

Section D02.B0.03 Status Report
to
Subcommittee D02.B0

December 10, 2008

ASTM Section D02.B0.03

- Scope
 - This Section is responsible for the promotion of knowledge of, and specifications, test methods and terminology for automotive gear lubricants and fluids. This includes gear lubricants used in rear drive axles, power dividers, and fluids used in manual and automatic transmissions of wheeled or track laying vehicles such as passenger cars, recreation vehicles, taxicabs, trailers, trucks, buses, tractors, construction and farm vehicles.
- Objectives
 - Keep existing performance tests operational, at historic severity and precision levels.
 - Ensure that performance test parts and reference oils are available in adequate supply and of a consistent quality.
 - Develop and maintain performance tests for gear lubricant and transmission fluid categories.
 - Maintain surveillance of test procedures under Section jurisdiction.
 - Work to improve test precision and correlation with field service.
 - Maintain active liaison with related organizations (CEC, SAE, API, etc.)

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Test Procedures Under the Jurisdiction of Section D02.B0.03

Common Designation	ASTM Designation	Purpose of Test
L-33-1	D 7038	To evaluate the rust and corrosion-inhibiting properties of a water-contaminated lubricant
L-37	D 6121	To evaluate the load-carrying, wear, and extreme pressure properties of a lubricant under low-speed, high-torque conditions
L-42	D 7452	To determine the anti-scoring properties of a lubricant subjected to high-speed and shock conditions
L-60-1	D 5704	To evaluate the thermal and oxidative stability of a lubricant
Cyclic Durability	D 5579	To evaluate the thermal stability of a lubricant in a cyclic durability test
Oil Seal Compatibility	D 5662	To determine the compatibility of a lubricant with specific polyacrylate, fluoroelastomer, and nitrile seal materials
Storage Solubility & Compatibility		To insure that lubricants maintain their integrity during storage, and that they are compatible with other lubricants intended for use in similar applications

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- Tests under the jurisdiction of the Section are used to evaluate lubricants under the following performance categories:
 - ASTM D 7450
 - Lubricants for automotive axles
 - Update of API Category GL-5
 - ASTM D 5760
 - Lubricants for non-synchronized manual transmissions in buses and heavy-duty trucks
 - Also known as API Category MT-1
 - SAE J2360
 - Multipurpose gear-lubricating oils
 - Technical equivalent of the MIL-PRF-2105E Specification
 - Cancelled on February 16, 2005
 - Proposed Category PM-2
 - Lubricants for synchronized manual transmissions in commercial vehicles
 - Currently under development

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- Update on Test Procedures
 - All tests under the jurisdiction of the Section are available for use
 - Continue to see a slight severity trend (severe) in the L-33-1 and L-60-1 tests
 - Not of sufficient magnitude to inhibit use of these tests
 - ASTM Test Monitoring Center working with Surveillance Panels and test laboratories to address this issue
 - One laboratory currently encountering difficulty calibrating their Cyclic Durability test stand
 - Obtaining severe results on the good reference oil
 - Shift in performance was a “step change” (rather than gradual in nature)
 - Test labs and the ASTM Test Monitoring Center are working together to identify and address the cause of the problem

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- Update on Test Procedures, continued
 - Adequate supplies of hardware available for all tests other than the L-37
 - Recent batch of lubrited L-37 hardware (V1L500/P4L870A) rejected due to severity
 - Unable to address via use of correction factors, modified build (contact pattern), or modified test conditions
 - Manufacture of new batch of hardware in progress
 - Expect delivery in the middle of CY 2009
 - Implementation of a Rater Calibration Monitoring System (RCMS) for the L-42 test becomes effective on January 1, 2009
 - A Rater Calibration Monitoring System has been in place for the L-37 test since the middle of CY 2003
 - “Thank you” to Don Lind (ASTM Test Monitoring Center)

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- Update on Test Procedures, continued
 - Work to write the Storage Solubility & Compatibility test procedure in the form of an ASTM Standard Test Method is underway

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- Update on Performance Categories
 - Ballot to approve update to ASTM D 5760 passed within Subcommittee D02.B0 with no negatives
 - Has been sent to Committee D02 for balloting in early CY 2009
 - “Thank you” to Hap Thompson (Facilitator)
 - Work on the development of proposed Category PM-2 continues
 - New category for synchronized manual transmissions in commercial vehicles
 - Progress has been slow due to the lack of a standardized pitting test and competition for limited industry resources
 - Questionnaire requesting input on a suitable pitting test as well as possible reference oils has been distributed within ASTM Subcommittee D02.B0 and the Coordinating European Council (CEC)

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- Other Activities
 - A Work Group has been formed within SAE to better define the need for a standardized test to evaluate the efficiency of axle lubricants
 - Group met on July 24 and September 25
 - Will survey industry to identify possible test methods, possible reference oils, etc.
 - May request ASTM's assistance in test development and/or refinement