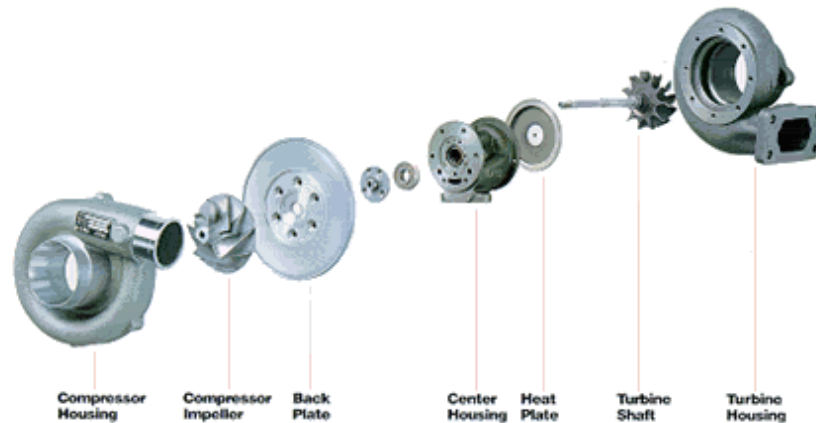


Turbocharger Installation Instructions



Caution: failure to follow these instructions can result in premature turbocharger failure and warranty denial.

Please follow these instructions carefully and completely.

- 1) Check there is no foreign material in the compressor inlet, air intake system or exhaust manifold. Even small objects can cause extensive damage to the turbocharger wheels.
- 2) Remove all dust caps if fitted and take great care to avoid getting dirt or debris into the turbocharger openings while fitting.
- 3) Remove all gaskets from the exhaust manifold mountings flange, inspect flange for erosion and flatness and install a new gasket.
- 4) Before making a rigid connection to the exhaust manifold it is advisable to check the orientation of the turbocharger's centre, turbine and compressor housing. If for any reason they need to be rotated please contact us for further instructions and torque settings for the relevant bolts.
- 5) Inspect oil drain and supply lines for kinking, clogging, restrictions and any other signs of deteriorations. If in any doubt, replace pipes with new. On some particular petrol engine vehicles, the oil pipes are prone to blockages, these pipes **MUST** be replaced. If in any doubt, please contact us for advise.
- 6) Thoroughly check the engine breather system for blockages. On many systems there is a filter or gauze mesh that becomes blocked. This should be thoroughly cleaned or on some vehicles replaced completely. A blocked breather system is one of the most common causes of turbocharger oil leakage.
- 7) Install turbocharger on engine, without connecting the oil supply pipe, and the new gaskets and 'O' rings (where needed). Tighten the nuts or bolts attaching the turbocharger to the exhaust manifold, referring to the torque values given in the shop manual. Use of a high temperature lubricant on these threads is recommended.

Do Not use exhaust sealant compound on the turbine inlet flange or any form of instant gasket on the oil inlet or outlet flanges.

8) Change engine oil and filter. Only use a lubricating oil recommended by the engine manufacturer. In the case of petrol engines, we recommend "fully synthetic lubricating oil" with "SAE" rating 10w-40, or higher and which exceeds the following specifications SH/CD or CCMC G5/PD2. Do not mix this oil with normal mineral oil.

9) Now prime and check the oil supply. Initially pump some clean oil from an oil can, into the oil inlet port of the turbochargers centre housing, crank the engine over without firing, either by disconnecting the lead to the fuel pump shut off solenoid and / or the leads to the glow plugs on a diesel engine. Place the end of the oil feed pipe into a clear plastic bag or suitable container. Wait while engine is turning over, for old oil in the remaining in the pipe work to be expelled and for the new oil to come through. If there is any doubt about the oil feed to the turbocharger, the pressure and flow rate should be measured before the fitment of the new unit. Most turbochargers failures are oil related, it is therefore prudent to ask yourself why the original unit failed and rectify the cause of the problem. Now connect the oil feed pipe and crank the engine for a further 15 seconds. This will help purge any contaminants in the oil system. Check lubricant level in the engines crankcase and top up if necessary.

10) Start the engine and allow it to run at idle speed for 4-5 minutes before running at high engine speeds.

This turbocharger will give high performance and a long life providing it is fitted as per these instructions, and the engine is serviced regularly and the correct start/stop procedures are adhered to.