

Issue no. 4/2014: Turbo tip—excessive crankcase pressure in vehicles with turbochargers 030TC14011000 or 082TC15850000

- Increased oil consumption
- Poor performance
- Low responsiveness and/or
- Heavy smoke formation from the exhaust system
- Sluggish or clogged variable turbine geometry (VTG)

When such problems occur in vehicles with the above-mentioned turbochargers, they are often falsely attributed to a defective turbocharger—and the real cause is not resolved.

Our advice is therefore: check the pressure in the crankcase first. This can be determined using a pressure gauge on the guide tube of the oil dipstick. If the crankcase ventilation and oil mist separator are blocked or defective, the crankcase pressure increases. At an overpressure of a few millibars, engine oil is forced out of the turbocharger in the intake and exhaust gas tract—resulting in the above-mentioned symptoms. The oil that is forced out is burnt in the turbocharger and engine. As a further consequence, the mechanism of the VTG adjustment becomes sluggish and eventually clogged due to oil carbon build-up.

These problems cannot be resolved by merely replacing the turbocharger. The cause needs to be found and eliminated. In general, we recommend to systematically replace the oil mist separator along with the turbocharger.

This is the only way to ensure that the real cause has been remedied.

We also suggest that your customers avoid short-run operations wherever possible. If the engine never or only rarely reaches its operating temperature, the new oil mist separator will become clogged with condensate and oil again.



VTG: heavy oil carbon build-up blocking the mechanism



Crankcase ventilation system with oil mist separator



Crankcase ventilation: clogged by an emulsion consisting of condensate and engine oil