

## How Much Crud Could An Oil Filter Catch, If An Oil Filter Could Catch Crud?

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**BROADVIEW, IL, March 15, 2010** – We’ve all heard the children’s rhyme, “How much wood would a woodchuck chuck if a woodchuck would chuck wood?” But do you know how much crud could an oil filter catch?

Just exactly what kind of ‘crud’ might you expect an engine oil filter to capture? Actually, the assortment is broader than you might think. According to Ramon Nuñez, Director of Filtration for Robert Bosch LLC, joint venture owner of Purolator Filters, “There are many types of debris that can find their way into a car’s oil and, hopefully into the oil filter where it can be stored until the filter, complete with debris, gets discarded.”

Nuñez should know, since Purolator is the company that invented the very first automotive oil filter (“Pure Oil Later”) in 1923, the first full-flow oil filter in 1943, and the first spin-on oil filter in 1955.

According to Nuñez, many different types of metallic and non-metallic debris can find their way into a car’s crankcase. Bits of metal casting flash can flake off of the inside of the engine block, off of internal engine parts like pistons, connecting rods and rocker arms. Other bits of metal can result from normal (and sometimes not-so-normal) engine wear. For example, bits of engine bearing or timing chain can also develop over tens of thousands of miles of wear. And, of course, some parts can actually break in use, allowing the engine to continue to run almost normally, while depositing potentially-damaging metal pieces into the oil system. For instance, a piston ring may break, allowing the engine to continue to operate almost normally while dropping significant pieces into the sump.

Further, points out Nuñez, potentially-damaging non-metallic particles can also find their way into a vehicle's oil system. Examples include dust and dirt, disintegrating valve stem seals, pieces of timing chain gears, and bits of gasket material can all take a swim in your oil. Coal-like carbon can also bake onto lubricated internal engine parts from heat and age, and then flake off into the lubricating system, with similar potential for major engine damage.

So, there are plenty of opportunities for potentially-damaging debris to enter a vehicle's oiling system. And there's no realistic way to keep that from happening. So the question is, since such debris is inevitable, how best to keep it from reaching places where it can do damage?

Purolator oil filter to the rescue!

The sole purpose of an oil filter is to remove particulates from your engine oil before it can cause wear or damage. All oil filters do this to some degree. However, explained Nuñez, all oil filters are not created equally. Two attributes define a filter's ability to filter – 'efficiency' and 'capacity.'

'Efficiency,' says Nuñez, is a measure of the percentage of debris a filter can capture. For example, Purolator Classic oil filters are 97.5 percent efficient, meaning that they can capture and hold 97.5 percent of particles larger than a thousandth of an inch (0.001"). Purolator premium PureONE filters can capture 99.9 percent of these same size particles.

But, continues Nuñez, efficiency is only part of the story. As important, especially in higher-mileage cars, is capacity, which defines how much debris an oil filter can hold before it becomes completely clogged. Where required most quality oil filters incorporate a bypass valve, which allows unfiltered oil to reach critical internal engine parts. And while unfiltered oil is not very desirable, it is certainly preferable to having no oil at all to lubricate moving parts.

In any event, oil filter capacity is actually an important consideration, especially for higher-mileage vehicles, or those that experience extended oil change intervals. These are applications that may reach or exceed the capacity of an oil

filter. For that reason, it is important to choose a filter that has a great capacity to hold debris.

Now, here's a question: How much debris might you expect an oil filter to hold? A thimbleful? A shot glass full? More? Less?

The answer, as is so often the case, is, "it depends on your driving habits, engine condition and the quality of oil you use." Unless you're inclined to do a detailed engineering analysis of various brands of oils and filters, the only way to assure that you're getting a superior protection for your engine, features is to specify a filter brand you trust, and a brand that's not bashful about detailing the specifics of their filters' capabilities.

For example, Purolator's PureONE oil filters will hold up to 13 grams of debris before reaching the point where the filter's bypass valve may open. By way of comparison, explains Nuñez, 13 grams is the equivalent of about 31 standard-size paper clips. So, in light of the above description of the kind of debris that can make its way into your engine oil, you'd have to have a tremendous amount of engine wear caused by dirt or particles of oil breakdown and find their way into your crankcase and, ultimately, into your oil filter. And, hopefully, you'll be conscientious enough to change your oil and filter long before your filter collects that volume of debris.

But, in the meantime, concludes Nuñez, you can take great comfort in installing a filter you know can capture and hold all the particles your engine can generate between recommended oil changes. After all, the cost of a quality oil filter pales in comparison to the cost of a new or engine or (gasp!) the cost of a new car. So if you protect your car, your car will protect your checking account.

Bottom line? *That's* how much crud an oil filter can catch, and an oil filter does catch crud!

*Purolator manufactures and supplies high quality automotive filters to the North American aftermarket and original equipment manufacturers. Inventor of the automotive oil filter in 1923, Purolator has, since then, pioneered more than 40 'firsts' in the filtration industry. In fact, the*

*first automotive oil filter was called a 'Purolator,' short for 'pure oil later.' Currently, the Purolator brand has more than 2,000 part numbers for automotive, light truck and heavy-duty applications. With its new expanded line of filters for heavy duty vehicles, Purolator now offers a comprehensive line of such filters to the aftermarket. Part of the Bosch umbrella of automotive aftermarket products within NAFTA, Purolator's advanced aftermarket filters include:*

- *PureONE and Purolator Classic oil filters*
- *PureONE and Purolator Classic air filters*
- *BreatheEASY cabin air filters*
- *The 'forgotten filters,' including transmission filters, fuel filters, breathers and PCV valves.*
- *Heavy duty filters including oil, air, fuel, transmission, coolant, hydraulic fluid filters, fuel/water separators, cabin air filters and air dryers.*

*To learn more about Purolator filters and the filtration category, please visit [www.purolatorautofilters.net](http://www.purolatorautofilters.net).*