



100 Barr Harbor Drive ■ West Conshohocken, PA 19428-2959
 Telephone: 610-832-9500 ■ Fax: 610-832-9555 ■ e-mail: service@astm.org ■ Website: www.astm.org

Committee D02 on PETROLEUM PRODUCTS AND LUBRICANTS

Chairman: N DAVID SMITH, North Carolina Dept Of Agric, 2 West Edenton St, PO Box 27647, Raleigh, NC 27611, (919) 733-3313, FAX: 919-715-0524, Email: david_smith@ncdamail.agr.state.nc.us
First Vice Chairman: SUSAN E. LITKA, UOP Research Center, 50 East Algonquin Road, PO Box 5016, Des Plaines, IL 60017-5016, (847) 391-3390, FAX: 847-391-3330
Second Vice Chairman: KURT H. STRAUSS, 69 Brookside Rd, Portland, ME 04103, (207) 773-4380, FAX: 207-775-6214
Secretary: KENNETH O. HENDERSON, Cannon Instrument Co, PO Box 16, State College, PA 16804-0016, (814) 353-8000, FAX: 814-353-8007, Email: kenohenderson@worldnet.att.net
Assistant Secretary: W JAMES BOVER, Exxon Biomedical Sciences, Mettlers Rd Cn2350, East Millstone, NJ 08875-2350, (732) 873-6318, FAX: 732-873-6009, Email: mailto:james.bover@ere.exxon.sprint.com
Staff Manager: EARL R. SULLIVAN, (610) 832-9709, Email: esulliva@astm.org

ASTM Gear Rating Task Force Meeting & Gear Rating Workshop July 26-28, 2011

The workshop took place at Lubrizol, (Wickliffe, Ohio) on July 26-28, 2011.

In attendance all 3 days:

- Art Sanchez
- Brian Foecking
- Chris Lonsway
- Pete Radonich
- Scott Parke
- Tony Barrera
- Wes Stocks

Light meter readings were taken each day before any ratings were done.

The results of the light readings are:

7/26/2011		7/27/2011		7/28/2011	
Light #	Reading	Light #	Reading	Light #	Reading
1	235	1	249	1	218
2	230	2	239	2	240
3	253	3	246	3	226
4	256	4	247	4	240
5	228	5	271	5	229
6	236	6	255	6	231
7	233	7	241	7	226
8	265	8	245	8	253
9	235	9	240	9	243
10	318	10	282	10	263
11	226	11	249	11	220
12	251	12	245	12	227

Setup for the workshop was done on Monday afternoon by the Lubrizol raters.

Tuesday, July 26th

The opening meeting started at 8:45am.

Scott mentioned that the L-33 (area 2) rating templates were available by phone order only, but that we should be able to order them through the web site by Monday, August 1st. At the time these notes are being prepared (August 8, 2011), the templates are available at:

<http://www.astm.org/BOOKSTORE/PUBS/TMCL33-1RATINGTEMP.htm>

Scott gave all raters a printed handout of the "parts list" of all the available ASTM Deposit & Distress Rating Aids. A copy of the handout is copied to the end of the meeting minutes.

It was discussed to have Intertek host the next Gear Rating Workshop in January and Intertek has agreed. The schedule for the next 4 workshops is:

Location:	Date:
Intertek	January 2012
Afton	July 2012
SwRI	January 2013
Lubrizol	July 2013

The tentative dates for the Gear Workshop at Intertek are January 17-19, 2012.

The L-60 fixture was shipped from Afton to Lubrizol. Scott stated that the Surveillance Panel wants more comparison data of L-60 ratings with and without the fixture. We were told that we will be rating the gears without the fixture and then rerate the same gears with the fixture.

L-42 templates are still "in the works" phase, so discussion of the templates was tabled until the January workshop.

A copy of the "Broken Tooth History" of rater discussions from the last workshop, along with Surveillance Panel input relating to the latest broken tooth definition was handed out. We reviewed 37 photos of pinions with broken teeth. Using the current broken tooth definition, each photo of a broken tooth was rated as "chipped, broken, or unsure" by all raters using a rating form provided by Scott. Ratings were completed and totaled on how each pinion photo was rated and then reviewed and discussed by the group. Also discussed was use of the word "face" in the definition, and its defined pinion tooth area. It is considered to be the drive side of the pinion or ring gear, and can also be used to describe the coast side.

Broken tooth definition -

Distinct from and more extensive than "chipping" (which is defined elsewhere), a broken gear tooth is a gear tooth where some portion of the face of the tooth is missing and the missing portion includes some part of the top land, toe, heel, or coast side of the tooth.

11:00 Calibration ratings

11:45 - 12:15 Lunch

12:15 - 2:45 Finished calibration ratings

2:45 - 3:45 Review & discuss calibration ratings

3:45 - 4:15 Exchange calibration parts with practical application parts and then adjourn for the day

Wednesday, July 27th

8:00 – 11:30 Rate practical application parts

11:30 – 12:00 Lunch

The L-60 gear rating fixture from Afton was delivered to the workshop room during lunch.

12:00 – 3:30 Finish rating practical application parts and began rating of all L-60 gears with rating fixture

Began rating “new L-42 RCMS parts” to gather data so the parts can be introduced into the L-42 RCMS inventory.

Thursday, July 28th

8:00 – 10:30 Data review of L-60 ratings with, and without, the rating jig.

- Decisions need to be made concerning the L-42 templates.
 - The raters feel that the templates are not a luxury, and are something needed for accuracy.
- If the L-60 rating fixtures is to be used by all labs in the future.
 - Afton would possibly supply the drawings or have them made.
- Tony Barrera, Wes Stocks, Art Sanchez and Scott Parke thanked Lubrizol for their efforts and hospitality in providing a successful workshop.

Meeting closed at 10:45 on July 28, 2011. Teardown and repacking of rating lights, rating hardware and rating room general cleanup began.

Notes taken by Chris Lonsway, Lubrizol Gear Rating Workshop secretary.

Respectfully submitted,



Arthur Sanchez, Chairman ASTM Gear Rating Task Force

ASTM GEAR RATING TASKFORCE PANEL MEMBERSHIP

<u>MEMBERS</u>	<u>COMPANY</u>
Adams, Pat	Afton
Foecking, Brian.....	Lubrizol
Lopez, Frank.....	SwRI
Radonich, Pete	Lubrizol
Rodriguez, Jesse.....	SwRI
Rose, Marty.....	Afton
Sanchez, Art, Ldr.	SwRI
Stocks, Wes.....	Afton

<u>MAILING DISTRIBUTION</u>	<u>COMPANY</u>
Akucewich, Ed.....	Lubrizol
Tony Barrera.....	Intertek
Bonewald, John.....	SwRI
Gropp, Jerry	Lubrizol
Huron, John.....	Oronite
Johnson, Ron.....	Chevron
Koehler, Brian.....	SwRI
Koglin, Cory.....	Afton
Lind, Don	TMC
McGlone, Bruce.....	Meritor
Schenkenberger, Chris.....	Lubrizol
Smith, Dale.....	Intertek PARC
Zakarian, Jack	Chevron

ASTM Deposit & Distress Rating Aids

To purchase by credit card from ASTM.ORG, click on ASTM Stock Number (or contact Yvonne Reese in ASTM Customer Relations, 610-832-9570, yreese@astm.org)

Name	ASTM Stock Number	ASTM Inventory Description	Description	Price	Included in Manual Number
Manual 20	<u>TMCMN20</u>	TMC Manual 20	CRC Deposit Rating Manual – (Manual 20 supercedes CRC Manual 7, 12, 14, 15, 16, and 19). This manual represents current industry practices for all CRC Deposit Evaluations.	\$600.00	
Manual 21	<u>TMCMN21</u>	TMC Manual 21	CRC Distress Rating Manual – (Manual 21 supercedes CRC Manual 17). This manual represents current industry practices for all CRC Distress Evaluations.	\$600.00	
Supplemental Valve Photographs 9.0-10.0	<u>TMCVALVEPHOTOS</u>	TMC Supplemental Valve Photographs 9.0-10.0	Intake Valve photographic scale in increments of 0.1 units from 10.0 to 9.0.	\$130.00	20
Rust/Varnish/Lacquer Rating Scale	<u>TMCRUSTRVARLACQ</u>	TMC Rust/Varnish/Lacquer Rating Scale	Intensity scale used for both gasoline & diesel engines and other lubricant related deposits.	\$110.00	20
Sludge Depth Scale (Photographic)	<u>TMCSLUDGE-PHOTO</u>	TMC Sludge Depth Scale (Photographic)	For non-measurable sludge deposits from "1/4A" through BC levels	\$26.00	20
Sludge Depth Gauge (Metal)	<u>TMCSLUDGE-METAL</u>	TMC Sludge Depth Gauge (Metal)	For measurable sludge deposits from "C" through "J" levels of deposits.	\$26.00	20
Photographs for Gear Distress	<u>TMCGEARDISTRESS2010PR</u>	TMC Photographs for Gear Distress	Typical examples of "Riding", "Rippling", and "Wear" from 10.0 (Trace) to 3.0 (Heavy) in 1.0 units of distress	\$80.00	21
Valve Lifter Varnish Rating Scale	<u>TMCCLIFTERVARNISH</u>	TMC Valve Lifter Varnish Rating Scale	Hydraulic Lifter foot deposit rating aid ranging from 9.5 to 2.0 merit value.	\$26.00	
Rating Scale for Spalling (Set of 2)	<u>TMCSPALLING</u>	TMC Rating Scale for Spalling (Set of 2)	Geometric images designed to assist in determining spalling severity from 9.0 (trace) through 3.0 (heavy)	\$26.00	21
L-42 Scoring Template (Transparency)	<u>TMCL42SCORTEMP</u>	TMC L-42 Scoring Template (Transparency)	These two rating aids are designed to assist in determining percent scoring of the pinion & ring gears for the L-42 tests.	\$26.00	21
L-60-1 (Template for Percent Area Breakdown) (Manual 21)	<u>TMCL60TEMPMNL21</u>	TMC L-60-1 (Template for Percent Area Breakdown) (Manual 21)	These rating aids are designed to assist in determining percent area breakdown of L-60-1 gears. (Boston Models GA-34 and GA-50).	\$26.00	21
L-33-1 Rating Template (Transparency)	<u>TMCL33-1RATINGTEMP</u>	L-33-1 Area #2 Rating Template	L-33-1 Area #2 Rating Template (set of 4, two positives and two transparencies)	\$80.00	21
Gear Fleet Form on Disk (Excel)	<u>TMCGEARFLEET</u>	TMC Gear Fleet Form on Disk	Light & Heavy duty axle & transmission inspection form required by LRI and recommended for all other inspections.	\$26.00	

Prices as of 04/27/11 and do not include shipping & handling or applicable sales tax.

Prices subject to change without notice