ZYHOBBY AH-1W

ZYHOBBY AH-1W Super Cobra Navy 470 Size RC Helicopter Instruction Manual

Model: AH-1W

1. Introduction

This manual provides essential instructions for the assembly, operation, and maintenance of your ZYHOBBY AH-1W Super Cobra Navy 470 Size RC Helicopter ARF KIT. This model is a highly detailed 1/13 scale replica, featuring advanced mechanics and a pre-installed lighting system. Please read this manual thoroughly before proceeding with assembly or flight to ensure safe and correct usage.

Image 1: Overall view of the ZYHOBBY AH-1W Super Cobra Navy RC Helicopter.

2. Safety Precautions

Operating remote-controlled helicopters requires caution. Failure to follow safety guidelines can result in injury or damage to property. Always adhere to the following:

- Operate in open, unobstructed areas, away from people, animals, and obstacles.
- Maintain a safe distance from the helicopter during operation.
- Ensure all components are securely fastened before each flight.
- Do not fly in strong winds or adverse weather conditions.
- Keep fingers and loose clothing away from rotating blades.
- Always disconnect the battery when not in use or during maintenance.
- This product is recommended for users aged 14 years and up.

3. Package Contents (ARF KIT)

The ZYHOBBY AH-1W Super Cobra Navy is an Almost-Ready-to-Fly (ARF) KIT. It includes the pre-assembled scale fuselage and mechanical components. **Electronic components are NOT included and must be purchased separately.**

Included Components:

- AH-1W Super Cobra Navy Fuselage (pre-assembled)
- Two Blade Rotorhead and scale carbon fiber rotor blades
- Complete two-seated scale cockpit
- Built-in / pre-installed position lighting system
- CCPM mechanics (built into the top section)

Required (Not Included):

- Motor: 1x 2222 2000KV outrunner, 6S capable
- Speed Controller (ESC): 1x 40A brushless, 6S capable
- Servos: 3x 9g MG cyclic, 1x 9g MG tail servo
- Battery: 22.2V 1250mAh 25C (or compatible 6S battery)
- Radio Control System: Minimum 6-channel transmitter with pitch and throttle curve adjustments, and compatible receiver.
- Flight Stabilization: 3-axis flybarless gyro (if not integrated into receiver/ESC).

4. Specifications

Feature	Detail
Body Length	850mm
Length (incl. rotors)	980mm
Width	220mm
Height	240mm

Main Rotor Diameter	750mm
Main Blade Length	350mm
Tail Rotor Diameter	160mm
Tail Blade Length	68mm
Main Shaft Diameter	8mm
Tail Shaft Diameter	5mm
Spindle Diameter	6mm
Main Blade Count	2
Tail Blade Count	2
Drive Gear Ratio	1:13.8:4.7
Approx. Flight Time	5 minutes (with recommended battery)
Approx. Takeoff Weight	1400g
Scale	Exact 1/13 scale
Recommended Age	14 years and up

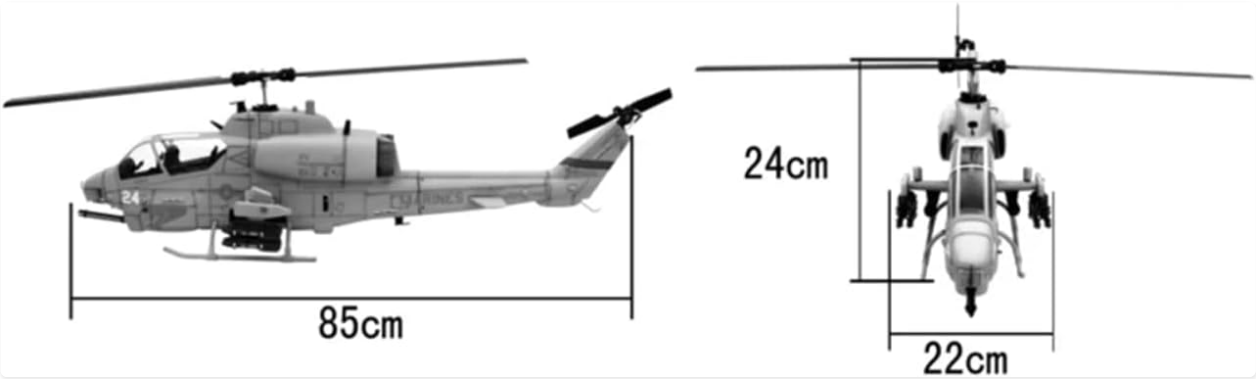

Image 2: Key dimensions of the helicopter.

5. Setup and Assembly

Your ZYHOBBY AH-1W Super Cobra Navy ARF KIT comes largely pre-assembled, requiring minimal work to prepare for flight. The primary task involves installing the separately purchased electronic components.

5.1. Electronic Component Installation

1. **Motor Installation:** Securely mount your 2222 2000KV outrunner motor within the designated motor mount area. Ensure proper gear mesh with the main gear.
2. **ESC Connection:** Connect the 40A brushless ESC to the motor and the flight controller/receiver. Follow the ESC manufacturer's instructions for calibration.
3. **Servo Installation:** Install the three 9g MG cyclic servos and one 9g MG tail servo. Connect them to the

flight controller/receiver according to the wiring diagram provided with your flight controller.

4. **Battery Placement:** Position the 22.2V 1250mAh 25C (6S) battery in the battery compartment. Ensure it is secured to prevent shifting during flight. Connect it to the ESC.
5. **Receiver and Flybarless Gyro:** Install your minimum 6-channel receiver and 3-axis flybarless gyro system. Connect all servos and the ESC to the appropriate channels on the receiver/gyro.

Image 3: Detailed view of the cockpit, showing space for electronics.

5.2. Radio Control Setup

Configure your 6-channel transmitter with appropriate pitch and throttle curves. Refer to your transmitter's manual for detailed setup instructions. The 3-axis flybarless gyro will require calibration and setup according to its specific manual to ensure stable flight characteristics.

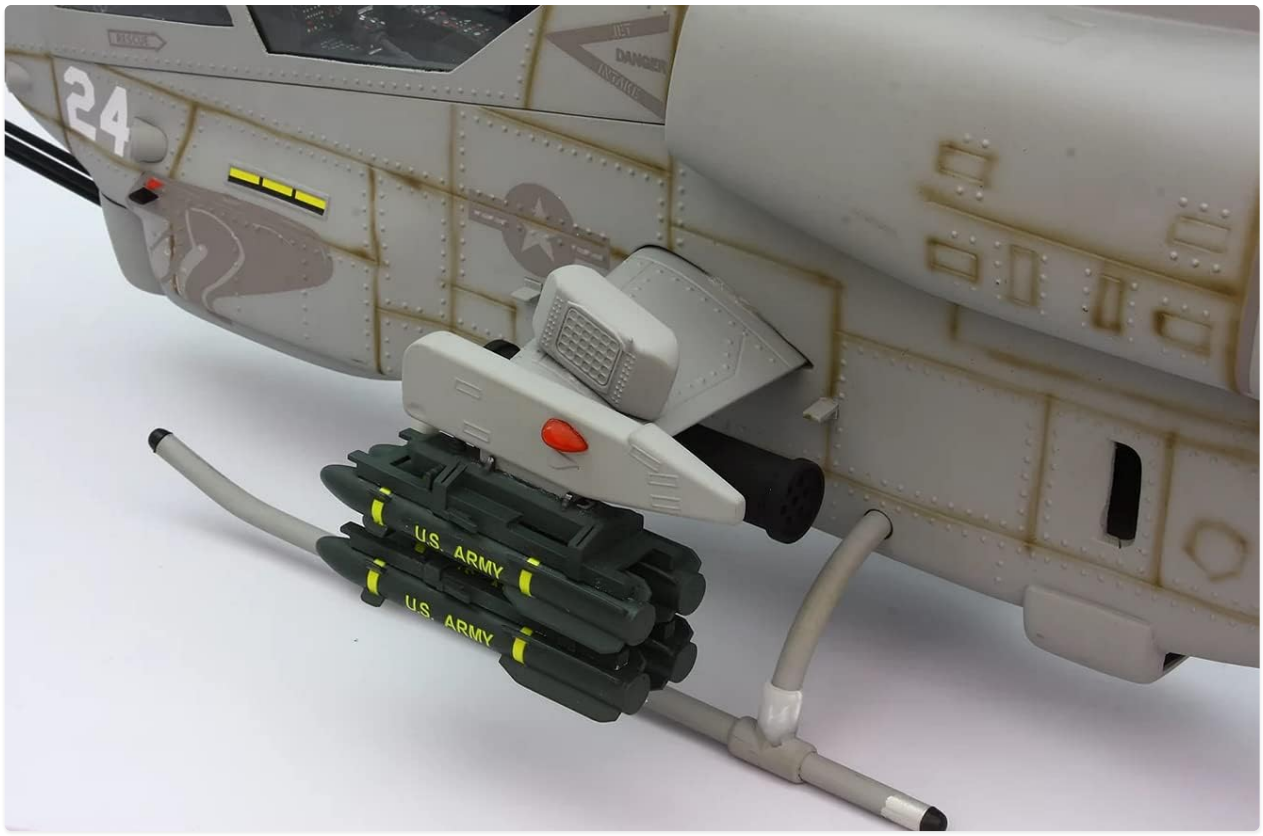

Image 4: Side view of the helicopter, showcasing external details.

6. Operating Instructions

Before your first flight, ensure all electronic components are correctly installed and configured. Perform a thorough pre-flight check.

6.1. Pre-Flight Checklist

- Verify battery is fully charged and securely installed.
- Check all screws and fasteners for tightness.
- Inspect rotor blades for any damage or cracks.
- Ensure all control surfaces move freely and correctly in response to transmitter inputs.
- Confirm the flybarless gyro is initialized and functioning.

6.2. First Flight Procedures

1. Place the helicopter on a flat, level surface in an open area.
2. Turn on your transmitter first, then connect the helicopter's battery.
3. Allow the flybarless gyro to initialize (refer to your gyro's manual for specific indications).
4. Slowly increase the throttle. The helicopter should lift off smoothly. Make small, precise adjustments to maintain a stable hover.
5. Practice basic hovering and gentle movements before attempting advanced maneuvers.

6.3. Flight Control Basics

- **Throttle (Left Stick Vertical):** Controls the main rotor speed and collective pitch, affecting altitude.

- **Rudder (Left Stick Horizontal):** Controls the tail rotor, affecting yaw (nose left/right).
- **Elevator (Right Stick Vertical):** Controls forward and backward movement.
- **Aileron (Right Stick Horizontal):** Controls left and right sideways movement (roll).

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Video 1: Beginner's flight instructions for an RC helicopter, demonstrating basic controls and setup. While a different model, the principles apply.

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Video 2: Demonstration of an RC helicopter in flight, showcasing stability and maneuverability.

7. Maintenance

Regular maintenance ensures the longevity and performance of your RC helicopter.

- **Cleaning:** After each flight, gently clean the fuselage and blades with a soft, dry cloth. Avoid using harsh chemicals.
- **Blade Inspection:** Regularly check main and tail rotor blades for any signs of damage, cracks, or imbalance. Replace damaged blades immediately.
- **Mechanical Check:** Inspect all moving parts, gears, and linkages for wear or looseness. Lubricate moving parts as recommended by component manufacturers.
- **Electronic Connections:** Ensure all wiring and connectors are secure and free from damage.
- **Storage:** Store the helicopter in a cool, dry place, away from direct sunlight and extreme temperatures. Disconnect the battery before storage.

8. Troubleshooting

If you encounter issues, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Helicopter does not power on.	Battery not connected, discharged battery, faulty switch.	Ensure battery is connected and charged. Check power switch.
Helicopter does not respond to transmitter.	Not bound, transmitter off, low transmitter battery.	Ensure transmitter is on and batteries are fresh. Re-bind transmitter and receiver.
Unstable flight/drifting.	Gyro not calibrated, trim settings incorrect, damaged blades.	Recalibrate gyro. Adjust trim on transmitter. Inspect and replace damaged blades.
Main rotor spins, but no lift.	Incorrect blade installation, low battery power, motor/ESC issue.	Check blade direction and secureness. Charge battery. Inspect motor/ESC connections.

9. Warranty and Support

For warranty information and technical support, please refer to the documentation provided with your purchase or contact the retailer/manufacturer directly. Keep your proof of purchase for any warranty claims.