

## **Oil Analysis for the long haul**

Oil analysis helps you establish safe drain intervals and helps you monitor wear and tear on your engine. It tells you if any parts are wearing excessively or if any fluids such as coolant or fuel are leaking into the oil. Many drivers take samples from the oil as it's draining from the crankcase. By then, the oil is either gone, or you'll have to wait for the results to come back to decide whether you can reuse it.

I had a fitting in the line to the oil cooler – even though this is on my personal vehicle, the principal is the same on big trucks. It let me draw off a 4-ounce sample with the engine running. Sent out before the scheduled drain, I could get results in time to decide whether or not to change the oil. Using a bypass filter, I was able to extend my drain intervals four times the recommended interval.

Bypass filters draw about 3 percent to 4 percent of the oil pumped by the engine and put it through an ultra-fine filter. Oil returns directly to the crankcase, bypassing the engine. A large diesel will circulate 10 to 13 gallons of oil – plus up to four more in the new filter – at 60 gallons per minute or more. This filters virtually all the engine's oil in about 50 miles and keeps it clean afterward.

Some bypass filter makers claim you never need to drain the crankcase provided you replace their filter element and add make-up oil every 10,000 to 15,000 miles. That replenishes additives. Other companies recommend changing all filters, including the bypass element, at extended oil drain intervals.

Herman Miller, a director of the Technology and Maintenance Council uses Black Gold filters to keep his private fleet out of the shop at least 60,000 miles. Oil analysis indicates they could stay out longer, but Herman wants his trucks checked at least every six months.

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