

### Issue no. 05/2016: Apparent oil leakage at the new turbocharger

Blue smoke coming from the exhaust and oil leaking on the exhaust side of the turbocharger just a few kilometres after the turbocharger has been replaced are often misdiagnosed initially—but the new turbocharger is not to blame.

Under normal conditions, the turbocharger itself does not lose oil; this can only occur when there is a malfunction in the engine environment.

For the symptoms described, the previous turbocharger or previous damage is usually the cause. Close inspection of the new turbocharger reveals that although oil can be seen at the turbine outlet (see Figure 1), it has also already penetrated into the turbine inlet (see Figure 2).



Figure 1: Oil at the turbine outlet of the turbocharger



Figure 2: Oil enters at the turbine inlet

This oil comes from previous damage and has accumulated in the intercooler; it is pushed out by the new turbocharger along with the compressed air through the engine and thus enters the turbine inlet of the turbocharger (see Figure 3).

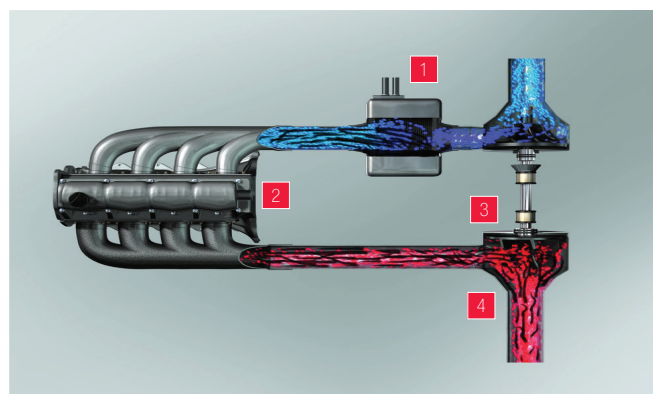


Figure 3: The accumulated oil from previous damage leaves the intercooler [1], flows through the engine [2] to the turbine inlet [3], passes through the turbocharger, and exits again through the turbine outlet [4].

**IMPORTANT!** When carrying out repair work on the turbocharger, it is essential to clean the charge air line thoroughly and inspect and/or replace the intercooler in order to remove oil residue!