

FAA Significant Standards Differences

Amendment Pair: 14 CFR Part 25 Amendment 25-125
CS-25 Amendment 5

General Comments and Assumptions:

This following list of SSD regulations which require direct FAR compliance is based on the FAR/CS 25 Amendment pair noted in the header.

1. This SSD list includes only regulations where compliance with the CS minimum standard would not be accepted by the FAA. (NOTE: The SSD list is identified as the “FAA-SSD” list to clarify that it is only intended for FAA validations of EASA products).
2. According to the “Type Validation Principles”, only regulations that have a regulatory difference will be included in the SSD list. Identical regulations that have differences in guidance/interpretive material will be addressed, if required, as separate Validation Items (VI).

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FAR Sections	Guidance	Remarks
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Subpart A		
25.3		FAR requires compliance with Appendix K for ETOPS type design approval. Neither FAR 25.3 nor Appendix K have a corresponding CS.
Subpart B		
25.107(e)(1)	AC 25-7	FAR requires greater margin of VLOF over VMU than CS for airplanes that are geometry-limited or elevator power-limited
25.177(d)		FAR is more stringent. For larger rudder angles than used in normal operations, CS-25 only requires compliance at normal operating speeds and the associated all-engines-operating engine power settings, while the FAR requires consideration of a broader speed range.
Subpart C		
25.307(a)		Difference in judgment and practice. Sometimes FAA requires limit tests while EASA accepts analysis, other times EASA requires ultimate load tests while FAA accepts limit tests.
25.361(b)		The FAA does not accept the 3 sec spindown allowed by CS 25.361(b) to determine limit engine torque
25.361(c)		Total propeller malfunction dynamic factor is different between FAR and CS.
25.365		FAR includes structural design considerations for operation above 45,000 feet.
25.562(b)		FAR applies to all seats; CS applies to pax seats only.
25.571(b)		FAR requires special consideration of widespread fatigue damage (WFD) and verification by full-scale fatigue test that WFD will not occur. CS includes provisions for using residual strength loads less than limit.
25.571(e)	AC 25.571-1A AC 20-128	FAR requires consideration of uncontained rotor and fan damage to structure not limited to pressurized compartments
Subpart D		
25.621		The FAR does not allow the same reduction in casting factors based on compensating factors as provided by the CS
25.631		FAA rule is specific to empennage structure and requires consideration of 8 pound bird impact, while

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FAR Sections	Guidance	Remarks
		the CS requires consideration of 4 pound bird for all structure, including empennage.
25.671(c)(1)		The more stringent FAA requirement mandates single failures regardless of probability.
25.809(a)		FAR has a requirement for each emergency exit to have means to permit viewing of the conditions outside the exit, including likely areas of evacuee ground contact, when closed.
25.809(i)		FAR has a requirement for each emergency exit to have a means to retain the exit in the open position, once opened in an emergency, with a positive action necessary to disengage.
25.810		FAR includes more stringent erection times for escape slides.
25.811(g)		FAR is more stringent, it does not allow universal symbolic exit signs.
25.812(g)(1)(ii)		FAR requires minimum acceptable overwing emergency exit illumination of 42 inches for a Type A overwing exit and two feet for all other overwing emergency exits.
25.812(b)(1)(i), 25.812(b)(1)(ii) and 25.812(b)(2)		FAR is more stringent, it does not allow universal symbolic exit signs and has requirements for exit marking letter size and background area.
25.813		CS 25.813 does not include the standards of FAR 25.813(c) concerning access to Type III exits in airplanes with 60 or more passengers. FAR 25.813 (a)(1) and (a)(2) include requirements for two or more aisles. FAR 25.813 (b) specifies when an assist space is needed, its size and that it be equipped with a handle whereas the CS does not. FAR 25.813(e) applies to doors between any passenger seat that is occupiable for takeoff and landing and an emergency exit, while the CS applies only to doors between passenger cabins. FAR 25.813(f) is applicable to crew member seats, while CS is applicable to passenger seats.
25.831(a)	AC 25-20	FAR has different cabin ventilation requirements.
25.831(g)		Unique FAR requirement for temperature exposure time requirements.
25.841	AC 25-20	FAR establishes cabin pressure altitude requirements
25.853(f)		Requirement to designate the allowed smoking section

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FAR Sections	Guidance	Remarks
		is specific to the FAR
25.856		New FAR requirement. No equivalent CS
Subpart E		
25.901(c)		The FAA requires the fail-safe concept - no failure(s) will jeopardize the safe operation of the airplane. CS requires compliance with CS 25.1309. FAR includes the “fail-safe” requirements as part of the rule in 25.901. Fail-safe is applied by guidance in 25.1309 and is therefore not mandatory by 25.1309.
25.901(d)		The FAA requires that the APU installation meet the applicable provisions of subpart E (application of engine installation requirements). JAA has clearly defined requirements in CS-25 subpart J.
25.933(a)(1)		The FAR does not allow demonstration that in-flight thrust reversal is extremely improbable as a compliance method, however the FAA routinely accepts it as an equivalent safety finding.
25.963(e)	AC 25.963-1	The CS includes an exception that fuel tank access panels need not be more fire resistant than the surrounding fuel tank structural material. The FAR does not.
25.981	Policy Memo No.: ANM-112- 08-002, dated 5/26/09	The FAR is more stringent. FAR 25.981(a)(3) requires that an ignition source cannot result from each single failure, from each single failure in combination with each latent failure condition not shown to be extremely remote, and from all combinations of failures not shown to be extremely improbable. These ignition source requirements must be met with consideration of the effects of manufacturing variability, aging, wear, corrosion, and likely damage. CS 25.981(a)(3) only requires demonstrating that an ignition source does not result from each single failure and from all combinations of failures not shown to be extremely improbable using CS 25.1309. FAR 25.981(b) requires the flammability exposure of tanks other than a main tank meet the requirements of Appendix M if any portion is located within the fuselage contour, which may require the installation of a Flammability Reduction Means (FRM). The FAR also requires critical design configuration control limitations (CDCCL), inspections, and procedures and their inclusion in the Airworthiness Limitations section of the

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FAR Sections	Guidance	Remarks
		instructions for continued airworthiness (ICA) required by Sec. 25.1529. The FAR requires that installation of either a FRM or an Ignition Mitigation Means (IMM) has to adhere to performance and reliability standards contained in Appendices M and N for which there is no CS counterpart.
25.1093	AC 20-73; Policy memo dated 8/3/1992	FAA requires demonstration of capability to operate the engine and essential APU under the conditions of falling and blowing snow. FAA has issued policy memorandum dated August 3, 1992 regarding conditions that must be considered.
Subpart F		
25.1317		FAR has additional airworthiness requirements for HIRF Protection with Appendix L containing HIRF Environments and HIRF test levels for Equipment. Neither FAR 25.1317 nor Appendix L have a corresponding CS.
25.1333(b)	AC 25-11A	FAR requires that equipment, systems and installations must be designed so that one display of the information provided by instruments essential to safety of flight must remain available to the pilots. The CS does not include specific display requirements, but rather require display of "sufficient information."
25.1447(c)(4)		FAR requires that portable oxygen equipment must have the oxygen dispensing unit connected to the portable oxygen supply.
25.1457		The FAR is more stringent, it requires in (d)(6) physical separation of the DFDR and CVR, improved CVR power supply reliability and recording of certain datalink communications in (a)(6).
25.1459		The FAR is more stringent, it requires physical separation of the DFDR and CVR, and improved DFDR power supply reliability.
Subpart G		
25.1529		CS does not include Fuel System Limitation requirements in Appendix H25.4. Also, FAR H25.4 refers back to 25.571 which is an SSD.
25.1535		FAR refers to ETOPs airworthiness requirements of Appendix K. Neither FAR 25.1535 nor Appendix K have a corresponding CS
Subpart H		

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FAR Sections	Guidance	Remarks
25.1729		FAR requires EWIS instructions for continued airworthiness (ICA) to be approved by the FAA whereas CS 25.1729 does not require EASA approval.