



DEPARTMENT OF DEFENSE  
**UNITED STATES AIR FORCE**

**MIL-HDBK-516C CHANGE NOTICE No. 516CN-4**

<p align="center"><b>AIRWORTHINESS BOARD DETERMINATION          MIL-HDBK-516C CHANGE NOTICE</b></p>	<p>1. DATE (YYYYMMDD) 20160510</p>
<p>2. AFLCMC/EZ POINT OF CONTACT William Thomas, EZFT</p>	<p>3. PHONE (DSN) 255-8579</p>
<p>4. BOARD SECRETARIAT Holli Bone, AFLCMC/EZSC</p>	<p>5. PHONE (DSN) 656-9557</p>
<p>6. SUMMARY OF AIRWORTHINESS BOARD DETERMINATION / MIL-HDBK-516C CHANGE          (See attached Airworthiness Board charts for more information.)</p> <p>MIL-HDBK-516C Section 6.1 Flying Qualities</p> <p>Change impacts: Method of Compliance wording for 100 paragraphs in Section 6.1 for the purpose of adding clarity and detail by pointing to Verification sections from MIL-STD-1797 and ADS-33-PRF. A Statement (one selection out of three choices) was added to each appropriate paragraph. The three possible statements are as follows:</p> <ol style="list-style-type: none"> <li>1) For fixed wing air vehicles, verify compliance in accordance with verification methods in MIL-STD-1797, (<u>MIL-STD-1797 Section</u>).</li> <li align="center">-or-</li> <li>For fixed wing air vehicles, verify compliance in accordance with verification methods in the following MIL-STD-1797 paragraphs:  <u>(MIL-STD-1797 Section)</u>  <u>(MIL-STD-1797 Section)</u></li> <li>2) For rotorcraft air vehicles, verify compliance in accordance with verification methods in Section 4 Verification of ADS-33-PRF.</li> <li>3) Verify compliance in accordance with verification methods in Section 4 Verification of ADS-33-PRF.</li> </ol>	
<p>7. TAA SIGNATURE</p> <p><b>X</b> <i>Holli Bone for</i> 19 May 16</p> <hr/> <p>Jorge F. Gonzalez          Technical Airworthiness Authority</p>	<p>8. ORGANIZATION</p> <p>AFLCMC/EN-EZ</p>



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# USAF Airworthiness Change Notice Board Flying Qualities Method of Compliance Update

## 3 November 2015

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# Change Notice (CN) Overview



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**Title:** Flying Qualities Method of Compliance Update

**Date Proposed:** 7 August 2015

**POC:** William Thomas, EZFT, 255-8579

**Revision To:** MIL-HDBK-516C Section 6.1

Paragraph(s) Impacted	Impact to C/S/MOC			
	Title	New	Modified	No Change
<u>101 Paragraphs</u>	MOC		X	

MOC = Method of Compliance



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# Rationale for Change



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1. Establish more specific and detailed Methods of Compliance (MoC)
  - a. Current MIL-HDBK-516C MoC are general statements that lack detail and require explanation
  - b. This CN adds clarity and detail to the MoC contained in MIL-HDBK-516C by pointing to Verification sections from MIL-STD-1797 and ADS-33-PRF.
    - i. MIL-STD-1797 – Flying Qualities of Piloted Aircraft
    - ii. ADS-33-PRF – Handling Qualities Requirements for Military Rotorcraft



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# Existing Methods of Compliance



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Verification methods include analysis, simulation, and inspection of requirements, design, and configuration documentation.

Verification methods include analysis, test, demonstration, simulation, and inspection of process, design, test, or configuration documentation.

Verification methods include analysis, test, demonstration, simulation, and inspection of process, requirements, design, test, and configuration documentation.

Verification methods include analysis, test, demonstration, simulation, and inspection of process, requirements, design, test, and configuration documentation. Also evaluate stall or loss of control prevention functions in all expected levels of atmospheric disturbances. *(applies to one criterion - 6.1.9.4 Stall prevention and recovery)*



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# Updated MoC

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The revised MoC retains the original MoC and points to MIL-STD-1797 and ADS-33-PRF. The original MoC were retained as part of the tri-service agreed MoC.

## Example of Revised MoC: Section 6.1.2

Verification methods include analysis, simulation, and inspection of requirements, design, and configuration documentation.

For fixed wing air vehicles, verify compliance in accordance with verification methods in MIL-STD-1797, 5.1 Primary requirements.

For rotorcraft air vehicles, verify compliance in accordance with verification methods in Section 4 Verification of ADS-33-PRF.

**Markup Key:** Current Text [~~Proposed Deletion~~] [Proposed Addition]



# Updated Method of Compliance



**The following statement was added to sections: 6.1.2, 6.1.2.1, 6.1.2.2, 6.1.2.3, 6.1.2.4, 6.1.3, 6.1.4, 6.1.5.1, 6.1.5.2, 6.1.5.3, 6.1.5.4, 6.1.5.5, 6.1.5.6, 6.1.5.7, 6.1.5.8, 6.1.6.1, 6.1.6.1.1, 6.1.6.1.2, 6.1.6.1.3, 6.1.6.1.4, 6.1.6.1.5, 6.1.6.1.6, 6.1.6.1.7, 6.1.6.1.8, 6.1.6.2, 6.1.7, 6.1.7.1, 6.1.7.2, 6.1.7.3, 6.1.7.4, 6.1.7.5, 6.1.7.6, 6.1.7.7, 6.1.7.8, 6.1.7.9, 6.1.7.10, 6.1.7.11, 6.1.7.12, 6.1.7.13, 6.1.8, 6.1.8.1, 6.1.8.2, 6.1.8.3, 6.1.8.4, 6.1.8.5, 6.1.8.6, 6.1.9, 6.1.9.1, 6.1.9.2, 6.1.9.3, 6.1.9.4, 6.1.9.5, 6.1.9.6, 6.1.10, 6.1.10.1, 6.1.10.2, 6.1.10.3, 6.1.10.4, 6.1.10.5, 6.1.10.6, 6.1.11, 6.1.11.1, 6.1.11.1.1, 6.1.11.1.2, 6.1.11.1.3, 6.1.11.1.4, 6.1.11.1.5, 6.1.11.1.6, 6.1.11.1.7, 6.1.11.1.8, 6.1.11.1.9, 6.1.11.2, 6.1.11.2.1, 6.1.11.2.1.1, 6.1.11.2.1.2, 6.1.11.2.1.3, 6.1.11.2.1.4, 6.1.11.2.1.5, 6.1.11.2.1.6, 6.1.11.2.1.7, 6.1.11.2.1.8, 6.1.11.2.2, 6.1.12.1, 6.1.12.2, 6.1.12.3, 6.1.12.4, 6.1.13.1, 6.1.13.2, 6.1.13.3**

For fixed wing air vehicles, verify compliance in accordance with verification methods in MIL-STD-1797, (MIL-STD-1797 Section) .

*Or*

For fixed wing air vehicles, verify compliance in accordance with verification methods in the following MIL-STD-1797 paragraphs:

- a. (MIL-STD-1797 Section)
- b. (MIL-STD-1797 Section)

...

**Markup Key:** Current Text [~~Proposed Deletion~~] [Proposed Addition]



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# Updated Method of Compliance



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**The following statement was added to sections: 6.1.2, 6.1.2.2, 6.1.2.4, 6.1.3, 6.1.5.1, 6.1.5.5, 6.1.5.6, 6.1.5.7, 6.1.6.1.2, 6.1.6.1.3, 6.1.6.1.5, 6.1.6.1.7, 6.1.6.1.8, 6.1.7, 6.1.7.1, 6.1.7.2, 6.1.7.3, 6.1.7.4, 6.1.7.6, 6.1.7.8, 6.1.7.9, 6.1.7.10, 6.1.8, 6.1.8.3, 6.1.8.5, 6.1.8.6, 6.1.12.1, 6.1.12.3, 6.1.13.1**

For rotorcraft air vehicles, verify compliance in accordance with verification methods in Section 4 Verification of ADS-33-PRF.

**The following statement was added to sections: 6.1.14.1 – 6.1.14.11**

Verify compliance in accordance with verification methods in Section 4 Verification of ADS-33-PRF.





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# Comments From Industry



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**Comment:** The word “meet” infers stricter compliance, recommend softening of this statement.

**Response:** The word “meet” was removed and the wording was changed.

**Comment:** Strictly speaking, the statements “‘The air vehicle meets the verification methods within MIL-STD-1797, 5.2.1.6 Pilot-in-the-loop oscillations. For rotorcraft, the air vehicle meets the verification methods outlined in Section 4 Verification of ADS-33-PRF.’ **imply that a rotorcraft must meet both MIL-STD-1797 and ADS-33-PRF verification methods,** whereas air vehicles that are not rotorcraft need only meet the MIL-STD-1797 verification methods.”

**Response:** The wording was changed to make the intent more clear. Rotorcraft do not need to meet MIL-STD-1797 verification methods.



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# Comments From Industry



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**Comment:** MIL-HDBK-516 should reference ADS-33E-PRF and MIL-STD-1797B rather than “ADS-33-PRF” “MIL-STD-1797” which is ambiguous and does not specify the specific version of the standard that is referenced.

**Response:** Guidance from MIL-STD-967 for references in Handbooks From MIL-STD-967, w/Change 2, Defense Handbooks Format and Content: 5.7.2.1 Government specifications, standards, and handbooks. Government specifications, standards, and handbooks shall be listed by document identifier and title. **Documents shall exclude the revision letters, suffix (preparing activity symbols),** and the “00” designation for interim specifications. Titles shall be taken from the documents rather than an index. Government specifications, standards, and handbooks shall be listed numerically (except federal specifications, which shall be listed alphanumerically) under the following headings in the order shown, as appropriate:

**Comment:** It is confusing to retain the original Method of Compliance (MoC) statement while also pointing to ADS-33-PRF.

**Response:** The original MoC was the tri-service agreed MoC and will be retained for that reason.



# Recommendation



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Organization	TA Coordination	Approve	Disapprove	Comment
AFLCMC/EZFT	Steven Williams	X		

- **Recommendation:**

Approve

Disapprove

- **Potential safety/design impact to currently fielded fleet:**

Significant

Insignificant

Checking 'Significant' above will help TAA determine need to inform program offices of urgent safety/design issue

- **Other notes:**