

# Turbocharger User Guide



## I. Installation Checklist

1	Always understand why the original turbocharger needs replacing before fitting another unit.
2	Check the turbocharger data plate to ensure the Part No. is correct for the engine/application.
3	Check the engine exhaust, intake and after cooler systems are clean and without obstruction e.g. free from oil, gasket pieces, dust/dirt/carbon or foreign objects.
4	Replace the oil and air filters using replacement parts specified by the equipment manufacturer.
5	Change the engine oil using the type specified by the engine manufacturer.
6	Check that the turbocharger oil inlet and drain pipes and connectors are clean, free from obstruction and will not leak under pressure.
7	Check that the coolant pipes of water-cooled bearing housing applications and connectors are clean, free from obstruction and will not leak under pressure.
8	To pre-lube the turbocharger bearings, pour some clean engine oil into the oil inlet and rotate the turbocharger rotor assembly by hand.
9	Check that the exhaust manifold flange is flat and undamaged. Mount the turbocharger on the flange and check that the turbine inlet gasket fits properly without obstructing the gas passages.
10	10. Assemble the air intake and boost outlet connections. Check that the connections are well made and will not leak in use.
11	Check the exhaust system is fitted using the original mounting arrangement provided by the equipment manufacturer. Always re-fit any supports/brackets back in position to ensure the system is correctly supported.
12	Make any ECU checks recommended by the engine manufacturer.
13	Start the engine and run at idle speed for approximately 1 minute so that the oil supply system is fully operational.
14	Accelerate the engine and check that there are no leaks/obstructions of air/oil/coolant/gas under pressure.
15	Check that no hose or connection deforms under normal operation.
16	Before switching off the engine, leave it running at idle speed for 3~5 minutes to cool the turbine.

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## II. Maintenance

1. Daily Maintenance	
1	Check if the tube system from the air filter to the inlet of the compressor and the connector is in good condition. If not change it timely, or the compressor will be worn or intruding particles will damage the impeller.
2	Check if all bolts and nuts are tightened on the turbocharger and the air-in and air-out tube of the engine are not lose. If they are lose, tight timely.
3	Check if oil-in or oil-out tube system of a turbocharger is in good condition and repair oil leakage trouble timely.
4	Check if the body of the turbocharger have cracks or has been damaged. If occurs, change it timely.
5	Check the quality of lubricating oil.
2. Regular Maintenance	
1	Clean the air filter once every 100-150hours the engine was working. If it operates in a dirty condition, the clean period should be shortened.
2	Clean or change the oil filter elements after every 100-150 hours of operation. But ensure to avoid dirt in the dismounted oil tube connect.
3	Change the lubrication oil after every 100-200 hours of operation. If the environment is in a bad condition, the period should be short.
4	Inspect the radial/axis tolerance after every 100 hours of operation. When inspecting, the engine must be stopped to avoid injuries of persons. Disassemble the air-in tube of the turbocharger to inspect if the axis tolerance is more than 0.15mm, and the radial tolerance is less than 0.1mm. If experienced, it must be repaired.