

ASTM Update
to the
LRI Gear Oil Review Committee

February 14, 2008

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
- General
 - Investigating cause and solution to (occasional) foaming during warm-up

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
 - Lubrited hardware continues to be in short supply
 - The B6L566/P4L816 batch has been deemed unacceptable for use
 - Industry ordering a new batch of hardware
 - Will retrofit B6L566/P4L816 axles with new (lubrited) pinions and rings
 - Will concurrently manufacture all new batch of lubrited hardware
 - Same lot of pinions and rings as the “retrofit” hardware
 - Also ordering a new batch of non-lubrited hardware
 - Anticipate delivery in May/June

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

- Hardware, continued
 - Hardware supplier suggests that industry begin process of moving to “current” hardware
 - May include moving to a different axle ratio, different steel alloy, different manufacturing process, etc.
- General
 - A new “discrimination” oil has been offered as a replacement for TMC 127
 - Will be tested in conjunction with evaluation/approval of the new batches of lubrified and non-lubrified 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
- General
 - Test procedure has been written as an ASTM Standard Test Method
 - Ballot within ASTM Subcommittee 3 passed
 - Ballot within Main Committee imminent
 - Should be available as an ASTM Standard in late March or early April
 - 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. 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

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
- Balloting within ASTM Underway
 - Ballot within Subcommittee 3 passed
 - Ballot within Main Committee imminent
 - Should be available as an ASTM Standard in late March or early April

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
 - Met with ASTM and LRI representatives in November, 2007 to gain better understanding of intent and needs
 - Currently soliciting assistance from testing facilities, the ASTM Test Monitoring Center, etc.
- Hope to hold a workshop in the middle of CY 2008