LubeCorp Manufacturing Inc.

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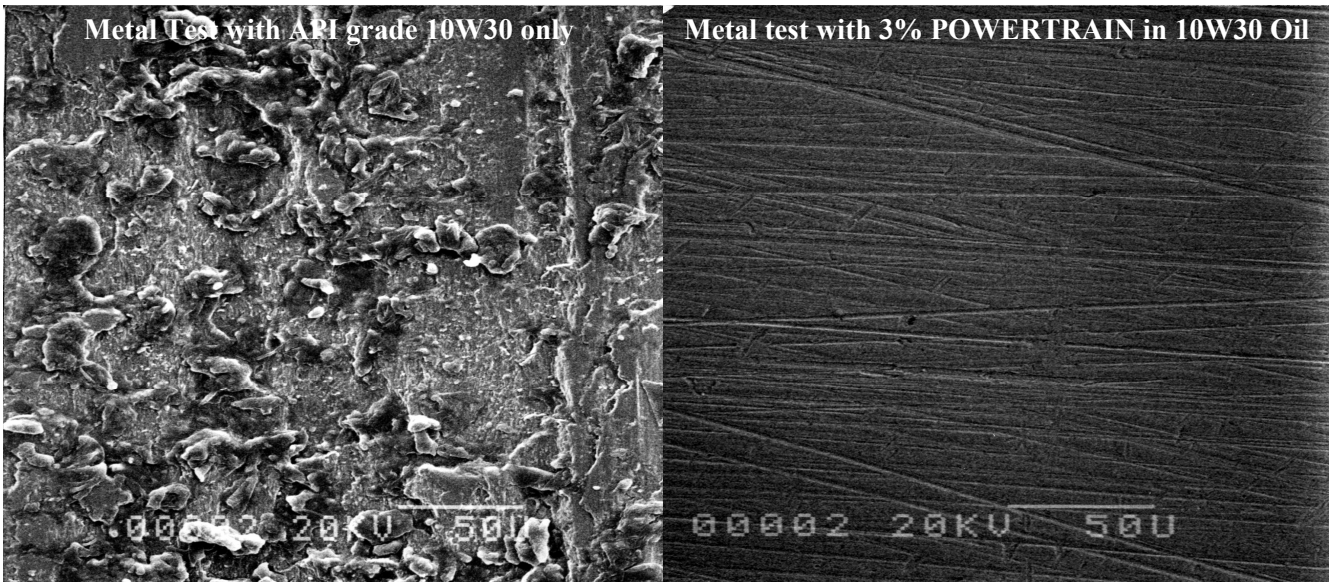
POWERTRAIN
LUBRICATION TEST

LubeCorp POWERTRAIN Lubrication Comparison



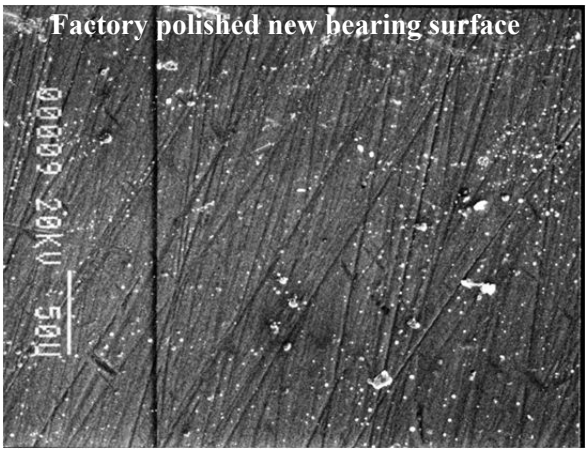
Timken Bearing Test Coupons; magnified 600 times with a Photo-Electron Microscope

The photo-micrographic pictures shown in this report graphically illustrate the alarming effects of lubrication failure which causes metal to metal contact, resulting in metal fusion.

POWERTRAIN's uniqueness lays in its deterrence of metal-to-metal contact, resulting in increased horsepower, reduced running temperatures and longer lasting equipment.

The Tests were run on a Timken Bearing Stress Test Machine using a consistent point-load of 150 lbs. for a 1 second load-test duration time, on a Timken tapered roller bearing (test coupon) which is pressured onto a Timken race –running in a lubricant bath at 875 rpm at initial room temperature.
Bath 1 consists of standard engine oil: API grade 10W30 Oil only.
Bath 2 consists of standard oil: API grade 10W30 Oil with 3% of LubeCorp POWERTRAIN added.

Magnified 600 times



This photo-micrographic picture at 600 magnification shows the factory polished standard roller bearing (test coupon), revealing clearly the pre-existing grooves and other marks, prior to any tests being run.

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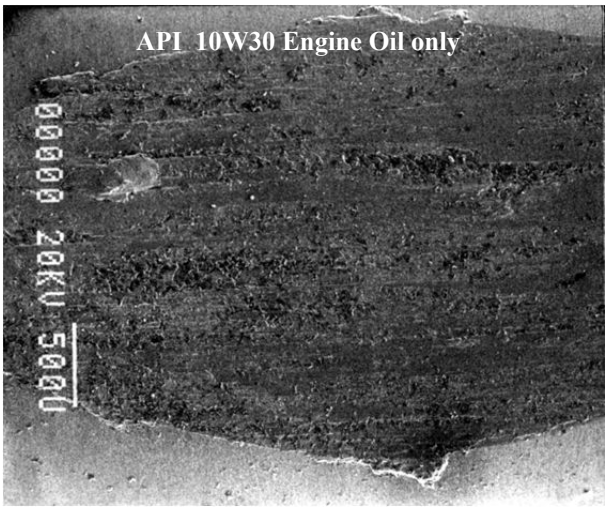
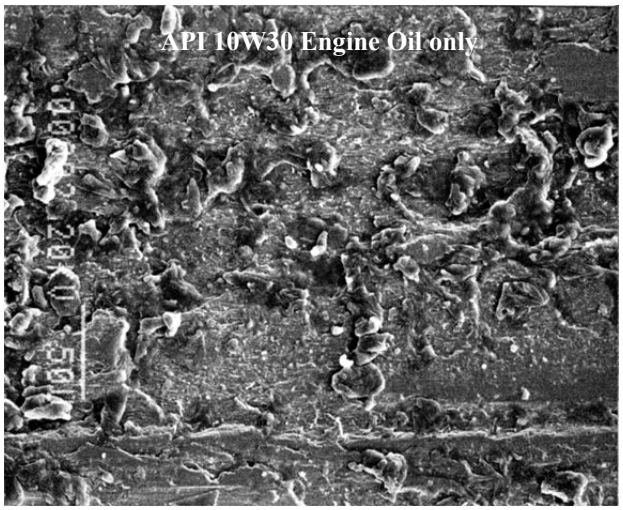
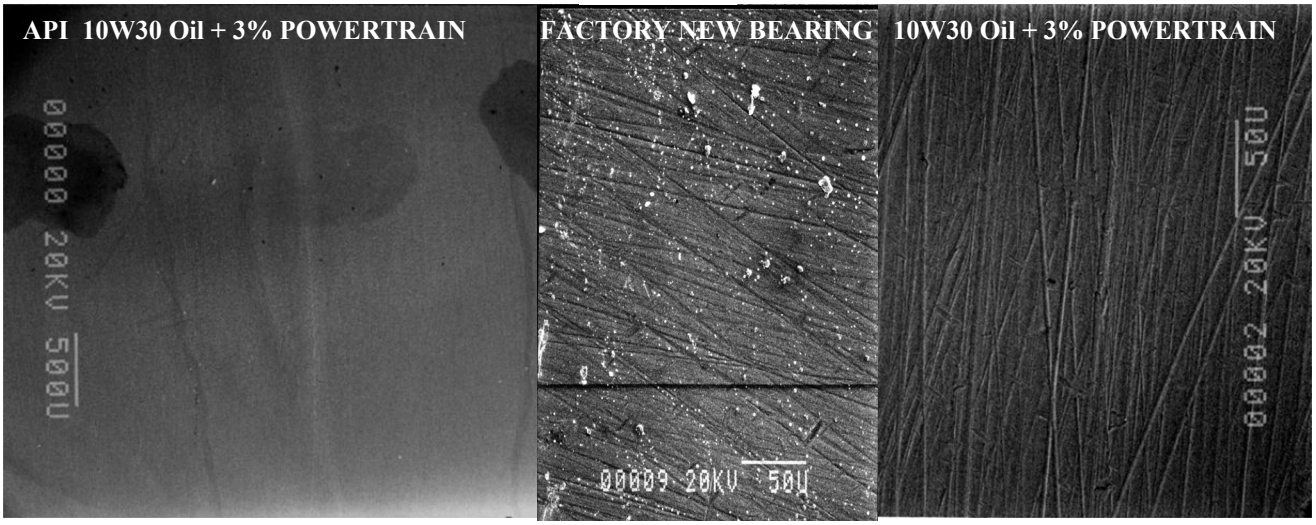
Magnified 50 times



Magnified 600 times



Note the severe scoring at only 150 lbs point-loading, held for 1 second duration. Lubrication failure is total and metal-to-metal contact is evident. The momentary welding causing galling and subsequent tearing away of the metals is a direct result of momentary "metal fusion" which takes place due to pressure at the micro-pore level causing brief temperatures up to 1700^0F at the micro-pore level; this causes the momentary welding and subsequent tearing away, resulting in the formation of small metal filings that in turn cause further equipment damage. It should be noted that these momentary high temperatures at the micro level cause minute quantities of oil to combust resulting in blackened oil.



Note the highly polished surfaces when pressured at 150 lbs point-loading, held for 1 second duration, compared to the same loading without POWERTRAIN as seen above. POWERTRAIN prevents metal-to-metal contact due to its one molecule thickness protection against 'scuffing'. It should be noted that pressure still causes temperature rise which in this instance works in our favour by smoothing out the metal 'asperities' to a 'better-than-new' smoother metal surface.