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Environmental Concepts

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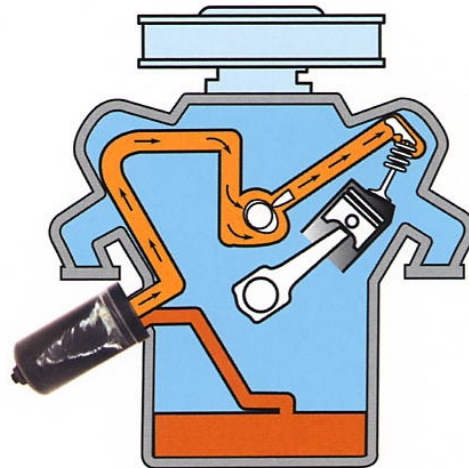
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Why is 2 micron filtration necessary?

According to the SAE study 881825, finer filtration reduces engine wear. Because typical clearances in diesel and gasoline engines vary between 2 and 22 microns during operation, particles smaller than 2 microns slip through the clearances without damaging bearing surfaces. On the other hand, the smallest particles most popular full flow filters capture are sized 25 to 40 microns, depending on the filter brand. SAE's conclusion: controlling abrasive contaminants in the range of 2 to 22 microns in the lube oil is necessary for controlling engine wear.

The Vortex filter is two filters in one! It spins on to replace any full flow filter on any application where a full flow filter is currently being used. The Vortex also has an integrated bypass filter system that diverts 10% of the oil stream through the 2 micron purification element. With effective removal of soot and contaminants, oil is continually renewed. In essence, the Vortex performs an ongoing oil change every time the engine runs.



The Vortex cleanable full flow filter with integrated bypass filtration is the easiest and most cost-effective way to achieve 2 micron filtration.

The Inside Story

- 1 Oil enters the filter through angled ports that cause the fluid to move in a rapid circular flow around the inside of the filter between the canister wall and the stainless steel screen.
- 2 Centrifugal force hurls soot and contaminants to the canister wall where they are retained in the cup-like openings in the canister liner. The full flow screen features a magnet to enhance collection of ferrous materials.
- 3 The fluid passes through the stainless steel screen.
- 4 More than 90% of the filtered oil flows through the angled ports of the return and then out of the filter.
- 5 The angled ports in the return create a venturi—a low pressure area—that pulls 5% to 10% of the fluid through the cotton filter element and out through the middle of the return head, removing contaminants as small as 2 microns. If 5% to 10% of the oil flowing through the filter is purified to 2 microns, all of the oil in a 50 quart system will be filtered to 2 microns after 1000 quarts flow through the filter.

