

# ASTM Section D02.B0.03

Status Report to Subcommittee B

June 20, 2007

## ASTM Section D02.B0.03

- Items to Review
  - Scope and Objectives
  - Relevant Tests
  - Relevant Performance Categories
  - Update on Test Procedures
  - Update on Performance Categories
  - Action Items

## 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.

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- 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.

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### Performance Tests 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	None	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

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- Performance Categories
  - Tests under the jurisdiction of the Section are used to evaluate lubricants under the following performance categories:
    - API Category GL-5
      - Lubricants for automotive axles
    - 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
  - Continue to see a slight severity trend (severe) in the L-33-1, L-60-1, and Cyclic Durability tests
    - ASTM Test Monitoring Center working with Surveillance Panels and test laboratories to address
    - Not of sufficient magnitude to inhibit use of tests
  - Shortage of hardware for the L-42 test (as reported in December, 2006 update) has been addressed
    - New batch of hardware approved in May, 2007
    - New batch expected to meet the industry's needs for 2+ years
  - L-42 test procedure has been written in the form of an ASTM Standard Test Method
    - Expect to ballot within ASTM later this year
  - Rater calibration process (similar to that in place in the L-37 test) currently being implemented in the L-42 test

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- Update on Test Procedures, *continued*
  - Shortage of lubrified hardware for the L-37 test (as reported in December, 2006 update) is being addressed
    - Industry has completed an extensive matrix of testing on four reference oils
    - Surveillance Panel will meet next week to review test results and take appropriate action
  - Oil Seal Compatibility Test Surveillance Panel will survey the industry to determine the need to update the elastomers used in the test
  - Task Force has been formed to address several issues related to the Storage Solubility and Compatibility (SS&C) test procedures
    - SS&C test required under the SAE J2360 Standard
    - Need to identify new distributor for “compatibility” oils
    - May need to update “compatibility” oils
    - Test procedures should be reviewed and updated as necessary
      - Currently Federal Test Methods
      - Will be rewritten as ASTM Standard Test Methods
    - Task Force has requested support/assistance from the ASTM Test Monitoring Center in addressing these needs



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- Update on Performance Categories
  - API Category GL-5 has been rewritten in the form of an ASTM Standard
    - Ballot within ASTM should occur later this year
  - Work on development of Proposed Category PM-2 continues
    - New Category for synchronized manual transmissions
    - Task Force seeking assistance in identifying possible reference oils which can be used to establish appropriate pass/fail criteria in several tests

## ASTM Section D02.B0.03

- Action Items
  - Motion: That Subcommittee B accept the status report from Section D02.B0.03 as written
  - That Subcommittee B approve the Task Force/Section request for assistance (with SS&C test-related issues) from the ASTM Test Monitoring Center