

67 cummins lost communication with turbo

6.7 Cummins Lost Communication with Turbo: Troubleshooting and Solutions

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Summary: This article delves into the common problem of "6.7 Cummins lost communication with turbo," exploring its causes, diagnostic procedures, and various solutions. It combines technical explanations with real-world case studies and personal anecdotes from a seasoned diesel mechanic to provide a comprehensive understanding of this issue. We'll cover everything from faulty sensors and wiring harnesses to more complex ECM issues, offering readers practical advice to diagnose and resolve this frustrating problem.

Introduction: The Silent Threat of Lost Turbo Communication

The 6.7 Cummins engine, a powerhouse known for its reliability and torque, isn't immune to problems. One particularly frustrating issue that plagues many owners is the dreaded "6.7 Cummins lost communication with turbo" error. This doesn't simply mean a lack of boost; it signifies a breakdown in the critical communication link between the engine's Electronic Control Module (ECM) and the turbocharger's variable geometry system (VGT). This loss of communication can severely hamper performance, leading to reduced power, sluggish acceleration, and even limp mode. This article aims to illuminate the darkness surrounding this error code, providing you with the knowledge to diagnose and, hopefully, fix the issue.

Understanding the 6.7 Cummins Turbo Communication System

Before diving into troubleshooting, let's understand the system. The 6.7 Cummins' VGT turbo uses an actuator controlled by the ECM. This actuator adjusts the vanes within the turbo, optimizing boost pressure based on engine load and speed. The communication happens through various sensors and wiring harnesses. A break in this chain – a faulty sensor, damaged wiring, or a problem within the ECM itself – leads to the "6.7 Cummins lost communication with turbo" error.

Case Study 1: The Intermittent Glitch

During my time at Diesel Dynamics, a farmer brought in his 2013 Ram 3500 with a 6.7 Cummins. He described intermittent power loss, sometimes accompanied by a check engine light. The diagnostic trouble code pointed directly to "6.7 Cummins lost communication with turbo." After initially suspecting a faulty VGT actuator, a thorough inspection revealed a corroded connection in the wiring harness near the turbo. A simple cleaning and reconnection resolved the issue. This highlights the importance of checking the most basic components first.

Case Study 2: The Silent Killer - The MAP Sensor

Another time, a client's 2016 Dodge with the 6.7 Cummins experienced a complete loss of power. The "6.7 Cummins lost communication with turbo" error was present. This time, however, the problem wasn't as straightforward. We initially checked the wiring and actuator, but everything seemed fine. It was only after a comprehensive diagnostic scan that we discovered a faulty Manifold Absolute Pressure (MAP) sensor. The ECM relies on the MAP sensor's readings to control boost pressure; a faulty sensor effectively cuts off communication. Replacing the MAP sensor solved the problem.

Common Causes of "6.7 Cummins Lost Communication with Turbo"

Faulty VGT Actuator: The actuator itself can fail mechanically, preventing proper vane movement. A sticking actuator is a common culprit.

Wiring Harness Issues: Corrosion, chafing, or damage to the wiring harness leading to the VGT actuator is frequently responsible for interrupted communication. This is especially prevalent in vehicles exposed to harsh weather conditions.

MAP Sensor Failure: As illustrated in Case Study 2, a faulty MAP sensor can disrupt the entire communication chain.

Boost Pressure Sensor Issues: This sensor monitors actual boost pressure and feeds this information back to the ECM. A malfunction can lead to communication errors.

ECM Problems: In rarer cases, the ECM itself might be faulty, requiring replacement. This is usually the last resort after ruling out all other possibilities.

Diagnostic Steps for "6.7 Cummins Lost Communication with Turbo"

1. Retrieve Diagnostic Trouble Codes (DTCs): Using a quality diagnostic scanner capable of reading Cummins codes is crucial. This will provide a starting point for your investigation.
2. Visual Inspection: Carefully examine the wiring harness leading to the VGT actuator for any signs of damage, corrosion, or loose connections.
3. Actuator Testing: Manually check the VGT actuator for free movement. A sticking or unresponsive actuator requires replacement.
4. Sensor Testing: Use a multimeter to test the MAP sensor, boost pressure sensor, and other relevant sensors for proper operation. These sensors often have specific voltage and resistance ranges that can be verified.
5. ECM Diagnostics: If all other components check out, a professional-grade diagnostic tool capable of advanced ECM testing might be necessary to rule out a faulty ECM.

Troubleshooting Tips and Solutions

Always start with the simplest solutions: Check for loose connections and obvious wiring problems before moving to more complex components.

Use a reputable diagnostic scanner: A basic OBDII scanner may not be sufficient; invest in a scanner that can access Cummins-specific DTCs.

Consult the Cummins service manual: This detailed manual contains valuable troubleshooting information specific to the 6.7 Cummins engine.

Consider professional help: If you're uncomfortable working with advanced automotive electronics, seeking the help of a qualified diesel mechanic is always recommended.

Personal Anecdote: The Case of the Chafed Wire

I once spent hours troubleshooting a "6.7 Cummins lost communication with turbo" on a customer's truck. Everything looked fine – actuators, sensors, ECM – until I noticed a tiny, almost invisible chafed spot on the wiring harness, hidden beneath a protective sleeve. This tiny break was enough to disrupt the communication. It reinforced the importance of a thorough visual inspection. Sometimes, the smallest details hold the key to solving the most stubborn problems.

Conclusion

The "6.7 Cummins lost communication with turbo" error can be frustrating, but with a systematic approach to troubleshooting and the right tools, it can be resolved. By understanding the communication system, systematically checking components, and using appropriate diagnostic tools, you can identify and fix the issue, restoring your truck's power and performance. Remember that safety is paramount, so if you're not comfortable performing these repairs yourself, consult a qualified diesel mechanic.

FAQs

1. How much does it cost to fix a 6.7 Cummins lost communication with turbo? The cost varies greatly depending on the cause. A simple wiring repair might cost a few hundred dollars, while a faulty ECM could be significantly more expensive.
1. Can I drive my truck with a "6.7 Cummins lost communication with turbo" error? While you might be able to drive it, it's not recommended. Reduced power and limp mode can significantly impact performance and safety.
1. How often does this problem occur in 6.7 Cummins engines? It's a relatively common issue, though the frequency varies depending on operating conditions and vehicle maintenance.
1. What is the lifespan of a VGT actuator? The lifespan of a VGT actuator depends on several factors, including operating conditions and maintenance, but it can last for many years.
1. Can a bad battery cause a "6.7 Cummins lost communication with turbo" error? While unlikely to be the direct cause, a weak battery can sometimes lead to erratic sensor readings, potentially triggering the error.

1. Can software updates resolve this issue? In some cases, software updates might address minor glitches in the ECM's communication protocols.
1. Are there any preventative measures to avoid this problem? Regular maintenance, including inspections of the wiring harness and regular sensor checks, can help prevent this issue.
1. What is the difference between a VGT actuator and a wastegate? VGT actuators control variable geometry vanes for precise boost control, while a wastegate is a simpler on/off system for boost pressure regulation.
1. Is there a DIY fix for this problem? Some basic fixes, such as repairing damaged wiring, might be doable for mechanically inclined individuals. However, more complex repairs might require professional expertise.

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