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

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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	D 7603	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
    - Details tests and acceptance criteria for API Category GL-5
  - ASTM D 5760
    - Lubricants for non-synchronized manual transmissions in buses and heavy-duty trucks
    - Details tests and acceptance criteria 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 commercial vehicle synchromesh manual transmissions and transaxles
    - Detailed discussion to follow

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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, Oil Seal Compatibility, and SS&C tests
  - Currently only one Cyclic Durability test stand available within the industry
    - Second stand at second lab being relocated
    - Timing for second stand to be returned to service is unknown
    - Possibility of delays in getting tests run
  - Shortage of lubrited hardware for the L-37 test continues to be a problem
    - Details on following slide

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- Update on Test Procedures, continued
  - Two types of hardware are used in the L-37 test
    - Non-lubrited hardware required for API Category GL-5 and SAE J2360
    - Lubrited hardware required for SAE J2360 (but not API Category GL-5)
  - Recently approved a new batch of non-lubrited hardware
    - Required test procedure be modified to compensate for severe results
  - Has been difficult obtain/approve a new batch of lubrited hardware
    - Several pilot batches produced unacceptable (severe) results
    - Evaluation of a new pilot batch is in progress
      - Results to date look encouraging
      - Will require approximately six months for “production” batch of axles to be manufactured and approved for use
        - » Assuming no unforeseen problems are encountered

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- Update on Proposed Category PM-2
  - New performance category to define lubricants for commercial vehicle synchromesh manual transmissions and transaxles
    - Service fill applications
  - Work on the development of this category has been suspended
    - ASTM Task Force unable to identify a commonly-accepted pitting test
    - Also unable to identify oils with known acceptable and unacceptable performance in the field
  - SAE Technical Committee 3 was requested to re-evaluate the need for this category
  - Indications (from SAE Technical Committee 3) are that the interest in and/or need for this category no longer exists