

compressor. Bearings are sleeve type and lubricated by engine oil. Oil is circulated to the turbocharger center housing and returned to the sump through an oil drain in the center housing.

The expanding exhaust gases drive the turbine shaft assembly to speeds up to 200, 000 rpm. Filtered air entering the compressor side of the turbocharger is compressed and delivered through a CAC. The very hot compressed air is cooled by the CAC, then continues on to fill the intake manifold at a higher pressure than atmospheric pressure. Because more air is forced into the intake manifold, the results are increased power, fuel efficiency and the ability to maintain power at higher altitudes.

The EcoBoost™ twin turbochargers are used in a parallel arrangement with one turbocharger connected to each cylinder bank. This configuration improves engine responsiveness due to the reduced inertia of 2 small turbochargers. This also leads to an improved turbocharger package and better utilization of heat energy from the compact exhaust manifolds. The compact design of the system allows the catalysts to be located very close to the turbocharger outlet for improved emissions.

DESCRIPTION AND OPERATION > TURBOCHARGER - SYSTEM OPERATION AND COMPONENT DESCRIPTION > SYSTEM OPERATION

For System Operation, Refer to ENGINE CONTROLS - DESCRIPTION & OPERATION (EXCEPT DIESEL & HYBRID) .

DESCRIPTION AND OPERATION > TURBOCHARGER - SYSTEM OPERATION AND COMPONENT DESCRIPTION > COMPONENT DESCRIPTION

For System Operation, Refer to ENGINE CONTROLS - DESCRIPTION & OPERATION (EXCEPT DIESEL & HYBRID) .

REMOVAL AND INSTALLATION > TURBOCHARGER LH

Materials

Name	Specification
Motorcraft® SAE 5W-30 Premium Synthetic Blend Motor Oil XO-5W30-QSP	WSS-M2C946-A
High Temperature Nickel Anti-Seize Lubricant XL-2	-

REMOVAL AND INSTALLATION > TURBOCHARGER LH > REMOVAL



NOTE: Whenever turbocharger air intake system components are removed, always cover open ports to protect from debris. It is important that no foreign material enter the system. The turbocharger compressor vanes are susceptible to damage from even small