GooSky BAF060007

Goosky Legend RS6 High Performance 3D RC Helicopter Instruction Manual

Model: BAF060007

Brand: GooSky

1. Introduction

Welcome to the instruction manual for your Goosky Legend RS6 High Performance 3D Outdoor Remote Control Helicopter. This manual provides essential information for the assembly, operation, and maintenance of your unassembled kit. Please read this manual thoroughly before beginning assembly or operation to ensure safe and optimal performance of your RC helicopter.
The Goosky Legend RS6 is designed for experienced RC pilots seeking a high-performance 3D flight experience. Its robust construction and precise control systems are engineered for demanding maneuvers.

2. Safety Information

WARNING: This product is intended for use by individuals aged 15 years or older. It is not a toy. Improper use can lead to serious injury or property damage.

- Always operate the helicopter in open areas, away from people, animals, buildings, and other obstacles.
- Ensure all components are securely fastened and in good working order before each flight.
- Never attempt to catch a spinning helicopter. Keep hands and face clear of rotating blades.
- Use only recommended batteries and charging equipment. Follow all battery safety guidelines.
- Do not operate in adverse weather conditions, including strong winds, rain, or lightning.
- Maintain a safe distance from the helicopter during operation.
- If you are new to RC helicopters, seek guidance from experienced pilots or join a local RC club.

3. Product Overview

The Goosky Legend RS6 is an unassembled kit designed for high-performance 3D flight. Key features include:

- Newly designed extra-large battery compartment (280mm L × 52mm W × 60mm H) compatible with

mainstream 6-12S LiPo batteries.

- Airframe optimized for 560-600mm rotor blades.
- Precisely engineered collective pitch and cyclic pitch mechanical systems for accurate and responsive control.
- High-precision, full-metal main rotor head with a sacrificial design on the main pitch control arms for enhanced durability during impacts.
- Thickened and reinforced shafts throughout the aircraft for increased strength.
- Fuselage features 2mm thick side plates for robust construction.
- Centralized electronic component arrangement for optimal center of gravity and ease of installation/removal.
- Quick-release canopy design for convenient access.

Image: Front-side view of the Goosky Legend RS6 RC Helicopter, showcasing its blue and white canopy and robust frame.

3.1. What's in the Box

Your Goosky Legend RS6 kit includes:

- 1* GooSky RS6 kit (unassembled, without blades & electronics)

Please note that main rotor blades, tail blades, and all electronic components (servos, motor, ESC, flybarless system, batteries) are sold separately and are required to complete the kit.

4. Setup and Assembly

This section outlines the general steps for assembling your Goosky Legend RS6 kit. Detailed assembly instructions are typically provided by the manufacturer in a separate, comprehensive build manual or video series. Always refer to the official GooSky assembly guide for precise steps and torque specifications.

4.1. Recommended Electronics

To complete your Goosky Legend RS6 kit, the following electronics are recommended:

- **Cyclic Servos (x3):** TORQ BLS2208 Full Size HV Brushless Servo, TORQ BLS2208-Black Edition Full Size HV Brushless Servo, TORQ BLS2808 Full Size SHV Brushless Cyclic Servo, TORQ CL1208 Mini HV Coreless Servo, TORQ CL1208-Black Edition Mini HV Coreless Servo, TORQ BLS1809M Mini HV Brushless Servo

- **Rudder Servo:** TORQ BLS0704T Full Size HV Brushless Rudder Helicopter Servo, TORQ BLS0704T-Black Edition Full Size HV Brushless Rudder Servo
- **Motor:** Egodrift Tengu 4025EC Eclipse / 1080kV (6x32), Egodrift Tengu 4025EC Eclipse / 550kV (6x40) 4xM4(30) Base, Xnova Lightning Outrunner Motor 4025 - 1120KV 1.5Y For RC Helicopter Shaft B, Xnova Lightning Outrunner Motor 4025 - 560KV 3Y For RC Helicopter Shaft B
- **ESC (Electronic Speed Controller):** HBW Platinum PRO 180A HV SBEC V5 ESC, HBW Platinum 150A V5.1 ESC (3-8S), XDFly HPro 155A 3-8S SBEC ESC for RC Helicopter 550-580 Class, XDFly HPro 195A 6-14S SBEC ESC
- **Main Blades:** RotorTech 580mm Ultimate Flybarless Main Blade Set, RotorTech 610mm Ultimate Flybarless Main Blade Set, VULCAN ROTORS Precision Main Rotor Blades 589mm (RED)
- **Tail Blades:** Azure Power 95mm Heli Tail Blades
- **Flybarless System:** iKON 2 HD Flybarless System, iKON 2 Flybarless System w/o Bluetooth (Micro USB Cable Not Included)
- **Batteries:** PULSE 5300mAh 50C 22.2V 6S P-Tech LiPo Battery - EC5 Connector, Pulse 5100mah 80C 22.2V 6S P-Tech Lipo Battery - EC5 Connector, PULSE 3300mAh 50C 44.4V 12S P-Tech LiPo Battery - EC5 Connector

4.2. General Assembly Steps (Consult Official Manual for Details)

1. **Frame Assembly:** Assemble the carbon fiber side plates and frame components. Ensure all screws are tightened to the manufacturer's specifications. The 2mm thick side plates contribute to the aircraft's robustness.
2. **Landing Gear Installation:** Attach the landing skids securely to the main frame.
3. **Power Train Assembly:** Install the main gear, one-way bearing, and motor mount. Ensure smooth rotation of the main gear.
4. **Main Rotor Head Assembly:** Assemble the full-metal main rotor head, including the main blade grips and pitch control arms. Pay close attention to the sacrificial design of the pitch control arms, which are designed to protect other components in a crash.
5. **Tail Boom and Tail Rotor Assembly:** Attach the tail boom to the main frame. Install the tail belt, tail rotor assembly, and tail blades. Ensure the tail belt has proper tension. The one-piece tail shaft and thickened shafts enhance durability.
6. **Electronics Installation:**
    - Mount the cyclic servos, rudder servo, motor, ESC, and flybarless system. The design centralizes electronics for optimal center of gravity.
    - Route all wiring neatly and securely, ensuring no interference with moving parts.
    - Connect all components to the flybarless system according to its specific instructions.
7. **Canopy Installation:** Attach the quick-release canopy.
8. **Pre-Flight Checks:** Before the first flight, perform thorough checks on all mechanical linkages, electronic connections, and control surface movements. Ensure the collective and cyclic pitch systems operate accurately.

Image: Close-up view of the Goosky Legend RS6's full-metal main rotor head, highlighting its robust construction and pitch control arms.

Image: Close-up view of the Goosky Legend RS6's tail rotor assembly, showing the tail blades and drive mechanism.

5. Operating Instructions

Operating the Goosky Legend RS6 requires proficiency in RC helicopter piloting. Always ensure you are familiar with your radio transmitter and flybarless system settings before attempting flight.

5.1. Pre-Flight Checklist

- Verify battery charge levels for both the helicopter and transmitter.
- Inspect all mechanical linkages for free movement and security.
- Check main and tail blades for damage and ensure they are properly secured.
- Confirm correct control surface response to transmitter inputs.

- Ensure the flight area is clear of obstacles and people.

5.2. Flight Operation

- **Spool Up:** Gradually increase throttle to allow the main rotor to reach operating speed.
- **Take-off:** Smoothly increase collective pitch to lift off the ground. Maintain a stable hover.
- **Flight Control:** Use the cyclic stick for forward, backward, and sideways movement. Use the rudder stick for yaw control. Collective pitch controls altitude. The precise control systems allow for advanced 3D maneuvers.
- **Landing:** Slowly reduce collective pitch to descend. Maintain control with cyclic and rudder until the helicopter gently touches down. Reduce throttle to zero after landing.

For detailed flight techniques and advanced maneuvers, consult experienced pilots or specialized RC helicopter flight training resources.

6. Maintenance

Regular maintenance is crucial for the longevity and safe operation of your Goosky Legend RS6. Perform these checks after every flight session or as needed.

- **Visual Inspection:** Check for any signs of damage, cracks, or loose components on the frame, blades, and landing gear. Pay attention to the 2mm thick side plates and reinforced shafts.
- **Blade Inspection:** Examine main and tail blades for nicks, cracks, or deformation. Replace damaged blades immediately.
- **Linkage and Bearing Check:** Ensure all linkages move freely without binding and that bearings are smooth. Lubricate as necessary.
- **Screw Tightness:** Periodically check all screws and bolts for tightness, especially those on the main rotor head and tail assembly. The sacrificial design of the main pitch control arms helps protect the main blade grips and servos in a crash, but these should still be inspected.
- **Electronics Check:** Inspect wiring for fraying or damage. Ensure all electronic components are securely mounted.
- **Cleaning:** Keep the helicopter clean from dirt, dust, and debris. Use a soft cloth to wipe down surfaces.
- **Battery Care:** Follow manufacturer guidelines for charging, discharging, and storing LiPo batteries.

7. Troubleshooting

This section provides general troubleshooting tips for common issues. For complex problems, consult the specific manuals for your electronic components (flybarless system, ESC, radio) or seek assistance from experienced RC helicopter enthusiasts.

Problem	Possible Cause	Solution
Helicopter does not power on.	Discharged battery, loose connection, ESC not armed.	Charge battery, check all power connections, ensure ESC is properly armed (refer to ESC manual).
Loss of control or erratic flight.	Radio interference, loose linkages, incorrect flybarless settings, damaged servo.	Fly in a clear area, check all linkages, re-calibrate flybarless system, inspect servos.

Problem	Possible Cause	Solution
Excessive vibration.	Unbalanced blades, bent main shaft/feathering shaft, loose components.	Balance main and tail blades, inspect shafts for straightness, tighten all screws.
Tail wags or drifts.	Incorrect tail gain, loose tail belt, damaged tail servo, worn tail rotor components.	Adjust tail gain in flybarless system, check tail belt tension, inspect tail servo and components.

8. Specifications

Detailed technical specifications for the Goosky Legend RS6 kit:

Parameter	Value
Model	RS6
Overall Height	320mm
Width	203mm
Main Gear	107T
Front Tail Pulley	75T
AIRFRAME weight (no battery)	approx 2.78kg
Main Shaft Diameter	Φ12mm
Feathering Shaft Diameter	Φ8mm
Tail Feathering Shaft	Φ4mm
One-piece Tail Shaft Diameter	Φ6mm
Tail Belt Width	6mm
Main Gear Ratio (Main Motor Gear 12T)	8.917
Main Gear Ratio (Main Motor Gear 13T)	8.231
Tail Ratio (Tail Pulley 16T)	4.6875
Tail Rotor Diameter (with 95mm tail blades)	Φ259mm
Main Rotor Diameter (with 600mm main blades)	Φ1352mm
Battery Compartment Size (L*W*H)	280*52*60mm
Product Dimensions	5 x 5 x 5 inches
Country of Origin	China
Manufacturer	GooSky

9. Warranty and Support

As an unassembled kit, the Goosky Legend RS6 typically comes with a manufacturer's warranty covering defects in materials and workmanship for the kit components. Please refer to the official GooSky website or contact their customer support for specific warranty terms and conditions.

For technical support, assembly assistance, or inquiries regarding replacement parts, it is recommended to contact GooSky directly or consult authorized dealers like Helidirect. Ensure you have your model number (BAF060007) and proof of purchase available when seeking support.

Additional protection plans may be available from your retailer at the time of purchase. These plans are separate from the manufacturer's warranty and offer extended coverage for accidental damage or malfunctions.