

ASTM Update
to the
LRI Gear Oil Review Committee

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Status of the ASTM D7038 (L-33-1) Test

- Test availability and operation
 - Test stands available at multiple labs
 - No known test stand-related problems
- Hardware
 - Supplies of hardware diminishing
- General
 - Labs working on next-generation test
 - Will use American Axle “K2XX” axle
 - Testing on pilot batch in progress
 - Results to date show good discrimination between good and poor reference oils
 - Industry ordering large batch of hardware
 - Expect delivery in 4th quarter CY 2014
 - Targeting 1st quarter CY 2015 for finalization/approval of test procedure

Status of the ASTM D6121 (L-37) Test

- Test availability and operation
 - Test stands available at multiple labs
 - No known test stand-related problems
- Hardware
 - Inventory at labs periodically low due to delayed/intermittent delivery from supplier
 - Surveillance Panel developed procedure to enable labs to build axles using pinions and rings from approved batch of hardware
 - Requires multiple tests on good and poor reference oils to insure quality and consistency of build process at each lab
- General
 - Labs continuing work on next-generation test
 - Details on following slides

Status of the “Next-Generation” L-37 Test

- Eventual replacement for the current L-37 test
- Updated test stand uses electric motor as power source
- Uses L-37-type hardware manufactured by Gleason
- Industry currently focused on finalizing test stand configuration, writing test procedure, etc.
- Lab visits and axle-build workshop will be held when new/large batch of hardware is available
 - Expect delivery in October/November timeframe
- Targeting 2nd quarter of CY 2015 for finalization/approval of test procedure

Status of the ASTM D7452 (L-42) Test

- Test availability and operation
 - Test stands available at multiple labs
 - No known test stand-related problems
- Hardware
 - Supplies of hardware diminishing
 - Industry placed order for new batch
 - Expect delivery in 4th quarter CY 2014
- Reference Oils
 - TMC 117 has been introduced as replacement for good reference oil (TMC 116)
 - Produces slightly less/milder scoring than TMC 116
 - Correction factors were implemented to maintain test at current level of severity

Status of the ASTM D5704 (L-60-1) Test

- Test availability and operation
 - Test stands available at multiple labs
- Hardware
 - Adequate supplies of test gears available
- General
 - Surveillance Panel investigating cause(s) for differences in test severity between labs
 - Industry-wide severity trend (severe) has existed for several years
 - Recent introduction of new batch of hardware may be having an effect
 - Situation is confusing
 - Different reference oils responding differently
 - Not all labs responding in the same manner

Status of the ASTM D5579 (Cyclic Durability) Test

- Test availability and operation
 - Continues to be only one calibrated stand within the industry
 - Has been able to meet industry's needs
 - No known stand-related problems
 - Test severity at historic levels
- Hardware
 - Adequate supplies of hardware available

Status of the ASTM D5662 (Oil Seal Compatibility) Test

- Test availability and operation
 - Baths currently available at two labs
 - Third lab coming “on line”
 - No known “stand” (bath) related problems
- Hardware
 - Adequate supplies of elastomer available