Preventive Maintenance Tips
for Truck Fleet Operations

A lot is published in trucking industry magazines about “best maintenance practices.” But this construction magazine understands there is no doubt that preventive maintenance is the key to keeping your company’s trucks road-ready, reducing your vehicle operating, maintenance and replacement costs, and improving your fleet’s bottom line. Therefore, we’d like to address some of the areas often overlooked as well as common mistakes made in fleet maintenance practices:

Leaks. It is important that there are no “leaks” between the air filter and the engine and that the filter is changed at proper intervals. Air cleaner elements should be changed based on intake restriction, not necessarily at regular intervals. Each time the air cleaner element is changed, there is potential for dirt to enter the engine. Premature changes often result in dirt entering the engine. Small amounts of dirt cause accelerated engine wear. In used oil analysis, dirt will show up as high silicon content.

Starting aids. If you use ether as a starting aid, remember that you’re dealing with an “explosive” that can seriously damage your engine. Never let a starting aid substitute for the correct viscosity oil. An engine that starts despite the sluggishness of the oil will receive almost no lubricant at critical points for several minutes after startup. This is when significant engine wear can occur. For frequent startups in low temperatures, a lower viscosity oil may be needed. Consult your owner’s manual, and talk with your oil supplier about his company’s recommendations.

Cooling system. Keep a close watch on your cooling system.

By Tom Olszewski
Some trucking experts believe that 50 percent of all premature engine failures begin with a problem in the cooling system. Check your cooling fan belts for wear. An intermittent squeal often signals a loose belt.

Choose your antifreeze/coolants and supplemental coolant inhibitor wisely. Coolant leaks deplete not only antifreeze but also supplemental coolant inhibitor concentration. Manufacturers’ recommendations should be consulted at all times. Coolant leaks into the engine oil may be found using oil analysis. Elevated levels of elements such as sodium, potassium, boron and silicon may indicate a coolant leak.

Fluid ratios. Less can be more. Don’t increase the ratio of antifreeze/coolant to water above 70:30, expecting that a stronger mix will do a better job. It won’t. For optimum freeze protection, always follow the manufacturer’s (engine or antifreeze manufacturer’s) recommended ratios.

**Turbocharger.** If you’re using a turbocharger without a separate oil circulation system, let the engine idle a few minutes before shut down so the oil can cool down; otherwise it may “cook,” shortening its useful life and forming harmful deposits on the tur-
bocharger bearings. Using a high quality engine oil with excellent detergency and anti-oxidants is also an important consideration.

**Oil filter.** Changing oil without changing the oil filter is poor practice. The useful filter life has been reduced during the first drain, and may fail during the second, leaving your engine unprotected. It is important to use a high quality oil filter. For extended drain applications, it is important to use a synthetic media type filter.

**Oil change.** If you’re ready for an oil change, don’t pull the plug on a cold winter’s morning. A lot of oil and sludge will ‘stubbornly cling to the cylinder walls and as much as two quarts of old oil may remain in the engine. Oil changes are always more effective when the oil is warm and flows freely. This also holds true for gear oil, transmission and hydraulic fluid.

**Idling.** If you’re concerned about fuel costs, try cutting down on your idling time. In most ambient conditions, engines will retain enough temperature to restart after sitting a few hours. You waste fuel if you do anything beyond idling for a few minutes after a long run, and this may reduce the life of your engine oil and promote corrosive wear in the liner and bearings. Why? Because engine temperature is so much lower when you’re idling, and water vapor can condense in the crankcase and produce corrosive sulphurous acid. With the right choice of engine oil to help your cold weather starts, most of that idling can be avoided. Idling can also lead to high levels of soot in your oil, which can shorten oil life and thicken oil prematurely.

**Additives.** Supplementary additives (top treats)—even those
sold under popular brand names—are an expense that you can live without. If you’ve made a good choice in engine oils, you don’t need any other products in your crankcase. In fact, supplemental additives may destabilize your engine oil and create problems.

**Fluid levels.** Maintain proper fluid levels. Running an engine while the oil level is too low can cause engine damage. Too high an oil level often results in rapid oil loss out the breather. Maintain oil levels between the high and low levels marked on the dipstick.

**Fueling.** Try to fill your fuel tank at the end of the day, rather than first thing in the morning. This helps to prevent condensation from forming in the tank overnight; condensation often leads to a buildup of water and sludge.

About the Author
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