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Committee D02 on PETROLEUM PRODUCTS AND LUBRICANTS

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February 4, 2007

Reply to:
Chris Schenkenberger
The Lubrizol Corporation
29400 Lakeland Blvd.
Wickliffe, OH 44092
(440) 347-2388
(440) 347-2878 (FAX)
Chris.Schenkenberger@lubrizol.com

ASTM D02.B0.03 L-60-1 Surveillance Panel
Members and Guests:

Attached for your review and comment are the unconfirmed minutes of the November 15, 2006 L-60-1 Surveillance Panel meetings held at the PRI Headquarters, Warrendale, PA. Please direct any corrections or comments to my attention.

Sincerely,

Chris Schenkenberger

Chris Schenkenberger, Chairman
L-60-1 Surveillance Panel

Attachments

Report of Meeting
L-60-1 Surveillance Panel
PRI Headquarters, Apollo Room, Warrendale, Pa.
November 15, 2006

Sign-in/Review of Membership: The meeting was called to order at 11:24 am. The sign-in sheet is ***Attachment 1***. A review of membership was performed and names of non-active participants were identified. Those who have not been in attendance for surveillance panel meetings for numerous years, either through direct attendance or via teleconference, were considered non-active. For the time being, these names were not removed from the membership and mailing lists. The Surveillance Panel is seeking direction from the B03 Chairman on how to address this situation. Don Bell and Cory Koglin recommended that Tom Boschert be removed from the nonvoting membership list due to changes in work responsibilities.

Meeting Agenda
The L-60-1 Surveillance Panel (SP) meeting agenda is included as ***Attachment 2***.

Approval of Minutes
None at this time.

Summary of Meeting Discussions
The L-60-1 Task Force has been working to build new templates for checking gear box dimensions which are currently difficult to measure. This data will be used to update current ASTM drawings or build new ones. Mr. De La Fuente from SwRI worked with the chairman to build a starting template (see ***Attachment 3***). The Task Force met on 9/21/06 via teleconference and identified the measurement process to be performed on all available L-60-1 rigs (both qualified and unqualified). Measurements were performed with a depth micrometer on the complete assembly with either utility gears or actual gears to be used for testing. The same measurements were performed both with and without the gear case o-ring. Vaseline was used for initial lubrication of the o-ring. As in the D5704, the gear case cap screws were tightened to 25 lb-in. The results are included as ***Attachment 4***.

Difficulties in obtaining accurate measurements were reported by all of the labs for locations 1 through 4. The angled baffle plate interfered with locations 1 and 2. The baffle plate fasteners also interfered with locations 3 and 4. Mr. Brian Koehler volunteered to work with Mr. De La Fuente to make a new baffle plate from transparent material. This would allow for proper placement of the holes to measure the case depth and depth to other locations. Additional holes marking the four quadrants of the large and small gear will be added as a gauge for checking shaft installation. The Task Force plans on not using the o-ring since it added variability to the measurement process.

Action Items:
1. Mr. Koehler/Mr. De La Fuente/Chairman - Make a new cover plate with corrected locations as noted by the Task Force.
2. Task Force – Repeat measurements with new cover plate.

The meeting was adjourned at 11:43 am (Cory Koglin/Don Lind).

Respectfully submitted,

Chris Schenkenberger
L-60-1 Surveillance Panel Chairman

ASTM L-60-1 Surveillance Panel Membership/Mailing List

Meeting Date: November 15, 2006

Initials*	Name	Voting Status	Company Name & Address	Phone & Fax & E-Mail
	Anderson, H.	Non-voting	Falex Corporation 1020 Airpark Drive Sugar Grove, Illinois 60554-9585	Phone: 630-556-3669 Fax: 630-556-3679 E-Mail:
✓	Bartlett, Don	Non-voting	The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, Ohio 44092	Phone: 440-347-2388 Fax: 440-347-2878 E-Mail: dtb@lubrizol.com
✓	Bell, Don	Non-voting	Afton Chemical Corporation 500 Spring Street Richmond, Virginia 23219	Phone: 804-788-6332 Fax: 804-788-6342 E-Mail: Don.Bell@aftonchemical.com
	Boschert, Tom	Non-voting	Afton Chemical Corporation 2000 Town Center, Suite 1750 Southfield, MI 48075	Phone: 248-350-0640 Fax: 248-350-0025 E-Mail: tom_boschert@ethyl.com
	Bryson, Tom	Voting	Mack Trucks 13302 Pennsylvania Avenue Hagerstown, Maryland 21740	Phone: 301-790-5454 Fax: 301-790-6744 E-Mail: tom.bryson@macktrucks.com
	Buitrago, Juan	Voting	Chevron Oronite Co. 100 Chevron Way Richmond, California 94802-0627	Phone: 510-242-1161 Fax: 510-242-3392 E-Mail: jabu@chevrontexaco.com

* Initial to indicate attendance at subject meeting

Attachment 1
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ASTM L-60-1 Surveillance Panel Membership/Mailing List

Meeting Date: November 15, 2006

Initials*	Name	Voting Status	Company Name & Address	Phone & Fax & E-Mail
	Chambers, Harold	Non-voting	Cube C290 81 17000 Rotunda Drive Dearborn, MI 48120	Phone: (313) 755-4246 Fax: E-Mail: hchamber@visteon.com
	Comfort, Allen	Non-voting	AMSTA-TR-D/210 (Allen Comfort) U S Army Tank, Automotive, and Armament Command Warren, Michigan 48397-5000	Phone: 586-574-4225 Fax: 586-574-4244 E-Mail: comforta@cc.tacom.army.mil
	De La Fuente, Hector	Voting	Southwest Research Institute 6220 Culebra Road San Antono, Texas 78238	Phone: 210-522-5996 Fax: 210-680-1777 E-Mail: hdelafuente@swri.edu
	DuBois, David	Non-voting	Performance Review Institute 161 Thornhill Road Warrendale, Pennsylvania 15086-7527	Phone: 724-772-1616, ext. 8136 Fax: 724-772-1699 E-Mail: dubois@sae.org
	Duckstein, Ron	Non-voting	Parc Technical Services Inc. 100 William Pitt Way Pittsburgh, Pennsylvania 15238	Phone: 412-826-5115 Fax: 412-826-5443 E-Mail: rhd@usaor.net
	Farber, Frank	Non-voting	ASTM Test Monitoring Center 6555 Penn Avenue Pittsburgh, Pensylvania 15206	Phone: 412-365-1030 Fax: 412-365-1047 E-Mail: fmf@astmtmc.cmu.edu

* Initial to indicate attendance at subject meeting

Attachment 1
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ASTM L-60-1 Surveillance Panel Membership/Mailing List

Meeting Date: November 15, 2006

Initials*	Name	Voting Status	Company Name & Address	Phone & Fax & E-Mail
	Figueredo, Pedro	Non-voting	Intevep, S. A. Los Teques Edo. Miranda Apdo. 76343 Caracas 1070A Venezuela	Phone: (02) 9086793 Fax: (02) 9087723 E-Mail:
	Goyal, Arjun	Non-voting	ExxonMobil Research and Engineering Company 600 Billingsport Road Paulsboro, New Jersey 08066-0480	Phone: 609-224-2115 Fax: 609-224-3613 E-Mail:
✓	Gropp, Jerry	Non-voting	The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, Ohio 44092	Phone: 440-347-1223 Fax: 440-347-1555 E-Mail: jlg@lubrizol.com
	Harold, Scott	Non-voting	Infineum USA L.P. 1900 East Linden Avenue PO Box 735 Linden NJ, 07036	Phone: 908-474-2318 Fax: 908-474-3597 E-Mail: Scott.Harold@Infineum.com
	Huron, John	Non-voting	Chevron Oronite 4502 Centerview Drive, Suite 210 San Antonio, Texas 78228	Phone: 210-731-5609 Fax: 210-731-5699 E-Mail: HURO@ChevronTexaco.com
	Johnson, Ron	Non-voting	Chevron Products Company 100 Chevron Way Richmond, California 94802-0627	Phone: 510-242-4374 Fax: 510-242-3385 E-Mail: rljo@chevron.com

* Initial to indicate attendance at subject meeting

Attachment 1
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ASTM L-60-1 Surveillance Panel Membership/Mailing List

Meeting Date: November 15, 2006

Initials*	Name	Voting Status	Company Name & Address	Phone & Fax & E-Mail
	Koehler, Brian	Non-voting	Southwest Research Institute 6220 Culebra Road Bldg. 61 San Antonio, TX 78238-5166	Phone: (210) 522-3588 Fax: (210) ~~680 1777~~ 684-7523 E-Mail: bkoehler@swri.org
✓	Koglin, Cory	Non-voting	Afton Chemical Corporation 500 Spring Street Richmond, Virginia 23219	Phone: 804-788-5305 Fax: 804-788-6358 E-Mail: cory.koglin@aftonchemical.com
	Layton, Kevin	Voting	Afton Chemical Corporation 500 Spring Street Richmond, Virginia 23219	Phone: 804-788-5363 Fax: 804-788-6358 E-Mail: kevin.layton@aftonchemical.com
	Lee, Don	Non-voting	Elco Corporation 1000 Beltline Road Cleveland, Ohio 44109-2848	Phone: 216-749-2605 Fax: E-Mail:
✓	Lind, Don	Voting	ASTM Test Monitoring Center 6555 Penn Avenue Pittsburgh, Pensylvania 15206	Phone: 412-365-1034 Fax: 412-365-1047 E-Mail: dml@astmtmc.cmu.edu
	Marougy, Thelma	Voting	Eaton Corporation 26201 Northwestern Highway Southfield, Michigan 48037	Phone: 248-354-6985 Fax: 248-354-2739 E-Mail: thelmaemarougy@eaton.com

* Initial to indicate attendance at subject meeting

Attachment 1
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ASTM L-60-1 Surveillance Panel Membership/Mailing List

Meeting Date: November 15, 2006

Initials*	Name	Voting Status	Company Name & Address	Phone & Fax & E-Mail
	Marty, Steve	Non-voting	Southwest Research Institute 6220 Culebra Road San Antonio, Texas 78238	Phone: 210-522-5929 Fax: 210-680-1777 E-Mail: smarty@swri.edu
✓	McGlone, Bruce	Voting	ArvinMeritor 2135 West Maple Troy, Michigan 48084	Phone: 248-435-9929 Fax: 248-435-1411 E-Mail: mcglonbf@meritorauto.com
✓	Rea, Salvatore	Voting	Infineum USA L.P. 1900 East Linden Avenue PO Box 536 Linden NJ, 07036	Phone: 908-474-6602 Fax: 908-474-3597 E-Mail: Salvatore.Rea@Infineum.com
	Rettmann, Kevin	Non-voting	PerkinElmer Fluid Sciences 5404 Bandera Road San Antonio, Texas 78238	Phone: 210-706-1546 Fax: 210-523-4614 E-Mail: Kevin.Rettmann@perkinelmer.com
✓	Schenkenberger, Chris	Voting	The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, Ohio 44092	Phone: 440-347-2927 Fax: 440-347-2878 E-Mail: csc@lubrizol.com
	Shah, Rajesh	Non-voting	Koehler Instrument Company 1595 Sycamore Avenue Bohemia, New York 11716	Phone: 516-589-3800 Fax: 516-589-3815 E-Mail:
✓	Smith, Dale	Non-voting	Parc Technical Services Inc. 100 William Pitt Way Pittsburgh, Pennsylvania 15238	Phone: 412-826-5051 Fax: 412-826-5443 E-Mail: dsmith@parctech.com

* Initial to indicate attendance at subject meeting

Attachment 1
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ASTM L-60-1 Surveillance Panel Membership/Mailing List

Meeting Date: November 15, 2006

Initials*	Name	Voting Status	Company Name & Address	Phone & Fax & E-Mail
	Sullivan, Bill	Voting	ExxonMobil Chemical Company P. O. Box 3140 Edison, New Jersey 08818	Phone: 732-321-3354 Fax: 732-321-6064 E-Mail: william.t.sullivan@exxonmobil.com
	Vettel, Paula	Voting	D. A. Stuart Company 4580 Weaver Parkway Warrenville, Illinois 60555	Phone: 630-393-8859 Fax: 630-393-8577 E-Mail: pvettel@dastuart.net
	Villahermosa, Luis	Non-voting	AMSTA-TR-D/210 (Luis Villahermosa) U S Army Tank, Automotive, and Armament Command Warren, Michigan 48397-5000	Phone: 586-574-4207 Fax: 586-574-4123 E-Mail: villahel@cc.tacom.army.mil
	Whitton, Claire	Non-voting	Ethyl Research Center 500 Spring Street P. O. Box 2158 Richmond, Virginia 23218-2158	Phone: 804-788-5052 Fax: 804-788-6243 E-Mail: Claire_Whitton@ethyl.com
✓	Zakarian, Jack	Non-voting	Chevron Products Company 100 Chevron Way Richmond, California 94802-0627	Phone: 510-242-3595 Fax: 510-242-3758 E-Mail: jaza@chevron.com
	Zreik, Khaled	Voting	US Army TACOM AMSRD-TAR-D U S Army Tank, Automotive, and Armament Command Warren, Michigan 48397-5000	Phone: 586-574-4227 Fax: 586-574-4244 E-Mail: zreikk@tacom.army.mil

* Initial to indicate attendance at subject meeting

Attachment 1
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Reference L-60-1

L-60-1 Surveillance Panel

November 15, 2006
1:00 p.m. – 2:00 p.m.
PRI Apollo Room – Warrendale, PA

Agenda

I. Call to order/Review Membership

II. Review Agenda

III. ASTM L-60-1 Apparatus Drawings

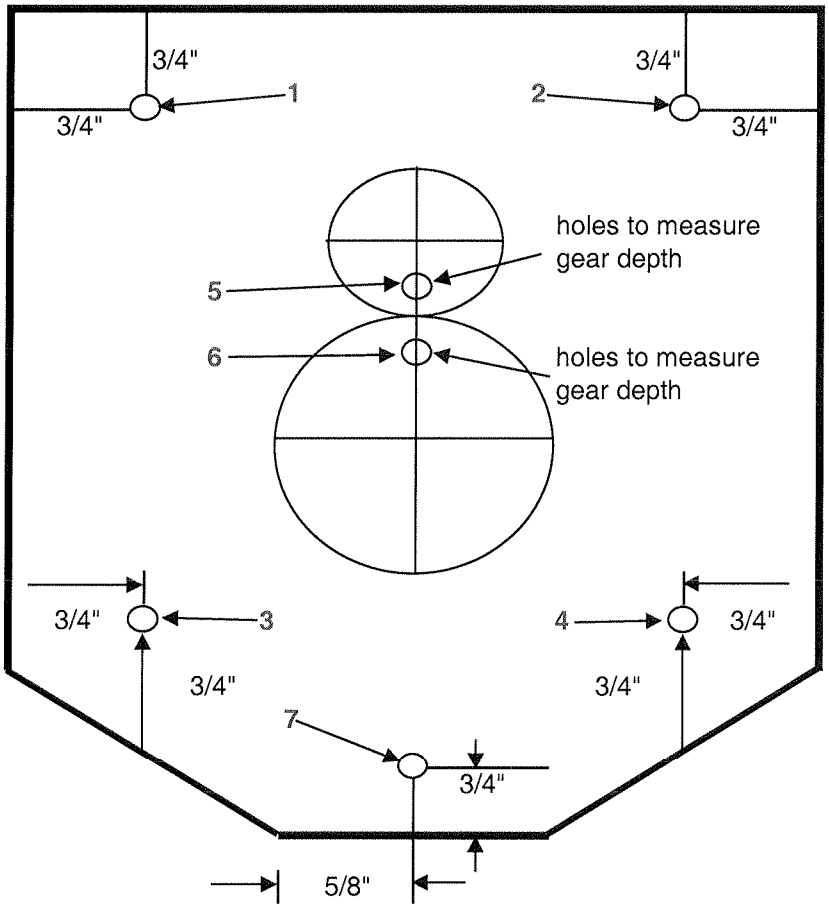
- Task Force Activities
- Gear Case Assembly Measurements

IV. New Business

V. Adjournment

Attachment 2
Page 1 of 1
Reference L-60-1

Pre-Defined Measurement Locations



Note: Measure Points Identification in RED

Attachment 3
Page 1 of 1
Reference 1-60-1

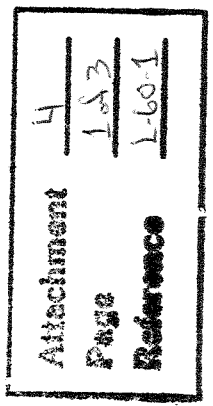
October, 2006
Same technician performed all measurements

Lubrizol					
Point #	181A	181A	181A*	181A*	* Different build and gear sets
	Measure 1 with Out O'ring	Measure 1 with O'ring	Measure 2 with Out O'ring	Measure 2 with O'ring	
Point 1	1.336/1.376	1.334/1.379	1.305/1.351	1.299/1.345	Note: First # is measured at top of hole/second number is at bottom of hole
Point 2	1.340/1.371	1.341/1.397	1.324/1.376	1.319/1.381	Note: First # is measured at top of hole/second number is at bottom of hole
Point 3	1.472	1.473	1.469	1.470	Note: Mesurement was taken insuring that we were not on washer
Point 4	1.353	1.351	1.349	1.351	
Point 5	0.519	0.522	0.519	0.520	
Point 6	0.530	0.533	0.531	0.533	
Point 7	0.523	0.525	0.522	0.523	

Lubrizol					
Point #	182A	182A	182A*	182A*	* Different build and gear sets
	Measure 1 with Out O'ring	Measure 1 with O'ring	Measure 2 with Out O'ring	Measure 2 with O'ring	
Point 1	1.374/1.418	1.380/1.410	1.358/1.393	1.363/1.395	Note: First # is measured at top of hole/second number is at bottom of hole
Point 2	1.391/1.426	1.386/1.432	1.382/1.413	1.385/1.413	Note: First # is measured at top of hole/second number is at bottom of hole
Point 3	1.469	1.410	1.474	1.477	Note: Mesurement was taken insuring that we were not on washer
Point 4	1.335	1.337	1.334	1.335	
Point 5	0.524	0.529	0.526	0.529	
Point 6	0.529	0.534	0.530	0.536	
Point 7	0.524	0.527	0.527	0.530	

Lubrizol					
Point #	183A	183A	183A	183A	Note, same build, same gears, 3 days apart for both measurements
	Measure 1 with Out O'ring	Measure 1 with O'ring	Measure 2 with Out O'ring	Measure 2 with O'ring	
Point 1	1.376/1.414	1.383/1.425	1.388/1.421	1.374/1.419	Note: First # is measured at top of hole/second number is at bottom of hole
Point 2	1.388/1.428	1.387/1.426	1.386/1.426	1.391/1.433	Note: First # is measured at top of hole/second number is at bottom of hole
Point 3	1.516	1.518	1.517	1.521	Note: Mesurement was taken insuring that we were not on washer
Point 4	1.389	1.391	1.390	1.390	Note: Mesurement was taken insuring that we were not on washer
Point 5	0.467	0.471	0.466	0.470	
Point 6	0.484	0.486	0.483	0.486	
Point 7	0.472	0.475	0.473	0.476	

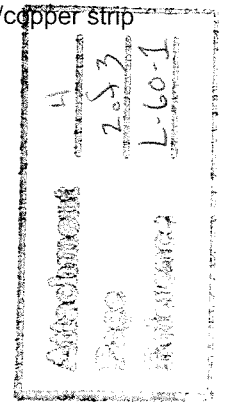
Used SwRI endplate template per drawing tab
Digital Verner Caliper, # 584-48, calibrated 11/05



October, 2006
Used Venier Calipers

SwRI					SwRI				
Point #	12A	12A	12A	12A	Point #	12A	12A	12A	12A
	Measure 1 with Out O'ring	Measure 1 with O'ring	Measure 2 with Out O'ring	Measure 2 with O'ring		Measure 1 with Out O'ring	Measure 1 with O'ring	Measure 2 with Out O'ring	Measure 2 with O'ring
Point 1	1.388	1.391	1.391	1.391	Point 1				
Point 2	1.443	1.430	1.437	1.433	Point 2				
Point 3	1.502	1.500	1.500	1.499	Point 3				
Point 4	1.397	1.369	1.397	1.368	Point 4				
Point 5	0.570	0.570	0.569	0.570	Point 5				
Point 6	0.589	0.588	0.589	0.588	Point 6				
Point 7	0.608	0.606	0.601	0.608	Point 7				

Measurement hits angle in baffle
Measurement hits angle in baffle
Difficult to get consistency because it keeps hitting washer
Difficult to obtain because it keeps hitting washer/copper strip



SwRI					SwRI				
Point #	15A	15A	15A	15A	Point #	15A	15A	15A	15A
	Measure 1 with Out O'ring	Measure 1 with O'ring	Measure 2 with Out O'ring	Measure 2 with O'ring		Measure 1 with Out O'ring	Measure 1 with O'ring	Measure 2 with Out O'ring	Measure 2 with O'ring
Point 1	1.476	1.481	1.475	1.481	Point 1				
Point 2	1.475	1.483	1.480	1.484	Point 2				
Point 3	1.573	1.575	1.573	1.580	Point 3				
Point 4	1.432	1.437	1.383	1.435	Point 4				
Point 5	0.544	0.557	0.554	0.556	Point 5				
Point 6	0.536	0.539	0.537	0.539	Point 6				
Point 7	0.551	0.552	0.551	0.553	Point 7				

Measurement hits angle in baffle
Measurement hits angle in baffle
Difficult to get consistency because it keeps hitting washer
Difficult to obtain because it keeps hitting washer/copper strip

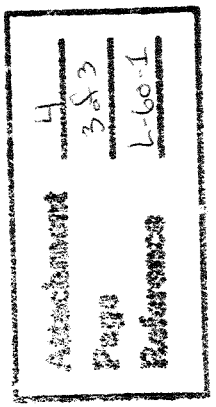
Used SwRI endplate template per drawing tab
Digital Verner Caliper,

October, 2006
Used Venier Calipers

AFTON					AFTON					
Point #	4A	4A	4A	4A	Point #	4A	4A	4A	4A	
Pat Adams	Measure 1 with Out O'ring	Measure 1 with O'ring	Measure 2 with Out O'ring	Measure 2 with O'ring	Cory Koglin	Measure 1 with Out O'ring	Measure 1 with O'ring	Measure 2 with Out O'ring	Measure 2 with O'ring	
Point 1	1.388	1.399	1.389	1.408	Point 1	1.4175	1.4325	1.422	1.408	Measurement hits angle in baffle
Point 2	1.439	1.451	1.425	1.445	Point 2	1.453	1.539	1.492	1.445	Measurement hits angle in baffle
Point 3	1.492	1.498	1.493	1.498	Point 3	1.544	1.542	1.546	1.498	Difficult to get consistency because it keeps hitting washer
Point 4	1.383	1.396	1.323	1.396	Point 4	1.440	1.449	1.437	1.396	Difficult to obtain because it keeps hitting washer/copper strip
Point 5	0.512	0.524	0.513	0.523	Point 5	0.521	0.523	0.520	0.523	
Point 6	0.504	0.514	0.504	0.514	Point 6	0.515	0.514	0.524	0.514	
Point 7	0.504	0.511	0.504	0.510	Point 7	0.507	0.510	0.508	0.510	

AFTON					AFTON					
Point #	5A	5A	5A	5A	Point #	5A	5A	5A	5A	
Pat Adams	Measure 1 with Out O'ring	Measure 1 with O'ring	Measure 2 with Out O'ring	Measure 2 with O'ring	Cory Koglin	Measure 1 with Out O'ring	Measure 1 with O'ring	Measure 2 with Out O'ring	Measure 2 with O'ring	
Point 1	1.436	1.435	1.435	1.439	Point 1	1.4255	1.42	1.4255	1.425	Measurement hits angle in baffle
Point 2	1.433	1.435	1.423	1.445	Point 2	1.46	1.4545	1.4595	1.45	Measurement hits angle in baffle
Point 3	1.487	1.491	1.487	1.492	Point 3	1.549	1.558	1.558	1.560	Difficult to get consistency because it keeps hitting washer
Point 4	1.370	1.374	1.369	1.375	Point 4	1.422	1.426	1.425	1.430	Difficult to obtain because it keeps hitting washer/copper strip
Point 5	0.511	0.520	0.511	0.520	Point 5	0.510	0.521	0.511	0.519	
Point 6	0.514	0.522	0.514	0.522	Point 6	0.516	0.525	0.516	0.524	
Point 7	0.531	0.536	0.532	0.536	Point 7	0.531	0.535	0.530	0.534	

AFTON					AFTON					
Point #	6A	6A	6A	6A	Point #	6A	6A	6A	6A	
Pat Adams	Measure 1 with Out O'ring	Measure 1 with O'ring	Measure 2 with Out O'ring	Measure 2 with O'ring	Cory Koglin	Measure 1 with Out O'ring	Measure 1 with O'ring	Measure 2 with Out O'ring	Measure 2 with O'ring	
Point 1	1.413	1.412	1.413	1.412	Point 1	1.4425	1.444	1.444	1.437	Measurement hits angle in baffle
Point 2	1.419	1.422	1.421	1.414	Point 2	1.437	1.439	1.446	1.444	Measurement hits angle in baffle
Point 3	1.493	1.497	1.493	1.497	Point 3	1.543	1.544	1.534	1.544	Difficult to get consistency because it keeps hitting washer
Point 4	1.345	1.352	1.345	1.350	Point 4	1.405	1.409	1.402	1.409	Difficult to obtain because it keeps hitting washer/copper strip
Point 5	0.507	0.516	0.508	0.516	Point 5	0.510	0.518	0.511	0.517	
Point 6	0.509	0.516	0.508	0.515	Point 6	0.511	0.519	0.512	0.519	
Point 7	0.508	0.513	0.508	0.514	Point 7	0.515	0.523	0.514	0.522	



Used SwRI endplate template per drawing tab
Digital Verner Caliper,