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## Enginetech C214HS-B

# Enginetech Engine Rebuild Overhaul Kit Instruction Manual

Model: C214HS-B | For 2005 GM Chevrolet Colorado Canyon Uplander 3.5L 214 OHV 12V VIN L

## INTRODUCTION

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This manual provides essential information for the proper use, installation, and maintenance of your Enginetech Engine Rebuild Overhaul Kit. Please read these instructions thoroughly before beginning any work to ensure correct assembly and optimal performance.

This kit is designed for the 2005 GM Chevrolet Colorado, Canyon, and Uplander models equipped with the 3.5L 214 OHV 12V VIN L engine.

## KIT CONTENTS

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The Enginetech Engine Rebuild Overhaul Kit includes the following components:

- Full Gasket Set
- Hyper-Eutectic Dome-Top Pistons with Coated Skirts
- Premium Piston Rings
- Rod Bearings
- Main Bearings
- Cam Bearings
- Timing Kit
- Oil Pump Kit

*Note: Specific sizes for pistons, piston rings, rod bearings, and main bearings must be specified at the time of order. Available sizes include: Pistons: STD, 020; Piston Rings: STD, 020; Rod/Main Bearings: STD, 010, 020, 030.*



Figure 1: Overview of the Enginetech Engine Rebuild Overhaul Kit components, including gaskets, pistons, rings, bearings, timing kit, and oil pump.

## SETUP AND PRE-INSTALLATION CHECKS

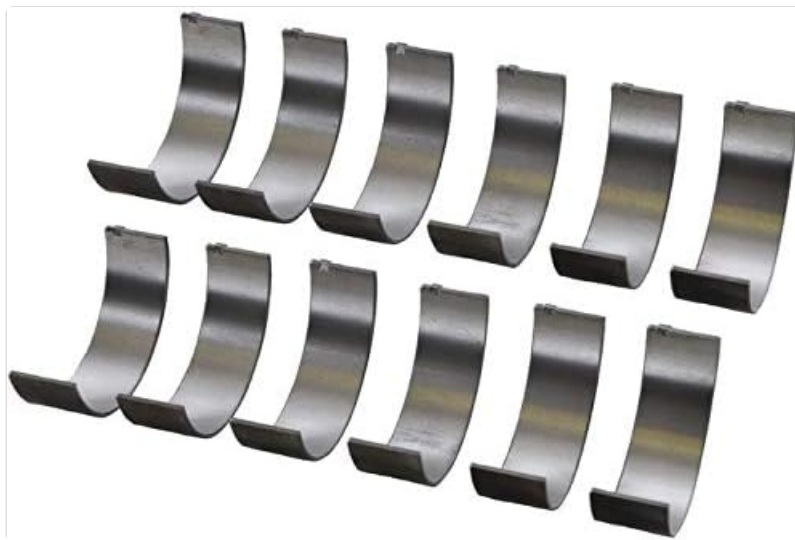
Before beginning the engine rebuild process, ensure you have all necessary tools and a clean, organized workspace. Verify all kit components against the packing list and inspect for any shipping damage.

### Component Verification

- Confirm correct piston and bearing sizes (STD, 010, 020, 030) as ordered.
- Inspect all gaskets for tears or deformities.
- Check pistons for any nicks or damage to the skirts or dome.
- Ensure all bearing shells are free from scratches or burrs.



**Figure 2:** A selection of gaskets and seals included in the full gasket set. Verify all components are present and undamaged.



**Figure 3:** Premium piston rings. Ensure correct sizing and inspect for any deformities before installation.

## OPERATING PRINCIPLES (ENGINE REBUILD OVERVIEW)

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This section provides a general overview of the engine rebuild process. Detailed steps for specific engine components should be referenced from a comprehensive service manual for your vehicle model.

### Piston and Rod Assembly

The hyper-eutectic dome-top pistons with coated skirts are designed for durability and reduced friction. Proper installation of piston rings is crucial for compression and oil control.



Figure 4: Hyper-eutectic dome-top piston with coated skirt. Note the directional arrow for correct orientation during installation.

## Bearing Installation

Rod bearings, main bearings, and cam bearings must be installed with proper lubrication and torque specifications. Incorrect installation can lead to premature engine failure.



Figure 5: Rod bearings. Ensure proper alignment and lubrication during installation.



**Figure 6:** Main bearings. These are critical for crankshaft support and must be installed with precision.

### Timing Kit and Oil Pump

The timing kit ensures precise valve timing, which is essential for engine operation. The oil pump kit provides critical lubrication to all moving engine components.



**Figure 7:** Timing chain and gears. Proper alignment is crucial for engine timing.



**Figure 8:** Oil pump. Ensure proper installation and sealing for adequate engine lubrication.

## MAINTENANCE AND POST-REBUILD CARE

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After completing the engine rebuild, proper break-in procedures and ongoing maintenance are vital for the longevity of the engine and the components installed from this kit.

### Engine Break-in

- Follow the vehicle manufacturer's recommended break-in procedure for a newly rebuilt engine.
- Monitor oil pressure and engine temperature closely during initial operation.
- Perform initial oil and filter change at the recommended interval (typically 500-1000 miles).

### Regular Maintenance

- Adhere to the vehicle manufacturer's schedule for oil changes, filter replacements, and coolant flushes.
- Regularly check fluid levels and inspect for any leaks.
- Listen for unusual engine noises and address them promptly.

## TROUBLESHOOTING COMMON ISSUES

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This section addresses potential issues that may arise during or after an engine rebuild. Always consult a certified mechanic if you are unsure about any procedure.

Symptom	Possible Cause	Solution
Low Oil Pressure	Incorrect oil pump installation, clogged oil pickup, incorrect bearing clearances.	Verify oil pump installation, check oil pickup, re-check bearing clearances.
Engine Knocking/Tapping	Incorrect bearing installation, piston slap, valve train issues.	Inspect bearings, check piston-to-bore clearance, verify valve lash.

Symptom	Possible Cause	Solution
Excessive Smoke from Exhaust	Improper piston ring seating, damaged valve seals (not part of kit, but related), incorrect PCV operation.	Allow for proper ring break-in, inspect valve seals, check PCV system.
Coolant in Oil / Oil in Coolant	Head gasket failure, cracked block/head (not kit related).	Inspect head gaskets, perform pressure test.

## SPECIFICATIONS

This kit is designed to meet or exceed OEM specifications for the specified vehicle applications.

- **Product Model:** C214HS-B
- **Application:** 2005 GM Chevrolet Colorado, Canyon, Uplander
- **Engine Type:** 3.5L (214 OHV 12V VIN L)
- **Piston Types:** Hyper-Eutectic Dome-Top with Coated Skirts
- **Quality Standards:** Manufactured by companies with ISO, QS & TS quality systems.

### Available Component Sizes:

Component	Available Sizes
Pistons	STD, 020
Piston Rings	STD, 020
Rod Bearings	STD, 010, 020, 030
Main Bearings	STD, 010, 020, 030

## WARRANTY AND SUPPORT

Enginetech products are manufactured to high-quality standards. For any issues or questions regarding your kit, please contact the seller directly.

### Contacting Support

If you encounter any issues with the kit components or require assistance with sizing, please send a message to the seller, [Redline Engine Supply](#), with details of your concern and a call-back phone number. They aim to resolve issues quickly.

### Exchanges and Returns

If a different size part is needed than what was ordered, an exchange can be arranged. Do not open a return request; instead, message the seller directly to facilitate the exchange. The standard return policy allows for returns within 30 days.

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This manual is for informational purposes only. Professional installation is recommended.