



GENERAL INSTALLATION GUIDE

Mandatory maintenance before installing a turbocharger

We have compiled this list based on the examination of your faulty turbo or, failing that, on the basis of our previous many years of experience in order to jointly prevent a possible failure again!

Some vehicle types have unique service instructions (for example, requiring the replacement of extra parts or the installation of parts modified since production), which must be followed in order to avoid a repeat failure! It is the responsibility of the service center performing the installation or replacement to be aware of these unique regulations valid at the time of installation and to carry out repairs and necessary component replacements in accordance with the vehicle manufacturer's specifications!

- Check the cleanliness and tightness of **the space in front of the supercharger** (the crankcase gas return circuit, suction pipe and the air filter or resonator housing) (elimination of possible false air intake)! As a result of the previous failure, **there may be debris on the suction side**, which after start-up can get into the supercharger and destroy the compressor wheel! Also clean the resonator and check the air mass meter!
- Carry out a thorough **cleaning of the pressure side and return oiling pipes of the turbocharger**, check the unobstructed oil flow, replace the pipes if necessary or according to factory specifications. Replace the lubrication system seals. The use of liquid sealing paste in the entire oil system is strictly **FORBIDDEN** !
- Remove the **oil pan** and the oil cooler and clean them thoroughly. Also check the condition of the **oil pump** and filter basket. Replace parts if necessary or as per factory instructions. Check the consistency of the oil, if the oil is abnormally thick, contact a specialist service, because the engine's oil passages may be blocked, so it may be necessary to disassemble the engine and repair it.
- Check the condition of the **catalyst** and/or **particle filter**. A clogged catalytic converter and/or particulate filter will cause the turbocharger to malfunction and fail again. If necessary, replace the defective part(s). Replace the side **seals of the turbocharger turbine (exhaust)**, never use sealing paste on the supercharger joints!
- If the failure of the previous supercharger was caused by damage on the turbine (exhaust) side, it is essential to dismantle the **exhaust line** (downpipe) and endoscopically examine the valve guide and the valve plate (or the inner wall of the downpipe), because oil coke may have deposited on these parts, which, if detached, could lead to the new may cause repeated failure of the charger.
- Check the **EGR valve**. If necessary, professionally clean or replace the valve.
- Check the cleanliness and joints of the **pressure side**, including the intercooler! If necessary, wash or replace the intercooler and pipes. The loss of air (blow-out) after the turbocharger causes the engine control unit to increase the load on the turbocharger in order to reach the required charge pressure value, thereby causing an excessively high rotor speed (so-called overspeed). This can lead to repeated failures of the turbocharger.
- Before connecting the oil pressure pipe to the supercharger, **fill the bearing housing of the turbocharger with engine oil. Bleed the oil system** before starting (disconnect the connectors of the injection valves and start for 15 seconds. Reconnect the connectors and delete the error code from the memory)
- **Replace the oil filter and air filter** with replacement parts specified by the vehicle manufacturer. **Fill the engine with fresh oil** up to the maximum mark on the dipstick. **It only complies with the vehicle manufacturer's specifications use engine oil with viscosity, performance level and additives (!)**. This sequence of operations must be performed regardless of the number of km traveled since the last oil change!
- **idle for** at least 5 minutes. It is strictly forbidden to rev the engine during this period!
- Measure the **oil pressure** on the oil pressure branch of the turbocharger.
- **Check the crankcase (crankcase gas) pressure**. Too high a pressure value prevents the unhindered flow of oil from the supercharger back into the crankcase, as a result of which oil leaks occur at the labyrinth ring seals of the supercharger and oil enters the housing on the side of the turbocharger's turbine and compressor. If necessary, replace the crankcase gas ventilation system. If it still measures a high value, the engine must be disassembled and repaired.
- Take a 30km **test drive**, at the end of which (!) accelerate with full throttle.
- Carry out **computerized engine diagnostics**, check the fault memory and recheck the turbo pressure values.
- **Important note** : If the turbocharger was replaced **after an engine overhaul** or in the case of an extremely dirty oil system, in that case the oil filter and engine oil must be replaced approx. It must be done again after idling for 10-20 minutes! After the engine rebuild, the micro impurities left in the system can inevitably completely destroy the supercharger bearings in a short time !