

DID YOU KNOW?

ABOUT THE RISE OF TURBOCHARGERS



Engines have gone through an array of changes over the last 50 years as manufacturers have tried to develop clean, fuel efficient, high horsepower engines. Turbochargers are ideally suited for this purpose.

In the past, lower quality oil and lack of maintenance led to the premature failures of many turbo units. As modern engine design has turned increasingly to the use of turbochargers, it has become imperative to depend on oil that is both high quality and durable to protect this vital component.

BENEFITS OF TURBOCHARGERS

Let's take a look at some of the reasons turbos are popular in modern engines. Turbochargers offer fuel economy benefits. The automaker can install smaller engines because a turbocharged engine acts like

a much larger engine, providing horsepower when drivers want it. Because the engine is small, it burns less fuel than a larger engine.

Another fuel-conserving benefit is a turbocharger is not active until the driver activates it through throttle input. Under normal driving conditions, the turbo is not pushing any extra air to the engine, which means most drivers end up using less fuel since they are not pushing the engine hard enough to activate the turbo.

Additional horsepower is another reason auto manufacturers are increasing the use of turbos. Many newer cars offer turbocharged engines between 1.5 and 2.5L. Due to the turbocharging, those engines can deliver equal power of an engine that would normally be twice that size.



DID YOU KNOW?

Turbocharged cars offer plenty of power, but only on demand, so when not using it, fuel economy sharply increases. As a result, turbochargers give drivers the best features of both compact and larger-engine vehicles.

TURBOS RELY ON LUBRICATION

Most modern turbos use a plain bearing system that controls the shaft movement, and oil is needed to lubricate these items. The bearing relies on a strong film of oil under high pressure to support the shaft while ensuring that it does not contact the turbo housing. Essentially, the shaft is floating on a film of oil while it spins up to 240,000 RPM. This creates an amazing amount of heat.

One of the main functions of oil is to aid in heat dissipation. If the temperature were to get high enough, this could lead to the softening of the metal, which would then lead to catastrophic failure of the turbocharger.

Given that turbochargers perform under extremely harsh circumstances and are built to extremely tight tolerances, turbo operators should use an oil of the highest quality, made to address the specifications of these intricate machines.

ENEOS signature products use synthetic, high-performance Group III or IV base oils, what help it to provide the highest Viscosity Index (VI) and performance available.

ENEOS combines the highest quality base oil with additives that ensure the protection and clean operation of engines and turbos. In essence, better grade base oils have a higher VI, which provides better performance, protection, and fuel economy.

With decades of partnerships in the OE and racing world, ENEOS has the expertise—and access to specifications—that allow us to produce motor oil designed to keep turbochargers running at top efficiency.



ENEOS 0W-20 / 3701-300



ENEOS 5W-30 / 3703-300



RACING Street 0W-20 / 3901-300