

How One Turbo Work ?

Turbos are formed of two main parts – a turbine and a compressor. These are linked so, when the one spins, the other spins with it. As fuel in the engine is burnt, exhaust gasses are forced out of the engine at high pressure, down a snail-shaped tube to spin the turbine. This turbine spins at incredibly high speeds (up to 250,000rpm) and causes the compressor (effectively a reversed turbine) to spin. This sucks significantly more air into the engine than a normally-aspirated (non-turbo) unit, making more power.

Turbos run at immense speeds which means they operate under huge pressures and temperatures. Typically, an intercooler is paired with the turbocharger to cool the hot air coming out of it and an oil cooling system ensures the turbo itself doesn't run too hot. Diesels, having tougher engine blocks and simpler intakes, are ideally suited to being turbocharged so all modern diesels have them.

Very simply, a turbocharger is a kind of air pump taking air at ambient pressures (atmospheric pressure), compressing to a higher pressure and passing the compressed air into the engine via the inlet valves. At the present time, turbos are used mainly on diesel engines, but there is now a move towards the turbo charging of production petrol engines.