

ABSTRACT

HIGH LOAD-CARRYING TURBO OILS CONTAINING AMINE
PHOSPHATE AND A SULFUR CONTAINING CARBOXYLIC ACID

This invention relates to synthetic based turbo oils, preferably polyol ester-based turbo oils which exhibit exceptional load-carrying capacity by use of a synergistic combination of sulfur (S)-based and phosphorous (P)-based load additives. The S-containing additive of the present invention is sulfur containing carboxylic acid (SCCA), preferably the C₁-C₄ thioether carboxylic acid and the P-containing component is one or more amine phosphates. The turbo oil composition consisting of the dual P/S additives of the present invention achieves an excellent load-carrying capacity, which is better than that obtained when each additive was used alone at a comparable treat rate to the total combination additive treat rate, and this lower concentration requirement of each additive allows the turbo oil composition to meet or exceed US Navy MIL-L-23699 requirements including Oxidation and Corrosion Stability and Si seal compatibility.

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