

ASTM Update  
to the  
LRI Gear Oil Review Committee

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J. L. Gropp

Chairman, ASTM Section D02.B0.03

## 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 showed good discrimination between good and poor reference oils
    - Large batch of hardware has been ordered
      - Expect delivery in 2<sup>nd</sup> quarter CY 2015
    - Targeting 3<sup>rd</sup> 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
  - Limited availability of supplier-built axles
  - 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 slide

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

- Eventual replacement for the current L-37 test
- Use L-37-type hardware manufactured by Gleason
- Hardware available at all test labs
- Lab audits and axle-build workshop have been completed
- Testing on axles assembled at axle-build workshop is in progress
- Large matrix of tests will be conducted on lab-built axles
  - Intended to approve new test procedure and this batch of hardware
- Targeting 2<sup>nd</sup> / 3<sup>rd</sup> quarter of CY 2015 for finalization and 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 previous batch(es) of hardware diminishing
  - All labs have received new batch of hardware
    - Expect to be approved for use in 1<sup>st</sup> quarter CY 2015
- General
  - Labs starting discussion on development of next-generation test
    - Details on following slide

## Status of the “Next-Generation” L-42 Test

- Current test stand uses a gasoline engine and manual transmission to drive the axle
- Next-generation test stand will use an electric motor as the power source
- First phase of development will concentrate on use of existing hardware in an updated/improved test stand
  - May see some initial results in 2<sup>nd</sup> quarter of CY 2015
- Longer-term, may want to use a downsized version of current hardware in a reusable fixture
  - Goal would be to improve precision and reduce cost
    - Eliminate variability related to test stand and/or axle
    - Eliminate cost related to current practice of discarding used axle housing, carrier, etc.

## 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
- Reference Oils
  - Work underway to introduce a replacement for the good reference oil

## 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 test 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
  - Test can be conducted at multiple labs
  - No known test stand (bath)-related problems
- Hardware
  - Adequate supplies of elastomer available