

## User Handbook



**NO:35**



**NO:36**

### Specifications:

Main Rotor Diameter.: 590 mm      All-up Weight: 555 g (Battery included)  
Tail Rotor Diameter.: 115 mm      Drive System: 380 SD  
Overall Length: 630 mm      Battery: Ni-MH 12V 650mAh  
Overall Height: 145 mm

### Features:

- 1) 3D version with collective pitch structure.
- 2) Autorotation landing protection.
- 3) 380 carbon brush motor.
- 4) Tail blades driven by shaft provides stable flight and prompt reaction.
- 5) 6-channel transmitter with 3D conversion mode, PIT & PLT knobs.
- 6) Mode lock switch to free lock the parameters of PIT & PLT.

### Specifications:

Main Rotor Diameter.: 610 mm      All-up Weight: 580 g (Battery included)  
Tail Rotor Diameter.: 115 mm      Drive System: 380 SD  
Overall Length: 630 mm      Battery: Ni-MH 12V 650mAh  
Overall Height: 145 mm

### Features:

- 1) 3D version with collective pitch structure.
- 2) Autorotation landing protection.
- 3) 380 carbon brush motor.
- 4) Tail blades driven by belt provide stable flight and low noise.
- 5) 6-channel transmitter with 3D conversion mode, PIT & PLT knobs.
- 6) Mode lock switch to free lock the parameters of PIT & PLT.

# HELICOPTER

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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.

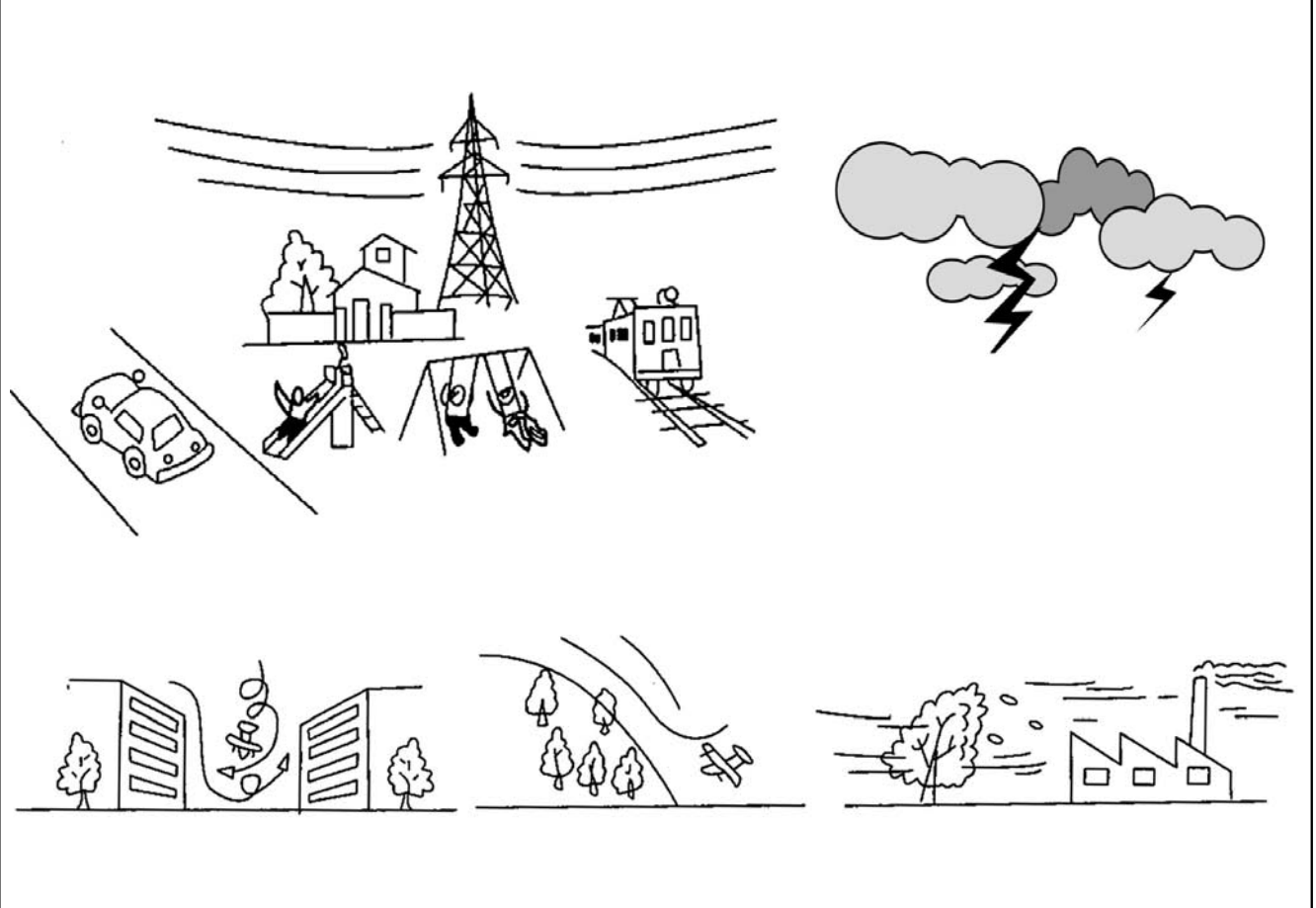
## Warning

1. The HM 35/36 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. **Attention:** the brushed motor is just suitable for Ni-MH battery pack. If a Li-Po battery is used, your helicopter may be damaged!
5. 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



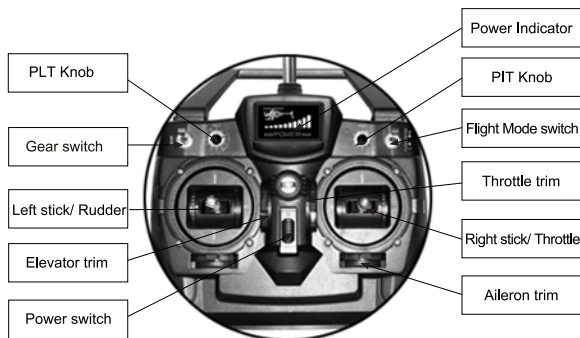
# Transmitter Features

## 6-ch Transmitter Features:

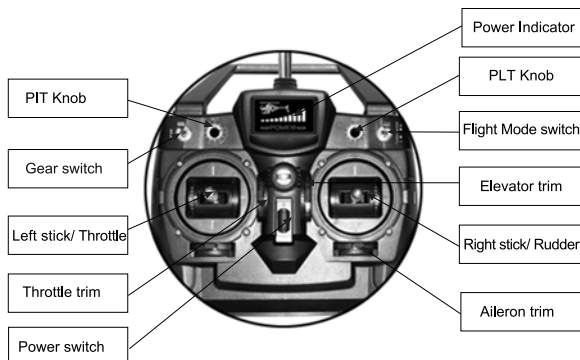
1. 3D conversion mode switch, and PIT & PLT knobs available;
2. Mode locking switch is capable of locking the adjusted PIT and PLT parameters;
3. Brand new design for the sticks and ergonomic design adopted;
4. Alteration of the frequency by changing the crystal oscillator;
5. CCPM and traditional modes freely alterable;
6. It is used for the operations of helicopter, glider and airplane.

## Control Identification and function:

(MODE I - EUROPE & AUSTRALIA)



(MODE II - NORTH AMERICA)



## 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.

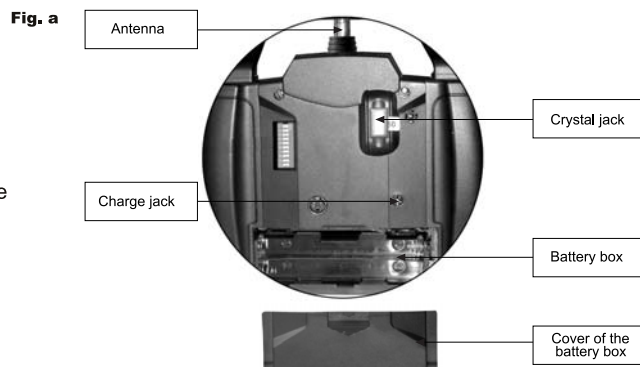
## MODE II - NORTH AMERICA

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. **Gear switch.** Convert the gear switch to fold or release the skid landing system. Switching the switch up is ON, and switching the switch down is OFF.
5. **Flight mode switch.** Convert the flight mode. Switching up is the normal flight mode, and switching down is the inverted flight mode.
6. **PLT knob.** PLT offers the function of the pitch travel adjustment. Clockwise tuning the PLT knob increases the travel, and counterclockwise decreases the travel.
7. **PIT knob.** It is used to set up the collective pitch. Clockwise tuning the PIT knob increases the size, and counterclockwise tuning decreases the size.
8. **Elevator trim.** It controls and modifies your helicopter forward and backward. Push up to fly forward, and pull down to fly backward.
9. **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.
10. **Throttle trim.** The throttle trim controls your helicopter to ascend and descend. Push up the trim to ascend, and pull down to descend.
11. **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.
12. **Power switch.** Turn on or off the power of the transmitter. Push up the switch to turn on the power, and push down to turn off.
13. **Antenna.** Transmit the signals.
14. **Crystal jack.** It facilitates to alter the frequency by changing the crystal oscillator.
15. **Charge jack.** Charge the battery back.
16. **Battery box.** Please note the polarities while inserting the batteries.
17. **Cover of the battery box.** Open the cover as the arrow direction.

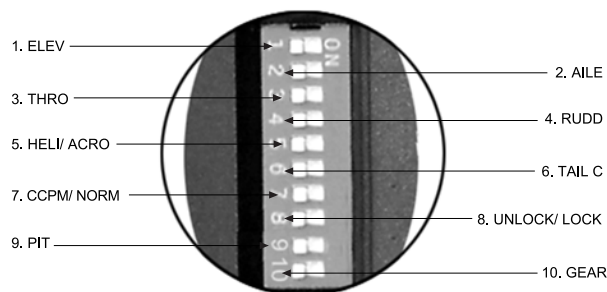
**DIP Switch Identification:**

CHANNEL	TX FUNCTION	AIRPLANE FUNCTION
1	ELEV	Elevator
2	AILE	Aileron
3	THRO	Throttle
4	RUDD	Rudder
5	HELI/ ACRO	Revolution mixing in normal mode
6	TAIL C	Revolution mixing
7	CCPM/ NORM	CCPM/ Normal mode
8	UNLOCK/ LOCK	Lock PIT and PLT knobs
9	PIT	Pitch Dual Rate switch
10	GEAR	Fold the skid landing



**The Factory Default Settings:**

Channel No.	ON/OFF	Channel No.	ON/OFF
Channel 1	OFF	Channel 6	OFF
Channel 2	OFF	Channel 7	OFF
Channel 3	OFF	Channel 8	OFF
Channel 4	OFF	Channel 9	HM35 ON HM36 OFF
Channel 5	ON	Channel 10	OFF

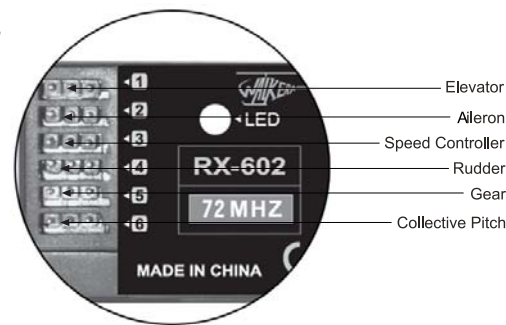


## Receiver Identification

**Receiver Identification (Fig. b):**

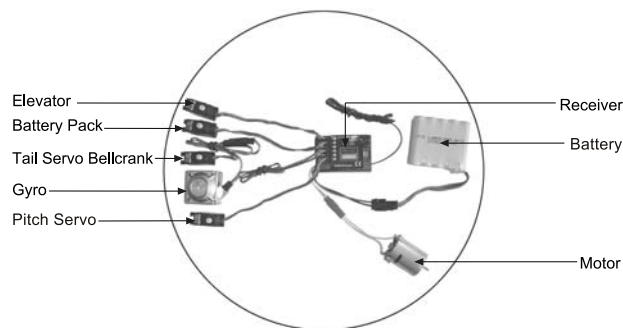
- Channel 1:** Elevator.
- Channel 2:** Aileron.
- Channel 3:** Throttle.
- Channel 4:** Rudder.
- Channel 5:** Gear.
- Channel 6:** Pitch.

Fig. b



**Note:**

- The crystal oscillator of the receiver may fall off from the main frame of your helicopter due to the vibration during flight. Please fix the crystal oscillator with adhesive tape.
- After the servos are adjusted, please keep their bellcranks away from each other and avoid colliding.
- Please keep all the cables away from the spinning parts.
- Please check whether all the spinning parts are mounted and worked in a correct way before flight.



## Collective Pitch Adjustment

The collective pitch of the helicopter is adjustable to control over the vertical flight status such as ascending and descending. Therefore, it is a must to fine adjust the collective pitch before flight. Below are the concrete adjustment manners:

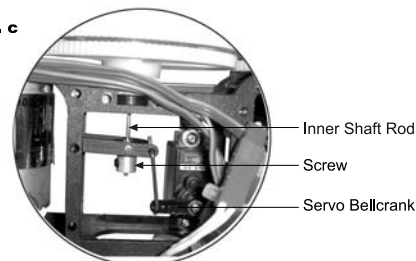
**1. Collective Pitch Movement Direction.** Gradually push up the throttle stick to inspect the collective pitch movement direction. If the servo bellcrank, as shown in Fig. c, moves upwards, the positive attack angle of the main rotor blade will increase and indicates the pitch moves in a correct way. Otherwise, the pitch movement direction is wrong. At the wrong situation, you just reverse the No. 9 DIP switch on the back of the transmitter.

**2. Collective Pitch Movement Range.** The ranges of the collective pitch upward movement and downward movement should be kept symmetrical ( Fig. d ). If the ranges are not symmetrical, please adjust the length of the Inner Shaft Rod. Firstly unscrew the Hexagon Socket Head Cap Screw (Fig. c). Secondly pull the Inner Shaft Rod to an up-and-down symmetrical position. Lastly tighten the screw.

**3. Collective Pitch Size.** The collective pitch size puts a direct effect on the flight performance. The size can be adjustable by the following two trim knobs:

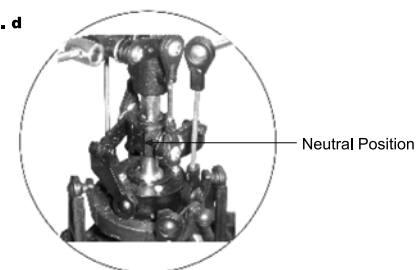
① Pitch Limit Trim ( Fig. e ). Clockwise tuning the PLT knob increases the pitch size; counterclockwise tuning the PLT knob decreases the pitch size. ② Pitch Trim ( Fig. f). Clockwise tuning the PIT knob increases the pitch size; counterclockwise decreases the pitch size.

Fig. c



Inner Shaft Rod  
Screw  
Servo Bellcrank

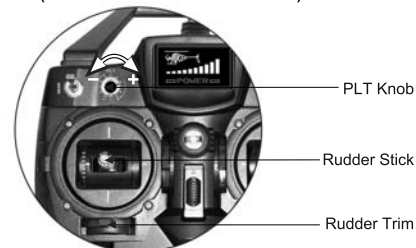
Fig. d



Neutral Position

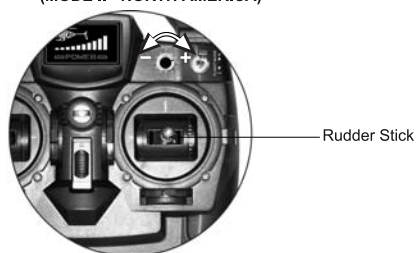
Fig. e

ADJUSTMENTS & TUNING  
(MODE I - EUROPE & AUSTRALIA)



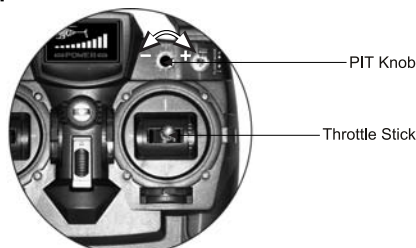
PLT Knob  
Rudder Stick  
Rudder Trim

ADJUSTMENTS & TUNING  
(MODE II - NORTH AMERICA)



Rudder Stick

Fig. f



PIT Knob  
Throttle Stick

Here are the experienced data for your reference:

Normal Mode		
Throttle Stick Position	Throttle (not adjustable )	Collective Pitch (adjustable)
100%	100%	+9° - +11°
50%	65%	+6° - +7°
0%	0%	0°
Inverted Mode		
Throttle Stick Position	Throttle (not adjustable )	Collective Pitch (adjustable)
100%	100%	+9° - +11°
50%	75%	0°
0%	100%	-8° - -10°

## Blade Tracking

**Blade tracking adjustment.** Before checking the blade tracking, please properly install the battery pack, initiate the gyro, and place a red stick on one blade tip. Place your helicopter on the reasonable level so that you can view the blades at your eye level. Please make you are in a safe distance to the high spinning blades. If the red blade is higher than the other one, please lengthen the length of the ball linkage of the other blade in one or more turn increments; otherwise, please shorten its length. The blade tracking and vibration will arise from looseness and/ or distortion of the blade connector. If the blade connector is loose or distorted, please adjust or substitute new connector for the old one.

Fig. g

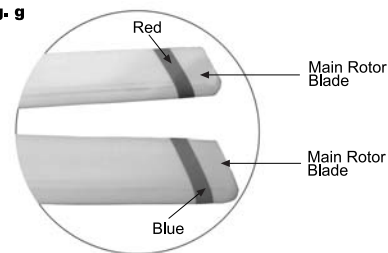
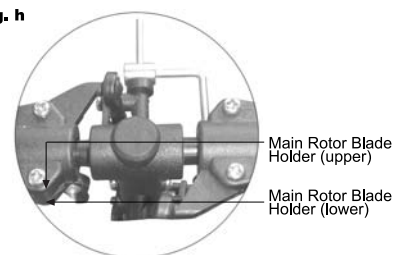


Fig. h



## Tail Rotor Adjustment

### The HM 35's tail rotor adjustment

- 1. Tail Servo Direction Adjustment.** Move the rudder stick in the transmitter left and right respectively, and inspect the tail servo direction. If the positive angle of the tail rotor blade increases by pushing up the Rudder Stick, the tail servo direction is correct ( Fig. i ). Otherwise, please reverse the No. 4 DIP switch on the back of the transmitter.
- 2. Revolution Mixing Adjustment.** Gradually push up the throttle stick, and inspect the direction alteration of the tail rotor blade. If the positive angle of the tail rotor blade increases ( Fig. i ), the revolution mixing function is correct. Otherwise, please reverse the No. 6 DIP switch on the back of the transmitter.
- 3. Rudder Servo Adjustment.** Slide the rudder trim of the transmitter to the neutral position and check the movement range of the Tail Rotor Sliding Sleeve, and the angles between the rudder servo bellcrank and the tail servo rod shaft, the tail servo rod shaft 1 and tail rod bellcrank, and the tail rod bellcrank and the tail servo rod shaft. If the tail rotor sliding sleeve moves symmetrically left and right and the angles are 90 degrees between the rudder servo bellcrank and the tail servo rod shaft, the tail servo rod shaft 1 and tail rod bellcrank, and the tail rod bellcrank and the tail servo rod shaft (Fig. j), the rudder servo stays at the proper situation. Otherwise, the rudder servo and the tail servo rod shaft 1 and the tail servo rod shaft should be re-adjusted. Firstly cut off the connection of the battery to the motor and unscrew the screw of the servo bellcrank, and then plug in the connection. The rudder servo begins to reposition. Adjust the tail servo rod shaft 1 and the tail servo rod shaft to the normal state, and then mount the bellcrank and tighten the screw.

Fig. i

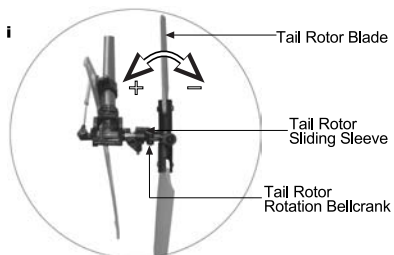
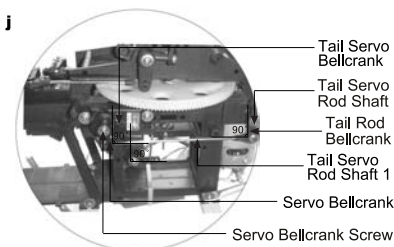


Fig. j



### The HM 36's tail rotor adjustment

- 1. Tail Servo Direction Adjustment.** Move the rudder stick in the transmitter left and right respectively, and inspect the tail servo direction. If the positive angle of the tail rotor blade increases by pushing up the Rudder Stick, the tail servo direction is correct ( Fig. k ). Otherwise, please reverse the No. 4 DIP switch on the back of the transmitter.
- 2. Revolution Mixing Adjustment.** Gradually push up the throttle stick, and inspect the direction alteration of the tail rotor blade. If the positive angle of the tail rotor blade increases ( Fig. k ), the revolution mixing function is correct. Otherwise, please reverse the No. 6 DIP switch on the back of the transmitter.
- 3. Tail Servo Adjustment.** Slide the rudder trim of the transmitter to the neutral position and check the movement range of the Tail Rotor Sliding Sleeve and the angle between the tail servo bellcrank and the tail servo pull rod. If the tail rotor sliding sleeve moves symmetrically left and right and the angle between the tail servo bellcrank and the tail servo pull rod is 90 degrees (Fig. l), the tail servo stays at the proper situation. Otherwise, the tail servo and the tail servo pull rod should be re-adjusted. Firstly cut off the connection of the battery to the motor and unscrew the screw of the servo bellcrank, and then plug in the connection. The tail servo begins to reposition. Adjust the servo pull rod to the normal state, and then mount the bellcrank and tighten the screw.

Fig. k

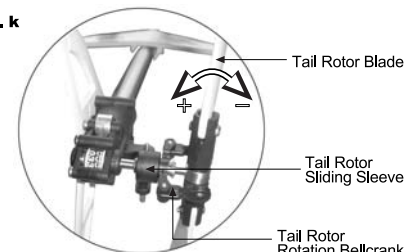
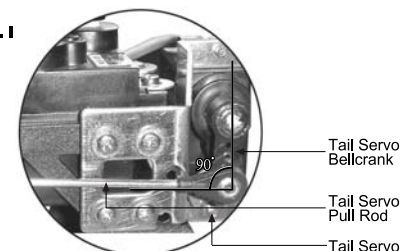


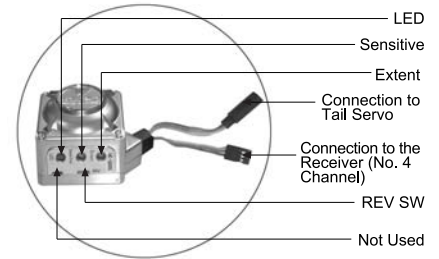
Fig. l





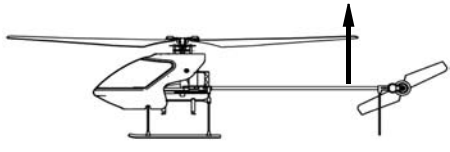

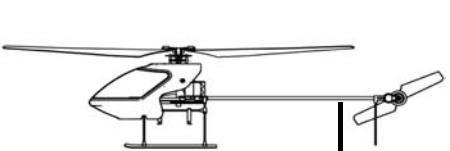
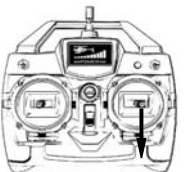
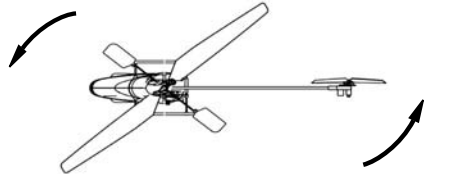

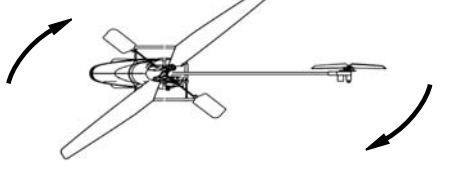

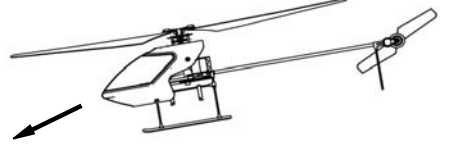
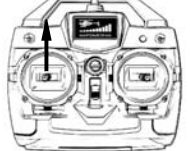
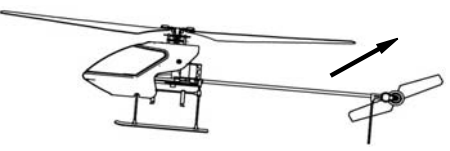
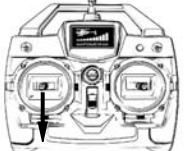

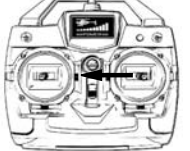

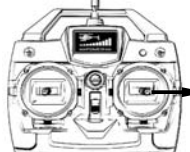
## Gyro Adjustment

- 1. Reverse Switch.** REV switch is capable of reversing the direction of the corresponding channel.
- 2. Extent Adjustment.** Extent knob offers the function to set the servo travel. Move the rudder stick to the left end and the right end respectively, and adjust the servo travel to ensure the tail rotor sliding sleeve slides within its maximum travel range. Clockwise tuning the Extent knob will increase the travel.
- 3. Sensitivity Adjustment.** Adjust the sensitivity according to the flight performance. Clockwise tuning increases the sensitivity and counterclockwise tuning decreases the sensitivity.
- 4. LED Status.** Quick flash indicates the gyro is in the process of data initialization. Light but no flash indicates the process of the gyro initialization has been finished. Slow flash indicates the gyro fails to receive the signal of controlling the tail servo transmitted by the transmitter. The tail servo is incapable of being operated at this time.
- 5. Gyro Inspection.** Lift the helicopter by holding the rotor head and rotate its head leftward. In order to compensate for the torque from the main rotor blades, the gyro controls over the tail rotor sliding sleeve to slide rightward, and the positive angle of the tail rotor blade increases. This means the gyro direction setting is correct. If the gyro direction is wrong, please reverse the reverse switch of the gyro. **Note:** if the gyro direction is set in a wrong way, the helicopter will autorotate at a high speed and may result in serious bodily injury or property damage. Please ensure the gyro to work in a correct way before flight!
- 6. Gyro Sensitivity Adjustment.** In general, the higher the speed of the tail servo runs, the more sensitive the gyro is. If the main rotor blades spin at a higher speed and the tail servo will be more sensitive, therefore, the gyro sensitivity should be allayed to avoid the tail boom up-and-down vibration during flight. The gyro sensitivity during aerobatic maneuvers, for example, is lower than that during hovering flight. Please promptly adjust the sensitivity according to the actual flight performance.
- 7. Tail Servo Travel Adjustment.** Move the rudder stick of the transmitter to the left end and the right end respectively, and adjust the tail servo travel is within the maximum movement range of the tail rotor sliding sleeve. During flight, the tail servo travel doesn't go beyond its travel limitation and protects the tail servo and the tail servo pull rod. **Note:** don't adjust the travel in a too narrow range and limit the gyro function.

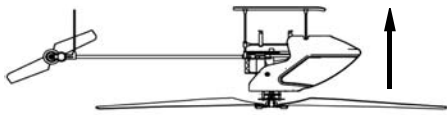
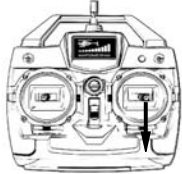
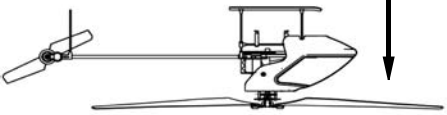
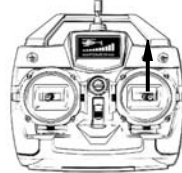
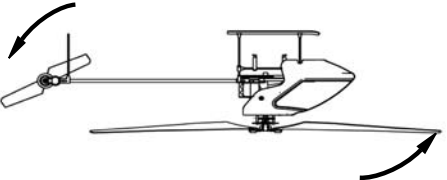
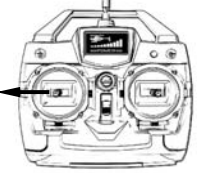
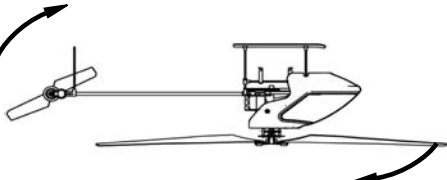

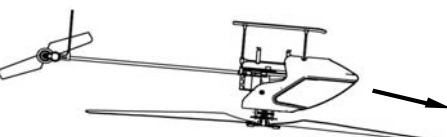
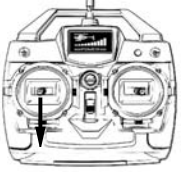
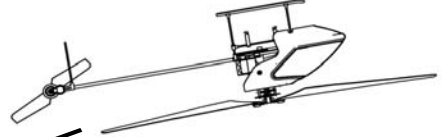
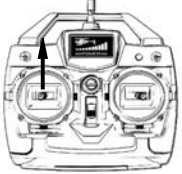
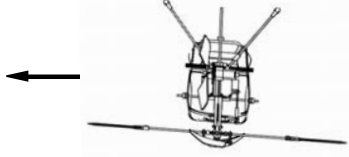

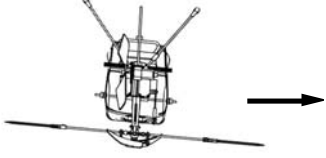
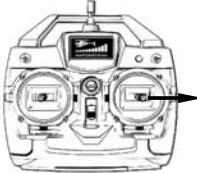


# Flight Mode

## 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

**Inverted Flight 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



**R/C WALKERA PRODUCT**

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