

API Lubricants Committee Ballot
Proposed Revisions to API 1509, 15th Edition, April 2002

PLEASE RETURN BY FACSIMILE (202-962-4739) OR E-MAIL TO DENNIS L BACHELDER AT BachelderD@API.org, BY CLOSE OF BUSINESS DECEMBER 16, 2005	
Name:	
Company:	
Telephone/Fax:	
E-mail Address:	
<p>A DISAPPROVE VOTE MUST INCLUDE THE (A) SPECIFIC PARAGRAPH, SECTION, OR PART THE NEGATIVE BALLOT PERTAINS TO; (B) SPECIFIC SUBSTANTIVE REASONS FOR THE NEGATIVE; AND (C) PROPOSED WORDING OR ACTION TO RESOLVE THE NEGATIVE. PLEASE ATTACH YOUR COMMENTS ON A SEPARATE SHEET OF PAPER.</p> <p>IF THE API LUBRICANTS COMMITTEE APPROVES ANY OF THE CHANGES, THEY WILL BE EFFECTIVE DECEMBER 16, 2005 OR THE DATE NOTED IN THE BALLOT ITEM, WHICHEVER COMES FIRST.</p>	

Ballot Item 1:

E.3.1.6 X API CJ-4 Base Oil Interchangeability Guidelines and Examples

The following BOI guidelines address the Caterpillar C-13 test in the API CJ-4 category. Acceptable test methods for base stock and base oil blend properties are listed in Table E-1. It is understood that when comparing properties, the precision of the methods is taken into consideration.

Caterpillar C13 Test Guidelines for base oil interchange within Groups I, II, and III appear in the sections below. When Group V base stocks are present, the C13 test must be run. Note: 1) The VI of the Group III in the candidate oil cannot be more than 6 VI Units different from the VI of the Group III in the oil which passed the C13. 2) PAOs (Group IV) can be interchanged one for another without testing, as long as the original PAO has had full approval and the interchange PAO meets the original manufacturer's specifications in all physical and chemical properties.

If only one passing C13 test is available on a given technology:

If only Group II and/or Group III base stocks are present in the passing Caterpillar C13 oil and the candidate, then C13 BOI is allowed if the viscosity index (VI) of the base oil blend for the candidate oil is the same or lower than the base oil blend of the passing C13 oil. (a)

If Group I base stock is present in either the passing C13 oil or the candidate, then C13 BOI is allowed if the base oil blend of the candidate has the same saturates level, the same or less sulfur, and the same or lower VI than the base oil blend of the passing C13 oil. (a)

(a) In addition to these constraints, the following conditions apply when Group III base stock is present in the C13 passing oil:

(1) The candidate oil must have the same or lower Group III content than the passing oil.

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(2) The typical viscosity index of the Group III in the candidate must be no more than 6 units higher than the typical viscosity index of the Group III in the passing C13 oil with no allowance for test precision.

Properties Comparison Guide (BO= Base Oil)

If only Group II and/or III in both the candidate and passing oils:

	Candidate		Passing Oil
BO blend VI		< or =	
Group III content, % in oil		< or =	
Group III VI		< or = Passing VI+6	

Worksheet 1

Example if only Group II and/or III in both the candidate and passing oils:

	Candidate		Passing Oil
BO blend VI	104	< or =	115
Group III content, % in oil	13.5	< or =	40
Group III VI	126	< or = Passing VI+6	126

Example 1

In this example, the candidate's properties meet the BOI criteria when compared to the passing oil. BOI is allowed for this candidate.

If Group I in either the candidate or passing oils:

	Candidate		Passing Oil
BO blend Sats, %		=	
BO blend Sulfur, ppm		< or =	
BO blend VI		< or =	
Group III content, % in oil		< or =	
Group III VI		< or = Passing VI+6	

Worksheet 2

Example 2: If Group I in either the candidate or passing oils:

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	Candidate		Passing Oil
BO blend Sats, %	87	=	87
BO blend Sulfur, ppm	347*	< or =	320
BO blend VI	93	< or =	99
Group III content, % in oil	0	< or =	15
Group III VI	---	< or = Passing VI+6	128

Example 2

*Need to apply the precision of the method.

The candidate's properties meet the BOI criteria when compared to the passing oil. In this case the precision of the sulfur method shows the sulfur contents to be the same (D2622, 320 ppm +/- 41 ppm covers 347 ppm). BOI is allowed for this candidate.

If more than one passing C13 test is available on a given technology:

For the C13, BOI is allowed if the candidate's base oil blend saturates level, sulfur content, and viscosity index fall within the range of saturates level, sulfur, and VI of the base oil blends in the original passing oils (minimum two tested/two passed oils), and the Group III content of the candidate oil falls within the range of Group III content covered by the original passing oils.

Also, the typical viscosity index of the Group III in the candidate oil must be no more than 6 units higher than the typical viscosity index of the Group III in the passing C13 oil with no allowance for test precision.

Properties Comparison Worksheet

	Passing Oil 1	Passing Oil 2	Candidate
BO blend Sats, %			
BO blend Sulfur, ppm			
BO blend VI			
Group III content, % in oil			
Group III VI	< or = Passing VI+6	< or = Passing VI+6	
Is C-13 required?			Yes or no?
Reason			

Worksheet 3

	Passing Oil 1	Passing Oil 2	Candidate
BO blend Sats, %	87	96	87
BO blend Sulfur, ppm	347	0	320
BO blend VI + 6	93	115	99

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Group III content, % in oil	0	40	15
Group III VI	--	126	128
Cat C-13	Pass	Pass	
Is C-13 required?			No
Reason			BOI is allowed. Sats, S, VI, and Group III content fall within matrix ranges. Candidate Group III VI is within the acceptable +6 range.

Example 3

	Passing Oil 1	Passing Oil 2	Candidate
BO blend Sats, %	87	96	94
BO blend Sulfur, ppm	347	0	90
BO blend VI	93	115	112
Group III content, % in oil	0	40	20
Group III VI	--	126	134
Cat C-13	Pass	Pass	
Is C-13 required?			Yes
Reason			BOI is not allowed. Base oil Sats, S, and VI fall within matrix ranges, but Candidate Group III VI is outside the acceptable +6 range.

Example 4

Approve	Approve with Comments	Disapprove	Abstain
<u>Comments:</u>			

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Ballot Item 2:

E.3.1.6 X API CJ-4 VGRA Guidelines for Caterpillar C13 Test

Performance Test	From SAE	To SAE
C13	10W-30	15W-40
	10W-40	10W-30, 15W-40
	15W-40	None

Worksheet 1

Approve	<input type="checkbox"/>	Approve with Comments	<input type="checkbox"/>	Disapprove	<input type="checkbox"/>	Abstain	<input type="checkbox"/>
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Comments:

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