

# Honda NPS50 Ruckus/Zoomer GY6 Swap: A Comprehensive Guide for Beginners



## AR's Honda NPS50/Ruckus/Zoomer GY6 Swap Manual: 101+ Pages, 51+ Photos & Illustrations by Kees Van den End

★★★★☆ 4.5 out of 5

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The Honda NPS50 Ruckus and Zoomer are popular scooters that offer a fun and economical way to get around. However, their stock engines can be somewhat underpowered, especially if you're looking to ride at higher speeds or carry more weight. Swapping the stock engine with a GY6 engine can significantly improve the performance and capabilities of your Ruckus or Zoomer.

### Benefits of a GY6 Swap

- Increased power and torque
- Higher top speed
- Improved acceleration

- Better hill-climbing ability
- Increased load capacity

## **Parts and Tools Required**

Before you begin the swap, you will need to gather the following parts and tools:

### **Parts:**

- GY6 engine (150cc or 180cc recommended)
- GY6 variator kit
- GY6 clutch kit
- GY6 wiring harness
- GY6 CDI unit
- GY6 carburetor (optional)
- GY6 air filter (optional)
- GY6 exhaust system (optional)

### **Tools:**

- Socket wrench set
- Allen wrench set
- Phillips head screwdriver
- Flat head screwdriver
- Hammer

- Pry bar
- Engine hoist (optional)

## **Step-by-Step Swap Procedure**

**Note:** The following procedure assumes that you have basic mechanical skills and knowledge. If you are not comfortable working on your scooter, it is recommended to consult a qualified mechanic.

### **1. Safety First**

Before you begin, disconnect the negative terminal of your battery. This will prevent any electrical shorts or accidents.

### **2. Remove the Stock Engine**

1. Remove the seat and rear body panels.
2. Disconnect the fuel line, coolant lines, and electrical connectors from the engine.
3. Remove the bolts that mount the engine to the frame.
4. Carefully lift the engine out of the frame.

### **3. Install the GY6 Engine**

1. Place the GY6 engine into the frame.
2. Bolt the engine to the frame.
3. Connect the fuel line, coolant lines, and electrical connectors to the engine.

### **4. Install the GY6 Variator and Clutch**

1. Remove the stock variator and clutch from the crankshaft.
2. Install the GY6 variator and clutch onto the crankshaft.
3. Tighten the bolts to the specified torque.

## **5. Install the GY6 Wiring Harness**

1. Disconnect the stock wiring harness from the electrical components.
2. Connect the GY6 wiring harness to the electrical components.
3. Secure the wiring harness with zip ties or electrical tape.

## **6. Install the GY6 CDI Unit**

1. Locate the stock CDI unit and disconnect it from the wiring harness.
2. Connect the GY6 CDI unit to the wiring harness.
3. Mount the GY6 CDI unit in a secure location.

## **7. Install the GY6 Carburetor (Optional)**

1. Remove the stock carburetor from the intake manifold.
2. Install the GY6 carburetor onto the intake manifold.
3. Tighten the bolts to the specified torque.

## **8. Install the GY6 Air Filter (Optional)**

1. Remove the stock air filter from the air box.
2. Install the GY6 air filter into the air box.

## **9. Install the GY6 Exhaust System (Optional)**

1. Remove the stock exhaust system from the engine.
2. Install the GY6 exhaust system onto the engine.
3. Tighten the bolts to the specified torque.

## **10. Reinstall the Body Panels**

1. Reinstall the rear body panels.
2. Reinstall the seat.

## **11. Reconnect the Battery**

1. Reconnect the negative terminal of the battery.
2. Check all electrical connections to ensure they are secure.

## **12. Start the Engine**

1. Turn on the fuel petcock.
2. Start the engine by kicking it over or using the electric starter.
3. Allow the engine to warm up for a few minutes.

## **13. Test Ride**

1. Once the engine is warm, take your scooter for a test ride.
2. Test the acceleration, top speed, and hill-climbing ability.
3. Make any necessary adjustments to the variator and clutch as needed.

Swapping the engine of your Honda Ruckus or Zoomer with a GY6 engine is a great way to improve its performance and capabilities. By following the

steps outlined in this guide, you can complete the swap yourself and enjoy the benefits of a more powerful and versatile scooter.



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