

ASTM Update
to the
LRI Gear Oil Review Committee

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Status of the ASTM D 7038 (L-33-1) Test

- Test availability and operation
 - Test stands available at multiple labs
- Two of the three active/participating labs have recently obtained (slightly) severe results on the “good” reference oil
 - Labs and the Test Monitoring Center are investigating
- Hardware
 - Adequate supplies of hardware available

Status of the ASTM D 6121 (L-37) Test

- Test availability and operation
 - Test stands available at multiple labs
 - No known test stand-related problems
 - Test severity (with approved hardware) at historic levels
- Hardware
 - Lubrited hardware continues to be in short supply
 - Availability of non-lubrited hardware could also become a problem
 - Evaluation of a pilot batch (#3) of lubrited and non-lubrited hardware has just completed
 - Still seeing some unexpected distress and tooth breakage
 - Investigation into cause of this problem underway
 - No decision has yet been made regarding whether or not to accept this (pilot) batch of hardware

Status of the ASTM D 6121 (L-37) Test, continued

- Hardware, continued
 - Surveillance Panel investigated use of modified test conditions to approve CY 2008 batch of hardware in late 2008
 - Investigation was stopped when it was decided to begin production of a new batch of hardware
 - One lab continued to investigate use of modified test conditions
 - Encouraging results were obtained
 - Surveillance Panel has decided to resume investigation
 - Could produce a manner by which to approve the CY 2008 and/or subsequent batch of hardware
 - Decision on the feasibility of this approach should be known within a few weeks

Status of the ASTM D 6121 (L-37) Test, continued

- Surveillance Panel requested to evaluate alternate method for evaluating wear
 - Compare pre-test and post-test pattern
 - Evaluation will require numerous steps
 - Design fixture to “load” gears
 - Identify procedure to “pattern” the gears
 - Develop procedure to document patterns
 - Determine repeatability/reproducibility of process
 - Determine if process correlates with existing wear measurement results and/or data from the field
 - Determine if process offers an advantage over existing method
 - Etc.
 - Some steps have been completed - Additional work is underway
 - Progress may be hampered by lack of hardware and emphasis on obtaining/approving new batch(es) of lubrited and non-lubrited hardware

Status of the ASTM D 7452 (L-42) Test

- Test availability and operation
 - Test stands available at multiple labs
 - No known test stand-related problems
 - Test severity at historic levels
- Hardware
 - Adequate supplies of hardware available
 - Current batch appears to be providing very consistent results

Status of the ASTM D 5704 (L-60-1) Test

- Test availability and operation
 - Test stands available at multiple labs
 - No known test stand-related problems
- Test continues to be in a slight severity trend (severe) for Carbon/Varnish. May also be seeing the beginning of a slight severity trend (severe) for Sludge
 - Neither of sufficient magnitude to inhibit use of test
- Hardware
 - Adequate supplies of hardware available
- Work to improve the consistency of Carbon/Varnish ratings continues
 - Evaluating use of a fixture to hold the gears at a specified angle and distance from the rating light
 - Also evaluating the use of a rating box in addition to the above

Status of the ASTM D 5579 (Cyclic Durability) Test

- Test availability and operation
 - Routinely have one calibrated test stand available at each of two independent labs
 - Severity problem at one laboratory resulted in only one stand being available for several months
 - Second stand has recently completed the calibration process and is again available for candidate oil testing
- Hardware
 - Adequate supplies of hardware available
 - Surveillance Panel will initiate order for a new batch of friction and reaction plates in approximately six months

Status of the ASTM D 5662 (Oil Seal Compatibility) Test

- Test availability and operation
 - Baths available at two labs
 - No known “stand” (bath) related problems
 - Test severity at historic levels
- Hardware
 - Adequate supplies of elastomer available

Status of the Storage Solubility and Compatibility (SS&C) Test

- Procedure has been written in the form of an ASTM Standard Test Method
 - Ballot to approve passed within Subcommittee D02.B
 - Committee D02 ballot currently in progress

Other Activities

- Task Force continuing work to develop a new performance category for synchronized manual transmissions in commercial vehicles
 - Proposed Category PM-2
 - Progress has been slow due to the lack of a standardized pitting test and competition for limited industry resources
 - Task Force requested input on possible test procedures and reference oils from ASTM and CEC members
 - Task Force recently requested similar input from Japanese Automobile Manufacturers Association (JAMA)
- SAE Work Group continuing their efforts to identify/develop a standardized test to evaluate the efficiency of axle lubricants
 - Input from industry questionnaire indicated that several organizations have test procedures and/or lubricants they are willing to provide for consideration