

Troubleshooting Engine Wear

Quick response to the following symptoms can help extend the life of your diesel engine:

Symptom

Possible Cause

Excessive black smoke at full load.
(hot, unburned fuel)

Dirty primary or secondary air cleaner.
Overloading.
Overfueling.
Operating in a gear than is too high.
Faulty turbocharger.

Blue smoke (indicates oil consumption)

Leaking head gasket.
Cracked head and/or liners.
Faulty injector.
Incorrect starting procedure.
In correct fuel injection timing.
Poor fuel quality.

Increased oil consumption/ excess
blow-by

High hours on engine.
Worn rings and/or liners.
Worn turbocharger seals.
Worn valve guides.

Unusual noises

Malfunctioning fuel nozzles and/or injectors.
Worn piston pin bushings.
Worn rod and/or main bearings.
Malfunctioning turbocharger.
Too much valve lash.

Lack of power

Dirty air cleaner.
Dirty fuel filter.
Incorrect governor linkage adjustment.
Malfunctioning fuel nozzles and/or injectors.
Slipping torque converter.
Improper set point.
Poor fuel quality

Increased fuel consumption	Fuel leak. Dirty air cleaner. Incorrect governor linkage adjustment. Malfunctioning fuel nozzles and/or injectors. Improper set point. Poor fuel quality.
Oil level overfill	Coolant and/or fuel leak into crankcase. Improper oil fill.
Debris in oil filter	Dirt entry. Damaged bearings. Coolant and/or fuel leak into crankcase. Excessively long oil drain interval. Incorrect oil used.

Catching problems in their early stage can help prevent a costly major overhaul. If you pay for a major engine overhaul, it is almost impossible to reap the value of a construction or other machine before another major component needs major repair.