

Failure of turbocharger, whistling noises and lack of performance**Please note:**

If the turbocharger on the vehicles below fails after being exchanged, the exhaust back pressure is most likely too high, leading to a damage on the axial bearing of the rotorshaft. The damage on the turbocharger usually results in an extremely increased axial bearing clearance, leading to the turbine wheel grazing on the heatshield of the turbine housing and the compressor wheel grazing on the compressor housing. The driver will probably notice shrieking whistling noises and a starting lack of performance.

Exhaust back pressure:

The maximum exhaust back pressure on a turbocharger is usually **300 mbar**. This value has to be measured manually. The results from the OBD often show wrong values as there is no way of testing a blocked test pipe from the DPF or the functionality of the differential pressure sensor. A loaded DPF needs regenerations within shorter periods of time. In those regeneration periods, the exhaust back pressure will reach 700 to 900 mbar. This measurement is submitted to the engine control unit.

Manually measuring the exhaust back pressure.

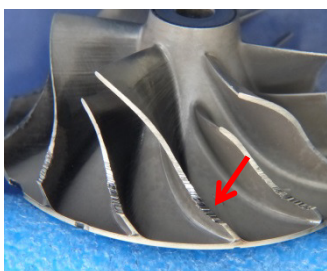
Insert a T connector along with a hose and a manometer before the DPF on the test pipe. The measured exhaust back pressure may not exceed **300 mbar** in any rpm range when testdriving the vehicle – already under operating temperature. Please also refer to the 4th issue of our Technical Guide for additional information. We also offer relevant equipment for the measurement, our reference: **MESS01**.



Axial bearing
worn by axial thrust



turbine wheel –
grazed on housing



compressor wheel –
grazed on housing



abraded compressor
housing

Vehicle manufacturer: BMW

Vehicles: (E81, E82, E87, E88) 120 d ; (E90, E91, E92, E93) 320 d ; (E60, E61) 520 d ; (E84) X1 ; (E83, F25) X3, mit Motorcode N47D20A, N47D20C

Validity: This service information is valid for the exchange of the turbocharger with **BTS reference:** T914870;

BTS Service Set reference: T981026; **OE-no.:** 11654727470, 11657797781, 11657797782, 11657808477, 11657808478, 11657810199, 11657810200, 11657810203, 11658506891, 11658506892, 11658506893, 11658506894, 11658506895, 11658506896, 472468601, 4727470, 7797781, 779778103, 7797782, 7808477, 780847701, 7808478, 7810199, 7810200, 7810203, 8506891, 850689101, 8506892, 8506893, 850689301, 8506894, 8506895, 850689501, 8506896; **manufacturer part no.:** 49135-05830, 49135-05840, 49135-05850, 49135-05860, 49135-05865, 49135-05870, 49135-05875, 49135-05880, 49135-05885, 49135-05886, 49135-05890, 49135-05895, 49135-05896, 49335-00100, 49335-00200, 49335-00220, 49335-00221, 49335-00230, 49335-00240, 49335-00241, 49335-00420, 49335-00430, 49335-00431, 49335-00440, 49335-00441, 49490-93501

Please note:

OE-references are only for means of comparison.

The content of this Service Information is non-binding and is only for informational purposes.

The manufacturer specifications have to be adhered to.