

**Clearance Record
DOCUMENT COMMENT LOG**

Originating Office: AIR-20	Document Description: AC 20-24D	Project Lead: Mark Rumizen	Reviewing Office: See below	Date of Review:
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Company & Group	Page & Paragraph	Comment	Rationale for Comment	Recommendation	Disposition
BOS-AEG	9.b.(3) (a)&(b)	The AC should require that oil operating limitations be specified only by specification number, not by brand name, similar to jet fuels.	To ensure availability of approved oils		The AC guidance reflects the technical requirements of piston and gas turbine aircraft engines within the bounds of the current fuel and oil distribution infrastructure. Aircraft engines have been found to be sensitive to differences in specific lubricating oil formulation within the current specification properties, whereas they have been found to be able to safely accommodate historical variations in petroleum-derived aviation fuel properties.
SEA-AEG	Section 7. Background - a.	The specificity of the operating limitation must therefore be precise enough to ensure the fuel <u>or</u> oil is sufficiently controlled to enable the engine and aircraft continue to meet their airworthiness certification basis during service - Should this be " <u>and</u> "...?		Change "or" to "and"	Agreed. Change incorporated.
SEA-AEG	Section 7. Background - b.	"Functionally, applicants showed (and continue to do so) that the product; - Maybe remove (and continue to do so)?"		Remove phrase "and continue to do so".	Agreed. Change incorporated.
SEA-AEG	Section 7. Background - c .	"The FAA has also historically recognized the" - Maybe remove also?		Remove "also".	Agreed. Change incorporated.
SEA-AEG	Section 8. Aviation Fuel - 4b.	Operating Limitations for Aviation Fuel (3)(a)"1" - Underscoring the number is an uncommon way of listing the subsections. This is done throughout the document starting from this point.		Should probably explain why these are underlined if using this format? Otherwise, may be misconstrued as a change or item of emphasis.	Disagree. Formatting in accordance with FAA guidelines.

Company & Group	Page & Paragraph	Comment	Rationale for Comment	Recommendation	Disposition
ANE-150	Page 4, Section 6	recommend including definitions of the terms “grades”, “designations”, “specifications” and “brand name”, as these terms are used throughout the AC.		recommend including definitions of the terms “grades”, “designations”, “specifications” and “brand name”,	Agreed. Recommended changes incorporated.
ANE-150	Page 5, Section 7.a.	currently states that the operating limitation must be precise enough to ensure the fuel or oil is sufficiently “controlled”-this is confusing, so consider emphasizing the objective is for the operating limitation to be sufficiently prescriptive in identifying the proper information		consider revising the last sentence to more clearly explain that the objective is to ensure the operators use only the specified fuel/oil	Disagree. The section clearly states that the operator is are required by 91.3 to only use specified fuels/oils. The objective of this AC is not to make sure the operators comply with 91.3, but rather to make sure that TC applicants comply with 33.7, which relates to how the well the fuel is controlled to always ensure safe engine operation.
ANE-150	Section 7.b. and 7.d.	Section 7.b. indicates the historic approach has been to use “grades, designations, or specifications” but Section 7.d. indicates “grades, designations, and specifications” are required. This is an editorial point but it could result in inconsistency in the level of precision provided in the Limitations.		Review Section 7.b. and 7.d. to clarify what constitutes acceptable precision in identifying the proper fuel/oil in the Limitations.	Agreed, but recommended change made to section 7.c, not 7.d.
ANE-150	Page 6, Section 7.g.	Page 6, Section 7.g. explains that it is necessary to provide “proof” that an organization has issued the standard or specification. It is unclear what type of information is necessary to provide such proof. The existence of recognized standards in the industry should be sufficient, without the need for the applicant to provide more detailed information.		Recommend review and elimination of the term “proof”.	Agreed. Recommended changes incorporated.

ANE-150	Page 11, Section 8.b.(4) and Section 8.c.(1)	Page 11, Section 8.b.(4) and Section 8.c.(1) both discuss the concept of using independent fuel specifications, but the objectives are stated differently (“...provides an equivalent level of property, performance and quality control” versus “...provide an equivalent level of safety and provide a similar level of specificity, quality and production control.”		It is suggested that the AC be revised to make these objectives identical.	Agreed. Recommended changes incorporated.
ANE-150	Page 18, Section 9.c.(1)	clarify whether it is necessary for aircraft certification projects (airplanes/rotorcraft) to coordinate with E&PD for powerplant system certification projects (primarily Subpart E of Parts 23/25/27/29), or whether the Accountable Directorate for the product should be involved in certification projects that involve lubrication systems.		See comment	Agreed. Reference changed from “E&PD” to “FAA”.
ANE-150	General	General comment relative to fuels; it would be helpful to discuss whether Part 34 regulations need to be addressed.		See comment	Disagree. Part 34 compliance is beyond the scope of this AC.

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Originating Office:	Document Description: AC 20-24D Approval of Propulsion Fuels and Lubricating Oils	Project Lead/Reviewer	Reviewing Office: Atlanta ACO	Date of Review:
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Commenter	Page & Paragraph	Comment	Reason for Comment	Suggested Change	Comment Resolution
Don O. Young, ACE-118A	None	Recommend adding an index to help the reader navigate this document.	Several references to subparagraphs are difficult to find.	Add index and/or improve document format.	Disagree. Paragraph numbering is in accordance with format guidelines.
Don O. Young, ACE-118A	Page 7, paragraph i.	“Once the applicant successfully completes the compliance plan, ...” is misleading. The reader may not understand (until perhaps reading the appendices) that a compliance plan is simply an agreement on how they will show compliance.	Generally, we require that a compliance (or certification) plan be submitted and accepted before compliance data can be submitted. The reader may not be familiar with this procedure.	Clarify the referenced sentence.	Agreed. Changed to “...successfully completes the demonstration of compliance”.
Don O. Young, ACE-118A	Page 7, paragraph i(1)(2).	(in the TCDS and AFM) should be (in the holder’s TCDS and AFM or STC and AFMS)	Depending on whether approval is by TC or STC, holder documents that the fuel limitation will appear in are different. That may not be obvious to the reader.	Noted in comment.	Agreed. Recommended change incorporated.

Commenter	Page & Paragraph	Comment	Reason for Comment	Suggested Change	Comment Resolution
Don O. Young, ACE-118A	Page 6, paragraphs 7.f, 7.g. and 7.h. & Page 13-15, paragraph 8.d.	Does the applicant contact AIR-20 or his local ACO first?	The fuel specification must first be recognized, accepted or approved (AIR-20) and then certified for use in the airplane (ACO's). How will this be coordinated and standardized?	Identify who the initial contact should be.	Agreed. All references to AIR-20 or E&PD replaced by "FAA".
Don O. Young, ACE-118A	Page 10, paragraph 8.b.(3)(a)(1)(2) and 8.b.(3)(c)	This requirement appears to be onerous on the FAA and holders of "non-applicable" fuel specification approvals. I notice that although only root specification number and minimum AKI are listed in the approved fuel list that Lycoming SI No. 1070R issued. However, the SI will have to be revised each time the fuel specification is revised.	If both are minor changes to the fuel specification and do not affect octane, vapor pressure, or oxygenates, and consequently, do not affect the airplane limitation, why is one minor change more onerous than the other? This does not appear to be value added.	Explain why "non-applicable" fuel specification minor change approvals are more onerous.	The FAA and other stakeholders in the aviation industry oversee and vote on proposed changes to aviation specifications. However, there is no aviation oversight of changes to non-applicable specifications. Without any oversight, it is impossible to monitor changes to non-applicable spec unless the TC holder is required to do this. Therefore, the TC holder must substantiate that any change to a non-applicable specification has been reviewed for impact on the aviation user.

Commenter	Page & Paragraph	Comment	Reason for Comment	Suggested Change	Comment Resolution
Don O. Young, ACE-118A	Page 13-15, paragraph 8.d.	Recognizing that this AC is intended to be all encompassing, i.e. engine/airplane/rotorcraft alternate fuel approval; and, considering the pending 100LL situation, shouldn't this, or another AC, present guidance on a streamlined certification plan for the case where the engine type certificate holder has already approved an alternate fuel for use in his engine, as is the case with Lycoming SI No. 1070R? Consider also that AC guidance on the approval of auto fuel for use in engines and airplanes is dated and may not recognize engine manufacturer's present	If, or when, 100LL becomes unavailable, every airworthy part 23 airplane will be seeking approval to use a 100LL replacement fuel. The expectation is that the engine TC holders may already have approved the fuel for use in their engines as Lycoming has done.	Noted in comment.	Disagree. The FAA cannot usurp the design oversight of the aircraft manufactures and unilaterally approve a new fuel if it has been approved for the engine. Also, this AC represents an acceptable method of compliance, but not the only method of compliance. Therefore, if an when the need arises alternative compliance approaches may used.

Commenter	Page & Paragraph	Comment	Reason for Comment	Suggested Change	Comment Resolution
		and developing positions on the use of auto fuel.			
Don O. Young, ACE-118A	Page 14, paragraph 8.d.(6)(c)	Fuel compatibility can also be shown by RTCA-DO160 testing of elastomer components and fuel cell and sealing materials.	RTCA-DO160 testing would be a valuable resource to applicants and should not be overlooked.	Add verbiage.	Agreed. Reference to DO-160 added.

	AVS Quality Management System	QPM # AIR-001-007-F1	Revision 0
		Title: Document Review Log	Date: June 19, 2009

1. Document No.: DRAFT AC 20-24D Approval of Propulsion Fuels and Lubricating Oils	2. Project Manager: Mark Rumizen	3. Reviewing Office: Reviewer's Name & phone #: ANM-100	4. Date of Review: May 1, 2013	5. Date of Disposition:
REVISION HISTORY				

Rev	Description of Change	Effective Date
0	Original	6/19/09

	AVS Quality Management System	QPM # AIR-001-007-F1	Revision 0
		Title: Document Review Log	Date: June 19, 2009

Instructions for Completing the Document Review Log

Blocks 1 & 2: To be completed by project manager prior to sending out for comments.
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 Project manager's disposition in comments in the last column below. Enter the reasons for non-incorporated comments. Identify each disposition as:

- **Adopted;**
- **Partially Adopted;**
- **Non-Concur;**
- **Concur but Outside of Scope (Will be considered in next change/revision); or**
- **Answer to Question or Statement.**

Item No:	Page and Paragraph No:	Comment:	Reason:	Recommendation:	Disposition:
1.	General comment J. Regimbal, ANM-140S, (425) 917-6506	The document is overall well organized and well written.			N/A
2.	Page 2, Para 3. K. Sujishi, ANM-106B, (562) 627-5353	Cancellation section states AC20-24C is cancelled	Could not find any description on why 20-24D was created.	Describe why this revision was created and brief summary of what sections were changed or created.	Disagree. FAA formatting guidelines do not allow for this explanation.

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Check The Master List To Verify That This Is The Correct Revision Before Use /s/ NMB 6/19/09

	<h1>AVS</h1> <h2>Quality Management System</h2>	QPM # AIR-001-007-F1	Revision 0
		Title: Document Review Log	Date: June 19, 2009

3.	Page 2, Para 4. K. Sujishi, ANM-106B, (562) 627-5353	Related Regulations states some regulations that apply	Looking at other sections of this document, many other regulations are referred.	Describe why these particular regulations are listed and a statement that certain other regulations in other sections of this AC may apply.	Agreed. Added phrase “(see appendicies 2 and 3 for a complete listing)” to this paragraph
4.	Page 5 References and Related Reading K. Sujishi, ANM-106B, (562) 627-5353	FAA Guidance states various Policy Memorandums and ACs	Found only one of the ACs referenced later section. How are other sources related and affected?	Describe how references and related reading are used. For example, if a policy memo was incorporated in this AC, please state.	These provide information related to the subject of approval of aviation fuels and lubricants. They do not necessarily all need to be mentioned in text of AC.
5.	Page 6, h. K. Sujishi, ANM-106B, (562) 627-5353	Applicant should then coordinate with the FAA to develop compliance plans...	Contents of the compliance plan is discussed in various sections but wasn't clear of the format and entire requirements.	Add a compliance plan checklist to the AC or compliance plan template.	This is beyond the scope of this AC and can be found in guidance material for Part 21 certification procedures.
6.	Page 9, paragraph 8.b.(1) J. Regimbal, ANM-140S, (425) 917-6506	This paragraph says. “Operating limitations are part of the type design ...” This is not correct – they are not part of the type design.	Operating limitations are part of the type certificate, but are not part of type design. (Don't confuse operating limitations with airworthiness limitations, which are part of type design.) See 14 CFR 21.31 and 21.41 as substantiation for this comment.	Change the words “type design” to “type certificate” in paragraph 8.b.(1).	Agreed. Recommended change incorporated.
7.	Page 10, 8.b.(3)2 K. Sujishi, ANM-106B, (562) 627-5353	States (see 8.b.(3) (c)and (d)	Could not find (d). Numbering system is difficult to follow.	Please verify that (d) exists. Believe it should be (c)3.	Agreed. Changed to “(see 8.b.(3) (c))”

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8.	Page 11, 8.c.(1) K. Sujishi, ANM-106B, (562) 627-5353	States “.. they provide and equivalent level of safety...”	Suggest restating to “... they provide an equivalent level of safety.”	Suggest this change and definition of ELOS.	Agreed. Recommended change incorporated.
9.	Page 12, 8.c.(3) K. Sujishi, ANM-106B, (562) 627-5353	States “Production traceability must be provided to allow for continued operational safety planning.”	Also suggest adding “Production traceability and control of non-conformed products must be provided to allow...”	Also add disclosure process requirements too.	Agree in part. Wording changed to: “Production traceability <u>and control of non-compliant or contaminated fuel batches</u> must be provided to allow...”
10.	Pg 14, para d E. Smith, ANM-140L, (562) 627-5260	The sentence that discusses the effect on TBO needs revision. It currently states: “Applicants who propose a longer, mature engine maintenance interval or The Applicant must substantiate that any time between overhaul (TBO) established for the engine, or the existing engine’s TBO, whichever applicable, is valid with the new fuel.”	It appears some of the text didn’t get deleted or the revision didn’t get completed.	See comment.	Agreed. Extra text deleted.
11.	Page 16, paragraph 8.d.(7)(e) J. Regimbal, ANM-140S, (425) 917-6506	“Fuel performance” should be “Fuel system performance.”	This paragraph is talking about the effects of fuel characteristics on fuel system performance.	Change the opening words “Fuel performance” to “Fuel system performance.”	Agreed. Recommended change incorporated.

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12.	Page 16, paragraph 8.d.(7)(e) J. Regimbal, ANM-140S, (425) 917-6506	This paragraph should also mention the fuel system suction feed capability generally required to comply with § 25.1351, and it should mention the fuel system performance requirements in the Part 25 ETOPS regulations.	Section 25.1351 addresses airplane safety and performance requirements after loss of all normal electrical power. Appendix K of Part 25 contains ETOPS specific fuel system performance requirements for transport airplanes. Compliance with those requirements could be affected by changes in fuel properties, particularly vapor pressure or flash point, vapor/liquid ratio, and dissolved air characteristics.	1) Insert the words “and in suction feed conditions” after the word “conditions” in the first sentence. 2) Add sections 25.1351(d) and 25.1535, and part 25 Appendix K section K25.1.4(a) to the list of relevant regulations.	Agreed. Recommended change incorporated.
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	AVS Quality Management System	QPM # AIR-001-007-F1	Revision 0
		Title: Document Review Log	

1. Document No.: AC 20-24D	2. Project Manager: Mark Rumizen	3. Reviewing Office: Wayne Maguire (781) 238 7778	4. Date of Review: 5/8/2013	5. Date of Disposition:
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REVISION HISTORY		
Rev	Description of Change	Effective Date
0	Original	6/19/09

	AVS Quality Management System	QPM # AIR-001-007-F1	Revision 0
		Title: Document Review Log	Date: June 19, 2009

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- **Non-Concur;**
- **Concur but Outside of Scope (Will be considered in next change/revision); or**
- **Answer to Question or Statement.**

Item No:	Page and Paragraph No:	Comment:	Reason:	Recommendation:	Disposition:
1.	Pg. 1, para. 1.	A fuel or oil applicant could follow this guidance, but overlook all of the pertinent federal and state rules and guidance regarding health and the environment.	The guidance, correctly so, focuses solely on the relationship of fuels and oils to engines and APUs.	Either add the caveat that this AC does not speak to health and environmental regulations, or direct the reader to the appropriate agencies.	Disagree. It is beyond the FAA’s scope of responsibility to provide guidance relating to non-FAA regulatory requirements.
2.	Pg. 6, para. 7.h.	This paragraph speaks only to actions with the FAA for fuels/oils controlled by specs from industry, government, or military.	No similar guidance is found for independent specifications described in para. 7.e.(2).	Either address independent specifications in this paragraph, or guide the reader to a different paragraph.	Agreed. Text revised to state “submitted specification”.

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	<h1>AVS</h1> <h2>Quality Management System</h2>	QPM # AIR-001-007-F1	Revision 0
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3.	Pg. 11, para. 8.c.(1)	Is “equivalent level of safety” the best term to convey that the use of a new fuel must not lessen an engine’s (or APU’s) airworthiness at the time of its certification?	I associate ELOS with certification vs. the approval of the use of a new or alternative fuel.	Include wording to the effect that airworthiness as determined at the time of engine certification is to be maintained or exceeded.	Agreed. Re-worded to remove “equivalent level of safety”.
4.					
5.					
6.					
7.					
8.					
9.					

DOCUMENT REVIEW LOG

1. Document No.: AC 20-24D: Approval of Propulsion Fuels and Lubricating Oils		2. Project Lead: Mark Rumizen, AIR-20 Judith Watson, ANE-103		3. Reviewing Office: AIR-500		4. Date of Review: 4/15/13		5. [reserved]	
6.	7. Page and Paragraph No.:	8. Comment:	9. Reason For Comment:	10. Suggested Change:		11. Disposition			
#									
1.	Global Change including Appendices	Missing period.			Place a period after the paragraph title.				Agreed. Recommended change incorporated
2.	Global Change	Refrain from using bullets.	Bullets can be difficult to reference.		Replace bullets with a letter.				Agreed. Recommended change incorporated
3.	Global Change	Incorrect font size.			Use 11 or 12pt for labeling the page numbers in the footer.				Agreed. Recommended change incorporated
4.	Global Change	Reminder.			Remove the disclaimer from the footer in the final version.				Acknowledged.

DOCUMENT REVIEW LOG

1. Document No.: AC 20-24D: Approval of Propulsion Fuels and Lubricating Oils		2. Project Lead: Mark Rumizen, AIR-20 Judith Watson, ANE-103		3. Reviewing Office: AIR-500	4. Date of Review: 4/15/13	5. [reserved]
5.	Global Change	Redundant usage of language.		Remove the term "International" found after the acronyms "ASTM" and "SAE" since it is already defined at the first usage.	Disagree. "International" is part of each organization's name.	
6.	Global Change	The term "spark ignition" is already defined.		Use the acronym "SI" after the first usage.	Agree in part. Changed except in document titles cited in references.	
7.	Global Change within Appendices	Incorrect format.	Appendix should have unique numbering scheme for page numbers.	Rewrite in the appendices page numbers to read: A1-1, A1-2, A1-3, A2-1, A2-2, A2-3, A3-1, A3-2, A3-3, etc.	Agreed. Recommended change incorporated.	
8.	Header, Page 1	Incorrect format.		Remove the date and AC number from the header on the first page.	Agreed. Recommended change incorporated.	
9.	Header Area, Page 1	Incorrect spacing.		Adjust the spacing between the header and the DOT logo and Advisory Circular title in the final version.	Acknowledged.	

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10.	Subject Area, Page 1	Incorrect format.	Non-compliance to Order 1320.46C.	Place a solid black line under the Subject and Initiated by section.	Comment forwarded to Tech Writer.	
11.	Paragraph 1, Page 1	Incorrect format.		When there is only one paragraph in a section, then begin the paragraph by placing it directly after the paragraph title.	Agreed. Recommended change incorporated.	
12.	Paragraph 2b, 3 rd sentence, Page 1	Change wording.		Rewrite to read: The FAA will consider other methods and applicant may present to demonstrate compliance.	Agreed. Recommended change incorporated.	
13.	Paragraph 5a(2) - (5), Pages 2 & 3	The term "advisory circular" has already been defined.		Use the acronym "AC".	Agreed. Recommended change incorporated.	
14.	Paragraph 5b(1), Page 3	Define "ASTM International Standard" at the first usage.		Be consistent throughout the document on the usage of the acronym "ASTM".	Agree in part. When citing references, must include complete document title which includes "ASTM International Standard" or "ASTM International Standard Practice", but changed to just "ASTM" in other sections.	

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15.	Paragraph b(11), Page 4	Define "SAE International Standard" at the first usage.		Be consistent throughout the document on the usage of the acronym "SAE".	Agree in part. When citing references, must include complete document title which includes "SAE International Standard", but changed to just "SAE" in other sections.	
16.	Paragraph 6c, 2 nd sentence, Page 4	Improper usage of comma.		Remove the comma found after the term "bodies".	Agreed. Recommended change incorporated.	
17.	Paragraphs 7a, 1 st sentence, 7b, 3 rd sentence, Page 5	Missing acronym.		Place the acronym "TC" after the term "type certificate".	Agreed. Recommended change incorporated.	
18.	Paragraph 7b, 1 st sentence, Page 5	Change wording.		Rewrite to read: Historically, the FAA used the voluntary consensus standards from ASTM or SAE to identify fuel...	Agreed. Recommended change incorporated.	
19.	Paragraph 7d, 1 st sentence, Page 6	Improper usage of conjunction.		Remove the term "or" found before the term "governmental".	Agreed. Recommended change incorporated.	

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1. Document No.:		2. Project Lead:		3. Reviewing Office:		4. Date of Review:		5. [reserved]	
AC 20-24D: Approval of Propulsion Fuels and Lubricating Oils		Mark Rumizen, AIR-20 Judith Watson, ANE-103		AIR-500		4/15/13			
20.	Paragraph 7i, 1 st sentence, Page 7	Change wording.				Rewrite to read: ...to define the fuel, may be included as an operating limitation on the product's TCDS by the FAA (for example, information to define the fuel could be...		Agreed. Recommended change incorporated.	
21.	Paragraph 7i, 2 nd sentence, Page 7	Change wording.				Rewrite to read: This will also be identified by the applicant in the operating and installation instructions, flight manuals, and other service documents.		Agreed. Recommended change incorporated.	
22.	Paragraph 7i(1), Page 7	Missing period.		Inconsistent format.		Place a period after the reference to "Specification D1655 and D910".		Agreed. Recommended change incorporated.	
23.	Paragraph 8a(3)(b) & (c), Page 8	Define the terms or what is meant by "CAN/CGSB" and "GOST".						Agreed. Recommended change incorporated.	
24.	Paragraph 8a(c), 2 nd sentence, Page 8	Change wording.				Rewrite to read: ...the Commonwealth of Independent States, and some Eastern European countries.		Agreed. Recommended change incorporated.	

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25.	Paragraph 8a(4), 2 nd sentence, Page 8	Typo.		Remove the additional period after the term “properties” and remove the extra space between the last two sentences.	Agreed. Recommended change incorporated.	
26.	Paragraph 8a(4)(c), Page 8	Clarity.		Should the term ‘Standard’ follows the acronym “ASTM”?	Agreed. Removed “international” and “standard” in all areas except references.	
27.	Paragraph 8b(3)(b)1, 3 rd sentence, Page 10	Change wording.		Rewrite to read: ...existing fuel properties to verify that the resulting fuel is fit for aviation use based upon...	Disagree. “Fit for Purpose” is a commonly used technical term in the aviation fuel community. Removing “for purpose” would dilute the intent of the wording.	
28.	Paragraph 8b(c) & 8b(c)(4), Page 11	Inconsistent format.	Missing line under the subparagraph title.	Place a title under each subparagraph.	Agreed. Recommended change incorporated.	
29.	Paragraph 8c(3), Page 12	Typo.		Remove the underline from the term “Independent”.	Agreed. Recommended change incorporated.	

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30.	Paragraph 8c(10), 2 nd sentence, Page 12	Add wording.		Rewrite to read: ...be listed in the operating limitations in the TCDS and AFM/RFM, and must provide a means for change tracking (that is, a revision number).	Agreed. Recommended change incorporated.	
31.	Paragraph 8d(2), Page 13	Missing period.		Place a period after the acronym "FAA".	Agreed. Recommended change incorporated.	
32.	Paragraph 8d(6), 3 rd sentence, Page 13	Clarity.		Should the term "exclusive" or "inclusive"?	Agreed. Changed from "exclusive" to "all-inclusive".	
33.	Below Paragraph 8d(6), Page 13	Remove page break			Agreed. Recommended change incorporated.	
34.	Paragraph 8d(6)(d), 3 rd sentence, Page 14	Change wording.		Rewrite to read: ...maintenance interval must substantiate that any time between overhaul (TBO) established for the...	Agreed. Extra leftover text was deleted.	

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35.	Paragraphs 8d(7), 2 nd sentence, Page 15	Clarity.		Should the term “exclusive” or “inclusive”?	Agreed. Changed from “exclusive” to “all-inclusive”.	
36.	Paragraphs 8d(7), 3 rd sentence, Page 15	Change wording.		Rewrite to read: Applicants should obtain guidance from the FAA on the regulations with which they will need to show compliance.	Agreed. Recommended change incorporated.	
37.	Paragraph 9a(1), 2 nd sentence, Page 16	Missing acronym.		Place the acronym “AS” after the term “Aerospace Standard”.	Agreed. Recommended change incorporated.	
38.	Paragraph 9b(3)(a), 1 st sentence, Page 18	Change wording.		Rewrite to read: Turbine engines generally require lubricating oils meet SAE AS5780 standard...	Agreed. Recommended change incorporated.	
39.	Paragraph 9b(3)(c), Page 18	Inconsistent format.	Missing line under the subparagraph title.	Place a title under each subparagraph.	Agreed. Recommended change incorporated.	

DOCUMENT REVIEW LOG

1. Document No.:		2. Project Lead:		3. Reviewing Office:		4. Date of Review:		5. [reserved]	
AC 20-24D: Approval of Propulsion Fuels and Lubricating Oils		Mark Rumizen, AIR-20 Judith Watson, ANE-103		AIR-500		4/15/13			
40.	Paragraph 9c(1), 1 st sentence, Page 18	Define the term for the acronym "E&PD" first.			Use the acronym "E&PD" after first usage.			Agreed, but references to "E&PD" removed and replaced with "FAA".	
41.	Paragraph 9c(1), 3 rd sentence, Page 19	Improper capitalization.			Remove the capitalization from the term "directorate".			Agreed, but references to "E&PD" removed and replaced with "FAA".	
42.	Paragraph 9d, 3 rd sentence, Page 19	Clarity.			Should the term "exclusive" or "inclusive"?			Agreed. Changed from "exclusive" to "all-inclusive".	
43.	Paragraph 9d(2), 1 st sentence, Page 19	The term "Instructions for Continued Airworthiness" has already been defined.			Use the acronym "ICA".			Agreed. Recommended change incorporated.	
44.	Paragraph 9e, 3 rd sentence, Page 20	Clarity.			Should the term "exclusive" or "inclusive"?			Agreed. Changed from "exclusive" to "all-inclusive".	

DOCUMENT REVIEW LOG

1. Document No.: AC 20-24D: Approval of Propulsion Fuels and Lubricating Oils		2. Project Lead: Mark Rumizen, AIR-20 Judith Watson, ANE-103		3. Reviewing Office: AIR-500	4. Date of Review: 4/15/13	5. [reserved]
45.	Paragraph 9e, 4 th sentence, Page 20	Change wording.		Rewrite to read: ...and the appropriate aircraft directorate, guidance on regulations with which they will need to show compliance.	Agreed. Recommended change incorporated.	
46.	Appendix 1, Paragraph 3, 2 nd sentence, Page 21	Missing enclosed brackets.		Place brackets around the entire 2 nd sentence.	Agreed. Recommended change incorporated.	
47.	Appendix 1, Paragraph 3, 2 nd sentence, Page 21	Missing semicolon.		Place semicolon after the term "FAA".	Disagree. It is not clear why a semicolon is needed.	
48.	Appendix 1, Paragraph 3, 2 nd sentence, Page 21	Improper usage of comma.		Remove the comma found after the term "Navy".	Agreed. Rewritten to use brackets.	
49.	Appendix 1, Paragraph 3, 2 nd sentence, Page 21	Clarity.		Is the "Navy" part of the team and who oversees?	Agreed. Rewritten to use brackets.	

DOCUMENT REVIEW LOG

1. Document No.: AC 20-24D: Approval of Propulsion Fuels and Lubricating Oils		2. Project Lead: Mark Rumizen, AIR-20 Judith Watson, ANE-103		3. Reviewing Office: AIR-500		4. Date of Review: 4/15/13		5. [reserved]	
50.	Appendix 1, Paragraph 3a(1), 1 st sentence, Page 22	The term “supplemental type certificate” has already been defined.			Use the acronym “STC”.		Agreed. Recommended change incorporated.		
51.	Appendix 1, Paragraph 3a(2), 1 st sentence, Page 22	The term “Lycoming” has already been defined.			Use the acronym “LE”.		Agreed. Recommended change incorporated.		
52.	Below Appendix 1, Paragraph 3a(3), Page 22	Remove page break					Agreed. Recommended change incorporated.		
53.	Above, Below Appendix 1, Paragraph 3a(4), Page 23	Clarity.			Is the text under “Table A-1” supposed to be a “Note”? If so, indent and label as a “Note” section.		Agreed. Paragraph number added to text in lieu of “NOTE”.		
54.	Appendix 1, Paragraph 3a(5), 3 rd sentence, Page 24	Improper capitalization.			Remove the capitalization from the terms/title “aircraft certification office”.		Agreed. Recommended change incorporated.		

DOCUMENT REVIEW LOG

1. Document No.: AC 20-24D: Approval of Propulsion Fuels and Lubricating Oils		2. Project Lead: Mark Rumizen, AIR-20 Judith Watson, ANE-103		3. Reviewing Office: AIR-500	4. Date of Review: 4/15/13	5. [reserved]
55.	Appendix 1, Paragraph 3b(3), 2 nd sentence, Page 24	Define the term for the acronym "QPL" first.		Use the acronym "QPL" after the first usage.	Agreed. Recommended change incorporated.	
56.	Appendix 2, Title, Page 25	Inconsistent format.		Place the appendix title "Applicable airworthiness standards-Engines" in the center.	Agreed. Recommended change incorporated.	
57.	Appendix 2, Paragraphs 2c, 3, 4, 5, & 6, Pages 26 - 28	Incorrect alignment.		Align all the subparagraphs titles to appear directly under the first term in the previous main paragraph title.	Agreed. Recommended change incorporated.	
58.	Appendix 3, Paragraphs 1a-d, 2a-d, Pages 29-36	Inconsistent format.		Use/match the same format used in Appendix 2.	Agreed. Recommended change incorporated.	
59.	Appendix 3, 1 st paragraph, 1 st sentence, Page 29	Incorrect plural tense.		Rewrite to read: The following sections from 14 CFR parts 23, 25, 27, and 29 may aid...	Existing text agrees with recommended change.	

DOCUMENT REVIEW LOG

1. Document No.:		2. Project Lead:		3. Reviewing Office:		4. Date of Review:		5. [reserved]	
AC 20-24D: Approval of Propulsion Fuels and Lubricating Oils		Mark Rumizen, AIR-20 Judith Watson, ANE-103		AIR-500		4/15/13			
60.	Appendix 3, Paragraph 1a – d, Pages 29 - 32	Incorrect alignment.				Place the labeling of the subparagraphs 1a –d directly under the main paragraph title.		Agreed. Recommended change incorporated.	
61.	Appendix 3, Paragraph 2c, Page 35	Incorrect format.				Move the text found under paragraph 2c up a line to begin directly after the paragraph title.		Agreed. Recommended change incorporated.	
62.	Appendix 3, Paragraph 2d, Page 36	Incorrect format.				Remove the term “END” found at the bottom of page.		Agreed. Recommended change incorporated.	

**Clearance Record
DOCUMENT COMMENT LOG**

Originating Office: AIR-20	Document Description: AC 20-24D	Project Lead: Mark Rumizen	Reviewing Office: Wichita ACO; ACE-110	Date of Review:
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Company & Group	Page & Paragraph	Comment	Rationale for Comment	Recommendation	Disposition
Jeff Englert ACE-116Wp	Page: 1 Paragraph: 1.	Using 'Purpose' as a paragraph header isn't informative.	Orders 1000.36 and 1320.46 state we should use informative headings.	Change paragraph heading to: 1. What is the purpose of this advisory circular?	Disagree. Format is acceptable. Q&A format is not required. Paragraph heading is clear.
Jeff Englert ACE-116Wp	Page: 1 Paragraph: 1.	Purpose is direct enough to expect the applicant to provide expected information.	Order 1320.46 states we should make a direct statement of what the AC does. The current AC states that it provides methods that may be used, but no particular methods are provided.	Change first sentence to; This AC tells you: a. How to structure a product propulsion fuel and / or lubricating oil certification plan. b. How to get FAA acceptance of a new or independent fuel or oil type.	Agree. Revised text per recommended changes.
Jeff Englert ACE-116Wp	Page: 1 Paragraph: 1.	Since Auxiliary Power Plants (APUs) are TSO'ed, the approved fuel type is listed on a marking plate on the APU.	The procedure for adding an additional fuel/oil type to an APU requires additional and different procedures from that specified for an aircraft, rotorcraft and engine or an APU installation. Additional information may be required to assure that all aircraft operating fluids are the same as the APU when using common fuel source.	Since APU installations are covered under 14 CFR parts, specifying approved fuel use should be covered in a separate section. Installation approval should be covered in the product sections of the AC. I.e., Add a section ; Y. How is a fuel or oil qualified on an APU?	Agree in part. TSO C77b section references added to "Applicable Regulations" sections of AC.

Company & Group	Page & Paragraph	Comment	Rationale for Comment	Recommendation	Disposition
Jeff Englert ACE- 116Wp	Page: 1 Paragraph: 2.	Using 'Applicability' as a paragraph header isn't informative.	Orders 1000.36 and 1320.46 state we should use informative headings.	Change paragraph heading to: 2. Who does this AC apply to?	Disagree. Format is acceptable. Q&A format is not required. Paragraph heading is clear.
Jeff Englert ACE- 116Wp	Page: 1 Paragraph: 2.	Use of the word 'shall' is to be avoided.	Order 1320.46 states we should not use 'shall'.	Delete 'shall' here and in the only other sentence it appears (page 12, paragraph 8.c.(10)) to comply.	Agreed. Recommended changes incorporated.
Jeff Englert ACE- 116Wp	Page: 2 Paragraph: 3.	Using 'Cancellation' as a paragraph header isn't informative.	Orders 1000.36 and 1320.46 state we should use informative headings.	Change paragraph heading to: 3. Does this AC cancel the previous version?	Disagree. Format is acceptable. Q&A format is not required. Paragraph heading is clear.
Jeff Englert ACE- 116Wp	Page: 2 Paragraph: 4.	Using 'Related Regulations' as a paragraph header isn't informative.	Orders 1000.36 and 1320.46 state we should use informative headings. This section lists airworthiness standards not regulations, which are required for showing that fuel and/or oil is acceptable, but are not directly related to the process of achieving the AC's stated purpose. The specific related regulation should be 14 CFR part 21, which covers the procedures for certification.	Change paragraph heading to: 4. What is the regulatory basis requiring fuel and oil specification approval? Change references to 14 CFR part 21.	Disagree. This AC's stated purpose is to provide guidance on fuel/oil operating limitations. The listed regulations are applicable to this purpose.
Jeff Englert ACE- 116Wp	Page: 2 Paragraph: 5.	Using 'Reference and related Reading' as a paragraph header isn't informative.	Orders 1000.36 and 1320.46 state we should use informative headings.	Change paragraph heading to: 5. What reference documents are available on fuel and oil? Move reference section to an Appendix to better focus the	Disagree. Format is acceptable. Q&A format is not required. Paragraph heading is clear.

Company & Group	Page & Paragraph	Comment	Rationale for Comment	Recommendation	Disposition
				guidance to the AC purpose.	
Jeff Englert ACE-116Wp	Page: 4 Paragraph: 6.	Using 'definitions' as a paragraph header isn't informative.	Orders 1000.36 and 1320.46 state we should use informative headings.	Change paragraph heading to: 6. What definitions are necessary to understand this AC?	Disagree. Format is acceptable. Q&A format is not required. Paragraph heading is clear.
Jeff Englert ACE-116Wp	Page: 5 Paragraph: 7.	Using 'Background' as a paragraph header isn't informative.	Orders 1000.36 and 1320.46 state we should use informative headings.	Change paragraph heading to: 7. What background information is applicable to this AC? An evaluation of whether this is appropriate here or as an Appendix is appropriate, Order 1320.46 states Background Information may be placed after the main part of the AC.	Disagree. Format is acceptable. Q&A format is not required. Paragraph heading is clear.
ACE-114, M. S. Orr, 816-329-4151	Page 5, ¶ 7.b	TC, ATC, and STC projects are listed. What about ASTC projects?	If STCs are listed separately from TC and ATC projects, ASTC projects need to be included.	Add ASTC projects to the list as well.	Agreed. Recommended changes incorporated.

Company & Group	Page & Paragraph	Comment	Rationale for Comment	Recommendation	Disposition
Jeff Englert ACE-116Wp	Page: 6 Paragraph: 7.f.	Paragraph 7.f. through 7.i. contains actions the FAA is telling the applicant to do as part of the process to add a fuel or oil designation.	Placing applicant actions in various sections makes it difficult to establish what is required or expected. Previous experience suggests that when applicant information is distributed across multiple sections less than complete plans will be submitted.	Separate the actions required of the applicant into a single section; X. What are the required steps to certify fuel or oil types on aircraft products?	Disagree. Acceptable as written.
ACE-111, P. Rouse	Page 6, ¶ 7.e	Why are oils excluded? What did we do for Camguard? What about other oils, additives, etc?	We are allowing for independent specification for fuel, but not anything else. The AC is basically stating that only fuels may have an independent specification.	Recommend that the same principles that allow for an independent specification for fuel be used for oils, additives, etc.	Disagree. The FAA does not have any current certification activity that warrants development of independent specification policy for oil.
Jeff Englert ACE-116Wp	Page: 7 Paragraph: 8.	Using 'Aviation Fuel' as a paragraph header isn't informative.	Orders 1000.36 and 1320.46 state we should use informative headings.	Change paragraph heading to: 8. What previously accepted fuel specifications have been accepted by the FAA? Move this section to an Appendix. Consider consolidating this list with the list in section 5. The information presented here could be listed under each specification listed previously. Adding this info as a note to those that have been previously accepted, could be beneficial.	Disagree. Format is acceptable. Q&A format is not required. Paragraph heading is clear.
ACE-114, M. S. Orr, 816-329-4151	Page 9, ¶ 8.b(1)(b)	23.1521 applies to all part 23 category airplanes defined in 23.3 and not just Normal Category.	23.1521 applies to all part 23 category airplanes defined in 23.3 and not just Normal Category.	Remove the parenthetical "(Normal)" and revise to read, "...23.1521(d) and ...".	Agreed. Recommended changes incorporated.

Company & Group	Page & Paragraph	Comment	Rationale for Comment	Recommendation	Disposition
ACE-114, M. S. Orr, 816-329-4151	Page 9, ¶ 8.b(2)	Cannot find paragraph 8.b.(3)(d) as referenced in the second sentence of this paragraph.	Paragraph referenced is missing.	Either delete the reference to 8.b.(3)(d), or insert the missing paragraph.	Agreed. Recommended changes incorporated.
ACE-114, M. S. Orr, 816-329-4151	Page 10, ¶ 8.b(3)(a). <u>1</u> , and 8.b(3)(a). <u>2</u>	Not clear that these two sentences refer to how the ASTM specification is referenced in the limitations on the TCDS, and that the TCDS limitation callout has to change based on if the suffix is called out or not in the limitation.	Unclear which document has to change when the ASTM specification is revised.		Agreed. Text revised in accordance with comment.
ACE-114, M. S. Orr, 816-329-4151	Page 10, ¶ 8.b(3)(a). <u>2</u>	Cannot find paragraph 8.b.(3)(d) as referenced in the second sentence of this paragraph.	Paragraph referenced is missing.	Either delete the reference to 8.b.(3)(d), or insert the missing paragraph.	Agreed. Recommended changes incorporated.
Jeff Englert ACE-116Wp	Page: 11 Paragraph: b.	Using ‘Synthetic jet Fuels’ as a paragraph header isn’t informative.	Orders 1000.36 and 1320.46 state we should use informative headings.	Change paragraph heading to: b. What steps are required for synthetic jet fuels to be accepted by the FAA? Consider moving this section into applicant actions required by this AC.	Disagree. Format is acceptable. Q&A format is not required. Paragraph heading is clear.

Company & Group	Page & Paragraph	Comment	Rationale for Comment	Recommendation	Disposition
Jeff Englert ACE-116Wp	Page: 11 Paragraph: c.	Using 'Independent Specifications' as a paragraph header isn't informative.	Orders 1000.36 and 1320.46 state we should use informative headings.	Change paragraph heading to: c. What steps are required for independent fuel or oil specifications to be accepted by the FAA? Consider moving this section into applicant actions required by this AC.	Disagree. Format is acceptable. Q&A format is not required. Paragraph heading is clear.
ACE-114, M. S. Orr, 816-329-4151	Page 11, ¶ 8.b	Section 8.b(2), 8.b(3), and 8.b(4) describe operating limitations for ASTM International specifications, special considerations for ASTM specifications, and other governmental military or industry voluntary consensus-based standards respectively. Why aren't Independent Specifications included under this section?	The list of possible sources of specifications for use in a limitation is incomplete.	Add 8.b(5) to indicate how to include an independent specification in a limitation. This should include something about how the callout in the limitation is related to the change control mechanisms called out in 8.c.(10).	Agreed in part. Paragraph numbering changed to equate Independent specs with ASTM specs.
ACE-114, M. S. Orr, 816-329-4151	Page 11, ¶ 8.c	“..operating limitations provided they provide and equivalent level of safety and provide a similar level...” portion of sentence doesn't make sense and is awkward.	Awkward sentence.	Revise to read, “...operating limitations if they provide an equivalent level of safety and a similar level...”	Agreed. Recommended change incorporated.

Company & Group	Page & Paragraph	Comment	Rationale for Comment	Recommendation	Disposition
ACE-111, P. Rouse	Page 12, ¶ 8.c 5	This comment seems to place additional restrictions on the independent specification above those for industry based consensus standards, or military standards.	Do we have composition specifications at the present time, or is an allowable range of compositions acceptable, provided the fuel meets the performance specifications for heating value, flash point, octane, etc?	Ensure that we do not require more than the currently acceptable standards, unless there is a specific reason that can be defensible. We do not want to be in a case of regulation by policy.	Acknowledged. In the absence of an industry voluntary consensus-based process, the FAA would be unable to make a determination that the independent spec provides an equivalent level of fuel definition and control as an ASTM spec without the requirements listed in paragraph c (now paragraph e), including the compositional controls.
Jeff Englert ACE-116Wp	Page: 13 Paragraph: c.	Using 'Operating Limitations for Aviation Fuel: certification plans' as a paragraph header isn't informative.	Orders 1000.36 and 1320.46 state we should use informative headings. The paragraphs, 8.d. (1) through, 8.d. (7)(f), that this section provides should be moved into a separate section that just provides the applicant the basic to prepare a certification plan that support fuel/oil approval. This section could be divided into separate sections to address fuel /oil or separately or combined as the plan format should be the same (the applicable Standards included will probably be different). The applicable standards could be generalized and listed in Appendices as is done in this AC version).	Change paragraph heading to: X. What must a certification plan contain to establish or add fuel and oil designations or specifications as a product operating limitation?	Disagree. Format is acceptable. Q&A format is not required. Paragraph heading is clear.
ACE-111, P. Rouse	Page 15, ¶ 8.d.(7)(d)	The cited rules do not include all of the engine starting requirements.	There are additional engine starting requirements that may be affected by fuel property differences.	23.903(e), (f) and (g).	Agreed. Recommended changes incorporated.

Company & Group	Page & Paragraph	Comment	Rationale for Comment	Recommendation	Disposition
ACE-111, P. Rouse	General	This maybe the time to get Cetane as part of the demonstration for compression ignition engines.	The cetane issue has been bandied about since diesel engines have been certificated for installation. We should not require the installer to perform a "survey" to see what will meet the certification standards, when the fuel specification acceptability is primarily a function of the engine certification.	Establish a cetane requirement for compression ignition fuels.	Agree in part. Text revised to include consideration of cetane number.
Jeff Englert ACE-116Wp		Add section to tell applicant the steps required to 'How to structure a product propulsion fuel and / or lubricating oil certification plan.'		Add section to answer: X. How to structure a product propulsion certification plan for new fuels and / or lubricating oils?	Disagree. Format is acceptable. Q&A format is not required. Paragraph heading is clear.
Jeff Englert ACE-116Wp	Various	The applicant is told they 'should' do this or that to show compliance.	Order 1320.46 states "It's appropriate to use "must" when describing how to conform to an acceptable means of compliance explained in the AC.".	Eliminate as many 'should's as possible and replace with 'must'.	Agreed. Recommended changes incorporated.

1. Document No.: DRAFT AC 20-24D Approval of Propulsion Fuels and Lubricating Oils	2. Project Manager: Mark Rumizen	3. Reviewing Office: Reviewer's Name & phone #: Volchansky, Lou, AIR-130	4. Date of Review: 11/27/13	5. Date of Disposition:
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Item No:	Page and Paragraph No:	Comment:	Reason:	Recommendation:	Disposition:
1.	Suggest deleting text in last part of paragraph 2.b.: "While these guidelines are not mandatory, they are derived from extensive FAA and industry experience in determining compliance with the relevant regulations. If we find that following this AC would not result in compliance with the applicable regulations, we will not be bound by this AC, and we may require additional substantiation as the basis for finding compliance." Pg 1, Para 2b	Paragraph 2b would now read: "This material is neither mandatory nor regulatory in nature and does not constitute a regulation. It describes acceptable means, but not the only means, for demonstrating compliance with the applicable regulations. We ("the FAA") will consider other methods an applicant may present to demonstrate compliance. Terms such as "should," "shall," "may," and "must" are used only in the sense of ensuring applicability of this particular method of compliance when the method in this document is used. " Pg 1, Para 2b	Text already states the non-regulatory nature of this AC.	The applicant must always follow the applicable regulations. This AC should assist the applicant towards that goal. Stating that following the AC may assist the applicant towards this goal defeats the purpose of publishing this document.	Disagree. The current wording provides expanded clarification which is determined to be appropriate for this AC.
2.	Change text on page 5, paragraph 7a, from: "Aircraft operators are required by § 91.9 to only use fuels and oils listed in the AFM or RFM."	Change text on page 5, paragraph 7a, to read: ""Aircraft operators are required by 14 CFR § 91.9 to comply with the AFM or RFM."	14 CFR § 91.9 mentions compliance to the AFM / RFM. It does not specifically mention fuels and oils.	By transitive nature, compliance to fuels and oils listed in the AFM/RFM is implied.	Agree. Text change in accordance with recommendation.
3.	Remove "or" at end of paragraph 7g, page 6	Remove "or" and end with period.	Typographical		Agree. Text change in accordance with recommendation.
4.					

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**Clearance Record
DOCUMENT COMMENT LOG**

Originating Office: AIR-20	Document Description: AC 20-24D	Project Lead: Mark Rumizen	Reviewing Office: See below	Date of Review:
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ASW-190 (Hakala) Comments

Company & Group	Page & Paragraph	Comment	Rationale for Comment	Recommendation	Disposition
ASW-190	Page 17, Section 9.a.(3)	The name of the preparing SAE committee has changed to E-38 and is now under the SAE Aerospace Council. SAE E-38, Aviation Piston Engine Fuels and Lubricants Committee is now the new name.		See comment	Agreed. Recommended changes incorporated.
ASW-190	Appdx 1, Page 21, Section 3	The members of the E-38 Committee are the major US oil companies, Universities, and the Federal Aviation Administration. (Also, some committee members have been from the Navy NAWC, but the conversion work from the old MIL oil specifications has been accomplished about ten years ago.)		See comment	Agree in part. There has been very little recent oil qualification activity, so it is difficult to specify the participants. Propose to re-visit in future revision.
ASW-190	Page 17, Section 9.a.(3)	Also, the older radial piston engines use the SAE J1966, "Lubricating Oils, Aircraft Piston Engine (Non-Dispersant Mineral Oil).		See comment	Agree in part. Comment is correct but the guidance is not intended to be engine type specific when referring to oil specifications.
ASW-190	Page 20, Section 9.d.(3)	The old Pratt & Whitney and Wright radial engines often had silver plated bearing that were not compatible with the Zinc additives in the SAE J1899 Lubricating Oil, Aircraft Piston Engine (Ashless Dispersant).		See comment	Agree in part. Comment is correct but the section provides general guidance relating to oil-wetted materials and is not specific to any one type of engine design.
ASW-190		The Appendix I should list the SAE J1966 for the old radial piston engines.		See comment	Disagree. The Appendix 1 is limited to Lycoming and Continental horizontally opposed engines which use only J1899 oil.

ASW-190	Page 16, Section 9	Also, In Chapter 9, there should be a separate section for turbine and piston engine oils. Completely different performance is required of turbine vs. piston engine oils.		See comment	Agree in part. Separate paragraphs are provided to describe the different specifications that are applicable to turbine and piston engines, but not for the “applicable regulations” section 9.d as this section is intended to provide general guidance applicable to all engines.
ASW-190	Page 18, Section 9.b.(3)(a)	Historically, the piston engine manufacturer would pick an oil company's oil that met a certain MIL specification. A list of these oil brand names and the oil company would be printed in the piston engine FAA Approved maintenance manuals.		See comment	Agree in part. Current wording refers to oil brand name and specification as operating limitations, which are communicated to the operator in many way such as maintenance manuals, or service bulletins or service letters. The AC does not attempt to list all of these means.