

ASTM Section D02.B0.03 Update  
to  
SAE Technical Committee 3

October 7, 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
SS&C		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
      - Canceled 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
  - No issues or problems to report for the L-33-1, L-42, L-60-1, Cyclic Durability, Oil Seal Compatibility, and SS&C tests
  - Shortage of lubrified hardware for the L-37 test is still an issue
    - Recent batch rejected due to severe results on “good” reference oils
    - Batch was rebuilt using new pinions and rings
    - Recent testing again producing severe results on “good” reference oils
      - Currently evaluating use of modified test conditions (to achieve desired/acceptable results)

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- Update on Performance Categories
  - 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
  - Ballot to approve update of ASTM D 5760 in progress
    - Primary purpose is to clarify the pass/fail criteria for elongation in the ASTM D 5662 (Oil Seal Compatibility) test

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- Miscellaneous Activities
  - A Gear Rating Workshop was held in Troy, Michigan on May 28 through May 30
    - Intent was to familiarize attendees with automotive gear oil test procedures, provide a basic level of training in rating techniques, etc.
    - Drew 17 participants from 11 different organizations
      - Oil marketers, additive manufacturers, Original Equipment Manufacturers, etc.
    - Additional workshops will be held on a periodic basis