

UFO MX400



User Handbook

Specifications:

- Main Rotor Dia. : 254mm
- Overall Length: 500mm
- Overall Width: 500mm
- Receiver: RX2630H-D
- Gyro: Six-Axis
- Brushless Motor: WK-WS-28-009
- Optional battery: 11.1V 2200mAh Li-Po
- All-up Weight: 786g(Not including battery)
- Optional transmitter: DEVO-7/6S/8S/12S
- Brushless Speed Controller: WK-WST-30A4

Features:

- 1) The usage of the four BL motors ensure the stable and great flight performance.
- 2) Modularized design features convenient maintenance at low cost.
- 3) The usage of 6-Axis gyro and Intergration design of the flight status control ,ensures the precise location of the flight performance.
- 4) Flight time will be up to 8 to 10 minutes on a 11.1V 2200mAh LiPo.
- 5) The MX400 not only can use for aero photograph,but also can set with the bidirectional sensor control device and GPS device to test the power, temperature, speed and to find the location or height of the helicopter.

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01

Foreword



02

Safety matters
needing
attention

Dear customer:

Thank you for purchasing a Walkera radio control aircraft product. In order to quickly and safely master the operation of the UFO MX400, please read the user handbook carefully and then keep it in a safe place for future consultation and reference.

2.1 Important Statement

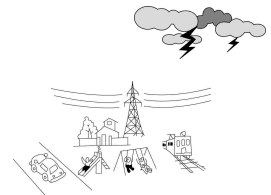
- (1) This product is not a toy. It is a piece of complicated equipment which harmoniously integrates engineering materials, mechanics, electronics, aerodynamic and high frequency radio. Correct installation and adjustment are necessary to avoid accidents taking place. The owner must always operate in a safe manner. Improper operation may result in serious property damage, bodily injury or even death.
- (2) We accept no liability for damage and consequent damage arising from the use of these products, as we have no control over the way they are maintained, used and operated.
- (3) This product is suitable for experienced RC Helicopter pilots aged 14 years or more. All minors must be accompanied by a responsible adult when flying.
- (4) The flight field should be legally approved by the local government. We accept no liability for any safety duties or fines arising from operation, usage or mis-control after the sale of the products .
- (5) We consign our distributors to offer technical support and service after sale. Please contact the local distributors for problem resolution caused by usage, operation, maintenance, etc.

2.2 Safety matters needing attention

RC UFO flight is a high risk hobby, whose flight should be kept far away from other people. Mis-assembled or broken main frame, defective electronic equipment, and/or problematic radio system will lead to unforeseen accidents such as bodily injury or property damage. The pilot **MUST** pay attention to the flight safety and UNDERSTAND his responsibility for accidents caused by his carelessness.

- (1) Far away from obstacles and people

An RC UFO in flight has risk of uncertain flight speed and direction which is potentially dangerous. When flying, please keep your RC UFO far away from people, high buildings, high-tension lines, etc, and avoid operating in rain, storms, thunder and lightening.



- (2) Keep away from humidity

RC UFO should be kept away from humidity and vapor because its complex, precise electronic components and mechanical parts may be damaged.



- (3) Proper operation and maintenance

Please use Walkera original spare parts to upgrade, modify or maintain your UFO in order to ensure its safety. Please operate your UFO within the range of functions permitted. It is forbidden to use it outside of the safety laws or regulations.



- (4) Avoid flying alone

At the beginning of learning about radio-controlled flight there are some difficulties to overcome. Please avoid flying alone. Invite experienced pilots to guide you (two of the most effective methods to practice are via a PC flight simulator and/or under the supervision of a skilled pilot).



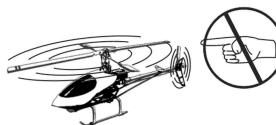
(5) Safe operation

Please fly your UFO according to your physical status and flight skills. Fatigue, listlessness and mis-operation will increase the possibilities of accidental hazard.



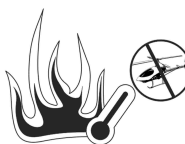
(6) Away from highly spinning parts

Please keep pilot, people and object away from the spinning blades of both main rotor and tail rotor.



(7) Protect from heat

An RC UFO is made from metal, fiber, plastic and electronic components, etc. Please keep away from heat and sunshine in order to avoid distortion, even damage, caused by high temperatures.



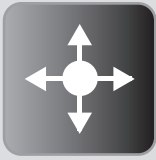
2.3 Attention before flight

- (1) Ensure the battery packs of both transmitter and receiver are fully charged (saturated).
- (2) Ensure both the throttle stick and the throttle trim of your transmitter stay at the lowest positions before operation.
- (3) Please strictly obey the order of turn-on and turn-off before operation. When starting your flight, please turn on your transmitter first, and connect the power cable of your UFO last.
When finishing your flight, please disconnect the power cable of your UFO first, and turn off your transmitter last.
- (4) An upset in the order of connection may cause your UFO to loose control. Please cultivate a correct habit of turn-on and turn-off.



02

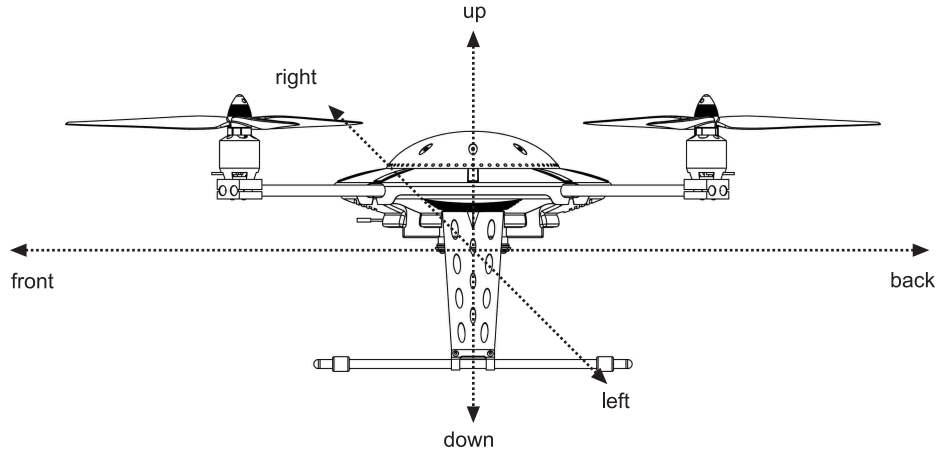
**Safety matters
needing
attention**



03

Definition of UFO Orientation

We define the orientation of UFO in order not to cause confusion in the following descriptions. That is to say, the tail boom of UFO is facing the pilot (tail in), and its head facing forward (front of pilot). The left hand of pilot is the left side of UFO, the right hand of pilot is the right side of UFO. Its head is to the front and its tail boom is to the back. The direction in which main body of UFO is facing is up, and its skids are facing down.



04

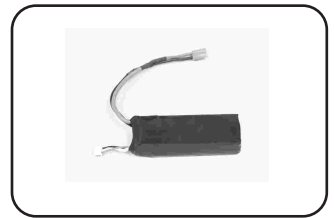
Equipments



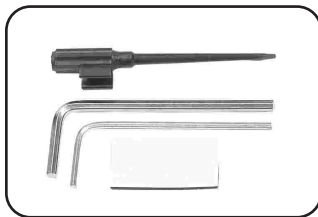
▲ UFO MX400(Standard)



▲ Transmitter(Optional)



▲ Li-polymer battery pack (Optional)



▲ Tool kit(Standard)



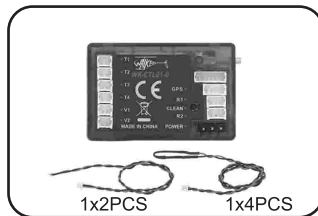
▲ Wall adapter /Power supply (Optional)



▲ GA005 balance charger (Optional)



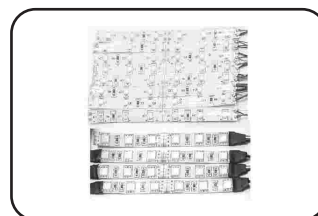
▲ Manual(Standard)



▲ Sensor control(Optional)



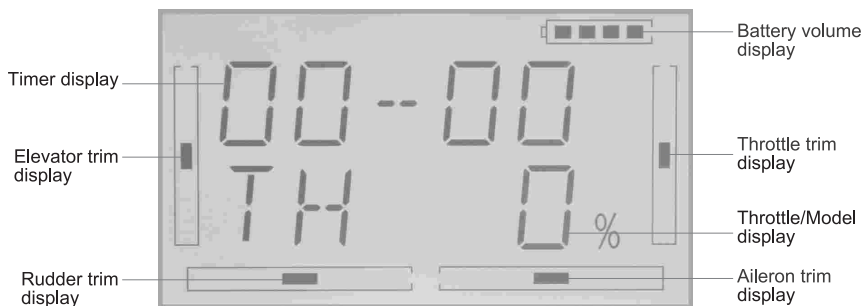
▲ Camera (Optional)



▲ Flashing board(Standard)

5.1 DEVO-7 radio setting

5.1.1 Boot Screen



5.1.2 Model Type(TYPE)

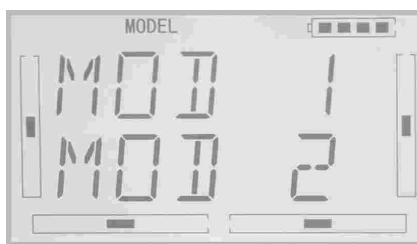
Press the ENT button to enter the Main Menu, press UP or DN until MODEL starts to flash, then press ENT button to enter the Model Menu. Press the UP or DN button until TYPE starts to flash. Press the ENT button to choose between Helicopter and Aeroplane types. Press the R or L button to select HELI, press ENT to confirm and EXT to go back to the previous menu.

5.1.3 Model Select(SELEC)

Press UP or DN key under the MODEL menu until SELEC starts to flash. Press ENT, the model options will be shown. Press UP or DN to choose MOD 1, press ENT to confirm and EXT back to previous menu.



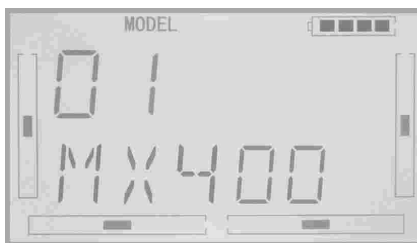
5.1.2 Model Type



5.1.3 Model Select

5.1.4 Model Name(NAME)

In the MODEL menu, press UP or DN until the NAME starts to flash. Press ENT to access the model serial No. and default name options. Press UP or DN to select the characters or numbers that you wish to change, use the R or L key to change the characters or numbers to "MX400". Press ENT to confirm and EXT to go back to the previous menu.



5.1.5 Device Output(OUTPU)

In the "Model" surface, press UP or DN, it comes out the flashing "OUTPU" menu. Press "ENT" to the submenu of "output". Press R or L to choose "Gear Gear", and press ENT to confirm. Press DN and R or L to choose "Gear ACT", and press ENT to confirm. Press DN and R or L to choose "AUX2 AUX2", and press ENT to confirm. Press DN and R or L to choose "AUX2 ACT", and press ENT to confirm. Press EXT to exit to the main surface.



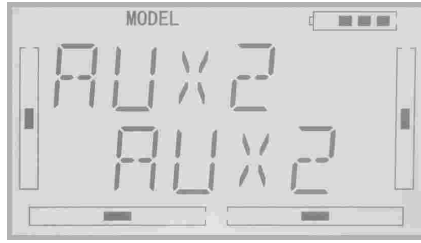
05

Transmitter setup



05

Transmitter
setup



Note: After finished this setting, you not only can set the function of Photo or film through the GEAR switch, but also can set the angle of the Photo/Camera mount by the AUX2 knob.

5.1.6 Reverse Switch(REVSW)

Press ENT to enter the Main Menu, press UP or DN until FUNCTION starts to flash, then press ENT to access the function menu. Press UP or DN until REVSW starts to flash. Press ENT to display the channel name and the reverse status. Press R or L to change between NOR and REV settings. Press DN to display each channel AILE, THRO, RUDD, GEAR, PITCH, GYRO and their corresponding reverse setting. Set each channel as shown in the table below. Once complete, press ENT to confirm and EXT to go back to the previous menu.

ELEV	AILE	THRO	RUDD	GEAR	PITCH	AUX2
NORM	NORM	NORM	NORM	NORM	NORM	NORM



5.2 DEVO-6S/8S/12S radio settings

5.2.1 Type: Helicopter

5.2.2 Swash type: 1 Servo Normal

5.2.3 Device Output

DEVO-6S		
Gear	GEAR SW	Active
Pitch	System	Active

DEVO-8S		
Gear	GEAR SW	Active
Pitch	System	Active
AUX2	MIX SW	Active
AUX3	RUDD D/R	Active

DEVO-12S		
Gear	GEAR SW	Active
Pitch	System	Active
AUX2	AUX2 Lever	Active
AUX3	AUX3 Lever	Active
AUX4	AUX4 Lever	Active
AUX5	AUX5 Lever	Active
AUX6	AUX6 Knob	Active
AUX7	AUX7 Knob	Active

5.2.4 Reverse switch settings

DEVO-6S	
Elevator	Normal
Aileron	Normal
Throttle	Normal
Rudder	Normal
Gear	Normal
Pitch	Normal

DEVO-8S	
Elevator	Normal
Aileron	Normal
Throttle	Normal
Rudder	Normal
Gear	Normal
Pitch	Normal
AUX2	Normal
AUX3	Normal

DEVO-12S	
Elevator	Normal
Aileron	Normal
Throttle	Normal
Rudder	Normal
Gear	Normal
Pitch	Normal
AUX2	Normal
AUX3	Normal
AUX4	Normal
AUX5	Normal
AUX6	Normal
AUX7	Normal

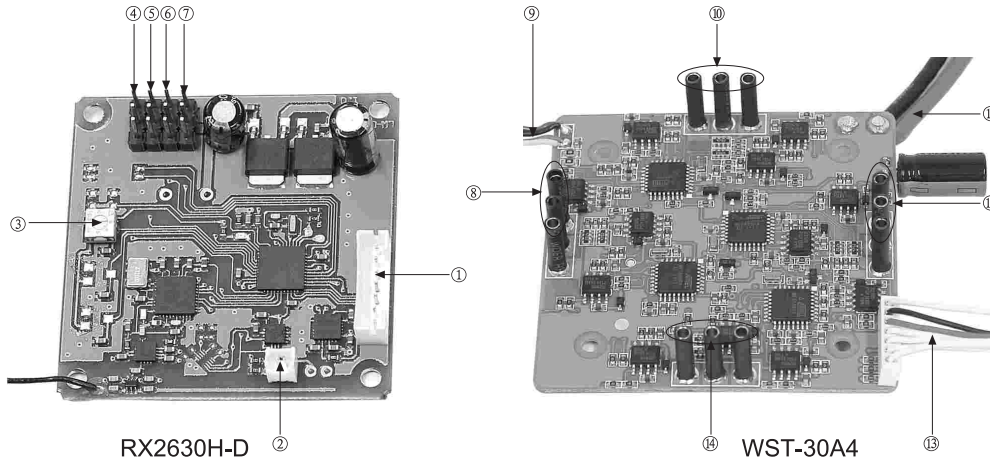
6.1 RX2630H-D receiver features

- (1) Receiver RX2630H-D adopts 2.4G spread spectrum technology with the functions of automatic scanning, code pairing and LED receiving indication.
- (2) Integrated design of 6-Axis gyro and abitude control provides precise locating in air.



06

Setup of the RX2630H-D receiver



6.2 Function of receiver

S/N	Name for short	Full name	Function
1	ESC	Connect to the ESC signal wire.	
2	Signal indicator light	Connect to the signal indicator light.	
3	Gyro sensitivity adjust knob	Adjust the gyro sensitivity of the front/back /left/right /tail.	
4	AUX3	AUX3. Plug in the bind plug to clearance the ID memory.	The bind plug face towards left.
5	Sensor control	Connect to the sensor control transform wire.	The bind plug face towards left.
6	Power frequency output	Connect to the outter camera DC wire.	The bind plug face towards left.
7	AUX2	AUX2	The bind plug face towards left.
8	Left front motor	Connect to the left front brushless motor wire.	
9	Flashingboard connect wire	Connect to the flashing board.	
10	Right front motor	Connect to the right front brushless motor wire.	
11	Power wire	Connect to the lipo battery.	
12	Right back motor	Connect to the right back brushless motor wire.	
13	Speed controller signal wire	Connect to the receiver①.	
14	Left back motor	Connect to the left back brushless motor wire.	



06

Setup of the RX2630H-D receiver

6.3 Adjustment of receiver

- (1) Receiver LED indicator: Quick flashing indicates the reception of a new signal; a solid light means connection is completed successfully; slow flashing indicates failure to receive a signal, please disconnect and reconnect the battery.
- (2) Adjust knob of the gyro: CW rotating increase the sensitivity of the Gyro, CCW rotating decrease the sensitivity of the Gyro. The default setting is Middle, generally there is no need to trim.

6.4 Matters needing attention

- (1) All the wires should be connected in a correct way. Misconnection will result in failure to receive signal, even damage to receiver or brushless speed controller.
- (2) Please use special adjustment pen to rotate the gyro tuning knob in order to avoid damaging the knob.
- (3) Adjust two of the three connect wires of the BL motor to make the BL motor reversed.

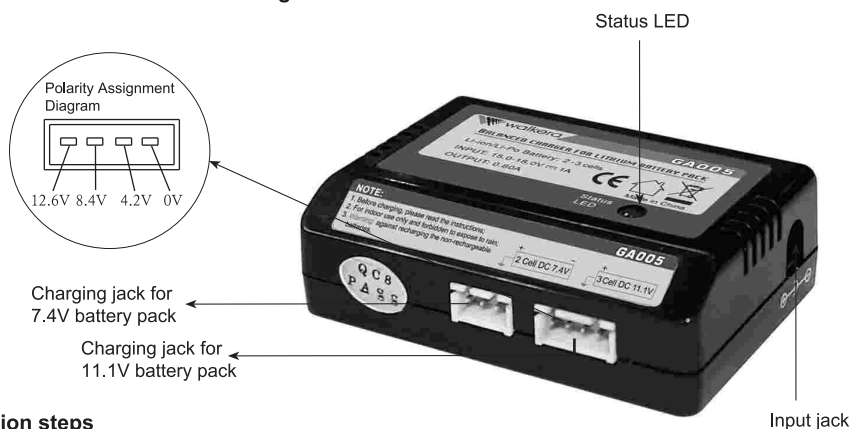
7.1 Parameters of GA005 balance charger:

Input voltage	Input current	Output current	Dimension	Weight
DC15-18V	1000mA	≤800mA	62.5×47×20.8mm	46g

7.2 Features of GA005 balance charger

- (1) GA005 utilizes microcomputer chips to monitor and control over the whole charging process in a balanced way with LED indicating light to display the charging status at real time.
- (2) Connects to an input power supply (DC 15-18V 1000 mA).
- (3) GA005 is suitable for 2-3S (7.4V/ 11.1V) Li-ion or Li-polymer battery pack.
- (4) Automatically detects 2-3S Lithium battery pack. GA005 will automatically charge when it finds the voltage of anyone cell among the LiPo pack is excessively low. At the same time LED displays as charging status (flash in red). The voltage of anyone cell LiPo is controlled at the level of $4.2 \pm 0.05V$ to ensure the maximum voltage difference of single cell in the battery pack is less than 50 mV.

7.3 Instruction of GA005 balance charger



7.4 Operation steps



Plug the wall adapter into the mains power supply. Its output end connects to GA005. Then its LED is lighting in solid red.



Insert the balanced pin of LiPo battery pack into GA005.

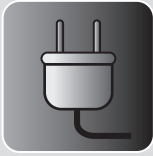


During charging, Red LED is continuously flashing. If saturated, Red LED becomes solid green lighting.



07

Instruction and attention of GA005 balance charger



07

Instruction and attention of GA005 balance charger

7.5 Charging statuses corresponding to LED

steps	Operation	LED Status	Charging status
1	Insert the wall adapter into the mains power supply, and then its output is connecting to GA005.	LED is in red solid lighting	Power on
2	Step 1 + connect the battery pack to GA005	LED is flashing in red	Charging
		LED becomes from red to solid green.	Saturated

7.6 Matters needing attention

- (1) During charging, GA005 should be put in dry and ventilated place and be far away from heat sources and inflammable and explosive substances.
- (2) GA005 is only used to charging a 2S or 3S Li-ion or Li-polymer battery pack. It is forbidden to simultaneously charge two or more sets of battery packs. Either the charger or battery may be damaged.
- (3) When charging, the battery pack should be removed from your helicopter. Never leave the charger unsupervised during the process of charging in order to avoid risk of accidents.
- (4) Never immediately charge your battery pack as soon as the flight is finished, or when its temperature doesn't cool down. Otherwise the battery will take a risk in swelling, even a fire.
- (5) Ensure the correctness of polarity before connecting the battery to charger.
- (6) Avoid drop and violence during the process of charging. Drop and violence will result in internal short circuit of the battery.
- (7) For the sake of safety, please use original charging equipment (wall adapter + GA005 balance charger) and battery pack. Please change new one in time when the old battery pack is becoming swollen due to long time usage.
- (8) If it is retained in the charger for a long time after saturated, the battery may automatically discharge. When the charger detects that the voltage of individual cells is lower than the rated voltage, it will re-charge until saturated. Frequently charging and discharging will shorten the lifetime of your battery pack.

7.7 Maintenance of battery pack

- (1) The battery pack should be put in dry and ventilated place. The storage temperature of the environment is ranged from 18°C to 25°C.
- (2) Please avoid frequent charging and excessive discharging the battery pack in order to prolong its life cycle.
- (3) It is a must to maintain the battery pack before long-term storage. That is to charge the battery to the level of 50-60% saturation.
- (4) If the storage term is over 1 month, it is advised to monthly check the voltage of every cell of the battery pack. The voltage of every cell should be not less than 3V. Otherwise, please refer to the above article (3).
- (5) From the view point of protection, new battery pack should be motivated before usage. That is to charge and discharge 3-5 times, but discharge is not less than the level of 70% saturation. This process will make the battery lifetime longer and voltage more stable.

8.1 Installation of battery pack

Install the battery to the pack.

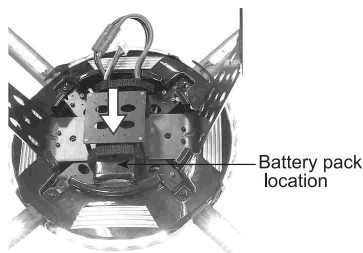
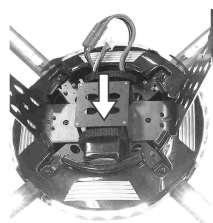


Diagram of battery installation.

8.2 Turn on the power

8.2.1 Turn on the power



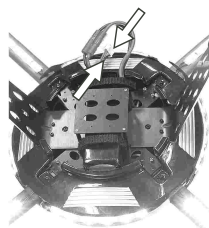
1. Take off the canopy, and install the battery pack in the battery compartment.



2. Turn on the power of transmitter.



3. Pull down the throttle stick and throttle trim of transmitter to the lowest position, and then move the elevator trim, aileron trim, and rudder trim at the neutral positions, respectively.



4. Connect the power cable of UFO to receive signal from transmitter.

8.2.2 Matters needing attention

- (1) Please follow this rules: "Open the radio first ,connect the MX400 power last". After open the radio power button ,please connect the MX400 power in 10S, the signal indicator light begins flashing, the light will be solid after 1~3 seconds.After binding with the radio, the red indicator light starts flashing again. If the red indicator light turns solid and the BL motors reset, then the receiver has received the signal of the radio successfully, binding finished.
- (2) If more than 10 seconds passed before the power cable was connected binding will fail. When binding fails, disconnect the battery, turn off the transmitter and repeat step (1).

8.2.3 Trouble shooting a flashing receiver LED after connecting the power cable

Possible causes	Solutions
Code pairing failed.	Turn transmitter off then on and re-connect UFO power cable.
The throttle trim and throttle stick of transmitter are not at the lowest position.	Pull down the throttle trim and throttle stick to the lowest position and re-code pair.
The transmitter battery is low or empty.	Replace transmitter battery and re-code pair (re-bind).
The UFO battery is low or empty.	Replace the UFO battery with a fresh pack and re-code pair.
No function in receiver or transmitter.	Replace faulty receiver or transmitter and re-code pair.



08

Steps of flight



09

Flight over



Step 1: disconnect the power cable of UFO MX400.

Step 2: turn off the transmitter.

Step 3: take off the canopy and remove the battery pack.

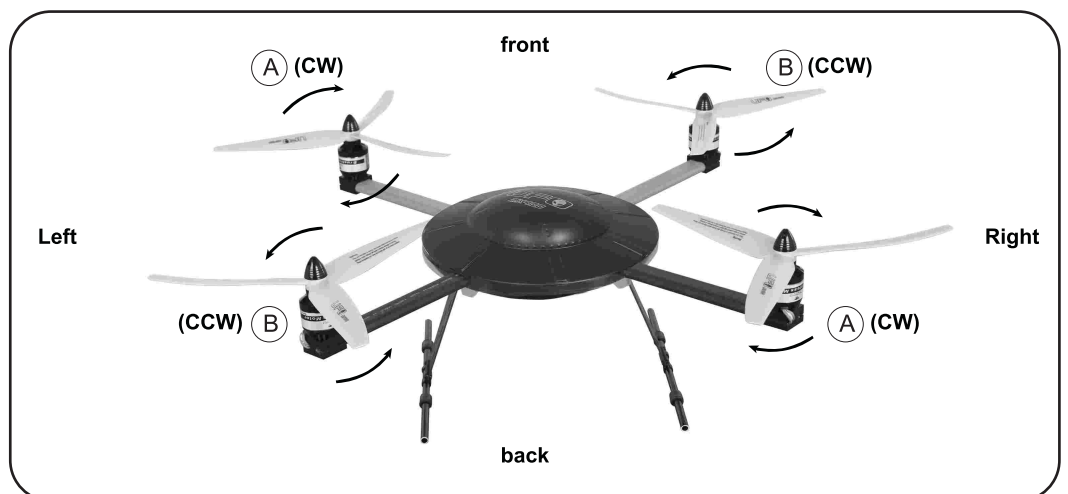


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Additional Instruction

1. Flashing board installation steps:

- (1) The yellow LED flashes solid white light, the white LED flashes solid red light, the tricolor LED keeps flashing;
- (2) Label A connects to brushless ESC WST-30A4, Number ⑨. Label B connects to label B. Label C connects to label C. Label D connects to Label D.
- (3) The yellow LED lights stick to the back of the black heat shrink tube, the white lights stick to the front of the red heat shrink tube, the tricolor lights stick to the around of the upper canopy.

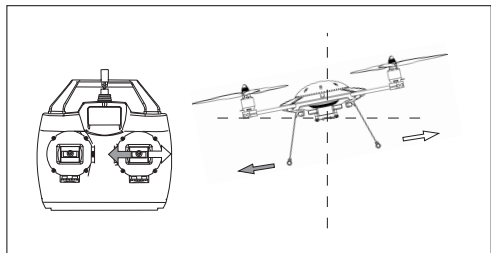


2. Please consult the “assembly instruction” for the antenna after taking out the UFO from the packing.

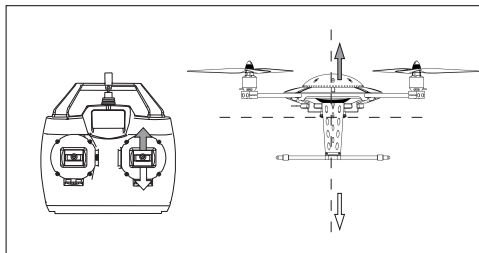
3. After connecting the power of the MX400, please check the propellers rotation direction, left front/right front propellers rotate CW, right front/left propellers rotate CCW.

4. If the elevator trim or aileron trim move(s) to one side during flight, please re-pair the code and move all the transmitter trims but the throttle one to the neutral position.

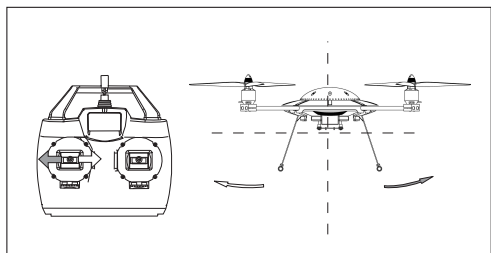
Mode 1 (throttle stick at right hand)



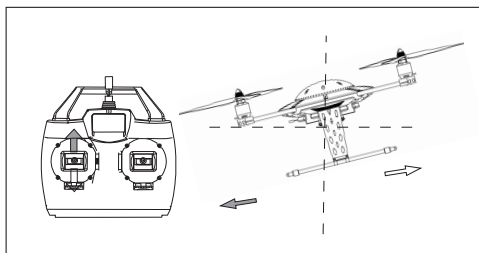
1. When moving the aileron stick left or right, the UFO accordingly flies left or right.



2. When moving the throttle stick up or down, the UFO accordingly flies up or down.

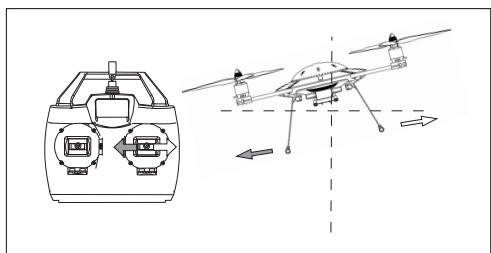


3. When moving the rudder stick left or right, the head of UFO accordingly flies left or right.

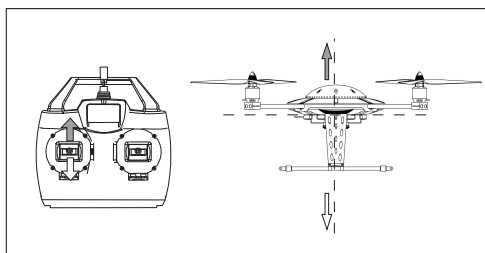


4. When moving the elevator stick up or down, the UFO accordingly flies forward or backward.

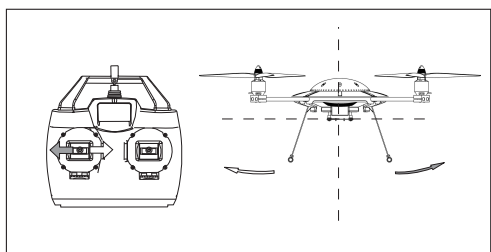
Mode 2 (throttle stick at left hand)



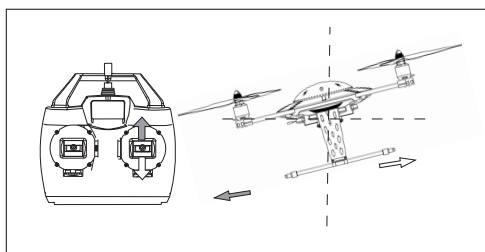
1. When moving the aileron stick left or right, the UFO accordingly flies left or right.



2. When moving the throttle stick up or down, the UFO accordingly flies up or down.



3. When moving the rudder stick left or right, the head of UFO accordingly flies left or right.



4. When moving elevator stick up or down, the UFO accordingly flies forward or backward.



Appendix 1- Flight control



Appendix 2 – Flight practice

1 Flight practice for the beginner

1.1 Matters needing attention

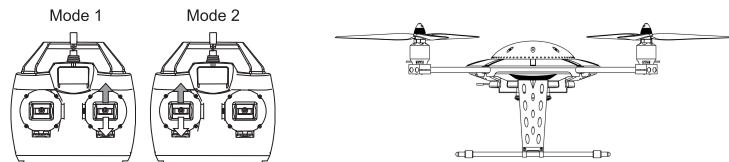
- (1) Beginners should be supervised and guided by skilled pilots when learning.
- (2) For the sake of safety, people should keep at least 5 meters away from the UFO during practice.
- (3) Choose a spacious open ground without people and obstacles as the flight practice field.

1.2 Steps

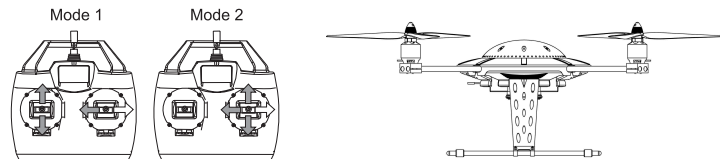
(1) Practicing throttle control - stationary flight

Start by standing directly behind the UFO, tail closest to you and head/nose pointing away. Practice taking off from the ground and then by slowly pulling down on the throttle stick, land it softly and horizontally. Repeat this step until the throttle can be finely and carefully controlled.

When hovering, the tail rotor counteracts torque but also pushes UFO to the left. Don't forget to counteract this effect using cyclic stick to the right and take off slightly inclined. It is important to hover vertically, stabilize UFO at 1.5m height and then land it.

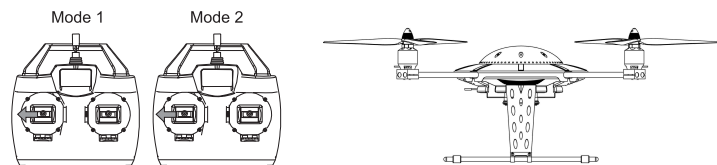


(2) Practice of aileron and elevator control



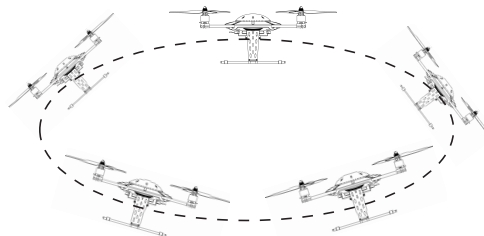
First increase throttle and enter a stable hover as practiced in the previous section. Next, use the elevator and aileron sticks to purposely fly the UFO in a 'cross pattern' forwards, backwards, to the left and to the right. In between each direction, return to hover over the take off point. Continue to repeat this step until it can be completed with ease.

(3) Practicing rudder control



Enter a stable hover as practiced in step one, then practice rotating the head of the UFO to face left then back to face right and back to facing forwards (away from the pilot). Start with a rotation angle of 30 degrees or less and gradually increase it as you become more comfortable and more experienced.

(4) Practicing circular flight



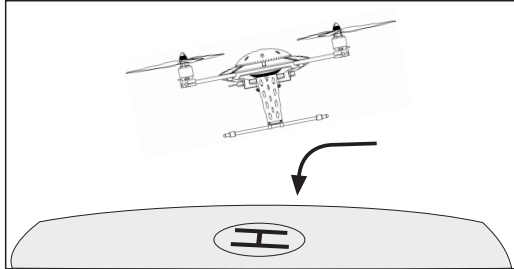
After mastering steps (1) to (3) with ease, please draw or mark a large circle on the ground. Fly your UFO along this circular track until the flight is smooth and controlled.

You may wish to stand inside the circle at first to practice circular flight before needing to control the nose in orientation. Fly circles in both directions and at a constant altitude to be comfortable with this step.

2 Advanced practice

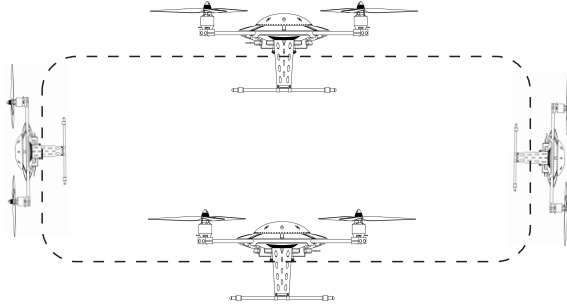
2.1 Practicing controlled take off and landing

Mark out an area on the ground as a landing pad to help practice deliberately taking off and landing from a set location. The process of take off and landing should be kept stable and as close to vertical as possible.



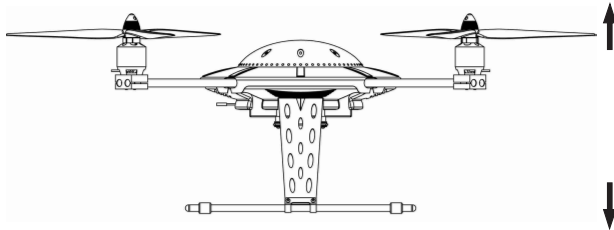
2.2 Practicing square flight

Take the takeoff point as the center to draw a square whose side length is about 2 meters. Fly your UFO along the 4 sides and keep the flight height parallel to the line of sight. Make a 90 degree rotation at each corner of the quadrangle to adjust the flight direction. Train your straight flight skills and 90 degree flight course control. Fly in both directions around the circuit until familiar with the maneuver.



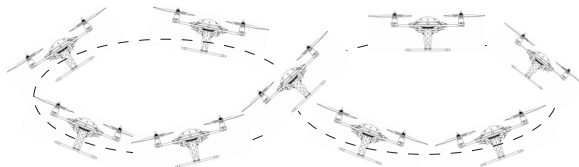
2.3 Frog-hopping practice

Repeat the take off and landing action using the throttle stick whilst maintaining a vertical path. Increase your rate of ascent and descent gradually as you become more comfortable with the exercise. Be sure to slow down in time when landing!



2.4 Figure eight practice

Once you have mastered the previous steps you can try flying smooth flat figure eights. Try to maintain the same altitude during the entire flight path. Take care when flying where there is wind as it may cause the UFO to suddenly rise or fall unexpectedly.





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The specifications of the R/C aircraft
may be altered without notice.

