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› Hitec RCD HS-5065MG High Torque Metal Gear Feather Servo Instruction Manual

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Model: HS-5065MG

1. INTRODUCTION AND OVERVIEW

The Hitec RCD HS-5065MG is a high-performance micro servo featuring a digital, programmable circuit for enhanced resolution, centering, and holding torque. It incorporates durable metal gears and a top-ball bearing, making it suitable for high-performance micro helicopters, electric park flyers, and 1/18 scale cars. This manual provides essential information for the proper installation, operation, and maintenance of your HS-5065MG servo.



Image 1: Hitec RCD HS-5065MG Servo. This image displays the compact servo unit with its attached wiring harness and a four-arm servo horn.

2. SAFETY INFORMATION

To ensure safe operation and prevent damage, observe the following safety guidelines:

- Keep the servo away from direct heat sources.

- Avoid touching moving parts during operation to prevent injury.
- Ensure proper voltage supply as specified in the technical data to prevent overheating or malfunction.
- Do not attempt to disassemble the servo unless specifically instructed by the manufacturer.

3. PACKAGE CONTENTS

Verify that all components are present in the package:

- Servo unit (Hitec RCD HS-5065MG)
- Assorted servo horns/arms
- Mounting screws

4. FEATURES

The Hitec RCD HS-5065MG servo offers the following key features:

- **Digital Servo:** Provides precise control and excellent centering.
- **Metal Gear:** Enhances durability and resistance to wear.
- **High Torque:** Delivers significant rotational force for demanding applications.
- **Top Ball Bearing:** Reduces friction and improves efficiency.
- **Compact Size:** Suitable for micro-sized applications.



Image 2: Metal Gear Construction. This image shows the internal metal gears, emphasizing their strength and durability compared to plastic gears.

5. SETUP AND INSTALLATION

Follow these steps for proper installation of your HS-5065MG servo:

1. **Mounting:** Secure the servo in the designated location within your model using the provided mounting screws. Ensure the servo is firmly attached to prevent movement during operation.
2. **Horn Attachment:** Select the appropriate servo horn for your application. Attach the horn to the servo output shaft. Ensure the horn is centered before securing it with the small screw provided.

3. **Wiring Connection:** Connect the servo's three-wire cable to the corresponding channel on your receiver or flight controller. The standard color code is typically:

- **Brown/Black:** Ground (GND)
- **Red:** Positive Voltage (VCC)
- **Orange/Yellow/White:** Signal (SIG)

Verify the correct polarity before powering on your system. Incorrect wiring can damage the servo or receiver.

4. **Linkage Setup:** Connect the servo horn to the control surface or mechanism using appropriate linkages. Adjust linkages to ensure full and free movement without binding.

6. OPERATION

The HS-5065MG servo operates by receiving pulse-width modulation (PWM) signals from a receiver or control unit. The width of these pulses determines the servo's rotational position.

- **Power On:** After connecting the servo to your receiver and power source, turn on your transmitter first, then the receiver/model power.
- **Centering:** Upon initial power-up, the servo will typically move to its neutral (center) position.
- **Control:** Use your transmitter's control sticks or switches to command the servo's movement. Observe the servo's response and ensure it moves smoothly and accurately to the desired positions.
- **Endpoint Adjustment:** If your radio system allows, adjust the servo endpoints to prevent over-travel and binding, which can damage the servo.

7. MAINTENANCE

Regular maintenance helps prolong the life and performance of your servo:

- **Keep Clean:** Periodically clean the exterior of the servo to remove dirt, dust, and debris. Avoid using harsh chemicals.
- **Inspect Gears:** Check the servo gears for any signs of wear, damage, or foreign objects. While metal gears are durable, extreme impacts can still cause damage.
- **Check Wiring:** Ensure all wiring connections are secure and free from fraying or damage.
- **Lubrication:** The internal gears are pre-lubricated. Avoid applying additional lubricants unless specifically recommended by Hitec RCD.
- **Storage:** Store the servo in a dry, cool environment away from direct sunlight and extreme temperatures.

8. TROUBLESHOOTING

If you encounter issues with your HS-5065MG servo, consider the following:

- **Servo Not Responding:**
 - Check all wiring connections for proper seating and polarity.
 - Verify that the receiver and power source are functioning correctly.
 - Ensure the transmitter is powered on and bound to the receiver.
- **Erratic Movement or Glitching:**
 - Check for radio interference.
 - Ensure the power supply is stable and sufficient for the servo's demands.

- Inspect linkages for binding or excessive friction.
- **Servo Overheating:**
 - Reduce mechanical load on the servo.
 - Check for binding in the control linkages.
 - Ensure adequate ventilation around the servo.
- **Poor Centering:**
 - Verify that the servo horn is securely attached and centered.
 - Check for wear in the servo gears or output shaft.

9. SPECIFICATIONS

Technical specifications for the Hitec RCD HS-5065MG servo:

Specification	Value
Motor Type	3 Pole
Bearing Type	Top Ball Bearing
Speed (4.8V)	0.14 sec/60°
Speed (6.0V)	0.11 sec/60°
Torque (4.8V)	1.8 kg-cm (25 oz-in)
Torque (6.0V)	2.2 kg-cm (31 oz-in)
Dimensions (Inches)	0.92 x 0.45 x 0.94
Dimensions (Millimeters)	23.37 x 11.43 x 23.88
Weight (Ounces)	0.42 oz
Weight (Grams)	11.91 g
Item Model Number	HRC35065S
ASIN	B001GR7YXC
Recommended Age	16 years and up

10. WARRANTY INFORMATION

The Hitec RCD HS-5065MG servo is backed by a 1-year warranty from the date of purchase. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims. For specific terms and conditions, refer to the official Hitec RCD warranty policy or contact customer support.



Image 3: Hitec 1 Year Warranty. This badge indicates the product is covered by a one-year manufacturer's warranty.

11. SUPPORT

For further assistance, technical support, or warranty inquiries, please contact Hitec RCD customer service. Visit the official Hitec RCD website for contact information and additional resources.

Note: Product specifications and appearance are subject to change without prior notice.

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