

## Huayong PD33J

# Huayong PD33J Carburetor Instruction Manual

For YFM250, YFM350, YFM400, YFM450, Kodiak 400, 450, Grizzly 350, 400, 450 ATVs

## 1. INTRODUCTION

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This manual provides essential information for the installation, operation, maintenance, and troubleshooting of your Huayong PD33J Carburetor. The carburetor is a critical component responsible for mixing air and fuel in the correct ratio for combustion in your ATV engine. Proper installation and maintenance are crucial for optimal engine performance and longevity. Please read this manual thoroughly before attempting any procedures.

## 2. SAFETY PRECAUTIONS

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- Always wear appropriate safety gear, including gloves and eye protection, when working on your vehicle.
- Ensure the engine is cool before beginning any work to prevent burns.
- Disconnect the battery to prevent accidental starting or electrical shorts.
- Work in a well-ventilated area, as fuel fumes can be hazardous.
- Keep a fire extinguisher nearby when working with fuel.
- If you are unsure about any step, consult a qualified mechanic.

## 3. SETUP AND INSTALLATION

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The Huayong PD33J Carburetor is designed as a direct replacement for compatible ATV models. While installation can be performed by an experienced individual, professional installation is recommended.

### 3.1 Pre-Installation Checks

- Verify that the new carburetor matches the specifications and connections of your original unit.
- Inspect all associated components such as intake manifold gaskets, fuel lines, and air filter for wear or damage. Replace as necessary.

## 3.2 Installation Steps (General)

1. **Remove Old Carburetor:** Carefully disconnect the fuel line, vacuum lines, throttle cable, and choke cable from the old carburetor. Unbolt the carburetor from the intake manifold and airbox.
2. **Clean Mounting Surfaces:** Ensure the intake manifold and airbox mounting surfaces are clean and free of old gasket material.
3. **Install New Gaskets:** Place new gaskets on the intake manifold and airbox side.
4. **Mount New Carburetor:** Position the new Huayong PD33J Carburetor and secure it with the appropriate bolts. Do not overtighten.
5. **Connect Lines and Cables:** Reconnect the fuel line, vacuum lines, throttle cable, and choke cable. Ensure all connections are secure and free of leaks.
6. **Initial Adjustments:** Before starting, ensure the throttle cable has proper slack and the choke operates smoothly.



Figure 1: Overall view of the Huayong PD33J Carburetor and its accompanying components, including a fuel filter and mounting hardware.



Figure 2: Side view of the carburetor, highlighting the fuel inlet, overflow lines, and various adjustment screws for idle and air/fuel mixture.

## 4. OPERATING THE CARBURETOR

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Once installed, the carburetor is designed to automatically regulate the air-fuel mixture. However, some initial adjustments may be necessary for optimal performance.

### 4.1 Initial Engine Start

- Ensure the fuel tank has fresh, clean fuel.
- Turn on the fuel petcock.
- Apply the choke if the engine is cold.
- Start the engine. Allow it to warm up before making any adjustments.

### 4.2 Idle and Air/Fuel Mixture Adjustment

These adjustments are crucial for smooth engine operation. Refer to your ATV's service manual for specific adjustment procedures and recommended settings.

- **Idle Speed Screw:** Adjusts the engine's RPM at idle. Turn clockwise to increase idle, counter-clockwise to decrease.
- **Air/Fuel Mixture Screw:** Controls the richness or leanness of the mixture at idle and off-idle. Adjust in small increments (e.g., 1/4 turn) and observe engine response. Turning clockwise typically leans the mixture, counter-clockwise enriches it.

Always make adjustments with the engine at operating temperature.



Figure 3: A different perspective of the carburetor, illustrating its various ports and connections.

## 5. MAINTENANCE

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Regular maintenance of your carburetor ensures reliable performance and extends its lifespan.

### 5.1 Cleaning

- **Fuel System:** Regularly inspect and clean or replace the fuel filter to prevent contaminants from reaching the carburetor.
- **Air Filter:** A clean air filter is vital. A dirty air filter can restrict airflow, causing a rich fuel mixture and poor engine performance. Clean or replace your air filter according to your ATV's service schedule.
- **Carburetor Jets and Bowl:** If performance issues arise, the carburetor's jets or float bowl may need cleaning. This typically involves disassembling the float bowl and carefully cleaning jets with carburetor cleaner and compressed air. Exercise caution to avoid damaging small components.

### 5.2 Seasonal Storage

If storing your ATV for an extended period, it is recommended to:

- Drain the fuel from the carburetor float bowl to prevent fuel degradation and gumming.
- Use a fuel stabilizer in the fuel tank if not completely draining the tank.



Figure 4: View of the carburetor's throttle linkage and choke mechanism, essential for engine control.

## 6. TROUBLESHOOTING

This section outlines common issues and potential solutions related to carburetor performance.

Symptom	Possible Cause	Solution
Engine won't start	No fuel, clogged fuel filter, clogged jets, faulty choke	Check fuel level, inspect/replace fuel filter, clean carburetor jets, verify choke operation.
Rough idle / Stalling	Incorrect idle speed, improper air/fuel mixture, vacuum leak, dirty pilot jet	Adjust idle speed, adjust air/fuel mixture screw, check for vacuum leaks, clean pilot jet.
Poor acceleration / Lack of power	Clogged main jet, dirty air filter, incorrect float level	Clean main jet, clean/replace air filter, check and adjust float level.
Fuel leaks	Damaged float bowl gasket, stuck float, loose fuel line connections	Inspect/replace float bowl gasket, check float for proper movement, tighten fuel line clamps.

If these steps do not resolve the issue, further diagnosis by a qualified mechanic may be required.



Figure 5: A top-down view of the carburetor, showing the air intake and various control points.

## 7. SPECIFICATIONS

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- **Model:** PD33J Carburetor
- **Compatibility:** YFM250, YFM350, YFM400, YFM450, Kodiak 400, Kodiak 450, Grizzly 350, Grizzly 400, Grizzly 450 ATVs
- **Package Dimensions:** 1.18 x 0.79 x 0.39 inches
- **Item Weight:** 7.1 ounces
- **Number of Pieces:** 1 (carburetor unit)
- **Assembly Required:** No (carburetor unit comes pre-assembled)

## 8. WARRANTY AND SUPPORT

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Specific warranty details for this product are not provided within this manual. For any questions or concerns regarding your Huayong PD33J Carburetor, please feel free to contact us by email. We are committed to assisting you with any issues you may encounter.

