



On the Horizon

A World of Lubrication Understanding®

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Jessica Ice Joins Savant as Order Fulfillment Specialist



Jessica Ice is Savant Labs' new Order Fulfillment Specialist. Jessica joins Savant Labs after having served as a procurement specialist and previously as a senior client service associate for Olin Corporation and The Dow Chemical Company, respectively. Jessica has trained and developed cross-functional teams and implemented project management tools, thereby boosting productivity and data accuracy. Her attention to detail and timely response will ensure a positive customer experience from sample check-in and the scheduling phase to report preparation and delivery of results to our customers.

Emerging Trends in Test Methods



John Bucci, Vice President of Technical Development for the Savant Group, presented at the UEIL Annual Congress in France recently on the topic of *Emerging Trends in Test Methods*. Below is just a portion of his presentation as it relates to trends in automotive engine oil test methods and the important role bench testing still plays in keeping pace with an ever-increasing rate of change in lubricant requirements.



Automotive Engine Test Method Spectrum

Oil testing methods span the spectrum of physical properties to bench tests, engine tests, fleet studies, and field data. In terms of certification, the industry has gravitated towards engine tests as the primary focus. For example, in the recent GF-6 specification, three new engine tests were added and four were revised. Due to

the magnitude and complexity of these tests, it took more than seven years to solidify and approve this specification. This long development cycle no longer aligns with the fast pace of innovation required to meet fuel efficiency and sustainability targets and the mass adoption of new mobility solutions such as electric vehicles.

In addition to the long development cycle, the continued reliance on engine testing has several disadvantages, i.e., cost, supply chain complexity, and numerous interactive test variables. As Savant Founder Ted Selby has stated, "The engine is like a chemical factory with fuels and lubricants as raw materials. The longer the engine runs on a given amount of engine oil, the more damage the engine does to the oil's chemistry." Due to these complexities, test results are highly variable. Producing a large range of data points and interpreting the data into a meaningful cause and effect is often complicated and can be somewhat cost-prohibitive in collecting statistical data sets.

While field studies are the preferred and most effective in terms of indicating overall performance, they also require a lot of time and expense and are ill-suited for development purposes.

Reconsider the Role of Bench Tests

Lab-scale bench tests may not simulate all of the conditions experienced in an actual engine; however, such bench tests still fill a critical need when thought of as a complementary vs. standalone

tool. Bench tests act as screening tools for R&D with the ability to isolate specific factors and better study fundamental chemistries of new and used engine oils. With customized testing parameters, bench tests can be utilized to perform sensitivity analysis or improve understanding of oil performance under extreme conditions. When combined with engine test data, studies to better understand the relationship between fluid formulations, oil properties, and performance characteristics can also be completed. Bench tests can provide a supplement or alternative to costly and time-consuming engine tests, fleet, or field studies. With industry collaboration (i.e., sharing of "end of test" test oils and results), more relevant bench tests can be developed addressing the gap between bench results and in-service reality, saving cost, and accelerating new product development.



Working Together

Historical innovations have been a result of collaborations among OEMs, lubricant suppliers, instrument developers, and test labs. Examples include the TEOST MHT® (ASTM D7097) and TEOST® 33C (ASTM D6335) tests for characterizing the tendency to form high-temperature deposits in the piston ring areas of the engine and the turbocharger, respectively. Chrysler and Savant Labs

jointly developed both tests that have served the industry as part of the ILSAC GF-series of specifications over the years and as important benchmark tests for formulators. Correlation with field or engine test data is a key success factor enabled by broader access to test oils and performance data. Similar collaboration and parallel development approaches, like the one between Chrysler and Savant Labs, continue to be successful today as applied to other engine test characteristics of interest.

As the industry has experienced with the recent GF-6 specification cycle, reliance on engine testing as the primary tool for automotive engine oil development and certification is poorly aligned with the fast pace of change demanded by the industry. Collaboration is critical to meet the needs and address the trends of the evolving automotive industry.

At Savant Labs, we are continuing to participate in innovative collaborations with our customers and industry partners. Please [contact us](#) to discuss your next project or future collaboration.

Follow us on [LinkedIn](#) for more industry updates in the coming new year.

Certification Renewed & Additional Tests Accredited

Savant places quality at the center of everything we do. Recently, as part of the review process to ensure continued compliance with requirements and to ensure the standard of operation is being maintained, Savant Labs were approved for renewal of the ISO 9001:2015 certification.

In addition, six additional tests have received ISO/IEC 17025:2017 accreditation for Chemical and Mechanical testing from Perry Johnson Laboratory Accreditation Inc. (PJLA) - an accreditation agency certified by the ILAC-MRA and adheres to ISO/IEC 17011:2017 Standard for Assessment Bodies.

- ASTM D7097 Thermo-oxidation Engine Oil Simulation (TEOST MHT®)
- CEC-L-45-99 Modified KRL Shear Stability
- ASTM D2272 Rotating Pressure Vessel Oxidation Test (RPVOT)
- SAVLAB XRF Elemental Analysis, Qualitative XRF Scan
- ASTM D6335 Thermo-oxidation Engine Oil Simulation (TEOST® 33C)
- ASTM D2622 Sulfur by XRF-Wavelength Dispersive

Our current certificate and listing of [ISO/IEC 17025:2005 accredited testing](#) is available on [savantlab.com](#). The recently accredited tests will be added upon receipt of the updated certificate from PJLA.

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