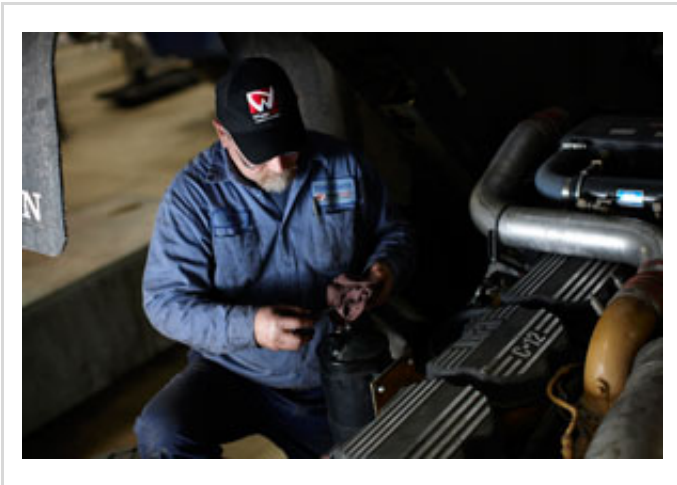


# How Oil Filters Can Help Fleets Extend Drain Intervals

*April 2012, TruckingInfo.com - Feature*

by Deborah Lockridge, Editor in Chief, Editor-in-Chief - [Also by this author](#)

High diesel and crude oil prices may make headlines, but the cost of engine oil has risen, as well, making an extended-oil-drain strategy more appealing.



Extended drain intervals don't mean you can ignore the truck in between oil changes. Here, technician Bill Reeb of W.W. Williams in Birmingham, Ala., checks the oil level during a routine preventive maintenance check. (Photo courtesy of WheelTime Network)

Many newer engines already have longer oil drain intervals than in the past, with some up to 40,000- to 50,000-mile drains for on-highway

applications.

There are a lot of fleets that "have an old-school mentality about changing their oil every 10,000 or 15,000 miles," says Bruce Stockton, longtime maintenance manager at Contract Freighters Inc./Con-way Truckload and now a consultant at Stockton Solutions. "They're really just wasting a resource when they do that."

Of course, extending oil drain intervals is always a balancing act. Just because you don't have to bring in the truck for an oil change for 50,000 miles or more doesn't mean you don't need to get your hands on it more frequently, to lube chassis components or perform oil analysis or regular inspections.

It's very important when looking at drain intervals to consider your particular application. Tom Pratt, a trainer at Penn Power Group, a member of the WheelTime Network, says Detroit recommends oil drain intervals based on whether the truck is in long haul, short haul or severe duty. If you're running a dump truck, he says, you could be running 40,000 miles a year, which would, by mileage, put you in the short-haul category. However, if you're running in heavy dust conditions, that's going to still classify it as severe duty and mean shorter oil drain intervals.

## **Enter the filter**

Oil filters play an important role here. Longer oil drains could mean a need for a more robust filter, and some filters are specifically marketed as being able to help extend drain intervals.

The first rule of selecting an oil filter is to choose one that meets the engine manufacturer's minimum specifications. Make sure you cross-reference the part number in a cross-reference chart. Many filter makers offer easy cross-reference look-ups online.

"When a customer goes to purchase an oil filter element from a source other than an OEM, they are taking a chance that it doesn't meet all of the OEM requirements, of which efficiency is only one of several," says David Cline, product manager, oil filtration systems for Racor Filtration. "Element performance, which includes micron ratings, is important when going outside of the OEM-supplied filter for cost reasons or when there is a need to have performance beyond the norm."

As Stockton explains, "If you had an engine go down and [the engine maker] determined it was the result of poor filtration, and that filter wasn't on their approved list, they could, and in some cases did, deny coverage under warranty." Even if the engine's no longer under warranty, you're more likely to protect the engine properly if you stick to those specs. You may even want to go beyond them if you're extending drains.

For instance, Cline explains, if you buy a filter that says it has a very high efficiency but don't consider its capacity, that filter may not have the contaminant-holding ability needed to perform properly throughout the extended drain interval.

"If you want to double your service interval, then you, in essence, need to double the amount of contaminants the filter can collect before it

reaches the end of its life," says Jim Watson, director of engineering for liquid engine and filtration at Donaldson. A traditional cellulose-based filter may not do the job; you may need to move into filters with a synthetic media, says Watson's colleague, Rod Radosevich, engine marketing manager.

Jim Gambill, Delo brand manager at Chevron Lubricants, says in testing, "we have seen that in some cases, the same filters simply won't hold up for the extended service intervals."

### **Time for chemistry class**

Some suppliers offer filters they say take more soot and other contaminants out of the oil to help it last longer. However, contaminants and soot are only one piece of the puzzle when it comes to oil protecting your engine.

"Removing a smaller solid piece of particulate does not change the rate at which the oil oxidates or the [additive] depletion rate," says Paul Bandoly, manager of technical services and customer training at Wix Filters. "Contaminant control is important for engine wear but not necessarily for oil life."

Engine oils are formulated with a complex balance of chemicals that perform functions such as neutralizing acids and preventing oxidation.

Let your oil go too long without changing, and those additives break down. When this happens, not only is the oil not doing as good a job of protecting, cooling and cleaning your engine, but you also may see

filter plugging. If you overuse the oil to the point that the additive package drops out and forms sludge, Baldwin Filters says in a technical bulletin, it can plug not only filters but also engine passages.

That's why some filters aimed at extended drain intervals "re-additize" the oil, replenishing the protective chemicals. However, this practice is frowned on by some.

"Engine oils must go through a costly and extensive testing protocol to meet API licensing approvals," says Mark Betner, heavy-duty lubricants manager at Citgo. Those API classifications set chemical limits that are important for exhaust emission compatibility and overall performance. "How does adding additional additives along the way impact the formula and/or change the original formula?"

Too much additive of one type, say detergents or dispersants, can create unwanted consequences. "Adding more of this product raises ask level, which can shorten the life of the diesel particulate filter," says Chevron's Gambill.

Brad Williamson, manager of engine and component marketing at Daimler Trucks North America, says filters with need-release additives typically address only depletion of TBN (the acid-neutralizing chemicals and a key limiter to engine oil life). He says most don't help with additives that address other areas of degradation, such as oxidation and nitration.

Dave McKenna, director of Mack powertrain sales, says his company has tested some additized filters with mixed results. "Some positive,

some with little effect," he says.

"We agree with the oil companies that you don't want to dump additives into the oil willy-nilly," says Kevin Kroger, president of bypass filter maker Puradyn. He contends that some systems dump additives into the oil too quickly. "The release of additives into the oil has to be precise." His company, he says, has developed a way to release those additives more slowly.

At least one maker of a bypass system that additizes the oil says its product can only be used in pre-EPA 2007 engines. Newer engines require oil meeting API's CJ-4 standards; they feature lower ash and other changes needed to work with diesel particulate filters.

If you choose to use a filtration system that introduces fresh additives into the oil, make sure it's designed to work with the oil specification you're using, and check with your engine manufacturer representative.

One recent introduction to the market tackles the extended-drain and additive question differently. Wix says its EcoLast filter can double oil drain intervals because a chemical structure within its synthetic media sequesters the acid from the oil and traps it in the filter. It's not adding any chemicals but simply helping the oil's own additives last longer. Again, keep in mind that acid control is not the only factor. Oil analysis is a must to keep an eye on the additive levels with any extended-drain program.

## **Bypass filters**

Makers of aftermarket supplemental filtration systems say they can extend your oil drain intervals and potentially extend engine life by super-filtering the oil. Opinions on these vary widely. In general, it appears that severe-duty applications are more likely to benefit from bypass filtration than typical on-highway