

Turbocharger Failure diagnosis

Loss of power, excess smoke, high fuel consumption, overheating, high exhaust temperatures and oil leakages from the turbocharger are all symptoms that could indicate turbocharger malfunction. However, these faults are often wrongly attributed to the turbocharger because defects in other components can produce the same symptoms. The turbocharger performance can only be impaired by mechanical damage or blockage caused by dirt.

This checklist provides a comprehensive list of the most common symptoms related to turbocharger failure. BEFORE replacing a turbocharger, verify the problem by consulting the chart below. If, after taking the appropriate action, problems still persist, please contact SCM Turbo for advice on 01484 345 345

	Engine running hot	Poor transient response	Smoke	Engine lacks power	Black exhaust smoke	Blue exhaust smoke	High oil consumption	Turbocharger noisy	Cyclic sound from the turbocharger	Oil leak from compressor seal	Oil leak from turbine seal
Dirty Air Cleaner Clean or replace element according to manufacturer's recommendations											
Restricted compressor intake duct Remove restriction or replace damaged parts as required											
Restricted air duct from compressor to intake manifold Replace seals, gaskets or tighten fasteners as required											
Restricted intake manifold Refer to engine manufacturer's manual and remove restriction											
Air leak in feed from air cleaner to compressor Replace seals, gaskets or tighten fasteners as required											
Air leak in feed from compressor to intake manifold Replace seals, gaskets or tighten fasteners as required											
Air leak between intake manifold and engine Refer to engine manufacturer's manual and replace gaskets or tighten fasteners as required											
Foreign object in exhaust manifold (from engine) Refer to engine manufacturer's manual and remove obstruction											
Restricted exhaust system Remove restriction or replace damaged parts as required											
Exhaust manifold cracked, gaskets blown or missing Refer to engine manufacturer's manual and replace gaskets or damaged parts as required											
Gas leak at turbine inlet/exhaust manifold joint Replace gasket or tighten fasteners as required											
Gas leak in ducting after turbine outlet Refer to engine manufacturer's manual and repair leak											
Restricted turbocharger oil drain line Remove restriction or replace damaged parts as required											
Restricted engine crankcase breather Refer to engine manufacturer's manual, clear restriction											
Turbocharger bearing housing sludged or coked Change engine oil and oil filter, overhaul or replace turbocharger as required											
Fuel injection pump or fuel injectors incorrectly set Refer to engine manufacturer's manual and replace or adjust faulty components as required											
Engine valve timing incorrect Refer to engine manufacturer's manual for correct settings and adjust as required											
Worn engine piston rings or liners Refer to engine manufacturer's manual and repair as required											
Burnt valves and/or pistons Refer to engine manufacturer's manual and repair as required											
Excessive dirt build-up on impeller and/or diffuser vanes Clean in accordance with the appropriate SCM repair manual											
Turbocharger damaged Find and correct cause of failure, repair or replace turbocharger as necessary – contact SCM											
Failed diaphragm Replace using correct Actuator Service Kit – contact SCM											
Siezed valve Free valve/replace complete turbine housing sub-assembly – contact SCM											
Leaking hose Replace hose and clips											
Wastegate mechanism set incorrectly Contact SCM											