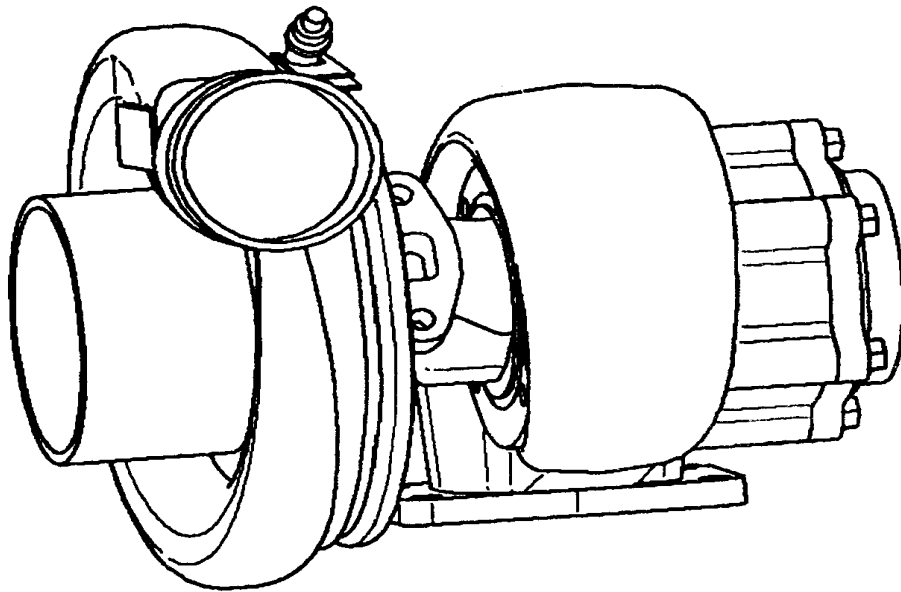


Dr. Diesel's Turbocharger



Installation Manual

Many people have asked us for an easy to read guide to installing a replacement turbo charger. After all, we probably stock and sell more turbochargers for Deutz, Perkins, and John Deere than anyone else in North America. For example, we have brand new Deutz 1011 turbos for $\frac{1}{3}$ the price. Compare Deutz PN 04176324 with a 2009 list price of \$1822 with our new Deutz 1011 turbo at \$695 and you'll be a happy camper! Same thing with Perkins: we sell brand new Perkins turbos for about $\frac{1}{3}$ of Perkins list price.

a) INSTALLATION AND USE

- b) Check the turbocharger. If you find any bent fins or a bent shaft, please return it at once. Don't load any force on its decompressor when carrying the turbocharger.
- c) Before installing the turbocharger on the engine, you must lubricate it. Input the clean oil at the entrance of the oil drain and turn the "shaft and wheel" by hand.
- d) Good engine oil is important for the turbocharger. We recommend Shell Rotella 10W-40.
- e) Install the turbocharger on the engine, make sure that it is fastened, and sealed at the connection. Otherwise it will howl and leak oil.
- f) After you start the engine, keep it idling for 3-5 minutes. This will ensure the turbocharger is lubricated completely. You should also idle the engine for 3-5 minutes before you shut it off as well. This will avoid coking the oil and burning the bearing. If you often operate it incorrectly, its life will be reduced.
- g) Don't keep idling over 10-15 minutes. Otherwise, it would cause leaking oil at the end of the "compressor wheel".
- h) Keep the oil pressure in the range of manufacturer's parameter.

2. MAINTENANCE

- a) Inspect all connections with engine. Make sure there is no looseness, no air leak, and no oil leak.
- b) Ensure the turbocharger oil drain line is not restricted.
- c) Clean the air cleaner frequently. Replace often.
- d) If the engine has not been used for period of time (not over 7 days), you should take down the intake oil duct and lubricate turbocharger before starting the engine. Input the clean oil at the entrance of the oil drain and turn the “shaft and wheel” by hand.
- e) Change the oil and oil filter every 200 hours, sooner if on a screening plant, rock crusher, or other debris-filled applications.
- f) Check the radial clearance and the thrust clearance by a dial gauge. If the radial clearance is less than 0.1mm or the thrust clearance more than 0.15mm, you must ask for the professional.

3. FAULT FINDING CHART



	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
Air leak in feed from air cleaner to compressor					X			
Air leak in feed from compressor to intake manifold	X	X	X	X	X			
Air leak between intake manifold and engine	X	X	X	X	X			
Foreign object in exhaust manifold (from engine)	X	X	X	X	X		X	
Restricted exhaust system	X	X					X	
Exhaust manifold cracked, gaskets blown or missing	X	X			X			
Gas leak at turbine inlet/exhaust manifold joint	X	X			X			
Gas leak in ducting after turbine outlet					X			
Restricted turbocharger oil drain line			X	X			X	X
Restricted engine crankcase breather			X				X	X
Turbocharger bearing housing sludged or coked			X	X			X	X
Fuel injection pump or fuel injectors incorrectly set	X	X						
Engine valve timing incorrect	X	X						
Worn engine piston rings or liners	X	X	X	X			X	X
Burnt valves and/or pistons	X	X	X	X			X	X
Excessive dirt build up on compressor wheel and/or diffuser vanes	X	X	X	X	X		X	X

Want more help? Simply call us toll-free at 800-233-6539, or email Dr. Diesel directly at DrDiesel@FoleyEngines.com.