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# SCORPION HELIQUAD User Manual



Accreditation standard: GB/T2701-2011  
The materials, specifications, parts and packaging mentioned in this manual are for reference purposes only. We are not responsible for any changes made to this printed material, nor are we able to inform customers of any updates or changes. Please refer to our website: R3VOLT.com for the latest information.

## Important safety information

Thank you for purchasing this REVOLT item. To ensure that you operate the aircraft correctly, please read these instructions carefully before first use and store them in a safe place for future reference.

### Safety information

- The packaging and this manual contain important information and should be kept in a safe place for future reference.
- Keep the smaller-sized accessories out of the reach of children.
- This aircraft can move very quickly. When flying for the first time, push left joystick up slowly to prevent the aircraft from ascending too rapidly and causing damage or collisions.
- When the quadcopter is airborne, it should be kept at least 2-3m away from the pilot and other people to avoid the risk of a collision and injury.
- Do not store the battery in a hot environment (e.g. near open flames or a heating device).
- When the quadcopter is airborne, it should be kept at least 2-3m away from the pilot and other people to avoid the risk of a collision during landing.
- Children must be supervised by an adult when operating the aircraft. The aircraft should always remain within the line of sight of the pilot (or instructor).
- Do not recharge non-rechargeable batteries. When installing or changing the batteries, ensure that they are connected in the correct polarity. Do not mix old and new batteries or different types of batteries.
- Do not short circuit the battery terminals.
- If you do not plan to use the quadcopter for at least 10 days, discharge the battery to 40%-50% (i.e. if the battery is fully charged, fly the quadcopter for half of the total flying time). This helps to prolong the lifespan of the battery.
- Maintain a safe distance from the spinning propellers to avoid the risk of injury.
- Please maintain strict compliance with local laws. It is prohibited to fly close to airports, radio stations, wireless emission towers, high voltage lines, transformer substations or radar installations. A safe distance of 5000 meters should be observed from any airport.
- Only use the charging cable provided. Disconnect the charging cable before cleaning. Check the cord, plug, other casing and other parts of the charging cable regularly. If any damage is discovered, discontinue use until it is repaired.
- After use, ensure that the quadcopter and remote control are switched off and remove the batteries in the remote control.

### Repair and maintenance

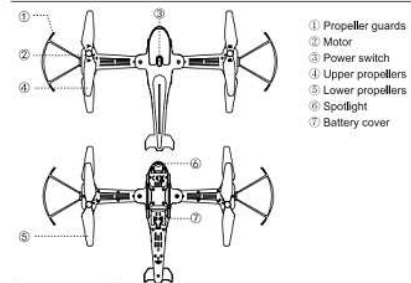
- Clean the product regularly with a clean, soft cloth.
- Avoid exposing the product to direct sunlight or heat.
- Do not immerse the product in water, as this may damage the electrical components.
- Regularly inspect the propellers, motor and battery. If there are any signs of damage, discontinue use immediately until the fault has been repaired.

## About this product

### Specifications

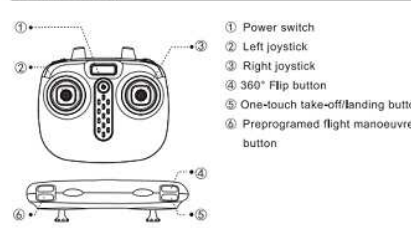
- Aircraft**
  - Aircraft weight: Approx. 76.5 g
  - Specifications: 320x190x65 mm
  - Flight range: Approx. 30 m
  - Flight altitude: Approx. 10 m
  - Flight time: Approx. 12 mins
  - Motor: e7
  - Battery: 3.7 V, 500 mAh
  - Battery charging time: Approx. 60 min
- Remote control**
  - Operating frequency: 2.4 GHz
  - Operating temperature: 0°C to 40°C
- Contents**
  - Aircraft: 1
  - Remote Control: 1
  - USB charging cable: 1
  - Spare propellers: 4 (2 each 'A' & 'B')
  - Propeller guards: 2
  - User manual: 1

## Drone components



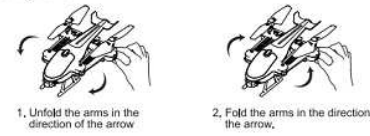
- 1 Propeller guards
- 2 Motor
- 3 Power switch
- 4 Upper propellers
- 5 Lower propellers
- 6 Spotlight
- 7 Battery cover

## Remote control

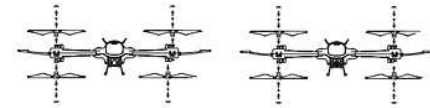


- 1 Power switch
- 2 Left joystick
- 3 Right joystick
- 4 360° Flip button
- 5 One-touch take-off/landing button
- 6 Preprogrammed flight manoeuvres button

## Folding Arms



## Propeller Replacement



Remove the propeller caps and screws in the direction of the arrow.

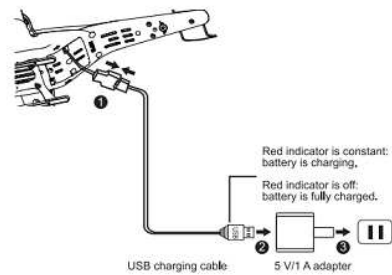
Insert the propellers onto the body of the quadcopter in the direction of the arrow. Replace the screws and propeller caps.

## Propeller Guard Installation



Insert the propeller guards into the quadcopter in the direction of the arrow and then tighten the screws.

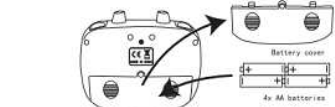
## Charging the drone battery



- Charge the quadcopter with the USB charging cable that came with the product.
- Using adapters with a lower rated current will result in a longer charging time.

- Do not short circuit the battery, as this may cause an explosion.
- Do not disassemble the battery or store it in a hot environment.
- If you do not plan to use the drone for at least 10 days, discharge the battery to 40%-50%. This helps to prolong the lifespan of the battery.
- Remove the rechargeable battery from the drone during charging.
- Rechargeable batteries should only be charged under adult supervision.
- Keep away from flammable materials.
- Exhausted batteries should be removed from the drone and remote control.
- Caution: Risk of explosion if battery is replaced with incorrect ones. Please install the batteries according to the instructions.

## Installing the remote control batteries



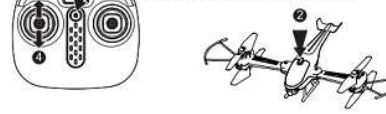
- Remove the screw from the battery compartment cover.
- Slide to open the battery compartment.
- Insert 4 AA 1.5V batteries (not included).
- Make sure to observe the polarity symbols inside the battery compartment and insert the batteries accordingly.
- Replace battery compartment cover and screw.

- Make sure to observe the polarity symbols inside the battery compartment and insert the batteries accordingly.
- Do not use new and old batteries together.
- Do not use rechargeable batteries. Exhausted batteries are to be removed from the remote control.

## Flight preparation and turning the drone ON and OFF

### Pairing the remote control with the drone

- Press the power button on the remote control.
- Press the power button on the top of the drone.
- Move the left joystick up to the highest point.
- Move the left joystick to the lowest point.



After moving the left joystick up and down, the lights on the drone will stop flashing. When the lights stop flashing, the drone and remote control are paired.

## Turning on the drone



- Method 1:** Push to the top and bottom and then return to the central position.
- Method 2:** Push the left and right joysticks to the bottom inner corners for 1 second.
- Method 3:** For one-button take-off, press this button. The drone will automatically take off and hover.

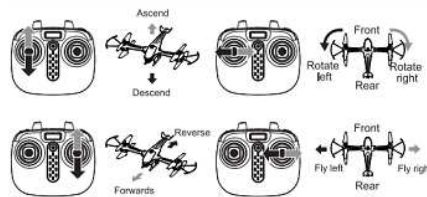
Note: 1. If the drone is flown out of range of the remote control, the indicator lights will flash slowly and the drone will land. 2. If the remote control suddenly turns off or runs out of power during flight, the drone will automatically land. If the remote control is turned back on during this process, you will be able to regain control of the drone.

## Turning off the drone



- Method 1:** Push down for 2-3 seconds.
- Method 2:** Push the left and right joysticks to the bottom inner corners for 1 second.
- Method 3:** For one-button landing, press this button. The drone will automatically land.

## Drone Operation



Plane frequency band : 2409-2481MHz  
EIRP (MAX) : -15.97dBm (Max.)  
2.4G WIFI frequency band : 2412MHz  
Transmitter power : 13.59dBm (Max.)

"FCC RF Radiation Exposure Statement Caution: To maintain compliance with the FCC's RF exposure guidelines, place the product at least 20cm from nearby persons."

Manufacturer: Guangdong SYMA Model Aircraft Industrial Co., Ltd.  
Address: 2 West Xingye Rd, Laimai Industrial Area, Chenghai, Shantou, China  
Postal Code: 515800  
Sales department: +86 0754 86980668  
After-sales service: +86 0754 86395095  
Fax: +86 0754 86395098  
Website: www.symatoys.com  
Email: syma@symatoys.com

The company has the right of final interpretation of this user manual.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

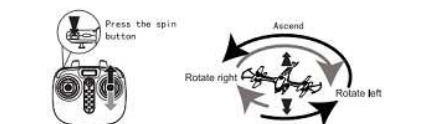
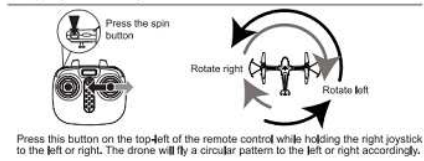
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

\*This device complies with FCC radiation exposure limits set forth for general population (uncontrolled exposure). This device must not be collocated or operating in conjunction with any other antenna or transmitter.

Plane frequency band : 2409-2481MHz  
EIRP (MAX) : -15.97dBm (Max.)  
2.4G WIFI frequency band : 2412MHz  
Transmitter power : 13.59dBm (Max.)

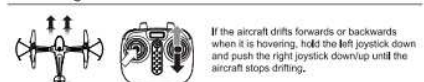
Heretby, [GUANGDONG SYMA MODEL AIRCRAFT INDUSTRIAL CO., LTD], declares that this [aircraft] is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: <http://www.symatoys.com/download/declaration-of-conformity.html>  
SIMPLIFIED EU DECLARATION OF CONFORMITY

## Preprogrammed Flight Manoeuvres



Press this button on the top-left of the remote control and move the right joystick to the top or bottom. The drone will fly an ascending/corkscrew manoeuvre for approx. 60 seconds.

## Trimming



If the aircraft drifts forwards or backwards when it is hovering, hold the left joystick down and push the right joystick down/up until the aircraft stops drifting.



If the aircraft drifts to the left or right when it is hovering, hold the left joystick down and push the right joystick right/left until the aircraft stops drifting.

## Drone Features

**Undervoltage protection**  
When the indicator lights on the bottom of the drone start flashing, it means the drone's battery power is low. When this occurs, return and land the drone.

**Overcurrent protection**  
When the drone's propellers collide with an object or become obstructed, overcurrent protection will be activated to protect the gears and motors.

**Level calibration**  
Place the aircraft on a level surface and move the left and right joysticks to the lower right corner for approximately 3 seconds. The indicator will flash rapidly and then stay constant to indicate that the calibration process is complete. This can be done to correct unwanted drift.

**High/low speed mode**  
Briefly press the right joystick to switch between high and low speed mode. 1. Low speed mode is enabled by default when the drone is switched on. 2. The remote control beeps twice when high speed mode is enabled and one "beep" sound when low speed mode is enabled.

Once you have mastered the basic controls, you can try performing some flip manoeuvres. Start by flying the quadcopter to an altitude of at least 3 m. Then hold down the button on the top-right corner of the remote control (flip button) and push the right joystick up/down/left/right to flip the aircraft forward/backwards/left/right.

**360° Flips**

**One button take-off/landing**  
1. When the drone is in standby, press the take-off button to make the aircraft take off automatically and hover at a height of approx. 1.5 m.  
2. When the drone is in the air, press the one-button take-off/landing button to make the drone land automatically.

**Auto Hover**  
After using the left joystick (throttle) to ascend/descend the drone, release the left joystick and the drone will continue to hover at the current height.

## Troubleshooting

Problem	Reason	Solution
The drone has no response	1. The drone has entered into low-voltage protection. 2. When the power of the remote control is weak the power light indicator will blink.	1. Charge up the drone. 2. Change the batteries of the remote control.
The flight response of the drone is not sensitive	1. The power of the remote control is weak. 2. There is an interference with the same frequency as that of the remote control.	1. Change the batteries. 2. Change to a place where there is no interference with the same frequency.
The drone is drifting towards one side while hovering.	1. The drone is not calibrated on a level to the ground.	Re-adjust the calibration until the drone is level to the ground. For further details, see page 9 "Level Calibration".
Fixed high instability / up and down movement	1. The drone is not calibrated level to the ground. 2. Unstable air pressure under the severe weather condition. 3. Violent collision resulting in disruption of gyroscope.	1. Re-adjust the calibration until the drone is level to the ground. For further details, see page 9 "Level Calibration". 2. Avoid flying in the severe weather conditions. 3. Make level adjustment again, see page 9 "Level Calibration".