

Next Generation Turbochargers



February 2011 Newsletter

Turbochargers

Turbochargers for Future Emission requirements

The purpose of a turbocharger is to compress the air entering the combustion system of the engine. This allows the engine to squeeze more air into each cylinder, which in turn allows the ability to add more fuel to each cylinder.

The additional air and fuel an engine can burn properly, the more mechanical energy it can produce.

In simple terms, a turbocharger comprises a turbine and a compressor connected by a common shaft supported by a bearing system.

The turbocharger converts waste energy from an engine's exhaust gases into compressed air from the engine intake sys-

tem and pushes it into the engine. This allows the engine to burn more fuel, producing more horsepower and improving the overall efficiency of the combustion process of the engine.

The benefits of turbochargers are:

- 1) Increased engine horsepower.
- 2) Improved fuel consumption.
- 3) Improved emissions.
- 4) Altitude compensation.

Due to these benefits and engine manufacturers adhering to EPA regulations; turbochargers have evolved from the standard "exhaust gas turbine drive" to

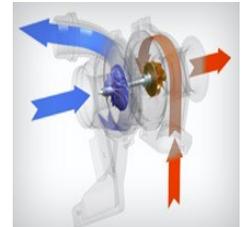
the latest technological advances:

- A) Wastegate Turbochargers
- B) Turbocompounding Turbochargers
- C) Two-stage Turbochargers
- D) Variable geometry Turbochargers
- E) Electronic Control Turbochargers
- F) Actuation, sensor Turbochargers
- G) High pressure ratio Turbochargers

These new technologies have increased engine horsepower by 50%.

Increased the overall thermal efficiency of the engine from 42% to 46%.

In simple terms, more energy is extracted from the fuel consumed. This creates a more powerful engine and provides improved fuel economy.



Central Diesel offers cost effective turbocharger repair options:

As a specialist in Fuel Injection, Diesel engines and Turbochargers we can offer you cost effective options for your turbocharger repairs.

- 1) We can offer you a complete factory replacement.

- 2) Cartridge replacements.
- 3) Housing replacements.
- 4) Housing repairs.

When the repair is done to factory specifications, our standard warranty will apply.

Our standard warranty is 14 months unlimited miles or hours as long as the unit is operated and maintained to factory specifications by the owner and or operator.

We offer estimates at no charge

