



# User Handbook

## Specifications:

Main Rotor Dia. : 186mm

Standard transmitter: DEVO-F7

Brushed Motor: 1627F

Overall(Length x Width): 266mm x266mm

Optional transmitter: 2402D /DEVO-6/7/7E/8S/10/12S

Recommend Environment: Outdoor

All-up Weight: 363g( Battery included)

Receiver: RX2458H-D

Experience Level: Intermediate

Gyro: 6-Axis

Battery: 7.4V 1000mAh Li-Po

Product type: Quad-copter in 200 size

## Features:

- 1) Latest 6-Axis Gyro Control system provides super stable flight.
- 2) Brushed Motor system ensures more powerful and fantastic flips and rolls flight.
- 3) The RX firmware can Update Online (required UP02 upgrade cable and adapter).
- 4) With DEVO-F7, you can have 5.8G FPV real time image monitor.
- 5) The simple and compact modularized design, easy to install and maintain.
- 6) The flight time will be up to 7 to 8 minutes with a 7.4V1000mAh Lipo battery.

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## 01

### Forewords



## 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 Brushed Hoten X, please read the user handbook carefully and then keep it in a safe place for future consultation and reference.

#### 2.1 Important Statement

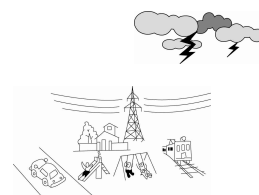
- (1) This product is not a toy. It is a piece of complicated equipment which harmoniously integrates engineering materials, mechanics, electronics, aerodynamic and high frequency radio. Correct installation and adjustment are necessary to avoid accidents taking place. The owner must always operate in 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 UFO 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).



# Brushed Hoten X

**2.4GHz**

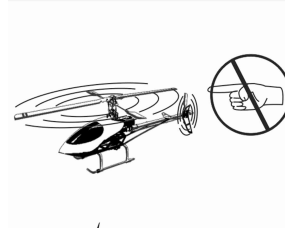
## (5) Safe operation

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.



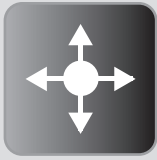
## 2.3 Attention before flight

- (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. 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.
- (4) Make sure the connections between the power cables of the battery pack and motors are solid. Continuous vibration may loosen the batteries or cables in flight, possibly resulting in a loss of control.



**02**

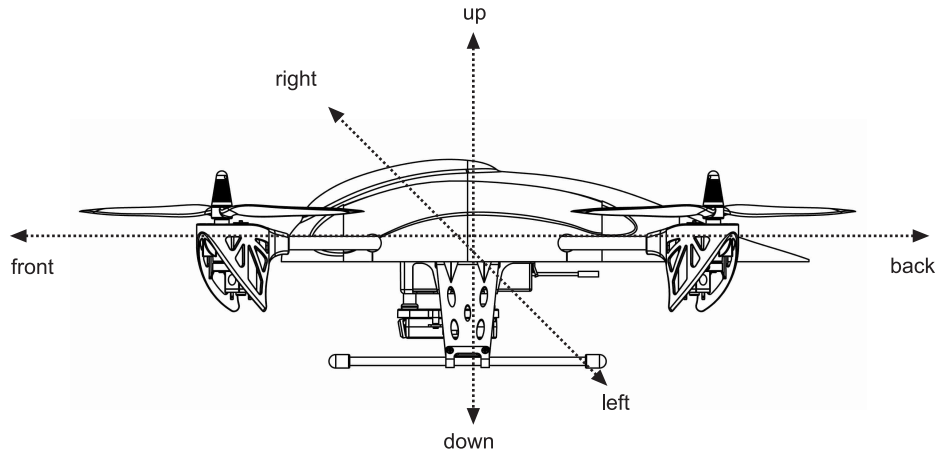
**Safety matters  
needing  
attention**



## 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

### Standard equipment



▲ Brushed Hoten X



▲ Transmitter



▲ Li-polymer battery pack



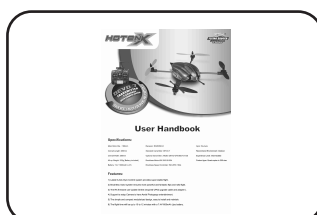
▲ GA005 balance charger



▲ Tool kit



▲ Main rotor blades



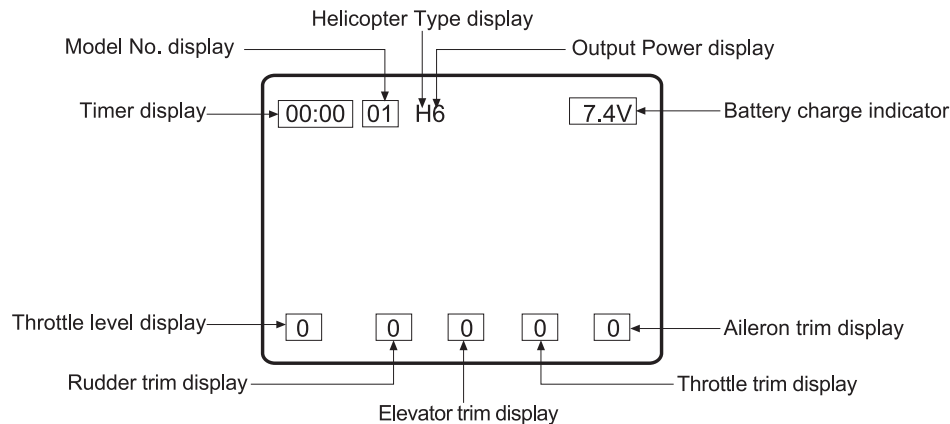
▲ User Handbook

# Brushed Hoten X

2.4GHz

## 5.1 DEVO-F7(standard radio) setting

### 5.1.1 Boost Screen

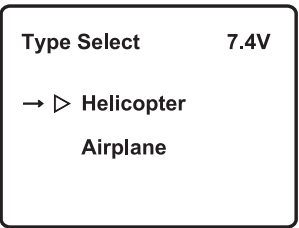


### 5.1.2 Type Select

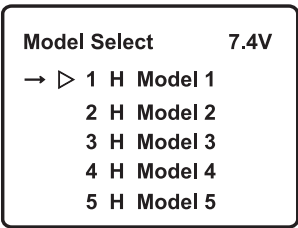
Press ENT to the Main Menu. Press UP or DN to move the cursor → to point to Model Menu, press ENT to Model Menu; Press UP or DN to move the cursor → to point to Type Select, press ENT to Type Select setting interface; Press UP or DN to move the cursor → to point to Helicopter option. Press ENT to confirm and then press EXT to return to Model Menu.

### 5.1.3 Model Select

Under Model Menu interface, press ENT to the Main Menu. Press UP or DN to move the cursor → to point to Model Select, press ENT to Model Select; Press UP or DN to move the cursor → to point to desired option. Press ENT to confirm and then press EXT to return to Model Menu.



5.1.2 Type Select



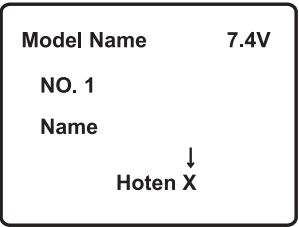
5.1.3 Model Select

### 5.1.4 Model Name

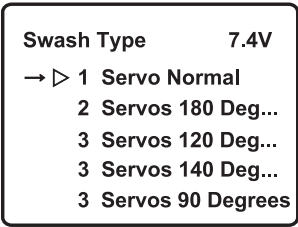
Under the Model Menu interface, press UP or DN to move the cursor → to point to Model Name, press ENT to Model Name setting interface; press UP or DN to move the cursor → to point to select the character and figure which need to be changed, press R or L button to change the character and figure, name model as Hoten X. Press ENT to confirm and then press EXT to return to Model Menu.

### 5.1.5 Swash Type

Under the Model Menu interface, press UP or DN to move the cursor → to point to Swash Type, press ENT to Swash Type setting interface. Press UP or DN to move the cursor → to point to 1 Servo Normal. Press ENT to confirm and then press EXT to return to Model Menu.



5.1.4 Model Name



5.1.5 Swash Type



# 05

## Transmitter setup



## 05

### Transmitter setup

#### 5.1.6 Device Output

Under the Model Menu interface, press UP or DN to move the cursor → to point to Device Output, press ENT to Device Output setting interface.

##### (1) Gear setting:

Press UP or DN to move the cursor → to point to Gear option, press R or L to choose GEAR SW; Press UP or DN to move the cursor → to point to Function setting after you select the switch, press R or L to choose Active.

Device Output 7.4V	
Gear	→ GEAR SW Active
Pitch	System Active
AUX2	FMOD SW Active

Device Output 7.4V	
Gear	GEAR SW → Active
Pitch	System Active
AUX2	FMOD SW Active

(2) Pitch can't be set by the system.

##### (3) AUX2 Setting:

Press UP or DN to move the cursor → to point to AUX2 option, press R or L to choose FMOD SW; Press UP or DN to move the cursor → to point to Function setting after you select the switch, press R or L to choose Active. After finish settings, press ENT to confirm and then press EXT to return to Main Menu.

Device Output 7.4V	
Gear	GEAR SW Active
Pitch	System Active
AUX2	→ FMOD SW Active

Device Output 7.4V	
Gear	GEAR SW Active
Pitch	System Active
AUX2	FMOD SW → Active

#### 5.1.7 Reverse Switch

Press ENT to the Main Menu. Press UP or DN to move the cursor → to point to Function Menu, press ENT to Function Menu; Press UP or DN to move the cursor → to point to Reverse Switch, press ENT to Reverse Switch setting interface; Press UP or DN to move the cursor → to point to desired option, press R or L to change the status between Normal and Reverse. Please see as below. Press ENT to confirm and then press EXT to return to Main Menu.

Reverse Switch 7.4V	
→ Elevator	Normal
Aileron	Normal
Throttle	Normal
Rudder	Normal
Gear	Normal

Reverse Switch 7.4V	
→ Pitch	Normal
AUX2	Normal

#### 5.1.8 Video Select

Press ENT to the Main Menu. Press UP or DN to move the cursor → to point to System Menu, press ENT to System Menu; Press UP or DN to move the cursor → to point to Video Select, press ENT to Video Select setting interface. Press R or L to select Active. Press DN to move the cursor → to point to Channel item, press R or L to make the Number change between 1 and 8. With the TX5801 Transmitting channel, 1-8 channels could be choosed to receive the image signal. Press ENT to confirm and then press EXT to exit.

Video Select 7.4V	
→ Status	Active
Channel	1/8

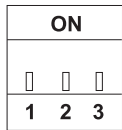
Video Select 7.4V	
Status	Active
→ Channel	1/8

# Brushed Hoten X

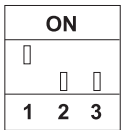
2.4GHz

## 5.1.9 TX5801 Transmitting channel selection

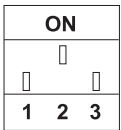
There are 8 different channels can be selected. You can choose the best frequency channel according to the image quality as follows:



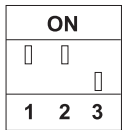
Channel 1  
code position



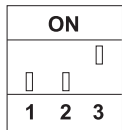
Channel 2  
code position



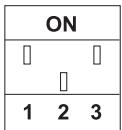
Channel 3  
code position



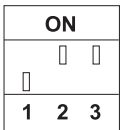
Channel 4  
code position



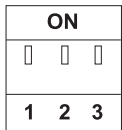
Channel 5  
code position



Channel 6  
code position



Channel 7  
code position



Channel 8  
code position

Remark: TX5801 channel is corresponding to the video receive channel.

## 5.1.10 DVO4 Camera instruction

DVO4 Camera has the following two ways to control the video:

- (1) Press the red switch once on the rear of the DVO4 Camera, it means the DVO4 Camera starts to video. Press the red switch again to stop the video.
- (2) Pull the Gear Switch to postion "1" and keep about 1-2 seconds, then pull back to postion "0". After finish the press, the DVO4 Camera starts to video. Pull Gear Switch again to stop video.

**Notice:** The Memory card must be inserted before the DVO4 connects the battery, and remove the Memory card after power off.

## 5.2 DEVO-6/7/7E/8S/10/12S(optional radio)settings

### 5.2.1 Type:Helicopter

### 5.2.2 Swash type:1 Servo Normal

### 5.2.3 Device Output

DEVO-6		
Gear	FMOD SW	Active
Pitch	System	Active

DEVO-7		
GEAR	GEAR	ACT
AUX2	FMD	ACT

DEVO-7E		
Gear	HOLD SW	Active
AUX2	FMOD SW	Active

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

DEVO-10		
Gear	GEAR SW	Active
AUX2	FMOD SW	Active
AUX3	RUDD D/R	Active
AUX4	AUX4 KB	Active
AUX5	AUX5 KB	Active

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



05

Transmitter  
setup



05

Transmitter  
setup

5.2.4 Reverse switch settings

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

DEVO-7	
ELEV	NORM
AILE	NORM
THRO	NORM
RUDD	NORM
GEAR	NORM
PITCH	NORM
AUX2	NORM

DEVO-7E	
Elevator	Normal
Aileron	Normal
Throttle	Normal
Rudder	Normal
Gear	Normal
Pitch	Normal
AUX2	Normal

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

DEVO-10	
Elevator	Normal
Aileron	Normal
Throttle	Normal
Rudder	Normal
Gear	Normal
Pitch	Normal
AUX2	Normal
AUX3	Normal
AUX4	Normal
AUX5	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

5.3 2402D(optional radio)setting

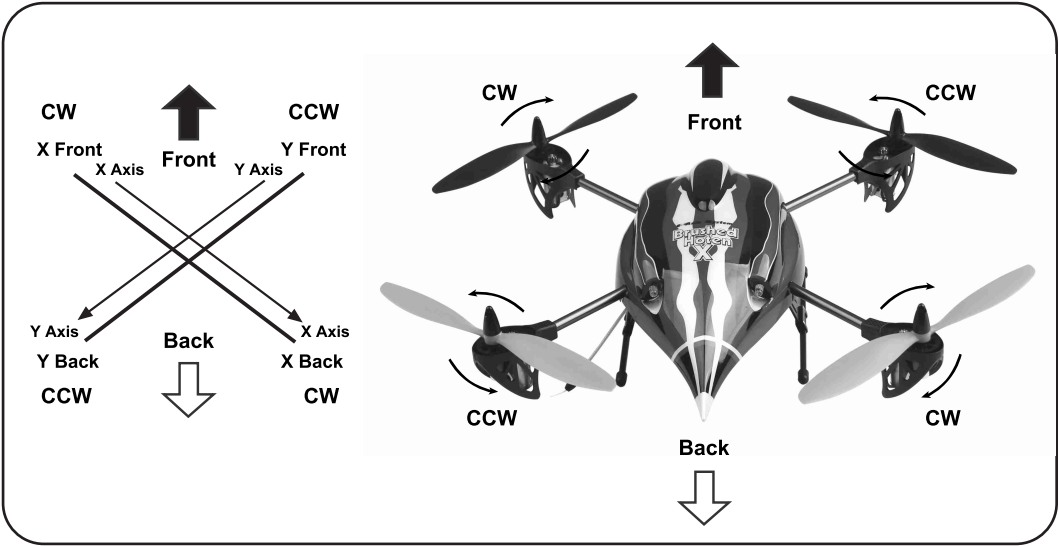
5.3.1 Reverse switch setting

ELEV	NOR
AILE	NOR
THRO	NOR
RUDD	NOR

# Brushed Hoten X

2.4GHz

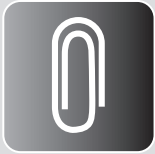
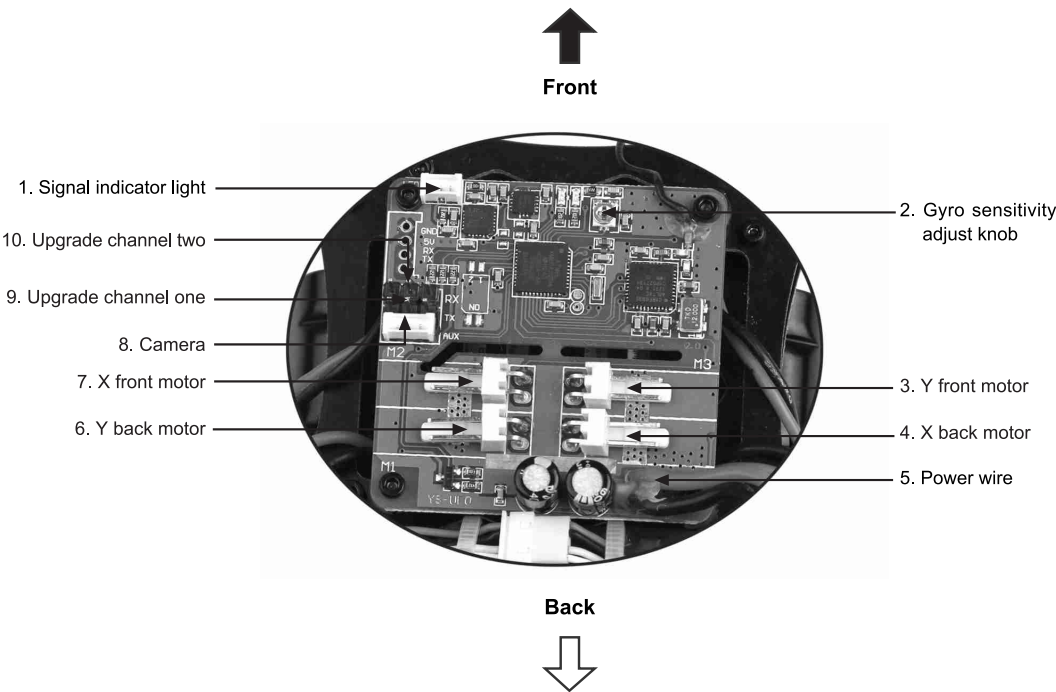
1.The front propellers are in black color while the rear propellers are in Orange.



2. After connecting the power of the Brushed Hoten X, please check the propellers rotation direction, X front/ back propellers rotate CW, Y front/ back propellers rotate CCW.
3. You can adjust the radio trim button (except the throttle trim) if the quadcopter flight drift.

## 7.1 RX2458H-D receiver features

- (1) Receiver RX2458H-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

Additional  
Instruction



07

Setup of the  
RX2458H-D  
receiver



## 07

### Setup of the RX2458H-D receiver

#### 7.2 Function of receiver

S/N	Full name	Function	Connection
1	Signal indicator light	Connect to the back Signal indicator light wire.	Terminal is facing front.
2	Gyro sensitivity adjust knob	Adjust the gyro sensitivity of the front/back /left/right /tail.	
3	Y front motor	Connect to Y front motor wires.	Terminal is facing down.
4	X back motor	Connect to X back motor wires.	Terminal is facing down.
5	Power wire	Connect to the lipo battery.	
6	Y back motor	Connect to Y back motor wires.	Terminal is facing down.
7	X front motor	Connect to X front motor wires.	Terminal is facing down.
8	Camera	Connect to the camera wires or plug in the bind plug to clear ID memory.	Terminal is facing front.
9	Upgrade channel one	Upgrade spare or connect to front power.	Terminal is facing back.
10	Upgrade channel two	Upgrade spare or connect to front power.	Terminal is facing back.

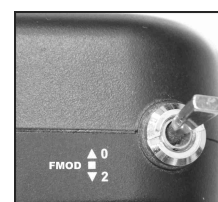
#### 7.3 Flight Modes switches of the Receiver

(1) DEVO-6/7/7E/F7/8S/10/12S Transmitter selectable

**Note:** Please set the FMOD switch as "ACTIVE" in the Output setting of Transmitter.

Type	Channel	Mode	Status
DEVO-6	Gear	FMOD Switch	Active
DEVO-7	AUX2	FMD	ACT
DEVO-7E	AUX2	FMOD Switch	Active
DEVO-F7	AUX2	FMOD Switch	Active
DEVO-8S	AUX2	FMOD Switch	Active
DEVO-10	AUX2	FMOD Switch	Active
DEVO-12S	AUX2	FMOD Switch	Active

When the FMOD Flight Mode switch of the radio at "0" position, the receiver's red signal indicator turns quick flash, which is Normal Flight mode; When the FMOD mode switch of the radio at "2" position, (DEVO 7E at "1" position), the receiver's blue signal indicator turns quick flash, which is Roll flight mode.



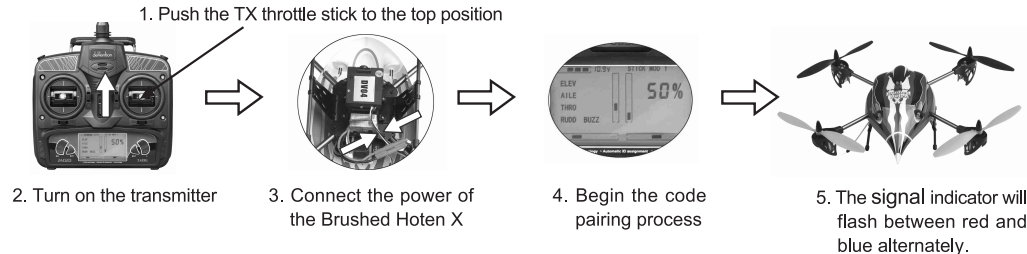
# Brushed Hoten X

2.4GHz

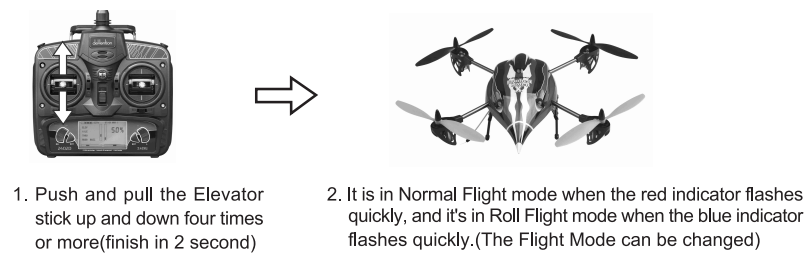
(2) Optional Transmitter: 2402D

**Note:**Please strictly refer to below operations.

(2.1) Push the throttle stick to the top position, turn on the radio and connect the UFO battery, then comes to the code pairing status. The receiver's signal indicator will flash between red and blue alternately after code pairing successfully. That's the Flight Modes switch status.



(2.2) In Flight Mode switch status, push and pull the Elevator Stick up and down four times or above to change the Flight Mode(Finish within 2 seconds). If red indicator flashes quickly, it's normal flight mode. If blue indicator flashes quickly, it's roll flight mode.



(2.3) After choose the Flight Mode, pull the throttle stick at the lowest position, then flight available.

## 7.4 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.

(3) Clear fix ID in receiver: Insert plug terminal into camera channel of the receiver to clear fix ID memory and disconnect plug terminal when the indicator of the receiver start to flash.

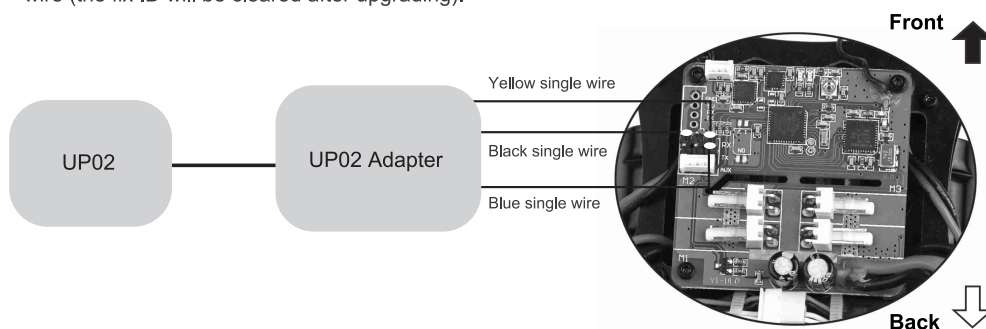
(4) Receiver upgrade:

(4.1) Brushed Hoten X control program upgrade can be downloaded online at Walkera Official Website:[www.walkera.com](http://www.walkera.com).

(4.2) Brushed Hoten X control program upgrade tool including UP02 cable and UP02 Adapter.



(4.3) Connect blue single wire plug to upgrade channel 1 signal position, yellow single wire plug connect to upgrade channel 2 signal position, black single wire plug connect to upgrade channel 2 position of earth wire (the fix ID will be cleared after upgrading).



07

Setup of the  
RX2458H-D  
receiver

7.5 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 speed controller.
- (2) Please use special adjustment pen to rotate the gyro tuning knob in order to avoid damaging the knob.
- (3) Y front / Y back motors both must rotate clockwise. If not, please change the connect of red and black wire then the motor will rotor correctly.
- (4) X front / X back motors both must rotate clockwise. If not, please change the connect of white and black wire then the motor will rotor correctly.

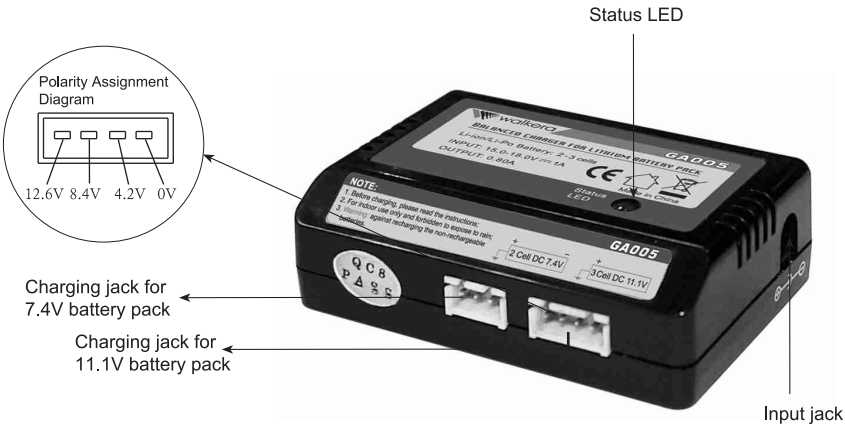
8.1 Parameters of GA005 balance charger:

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

8.2 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.

8.3 Instruction of GA005 balance charger



# Brushed Hoten X

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## 8.4 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.

## 8.5 Charging status 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

## 8.6 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. It is forbidden to simultaneously charge two or more sets of batteries. Either the charger or battery may be damaged.
- (3) When charging, the battery 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 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. 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 .

## 8.7 Maintenance of battery pack

- (1) The battery 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 in order to prolong its life cycle.
- (3) It is a must to maintain the battery 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 . 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 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.



08

Instruction  
and  
attention  
of GA005  
balance  
charger

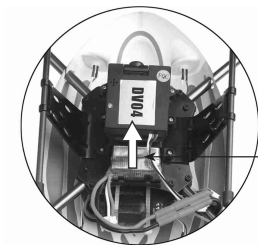


## 09

### Steps of flight

#### 9.1 Installation of battery pack

Install the battery to the pack.

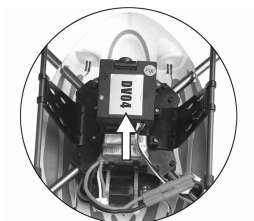


Battery pack location

Diagram of battery installation.

#### 9.2 Turn on the power

##### 9.2.1 Turn on the power



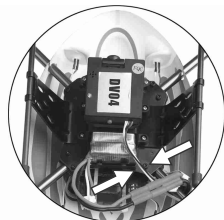
1. Install the battery pack in the battery compartment.



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.

##### 9.2.2 Matters needing attention

- (1) Please follow this rules: "Open the radio first ,connect the brushed Hoten X power last". After open the radio power button, please connect the brushed Hoten X power in 10S, the signal indicator light begins flashing, the light will be solid after 1~3 seconds. After binding with the radio, the indicator light starts flashing again. If the indicator light turns solid, 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).

##### 9.2.3 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.

# Brushed Hoten X

2.4GHz

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Step 1: Disconnect the power cable of brushed Hoten X

Step 2: Turn off the transmitter.

Step 3: Remove the battery pack.



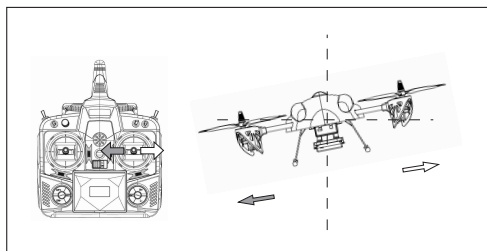
10

Flight over

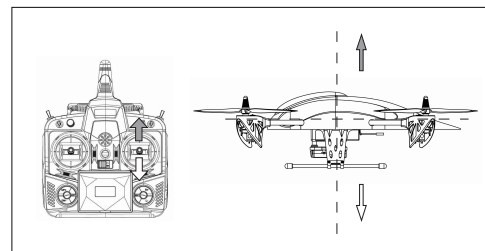


## Appendix 1- Flight control

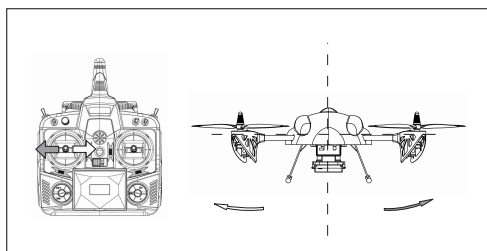
### Mode 1 (throttle stick at right hand)



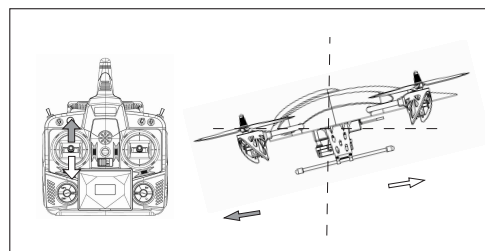
1. When moving the aileron stick left or right, the UFO accordingly flies left or right.



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

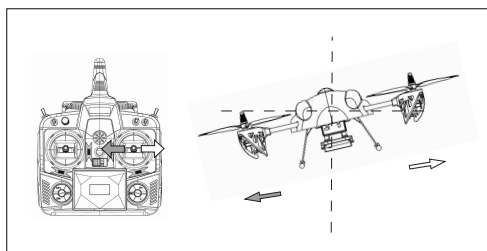


3. When moving the rudder stick left or right, the head of UFO accordingly flies left or right.

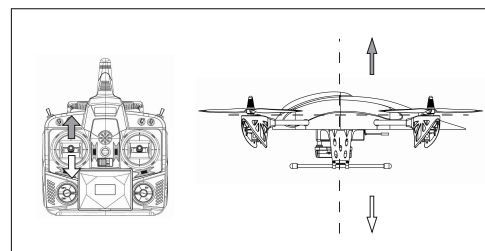


4. When moving the elevator stick up or down, the UFO accordingly flies forward or backward.

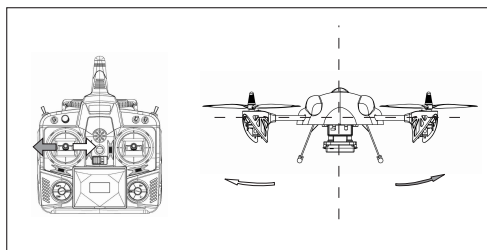
### Mode 2 (throttle stick at left hand)



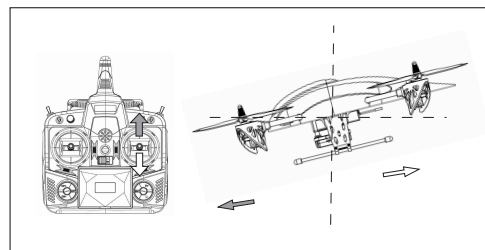
1. When moving the aileron stick left or right, the UFO accordingly flies left or right.



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.

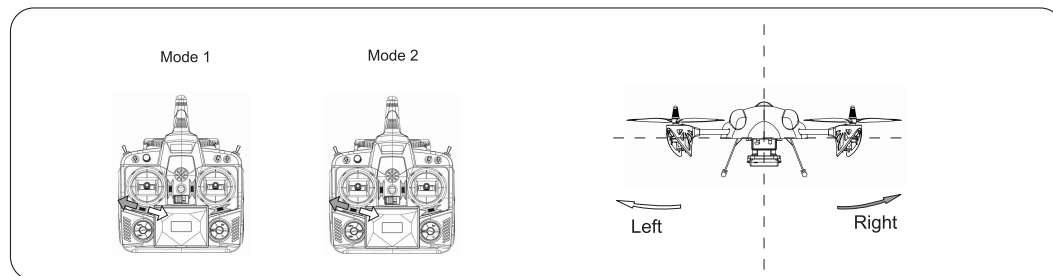


4. When moving elevator stick up or down, the UFO accordingly flies forward or backward.

# Brushed Hoten X

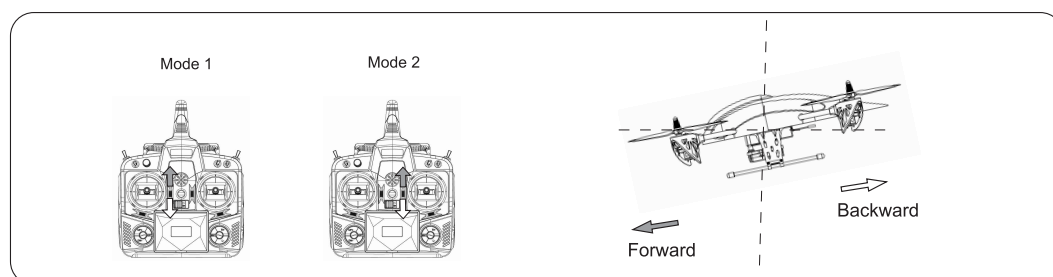
**2.4GHz**

## 1. Adjust the rudder trim



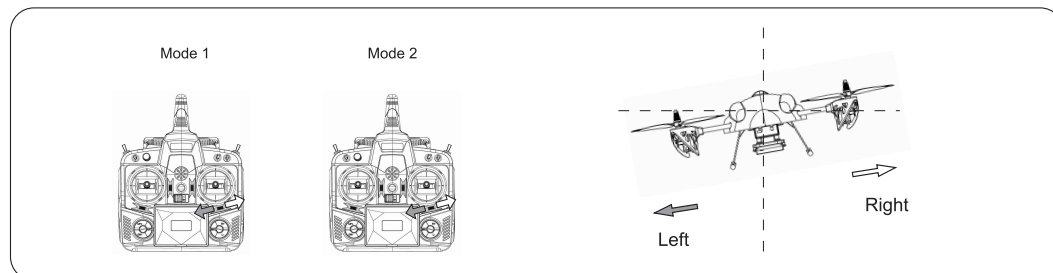
If the head of UFO wants to fly left or right after takeoff or in a hover, use the rudder trim (see above) to correct it. Move the trim left if it flies right, move the trip right if it flies left.

## 2. Adjust the elevator trim



If the UFO wants to fly forwards or backwards after takeoff or in a hover, use the elevator trim (see above) to correct it. Move the trim down if it flies forwards, move the trip up if it flies backwards.

## 3. Adjust the aileron trim



If the UFO wants to fly left or right after takeoff or in a hover, use the aileron trim (see above) to correct it. Move the trim left if it flies right, move the trip right if it flies left.



## Appendix 2 – Trimming the flight actions



## Appendix 3 – Flight practice

### 1 Flight practice for the beginner

#### 1.1 Matters needing attention

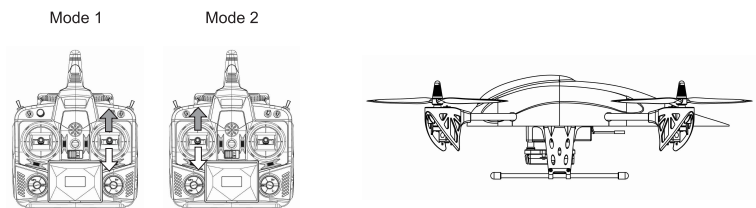
- (1) Beginners should be supervised and guided by skilled pilots when learning.
- (2) For the sake of safety, people should keep at least 5 meters away from the UFO during practice.
- (3) Choose a spacious open ground without people and obstacles as the flight practice field.

#### 1.2 Steps

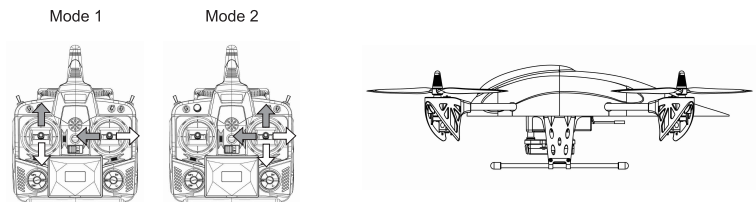
##### (1) Practicing throttle control - stationary flight

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.

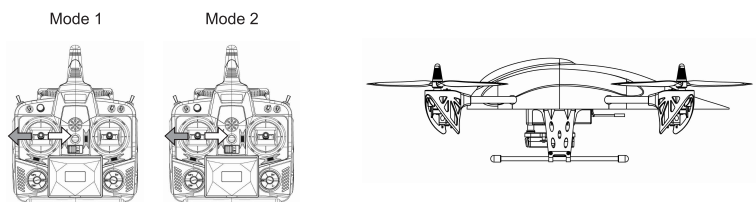


##### (2) Practice of aileron and elevator control



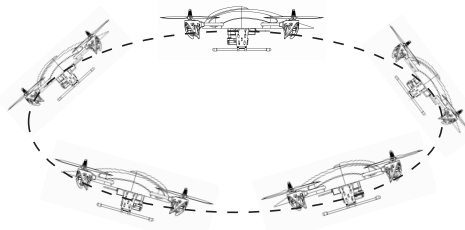
First increase throttle and enter a stable hover as practiced in the previous section. Next, use the elevator and aileron sticks to purposely fly the UFO in a 'cross pattern' forwards, backwards, to the left and to the right. In between each direction, return to hover over the take off point. Continue 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 face 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.

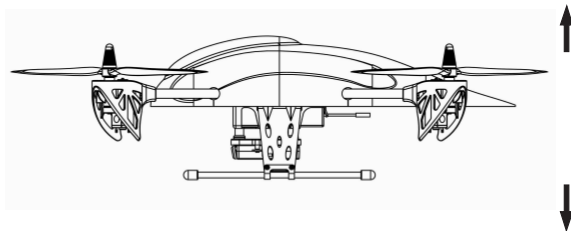
# Brushed Hoten X

**2.4GHz**

## 2 Advanced practice

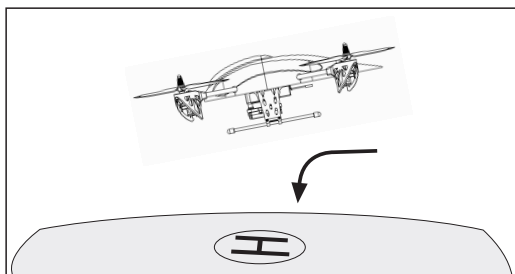
### 2.1 Frog-hopping practice

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!



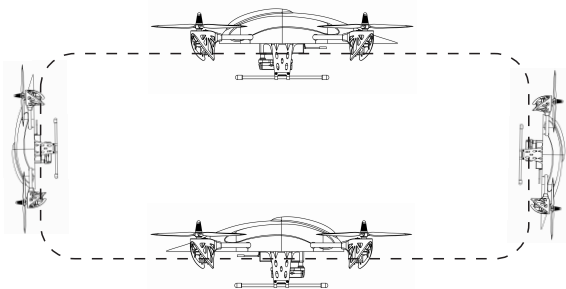
### 2.2 Practicing controlled take off and landing

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



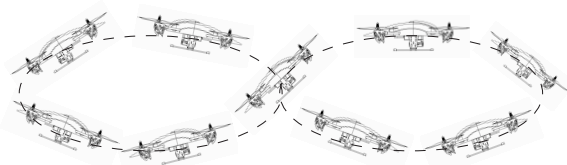
### 2.3 Practicing square flight

Take the take off 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.



### 2.4 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.



## Appendix 3 – Flight practice



## Appendix 3 – Flight practice

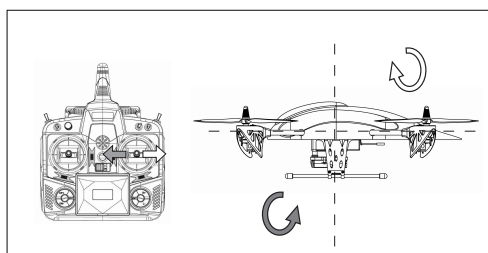
### 2.5 Roll flight practice

Brushed Hoten X can finish excited stunts actions, such as the front and back, right and left rolls.

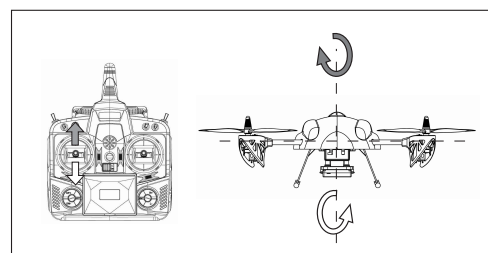
Matters need to be attention when the first flight:

- (1) Choose a spacious ground with soft grass to practice.
- (2) Select roll flight mode.
- (3) Advise beginner to increase servo distance of ELEV and AILE of the transmitter to 100%~110%. And can adjust according to personal skill level. The default setting is 100%.
- (4) Practice of throttle stick: when UFO roll from normal status, the throttle stick need to be pulled down slowly; Push up the throttle when it exchange normal status to roll. Please adjust according to personal skill level.

#### Mode 1 (throttle stick at right hand)

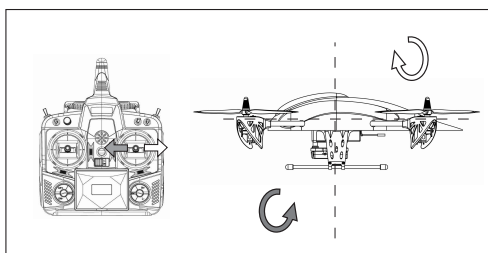


1. When moving the aileron stick left or right, the UFO accordingly rolls left or right.

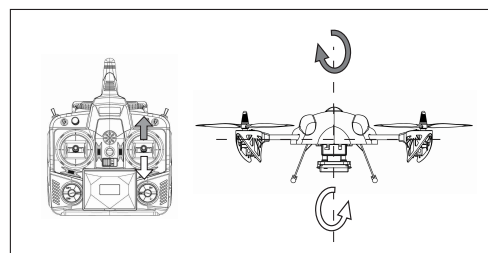


2. When moving the elevator stick up or down, the UFO accordingly rolls forward or backward.

#### Mode 2 (throttle stick at left hand)



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



2. When moving the elevator stick up or down, the UFO accordingly rolls forward or backward.

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



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