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### Committee D02 on PETROLEUM PRODUCTS AND LUBRICANTS

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### ASTM Gear Rating Task Force Meeting & Gear Rating Workshop July 31- August 1, 2012 Richmond, VA

The Gear Rating Task Force Meeting and Workshop was held at Afton Chemical Co., Richmond VA. Meeting and workshop opened with Marty Rose, of Afton welcoming attendees. Art Sanchez, chairman was unable to attend due to illness, so Scott Parke of TMC began with topics to discuss amongst the raters:

Item 1: Discussion and presentation of a new L-42 rating template was introduced by Lubrizol. Template was produced by LZ and raters reviewed and used template and only concern needed a different font size for numbers on template. If requested by ASTM, LZ will provide all measurement data used for sizing of the different areas of template to TMC.

Numerous efforts in the past years were unsuccessful in getting information from Dana on actual dimensions of tooth area to improve on this template.

The other raters not in attendance were briefed on template, and after workshop had completed a week later, a unanimous email vote for approval and recommendation to Surveillance Panel for their approval.

Item 2: LZ asked if L-37 photos could be included or made available for purchase at workshops. It was also noted these photos that are labeled, expire after one year. This one year expiration should not have been installed on photos to begin with, as these are the recently approved and reprinted photos. TMC has since changed this expiration date to 'good lab practice'.

07/31/2012 - Begin set up parts for calibration. All lights and tables had been set up before workshop by Afton. Rate parts for calibration, break for lunch, and resume calibration ratings until completed. TMC compiled data, data was reviewed, and ratings were discussed for each item that some raters were not in agreement on. This is typical for all workshops to review and discuss.

After data review of calibration parts, hardware was placed for general ratings to commence, which lasted until the end of the day.

08/01/2012 - Continue rating of parts for completion of data. Once all parts were done, the data was compiled and presented to raters by TMC for review. As normal, various ratings were reviewed and discussed amongst raters. Rippling was discussed on one L-37 in particular. Once all data was reviewed, break for lunch and begin addition ratings on:

L-60-1 ratings using the Fixture.  
 L-42 ratings using new template.  
 L-42 ratings for RCMS data.

After completion of the additional ratings, data was reviewed, and discussed. Suggestion of moving the number for percentage of scoring slightly away from each various scoring size ellipse.

Closing meeting: Group generally likes the L-60-1 rating fixture. No rater expressed strong feelings against it. Gears rated had not been rated in workshop before. This was TMC suggestion to not compare previously rated gears from normal workshop rating procedure vs. fixture. Plan to have new L-42 template presented at the November LRI. Afton brings up Camaro axle ratings, a different look pinion; do we need new photos for ratings? The spiral of teeth is tighter, wear step occurs in different location, wear patterns look different. Questions using current rating aids for the pinions. Discussion of possibly using reference Camaro parts in future workshops.

Field test ratings were discussed as it has been some time since this has been done. Previously, this was done at each workshop with raters doing this as a group and results ratings discussed openly. No data recorded, etc. Seals and bearings, how to train, in the past at the CRC workshops, or discussion for each lab to bring these parts in and all rate them. Can all labs send bearings and seals? Possible to send parts to TMC and they would code them for ratings. TMC will return parts at completion.

The next Gear Rating Workshop will be hosted by Southwest Research Institute (SwRI®) in San Antonio, Texas on January 15-17, 2013.

All attending the workshop thanked Afton Chemical and Scott Parke for providing a successful Gear Rating Workshop.

Light check data:

	<u>July 31, 2012</u>	<u>August 1, 2012</u>
L-37	340/540	340/500 (two tables)
L-42	390/310	400/310 (two tables)
L-60-1	360/380	400/380 (two tables)
L-33	300/300/310	320/320/330 (three tables)

Respectfully submitted,

Pat Adams,  
ASTM Gear Rating Task Force Secretary