

ASTM Update  
to the  
LRI Gear Oil Review Committee

November 3, 2011

J. L. Gropp

Chairman, ASTM Section D02.B0.03

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

- Test availability and operation
  - Test stands available at multiple labs
  - No known test stand-related problems
- 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: Non-lubrited
  - Supplies of hardware adequate, but diminishing
  - New batch being manufactured in combination with new batch of lubrited hardware

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

- Hardware: Lubrified
  - Shortage of hardware continues to be an issue
  - Evaluation of a pilot batch (with both the pinion and ring lubrified and the current test length of twenty-four hours) produced severe, but encouraging, results
  - Surveillance Panel evaluated two approaches
    - Lubricating only the ring
    - Keeping pinion and ring lubrified, and reducing the test length
  - Based upon results of testing on good and poor reference oils, Surveillance Panel agreed to keep the historic configuration of lubricating both the pinion and ring, and reduce the test length to twenty hours
  - Manufacture of a large batch is in progress
    - Hope to have hardware approved and available for candidate oil testing in December 2011 or January, 2012

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

- Next-generation Test
  - Work on development of next-generation test continues
    - Will use an electric motor as the power source, will eliminate the use of a transmission, etc.
  - Initial investigation at two laboratories looked at
    - Ground gears from Gleason
    - Production hardware from American Axle
    - Both labs evaluated both lubrited and non-lubrited hardware
  - Surveillance Panel decided to adopt procedure using American Axle hardware as the replacement for the existing L-37 test
  - Additional testing will be required to fine-tune procedure, confirm/develop acceptance criteria, etc.
  - Intent is to have new procedure finalized and approved test hardware available within one year

## 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
  - Most labs have sufficient hardware to last until the next batch is available
    - One lab has depleted their inventory
  - Labs have placed order for new batch
  - Manufacturer currently making a pilot batch for evaluation
  - New batch should be available and approved in 1<sup>st</sup> quarter of CY 2012

## 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
- Hardware
  - Adequate supplies of hardware available
  - Surveillance Panel has ordered a new batch of hardware
    - Should be available and approved in 1<sup>st</sup> quarter of CY 2012
- General Comments
  - Surveillance Panel identified several areas for improvement in the ASTM D 893 (Insolubles) Test Method
    - Ballot to approve changes currently underway within ASTM

## Status of the ASTM D 5579 (Cyclic Durability) Test

- Test availability and operation
  - Currently only one test stand available within the industry
    - Test stand at second lab being relocated
    - Timing for availability of second stand uncertain
    - The available stand has been able to meet the industry's needs
  - No known stand-related problems
  - Test severity at historic levels
- 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 elastomer available
- Reference Oils
  - Adequate supplies of reference oils are available
  - Surveillance Panel developing data on new reference oil (TMC 169), which will replace TMC 161 when inventory has been depleted