

ASTM Update
to the
LRI Gear Oil Review Committee

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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
 - Unsure of continued availability of current hardware
 - Labs evaluating alternate axle

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
- Hardware: Non-lubrited
 - Supplies of hardware diminishing
 - Evaluation of new batch of hardware in progress
 - May need correction factors to compensate for severity with some types of distress
 - Hope to have hardware approved and available for candidate oil testing in 4th quarter of CY 2012

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

- Hardware: Lubrited
 - Shortage of hardware continues to be an issue
 - Evaluation of new batch of hardware in progress
 - Severe results on reference oils required slight change in test conditions
 - Maintained current test length of 24 hours
 - Reduced load as was done with previous batch of non-lubrited hardware
 - May need correction factors to compensate for severity with some types of distress
 - Hope to have hardware approved and available for candidate oil testing in 4th quarter of CY 2012

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

- Eventual replacement for the current L-37 test
- Uses electric motor as the power source, eliminates the manual transmission which was required when fired-engine used as power source, uses current-production hardware, etc.
- Work to finalize test procedure continues
- Results obtained on reference oils looks encouraging
- Testing on two oils of known performance in the current L-37 test yielded unexpected (severe) results
- Investigating effect of modifications in test conditions
 - Looking at changes in oil temperature and oil charge

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
- Hardware
 - Supplies of hardware diminishing
 - One lab has depleted their inventory
 - New batch of hardware now available at all test labs
 - Labs beginning evaluation
 - Need to determine if drive-side scoring seen in pilot batch will be seen in large batch
 - If so, will attempt to eliminate or reduce through minor modification of conditioning phase of test
 - Hope to have hardware approved and available for candidate oil testing in December 2012/January 2013

Status of the ASTM D 7452 (L-42) Test, continued

- General comments
 - Industry needs a replacement for TMC 116
 - Supplier of current oil unable to provide a reblend
 - Have sufficient oil to last approximately one year
 - One potential replacement has been offered for consideration
 - Industry reviewing data provided to determine suitability of oil

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 test gears available
 - New batch of test gears has been approved for use

Status of the ASTM D 5579 (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
 - Manufacturer made change in sliding clutch and mating gears
 - Unsure if hardware change will introduce a change in test severity
 - No clear conclusions reached from initial testing on reference oils
 - Additional testing on reference oils will be conducted prior to approving new hardware configuration
 - Limited supply of current hardware will require prompt resolution of this issue

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
- Hardware
 - Adequate supplies of elastomer available