

**FAA Wide Clearance Record  
AC 20-174 Document  
Master Comment Log**

<b>Originating Office:</b> <b>AIR-120</b>	<b>Document Description:</b> AC 20-174 Development of Civil Aircraft and Systems	<b>Project Lead/Reviewer</b> Kirk Baker, AIR-120	<b>Reviewing Office:</b>	<b>Date of Review:</b>
--	---	---	--------------------------	------------------------

<b>Commenter</b>	<b>Page &amp; Paragraph</b>	<b>Comment</b>	<b>Reason for Comment</b>	<b>Suggested Change</b>	<b>Comment Resolution</b>
ASW-150	Table 3 and section 5.2.3.2.2 of SAE document ARP 4754a	Do not agree with the reduction of FDAL assignment for the members of the FFS as explained in Table 3 and section 5.2.3.2.2 of document ARP 4754a	The proposed reduction of FDAL of A for members of the FFS to be equivalent to 2 members with FDAL of B may not guarantee a lack of development errors. This is because the Level A software is very safety critical and Level A software development requires more rigorous testing than level B software development.		No change.  Issues with any aspects of the ARP should be addressed with a project specific Issue Paper.  See Paragraph 1.c. of the AC.
ASW-150	General	AC 20-xx should refer to subject document as ARP 4754X instead of ARP 4754a.			No change. We cannot provide agreement to a version of the ARP that we have not seen yet.
ACE-119W		The Wichita ACO, ACE-119W would like to discuss other comments with the POC at the appropriate time. We will concur with comment but request additional discussions for clarifications.			We agree to additional dialog.

Commenter	Page & Paragraph	Comment	Reason for Comment	Suggested Change	Comment Resolution
GFB ANM111	General (ARP4754A paragraph 5.2.2)	ARP4754A introduces the new concepts of IDAL and FDAL.	These are new concepts that may be confusing to a number of people not on the committee that developed rev A of 4754. This is especially true when someone might be attempting to apply the new guidance material to changes to existing equipment or systems.	Suggest that we take the opportunity in this to introduce some specific real-life examples of how IDAL/FDAL work. This could be done in an appendix to the AC document. Text could be used to explain possibly confusing aspects or give justifications of why certain conclusions were reached and used in the final design. Tie it back to the language used in ARP4754A. This might be a way to mitigate the confusion that may result with the introduction of these new concepts.	No change.  There is a plan to update current training and develop new training on the use of the ARP.
GFB ANM111	General (ARP4754A paragraph 4.6.4)	I find that ARP4754A is lacking in information about how function to function, system to system, and system to aircraft integration is to be accomplished. This is what 4754A says about it in para. 4.6.4.  <a href="#">Aircraft/System integration is the task of ensuring all the aircraft</a>	Possible confusion and uncertainty with regard to what this activity entails. ARP4754A does not give any specifics as to how someone might go about complying with this statement.	Considering adding information in the AC for ARP4754A putting additional information and explanations in the AC about this activity. This additional information does not necessarily need to be part of the overall “guidance material.” It could be referred to as “explanatory information” that is used to develop the ideas contained in ARP4754A paragraph 4.6.4.	No change.  Issues with any aspects of the ARP should be addressed with a project specific Issue Paper.  See Paragraph 1.c. of the AC.

Commenter	Page & Paragraph	Comment	Reason for Comment	Suggested Change	Comment Resolution
		<p>systems operate correctly individually and together as installed on the aircraft. This provides the means to show that intersystem requirements, taken as a group, have been satisfied. It also provides an opportunity to discover and eliminate undesired unintended functions.</p> <p>However, no information is given about how this might be accomplished or even what issues need to be addressed.</p> <p>Note: This is also a true statement for RTCA/DO-297 for Integrated Modular Avionics Systems, which is recognized by AC 20-170. DO-297 invokes ARP4754 as part of the overall means of compliance when</p>		<p>What are the issues that really need to be addressed? How is it that someone might go about showing compliance to this paragraph in 4754A? This could also be done in an appendix so that the main part of the AC text is not disrupted.</p>	

Commenter	Page & Paragraph	Comment	Reason for Comment	Suggested Change	Comment Resolution
		using DO-297			
GFB ANM111	Para. 1.c	<p>This paragraph states that an applicant for a TSOA may use this AC to comply with the applicable regulations.</p> <p>This is not a correct statement.</p>	<p>An applicant for a TSOA receives that authorization when he/she shows compliance to the TSO minimum performance specifications, not the regulations.</p> <p>It is unclear as to what this particular language means when an applicant for a TSOA can use this guidance. If a supplier for a TC/STC applicant uses this guidance material, it should be in support of getting that TC/STC. There are no TSO minimum performance specifications that require compliance to a system level standard such as ARP4754A to receive that TSOA.</p>	Revise or clarify paragraph 1.c.	<p>No Change</p> <p><i>“technical standard order authorization (TSOA), may use SAE ARP 4754a as described herein, and in conjunction with other applicable AC’s, to comply with applicable regulations.”</i></p> <p>The AC states that the ARP is not a stand alone document.</p>

Commenter	Page & Paragraph	Comment	Reason for Comment	Suggested Change	Comment Resolution
Jim Brady SAD	Page 1 Paragraph 1 b	Revise: It may be applicable to other regulations, such as Parts 23, 27, 29, 33, and 35.	So it is clear that the specific AC have preference.	It may be applicable as an alternate means of compliance to other regulations, such as Parts 23, 27,29, 33, and 35."	No change at this time.
AFS-360	Page 1 Purpose of this AC.	Was RTCA, AEG or Flight Standards involved in that process to determine the guidelines of SAE ARP 4754a? Dated Dec 21, 2010.	Flight Standards is being asked to review and later recognize SAE documents that may be used in a certification project. This AC document fails to explain the process use to develop SAE ARP 4754a from the content of Title 14 CFR Part 25	More info on history of this document for public knowledge.	No Change.  SAE standards development process is well documented and can be found on the SAE website.
AFS-360	Page 2 and 4 Background and Guidance	Also SAE ARP 4761 should be used in conjunction with SAE ARP4754a.	Is this not callout in the SAE 4754a???? ARP 4761 is a 1996 document. Does this need to be updated????	Page 3 Para 4 seems to justify a need for some type of guidance to be published just to use of SAE ARP 47548, Para 4 a. Are these classifications the same as identified by FAA? This is not clarified in this sentence New paragraph to explain what is the vehicle for FAA or user to request changes on either SAE ARPs when the situations calls for it.	No change.  There is a plan to update current training and develop new training on the use of the ARP.

Commenter	Page & Paragraph	Comment	Reason for Comment	Suggested Change	Comment Resolution
ASW-150	Section 1 c. last sentence			Suggest that the last sentence be changed to read: “The means of compliance in those ACs, although also not mandatory, may differ from and may take precedence over the application of SAE ARP 4754X	No change. We cannot provide agreement to a version of the ARP that we have not seen yet.
Robin Sovo SAD	Page 1 & Paragraphs 1.b, 1.c, 2.a.	This AC defines the acronym "14 CFR" (and also as "14CFR") four different times, in Paragraphs 1.b, 1.c, and 2.a (twice).	I believe this repetition is unnecessary.	Define this acronym only once and make sure the format is consistent (i.e., with or without a space between 14 and CFR).	Accepted
Robin Sovo SAD	Page 1 & Paragraph 1.c.	The acronyms "TC" and "STC" are unnecessarily defined in Paragraph 1.c.	The acronyms "TC" and "STC" are not used elsewhere; therefore, they do not need to be defined.	Remove these acronyms.	Accepted
Robin Sovo	Pages 1, 3 & Paragraphs 1.c, 4, 5.d	This is probably one for the Tech Writers to decide; “AC” is pluralized as "AC's" multiple times in this AC (although as “ACs” in the second sentence of Paragraph 1.c).	According to the Government Printing Office Style Manual, it is not necessary to insert an apostrophe when pluralizing an acronym.	Check with a Tech Writer and the GPO Style Manual for rules on pluralizing acronyms.	Accepted. “ACs” is the appropriate abbreviation.

<b>Commenter</b>	<b>Page &amp; Paragraph</b>	<b>Comment</b>	<b>Reason for Comment</b>	<b>Suggested Change</b>	<b>Comment Resolution</b>
Robin Sova	Page 2 & Paragraph 2.b.	The title of Item (1) is incorrectly listed as "AC 20-115B, Document RTCA, Inc./DO-178B"	Correctness, the title should be listed as it appears in the AC that is being referenced.	Change title reference to "AC 20-115B, RTCA, Inc., Document RTCA/DO-178B."	Changed as requested.
Robin Sova	Page 2 & Paragraph 2.c.	Item (3) of Paragraph 2.c has an extra semicolon ";" between the DO's title and its publication date.	Incorrect punctuation.	Delete the extra semicolon ";" between the DO's title and its publication date.	Accepted
Bryan Easterwood	Page 2 Paragraph 2c	Why no reference to SAE, International ARP 4754A, Guidelines for Development of civil Aircraft and Systems in the Industry Standards section?	SAE, International ARP 4754A, Guidelines for Development of Civil Aircraft and Systems is referenced in the proposed AC.	Add reference to SAE, International ARP 4754A, Guidelines for Development of Civil aircraft and Systems.	No change.
L. Taylor	Page 2, Paragraph 2.c(3)	Extra semi-colon in sentence.	Editorial	Delete “;”	Accepted
ACE-119W	Page 2, section 3	The purpose of the advisory circular could use more background information on why the AC was developed.	At the DER conference, it was mentioned in part of the background that system requirements problems were driving many of the issues found during A/C level		No change to AC. This is covered in the ARP background and purpose.

Commenter	Page & Paragraph	Comment	Reason for Comment	Suggested Change	Comment Resolution
			integration.		
Bryan Easterwood	Page 2, paragraph 3.	This paragraph should also mention RTCA/DO-297 to reduce errors in the development of airborne systems and equipment..	RTCA/DO-297 is referenced in paragraph 2c and should also be included in paragraph 3..	Add RTCA/DO-297 after RTCA/DO-254 in first sentence of paragraph 3.	DO-297 has been removed as a reference.
ACE-119W	Page 3, paragraph 3a.	This section says to apply SAE ARP7454A to systems that have failure condition classifications of CAT, HAZ, or Major. SAE ARP4754A has aircraft level requirements in it.	It would appear this sentence could use some clarification to address the aircraft level aspects as well.		Paragraph was removed to make it more general.
Robin Sova	Page 3 & Paragraph 4.a.	Paragraph 4.a says "Apply SAE ARP 4754a to systems that perform functions that have a failure condition classification of catastrophic, hazardous, or major." However, because ARPs 4754a/4761 invoke/describe the	Because one must first apply the ARP processes to find out what the FCC is before being able to decide whether or not to continue using the ARP.	I would suggest changing the Paragraph 4.a wording to: "Apply SAE ARP 4754a in total only if a system's functions have been determined to have failure condition classifications of catastrophic, hazardous/severe-major, or major. For those systems which the ARP processes	Paragraph was removed to make it more general.

Commenter	Page & Paragraph	Comment	Reason for Comment	Suggested Change	Comment Resolution
		processes (e.g., FHA) that are used to determine a failure condition's classification (FCC), this statement appears somewhat circular in logic.		determine have functions with only lower failure condition classifications (i.e., minor or no safety effect), application of the ARP beyond the classification activity will not be necessary."	
L. Taylor	Page 3, Paragraph 4.b	"to" in first sentence is incorrect in the series of clauses.	Editorial	Delete "to."	Accepted
L. Taylor	Page 3, Paragraph 5.c	Regulations are available in rgl.faa.gov for no cost.	Clarification that there is an alternative to the GPO.	Add after last sentence: "14CFR regulations are also available at rgl.faa.gov."	Not Accepted. Official copies of regulations are provided by GPO.
L. Taylor	Page 4, Paragraph 5.d	The url for the rgl works, but rgl.faa.gov also works and is easier to remember.	Simplification	Change url to "rgl.faa.gov."	Not accepted. Standard text from AC template
AIR-500	Global Change	The term "Title of the Code of Federal Regulations (14 CFR)" has already been defined.		Use the acronym "14 CFR" after the first usage.	Global change incorporated.

Commenter	Page & Paragraph	Comment	Reason for Comment	Suggested Change	Comment Resolution
AIR-500	Global Change	Improper capitalization.	Non-compliance to memo sent by AGC on 1/24/94.	Remove the capitalization from the term "parts" in reference to CFR unless it begins a sentence.	Global change incorporated.
AIR-500	Global Change	The term "advisory circular" has already been defined.		Use the acronym "AC" after the first usage. For example, the first title usage is in the line of #1.	Global change incorporated.
AIR-500	Subject Area, Page 1	Incorrect font size.		Use Arial or Times New Roman, 11pt.	Global change incorporated.
AIR-500	Paragraph 1b, 1 <sup>st</sup> sentence, Page 1	Add wording.		Rewrite to read: The guidelines in APR 4754a were developed in the context of Title 14 of the Code of Federal Regulations (14 CFR) part 25.	Rewritten as requested.
AIR-500	Paragraph 1b, 1 <sup>st</sup> sentence, Page 1	Missing space.		Place a space between "14" and "CFR".	Placed as requested.

Commenter	Page & Paragraph	Comment	Reason for Comment	Suggested Change	Comment Resolution
AIR-500	Paragraph 1c, 2 <sup>nd</sup> sentence, Page 1	Change wording.		Rewrite to read: This AC describes acceptable guidance to supplement other ACs specific to §§ 23.1309, 25.1309, 27.1309, and 29.1309 (see the ACs listed in Section 2.b).	Rewritten as requested.
AIR-500	Paragraph 1c, 3 <sup>rd</sup> & 5 <sup>th</sup> sentences, Page 1	Improper punctuation.		Remove the apostrophe found after ACs.	Removed as requested.
AIR-500	Paragraph 1c, last sentence, Page 1	Missing period.		Place a period after “ SAE ARP 4754A” at the end of the sentence.	Placed as requested.
AIR-500	Paragraph 2b, Page 2	Change wording.  Missing period.		Rewrite to read: Applicable ACs.  Place a period after the “ACs” in the title.	Rewritten and placed as requested.
AIR-500	Paragraph 2b (4) & (6), Page 2	Missing period.	Inconsistent with the rest of the document.	Place a period at the end of each reference.	Placed as requested.

<b>Commenter</b>	<b>Page &amp; Paragraph</b>	<b>Comment</b>	<b>Reason for Comment</b>	<b>Suggested Change</b>	<b>Comment Resolution</b>
AIR-500	Paragraph 2c, Page 2	Missing period.	Inconsistent with the rest of the document.	Place a period after the term “Standards” in the title.	Placed as requested.
AIR-500	Paragraph 2c(3), Page 2	Typo.		Remove the extra comma after the term “Hardware” in the title.	Removed as requested.
AIR-500	Paragraph 3, 1 <sup>st</sup> sentence, Page 2	Missing space.		Place a space between “ARP” and “4754a”.	Placed as requested.
AIR-500	Paragraph 3, 2 <sup>nd</sup> sentence, Page 2	Improper usage of comma.		Remove the comma after the reference to “SAE ARP 4761”.	Removed as requested.
AIR-500	Paragraph 3, 2 <sup>nd</sup> sentence, Pages 2 & 3	The title “SAE ARP 4761, Guidelines and Methods for Conducting the Safety Assessment Process in Civil Airborne Systems and Equipment” has already been defined in paragraph 2c.		Remove the title “Guidelines and Methods for Conducting the Safety Assessment Process in Civil Airborne Systems and Equipment”.	Removed as requested.

<b>Commenter</b>	<b>Page &amp; Paragraph</b>	<b>Comment</b>	<b>Reason for Comment</b>	<b>Suggested Change</b>	<b>Comment Resolution</b>
AIR-500	Paragraph 4, Page 3	Incorrect formatting.		Move the text up a line to begin directly after the title of the main paragraph since there is only one paragraph.	Text moved as requested.
AIR-500	Paragraph 4, last sentence, Page 3	Improper usage of possession mark.		Remove the possession mark found after ACs.	Removed as requested.
AIR-500	Paragraph 4b, 1 <sup>st</sup> sentence, Page 3	Improper usage of comma.		Remove the comma after the reference "SAE ARP 4754a".	Removed as requested.
AIR-500	Paragraph 4c, last sentence, Page 3	Change wording.		Rewrite to read: The review process assists both the certification authority and the applicant with determining if a particular project will meet the certification basis.	Rewritten as requested.
AIR-500	Paragraph 4d, Page 3	Incorrect spacing.		Remove the extra space from between terms "should" and "satisfy".	Removed as requested.

Commenter	Page & Paragraph	Comment	Reason for Comment	Suggested Change	Comment Resolution
AIR-500	Paragraph 5c, 1 <sup>st</sup> sentence, Page 3	Improper usage of comma.		Remove the comma after the acronym "CFR".	Removed as requested.
AIR-500	Paragraph 5c, 2 <sup>nd</sup> sentence, Page 3	Incorrect font size within the website address.		Use Times New Roman, 12 pt. for all text.	Used as requested.
AIR-500	Paragraphs 5c & d, Pages 3 & 4	Delete distribution information referencing to GPO and DOT.		We do not print our documents anymore. Just let them know they can retrieve the document through electronic distribution and via the appropriate website. Replace with the website address: <a href="http://www.faa.gov/regulations_policies/advisory_circulars/">http://www.faa.gov/regulations_policies/advisory_circulars/</a> .	Replaced as requested.
AIR-500 DMO	Paragraph 1, Page 1	Incorrect font size.		Use Arial or Times New Roman, 12pt. for the text.	Changed as requested.
AIR-500 DMO	Paragraph 1a, last sentence, Page 1	Incorrect font size.		Change the font size to the term "assurance" to Times New Roman, 12pt.	Changed as requested.

Commenter	Page & Paragraph	Comment	Reason for Comment	Suggested Change	Comment Resolution
AIR-500 DMO	Paragraph 1b, Page 1	Incorrect font size.		Use Arial or Times New Roman, 12pt. for the text.	Changed as requested.
AIR-500 DMO	Paragraph 1c, Page 1	Incorrect alignment.		Align subparagraph 1c to appear directly under subparagraph 1b.	Changed as requested.
AIR-500 DMO	Between Paragraphs 2 & 3, Page 1	Incorrect spacing.		Remove the extra space from between paragraphs 2 and 3.	Changed as requested.
AIR-500 DMO	Footer Area, Page 1	Incorrect format.		Delete the labeling of page number 1. The page numbers do not suppose to appear in the footer area until page 2.	Changed as requested.
AIR-500 DMO	Between Paragraphs 3d & 4, Page 2	Incorrect spacing.		Remove the extra space from between paragraphs 3d and 4.	Changed as requested.

Commenter	Page & Paragraph	Comment	Reason for Comment	Suggested Change	Comment Resolution
AIR-500 DMO	Paragraph 4a, Page 2	Incorrect formatting for citing reference and using section symbol (§).	Non-compliance to the Federal Register Document Drafting Handbook.	Do not use the section (§) symbol or the word "section" when the reference follows "XX CFR". Only use the section symbol (§) when referring to different paragraphs/subparagraphs within the same section. For example: Correct way to cite: 14 CFR 21.20 Incorrect: 14 CFR § 21.20	Changed as requested.
AIR-500 DMO	Between Paragraph 5d and Signature Block, Page 3	Incorrect spacing.		Remove extra space fro between paragraph 5d and the Signature Block.	Changed as requested.
AIR-500 DMO	Signature Block, Pages 3 & 4	Incorrect format.		The entire signature block has to be place on the same page and the signature block on cannot appear on a page by itself. You should move the last paragraph to page 4 to be included with the signature.	Changed as requested.