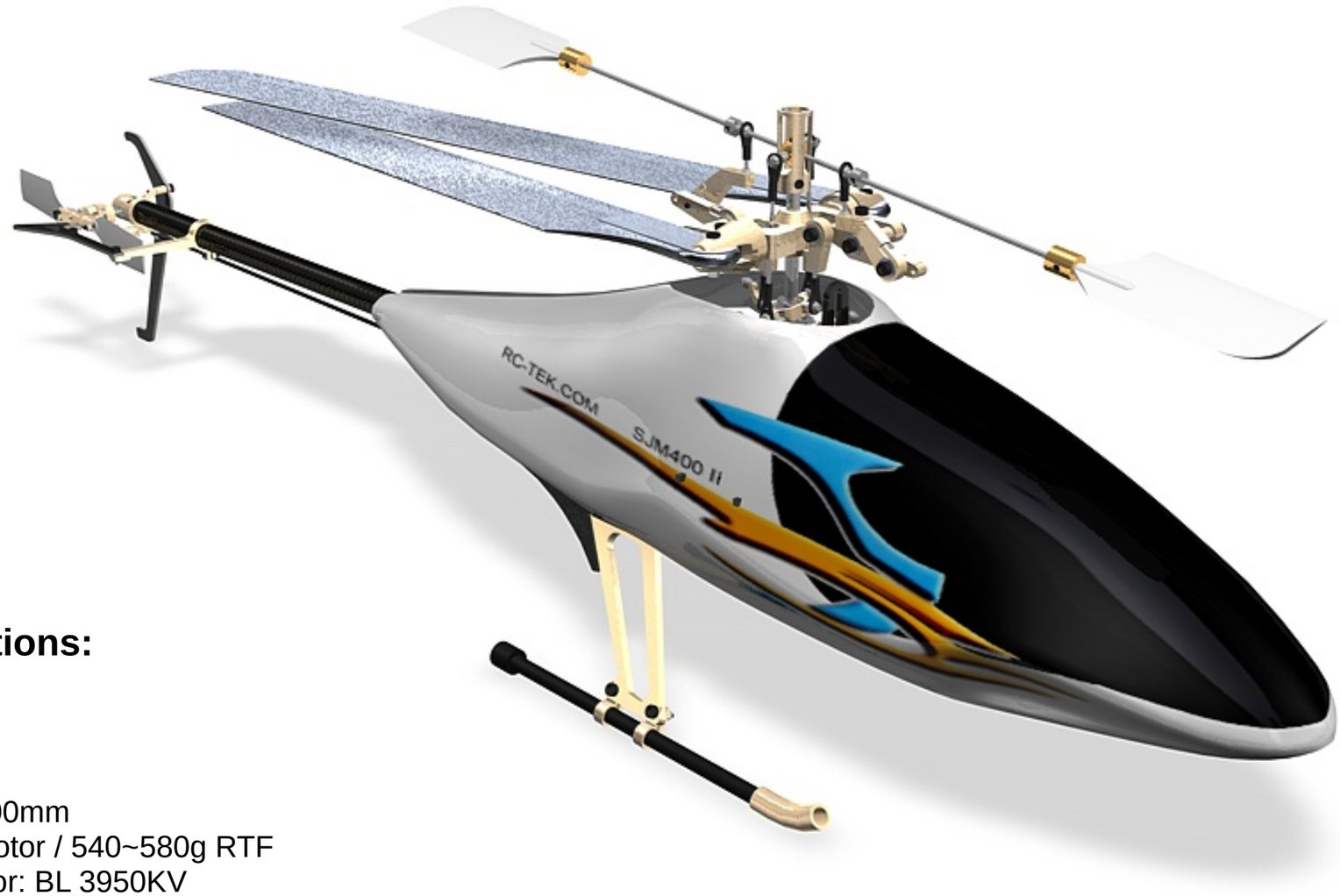
RC-TEK Ltd. SJM400 II Reference Manual



SJM400 Specifications:

- Length: 600mm
- Height: 200mm
- Width: 120mm
- Main Rotor Span: 700mm
- Weight: 257g w/o Motor / 540~580g RTF
- Recommended Motor: BL 3950KV
- Motor Pinion: 11T,12T,13T,14T
- Gear Ratio: 1:5
- Recommended Battery: 3S1P Li-Po 1700~2000mA 16+c

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1. **Important Notes**
2. **Assembly Drawings**

RC-TEK Ltd. SJM400 II Reference Manual

Thank you very much for your purchase of the SJM400. In order to better operate this product safely, please read this manual before flying the helicopter.
Please fly the helicopter safely observing all the rules and manners after having fully understood the flight precautions, the unit's capabilities and the best way to fly it.
Be sure to retain the manual for future reference, routine maintenance and tuning.

Assembly Tip: Please add shockproof screw glue to each screw before fixing.

Important Notes:

- This helicopter is recommended for skilled intermediate to advanced RC Helicopter flyers.
- Make sure to read and follow all the instructions in this manual, including all accessories.
- Should any uncertainty arise, Please consult with an experienced RC helicopter hobbyist and or instructor **BEFORE** any attempt to fly this helicopter.
- Always find an experienced and qualified secondary party for pre-flight inspection.
- Make sure the proposed flight vicinity is in an open space; free of crowds, obstacles and buildings. Failure to abide may cause accidents and potentially hazardous encounters.
- Any introductory flight should incorporate only basic maneuvers (hovering, linear ascending and descending) until the stick feel is mastered.
- **For stock wooden blades don't operate over 2600RPM.**

Precautions:

- Fly only in safe areas, away from other people. Do not operate RC helicopters within the vicinity of homes or crowds of people. RC Helicopters are prone to accidents, failures and crashes due to a variety of reasons including, lack of maintenance, pilot error and radio interference. Pilots are responsible for their actions and damage or injury occurring during the the operation or as a result of RC helicopter models.

Recommended Equipment NOT included in the kit:

- Radio control system - 6 channels or more helicopter compatible transmitter or equivalent. (required)
- Receiver - 6 channels or more
- Gyro - (1) 6g ~ 15g gyro
- ESC - 25 AMP or More (BEC Support 4 servos)

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Pre Flight Checks:

1. As a precautionary avoidance to frequency interference (two different helicopters utilizing the same frequency), it is important to keep the remote controllers and helicopters apart for at least a distance of 0.5 miles. In order to prevent encounters from occurring; Please make sure the surrounding areas (the flight area) are not populated with crowdsand or buildings (look for open space). Any open space vicinity should be at least 100 feet in all directions.

2. Make sure the battery is completely charged. Read carefully the suggested charging time and maintenance procedures listed in the instruction manual. Attempted flight without a fully charged battery will result in an unexpected loss of power, directional control and or costly accidental crashes. Remember, by **NOT** discharging the battery during usage, you will maintain its efficiency and increase its life span.

3. You are now ready to turn **ON** both the transmitter (remote control) and the receiver (located on the helicopter). Make sure the helicopter is placed on a flat leveld surface on the ground before commencing. Always turn on the transmitter (remote control) **FIRST** before turning on the receiver.

4. Test and confirm the directional controls are working properly. Try moving the directional stick and study the resulting effects of the helicopter. If no resulting movement is noticed when moving the directional stick, do not attempt flight; as either the helicopter or remote control may be defective.

5. Before any test flight, it is recommended to tiethe helicopter model to a fixed restraint mechanism under safe conditions and then gradually increase its power, making the helicopter perform various movements frequently till at least one battery is used up in order to make sure all parts fit properly. Then carefully check the helicopter to see if there are any screws loose and make any needed adjustments.

The following lists the most recommended methods for a beginner to commence their journeys into the remote control flying realm (listed in the order of importance):

1. Find an experienced Instructor - most likely can be found at your local hobby store.
2. Join an RC club in your nearby area - can be found through the internet, hobby stores, parks and friends (word of mouth)
3. Make sure you are standing directly behind the helicopter before any attempted flight.
4. Slowly introduce power to the helicopter in a continuous and stable pace.
5. Analyze carefully the characteristics of the helicopter. As more power is introduced, the helicopter will begin its ascension progress. Make directional adjustments to counter and insure linear ascending or decending path.
6. Make sure never to exceed a flying height of over 2 feet! Anything over the recommended height can and may cause major damage to the helicopter if crashed.

7. Upon reaching the recommended maximum height, slowly release and let off on the throttle till landing. Always maintain the helicopter's plane level to the ground.
8. Continually practice this technique until you can masterfully perform linear and descending paths, as well as stationary hovering capabilities.
9. As your skills improve, slowly introduce lateral movements of the helicopter; with your starting point of spot as the final goal (position). Make sure to keep the lateral distances within 3 feet diameter. Furthering the recommended distance will increase accidental encounters.
10. once these techniques are mastered, you are now ready to elevate both your helicopter and flying skills to its potential.
11. It's strongly recommended for softened landings, slightly tilt and allow the front part of the landing strut to touch down, followed by the rear half.

Notes:
The majority of crashes experienced by beginners are associated with behaviours of nervousness and or panic. Only a small percentage is directly related to mechanical failures. Repetitive practice is the only way to enhance your skills such as developing controls sensitivity, awareness and understanding. Regular maintenance is required to keep the SJM400 helicopter in optimal and safe flying condition. The model requires precise configuration of the components and Setting to be kept by the owner. Conduct regular maintenance on the model to avoid accidents or loss and to ensure optimal performance.

Main Rotor Checklist:

1. Main Rotor housing: When the main rotor housing is worn or faulty, there will be obvious vibration and poor flight control. Check the main rotor, main shaft and feathering shaft for wear or deformity. Replace parts as necessary to eliminate imbalance.

2. Main rotor holder: If the helicopter will not fly or begins to react sluggishly, even after checking for proper setting of pitch and throttle, check the following items:

- Bearings
- Ball Bearings
- Rotor blades
- other relevant moving parts

4. Check for excess play or gaps between the surfaces, missing or broken parts, binding or restricted movement, it is important to check for main rotor balance before each flight. Operating the model when out of balance will cause wear and premature failure of parts, possibly resulting in a dangerous situation.

5. Control arm assembly: check regularly for cracked, worn, bent or binding control arms and pushrods. Smooth movement of control arms and linkages is required for stable, vibration flight.

6. Swash-plate: Check for excess slop in the main ball where the main shaft rides on and slop or looseness among all the metal parts. Swash-plate wear will result in poor stability and lack of control during flight. Replace as necessary.

Fuselage/Chassis:

1. Main shaft bearing: Normal replacement interval for proper operation is between 60-100 flights. If flying 3D or extreme aerobatics often, inspect the bearing more frequently and shorten the interval as necessary.

2. One-way bearing: One-way bearings have longer lifetimes. Failure is not common. To keep the one-way bearing in good operation, remove it to clean and lubricate every 50 flights. If the main gear is loose, you should replace the one-way bearing.

Linkage Rods and Connecting Parts:

During assembly, take special care to keep the connecting parts in smooth operation, and avoid excess play or binding. Failure to do so will result in poor flight stability. The linkage rods and ends will break and wear due to normal usage, crashing and poor maintenance and environment. Check for wear and proper operation regularly and replace as needed.

Tail Rotor System

1. Tail rotor control set: Check the tail rotor bearing regularly. If there is excess play or gaps replace immediately. Avoid any binding or improper contact on the tail components and bearings as this will cause excess wear and heat, potentially melting or deforming the tail system.

2. Tail unit assembly: Avoid flying in tall grass or weeds. If grass or weed becomes lodged in the tail rotor unit, it will interfere with the operation and cause the helicopter to lose control. Always check for foreign objects in the tail and clean them off immediately. Avoid using lubricants on the exposed surfaces of the model as it will attract and collect dirt and debris and potentially cause hardware failure.

3. Tail rotor housing: Disassemble the tail rotor housing for cleaning and maintenance after every 50 flights. If the tial does not operate smoothly or shows any signs of stress or wear, it should be replaced immediately.

4. Tail Rotor: Check the tail rotor blades regularly for damage, especially if the helicopter ever strikes the ground while flying or after any hard landings. Damaged tail blades can induce vibration.

Closing Reminder:

Always maintain your SJM400 on a regular basis and the helicopter will bring you safe and enjoyable flying experiences for years to come.

RC-TEK, Ltd.

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ENJOY YOUR NEW SJM400 II!

SAFETY WARNING

1. **This RC helicopter is not a toy. This helicopter generates large amounts of force and can fly at high speeds. Always operate this helicopter under the guidance of someone experienced in RC aerial flight.**

2. **Always fly under safe and weather and environmental conditions.**

3. **After initially applying power to the helicopter, the unit might vibrate strongly or out of control due to nearby electrical magnetic interference (EMI) or other radio interference fields (RFI) caused by various consumer appliances and other remote control transmitters. Therefore, it is recommended to keep a safe distance from these types of environments whenever possible. Be alert to harmful interferences at ALL times.**

4. **The technology in todays helicopter batteries might explode and or cause fire in the case of a short circuit initiated by moisture, heat or blunt physical force. Treat all batteries with care and safety in mind.**

5. **This helicopter frame structure has a maximum revolving blade speed of 3300 RPM. DO NOT attempt to operate this helicopter above its maximum RPM or damage and potential human injury may occur.**

6. **It is strongly recommended to check and renew the main rotor blades frequently as the leading edge areas will degrade and operate less efficiently after moderate use.**

7. **Condition all electrical batteries according to industry guidelines in order to reduce the risk of electrical dangers.**

8. **The operator of this helicopter is ultimately responsible for his/her own actions and any/all potential damage caused either directly or indirectly as a result of such operation. RC-Tek Ltd., its agents and or subsidiaries shall be held harmless for any financial, physical or emotional loss caused by the operation of this helicopter. Please contact sales@rc-tek.com if you have any questions relating to this clause.**

Please refer to the screw colors on the package

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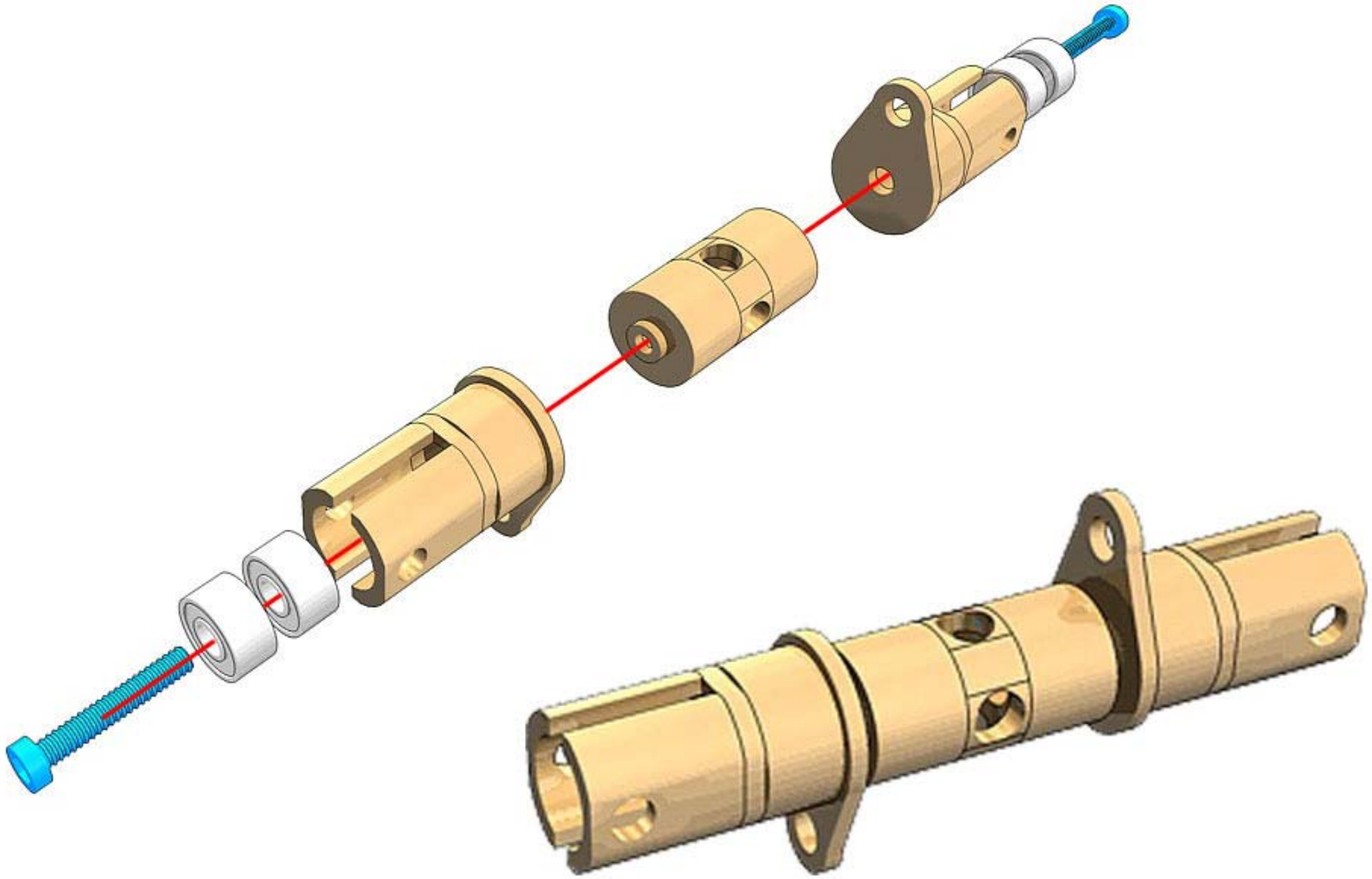
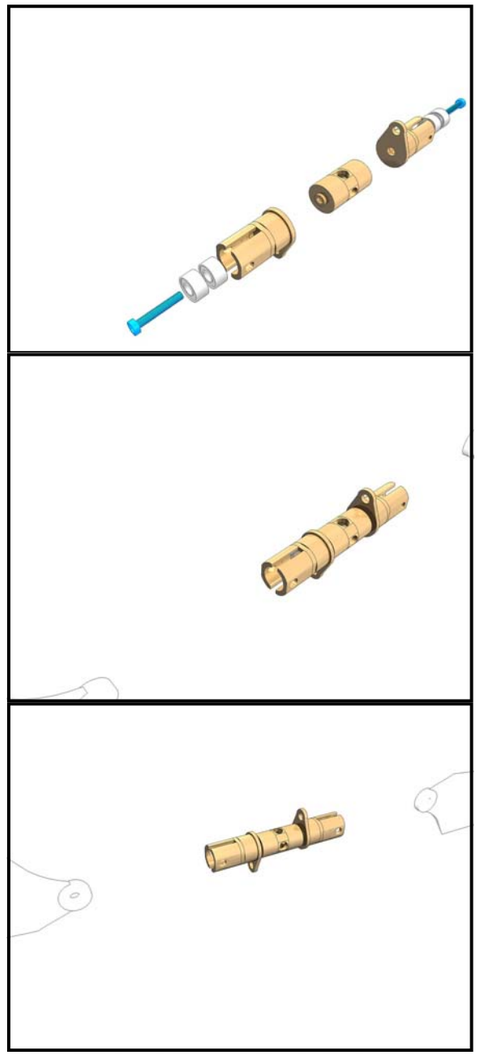
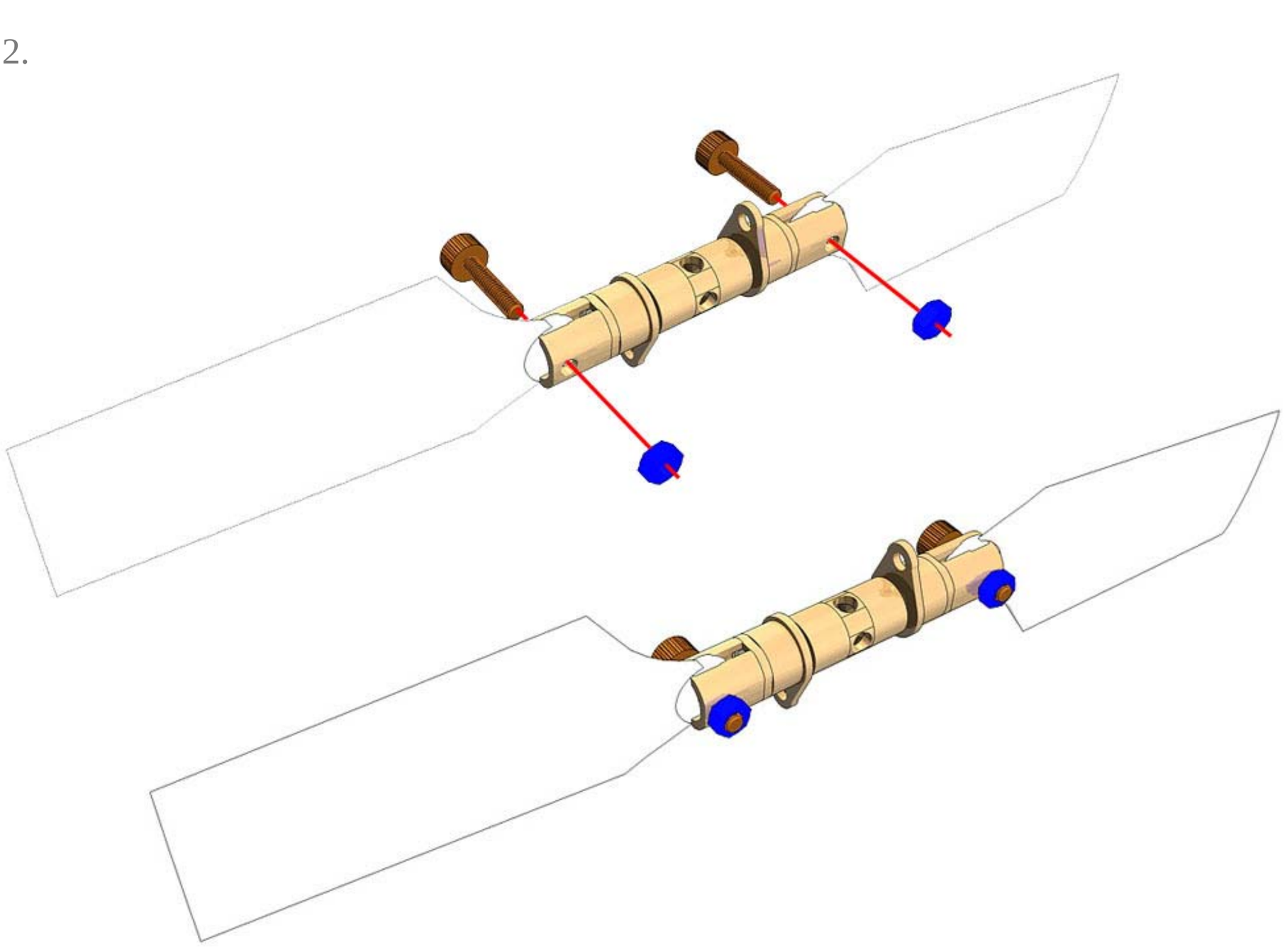


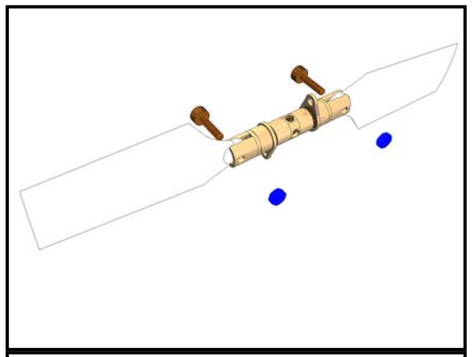


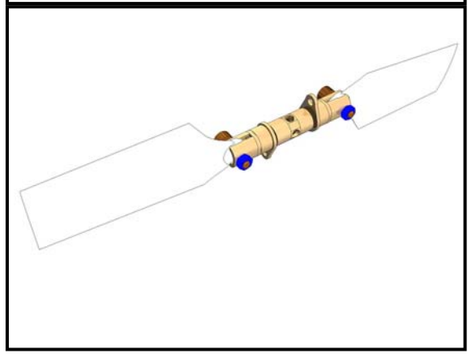
Required Parts

AL2013	BRG 1.5x4.2	M1.5x7
x 1 	x 4 	x 2 

2.



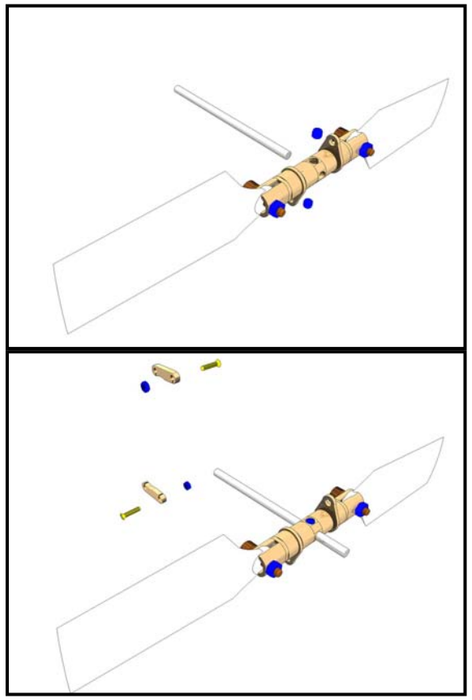




Required Parts

M2x8	SJ70001	Tail Blades
x 2 	x 2 	x2 

3.



Required Parts

HS2006	M2x2
x 1 	x 2 

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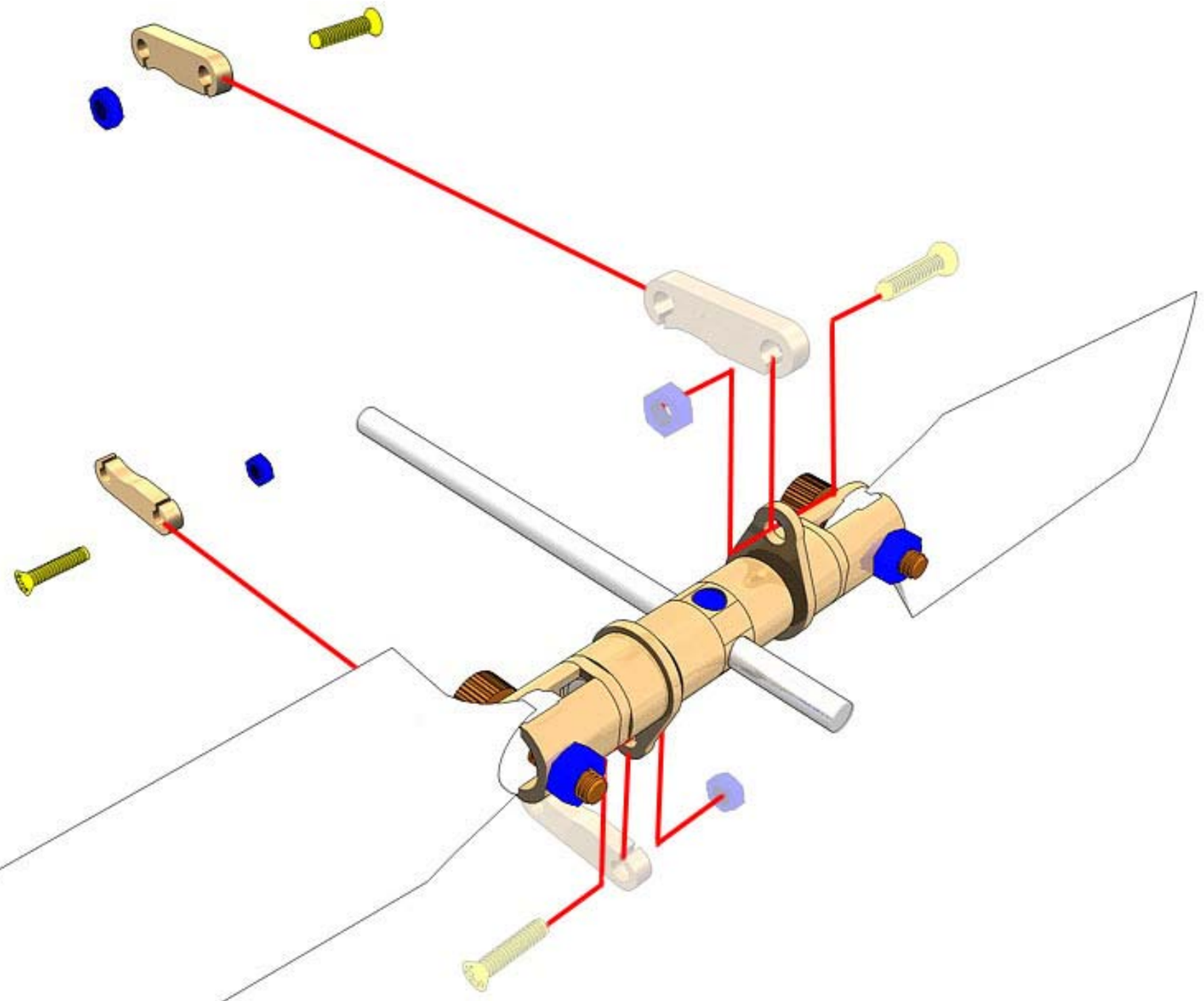

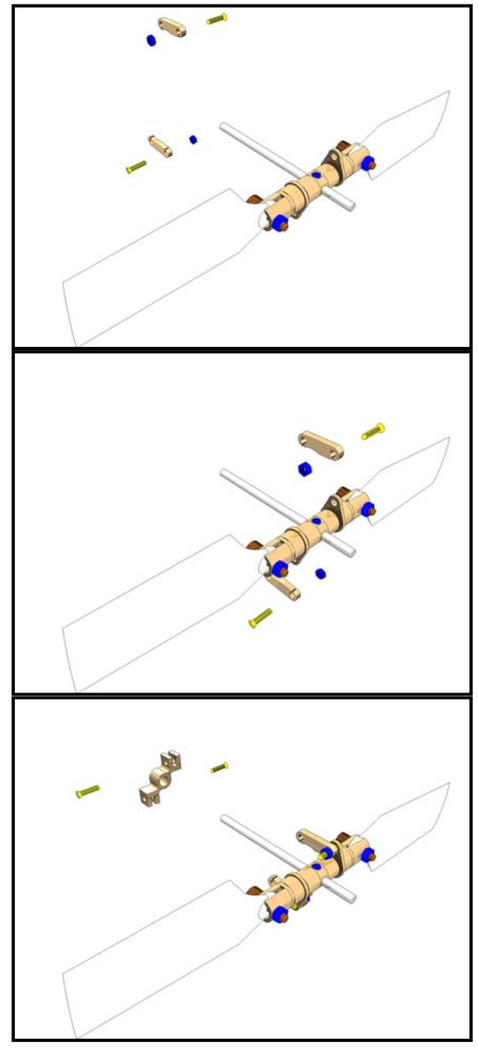

Required Parts

AL2003	SJ2001	M1.6x6
x 2 	x 2 	x 2 

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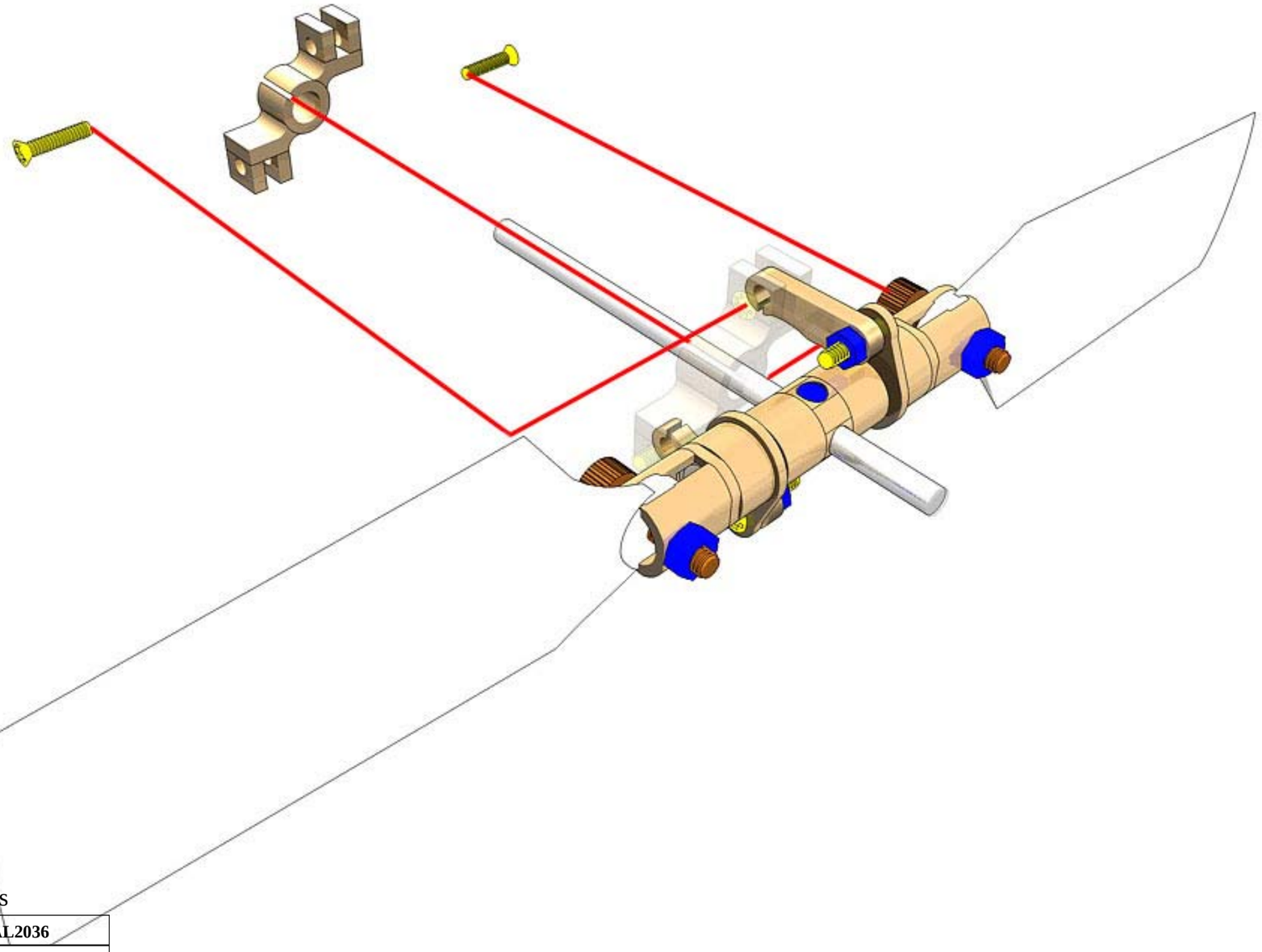

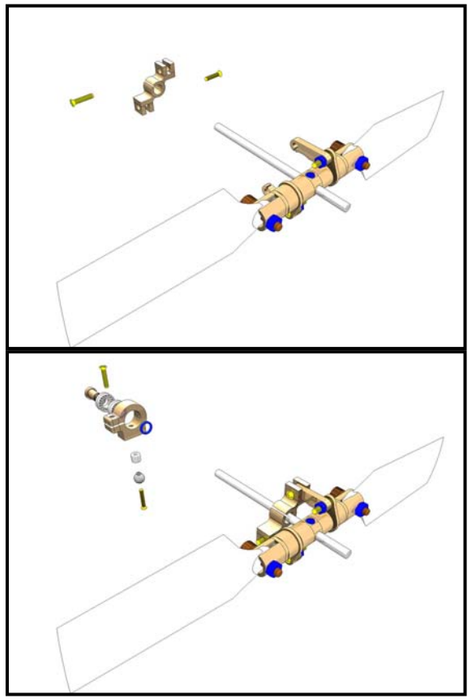

Required Parts

M1.6x6	AL2036
x 1 	x 1 

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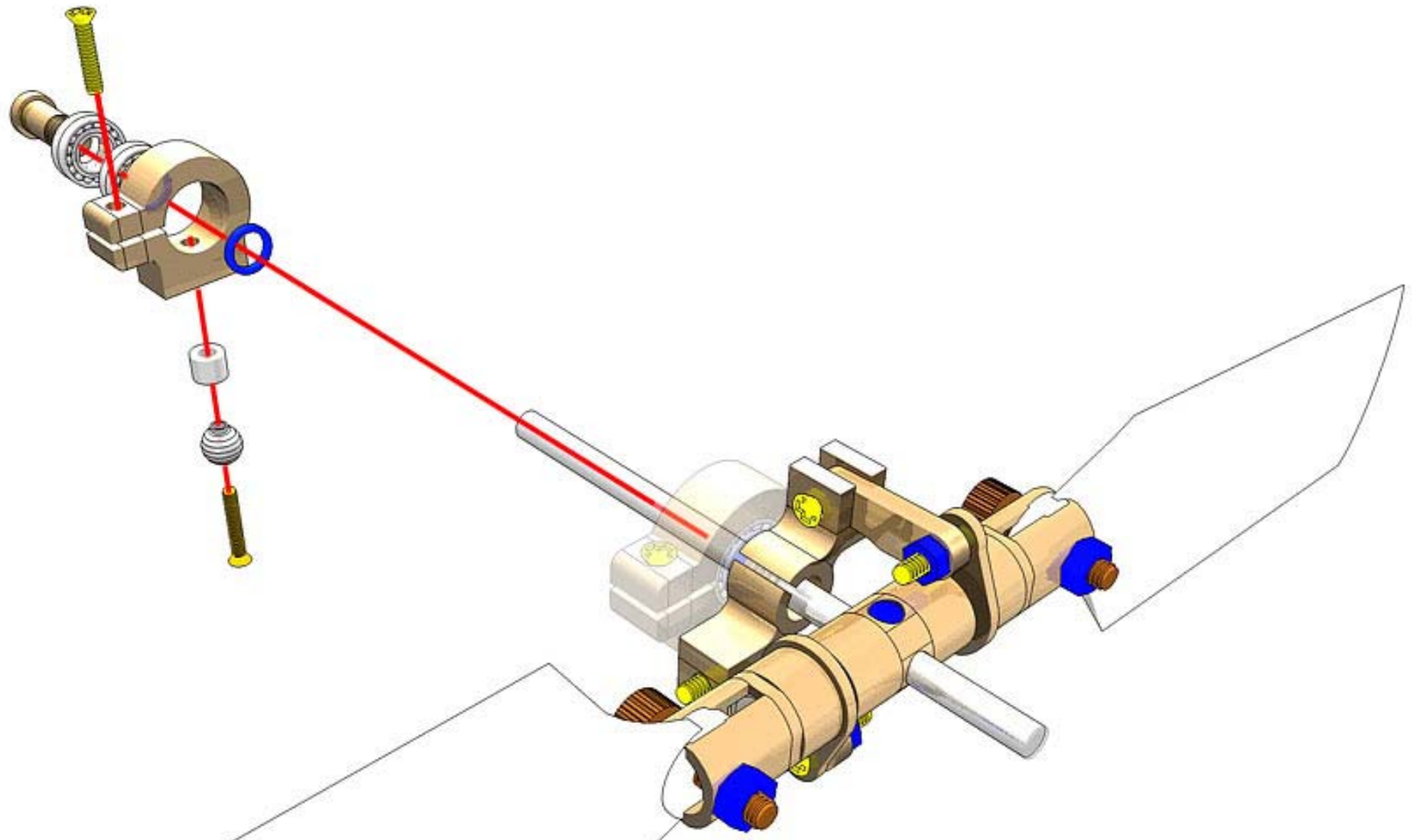
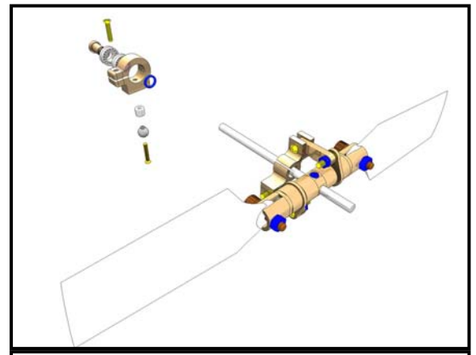
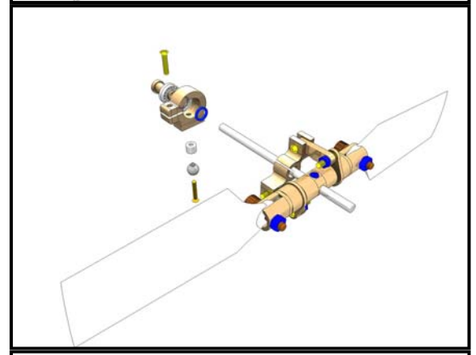
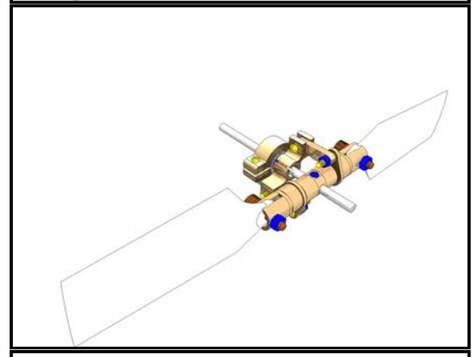
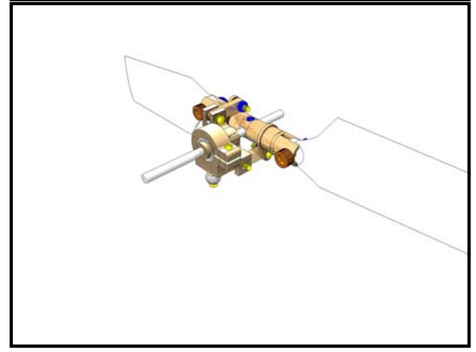






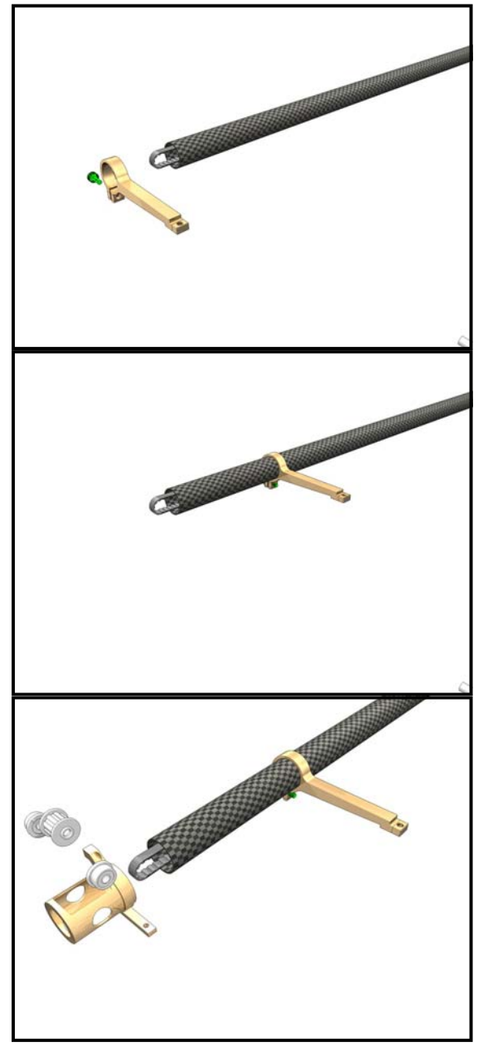




Required Parts

AL2020	AL2043	M1.6x6	BRG 030602	Bushing	Ball link	FW 03x04.5
x12	x 1	x 2	x2	x 1	x1	x1

7.



Required Parts

M2x5	Boom	Tail Belt	AL2030
x 1	x 1	x 1	x 1

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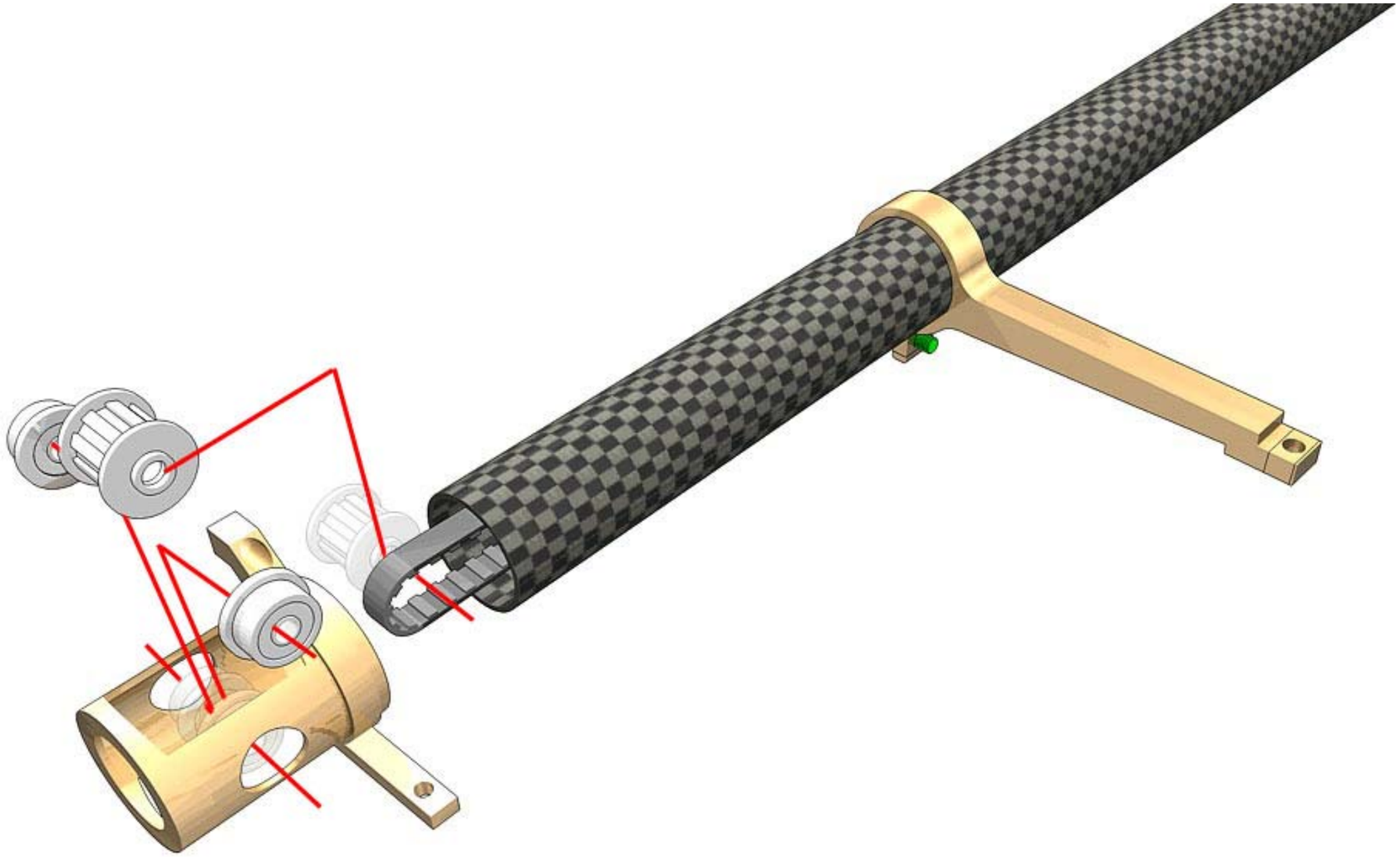

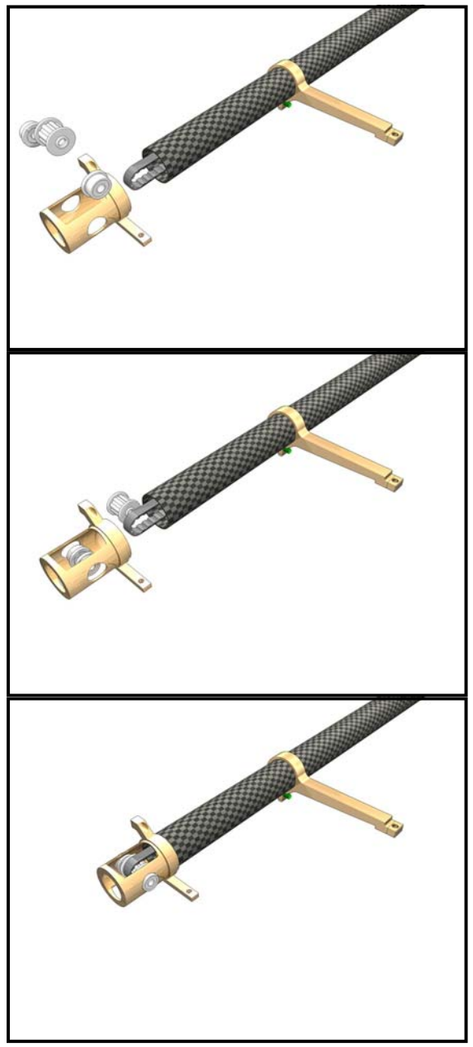

Required Parts

AL2014	BRG 2x6x2.5	PL2002
x 1 	x 2 	x 1 

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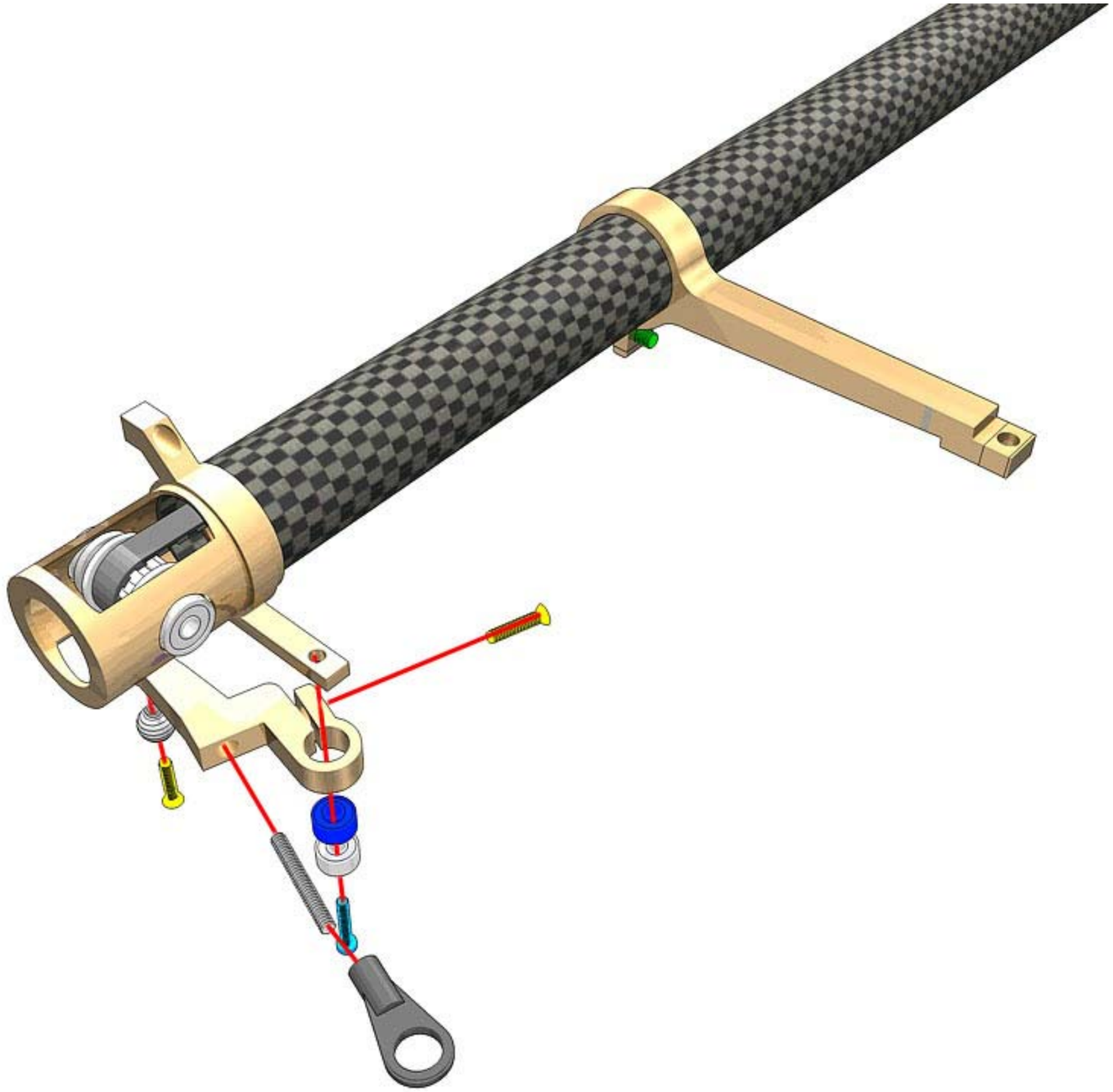

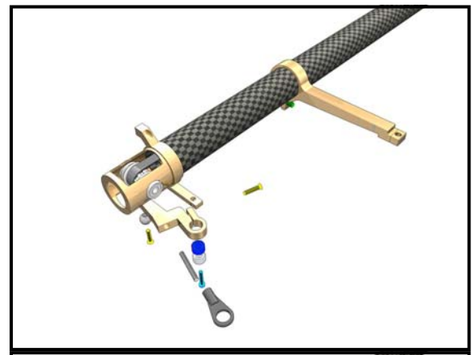

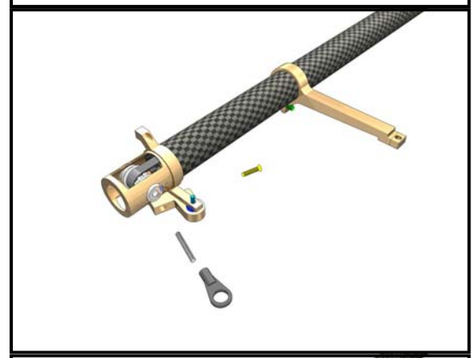

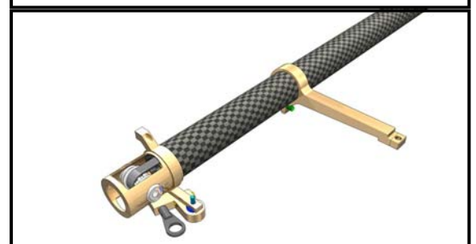

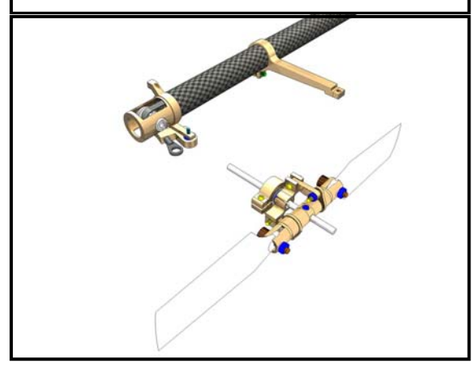

Required Parts

AL2021	M1.6x6	M1.5x7	FW1.5x2.5	BRG 1.5x4x2	Link 1.6x10	PL1010	Ball Link
x 1	x 2	x 1	x 1	x 1	x 1	x 1	x 1

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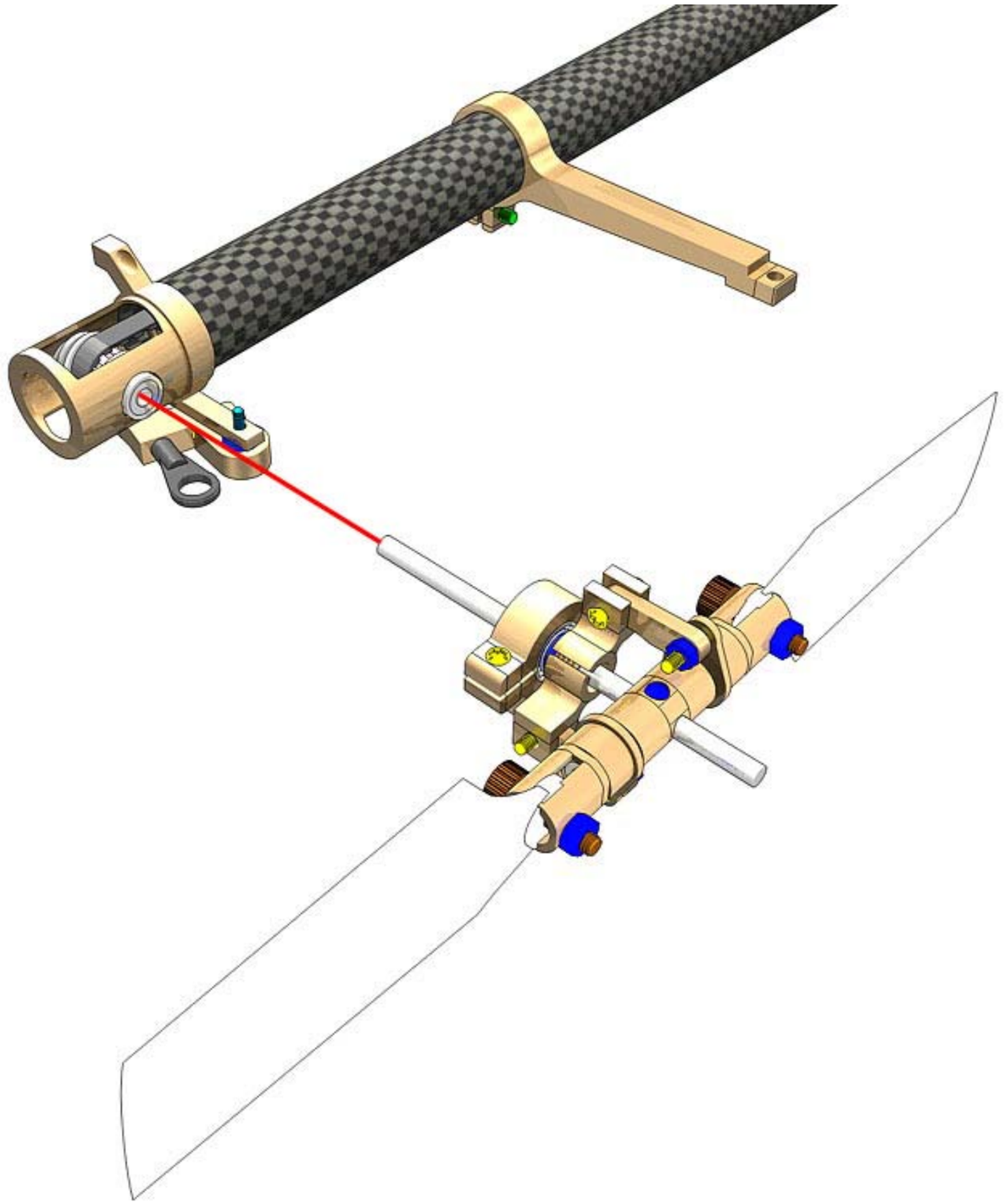

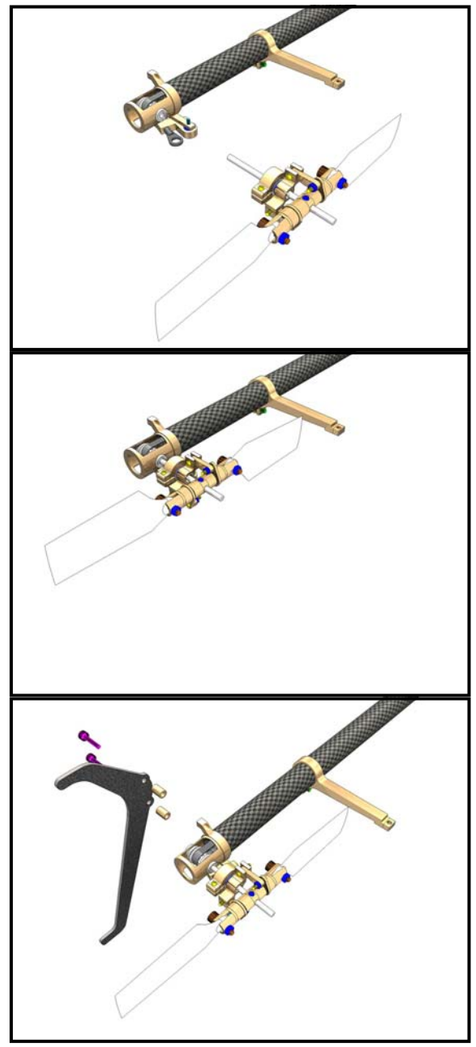

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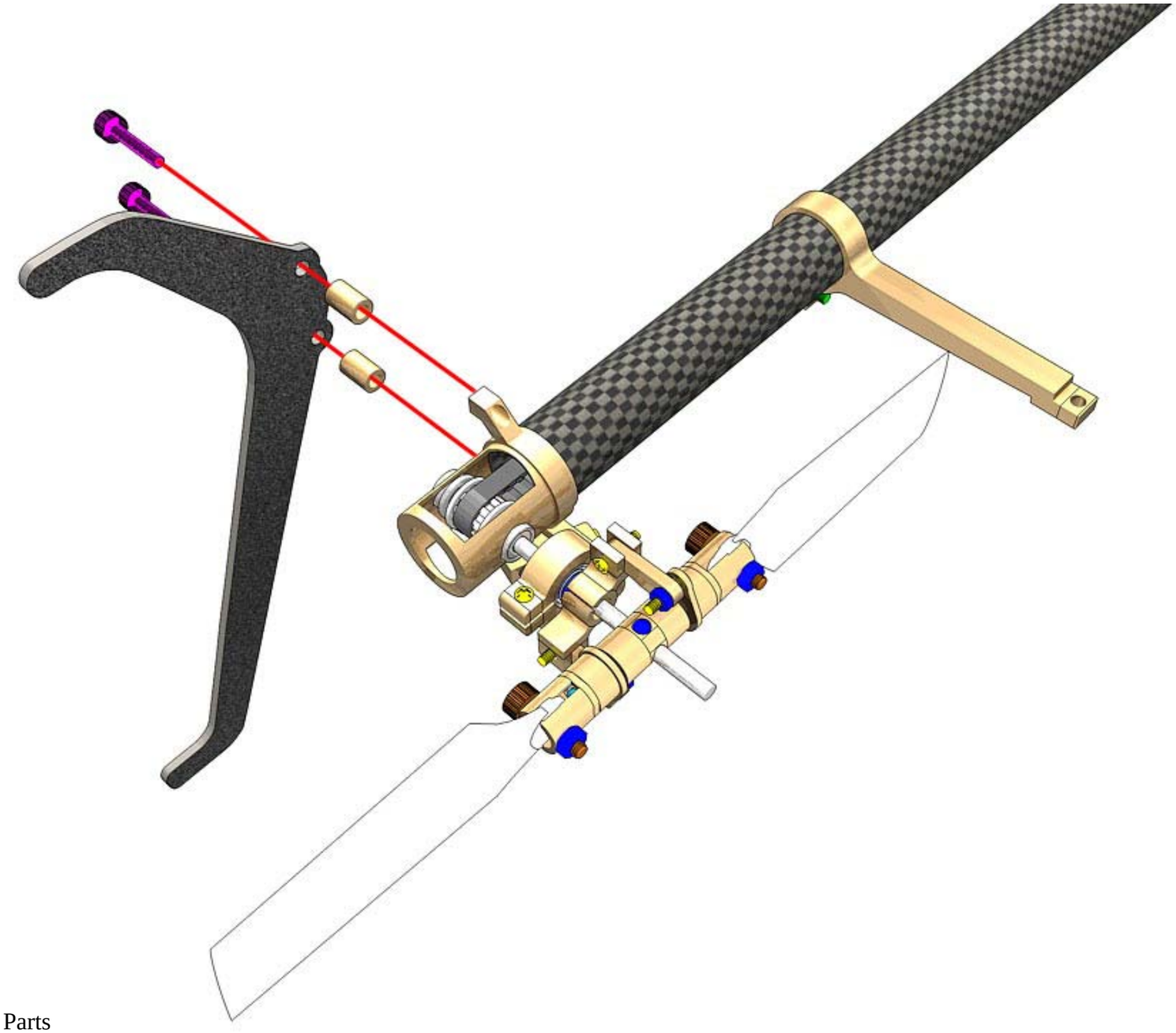

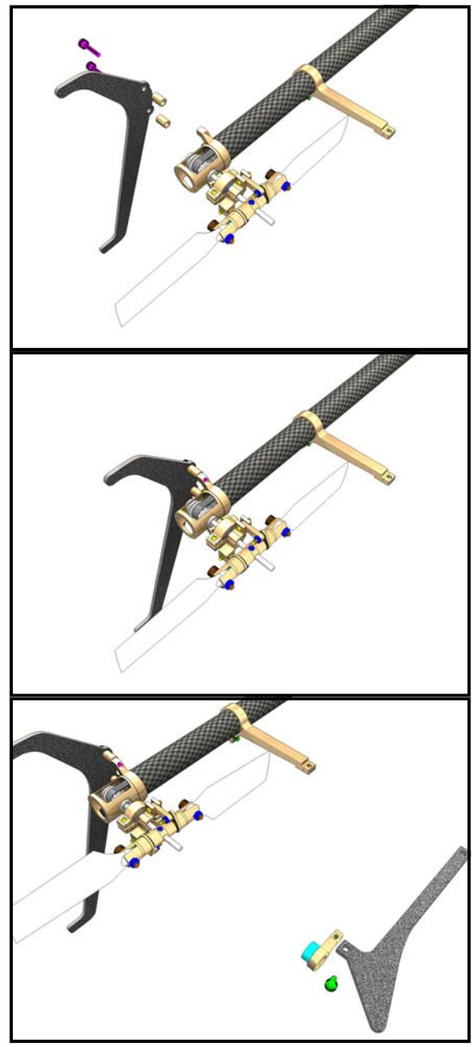

Required Parts

FG2004	M2x10	bushing
x 1 	x 2 	x 2 

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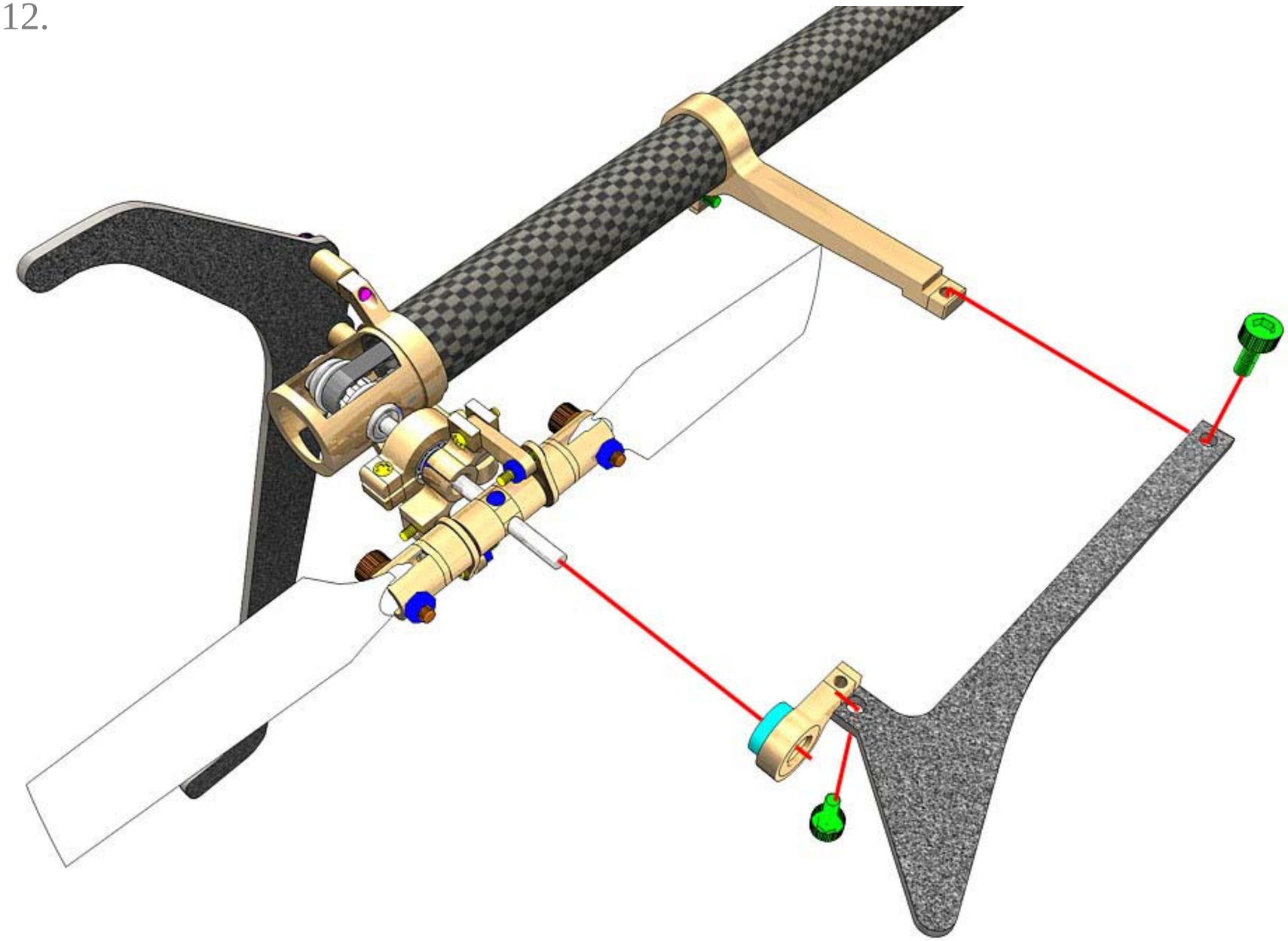

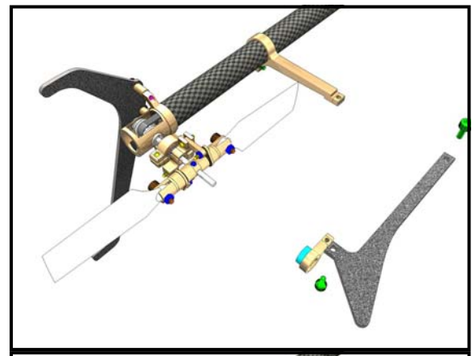

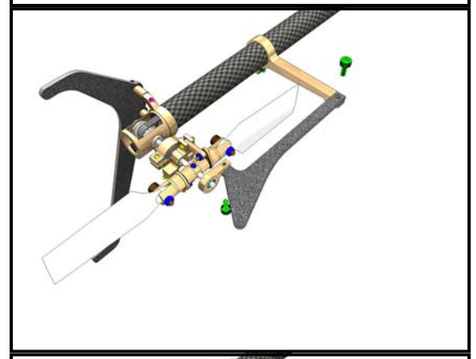

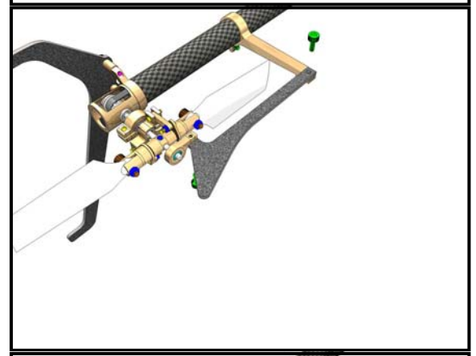

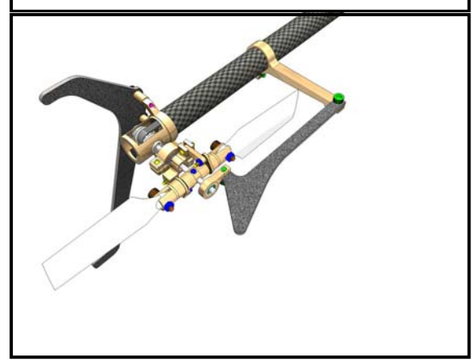

Required Parts

FG2007	AL2032	BRG 2x6x2.5	M2x5
x 1	x 1	x 1	x 2

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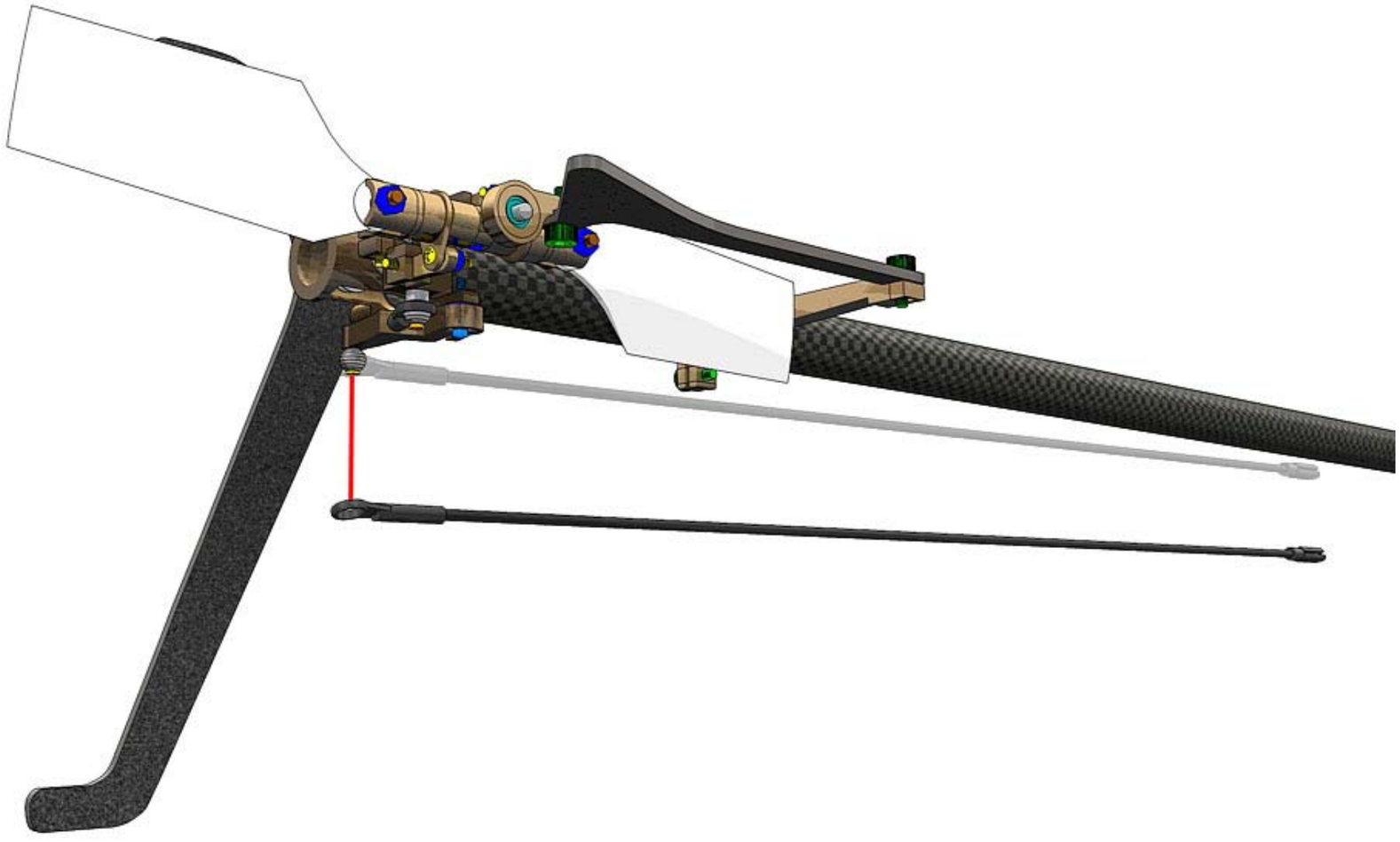
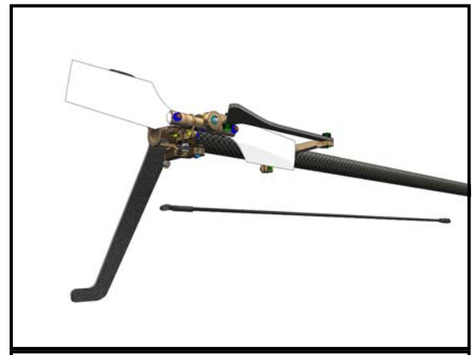
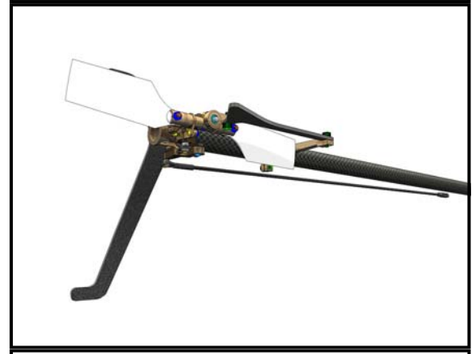
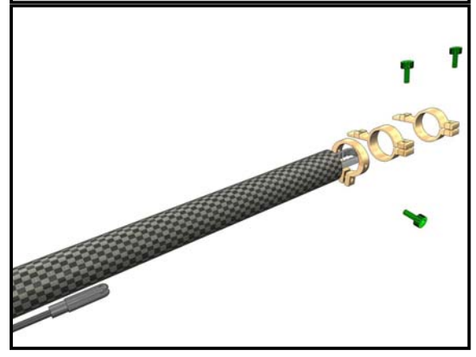
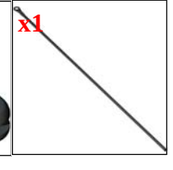








Required Parts

PL1009	PL1012	Carbon rod
x 1 	x 1 	x1 

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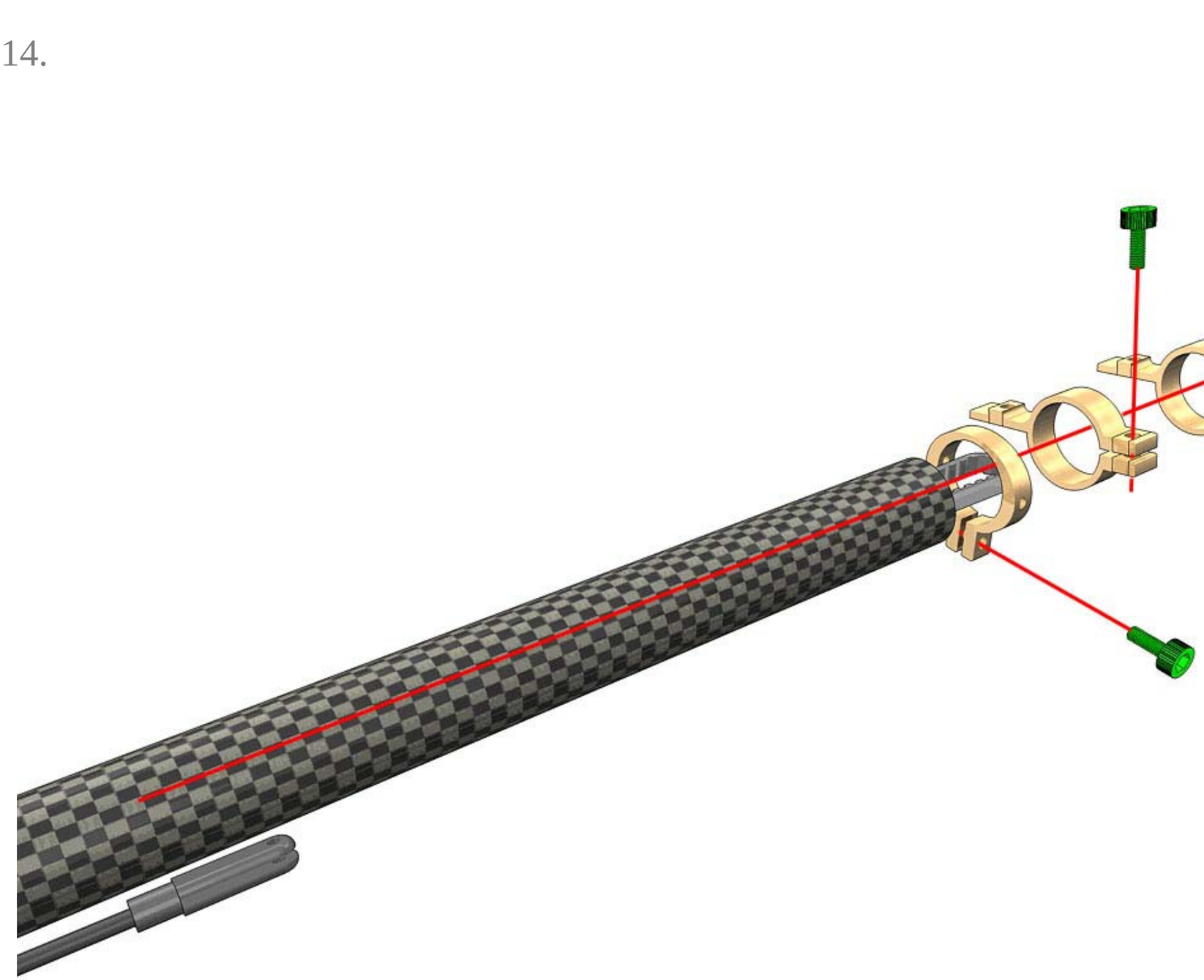
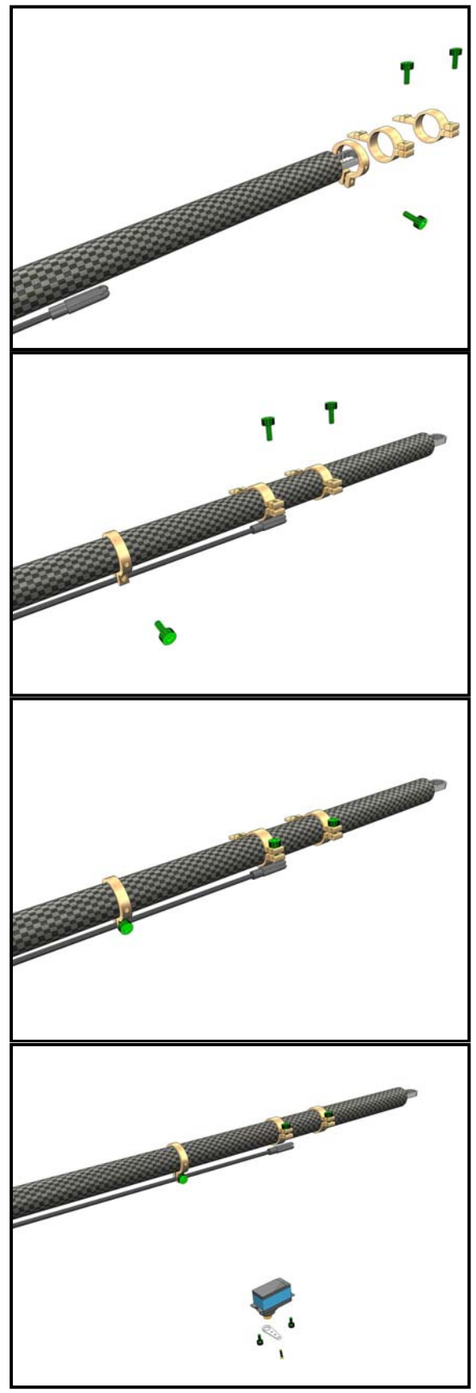
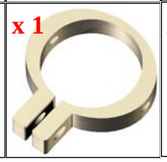
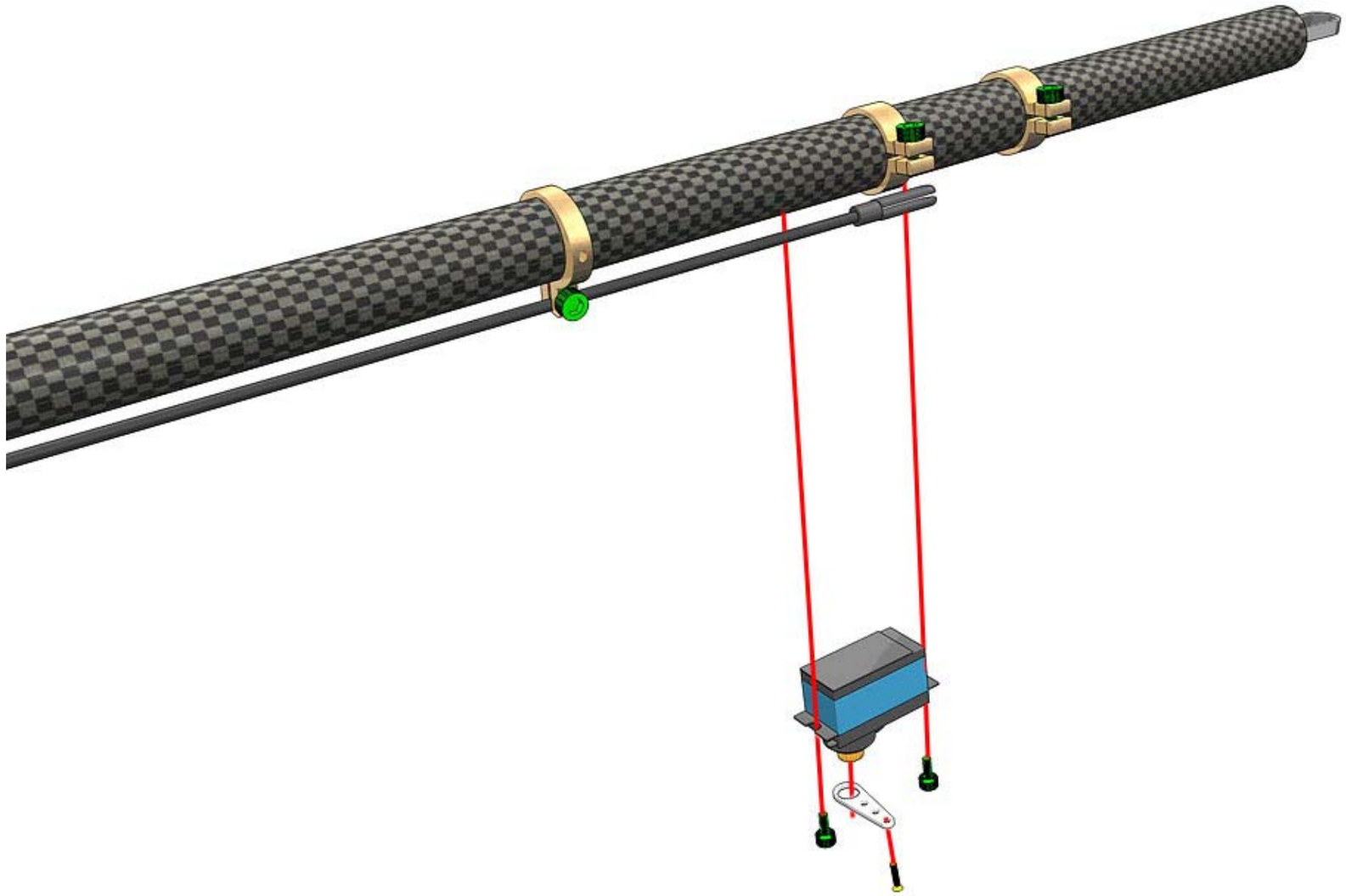


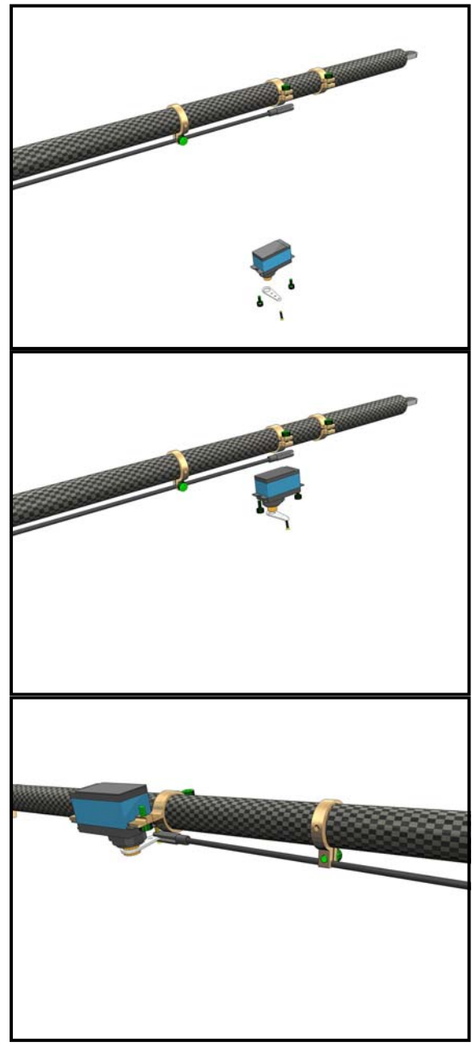


Required Parts

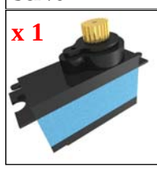
M2x5	AL2016	AL2025
x3 	x 1 	x 2 

15.

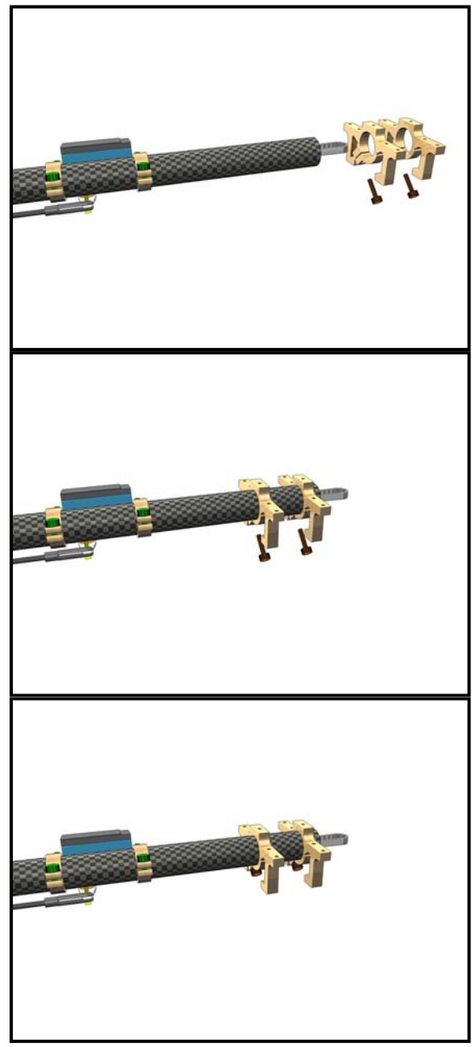




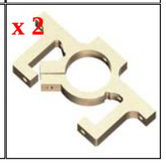
Required Parts

Servo	Servo Arm	M2x5	M1.6x6
x 1 	x 1 	x 2 	x 1 

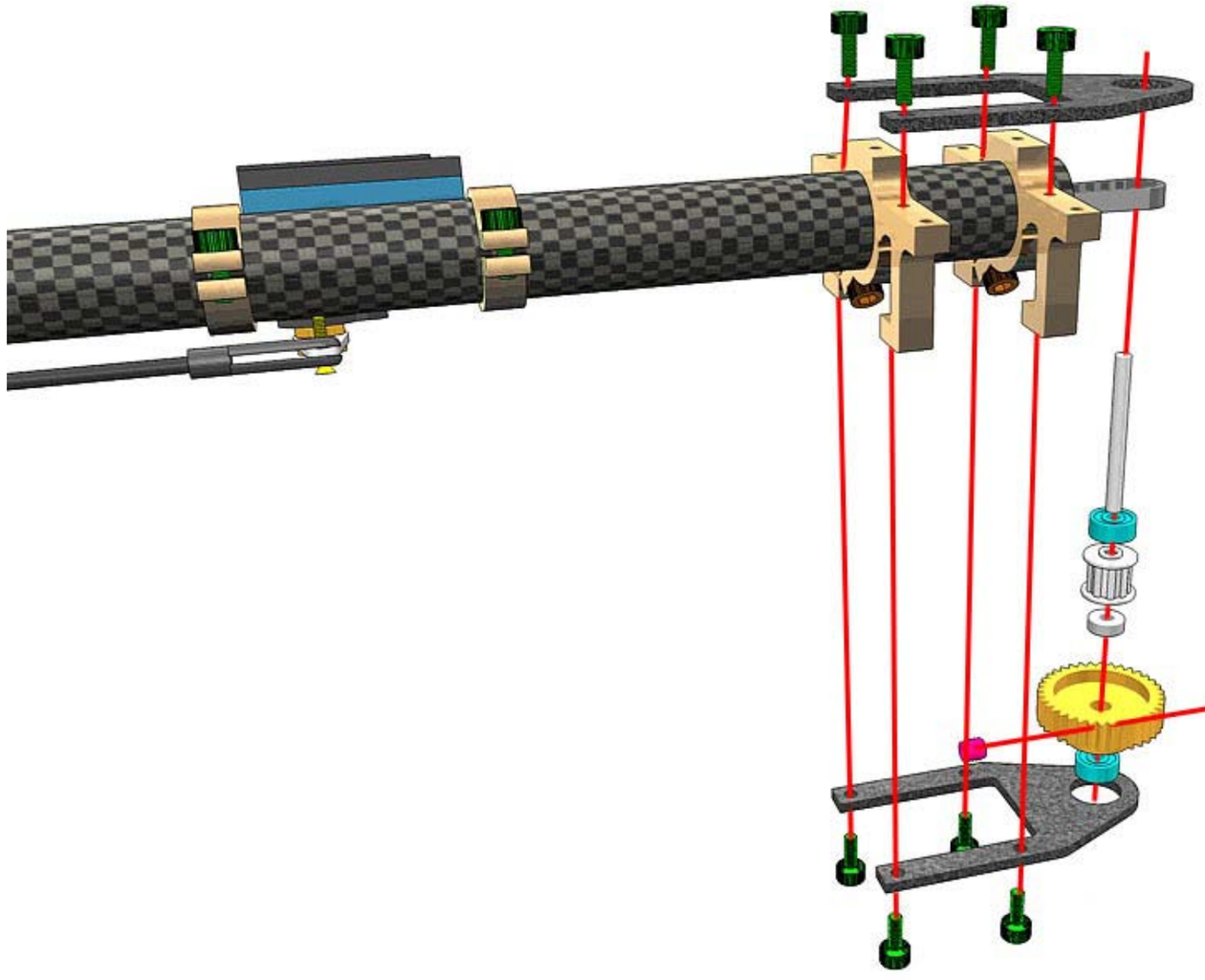
16.

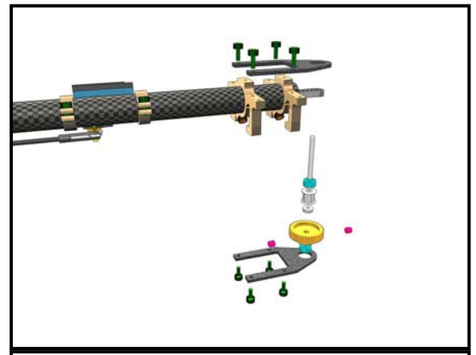


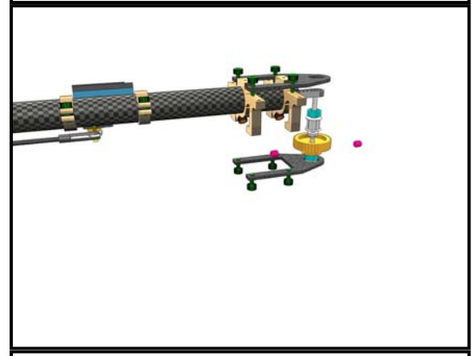
Required Parts

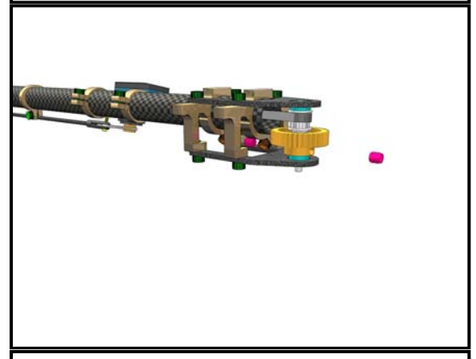
M2x8	AL2009
x 2 	x 2 

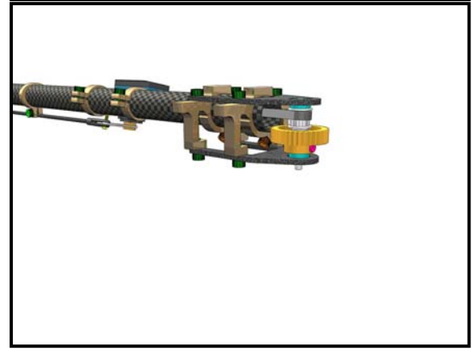
17.







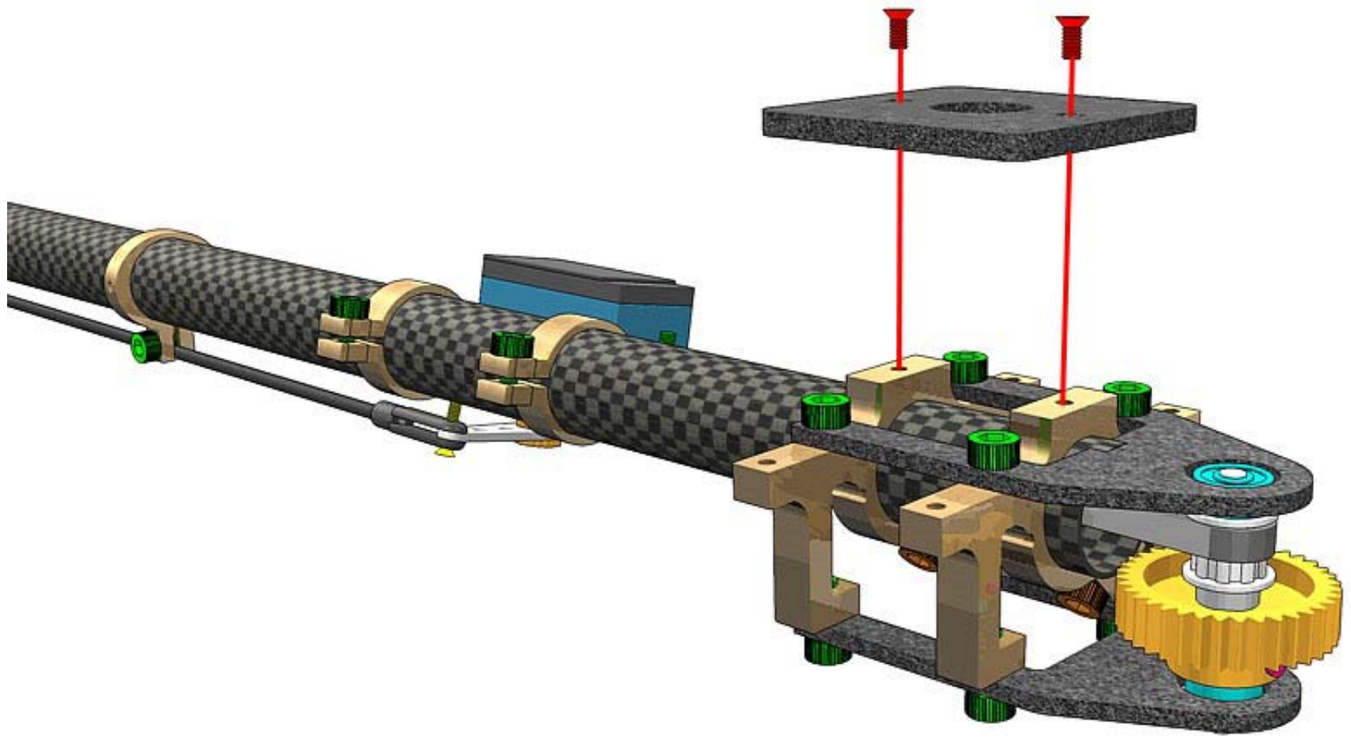


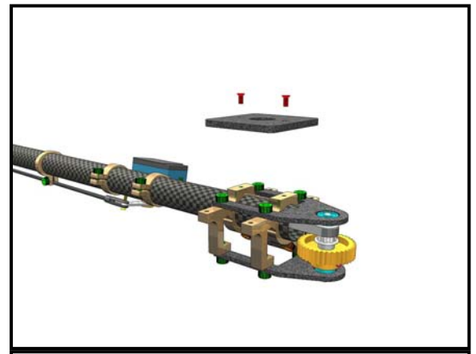


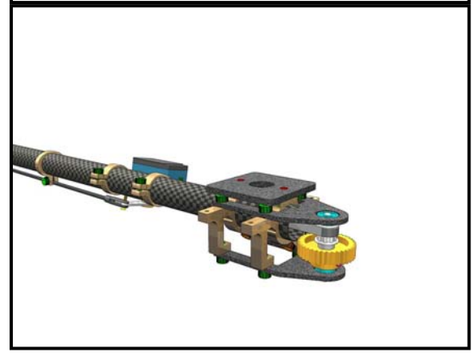
Required Parts

FG2006	M2x5	HS2006	PL2003	M2x2	BRG 2x6x2.5	AL2024	PL1002
x 2	x 8	x 1	x 1	x2	x 2	x 1	x 1

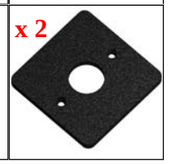
18.



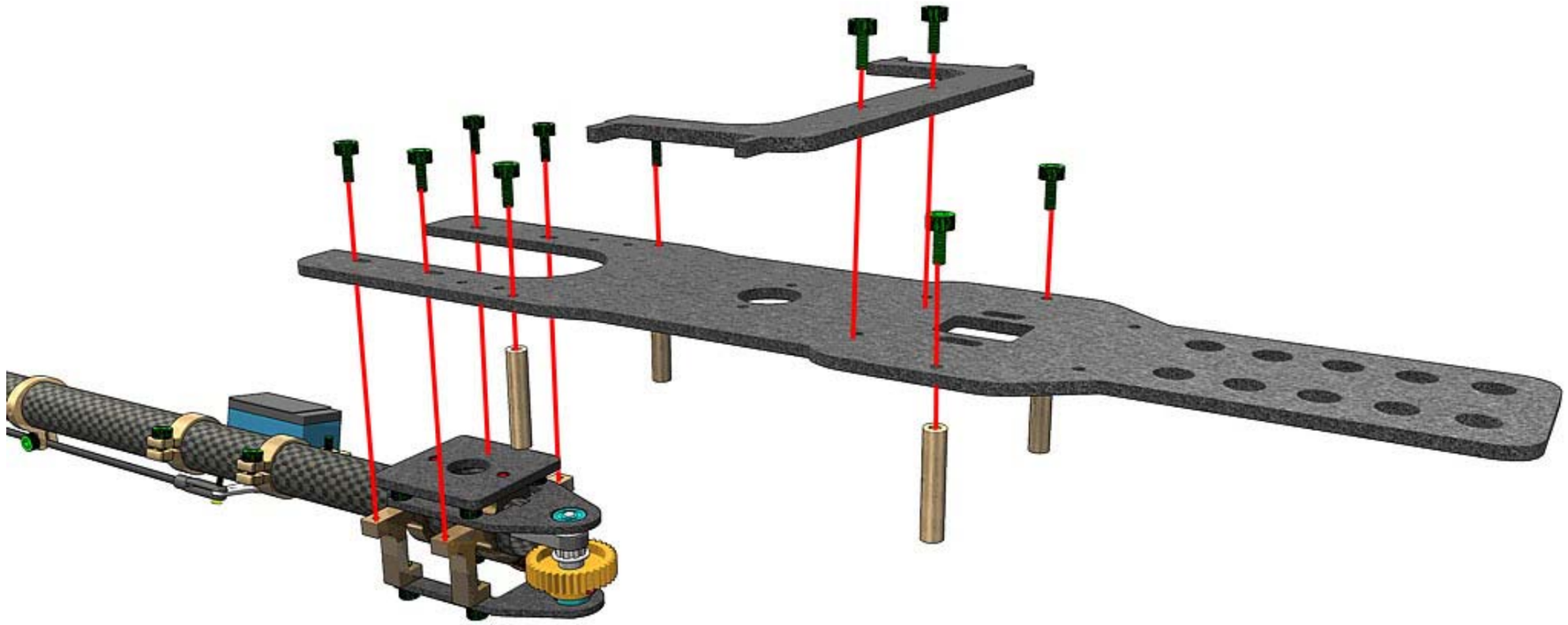


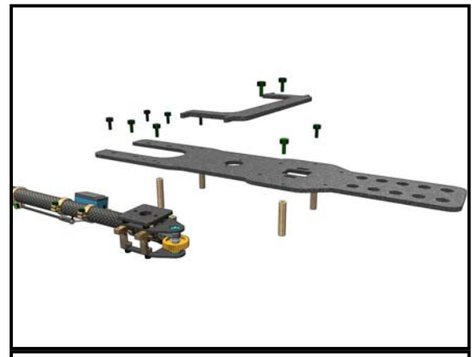


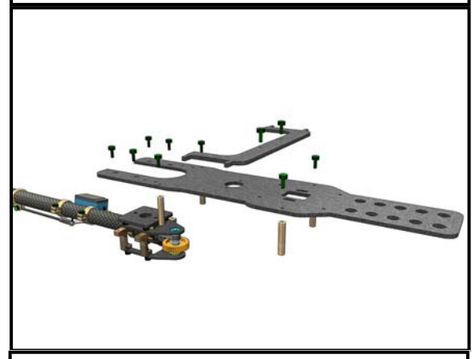
Required Parts

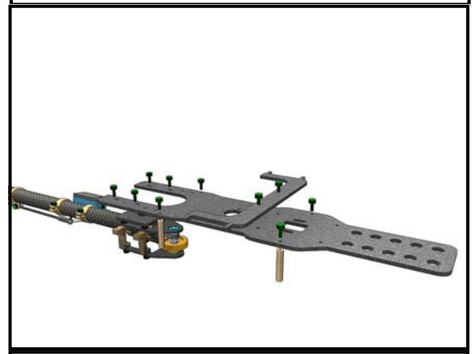
M2x3	FG2005
x 1 	x 2 

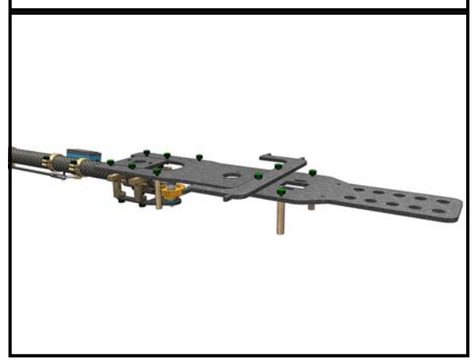
19.







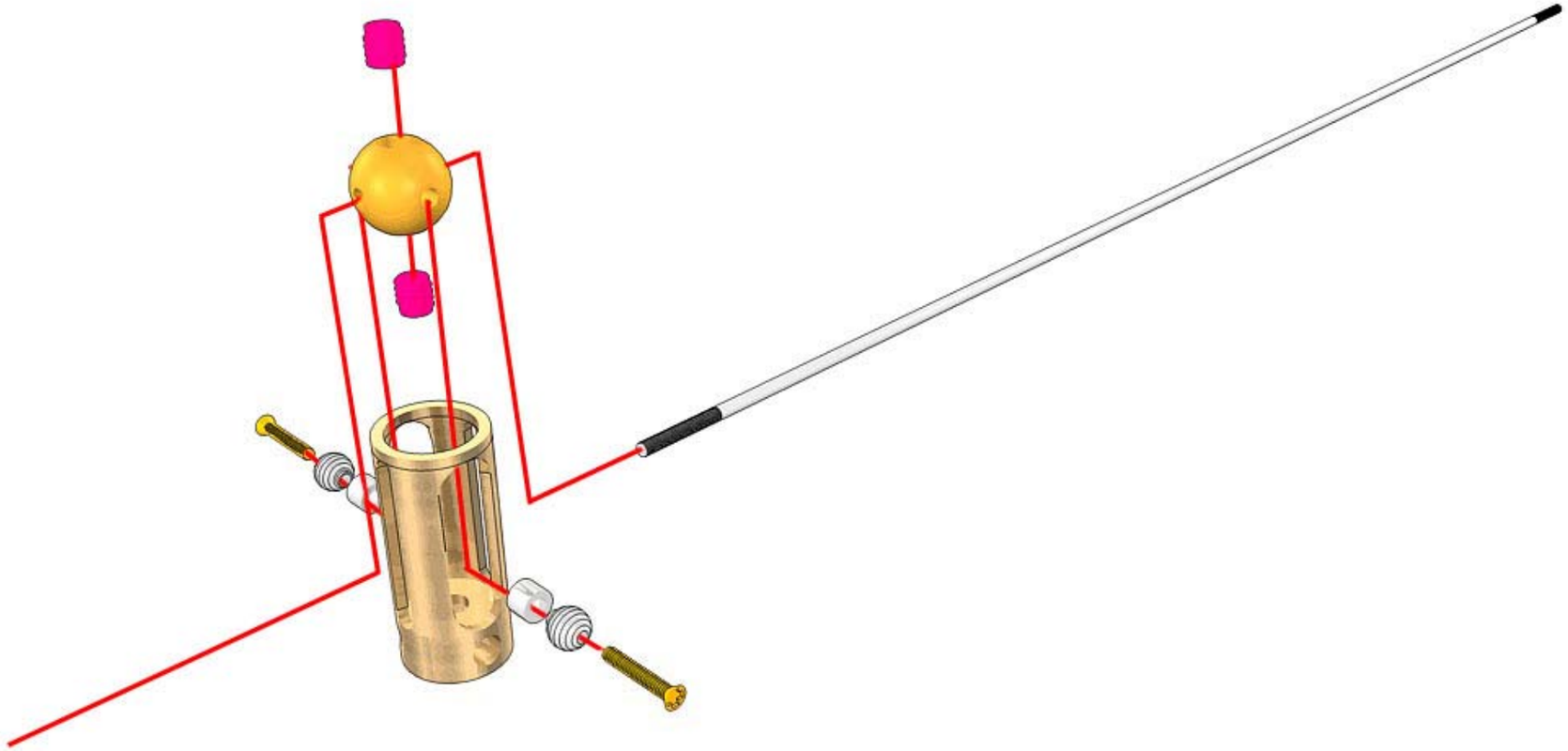


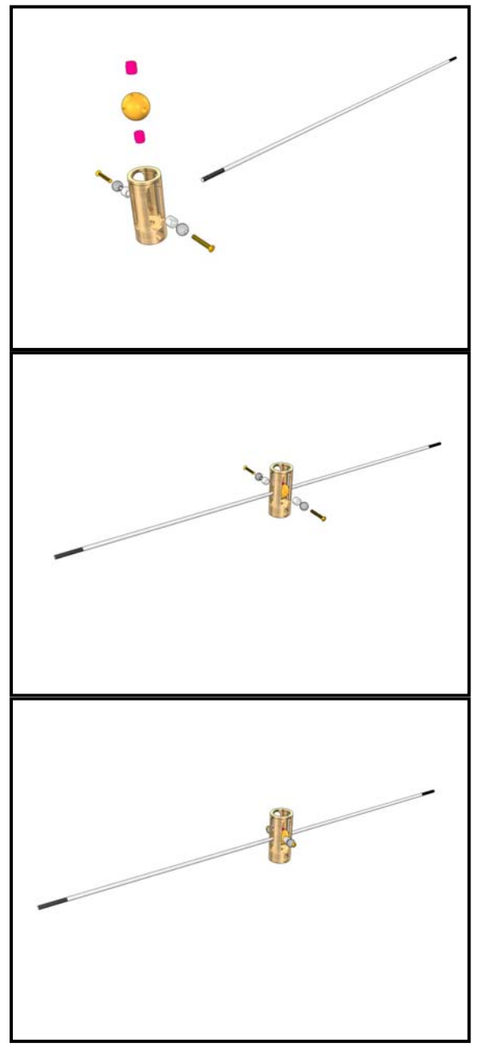


Required Parts

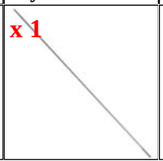
FG2003	FG2008	M2x5	AL2027
x 1	x 1	x 10	x 4

20.

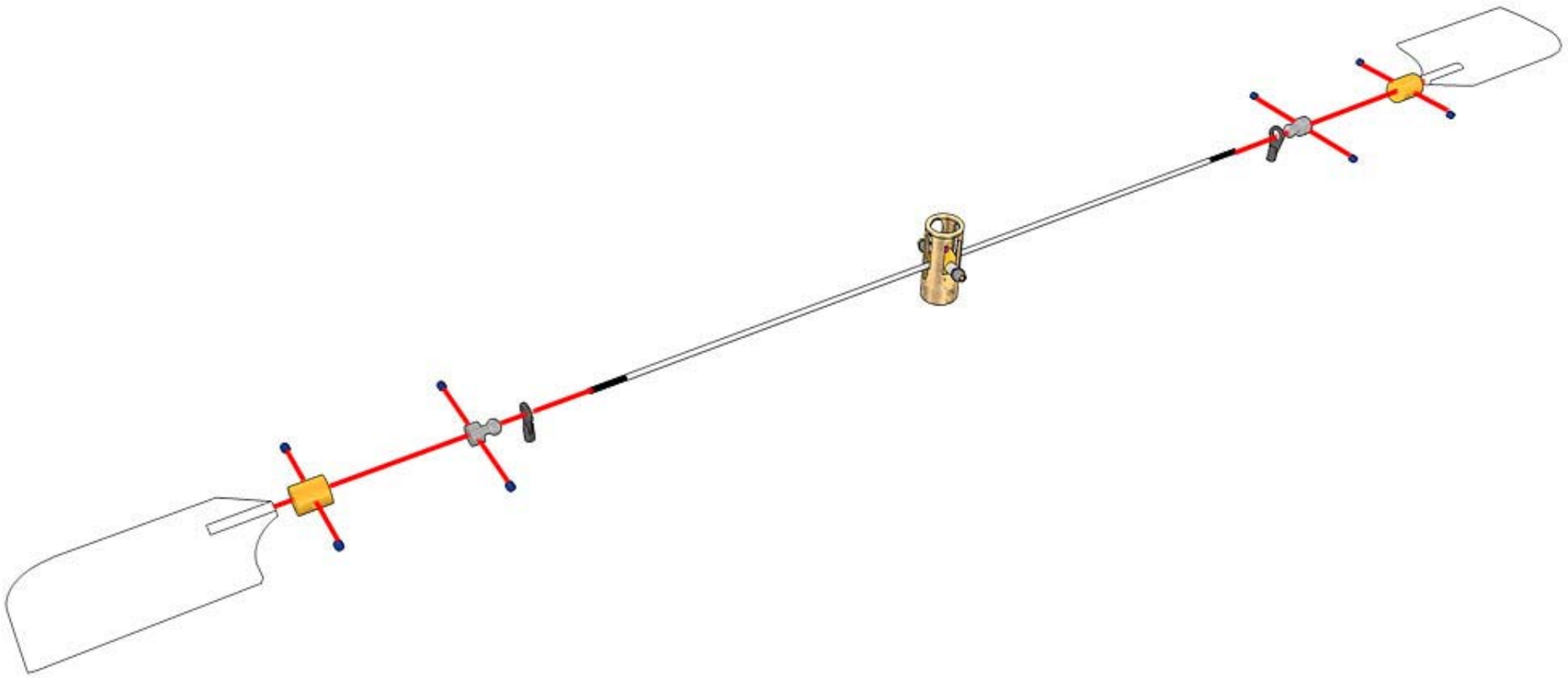


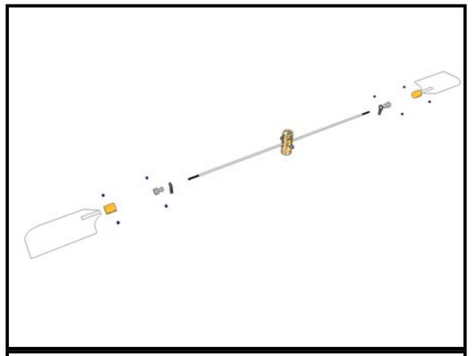


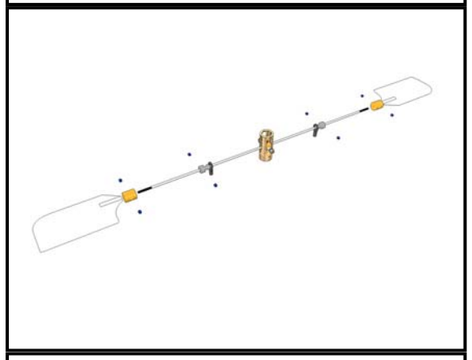
Required Parts

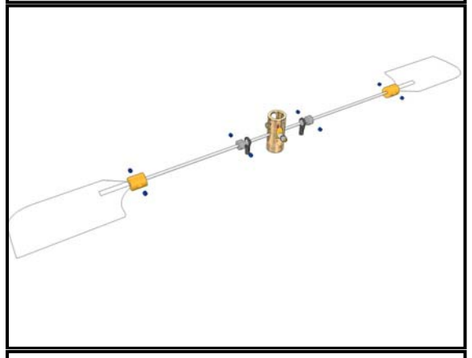
AL2015	Flybar	M2x2	M1.6x6	Ball Link	Bushing
x 2 	x 1 	x 2 	x 2 	x 2 	x 2 

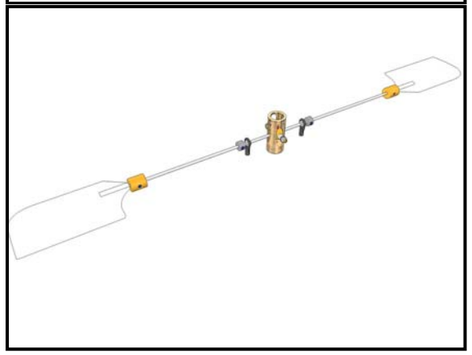
21.







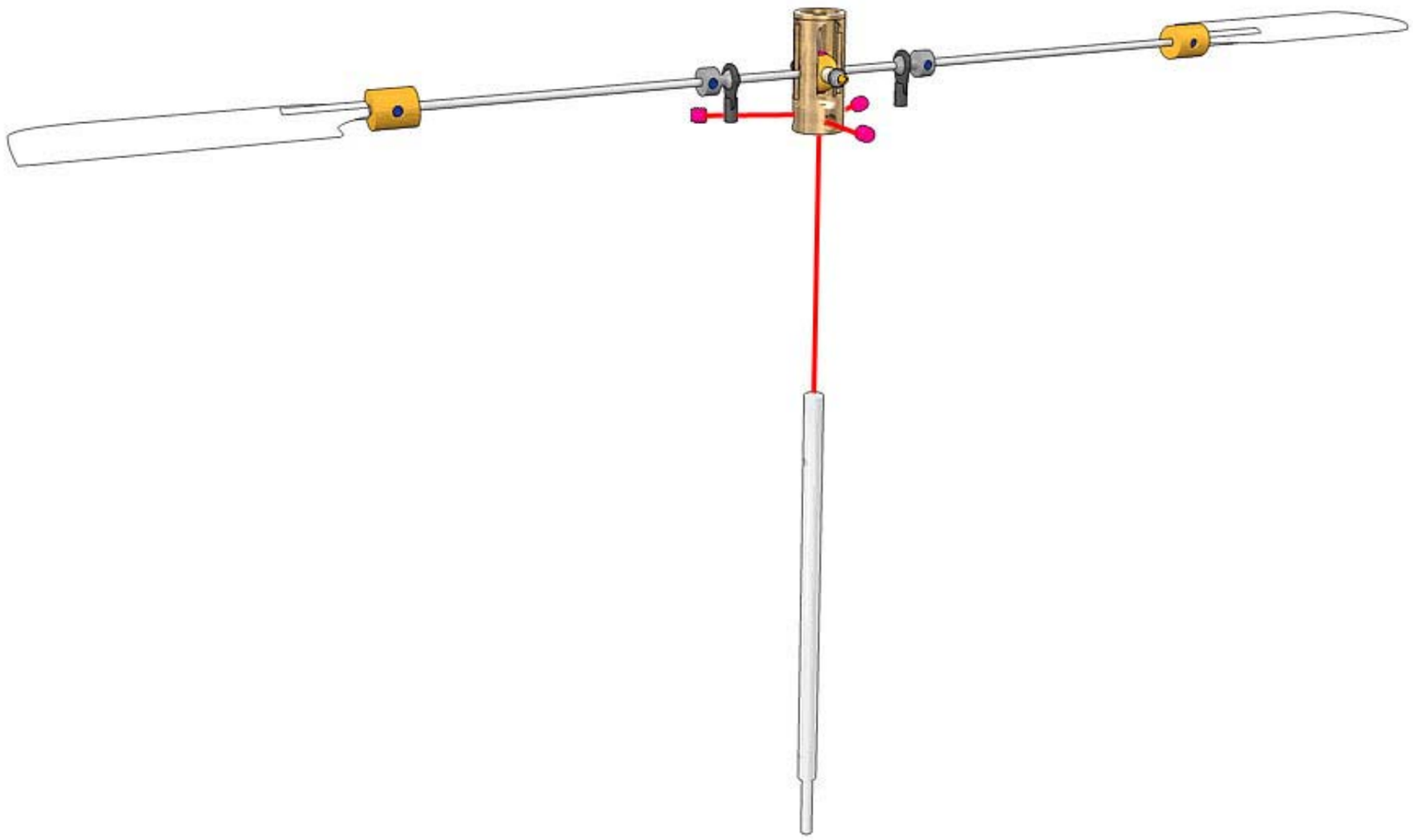


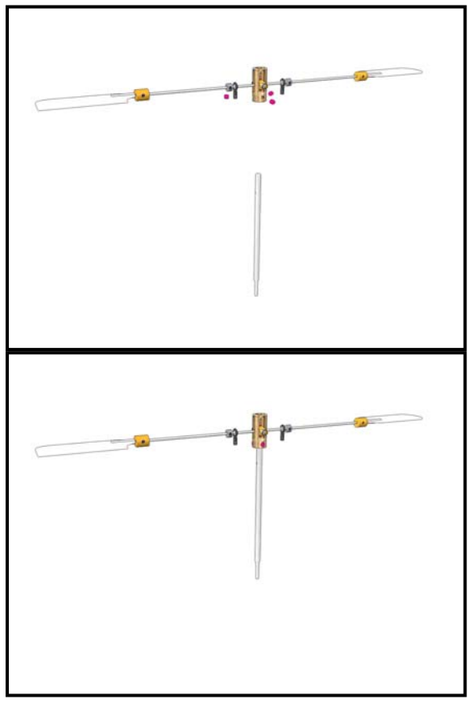


Required Parts

Flybar Blades	C2001	AL2031	PL1010	M2x2
x 2 	x 2 	x 2 	x 2 	x8 

22.

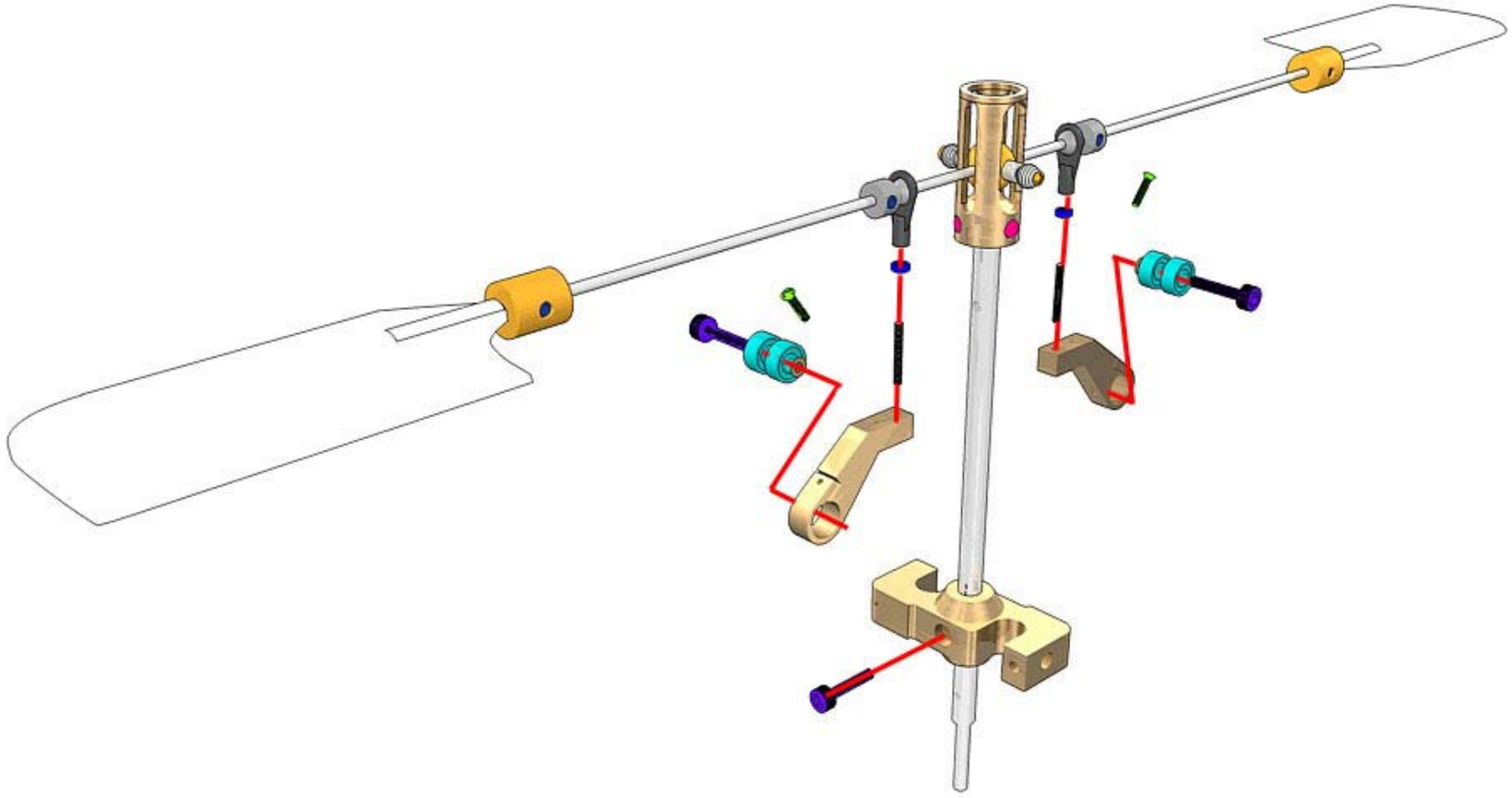


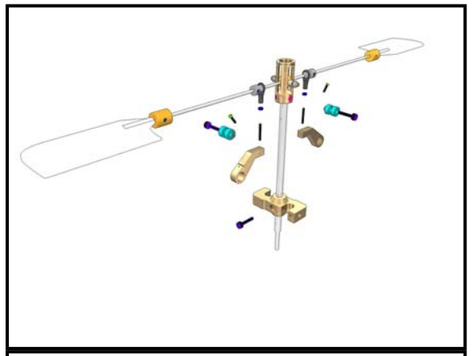


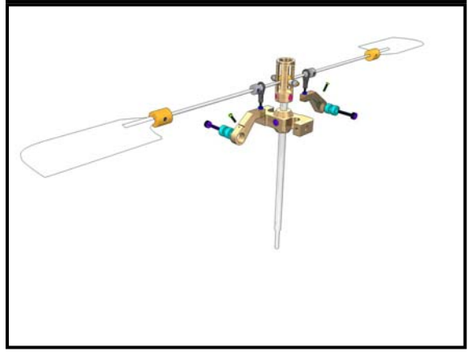
Required Parts

HS2002	M2x2
x 1 	x 3 

23.



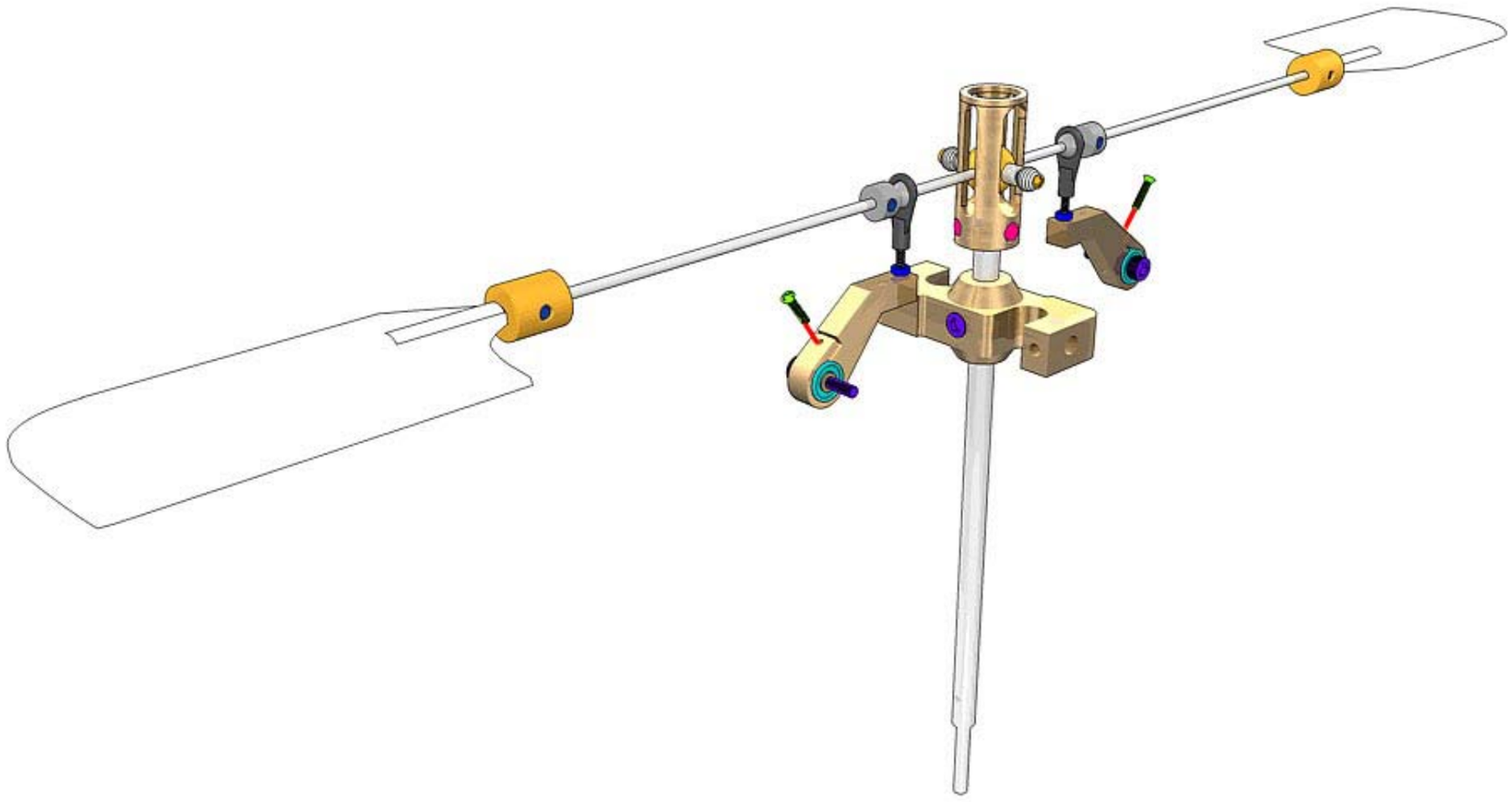


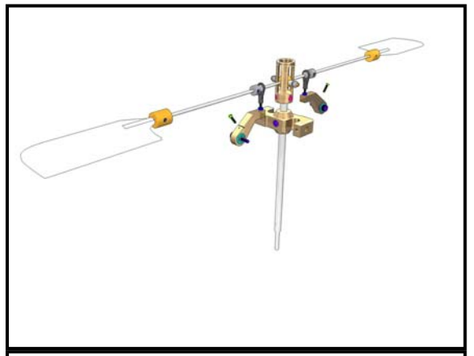


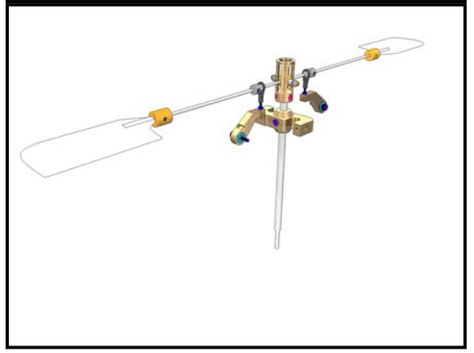
Required Parts

AL2017	AL2034	BRG 6x2x2	Washer	FW 03x4.5	Link 1.6x6	M2x12
x 1	x 2	x 4	x 2	x 2	x 2	x 3

24.



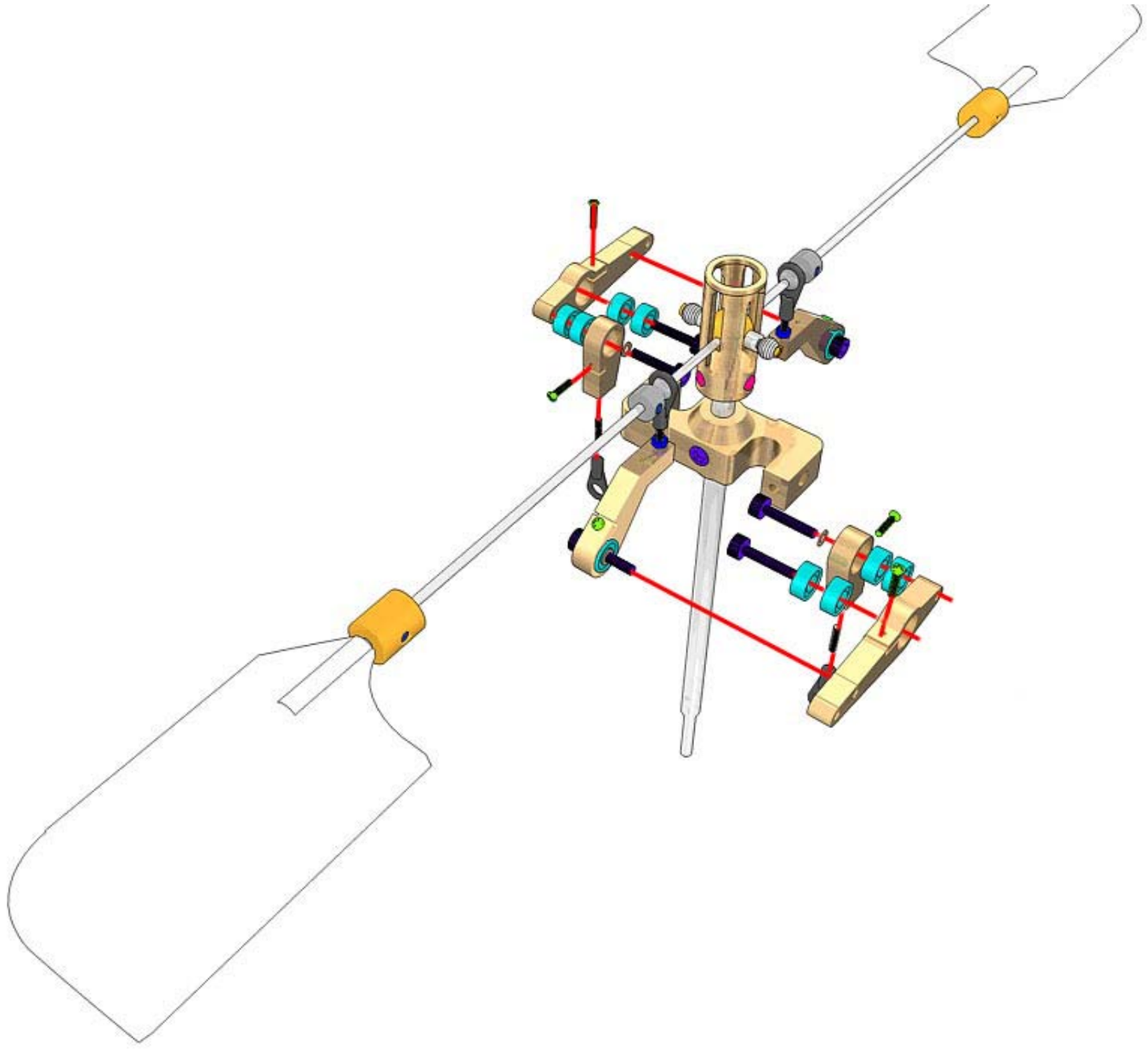


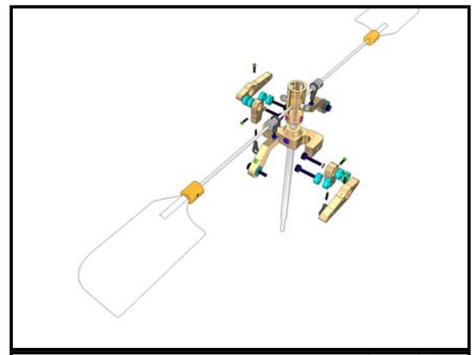


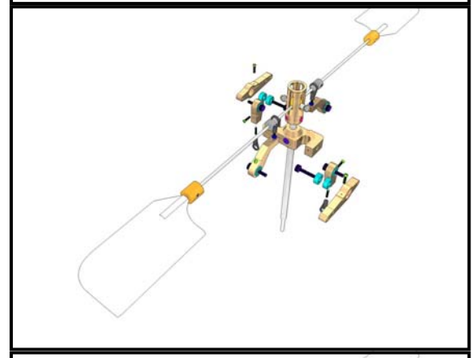
Required Parts

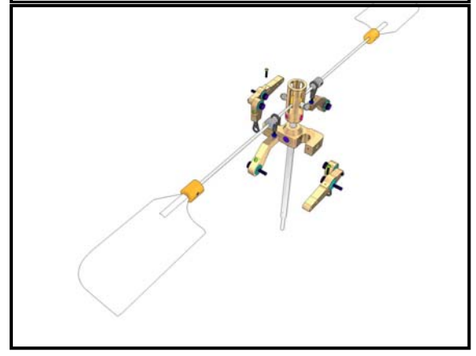
M1.6x5
x 2 

25.





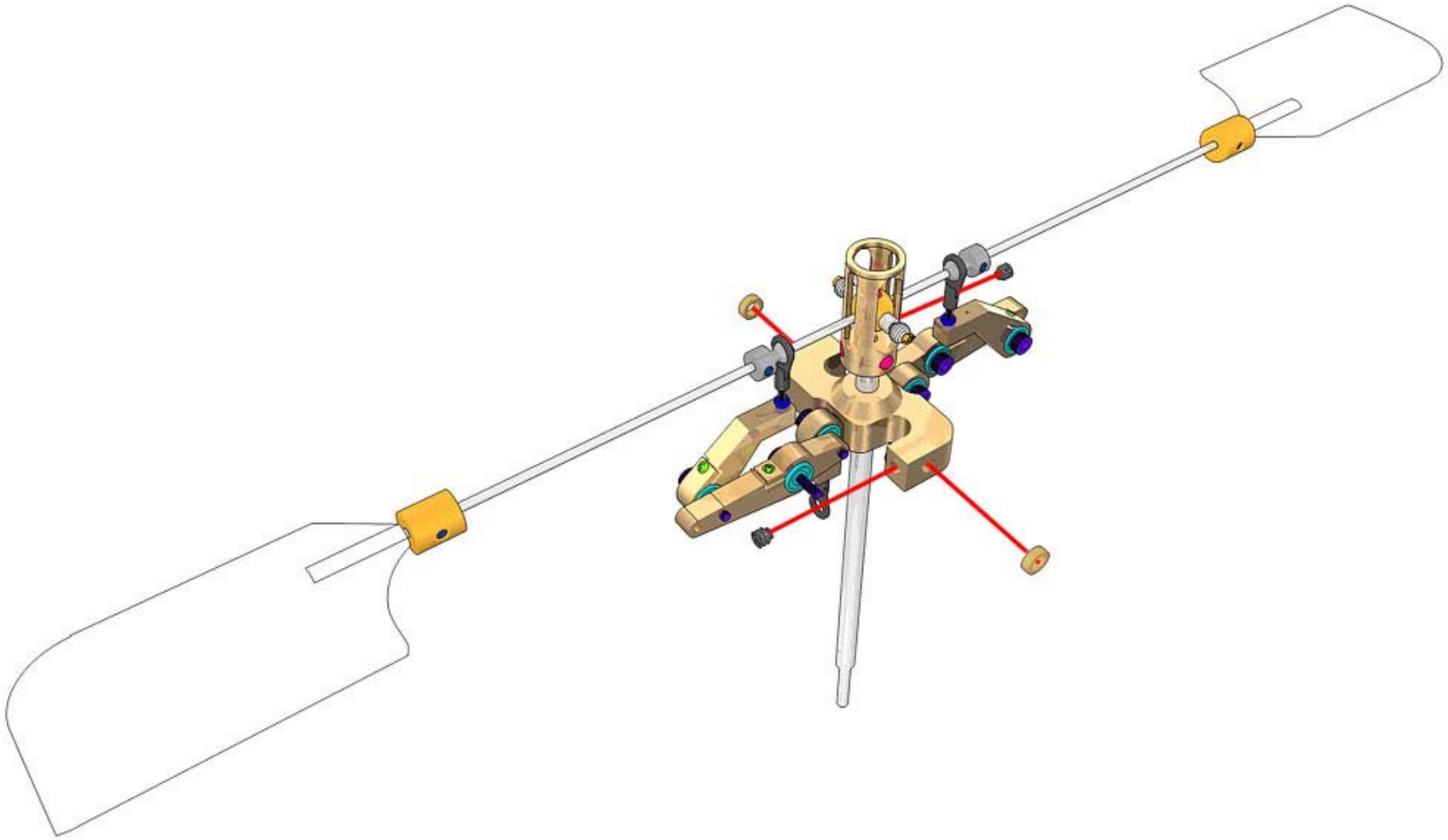


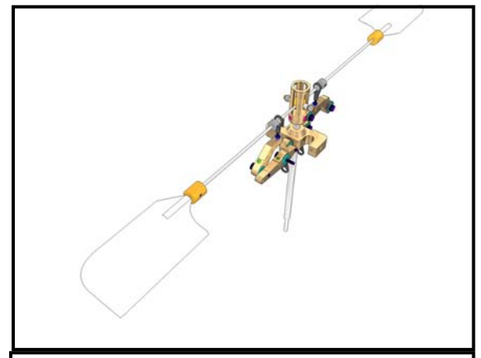


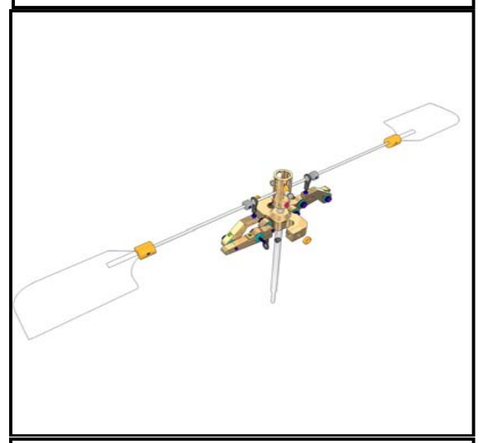
Required Parts

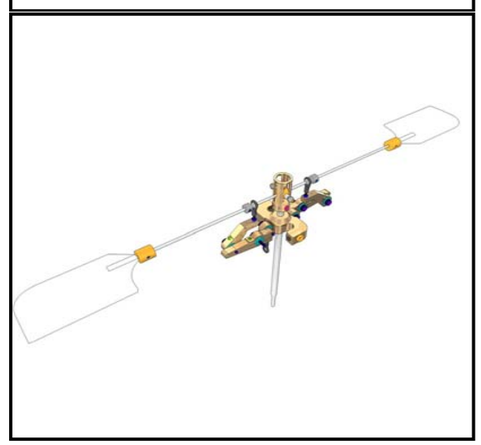
AL2026	AL2003	BRG 2x6x2	FW 3x4.5	M2x12	M1.6x5	M1.6x6	PL1010
x 2	x 2	x 8	x 2	x 4	x 4	x 2	x 2

26.





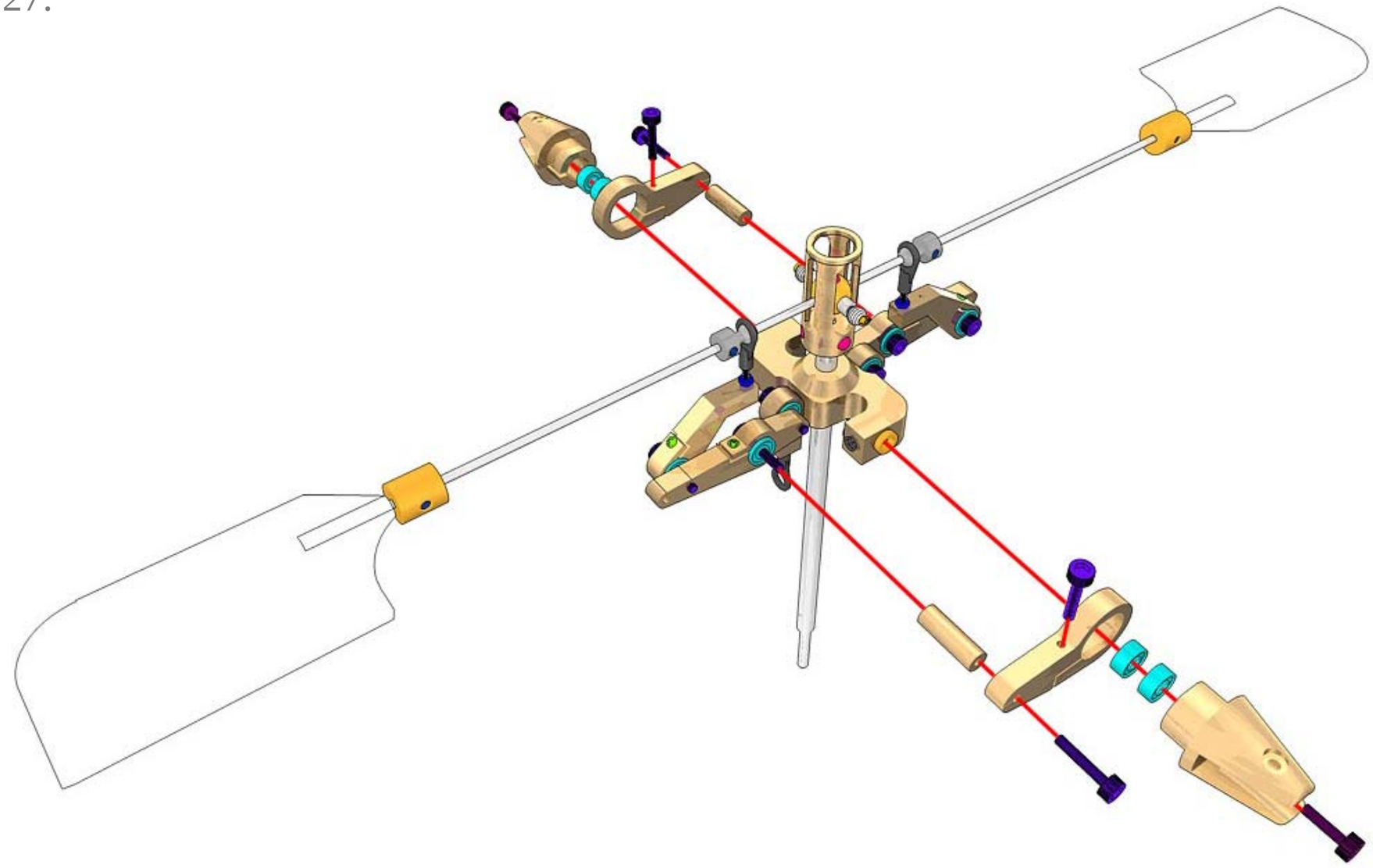


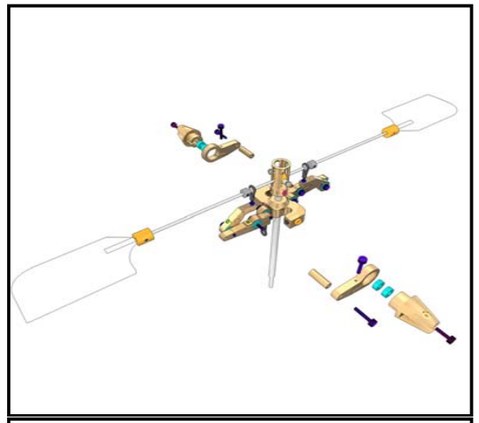


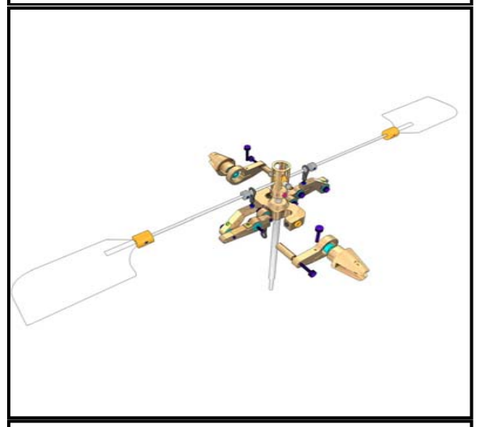
Required Parts

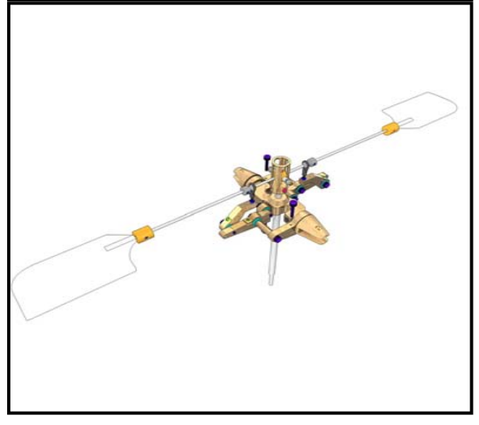
M3x3 grub	FW 03x04.5
x 2 	x 2 

27.





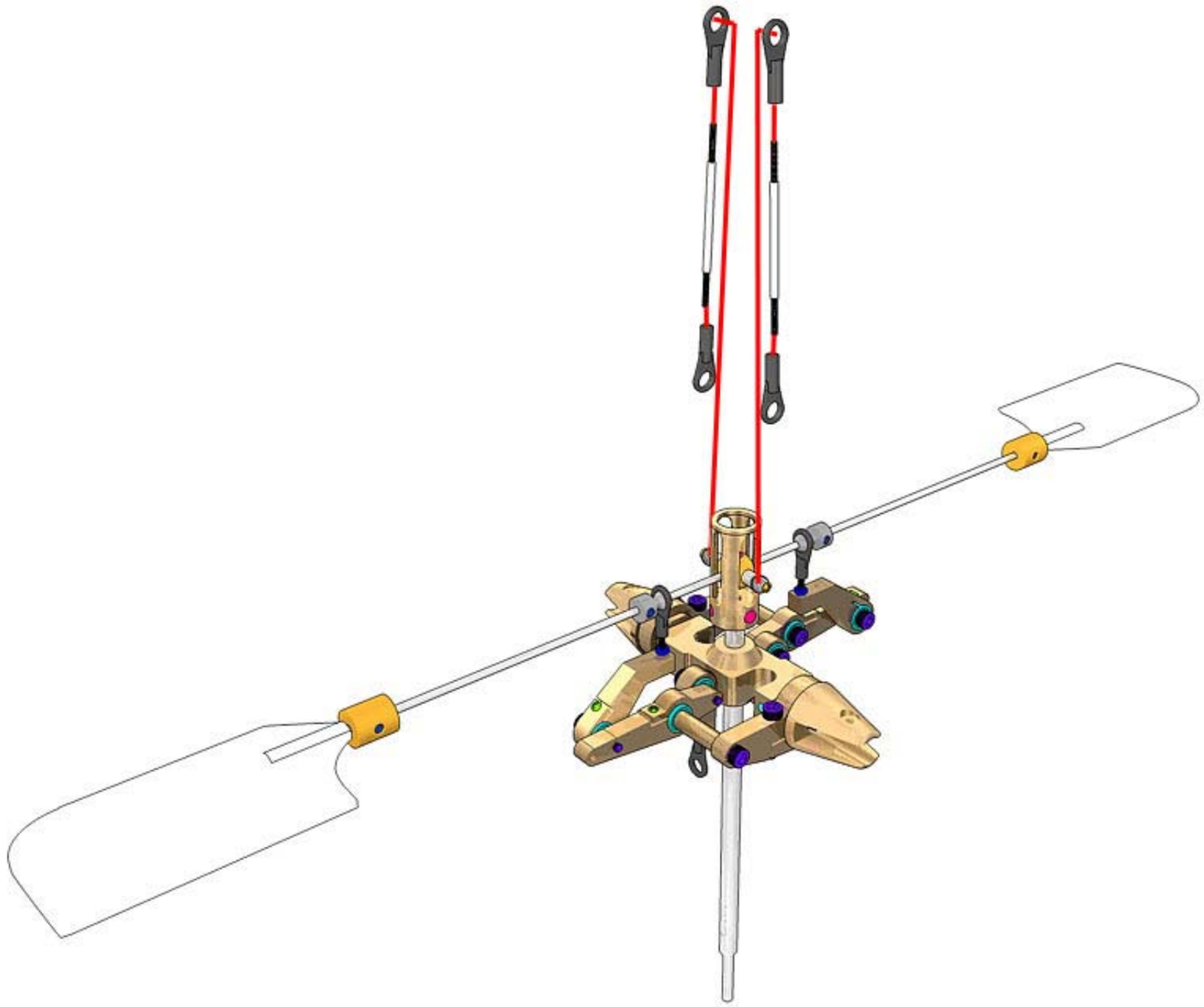


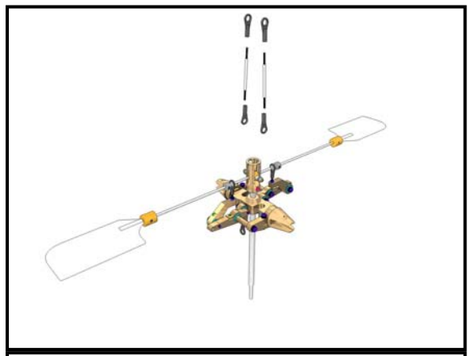


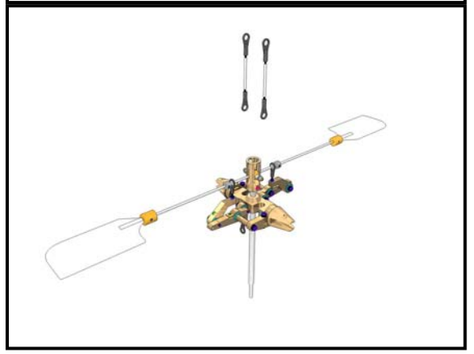
Required Parts

AL2010	AL2023	AL2011	BRG 2x6x3	M2x12	M3x7
x 2	x 2	x 2	x 4	x 4	x 2

28.



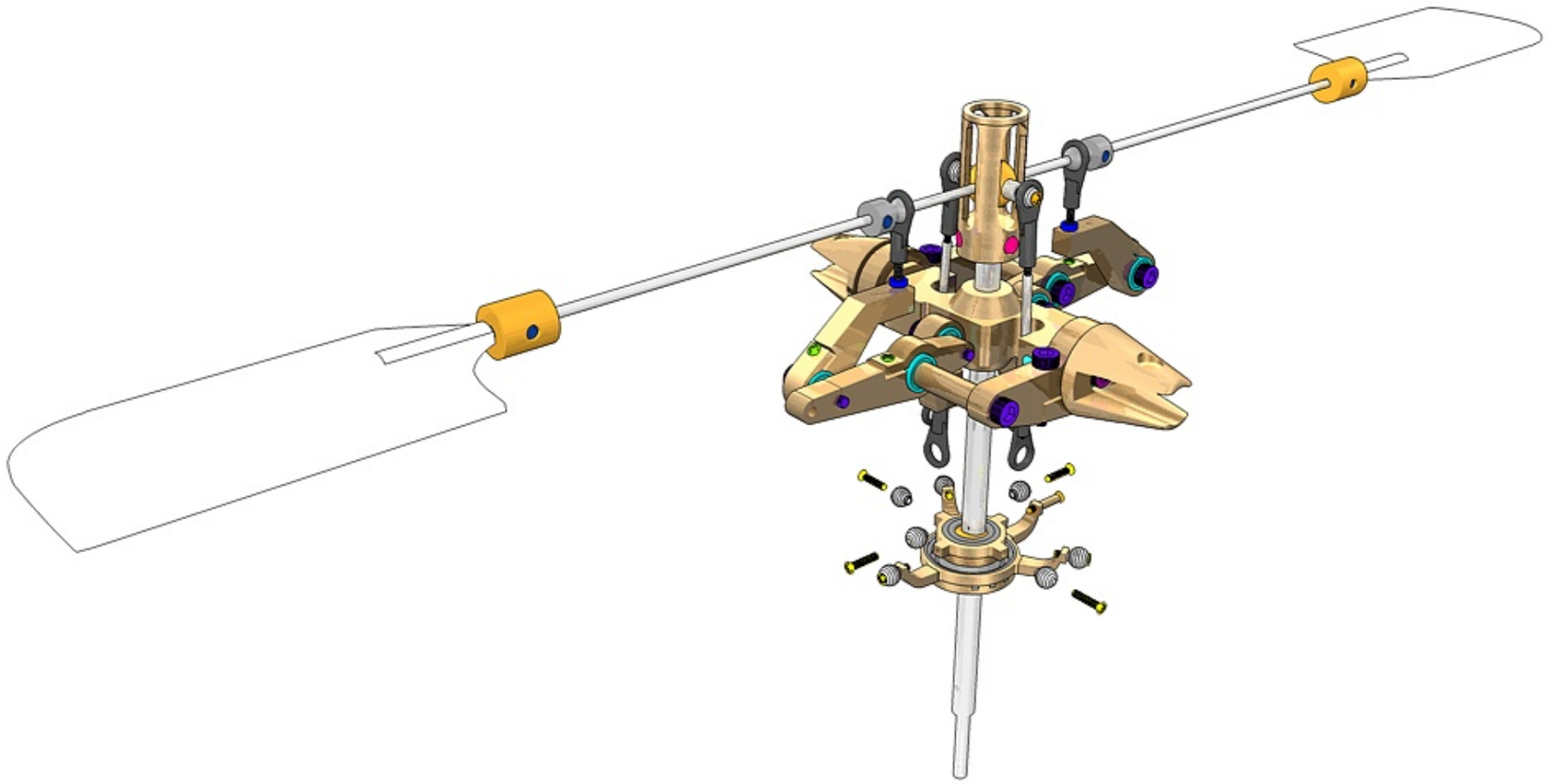


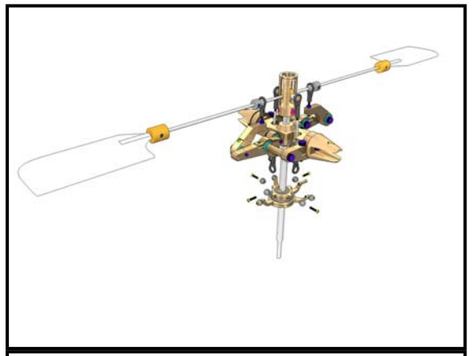


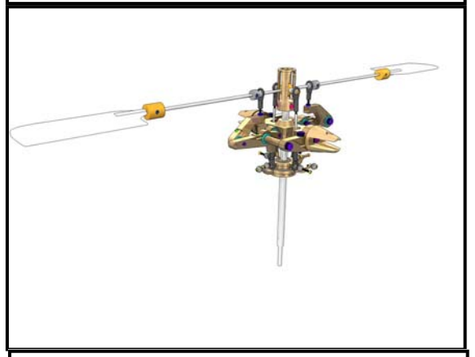
Required Parts

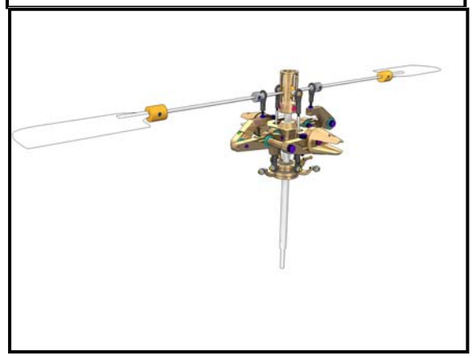
HS1005	PL1008
x 2	x 4

29.





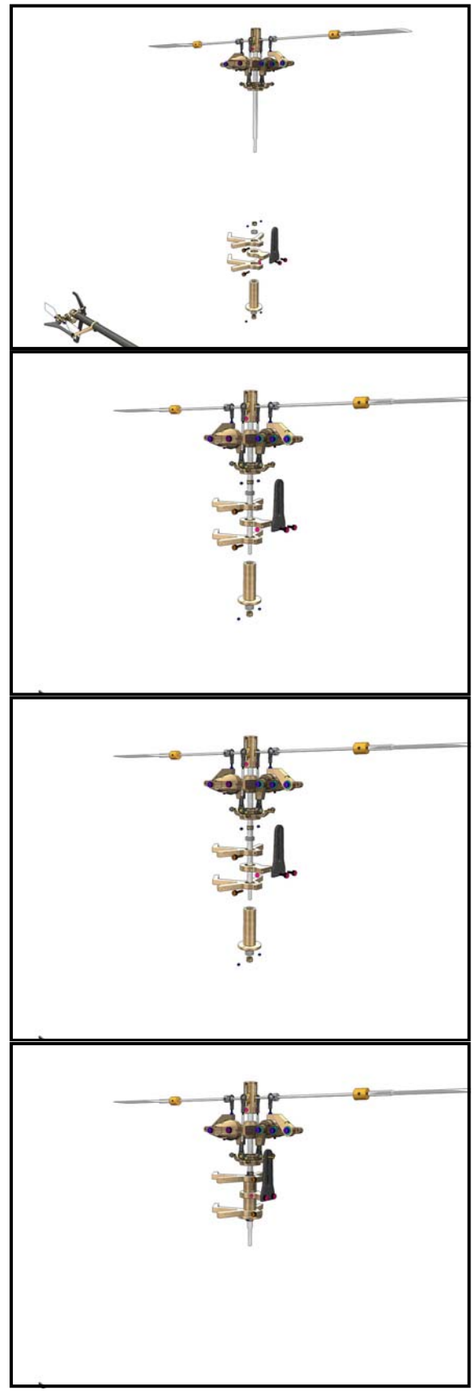


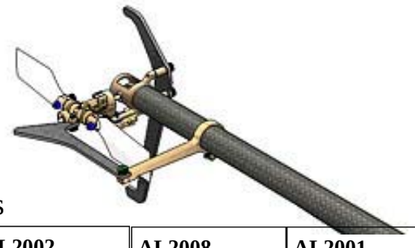


Required Parts

Swashplate	M1.6x6	Ball link
x 1 	x 7 	x 7 

30.

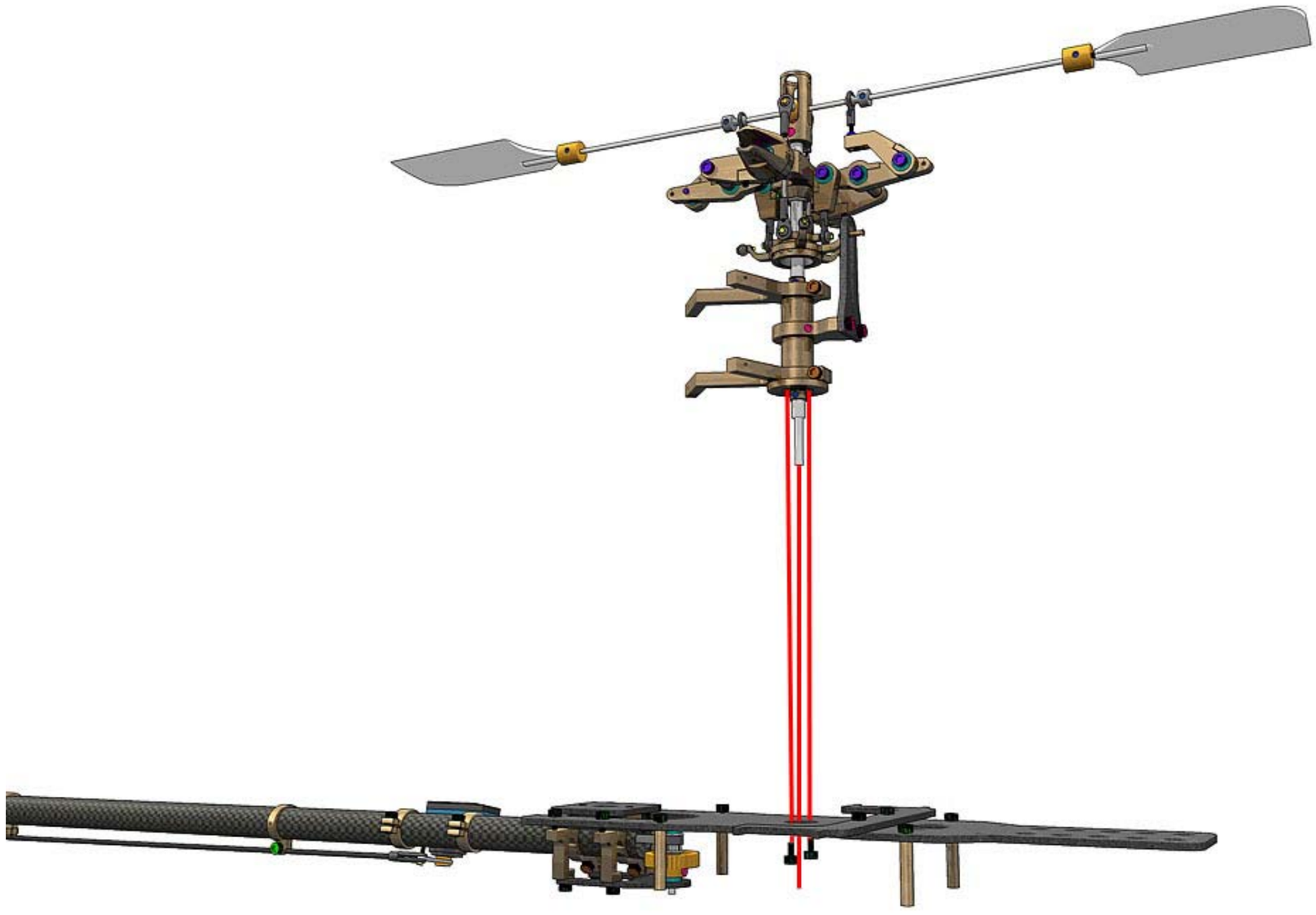


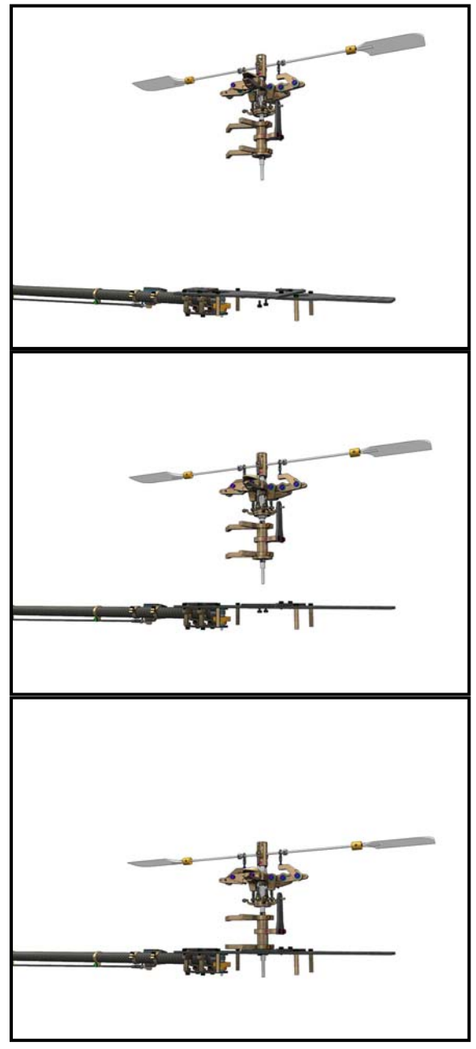


Required Parts

AL2004	AL2002	AL2008	AL2001	BRG 2x6x2	Collar	M2x5	M2x8	M2x2	M3x3
x 1	x 2	x 1	x 2	x 2	x 2	x 2	x 2	x 4	x 2

31.

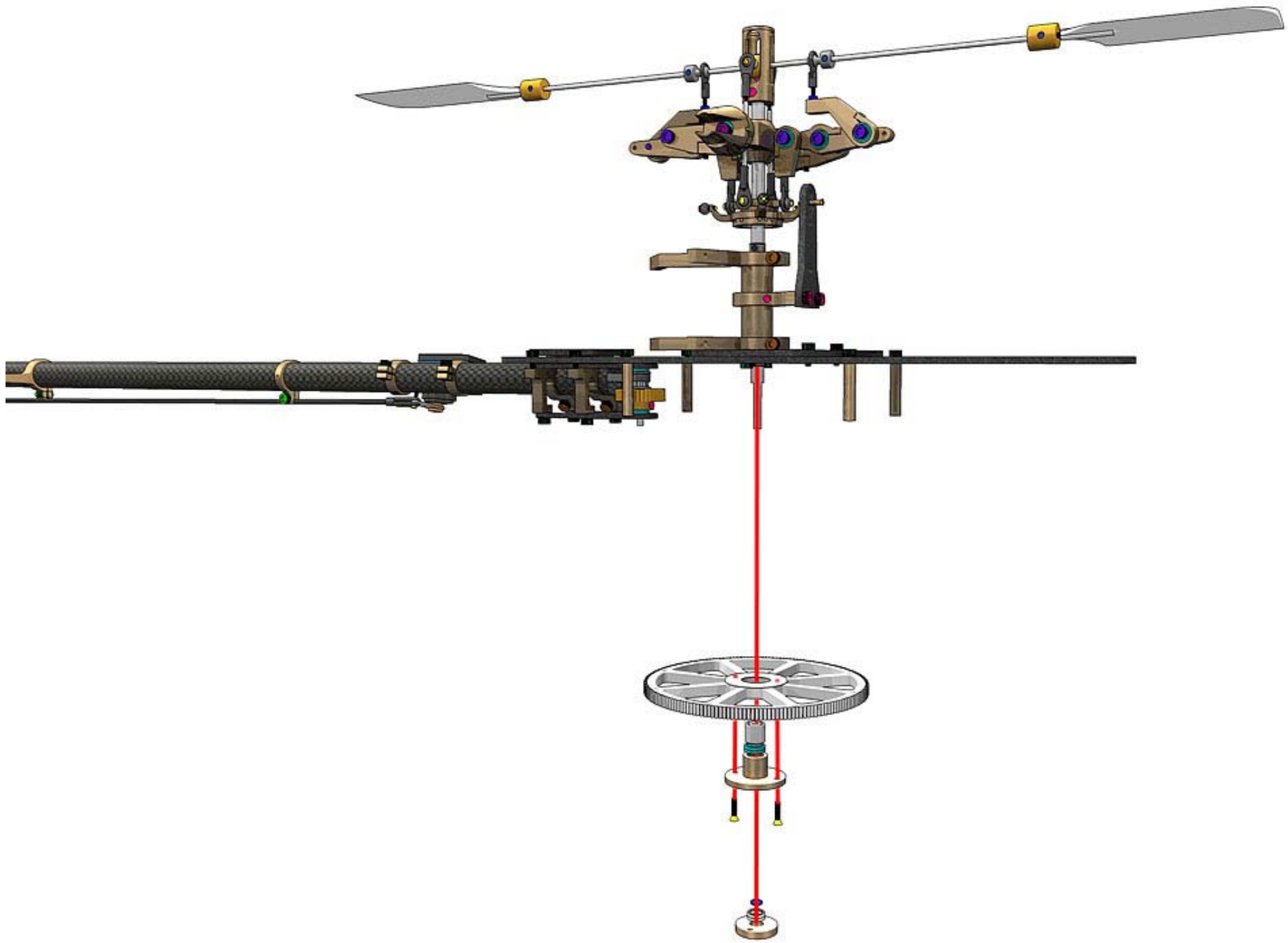


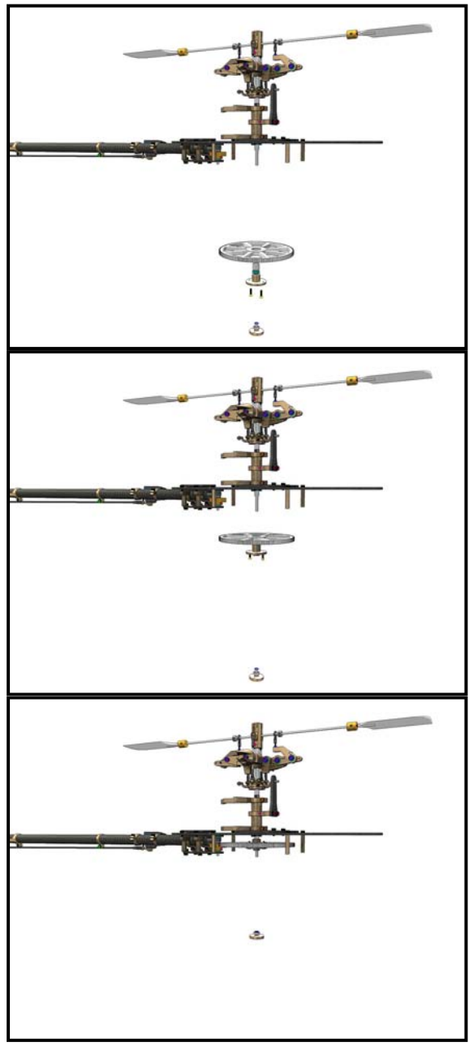


Required Parts

M2x4
x 2 

32.

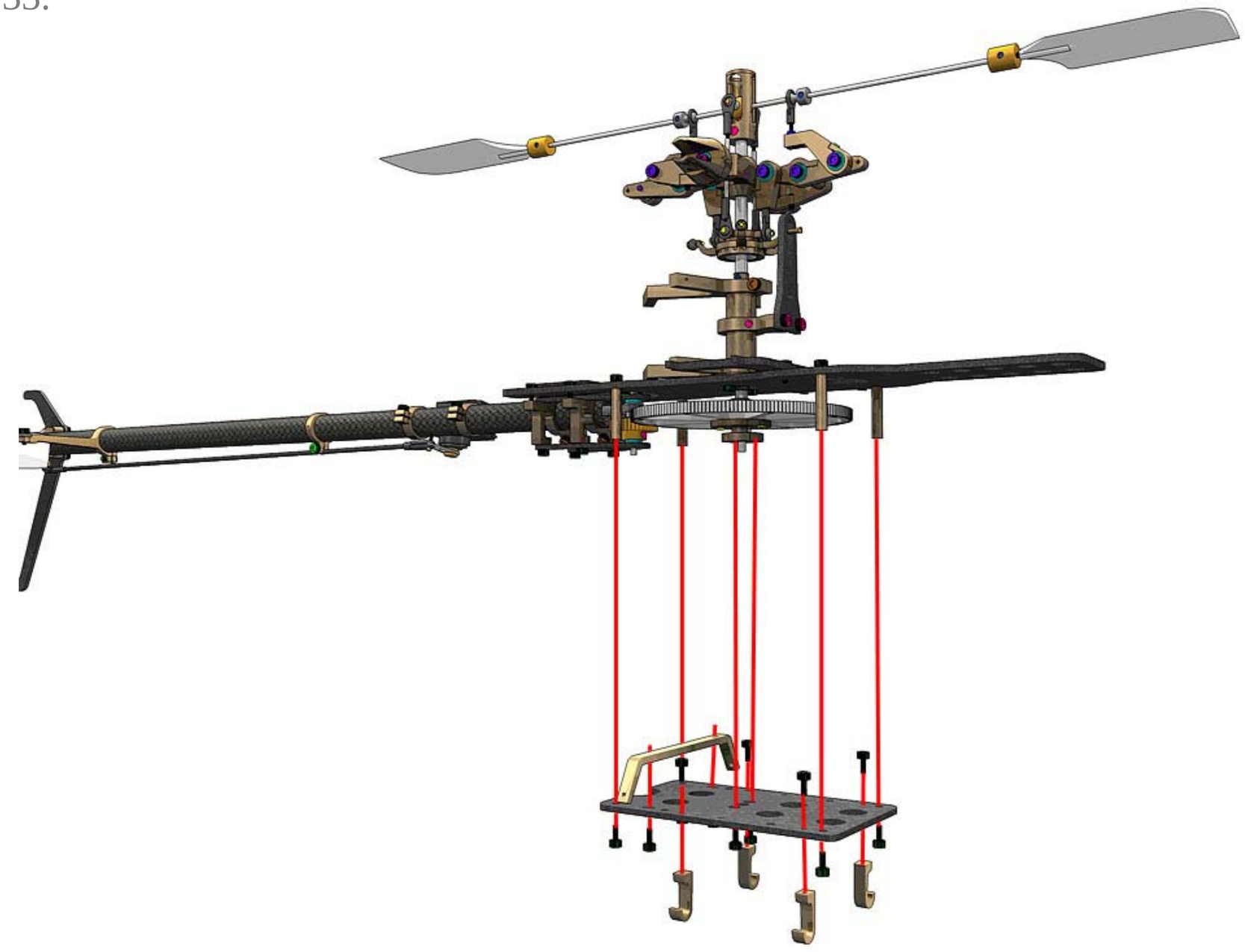


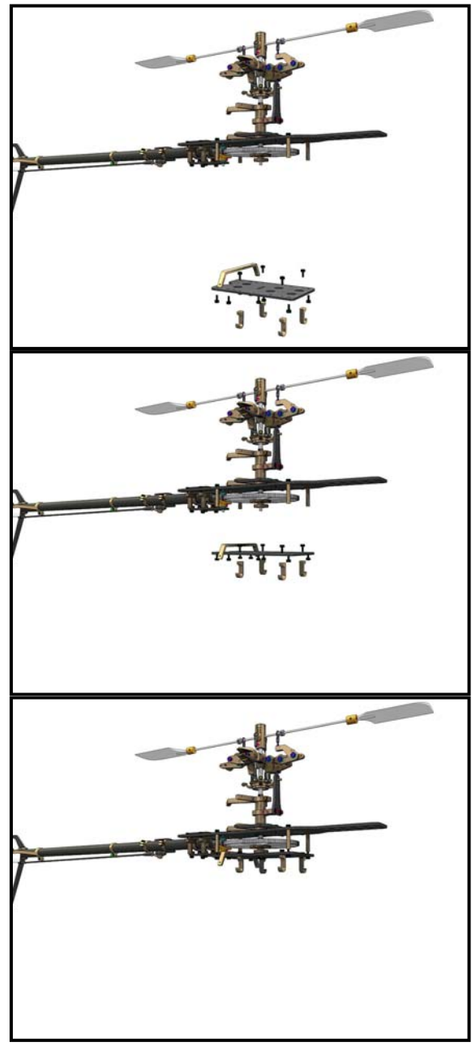


Required Parts

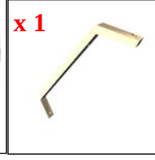
One way	BRG 3x7x2	BRG 3x6x2	FW03x4.5	M1.6x6	PL1005	AL2012	AL2037
x 1	x 1	x 1	x 1	x 2	x 1	x 2	x 1

33.

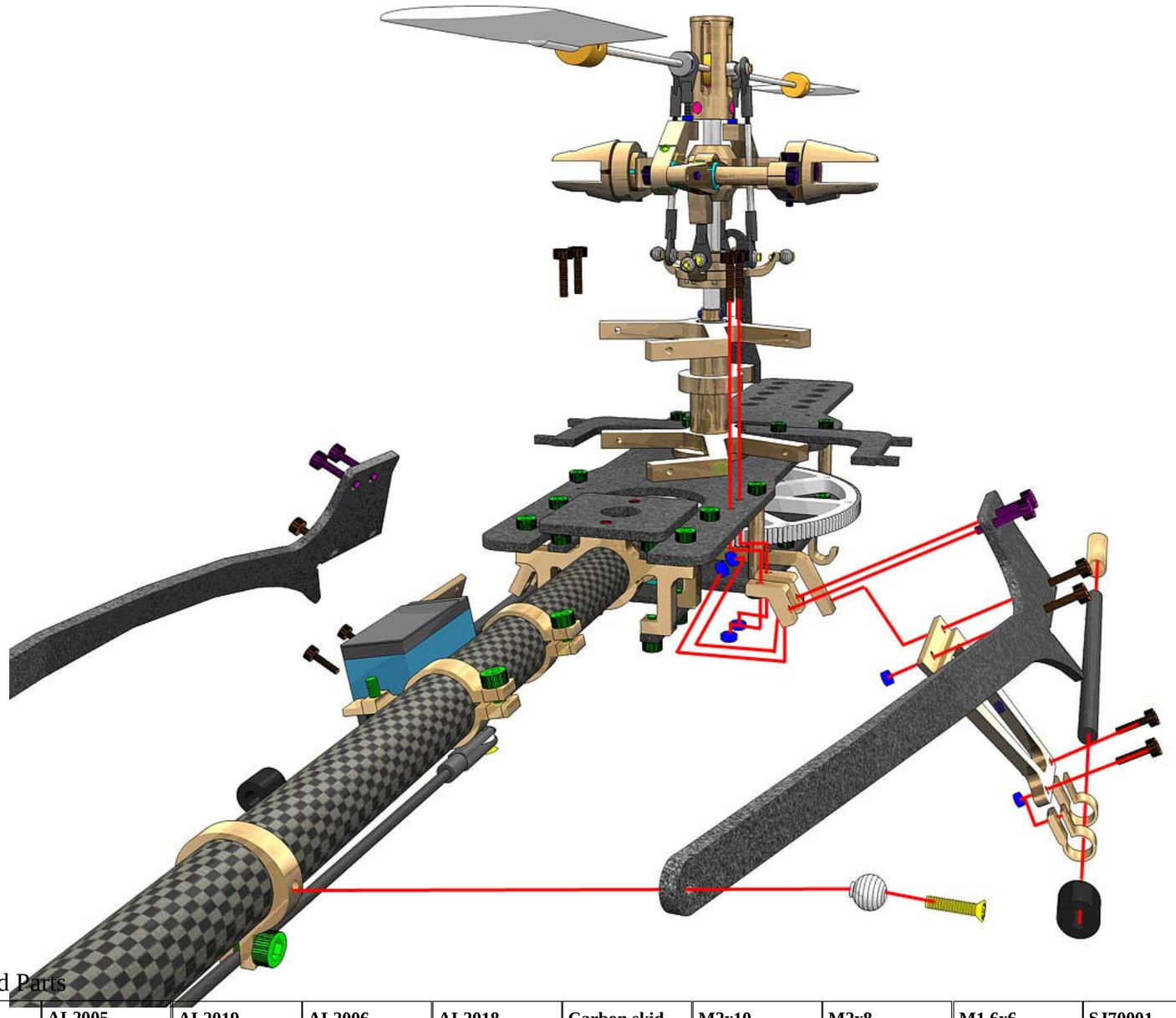


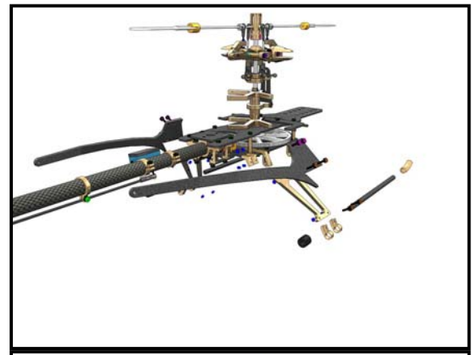


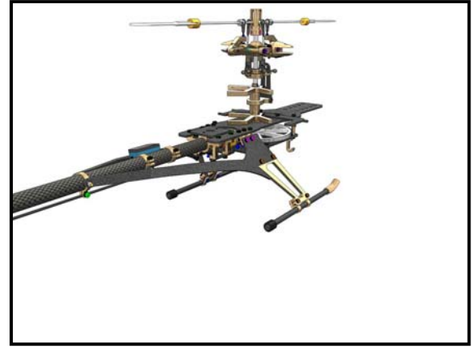
Required Parts

FG2001	AL2028	AL2011	M2x5
x 1 	x 4 	x 1 	x 12 

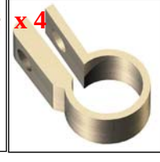
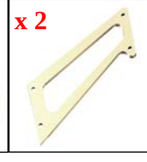
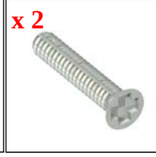
34.



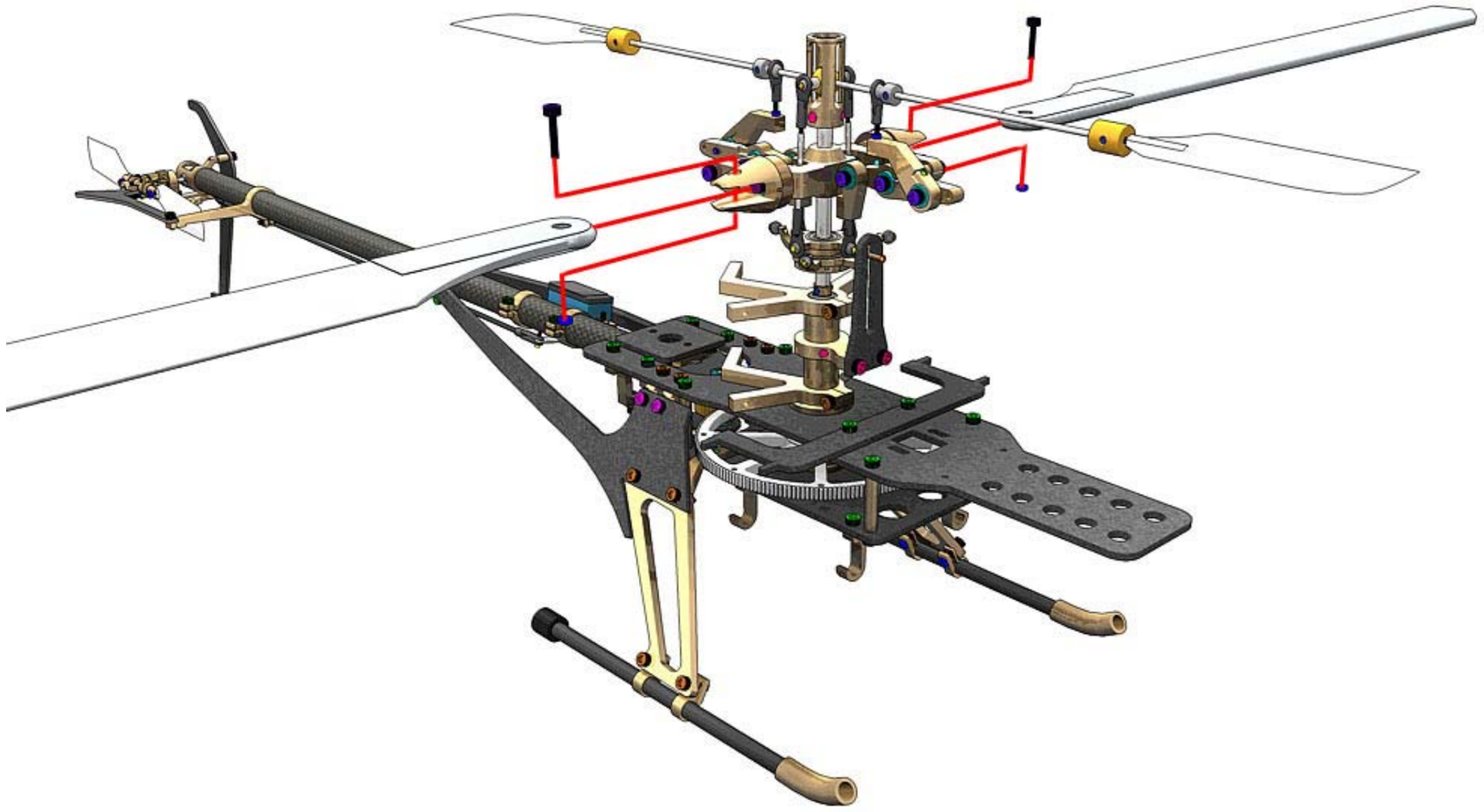


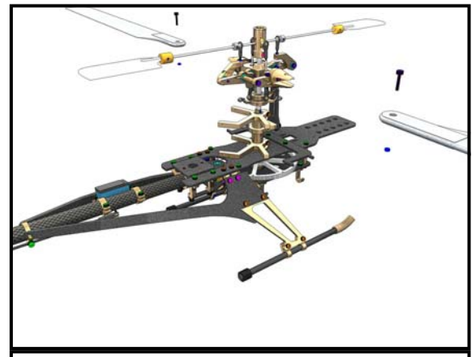


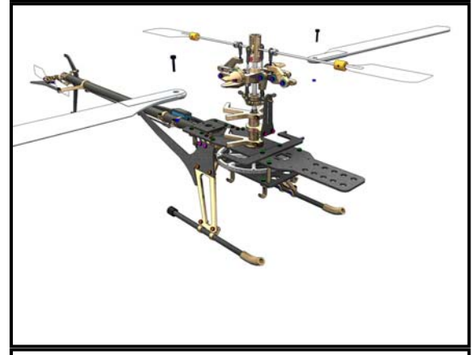
Required Parts

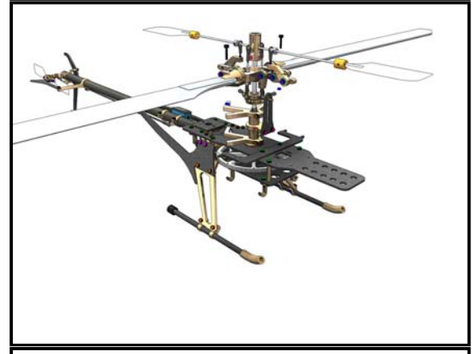
FG2002	AL2005	AL2019	AL2006	AL2018	Carbon skid	M2x10	M2x8	M1.6x6	SJ70001	Link Ball
x 2	x 2	x 4	x 2	x 4	x 2	x 2	x 12	x 2	x14	x2
										

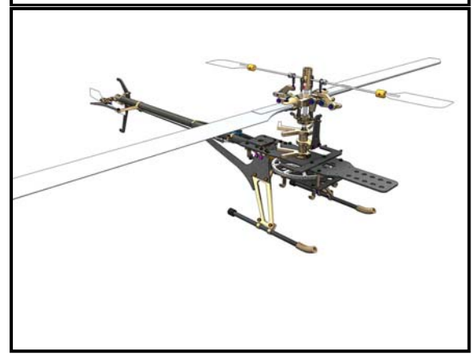
35.











Required Parts

Blades	M2x12	SJ20007
x 2 	x 2 	x 2 

36.