

# *PILOTS **HANDBOOK***

*READ BEFORE FLIGHT*



[www.happy-fly.cn](http://www.happy-fly.cn)

The specifications of the r/c aircraft may be altered without notice.  
This handbook is suitable for Model No.101 and Model No.102



**100%** READY TO FLY  
**4CHANNEL R/C HELICOPTER**

*Happy Fly*



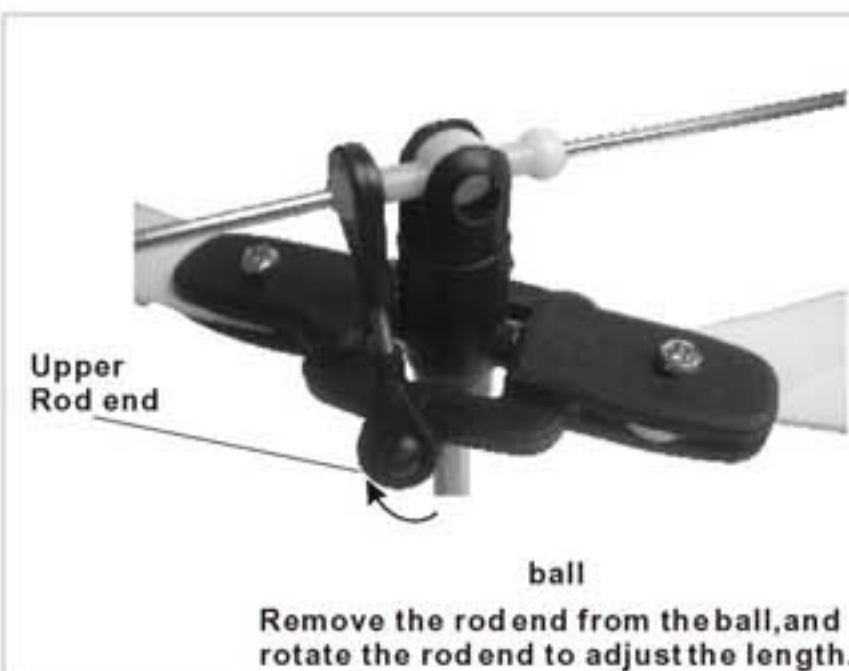
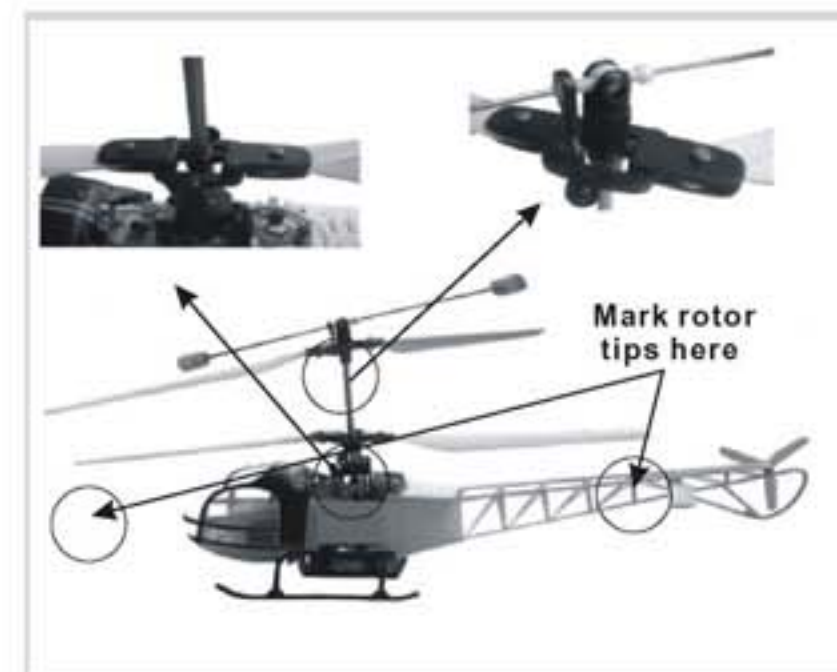


## The parts of Model No.101

|   |   |  |  |
|---|---|--|--|
| <b>HF-101#P001</b><br>Transmitter<br>          | <b>HF-101#P002</b><br>Canopy<br>                 | <b>HF-101#P003</b><br>Stabilizer pole Assembly<br>         | <b>HF-101#P004</b><br>Main Shaft Assembly<br> |
| <b>HF-101#P005</b><br>Main Blades<br>          | <b>HF-101#P006</b><br>Main Frame Assembly<br>    | <b>HF-101#P007</b><br>Skid and battery holder Assembly<br> | <b>HF-101#P008</b><br>Tail Truss Assembly<br> |
| <b>HF-101#P009</b><br>Cross Shape Holder<br> | <b>HF-101#P010</b><br>Swash Plate Assembly<br> | <b>HF-101#P011</b><br>Blade Holder<br>                   | <b>HF-101#P012</b><br>Push Rods<br>         |
| <b>HF-101#P013</b><br>Pivot Balls<br>        | <b>HF-101#P014</b><br>Bearings<br>             | <b>HF-101#P015</b><br>Main Rotor Gears<br>               | <b>HF-101#P016</b><br>Servos<br>            |
| <b>HF-101#P017</b><br>Motors<br>             | <b>HF-101#P018</b><br>Battery<br>              | <b>HF-101#P019</b><br>Charger<br>                        | <b>HF-101#P020</b><br>Receiver<br>          |

## Adjustments

Although your helicopter comes from the factory tuned to fly .It could be jostled in transport ,while opening the packing ,or as a result of a crash, and certain minor adjustments may be required .First , it's important to make sure that both sides of upper and lower main blades are spinning at the same height .To begin ,make sure the blades are set up exactly as shown below ,pay careful attention to the location of the rod ends. Next, mark the tip of one blade with a dot of white paint as indicated below. This will make it easier to determine if one blade is higher than other. Next, firmly hold the helicopter at eye-level. Making sure the rotors are clear of obstruction and add just a slight bit of throttle ,but not enough to fly .If the white dot appears higher or lower than the non-dotted side, minor adjustment are necessary .



If the marked side appears higher when rotating , the rod end needs to be lengthened .To do this , remove the rod end from the ball ,work in 180° angle increments ( half turns ) until it is parallel when rotating ,do the same thing ,but turn it to the right.

### NOTE:

make sure the rod ends are mounted at a 40°-50° angle to each other or the stabilizer will not operate properly and the helicopter may crash.



If a blade is damaged, adjustment may not be possible, If in this case , immediately replace it with a new blade .





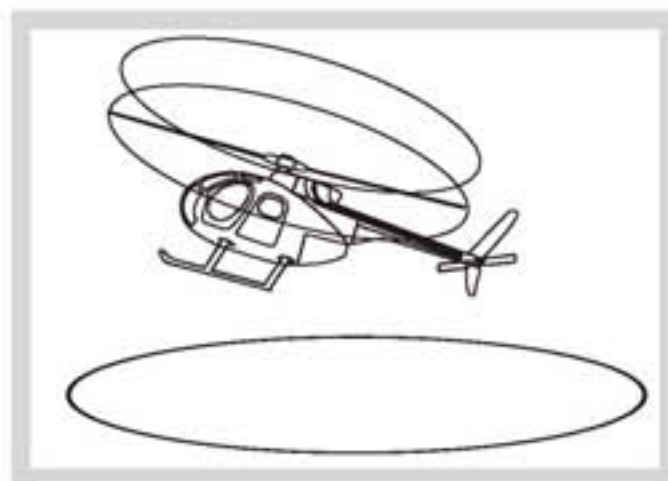
### ● 3 .Elevator/Aileron Practice

Slowly raise the throttle /rudder stick until your helicopter is about 2 feet in the air and hold it here. Then ,slowly move to the Elevator/Aileron stick forward. Your helicopter should move forward .Release the stick and it should come to a stop. Pull the stick back and the helicopter should move backward .To practice Aileron, push the stick left or right. and the helicopter will move left or right respectively ,remember ,you only need small movement of the stick .

Suddenly or extreme movement may cause your helicopter to become unstable , should you feel about to happen . quickly lower throttle to off. If at any time your helicopter shows signs of tipping or you become disoriented, quickly lower the throttle to off.

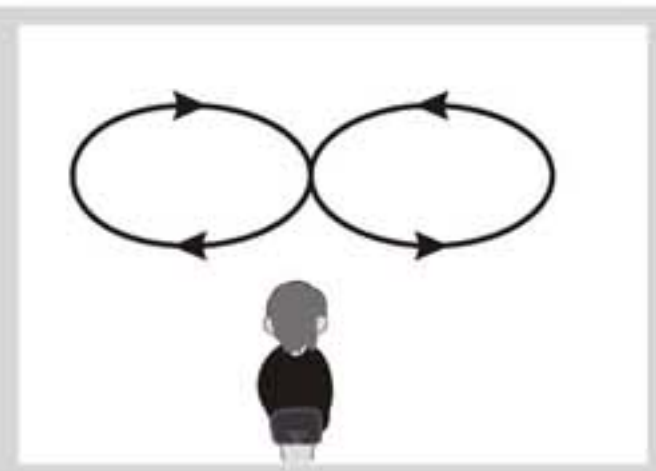
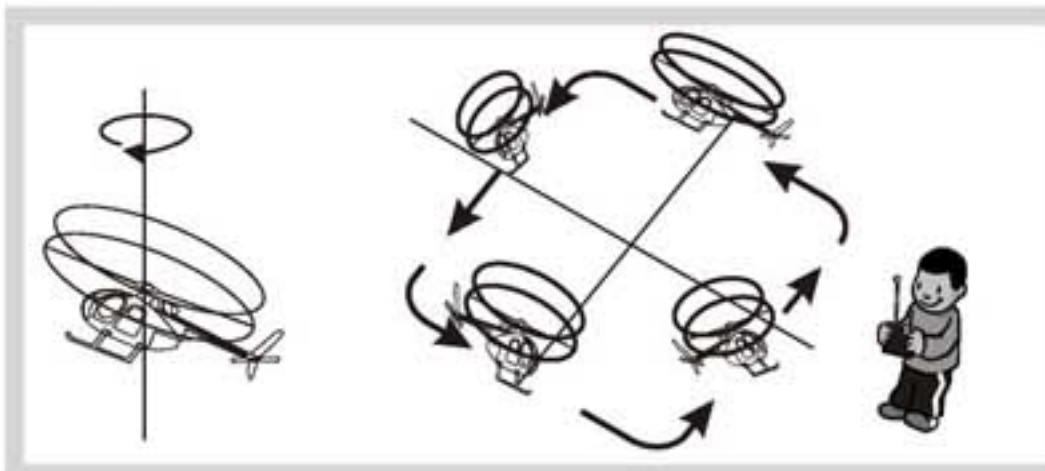
### ● 4. Hovering Practice

Now that you have learned some of basics, draw a circle on the ground and practice moving or hovering within the circle. Next , repeat this exercise while standing beside the helicopter and then when in front of it , if at any time your helicopter shows signs of tipping or you become disoriented, quickly lower the throttle to off.



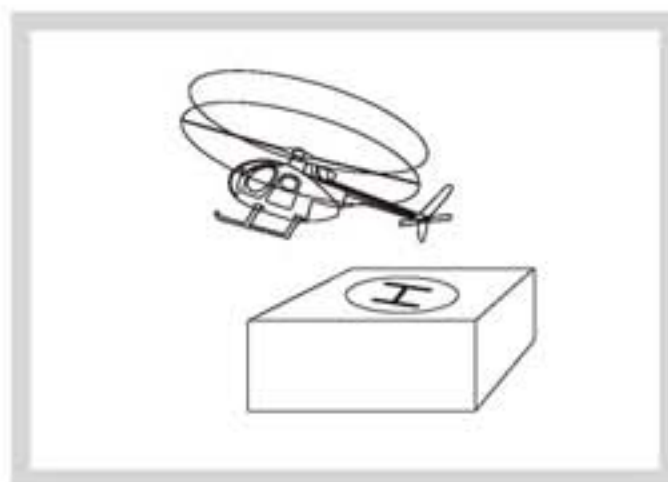
### ● 5. Practice Patterns

Once you have succeeded in hovering, try flying in patterns. Begin with a square . Then move to a circle and then to a figure 8 .If at any time your helicopter shows signs of tipping or you become disoriented ,quickly lower the throttle to off .



### ● 6. Landing Practice

Next ,mark a spot on the floor and practice landing on it.



### Trim Adjustments

Before your first flight , make sure your trim levers are in the middle position

1.If your rotors start to spin without adding any throttle or if they do not spin when you adding throttle ,your throttle trim need to be adjusted. If the rotors start without any throttle .Slide the throttle trim back ( down ) until they stop .If they do not spin, even when you add throttle, you should slide the throttle trim forward ( up ) until the blade start spinning when the throttle is pushed.



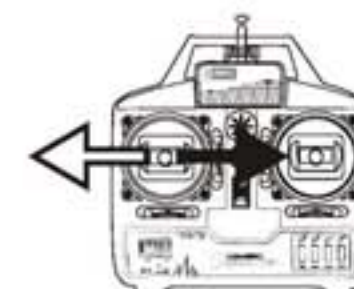
#### 1.Throttle Trim



↑ Increase Trim  
↓ Decrease Trim

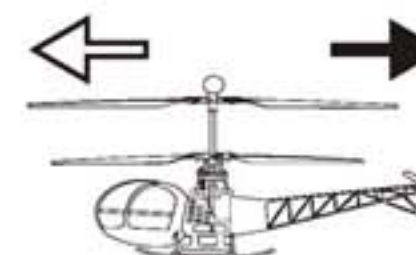
2.If your helicopter begins to rotate when no rudder is being added, you will need to adjust the rudder trim. If it rotates to the left , ( clockwise ) slide the rudder trim lever to the right until it stops. If it rotates to the right, ( clockwise ) slide the rudder trim lever to the left until it stops.

#### 2.Rudder



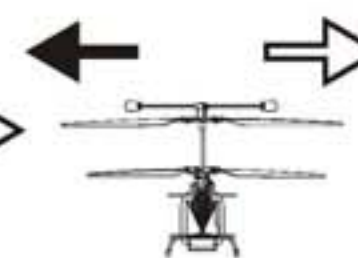
3. If your helicopter begins to move forward or backward when no elevator is being added, you will need to adjust the elevator trim lever. If it moves forward, slide the trim lever back (down) until it stops. If it moves backward , slide the trim lever forward (up) until it stops.

#### 3.Elevator



4.If your helicopter begins to move left or right when no aileron is being added, you will need to adjust the left/ right aileron trim lever until it stops. If it moves right , slide the trim lever to the left until it stops.

#### 4.Aileron



#### Replacing a Blade

If a blade becomes damaged, it can easily be replaced. Simply use a screw driver to loosen the screw and remove the damaged blade. Slide the new blade into place and reattach the screw .Retighten the blade so that it can be moved easily by hand .Always make sure the blade is not upside down and that you have the correct blade attached. The upper and lower blades have different shapes .If they are incorrectly installed , your helicopter will not fly.

#### Note :

Rotor-blades must not be over tightened in rotor-head and must be left to move freely with slight resistance.





### Control Your Helicopter

#### Flying basics

1. Attach and fully extend the radio control transmitter antenna.
2. Make sure the throttle / aileron stick is in the fully down position, then switch on the radio control transmitter.  
The power indicate lights on the transmitter will glow to indicate power level .The lights will go out as battery power is used. Never attempt to fly if the level gets down to red or is not glowing at all.
3. Plug in the Li-Po battery ; slide the switch on the helicopter to the "On" position .Always switch on the transmitter before you switch on the helicopter.



4. As the helicopter lifts off, it may be shaky .Allow the helicopter to stabilize before attempting to turn .Trying to turn while your helicopter is unbalanced will make it difficult to control and may lead to crash .
5. You determine how high your helicopter will fly with the proportional throttle . The further forward you slide the throttle / aileron stick , and the higher your helicopter will fly.
6. Pushing your throttle / aileron stick left and right will cause your helicopter to rotate in place .To understand this movement ,imagine your helicopter is suspended from the ceiling by a string attached to the main shaft and you gently pressed the tail left or right .It would remain in the same location ,but rotate around the place where the string is connected .
7. Move your helicopter by using the directional control stick , also known as the roll stick .Press the stick forward to move forward ,back to move backward ,left to move left ,right to move right .Be careful not to turn too much . Small stick movement should be all you need to move your helicopter in a stable flight pattern .  
Note :Any wind will make your helicopter move , so be ready to correct.
8. Helicopter average flight time on a full charge is between 8-12 minutes.

#### How to land

1. Find a level and preferably soft area to land .Although build to be incredibly tough ,your helicopter may be damage by harsh landing.
2. To land ,slowly ease off on the throttle control until your helicopter start to slowly descend .Do not ease off too much or the rotor will stop and your helicopter may crash .

#### How to flight

Just like riding a bike or playing baseball ,learn to fly your helicopter starts with basics .All flight maneuvers are made up of combinations of the basics .

#### ● 1. Throttle Control Practice

Gently push up the throttle until the skids just leave the floor ,and then slowly back off the throttle until your helicopter lands . Do not make abrupt throttle movements . Practice this until your are comfortable and then fly doing the same thing , but take your helicopter up to 10-20 inches .

#### ● 2. Rudder Control Practice

Slowly raise the throttle/rudder stick until your helicopter is about 2 feet in the air and hold it here . Next , slowly move the throttle /rudder stick to the left and see your helicopter rotates to the left .Then repeat the procedure , but rotate it to right ,If at any time your helicopter shows signs of tipping or you become disoriented ,quickly lower the throttle to off .Crashing straight down without power from this level is safer than crashing while the engines are will spinning the blades .

|          |  | Contoller/Mode 1 | Contoller/Mode 2 |
|----------|--|------------------|------------------|
| Throttle |  |                  |                  |
| Rudder   |  |                  |                  |
| Elevator |  |                  |                  |
| Aileron  |  |                  |                  |

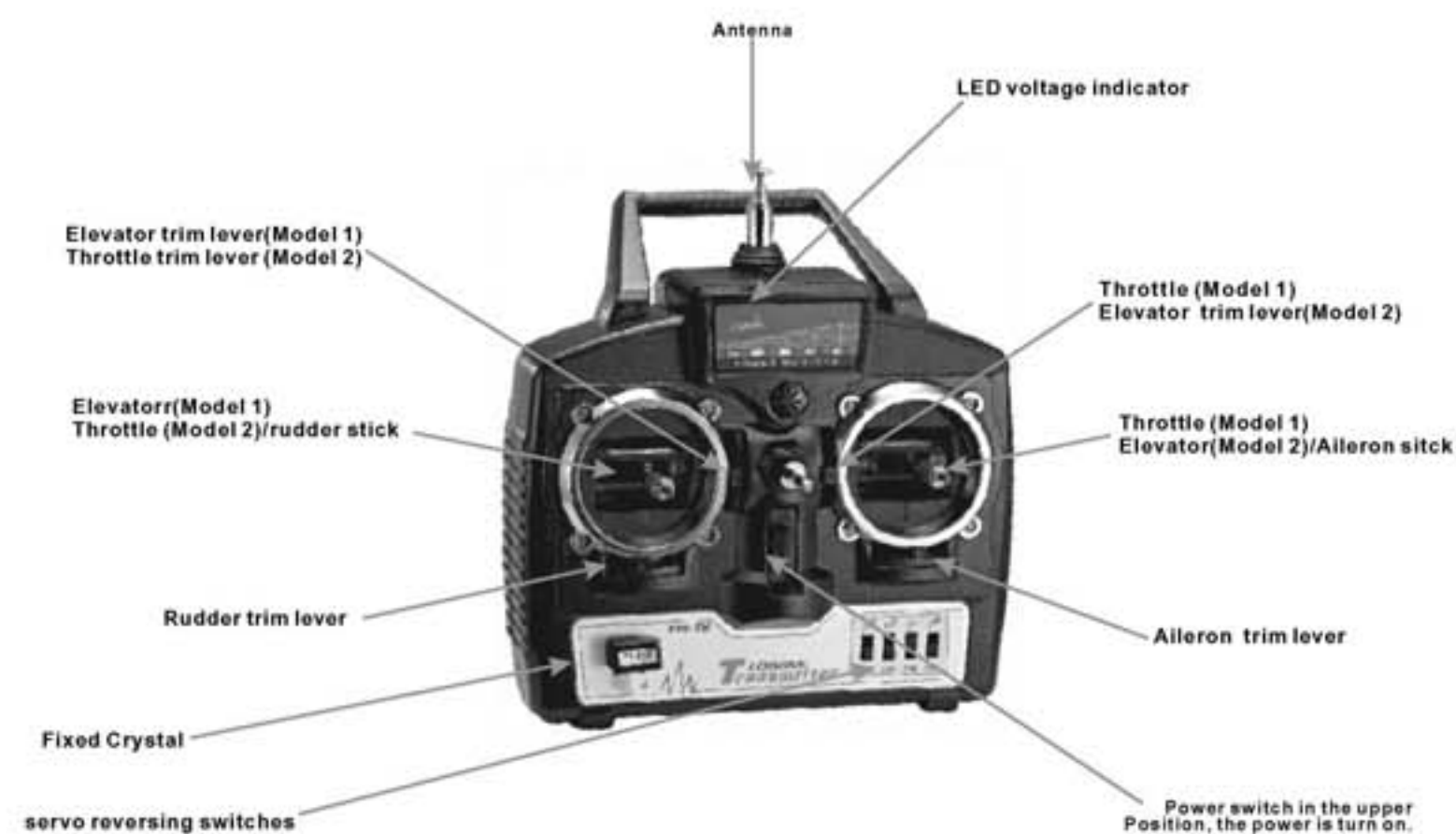




## Picture



## Transmitter position name



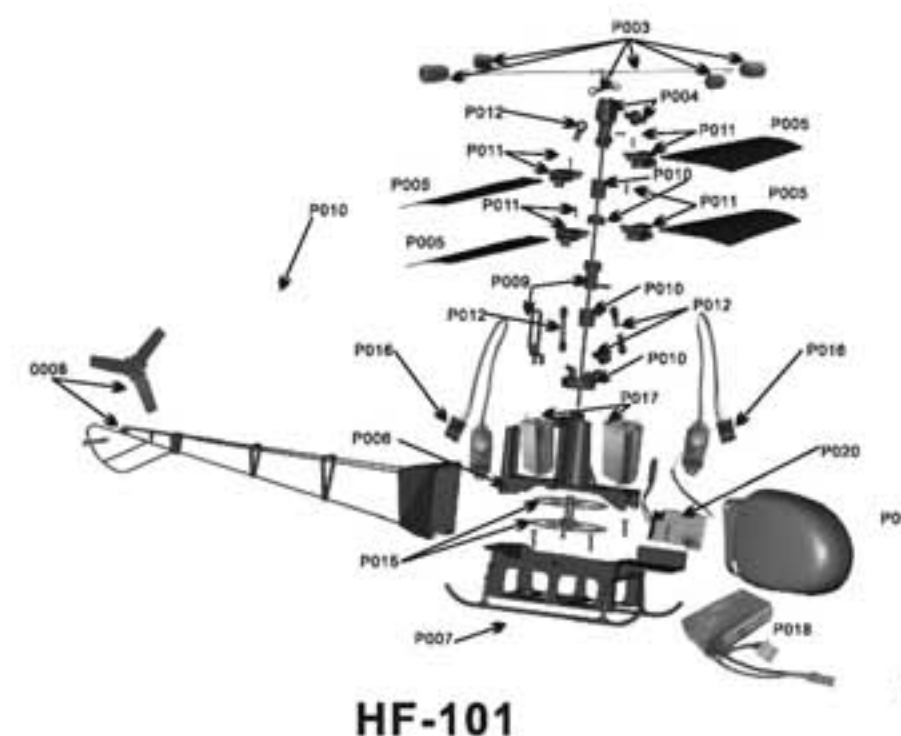
**Warning:**  
The crystal is fixed and cannot be accessible to the end user!

## Assembling Section

The Happy Fly helicopter is a Ready- to-Fly electric helicopter. You only need to install batteries in the transmitter, charge the Lithium Polymer ( Li po ) battery and attach the stabilizer pole. Please make sure the battery pack has been fully charged before you install it.

Most parts in the kit are packed according to assembly steps .The part number and quantity contained in each step are always shown in the box on the each page. Do not open all bags at once .Open on the bag that is needed for the current assembly step.

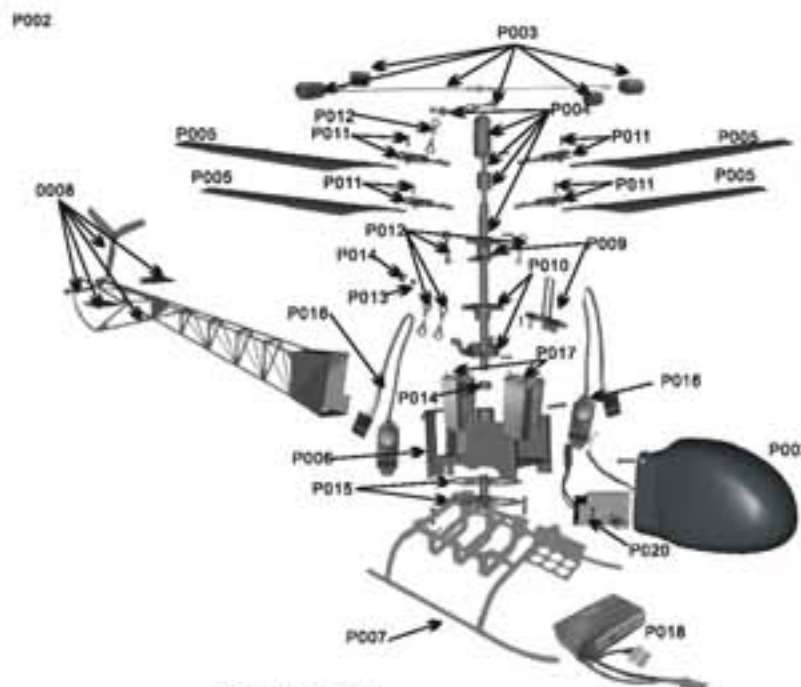
## Exploded View



HF-101



HF-102



HF-102





## Cautions!

01. 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.
02. Do not allow any of the electrical components to get wet, otherwise electrical damage may occur.
03. 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 new or repaired model.
04. If the helicopter gets dirty, don't use any solvents to clean it. Solvents will damage the plastic and composite parts.
05. Always turn on the transmitter before plugging in the flight battery and always unplug the flight battery before turning off the transmitter.
06. Never cut the receiver antenna shorter or you could lose control of the helicopter during flight.
07. 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.
08. Since the helicopter flies very fast, it may cause danger, please choose the place without people surrounded, without building, without high voltage cables or few trees when flying, so as to ensure the safety of yourself and others.
09. Before flying, check to make sure that no one else is operating on the same frequency, otherwise may cause interference.
10. Do not fly in bad weather such as the rainy and the thundering to assure the safety of yourself.
11. Don't touch the helicopter when the main blade and the tail blade were running, keep it away from other things to avoid danger and damage.
12. Generally, R/C models are mainly made up of PVC or polystyrene, put it away from the heat source, to keep it from distortion and melting caused by high temperature.
13. Never move the helicopter during the process of calibration, during the calibration, the light display the blinking or steady red, when the light turns steady green, the helicopter is finished calibration and is ready for flight.

## Don't fly helicopter at the places with these signs



## The parts of Model No.102

|   |   |   |  |
|---|---|---|--|
| <b>HF-102#P001</b><br>Transmitter<br>          | <b>HF-102#P002</b><br>Canopy<br>                 | <b>HF-102#P003</b><br>Stabilizer pole Assembly<br>         | <b>HF-102#P004</b><br>Main Shaft Assembly<br> |
| <b>HF-102#P005</b><br>Main Blades<br>          | <b>HF-102#P006</b><br>Main Frame Assembly<br>    | <b>HF-102#P007</b><br>Skid and battery holder Assembly<br> | <b>HF-102#P008</b><br>Tail Truss Assembly<br> |
| <b>HF-102#P009</b><br>Cross Shape Holder<br> | <b>HF-102#P010</b><br>Swash Plate Assembly<br> | <b>HF-102#P011</b><br>Blade Holder<br>                   | <b>HF-102#P012</b><br>Push Rods<br>         |
| <b>HF-102#P013</b><br>Pivot Balls<br>        | <b>HF-102#P014</b><br>Bearings<br>             | <b>HF-102#P015</b><br>Main Rotor Gears<br>               | <b>HF-102#P016</b><br>Servos<br>            |
| <b>HF-102#P017</b><br>Motors<br>             | <b>HF-102#P018</b><br>Battery<br>              | <b>HF-102#P019</b><br>Charger<br><br>HF-102#P019A        | <b>HF-102#P020</b><br>Receiver<br>          |





## Specifications

| Model                                | HF-101            | HF-102            |
|--------------------------------------|-------------------|-------------------|
| Main Rotor Diameter                  | 268 mm            | 340 mm            |
| Tail Rotor Diameter                  | 268 mm            | 340 mm            |
| Overall Length                       | 203 mm            | 425 mm            |
| All-up Weight (Battery not included) | 88 g              | 188g              |
| Drive System                         | 2 XN30            | 2 X180 SD         |
| Transmitter                          | 4CH               | 4CH               |
| Receiver                             | 3-in-1 receiver   | 3-in-1 receiver   |
| Gyro                                 | Built-in          | Built-in          |
| Battery                              |                   |                   |
| Model                                | Li-Po 7.4V 450mAh | Li-Po 7.4V 850mAh |
| Weight                               | 28 g              | 47g               |
| Servo                                |                   |                   |
| Weight                               | 5.5g              | 8.2g              |
| Speed                                | 0.11 sec/60°      | 0.11 sec/60°      |
| Torque                               | 0.5kg/cm          | 0.9kg/cm          |
| Dimension                            | 20X8.5X22.5mm     | 22.5X11.5X24mm    |

## CHARGING(balance charger)

### ● READ THESE INSTRUCTIONS BEFORE USE

Li-Poly Batteries can be dangerous and are not for use by children without adult supervision.

Fire and/or serious injury can result in certain conditions. Follow the instructions for use carefully. Never leave unattended during charge and disconnect after charge. The battery must NOT be overcharged or overdischarged. If the battery shows any signs of damage or swelling do not use.

### ● HAPPY-FLY LI-POLY BALANCE CHARGER

This charger is only for Li-Poly type batteries and must not be used on Nicads, NiMh or other types of battery. Do NOT allow Li-Poly battery to over heat.

Do NOT charge or discharge on or near combustible materials.  
Never leave the cell unattended during charging or discharging.  
Keep the charger and battery away from children.  
Use ONLY indoors in dry conditions.

Risk of electric shock.

### ● LI-PO BATTERY

Always charge with HappyFly Li-Poly Balance Charger.

Never charge the Li-Po batteries with a charger designed for other types of battery.

Do not alter or modify wiring or connectors in any way.

Do NOT allow cells to overheat. Cells which greater than 140degF or 60degC will usually become damaged and could catch fire.

Do NOT charge or discharge on or near combustible materials.

Do NOT expose battery to water or moisture at any time.

Never leave the cell unattended during charging or discharging.

Do NOT allow the battery electrolyte to get into eyes or on skin.

### ● INSTRUCTIONS FOR CHARGING

Read and understand the warnings above before charging.

Connect the charger to the mains supply POWER = ON RED

Connect Li-Poly Battery white plug to the 7.4V socket CHARGE = ON FLASHING RED

Charge complete - CHARGE = GREEN plus audio BEEP

Connect to the helicopter, after switching the transmitter on, with the RED plug.





## FAQS and The Solutions

| PROBLEMS  | POSSIBLE REASONS   | SOLUTIONS   |
|---|--|---|
| ● The helicopter can not move                     | <ul style="list-style-type: none"> <li>● The battery do not installed</li> <li>● Receiver do not receive the signal</li> <li>● The battery out of juice and in the self protect station</li> </ul> | <ul style="list-style-type: none"> <li>● Make sure the battery are installed</li> <li>● Be sure the transmitter is on ,and the frequency of the receiver as the same as the transmitter.</li> <li>● Charge fully</li> </ul> |
| ● The servos work, the motor do not work          | <ul style="list-style-type: none"> <li>● Motor maybe broken</li> <li>● Motor maybe too hot</li> </ul>  | <ul style="list-style-type: none"> <li>● Replace the motor</li> <li>● Let the motor have a break</li> </ul>   |
| ● Helicopter out of control , flying out of order | <ul style="list-style-type: none"> <li>● When flying the wind is too heavy</li> <li>● The servos do not adjust</li> </ul>  | <ul style="list-style-type: none"> <li>● Do not play in a heavy wind ,and close the windows while play in-door</li> <li>● Adjust the servos.</li> </ul>   |
| ● Can not fly high                                | <ul style="list-style-type: none"> <li>● The battery is power off or broken</li> <li>● The motor is too hot</li> </ul>   | <ul style="list-style-type: none"> <li>● Let the motor have a break</li> <li>● Replace the motor.</li> <li>● Charge fully</li> <li>● Replace the battery</li> </ul>   |

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## Charging(common charger)

Charging battery should be part of your procedure for flight. It is recommended that you completely discharge the battery during the install test flight before following the charging guide as below.

Note :

Do not leave the charger and battery unattended during the charging ,also please keep away from the combustibles. During the charging process ,you can determine whether the battery is fully charged as follow:

1. Voltage measurement :  
Use a voltage indicator , this is the best way
2. Temperature :  
When charging ,examine the temperature of the battery all the time .When temperature of the battery is rising , it shows that the charging close to finish .Please turn off the charger.
3. Calculation of the charging time  
Charging time =capacity of battery /charging current

## About the lithium polymer battery

Using happy-fly's Li-Po battery to fly your helicopter is your best choice. The Li-Po battery will improve flight performance and flight time , which is longer than Ni-Mh battery . With Li-Po battery , your helicopter will do the best performance .

1. steady red, it has been charged completely.
2. when it displays red and green ,it is charging .
3. In order to charge safely and quickly ,please use the happy-fly charger.
4. Fire and/or serious injury can result under certain conditions. Follow all instruction for use . Never leave equipment unattended while charging.
5. Please keep away from the combustibles.



## Introduction

Thank you for choosing Happy Fly products. The R/C helicopter is an outstanding Ready-To-Fly electric helicopter for indoor and outdoor on calm days. The size and the stability of the Happy Fly makes this model an ideal training helicopter, at about HF-101 88g ,HF-102 188g , the R/C helicopter will fly 8-12 minutes on the HF-101 7.4V 450 mAh , HF-102 850 mAh Li po battery, depending on the type of flight. Although the Happy Fly is not difficult to operate, we recommend that you read the manual thoroughly and carefully before assembling and operating the helicopter. You can also ask for assistance from your hobby shop staff or join located model flying club. Be sure to keep the manual properly for future reference of adjustment or amendment.

## Model Features

1. Coaxial structure, The auto control of built-in gyro assure your helicopter flying stable and easy to control. It would be your best choice. no matter you are a beginner or a hell fun.
2. Emulation design according to true helicopter ,you can feel the flight of helicopter is of emulational effect.
3. High performance motors as drive is powerful and suitable for various flight course .
4. Built-in standard gyro ,assure the flight more accurate.
5. Integration circuit board , the weight is reduced and assure the flight more reliable.
6. 3-in-1 receiving circuit , is capable of servo extent adjustment and built-in gyro sensitivity adjustment , offers you with customized and parameter adjustment
7. The helicopter will fly 8-12 minutes on Li-Po battery pack .

## Warning!

1. The R / C model is not a toy .It is a precision machine requiring proper assembly and setup to avoid the accidents . It is the responsibility of the owner to operate this product in a safe manner as it can cause serious personal injury and damage to property due to carelessness or misuse. Manufacturer and its distributors are not responsible in any way for any and all bodily injury ( s ) and / or property damage that may occur from the use of or caused by in any way this product.
2. Please read the introductions carefully and thoroughly before operate the R/C model .It is not recommended for children under the age of 14 and any minor should be accompanied by an adult when flying .
3. CHOCKING HAZARD: as there are a lot of small parts , be sure the helicopter out of reach of the children under the age of 14.
4. When flying the helicopter with the high speed blades, it may cause danger , adult supervision is highly recommended. Never touch blades when they are spinning.
5. When charging the battery pack ,do not overcharge! If batteries get hot during charging ,discontinue charging immediately and disconnect the battery from the charger , Never leave battery unattended while charging . If you are unsure of how to charge this battery, please contact us or seek the advice of your local hobby shop. Never let children charge batteries without adult supervision.
6. To avoid an out of control model always turn the transmitter on first then connect the battery to the helicopter. When turning off the helicopter ,always disconnect the battery first, and then turn off the transmitter. If the orders are reversed, the helicopter may become uncontrollable and cause serious damage.
7. If you are in doubt of your ability , we strongly recommend that you seek assistance from experienced radio controlled helicopter modelers or join your local flying club to gain the required knowledge and skill .As the manufacturer and the distributor ,we assume no liability for the use of this product .
8. It is necessary to read the handbook of the helicopter before every flight ,It is mandatory to check all control systems and mechanical linkages for proper operation before every flight. Safety flight!



## **WARNING:**

- Any unauthorized adjustment on this product could result in a violation of part 95 of the FCC Rules. Please have a person certified as technically qualified to perform transmitter maintenance and repair duties in the private land mobile services and fixed services by an organization or committee representative of users of the services.
- Replacement of any transmitter component (crystal, semiconductor, etc.) could result in a violation of part 95 of the FCC Rules.
- A license may be required to operate this product in some countries. Consult about the license issue from the radiology department of the country.
- Changes or modifications to this unit not expressly approved by the party responsible for compliance will void the user's authority to operate the equipment. Any change to the equipment will void FCC grant.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## **Notes:**

The manufacturer is not responsible for and radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.