

DISPOSITION OF FAA COMMENTS

AC 25-X, Fuel Tank Strength in Emergency Landing Conditions

Prepared by Todd Martin, ANM-115

No.	Comment	Requested Change	Disposition
Commenter: M. Javed, ACE-116C			
1	The conversion from Celsius to Fahrenheit as shown on page 9, paragraph 5c(1), last sentence, is not right, i.e., "...temperature of 22.8 °C (41 °F) above standard."	Please change to "...temperature of 22.8 °C (73 °F) above standard."	The AC is correct. The referenced temperature is not an absolute value, but the amount <i>above</i> the standard temperature. No change.

No.	Comment	Requested Change	Disposition
Commenter: Caspar Wang, ANE-150			
1	On page 4, paragraph 5a, in the final sentence: The phrase "underslung wing fuel tank" is widely understood as an external fuel tank mounted under a wing.	This should be rewritten to: "...examples of a fuel tank for an underslung wing configured airplane and...."	Agreed. Changed as requested.

No.	Comment	Requested Change	Disposition
Commenter: Ken Sujishi, ANM-104B			
1	Fuel Tank Strength in emergency landing conditions regulations specified in Purpose section. Wasn't sure if these regulations are handled by Airframe Structures AR/DER or Propulsion AR/DER.	Provide this clarification of which designee is involved in the AC in the Applicability section.	Specifying the appropriate designee(s) is outside the scope of the AC. No change.

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2	Fuel tank pressure loads and related figures 1 and 2. Equation to be used is not shown.	For clarification, have a full example with numbers and equation in the AC to make it more comprehensive.	The numerical requirements are addressed in the rule, and we do not believe they need to be repeated in their entirety in the AC. However, the AC will be revised to specify the referenced equation and clarify the link between the term “L” and the proposed 25.963 rule.
3	Related Documents Section. Amendment levels are not shown for 14 CFR regulations.	Specify amendment levels.	The amendment levels of the related regulations do not affect compliance with § 25.963(d); therefore, there is no need to specify them. No change.

No.	Comment	Requested Change	Disposition
Commenter: E. Smith, ANM-140L			
1	Page 4, Paragraph 5a: It is well explained as to what constitutes a fuel tank that is inside or outside the fuselage contour, and what the considerations are if a part of the fuel tank forms part of the pressure vessel. If an applicant has a fuel tank similar to the representation in Figure 1 (center wing fuel tank whose upper surface is outside the pressurized area), and the distance between the top of the fuel tank and the “fire resistant boundary” is minimal, the fuel tank is considered to be outside the	Consider requirements for: 1) a minimum distance between tank structure and “fire resistant boundary” (pressure vessel) if the tank can reasonably considered to be a first impact site in a minor crash landing; or 2) additional structural requirements for the “fire resistant boundary” that exists between the tank and pressure vessel when the tank can reasonably considered to be a first impact site in a minor crash landing, and the tank is	We don’t believe that it’s necessary to define this minimum distance. If the tank is the first impact site, then the 5 feet per second requirement will apply, and there can be no fuel spillage that would constitute a hazard for this 5 fps condition. No change.

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Commenter: E. Smith, ANM-140L			
	fuselage contour. Should there be a required minimum distance between the tank and “fire resistant boundary” in cases such as these where the fuel tank may be the first impact site in a 5fps descent rate minor crash? It seems the location of the tank (relative to first impact site) and therefore structural requirements would be different depending on the location and not only whether it makes up part of the pressure vessel or not. Or, perhaps there need to be some structural requirements in addition to the pressure requirements of the “fire resistant boundary” if there is a fuel tank surface within XX of it.	within XX inches of the pressure vessel.	
2	Page 5, paragraph 5a(1): The term “L” is introduced here. It is not obvious what L is showing and/or how it is used.	Further explanation on what “L” is and what it is used for, and/or a sample calculation using “L” would be beneficial.	The commenter did not see the proposed new § 25.963 rule, which includes the equation using “L.” The AC will be revised to specify the referenced equation and clarify the link between the term “L” and the proposed requirement.
3	Page 8, paragraph 5c.: § 25.963(d)(4) – cannot find this specific reference in the regulations. Page 9, paragraph 5d & 5e: §25.963(d)(5) – cannot find the specific reference in the regulations.	Check and verify these regulatory citations.	The commenter did not see the proposed new § 25.963 rule, which does include these paragraphs.

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No.	Comment	Requested Change	Disposition
Commenter: Wayne Tonkins AIR-103			
1	14 CFR 25.963(d)(1), 25.963(d)(2) and 25.963(d)(4) are cited in the document but not found in the CFR.	Request checking the citations and making appropriate changes to the citations.	The commenter did not see the proposed new § 25.963 rule, which does include these paragraphs.
2	Typo page 4, NPRM, ITEM “F” is duplicated.	Request delete one “F” from the column.	The NPRM has already been fixed.

No.	Comment	Requested Change	Disposition
Commenter: Mark Lopez, AFS-330			
1	Page 8, Paragraph 5b(1)(b)	<p>Revise sentence to MATCH referenced AC (20-128A) to read: “...as a minimum drip clearance distance of 10 inches from potential ignition sources of the engine nacelle for static conditions is acceptable.”</p> <p>NOTE: Added text in BOLD above and deleted word <i>laterally</i> from sentence.</p>	<p>The reference in AC 20-128 is referring to a minimum dry bay area, so it is not directly applicable to the AC 25.963 definition for “near the engine.”</p> <p>No change.</p>

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No.	Comment	Requested Change	Disposition
Commenter: Angeline Garrett, AIR-500			
1	Global change. Incorrect formatting. Only the first two levels of a paragraph should be bold.	Remove the bold from all subsection numbers and letters beyond the second level of the paragraph.	We agree and have revised the AC accordingly.
2	Under Subject Area, Page 1. Missing black line. Non-compliance format of Order 1320.46C.	Place a black line above the purpose title.	We agree and have revised the AC accordingly.
3	Paragraph 4d, 1st sentence, Page 3.	Define the term “European Aviation Safety Agency” first. Use the acronym “EASA” after the first usage.	We agree and have revised the AC accordingly.
4	Paragraph 4d, 1st sentence, Page 3. Missing comma.	Place a comma after the term “Aeroplanes.”	We disagree. It’s incorrect to insert a comma before the CS citation. Instead, we have changed “Certification Specifications” to “certification specification” to clarify we are only talking about CS 25.963.
5	Paragraph 4d, 1st sentence, Page 3. Missing plural tense.	The term “Requirements” should be plural in the title for “European Joint aviation Requirements.”	We disagree. The text refers to only one requirement, not all JAA requirements. We added “corresponding” to clarify we are only talking about one requirement.
6	Paragraph 5, 1st sentence, Page 3.	Remove the asterisks from the reference to” Amendment 25.” Reminder to update reference with most current Amendment.	Yes, the Amendment level will be updated once the final rule is issued. Until then, the asterisks will remain in the document as a placeholder.

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7	Paragraph 5a, Page 4. Missing capitalization.	Capitalize the terms/title “Fuel Tank Pressure Loads.”	We disagree. In a follow-up conversation with the commenter, we confirmed that only the first word of a second-level heading should be capitalized. We updated all instances in the AC where we inadvertently deviated from this guidance.
8	Paragraph 5b, Page 8. Missing capitalization.	Capitalize the terms/title “Near the Fuselage Near the Engines.”	
9	Paragraph 5c, Page 8. Missing capitalization.	Capitalize the terms/title “Protection Against Crushing and Scraping Action.”	
10	Paragraph 5e, Page 9. Missing capitalization.	Capitalize the terms/title “Landing Gear Separation.”	
11	Paragraph 6a, Page 10. Missing capitalization.	Capitalize the terms/title “Supporting Structure.”	
12	Paragraph 6b, Page 10. Missing capitalization.	Capitalize the terms/title “Auxiliary Fuel Tank.”	
13	Paragraph 5b, 1st sentence, Page 8.	Change wording. Rewrite to read: Guidance for complying with § 25.9639d)(2) is as follows:	We agree and have revised the AC accordingly.
14	Paragraph 5c, 1st & 2nd sentences, Page 8.	Change wording. Rewrite to read: To complying with § 25.936(d)(4) and § 25.721(b) and (c) each fuel tank should...	We agree and have revised the AC accordingly.
15	Paragraph 5c(1), 1st sentence, Page 8. Improper usage of a colon.	Delete the colon after the term “extended.” Replace with a period.	We agree and have revised the AC accordingly.

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No.	Comment	Requested Change	Disposition
Commenter: Angeline Garrett, AIR-500			
16	Page 10. Missing signature block.	Place a signature block five spaces after the last paragraph of the document.	We disagree. The signature block should only appear in the final AC. Instead, the word “END” is used in its place, so the reader understands that the last page of the AC guidance has been reached.
17	Page 10. Unnecessary language.	Remove the title “END” from the bottom of the page.	We disagree. The word “END” is used to notify that reader that the last page of the AC guidance has been reached.