

## maXpeedingrods CN55BZ

# maXpeedingrods 5494878RX HE300VG Turbo Actuator Instruction Manual

For Cummins 6.7L Engines in Dodge Ram 2500, 3500, 4500, 5500 (2013-2018)

## 1. INTRODUCTION

### Product Overview

This manual provides detailed instructions for the installation, calibration, and maintenance of your maXpeedingrods 5494878RX HE300VG Turbo Electronic Actuator. This component is designed to precisely control the variable geometry turbocharger, optimizing engine performance and efficiency.

### Compatibility

This turbocharger actuator is compatible with the following vehicles:

- Ram 2500 6.7L Turbo Diesel (2013-2018)
- Ram 3500 6.7L Turbo Diesel (2013-2018)
- Ram 4500 6.7L Turbo Diesel (2013-2018)
- Ram 5500 6.7L Turbo Diesel (2013-2018)

### Relevant Part Numbers

This actuator replaces or is compatible with the following OE/Part numbers:

- 3787604, 3781632, 5601240NX, 3794756, 3775439, 3787608, 3781633, 3779986, 3798539, 37985, 3794758, 3775427, 3787607, 3781755, 3779987, 5326054, 3781754, 3775426, 3779989, 3784573, 3784574, 68307025AA, 3798575, 5326054, 5326057, 5327046, 532704600, 532704600HX, 5459710RX, 68210648AA, 68212738AA, 68245792AA, 68253983AA, 68295438AA, 5347703.

## 2. PACKAGE CONTENTS

Verify that all items listed below are included in your package:

- 1 x Turbo Actuator (Part Number: 68445522AA)
- 1 x Actuator Harness
- 1 x OBDII Fault Detector / Calibration Tool
- 4 x Gaskets
- 4 x Screws
- 4 x Cable Ties



Figure 2.1: Complete package contents of the maXpeedingrods turbo actuator kit.



## Vehicle Fitment

For 2013–2018 Dodge Ram 2500 3500 4500 5500 Cummins 6.7L Diesel

## OE/Part number

3787604, 3781632, 5601240NX, 3794756, 3775439, 3787608, 3781633,  
3779986, 3798539, 37985, 3794758, 3775427, 3787607, 3781755, 3779987,  
5326054, 3781754, 3775426, 3779989, 3784573, 3784574, 68307025AA,  
3798575, 5326054, 5326057, 5327046, 532704600,  
532704600HX, 5459710RX, 68210648AA, 68212738AA, 68245792AA,  
68253983AA, 68295438AA, 68297874AA, 68321377AA, 68445522AA,  
5601240NX, 5601240, 5494878RX, 5494878, 5494878H, 4034309H,  
4034309RX

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Figure 2.2: Detailed view of the turbo actuator.



Figure 2.3: The OBDII Fault Detector / Calibration Tool.

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Video 2.1: A detailed show of the 6.7 Cummins Turbo Actuator and its included components, providing a visual overview of what's in the package.

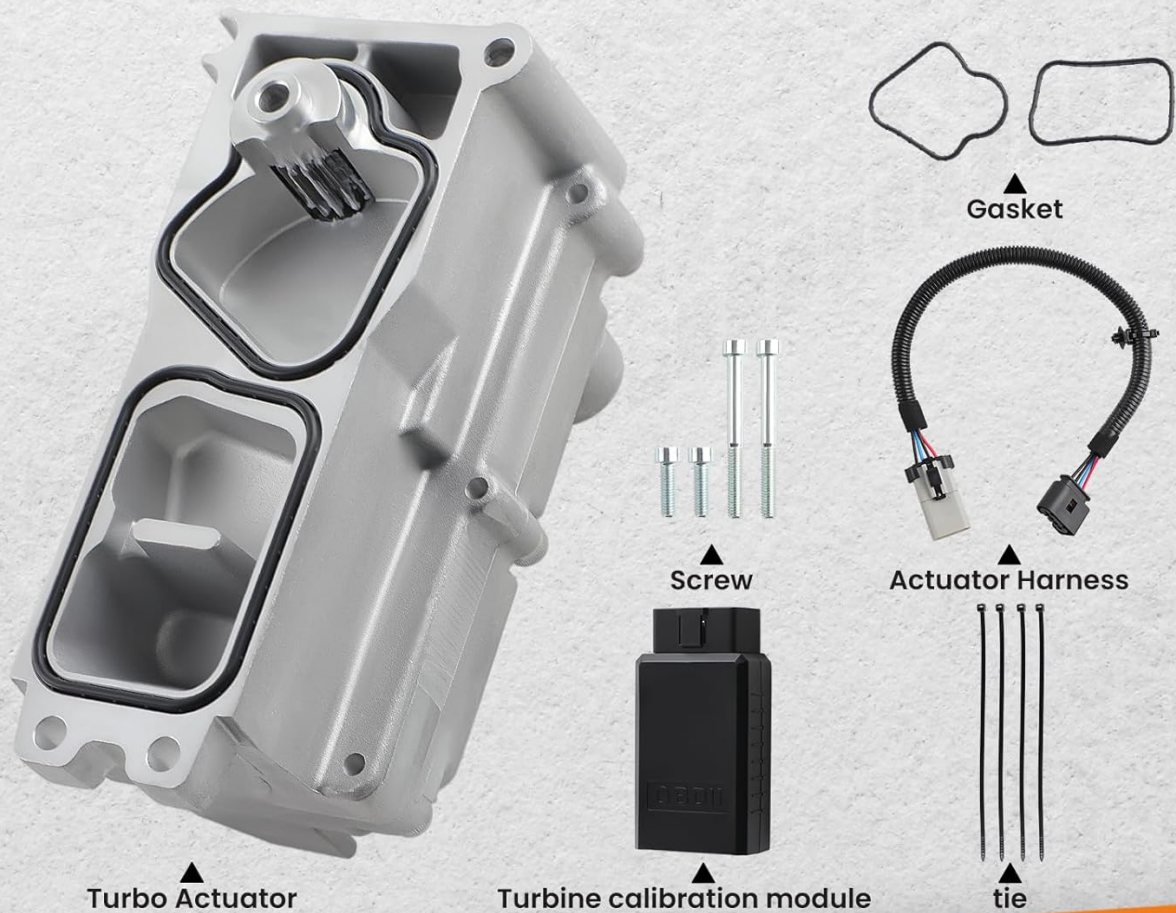
### 3. KEY FEATURES

The maXpeedingrods Turbo Actuator offers the following functionalities:

- Increases engine power and torque by optimizing turbocharger operation.
- Controls the boost pressure of the turbocharger for consistent performance.
- Adjusts the position of the turbine blades to enhance efficiency across various RPMs.
- Efficiently manages exhaust volume for improved engine response.



# Package Includes



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Figure 3.1: Visual representation of the turbo actuator's features.

## 4. INSTALLATION GUIDELINES

**Warning: Professional installation is highly recommended. Improper installation can lead to vehicle damage or malfunction. Always disconnect the vehicle's battery before beginning any electrical work.**

1. **Preparation:** Ensure the engine is cool. Disconnect the negative terminal of the vehicle's battery.
2. **Access the Turbocharger Actuator:** Locate the existing turbocharger actuator on your engine. This may require removing other components for access.
3. **Remove Old Actuator:** Carefully disconnect the electrical harness and remove the mounting screws securing the old actuator. Note the orientation for proper installation of the new unit.
4. **Install New Actuator:** Place the new maXpeedingrods actuator, ensuring the new gaskets are correctly seated. Secure it with the provided screws. Connect the new actuator harness.
5. **Reconnect Components:** Reinstall any components removed for access. Reconnect the vehicle's battery.

## 5. CALIBRATION PROCEDURE

After installing the new turbo actuator, it is crucial to perform a calibration using the included OBDII Fault Detector / Calibration Tool. This ensures proper synchronization with your vehicle's engine control unit (ECU).

### Calibrator Indicator Lights:

- **Power Indicator (Red):** Stays steady on when the module is powered.
- **Calibration Indicator (Green):** Flashes during calibration, steady on when successful.
- **Calibration Failure Lamp (Red):** Stays steady on if calibration fails.

### Steps for Calibration:

1. **Prepare Vehicle:** Ensure the vehicle is turned off. Do not press the brake pedal.
2. **Ignition to RUN:** Press the ignition button twice to put the car in the RUN gear (without starting the engine).
3. **Connect Calibrator:** Insert the OBDII Fault Detector / Calibration Tool into the vehicle's OBD port, typically located under the dashboard on the driver's side.
4. **Initial Power Check:** Upon insertion, the three indicator lights on the calibrator will briefly stay on for one second. The red power indicator should then remain steady on, confirming the module is powered.
5. **Start Calibration:** Press the small switch located at the bottom of the calibrator. The green calibration indicator light will start flashing. This indicates the calibration process is active.
6. **Successful Calibration:** The green light will continue to flash until it becomes steady on. This signifies that the turbine calibration is successful.
7. **Calibration Failure:** If the red calibration failure lamp stays steady on, the calibration has failed. You will need to repeat the steps from the beginning.

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Video 5.1: A complete video guide demonstrating the calibration process for the turbo actuator using the OBDII tool, including indicator light meanings and troubleshooting for failed calibration.

## 6. OPERATING INSTRUCTIONS

Once the turbo actuator is successfully installed and calibrated, it operates automatically in conjunction with your vehicle's ECU to manage turbocharger boost and variable geometry. No manual intervention is required during normal operation.

- The actuator continuously adjusts the turbine blades to maintain optimal boost pressure and engine efficiency.
- Monitor your vehicle's dashboard for any warning lights related to the turbocharger or engine.

## 7. MAINTENANCE

The maXpeedingrods Turbo Actuator is designed for long-term reliability with minimal maintenance. However, regular vehicle maintenance practices are essential for its optimal performance:

- **Regular Inspections:** Periodically inspect the actuator and its connections for any signs of wear, damage, or loose connections.
- **Cleanliness:** Keep the area around the turbocharger and actuator clean from excessive dirt, oil, or debris.
- **Engine Health:** Ensure your engine is well-maintained, including regular oil changes and air filter

replacements, as these factors directly impact turbocharger health.

## 8. TROUBLESHOOTING

If you encounter issues after installation, refer to the following common troubleshooting steps:

- **Check Engine Light / DTCs:** If the Check Engine Light illuminates, use an OBDII scanner to retrieve Diagnostic Trouble Codes (DTCs). This can help pinpoint the issue.
- **Calibration Failure (Red Light on Calibrator):** If the red calibration failure lamp on the OBDII tool remains steady on after attempting calibration, repeat the calibration procedure carefully, ensuring all steps are followed precisely. Verify the vehicle is in RUN mode (engine off) and the calibrator switch is pressed correctly.
- **Loss of Power / Turbo Lag:**
  - Ensure the actuator harness is securely connected.
  - Verify that the actuator is properly mounted and the gaskets are sealed correctly.
  - Re-perform the calibration procedure.
  - Check for any vacuum leaks or boost leaks in the turbocharger system.
- **Unusual Noises:** Any new whistling, grinding, or rattling noises from the turbocharger area should be investigated immediately by a qualified mechanic.

If problems persist after attempting these steps, contact maXpeedingrods customer support or consult a certified automotive technician.

## 9. SPECIFICATIONS

Attribute	Detail
Brand	maXpeedingrods
Model Number	CN55BZ
Item Weight	4.3 pounds
Product Dimensions	8.66 x 5.12 x 7.48 inches
Manufacturer Part Number	CN55BZ
OE/Part Numbers	3787604, 3781632, 5601240NX, 3794756, 3775439, 3787608, 3781633, 3779986, 3798539, 37985, 3794758, 3775427, 3787607, 3781755, 3779987, 5326054, 3781754, 3775426, 3779989, 3784573, 3784574, 68307025AA, 3798575, 5326054, 5326057, 5327046, 532704600, 532704600HX, 5459710RX, 68210648AA, 68212738AA, 68245792AA, 68253983AA, 68295438AA, 5347703

## 10. WARRANTY AND SUPPORT






For warranty information, technical support, or any inquiries regarding your maXpeedingrods Turbo Actuator, please refer to the contact information provided with your purchase or visit the official maXpeedingrods website. Keep your

purchase receipt as proof of purchase for warranty claims.



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### [MAXPEEDINGRODS Air Spring Kit Installation Guide for Ram 2500 2WD 4WD](#)

This guide provides step-by-step instructions for installing the MAXPEEDINGRODS Rear Air Helper Spring Leveling Kit on Ram 2500 2WD and 4WD vehicles. It includes a complete parts list, pre-installation warnings, and detailed assembly procedures for a safe and effective installation.