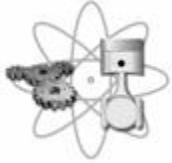


Summary and Overview



Dyson Analysis - Terry Dyson, Analyst

Below are the independent test results of Auto-Rx® in a Suzuki sport bike that encompasses five different oil analysis samples, graphed and analyzed by Dyson Analysis. The test is instructive in that the bike was well maintained by a licensed aircraft mechanic and pilot who has been riding and maintaining motorcycles for over 30 years. He, like Dyson Analysis, is independent of Auto-Rx®.

High-quality, synthetic lubricants from Amsoil had been used right up until the test was begun. The test closely monitors the bike engine/trans sump during a pre-Auto-Rx® Suzuki OEM oil phase, Auto-Rx® cleaning phase at 1,000 and 1,500 miles, a post-Auto-Rx® rinse phase, and finally back to a synthetic oil test interval.

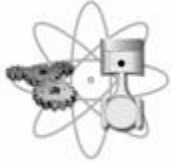
In a nutshell, we learned that, after 60,000 miles, a nearly perfectly maintained motorcycle engine/trans sump did build up deposits and that a good lubricant on its own cannot clean and maintain cleanliness the way a bike can that periodically uses Auto-Rx® as directed. Surprisingly, Auto-Rx® SAFELY cleaned and carried miles of wear and corrosion deposits from the transmission area that we did not expect to see at these levels. See the large particle testing for more info.

One of the difficulties in a shared sump is that clutch, gear, and other transmission-wear particles can impact transmission and engine wear if allowed to deposit. Add in the factor of mechanical shear (note that viscosity was impacted negatively in all tests), and you see that a motorcycle oil in this application is being asked to perform as a super lubricant and maintain cleanliness.

During the testing, much debris was cleaned by Auto-Rx®. As a matter of fact, the oil filter was overloaded with fine wear-causing debris, mostly from the transmission and gearbox. The fact that wear rates were stable or declined during cleaning is proof of Auto-Rx® safety and effectiveness even with an oil filter being at or near max capacity.

This test clearly points out that even a sport bike, having used only high-quality, synthetic lubrication, can benefit with lower wear rates and, by extension, less stress. The lower wear rates and better lubricant stability will translate into better performance and longer life!

Test Interpretation



Dyson Analysis - Terry Dyson, Analyst

Suzuki/Auto-Rx[®] test

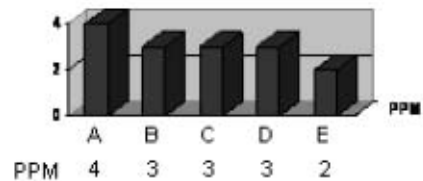
A: Pre Auto-Rx 2000, B: Auto-Rx Clean 1000, C: Auto-Rx clean 1500, D: Post Auto-Rx rinse 2000, E: Amsoil Synthetic 2000, mileage intervals.

Protocol: Customer controlled the operating, sampling, and servicing of a well-maintained Amsoil 10W-40 lubricated, Fram oil filtered, K&N air filtered, Amoco 93 octane fueled, 1996 Suzuki RF900R. Bike operated primarily at east coast of Central Florida. Progressive and correlated compression testing was performed at each sampling showing normal compression levels. Test began 3/05, ended 7/05.

During the A precleaning, B & C cleaning, and D rinse phases, Suzuki OEM 10W-40 motorcycle oil was used. The E 2000 mile interval was Amsoil alone.

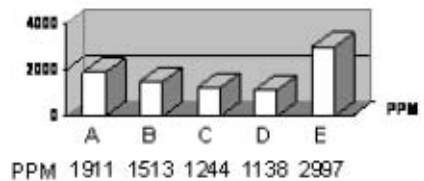
Conclusion:

Auto-Rx[®] cleaning was significant while not increasing wear rates in the common transmission/engine sump. Significant drop in wear values is indicated from data. Transmission was cleaned dramatically and surprised the testers with the level of particles scavenged. Until the Auto-Rx[®] test and cleaning, the bike has had an exclusive lubricant diet of Amsoil. Another good reason to do periodic cleaning with the Auto-Rx[®] product, regardless of oil brand or chemistry used. Waiting till 60,000 miles on the odometer is too long!



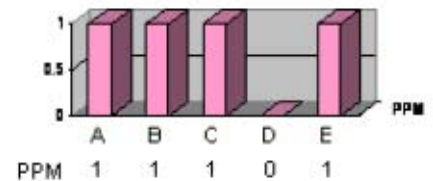
Aluminum

LOW piston, bushing, casting wear, lower wear than pre RX cleaning , excellent.



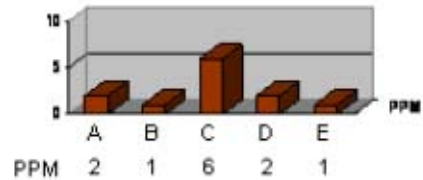
Calcium

Normal oil add for OEM and Amsoil formula



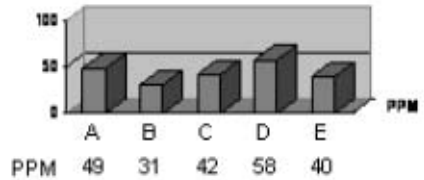
Chromium

Normal to low ring and coating wear, amazing post RX drop to nil ring wear



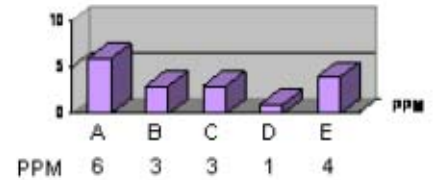
Copper

Super low clutch face, thrust washer, bushing wear, cleaning bump was trans and clutch residuals scavenged by RX, see Large Particle Detection comments



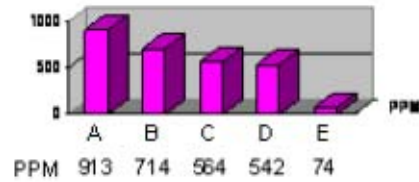
Fe

Trans and clutch face had corrosion that raised this value over the clean phase as the oil filter loaded. Oil filter at 1500 miles into cleaning needed to be changed. Engine was cleaned early in interval while residual clutch & trans wear materials were safely encapsulated by Cycle RX. 22% drop in fe trend for this engine was significant.



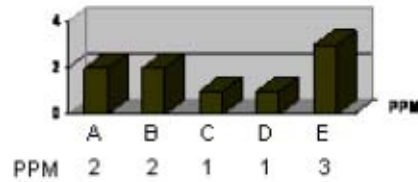
Pb

Bearing wear low amazingly low soft metals protection by Cycle RX during cleaning and post RX phases. 33% drop in wear



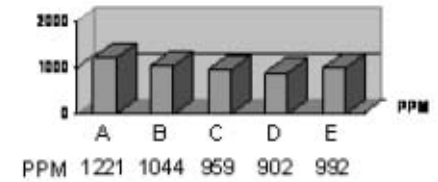
Mg

Normal oil add, note take up in mg post RX phase, as Mg can lube clean rings and high pressure areas when clean



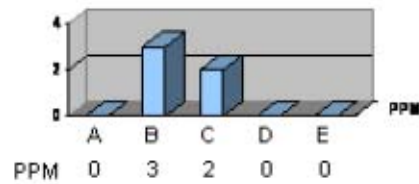
Mo

Ring coating wear, neither the OEM oil nor Amsoil contains as an oil add. Note decreased wear as Cycle-RX lubes compression rings. Bounce back to normal levels 4000 miles later.



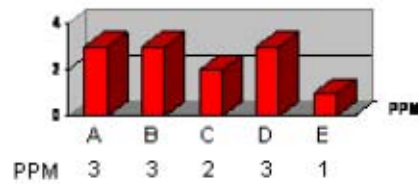
P

Normal oil add levels



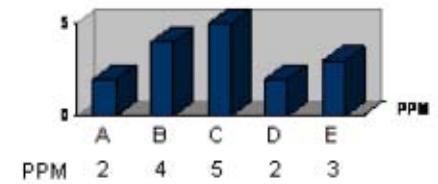
K

Scavenged potassium from engine and trans during Cycle-RX cleaning, most likely greases and fuel add residual deposits cleaned



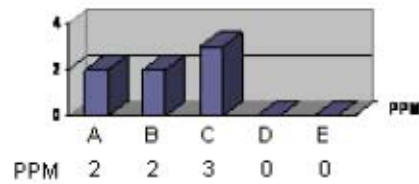
Si

Dirt ingress nil, mostly anti-foamant adds, K&N air filter used.



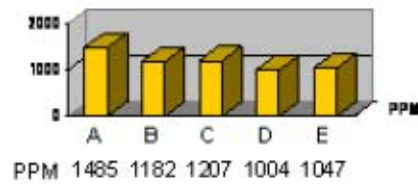
Na

Low dirt, some residuals from transmission scavenged during cleaning



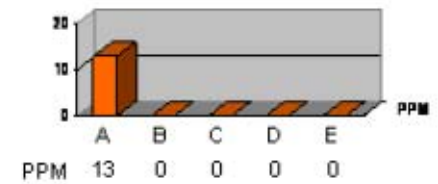
Sn

Bearing and piston alloys, low wear, post RX with OEM oil and Amsoil nil, perfect trend.



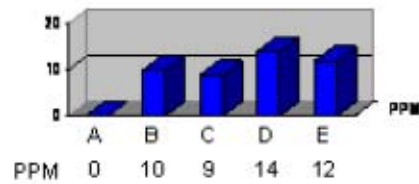
Zn

Normal oil add in OEM oil and Amsoil



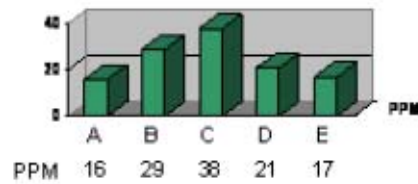
Soot/Solids

VERY clean engine to begin with. Once Cycle-RX employed, insolubles gone, no fuel soot issues



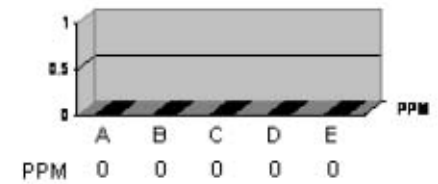
Oxidation

Oxidation rate from the oem oil run before cycle-rx indicates a clean engine but little cleaning capability of the oem oil, divide the values by 2 to get a percentage of oxidation. Max of 7% is excellent reading in any engine, let alone one being cleaned by Cycle-RX.



Nitration

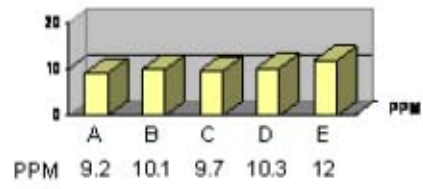
Divide values by 2 to get a percent. Combustion efficiency degrades during cleaning as rings are cleaned. 19% max is excellent for the cleaning interval, Amsoil interval at 8.5% is exceptional, post Cycle-RX. Note better combustion efficiency than beginning / non Cycle-RX oem oil test interval. Engine internal operating temps as measured by nitration are lower.



Sulfur

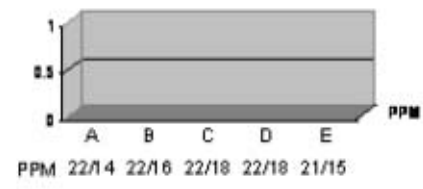
Amoco premium fuels used exclusively are low/no sulfur and ring seal is excellent as indicated by the sulfur values below threshold of IR.

Water: None at each interval | Coolant: None at each interval | Fuel: None at each interval



Viscosity @ 100c in cSt

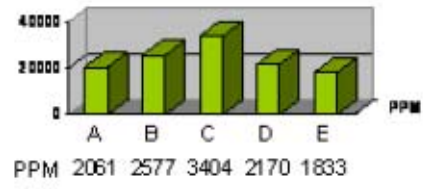
OEM oil on its own shears below design grade to SAE20. OEM oil with Cycle-RX and alone during rinse phase has better vis retention but still shears to SAE 30. Amsoil is sheared out to SAE 30, vs. design of SAE 40. Good indication of what the common sump and trans/clutch/engines common sumps do to any motor oil.



ISO Cleanliness Code

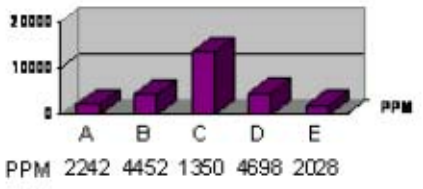
Indicates silt/abrasives wear in older format. Silt remains at the same 22 level over interval. Once oil is changed back to normal Amsoil that level drops from cleaning levels. Transmission wear residuals scavenging effect was tremendous by Cycle-RX. I see the oil filter loading with these silts. Excellent post Cycle-RX level after 2000 miles, just what the designers of Cycle-RX intended! Note some of the silt and abrasives level are from clutch face wear/corrosion after many miles on the bike.

Large Particle Detection Counts:



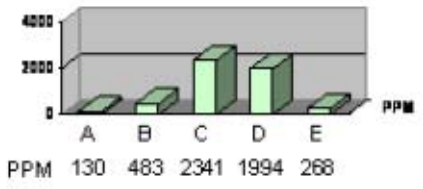
5u Particles

20615/25776/34044/21708/18331 Cycle-RX progressively dropped these levels.



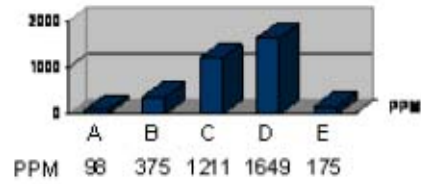
10u Particles

Cycle-RX cleaning effect

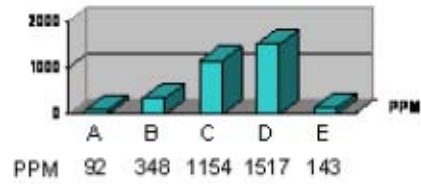


15u Particles

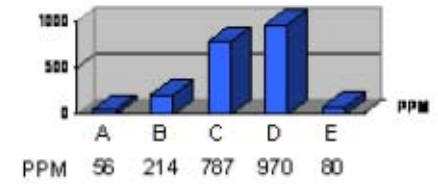
Significant drop in abrasives level after cleaning. Note wear was not impacted by the cleaning level as the micelle action of Cycle-RX is effective. In-situ cleaning effect.



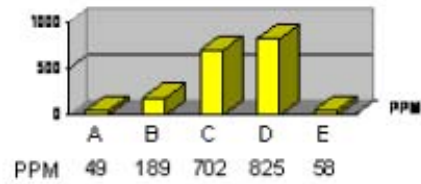
20u Particles
Same effect as 15u



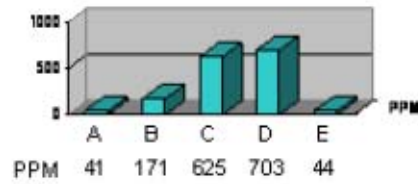
25u Particles
Same effect as 15u



50u Particles
Same effect as 15u



75u Particles
Same effect as 15u



100u Particles
Same effect as 15u