

ASTM Update
to the
LRI Gear Oil Review Committee

November 8, 2007

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

- Test availability and operation
 - Test stands available at multiple labs
- Test continues to be in an alarm status for severity (severe) and precision
 - Appears to be primarily related to one laboratory
 - ASTM Test Monitoring Center working with the Surveillance Panel and the testing laboratory to address
 - Not of sufficient magnitude to inhibit use of test
- 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 at historic levels

- Hardware
 - Lubricated hardware continues to be in short supply
 - The B6L566/P4L816 batch has been deemed unacceptable for use
 - Produced severe results on “good” reference oils
 - Unable to address with correction factors, exclusion zones, etc.
 - Attempts to (slightly) modify test procedure to permit use of hardware were not successful
 - Industry ordering a new batch of hardware
 - Will retrofit B6L566/P4L816 axles with new pinions and rings
 - Will concurrently manufacture all new batch of hardware (using the same lot of pinions and rings as the “retrofit” hardware)
 - Will conduct testing to determine if these may be considered the same batch of hardware

Status of the 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
 - New batch approved in May, 2007
- General
 - Test procedure has been written as an ASTM Standard Test Method
 - Ballot within ASTM Subcommittee 3 in progress
 - Implementation of a Rater Calibration process is in progress

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
 - Not of sufficient magnitude to inhibit use of test
- Hardware
 - Adequate supplies of hardware available

Status of the ASTM D 5579 (Cyclic Durability) Test

- Test availability and operation
 - One calibrated test stand available at each of two independent labs
 - Additional, non-calibrated test stands also available
 - No known test stand-related problems
- Test continues to be in a slight severity trend (severe)
 - Not of sufficient magnitude to inhibit use of test
 - May be related to move to newer hardware
 - Reference oil test targets were recently updated to reflect use of newer hardware – Appears to be addressing the issue
- Hardware
 - Adequate supplies of hardware available

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 all elastomers available
 - Recently-implemented process to evaluate and approve new batches of elastomers working well
- General
 - Recently implemented closer control/monitoring of bath temperature
 - Survey of seal manufacturers and end-users suggests that the elastomers currently being evaluated in this test satisfy the industry’s needs
 - Will remain open to input from anyone with a problem/concern

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

- Surveillance Panel has been formed to oversee test
- ASTM Test Monitoring Center (TMC) has assumed responsibility for distribution of reference oils
 - Also checking inventory of reference oils for quality and consistency
- Surveillance Panel will determine if there is a need to update the selection of reference oils
- Test procedure is being written in the form of an ASTM Standard
 - Previously a Federal Test Method

Status of the API Category GL-5 Update/Rewrite

- API Category GL-5 has been rewritten in the form of an ASTM Standard
- Intent of update/rewrite was to address deficiencies in existing document
 - Not readily available
 - Not reviewed/updated on a routine basis
 - Referenced test procedures which are no longer available
 - L-33 and L-60
 - L-37 performance criteria somewhat vague
 - “... no tooth disturbance such as rippling, ridging, ...”
 - Possible confusion on testing requirements for some multigrade formulations
 - SAE 70W-xx, SAE 75W-xx, SAE xxW-110, SAE xxW-190
- Ballot within ASTM Subcommittee 3 in progress

Status of the Gear Rating Workshop

- Considerable amount of interest has recently been expressed in holding a gear rating workshop
- Intent would be to familiarize interested parties with the purpose of the stationary tests and field tests, how they are conducted, how the parts are rated, etc.
- Rating portion of workshop will include instruction by calibrated raters as well as hands-on rating by participants
- Workshop will be coordinated by the SAE
 - Will seek input and assistance from testing facilities, the ASTM Test Monitoring Center, etc.
- Anticipate holding workshop in the middle of CY 2008