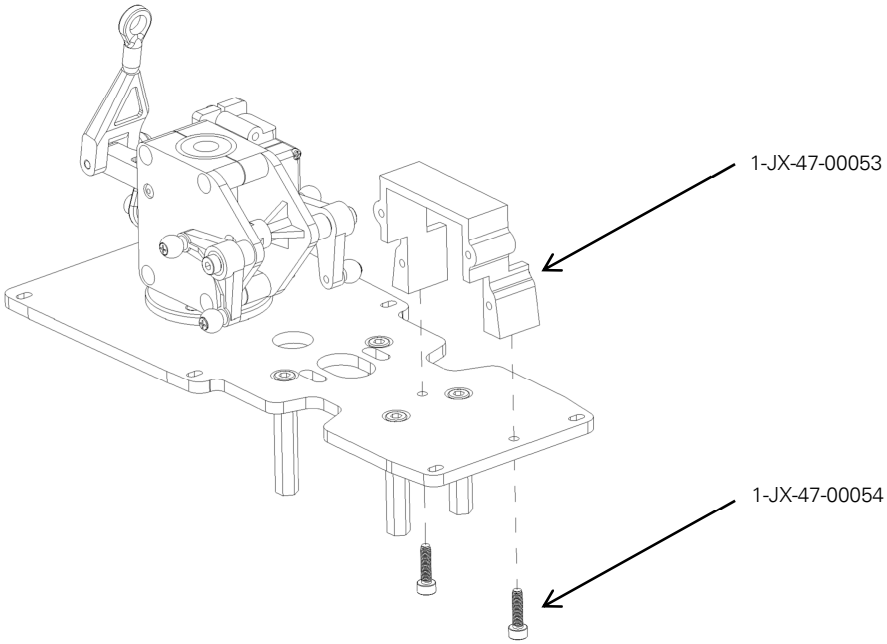
9) Front Servo Assy



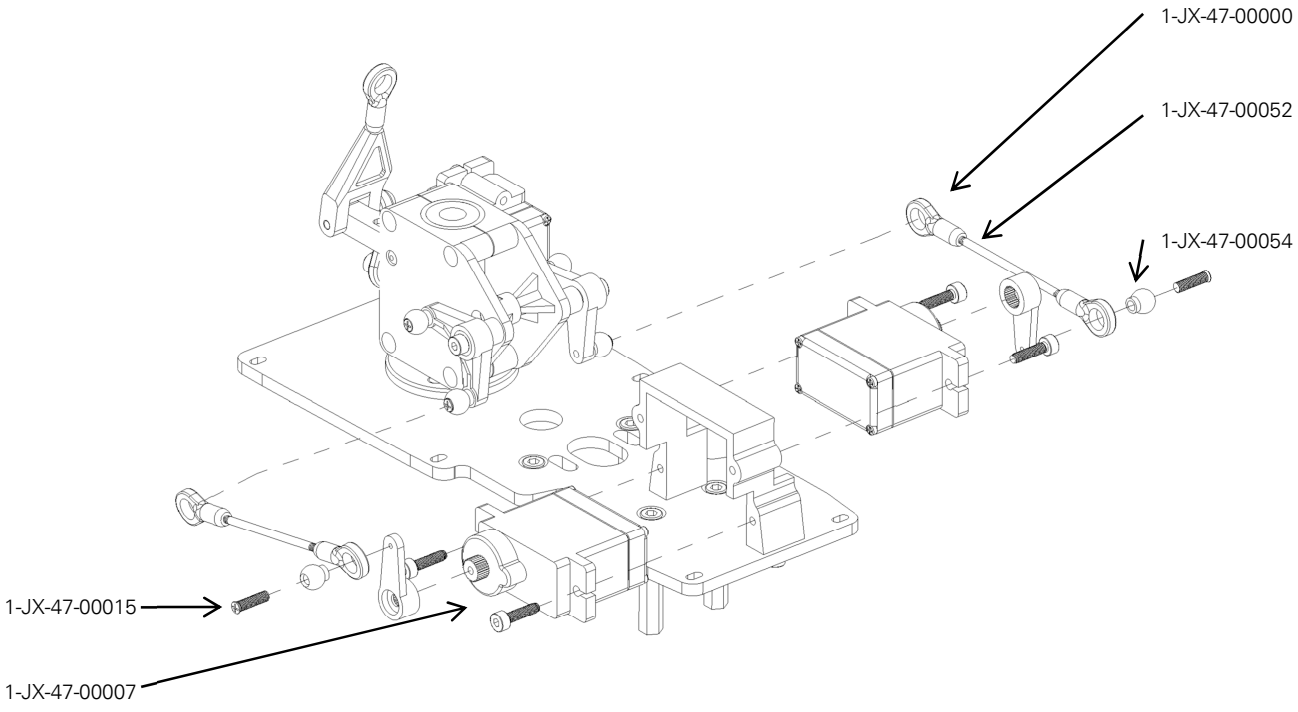
10) Tail gearbox frame



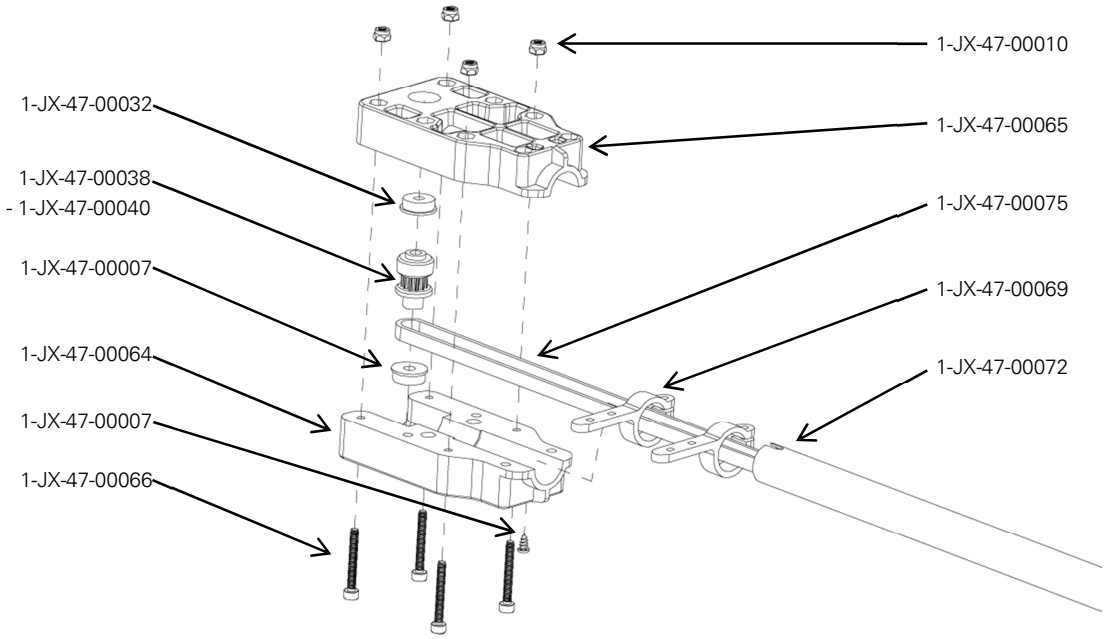
11) Aft servo holder



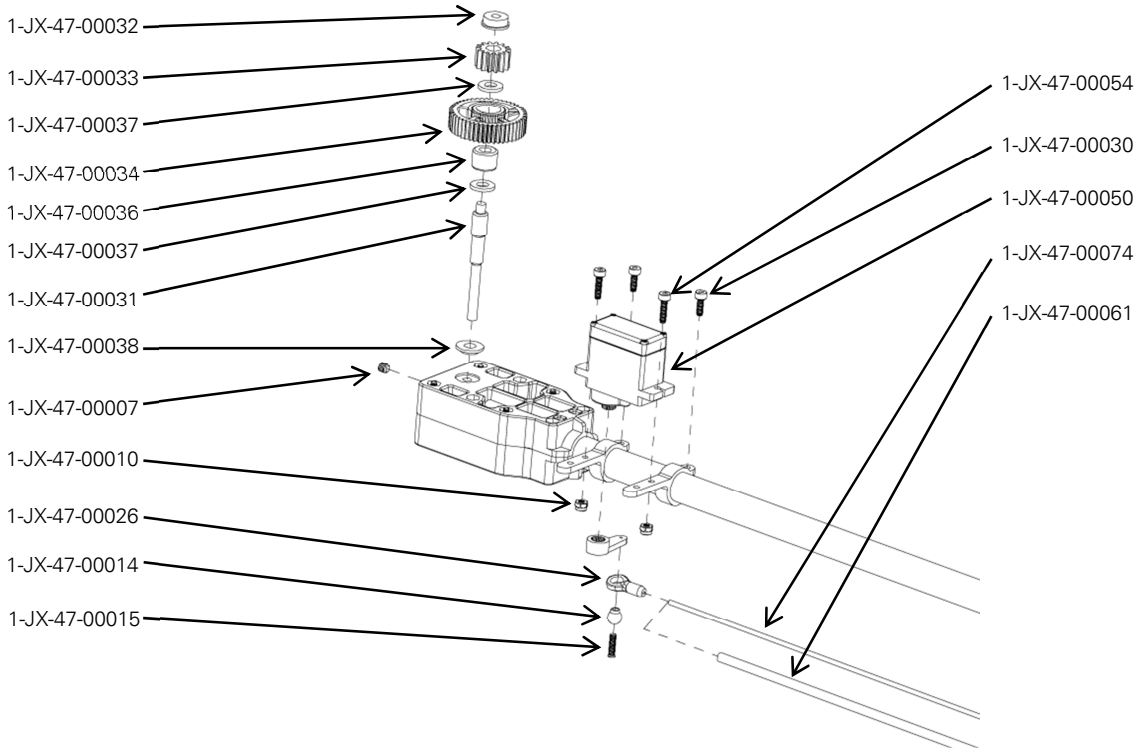
12) Aft servo assy



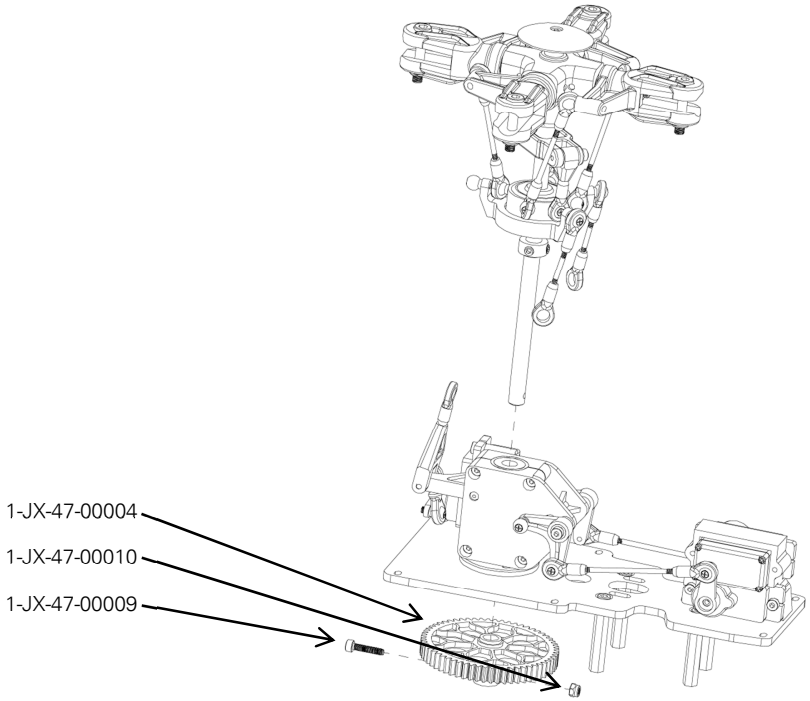
13) Tail boom holder assy



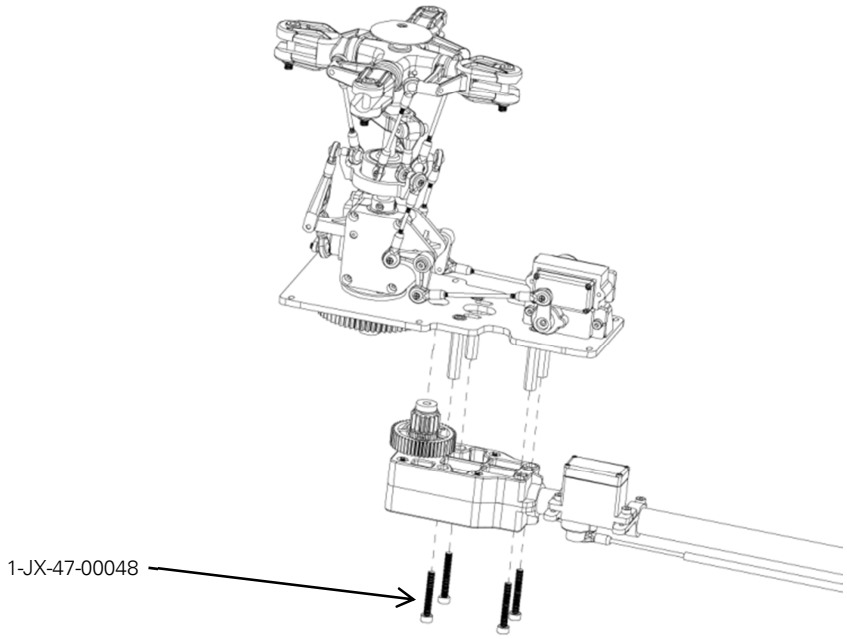
14) Tail servo and main gear assy



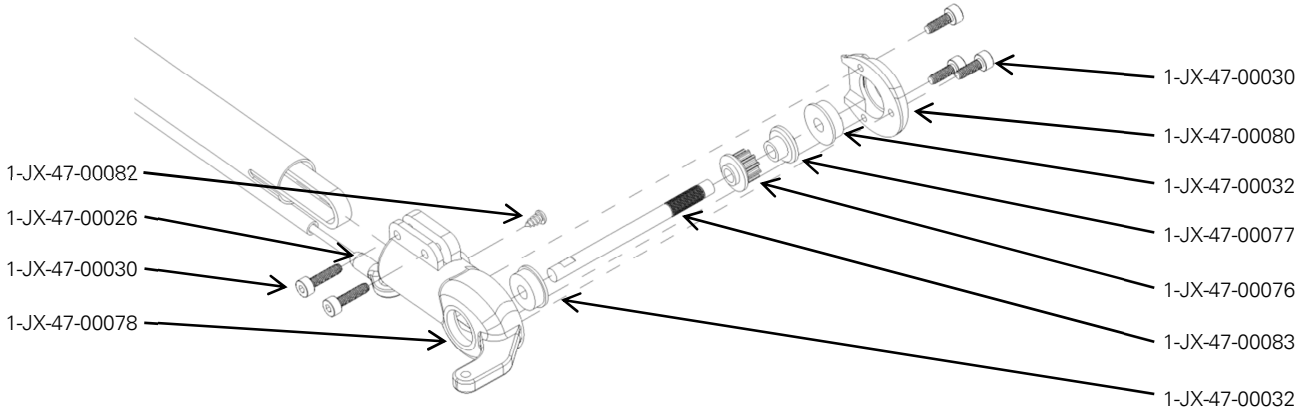
15) Main gear assy



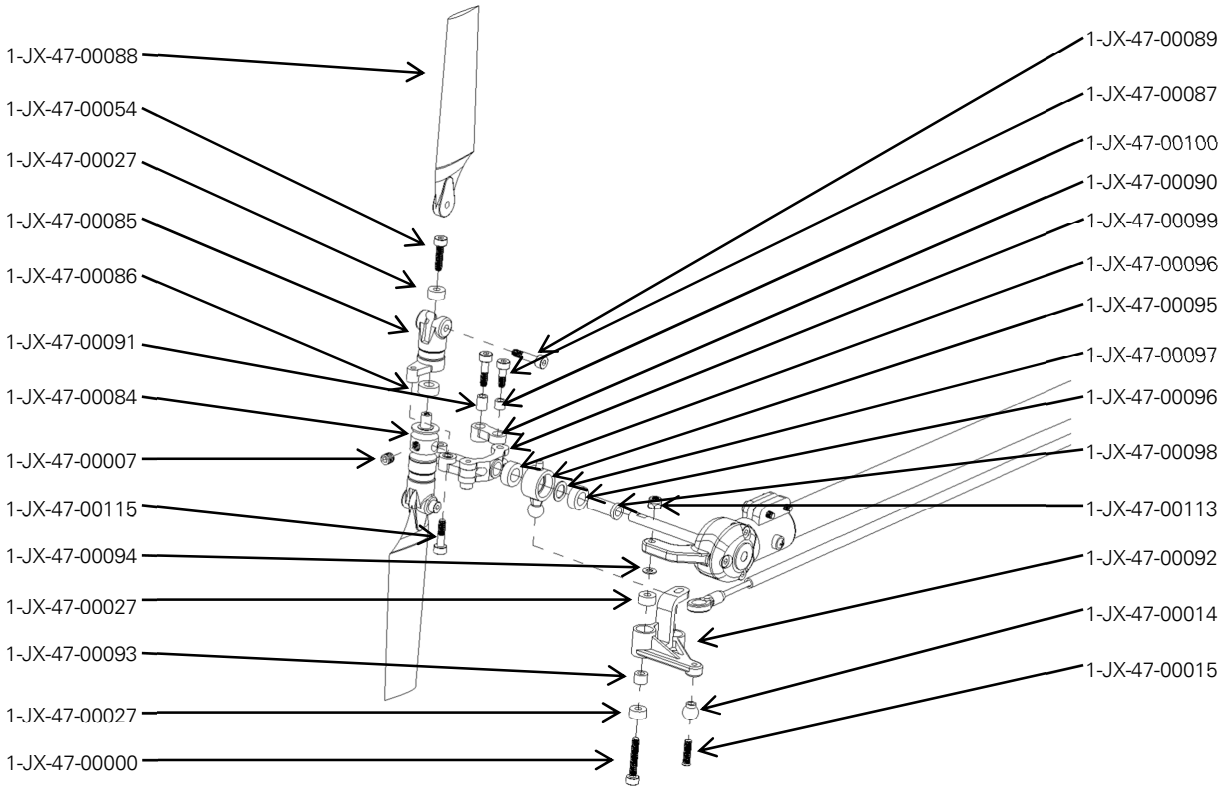
16) Mounting the main frame



17) Tail frame assy



18) Tail rotor assy



19) Complete mechanics

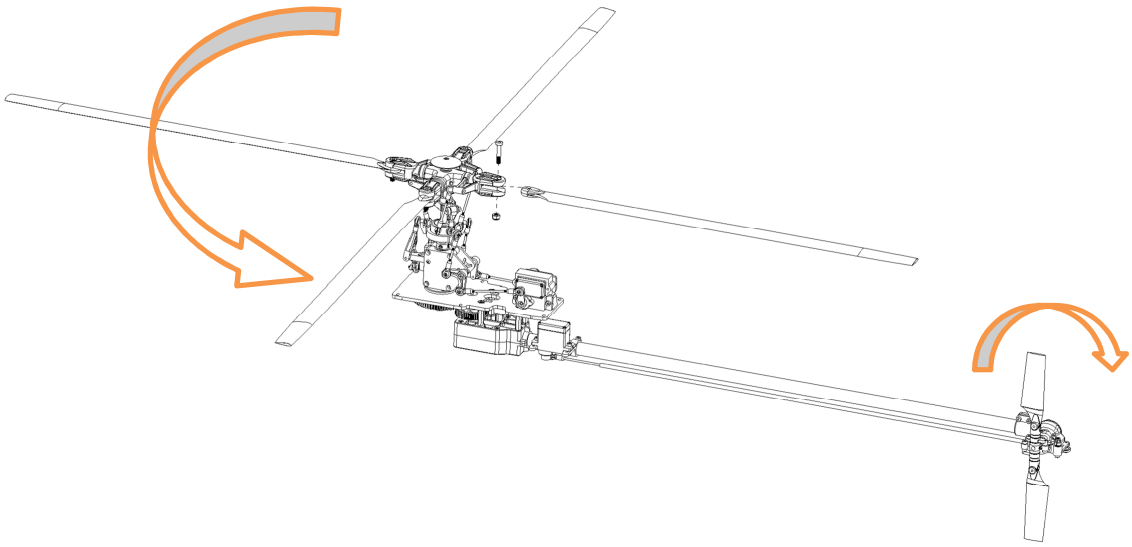


EXHIBIT B SPAREPART LIST

SPAREPART NO	SPAREPART NAME	SPAREPART NAME GERMAN	PART NO	DESCRIPTION	QTY
RCH-BE407-001	SWASH HUB	TAUMELSCHEIBEN-MITNEHMER	1-JX-47-00019	Swash drive	1
			1-JX-47-00020	Threaded sleeve M3 f. -016	1
			1-JX-47-00022	Drive Arm	1
			1-JX-47-00023	Drive Link	1
			1-JX-47-00024	Sleeve 2x2.78x5	1
			1-JX-47-00026	Ball link frame	1
			1-JX-47-00025	Threaded bolt M1.5x8	1
			1-JX-47-00028	Bearing holder 2x4x2.58	2
			1-JX-47-00029	Washer 2x4x0.3	3
			1-JX-47-00009	Screw M2x10	1
			1-JX-47-00030	Screw M2x6	2
			1-JX-47-00021	Set Screw M3x5	1
RCH-BE407-002	SWASH PLATE	TAUMELSCHEIBE 4 BLATT	1-JX-47-00011	Swashplate outer ring	1
			1-JX-47-00012	Bearing 17x23x4	1
			1-JX-47-00013	Swashplate inner ring	1
			1-JX-47-00014	Ball link	8
			1-JX-47-00015	Screw M2x7 CS	8
			1-JX-47-00016	Ball joint bearing	1
			1-JX-47-00017	Washer 1.5x3x0.5	3
			1-JX-47-00018	Screw M1.5x4 PH	3
RCH-BE407-003	2ND STAGE GEAR SET	2. GETRIEBESTUFE	1-JX-47-00031	Secondary Shaft	1
			1-JX-47-00032	Flanged bearing 3x8x3	3
			1-JX-47-00033	Gear 14T 6.5B 0.7M	1
			1-JX-47-00034	Gear 38T 5B 0.5M	1
			1-JX-47-00035	Sleeve f. -031	1
			1-JX-47-00036	One way bearing 4x8x6	1
			1-JX-47-00037	Washer 4x8x1	2
			1-JX-47-00038	Sleeve 4x9x5.5	1
			1-JX-47-00039	Belt pulley	1
			1-JX-47-00040	Pulley fix ring	1
			1-JX-47-00041	Washer 5x9x1.5	1
RCH-BE407-004	6S MOTOR	6S MOTOR	1-JX-47-00042	BL motor 2222 3800KV	1

			1-JX-47-00044	Screw M3x6 PH	2
RCH-BE407-005	PINION GEAR SET	Motorritzel	1-JX-47-00043	Pinion gear 12T	1
			47C-042	Set Screw M3x3	1
RCH-BE407-007	Cyclic Metal Gear Servo#	Taumescheiben-Metallgetriebeservos	1-JX-47-00049	Cyclic Servo 9g	1
RCH-BE407-008	Tail Servo	Heck Servo	1-JX-47-00050	Tail Servo 9g	1
RCH-BE407-009	Main Frame	Hauptrahmen	1-JX-47-00001	Main Frame	1
RCH-BE407-010	Main Shaft Holder	Hauptwellenhalter	1-JX-47-00002	Main Shaft Holder	1
			1-JX-47-00003	Screw M3x5	3
RCH-BE407-011	Main Gear Set	Hauptzahnradsatz	1-JX-47-00004	Main Gear 60T	1
			1-JX-47-00009	Screw M2x10 SH	1
			1-JX-47-00010	Self locking Nut M2	1
RCH-BE407-011	Main Shaft Set	Hauptwellensatz	1-JX-47-00005	Main Shaft	1
			1-JX-47-00006	Main Shaft Collar	1
			1-JX-47-00007	Set Screw M3x3	2
RCH-BE407-013	Servo Holder	Servoaufnahmen	1-JX-47-00053	Servo holder	1
			1-JX-47-00054	Screw M2x8 SH	15
			1-JX-47-00057	Servo holder right	1
			1-JX-47-00058	Servo holder left	1
RCH-BE407-014	Pushrod Set	Gestängesatz	47C-050	Ball link frame	17
			1-JX-47-00051	Push rod M1.5x20	2
			1-JX-47-00052	Push rod M1.5x38	2
			1-JX-47-00114	Push rod	4
RCH-BE407-015	Anti Rotation Lever	Taumescheibenstütze	1-JX-47-00059	Cross lever	1
			1-JX-47-00060	Dog bone ball link	1
			1-JX-47-00024	Sleeve 2x2.78x5	1
			1-JX-47-00062	Swash lever	1
			1-JX-47-00063	Screw M2x15	1
			1-JX-47-00014	Ball link	1
			1-JX-47-00055	90 degree lever	2
			1-JX-47-00027	Bearing 2x5x2.5	2
			1-JX-47-00013	Screw M2x8 SH	2
			1-JX-47-00028	Bearing holder 2x4x2.58	2
			1-JX-47-00025	Threaded bolt M1.5x8	1
RCH-BE407-016	Tail Boom Holder	Heckrohrhalter	1-JX-47-00045	Frame spacer 4x22	4
			1-JX-47-00046	Screw M2.5x8 SH	4
			1-JX-47-00048	Screw M2.5x18 SH	4

			1-JX-47-00064	Lower tail boom holder	1
			1-JX-47-00065	Upper tail boom holder	1
			1-JX-47-00066	Screw M2x16 SH	4
			1-JX-47-00010	Self locking Nut M2	4
RCH-BE407-017	Tail boom set	Heckrohr Satz	1-JX-47-00014	Ball link	2
			1-JX-47-00015	Screw M2x7 CS	2
			1-JX-47-00061	Push rod sleeve	1
			1-JX-47-00074	Tail push rod	1
			1-JX-47-00026	Ball link frame	2
			1-JX-47-00069	Tail Servo Holder	2
			1-JX-47-00030	Screw M2x6 SH	2
			1-JX-47-00010	Self locking Nut M2	2
			1-JX-47-00054	Screw M2x8 SH	2
			1-JX-47-00072	Tail boom	1
RCH-BE407-018	Tail Belt	Heckriemen	1-JX-47-00075	Tail belt	1
RCH-BE407-020	Tail blade	Heckrotorblätter	1-JX-47-00088	Tail blade	2
			1-JX-47-00089	Screw M2x9	2
RCH-BE407-021	Carbon Tail Blade	Carbon Heckrotorblätter	1-JX-47-00088C	Tail blade carbon	2
			1-JX-47-00089	Screw M2x9	2
RCH-BE407-022	Tail Frame Set	Heckrahmen Satz	1-JX-47-00076	Belt pulley tail	1
			1-JX-47-00077	Counterpart -083	1
			1-JX-47-00078	Tail frame blade side	1
			1-JX-47-00079	Threaded sleeve M2 f. -085	3
			1-JX-47-00080	Tail frame other side	1
			1-JX-47-00054	Screw M2x8 SH	2
			1-JX-47-00032	Flanged bearing 3x8x3	2
			1-JX-47-00083	Tail rotor shaft	1
			1-JX-47-00084	Tail rotor hub	1
			1-JX-47-00007	Set Screw M3x3	1
			1-JX-47-00085	Tail rotor blade grip	2
			1-JX-47-00086	Bearing 3x6x2.5	2
			1-JX-47-00027	Bearing 2x5x2.5	4
			1-JX-47-00030	Screw M2x6 SH	5
			1-JX-47-00090	Pitch crosslink	2
			1-JX-47-00091	Bushing 2x3x4	2
			1-JX-47-00089	Screw M2x8	2

			1-JX-47-00087	Screw M2x6	2
			1-JX-47-00115	Screw M2x9	2
			1-JX-47-00092	Tail pitch lever	1
			1-JX-47-00093	Sleeve 2x3.8x2.8	1
			1-JX-47-00094	Sleeve 2x3x0.5	1
			1-JX-47-00014	Ball link	1
			1-JX-47-00015	Screw M2x7 CS	1
			1-JX-47-00095	Tail pitch drive	1
			1-JX-47-00096	Bearing 4x7x2.5	2
			1-JX-47-00097	Control washer 4x6x0.55	1
			1-JX-47-00098	Bushing 3x5x10	1
			1-JX-47-00099	Tail pitch link	1
			1-JX-47-00082	Screw M2x4	1
			1-JX-47-00100	Bushing 2x3x2.5	2
RCH-BE407-023	Tail Shaft Set	Heckwellensatz	1-JX-47-00076	Belt pulley tail	1
			1-JX-47-00077	Counterpart -083	1
			1-JX-47-00083	Tail rotor shaft	1
			1-JX-47-00084	Tail rotor hub	1
			47C-092-1	Set Screw M3x3	1
RCH-BE407-024	Main Rotor Blade Grip Set	Hauptrotorblatthaltersatz	1-JX-47-00105	Blade grip 4B	1
			1-JX-47-00106	Bearing 4x8x3	2
			1-JX-47-00107	Thrust bearing 3x8x3.5	1
			1-JX-47-00110	Ball link	1
			1-JX-47-00112	Screw M3x16	1
			1-JX-47-00113	Self locking nut M3	1
			1-JX-47-00108	Washer 8x6x0.3	1
RCH-BE407-025	Main Rotor Spindle	Blatthalterwelle	1-JX-47-00104	Blade grip spindle 4B	1
			1-JX-47-00109	Self locking Nut M2.5	1
			1-JX-47-00111	Locking shaft	1
			1-JX-47-00122	Washer 6.5x4x1	1
			1-JX-47-00130	Sleeve 6.5x4x4	1
RCH-BE407-026	Main Rotor Hub	Hauptrotorzentralstück	1-JX-47-00102	Rotor hub cap	1
			1-JX-47-00101	Rotor hub centerpiece 4B	1
			1-JX-47-00009	Screw M2x10 SH	1
			1-JX-47-00103	Rotor hub 4B	1
RCH-BE407-027	Main Rotor Blades	Hauptrotorblatt-satz	1-JX-47-00125	Rotor blades 320mm	4

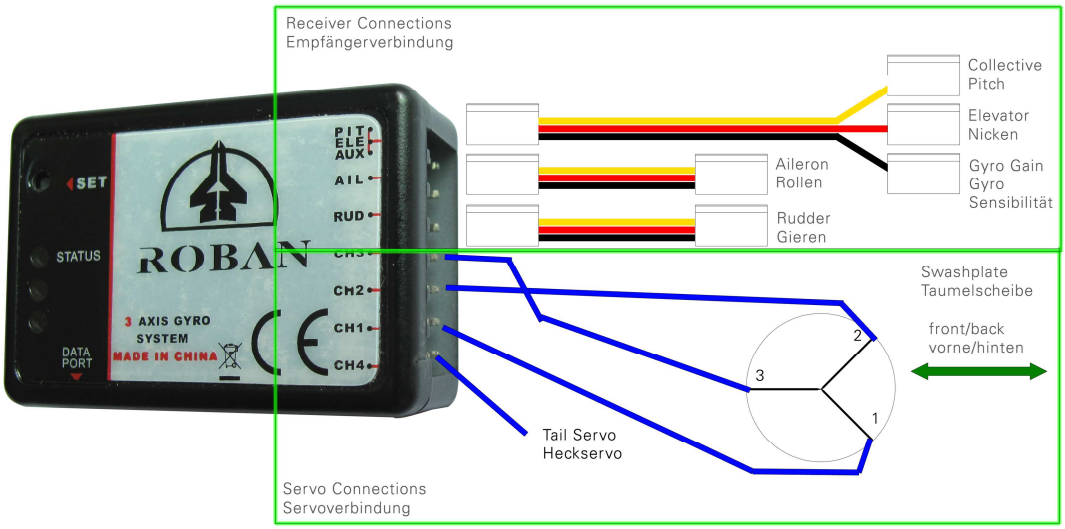
RCH-BE407-028	3Axis HH Gyro	3 Achs Gyro	1-JX-47-00068	3 axis gyro	1
RCH-BE407-029	6S ESC	6S ESC	1-JX-47-00126	ESC 6S 40A	1
RCH-BE407-030	Position light set	Positionslichter-satz	1-JK-47-00082	Red Light Cap	1
			1-JK-47-00083	Red Light Socket	1
			1-JK-47-00084	Round Light Cap	1
			1-JK-47-00085	Oval Light Socket	4
			1-JK-47-00086	Oval Light Cap	4
			3-LD-47-00001	LED + Controller Set	1
RCH-BE407-031-(YB,B,SS,RG,BW)	Tail fin set	Heckflügelsatz	1-JK-47-00021	Right vert Wing, lower	1
			1-JK-47-00022	Right vert Wing, upper	1
			1-JK-47-00023	Left vert Wing, lower	1
			1-JK-47-00024	Left vert Wing, upper	1
			1-JK-47-00025	Right hor Wing, lower	1
			1-JK-47-00026	Right hor Wing, upper	1
			1-JK-47-00027	Left hor Wing, lower	1
			1-JK-47-00028	Left hor Wing, upper	1
			1-JK-47-00072	Tail Cap	1
			1-JK-47-00080	Clearance Rod	1
			1-JK-47-00133	Large Tail Fin, upper	1
			1-JK-47-00134	Large Tail Fin, lower	1
RCH-BE407-032-(YB,B,SS,RG,BW)	Engine hatch	Motorabdeckung	1-JK-47-00074	Engine hatch	1
RCH-BE407-033-(YB,B,SS,RG,BW)	Window Set	Fenstersatz	1-JK-47-00010	Back Side Window, right	1
			1-JK-47-00011	Back Side Window, left	1
			1-JK-47-00012	Top Window, right	1
			1-JK-47-00013	Top Window, left	1
			1-JK-47-00014	Front Side Window, left	1
			1-JK-47-00015	Front Side Window, right	1
			1-JK-47-00016	Middle Left Window	1
			1-JK-47-00017	Middel Right Window	1
			1-JK-47-00018	Right Ground Window	1
			1-JK-47-00019	Left Ground Window	1
			1-JK-47-00020	Front Window	1
RCH-BE407-034-(YB,B,SS,RG,BW)	Scale Assesories Set	Zubehörteilesatz	1-JK-47-00029	Cockpit lever	2
			1-JK-47-00030	Left lower support	1
			1-JK-47-00031	Right lower support	1
			1-JK-47-00032	Left upper support	1

			1-JK-47-00033	Right upper support	1
			1-JK-47-00034	Lower wire cutter	1
			1-JK-47-00035	Upper wire cutter	1
			1-JK-47-00036	Handle	2
			1-JK-47-00037	Antenna	1
			1-JK-47-00038	Engine exhaust	1
			1-JK-47-00039	Front gear cap	2
			1-JK-47-00040	Aft gear cap	2
			1-JK-47-00041	Scale Detail	1
			1-JK-47-00042	Scale Detail	4
			1-JK-47-00043	Scale Detail	4
			1-JK-47-00044	Vent mesh	1
			1-JK-47-00045	Door handle	2
			1-JK-47-00046	Scale Detail	1
			1-JK-47-00048	Scale Detail	2
			1-JK-47-00049	Scale Detail	4
RCH-BE407-035-(YB,B,SS,RG,BW)	Decal Set	Decals	1-JK-47-00005	Decal B	1
			1-JK-47-00006	Decal RG	1
			1-JK-47-00007	Decal YB	1
			1-JK-47-00008	Decal BW	1
			1-JK-47-00138	Decal BP	
			1-JK-47-00137	Decal CS	
			1-JK-47-00009	Decal SS	1
RCH-BE407-036-(YB,B,SS,RG,BW)	Landing gear set	Fahrwerkssatz	1-JK-47-00001	U supports	2
			1-JK-47-00002	landing skid	2
			1-JK-47-00108	aft skid cap	2
			1-JK-47-00109	fwd skid cap	2
			1-JK-47-00087	Screw M2x6	4
			1-JK-47-00088	Screw M2x14	4
			1-JK-47-00135	Skid stair	2
			1-JK-47-00047	T Connector	4
RCH-BE407-037	Wooden Desktop Stand	Holz-Tischhalter	1-JK-47-00003	Holding Arm	1
			1-JK-47-00004	Base plate	1
			1-JK-47-00075	Screw	1
			1-JK-47-00076	Wood screw	2
			1-JK-47-00121	Item Tag	1

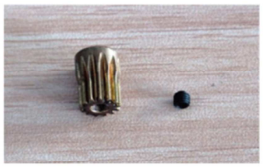
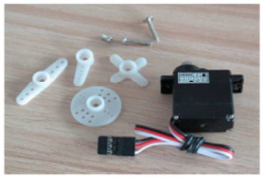
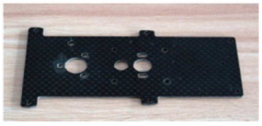
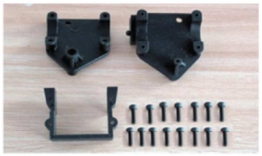
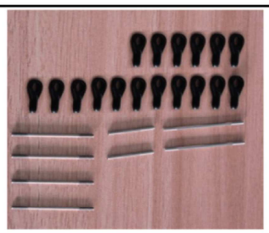
			1-JK-47-00122	Brand tag	1
			1-JK-47-00132	Felt footprints	4
RCH-BE407-040	LIPO 6S 1200mAh 25C FULLYMAX	LIPO 6S 1200mAh 25C		LIPO 6S 1200mAh 25C	1
RCH-BE407-041	Battery hatch	Batteriefachab-deckung	1-JK-47-0136	Battery hatch	1

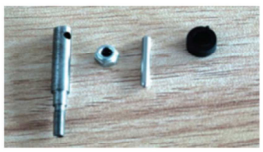
12. WIRING DIAGRAM

Note: This is how to wire the Roban 3 Axis Gyro. Other systems may require different wiring setup.



13. SPAREPART PICTURES

			
RCH-BE407-001 SWASH HUB	RCH-BE407-002 SWASH PLATE	RCH-BE407-003 2ND STAGE GEAR SET	RCH-BE407-004 6S MOTOR
	NA		
RCH-BE407-005 PINION GEAR SET	RCH-BE407-006	RCH-BE407-007 Metal Gear Servo	RCH-BE407-008 Tail Servo
			
RCH-BE407-009 Main Frame	RCH-BE407-010 Main Shaft Holder	RCH-BE407-011 Main Gear Set	RCH-BE407-012 Main Shaft Set
			
RCH-BE407-013 Servo Holder	RCH-BE407-014 Pushrod Set	RCH-BE407-015 Anti Rotation Lever	RCH-BE407-016 Tail Boom Holder
		NA	
RCH-BE407-017 Tail boom set	RCH-BE407-018 Tail Belt	RCH-BE407-019	RCH-BE407-020 Tail blade

			
RCH-BE407-021 Carbon tail blade	RCH-BE407-022 Tail Frame Set	RCH-BE407-023 Tail Shaft Set	RCH-BE407-024 Blade Grip Set
			
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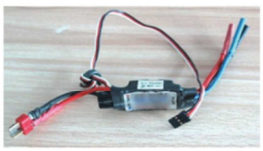	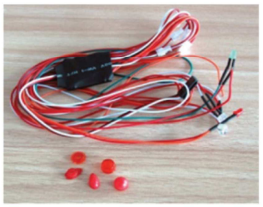		
RCH-BE407-029 6S ESC 40A	RCH-BE407-030 Position light set	RCH-BE407-031 Tail fin set	RCH-BE407-032 Engine hatch
			
RCH-BE407-033 Window Set	RCH-BE407-034 Scale Assesories Set	RCH-BE407-035 Decal Set	RCH-BE407-036 Landing gear set
	NA	NA	
RCH-BE407-037 Desktop Stand	RCH-BE407-040 LIPO 6S 1200mAh 25C	RCH-BE407-041 Battery hatch	