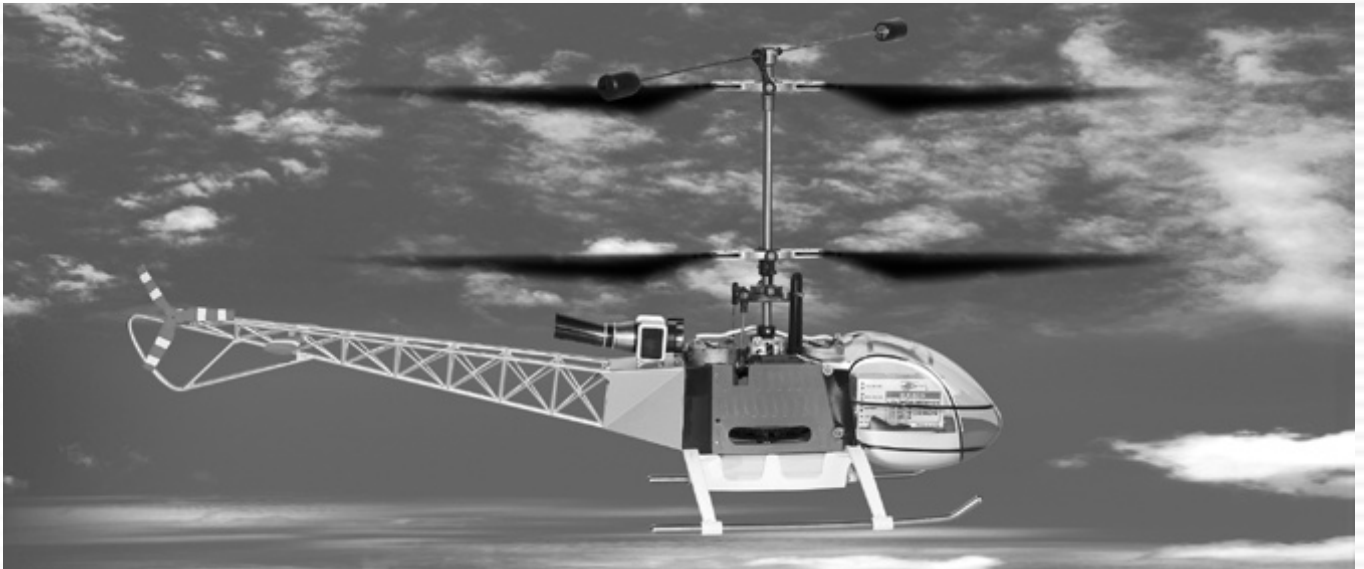


User Handbook



Specifications:

Main Rotor Diameter (Upper): 450 mm	Drive System: 2X370 SH	Transmitter: 4CH PPM
Main Rotor Diameter (Lower): 450 mm	Battery: 7.4V 1250mAh Li-Po battery	Gyro: Not used
Overall Length: 440 mm	All-up Weight: 355g (Battery included)	53#1 Receiver: RX-406
53# Receiver: 3-in-1 receiver (receiver, speed controller, gyro)		
Servo: weight 8.5g / speed 0.11sec/60° (4.8V) / torque 0.9kg/cm (4.8V) / dimension 22.5X11.5X24mm		

Features:

- 1) Coaxial structure effectively offers stable flight and easy operation. The HM 53# series is an optional model for the early beginner.
- 2) 53#1 design of metal main frame, metal swash plate and metal rotor head is of legerity, innovation, precise and stability.
- 3) The combination of prompt servos ensures various flight courses.
- 4) It is possible to adjust the servo extent and the sensitivity of built-in gyro. Customized fine adjustment makes your flight more perfect.
- 5) The high-volume 7.4V 1250mAh Li-Po battery pack. A full charged cycle will offers the HM 53# series with 10- to 14-minute flight.

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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 53# series 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 12 years old are strictly forbidden from flying the helicopter.
4. When your helicopter is running, any causes which stop the rotor blades spinning or make collision will result in serious damage or burning. Please immediately turn down the throttle stick at the lowest position!

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.

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



Transmitter Features

4-CH Transmitter features:

1. The panel is easy to operate with multistage electricity indication.
2. The shape design accords with the ergonomics.
3. 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.
4. 4-channel micro-computer as the encoder, PPM modulation, output power: ≤ 1 200mW, current drain: 1500mA; power source: Ni-Cd 1.2V X 8 Ni-Cd battery (9.6V 600mAh) or 1.5VX8AA dry cell battery.

Control Identification and Function:

MODE I - EUROPE & AUSTRALIA

1. **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.

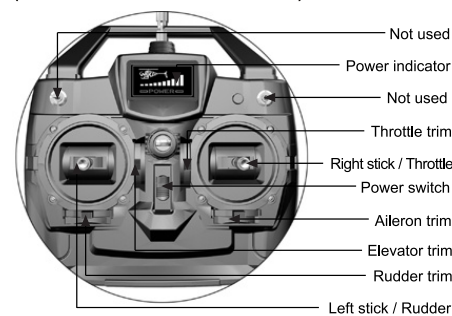
MODE II - NORTH AMERICA

1. **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 red LED on indicate the power is not enough and stop flying; Both green and red LED 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.
5. **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. **Crystal jack.** It facilitates to alter the frequency by changing the crystal oscillator.
11. **Charge jack.** Charge the battery back.
12. **Battery box.** Please note the polarities while inserting the batteries.

DIP Switch Identification (Fig. 2):

1. **Tail rotor blade.** Reverse the rudder stick direction.
2. **Flybar paddle.** Reverse the aileron servo direction.
3. **Elevator.** Reverse the elevator servo direction.
4. **Throttle.** Reverse the throttle stick direction. **Note:** ascertain the throttle stick to be worked in a correct way before flight.
- 5-8. **Not used.**

(MODE I - EUROPE & AUSTRALIA)



(MODE II - NORTH AMERICA)

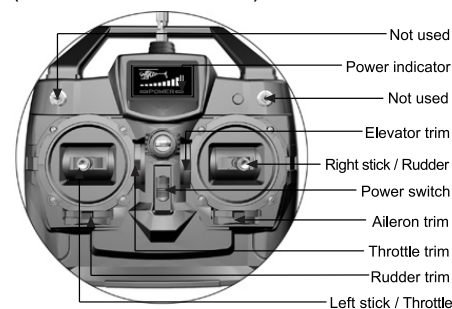


Fig. 1

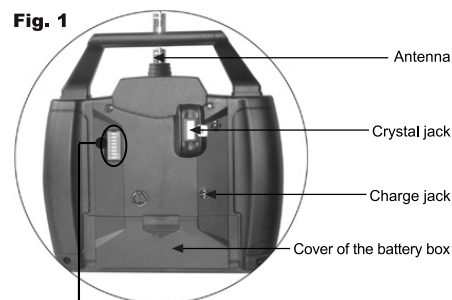
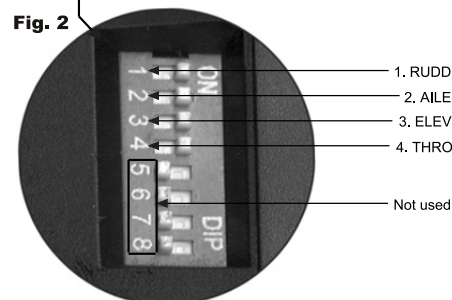


Fig. 2



53# factory default settings:

CHANNEL	ON/OFF
1	ON
2	OFF
3	ON
4	ON
5-8	NOT USED

53#1 factory default settings:

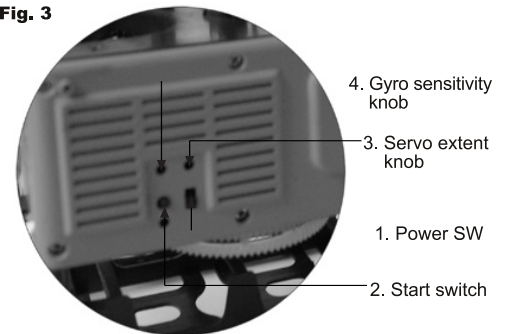
CHANNEL	ON/OFF
1	OFF
2	ON
3	ON
4	ON
5-8	NOT USED

Receiver Identification

53# Receiver Identification (Fig. 3):

1. **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.
2. **START SWITCH**, the start switch can be turned on after all the adjustments are finished.
3. **SERVO EXTENT KNOB**, set up the servo travel. Clockwise tune the knob to increase the travel, and counterclockwise tune to decrease the travel.
4. **GYRO SENSITIVITY KNOB**, adjust the sensitivity according to the hunting effect of the helicopter while flying. Clockwise tune the knob to increase the sensitivity and counterclockwise tune to decrease the sensitivity.

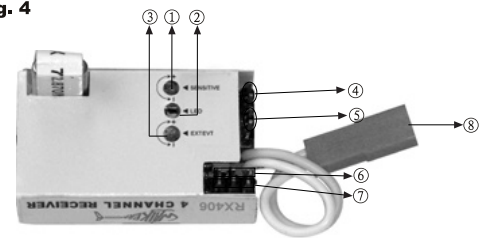
Fig. 3



53#1 Receiver Identification (Fig. 4):

1. **SENSITIVE**, gyro sensitivity knob. Adjust the sensitivity according to the hunting effect of the helicopter while flying. Clockwise tune the knob to increase the sensitivity and counterclockwise tune to decrease the sensitivity.
2. **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 failed to be received.
3. **EXTENT**, servo extent knob. Set up the servo travel. Clockwise tune the knob to increase the travel, and counterclockwise tune to decrease the travel.
4. **TAIL MO.**, connect to the tail motor.
5. **MAIN MO.**, connect to the drive motor.
6. **CH2**, connect to the aileron servo.
7. **CH1**, connect to the elevator servo.
8. **BATTERY**, connect the battery pack.

Fig. 4



- | | |
|-------------|------------|
| ① SENSITIVE | ⑤ MAIN MO. |
| ② LED | ⑥ CH2 |
| ③ EXTENT | ⑦ CH1 |
| ④ TAIL MO. | ⑧ BATTERY |

Flybar Set Assembly

1. Let the location notch of flybar block aim at the flybar, and press the flybar block till the flybar reaches the end of notch; Insert one end of the flybar through hole 1 (Fig. 6-1);
2. Let the location notch of flybar block aim at the inner location mast of flybar block sleeve, and press the flybar block along the inner location mast into the sleeve (Fig. 6-2);
3. Counterclockwise rotate 90° the flybar block sleeve (Fig. 6-2), let the hole 1 of flybar block sleeve aim at the hook of flybar, and then push the flybar block set outside and make the hook completely insert into the hole 2 (Fig. 6-3).

Note: the flybar set will be thrown off at high speed in flying when it is mounted improperly. A serious damage to people or property may be taken place.

Fig. 5



Fig. 6-1

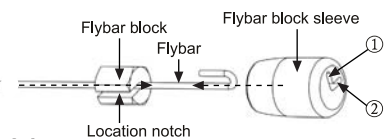


Fig. 6-2

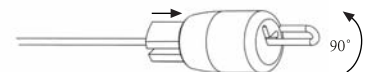


Fig. 6-3



Battery Mounting and Adjustment

- 1. Battery pack mounting.** Place the battery pack in the correct position of your helicopter (Fig. 7).
- 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. 8).

Fig. 8

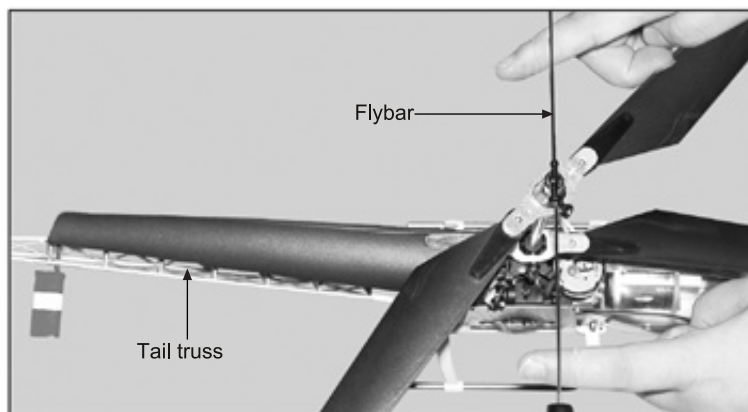


Fig. 7

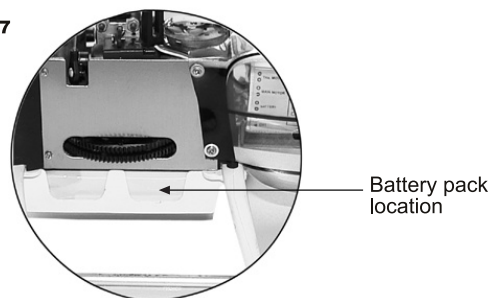


Fig. 9-1

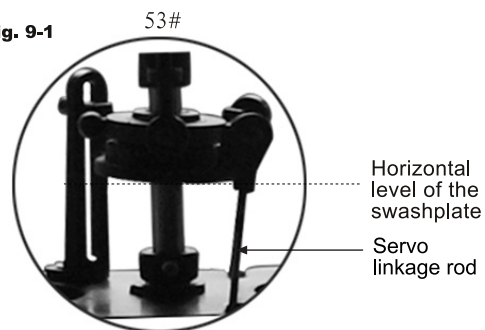
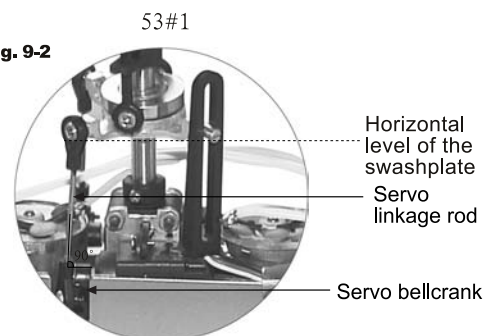


Fig. 9-2



Swashplate Adjustment

- 1. Swashplate check.** Pull down the throttle stick and throttle trim to the lowest position, and put the elevator trim and eileron trim in the neutral position. Check whether the swashplate is in a horizontal level.
- 2. Swashplate adjustment.** If the swashplate is not in a horizontal level, adjust via the following two steps: servo and servo bellcrank adjustment. Re-connect the battery cable to themotor again and await the servo reposition. After the reposition is ready, adjust the angle between the servo bellcrank and servo linkage rod at 90 degrees (Fig. 9). Servo linkage rod adjustment. Adjust the servo linkage rod to parallel to swashplate bottom level .

Fig. 10-1

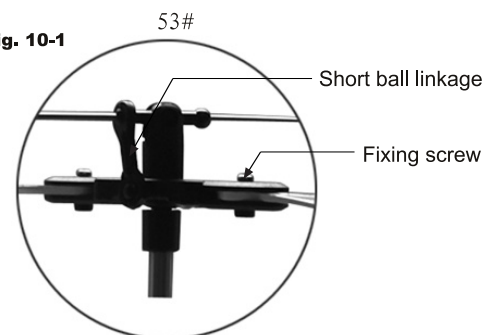
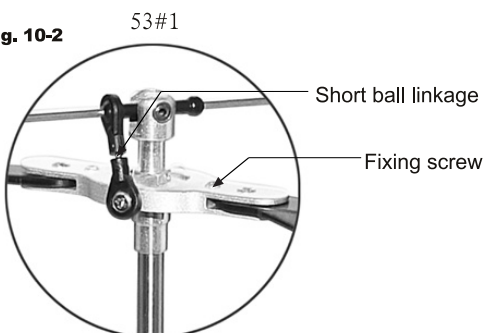


Fig. 10-2


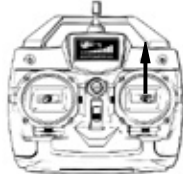

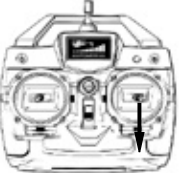
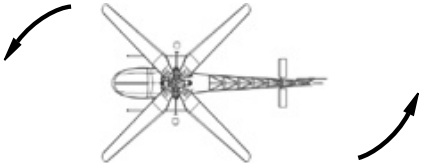
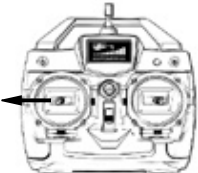
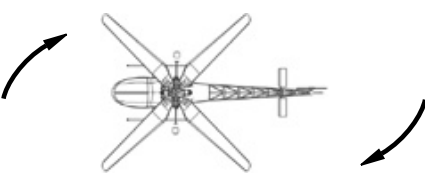

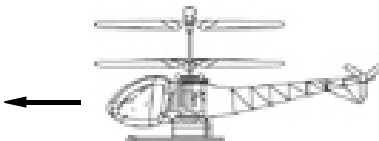
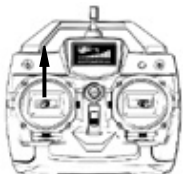

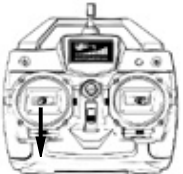



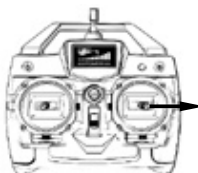


Main Rotor Blade Adjustment

- 1. Main rotor blade inspection.** (1) Inspect whether the fixing screw of the main rotor blades are too tight or loose. Extreme tightness or loosening of the blades will result in instable flight. (2) Inspect the blade tracking problem. Blade tracking will lead to instable flight.
- 2. Main rotor blade adjustment.** (1) Keep the fixing screw of the main rotor blades not too tight or too loose. (2) Lengthen or shorten the short ball linkage if the blade tracking is existed (Fig. 10).

Flight Mode

Normal Mode

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



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