

DISPOSITION OF FAA COMMENTS

AC 25-17A, Change 1, *Transport Airplane Cabin Interiors Crashworthiness Handbook*

Prepared by John Sheldon, ANM-115

No.	Comment	Requested Change	Disposition
Commenter: Robert Grant, ASW-112			
1	<p>Comments on figures 81 -2, 82-2,83-2, 83-2, 84-2, 85- 2,86-2, 87-2, and 88-2: The head strike zone is defined as a zone whose length is bounded between an arc at the forward edge of the seat bottom cushion and an arc at the limit of the head path (35 inches) ...</p> <p>Figures 81 -2, 82-2,83-2, 83-2, 84-2, 85- 2,86-2, 87-2, and 88-2 depicts the bounds of the head strike zone to be a horizontal plane at the top of the seat bottom cushion (which is dimensioned to be 18 inches above the floor). The other bound of the head strike zone is depicted as a vertical plane.</p> <p>If the top of seat bottom cushion is greater than 18 inches above the floor does the head strike zone extend below the top of the seat bottom cushion down to 18 inches? Figures 81-2, 82-2,83-2, 83-2, 84-2, 85-2,86-2, 87-2, and 88-2 do not provide information on this likely situation.</p> <p>Is the head strike zone intended to be bounded by a vertical plane? Should the head strike zone be bounded by the plane of the uncompressed front of the seat back cushion</p>	<p>Revise Figures 81-2, 82-2,83-2, 83-2, 84-2, 85- 2,86-2, 87-2, and 88-2 to depict the situation where the top of the seat bottom cushion is more than 18 inches above the floor, where the head strike zone extends below the top of the seat bottom cushion and is bounded by the 18 inch dimension. Alternatively, if the head strike zone is bounded by the top of the seat bottom cushion, regardless of the distance from the floor, then remove the 18 inch dimension as that limit is clearly stated in the AC text.</p> <p>Revise Figures 81-2, 82-2,83-2, 83-2, 84-2, 85- 2,86-2, 87-2, and 88-2 to depict the head strike zone extending to the plane of the uncompressed front of the seat back cushion. Alternatively, define a bound of the head strike zone to be a vertical plane through the CRP.</p>	<p>We partially agree. We edited the figure to show clearly that 18 inches is the lower boundary of the head strike zone. For the aft boundary of the head strike zone, a vertical plane through the cushion reference point (CRP) is acceptable, as shown in the figure.</p>

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2		Revise paragraphs 81.b.(5), 82.b.(5), 83.b.(6), 84.b.(6), 85.b.(6), 86.b.(8), 87.b.(8), and 88.b.(8) text as necessary to match changes in figures 81-2, 82-2,83-2, 83-2, 84-2, 85-2,86-2, 87-2, and 88-2 as described in comment 1, respectively.	We disagree. See response to comment 1 above.
3	Paragraphs 81.b.(5), 82.b.(5), 83.b.(6), 84.b.(6), 85.b.(6), 86.b.(8), 87.b.(8), and 88.b.(8): Use the terms seat cushion, seat bottom cushion, and seat back cushion. Seat cushion is ambiguous.	Replace “seat cushion” with “seat bottom cushion” or “seat back cushion” throughout as appropriate.	We agree. We changed “seat cushion” to “seat bottom cushion.”
4	Paragraph 81.b.(5), 82.b.(5), 83.b.(6), 84.b.(6), 85.b.(6), 86.b.(8), 87.b.(8), and 88.b.(8): It is unclear what information is intended to be provided with the sentence “The head strike zone extends in the direction parallel to the airplane longitudinal axis”	Rewrite this sentence so the meaning is clear.	We disagree and did not change the AC. The sentence is clear. The direction of the longitudinal axis is known to be the forward and aft direction.

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Commenter: DK Deaderick			
1	<p>Document provided was compared to AC 25.562 1B (page 19/20)</p> <p>AC 25.562 1B states in pertinent part, “There are acceptable approaches to addressing range of occupant heights that do not require explicitly adding length to the head path of the ATD to assess HIC. These approaches provide protection mechanisms that apply to all occupants, and demonstration of compliance with the ATD at the installed seat position is sufficient. These methods address both row-to-row and front row seats. Use of one of these methods is considered to inherently address a range of occupants and, therefore, the HIC result acquired with the ATD can be considered valid for the range of occupants. This is acceptable, even if the ATD does not contact the forward surface during the test. The acceptable approaches are as follows:</p> <ul style="list-style-type: none"> • Effective upper torso restraints • <u>Inflatable restraint systems</u> • Energy absorbing features of or on a uniform contact surface that are effective (i.e., sized to cover the contact area) for the range of occupants identified in paragraph 5.e(5)(b). 	<p>RE: Head Strike Zone</p> <ul style="list-style-type: none"> • Add reference to AC 25.562 1B to consider during test protocol to mitigate head injury criteria. <p>Specifically the protection provided by inflatable restraint systems.</p>	<p>We agree. We added the reference to guidance pertaining to Amendment 25-64 and later.</p>

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	<ul style="list-style-type: none"> • Head path reducing features (such as articulating seat pans, rate sensitive foams, low elongation restraints) that are effective and provide protection for the range of occupants identified in paragraph 5.e(5)(b). <p>HIC not exceeding 1,000 units when solid head contact (i.e., not a slight scraping of the ATD head on the monument) occurs during the dynamic test.</p>		

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Commenter: Steve Litke, ACE-115W			
1	<p>This definition of headstrike zone means that for a side facing seat, the headstrike zone is only a plane with zero thickness. It should have some thickness, perhaps from the seat back to the front (relative to seat) of the seat bottom cushion. The arc would still go forward (relative to airplane) just as in the fore and aft facing seats.</p>		<p>No change was requested, but we agree that we need to specify that the definition of head strike zone applies only to forward facing seats.</p>

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Commenter: AIR-500			
1	<p>Page i. Header</p> <p>The header must be completed once the CHG document is finalized.</p>	<p>Once finalized, please change “DRAFT” to the effective date.</p>	<p>We agree. We will remove “DRAFT” after the AC is signed for issuance.</p>
2	<p>The header on Page i lists “Change: 1,” but the header on Page 1 does not.</p>	<p>Please ensure that both headers are accurate and complete.</p>	<p>The headers are accurate as proposed. Page 1 is not identified as “Change: 1” because it is the original cover page for AC 25-17A. It should not have been included in the proposed Change 1 because nothing on that page is changing. Therefore, we removed that page from Change 1.</p>
3	<p>Page i, Paragraphs 1 – 4</p> <p>The pending job aid for the template for CHG orders states that the first 4 paragraphs of a CHG order should be as follows:</p> <ol style="list-style-type: none"> 1. Purpose 2. Who this change affects 3. Disposition of Transmittal paragraph <p>Followed by a “Page Change Control Chart”</p> <ol style="list-style-type: none"> 4. Administrative Information <p>Followed by a signature block</p>	<p>Please review the template for CHG orders and ensure that this CHG is in keeping with the norm.</p>	<p>We followed up with AIR-500 about this comment, and they clarified that the guidance pertains to Orders, not ACs. Therefore, we did not change the AC.</p>

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4	<p>Page 47, Figure 81-2 & following</p> <p>The same two acronyms (CRP & SRP) are established and listed on pages 46, 59, 72, 85, 98, 112, 126, and 140.</p> <p>The figure used for the Head Strike Zone is identical on each of the following pages: 47, 60, 73, 86, 99, 113, 127 and 141.</p>	<p>This repetition seems helpful and necessary, but please be aware of it and verify that the use of such repetition is your intent.</p> <p>If so, no related edits are needed.</p>	<p>Yes, it is our intent to redefine the CRP and SRP acronyms, as well as repeat the figure on those referenced pages. Therefore, we did not change the AC.</p>
5	<p>Pages 46, 59, 72, 85, 98, 112, 126, and 140, Paragraphs (5) and (6)</p> <p>Pages 46, 59, 72, 85, and 98 end with the following sentence: “If the padding is easily removed, there should be acceptable placarding requiring the padding be in place during taxi, takeoff and landing. (Amendment 25-0)”</p> <p>Then, on pages 112, 126, and 140, a new sentence with minor differences is added: “Compliance with § 25.562(c)(5) can be used to show compliance to § 25.785(c)(2). See AC 25.562-1B, “Dynamic Evaluation of Seat Restraint Systems and Occupant Protection on Transport Airplanes.” (Amendment 25-64)</p>	<p>Please ensure that these three added sentences belong in the three pages (112, 126, and 140) where they have been added to the text.</p> <p>Please also verify that no such sentence is needed in the previous, almost identical sections, on pages 46, 59, 72, 85, and 98.</p>	<p>The text is correct. The changes in the guidance are there because of the rule change. Therefore, we did not change the AC.</p>

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6	<p>Pages 112, 126, and 140, Paragraphs (8)</p> <p>Page 112 ends with the following reference: “See AC 25.562-1B, “Dynamic Evaluation of Seat Restraint Systems and Occupant Protection on Transport Airplanes.” (Amendment 25-64)</p> <p>Page 126 ends with the following reference: “See AC 25.562-1B, “Dynamic Evaluation of Seat Restraint Systems and Occupant Protection on Transport Airplanes.” (Amendment 25-72)</p> <p>Page 140 ends with the following reference: “See AC 25.562-1B, “Dynamic Evaluation of Seat Restraint Systems and Occupant Protection on Transport Airplanes.” (Amendment 25-72)</p>	<p>Please note the discrepancy between the Amendment cited at the end of each of the pages 112, 126, and 140.</p> <p>The document cited in each case is the same, and yet the Amendment numbers listed (25-64, 25-72, and 25-72) differ.</p> <p>Please verify that this difference is accurate and intentional. If not, please fix accordingly.</p>	<p>The difference is accurate. The reference to the Amendment is for the rule, not the AC. Therefore, we did not change the AC.</p>