

TURBO FAILURE: EGR VALVE

FACT
SHEET

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- **Turbochargers are very reliable: less than 1% of turbos fail due to a manufacturing fault with the turbo itself.**
- **95% of turbo failures are because of problems with oil starvation, oil contamination or foreign object damage.**

BEFORE YOU FIT A NEW TURBO, FIND OUT WHAT CAUSED THE FIRST UNIT TO FAIL OR YOU RISK THE REPLACEMENT FAILING TOO.

What is the EGR Valve?

The EGR (Exhaust Gas Recirculation) valve directs a small amount of exhaust gases back into the inlet air charge, and lowers the maximum temperature of the burning fuel. The valve ensures the EGR system is disabled at idle, when it would otherwise lead to erratic idling, and at peak power, when adding exhaust gases would reduce power output.

The EGR valve is likely to stick and become coked up on some applications. This can have a significant effect on the performance of the turbocharger.

A faulty EGR valve can result in excessive carbon/soot at the turbine end. This could cause the VNT mechanism to stick.

It is important to check the EGR valve is functioning correctly.

If the EGR Valve does not open

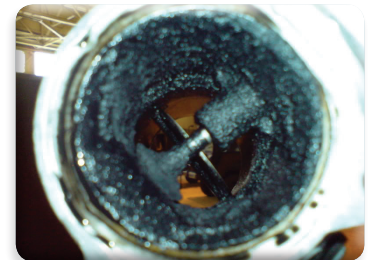
- Excessive production of nitrogen oxide Erratic idling or unable to idle
- Poor operation when cold
- Increased fuel consumption
- Lack of performance
- Fault light and/or fault code activated

Possible reasons why the EGR Valve does not open

- EGR valve sticks/gummed up
- Air leak on the vacuum side
- Vacuum connections disconnected, leaking or incorrect
- Faulty electric switch pressure converter valve Non-opening blow-off valve (for turbocharger).

Possible reasons why the EGR Valve does not close

- Heavy deposits on tappet or valve
- EGR valve damaged through overheating, due to:
 - incorrect control
 - high exhaust back pressure
 - non-opening blow-off valve (for turbocharger)
- Air flow meter or other sensor signal faulty
- Intake pipe in the EGR system partly constricted by deposits
- Oil leak from turbocharger



EGR valve which is malfunctioning due to excessive carbon / coke.



EGR valve after cleaning.

BTN Turbo supplies brand new replacement turbochargers, made by the original manufacturers to the highest quality standards. Though we confidently guarantee them, our standard warranty does not cover turbocharger failure caused by external engine faults.

This is one of a series of Turbo Failure Fact Sheets from BTN Turbo.

Safeguard your reputation and your business – make sure you read them all.

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The Turbocharger People