

# **User Handbook**



### Specifications:

Main Rotor Diameter A: 340mm Drive System: 130PH All-up Weight: 195g (Battery included)

Main Rotor Diameter B: 340mm Transmitter: WK-2401 Battery: 3.7V 1000mAh Li-Po

Overall Length: 348mm Receiver: RX-2401

 $Servo(4.3g): weight \ 5.2g \ / \ speed \ 0.12sec/60° \ (4.8V) \ / \ torque \ 0.7kg/cm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ x \ 22.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ (4.8V) \ / \ dimension \ 20mm \ x \ 8.5mm \ (4.8V) \ / \ dimension \ 20mm \ (4.8V) \ / \ dimension \ (4.8V) \ / \ dimension \ (4.8V)$ 

#### **Model Features:**

1). CNC-machined metal rotor head and coaxial structure.

2). 2 x 130PH brushed motors as drive are powerful and make you fly with much more enjoyment.

3). 5#10 can perform such actions as hover, flight course and turn stably for indoor entertainment.

4). Coaxial structure with emulational effect features stable flight, easy operation, and indoor entertainment.

5). High volume Lithium polymer at 3.7V 1000mAh provides 7- to 9-minute flight after fully charged, depending on your flight.

6). The usage of 2.4G technology is prompter in reaction, more sensitive in operation, and stronger in anti-interference.



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## Introduction

Thank you for your purchase of our product. In order to fly your helicopter more easily and conveniently, we kindly recommend you to read carefully the whole user handbook and keep it in a safe way as a reference book for maintenance and adjustment in the future.

## Warning

- 1. The HM 5#10 is not a toy. It is a complex combination of electronics, mechanics, and aerodynamics. It requires proper setup and fine adjustment to avoid accident. We accept no liability for damage and consequent damage arising from the use of the products, because we have no control over the way they are installed, used, and operated.
- 2. When charging the battery, do not overcharge. Overcharging may result in fire or explosion. When the battery is hot during charging, please stop charging at once. Use specified charger only. Never short circuit! The battery must be properly disposed of.
- 3. Children under 14 years old are strictly forbidden from flying the helicopter.

**Notice:** please let the motors cool 10 minutes after your helicopter flies every one of fully charged battery packs, and then continue your next flight; otherwise, the motors of your helicopter will take a high risk of burning or damage



## **Cautions**

- 1. Because the helicopter is operated by radio control, it is important to make sure you are always using fresh and/ or fully charged batteries. Never allow the batteries to run low or you could lose control of the helicopter.
- 2. Do not allow any of the electrical components to get wet. Otherwise electrical damage may occur.
- 3. You should complete a successful range check of your radio equipment prior to each new day of flying, or prior to the first flight of a new or repaired model.
- 4. If the helicopter gets dirty, don't use any solvents to clean it. Solvents will damage the plastic and composite parts.
- 5. Always turn on the transmitter before plugging in the flight battery and always unplug the flight battery before turning off the transmitter.
- 6. Never cut the receiver antenna shorter or you could lose control of the helicopter during flight.
- 7. When flying the helicopter, please make sure that the transmitter antenna is completely extended and is pointed up toward the sky, not down toward the ground.



## **Transmitter Features**

#### WK-2401 Instruction:

- 1. The usage of 2.4G technology is prompter in reaction, more sensitive in operation, and stronger in anti-interference.
- 2. The means of automatically scanning and code pairing:
- A. Push the throttle stick to the lowest position and turn on the transmitter, and then the power indicator will flash ( Note: never move any control sticks when it is flashing).
- B. The receiver LED will flash swiftly as soon as the battery is connected to the receiver, and will get a solid light 1-3 seconds later (Note: Do move the right control stick when it is having a solid light). When the power indicator of the transmitter has stopped flashing to recover to the state of power indication, the codes have been matched successfully, and you can fly the helicopter.



**Note:** It will take about 10 second for the codes to match. If the codes fail to match, please re-turn on the transmitter to match again. Please do not have the codes matched simultaneously when a few of people are flying their helicopters in the same field.

#### 4-CH Transmitter Features:

- 1. The DIP switches are available for various servos. It can perform the flight actions such as ascending, descending, forward, backward, leftward, rightward and so on.
- 2. 4-channel micro-computer as the encoder; output power: ≤ 10mW; current drain: 50mA; power source: 1.2V X 8 Ni-Cd battery ( 9.6V 600mAh) or 1.5V X 8 AA dry cell battery.
- 3. Free to switch between left-hand and right-hand throttles.

#### **Control Identification and function:**

#### MODE I - EUROPE & AUSTRALIA

- Left stick / Rudder. It controls your helicopter forward, backward, left, and right. Push up
  to fly your helicopter forward, pull down to fly backward, push leftward to fly left, and push
  rightward to fly right.
- 2. Right stick / Throttle. It controls your helicopter ascending, descending, left moving and right moving. Push up to ascend your helicopter; pull down to descend, push leftward to move your helicopter left, and push rightward to move right.

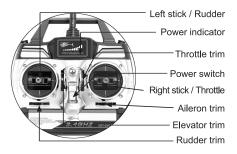
#### **MODE II - NORTH AMERICA**

- Left stick / Throttle. It controls your helicopter ascending, descending, left, and right. Push up
  to ascend your helicopter, pull down to descend, push leftward to fly left, and push rightward
  to fly right.
- 2. Right stick / Rudder. It controls your helicopter forward, backward, left moving and right moving. Push up to fly your helicopter forward, pull down to fly backward, push leftward to move your helicopter left, and push rightward to move right.
- 3. Power indicator. The indicator is consisted of three colors: red, yellow, and green. Green LED on means the electricity is enough to fly; Green LED off and yellow LED on indicate the power is not enough and stop flying; Yellow LED off and red LED on show the power is in extreme shortage, and please stop flying at once.
- **4. Elevator trim. It** controls and modifies your helicopter forward and backward. Push up to fly forward, and pull down to fly backward.
- Rudder trim. The trim controls and modifies your helicopter leftward and rightward. Move the trim left to fly leftward, and move right to fly rightward.
- **6. Throttle trim.** The throttle trim controls your helicopter to ascend and descend. Push up the trim to ascend, and pull down to descend.
- 7. Aileron trim. The aileron trim controls your helicopter leftward and rightward. Push the trim left and fly left, and push the trim rightward and fly right.
- 8. Power switch. Turn on or off the power of the transmitter. Push up the witch to turn on the power, and push down to turn off.
- 9. Antenna. Transmit the signals.
- 10. Charge jack. Charge the rechargeable battery pack at current 50mA, voltage ≤ 12V. (Notice: the charge jack is forbidden to use for non-rechargeable battery pack).
- 11. Battery box. Please note the polarities while inserting the batteries.

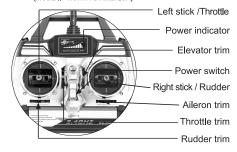
#### DIP Switches Identification (Fig. 2):

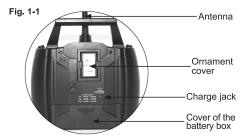
- 1. Elevator. Reverse the direction of elevator servo.
- 2. Aileron. Reverse the direction of aileron servo.
- 3. Throttle. Reverse the throttle stick direction. Note: ascertain the throttle stick to work in a correct way before flight.
- 4. Rudder. Reverse the rudder stick direction.
- 5-12. Not used.

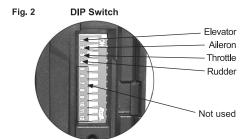
#### (MODE I - EUROPE & AUSTRALIA)



#### (MODE II - NORTH & AMERICA)







#### The Factory Default Settings:

CHANNEL	ON/OFF	
1	ON	
2	ON	
3	OFF	
4	OFF	
5-12	NOT USED	



### **Receiver Identification**

#### Receiver Identification (Fig. 3):

- 1. Elevator servo. Connect to the elevator servo.
- 2. Aileron servo. Connect to the aileron servo.
- 3. Power cable. Connect to the battery.
- 4. Front motor. Connect to the front motor.
- 5. Back motor. Connect to the back motor.
- Gyro sensitivity adjustment (SENSITIVE). Adjust the sensitivity according to the flight performance. Clockwise adjustment increases the sensitivity and counterclockwise adjustment decreases the sensitivity.
- 7. Servo extent adjustment (EXTENT). EXTENT knob is used to set up the servo travel. Clockwise adjustment increases the servo travel, and counterclockwise adjustment decreases the servo travel.
- 8. LED. LED indicates the receiving status. Quick flash means the signal is being received; LED on means the signal has been received; slow flash means the signal fails to be received.

# Switch Between Model I and Model II Throttles

Remove the battery pack and the 4 fixing screws in the back cover of your WK-2401, and take off the back cover (Note: don't break cables inside). Unscrew the fixing screw of linkage using cross screwdriver and fix the linkage of another side using the screw. And then remove the throttle arresting spring to fix in your expecting side. In this way, physical refit has been finished (Fig. 4).

# Fig. 3 SENSITIVE LOW MOT. SOUTH TO LOW MOT. SOUT

Fig. 4

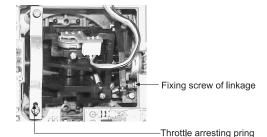


Fig. 4-1



Throttle DIP Switch (switching to left end fits Model I throttle control; switching to right end fits Model II throttle control).

## **Battery Mounting and Adjustment**

- **1. Battery pack mounting.** Place the battery pack in the correct position of your helicopter (Fig. 5).
- 2. CG balance. Put your helicopter in a horizontal ground and make the flybar vertical to the tail truss of your helicopter. Lift your helicopter using your index fingers to support the two sides of flybar, and check the balance. The tail truss should be level with the ground. If it is not, move the battery pack backwards or forwards to balance. Always check the Center of Gravity (CG) with the battery pack and canopy installed (Fig. 6).

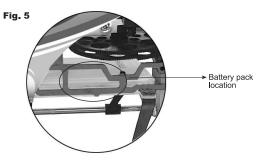


Fig. 6

Flybar

Tail truss



## **Swashplate Adjustment**

- 1. Swashplate inspection. Pull down the throttle stick and throttle trim to the lowest position, and put the elevator trim and aileron trim in the neutral position (Fig. 1). Then turn on the transmitter and then connect the helicopter power cable. Check whether or not the swashplate is in a horizontal level after the reposition of elevator, and aileron servos.
- 2. Swashplate adjustment. If the swashplate is not horizontal, you can adjust through the following two steps: ① elevator and aileron adjustment. Reconnect to the battery pack and await the reposition of elevator and aileron, adjust the servo bellcrank to horizontal level. ② servo linkage rod adjustment. Adjust the length of servo linkage rod and make the swashplate horizontal (Fig. 7).

# Fixing screw Fixing screw Horizontal level of the swashplate Servo linkage rod

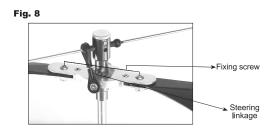
Fig. 7

## **Main Rotor Blade Adjustment**

- **1. Main rotor blade inspection.** ① check whether the fixing screws of main rotor blade are too loose or tight. ② check the tracking problem.
- **2. Main rotor blade adjustment.** ① If the fixing screws are too loose, tighten to some extent; otherwise, unscrew to some extent. ② If there exists tracking problem, lengthen or shorten the steering linkage (Fig. 8).

**Note:** when inspecting the main rotor blades, please enter the Adjustment Mode. Below are the detailed adjustment steps:

- 1. Put the Throttle Stick at the top position.
- 2. Turn on the transmitter power, plug in your helicopter power, and begin to automatically match the pair code.
- 3. Enter the Adjustment Mode as well as the pairing code is finished. After the adjustment is finished in the Adjustment Mode, please turn off the power of your transmitter and helicopter, and then re-pair code (it is unnecessary to put the Throttle Stick at the top position at this step). Your helicopter is ready to fly now.





## Flight Mode

Normal Mode	(MODE I - EUROPE & AUSTRALIA)	MODE II - NORTH AMERICA	
ascending			throttle pushing up
descending			throttle pulling down
head turning left			rudder stick moving left
head turning right			rudder stick moving right
head forward			elevator stick pushing up
head backward			elevator stick pulling down
helicopter moving left			aileron stick moving left
helicopter moving right			aileron stick moving right

