



## TURBOCHARGER Troubleshooting and FAQ'S

## Questions & Answers

### Why is my turbocharger leaking oil from the compressor end?

Compressor side oil leaks typically are caused by pressure imbalances across the oil seal, meaning that there may be a restriction or boost leak that is causing the pressure at the seal to be out of normal which can cause seal wear and oil leakage.

### Why is my turbocharger leaking oil from the turbine end?

Turbine side, or turbocharger exhaust oil leaks are typically caused by pressure imbalances across the oil seal, meaning that there may be a restriction or exhaust leak that is causing the pressure at the seal to be out of normal which can cause seal wear and oil leakage.

### Why is my turbocharger leaking from both compressor and turbine end?

Oil leakage from both sides of the turbocharger, compressor and turbine is typically due to an issue with the engine and/or emission system. It is likely that if the turbo is leaking on one side, the other may not be as noticeable, so if there is an oil leak on one side, the other should be inspected closely. One of the most common causes of oil leaks on both sides is high crankcase pressure which can be caused by engine issues such as a clogged breather or worn out engine.

### Why is my turbocharger VGT lever stuck or hard to move?

The most common failure of a Holset VGT turbo is the lever/geared arm being stuck or hard to move. This can be due to FOID (foreign object impact damage) or carbon

build up. FOID is commonly caused by particles of carbon breaking free from the EGR system, carbon build up in the intake or exhaust manifold or carbon packing on the pistons.

Excessive carbon build up in the VGT Nozzle can cause the arm to be hard to move, this can be from a poor running engine or engine aftertreatment that is not functioning correctly.

### Why does my turbocharger have low boost?

Low boost can be an indicator of an engine issue. The turbo will only make boost if it is driven by sufficient heat and combustion. If an engine is not running well, then you may not get full boost. When a VGT turbo is being used, then VGT sticking or slow movement may cause low boost.

### What does dash code # P2387 or P2449 indicate?

P2387 or P2449 can be misleading codes that might make you think that your electronic actuator has somehow become not-calibrated. This is not the case, these codes only mean that during the calibration self check that the ECM does before start up, the actuator was not able to completely sweep from 0% to 100% and back again. In these cases, it is normally a FOID or carbon build up issue in the turbo that is causing the arm to stick or be hard to move.

### Why does my turbocharger make a whining noise?

When a turbocharger makes a whining noise, you should turn off the engine immediately and trouble shoot the issue.

First check if the turbocharger shaft and wheels are rubbing the housings, if they are, then do not continue to operate the engine, the turbo need to be removed and replaced. If the shaft and wheels are good, then you should check for boost or exhaust leaks.

### Why do I see white smoke? Is it a bad turbocharger?

White smoke is typically associated with incomplete combustion, which can be an indication of an engine issue. White or white/gray smoke can be coolant/water in the combustion process, which may indicate a cracked head or leaking head gasket.

### Why do I see blue smoke?

Blue smoke is typically from oil in the combustion process. The engine should be shut down and the issue resolved before continuing to operate because the engine can run away if engine is ingesting the oil.

### Why do I see black smoke?

Black smoke is from excessive fuel in the combustion process, it can also be from insufficient air. The turbocharger provides the air, so it can be checked for shaft play correct function. The injection system should also be checked for correct operation.

### What is the life expectancy of my Cummins VGT turbocharger?

The manufacturer stated life expectancy is different from our real world experience. Our customers typically need to change their original Holset VGT turbo by 285,000 miles.



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