

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

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J. L.Gropp

Chairman, ASTM Section D02.B0.03

## 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.)

## ASTM Section D02.B0.03

### 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 evaluate 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
High Temperature Cyclic Durability	D 5579	To evaluate the thermal stability of a lubricant in a high temperature, cyclic durability test
Oil Seal Compatibility	D 5662	To evaluate the compatibility of a lubricant with specific polyacrylate, fluoroelastomer, and nitrile seal materials
Storage Stability & Compatibility	D 7603	To evaluate the compatibility of a lubricant with other lubricants intended for use in similar applications, and to evaluate the integrity of a lubricant during storage

## ASTM Section D02.B0.03

- Tests under the jurisdiction of the Section are used to evaluate lubricants under the following performance categories:
  - ASTM D 7450
    - Lubricants for automotive axles
    - API Category GL-5
  - ASTM D 5760
    - Lubricants for non-synchronized manual transmissions in buses and heavy-duty trucks
    - API Category MT-1
  - SAE J2360
    - Multipurpose gear-lubricating oils
    - Technical equivalent of the MIL-PRF-2105E Specification

## ASTM Section D02.B0.03

- Update on Test Procedures
  - All tests under the jurisdiction of the Section are available for use
    - Status of ASTM D 7038 (L-33-1) test
      - No test stand or hardware problems to report
      - Surveillance Panel beginning work to identify and approve the use of a new test axle
        - » Want to move to axle more representative of current production
    - Status of ASTM D 6121 (L-37) test
      - No test stand problems to report
      - Extended hardware shortage may soon be over
        - » Evaluation of new batch of hardware nearing completion
        - » May need correction factors to compensate for hardware-related shift in test severity
        - » Surveillance Panel meeting in mid-December with the goal of approving new batch of hardware

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- Update on Test Procedures, continued
  - Status of ASTM D 6121 (L-37) test, continued
    - Surveillance Panel working on a replacement for the current L-37 test
      - » Will use electric motor in place of gasoline engine, eliminate use of manual transmission (required when using gasoline engine), and use current, high-volume production axle in place of older hardware
      - » Changes intended to improve test and insure continued availability
    - Four labs have test stand in place
    - Work to finalize test procedure continues
      - » May require slight modification of originally-proposed test conditions to insure correlation with current L-37 test
    - Goal is to have test procedure finalized in CY 2013

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- Update on Test Procedures, continued
  - Status of ASTM D 7452 (L-42) test
    - No test stand problems to report
    - Hardware is in short supply at some labs
    - Evaluation of a new batch of hardware is in progress
    - New batch of hardware should be approved and available for use in December 2012/January 2013
  - Status of ASTM D 5704 (L-60-1) test
    - No test stand or hardware problems to report
      - » Recently approved new batch of hardware

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- Update on Test Procedures, continued
  - Status of ASTM D 5579 (High Temperature Cyclic Durability) test
    - No test stand or hardware problems to report
    - Continues to be only one test stand available within the industry
      - » Available stand has been able to meet the industry's needs
    - Manufacturer made change in one hardware component
    - Initial testing suggests that change will not impact test severity
      - » Additional testing will be conducted before new hardware is approved for use
  - Status of ASTM D 5662 (Oil Seal Compatibility) test
    - No test stand or hardware (elastomer) problems to report
  - Status of ASTM D 7603 (Storage Stability & Compatibility) test
    - No problems to report