Report of Meeting
ASTM PM-2 Task Force
Automotive Gear Lubricants and Fluids
PRI Headquarters
Warrendale, PA
February 11, 2009

CALL TO ORDER
Mr. Akucewich, Chairman, called the meeting to order at 10:05 am.

AGENDA
Task force (TF) reviewed the agenda. No changes were made. The agenda is shown as Attachment 1. The attendance list is shown as Attachment 2.

MEETING MINUTES
The task force approved the meeting minutes for the August 13, 2008 meeting without changes.

MEMBERSHIP
Mike Haire of Chevron was added and Salvatore Rea of Infineum was removed from the task force membership. The current membership list is shown on Attachment 3.

INDUSTRY LETTER UPDATE
The chairman updated the task force as to the status of the industry letter that was sent out in November 2008. Attachment 4 shows a summary of the responses received. Response to the letter was low. Only 3 serious responses were received. All 3 came from CEC members. No responses concerning reference oils, 1 response concerning the synchromesh test 2 concerning the pitting test. Response 1 was from Dr. Thomas Tobie of the Technische Universitaet Muenchen proposing the PVA-FZG-Pittingtest PT C/9/90 as the test to consider for the standard. His response included a copy of the procedure. Response 2 was from Dr. Matt Smeeth of PCS Instruments. He was willing to help the task force in the development of a pitting test if the task force decides to pursue such an activity. Response 3 was concerning the synchromesh test from Dr. Pflaum of the Technische Universitaet Muenchen offering his support to the task force in selecting the proper synchromesh test for our application.

NEXT STEPS

Attachment 5 displays the overheads used during this part of the meetings. The chairman started the discussion as to what steps need to be done next. It is clear that as a group the task force needs reference oils to move forward on anything significant.

The task force reviewed the scope and objectives of this task force. Attachment 6 shows the task force's scope. Some members questioned the need for this new specification. Customers who use API GL-4 type products do not want to spend any more money for a replacement. Since the PM-2 specification involves a significant amount of testing and expense to qualify, the product will be more expensive. Due to the higher expense the resulting product may not be in demand.

Also since members questioned whether or not PM-2 is still needed since it has been 11 years since the request and many OEM's have developed their own specifications. Will the OEM's actually use this new specification when it is completed?

Following this discussion two action items were agreed upon by the group:

-->> Action item -->>The chairman will go back to the OEM's to determine if the PM-2 specification is still desired or will meet a current need.. This will be done by corresponding and talking individually with the main OEM's which would use the PM-2 specification. This would include: Eaton, Arvin Meritor, Mack, ZF, Ford, GM, Chrysler, Mercedes

-->> Action item -->>The chairman will go back to SAE in the form of an update to revalidate need for this specification, other testing needs? Target the next SAE TC-3 subcommittee meeting.

ADJOURNMENT

The meeting was adjourned about 10:40 am.

Ed Akucewich

Edward S. Akucewich,
PM-2 Task Force Chairman

ATTACHMENT 1

ASTM PM-2 Task Force Meeting

Synchronized Manual Transmission Fluid Specification for Commercial Vehicles

February 11, 2009

Agenda

- Call To Order
- Review Agenda
- Minutes – 13AUG08
- Industry Letter – Response Review
- Next Steps
- Adjourn

ATTACHMENT 2

PM-2 Task Force Meeting
11-Feb-09
Attendance Record

NAME	ADDRESS	PHONE/E-MAIL
Thelma Maraug	EATON	
Dak Smith	INTERTEK-PARC	
STEVE ELIOT	EXXON Mobil Afton Chemical	
Don Bell	500 Spring St. Richmond, VA 23219	8047886332 don.bell@aftonchemical.com
Mike Haire	100 Chevron Way Richmond CA 94802	510 242-2740 mhaire@chevron.com
Don Lind	6555 Penn Ave Pgh, PA 15206	412-365-1034 dml@astmtmc.cmu.edu
Galen Greene	Lubrizol	
Rick Graziano	Lubrizol	
Jerry Gropp	Lubrizol Corp.	
Don Bartlett	Lubrizol Corp	

ATTACHMENT 3

ASTM PM-2 Task Force
Automotive Gear Lubricants and Fluids
Membership List
February 11, 2009

Edward Akucewich, Chairman	**Lubrizol**
Don Bell	**Afton Chemical**
Brian Koehler	**SwRI**
Don Lind (non-voting)	**TMC**
Stephen Eliot	**ExxonMobil**
Dale Smith	**Intertek Parc**
Mike Haire	**Chevron**
Donna Mosher	**Eaton**

Industry Letter Response Review

- Letter Sent to ASTM and CEC groups – NOV08
- Received Minimal Response
- 3 Serious Responses – All from CEC Members
  - Response 1: FZG Pitting Endorsement
  - Response 2: Pitting Test Help from PCS
  - Response 3: CEC Synchronizers Group

ATTACHMENT 5

Next Steps

- Task Force Needs Reference Oils
  - Wear
  - Scuffing
  - Synchro Durability
  - Pitting Resistance
- Can't Move Forward Without Ref Oils

Next Steps

- Any Ideas?

ATTACHMENT 5

ASTM D02.B0.03 PM-2:
Requirement / Proposed Tests

Gear Performance Requirement	Proposed Test	Description	Requirement
Wear (High Torque Low Speed Axle)	CRC L-20 or ASTM D4998	Hypoid axle test – 30 hr at 93C or FZG wear test	TBD
Corrosion Protection (wet/dry)	ASTM D7038 (L-33-1) ASTM D130 (non-Fe)	Moisture corrosion test with axle components Standard Cu strip test at 3 hr/121C	SAE J2360 limits ASTM D5760 limits
Scuffing (High Speed Shock Load)	CEC L-084-02	FZG ½ tooth width step load test (A10/16.6R/120)	TBD
Anti-Foaming Performance	ASTM D892	Lab glassware test foaming tendency and stability 93C	ASTM D5760 limits
Storage and Compatibility	FTM 3440.1 FTM 3430.2	Compatibility with other oils meeting same specification	Compatibility with other oils meeting the spec
Synchromesh Durability	CEC L-066-99	FZG SSP180 durability test with standard materials	TBD
Oil Elastomer Compatibility	ASTM D5662	Seal immersion test using FL, PA and NI type elastomers	ASTM D5760 limits
Shear Stability & Viscosity	ASTM D445 ASTM D2983 CEC L-45-A-99	Kinematic viscosity Apparent (dynamic) viscosity 20hr bearing bench test	SAE J306 limits
Thermal/Oxidative Stability	ASTM D5704 (L-60-1)	Bench test – 120ml/163C/Cu strip/air	ASTM D5760 limits
Pitting Resistance	**TBD**	**TBD**	**TBD**

PRI Headquarters, Warrendale, PA *February 11, 2009*

ATTACHMENT 8

Proposed Specification

Synchronized Manual Transmissions
for
Commercial Vehicles

Scope

To create a specification using standardized tests and methods that will define a minimum acceptable level of performance for lubricants to be used in synchronized commercial vehicle manual transmissions.

PRI Headquarters, Warrendale, PA

May 7, 2008