



Comparisons of Full Flow versus Bypass Filtration in Diesel Engine Lubrication Systems.

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Needelman, W.M.

Abstract:

Contamination of diesel engine lubricants causes wear of mechanical components as well as breakdown of the lubricating oil. Contaminant particles the size of the dynamic clearances between moving surfaces of operating engine components cause the majority of these wear problems. The dynamic clearances of critical diesel engine components range from 0 to 20 microns. Significantly, more than 99% of diesel engine oil contaminant particles are in this 0 – 20 micron size range.

In order to improve engine performance, the objective of contamination control for diesel engine lubrication systems is to minimize particulate contamination twenty microns and smaller in size. The best method currently available for evaluating the effectiveness of filters to control this contamination is to measure filter efficiency as a Beta value at 5 microns.

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