

## INDUSTRY SOCIETY STATUS

# Introduction

This section contains updates on the activities of the individual industry societies and panels that contribute to the development of the GF-3 category.

See the following pages for specifics on the various societies and panels:

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American Petroleum Institute	D-5
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Society of Automotive Engineers	D-7
American Society for Testing & Materials	D-8

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**9/00**

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# American Automobile Manufacturers Association (AAMA)

The AAMA is the trade association of the three domestic automakers: Chrysler, Ford and GM. Within the AAMA is a lubricants committee consisting of representatives from each of the automakers responsible for ensuring that satisfactory engine oils are available for use in their vehicles.

Due to their location in North America, AAMA often transmits ILSACs position to industry societies. **With the merger of Daimler and Chrysler, AAMA will cease to exist. A new trade association has been formed. This is known as Alliance of Automobile Manufacturers (AAM) and consists of Ford, General Motors, DaimlerChrysler, Nissan, Toyota and Volkswagen as voting members; and BMW, Volvo and Mazda as associate members without voting privileges. This association will focus on public policy issues. Fuel and lubricant issues have been discussed but no decision has been made. OEMs will continue to provide GF-3 specification on an individual basis until this is resolved.**

**An addendum has been prepared to the ILSAC Memorandum of Understanding and the EOLCS agreement to allow continuation of ILSAC and OEM input to EOLCS.**

### ACTIVITIES:

- Participated in defining the precision matrices for ILSAC GF-3 new tests.
- Participated in defining the joint industry funding mechanism for conducting the matrix testing.
- Participated in the SAE Task Force to define the needs for the next engine oil category.

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3/99

## INDUSTRY SOCIETY STATUS

# **Japan Automobile Manufacturers Association Inc. (JAMA)**

JAMA is the trade association of the Japanese light and heavy duty vehicle manufacturers. JAMA is working with AAMA via ILSAC to ensure satisfactory engine oils are available for use in their vehicles.

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# International Lubricant Standardization and Approval Committee (ILSAC)

ILSAC is comprised of AAMA and JAMA members and is active in all phases of passenger car category development. ILSAC also defines the requirements associated with the API certification mark (starburst symbol).

### ACTIVITIES:

- Made the initial request to SAE for the ILSAC GF-3 engine oil category.
- Issued a specification outline to provide guidance to industry for the development of matrix test oils (B-12 thru B-13).
- Received data on prototype GF-3 engine oils for matrix testing at a meeting on December 2, 1997. Will make recommendations to the ASTM GF-3/PS-06 Test Matrix Task Force sometime after their December 15, 1997 selection meeting.
- Selected two SAE 5W-30 GF-3 prototypes for inclusion in test matrix on February 2, 1998.
- Agreed to review data from industry for selection of potential GF-3 category demonstration oils.
- Issued GF-3 specification draft for industry comment (B-13A through B-13H).
- **Issued second GF-3 specification draft (October 21, 1999) for industry comment (B-13J through B-13P).**

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12/99

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# American Petroleum Institute (API)

The API is the trade association of the domestic oil companies. Within the API is a Lubricants Committee composed of representatives from oil and additive companies. This committee is responsible for the development of minimum performance standards for engine oils.

The API maintains Publication 1509, the Engine Oil Licensing and Certification System (EOLCS), and conducts field audits on engine oil quality to ensure compliance with specifications.

### **ACTIVITIES:**

- Participated in defining the funding mechanism for ASTM precision matrices as well as BOI and VGRA matrices.
- Responsible for defining PS-06, the next engine oil performance specification as well as the energy conserving category.
- Participated in the SAE Task Force to define need for the next engine oil category.
- API received a letter from ASTM proposing that passing PS-06 performance means the requirements for API SJ are met or exceeded. API has taken no exception to this proposal.

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### **GF-3 and PS-06 Licensing**

**Action - At the March 24, 1999 meeting, it was agreed to letter ballot the following motion:**

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**During the interim period between readiness of ASTM tests to certify GF-3 and PS-06 oils, and the date of first licensing for GF-3 and PS-06 oils, marketers of such products may, at their discretion, run the engine, bench and physical tests necessary to certify GF-3 and PS-06 oils, and market these oils as GF-2 and API SJ licensed products. It is the responsibility of the marketer to file any compositional changes with EOLCS.**

- API has balloted the designation for PS-06, which will be API SL. A motor oil marketer in Korea uses “SK” as part of its corporate name. Therefore, API bypassed the letter “K” for the next “S” category to avoid confusion between the API designation and consumer language, and the oil company’s name. ←  
6/99
- In APIs first ballot related to GF-3/SL introduction, which closed November 10, a number of comments and suggestions were received. APIs Office of General Council advised that while most of the voters noted they would change their vote from disapprove to approve for a given date, it would be better if the question were re-balloted with the revised date. Below is a timeline showing dates in the second ballot. ←  
12/00

**API Licensable S Categories  
and the restrictions**

License Categories	Nov. 1, 2000 – June 30, 2001	July 1, 2001 – Dec. 31, 2001	Starting Jan. 1, 2002
SL*	NO*	Yes*	
SL with Energy Conserving*	NO*	Yes as determined in a Seq. VIB*	
GF-3*	NO*	Yes*	
GF-2	Yes		NO*
SJ with Energy Conserving	Yes: as determined in a Seq. VIA or Seq. VIB at ASTM provided limits for SJ		
SJ	Yes		
SH	Only when preceded by C Category		

\* indicates a change

Only one S category at a time may appear in the Service Symbol.

API have now agreed that the first licensing date for GF-3/SL/energy conserving with VIB will be July 1, 2001. The mandatory use date is still under debate. The earliest proposed date is 1/1/2002, although some believe it should be as late as 1/1/2003.

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# American Chemistry Council (ACC) formerly

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# Chemical Manufacturers Association (CMA)

The CMA is the trade association of U.S. chemical manufacturers. Within CMA the Product Approval Protocol Task Group (PAPTG) includes representatives of the CMA member companies that supply additives to the engine lubricants industry.

The role of the PAPTG is to promote cost effective engine testing, act as an advocate of additives industry participants, and monitor the CMA Code of Practice for engine testing.

### ACTIVITIES:

- CMA has been an active participant in discussions of Precision/BOI/VGRA matrix funding, along with API and ILSAC.
- CMA has a liaison member on the SAE Needs Task Force. (See D-7 for task force details).
- At the November ASTM PCEOCP it was announced that CMA agreed to consider test registration on an individual procedure basis as soon as each is deemed acceptable by the ASTM PCEOCP.
- In June CMA issued an alert to industry regarding the mild Sequence VIA (KA24E) trend, which may jeopardize candidate test results.
- Approved test registration dates are:

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<u>Test</u>	<u>Date</u>
<b>Sequence III F</b>	<b>August 21, 2000</b>
Sequence VG	March 1, 2000
Sequence IVA	March 8, 1999
Sequence VIB	October 15, 1999
Sequence VIII	March 8, 1999

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# Society of Automotive Engineers (SAE)

SAE is the technical society for those with interest in transportation. Within the SAE is a Fuels & Lubricants Division/Engine Oil Technical Committee (TC-1) consisting of members from the automotive, oil and additive companies.

The TC-1 serves as a conduit for open discussion of technical issues related to current and future engine lubrication needs and standards development. The committee develops and maintains: SAE Standards, Recommended Practices, and Information Reports and data pertinent to the classification, performance characteristics, physical and chemical properties, and test requirements for both new and used engine lubricating oils used in current and future internal combustion engines of the passenger car and heavy-duty type.

### ACTIVITIES:

- The Fuel & Lubricants Division formed a Task Force to consider the need for a new engine oil category based on the ILSAC request. The Task Force confirmed the need and remains intact to consider whether the need has been fulfilled when ASTM concludes its work on the category.
- **The SAE Fuel & Lubricants Division officially confirmed by ballot that GF-3, as defined by ASTM, meets the need of the ILSAC request subsequent to its meeting in Baltimore, Maryland, on October 19, 2000.**

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Dec. 2000

## INDUSTRY SOCIETY STATUS

# American Society for Testing and Materials (ASTM) Passenger Car Engine Oil Classification Panel (PCEOCP)

*Chairman: Frank Fernandez Tel: 201-731-5603*

The PCEOCP is the ASTM group that develops and maintains passenger car engine oil performance classifications such as GF-3. It has a balanced voting membership between OEMs and oil/additive companies. Initially, there was a total of 12 votes: two each for the 3 OEMs, and one each for three oil and three additive companies. Since there were more than three oil or additive companies desiring membership, these voting positions were rotated on a 3 year term basis. One oil and one additive voting company are replaced each year. Beginning with the February 1999 meeting, membership is not restricted, however, votes are allocated 50% to users and 25% each to oil and additive company members present. This percentage is then subdivided among the members representing each group.

The ASTM PCEOCP met as follows:

- October 14, 1997 in Tulsa, OK ←  
3/98
- December 9, 1997, February 18, 1998 and April 23, 1998 in San Antonio, TX ←  
5/99  
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- May 20, 1998 in Orlando, FL ←  
5/99
- June 23, 1998 in Toronto, Ontario and
- August 20, 1998 in Detroit, MI ←  
5/99
- November 19, 1998 in San Antonio, Texas
- February 25, 1999 in Reno, Nevada
- May 3, 1999 in Dearborn, Michigan
- June 22, 1999 in St. Louis, Missouri ←  
6/99
- October 6, 1999 in Chicago, Illinois ←  
10/99
- November 18, 1999 in San Antonio, Texas ←  
12/99
- December 6, 1999 in Reno, Nevada ←  
1/00
- February 8 and 9, 2000 in Houston, Texas ←  
1/00

Aug. 2000

- March 9, 2000 in Chicago, Illinois
- June 27, 2000 in Seattle, Washington
- July 26, 2000 in Detroit, Michigan
- September 28, 2000 in Houston, Texas
- **December 5, 2000 in Nashville, Tennessee**

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9/00

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**12/00**

**Dec. 2000**

Highlights from these PCEOCP meetings are:

□ GF-3 Specification Outline

An ILSAC GF-3 Specification Outline was circulated. The GF-3 outline was issued to:

- Help define timing for the introduction of GF-3.
- Enable GF-3 “Prototype” oils to be available for precision and correlation matrices.
- Get the specification outline on the table early enough for input and discussion.
- Issued exit ballot on 3/11/98 on foam, volatility, high temperature deposits, water tolerance and flash point. Responses were reviewed at the April meeting and referred to the appropriate panel for recommendations on how to proceed. ←  
4/98
- Requested the SAE Engine Oil Viscosity Classification task force in a letter dated 3/23/98 to consider inclusion of Scanning Brookfield Gelation Index as a rheological requirement in SAE J300. ←  
4/98
- The BRT was exit balloted. ←  
6/98
- A Sequence VIB procedure with 5-stages was accepted as being ready for inclusion in the precision matrix. ←  
4/98
- Details of the GF-3 outline are shown on pages B-12 and B-13.
- Exit ballots and resolution of negatives for volatility, foam and BRT tests were discussed. Efforts to resolve outstanding negatives continue. ←  
6/98

- TEOST MHT test status and beta test round robin data from six participating laboratories were reported as follows on TU3MH reference oils.

←  
8/98

RL 194	12.1 mg
RL 193	58.9 mg
RL 207	115.2 mg

- ASTM D02.B0.09 will consider how best to include the CMA Code of Practice in D4485. Bob Stambaugh will act as official CMA liaison to the committee.
- Approved draft of a letter to API stating the intent that passing PS-06 performance means the requirements for API SJ are met or exceeded.

- Sequence IVA limits were approved at 120 micrometers wear max. Limits for the engine oil filterability and oil tolerance test were approved at 50% max. Volatility limits were approved for evaporative loss per ASTM D5800 at 15% and D6417 at 10%. These tests and limits will be proposed to ASTM Subcommittee B for inclusion in ILSAC GF-3/ API PS-06. The Sequence VIB research report was accepted, and the proposed ILSAC limits will be exit balloted.

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5/99

- **The Sequence VIB exit ballot responses on proposed limits for GF-3/PS-06 were reviewed. Numerous negatives were received. Major issues were: need for calibrated/severity adjusted data, carry-over with some additive technologies, magnitude of baseline shift, limits too high and relative performance between viscosity grades. Consensus was not obtained at this meeting. PCEOCP Chairman will request the Sequence VIB Surveillance Panel to address expeditiously these procedural items.**

←  
6/99

- Test and limits for GF-3/PS-06 were finalized for ASTM B ballot at the December 6, 1999 meeting. ← 12/99
- **Ballot responses from voting members to the first ASTM B ballot “Do you approve the Proposed Test Methods and Passing Limits for API SL and the next API Energy Conserving Engine Oil Categories?”** ← 9/00

Return 84% - 53/63

<u>Approve</u>	<u>Disapprove</u>	<u>Abstain</u>
22	17	14

- The class panel authored a paper entitled *Developing GF-3: The Next Engine Oil Performance Specification* for NPRA. This paper was presented at the 1999 Lubricants and Waxes Meeting on Nov. 11-12 in Houston. A review of the specification development process and projections for the future are included. See copy of paper enclosed.
- The PCEOCP reviewed all comments to the first ASTM B ballot on PS-06 and energy conserving on February 8, 2000. After ASTM B voted to withdraw the ballot on February 9, 2000, the PCEOCP immediately reconvened to prepare a second ballot. Proposed changes are discussed for each test in Section C. ← 1/00
- The PCEOCP met on March 9, 2000 to review and finalize a second ballot for consideration by ASTM B. ← 8/00
- The PCEOCP met on June 27, 2000 to review the results from the second ballot and consider how to prepare for a future ballot. It was not the intent of this meeting to prepare the third ballot as additional data would be forthcoming and a meeting had been scheduled late in July to review the additional information and finalize a third ballot.
- At the PCEOCP meeting in Detroit on July 26, 2000 it was agreed to proceed to a third ballot. Tests and limits on this ballot, which received a broad consensus, are as follows:

Sept. 2000

Test / Parameter	Limit	
Sequence IIIF		
Viscosity Increase	275% max	
Avg Weighted Piston Deposit, merits	4.0 min	
Avg Piston Skirt Varnish, merits	9.0 min	
Oil Consumption, L	5.2 max	
Stuck Rings	None	
Avg C&L wear, microns	20 max (ACI lifters*)	
* Condition to ACL lifters: 0.08% min Phos, or Seq VE wear pass		
Sequence VIB (Ph1 / 2)		
0/5W-20	2.0% / 1.7%	
0/5W-30	1.6% / 1.3%	Sum of Ph1&2 $\geq$ 3.0
10W-30 et al	0.9% / 0.6%	Sum of PH1&2 $\geq$ 1.6
TEOST MHT-4		
Deposit Weight (gain), mg	45 max	
Sequence IVA		
Avg Cam Wear (7-point measurement), microns	120 max	
Sequence VG		
Avg Engine Sludge, merits	7.8 min	
Rocker Cover Sludge, merits	8.0 min	
Avg Engine Varnish, merits	8.9 min	
Piston Skirt Varnish, merits	7.5 min	
Oil Screening Clogging, %	20 max	
Stuck Ring	None	
Sequence VIII		
Bearing Weight Loss (mg)	26.4 max	
10 hour Shear Stability	Stay in grade	
Ball Rust Test		
Average Gray Value	100 min	
Oil Screening Clogging, %	20 max	
Stuck Ring	None	
Sequence VIII		
Bearing Weight Loss (mg)	26.4 max	
10 hour Shear Stability	Stay in grade	
Ball Rust Test		
Average Gray Value	100 min	

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Aug. 2000

D-10B

This ballot is expected to issue around the first or second week of August and has a closing date of September 15, 2000.

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The ballot returns for the two GF-3 proposals issued in August 2000 follow:

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9/00

Version 1: Seq. IIIF Only  
Version 2: Seq. IIIF and Seq. IIIG as an alternative

<u>Ballot Results</u>	<u>Affirmative</u>	<u>Negative</u>	<u>Waive</u>
Version 1:		I	
Version 2:		II	

←  
9/00

The negative ballot on Version 1 was regarding precision and lack of supporting limits on the TEOST MHT-4. This negative was settled via the ASTM process and voted non-persuasive. This ballot was approved and forwarded to the ASTM Main Committee. A number of minor technical details will be balloted for future update of ASTM D4485.

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Version 2 was withdrawn due to a significant number of negatives. The test developer did indicate they will continue internal development of the Sequence IIIE due to the continuing concerns regarding high temp wear.

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Sept. 2000

❑ **Emissions Performance**

The ILSAC GF-3 outline proposes the continuation of a phosphorus content limit of 0.10 weight % maximum since the OPEST development is judged too far behind schedule to meet GF-3 timing requirements. The PCEOCP passed a motion to discontinue OPEST development work for GF-3 use.

❑ **GF-3 Specification Timing**

GF-3 specification development has been delayed to allow proveout testing of test stand/hardware by the matrix laboratories and additive/oil companies to conduct initial research. Precision matrix testing started in August with the longest test programs (VG and VIB) to be completed in late 1998. The current schedule anticipates GF-3 specification approval in late March 1999. This would allow first licensing of GF-3 on 4/1/2000. This is an aggressive schedule and could slip by several months.

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❑ **Parts Availability For GF-2 Tests**

The RETINA task force is tracking parts supplies and usage rates for all existing tests that are being replaced due to obsolete hardware and/or fuel (Sequence IID, Sequence IIIE, Sequence VE, L-38). The Sequence IIIE has the shortest projected test life but actions required (parts production) to extend this have been taken to establish a final production of pistons, rings, camshafts and bearings required to extend Sequence IIIE test life for GF-3 and PC-7.

- **Data Handling**

The topic of handling multiple test results was reviewed. This resulted in a unanimous position to exit ballot continuing the current GF-2 technique for all GF-3 tests. Results of the exit ballot were reviewed at the November 1998 meeting. After presentation of an alternate "Hybrid" data handling technique, it was decided to again exit ballot this topic. The ballot solicited input on which of two methods (current GF-2 MTAC or Hybrid) is preferred and requests comments. The results of this ballot were reviewed at the February 25, 1999 PCEOCP and resulted in a passing motion to retain the MTAC used for GF-2.

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12/99

- **Test Status**

At the February 25 meeting, the research reports for the IVA, VG, and VIII were approved. Pass/fail limits and recommendations to forward tests to CMA for registration occurred for the IVA and VIII. The VG has two open issues (long term parts supply and on target fuel performance) that must be resolved before pass limits and CMA registration can be considered. See individual test section for details.

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**Note: Ballot responses to first ASTM B ballot moved to page D-10A.**

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Sept. 2000

**ASTM D02.BO.01  
PASSENGER CAR ENGINE OIL CLASSIFICATION PANEL  
MEMBERSHIP STRUCTURE**

←  
4/98

**1998**

<b>Status</b>	<b>User (2 Votes Each)</b>	<b>Producer-Oil Company (1 Vote Each)</b>	<b>Producer- Additive Co. (1 Vote Each)</b>
<b>Voting Members</b>	<b>General Motors (M. McMillan)</b>	<b>Texaco (W.A. Buscher)</b>	<b>Royal (C. Hendrickson)</b>
	<b>Ford (C. McCullom)</b>	<b>Amoco (E. Sarmiento)</b>	<b>Lubrizol (L.A. Williams)</b>
	<b>Chrysler (F. Duffey)</b>	<b>Pennzoil (R.J. Sutherland)</b>	<b>Oronite (G. Barth)</b>
<b>Non - Voting Members</b>		<b>Chevron Valvoline Exxon Castrol Shell Conoco Mobil BP</b>	<b>Ethyl Paramins</b>

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12/98

**1999 Voting Structure**

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12/98

Due to industry consolidation and imbalance among the number of OEM, oil and additive company members, the voting structure was modified on December 8, 1998 as follows:

- All members present will have voting status
- Votes will be normalized by voting interest to maintain 50% OEM, 25% oil and 25% additive input.