Downloaded from http://www.everyspec.com

NOT MEASUREMENT SENSITIVE

MIL-HDBK-516
1 October 2002

DEPARTMENT OF DEFENSE HANDBOOK

AIRWORTHINESS CERTIFICATION CRITERIA

THIS HANDBOOK IS FOR GUIDANCE ONLY.
DO NOT CITE THIS DOCUMENT AS A REQUIREMENT.

AMSC: N/A

AREA: SESS

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

Downloaded from http://www.everyspec.com

FOREWORD

1. This handbook is approved for use by all departments and agencies of the Department of Defense.

2. This document establishes the airworthiness certification criteria to be used in the determination of airworthiness of all fixed wing flight vehicles. The criteria are intended to be all-inclusive and comprise the minimum set of safety criteria necessary for an air vehicle system. Criteria applicable to the air vehicle system may not be deleted or modified in any manner. However, considering system or product complexity, type, data availability, and intended period of use, the single manager and the chief engineer may tailor the criteria by identifying nonapplicable, specific criteria, as appropriate. The single manager and chief engineer may also develop additional criteria, if appropriate for a given application, to further reduce risks in system safety.

3. The criteria contained herein are qualitative in nature, and more specific guidance may be found in the appropriate Joint Service Specification Guides (JSSGs) and Federal Aviation Regulations referenced in the appendix herein. Also, note that each section contains a list of typical certification source data to be used for evaluating system compliance with applicable criteria.

4. Note that in Microsoft Word® versions, the blue highlighted paragraph headings or text in handbook sections 4 through 19 are internal hyperlinks to bookmarks in the appendix Cross Reference Table. Clicking the mouse cursor on the blue jumps you to the referenced location in the table. To return from the Cross Reference table to your jump point in the handbook, use the back arrow ← key on the menu bar (enable View-Toolbars-Web to get the back arrow tool). Gray shaded internal cross references within the document perform similarly.

5. Beneficial comments (recommendations, additions, and deletions) and any pertinent data which may be of use in improving this document should be addressed to ASC/ENOI, 2530 Loop Road West, Wright-Patterson AFB OH 45433-7101.

Downloaded from http://www.everyspec.com

CONTENTS

Paragraph		Page
1.	SCOPE	1
1.1	Scope.	1
1.2	Applicability.	1
1.3	Cross reference table.	1
2.	APPLICABLE DOCUMENTS	2
2.1	General.	2
2.2	Order of precedence.	3
3.	DEFINITIONS	4
3.1	Definitions	4
3.2	Abbreviations and acronyms.	7
4.	SYSTEMS ENGINEERING	9
4.1	Design criteria.	9
4.2	Tools and databases.	9
4.3	Materials selection.	10
4.4	Manufacturing, support, and quality.	10
4.5	Technical orders.	10
4.6	Configuration identification.	11
4.7	Configuration status accounting.	11
5.	STRUCTURES	12
5.1	Loads.	13
5.2	Strength.	13
5.3	Materials, processes, corrosion prevention, nondestructive evaluation, and repair.	13
5.4	Damage tolerance and durability.	13
5.5	Flight operating limits.	13
5.6	Functionality.	14
5.7	Structural dynamics.	14
5.8	Mass properties interface.	14
5.9	Stores/armament interface.	15
5.10	Airframe.	15
6.	FLIGHT TECHNOLOGY	16
6.1	Stability and control.	17
6.2	Vehicle control functions (VCF).	21
6.3	Aerodynamics and performance.	26
7.	PROPULSION	28
7.1	Performance.	29
7.2	Operability.	29
7.3	Engine structures.	29
7.4	Engine control and accessory systems.	30

Downloaded from http://www.everyspec.com

CONTENTS (Continued)

Paragraph Page
7.5 Engine monitoring system. 31
7.6 Engine bearing and lubrication system. 31
7.7 Engine installations compatibility. 31
7.8 Failure modes..... 32
7.9 Flight manual/procedures and limitations. 32
7.10 Engine externals. 32
7.11 Engine computer resources..... 33
7.12 Propellers and associated subsystem components. 33
8. AIR VEHICLE SUBSYSTEMS 34
8.1 Hydraulic and pneumatic systems. 34
8.2 Environmental management system (EMS). 35
8.3 Fuel system. 36
8.4 Fire and hazard protection. 37
8.5 Landing gear and deceleration systems. 39
8.6 Auxiliary/emergency power system(s) (APS/EPS)..... 44
8.7 Aerial refueling system..... 45
8.8 Propulsion installations. 49
8.9 Mechanisms 50
9. CREW SYSTEMS 52
9.1 Escape and egress system. 52
9.2 Crew station layout..... 53
9.3 Air vehicle lighting..... 54
9.4 Human performance. 54
9.5 Life support systems..... 54
9.6 Transparency integration. 55
9.7 Crash survivability..... 56
9.8 Air transportability and airdrop..... 56
10. DIAGNOSTICS SYSTEMS 59
10.1 Failure modes..... 59
10.2 Operation..... 59
10.3 Diagnostic systems technical orders. 59
11. AVIONICS..... 60
11.1 Avionics architecture..... 60
11.2 Avionics subsystems..... 61
11.3 Avionics aircraft installation. 62
12. ELECTRICAL POWER SYSTEM..... 63
12.1 Power generation system..... 63
12.2 Electrical wiring system, including power distribution. 64
13. ELECTROMAGNETIC ENVIRONMENTAL EFFECTS (E^3)..... 65
13.1 Component/subsystem E^3 qualification. 65

Downloaded from http://www.everyspec.com

CONTENTS (Continued)

Paragraph		Page
13.2	System-level E^3 qualification.	65
14.	SYSTEM SAFETY	67
14.1	System safety program.	67
14.2	Safety requirements.	68
15.	COMPUTER RESOURCES	69
15.1	Air vehicle processing architecture.	69
15.2	Functional design integration of processing elements.	70
15.3	Subsystem/processing element.	70
16.	MAINTENANCE	72
16.1	Maintenance manuals/checklists.	72
16.2	Inspection requirements.	72
17.	ARMAMENT/STORES INTEGRATION	74
17.1	Gun integration and interface.	75
17.2	Stores integration.	75
17.3	Laser integration and interface.	76
18.	PASSENGER SAFETY	77
18.1	Survivability of passengers.	77
18.2	Fire detection, suppression, and resistance.	79
18.3	Physiology requirements of passengers.	80
19.	OTHER CONSIDERATIONS	81
19.1	Mission/test equipment and cargo/payload safety.	81
20.	NOTES	82
20.1	Intended use.	82
20.2	Subject term (key word) list.	82

Downloaded from http://www.everyspec.com

CONTENTS (Continued)

Paragraph Page

APPENDIX

AIRWORTHINESS CERTIFICATION CRITERIA CROSS REFERENCE

A.1. SCOPE 83
A.2. APPLICABLE DOCUMENTS 83
A.3. DEFINITIONS 84
A.4. SYSTEMS ENGINEERING 85
A.5. STRUCTURES 88
A.6. FLIGHT TECHNOLOGIES 92
A.7. PROPULSION 115
A.8. AIR VEHICLE SUBSYSTEMS 120
A.9. CREW SYSTEMS 147
A.10. DIAGNOSTICS 152
A.11. AVIONICS 153
A.12. ELECTRICAL POWER 156
A.13. ELECTROMAGNETIC ENVIRONMENTAL EFFECTS (E^3) 158
A.14. SAFETY 160
A.15. COMPUTER RESOURCES 162
A.16. MAINTENANCE 165
A.17. ARMAMENT/STORE INTEGRATION 167
A.18. PASSENGER SAFETY 169
A.19. OTHER 172
A.20. TECHNICAL POINTS OF CONTACT 173

Downloaded from http://www.everyspec.com

AIRWORTHINESS CERTIFICATION CRITERIA

This document is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope.

This document establishes the airworthiness certification criteria to be used in the determination of airworthiness of all fixed wing flight vehicles. It is a foundational document to be used by the single manager, chief engineer, and contractors to define and tailor their airworthiness programs from the outset, and to assess the viability and quality of their airworthiness plans and activities throughout the program. This handbook is for guidance only. This handbook cannot be cited as a requirement. If it is, the contractor does not have to comply.

1.2 Applicability.

These criteria apply at any point in a program or program phase where an airworthiness determination is required. The airworthiness certification intends to verify that the aircraft can be safely maintained and operated within its described operational envelope. This airworthiness certification criteria document should be used throughout the life of the air vehicle and applied whenever there is a change to the functional or product baseline.

The criteria are intended to be all-inclusive and comprise the minimum set of safety criteria necessary for an air vehicle system. Criteria applicable to the air vehicle system may not be deleted or modified in any manner. However, considering system or product complexity, type, data availability, and intended period of use, the single manager and the chief engineer may tailor the criteria by identifying, with rationale, any nonapplicable criteria. The single manager and chief engineer may also develop additional criteria, if appropriate for a given application, to further reduce risks in system safety.

Aircraft intended for use aboard ship have unique requirements in areas such as structural integrity, propulsion system dynamic response and tolerance to steam ingestion, control systems response to approach and landings in high turbulence conditions, electromagnetic environmental effects, deck handling, support and servicing, and pilot field of view. These unique requirements are addressed throughout the document.

1.3 Cross reference table.

The criteria included in this document are written such that an experienced engineer, trained in the specific technical area under consideration, can interpret, tailor, apply, and evaluate a particular system's compliance with the criteria. To assist in this effort, a cross reference table is provided as an appendix to this document. It provides military and civil (e.g., Federal Aviation Administration (FAA)) references to support documentation that may be used to help satisfy the airworthiness criteria. For assistance in interpreting or applying the criteria, call the technical point of contact for each section, provided at appendix A.20.

Downloaded from http://www.everyspec.com

2. APPLICABLE DOCUMENTS

2.1 General.

The documents listed below are not necessarily all of the documents referenced herein but are the ones that are needed in order to fully understand the information provided by this handbook.

2.1.1 Government specifications, standards, and handbooks.

The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

SPECIFICATIONS

DEPARTMENT OF DEFENSE

JSSG Joint Service Specification Guides:

JSSG-2000	Air System
JSSG-2001	Air Vehicle
JSSG-2005	Avionic Subsystem, Main Body
JSSG-2006	Aircraft Structures
JSSG-2007	Engines, Aircraft, Turbine
JSSG-2008	Vehicle Control and Management System (VCMS)
JSSG-2009	Air Vehicle Subsystems
JSSG-2010	Crew Systems

STANDARDS

DEPARTMENT OF DEFENSE

MIL-STD-882	System Safety Program Requirements
MIL-STD-1760	Aircraft/Store Electrical Interconnection System

HANDBOOKS

DEPARTMENT OF DEFENSE

MIL-HDBK-244	Guide to Aircraft/Stores Compatibility
MIL-HDBK-1530	Aircraft Structural Integrity Program
MIL-HDBK-1763	Aircraft/Stores Compatibility: Systems Engineering Data Requirements and Test Procedures

(Copies of these documents are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094 or http://www.dodssp.daps.mil or http://astimage.daps.dla.mil/quicksearch/. Copies of documents indicating a distribution limitation (for example, statement D) may be ordered from ASC/ENOI, 2530 Loop Rd West, Bldg. 560, Wright-Patterson AFB, OH 45433-7101 or online at https://www.en.wpafb.af.mil/engstds/engstds.asp).

Downloaded from http://www.everyspec.com

2.1.2 Other Government publications.

The following other Government publications form a part of this document to the extent specified herein.

AIR FORCE POLICY DIRECTIVES

AFPD 62-4	Standards of Airworthiness for Passenger Carrying Commercial Derivative Transport Aircraft
AFPD 62-5	Standards of Airworthiness for Commercial Derivative Hybrid Aircraft
AFPD 62-6	USAF Aircraft Airworthiness Certification

(Copies of Air Force Policy Directives can be viewed digitally at the AFDPO web site at http://afpubs.hq.af.mil.

AIR FORCE TECHNICAL ORDER

T.O. 00-5-1	AF Technical Order System

(Copies of Air Force technical orders may be obtained via https://www.toindex-s.wpafb.af.mil.)

CODE OF FEDERAL REGULATIONS, TITLE 14 Aeronautics and Space

(Copies of Federal Aviation Administration Regulations may be viewed at http://www.faa.gov , or may be obtained from the Federal Aviation Administration, 800 Independence Ave., SW, Washington, DC 20591.)

2.1.3 Non-Government publications.

The following non-Government document forms a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the latest issue of the DoDISS, and supplement thereto.

American National Standards Institute

ANSI Z136.1 American National Standard for Safe Use of Lasers

(Application for copies should be addressed to the American National Standards Institute, 11 West 42nd Street, New York NY 10036; order online at http://www.ansi.org.)

2.2 Order of precedence.

In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

Downloaded from http://www.everyspec.com

3. DEFINITIONS

3.1 Definitions.

3.1.1 **Airworthiness** - The property of a particular air system configuration to safely attain, sustain, and terminate flight in accordance with the approved usage and limits.

3.1.2 **Allocated baseline** - The current, approved performance-oriented documentation, for a configuration item (CI) to be developed, which describes the functional and interface characteristics that are allocated from those of the higher level CI and the verification required to demonstrate achievement of those specified characteristics. [Ref: MIL-HDBK-61A]

3.1.3 **Baseline (configuration)** - (1) An agreed-to description of the attributes of a product at a specified point in time, which serves as a basis for defining change. (2) An approved and released document or set of documents, each of a specific revision, the purpose of which is to provide a defined basis for managing change. (3) The currently approved and released configuration documentation. (4) A released set of files consisting of a software version and associated configuration documentation. [Ref: EIA649]

3.1.4 **Chief engineer** - The individual responsible for all system technical activities, including engineering and configuration changes, in support of the single manager.

3.1.5 **Configuration control** - (1) A systematic process that ensures that changes to a baseline are properly identified, documented, …. (2) The configuration management activity concerning: the systematic proposal, justification, evaluation, coordination, and disposition of proposed changes; and the implementation of all approved and released changes into (a) the applicable configurations of a product, (b) associated product information, and (c) supporting and interfacing products and their associated product information. [Ref: EIA649]

3.1.6 **Configuration management** - A management process for establishing and maintaining consistency of a product's performance, functional, and physical attributes with its requirements, design, and operational information throughout its life. [Ref: EIA649]

3.1.7 **Configuration status accounting** - The configuration management activity concerning capture and storage of, and access to, configuration information needed to manage products and product information effectively. [Ref: EIA649]

3.1.8 **Failure modes, effects, and criticality analysis (FMECA)** - A procedure for identifying potential failure modes in a system and classifying them according to their severity. A FMECA is usually carried out progressively in two parts. The first part identifies failure modes and their effects (also known as failure modes and effects analysis). The second part ranks the failure modes according to the combination of their severity and the probability of occurrence (criticality analysis).

Downloaded from http://www.everyspec.com

3.1.9 **Functional baseline** - The approved configuration documentation describing a system's or top-level configuration item's performance (functional, interoperability, and interface characteristics) and the verification required to demonstrate the achievement of those specified characteristics. [Ref: MIL-HDBK-61A]

3.1.10 **Hazard** - (a) A condition that is prerequisite to a mishap. [Ref: MIL-STD-882C] (b) Any real or potential condition that can cause injury, illness, or death to personnel, or damage to or loss of property. [Ref: MIL-STD-882D]

3.1.11 **Integrity** - Refers to the essential characteristics of a system, subsystem, or equipment that allows specific performance, reliability, safety, and supportability to be achieved under specified operational and environmental conditions over a specific service life. [Ref: MIL-HDBK-87244]

3.1.12 **Interface** - The performance, functional, and physical attributes required to exist at a common boundary. [Ref: EIA649]

3.1.13 **Lead engineer** - The individual responsible for all end-item technical activities, including engineering and configuration changes, in support of the end-item single manager.

3.1.14 **Mishap** - An unplanned event or series of events resulting in death, injury, occupational illness, or damage to or loss of equipment or property, or damage to the environment. [Ref: MIL-STD-882D]

3.1.15 **Performance** - A quantitative measure characterizing a physical or functional attribute relating to the execution of an operation or function. Performance attributes include quantity (how many or how much), quality (how well), coverage (how much area, how far), timeliness (how responsive, how frequent), and readiness (availability, mission/operational readiness). Performance is an attribute for all systems, people, products, and processes including those for development, production, verification, deployment, operations, support, training, and disposal. Thus, supportability parameters, manufacturing process variability, reliability, and so forth are all performance measures.

3.1.16 **Product baseline** - The approved technical documentation which describes the configuration of a CI during the production, fielding/deployment and operational support phases of its life cycle. The product baseline prescribes all necessary physical or form, fit, and function characteristics of a CI, the selected functional characteristics designated for production acceptance testing, and the production acceptance test requirements (MIL-HDBK-61A). When used for re-procurement of a CI, the product baseline documentation also includes the allocated configuration documentation to ensure that performance requirements are not compromised.

3.1.17 **Safety-for-flight/safety-of-flight** - The property of a particular air system configuration to safely attain, sustain, and terminate flight within prescribed and accepted limits for injury/death to personnel and damage to equipment, property, and/or environment. The intent of safety-for-flight clearance is to show that appropriate risk management has been completed and the level of risk (hazards to

Downloaded from http://www.everyspec.com

system, personnel, property, equipment, and environment) has been appropriately identified and accepted by the managing activity prior to flight of the air system.

3.1.18 **Single manager** - The single individual specifically designated to be responsible for the life cycle management of a system or end-item. The single manager is the program manager vested with full authority, responsibility, and resources to execute and support an approved program.

3.1.19 **System** - A specific grouping of end-items, subsystems, components, or elements designed and integrated to perform a military function.

3.1.20 **System safety** - The application of engineering and management principles, criteria, and techniques to achieve acceptable mishap risk, within the constraints of operational effectiveness and suitability, time, and cost, throughout all phases of the system life cycle. [Ref: MIL-STD-882D]

Downloaded from http://www.everyspec.com

3.2 Abbreviations and acronyms.

AC	advisory circular
AFR	Air Force Regulation
APC	aircraft pilot coupling
APS	auxiliary power system
APU	auxiliary power unit
BIT	built-in-test
CAD	cartridge actuated devices
CDR	critical design review
CFD	computational fluid dynamics
CFR	Code of Federal Regulations
C.G.	center of gravity
CSA	configuration status accounting
CSCI	computer software configuration item
DoDISS	Department of Defense Index of Specifications and Standards
ECP	engineering change proposal
E^3	electromagnetic environmental effects
EMI	electromagnetic interference
EMP	electromagnetic pulse
EMS	environmental management system
EPS	emergency power system
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FCA	functional configuration audit
FMECA	failure modes, effects, and criticality analysis
FMET	failure modes and effects testing
FOD	foreign object damage
FRACAS	failure report and corrective action system
g	acceleration or load factor in units of acceleration of gravity
HCF	high cycle fatigue
HERF	hazards of electromagnetic radiation to fuel
HERO	hazards of electromagnetic radiation to ordnance
HERP	hazards of electromagnetic radiation on personnel
HUD	heads up display
ICD	interface control document
I/O	input/output
JFS	jet fuel starter
JSSG	Joint Service Specification Guide
LCF	low cycle fatigue
LEP	laser eye protection
MSL	mean sea level

Downloaded from http://www.everyspec.com

NBC	nuclear, biological, and chemical
NDI	nondestructive inspection
NVG	night vision goggles
NVIS	night vision imaging system
OFP	operational flight program
PAD	pyrotechnic actuated devices
PCA	physical configuration audit
PDR	preliminary design review
PIO	pilot-induced oscillations
PLA	power lever angle
PLOC	probability loss of control
POD	probability of detection
PTO	power take-off
PVI	pilot vehicle interface
RF	radio frequency
RTO	refused takeoff
SDIMP	software development integrity master plan
SDP	software development plan
SFAR	Special Federal Aviation Regulation
SOF	safety-of-flight
SRS	software requirements specification
SSHA	subsystem hazard analysis
STLDD	software top-level design document
TEMP	test and evaluation master plan
T.O.	technical order
VCF	vehicle control functions

Downloaded from http://www.everyspec.com

4. SYSTEMS ENGINEERING

The following criteria apply to all air vehicles and represent the minimum requirements to establish, verify, and maintain an airworthy design.

TYPICAL CERTIFICATION SOURCE DATA

1. Reliability, quality, and manufacturing program plans
2. Contractor policies and procedures
3. Durability and damage tolerance control plans
4. Work instructions
5. Process specifications
6. Production/assembly progress reports
7. Quality records
8. Defect/failure data
9. Failure modes, effects, and criticality analysis (FMECA) documentation
10. Tech data package
11. As-built list to include part numbers/serial numbers for all critical components
12. List of deviations/waivers and unincorporated design changes
13. List of approved class I engineering change proposals (ECPs)
14. Proposed DD Form 250, Material Inspection and Receiving Report
15. Configuration management plans/process description documents
16. Test reports
17. Test plans
18. FAA Airworthiness Directives and Advisory Circulars
19. Manufacturer-issued service bulletins

CERTIFICATION CRITERIA

4.1 Design criteria.

4.1.1 Verify that the design criteria, including requirements and rules, adequately address safety for mission usage, full permissible flight envelope, duty cycle, interfaces, induced and natural environment, inspection capability, and maintenance philosophy.

4.1.2 Verify that the design criteria address all components.

4.1.3 Verify that failure conditions have been adequately addressed in the design criteria.

4.2 Tools and databases.

4.2.1 Verify that all tools, methods, and databases used in the requirements definition/allocation, design, risk control and assessments of safety have been adequately validated.

Downloaded from http://www.everyspec.com

4.3 Materials selection.

4.3.1 Verify that material specification properties are represented as guaranteed minimum values achievable using standardized processes.

4.3.2 Verify that material design allowable properties are represented as statistical values that account for production representative processing, manufacturing variability, effects of defects, final assembly interfaces, environmental exposure, and repair.

4.3.3 Verify that adequate corrosion prevention and control practices are in place for pitting, galvanic, crevice, filiform, and exfoliation.

4.3.4 Verify that material property degradation due to thermal exposure, electromagnetic radiation, and erosion has been accounted for.

4.3.5 Verify that materials and their governing processes are developed, standardized and controlled.

4.3.6 Verify that critical material and process integrity has been substantiated.

4.4 Manufacturing, support, and quality.

4.4.1 Verify that critical elements (key product characteristics) have been identified.

4.4.2 Verify that all critical process capabilities exist to meet key product characteristic requirements.

4.4.3 Verify that all critical quality standards exist to meet key product characteristic requirements.

4.4.4 Verify the safety of the as-built design and that production allowances and tolerances are within acceptable limits and assure conformance to design.

4.4.5 Verify that nondestructive inspection (NDI) accept/reject criteria have been validated.

4.5 Technical orders.

4.5.1 Verify that processes are in place to identify and document all restrictions, warnings, and cautions.

4.5.2 Verify that the technical data reflect the defined functional and product baseline.

4.5.3 Verify that procedures are in place for establishing and maintaining flight vehicle integrity.

Downloaded from http://www.everyspec.com

4.6 Configuration identification.

4.6.1 Verify that the functional baseline has been properly documented, established and brought under configuration control.

4.6.2 Verify that the product baseline has been properly documented, established, and brought under configuration control.

4.7 Configuration status accounting.

4.7.1 Verify that the configuration status accounting (CSA) information system has the capability to track the configuration of safety-critical items.

Downloaded from http://www.everyspec.com

5. STRUCTURES

The air vehicle structure includes the fuselage, wing, empennage, structural elements of landing gear, the control system, control surfaces, radome, antennas, engine mounts, nacelles, pylons, thrust reversers (if not part of the engine), air inlets, aerial refueling mechanisms, structural operating mechanisms, structural provisions for equipment/payload/cargo/personnel, etc.

TYPICAL CERTIFICATION SOURCE DATA

1. Design criteria
2. Loads analyses
3. Internal load and stress analyses
4. Materials, processes, corrosion prevention, nondestructive evaluation and repair data
5. Results from any design development tests conducted
6. Proof test results
7. Flutter and aeroservoelastic analyses
8. Loads wind tunnel test data
9. Flutter wind tunnel test data
10. Ground vibration test results
11. Damage tolerance and durability analyses
12. Component/full-scale static test results
13. Live fire test results
14. Flight operating limits
15. Strength summary and operating restrictions
16. Damage tolerance and durability test results
17. Full-scale durability test results
18. Functional test results
19. Flight loads test results
20. Instrumentation and calibration test results
21. Control surface, tabs and damper test results
22. Thermoelastic test results
23. Limit-load rigidity test results
24. Flight flutter test results
25. Mass properties control and management plan (interface)
26. Weight and balance reports (interface)
27. Inertia report
28. Design trade studies and analyses
29. Fuel system test results
30. Results of actual weighing
31. -1 and -5 (Weight and Balance Handbook) manuals, or equivalent
32. Hazard analysis
33. Environmental criteria and test results

Downloaded from http://www.everyspec.com

34. Vibration and acoustic test results
35. Aircraft tracking program
36. Drop test results

CERTIFICATION CRITERIA

5.1 Loads.

5.1.1 Verify that the external loads reflect the latest design criteria, aerodynamics, flight control system, structural stiffness, actual weight data, and in-flight center of gravity (C.G.) controls; and loads from appropriate ground and shipboard operations, including maintenance activities, are included.

5.2 Strength.

5.2.1 Verify that the air vehicle structure has zero or positive margins of safety for all configurations within allowable operating conditions (including probable failure and defined emergency conditions).

5.2.2 Verify that adequate structural margins exist and that they are based on the smaller of the design or procurement specification allowable.

5.3 Materials, processes, corrosion prevention, nondestructive evaluation, and repair.

5.3.1 Verify that the allowables for materials are minimums; were established considering statistical variability, the expected environments, fabrication processes, repair techniques, and quality assurance procedures; and have been validated.

5.4 Damage tolerance and durability.

5.4.1 Verify that the safety-of-flight (SOF) structure is designed with required safe life (durability) or damage tolerance characteristics.

5.4.2 Verify that the air vehicle has sufficient durability to safely operate for the required service life.

5.5 Flight operating limits.

5.5.1 Verify that the flight limits are based on up-to-date design criteria, loads, flutter, aeroservoelastic instabilities, handling qualities, flight control system, actual mass properties, strength, stiffness, and structural data.

5.5.2 Verify that the flight limits and data in the flight manual provide all information required for safe operation within established structural limits.

Downloaded from http://www.everyspec.com

5.6 Functionality.

5.6.1 Verify that the flight control system (flaps, slats, etc.), main and nose landing gear and doors, as well as other airframe equipment, operate freely without binding or deflecting in a manner which would affect SOF throughout the entire acceptable range of manufacturing and repair tolerances.

5.6.2 Verify that all pressure compartments (including fuel tanks) have proof pressure margin.

5.7 Structural dynamics.

5.7.1 Verify that the flutter, divergence, and any aeroservoelastic instability speeds are above the limit speed of the air vehicle with acceptable margins.

5.7.2 Verify that the aeroservoelastic phase and gain margins are acceptable for both the normal and back-up systems.

5.7.3 Verify that the control circuit stiffness is sufficiently large and transonic buzz tendencies have been eliminated.

5.7.4 Verify that the air vehicle is free from aeroelastic and aeroservoelastic instabilities and has satisfactory damping up to limit speeds.

5.7.5 Verify that the external stores configurations have been cleared for aeroelastic and aeroservoelastic instabilities.

5.7.6 Verify that there is adequate landing gear shimmy damping.

5.7.7 Verify that the failure conditions of structural and flight control components as they affect dynamic instabilities are not SOF critical.

5.7.8 Verify that the environmental criteria and design of airframe and installed equipment are adequate to provide SOF throughout the intended flight envelope, usage, and service life.

5.8 Mass properties interface.

5.8.1 Verify that the mass properties reflect the current configuration of the air vehicle.

5.8.2 Verify that the mass properties fully support safe vehicle operations for all defined mission requirements, variation in useful load, basing/deployment concepts, interfaces, and necessary maintenance.

5.8.3 Verify that adequate center of gravity margins to handle aerodynamic, center of gravity, and inertia changes resulting from fuel usage, store expenditure, asymmetric fuel and store loading, fuel migration at high angle of attack and roll rates, and aerial refueling exist.

Downloaded from http://www.everyspec.com

5.8.4 Verify that the provisions for determining the vehicle weight and longitudinal, lateral, and vertical center of gravity of the vehicle have been provided.

5.8.5 Verify that a fuel calibration methodology to determine the weight and center of gravity of the fuel has been defined.

5.8.6 Verify that all weight and center of gravity information (for both basic weight and loading data) for the flight manual is complete and up-to-date.

5.8.7 Verify that flight and maintenance manuals are consistent and contain all required checklists and loading data necessary to conduct required weight and balance checks, while complying with specific weight and balance requirements.

5.9 Stores/armament interface.

5.9.1 Verify that the store station loadings meet structural, flutter, and handling quality requirements and restrictions.

5.9.2 Verify that proper store/armament expenditure sequences, including emergency jettison, have been established to meet required longitudinal and lateral center of gravity limitations, with proper considerations of aerodynamic effects and flight control system capabilities.

5.9.3 Verify that the store certification was based on anticipated configurations, weight and center of gravity, and stores separation characteristics.

5.10 Airframe.

5.10.1 Verify that the structural technical orders have been validated.

5.10.2 Verify that the maximum size and severity limits for damage requiring repair do not exceed the repair capability.

Downloaded from http://www.everyspec.com

6. FLIGHT TECHNOLOGY

Flight technology comprises the flight mechanic's functional areas consisting of stability & control, flying qualities, vehicle management functions, flight control functions, external aerodynamics, internal aerodynamics and performance. The air vehicle aero and stability configuration, engine/inlet/nozzle compatibility, performance and integrated control airworthiness of an air vehicle should be assessed using the criteria provided in the text below (not all items apply in each case; similarly, items may have to be added for vehicles employing new or innovative technology/techniques).

TYPICAL CERTIFICATION SOURCE DATA

1. Design criteria
2. Design studies and analyses
3. Design, installation, and operational characteristics
4. Simulation tests, modeling, and results
5. Design approval and function/system compatibility tests
6. Component, and functional level qualification and certification tests
7. Electromagnetic environmental effects
8. Installed propulsion compatibility tests
9. Acceptance criteria for test results
10. Failure modes, effects, and criticality analysis/testing (FMECA/FMET)
11. Hazard analysis and classification
12. Safety certification program
13. Computational, theoretical, and/or semi-empirical prediction methods
14. Configuration: aerodynamic design and component location
15. Wind tunnel test results and correction methods
16. Mathematical representation of system dynamics
17. Ground resonance and loop stability tests
18. Aeroservoelastic design criteria and analysis
19. Performance analysis
20. Flight manual
21. Natural environmental sensitivities
22. Flight path guidance analysis and simulation (including sensor or processor failure modes and effects on flight control)
23. Interface/integration control documents
24. Function, subfunction, and component specifications
25. Selection criteria and patterns selected for screens constructed to demonstrate inlet/engine compatibility.
26. Flight test plan
27. Detailed flight profiles
28. Aircraft/engine operating limitations
29. Software development plan

Downloaded from http://www.everyspec.com

30. Software development and product specifications
31. Software test plans, test procedures, and test reports
32. Software configuration control/management plan and procedure
33. Control laws
34. Flight test reports
35. Aerodynamic and air data uncertainty sensitivity studies

CERTIFICATION CRITERIA

6.1 Stability and control.

Air vehicle static and dynamic characteristics and control capabilities are highly dependent on vehicle configuration and installed equipment.

6.1.1 Control power.

6.1.1.1 Verify control power:

a. At minimum controllable speeds
b. For rotation on takeoff
c. To handle control surface mis-trim on takeoff
d. To prevent or stop over rotation in takeoff
e. To provide safe control for go-around with engine(s) failure (critical engine(s) inoperative)
f. To provide safe maneuver margins during trimmed flight on approach
g. For sufficient trim capability
h. To provide safe control margins in the event of abnormal or asymmetric fuel function operation
i. To safely handle transient effects
j. To safely handle problems arising from asymmetric or symmetric failures of trim controls and any adverse control surface positioning or special use surface(s)/devices
k. To safely handle unwanted deployment or activation of thrust reverser or vectored thrust equipment whenever the possibility is not extremely improbable
l. Sufficient for unique vehicle performance

6.1.2 Stability characteristics and transients.

6.1.2.1 Verify that safe static and dynamic stability exists with augmentation or active control functions operating. If sufficient redundancy is not provided in the air vehicle flight control functions to provide fail-safe operation, verify that the basic airframe (unaugmented) possesses the required stability characteristics and safety margins.

6.1.2.2 Verify that augmentation function(s), active control function(s), and related flight modes engagements and disengagements do not result in unsafe transients.

Downloaded from http://www.everyspec.com

6.1.3 Flying, handling, and ride qualities.

6.1.3.1 Verify safe flying quality characteristics in turbulence (including ship's airwake/burble).

6.1.3.2 Verify that the control law concepts employed are compatible with mission and safety requirements.

6.1.3.3 Verify that the design exhibits safe vehicle flying characteristics for

a. “Classical” safe second-order response in pitch
b. First-order, well-behaved response in roll without roll ratcheting or other roll sensitivities
c. Equivalent system time delay

6.1.3.4 Verify that aeroelastic, nonlinear, discontinuous, and unsteady aerodynamic effects demonstrate a safe vehicle.

6.1.3.5 Verify that aircraft pilot coupling (APC) and pilot-induced oscillations (PIO) tendencies and flight characteristics are safe.

6.1.3.5.1 Verify safe phase and gain margins.

6.1.3.5.2 Verify, under high gain conditions, that the design does not exhibit unsafe limit cycle oscillations, unbounded oscillations, unsafe triggering mechanisms during mode transitions, or unsafe sudden/steep gain changes.

6.1.3.6 Verify general ground handling characteristics to be safe for

a. Positive steering control
b. Steering sensitivities
c. Nose wheel steering fade in/out
d. Failure conditions
e. Ground control paths

6.1.3.7 Verify safe aerodynamic/flight characteristics for

a. High angle of attack
b. Pitch-up tendencies
c. Recovery from stall angles of attack
d. Post-stall maneuvering/control
e. Recovery from the loss of control from accelerated/nonaccelerated flight
f. Recovery from buffet effects
g. Normal and abnormal effects of secondary/infrequently used control surfaces/devices
h. High slip angles
i. Large and unusual attitudes
j. Spin recovery

Downloaded from http://www.everyspec.com

6.1.3.8 Verify hinge moment characteristics are adequate to satisfy safety requirements.

6.1.3.9 Verify safe stability and control dynamics under symmetrical and asymmetrical maneuvers, with and without stores, for

a. Control surface float angles
b. Control surface blow-back
c. Control surface nonlinearities
d. The crew or actuation functions to overcome actual moments
e. Establishing levels of flying qualities for the vehicle
f. Control surface hinge moment limiting

6.1.3.10 Verify that the stability and control effects of basic design features, as well as unique features, are safe in the entire flight envelope(s).

6.1.3.11 Verify all rate-limiting functions of the control function are safe to fly under flight scenarios employing all types of gain changes.

6.1.4 Mission evaluations including flight path guidance.

6.1.4.1 Verify that the air vehicle responds safely in all axes with commands coming from the flight path guidance devices and processors.

6.1.4.2 Verify flight path guidance systems safely compensate for degraded modes/failures of operation.

6.1.4.3 Verify all transitions to and from normal flight path guidance modes, whether augmented or manually selected, are safe.

6.1.5 Other effects.

6.1.5.1 Verify that no unsafe roll-yaw-pitch coupling(s) occur due to aerodynamic, kinematic, or inertial effects.

6.1.5.2 Verify that no unsafe roll-yaw-pitch coupling(s) occur due to engine coupling for symmetrical or asymmetrical thrust and gyroscopic effects.

6.1.5.3 Verify stall or loss of control warning function(s) and limiting and prevention functions to be safe for all required combinations of maneuver configurations, flight conditions, and loadings.

6.1.5.4 Verify wrong configuration warning functions are safe in all flight regimes. These include wing sweep, flap and landing gear position, and other variable geometry features.

6.1.5.5 Verify flying quality nonlinear effects to be safe when these effects or characteristics influence the vehicle characteristics including degradation and retention of critical pilot vehicle interface (PVI) functions due to failures.

Downloaded from http://www.everyspec.com

6.1.5.6 Verify adequate actuator dynamics for a safe vehicle.

6.1.5.7 Verify sensor dynamic characteristics for a safe vehicle.

6.1.5.8 Verify adequate cockpit control dynamics for a safe vehicle.

6.1.5.9 Verify safe failure mode effects with crew-in-the-loop.

6.1.5.10 Verify control gradient forces are safe for entire range of applications.

6.1.5.11 Verify safe, non-impeded crew visual characteristics for all flight and ground conditions.

6.1.5.12 Verify the control tasks and workload levels associated with fight profiles are safe.

6.1.5.13 Verify handling qualities with backup power sources are safe.

6.1.6 Envelopes.

6.1.6.1 Verify that stability and response characteristics are safe for the anticipated critical flight conditions for the entire ground and flight envelopes.

6.1.6.2 Verify the air data function is safe.

6.1.6.3 Verify the flight-critical parameters list for completeness.

6.1.6.4 Verify the flight manual, and any supplements containing the air vehicle/engine operating limits, adequately describes the air vehicle's

a. Performance
b. Flight characteristics under normal and emergency conditions
c. Control functions under normal and emergency conditions
d. Other critical limits to ensure safe flight.

6.1.7 Store carriage and separation.

6.1.7.1 Verify store carriage and separation response characteristics and limitations are safe.

6.1.7.2 Verify existing stores are safe for use in the intended envelope and environment.

6.1.7.3 Verify the safety and envelope of intentional and unintentional asymmetric stores combinations.

Downloaded from http://www.everyspec.com

6.2 Vehicle control functions (VCF).

VCF has many names and acronyms and varies from simple mechanics to highly complex integrated functions.

6.2.1 VCF architecture design.

6.2.1.1 Verify the functional criteria to be safe.

6.2.1.2 Verify the VCF high-level architecture function to be safe for the supporting control function.

6.2.1.3 Verify that the integrated VCF architecture safely implements the proper levels of redundancy, fault tolerance, physical/functional separation of flight/safety-critical functions/components and other aspects.

6.2.1.4 Verify the autonomy of each function integrated in or by the VCF design to be safe.

6.2.1.5 Verify failure mode effects to be safe for the entire VCF operation.

6.2.1.6 Verify special failure states of single fail, dual fail, and special single fail/combination failure(s) as well as order of failure(s), are safe.

6.2.2 Basic VCF.

6.2.2.1 Verify VCF which transmit crew control commands or generate and/or convey commands are safely implemented for the entire range of vehicle and crew responses.

6.2.2.2 Verify functional characteristics of friction levels, breakout forces, dead zones, hysteresis, and backlash are safe.

6.2.2.3 Verify longitudinal, lateral-directional, lift, drag, performance limiting, and variable geometry control functions are safely mechanized.

6.2.2.4 Verify the crew is safely able to obtain the maximum required control surfaces positions without mechanical interference.

6.2.2.5 Verify actuation for surface rate and hinge moments under normal conditions and capability under blow-back conditions to be safe.

6.2.2.6 Verify cockpit control forces are safe.

6.2.2.7 Verify functional control nonlinearities are safe.

6.2.2.8 Verify trim ranges and rates are safe.

6.2.2.9 Verify trim failure protection is safe.

Downloaded from http://www.everyspec.com

6.2.2.10 Verify control devices in normal and failed states intended for intermittent operation are safe (e.g., flaps, speed brakes, geometry mechanisms, auxiliary control devices).

6.2.2.11 Verify safety protection functions/devices are safely implemented.

6.2.2.12 Verify alternate control paths, available for each control axis or mode are safe.

6.2.2.13 Verify ratio changers and artificial feel devices with proper protection are safely implemented.

6.2.2.14 Verify no single, like dual, second, or single combination failure points in any VCF function result in an unacceptable probability of loss of function.

6.2.2.15 Verify the VCF components meet safety requirements.

6.2.2.16 Verify no unsafe mechanical interference or jamming situations exist in VCF mechanization.

6.2.2.17 Verify the clearances available safely tolerate foreign object damage (FOD).

6.2.2.18 Verify control laws are safe for the normal intended application.

6.2.2.19 Verify control laws transients for gain and mode changes prevent unsafe flight conditions.

6.2.2.20 Verify control laws do not induce any kind of unsafe oscillatory effects.

6.2.2.21 Verify control laws do not have unsafe PIO tendencies.

6.2.2.22 Verify control laws redundancy and failure management designs are safely implemented.

6.2.2.23 Verify control laws sensitivity margins and phase and gain margins for each feedback loop are safe (see 6.1).

6.2.2.24 Verify functional command control authority limits are safe.

6.2.2.25 Verify dynamic VCF functional performance is safe.

6.2.2.26 Verify the crew has the capability to safely overpower limited control functions.

6.2.2.27 Verify nonoperative devices/programs can be safely locked out of any functions.

6.2.2.28 Verify engage/disengage functions/devices are safely assigned and identified for the crew.

Downloaded from http://www.everyspec.com

6.2.2.29 Verify interlocks safely preclude incompatible modes, simultaneous engagement, and engagement with incompatible flight conditions or air vehicle configurations.

6.2.2.30 Verify engage and disengage transient times are safe.

6.2.2.31 Verify mode change transient times are safe.

6.2.2.32 Verify warning and caution functions safely operate and properly notify the crew.

6.2.2.33 Verify sensors are safely located to minimize/avoid structural mode coupling including vibration from configuration loading and gun fire, and to have safe sensitivity margins.

6.2.2.34 Verify sensitivities with variations in slope and bias conditions of air data functions have safe margins.

6.2.2.35 Verify the processor design of VCF is safe.

6.2.2.36 Verify preflight checklists of VCF are all-inclusive and safe.

6.2.2.37 Verify interfaces/integration with other functions and sub-functions are safe.

6.2.2.38 Verify the effects of loss of function(s) on safety.

6.2.2.39 Verify that any functional modes do not defeat any limiters designed for vehicle safety.

6.2.2.40 Verify data transfer and update rates are safe with adequate margins.

6.2.2.41 Verify air vehicle functional/transient interruption characteristics are safe.

6.2.2.42 Verify failure mode effects for critical maneuvers and critical flight regions are safe.

6.2.2.43 Verify flow rates for hinge moment, stiffness, and control surface rates are safe.

6.2.2.44 Verify the actuator design meets safety requirements for

a. Actuator redundancy techniques
b. Failure isolation design capability and limitations
c. Hydraulic contamination effects
d. Bottoming and snubbing

6.2.2.45 Verify the actuation system is safe (e.g., burst pressure, normal performance, high and low temperature, pressure impulses).

6.2.2.46 Verify motor/torque tube driven and similar control actuation mechanisms are safe (e.g., performance, implementation, redundancy management).

Downloaded from http://www.everyspec.com

6.2.2.47 Verify command and control communications on the vehicle, other linked vehicles and ground control are integrated safely with an acceptable probability of failure.

6.2.2.48 Verify all command and control communications are secure against unwanted intrusions and that security techniques used are implemented safely.

6.2.2.49 Verify no single space radiation upset event causes loss of control and that the probability of encountering multiple upsets producing loss of control is safe.

6.2.2.50 Verify propulsion control integration, control mechanisms, feedback loops, automatic throttle control systems, asymmetric thrust controlling conditions, special thrust control use conditions, atmospherics and hypersonic effects on thrust control are safe.

6.2.2.51 Verify VCF primary and integrated control function(s) security design is implemented safely.

6.2.2.52 Verify air data is safe for the following:

a. Implementation
b. Accuracy
c. Ground and air safety provisions
d. Anti-ice or ice prevention
e. Bird strike vulnerability

6.2.2.53 Verify that the environmental design and the equipment installation are safe.

6.2.3 VCF power source criteria.

(Note: See section 12, for specific electrical power system criteria.)

6.2.3.1 Verify hydraulic distribution has no single failure points resulting in loss of more than one hydraulic function.

6.2.3.2 Verify hydraulic function dynamics to have no unsafe pressure pulsating or resonant conditions.

6.2.3.3 Verify backup and emergency hydraulic power function(s) have no unsafe effects from reduced flow rates or pressure or flutter margin.

6.2.3.4 Verify any VCF flight limitations with emergency/backup hydraulic power and switchover time constants are safe.

6.2.3.5 Verify VCF effects due to loss of each or part of each hydraulic function to be safe. (See 8.1 for specific criteria.)

6.2.3.6 Verify electrical power normal/backup/emergency capability following loss of engine(s) and generator(s) for VCF is safe.

Downloaded from http://www.everyspec.com

6.2.3.7 Verify independent electrical power sources provide safe redundancy for VCF.

6.2.3.8 Verify electrical power transients, both normal and switchover, are safe.

6.2.3.9 Verify that, if batteries are employed for SOF backup power, adequate charging methods and checks are provided and installation provisions for all batteries are safe.

6.2.3.10 Verify electrical power bus separation for prevention of single failure points is safe.

6.2.3.11 Verify effects of normal, abnormal, and failure modes of the electrical power function are safe for VCF.

6.2.3.12 Verify direct, uninterruptable, quality electrical power implementation for VCF is safe.

6.2.4 Flight worthiness evaluations.

6.2.4.1 Verify flight-critical components meet safety criteria.

6.2.4.2 Verify all single point failures are identified with the associated probability of failure(s) and that they demonstrate an acceptable flight safety risk.

6.2.4.3 Verify no safety impacts exist for the vehicle or crew due to transient effects of failures impacting controllability or structure.

6.2.4.4 Verify the ability of the VCF or crew to recover the air vehicle under worst-case flight envelope and engine failure conditions and identify any flight limitations in the flight manual.

6.2.4.5 Verify undetected, latent, or unannounced failures do not result in unacceptable flying qualities.

6.2.5 VCF software.

(Note: For subsystems that use computer resources, see section 15 for additional, specific criteria.)

6.2.5.1 Verify the safe operation of each computer software configuration item (CSCI)/operational flight program (OFP) from unit to full flight program levels for all modes, inputs, failure detection, reconfiguration techniques, self-check operations, interfaces, and integration under all dynamic conditions.

6.2.5.2 Verify the flight software version demonstrates acceptable performance and safety.

6.2.5.3 Verify critical control modes in all flight conditions are safe.

6.2.5.4 Verify single-point or probable multiple failures that can paralyze redundant controlling functions are within the required safety probabilities.

Downloaded from http://www.everyspec.com

6.2.5.5 Verify software compatibility with external, integrating software functions is safe.

6.2.5.6 Verify software interrupts, reinitialization, resynchronization, recheck, reconfiguration, restarts, resets and negation of environmental and generic error effects are safe.

6.2.5.7 Verify software design of self-check, failure monitoring, redundancy management, reconfiguration, voting, transient suppression, overflow protection, anti-aliasing, saturation, interlocks, memory protection, failure propagation, and other techniques prevent unsafe flight situations.

6.2.5.8 Verify built-in-test implementation operates failure free and safely identifies, isolates, and corrects malfunctions.

6.2.5.9 Verify security design of VCF software loading techniques is safe.

6.3 Aerodynamics and performance.

Air vehicle aerodynamic and performance characteristics are highly dependent on vehicle configuration. These are verified through analysis based on results of wind tunnel testing and computational fluid dynamics (CFD).

6.3.1 Flight vehicle.

6.3.1.1 Verify that a safe fuel loading procedure exists to accomplish the flights intended.

6.3.1.2 Verify the ability to recover the air vehicle over the entire flight envelope in the presence of malfunctions.

6.3.1.3 Verify safe takeoff, landing, and critical field length performance for intended atmospheric conditions.

6.3.1.4 Verify safe engine(s) inoperative performance (if appropriate) to include optimum speeds for energy management.

6.3.1.5 Verify that the flight manual data limits for takeoff, landing, climb, maneuver, cruise, descent, emergency conditions, and any other critical factors are adequate to conduct safe flights.

6.3.1.6 Verify the safety of store carriage and separation characteristics for the prescribed stores.

6.3.2 Installed propulsion capability.

6.3.2.1 Verify airframe/inlet/engine compatibility evaluations are adequate for safe operation (see section 7).

6.3.2.2 Verify inlet dynamic distortion, steady state distortion, and engine response are adequate for engine stall-free operation in the required angle of attack and sideslip envelope.

Downloaded from http://www.everyspec.com

6.3.2.3 Verify engine performance restrictions resulting from thermal boundaries (reflected in the proper databases and manuals) are safe.

6.3.2.4 Verify inlet buzz boundaries and flight limitations are well defined.

6.3.2.5 Verify that there are no severe performance impacts due to flow disturbance and blockage items. Also ensure that these items are safely implemented and located, especially ahead of or near the inlets.

6.3.3 Flight limits.

6.3.3.1 Verify buffet boundaries and flight limitations are safe.

6.3.3.2 Verify stall angle of attack and velocity reflected in the flight manual are safe.

6.3.3.3 Verify maximum allowable angle of attack, angle of attack limiter, and set margins are safe.

Downloaded from http://www.everyspec.com

7. PROPULSION

TYPICAL CERTIFICATION SOURCE DATA

1. Design criteria
2. Design studies and analyses
3. Design, installation, and operational characteristics
4. Engine ground and simulated altitude tests
5. Engine design function/system compatibility tests
6. Engine component and functional level qualification and certification tests
7. Electromagnetic environmental effects
8. Installed propulsion compatibility tests
9. Acceptance test results
10. Failure modes, effects, and criticality analysis/testing (FMECA/FMET)
11. Hazard analysis and classification
12. Safety certification program
13. Engine endurance and accelerated mission testing
14. Engine and component structural and aeromechanical tests
15. Flight test plans and results
16. Engine structural integrity program (ENSIP) analyses and tests
17. Engine life management plans
18. Over-speed and over-temperature tests
19. Overall engine and component performance analyses
20. Flight manual
21. Natural environmental sensitivities
22. Inlet airflow distortion/engine stability assessments and audits
23. Interface/integration control documents
24. Function, subfunction, and component specifications
25. Selection criteria and inlet distortion patterns selected to demonstrate t/engine compatibility.
26. Engine control system rig tests
27. Engine health monitoring system design reports and tests
28. Aircraft/engine operating limitations
29. Engine software development plan and product specifications
30. Engine software test plans, test procedures and test reports
31. Engine software configuration control/management plan and procedure

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA

7.1 Performance.

7.1.1 Verify that performance is adequate for safe operation and is properly documented in the flight manual.

7.2 Operability.

7.2.1 Verify that positive stability margin exists at all critical flight conditions or that placards are documented in the flight manual.

7.2.2 Verify the control system has adequate stability for small throttle transients, including approach and aerial refueling conditions. Large throttle transients may be expected during shipboard approaches, if applicable.

7.2.3 Verify that air-start requirements are met and documented in the flight manual. Air-starts should include spool-down, windmill, and starter-assisted as appropriate for the air vehicle system.

7.2.4 Verify that the engine will recover from instability induced by external influences (such as inlet distortion and steam ingestion) after the external influence is removed, without employing measures such as commanded idle or shutdown and without exceeding thermal or structural limits.

7.2.5 Verify compatibility with shipboard jet blast deflectors.

7.3 Engine structures.

7.3.1 Verify that damage tolerance, blade containment, foreign object damage (FOD), durability, corrosion, and sand, ice, liquid water, and bird ingestion requirements have been met.

7.3.2 Verify that the allowables for materials are minimums; were established considering statistical variability, the expected environments, fabrication processes, repair techniques, and quality assurance procedures; and have been validated.

7.3.3 Verify that no flutter exists within the operational environment.

7.3.4 Verify that sufficient safety margin exists to operate the engine for the required inspection interval.

7.3.5 Verify that nondestructive inspection (NDI) processes are in place and meet probability of detection (POD) and inspection interval requirements.

7.3.5.1 Verify that all NDI processes are validated and verified.

Downloaded from http://www.everyspec.com

7.3.6 Verify that fracture-critical parts have been serialized, properly marked, and subjected to the required process control and NDI procedures.

7.3.7 Verify that positive margin exists for strength, low cycle fatigue (LCF), high cycle fatigue (HCF), creep, stress rupture, and other applicable critical failure modes.

7.3.8 Verify that all fracture-critical parts have been designed to be damage tolerant and that positive margins exist.

7.3.9 Verify that positive margins of safety exist for engine over-speed, over-temperature, over-torque, torque spikes and over-pressure conditions.

7.3.10 Verify that all inspection intervals and life-limited parts and components are identified in the technical manuals and a process to track life consumption is operational and current.

7.4 Engine control and accessory systems.

7.4.1 Verify that the engine control system performs safely under all required conditions.

7.4.1.1 Verify that the engine control system protects the engine from any out-of-limit conditions or instabilities such as over-speed, over-temperature, loss of commanded thrust, and surge/stall.

7.4.1.2 Verify that adequate phase and gain margins exist for all control loops and throttle transient types, including small power lever angle (PLA) transients, to preclude instabilities.

7.4.2 Verify that any failure of the controls and accessories will result in a fail-operational and/or fail-safe condition.

7.4.3 Verify that all engine control and accessory system electrical components withstand system-level-required electromagnetic environmental effects (electromagnetic interference (EMI), electromagnetic pulse (EMP), etc.) and maintain safe engine operation.

7.4.4 Verify that there is acceptable engine fuel system performance under severe operating conditions such as high vapor/liquid ratios, temperature ranges, contamination, and dry lift.

7.4.5 Verify that any uncontained failure of an engine control and accessory system component, with rotating parts, will not adversely affect continued safe operation of the air vehicle.

7.4.6 Verify that the engine ignition system(s) successfully lights the main combustor and augmentor when commanded by the control system or pilot within the engine/augmentor operating envelope.

Downloaded from http://www.everyspec.com

7.4.7 Verify that the engine anti-ice/de-ice system prevents damaging ice buildup/removal at all engine speeds and will not result in heat-induced damage to the engine's front frame structure.

7.4.8 Verify that thermal management systems sufficiently reject heat.

7.4.9 Verify that all engine hydraulic, fuel, or oil components properly operate the variable geometry of the engine. Variable geometry includes airflow path vanes, exhaust nozzles, thrust reversers, and vectored thrust components.

7.4.10 Verify that the engine augmentor system provides the required levels of additional thrust for safety.

7.5 Engine monitoring system.

7.5.1 Verify that all safety/mission-critical faults and warnings are supplied to the pilot/maintainers and provide a clear interpretation of any identified engine problems.

7.6 Engine bearing and lubrication system.

7.6.1 Verify that safe bearing operation is maintained, including periods of abnormal operation such as oil flow interruption.

7.6.2 Verify that changes in bearing thrust balance do not result in the bearing operating in failure prone regions of operation.

7.6.3 Verify that the lubrication system functions properly during ground and flight operation, under all atmospheric conditions and for all flight conditions/attitudes in the aircraft operating envelope.

7.6.3.1 Verify that the lubrication system provides an adequate supply of conditioned (filtered, deaerated and temperature maintained) oil under all operating conditions.

7.6.3.2 Verify that the lubrication system health monitoring devices will provide adequate warnings in a timely manner to reduce occurrences of in-flight shutdowns and mission aborts.

7.6.4 Verify that the lubrication system and bearing compartments do not produce combustion.

7.7 Engine installations compatibility.

7.7.1 Verify that all engine-to-airframe mechanical, fluid, and electrical connections meet interface control document (ICD) physical and functional requirements, are free of any detrimental interferences, and have been evaluated for safe operation (see 8.8).

7.7.2 Verify that the main mounts contain adequate design margin to properly secure the engine under all operating conditions and failure modes.

Downloaded from http://www.everyspec.com

7.8 Failure modes.

7.8.1 Verify that safety-critical propulsion system failures are identified, have failure probabilities validated, and have safe inspection intervals assigned.

7.8.2 Verify that when required, multiple propulsion subsystems are physically, systemically, and operationally isolated from each other to prevent the failure of more than one propulsion subsystem due to any single or common cause.

7.9 Flight manual/procedures and limitations.

7.9.1 Verify that normal operating procedures, emergency procedures, restrictions, and limits for the air vehicle propulsion system are included in the flight manual.

7.10 Engine externals.

7.10.1 Verify that all external tubing/manifolds, clamps, and electrical cabling are safely affixed and routed on the engine.

7.10.1.1 Verify that all external tubing/manifolds, clamps and electrical cabling do not contain natural frequencies within the engine and accessories operating ranges.

7.10.1.2 Verify that all external tubing/manifolds have adequate minimum clearances and clamping.

7.10.1.3 Verify that fuel and oil lines are not mounted next to potential sources of ignition so as to cause a fire in the event of a leak.

7.10.1.4 Verify that fuel, oil, and air lines are mounted a sufficient distance from potential sources of extreme temperatures to prevent overheating or overcooling.

7.10.1.5 Verify that all pressurized tubes/manifolds have design margin for their maximum operating conditions.

7.10.2 Verify that engine gearboxes have design margin for their minimum/maximum operating conditions.

7.10.2.1 Verify that failure of any gearbox mounted component (oil pumps, fuel pumps, starters, generators, etc) will not result in failure of the gearbox itself.

7.10.2.2 Verify that failure of the engine power take-off (PTO) coupling assembly will not adversely affect safe operation of the air vehicle.

Downloaded from http://www.everyspec.com

7.11 Engine computer resources.

(Note: These criteria must be compatible with those found in section 15.)

7.11.1 Verify that utilization margins do not adversely impact safety.

7.11.2 Verify that air vehicle/engine software release packages do not adversely affect safety-critical engine control functions.

7.12 Propellers and associated subsystem components.

7.12.1 Verify that adequate margins exist for the performance, strength and durability of the following: propeller and propeller system components, including the propeller drive shaft, reduction gear box, torque measurement system, negative torque system, propeller brake, and mechanical over-speed governor.

7.12.2 Verify that any critical propeller speeds (e.g., speeds that excite resonant frequencies and cause detrimental blade stresses) are outside the engine operating range or identified limitations are placed in the appropriate technical orders.

7.12.3 Verify the safety of both the hardware and software components of propeller reversing systems and pitch controls.

7.12.4 Verify the safety of all physical and functional interfaces between the propeller and any system that drives the propeller.

Downloaded from http://www.everyspec.com

8. AIR VEHICLE SUBSYSTEMS

TYPICAL CERTIFICATION SOURCE DATA

1. Design criteria
2. Functional operations test results
3. Performance test results
4. Failure modes, effects, and criticality analyses (FMECA)
5. Hazard analysis
6. Component and system SOF certifications/qualifications
7. Design studies and analysis
8. Installation and operational characteristics
9. Flight manual and limitations
10. Electromagnetic environmental effects analysis and test results

CERTIFICATION CRITERIA

(Note: For subsystems that use computer resources, see section for additional, specific criteria.)

8.1 Hydraulic and pneumatic systems.

8.1.1 If there is more than one hydraulic system (or pneumatic system), verify that safe operation can be continued if any one hydraulic (or pneumatic) system fails.

8.1.1.1 Verify that any single-point failure locations have been identified and their consequences of failure are acceptable, eliminated, or mitigated.

8.1.2 Verify that interfaces and redundancies with the flight control, electrical, and avionics systems were evaluated and verified.

8.1.3 Verify normal, back-up, and emergency hydraulic (or pneumatic) system operation.

8.1.4 Verify that hydraulic fluid temperatures do not exceed the maximum allowable temperature.

8.1.5 Verify that adequate crew station information is available to notify the flight crew of the hydraulic and pneumatic systems' operating conditions.

8.1.6 Verify that flight and maintenance manuals include normal, back-up and emergency operating procedures, limitations, restrictions, servicing and maintenance information.

8.1.7 Verify that the plumbing installation and component installations are safe for flight.

Downloaded from http://www.everyspec.com

8.1.8 Verify that the air vehicle hydraulic and pneumatic systems' size/power meets demand.

8.1.9 Verify that undesirable pressure fluctuations are precluded from the system.

8.1.10 Verify that methods and procedures exist for controlling and purging impurities from the hydraulic and pneumatic systems and that the systems' level of contamination is acceptable.

8.2 Environmental management system (EMS).

8.2.1 Verify that the design incorporates system safety requirements of the air vehicle.

8.2.2 Verify that the integrated system functional and physical compatibility is safe.

8.2.3 Verify that the EMS operates safely under installed operating conditions over the design envelope.

8.2.4 Verify that emergency (ram air) cooling provisions are available for safety-critical avionics, cockpit ventilation, and smoke clearance.

8.2.5 Verify that pressurization emergency provisions are available in the cockpit and crew station locations.

8.2.6 Verify that the effects of loss of some or all EMS functions on air vehicle safety, on air vehicle performance, or on the safety and performance of other air vehicle systems are understood and acceptable.

8.2.7 Verify that normal and emergency procedures are included in the flight manual.

8.2.8 Verify that adequate controls and displays for the EMS are installed in the crew station or other appropriate locations.

8.2.9 Verify that personnel atmosphere and protective flight garment supply systems are available for use by the aircrew (oxygen equipment, pressure suits, and anti-g garments or ventilation garments).

8.2.10 Verify that windshield rain/snow/ice removal provisions provide for safe operation.

8.2.11 Verify that the crewmember's breathing air is protected from contamination in all forms, including oil leakage in the engine and nuclear-chemical-biological warfare conditions.

8.2.12 Verify that the bleed air duct system is monitored for leaks and structural integrity and that hot bleed air leaking from damaged ducting will not cause ignition of any flammable fluids or other materials or cause damage to SOF items.

8.2.13 Verify that redundant bleed air shut-off provisions are available at, or as close as possible to, the engine bleed port.

Downloaded from http://www.everyspec.com

8.2.14 Verify that pressurization rate control is available to preclude pressure surges in the cockpit.

8.2.15 Verify that nuclear, biological, and chemical (NBC) equipment and/or procedures are provided for protecting or maintaining EMS cooling air free from contaminants.

8.2.16 Verify that the air vehicle's thermal management system is stable for all flight conditions and environments.

8.3 Fuel system.

(refuel, defuel, feed, transfer, pressurization, vent, quantity gauging, dump, and inerting)

8.3.1 Verify that the integrated system functional and physical compatibility meets SOF requirements.

8.3.2 Verify that the fuel system functions under all probable conditions with the approved fuels.

8.3.3 Verify that all fuel system critical failure modes and hazards have acceptable risk levels.

8.3.3.1 Verify that adequate redundancy and reliability have been provided for the fuel system critical functions to assure safe air vehicle operations.

8.3.4 Verify the safe installation of the fuel system and components.

8.3.5 Verify that the plumbing and components in the fuel system (as completely assembled and installed within the air vehicle) can withstand exposure to the specified proof pressure limit for the subsystem without resulting in fuel leakage or system performance degradation.

8.3.6 Verify that the fuel feed system provides a continuous supply of fuel to the engine at sufficient pressure throughout the flight and ground operation envelopes, including starting and all flight maneuvers.

8.3.7 Verify that fuel transfer flow rates meet the operational ground and flight envelope requirements.

8.3.8 Verify that the air vehicle center-of-gravity limits are not exceeded during all fuel system and air vehicle functions, including release of stores and fuel dumping operations.

8.3.9 Verify that the fuel system is designed to prevent pressures from exceeding the system's proof pressure limits (both minimum and maximum) during refueling, defueling, transfer, fuel feed, and fuel dump operations.

8.3.10 Verify that the flight and maintenance manuals include normal and emergency operating procedures, limitations, restrictions, servicing, and maintenance information.

Downloaded from http://www.everyspec.com

8.3.11 Verify that procedures exist for controlling and purging impurities from the fuel system and that the fuel system's level of contamination is acceptable at all times.

8.3.12 Verify that the system has been designed to withstand the hazards associated with lightning, static electricity, fuel leaks, and the introduction of electrical power into fuel tanks.

8.3.12.1 Verify that the fuel system has been designed and arranged to prevent the ignition of fuel vapor within the system.

8.3.12.2 Verify that secondary fuel and vapor tight barriers have been provided between fuel tanks, fire hazard areas, and inhabited areas.

8.3.12.3 Verify that drainage provisions have been provided to remove all normal and accidental fuel leakage to a safe location outside of the air vehicle.

8.3.12.4 Verify that fuel jettison, fuel venting, fuel leaks, or fuel spills will not be ingested by the engine or flow into hazardous ignition areas or onto the environmental management system.

8.3.13 Verify that fuel tanks are capable of withstanding, without failure, the vibration, inertia, fluid and structural loads that they may be subject to in operation.

8.3.14 Verify that any single fuel system failure will not allow tank pressure to exceed tank structural limits.

8.3.14.1 Verify that the air vehicle can be safely refueled/defueled.

8.3.14.2 Verify that the fuel system has been designed to prevent fuel spills during refuel operations.

8.3.14.3 Verify that the vent system can accommodate the maximum refuel rate during refueling operations and fuel system single-failure conditions.

8.3.15 Verify that adequate controls and displays for the fuel system functions are provided for the appropriate crewmember(s) to indicate the necessary fuel system functions.

8.3.16 Verify that built-in-test (BIT) and fault isolation provisions are available to ensure safe fuel system operations.

8.3.17 Verify that jettisoned fuel does not impinge on aircraft surfaces or become re-ingested into the air vehicle.

8.4 <u>Fire and hazard protection.</u>

(includes prevention, detection, and extinguishing and explosion suppression provisions)

8.4.1 Verify that the integrated fire protection system functional and physical compatibility is safe.

Downloaded from http://www.everyspec.com

8.4.2 Verify that each component of the air vehicle is properly zoned according to the fire and explosion hazards and that protection has been provided to counter the hazards such that no fire or explosion hazards exist under normal operating conditions.

8.4.3 Verify that the design of subsystems other than fire protection have taken into consideration any potential for fire hazards.

8.4.3.1 Verify that, in areas where a fluid system might leak flammable fluids or vapors, there is a means to minimize the probability of ignition of the fluids and vapors and to minimize the resultant hazards if ignition does occur.

8.4.3.2 Verify that provisions exist for air vehicle safety-critical components to withstand fire and heat to a pre-determined safe level.

8.4.4 Verify that provisions for drainage and ventilation of combustible fluids or vapors are adequate to preclude the occurrence of fire or explosion hazards.

8.4.4.1 Verify that these provisions are located so that combustibles are removed from the air vehicle to a safe location on the ground and will not reenter the air vehicle in flight or ground operations.

8.4.5 Verify that drains and vents from areas that might carry flammable fluids are not manifolded with drains from areas that do not carry a potentially flammable fluid.

8.4.6 Verify that engine nacelle cooling and ventilation provisions are adequate to provide required heat rejection and maintain nacelle conditions necessary to avoid both hot surface ignition sources and collection of flammable fluids or vapors.

8.4.7 Verify that all potential fire zones (e.g. engine, auxiliary power unit (APU) and other compartments, such as engine-driven airframe accessory area) are designated as such and that suitable fire warnings and protection are provided.

8.4.8 Verify that essential flight controls, engine mounts, and other flight structures located in designated fire zones or adjacent areas are constructed of fire-proof material or shielded to withstand the effects of fire.

8.4.9 Verify that each electrically powered fire protection subsystem (e.g., fire detection, extinguishing, and explosion suppression) is provided power at all times during air vehicle operations, including engine start.

8.4.10 Verify that the air vehicle explosion suppression system meets performance requirements for fire and hazard protection.

8.4.11 Verify that the fire detection system is designed to preclude false warnings.

8.4.12 Verify the performance of the fire suppression system.

8.4.13 Verify that fireproof protective devices have been provided to isolate a fire within a defined fire zone from any portion of the airplane where a fire could create a hazard.

Downloaded from http://www.everyspec.com

8.4.14 Verify aircraft interior finishes and materials deter combustion and that any toxic by-products of combustion are at acceptable levels.

8.4.15 Verify that hazardous quantities of smoke, flames or extinguishing agents are prevented from entering inhabited areas.

8.4.16 Verify that proper separation is provided between oxidizers and flammable fluid systems or electrical components.

8.4.17 Verify that provisions are available to shut off flammable fluids and de-energize all electrical ignition sources in the identified fire zone(s).

8.4.18 Verify that ground fire-fighting access provisions are compatible with standard ground fire-fighting systems.

8.4.19 Verify that the air vehicle provides safety features for post-crash fire and explosion hazards.

8.4.20 Verify that the air vehicle has provisions to detect and control overheat conditions that are potential fire and explosion hazards.

8.5 Landing gear and deceleration systems.

8.5.1 Verify safe flotation capability of the landing gear systems.

8.5.2 Arrangement, Dynamics, and Clearances

8.5.2.1 Verify that the landing gear arrangement and servicing criteria will prevent any ground contact (including servicing equipment, arresting cables, runway lights, etc.) for all weapons loading, engine runs, and for flat gear/flat tire situations.

8.5.2.2 Verify that for all ground operations, the air vehicle will maintain operational control and stability such that no part of the air vehicle or its weapons will contact the ground or other permanent ground structures (servicing equipment, arresting cables, runway lights, etc.).

8.5.2.3 For retractable gears, verify that there is sufficient clearance within the wheel well under all ground and flight conditions so that no part of the gear will contact the airframe or get stuck in the up position due to interference with any air vehicle structure.

8.5.2.4 Verify that the design of the landing gear system prevents the occurrence of unsafe dynamics, vibrations, or pitching motions for all operational phases of the air vehicle on the ground and in the transition to air.

8.5.2.5 Verify that the air vehicle does not tip back when reverse braking or towing is done at the specified conditions.

Downloaded from http://www.everyspec.com

8.5.3 Landing Gear Structure

8.5.3.1 Verify that any structural failure of the gear will not result in penetration of the crew station, fuel tanks, or any other bay that may explode.

8.5.3.2 Verify the functionality of the shock strut to perform all its required energy absorption for all ground operations, landing, and takeoffs with normal servicing and with acceptable levels of misservicing.

8.5.3.3 Verify that a misserviced gear will still support all weapons loading, fueling/defueling, and will not compromise takeoff and landings.

8.5.3.4 Verify that, for both main and nose landing gear, landing conditions (normal and emergency) are within the safe operating limits.

8.5.3.5 Verify that dynamic stability is adequate and landing gear shimmy is not evident.

8.5.4 Verify that all mission and all ground handling conditions, including maximum air vehicle deceleration at the most critical C.G. and gross weight, have a maximum expected tire load and speed below that demonstrated for the selected tire at its rated inflation pressure.

8.5.5 Verify that the worst-case loads expected during operational missions on both the nose and main gear wheels are not exceeded.

8.5.6 Verify that wheel-overheat and over-pressurization protection are incorporated.

8.5.7 Brake

8.5.7.1 Verify that the energy, torque, and distance performance are at least equal to the levels required for the air vehicle when it is operated within its design limits.

8.5.7.2 Verify that failure of any brake (structural or control system) will not prevent the air vehicle from stopping within the runway length needed to conduct the missions.

8.5.7.3 Verify that the brakes can provide sufficient torque to hold the air vehicle still with at least normal preflight engine run test thrust levels.

8.5.7.4 Verify that an appropriate device is installed to release pressure if the brakes overheat.

8.5.7.5 Verify that the pressure release device will release before the wheel structure is compromised.

Downloaded from http://www.everyspec.com

8.5.8 Brake control and anti-skid control

8.5.8.1 Verify that there is a separate and independent method of stopping the air vehicle within the required distances when the primary stopping method is unavailable.

8.5.8.2 Verify that the pilot can maintain control of the braking function from his station in a smooth and controllable manner for all normal and emergency operations.

8.5.8.3 If a parking brake is required, verify that it provides holding power for the required time and conditions.

8.5.8.4 Verify safe stopping performance for all expected runway conditions (dry, wet, snow, ice, etc.) over all mission speed ranges and for all ground maneuvering conditions.

8.5.8.5 Verify that anti-skid system design can respond to any power interruptions or system malfunctions without compromising the ability of the pilot to control the air vehicle.

8.5.8.6 Verify that the anti-skid system precludes locked wheel/tire occurrences for all normal operating conditions.

8.5.8.7 Verify that brake control power is equal and proportional to brake pedal movement.

8.5.8.8 Verify that when pedal pressure is removed, pedals return to brakes-off position and that brake control power is not trapped or slow to release at any brake.

8.5.8.9 Verify that all modes of brake operation are safe.

8.5.8.10 Verify that the anti-skid control system is compatible with and will continue to function in the installed environment and that heat buildup will not cause locked wheels on touchdown or during the landing roll.

8.5.8.11 Verify that there is no anti-skid coupling into the landing gear structure.

8.5.9 <u>Directional control</u>

8.5.9.1 Verify that there is a primary and emergency method to provide directional control during ground operations of the air vehicle for all the operational missions and flight configurations.

8.5.9.2 Verify that the nose gear steering control system (in aircraft with nose wheel steering) protects against steering failures and that system failures will not cause loss of control of the air vehicle.

8.5.9.3 Verify that the pilot can maintain control of the air vehicle during engagement or disengagement of the steering throughout all the operational speed ranges and conditions, even if it occurs from a pilot commanded or a system uncommanded action.

Downloaded from http://www.everyspec.com

8.5.9.4 Verify that the steering control system can detect and correct nose wheel steering hardovers

8.5.9.5 Verify that steering system operation during taxi, takeoff, and landing is sufficient to accomplish all the required ground maneuvering and parking, and is not sensitive to high-speed, ground rolling effects on directional control.

8.5.10 Landing gear control

8.5.10.1 Verify safe operation of landing gear retraction, extension, and emergency extension; and verify that there are adequate clearances and suitable geometry for components having relative motion.

8.5.10.2 Verify that loss of doors, reversal of commands, or any other single failures in the air vehicle power will not prevent gear extension. Verify that the emergency extension system is independent of the landing gear primary power source(s).

8.5.10.3 Verify that proper gear position indications are given to flight crew for all gear sequencing events during any phase of mission operations.

8.5.10.4 Verify that the gear position warning system operates properly, and that the crew can override the warning systems.

8.5.10.5 Verify that the time to move the gears to the command positions is compatible with air vehicle performance requirements for takeoff, landing, and go-around.

8.5.10.6 Verify that the emergency extension times are compatible with emergency landing requirements.

8.5.10.7 Verify that the gears will be restrained in the final commanded positions for all ground and flight conditions required by all mission profiles.

8.5.10.8 During ground operations verify that a positive means is provided to lock the gears and doors to prevent retraction on the ground; and that visual indicators are provided so the ground retention devices are removed prior to flight.

8.5.10.9 Verify that no damage to airframe or gear structure results if power is supplied to retract the gears when ground retention devices are installed.

8.5.10.10 Verify the downlocking and uplocking fail-safe provisions of the landing gears.

8.5.11 <u>Auxiliary deceleration devices</u>

8.5.11.1 Verify that the arresting system is capable of stopping the air vehicle at all the required design conditions (refused takeoffs (RTOs), fly-in engagements, brake overruns, etc.) without any damage to either the air vehicle or the arresting systems.

Downloaded from http://www.everyspec.com

8.5.11.2 Verify the safety of the following: hook load hold-down and damping forces, engagement probabilities, off-center engagement capabilities, lateral run-outs, barrier compatibility and any other specific engagement provisions.

8.5.11.3 Verify that the crew can operate the hook from the crew station in a timely manner and that the crew has the capability to determine the position of the hook.

8.5.11.4 Verify that no part of the landing gear, air vehicle, or stores snags the arresting cable when the air vehicle is rolling on rims after a tire failure.

8.5.11.5 Verify that the performance of drag chutes meets the specified deceleration requirements without any adverse loading or damage to air vehicle structure.

8.5.11.6 As applicable to the air vehicle, verify the performance of thrust reversers, speed brakes and/or other auxiliary deceleration systems; and verify that there is no adverse loading or structural damage to the air vehicle when these devices are used.

8.5.12 Ground handling

8.5.12.1 Verify that safe jacking provisions are provided and satisfy all specified air vehicle gross weight conditions as well as environmental conditions.

8.5.12.2 Verify that the jacking interface meets the defined standards including appropriate international standards.

8.5.12.3 Verify that the air vehicle is capable of being safely towed in all specified directions, at all mission weights, under the required environmental conditions, on expected operational surfaces.

8.5.12.4 Verify emergency towing capability of the air vehicle to the maximum weight and load requirements.

8.5.12.5 Verify that all mooring requirements have been met for all mission weights and environmental conditions, and that these requirements address the defined standard arrangements and interface for mooring to ensure safety.

8.5.12.6 Verify that the specialized systems requirements and functional characteristics are safe for the operational mission conditions. (Examples of specialized systems are skis, skids, kneeling, crosswind positioning, and in-flight pressure control systems.)

8.5.12.7 Verify all known potential single-point failures are identified and are acceptable.

8.5.12.8 Verify that the turnover angle is less than the side load forces occurring at specified turn angles on adversely sloped runways.

8.5.12.9 Verify landing gear and engine inlet geometry are designed to prevent possible FOD to engines

Downloaded from http://www.everyspec.com

8.5.12.10 Verify that the landing gear systems are compatible with air vehicle structure, weight and balance, and any other systems that interface with the system.

8.5.12.11 Verify landing gear systems integrity in preventing uncommanded or unsafe effects in the event of single-point failures, dormant failures, or primary system loss.

8.5.12.12 Verify that the system and system components have damage tolerance capability to sustain partial failure or leakage before failure without jeopardizing safety.

8.5.12.13 Verify that failures and leakage are evident in flight and/or during routine ground maintenance.

8.6 Auxiliary/emergency power system(s) (APS/EPS).

(auxiliary power units, airframe accessory gearboxes, engine starting system components, power take-off (PTO) shafts, emergency power systems)

8.6.1 Verify that system components are safe for the intended use and environment.

8.6.2 Verify that the APS/EPS operates safely under installed operating conditions over the design envelope.

8.6.2.1 Verify that protective safety features (auto shutdown, etc.) are available and effective in protecting the equipment against hazardous malfunctions and conditions such as over-speed, over-temperature and inadvertent activation.

8.6.3 Verify that the integrated system functional and physical compatibility is safe.

8.6.4 Verify that high-speed rotating components have been designed to be damage tolerant; or, that there are provisions for containment of failed parts and that any potentially uncontained fragments will not damage SOF components or injure personnel.

8.6.4.1 Verify that containment or other provisions preclude a failed PTO shaft (flex joint) from causing secondary damage to nearby SOF component/systems as a result of flailing or whipping.

8.6.5 Verify that APS/EPS equipment in the installed configuration is free of damaging vibrations at all operating conditions throughout the APS/EPS operational envelope.

8.6.5.1 Verify that a critical speed margin exists with the installed PTO shafting system.

8.6.6 Verify that the emergency power system (to include the APU or jet fuel starter (JFS) when deemed flight essential) is capable of responding to failures and providing adequate levels of bleed air, shaft, electrical and/or hydraulic power in sufficient time to meet design requirements.

Downloaded from http://www.everyspec.com

8.6.7 Verify that provisions for the following adequately address safety:

a. Structural mounting
b. Wiring and plumbing support, routing, and clearances
c. System/component and compartment drainage (see 8.4)
d. System/component and compartment cooling and ventilation (see 8.4)
e. System/components designed for appropriate level of fire hardening (see 8.4)
f. Accessibility to all required inspection and servicing features and areas

8.6.8 Verify that the inlet and exhaust hazards (i.e., velocities, temperatures, acoustics, exhaust by-products, etc.) to the ground/flight/passenger personnel, air vehicle subsystems, and air vehicle structure are acceptable.

8.6.9 Verify that personnel hazards are properly documented in the appropriate technical orders (T.O.s) with warnings and precautions.

8.6.10 Verify that compatibility of the accessory drive system with the air vehicle accessories and engine drive system has been adequately evaluated for torsional vibrations and loads as well as possible misalignments.

8.6.11 Verify that all critical failure modes and hazards have acceptable risk levels.

8.6.12 Verify that the crew station provides for adequate control and monitoring of the system.

8.6.13 Verify that equipment service life, overhaul, and operating limits are safe and that life-limited components have a reliable means of tracking the limiting parameter.

8.6.14 Verify that the flight and maintenance manuals include normal and emergency operating procedures, limitations, servicing, and maintenance information.

8.7 Aerial refueling system.

8.7.1 Verify that aerial refueling operations can be safely and successfully accomplished with the targeted tanker/receiver aerial refueling subsystem(s).

8.7.1.1 Verify that safe aerial refueling procedures are contained in the technical orders for the tanker and receiver air vehicles.

8.7.1.2 Verify that there is dimensional, physical, electrical, and material compatibility with each aerial refueling interface to permit engagement.

8.7.1.3 Verify that the aerial refueling system interface, and its attachment to structure, can withstand the loads experienced during the engagement/disengagement process with the tanker/receiver interface(s) without being damaged or creating FOD.

8.7.1.4 Verify that visual cues are provided on the air vehicle to assist the targeted tanker/receiver crew(s) and the air vehicle crew during the aerial refueling process. Likewise, verify that visual cues provided on the targeted tanker/receiver air

Downloaded from http://www.everyspec.com

vehicle(s) can be viewed by the appropriate air vehicle crewmember(s), as intended, during the aerial refueling process.

8.7.1.4.1 Verify that all markings are compatible with the expected environmental conditions and fluid exposures (fuel, hydraulic fluid, air vehicle cleaning solvents, etc.).

8.7.1.5 Verify that exterior aerial refueling lights are provided on the air vehicle to assist the targeted tanker/receiver crew(s) and the air vehicle crew during the aerial refueling process.

8.7.1.6 Verify that exterior aerial refueling lights provided on the targeted tanker/receiver air vehicle(s) can be viewed by the appropriate air vehicle crewmember(s), as intended, during the aerial refueling process.

8.7.1.7 Verify that the intensity of each exterior aerial refueling light can be independently varied to accommodate the needs of the targeted tanker/receiver crew(s) and the air vehicle crew.

8.7.1.8 Verify that the appropriate exterior aerial refueling lights are compatible with night vision goggles (NVG).

8.7.1.9 Verify that all lights are compatible with the expected environmental conditions and fluid exposures (fuel, hydraulic fluid, air vehicle cleaning solvents, etc.).

8.7.1.10 Verify that a communication system has been provided which permits the exchange of all identified data and information between the tanker air vehicle and the receiver air vehicle(s) during the aerial refueling process.

8.7.1.11 Verify that the types of fuels to be transferred/received and any allowed deviations have been identified.

8.7.1.12 Verify that the delivery pressure and flow rate of the transferred/received fuel have been identified.

8.7.1.13 Verify that surge pressures generated during the aerial refueling process do not exceed the proof pressure limits for the aerial refueling system of the air vehicle or for the targeted tanker/receiver aerial refueling system.

8.7.1.14 Verify that surge pressure conditions are safe, including (1) with and without a single failure in the tanker system's pressure regulation feature(s), (2) pump start-up surges (no flow to receiver), (3) all possible receiver valve closures (manually or automatically activated) which could terminate flow into the receiver, and (4) flowing disconnects.

8.7.1.15 Verify that amount of allowable fuel spray/leakage upon engagement and disconnect of the aerial refueling interfaces is safe.

Downloaded from http://www.everyspec.com

8.7.1.16 Verify that any spray is not ingested by the engine(s) of the receiver, into hazardous ignition areas on the tanker/receiver, or into the environmental management system of the tanker/receiver.

8.7.1.17 Verify that adequate flight stability and handling qualities are provided for the tanker/receiver aerial refueling interface within the specified aerial refueling envelope.

8.7.2 Verify that each aerial refueling system can be installed and operated (normal and single-failure conditions) without causing loss of the air vehicle or creating a potential hazard to personnel for the identified environment.

8.7.2.1 Verify that the system has been designed to minimize the hazards from lightning, static electricity, fuel leaks, and ground potential.

8.7.2.1.1 Verify that the receptacle installation has a fuel- and vapor-proof pressure box below it to collect the fuel spray that may occur during aerial refueling.

8.7.2.1.2 Verify that all fluids that collect within the pressure box are capable of being drained safely.

8.7.2.1.3 Verify that all structural fastener heads around the receptacle are flush with the surrounding structural surface.

8.7.2.1.4 For probe installations (retractable), verify that the probe compartment is fuel- and vapor-proof such that any fuel spray that may collect in this compartment does not migrate.

8.7.2.1.5 Verify that the collected fluids within the probe compartment are capable of being drained overboard safely.

8.7.2.1.6 For tanker pods, verify that there is adequate air flow/exchange within the pod to preclude the buildup of a flammable vapor within the pod.

8.7.2.1.7 Verify that all fluids that can be collected within the pod are capable of being drained overboard safely.

8.7.2.2 Verify that there is a secondary liquid- and vapor-tight barrier between the aerial refueling fuel tanks and identified fire hazard areas/inhabited areas.

8.7.2.3 Verify that the flight control/handling qualities of the air vehicle are not negatively impacted when the aerial refueling system is installed or operating.

8.7.2.4 Verify that the flight control/handling qualities of the air vehicle are not degraded below safe limits, and the air vehicle can safely land when the system interface can not be returned to its fully stowed configuration.

Downloaded from http://www.everyspec.com

8.7.2.5 Verify that in-flight egress, ground emergency egress, and assisted egress of any crewmember are not affected when the system interface can not be returned to its fully stowed configuration.

8.7.3 Verify that the flight control/handling qualities of the air vehicle are not negatively impacted by the removal of hardware associated with an aerial refueling system. For tanker subsystems, this may include pods and fuel tanks that must be removed to reconfigure the tanker for another mission. For receiver subsystems, this may include probe installations that are not permanent.

8.7.3.1 When hardware is removed, verify that interfaces with other systems (e.g., electrical, hydraulic, and fuel system) are properly covered, sealed, isolated, etc., to preclude providing a new leak or ignition source in the air vehicle.

8.7.4 Verify that each aerial refueling system installation can meet its design and performance requirements when operated within the specified parameters.

8.7.4.1 Verify that the plumbing/components in each aerial refueling system (as completely assembled and installed within the air vehicle) can withstand exposure to the specified proof pressure limit for the subsystem without resulting in fuel leakage and system performance degradation.

8.7.4.2 Verify that critical operational functions and functional modes have been provided in the aerial refueling system that ensure the aerial refueling process can be conducted safely.

8.7.4.3 Verify that controls have been provided to the appropriate crewmember(s) to activate and control the identified functions of the aerial refueling system.

8.7.4.4 Verify that displays have been provided to the appropriate crewmembers to indicate the necessary information to conduct the aerial refueling operation safely. Display lights are variable intensity and NVG compatible (if appropriate).

8.7.5 Verify that the installation and operation of each aerial refueling system (normal/single-failure conditions) does not negatively impact the operation of other subsystems on the air vehicle or on the targeted tanker(s)/receiver(s).

8.7.5.1 Verify that the vent system of any fuel tank that contains aerial refueling plumbing can accommodate the refuel rate associated with aerial refueling transfer rates under normal aerial refueling operations and single failure conditions.

8.7.5.2 When the plumbing of the aerial refueling system interfaces with the fuel system plumbing of the air vehicle or of other aerial refueling systems, verify that fuel flow through the aerial refueling system plumbing does not leak fuel due to a failure of the sealing mechanism at the single-point refueling adapter, at the pressure defueling adapter, or at other aerial refueling interface(s).

8.7.5.3 For tankers carrying a unique fuel for the designated receiver air vehicle(s), which cannot be utilized by the tanker's propulsions system, verify adequate isolation of the aerial refueling system from the tanker's fuel system.

Downloaded from http://www.everyspec.com

8.7.5.4 Verify that any data communication system provided on the air vehicle is compatible with (1) the flight control system on the air vehicle, (2) other electrical systems on the air vehicle, and (3) the flight control and electrical systems on the targeted tanker(s)/receiver(s).

8.7.5.5 Verify that the field of view of the aircrew is adequate during landing or other critical flight phases.

8.7.5.6 When the plumbing of the aerial refueling system interfaces with the fuel system plumbing of the air vehicle or of other aerial refueling systems, verify that a leak in the aerial refueling system plumbing does not impact the fuel system's fuel management functions (engine feed, fuel transfer, etc.).

8.7.5.7 Verify that electrical failures within the aerial refueling system will not adversely affect the air vehicle electrical system.

8.7.6 Verify that the technical manuals for the air vehicle and the targeted tanker(s)/receiver(s) contain the proper instructions/information and placards (restrictions/limitations) for any normal or emergency operating condition when using the aerial refueling system in ground and/or flight operations.

8.7.7 Verify that BIT and fault isolation provisions are available to ensure safe operations under all configuration options.

8.8 Propulsion installations.

8.8.1 Verify that all engine/air vehicle physical interfaces are safe.

8.8.2 Verify that functional compatibility of the integrated system is safe.

8.8.3 Verify that engine bay/nacelle cooling and ventilation provisions are adequate to maintain the temperatures of power plant components, engine fluids, other bay/nacelle equipment and structure within the temperature limits established for these components and fluids, under ground and flight operating conditions, and after normal engine shutdown. (These provisions should be compatible with the fire protection certification criteria of 5.4.)

8.8.4 Verify that, when applicable, the engine mounted accessory gearbox/PTO shaft/airframe mounted accessory gearbox/system is free of any potentially damaging resonant conditions (refer to section 5.6 for additional details) for all loads and modes of operation.

8.8.5 Verify that the probability of failure of uncontained parts damaging SOF systems is acceptable.

8.8.6 Verify that clearance between the air vehicle and engine (including associated components, plumbing, and harnesses) is maintained under all operating conditions within the ground and flight envelopes.

Downloaded from http://www.everyspec.com

8.8.7 Verify that drain systems have sufficient capacity, operate throughout required ground and flight attitudes and regimes, and expel/store the fluids in a safe manner.

8.8.8 Verify that the air vehicle propulsion controls and crew station information are adequate for proper crew control and operation of the propulsion system.

8.8.9 Verify that the air induction system(s) functions under all expected ground, flight and environmental (including icing as applicable) conditions without adversely affecting engine operation or resulting in engine damage.

8.8.10 Verify the engine air inlet components have adequate structural margin to withstand the over pressures generated by inlet/compressor anomalies.

8.8.11 Verify that exhaust systems direct exhaust gases to the atmosphere clear of the crew, boarding or discharging passengers, externally mounted equipment, fluid drains, air intakes, and stores.

8.8.12 Verify that thrust reverser/thrust vectoring systems are fail-safe and compatible with engine and air vehicle systems.

8.8.13 Verify that operator (flight) and maintenance manuals address normal and emergency operating procedures, limitations, servicing, and maintenance information.

8.8.14 Verify accessibility to propulsion-system-related equipment for the performance of required servicing, inspections, and maintenance.

8.8.15 Verify that airframe and propulsion systems eliminate sources of self-induced foreign object damage (FOD) to engines.

8.8.16 Verify that propulsion system performance and operability is adequate when air vehicle is operated in rain, sand, airborne debris or ambient temperature extremes.

8.9 Mechanisms.

(Equipment involved in the securing, fastening, and mechanizing of aircraft doors, hatches, ramps, weapon launchers, etc. Includes items such as locks, latches, bearings, hinges, linkages, indicators, and actuators.)

8.9.1 Verify that all SOF critical mechanisms perform their allocated air vehicle functions under their specified operating environments and conditions.

8.9.2 Verify that damage or permanent deformation to any mechanism or support structure will not result in a critical jam load condition.

8.9.3 Verify that the failure of any mechanism will not cause the loss of control of the aircraft or prevent continued safe flight and landing.

8.9.4 Verify that inadvertent loosening or opening of aircraft doors, door latches, locks, or fasteners will not restrict the operation of any flight control system.

Downloaded from http://www.everyspec.com

8.9.5 Verify that no single failure allows any latch to open inadvertently.

8.9.6 Verify that any locking system is incapable of locking or indicating it is locked unless all the latches are properly latched in the fully secured position.

8.9.7 Verify that all aircraft doors, whose inadvertent opening would present a probable hazard to continued safe flight and landing, have provisions to prevent depressurization of the aircraft to an unsafe level if the doors are not fully closed, latched, and locked.

8.9.8 Verify that the indication system will continuously monitor and provide an unsafe indication when the door, latching, or locking system is unsecured, and will provide a safe indication when the system is secured.

8.9.9 Verify that the door control systems are designed for emergency operation by means of manual actuation of the door/drive sequence.

8.9.10 Verify that all door seals prevent rain or water leakage into the aircraft during all flight and ground operations and while the aircraft is parked and depressurized under storm conditions.

Downloaded from http://www.everyspec.com

9. CREW SYSTEMS

The crew systems area consists of the following elements: pilot-vehicle interface, aircrew station (accommodations, lighting, furnishings and equipment), the life support system, the emergency escape and survival system, the transparency system, crash survivability, and air transportability.

TYPICAL CERTIFICATION SOURCE DATA

1. Escape system requirements and validation
2. Crew station layout/geometry review
3. Human factors
4. Failure modes, effects, and criticality analysis (FMECA)
5. Life support system requirements and validation
6. Crash survivability requirements and validation
7. Lighting system design, analysis, test reports
8. Transparency integration
9. Air transportability, cargo, and airdrop systems
10. Load analyses
11. Aeroservoelastic analyses
12. Test plans
13. Test reports
14. Proof test results
15. Simulation test, modeling and results

CERTIFICATION CRITERIA

9.1 Escape and egress system.

This element provides the means whereby the occupant(s) can leave the airplane during in-flight, water, and ground emergencies. It may include the following equipment and devices: the ejection seat (if equipped), restraint system, escape sequencing system, cartridge actuated or pyrotechnic actuated devices (CAD/PAD), canopy jettison (including thrusters and rockets), escape path clearance, parachute(s), provisions for survival equipment (flares, medicine, radio, sustenance, arms, emergency oxygen, flotation equipment), manual bailout, emergency escape exits, escape paths, life rafts, slides, emergency ground egress provisions, and aeromedical evacuation.

9.1.1 Verify that the escape system is safe for use and that the escape system is compatible with the airframe and human tolerance limits.

9.1.2 Verify that escape exits and escape routes are provided in appropriate sizes and numbers for emergency landing and ditching to permit timely and complete egress of occupants.

9.1.3 Verify that emergency exits have operating instructions, lighting, and markings, both internally and externally.

Downloaded from http://www.everyspec.com

9.1.4 Verify that devices for ground emergency egress assist (slides, descent reels, life rafts, etc.) and their deployment handles/actuators meet safety requirements.

9.1.5 Verify that ground emergency egress procedures exist and are issued to ground crash rescue personnel for aircrew rescue.

9.1.6 Verify that egress equipment exists to aid escape in the event that exits are blocked, are damaged, or have failed.

9.2 Crew station layout.

Aircrew station (accommodations, lighting, furnishings and equipment) – This element provides the crewmember with crew station geometry covering workspace size and arrangement as specified by the anthropometric requirements, internal and external visibility necessary to perform the specified missions safely, cockpit illumination (primary, secondary, night vision imaging systems (NVIS), laser eye protection (LEP), utility and emergency lighting), thermal and acoustic protection, storage facilities, sanitary facilities, cockpit finish and trim, instrument panel and consoles, and protection from cockpit generated reflections (glareshields). It may also cover boarding arrangements such as ropes or ladders. Crew and passenger accommodations may also be covered. This element also covers ground station requirements, where appropriate, for unmanned air vehicles.

9.2.1 Verify that all controls and displays are arranged and located so that they are completely functional and visible and that cockpit geometry (including seats) accommodates the specified multi-variate flight and mission crew population.

9.2.1.1 Verify that all displays are readable, from all crewmember eye positions, under the full range of ambient conditions from full darkness to direct sunlight.

9.2.1.2 Verify that the interior and exterior field of view are sufficient to safely perform all flight and mission-critical functions.

9.2.2 Verify that all controls are properly designed and can be operated through their complete range of travel without interference with other controls, structures, or crewmembers' bodies; and that all emergency action controls are reachable by the air crewmember from a restrained shoulder position in all air vehicle attitudes and through the complete “g” force loads.

9.2.3 Verify that the master caution and warning systems' displays are located in the prime visual signal area and all warning and caution situations are displayed.

9.2.3.1 Verify that caution/warnings are accompanied by an alerting tone.

9.2.4 Verify that emergency action controls are properly marked.

9.2.5 Verify that lighting and illumination exists for crewmembers to perform all flight-critical tasks and the system is NVIS and laser eye protection (LEP) compatible, if applicable.

Downloaded from http://www.everyspec.com

9.3 Air vehicle lighting.

This element involves the following: Lighting environments and mechanisms (e.g., NVIS, LEP) allowing crewmembers to see information from displays and instruments, to operate controls, to move safely throughout and emergency egress the compartment, to see other vehicles in formation and during aerial refueling, and to perform all other mission-critical functions where sight is necessary.

9.3.1 Verify that lighting systems exist to visually illuminate everything in or on the air vehicle that needs to be seen by crew, wing men, passengers, maintainers, and ground support personnel, regardless of ambient lighting conditions.

9.3.2 Verify that the lighting is fully controllable and uniform, and does not produce unacceptable glare, shadows, and reflections.

9.3.3 Verify that the lighting will allow the air vehicle to operate in commercial airways without restriction.

9.3.4 If appropriate, verify that the lighting is fully compatible with NVIS and LEP.

9.4 Human performance.

This element provides the means for the crewmember to monitor and control the system flight path management, navigation, caution, warning, advisory, communications, identification, propulsion, and mission and utilities subsystems. It covers presentation of emergency checklists and procedures. It encompasses the location and arrangement of the primary flight display suite, crew workload, situation awareness, and spatial disorientation aspects.

9.4.1 Verify that all functional operations can be safely performed including tasks performed by crew and maintainers.

9.4.1.1 Verify that the primary flight display suite provides the necessary information to the crewmembers to safely perform all basic and unique flight maneuvers including emergency conditions.

9.4.2 Verify that all operating instructions, flight handbooks/checklists, flight/performance management and planning systems, etc., are not in conflict with system descriptions and procedures (normal and emergency) and actual system performance; that emergency procedures are clear and corrective actions do not create other hazardous situations; and that all procedures or pilot/vehicle interfaces can be accomplished within acceptable crew workload limits.

9.4.3 Verify that no unsafe blind spots exist from posts, canopy bow, windshield frames, heads up display (HUD) supports, etc.

9.5 Life support systems.

This element provides the human with breathing and anti-g provisions, and natural, induced, and combat hazard protection. This includes chemical biological protection, laser protection, cold water immersion protection, head protection, noise protection, altitude protection (pressure suits), protection from rapid decompression, personal services, etc.

Downloaded from http://www.everyspec.com

9.5.1 Verify that the air vehicle integrated life support systems (for example, high altitude, “g” protection, ocular protection, and breathing) are fully functional and accessible within the flight envelope.

9.5.2 Verify that the system satisfies the physiological requirements of the occupants during mission, escape, and survival.

9.5.3 Where the life support system must interface with other air vehicle subsystems, verify that the operation of the life support system is not degraded by, and does not degrade, the normal or failure modes of operation of those subsystems (for example controls and displays, escape systems, communication, environmental management system (EMS)).

9.6 Transparency integration.

This element provides the crewmember with exterior vision capability in accordance with system requirements. It may consist of a flat transparency window, a windscreen and/or a canopy system. It also may include the transparency/canopy frame, canopy actuator, canopy latch/locking system, etc.

9.6.1 Verify that canopies and associated support structure, as well as the actuation, latching, and locking mechanisms, are compatible with the air vehicle escape system to permit safe egress and escape in the event of an emergency.

9.6.2 Verify that the transparency system meets bird-strike impact survivability requirements.

9.6.3 Verify that the structural/thermal capability of the transparency system is adequate for all loads and flight conditions.

9.6.4 Verify that the transparency system shape is compatible, and will not interfere, with crewmember and equipment positions and motions used during normal and emergency conditions.

9.6.5 Verify that the optical characteristics of the transparencies (windshield, canopy, windows, as applicable), including transmissivity, angular deviation, optical distortion, haze, multiple imaging, binocular disparity, birefringence, and minor optical defects are compatible with the safety-critical optical systems used by the air crew and provide a safe optical environment to the pilot.

9.6.6 Verify that necessary deployment power is available under normal and emergency conditions and that there is no interference with manual actuation of the canopy when air vehicle and/or external power is not available.

9.6.7 Verify that the environmental management system interface provides necessary defogging, pressurization, heating, cooling, humidity control, and ventilation of the transparency system under normal and emergency conditions.

Downloaded from http://www.everyspec.com

9.6.8 Verify that provisions for rain removal, deicing and defogging, and snow and ice removal are adequate for pilot external vision and that these provisions do not cause temporary or permanent optical degradation of the transparencies.

9.7 Crash survivability.

This element provides the pilot, crew, and passengers with protection/procedures in the event of a crash scenario. It covers crash rescue procedures, fire protection, equipment containment, smoke protection, emergency lighting and seating.

9.7.1 Verify that seating system load capabilities are commensurate with the air vehicle type for aircrew and passengers and that the design of the floor and load paths to the seat attachments is capable of sustaining the loads of the seat system in a crash.

9.7.2 Verify that the stroke clearance envelope for energy absorbing seats is clear of structures and equipment that could impede seat stroke.

9.7.3 Verify that restraint systems are designed to restrain the occupant properly for the crash loading of the seat.

9.7.4 Verify that the strike envelope of the occupant during crash loads will be kept free of objects that are risks to survival or may cause serious injury that renders the crewmember unable to perform post-crash egress functions.

9.7.5 Verify that emergency oxygen is available for all occupants of the air vehicle.

9.7.6 Verify that the exits are post-crash operational up to the design crash loads.

9.7.7 Verify that, under design crash loads, items of high mass (objects which can cause injury to occupants) will hold their spatial position relative to the occupants.

9.7.8 Verify that the aircraft is equipped with breathing and eye protection equipment, fire fighting equipment, and fire extinguishers appropriate for the expected use.

9.7.9 Verify that ditching provisions, including flotation devices for all occupants, are installed on all air vehicles without assisted escape systems.

9.7.10 Verify that pre-crash warning between aircrew and all compartments is possible without aircrew or occupants leaving their seating position.

9.8 Air transportability and airdrop.

This element addresses technical requirements in the area of aerial delivery of cargo and personnel with regard to safety of the air vehicle. It may cover cargo restraint, tiedowns, transport of hazardous materials, handling/loading of either problem or unique cargo, and airdrop of cargo and personnel.

9.8.1 Verify that the air vehicle structure can support the loads imposed by the cargo during operational usage.

Downloaded from http://www.everyspec.com

9.8.2 Verify that clearance exists for aircrew and passengers during flight-critical and emergency functions.

9.8.3 Verify that cargo loading manuals include shear, bending, crushing, or puncture load limits such that the cargo will not impart excessive loads into the air vehicle structure during any phase of the loading process.

9.8.4 Verify that the positioned cargo meets required flight weight and balance requirements.

9.8.5 With the exception of items designated for airdrop, verify that the loaded item will not change the air vehicle C.G. position during flight.

9.8.6 Verify that restraints afford sufficient capacity and are provided in sufficient quantity to safely restrain the transported items.

9.8.7 Verify that all technical orders are accurate and provide cargo preparation, handling, carriage, and delivery procedures necessary for safe ground and flight operations.

9.8.8 Verify that cargo compartment dimensions allow enough room to safely load, transport, and/or airdrop required items.

9.8.9 Verify that air vehicle flight performance/control is not hazardously affected by movements in C.G. of airdrop loads.

9.8.10 Verify that air vehicle personnel airdrop systems can withstand the loads imposed by personnel during airdrop and possible personnel airdrop equipment malfunctions.

9.8.11 Verify that the air vehicle provides the capability to safely recover a hung jumper.

9.8.12 Verify that, for personnel airdrop, acceptable risk levels exist to avoid paratrooper collision, adverse vortex interaction, and adverse multi-ship formation effects induced by the air vehicles.

9.8.13 For airdrop or jettisonable cargo, verify the loaded items can be safely jettisoned during flight.

Downloaded from http://www.everyspec.com

Downloaded from http://www.everyspec.com

10. DIAGNOSTICS SYSTEMS

TYPICAL CERTIFICATION SOURCE DATA

1. Failure modes, effects, and criticality analysis (FMECA)
2. Acceptance test procedures
3. Pre-flight test results
4. Built-in-test software
5. Flight test plan
6. Testability analysis reports
7. BIT demos reports
8. Test & evaluation master plan (TEMP)
9. Failure report and corrective action system (FRACAS) data
10. Test reports

CERTIFICATION CRITERIA

10.1 Failure modes.

10.1.1 Verify that critical functional failure modes have been identified and detection methods incorporated.

10.1.2 Verify that all critical functional failures are linked to the caution and warning function and message.

10.2 Operation.

10.2.1 Verify that the operation of air vehicle and ground diagnostic systems is proper for all SOF parameters.

10.2.2 Verify that critical parameter values can be measured within the established tolerances and that operation and calibration procedures are defined.

10.2.3 Verify that measures have been taken to ensure that the diagnostic system itself will not induce undetected failures or otherwise damage the air vehicle.

10.2.4 Verify functionality of safety systems that provide protection against catastrophic failures prior to potential need of the safety system.

10.3 Diagnostic systems technical orders.

10.3.1 Verify that all T.O.s are complete and accurate.

Downloaded from http://www.everyspec.com

11. AVIONICS

TYPICAL CERTIFICATION SOURCE DATA

1. Design criteria
2. Design studies and analyses
3. Design, installation, and operational characteristics
4. Design approval and system compatibility tests
5. Simulation tests and modeling results
6. Component and system level qualification and certification tests
7. Electromagnetic environmental effects
8. Hazard analysis and certification
9. Failure modes and effects analysis
10. Avionics flight-critical hardware and software
11. Avionics preliminary design review (PDR) and critical design review (CDR) open items
12. Avionics integration tests and results
13. Avionics/electronics integrity program documentation
14. Flight test simulation plan
15. System/subsystem self-test design and capabilities
16. Acceptance test plans, procedures, and results
17. Qualification test plans, procedures, and results
18. Functional configuration audit (FCA) and physical configuration audit (PCA) data
19. Test reports

CERTIFICATION CRITERIA

(Note: For subsystems that use computer resources, see section 15 for additional, specific criteria.)

11.1 Avionics architecture.

This element addresses the avionics system requirements in the areas of the overall architecture. It may include the number and types of sensors, data bases, redundancy provisions, integrity and continuity of service requirements, data interface requirements, characteristics of real-time operation, modes of operation, and integrated diagnostics. The intent of this element is to verify that the integrated avionics system is safe during all modes of operation.

11.1.1 Verify that the number and type of sensors, data processors, data bases, controls and displays, and communications devices are adequate for SOF considerations. As a minimum, the following are provided:

a. Air data system, including provisions for displaying primary flight parameters
b. Propulsion system instrumentation, with the ability to monitor performance, fuel status, and integrity of the system
c. Display of other air vehicle or vehicle management system parameters as required for safe flight

Downloaded from http://www.everyspec.com

d. A radio communications subsystem capable of supporting SOF coordination with the required integrity and continuity of service throughout the intended missions
e. A navigation subsystem capable of meeting SOF performance, integrity, and continuity of service requirements for long range reference, local area reference, and landing/terminal reference
f. A surveillance and identification subsystem capable of meeting the SOF performance, integrity, and continuity of service requirements for identification, relative positioning, trajectory, timing, and intent.

11.1.2 Verify that redundancy has been incorporated such that failure of any single sensor, connection, processor, or display unit will not result in loss of safety-critical data or display of unsafe or misleading data.

11.1.3 Verify that data busses have sufficient redundancy, reliability, and integrity to meet system safety and flight-critical requirements to preclude
a. Loss of flight-critical functioning
b. Display of unsafe or misleading information to the operator or maintainer
c. Undetected failure modes

11.1.4 Verify that the avionics system and subsystems provide deterministic, real-time operation and limit latency of primary flight data as needed to support all safety-critical functions.

11.1.5 Verify that all normal, backup, and emergency modes of operation are safe for the integrated system.
a. Verify that undetected failure modes (failures not automatically detected by diagnostics) will not result in unsafe system operation.
b. Verify that timing or latency anomalies will not result in unsafe system operation.
c. Verify that interface/interconnect failures will not result in unsafe system operation.

11.1.6 Verify that the avionics system integrated diagnostics will provide the fault coverage, low false alarm rates, fault isolation, and fault detection needed to detect bad data and failed components that would degrade safe operation.

11.2 Avionics subsystems

This element addresses technical requirements for the individual avionics subsystems that are a part of the overall avionics architecture. It may include computers, communications, identification, navigation, air data, controls, displays, and sensors.

11.2.1 Verify that critical information is provided to the crew as follows:
a. Verify that primary flight information is provided to the crew at all times and is fully legible in all mission environments, including full sunshine on displays, sun in the eyes, and total darkness.
b. Verify that accuracy of flight-critical instrumentation meets SOF requirements.
c. Verify that cautions and warnings are legible in all mission environments, are provided in an organized, prioritized system, and the presentation of high priority information is not masked by older or lower priority warnings and cautions.

Downloaded from http://www.everyspec.com

d. Verify that instruments and symbols used to display flight-critical information employ accepted formats, directions, etc.

e. Verify that BIT features of equipment alert the flight crew of the SOF equipment status.

11.2.2 Verify that controls have adequate redundancy and/or reliability to maintain control of all safety-critical functions.

11.2.3 Verify that data links used for safety- and flight-critical functions meet system safety- and flight-critical requirements to

a. Preclude loss of flight-critical functioning and ensure SOF integrity and continuity of service throughout the intended missions

b. Preclude display of unsafe or misleading information to the operator or maintainer, and to satisfy fault-tolerant SOF requirements

11.2.4 Verify that each subsystem (including any off-the-shelf equipment) and the overall system will operate throughout the required operational environment without imposing a SOF risk. This verification typically includes environmental qualification and/or analysis.

11.2.5 Verify safe avionics subsystem operation with required power characteristics.

11.3 Avionics aircraft installation.

This element provides the verification requirements that are unique to the installation of the avionics equipment onto the aircraft.

11.3.1 Verify that the avionics equipment installation, including arrangement, crashworthiness, and illumination, is adequate for SOF.

11.3.2 Verify that flight manual and maintenance manual limits are adequate to conduct safe flight, including emergency operations.

11.3.3 Verify that antenna patterns for safety/flight-critical transmitting and receiving equipment provide adequate coverage to preclude

a. Loss of flight-critical functioning.

b. Display of unsafe information to the operator or maintainer.

Downloaded from http://www.everyspec.com

12. ELECTRICAL POWER SYSTEM

TYPICAL CERTIFICATION SOURCE DATA

1. Design criteria
2. Design studies and analyses
3. Failure modes, effects, and criticality analysis (FMECA)
4. Hazard analyses
5. Functional operations test results
6. Performance test results
7. Installation and operational characteristics
8. Component and system qualifications
9. Flight manual, flight test procedures, and limitations

CERTIFICATION CRITERIA

(Note: For subsystems that use computer resources, see section 15 for additional, specific criteria.)

12.1 Power generation system.

12.1.1 Verify that sufficient power is available to meet the power requirements during all modes of operation and failure conditions.

12.1.2 Verify that the operation of the electrical power generation system is safe, including adequate implementation of cooling provisions, status/failure indications, and mechanical/thermal disconnect of generators.

12.1.3 Verify that operation of the integrated system for normal and emergency modes is safe. This includes use of actual or simulated drives and loads, all flight and control configurations, transition between modes, bus switching, load shedding, and fault condition operation (detection, clearing, and reconfiguration); and assurance that no single fault affects more than one power source.

12.1.4 Verify that required power quality is maintained for all operating conditions and load combinations.

12.1.5 Verify that the independent, uninterruptable power sources, including power control panels, are available to satisfy requirements of essential redundancy for flight-critical functions after failure of the primary power system and there is no single-point failure (including circuit boards) anywhere in the power system.

12.1.6 Verify that, if batteries are employed for SOF backup power, adequate charging methods and checks are provided and installation provisions for all batteries are safe.

Downloaded from http://www.everyspec.com

12.1.7 Verify that emergency backup electrical power systems provide required power for flight conditions associated with the mission profiles of the platform and malfunction recovery procedures.

12.1.8 Verify that any subsystem limitations are defined and included in the appropriate manuals.

12.1.9 Verify that suitable normal and emergency operating procedures are included in the flight manual.

12.1.10 Verify that the system powers up in a safe state and, upon loss of power or power transient/fluctuation, the system remains in a known safe state or reverts to a known safe state.

12.2 Electrical wiring system, including power distribution.

12.2.1 Verify that appropriate electrical wiring (conductor material and coating and insulation system), electrical system components, and support devices have been selected and are suitable for the physical environment in each area on the air vehicle and that installation is safe regarding shock hazard protection for personnel.

12.2.2 Verify that wiring has been sized properly for the required current handling capability and voltage drop.

12.2.3 Verify that proper circuit protection is provided for wiring associated with power distribution throughout its entire run, including circuits contained in or exiting from any electronic enclosures performing intermediate power switching or distribution functions.

12.2.4 Verify that redundant circuits provided for safety are sufficiently isolated.

12.2.5 Verify that there are no single-point failures related to wiring associated with integrating redundant functions within an electronics enclosure.

12.2.6 Verify that the wiring system installation, including connectors, is adequate for all operating conditions.

12.2.7 Verify that wiring in areas containing explosive vapors is protected to prevent potential ignition sources, including issues with aging and deterioration of the wiring.

12.2.8 Verify that failure (either open circuit fault or shorted/crossed-circuits fault) within a wiring harness that includes safety-critical wiring does not cause loss of, or unacceptable degradation to, any safety-critical functions.

Downloaded from http://www.everyspec.com

13. ELECTROMAGNETIC ENVIRONMENTAL EFFECTS (E3)

TYPICAL CERTIFICATION SOURCE DATA

1. Design criteria
2. Design studies and analyses
3. Failure modes and effects analyses
4. Hazard analyses
5. Component/subsystem qualification reports
6. Installation and operational characteristics
7. System qualification or SOF certifications
8. Flight manual and flight test procedures and limitations
9. Test reports

CERTIFICATION CRITERIA

13.1 Component/subsystem E3 qualification.

13.1.1 Verify that all flight-critical equipment complies with the electromagnetic interference requirements that are appropriate for the system application or appropriate flight restrictions are imposed in the flight manuals for exceptions.

13.1.2 Verify that equipment complies with conducted and radiated susceptibility requirements that reflect external radio frequency (RF) environment concerns.

13.1.3 Verify that equipment complies with transient susceptibility requirements that include consideration of indirect effects levels derived from the external lightning environment.

13.2 System-level E3 qualification.

13.2.1 Verify that on-board equipment and subsystems exhibit electromagnetic compatibility with all other on-board equipment.

13.2.1.1 Verify that safety-critical subsystems have no undesirable responses.

13.2.1.2 Verify that antenna-connected equipment is compatible with one another.

13.2.1.3 Verify that antenna-connected equipment is not degraded beyond its operational requirements by any other on-board equipment to a level that would impact safety.

13.2.2 Verify that on-board equipment and subsystems exhibit electromagnetic compatibility while operating within the intended external operational electromagnetic environment.

13.2.2.1 Verify that safety-critical subsystems have no undesirable responses while operating in the intended operational environment.

Downloaded from http://www.everyspec.com

13.2.2.2 Verify that antenna-connected equipment is not degraded beyond its operational requirements, while operating in the intended operational electromagnetic environment, to a level that would impact safety.

13.2.3 Verify that the system has met all requirements for lightning direct and indirect effects, and any potential for ignition of fuel vapors has been eliminated.

13.2.4 Verify that electrostatic charge control is safe.

13.2.5 Verify that electrical bonding is safe.

13.2.6 Verify that there is adequate protection from hazards of electromagnetic radiation to personnel (HERP), fuel (HERF), and ordnance (HERO)..

13.2.7 Verify that the appropriate manuals include safe criteria regarding distance from on-board transmitters for personnel and fuel sources.

13.2.8 Verify that safety margins for electroexplosive devices are met.

Downloaded from http://www.everyspec.com

14. SYSTEM SAFETY

TYPICAL CERTIFICATION SOURCE DATA

1. System Safety Program plan
2. Preliminary hazard analyses
3. Subsystem hazard analyses (fault hazard analyses or fault tree analyses)
4. System hazard analyses
5. Operating and support hazard analyses
6. Test hazard analyses
7. Occupational health hazard assessment
8. Specialized analyses such as a sneak circuit analyses and software hazard analyses
9. Type T-2 modification documentation (for correction of safety deficiencies)
10. Component/system test results (waivers/deviations and equipment conditional usage documents)
11. Minutes of System Safety group meetings (open items)
12. Minutes of System Safety program reviews (open items)
13. Engineering change proposals (safety related)
14. Hazard identification, evaluation and correction-tracking system files
15. Safety assessment reports
16. SOF test plans and test results
17. Test temporary engineering orders (not previously included in any safety analyses)
18. Failure modes, effects, and criticality analysis (FMECA)
19. Hazard risk index
20. MIL-STD-882, System Safety Program Requirements
21. Test review board reports
22. Safety review board reports
23. Flight readiness review reports

CERTIFICATION CRITERIA

14.1 System safety program.

14.1.1 Verify that an effective system safety program is implemented that effectively mitigates risks/hazards and that documents and tracks the risks/hazards of the design/modification.

14.1.1.1 Verify that the following have been addressed:

a. Flight safety
b. Range safety
c. Explosives and ordnance safety; nonnuclear munitions

Downloaded from http://www.everyspec.com

d. Ground/industrial safety
e. Test safety and support
f. Software
g. Support equipment
h. Fail safe design
i. Failure modes and effects testing and built-in-test
j. Foreign object damage (FOD) prevention program
k. Nuclear safety or nonnuclear safety
l. Laser safety

14.2 Safety requirements.

14.2.1 Verify that a systematic process is employed that provides for hazard identification, hazard control requirement generation and implementation, and residual risk assessment.

14.2.2 Verify that the design is safeand that human factor aspects are fully addressed.

14.2.2.1 Verify that no single-point failure will unacceptably impact the safety of the system.

14.2.3 Verify that the design/modification software ensures controlled or monitored functions do not initiate hazardous events or mishaps in either the on or off (powered) state.

14.2.4 Verify that the design adequately protects the power sources, controls, and critical components of redundant subsystems.

14.2.5 Verify that the design is produced to ensure risk reduction of failures or hazards created by human error in the operation and support of the system.

14.2.6 Verify that the system design is within acceptable risk bounds over worst-case environmental conditions.

14.2.7 Verify that the installation process and location of systems in the air vehicle result in acceptable risk for personnel exposure to hazards.

14.2.8 Verify that the design isolates hazardous substances, components, and operations from other activities, areas, personnel, and incompatible material.

Downloaded from http://www.everyspec.com

15. COMPUTER RESOURCES

TYPICAL CERTIFICATION SOURCE DATA

1. Computer resources utilization
2. Design review/audits/meeting minutes and action items
3. Software requirements specifications (SRSs)
4. Software top-level design documents (STLDDs)
5. Software development plans (SDPs) and/or software development integrity master plans (SDIMPs)
6. Software test plans, procedures, and reports
7. Quality assurance and configuration management plans
8. Master test planning documents and scheduling
9. Software regression testing criteria/procedures (all levels)
10. Software development folders
11. Failure modes, effects, and criticality analysis and testing (FMECA/FMET) or equivalent
12. Hazard analyses (software)
13. Test reports

CERTIFICATION CRITERIA

15.1 Air vehicle processing architecture.

15.1.1 Verify that the flight-essential configurations have been identified and proper levels of redundancy (hardware and software) exist at the system level to preclude loss of critical processing capabilities.

15.1.2 Verify that all processing elements of the architecture, which interface (physically and functionally) with SOF functions, are designed as SOF.

15.1.3 Verify that all hardware and software safety/flight-critical items are identified and accounted for in the architecture.

15.1.4 Verify that SOF hardware and software interfaces are clearly defined and documented and that control flow and information flow has been established.

15.1.5 Verify that redundancy (hardware and software) has been incorporated to satisfy fault tolerant SOF requirements, including probability loss of control (PLOC) and reliability numbers.

15.1.6 Verify that separate and independent power sources are provided for redundant operations.

15.1.7 Verify that single component failure will not impede redundant operations.

Downloaded from http://www.everyspec.com

15.1.8 Verify that physical and functional separation between safety/flight critical and mission critical is accounted for in the computer system architecture.

15.1.9 Verify that no patches (object code changes not resulting from compilation of source code changes) exist for flight-critical software.

15.2 Functional design integration of processing elements.

15.2.1 Verify that all parameters passed among SOF processing elements are defined and that unnecessary coupling has been avoided.

15.2.2 Verify that level of autonomy achieved by the flight-essential elements is sufficient to preclude loss of flight due to failure in mission- or maintenance-related elements.

15.2.3 Verify that a controlled methodology has been established and applied to integrate all safety-critical elements of the processing architecture, including verification coverage.

15.3 Subsystem/processing element.

15.3.1 Electronics

15.3.1.1 Verify that all computer resources hardware components are safe and SOF elements have redundant buses that are physically separated.

15.3.1.2 Verify that all safety/flight-critical electronic components are physically and functionally separated from non-safety-critical items. (This includes items such as processors, memory, internal/external buses, input/output (I/O) management, internal/external power supplies, circuit cards, motherboards, etc.) If not separated, verify that non-safety-critical elements are treated as safety-critical items.

15.3.2 Architecture mechanization.

15.3.2.1 Verify that the executive/control structure execution rates are sufficient and consistently obtainable for SOF requirements given the control structure, priority assignments, and interrupts.

15.3.2.2 Verify that the software design, timing, control flow, interrupt structure, and data structures meet the required processing capabilities of the SOF subsystem/system real-time architecture.

15.3.2.3 Verify that all mode inputs, failure detection techniques, failure management, redundancy management, self-checks, and interfaces operate safely under all dynamic conditions.

15.3.2.4 Verify that embedded SOF software provides acceptable performance and safety.

Downloaded from http://www.everyspec.com

15.3.2.5 Verify that the SOF software design has the necessary interrupt, reinitialization, resynchronization, recheck, and reconfiguration provisions to restart or reset safely and quickly in flight.

15.3.2.6 Verify that the method of SOF software loading and verification is safe and carefully managed. (This includes the software operational flight program (OFP) loaded on individual black boxes or the air vehicle loadable OFP.)

15.3.2.7 Verify that the SOF software design has adequate self-check, failure monitoring, redundancy management, reconfiguration, voting, transient suppression, overflow protection, anti-aliasing, saturation interlock, memory protection, and techniques for preventing failure propagation to preclude SOF issues.

15.3.2.8 Verify that there is sufficient throughput margin for both input/output and processor capabilities (including memory) under worst-case mode performance scenarios for both average and peak worst-case loading conditions.

15.3.2.9 Verify that a controlled methodology has been established and applied to integrate all functional elements of a highly coupled, integrated OFP.

15.3.3 Processing architecture verification for SOF items.

15.3.3.1 Verify the operation of BIT and redundancy/failure management algorithms.

15.3.3.2 Verify that critical hardware/software discrepancies have been identified and corrected or mitigated.

15.3.3.3 Verify that adequate configuration management controls are in place to ensure proper/ functionally compatible software loading for the intended use on the air vehicle.

15.3.3.4 Verify that all communications are secure against unwanted intrusions and that security techniques used are implemented safely.

Downloaded from http://www.everyspec.com

16. MAINTENANCE

TYPICAL CERTIFICATION SOURCE DATA

1. Maintenance manuals/checklists (equivalent or supplement to –2 technical orders)
2. Inspection requirements (equivalent or supplement to –6 technical orders)
3. Life-limited/time replacement plan/list
4. Subsystem hazard analysis (SSHA)
5. Failure modes, effects, and criticality analysis (FMECA)
6. Maintenance records (including failure report and corrective action system (FRACAS))
7. Air Force Regulation (AFR) 8-2, T.O. 00-5-1
8. Test reports
9. Test plans

CERTIFICATION CRITIERIA

16.1 Maintenance manuals/checklists.

16.1.1 Verify that servicing instructions are provided for all systems that require servicing; for example, fuel, engine oil, hydraulic systems, landing gear struts, tires, oxygen, escape system, etc.

16.1.2 Verify that cautions and warnings have been included in maintenance manuals, aircrew checklists, and ground crew checklists.

16.1.3 Verify that maintenance checklists are available for critical maintenance tasks, such as fuel and oxygen serving procedures; towing procedures and restrictions; jacking procedures; engine operation during maintenance; lifting procedures; integrated combat turn procedures, etc.

16.1.4 Verify that support equipment will not adversely impact the safety of the air vehicle.

16.2 Inspection requirements.

16.2.1 Verify that ground crew work cards for preflight inspection have been coordinated with the aircrew checklists.

16.2.2 Verify that special inspection procedures are available for unusual or specified conditions, such as

a. Exceeding operating limits
b. Severe vibration
c. Engine stall
d. Foreign object damage to engine or structure
e. Excessive loss of oil

Downloaded from http://www.everyspec.com

f. Conditions requiring oil sampling and analysis
g. Severe braking action, hard landing, and running off runway
h. Air vehicle subject to excessive “g” loads or maneuvers outside the specified flight envelope
i. Lost tools
j. Emergency procedures implemented
k. Dropped objects or parts

16.2.2.1 Verify that life-limited items and replacement intervals are identified using relevant operational data.

16.2.2.2 Verify that all required inspection intervals are identified using relevant operational data.

Downloaded from http://www.everyspec.com

17. ARMAMENT/STORES INTEGRATION

A store is any device intended for internal or external carriage, mounted on aircraft suspension and release equipment, and which may or may not be intended to be separated in flight from the aircraft. Stores include missiles, bombs, nuclear weapons, mines, fuel and spray tanks, torpedoes, detachable fuel and spray tanks, dispensers, pods (refueling, thrust augmentation, gun, electronic countermeasures, etc.), targets, chaff and flares, and suspension equipment.

TYPICAL CERTIFICATION SOURCE DATA

1. User requirements and design requirements and validation results
2. Design studies and analyses
3. Design, installation, and operational characteristics
4. Component and functional level SOF, qualification and certification tests
5. Electromagnetic environmental effects
6. Plume ingestion/propulsion compatibility tests and plume/gun gas impingement test.
7. Failure modes, effects, and criticality analysis/testing (FMECA/FMET)
8. Hazard analysis and classification to include explosive atmosphere analysis/test
9. Safety certification program
10. Computational, theoretical and/or semi-empirical prediction methods
11. Configuration: aerodynamic design and component location
12. Wind tunnel test results and correction methods
13. Mathematical representation of system dynamics
14. Loads analysis, wind tunnel and flight test results
15. Flutter, aeroservoelastic analysis, wind tunnel and flight test results
16. Performance analysis
17. Environmental compatibility analysis and tests to include gun fire vibration analysis/test
18. Interface control documents
19. Store separation models, wind tunnel and flight test results
20. Flight manual
21. Flight test plan and test results
22. MIL-HDBK-1763, Aircraft/Stores Compatibility: Systems Engineering Data Requirements and Test Procedures
23. MIL-HDBK-244, Guide to Aircraft/Stores Compatibility
24. MIL-STD-1760, Aircraft/Store Electrical Interconnection System
25. SEEK EAGLE engineering data
26. American National Standard for Safe Use of Lasers (ANSI Z136.1)
27. Nuclear Certification Impact Statement (NCIS)
28. Aircraft monitor and control (AMAC) and surveillance tests
29. Nuclear safety analysis report (NSAR)
30. Mechanical compatibility data

Downloaded from http://www.everyspec.com

31. Electrical compatability data
32. Certification requirements plan (CRP)
33. Operational flight program (OFP) source code.
34. Systems integration lab data/results
35. Cooling analysis and ground/flight test results
36. MIL-HDBK-1530 Aircraft Structural Integrity Program
37. ASC/EN Stores Integration practice
38. Human factors to consider
39. Crew egress paths to consider
40. Aircraft weight and balance

CERTIFICATION CRITERIA

17.1 Gun integration and interface.

17.1.1 Verify that environment induced by gun operation is compatible with the air vehicle's limitations for muzzle blast and overpressure, vibro-acoustics, cooling, egress, human factors, and loads of the air vehicle.

17.1.2 Verify that gun gases and plume do not create SOF hazards for the air vehicle.

17.1.3 Verify that gun gas impingement does not cause unacceptable erosion of air vehicle structure/skin.

17.1.4 Verify that the gun gas ventilation/purge system prevents accumulation of explosive gas mixture.

17.2 Stores integration.

17.2.1 Verify that the stores/air vehicle interface does not create unsafe conditions during ground and flight operations and that no unsafe environment is created for maintenance personnel.

17.2.2 Verify that the stores separate safely from the air vehicle throughout the air vehicle/store launch or jettison flight envelope.

17.2.3 Verify that the store/suspension and release equipment/air vehicle are structurally capable to operate safely in the air vehicle/store carriage flight envelope.

17.2.4 Verify that, to assure safe stores operation and interactions with the air vehicle, the proper electrical interfaces have been addressed for carriage and release envelopes for the required store configurations.

17.2.5 Verify that the environment induced by the stores on the air vehicle, and by the air vehicle on the store during carriage and launch/separation/jettison for the cleared usage, does not adversely affect SOF of the air vehicle.

Downloaded from http://www.everyspec.com

17.2.6 Verify that the stores operations do not adversely affect any safety aspect of the flight control of the air vehicle.

17.2.7 Verify that all stores configurations for the air vehicle are documented in the flight manuals.

17.3 Laser integration and interface.

17.3.1 Verify that the crew and maintenance personnel are not exposed to laser radiation in excess of maximum permissible exposure limits in order to ensure safe conditions.

17.3.2 Verify that the laser operation induced environment is compatible with the air vehicle's limitations for vibro-acoustics, thermal loads, and structural loads of the air vehicle.

17.3.3 Verify that laser chemical and exhaust gases do not create SOF hazards for the air vehicle.

Downloaded from http://www.everyspec.com

18. PASSENGER SAFETY

The passenger safety section addresses technical requirements in the area of passenger carrying aircraft as they pertain to safety. A passenger is defined as any person on board a aircraft that is not mission trained regarding the passenger safety/emergency capabilities of that particular aircraft and mission. This area covers seat belts, stowage compartments, ditching, emergency exits, emergency evacuation, seating arrangements, emergency lighting, signs, fire extinguishers, smoke detection, lavatories, fire protection, and physiological requirements. Safety requirements for aircrew and mission essential personnel are located in section 9, Crew Systems.

TYPICAL CERTIFICATION SOURCE DATA

1. Federal Aviation Regulations
2. FAA Airworthiness Directives and Advisory Circulars
3. Joint Service Specification Guide
4. Cabin/crew station layout/geometry
5. Crash survivability requirements and validation
6. Escape system requirements and validation
7. Life support system requirements and validation
8. Tech data package

CERTIFICATION CRITERIA

18.1 Survivability of passengers.

18.1.1 Verify that a seat equipped with a restraint system is provided for each occupant. Verify that seats are designed not to cause serious injury in an emergency landing and each seat/restraint system is designed to protect each occupant during an emergency landing provided the restraints are used properly.

18.1.2 Verify that each restraint system has a single-point release for occupant evacuation.

18.1.3 Verify that, if stowage compartments are present, they are designed to contain the maximum weight of its contents and the critical load conditions in an emergency landing. The contents should not become a hazard to passengers due to shifting under emergency landing conditions.

18.1.4 Verify that items of mass, including cargo, will not cause serious injury to the passenger in the event of an emergency landing on land or water.

Downloaded from http://www.everyspec.com

18.1.5 Verify that each passenger carrying area has at least one external door And that each door is operable from the inside and outside, is located as to where propeller injuries are avoided, and is inspected to ensure it is locked in flight.

18.1.6 Verify that exits are lockable and simple to open. Exits should not open in flight unless mission requirements necessitate this function.

18.1.7 Verify that each non over-wing exit higher than 6 feet off the ground has a means to assist passengers to the ground. There should be provisions for evacuees to be assisted to the ground from the wing when the exit opens to the wing.

18.1.8 Verify that the weight of each passenger exit, if removable, and its means of opening, is conspicuously marked.

18.1.9 Verify that the means of emergency egress (e.g., use of explosive components for egress, sharp edges, hot metal percussion, etc.) does not cause serious injury or hinder procedures during evacuation.

18.1.10 Verify that an emergency lighting system, independent of the main lighting system, provides sufficient illumination and guidance for passenger and crew emergency evacuation. Verify that energy to supply lighting allows complete egress of all passengers and crew before diminishing.

18.1.11 Verify that each crew and passenger area has emergency means to allow complete abandonment in a ground egress of the aircraft in 90 seconds with half of the exits blocked, with the landing gear extended as well retracted, considering the possibility of the aircraft being on fire and at maximum seating capacity.

18.1.12 Verify that emergency exit signs are installed and that each seated passenger is able to recognize at least one emergency exit sign.

18.1.13 Verify that a public address system is installed that is powerable when the aircraft is in flight or stopped on the ground, including after the shutdown or failure of all engines and auxiliary power units.

18.1.14 Verify that the public address system is accessible by all aircrew and is intelligible at all passenger seats, lavatories, aircrew seats and workstations.

18.1.15 Verify that the public address system be capable of functioning independently of any required crewmember interphone system and be accessible for immediate use.

18.1.16 Verify that all installed equipment in passenger compartments is provided with a restraining means to protect passengers during an emergency landing.

18.1.17 Verify that a system exists such that the flight deck can readily communicate with other aircrew.

Downloaded from http://www.everyspec.com

18.1.18 Verify that each safety equipment control to be operated in an emergency, such as controls for automatic life raft releases, is plainly marked to show its method of operation.

18.1.19 Verify that each location, such as a locker or compartment that carries fire extinguishing, signaling, or other life saving equipment is marked accordingly. Verify that stowage provisions for required emergency equipment are conspicuously marked to identify the contents and facilitate easy removal of the equipment.

18.1.20 Verify that each life raft has obviously marked operating instructions. Ensure that approved survival equipment is marked for identification and method of operation and that emergency flotation and signaling equipment is installed so that it is readily available to the crew and passengers.

18.1.21 Verify that each life raft to be released automatically or by a crew member is attached to keep it in place alongside the aircraft until the raft is afloat on water. Verify that this attachment is sufficiently weak to break away from the aircraft before submerging the fully occupied life raft to which it is attached.

18.1.22 Verify that readily accessible individual flotation devices are provided for each occupant if the aircraft flies missions over water.

18.1.23 Verify that emergency lighting illuminates each exit and its exterior surrounding sufficient to allow egress. Verify that energy to supply lighting allows complete egress of all passengers and crew before diminishing.

18.2 <u>Fire detection, suppression, and resistance.</u>

18.2.1 Verify that the aircraft is outfitted with equipment to deal with in-flight, ground, and ditching emergencies.

18.2.2 Verify that the aircraft is equipped with breathing and eye protection equipment and fire extinguishers appropriate for the expected use.

18.2.3 Verify, if cargo lamps are present, that they are designed to prevent contact with cargo.

18.2.4 Verify that all interiors, including lavatories, are made of flame resistant materials.

18.2.5 Verify, if unoccupied cargo holds are present, that fire protection and fire detection/suppression requirements are met.

18.2.6 Verify that oxygen equipment and lines are not located in any designated fire zone; are protected from heat that may be generated in, or escape from, any designated fire zone; are not routed with electrical wiring; and are installed so that escaping oxygen cannot cause ignition of grease, fluid, or vapor accumulations that are present in normal operation or as a result of failure or malfunction of any system.

Downloaded from http://www.everyspec.com

18.2.7 Verify that smoke detectors are installed that alert the crew of a fire when the aircraft is in flight as well as during aircraft operation on the ground.

18.3 Physiology requirements of passengers.

18.3.1 Verify that ventilation systems provide adequate ventilation and cabin pressure for passengers.

18.3.2 Verify that aircraft flying above 10,000 feet mean sea level (MSL) are capable of providing supplemental oxygen from the aircraft, or from a stand-alone system, and are capable of delivering it to each passenger.

18.3.3 Verify that emergency medical kit(s) capable of providing medical support for the designed mission are installed in the aircraft.

Downloaded from http://www.everyspec.com

19. OTHER CONSIDERATIONS

TYPICAL CERTIFICATION SOURCE DATA

1. Design criteria
2. Design studies and analyses
3. Design, installation, and operational characteristics
4. Design approval and system compatibility tests
5. Component and system level qualification and certification tests
6. Electromagnetic environmental effects
7. Hazard analysis and certification
8. Failure modes and effects analysis
9. Avionics integration tests and results
10. System/subsystem self-test design and capabilities
11. Qualification test plans, procedures, and results
12. Ground test results
13. FCA and PCA data
14. Flight manual
15. Software development plan
16. Software development and product specifications
17. Software test plans, test procedures, and test reports
18. Software configuration control/management plan and procedure
19. Flight test reports

CERTIFICATION CRITERIA

19.1 Mission/test equipment and cargo/payload safety.

19.1.1 Verify that the following items do not adversely impact the primary SOF functionality (such as structural capability, flying and handling qualities, electronic compatibility) of the air vehicle:

a. Special non-SOF mission or test equipment and software including instrumentation and wiring
b. Non-SOF mission-specific equipment and software
c. Nonessential mission equipment (hardware and software)

19.1.2 Verify that carriage of cargo or payload does not adversely affect safety of the air vehicle system.

Downloaded from http://www.everyspec.com

20. NOTES

20.1 Intended use.

This handbook is intended to be used by single managers and chief engineers to define and tailor airworthiness programs from the outset of a aircraft development program, and to assess the viability and quality of airworthiness plans and activities throughout the life of the aircraft. These criteria apply at any point in a program or program phase where an airworthiness determination is required.

20.2 Subject term (key word) list.

aerial refueling system
air vehicle subsystems:
avionics
computer resources
crew systems
diagnostics systems
electrical power
electromagnetic environmental effects
environmental management system
fire and hazard protection
flight technology
fuel system
hydraulics and pneumatic systems
integration, armament
integration, stores
landing gear and deceleration systems
maintenance
passenger safety
power systems, auxiliary
power systems, emergency
propulsion installations
propulsion
structures
system safety

Downloaded from http://www.everyspec.com

APPENDIX

AIRWORTHINESS CERTIFICATION CRITERIA

CROSS REFERENCE

A.1. SCOPE

A.1.1 Overview.

This appendix provides a cross reference to the Airworthiness Certification Criteria and to the documentation required to satisfy the airworthiness criteria. This document will be updated as required to incorporate additional references. Contact the appropriate member in the list of contacts for additional information or clarification.

A.1.2 Information sources.

Each section in the Airworthiness Certification Criteria is matched with corresponding Federal Aviation Regulations (FARs) and Joint Service Specification Guides (JSSG'S). In addition, the complete listing of FAR advisory circulars was consulted for appropriate guidance in airworthiness certification.

The Federal Aviation Administration (FAA) issues advisory circulars (AC) to inform the aviation public, in a systematic way, of nonregulatory material. Unless incorporated into a regulation by reference, the contents of an advisory circular are not binding on the public. Advisory circulars are issued in a numbered-subject system corresponding to the subject areas of the FAR (Title 14, Code of Federal Regulations (CFR), Chapter I, Federal Aviation Administration). An AC is issued to provide guidance and information in a designated subject area or to show a method acceptable to the Administrator for complying with a related FAR. When using FARs for compliance with airworthiness certification criteria, consult applicable ACs for guidance.

A.2. APPLICABLE DOCUMENTS

A.2.1 Government documents.

The following Government publications form a part of this appendix to the extent specified herein.

NAVAL AIR SYSTEMS COMMAND PUBLICATIONS

COMOPTEVFORINST
3511.1C Aircraft Tactical Manual (AIRTAC)

(View copies via http://www.cotf.navy.mil/otd/aircraft.pdf.

NAVAIRINST 4130.1C Naval Air Systems Command configuration management policy

Downloaded from http://www.everyspec.com

NAVAIRINST 13030.2	Tailored applications of airworthiness standards for special purpose configurations of aircraft and weapons systems
NAVAIRINST 13100.15	Standard policy for accepting Commercial Derivative Aircraft
NAVAIRINST 5600.5B	System for preparation and issuance of interim changes to NATOPS flight manuals

(View copies of NAVAIRINST publications via https://directives.navair.navy.mil/.)

NWP 1-01	Naval Warfare Publications System

(Contact the Navy for copies of this publication.)

OPNAVINST 3710.7S	NATOPS (Naval Air Training and Operating Procedures Standardization) General Flight and Operating Instructions

(Copies may be viewed via http://neds.nebt.daps.mil/Directives/3710/3710.htm)

OPNAVINST 4790.2H	The Naval Aviation Maintenance Program (NAMP)

(Copies may be viewed via http://www.nalda.navy.mil/4790.)

Click the link below to go to FAA Advisory Circular Library

(http://www2.airweb.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf)

Click the link below to go to JSSGs

(http://engineering.wpafb.af.mil/corpusa/specification/jssg/jsg2000/jsg2000.pdf)

A.2.2 Non-Government publications

The following document forms a part of this appendix to the extent specified herein.

RTCA/DO-178B	Software Considerations in Airborne Systems and Equipment Certification

(Copies of this document may be purchased from RTCA, Inc., 1140 Connecticut Ave., N.W., suite 1020, Washington, DC 20036.)

A.3. DEFINITIONS

This section is not applicable to this appendix.

Downloaded from http://www.everyspec.com

APPENDIX

AIRWORTHINESS CRITERIA CROSS REFERENCE TABLE

A.4. Systems Engineering

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
4. Systems Engineering		
4.1 Design criteria.		23.21, 23.601-23.629, 25.601-25.631 NOTE: Please consult Advisory Circular Index for applicable areas of consultation. AC 00-213 (or most current).
4.1.1	Appropriate design criteria paragraphs of JSSG-2000, 2001, 2005, 2006, 2007, 2008, 2009, 2010, and others.	23.21-23.3, 25.21-25.33
4.1.2	Appropriate design criteria paragraphs of JSSG-2000, 2001, 2005, 2006, 2007, 2008, 2009, 2010, and others.	23.21, 23.601-23.629, 25.601-25.631
4.1.3	Appropriate design criteria paragraphs of JSSG-2000, 2001, 2005, 2006, 2007, 2008, 2009, 2010, and others.	23.21, 23.601-23.629, 25.601-25.631
4.2 Tools and databases.		
4.2.1	Refer to technical point of contact for this discipline (listed in section A.20).	Refer to technical point of contact for this discipline (listed in section A.20).
4.3 Material selection.		
4.3.1	Refer to technical point of contact for this discipline (listed in section A.20).	Refer to technical point of contact for this discipline (listed in section A.20).
4.3.2	Refer to technical point of contact for this discipline (listed in section A.20).	Refer to technical point of contact for this discipline (listed in section A.20).
4.3.3	Refer to technical point of contact for this discipline (listed in section A.20).	Refer to technical point of contact for this discipline (listed in section A.20).
4.3.4	Refer to technical point of contact for this discipline	Refer to technical point of contact for this discipline

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
	(listed in section A.20).	(listed in section A.20).
4.3.5	Refer to technical point of contact for this discipline (listed in section A.20).	Refer to technical point of contact for this discipline (listed in section A.20).
4.3.6	Refer to technical point of contact for this discipline (listed in section A.20).	Refer to technical point of contact for this discipline (listed in section A.20).
4.4 Manufacturing, support, and quality.		
4.4.1	Manufacturing Development Guide; AFI 63-501;AS 9100	23.601-23.605, 25.601-25.603
4.4.2	Manufacturing Development Guide; AFI 63-501;AS 9100	23.601-23.605, 25.601-25.603
4.4.3	Manufacturing Development Guide; AFI 63-501;AS 9100	23.601-23.605, 25.601-25.603
4.4.4	Manufacturing Development Guide; AFI 63-501; FAR Part 46;AS 9100	23.601-23.605, 25.601-25.603
4.4.5	Refer to technical point of contact for this discipline (listed in section A.20).	Refer to technical point of contact for this discipline (listed in section A.20).
4.5 Technical orders.		23.1501, 23.1529, 25.1501, 25.1503-25.1533, 25.1529, 25.1541, 25.1543, 25.1557, 25.1563,
4.5.1	Refer to technical point of contact for this discipline (listed in Section A.20).	23.1541, 25.1541
4.5.2	Refer to technical point of contact for this discipline (listed in section A.20).	23.21, 25.21, 23.601, 25.601, 23.1301, 25.1301
4.5.3	Refer to technical point of contact for this discipline (listed in section A.20).	Refer to technical point of contact for this discipline (listed in section A.20).

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
4.6 Configuration identification.		
4.6.1	MIL-STD-961D: Appendix A, MIL-HDBK-61: Section 3	23.21, 25.21, 23.601, 25.601, 23.1301, 25.1301
4.6.2	MIL-STD-961D: Appendix A, MIL-HDBK-61: Section 3	23.21, 25.21, 23.601, 25.601, 23.1301, 25.1301
4.7 Configuration status accounting.		
4.7.1	MIL-HDBK-61, Section 5	23.21, 25.21, 23.601, 25.601, 23.1301, 25.1301

Downloaded from http://www.everyspec.com

A.5. Structures

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
5. Structures	JSSG-2006 Aircraft Structures, NAVAIRINST 13034.1	Part 23, Part 25
5.1 Loads.		
5.1.1	JSSG-2006: 3.4, 4.4	23.23-23.31, 23.301-23.302, 23.321-562, 25.23-25.31, 25.301, 25.321-25.563
5.2 Strength.		
5.2.1	JSSG-2006: 3.10, 4.10	23.303, 23.305, 23.621-23.625, 23.641-23.659, 23.672, 23.675, 23.681, 23.685-23.689, 23.693, 23.701, 23.775, 23.783, 23.785, 23.787, 23.841-23.843, 23.963-23.965, 23.979, 25.303, 25.305, 25.621-25.631, 25.651-25.657, 25.672, 25.675, 25.681, 25.685, 25.689, 23.693, 25.701, 25.775, 25.783, 25.785, 25.787, 25.789, 25.841-25.843, 25.875, 25.963-25.965, 25.979
5.2.2	JSSG-2006: 3.10, 3.2.19, 4.10, 4.2.19	23.601, 23.603, 23.613, 25.601, 25.603, 25.613
5.3 Materials, processes, corrosion prevention, nondestructive evaluation, and repair.		
5.3.1	JSSG-2006: 3.2.19, 3.2.20, 3.2.21, 3.2.28, 3.10.10, 3.11.6, 4.2.19, 4.2.20, 4.2.21, 4.2.28, 4.10.10, 4.11.6	23.601-23.619, 25.601-25.619
5.4 Damage tolerance and durability.		
5.4.1	JSSG-2006: 3.11, 3.12, 3.13, 4.11, 4.12, 4.13	23.571-23.575, 25.571

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
5.4.2	JSSG-2006: 3.11, 3.12, 3.13, 4.11, 4.12, 4.13	23.571-23.575, 23.627, 25.571
5.5 Flight operating limits.		
5.5.1	JSSG-2006: 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.10.7, 3.10.8, 3.11, 3.12, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.10.7, 4.10.8, 4.11, 4.12	23.1501-23.1589, 25.1501-25.1587
5.5.2	JSSG-2006: 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.10.7, 3.10.8, 3.11, 3.12, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.10.7, 4.10.8, 4.11, 4.12	23.1501-23.1589, 25.1501-25.1587
5.6 Functionality.		
5.6.1	JSSG-2006: 3.2.18, 3.3.2, 3.3.15, 3.3.17, 3.10, 4.2.18, 4.3.2, 4.3.15, 4.3.17, 4.10	23.655, 25.655
5.6.2	JSSG-2006: 3.2.18, 3.3.2, 3.3.15, 3.3.17, 3.10, 4.2.18, 4.3.2, 4.3.15, 4.3.17, 4.10	23.365, 23.841, 23.951-23.979, 25.841, 25.951-25.981
5.7 Structural dynamics.		
5.7.1	JSSG-2006: 3.7, 4.7	23.251, 23.253, 23.629, 25.251, 25.253, 25.629
5.7.2	JSSG-2006: 3.7, 4.7	23.251, 23.253, 23.629, 25.251, 25.253, 25.629
5.7.3	JSSG-2006: 3.7, 4.7	23.251, 23.253, 23.629, 25.251, 25.253, 25.629
5.7.4	JSSG-2006: 3.7, 4.7	23.251, 23.253, 23.629, 25.251, 25.253, 25.629
5.7.5	JSSG-2006: 3.7, 4.7	No applicable reference available.
5.7.6	JSSG-2006: 3.4.2.7.b, 4.4.2	23.471-23.511, 25.471-25.511
5.7.7	JSSG-2006: 3.7, 4.7	23.251, 23.253, 23.629, 25.251, 25.253, 25.629
5.7.8	JSSG-2006: 3.2, 3.3, 3.5, 3.6, 4.2, 4.3, 4.5, 4.6	23.1301-23.1337, 25.1301-25.1337

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
5.8 Mass properties interface.		
5.8.1	JSSG-2006: 3.2.4, 3.2.5, 3.2.6, 4.2.4, 4.2.5, 4.2.6	23.23, 23.25, 23.29, 23.31, 25.23, 25.25, 25.27, 25.29, 25.31
5.8.2	JSSG-2006: 3.2.4, 3.2.5, 3.2.6, 4.2.4, 4.2.5, 4.2.6	23.23, 23.25, 23.29, 23.31, 25.23, 25.25, 25.27, 25.29, 25.31
5.8.3	JSSG-2006: 3.2.4, 3.2.5, 3.2.6, 4.2.4, 4.2.5, 4.2.6	23.23, 23.25, 23.29, 23.31, 25.23, 25.25, 25.27, 25.29, 25.31
5.8.4	JSSG-2006: 3.2.4, 3.2.5, 3.2.6, 4.2.4, 4.2.5, 4.2.6	23.23, 23.25, 23.29, 23.31, 25.23, 25.25, 25.27, 25.29, 25.31
5.8.5	JSSG-2006: 3.2.4, 3.2.5, 3.2.6, 4.2.4, 4.2.5, 4.2.6	23.23, 23.25, 23.29, 23.31, 25.23, 25.25, 25.27, 25.29, 25.31
5.8.6	JSSG-2006: 3.2.4, 3.2.5, 3.2.6, 4.2.4, 4.2.5, 4.2.6	23.23, 23.25, 23.29, 23.31, 23.1501-23.1589, 25.23, 25.25, 25.27, 25.29, 25.31, 25.1501-25.1587
5.8.7	JSSG-2006: 3.2.4, 3.2.5, 3.2.6, 4.2.4, 4.2.5, 4.2.6	23.23, 23.25, 23.29, 23.31, 23.1501-23.1589, 25.23, 25.25, 25.27, 25.29, 25.31, 25.1501-25.1587
5.9 Stores/armament interface.		
5.9.1	JSSG-2006: 3.4, 3.5, 3.6, 3.7, 3.10, 3.11, 3.12, 4.4, 4.5, 4.6, 4.7, 4.10, 4.11, 4.12	No applicable reference available.
5.9.2	JSSG-2006: 3.4, 3.5, 3.6, 3.7, 3.10, 3.11, 3.12, 4.4, 4.5, 4.6, 4.7, 4.10, 4.11, 4.12	No applicable reference available.
5.9.3	JSSG-2006: 3.4, 3.5, 3.6, 3.7, 3.10, 3.11, 3.12, 4.4, 4.5, 4.6, 4.7, 4.10, 4.11, 4.12	No applicable reference available.

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
5.10 Airframe.		
5.10.1	JSSG-2006: 3.13, 3.16, 4.13, 4.16	23.1501-23.1589, 25.1501-25.1587
5.10.2	JSSG-2006: 3.10.9, 3.10.10, 4.10.9, 4.10.10	Refer to technical point of contact for this discipline (listed in section A.20).

Downloaded from http://www.everyspec.com

A.6. Flight Technologies

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6. Flight Technologies	JSSG-2001 Air Vehicle, JSSG-2008 Vehicle Control and Management Systems	NOTE: As each section applies, Flight Technology must be checked for a variety of FARs and ACs. Due to the complexity of different design configurations, each section in Subpart C of FAR 23/25 should be consulted for applicability.
6.1 Stability and control.	JSSG-2001 Air Vehicle Specification and Appendix C	23.21-23.3, 23.171-23.181,
6.1.1 Control power.		
6.1.1.1.a	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C: C.3.1, C.4.1, C.3.1.12 thru C.3.1.12.6, C.4.1.12	25.101-25.125
6.1.1.1.b	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C: C.3.1, C.4.1, C.3.1.4, C.4.1.4, C.3.15.2, C.4.15.2, C.3.15.4, C.4.15.4	25.101-25.125
6.1.1.1.c	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C: C.3.12 thru C.3.12.8, C.4.12	25.101-25.125
6.1.1.1.d	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C: C.3.1, C.4.1, C.3.1.4, C.4.1.4	25.101-25.125
6.1.1.1.e	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C: C.3.1.10, C.4.1.10, C.3.1.12.3, C.4.1.12, C.3.1, C.4.1	25.101-25.125
6.1.1.1.f	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C: C.3.1.11.1, C.4.1.11, C.3.15.3, C.4.15.3	25.101-25.125

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.1.1.1.g	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C: C.3.6.2, C.4.6, C.3.12 thru C.3.12.8, C.4.12	25.101-25.125
6.1.1.1.h	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C: C.3.1, C.4.1, C.3.1.13, C.4.1.13, C.3.13.5, C.4.13.5	25.101-25.125
6.1.1.1.i	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C: C.3.1.12.4, C.3.1.12.6, C.4.1.12, C.3.6, C.3.6.1, C.4.6, C.3.1.10, C.4.1.10, C.3.9, C.4.9, C.3.12, C.4.12, C.3.13.5, C.4.13.5	25.101-25.125
6.1.1.1.j	JSSG-2001: 3.3.11.1, 3.3.11.1.1.3; and Appendix C: C.3.1, C.4.1, C.3.1.13, C.4.1.13, C.3.1.7.2, C.4.1.7, C.3.13.5, C.4.13.5, C.3.6, C.4.6	25.101-25.125
6.1.1.1.k	JSSG-2001: 3.3.11.1, 3.3.11.1.1.3; and Appendix C: C.3.1, C.4.1, C.3.1.13, C.4.1.13, C.3.1.7.2, C.4.1.7, C.3.13.5, C.4.13.5, C.3.6, C.4.6	25.101-25.125
6.1.1.1.l	JSSG-2001: 3.3.11.1, 3.3.11.1.1.3; and Appendix C: C.3.1, C.4.1, C.3.1.13, C.4.1.13, C.3.1.7.2, C.4.1.7, C.3.13.5, C.4.13.5, C.3.6, C.4.6	25.101-25.125
6.1.2 Stability derivatives.		
6.1.2.1	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3	25.171-25.181
6.1.2.2	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	25.171-25.181

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.1.3 Flying, handling, and ride qualities.		
6.1.3.1	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.361, 25.341, 23.1501-23.1529, 25.1501-25.1529
6.1.3.2	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.3.a	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.3.b	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.3.c	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.4	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.5	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.5.1	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.5.2	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.6.a	JSSG-2001: 3.3.11.1 thru 3.3.11.1.1.1; and Appendix C	23.231-23.329, 25.231-25.239
6.1.3.6.b	JSSG-2001: 3.3.11.1 thru 3.3.11.1.1.1; and Appendix C	23.231-23.329, 25.231-25.239
6.1.3.6.c	JSSG-2001: 3.3.11.1 thru 3.3.11.1.1.1; and Appendix C	23.231-23.329, 25.231-25.239
6.1.3.6.d	JSSG-2001: 3.3.11.1 thru 3.3.11.1.1.1; and Appendix C	23.231-23.329, 25.231-25.239
6.1.3.6.e	JSSG-2001: 3.3.11.1 thru 3.3.11.1.1.1; and Appendix C	23.231-23.329, 25.231-25.239

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.1.3.7.a	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C: C.3.13 thru C.3.13.6.4, C.4.13 thru C.4.13.6	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.7.b	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C: C.3.1, C.4.1, C3.7, C.4.7, C.3.13 thru C.3.13.6.4, C.4.13 thru C.4.13.6	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.7.c	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C: C.3.2.3 thru C.3.2.3.3, C.4.2, C.3.13.4 thru C.3.13.4.3, C.4.13.4	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.7.d	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.7.e	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C: C.3.13.4 thru C.3.13.4.3, C.4.13.4	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.7.f	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C: C.3.3, C.4.3	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.7.g	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.7.h	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.7.i	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.7.j	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.8	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.1.3.9.a	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.9.b	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.9.c	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.9.d	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.9.e	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.9.f	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.10	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.3.11	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.4 Mission evaluations including flight path guidance.		
6.1.4.1	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.4.2	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.4.3	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.1.5 Other effects.		
6.1.5.1	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.5.2	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.5.3	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.5.4	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.5.5	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.5.6	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.5.7	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.5.8	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.5.9	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.5.10	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.5.11	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.5.12	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.1.5.13	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.6 Envelopes.		
6.1.6.1	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.6.2	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.6.3	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.6.4.a	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.6.4.b	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.6.4.c	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.6.4.d	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.1.7 Store carriage and separation.		
6.1.7.1	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	No applicable reference available.
6.1.7.2	JSSG-2001: 3.3.11.1 thru 3.3.11.1.3; and Appendix C	No applicable reference available.
6.1.7.3	JSSG-2001: 3.4.2.1, JSSG-2008: 3.1.5.3, 3.1.5.8, 3.2.1.2	No applicable reference available.
6.2 Vehicle control functions (VCF).		
6.2.1 VCF architecture design.		

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.2.1.1	JSSG-2008: 3.0 thru 3.8, 4.0 thru 4.8	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.1.2	JSSG-2008: 3.1.7 thru 3.1.7.3, 4.1.7 thru 4.1.7.3	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.1.3	JSSG-2008: 3.0, 4.0 3.1, 4.1, 3.1.11 thru 3.1.12.1, 4.1.11 thru 4.1.12.1	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.1.4	JSSG-2008: 3.1.1 thru 3.1.4, 4.1.1 thru 4.1.4	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.1.5	JSSG-2008: 3.1.9, 4.1.9	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.1.6	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.11 thru 3.1.11.2, 4.1.11 thru 4.1.11.2	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2 Basic VCF.		
6.2.2.1	JSSG-2008: 3.1.1, 4.1.1, 3.1.11.10, 4.1.11.10, 3.1.11.11 thru 3.1.11.11.4, 4.1.11.11 thru 4.1.11.11.4, 3.2.2 thru 3.2.2.5.4, 4.2.2 thru 4.2.2.5.4	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.2	JSSG-2008: 3.0, 4.0, 3.2.2.5.1.1, 4.2.2.5.1.1	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.3	JSSG-2008: 3.1.5.3, 4.1.5.3, 3.2.1 thru 3.2.1.4, 4.2.1 thru 4.2.1.4, 3.2.2.5.4, 4.2.2.5.4	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.2.2.4	JSSG-2008: 3.2.1 thru 3.2.1.4, 4.2.1 thru 4.2.1.4, 3.2.2.5 thru 3.2.2.5.1.1, 4.2.2.5 thru 4.2.2.5.1.1, 3.2.3, 4.2.3	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.5	JSSG-2008: 3.1.5.6 thru 3.1.5.7, 4.1.5.6 thru 4.1.5.7, 3.2.2.1, 4.2.2.1, 3.2.1, 4.2.1, 3.2.1.1, 4.2.1.1	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.6	JSSG-2008: 3.2.2.3, 4.2.2.3, 3.2.2.5.1, 4.2.2.5.1, 3.2.2.5.1.1, 4.2.2.5.1.1, 3.2.2.5.1.3, 4.2.2.5.1.3	23.779, 25.779, 23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.7	JSSG-2008: 3.2.2.5.4 thru 3.2.2.5.4.5, 4.2.2.5.4 thru 4.2.2.5.4.5	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.8	JSSG-2008: 3.2.2.5.1.3, 4.2.2.5.1.3	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.9	JSSG-2008: 3.2.2.5.1.3, 4.2.2.5.1.3	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.10	JSSG-2008: 3.1.8, 4.1.8, 3.2.1.3, 4.2.1.3, 3.2.1.4, 4.2.1.4, 3.2.1, 4.2.1, 3.2.2.5.4.5, 4.2.2.5.4.5, 3.1.12 thru 3.1.12.1, 4.1.12 thru 4.1.12.1	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.11	JSSG-2008: 3.1.5.3, 3.1.5.2, 3.1.5.4, 3.1.9, 3.1.11.1, 3.1.10, 3.1.11.1.1, 3.1.13 to 3.1.13.2, 3.1.16, 3.2.2.5.4.1, 3.2.4 thru 3.2.4.6, and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.12	JSSG-2008: 3.1.2.1, 4.1.2.1, 3.1.11.1, 4.1.11.1, 3.1.12 thru 3.1.12.1, 4.1.12 thru 4.1.12.1	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.2.2.13	JSSG-2008: 3.0, 4.0, 3.1.7.2, 4.1.7.2, 3.1.11.11, 4.1.11.11, 3.1.11.11.1, 4.1.11.11.1, 3.1.12.1, 4.1.12.1, 3.1.14.4, 4.1.14.4	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.14	JSSG-2008: 3.1.11.1, 3.1.11.1.1, 3.1, 3.1.2, 3.1.5.5, 3.1.5.6, 3.1.7.3, 3.1.9, 3.1.11.4, 3.1.11.7, 3.1.12, 3.1.13.2, 3.1.14.4, 3.1.17, 3.2.2.2 thru 3.2.2.2.13, 3.3.3, 3.4.2, 3.5.7 and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.15	JSSG-2008: 3.1.14 thru 3.1.14.9, 4.1.14 thru 4.1.14.9, 3.1.15 thru 3.1.18, 4.1.15 thru 4.1.18, 3.2.3 thru 3.2.3.3, 4.2.3 thru 4.2.3.3, 3.4 thru 3.5.2, 4.4 thru 4.5.2	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.16	JSSG-2008: 3.0, 4.0, 3.1.11.11, 4.1.11.11, 3.1.11.11.1, 4.1.11.11.1, 3.1.14, 4.1.14, 3.2.2.1, 4.2.2.1, 3.5.7, 4.5.7	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.17	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.7.2, 4.1.7.2, 3.1.7.3, 4.1.7.3, 3.1.11.11, 4.1.11.11, 3.1.13, 4.1.13, 3.1.14, 4.1.14, 3.1.14.5, 4.1.14.5, 3.2.3, 4.2.3, 3.2.3.3, 4.2.3.3, 3.4.4, 4.4.4, 3.5.7, 4.5.7	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.18	JSSG-2008: 3.1, 3.1.5.2, 3.1.5.5, 3.1.5.7, 3.1.8, 3.1.11.6, 3.1.11.8, 3.1.13, 3.1.14.8, 3.1.16, 3.1.17, 3.1.18, 3.2.2.1, 3.2.2.4, 3.2.2.5.2, 3.2.2.5.4 thru 3.2.2.5.4.5, 3.2.2.6, 3.3.1, 3.3.4, 3.3.5, 3.3.7, and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.2.2.19	JSSG-2008: 3.1, 3.1.2, 3.1.2.1, 3.1.3, 3.1.5, 3.1.5.1, 3.1.5.2, 3.1.5.4, 3.1.5.5, 3.1.5.7, 3.1.5.8, 3.1.7, 3.1.7.2, 3.1.7.3, 3.1.9, 3.1.10, 3.1.11, 3.1.11.2, 3.1.11.4, 3.1.11.5, 3.1.11.6, 3.1.11.9, 3.1.11.10, 3.1.11.11.2, 3.1.11.11.3, 3.1.12, 3.1.12.1, 3.1.13.1, 3.1.13.2, 3.1.14.2.2, 3.1.14.2.4, 3.2.2.1, 3.2.2.2(all), 3.2.2.5(all), 3.3 thru 3.3.4, 3.3.6, 3.3.6.2, and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.20	JSSG-2008: 3.0, 3.1, 3.1.5, 3.1.5.1, 3.1.5.6, 3.1.5.9, 3.1.7, 3.1.7.3, 3.1.11.11.3, 3.2.1.1, 3.2.2.1, 3.2.2.5.4, 3.2.2.5.4.2, 3.2.2.5.4.3, 3.2.2.5.4.4, 3.2.2.6, and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.21	JSSG-2008: 3.1, 4.1, 3.1.5.2, 4.1.5.2, 3.1.5.7, 4.1.5.7, 3.1.7.2, 4.1.7.2, 3.1.11.6, 4.1.11.6, 3.1.14.7, 4.1.14.7,3.2.2.5.4, 4.2.2.5.4	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.22	JSSG-2008: 3.0, 3.1, 3.1.1, 3.1.2, 3.1.2.1, 3.1.4, 3.1.5.5, 3.1.5.7, 3.1.7, 3.1.7.2, 3.1.9, 3.1.10, 3.1.11, 3.1.11.2, 3.11.5, 3.1.11.6, 3.1.11.7, 3.1.12, 3.1.12.1, 3.1.13.1, 3.1.17, 3.2.2.4, 3.2.2.5, 3.2.2.5.1.4, 3.2.2.5.4, 3.2.5.2, 3.3.1, 3.3.2, and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.2.2.23	JSSG-2008: 3.0, 3.1, 3.1.5, 3.1.5.7, 3.1.5.8, 3.1.5.9, 3.1.7.2, 3.1.7.3, 3.1.11.2, 3.1.11.10, 3.1.11.11.1, 3.1.17, 3.2.2.1, 3.2.2.2.9, 3.2.2.5.4, 3.2.2.5.4.2, 3.2.2.5.4.3, 3.2.2.5.4.4, 3.2.2.6, 3.3.2.1, 3.3.4, 3.5, and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.24	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.5.3, 4.1.5.3, 3.1.7, 4.1.7, 3.1.8, 4.1.8, 3.1.12, 4.1.12, 3.1.13.2, 4.1.13.2, 3.2.2.5, 4.2.2.5, 3.2.2.5.1.2, 4.2.2.5.1.2, 3.2.2.5.1.3, 4.2.2.5.1.3, 3.2.2.5.1.4, 4.2.2.5.1.4, 3.2.2.5.4.1, 4.2.2.5.4.1, 3.2.2.6, 4.2.2.6	23.345, 23.397, 23.672, 23.675, 23.677, 23.679, 25.345, 25.397, 25.672, 25.675, 25.677, 25.679
6.2.2.25	JSSG-2008: 3.0, 4.0, 3.1(all), 4.1(all), 3.2(all), 4.2(all), 3.3(all), 4.3(all), 3.4(all), 4.4(all), 3.5(all), 4.5(all)	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.26	JSSG-2008: 3.0, 3.1, 3.1.5.2, 3.1.5.4, 3.1.7(all), 3.1.10, 3.1.11. 3.1.11.1, 3.1.11.1.1, 3.1.11.10, 3.1.14.7, 3.2, 3.2.2.3, 3.2.2.5.1, 3.2.2.5.1.2, 3.2.2.5.1.4, 3.2.2.5.4, 3.2.2.5.4.1, 3.2.2.5.4.3, 3.2.2.5.4.4, 3.2.2.5.4.5, 3.2.2.6, 3.5.3, and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.27	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.13, 4.1.13, 3.1.13.1, 4.1.13.1, 3.1.13.3, 4.1.13.3, 3.1.14.7, 4.1.14.7, 3.2.2.2.2, 4.2.2.2.2, 3.2.2.5.1.3, 4.2.2.5.1.3, 3.2.2.6, 4.2.2.6	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.2.2.28	JSSG-2008: 3.0, 3.1, 3.1.5.2, 3.1.5.8, 3.1.5.9, 3.1.7.2, 3.1.7.3, 3.1.11, 3.1.11.2, 3.1.13.1, 3.1.13.3, 3.1.14, 3.1.14.7, 3.2.2.2.4, 3.2.2.2.5, 3.2.2.2.9, 3.2.2.2.11, 3.2.2.4, 3.2.2.5.1, 3.2.2.5.1.1 thru 3.2.2.5.1.4, 3.2.2.5.4.1, 3.2.2.6, 3.3.2.1, and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.29	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.7.3, 4.1.7.3, 3.1.11.2, 4.1.11.2, 3.2.2.5.4.3, 4.2.2.5.4.3, 3.2.2.5.4.4, 4.2.2.5.4.4	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.30	JSSG-2008: 3.0, 3.1, 3.1.5.2, 3.1.5.4, 3.1.5.5, 3.1.7.2, 3.1.7.3, 3.1.11, 3.1.11.5, 3.1.12, 3.1.12.1, 3.1.13.2, 3.1.14, 3.2.2.1, 3.2.2.2.1, 3.2.2.2.2, 3.2.2.2.6, 3.2.2.2.12, 3.2.2.5.4, 3.2.2.5.4.3, 3.2.2.6, 3.3.1, 3.3.2, 3.3.2.1, and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.31	JSSG-2008: 3.0, 3.1, 3.1.2, 3.1.5, 3.1.5.1, 3.1.5.2, 3.1.7, 3.1.7.3, 3.1.11.2, 3.1.11.10, 3.1.14.7, 3.1.17, 3.2.2.2.9, 3.2.2.5, 3.2.2.5.1.1, 3.2.2.5.1.2, 3.2.2.5.4, 3.2.2.5.4.3, 3.2.2.5.4.5, 3.2.2.6, 3.2.4.6, 3.2.5.1, and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.32	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.11.10, 4.1.11.10, 3.1.13.4, 4.1.13.4, 3.1.17, 4.1.17, 3.2.2.2.7, 4.2.2.2.7, 3.2.2.5.1.2, 4.2.2.5.1.2, 3.2.2.5.1.4, 4.2.2.5.1.4	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.2.2.33	JSSG-2008: 3.0, 3.1, 3.1.2.1, 3.1.5, 3.1.5.6, 3.1.7.2, 3.1.11, 3.1.13, 3.1.15, 3.1.17, 3.2.2.2(all), 3.2.2.5, 3.2.2.5.1.1, 3.2.2.5.2, 3.2.2.5.4.3, 3.2.2.5.4.4, 3.3.4, 3.3.6.2, 3.5.7, and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.34	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.5, 4.1.5, 3.1.5.7, 4.1.5.7, 3.1.7, 4.1.7, 3.1.7.2, 4.1.7.2, 3.1.17, 4.1.17, 3.2.1.1, 4.2.1.1, 3.2.1.2, 4.2.1.2, 3.2.2.5, 4.2.2.5, 3.3.2.5.4.2, 4.3.2.5.4.2, 3.2.2.5.4.4, 4.2.2.5.4.4	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.35	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.14.6, 4.1.14.6, 3.1.18, 4.1.18, 3.2.2.2(all), 4.2.2.2(all), 3.3, 4.3, 3.3.1, 4.3.1, 3.3.2, 4.3.2, 3.3.2.1, 4.3.2.1, 3.3.2.2, 4.3.2.2, 3.3.2.3, 4.3.2.3, 3.3.4, 4.3.4	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.36	JSSG-2008: 3.0, 3.1, 3.1.12(all), 3.1.13, 3.1.13.1, 3.1.14.7, 3.2.2.2(all), 3.2.2.5, 3.2.2.5.1(all), 3.2.2.5.2, 3.2.2.5.3, 3.3.6.2, 3.7.1, 3.7.1.1, and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.37	JSSG-2008: 3.0, 3.1, 3.1.2, 3.1.5(all), 3.1.7(all), 3.1.8(all), 3.1.11(all), 3.1.12(all), 3.1.13(all), 3.1.14.4, 3.2.2.2(all), 3.2.2.4, 3.2.2.5(all), 3.2.2.6, 3.3(all), 3.2.4(all), and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.38	JSSG-2008: 3.0 thru 3.3.8, 4.0 thru 4.3.8	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.2.2.39	JSSG-2008: 3.0, 3.1, 3.1.5.2, 3.1.5.8, 3.1.5.9, 3.1.7.2, 3.1.7.3, 3.1.11, 3.1.11.2, 3.1.13.1, 3.1.13.3, 3.1.14, 3.1.14.7, 3.2.2.2.4, 3.2.2.2.5, 3.2.2.2.9, 3.2.2.2.11, 3.2.2.4, 3.2.2.5.1, 3.2.2.5.1.1 thru 3.2.2.5.1.4, 3.2.2.5.4.1, 3.2.2.6, 3.3.2.1, 3.3.6.2, and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.40	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.5.1, 4.1.5.1, 3.1.5.5, 4.1.5.5, 3.1.5.6, 4.1.5.6, 3.1.7.3, 4.1.7.3, 3.1.17, 4.1.17, 3.3.2.1, 4.3.2.1, 3.3.4, 4.3.4	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.41	JSSG-2008: 3.0, 3.1, 3.1.2, 3.1.5, 3.1.5.1, 3.1.5.2, 3.1.7, 3.1.7.3, 3.1.11.2, 3.1.11.10, 3.1.14.7, 3.1.17, 3.2.2.1, 3.2.2.2(all), 3.2.2.5, 3.2.2.5.1.1, 3.2.2.5.1.2, 3.2.2.5.4, 3.2.2.5.4.3, 3.2.2.5.4.5, 3.2.2.6, 3.2.4.6, 3.2.5.1, 3.3.6.2, and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.42	JSSG-2008: 3.0, 3.1, 3.1.5, 3.1.5.7, 3.1.5.8, 3.1.5.9, 3.1.9, 3.1.14(all), 3.2.1.3, 3.2.1.2, 3.2.2.2(all), 3.2.2.5, 3.2.2.5.4(all), 3.2.2.6, 3.3(all), and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.43	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.5.6, 4.1.5.6, 3.1.5.7, 4.1.5.7, 3.2.1(all), 4.2.1(all), 3.2.2.1, 4.2.2.1, 3.2.2.2.1, 4.2.2.2.1, 3.2.2.5.4.4, 4.2.2.5.4.4	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.2.2.44.a	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.5.6, 4.1.5.6, 3.1.9, 4.1.9, 3.1.11, 4.1.11, 3.1.11.1, 4.1.11.1, 3.1.11.1.1, 4.1.11.1.1, 3.1.12, 4.1.12, 3.2.2, 4.2.2, 3.2.2.1, 4.2.2.1	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.44.b	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.5.6, 4.1.5.6, 3.1.9, 4.1.9, 3.1.11, 4.1.11, 3.1.11.1, 4.1.11.1, 3.1.11.1.1, 4.1.11.1.1, 3.1.12, 4.1.12, 3.2.2, 4.2.2, 3.2.2.1, 4.2.2.1	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.44.c	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.5.6, 4.1.5.6, 3.1.9, 4.1.9, 3.2.2.1, 4.2.2.1	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.44.d	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.5.6, 4.1.5.6, 3.2.2.1, 4.2.2.1	25.671
6.2.2.45	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.5.6, 4.1.5.6, 3.1.14.1, 4.1.14.1, 3.1.14.3, 4.1.14.3, 3.2.2.1, 4.2.2.1	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.46	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.5.6, 4.1.5.6, 3.1.5.7, 4.1.5.7, 3.1.9, 4.1.9, 3.1.11, 4.1.11, 3.1.11.1, 4.1.11.1, 3.1.11.1.1, 4.1.11.1.1, 3.1.12, 4.1.12, 3.1.14.1, 4.1.14.1, 3.1.14.3, 4.1.14.3, 3.2.2.1, 4.2.2.1	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.47	JSSG-2008: 3.1, 4.1, 3.1.8, 4.1.8, 3.1.7.3, 4.1.7.3, 3.1.11, 4.1.11, 3.1.11.7, 4.1.11.7, 3.1.11.9, 4.1.11.9, 3.1.13, 4.1.13, 3.2.2.2, 4.2.2.2, 3.2.2.5.1.2, 4.2.2.5.1.2, 3.2.2.5.3, 4.2.2.5.3, 3.3, 4.3, 3.3.1, 4.3.1, 3.3.2.3, 4.3.2.3, 3.3.3, 4.3.3	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.2.2.48	JSSG-2008: 3.1.8, 4.1.8, 3.1.14.6, 4.1.14.6, 3.1.16, 4.1.16, 3.2, 4.2, 3.3.1, 4.3.1	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.49	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.2, 4.1.2, 3.1.3, 4.1.3, 3.1.7.3, 4.1.7.3, 3.1.8, 4.1.8, 3.1.9, 4.1.9, 3.1.11.1, 4.1.11.1, 3.1.12, 4.1.12, 3.1.13.2, 4.1.13.2, 3.1.14.4, 4.1.14.4, 3.1.17, 4.1.17	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.50	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.2, 4.1.2, 3.1.5.3, 4.1.5.3, 3.1.5.5, 4.1.5.5, 3.1.7.3, 4.1.7.3, 3.1.11, 4.1.11, 3.1.13, 4.1.13, 3.1.13.3, 4.1.13.3, 3.1.17, 4.1.17, 3.2.2.2.9, 4.2.2.2.9, 3.2.2.5.1.1, 4.2.2.5.1.1, 3.2.2.5.4.5, 4.2.2.5.4.5, 3.3.1, 4.3.1	25.901
6.2.2.51	JSSG-2008: 3.1.11, 4.1.11, 3.1.14.6, 4.1.14.6, 3.1.16, 4.1.16, 3.2, 4.2, 3.3.1, 4.3.1	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.52.a	JSSG-2008: 3.1.7(all), 4.1.7(all), 3.1.11(all), 4.1.11(all), 3.1.12(all), 4.1.12(all), 3.1.13(all), 4.1.13(all), 3.1.14(all), 4.1.14(all), 3.2.2.4, 4.2.2.4, 3.3(all), 4.4(all)	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.52.b	JSSG-2008: 3.1.7(all), 4.1.7(all), 3.1.11(all), 4.1.11(all), 3.1.12(all), 4.1.12(all), 3.1.13(all), 4.1.13(all), 3.1.14(all), 4.1.14(all), 3.2.2.4, 4.2.2.4, 3.3(all), 4.4(all)	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.2.2.52.c	JSSG-2008: 3.1.7(all), 4.1.7(all), 3.1.11(all), 4.1.11(all), 3.1.12(all), 4.1.12(all), 3.1.13(all), 4.1.13(all), 3.1.14(all), 4.1.14(all), 3.2.2.4, 4.2.2.4, 3.3(all), 4.4(all)	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.52.d	JSSG-2008: 3.1.7(all), 4.1.7(all), 3.1.11(all), 4.1.11(all), 3.1.12(all), 4.1.12(all), 3.1.13(all), 4.1.13(all), 3.1.14(all), 4.1.14(all), 3.2.2.4, 4.2.2.4, 3.3(all), 4.4(all)	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.52.e	JSSG-2008: 3.1.7(all), 4.1.7(all), 3.1.11(all), 4.1.11(all), 3.1.12(all), 4.1.12(all), 3.1.13(all), 4.1.13(all), 3.1.14(all), 4.1.14(all), 3.2.2.4, 4.2.2.4, 3.3(all), 4.4(all)	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.2.53	JSSG-2008: 3.1.14(all), 4.1.14(all), 3.4(all), 4.4(all), 3.5(all), 4.5(all)	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.3 VCF power source criteria.		
6.2.3.1	JSSG-2008: 3.0, 3.1, 3.1.2, 3.1.2.1, 3.1.3, 3.1.7.2, 3.1.7.3, 3.1.11, 3.1.11.11.3, 3.1.12, 3.1.12.1, 3.1.14.4, 3.1.14.9, 3.2.1.3, 3.2.2.2.1, 3.2.2.2.5, 3.2.3.1, and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.3.2	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.5.6, 4.1.5.6, 3.1.7.2, 4.1.7.2, 3.1.11.11.3, 4.1.11.11.3, 3.2.2.2.1, 4.2.2.2.1, 3.3 thru 3.3.4, 4.3 thru 4.3.4, 3.3.6, 4.3.6, 3.3.6.2, 4.3.6.2	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.2.3.3	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.5.6, 4.1.5.6, 3.1.7.2, 4.1.7.2, 3.1.11.11.3, 4.1.11.11.3, 3.2.2.2.1, 4.2.2.2.1, 3.2.2.2.5, 4.2.2.2.5	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.3.4	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.5.2, 4.1.5.2, 3.1.5.6, 4.1.5.6, 3.1.7.2, 4.1.7.2, 3.1.10, 4.1.10, 3.1.11.11.3, 4.1.11.11.3, 3.1.13(all), 4.1.13(all), 3.2.2.2.1, 4.2.2.2.1, 3.2.2.2.5, 4.2.2.2.5	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.3.5	JSSG-2008: 3.0, 3.1, 3.1.2, 3.1.2.1, 3.1.3, 3.1.7.2, 3.1.7.3, 3.1.11.11.3, 3.1.12.1, 3.1.13(all), 3.1.14.4, 3.1.14.9, 3.2.1.3, 3.2.2.2, 3.2.2.2.1, 3.2.2.2.5, 3.3 thru 3.3.4, 3.3.6, 3.3.6.2, and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.3.6	JSSG-2008: 3.0, 3.1, 3.1.2, 3.1.5.2, 3.1.5.4, 3.1.7.2, 3.1.10, 3.1.11, 3.1.11.11.2, 3.1.13(all), 3.2.2.2, 3.2.2.2.2, 3.2.2.2.5, 3.3 thru 3.3.4, 3.3.6, 3.3.6.2, and associated section 4 paragraphs	23.1351-23.1367, 25.1351-25.1363, 23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.3.7	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.2, 4.1.2, 3.1.2.1, 4.1.2.1, 3.1.3, 4.1.3, 3.1.7.2, 4.1.7.2, 3.1.11, 4.1.11, 3.1.11.11.2, 4.1.11.11.2, 3.1.12, 4.1.12, 3.1.12.1, 4.1.12.1, 3.2.2.2.2, 4.2.2.2.2, 3.2.2.2.5, 4.2.2.2.5, 3.3 thru 3.3.4, 4.3 thru 4.3.4, 3.3.6, 4.3.6, 3.3.6.2, 4.3.6.2	23.1351-23.1367, 25.1351-25.1363, 23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.3.8	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.5.2, 4.1.5.2, 3.1.7.2, 4.1.7.2, 3.1.10, 4.1.10, 3.1.11.11.2, 4.1.11.11.2, 3.2.2.2.2, 4.2.2.2.2, 3.2.2.2.5, 4.2.2.2.5	23.1351-23.1367, 25.1351-25.1363, 23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.2.3.9	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.2, 4.1.2, 3.1.5.2, 4.1.5.2, 3.1.7.2, 4.1.7.2, 3.1.11.11.2, 4.1.11.11.2, 3.1.13(all), 4.1.13(all), 3.2.2.2.2, 4.2.2.2.2, 3.2.2.2.5, 4.2.2.2.5	23.1351-23.1367, 25.1351-25.1363, 23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.3.10	JSSG-2008: 3.0, 3.1, 3.1.2, 3.1.2.1, 3.1.3, 3.1.7.2, 3.1.7.3, 3.1.10, 3.1.11.11.2, 3.1.12, 3.1.12.1, 3.1.14.4, 3.2.1.3, 3.2.2.2.2, 3.2.2.2.5, 3.2.3.1, and associated section 4 paragraphs	23.1351-23.1367, 25.1351-25.1363, 23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.3.11	JSSG-2008: 3.0, 3.1, 3.1.2, 3.1.2.1, 3.1.3, 3.1.7.2, 3.1.7.3, 3.1.11.11.2, 3.1.13(all), 3.1.14.4, 3.2.1.3, 3.2.2.2.2, 3.2.2.2.5, 3.3 thru 3.3.4, 3.3.6, 3.3.6.2, and associated section 4 paragraphs	23.1351-23.1367, 25.1351-25.1363, 23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.3.12	JSSG-2008: 3.0, 3.1, 3.1.2, 3.1.2.1, 3.1.3, 3.1.7.2, 3.1.7.3, 3.1.11, 3.1.11.11.2, 3.1.12, 3.1.12.1, 3.1.14.4, 3.2.1.3, 3.2.2.2.2, 3.2.2.2.5, 3.3 thru 3.3.4, 3.3.6, 3.3.6.2, and associated section 4 paragraphs	23.1351-23.1367, 25.1351-25.1363, 23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.4 Flight worthiness evaluations.		
6.2.4.1	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.2, 4.1.2, 3.1.2.1, 4.1.2.1, 3.1.5, 4.1.5, 3.1.13(all), 4.1.13(all), 3.1.14(all), 4.1.14(all), 3.5.3, 4.5.3	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.4.2	JSSG-2008: 3.0, 4.0, 3.1, 4.1, 3.1.2, 4.1.2, 3.1.2.1, 4.1.2.1, 3.1.5.6, 4.1.5.6, 3.1.11, 4.1.11,3.1.11, 3.1.11.1, 4.1.11.1, 3.2.4.1, 4.2.4.1, 3.5.3, 4.5.3	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.2.4.3	JSSG-2008: 3.1, 3.1.2, 3.1.2.1, 3.1.3, 3.1.5, 3.1.5.1, 3.1.5.2, 3.1.5.4, 3.1.5.5, 3.1.5.7, 3.1.5.8, 3.1.7, 3.1.7.2, 3.1.7.3, 3.1.9, 3.1.10, 3.1.11, 3.1.11.2, 3.1.11.4, 3.1.11.5, 3.1.11.6, 3.1.11.9, 3.1.11.10, 3.1.11.11.2, 3.1.11.11.3, 3.1.12, 3.1.12.1, 3.1.13.1, 3.1.13.2, 3.1.14.2.2, 3.1.14.2.4, 3.2.2.1, 3.2.2.2(all), 3.2.2.5(all), 3.3 thru 3.3.4, 3.3.6, 3.3.6.2, and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.4.4	JSSG-2008: 3.0, 3.1, 3.1.5, 3.1.5.3, 3.1.5.7, 3.1.5.8, 3.1.5.9, 3.1.9, 3.1.14(all), 3.2.1.3, 3.2.1.2, 3.2.2.2(all), 3.2.2.5, 3.2.2.5.4(all), 3.2.2.6, 3.3(all), and associated section 4 paragraphs	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.4.5	JSSG-2008: 3.1.8, 3.1.9	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.5 VCF software.		
6.2.5.1	JSSG-2008: 3.3.6.2	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.5.2	JSSG-2008: 3.2.4.6, 3.3.6-3.3.8	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.5.3	JSSG-2008: 3.1.5.2, 3.1.5.8, 3.1.9, 3.1.11.2, 3.2.1.2, 3.2.3.2	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.5.4	JSSG-2008: 3.1.9-3.1.11.1.1	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.2.5.5	JSSG-2008: 3.2.4.6, 3.3.6-3.3.8	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.5.6	JSSG-2008: 3.2.4.6, 3.3.6-3.3.8	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.5.7	JSSG-2008: 3.2.4.6, 3.3.6-3.3.8	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.5.8	JSSG-2008: 3.1.11.11.2, 3.1.13	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.2.5.9	JSSG-2008: 3.1.14.6	23.141-23.253, 25.21-25.255, 23.321-23.459, 25.321-25.459, 23.1501-23.1529, 25.1501-25.1529
6.3 Aerodynamics and performance.	JSSG-2001: Appendix D	
6.3.1 Flight vehicle.		
6.3.1.1	JSSG-2001 Appendix D: D.3.1 (all), D.4.1.13	23.21-21.3, 23.21-23.253, 25.1, 25.2, 25.21-25.255, 23.1501-23.1529, 25.1501-25.1529
6.3.1.2	JSSG-2001: 3.1.1.1	23.21-21.3, 23.21-23.253, 25.1, 25.2, 25.21-25.255, 23.1501-23.1529, 25.1501-25.1529
6.3.1.3	JSSG-2001 Appendix D: D.3.2, D.3.2.10, D.3.8	23.21-21.3, 23.21-23.253, 25.1, 25.2, 25.21-25.255, 23.1501-23.1529, 25.1501-25.1529
6.3.1.4	JSSG-2001 Appendix D: D.3.2.11, D.3.3.1.4, D.4.2.2.1.2	23.21-21.3, 23.21-23.253, 25.1, 25.2, 25.21-25.255, 23.1501-23.1529, 25.1501-25.1529

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
6.3.1.5	JSSG-2001 Appendix D: D.4.1.10	25.1581-25.1587, 23.21-21.3, 23.21-23.253, 25.1, 25.2, 25.21-25.255, 23.1501-23.1529, 25.1501-25.1529
6.3.1.6	JSSG-2001: 3.3.10.1.1, 3.4.2.1.5, 3.4.2.2	23.21-21.3, 23.21-23.253, 25.1, 25.2, 25.21-25.255, 23.1501-23.1529, 25.1501-25.1529
6.3.2 Installed propulsion capability.		
6.3.2.1	JSSG-2001: 3.3.1.1.1, 3.3.1.1.1.1; and Appendix D: D.3.11.3.1	23.1521, 25.1521
6.3.2.2	JSSG-2001: 3.3.1.1 (all)	23.901-23.943, 25.901-25.945
6.3.2.3	JSSG-2001: 3.3.1.1 (all)	23.901-23.943, 25.901-25.945
6.3.2.4	JSSG-2001: 3.3.1.1 (all)	23.901-23.943, 25.901-25.945
6.3.2.5	JSSG-2001: 3.3.1.1 (all)	23.901-23.943, 25.901-25.945
6.3.3 Flight limits.		
6.3.3.1	JSSG-2001 Appendix D: D.3.2.2.c, D.3.5.16.2	23.321-23.373, 25.321-25.373
6.3.3.2	JSSG-2001 Appendix D: D.3.2.2	23.321-23.373, 25.321-25.373
6.3.3.3	JSSG-2001 Appendix D: D.3.2.2	23.321-23.373, 25.321-25.373

Downloaded from http://www.everyspec.com

A.7. Propulsion

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
7. Propulsion	JSSG-2007 Engines	23.901-23.1165, 25.901-25.1167
7.1 Performance.		
7.1.1	JSSG-2007: 3.2, 3.2.1, 3.3.1, 3.3.2, 3.3.7, 4.2,4.2.1, 4.3.1, 4.3.2, 4.3.7, 3.11, 4.11, 3.12, 4.12	33.5, 33.35, 33.7, 33.8, AC 33-2B
7.2 Operability.		
7.2.1	JSSG-2007: 3.2, 4.2, 3.11, 4.11, 3.12, 4.12, 3.2.2, 3.2.2.11, 4.2.2, 4.2.2.11	33.5, 33.7, AC 33-2B
7.2.2	JSSG-2007: 3.2, 4.2, 3.11, 4.11, 3.12, 4.12, 3.2.2, 3.2.2.7, 4.2.2, 4.2.2.7	33.5, 33.7, AC 33-2B
7.2.3	JSSG-2007: 3.2, 4.2, 3.11, 4.11, 3.12, 4.12	23.901-23.1165, 25.901-25.1167
7.2.4	JSSG-2007: 3.2, 4.2, 3.11, 4.11, 3.12, 4.12, 3.2.2, 4.2.2	33.5, 33.7, AC 33-2B
7.2.5	Refer to technical point of contact for this discipline (listed in section A.20).	Refer to technical point of contact for this discipline (listed in section A.20).
7.3 Engine structures.		
7.3.1	JSSG-2007: 3.3, 4.3, 3.4, 4.4, 3.11, 4.11, 3.12, 4.12	33.14, 33.19, 33.63, 33.75, 33.76, 33.77, 33.90, 33.94, 33.97, AC 33.1B, AC 33.3, AC 33.4, AC 33.4-2, AC 33.5
7.3.2	JSSG-2007: 3.3, 4.3, 3.4, 4.4, 3.11, 4.11, 3.12, 4.12	33.15, 33.19, AC 33.3, AC 33.15-1
7.3.3	JSSG-2007: 3.3, 4.3, 3.4, 4.4, 3.11, 4.11, 3.12, 4.12	33.83
7.3.4	JSSG-2007: 3.3, 4.3, 3.4, 4.4, 3.11, 4.11, 3.12, 4.12	33.14, 33.19, 33.62, 33.63, 33.90, 33.93, 33.97, AC 33.4, AC 33.4-2
7.3.5	JSSG-2007: 3.3, 4.3, 3.4, 4.4, 3.11, 4.11, 3.12, 4.12	AC 33.4-2, AC 33.15-1

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
7.3.5.1	JSSG-2007: 3.3, 4.3, 3.4, 4.4, 3.11, 4.11, 3.12, 4.12	AC 33.4-2, AC 33.15-1
7.3.6	JSSG-2007: 3.3, 4.3, 3.4, 4.4, 3.11, 4.11, 3.12, 4.12	AC 33.4-2, AC 33.15-1
7.3.7	JSSG-2007: 3.3, 4.3, 3.4, 4.4, 3.11, 4.11, 3.12, 4.12	33.14, 33.19, 33.63, 33.83, 33.97, AC 33.4
7.3.8	JSSG-2007: 3.3, 4.3, 3.4, 4.4, 3.11, 4.11, 3.12, 4.12	33.19, AC 33.4-2
7.3.9	JSSG-2007: 3.3, 4.3, 3.4, 4.4, 3.11, 4.11, 3.12, 4.12	33.27, 33.88, AC 33.3
7.3.10	JSSG-2007: 3.3, 4.3, 3.4, 4.4, 3.11, 4.11, 3.12, 4.12	33.14, A33.3, A33.4, AC 33.3
7.4 Engine control and accessory systems.		
7.4.1	JSSG-2007: 3.1.1.15, 4.1.1.15, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.7, 4.7, 3.11, 4.11, 3.12, 4.12	33.28, 33.53, AC 33-2B, 33.28-1
7.4.1.1	JSSG-2007: 3.1.1.15, 4.1.1.15, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.7, 4.7, 3.11, 4.11, 3.12, 4.12	33.28, AC 33-2B, 33.28-1
7.4.1.2	JSSG-2007: 3.1.1.15, 4.1.1.15, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.7, 4.7, 3.11, 4.11, 3.12, 4.12	33.28, AC 33-2B, 33.28-1
7.4.2	JSSG-2007: 3.1.1.15, 4.1.1.15, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.7, 4.7, 3.11, 4.11, 3.12, 4.12	33.28, AC 33-2B, 33.28-1
7.4.3	JSSG-2007: 3.1.1.15, 4.1.1.15, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.7, 4.7, 3.11, 4.11, 3.12, 4.12	33.28, AC 33-2B, 33.28-1, AC 20-136
7.4.4	JSSG-2007: 3.1.1.15, 4.1.1.15, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.7, 4.7, 3.11, 4.11, 3.12, 4.12	33.35, 33.67, AC 33-2B, 33-5

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
7.4.5	JSSG-2007: 3.1.1.15, 4.1.1.15, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.7, 4.7, 3.11, 4.11, 3.12, 4.12	33.14, 33.15, 33.19, AC 33-2B, 33.28-1
7.4.6	JSSG-2007: 3.1.1.15, 4.1.1.15, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.7, 4.7, 3.11, 4.11, 3.12, 4.12	33.28, 33.69, AC 33-2B, 33.28-1
7.4.7	JSSG-2007: 3.1.1.15, 4.1.1.15, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.7, 4.7, 3.11, 4.11, 3.12, 4.12	33.68, 33.77, AC 33-2B, 33.28
7.4.8	JSSG-2007: 3.1.1.15, 4.1.1.15, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.7, 4.7, 3.11, 4.11, 3.12, 4.12	33.21, 33.28, AC 33-2B
7.4.9	JSSG-2007: 3.1.1.15, 4.1.1.15, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.7, 4.7, 3.11, 4.11, 3.12, 4.12	33.67, 33.71, 33.72, AC 33-2B, 33.28-1
7.4.10	JSSG-2007: 3.1.1.15, 4.1.1.15, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.7, 4.7, 3.11, 4.11, 3.12, 4.12	33.73, 33.79, AC 33-2B, 33.28
7.5 Engine monitoring system.		
7.5.1	JSSG-2007: 3.7.6, 4.7.6	33, AC 33-2B, 33.28-1
7.6 Engine bearing and lubrication system.		
7.6.1	JSSG-2007: 3.1.1.10, 4.1.1.10, 3.4, 4.4, 3.7.8, 4.7.8	33.69, 33.71, AC 33-2B
7.6.2	JSSG-2007: 3.1.1.10, 4.1.1.10, 3.4, 4.4, 3.7.8, 4.7.8	33, AC 33-2B
7.6.3	JSSG-2007: 3.1.1.10, 4.1.1.10, 3.4, 4.4, 3.7.8, 4.7.8	33.69, 33.71, AC 33-2B

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
7.6.3.1	Refer to technical point of contact for this discipline (listed in section A.20).	Refer to technical point of contact for this discipline (listed in section A.20).
7.6.3.2	Refer to technical point of contact for this discipline (listed in section A.20).	Refer to technical point of contact for this discipline (listed in section A.20).
7.6.4	JSSG-2007: 3.1.1.10, 4.1.1.10, 3.4, 4.4, 3.7.8, 4.7.8	33.17, 33.39, 33.71, AC 33-2B
7.7 Engine installations compatibility.		
7.7.1	JSSG-2007: 3.1, 4.1, 3.4, 4.4	33.5, 33.23, 33.28, AC 33-2B
7.7.2	JSSG-2007: 3.1, 4.1, 3.4, 4.4	33.15, 33.23, 33.5, 33.63, 33.75, AC 33-2B
7.8 Failure modes.		
7.8.1	JSSG-2007: 3.5.1.1, 4.5.1.1	33.75, AC 33-2B
7.8.2	JSSG-2007: 3.5.1.1, 4.5.1.1	33.75, AC 33-2B
7.9 Flight manual/ procedures and limitations.		
7.9.1	JSSG-2007: 3.2.2, 4.2.2	No applicable reference available.
7.10 Engine externals.		
7.10.1	JSSG-2007: 3.1.1.15, 4.1.1.15, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.7, 4.7, 3.11, 4.11, 3.12, 4.12	33.23, 33.25, 33.28, AC 33-2B, 33.28-1
7.10.1.1	JSSG-2007: 3.1.1.15, 4.1.1.15, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.7, 4.7, 3.11, 4.11, 3.12, 4.12	33.23, 33.25, 33.28, 33.63, AC 33-2B
7.10.1.2	JSSG-2007: 3.1.1.15, 4.1.1.15, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.7, 4.7, 3.11, 4.11, 3.12, 4.12	33.23, 33.25, 33.28, 33.91, AC 33-2B

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
7.10.1.3	JSSG-2007: 3.1.1.15, 4.1.1.15, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.7, 4.7, 3.11, 4.11, 3.12, 4.12	33.17, 33.75, 33.91, AC 33-2B
7.10.1.4	JSSG-2007: 3.1.1.15, 4.1.1.15, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.7, 4.7, 3.11, 4.11, 3.12, 4.12	33.17, 33.75 , 33.91, AC 33-2B
7.10.1.5	JSSG-2007: 3.1.1.15, 4.1.1.15, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.7, 4.7, 3.11, 4.11, 3.12, 4.12	33.15, 33.19, 33.6333.75, AC 33-2B
7.10.2	Refer to technical point of contact for this discipline (listed in section A.20).	Refer to technical point of contact for this discipline (listed in section A.20).
7.10.2.1	Refer to technical point of contact for this discipline (listed in section A.20).	Refer to technical point of contact for this discipline (listed in section A.20).
7.10.2.2	JSSG-2007: 3.1.1.10, 4.1.1.10, 3.4, 4.4, 3.7.8, 4.7.8	33.25, 33.53, AC 33-2B
7.11 Engine computer resources.		
7.11.1	JSSG-2007: 3.8, 4.8	33.28, 33.75, AC 33-2B
7.11.2	JSSG-2007: 3.8, 4.8	33.28, 33.75, AC 33-2B, 33.28-1
7.12 Propellers and associated subsystem components.		
7.12.1	JSSG-2007: 3.4, 4.4, 3.7, 4.7	33.95, FAR 35, AC 20-66A, 35.37-1A
7.12.2	JSSG-2007: 3.4, 4.4, 3.7, 4.7	35, AC 20-66A
7.12.3	JSSG-2007: 3.4, 4.4, 3.7, 4.7	35.21, 35.23
7.12.4	JSSG-2007: 3.4, 4.4, 3.7, 4.7	35.3

Downloaded from http://www.everyspec.com

A.8. Air Vehicle Subsystems

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8. Air Vehicle Subsystems	JSSG-2000 Air System, JSSG-2001 Air Vehicle, JSSG-2009 Air Vehicle Subsystems, and Appendixes	
8.1 Hydraulic and pneumatic systems.	JSSG-2009 Appendix B, Appendix M	23.1435, 23.1438 (Note: FAR paragraphs listed in the following section are not necessarily sufficient to fully satisfy the corresponding criteria.)
8.1.1	JSSG-2009 Appendix B: B.3.4.2, B.4.4.2, B.3.4.2.1.16, B.4.4.2.1.16; and Appendix M: M.3.4.13, M.4.4.13	25.1435 b4
8.1.1.1	JSSG-2009 Appendix B: B.3.4.2, B.4.4.2; and Appendix M: M.3.4.13, M.4.4.13	No applicable reference available.
8.1.2	JSSG-2009 Appendix B: B.3.4.2, B.4.4.2, B.3.4.2.1.16, B.4.4.2.1.16; and Appendix M: M.3.4.13, M.4.4.13	No applicable reference available.
8.1.3	JSSG-2009 Appendix B: B.3.4.2.1.10, B.4.4.2.1.10; and Appendix M: M.3.4.13, M.4.4.13	No applicable reference available.
8.1.4	JSSG-2009 Appendix B: B.3.4.2.1.14, B.4.4.2.1.14, B.3.4.2.1.14.1, B.4.4.2.1.14.1	No applicable reference available.
8.1.5	JSSG-2009 Appendix B: B.3.4.2.1.3, B.4.4.2.1.3, B.3.4.2.1.4.3, B.4.4.2.1.4.3, B.3.4.2.1.4.4, B.4.4.2.1.4.4, B.3.4.2.2.3, B.4.4.2.2.3; and Appendix M: M.3.4.13.3, M.4.4.13.3	23.1435 a2, 25.1435 b1
8.1.6	JSSG-2000: 3.6.2	Refer to technical point of contact for this discipline (listed in section A.20).

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.1.7	JSSG-2009 Appendix B: B.3.4.2.1.1, B.4.4.2.1.1, B.3.4.2.1.2, B.4.4.2.1.2, B.3.4.2.1.4, B.4.4.2.1.4, B.3.4.2.1.4.1, B.4.4.2.1.4.1, B.3.4.2.1.4.2, B.4.4.2.1.4.2, B.3.4.2.1.5, B.4.4.2.1.5, B.3.4.2.1.5.1, B.4.4.2.1.5.1, B.3.4.2.1.5.2, B.4.4.2.1.5.2, B.3.4.2.1.5.3, B.4.4.2.1.5.3, B.3.4.2.1.9, B.4.4.2.1.9, B.3.4.2.1.11, B.4.4.2.1.11, B.3.4.2.1.12, B.4.4.2.1.12, B.3.4.2.1.13, B.4.4.2.1.13, B.3.4.2.1.15, B.4.4.2.1.15, B.3.4.2.1.16.1, B.4.4.2.1.16.1, B.3.4.2.1.17, B.4.4.2.1.17, B.3.4.2.2, B.4.4.2.2; and Appendix M: M.3.4.13.1, M.4.4.13.1, M.3.4.13.2, M.4.4.13.2, M.3.4.13.4, M.4.4.13.4, M.6.4.1 thru M.6.4.13	23.1435 a1, a3, c1, c2, 25.1435 a2, a4, a5
8.1.8	JSSG-2009 Appendix B: B.3.4.2, B.4.4.2, B.3.4.2.1.2, B.4.4.2.1.2; and Appendix M: M.3.4.13, M.4.4.13	Refer to technical point of contact for this discipline (listed in section A.20).
8.1.9	JSSG-2009 Appendix B: B.3.4.2.1.5, B.4.4.2.1.5, B.3.4.2.1.5.1, B.4.4.2.1.5.1, B.3.4.2.1.5.2, B.4.4.2.1.5.2; and Appendix M: M.3.4.13.2, M.4.4.13.2	23.1435 a3, 25.1435 b2
8.1.10	JSSG-2009 Appendix B: B.3.4.2.1.6, B.4.4.2.1.6, B.3.4.2.1.6.1, B.4.4.2.1.6.1, B.3.4.2.1.6.2, B.4.4.2.1.6.2, B.3.4.2.1.7, B.4.4.2.1.7, B.3.4.2.1.8, B.4.4.2.1.8; and Appendix M: M.3.4.13.4, M.4.4.13.4	No applicable reference available.

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.2 Environmental management system (EMS).		Note: FAR paragraphs listed in the following section are not necessarily sufficient to fully satisfy the corresponding criteria.
8.2.1	JSSG-2009: 3.3.3, 4.3.3	23 Miscellaneous & Cooling Paragraphs
8.2.2	JSSG-2009: 3.3.3, 4.3.3	23.1041, 23.1093
8.2.3	JSSG-2009: 3.3.6, 4.3.6, JSSG-2001: 3.3.10, 3.3.10.1	23.1043, 23.1045, 23.1047, 25.1041, 25.1043, 25.1045
8.2.4	JSSG-2009 Appendix D: D.3.4.4.5, D.4.4.4.5	23.831, 25.831
8.2.5	JSSG-2009 Appendix D: D.3.4.4.1, D.4.4.4.1	23.365, 25.841
8.2.6	JSSG-2009: 3.2.4, 3.2.5, 3.2.7.4.4, 3.2.7.6, 3.3.3, 4.2.4, 4.2.5, 4.2.7.4.4, 4.2.7.6, 4.3.3, JSSG-2009 Appendix D: D.3.4.4.3, D.3.4.4.5, D.3.4.4.12, D.4.4.3.3, D.4.4.4.5, D.4.4.4.12	23.775, 25.775
8.2.7	Refer to technical point of contact for this discipline (listed in section A.20).	23.1581
8.2.8	JSSG-2009 Appendix D: D.3.4.4.3, D.4.4.3.3	No applicable reference available.
8.2.9	JSSG-2009 Appendix D: D.3.4.4.3, D.4.4.3.3	No applicable reference available.
8.2.10	JSSG-2009 Appendix D: D.3.4.4.8, D.4.4.4.8, D.3.4.4.9, D.4.4.4.9, D.3.4.4.11, D.4.4.4.11	23.1419, 25.1419, 23 Miscellaneous (Safe Operations Certification)
8.2.11	JSSG-2009 Appendix D: D.3.4.4.6, D.4.4.4.6	23.1109, 23.1111, 25.832
8.2.12	JSSG-2009 Appendix D: D. 3.4.4.12, D.4.4.4.12	23.1109, 23.1111
8.2.13	JSSG-2009 Appendix D: D.3.4.4.12, D.4.4.4.12	23.1109, 23.1111

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.2.14	JSSG-2009 Appendix D: D.3.4.4.1, D.4.4.4.1	23.365, 23.841, 23.843, 25.843
8.2.15	JSSG-2009 Appendix D: D.3.4.4.6.3, D.4.4.4.6.3; JSSG-2001: 3.1.8.2.6, 3.1.8.2.7	No applicable reference available.
8.2.16	JSSG-2009 Appendix D: D.3.4.4.2, D.3.4.4.18, D.4.4.4.2, D.4.4.4.18, JSSG-2001: 3.3.10, 3.3.10.1	No applicable reference available.
8.3 Fuel system.		23.951-23.979, 23.991-23.1001, 25.951-25.981, 25.991-25.1001 (Note: FAR paragraphs listed in the following section are not necessarily sufficient to fully satisfy the corresponding criteria.)
8.3.1	JSSG-2009 Appendix E: E.3.4.5.1.1, E.4.4.5.1.1, E.3.4.5.1.2, E.4.4.5.1.2, E.3.4.5.1.3, E.4.4.5.1.3, E.3.4.5.1.3.11, E.4.4.5.1.3.11, E.3.4.5.2.1, E.4.4.5.2.1, E.3.4.5.2.2, E.4.4.5.2.2, E.3.4.5.3, E.4.4.5.3	23.951-23.979, 23.991-23.1001, 25.951-25.981, 25.991-25.1001
8.3.2	JSSG-2009 Appendix E: E.3.4.5.1.1, E.4.4.5.1.1, E.3.4.5.1.2, E.4.4.5.1.2, E.3.4.5.1.3, E.4.4.5.1.3, E.3.4.5.1.4, E.4.4.5.1.4, E.3.4.5.2.1, E.4.4.5.2.1, E.3.4.5.2.2, E.4.4.5.2.2	23.951-23.979, 23.991-23.1001, 25.951-25.981, 25.991-25.1001, AC 20-29
8.3.3	JSSG-2009 Appendix E: E.3.4.5.1.12, E.4.4.5.1.12	23.951-23.979, 23.991-23.1001, 25.951-25.981, 25.991-25.1001
8.3.3.1	JSSG-2009: 3.2.7.4.4.1, 4.2.7.4.4.1; and Appendix E: E.3.4.5.1.12, E.4.4.5.1.12	23.951-23.979, 23.991-23.1001, 25.951-25.981, 25.991-25.1001
8.3.4	JSSG-2009: 3.3.3.1, 4.3.3.1, 3.3.8, 4.3.8	23.963, 23.993, 23.994, 25.963, 25.993, 25.994

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.3.5	JSSG-2009 Appendix E: E.3.4.5.1.5, E.4.4.5.1.5, E.3.4.5.1.6, E.4.4.5.1.6, E.3.4.5.1.7, E.4.4.5.1.7, E.3.4.5.1.8, E.4.4.5.1.8, E.3.4.5.6.1, E.4.4.5.6.1	23.993, 25.993
8.3.6	JSSG-2009 Appendix E: E.3.4.5.2.1, E.4.4.5.2.1, E.3.4.5.2.2, E.4.4.5.2.2, E.3.4.5.2.4, E.4.4.5.2.4, E.3.4.5.2.5, E.4.4.5.2.5	23.951, 23.953, 23.955, 23.959, 25.951, 25.953, 25.955, 25.959
8.3.7	JSSG-2009 Appendix E: E.3.4.5.2.3, E.4.4.5.2.3, E.3.4.5.4, E.4.4.5.4, E.3.4.5.4.1, E.4.4.5.4.1	23.951, 23.952, 23.953, 23.955, 23.961, 25.951, 25.952, 25.953, 25.955, 25.961
8.3.8	JSSG-2009 Appendix E: E.3.4.5.5, E.4.4.5.5	23.1001, 25.1001
8.3.9	JSSG-2009 Appendix E: E.3.4.5.1.7, E.4.4.5.1.7, E.3.4.5.1.8, E.4.4.5.1.8, E.3.4.5.8, E.4.4.5.8	23.963, 23.979, 25.963, 25.979
8.3.10	JSSG-2009: 3.2.6, 4.2.6	No applicable reference available.
8.3.11	JSSG-2009 Appendix E: E.3.4.5.6.2, E.4.4.5.6.2, E.3.4.5.6.3, E.4.4.5.6.3, E.3.4.5.1.3, E.4.4.5.1.3	23.971, 23.973, 23.977, 23.997, 25.971, 25.973, 25.977, 25.997 AC 20-119
8.3.12	JSSG-2009 Appendix E: E.3.4.5.5.1.9, E.4.4.5.5.1.9, E.3.4.5.1.11, E.4.4.5.1.11, E.3.4.5.7, E.4.4.5.7, E.3.4.5.8.12, E.4.4.5.8.12	23.863, 23.954, 23.971, 23.975, 25.863, 25.954, 25.971, 25.975, 25.981, AC 20-53A, AC 20-136, AC 25.981-2, AC 25.981-1B, AC 25-16
8.3.12.1	JSSG-2009 Appendix D: D.3.4.4.7, D.4.4.4.7; and Appendix E: E.3.4.5.1.9, E.4.4.5.1.9	23.954, 23.975, 25.954, 25.975, 25.981, AC 20-53A, AC 20-136, AC 25-16, AC 25.981-1B, AC 25.981-2

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.3.12.2	JSSG-2009 Appendix E: E.3.4.5.6.11, E.4.4.5.6.11	23.863, 23.967, 23.1185, 25.863, 25.967, 25.1185, 25.981, AC 25-981-2, AC 25-981-1B
8.3.12.3	JSSG-2009 Appendix E: E.3.4.5.6.2, E.4.4.5.6.2, E.3.4.5.1.10, E.4.4.5.1.10	23.977, 23,997, 23.999, 25.977, 25.997, 25.999
8.3.12.4	JSSG-2009 Appendix E: E.3.4.5.2.6, E.4.4.5.2.6	23.971, 23.999, 23.1001, 25.971, 25.999, 25.1001
8.3.13	JSSG-2009 Appendix E: E.3.4.5.6, E.4.4.5.6, E.3.4.5.6.13, E.4.4.5.6.13	23.963, 23.965, 23.993, 25.963, 25.965, 25.993, AC 25.963-1
8.3.14	JSSG-2009: 3.2.9.1, 4.2.9.1, and Appendix E: E.3.4.5.1.7, E.4.4.5.1.7, E.3.4.5.1.8, E.4.4.5.1.8, E.3.4.5.1.12, E.4.4.5.1.12	23.957, 23.963, 23.965, 25.957, 25.963, 25.965, AC 25.963-1
8.3.14.1	JSSG-2009 Appendix E: E.3.4.5.1.12, E.4.4.5.1.12, E.3.4.5.8.1, E.4.4.5.8.1, E.3.4.5.8.4, E.4.4.5.8.4, E.3.4.5.8.5, E.4.4.5.8.5, E.3.4.5.8.6, E.4.4.5.8.6, E.3.4.5.8.7, E.4.4.5.8.7, E.3.4.5.8.8, E.4.4.5.8.8	23.863, 23.973, 23.975, 23.979, 25.863, 25.973, 25.975, 25.979,
8.3.14.2	JSSG-2009 Appendix E: E.3.4.5.1.12, E.4.4.5.1.12, E.3.4.5.6.1, E.4.4.5.6.1, E.3.4.5.8.1, E.4.4.5.8.1, E.3.4.5.8.11, E.4.4.5.8.11, E.3.4.5.8.14, E.4.4.5.8.14, E.3.4.5.9, E.4.4.5.9	23.969, 23.975, 25.969, 25.975
8.3.14.3	JSSG-2009 Appendix E: E.3.4.5.8.1, E.3.4.5.8.2, E.3.4.5.8.4, E.3.4.5.8.11, E.3.4.5.9, E.4.4.5.8.1, E.4.4.5.8.2, E.4.4.5.8.4, E.4.4.5.8.11, E.4.4.5.9	23.969, 23.975.23.979 25.969, 25.975, 25.979

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.3.15	JSSG-2009 Appendix E: E.3.4.5.1.12, E.4.4.5.1.12, E.3.4.5.8.11, E.4.4.5.8.11, E.3.4.5.12, E.4.4.5.12, E.3.4.5.12.1, E.4.4.5.12.1, E.3.4.5.12.2, E.4.4.5.12.2, E.3.4.5.12.3, E.4.4.5.12.3, E.3.4.5.12.4, E.4.4.5.12.4, E.3.4.5.12.5, E.4.4.5.12.5	No applicable reference available.
8.3.16	JSSG-2009: 3.2.9, 4.2.9 and Appendix E: E.3.4.5.8.11, E.4.4.5.8.11, E.3.4.5.12.5, E.4.4.5.12.5	23.979, 25.979
8.3.17	JSSG-2009 Appendix E: E.3.4.5.10, E.4.4.5.10	23.1001, 25.1001
8.4 Fire and hazard protection.		23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411 (Note: FAR paragraphs listed in the following section are not necessarily sufficient to fully satisfy the corresponding criteria.)
8.4.1	JSSG-2009 Appendix G: G.3.4.7, G.4.4.7, G.3.4.7.1, G.4.4.7.1, G.3.4.7.2, G.4.4.7.2, G.3.4.7.29, G.4.4.7.29	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411
8.4.2	JSSG-2009 Appendix G: G.3.4.7, G.4.4.7	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411
8.4.3	JSSG-2009 Appendix G: G.3.4.7.1, G.4.4.7.1	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411
8.4.3.1	JSSG-2009 Appendix G: G.3.4.7.3, G.4.4.7.3, G.3.4.7.6, G.4.4.7.6	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.4.3.2	JSSG-2009 Appendix G: G.3.4.7.6, G.4.4.7.6, G.3.4.7.21, G.4.4.7.21	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411
8.4.4	JSSG-2009 Appendix G: G.3.4.7.3, G.4.4.7.3, G.3.4.7.4, G.4.4.7.4, G.3.4.7.5, G.4.4.7.5, G.3.4.7.18, G.4.4.7.18	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411
8.4.4.1	JSSG-2009 Appendix G: G.3.4.7.3, G.4.4.7.3, G.3.4.7.4, G.4.4.7.4, G.3.4.7.17, G.4.4.7.17, G.3.4.7.18, G.4.4.7.18, G.3.4.7.22, G.4.4.7.22	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411
8.4.5	JSSG-2009 Appendix G: G.3.4.7.3, G.4.4.7.3, G.3.4.7.5, G.4.4.7.5	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411
8.4.6	JSSG-2009 Appendix G: G.3.4.7.4, G.4.4.7.4, G.3.4.7.18, G.4.4.7.18	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411
8.4.7	JSSG-2009 Appendix G: G.3.4.7.19, G.4.4.7.19, G.3.4.7.20, G.4.4.7.20, G.3.4.7.24, G.4.4.7.24, G.3.4.7.27, G.4.4.7.27	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411
8.4.8	JSSG-2009 Appendix G: G.3.4.7.20, G.4.4.7.20, G.3.4.7.21, G.4.4.7.21	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.4.9	JSSG-2009 Appendix G: G.3.4.7.10, G.4.4.7.10	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411
8.4.10	JSSG-2009 Appendix G: G.3.4.7.8, G.4.4.7.8, G.3.4.7.9, G.4.4.7.9, G.3.4.7.26, G.4.4.7.26, G.3.4.7.27, G.4.4.7.27, G.3.4.7.28, G.4.4.7.28	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411
8.4.11	JSSG-2009 Appendix G: G.3.4.7.9, G.4.4.7.9, G.3.4.7.10, G.4.4.7.10, G.3.4.7.11, G.4.4.7.11, G.3.4.7.12, G.4.4.7.12, G.3.4.7.13, G.4.4.7.13, G.3.4.7.14, G.4.4.7.14, G.3.4.7.15, G.4.4.7.15	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411
8.4.12	JSSG-2009 Appendix G: G.3.4.7.24, G.4.4.7.24, G.3.4.7.25, G.4.4.7.25, G.3.4.7.26, G.4.4.7.26	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411
8.4.13	JSSG-2009 Appendix G: G.3.4.7.20, G.4.4.7.20	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411
8.4.14	JSSG-2009 Appendix G: G.3.4.7.7, G.4.4.7.7, G.3.4.7.22, G.4.4.7.22	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411, AC 25.853-1, AC 25.869-1
8.4.15	JSSG-2009 Appendix G: G.3.4.7.22, G.4.4.7.22	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411, AC 25-9
8.4.16	JSSG-2009 Appendix G: G.3.4.7.16, G.4.4.7.16, G.3.4.7.17, G.4.4.7.17	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.4.17	JSSG-2009 Appendix G: G.3.4.7.17, G.4.4.7.17, G.3.4.7.19, G.4.4.7.19	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411
8.4.18	JSSG-2009 Appendix G: G.3.4.7.7, G.4.4.7.7, G.3.4.7.13, G.4.4.7.13, G.3.4.7.31, G.4.4.7.31	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411, AC 20-42C
8.4.19	JSSG-2009 Appendix G: G.3.4.7.7, G.4.4.7.7	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411, AC 25-17, AC 25.994.1
8.4.20	JSSG-2009 Appendix G: G.3.4.7.23, G.4.4.7.23, G.3.4.7.28, G.4.4.7.28	23.851-23.865, 25.851-25.869, 23.1181-23.1203, 25.1181-25.1207, 23.1411, 25.1411
8.5 Landing gear and deceleration systems.		23.721-23.745, 25.721-25.737 (Note: FAR paragraphs listed in the following section are not necessarily sufficient to fully satisfy the corresponding criteria.)
8.5.1	JSSG-2009 Appendix A: A.3.4.1.2.1, A.4.4.1.2.1	No applicable reference available.
8.5.2 Arrangement, Dynamics, and Clearances	AFGS-87139: 3.2.1.1, 3.2.1.2	23.721-23.745, 25.721-25.737
8.5.2.1	JSSG-2009 Appendix A: A.3.4.1.1.1, A.4.1.1.1, A.3.4.1.1.6, A.4.4.1.1.6, A.3.4.1.1.3, A.4.4.1.1.3, AFGS-87193: 3.2.1.2, 3.2.1.3	23.1501, 23.1529, 25.1501, 25.1503-25.1533, 25.1529, 25.1541, 25.1543, 25.1557, 25.1563
8.5.2.2	JSSG-2009 Appendix A: A.3.4.1.1.2, A.4.4.1.1.2, A.3.4.1.1.7, A.4.4.1.1.7, AFGS-87139: 3.2.1.2, 3.2.5.1	25.233

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.5.2.3	JSSG-2009 Appendix A: A.3.4.1.1.4, A.4.4.1.1.4, AFGS-87139: 3.2.1.2, 3.2.1.3	23.745
8.5.2.4	JSSG-2009 Appendix A: A.3.4.1.1.2, A.4.4.1.1.2, A.3.4.1.1.7, A.4.4.1.1.7, A.3.4.1.4.2, A.4.4.1.4.2, A.3.4.1.4.3, A.4.4.1.4.3, A.3.4.1.4.5.1, A.4.4.1.4.5.1, AFGS-87139: 3.2.1.2, 3.2.1.4	23.721-23.745, 25.721-25.737
8.5.2.5	JSSG-2009 Appendix A: A.3.4.1.3.1.14, A.4.4.1.3.1.14, A.3.4.1.2.2.1.3, A.4.4.1.2.2.1.3	23.509, 25.507, 25.509
8.5.3 Landing Gear Structure		23.721-23.745, 25.721-25.737
8.5.3.1	AFGS-87139: 3.2.2.1	23.721, 25.721
8.5.3.2	JSSG-2009 Appendix A: A.3.4.1.3.1.8, A4.4.1.3.1.8, MIL-STD-6053, MIL-L-8552, AFGS-87139: 3.2.2.1, 3.2.2.2	23.721-23.745, 23.1501, 23.1529, 25.721-25.737, 25.1501, 25.1503-25.1533, 25.1529, 25.1541, 25.1543, 25.1557, 25.1563
8.5.3.3	MIL-STD-6053, MIL-L-8552, AFGS-87139: 3.2.1.3	23.1501, 23.1529, 25.1501, 25.1503-25.1533, 25.1529, 25.1541, 25.1543, 25.1557, 25.1563
8.5.3.4	JSSG-2009 Appendix A: A.3.4.1.3.1.7, A.4.4.1.3.1.7, A3.4.1.3.1.8, A.4.4.1.3.1.8, A.3.4.1.3.1.11, A.4.4.1.3.1.11, AFGS-87139: 3.2.2.1, 3.2.2.2	23.721-23.731, 23.473, 23.477, 23.479, 23.481, 23.483, 23.485, 25.721-25.731, 25.101, 25.511, 25.1583
8.5.3.5	JSSG-2009 Appendix A: A.3.4.1.1.7, A.4.4.1.1.7, A3.4.1.4.5.1, A.4.4.1.4.5.1, AFGS-87139: 3.2.1.2, 3.2.1.4	23.721-23.745, 25.721-25.737
8.5.4	JSSG-2009 Appendix A: A.3.4.1.3.1.4, A.4.4.1.3.1.4, A.3.4.1.11.1.1, A4.4.1.11.1.1, MIL-PRF-5041, AFGS-87139: 3.2.4.1	23.473, 23.726, 23.733, 25.473, 25.726, 25.733

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.5.5	JSSG-2009 Appendix A: A.3.4.1.3.1.4, A.4.4.1.3.1.4, A.3.4.1.11.2.1, A.4.4.1.11.2.1, A.3.4.1.11.2.4, A.4.4.1.11.2.4, AFGS-87139: 3.2.4.2, MIL-PRF-8584, MIL-PRF-5013, SAE ARP-1493	23.721-23.732, 23.471-23.511, 25.721-25.732, 25.471-25.511, 25.101
8.5.6	JSSG-2009 Appendix A: A3.4.1.11.2.3, A.4.4.1.11.2.3, A.3.4.1.11.2.6, A.4.4.1.11.2.6, A3.4.1.11.3.1, A.4.4.1.11.3.1, A.3.4.1.11.3.7, A.4.4.1.11.3.7, MIL-PRF-5013, SAE ARP-1493, AFGS-87139: 3.2.4.2	Included in each specific FAR per section.
8.5.7 Brake		
8.5.7.1	JSSG-2009 Appendix A: A.3.4.1.11.3.1, A.4.4.1.11.3.1, MIL-PRF-5013, SAE ARP-1493	23.45, 23.55, 23.493, 23.735, 25.45, 25.55, 25.493, 25.735, 25.101
8.5.7.2	JSSG-2009 Appendix A: A.3.4.1.11.3.3, A.4.4.1.11.3.3, A.3.4.1.11.2.4, A.4.4.1.11.2.4, MIL-PRF-5013, SAE ARP-1493, AFGS-87139: 3.2.3.1, 3.2.4.3	No applicable reference available.
8.5.7.3	JSSG-2009 Appendix A: A.3.4.1.7, A.4.4.1.7, MIL-PRF-5013, MIL-PRF-8584, SAE ARP-1493, AFGS-87139: 3.2.3.1, 3.2.4.3	23.735, 25.735

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.5.7.4	JSSG-2009 Appendix A: A.3.4.1.11.2.3, A.4.4.1.11.2.3, A.3.4.1.11.2.6, A.4.4.1.11.2.6, A.3.4.1.11.3.7, A.4.4.1.11.3.7, MIL-PRF-5013, SAE ARP-1493, AFGS-87139: 3.2.3.1, 3.2.4.3	No applicable reference available.
8.5.7.5	JSSG-2009 Appendix A: A.3.4.1.11.2.3, A.4.4.1.11.2.3, A.3.4.1.11.2.6, A.4.4.1.11.2.6, A.3.4.1.11.3.7, A.4.4.1.11.3.7, MIL-PRF-5013, SAE ARP-1493, AFGS-87139: 3.2.3.1, 3.2.4.2, 3.2.4.3	No applicable reference available.
8.5.8 Brake control and anti-skid control		
8.5.8.1	JSSG-2009 Appendix A: A.3.4.1.4.4.2, A.4.4.1.4.4.2, MIL-PRF-8584, SAE ARP-1070, AFGS-87139: 3.2.3.2, 3.2.4.3	No applicable reference available.
8.5.8.2	JSSG-2009 Appendix A: A.3.4.1.4.2, A.4.4.1.4.2, A.3.4.1.4.4.1, A.4.4.1.4.4.1, MIL-PRF-8584, SAE ARP-1070, AFGS-87139: 3.2.3.1, 3.2.3.2, 3.2.3.3, 3.2.4.3	23.45, 23.55, 23.493, 23.735, 23.101, 25.45, 25.55, 25.493, 25.735, 25.101
8.5.8.3	JSSG-2009 Appendix A: A.3.4.1.9.5, A.4.4.1.9.5, MIL-PRF-8584, AFGS-87139: 3.2.3.2	No applicable reference available.

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.5.8.4	JSSG-2009 Appendix A: A.3.4.1.4.4.3, A.4.4.1.4.4.3, A.3.4.1.11.3.1, A.4.4.1.11.3.1, MIL-PRF-8584, SAE ARP-1070, AFGS-87139: 3.2.3.1, 3.2.3.3, 3.2.4.3	23.45, 23.55, 23.493, 23.735, 25.45, 25.55, 25.493, 25.735, 25.1587
8.5.8.5	JSSG-2009 Appendix A: A.3.4.1.4.4.4, A.4.4.1.4.4.4, A.3.4.1.4.4.5, A.4.4.1.4.4.5, MIL-PRF-8584, SAE ARP-1070, AFGS-87139: 3.2.3.3, 3.2.4.3	No applicable reference available.
8.5.8.6	JSSG-2009 Appendix A: A.3.4.1.4.4.3, A.4.4.1.4.4.3, MIL-PRF-8584, SAE ARP-1070, AFGS-87139: 3.2.3.3, 3.2.4.3	23.45, 23.55, 23.493, 23.735, 25.45, 25.55, 25.493, 25.735
8.5.8.7	JSSG-2009 Appendix A: A.3.4.1.4.4.1, A.4.4.1.4.4.1, MIL-PRF-8584, SAE ARP-1070	No applicable reference available.
8.5.8.8	JSSG-2009 Appendix A: A.3.4.1.4.4.1, A.4.4.1.4.4.1, MIL-PRF-8584, SAE ARP-1070, AFGS-87139: 3.2.3.2, 3.2.3.3, 3.2.4.3	No applicable reference available.
8.5.8.9	JSSG-2009: 3.2.7.4.4.2, 4.2.7.4.4.2; and Appendix A: A.3.4.1.4.3, A.4.4.1.4.3, A.3.4.1.4.4.2, A.4.4.1.4.4.2, MIL-PRF-8584, SAE ARP-1070, AFGS-87139: 3.2.3.1, 3.2.3.2, 3.2.3.3, 3.2.4.3	No applicable reference available.

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.5.8.10	JSSG-2009: 3.2.7.2, 4.2.7.2, MIL-PRF-8584, SAE ARP-1070, AFGS-87139: 3.2.3.1, 3.2.3.2, 3.2.3.3, 3.2.4.3	No applicable reference available.
8.5.8.11	JSSG-2006: 3.4.2.7, 4.4.2, AFGS-87139: 3.2.1.4, 3.2.3.3	No applicable reference available.
8.5.9 Directional control		
8.5.9.1	JSSG-2009 Appendix A: A.3.4.1.4.2, A.4.4.1.4.2, A.3.4.1.4.3, A.4.4.1.4.3, MIL-PRF-8812, AFGS-87139: 3.2.5.1, 3.2.5.2	23.45, 23.497, 23.499, 23.745
8.5.9.2	JSSG-2009 Appendix A: A.3.4.1.4.5.2, A.4.4.1.4.5.2, A.3.4.1.4.5.3, A.4.4.1.4.5.3, MIL-PRF-8812, AFGS-87139: 3.2.5.1, 3.2.5.2	No applicable reference available.
8.5.9.3	JSSG-2009 Appendix A: A.3.4.1.4.5.1, A.4.4.1.4.5.1, MIL-PRF-8812, AFGS-87139: 3.2.5.1, 3.2.5.2	No applicable reference available.
8.5.9.4	JSSG-2009 Appendix A: A.3.4.1.4.5.2, A.4.4.1.4.5.2, MIL-PRF-8812	No applicable reference available.
8.5.9.5	JSSG-2009 Appendix A: A.3.4.1.4.5.1, A.4.4.1.4.5.1, MIL-PRF-8812, AFGS-87139: 3.2.5.1, 3.2.5.2	23.45, 23.497, 23.499, 23.745, 25.45, 25.497, 25.499, 25.745, 25.233
8.5.10 Landing gear control		
8.5.10.1	JSSG-2009 Appendix A: A.3.4.1.1.3, A.4.4.1.1.3, A.3.4.1.1.4, A.4.4.1.1.4, A.3.4.1.5.1, A.4.4.1.5.1, AFGS-87139: 3.2.6.1, 3.2.6.2	23.729, 25.729

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.5.10.2	JSSG-2009 Appendix A: A.3.4.1.5.3, A.4.4.1.5.3, A.3.4.1.5.4, A.4.4.1.5.4, A.3.4.1.5.6, A.4.4.1.5.6, A.3.4.1.5.7, A.4.4.1.5.7, AFGS-87139: 3.2.6.1, 3.2.6.2	23.729, 25.729
8.5.10.3	JSSG-2009 Appendix A: A.3.4.1.5.8.1, A.4.4.1.5.8.1, A.3.4.1.5.4, A.4.4.1.5.4, AFGS-87139: 3.2.6.1, 3.2.6.2	23.729, 25.729
8.5.10.4	JSSG-2009 Appendix A: A.3.4.1.5.8.1, A.4.4.1.5.8.1, AFGS-87139: 3.2.6.1, 3.2.6.2	23.729, 25.729
8.5.10.5	JSSG-2009 Appendix A: A.3.4.1.5.5.1, A.4.4.1.5.5.1, A.3.4.1.5.5.2, A.4.4.1.5.5.2, AFGS-87139: 3.2.6.3	23.729, 25.729, 25.1515, 25.1583
8.5.10.6	JSSG-2009 Appendix A: A.3.4.1.5.7, A.4.4.1.5.7, AFGS-87139: 3.2.6.3	23.729, 25.729, 25.1515, 25.1583
8.5.10.7	JSSG-2009 Appendix A: A.3.4.1.5.9.1, A.4.4.1.5.9.1, A.3.4.1.5.1, A.4.4.1.5.1, AFGS-87139: 3.2.6.4	23.729, 25.729
8.5.10.8	JSSG-2009 Appendix A: A.3.4.1.5.9.2, A.4.4.1.5.9.2, A.3.4.1.5.1, A.4.4.1.5.1, AFGS-87139: 3.2.6.4	No applicable reference available.
8.5.10.9	JSSG-2009 Appendix A: A.3.4.1.5.10, A.4.4.1.5.10, A.3.4.1.5.1, A.4.4.1.5.1, AFGS-87139: 3.2.6.4	No applicable reference available.
8.5.10.10	JSSG-2009: 3.2.7.4.4.2, 4.2.7.4.42; and Appendix A: A.3.4.1.5.3, A.4.4.1.5.3, AFGS-87139: 3.2.6.1, 3.2.6.2	23.729, 25.729

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.5.11 Auxiliary deceleration devices	AFGS-87139: 3.2.7	
8.5.11.1	JSSG-2009 Appendix A: A.3.4.1.8.1.1 thru A.3.4.1.8.1.8, A.4.4.1.8.1.1 thru A.4.4.1.8.1.8, MIL-A-18717, MIL-A-83136, SAE ARP-1538	No applicable reference available.
8.5.11.2	JSSG-2009 Appendix A: A.3.4.1.8.1.1 thru A.3.4.1.8.1.8, A.4.4.1.8.1.1 thru A.4.4.1.8.1.8, MIL-A-18717, MIL-A-83136, SAE ARP-1538, AFGS-87139: 3.2.7.1	No applicable reference available.
8.5.11.3	JSSG-2009 Appendix A: A.3.4.1.8.5 thru A.3.4.1.8.8, A.4.4.1.8.5 thru A.4.4.1.8.8, MIL-A-18717, MIL-A-83136, SAE ARP-1538, AFGS-87139: 3.2.7.1	No applicable reference available.
8.5.11.4	MIL-A-18717, MIL-A-83136, SAE ARP-1538, AFGS-87139: 3.2.7.1	No applicable reference available.
8.5.11.5	JSSG-2009 Appendix A: A.3.4.1.8.2, A.4.4.1.8.2, AFGS-87139: 3.2.7.2	No applicable reference available.
8.5.11.6	AFGS-87139: 3.2.7.1, 3.2.7.2	No applicable reference available.

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.5.12 Ground handling		23.471-23.511, 25.471-25.519
8.5.12.1	JSSG-2009 Appendix A: A.3.4.1.2.2.1.1, A.4.4.1.2.2.1.1, A.3.4.1.2.2.1.2, A.4.4.1.2.2.1.2, AFGS-87139: 3.2.8.1	23.507
8.5.12.2	NATO STANAG, AFGS-87139: 3.2.7.1	23.507, 25.519
8.5.12.3	JSSG-2009 Appendix A: A.3.4.1.2.2.1.3, A.4.4.1.2.2.1.3, A.3.4.1.2.2.1.5, A.4.4.1.2.2.1.5, AFGS-87139: 3.2.7.2	23.509, 25.509
8.5.12.4	JSSG-2009 Appendix A: A.3.4.1.2.2.1.4, A.4.4.1.2.2.1.4, AFGS-87139: 3.2.7.1	23.509, 25.519
8.5.12.5	JSSG-2009 Appendix A: A.3.4.1.2.2.1.6, A.4.4.1.2.2.1.6, AFGS-87139: 3.2.7.1	23.519
8.5.12.6	JSSG-2009 Appendix A: A.3.4.1.10.1 thru A.3.4.1.10.2, A.4.4.1.10.1 thru A.4.4.1.10.2, AFGS-87139: 3.2.9.1	23.737, 25.737
8.5.12.7	JSSG-2009: 3.2.7.4.4.1, 4.2.7.4.4.1; and Appendix A: A3.4.1.3.1.3, A.4.4.1.3.1.3; AFGS-87139: 3.5	23.471-23.511, 25.471-25.519, 25.1309
8.5.12.8	JSSG-2009 Appendix A: A.3.4.1.1.1, A.4.4.1.1.1, A.3.4.1.1.2, A.4.4.1.1.2, AFGS-87139: 3.2.1.2	23.473, 23.477, 23.485, 25.473, 25.477, 25.485

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.5.12.9	JSSG-2009 Appendix A: A.3.4.1.2.3, A.4.4.1.2.3, AFGS-87139: 3.2.1.1, 3.2.1.2, 3.2.1.3	No applicable reference available.
8.5.12.10	AFGS-87139: 3.2.1.1, 3.2.1.2, 3.2.1.3	23.471-23.511, 25.471-25.519
8.5.12.11	AFGS-87139: App B	23.471-23.511, 25.471-25.519, 25.1309
8.5.12.12	AFGS-87139: 3.2.1.1, 3.2.1.2, 3.2.1.3	25.1309, 25.571
8.5.12.13	AFGS-87139: 3.2.1.1, 3.2.1.2, 3.2.1.3	25.1309, 25.571
8.6 Auxiliary/emergency power system(s) (APS/EPS).	JSSG-2009 Appendix C	23.901-23.1203, 25.901-25.1207, TSO C77b, AC 20-128, AC 120-42A (Note: FAR paragraphs listed in the following section are not necessarily sufficient to fully satisfy the corresponding criteria.)
8.6.1	JSSG-2009: 3.2.7 - 3.2.7.6.5, 4.2.7 - 4.3.7.6.5	TSO C77b
8.6.2	JSSG-2009 Appendix C: C.3.4.3, C.4.4	23.901, 25.901, 25.903 (f), TSO C77b 4.4.1 - 4.5.2
8.6.2.1	JSSG-2009 Appendix C: C.3.4.3.12.1, C.4.4.3.12.1	TSO C77b 4.6.2
8.6.3	JSSG-2009 Appendix C: C.3.4.3, C.4.4.3	23.901, 25.901, 25.903 (f), TSO C77b 4.4.1 - 4.5.2, Sections 6 and 7

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.6.4	JSSG-2009 Appendix C: C.3.4.3.10.1, C.4.4.3.10.1	23.903 (b), 23.1461, 25.901(c), 25.901 (b), 25.1461, AC 20-128, TSO C77b: 5.9, 6.6, 6.7, 6.8
8.6.4.1	JSSG-2009 Appendix C: C.3.4.3.10.1, C.4.4.3.10.1	25.901 (c), 25.1167 (a), (c)
8.6.5	JSSG-2009 Appendix C: C.3.4.3.10.2, C.4.4.3.10.2	25.901 (c), 25.903 (f), TSO C77b 5.10
8.6.5.1	JSSG-2009 Appendix C: C.3.4.3.10.2, C.4.4.3.10.2	25.1167 (a), (c)
8.6.6	JSSG-2009 Appendix C: C.3.4.3.4, C.4.4.3.4	23.943, 25.901 (f), 25.943, TSO C77b: 4.1, 4.4.1, 4.4.2, 4.4.3, 4.7
8.6.7.a	JSSG-2009: 3.2.7, 4.2.7, 3.2.7.4.4, 4.2.7.4.4, 3.2.7.5, 4.2.7.5	25.901 (c), (d), TSO C77b: 4.8, 5.1.3, 5.2.5
8.6.7.b	JSSG-2009: 3.3.8, 4.3.8	23.993, 23.1017, 25.901 (c), 25.993, 25.1017
8.6.7.c	JSSG-2009: 3.3.8, 4.3.8	25.1187, TSO C77b: 5.27, 5.42, 5.52
8.6.7.d	JSSG-2009: 3.3.8, 4.3.8	23.1041 - 23.1045, 23.1103 (a), 25.1041 - 25.1045, 25.1103 (a), TSO C77b (5.3)
8.6.7.e	JSSG-2009: 3.3.3, 4.3.3, 3.3.8, 4.3.8; and Appendix G: G.3.4.7, G.4.4.7	23.1181 - 23.1203, 25.1181 - 25.1207, TSO C77b (5.2)
8.6.7.f	JSSG-2009: 3.2.6, 4.2.6	23.901, 23.1021, 25.901, 25.1021

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.6.8	JSSG-2009 Appendix C: C.3.4.3.11, C.4.4.3.11	23.1091, 23.1103, 23.1121, 23.1123, 25.1091, 25.1103, 25.1121, 25.1123, TSO C77b: 5.3.1, 5.3.3, 5.6
8.6.9	JSSG-2009: 3.3.3, 4.3.3	23.1541, 23.1581 (a) (2), 25.1541, 25.1581 (a) (2)
8.6.10	JSSG-2009: 3.2.7, 4.2.7, 3.2.7.4.4, 4.2.7.4.4, 3.2.7.5, 4.2.7.5	25.1167
8.6.11	JSSG-2009: 3.3.3, 4.3.3	25.901 (c), TSO C77b (5.1)
8.6.12	JSSG-2009 Appendix C: C.3.4.3.8, C4.4.3.8	23.1141 - 23.1142, 23.1549, 25.1141 - 25.1142, 25.1549
8.6.13	JSSG-2009: 3.2.7.4.4, 4.2.7.4.4, 3.2.7.6, 4.2.7.6	23.1522, 23.1549, G23.3, 25.1522, 25.1549, H25.3, TSO C77b: 4.3, 4.4.1, 4.6.1, 5.7
8.6.14	JSSG-2000: 3.6.2	23.1581 - 23.1585, G23.3 - G23.4, 25.1581 - 25.1585, H25.3 - H25.4

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.7 Aerial refueling system.		Note: FAR paragraphs listed in the following section are not necessarily sufficient to fully satisfy the corresponding criteria.
8.7.1	JSSG-2001: 3.4.7.2.1, 3.4.7.2.2	No applicable reference available.
8.7.1.1	JSSG-2001: 3.4.7.2.1, 3.4.7.2.2	No applicable reference available.
8.7.1.2	JSSG-2001: 3.4.7.2.1, 3.4.7.2.2	No applicable reference available.
8.7.1.3	JSSG-2001: 3.4.7.2.1, 3.4.7.2.2, JSSG-2009 Appendix F: F.3.4.6.2.2.5, F.4.4.6.2.2.5, F.3.4.6.2.3.5, F.4.4.6.2.3.5, JSSG-2006: 3.4.1.7, 4.4.1.7	No applicable reference available.
8.7.1.4	JSSG-2001: 3.4.7.2.1, 3.4.7.2.2	No applicable reference available.
8.7.1.4.1	JSSG-2001: 3.4.7.2.1, 3.4.7.2.2	No applicable reference available.
8.7.1.5	JSSG-2001: 3.4.7.2.1, 3.4.7.2.2	No applicable reference available.
8.7.1.6	JSSG-2001: 3.4.7.2.1, 3.4.7.2.2	No applicable reference available.
8.7.1.7	JSSG-2010: 3.5.3.3.1, 4.5.3.3.1, 3.5.3.5, 4.5.3.5	No applicable reference available.
8.7.1.8	JSSG-2010-5: 3.2.1.5, 4.2.1.5	23.951-23.1001, 25.951-25.1001
8.7.1.9	JSSG 2009: 3.2.7.2, 4.2.7.2	25.1381 (Note: Use FAR sections corresponding to structural and installation requirements. Use all systems FAR's as applicable, i.e., electrical.)
8.7.1.10	JSSG-2001: 3.4.7.2.1, 3.4.7.2.2	No applicable reference available.

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.7.1.11	JSSG-2001: 3.4.7.2.1, 3.4.7.2.2	No applicable reference available.
8.7.1.12	JSSG-2001: 3.4.7.2.1, 3.4.7.2.2	No applicable reference available.
8.7.1.13	JSSG-2001: 3.4.7.2.1, 3.4.7.2.2	No applicable reference available.
8.7.1.14	JSSG-2001: 3.4.7.2.1, 3.4.7.2.2	No applicable reference available.
8.7.1.15	JSSG-2001: 3.2.3	No applicable reference available.
8.7.1.16	JSSG-2001: 3.2.3, JSSG-2009 Appendix F: F.3.4.6.2.2.2, F.4.4.6.2.2.2, F.3.4.6.2.3.2, F.4.4.6.2.3.2	No applicable reference available.
8.7.1.17	JSSG-2001: 3.1.1.1.1, 3.3.11.1.1.1	No applicable reference available.
8.7.2	JSSG-2009: 3.2.7.4.4.1, 4.2.7.4.4.1, 3.2.7.4.4.2, 4.2.7.4.4.2, 3.3.8, 4.3.8	No applicable reference available.
8.7.2.1	JSSG-2009 Appendix F: F.3.4.6.1.7, F.4.4.6.1.7	No applicable reference available.
8.7.2.1.1	JSSG-2009: 3.3.8, 4.3.8; and Appendix F: F.3.4.6.2.2.4, F.4.4.6.2.2.4	No applicable reference available.
8.7.2.1.2	JSSG-2009: 3.3.8, 4.3.8; and Appendix F: F.3.4.6.2.2.3, F.4.4.6.2.2.3	No applicable reference available.
8.7.2.1.3	JSSG-2006: 3.3.11, 4.3.11	No applicable reference available.
8.7.2.1.4	JSSG-2009: 3.3.8, 4.3.8; and Appendix F: F.3.4.6.2.3.3, F.4.4.6.2.3.3	No applicable reference available.
8.7.2.1.5	JSSG-2009: 3.3.8, 4.3.8; and Appendix F: F.3.4.6.2.3.3, F.4.4.6.2.3.3	No applicable reference available.

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.7.2.1.6	JSSG-2009: 3.3.8, 4.3.8	No applicable reference available.
8.7.2.1.7	JSSG-2009: 3.3.8, 4.3.8	No applicable reference available.
8.7.2.2	JSSG-2009 Appendix E: E.3.4.5.6.11, E.4.4.5.6.11; and Appendix F: F.3.4.6.1.6, F.4.4.6.1.6, F.3.4.6.1.7, F.4.4.6.1.7	No applicable reference available.
8.7.2.3	JSSG-2001: 3.3.11.1.1.1	No applicable reference available.
8.7.2.4	JSSG-2001: 3.3.11.1.1.1	No applicable reference available.
8.7.2.5	JSSG-2009 Appendix F: F.3.4.6.2.2.2, F.4.4.6.2.2.2, F.3.4.6.2.3.2, F.4.4.6.2.3.2	No applicable reference available.
8.7.3	JSSG-2001: 3.3.11.1.1.1	No applicable reference available.
8.7.3.1	JSSG-2009 Appendix F: F.3.4.6.1.5, F.4.4.6.1.5	No applicable reference available.
8.7.4	JSSG-2009: 3.1, 4.1; and Appendix F: F.3.4.6, F.4.4.6	No applicable reference available.
8.7.4.1	JSSG-2009 Appendix F: F.3.4.6.1.3, F.4.4.6.1.3	No applicable reference available.
8.7.4.2	JSSG-2009 Appendix F: F.3.4.6.2.2.7, F.4.4.6.2.2.7, F.3.4.6.2.3.1.2, F.4.4.6.2.3.1.2	No applicable reference available.
8.7.4.3	JSSG-2010: 3.2.14, 4.2.14	No applicable reference available.
8.7.4.4	JSSG-2010: 3.2.13, 4.2.13, 3.5.2.1.2, 4.5.2.1.2	No applicable reference available.
8.7.5	JSSG-2009 Appendix F: F.3.4.6.1.1, F.4.4.6.1.1	No applicable reference available.
8.7.5.1	JSSG-2009 Appendix F: F.3.4.6.1.6, F.4.4.6.1.6	No applicable reference available.
8.7.5.2	JSSG-2009 Appendix F: F.3.4.6.1.6, F.4.4.6.1.6	No applicable reference available.

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.7.5.3	JSSG-2009 Appendix F: F.3.4.6.1.6, F.4.4.6.1.6	No applicable reference available.
8.7.5.4	JSSG-2001: 3.4.7.2.1, 3.4.7.2.2	No applicable reference available.
8.7.5.5	JSSG-2010: 3.3.2.1, 4.3.2.1	No applicable reference available.
8.7.5.6	JSSG-2009 Appendix F: F.3.4.6.1.1, F.4.4.6.1.1, F.3.4.6.1.5, F.4.4.6.1.5	No applicable reference available.
8.7.5.7	JSSG-2009 Appendix F: F.3.4.6.1.1, F.4.4.6.1.1	No applicable reference available.
8.7.6	JSSG-2001: 3.6.2	Note: Use FAR sections corresponding to Structural and Installation requirements. Use all systems FARs as applicable, i.e., Electrical.
8.7.7	JSSG-2009: 3.2.9, 4.2.9	No applicable reference available.
8.8 Propulsion installations.		23.901-23.1203, 25.901-25.1207, 23.1305, 25.1305, H25, AC 20-128 (Note: FAR paragraphs listed in the following section are not necessarily sufficient to fully satisfy the corresponding criteria.)
8.8.1	JSSG-2001: 3.3.1.1.1	23.901, 23.903, 25.901, 25.903, 23.1305, 25.1305
8.8.2	JSSG-2001: 3.3.1.1.1	23.901, 23.903, 25.901, 25.903, 25.939, 25.941
8.8.3	JSSG-2001: 3.3.1.1.1	23.1041 - 23.1045, 25.1041 - 25.1045, 25.1187
8.8.4	JSSG-2009: Appendix C.3.4.3.10.2, C.4.4.3.10.2	25.1167

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.8.5	JSSG-2001: 3.3.10, 3.3.5.1.1	23.901 (c), 23.903 (d), 23.905 (d), 25.901 (c), 25.903 (d), 25.905 (d), AC 20-128
8.8.6	JSSG-2001: 3.3.1.1.1	23.901, 23.925, 23.993, 25.901, 25.925, 25.993
8.8.7	JSSG-2001: 3.3.1.1.1, 3.3.10.1.2	23.901, 23.1021, 23.1187, 25.901, 25.1021, 25.1187
8.8.8	JSSG-2001: 3.3.1.1.2, 3.4.4, 3.4.4.1.5, 3.4.4.1.6	23.1141 - 23.1159, 25.1141 - 25.1159, 23.1305, 25.1305
8.8.9	JSSG-2001: 3.3.1.1.1.1	23.1091 - 23.1105, 25.1091 - 25.1105
8.8.10	Refer to technical point of contact for this discipline (listed in section A.20).	Refer to technical point of contact for this discipline (listed in section A.20).
8.8.11	JSSG-2001: 3.3.1.1.1.2	23.1121 - 23.1123, 25.1121 - 25.1123
8.8.12	JSSG-2001: 3.3.1.1.1.2	23.933, 25.933
8.8.13	JSSG-2000: 3.6.2	25.1581-25.1585, H25.4-H25.4
8.8.14	JSSG-2001: 3.1.5, 3.4.4.2.1.6.1	23.901 (b) (3), 25.901 (b) (3)
8.8.15	JSSG-2001: 3.5, JSSG-2000: 3.3.6	23.901, 23.903, 25.901, 25.903
8.8.16	Refer to technical point of contact for this discipline (listed in section A.20).	Refer to technical point of contact for this discipline (listed in section A.20).
8.9 Mechanisms		
8.9.1	JSSG 2009, Appendix I, 3.4.9.1, 3.4.9.4	No applicable reference available.
8.9.2	JSSG 2009, Appendix I, 3.4.9.1, 3.4.9.4	No applicable reference available.
8.9.3	JSSG 2009, Appendix I, 3.4.9.1, 3.4.9.4	No applicable reference available.

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
8.9.4	JSSG 2009, Appendix I, 3.4.9.1.3, 3.4.9.4, 3.4.9.3, 3.4.9.4	No applicable reference available.
8.9.5	JSSG 2009, Appendix I, 3.4.9.1.3, 3.4.9.4	No applicable reference available.
8.9.6	JSSG 2009, Appendix I, 3.4.9.1, 3.4.9.4	No applicable reference available.
8.9.7	JSSG 2009, Appendix I, 3.4.9.1, 3.4.9.4	No applicable reference available.
8.9.8	JSSG 2009, Appendix I, 3.4.9.1, 3.4.9.4	No applicable reference available.
8.9.9	JSSG 2009, Appendix I, 3.4.9.1, 3.4.9.4.11	No applicable reference available.
8.9.10	JSSG 2009, Appendix I, 3.4.9.1.10, 3.4.9.4	No applicable reference available.

Downloaded from http://www.everyspec.com

A.9. Crew Systems

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
9. Crew Systems	JSSG-2010 Crew Systems	AC 20-41A, AC 20-60
9.1 Escape and egress system.		
9.1.1	JSSG-2001: 3.3.10.2.3, 3.4.4.1.3, JSSG-2010: 3.8, 4.8, 3.9, 4.9, 3.11, 4.11, 3.12, 4.12, 3.13, 4.13, 3.14, 4.14	23.803-23.815, 25.801-25.819, 23.1411, 23.1415, 25.1411, 25.1415
9.1.2	JSSG-2001: 3.3.10.2.3, JSSG-2010: 3.8, 4.8, 3.9, 4.9, 3.11, 4.11, 3.12, 4.12, 3.13, 4.13, 3.14, 4.14	23.803-23.815, 25.801-25.819, 23.1411, 23.1415, 25.1411, 25.1415
9.1.3	JSSG-2001: 3.3.10.2.3, JSSG-2010: 3.8, 4.8, 3.9, 4.9, 3.11, 4.11, 3.12, 4.12, 3.13, 4.13, 3.14, 4.14	23.803-23.815, 25.801-25.819, 23.1411, 23.1415, 25.1411, 25.1415
9.1.4	JSSG-2001: 3.3.10.2.3, JSSG-2010: 3.8, 4.8, 3.9, 4.9, 3.11, 4.11, 3.12, 4.12, 3.13, 4.13, 3.14, 4.14	23.803-23.815, 25.801-25.819, 23.1411, 23.1415, 25.1411, 25.1415
9.1.5	JSSG-2001: 3.3.10.2.3, JSSG-2010: 3.8, 4.8, 3.9, 4.9, 3.11, 4.11, 3.12, 4.12, 3.13, 4.13, 3.14, 4.14	23.803-23.815, 25.801-25.819, 23.1411, 23.1415, 25.1411, 25.1415
9.1.6	No information available in current JSSG. Information to be included in next revision of JSSG.	121.309, 121.310
9.2 Crew station layout.		23.771-23.775, 25.771-25.773, 23.803-23.815, 25.801-25.81923.1411, 23.1415, 25.1411, 25.1415
9.2.1	JSSG-2010: 3.1, 4.1, 3.2, 4.2, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.14, 4.14	23.777, 25.777

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
9.2.1.1	JSSG-2010: 3.1, 4.1, 3.2, 4.2, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.14, 4.14	23.777, 25.777
9.2.1.2	JSSG-2010: 3.1, 4.1, 3.2, 4.2, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.14, 4.14	23.771-23.781, 25.771-25.781
9.2.2	JSSG-2010: 3.1, 4.1, 3.2, 4.2, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.14, 4.14	23.771-23.781, 25.771-25.781
9.2.3	JSSG-2010: 3.1, 4.1, 3.2, 4.2, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.14, 4.14	23.1321, 25.1321
9.2.3.1	JSSG-2010: 3.1, 4.1, 3.2, 4.2, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.14, 4.14	23.1322, 25.1322
9.2.4	JSSG-2010: 3.1, 4.1, 3.2, 4.2, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.14, 4.14	23.1322, 25.1322
9.2.5	JSSG-2010: 3.1, 4.1, 3.2, 4.2, 3.3, 4.3, 3.4, 4.4, 3.5, 4.5, 3.14, 4.14	No applicable reference available.
9.3 Air vehicle lighting.		AC 20-30B, AC 20-30A, 23.1381-23.1401, 25.1381-25.1403
9.3.1	JSSG-2010: 3.5, 4.5	23.1381-23.1401, 25.1381-25.1403
9.3.2	JSSG-2010: 3.5, 4.5	23.1381-23.1401, 25.1381-25.1403
9.3.3	JSSG-2010: 3.5, 4.5	23.1381-23.1401, 25.1381-25.1403
9.3.4	JSSG-2010: 3.5, 4.5	23.1381-23.1401, 25.1381-25.1403
9.4 Human performance.		23.1311-23.1322, 25.1321-25.1322
9.4.1	JSSG-2010: 3.1, 4.1, 3.2, 4.2	23.1311-23.1322, 25.1321-25.1322

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
9.4.1.1	JSSG-2010-3: 3.2, 4.2	23.1311-23.1322, 25.1321-25.1322
9.4.2	JSSG-2010: 3.1, 4.1, 3.2, 4.2	23.1581-23.1589, 25.1581-25.1587
9.4.3	JSSG-2010: 3.1, 4.1, 3.2, 4.2	23.1581-23.1589, 25.1581-25.1587
9.5 Life support systems.		
9.5.1	JSSG-2010: 3.6, 4.6, 3.9, 4.9, 3.10, 4.10, 3.13, 4.13	23.1301, 23.1441, 25.1301, 25.1441
9.5.2	JSSG-2010: 3.6, 4.6, 3.9, 4.9, 3.10, 4.10, 3.13, 4.13	23.1301, 23.1441, 25.1301, 25.1441
9.5.3	JSSG-2010: 3.6, 4.6, 3.9, 4.9, 3.10, 4.10, 3.13, 4.13	23.1301, 23.1441, 25.1301, 25.1441
9.6 Transparency integration.		
9.6.1	JSSG-2010: 3.14, 4.14	23.775, 25.775
9.6.2	JSSG-2010: 3.14, 4.14	23.775, 25.775
9.6.3	JSSG-2010: 3.14, 4.14	23.775, 25.775
9.6.4	JSSG-2010: 3.14, 4.14	23.775, 25.775
9.6.5	JSSG-2010: 3.14, 4.14	23.775, 25.775
9.6.6	JSSG-2010: 3.14, 4.14	23.775, 25.775
9.6.7	JSSG-2010: 3.14, 4.14	23.775, 25.775
9.6.8	JSSG-2010: 3.14, 4.14	23.775, 25.775
9.7 Crash survivability.	JSSG-2001: 3.3.10.2.2, JSSG-2010: 3.7, 4.7, 3.13, 4.13	23.561, 23.562, 25.561, 25.562, 25.563
9.7.1	JSSG-2001: 3.3.10.2.2, JSSG-2010: 3.7, 4.7, 3.13, 4.13	23.561, 23.562, 25.561, 25.562, 25.563
9.7.2	Refer to technical point of contact for this discipline (listed in section A.20).	Refer to technical point of contact for this discipline (listed in section A.20).
9.7.3	JSSG-2001: 3.3.10.2.2, JSSG-2010: 3.7, 4.7, 3.13, 4.13	23.561, 23.562, 25.561, 25.562, 25.563

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
9.7.4	JSSG-2001: 3.3.10.2.2, JSSG-2010: 3.7, 4.7, 3.13, 4.13	23.561, 23.562, 25.561, 25.562, 25.563
9.7.5	JSSG-2001: 3.3.10.2.2, JSSG-2010: 3.7, 4.7, 3.13, 4.13	Refer to technical point of contact for this discipline (listed in section A.20).
9.7.6	JSSG-2001: 3.3.10.2.2, JSSG-2010: 3.7, 4.7, 3.13, 4.13	23.561, 23.562, 25.561, 25.562, 25.563
9.7.7	JSSG-2001: 3.3.10.2.2, JSSG-2010: 3.7, 4.7, 3.13, 4.13	23.561, 23.562, 25.561, 25.562, 25.563
9.7.8	JSSG-2001: 3.3.10.2.2, JSSG-2010: 3.7, 4.7, 3.13, 4.13	25.851
9.7.9	JSSG-2001: 3.3.10.2.2, JSSG-2010: 3.7, 4.7, 3.13, 4.13	23.561, 23.562, 25.561, 25.562, 25.563
9.7.10	JSSG-2001: 3.3.10.2.2, JSSG-2010: 3.7, 4.7, 3.13, 4.13	No applicable reference available.
9.8 Air transportability and airdrop.		
9.8.1	JSSG-2000: 3.1.7.2, JSSG-2001: 3.4.5, 3.4.6	No applicable reference available.
9.8.2	JSSG-2000: 3.1.7.2, JSSG-2001: 3.4.5, 3.4.6	No applicable reference available.
9.8.3	JSSG-2000: 3.1.7.2, JSSG-2001: 3.4.5, 3.4.6	No applicable reference available.
9.8.4	JSSG-2000: 3.1.7.2, JSSG-2001: 3.4.5, 3.4.6	No applicable reference available.
9.8.5	JSSG-2000: 3.1.7.2, JSSG-2001: 3.4.5, 3.4.6	No applicable reference available.

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
9.8.6	JSSG-2000: 3.1.7.2, JSSG-2001: 3.4.5, 3.4.6	No applicable reference available.
9.8.7	JSSG-2000: 3.1.7.2, JSSG-2001: 3.4.5, 3.4.6	No applicable reference available.
9.8.8	MIL-HDBK-1791: 4.2, 5.2, JSSG 2009: Appendix J	No applicable reference available.
9.8.9	MIL-HDBK-1791: 4.2, 5.2, JSSG 2009: Appendix J	No applicable reference available.
9.8.10	MIL-HDBK-1791: 4.2, 5.2, JSSG 2009: Appendix J	No applicable reference available.
9.8.11	No applicable reference available.	No applicable reference available.
9.8.12	No applicable reference available.	No applicable reference available.
9.8.13	MIL-HDBK-1791: 4.2, 5.2, JSSG 2009: Appendix J	No applicable reference available.

Downloaded from http://www.everyspec.com

A.10. Diagnostics

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
10. Diagnostics Systems		
10.1 Failure modes.		
10.1.1	JSSG-2000: 3.3.2, JSSG-2001: 3.3.7, 3.3.7.1	23.1301, 23.1309, 23.1351, 25.1301, 25.1309, 25.1351
10.1.2	JSSG-2000: 3.3.2, JSSG-2001: 3.3.7, 3.3.7.1	23.1301, 23.1309, 23.1351, 25.1301, 25.1309, 25.1351
10.2 Operation.		
10.2.1	JSSG-2000: 3.3.2, JSSG-2001: 3.3.7, 3.3.7.1	23.1301, 23.1309, 23.1351, 25.1301, 25.1309, 25.1351
10.2.2	JSSG-2000: 3.3.2, JSSG-2001: 3.3.7, 3.3.7.1	23.1301, 23.1309, 23.1351, 25.1301, 25.1309, 25.1351
10.2.3	JSSG-2000: 3.3.2, JSSG-2001: 3.3.7, 3.3.7.1	23.1301, 23.1309, 23.1351, 25.1301, 25.1309, 25.1351
10.2.4	JSSG-2000: 3.3.6, JSSG-2001: 3.3.7, 3.4.4.1.6	23.1301, 23.1309, 23.1351, 25.1301, 25.1309, 25.1351
10.3 Diagnostic systems technical orders.		
10.3.1	JSSG-2000: 3.6.2	23.1301, 23.1309, 23.1351, 25.1301, 25.1309, 25.1351

Downloaded from http://www.everyspec.com

A.11. Avionics

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
11. Avionics	JSSG-2005 Avionics	
11.1 Avionics architecture.		
11.1.1	MIL-HDBK-87213 sect. 3.1	23.1301, 23.1309, 25.1301, 25.1309, RTCA DO-200A
11.1.1.a	MIL-STD-1787: 4.1.1	23.1323, 23.1325, 23.1326, 25.1323, 25.1325, 25.1326
11.1.1.b	MIL-STD-1787: 4.1.1	23.1305, 23.1337, 25.1305, 25.1337
11.1.1.c	MIL-HDBK-87213 sect. 3.1	23.1301, 23.1309, 23.1351d, 25.1301, 25.1309, 25.1351d
11.1.1.d	JSSG-2005: 3.2.1.6 and 4.2.1.6, AFI 11-202 Vol 3: 2.6.2	RTCA DO-219, RTCA SC-189, AC 20-DC
11.1.1.e	JSSG-2005: 3.2.1.5 and 4.2.1.5, AFI 11-202 Vol 3: 2.6.2	25.1303, AC 90-96, RTCA DO-236, RTCA DO-200A
11.1.1.f	JSSG-2005: 3.2.1.6 and 4.2.1.6, AFI 11-202 Vol 3: 5.4.2	RTCA DO-212, RTCA DO-181, TSO C112, AC 20-131A, TSO C151a,
11.1.2	JSSG-2005: 3.2.1.4.1, 4.2.1.4.1	23.1309, 23.1311, 23.1331, 25.1309, 25.1331
11.1.3.a	JSSG-2005: 3.2.2, 4.2.2	23.1301, 23.1309, 25.1301, 25.1309
11.1.3.b	JSSG-2005: 3.2.2, 4.2.2	23.1301, 23.1309, 23.1311, 25.1301, 25.1309

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
11.1.3.c	JSSG-2005: 3.2.2, 4.2.2	23.1301, 23.1309, 25.1301, 25.1309
11.1.4	JSSG-2005: 3.2.1.3, 4.2.1.3	23.1301, 23.1309, 23.1331, 25.1301, 25.1309, 25.1331
11.1.5.	JSSG-2005: 3.3.5, 4.3.5	23.1301, 23.1309, 23.1329, 23.1335, 25.1301, 25.1309, 25.1329, 25.1335
11.1.5.a	JSSG-2005: 3.2.1.3.2, 4.2.1.3.2	23.1309, 25.1309
11.1.5.b	JSSG-2005: 3.2.1.3.2, 4.2.1.3.2	23.1309, 25.1309
11.1.5.c	JSSG-2005: 3.2.2.2, 4.2.2.2, 3.2.2.3, 4.2.2.3	23.1309, 25.1309
11.1.6	JSSG-2005: 3.2.1.3.2, 4.2.1.3.2	23.1309, 25.1309
11.2 Avionics subsystems.		
11.2.1.a	AFI 11-202 Vol 3: 2.6, 2.6.1, 2.6. 1. 1, 2.6.1.2, 2.6.1.2.1, JSSG-2005: 3.2.1.8, 4.2.1.8, 3.2.1.8.1, 4.2.1.8.1, MIL-HDBK-87213: 3.2	23.1301, 23.1309, 23.1351, 25.1301, 25.1309, 25.1351 23.1311, 23.1321, 25.1321
11.2.1.b	MIL-HDBK-87213: 3.2.1.25.4.1 and App A	23.1311, 23.1323, 23.1325, 23.1326, 23.1327, 25.1323, 25.1325, 25.1326, 25.1327
11.2.1.c	JSSG-2005: 3.2.1.8.5, 4.2.1.8.5, MIL-HDBK-87213	23.1311, 23.1322, 25.1322
11.2.1.d	MIL-STD-1787: 4.2, MIL-HDBK-87213 App. A	23.1321, 23.1541, 25.1321, 25.1541
11.2.1.e	JSSG-2005: 3.2.1.3.2, 4.2.1.3.2	23.1309, 25.1309
11.2.2	JSSG-2005: 3.2.1.8.6, 4.2.1.8.6	25.777

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
11.2.3.a	JSSG-2005: 3.2.2, 4.2.2	23.1301, 23.1309, 25.1301, 25.1309
11.2.3.b	JSSG-2005: 3.2.2, 4.2.2	23.1301, 23.1309, 25.1301, 25.1309
11.2.4	JSSG-2005: 3.2.3, 4.2.3	23.1309, 25.1309
11.2.5	JSSG-2005: 3.2.2.5, 4.2.2.5	23.1351, 25.1351
11.3. Avionics aircraft installation.		
11.3.1	JSSG-2005: 3.2.3, 4.2.3, MIL-HDBK-87213: 3.2.3	23.1309, 23.1321, 25.1309, 25.1321
11.3.2	JSSG -2005: 3.2.2, 4.2.2	23.1501, 25.1501
11.3.3.a	Refer to technical point of contact for this discipline (listed in section A.20).	Refer to technical point of contact for this discipline (listed in section A.20).
11.3.3.b	Refer to technical point of contact for this discipline (listed in section A.20).	Refer to technical point of contact for this discipline (listed in section A.20).

Downloaded from http://www.everyspec.com

A.12. Electrical Power

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
12. Electrical Power		
12.1 Power generation system.		
12.1.1	JSSG-2009 Appendix H: H.3.4.8.2, H.4.4.8.2	23.1351, 25.1351
12.1.2	JSSG-2009 Appendix H: H.3.4.8, H.4.4.8, H.3.4.8.4, H.4.4.8.4	23.1351-23.1367, 25.1351-25.1363
12.1.3	JSSG-2009 Appendix H: H.3.4.8, H.4.4.8, H.3.4.8.4, H.4.4.8.4, H.3.4.8.5, H.4.4.8.5	23.1351-23.1367, 25.1351-25.1363
12.1.4	JSSG-2009 Appendix H: H.3.4.8.1, H.4.4.8.1	23.1351-23.1367, 25.1351-25.1363
12.1.5	JSSG-2009 Appendix H: H.3.4.8, H.4.4.8	23.1351-23.1367, 25.1351-25.1363
12.1.6	JSSG-2009 Appendix H: H.6.4.2	23.1353, 25.1353
12.1.7	JSSG-2009 Appendix H: H.3.4.8, H.4.4.8, H.3.4.8.5, H.4.4.8.5	23.1351-23.1367, 25.1351-25.1363
12.1.8	JSSG-2009 Appendix H: H.3.4.8, H.4.4.8	23.1301, 23.1309, 25.1301, 25.1309
12.1.9	JSSG-2009 Appendix H: H.3.4.8, H.4.4.8	23.1301, 23.1309, 25.1301, 25.1309
12.1.10	JSSG 2009, App. H Para. 3.4.8.4, 3.4.8.5	23.1351-23.1367, 25.1351-25.1363, 25.1309, 25.1529
12.2 Electrical wiring system, including power distribution.		
12.2.1	JSSG-2009 Appendix H: H.6.4.1	23.1365, 25.1353
12.2.2	JSSG-2009 Appendix H: H.6.4.1	23.1365, 25.1353
12.2.3	JSSG-2009 Appendix H: H.3.4.8.5, H.4.4.8.5	23.1357, 25.1357

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
12.2.4	JSSG-2009 Appendix H: H.6.4.1	23.1301, 23.1309, 25.1301, 25.1309
12.2.5	JSSG-2009 Appendix H: H.6.4.1, 6.1	23.1301, 23.1309, 25.1301, 25.1309, 23.1351-23.1367, 25.1351-25.1363, 25.1309, 25.1529, SFAR 88
12.2.6	JSSG-2009 Appendix H: H.6.4.1, 6.1, SAE AS50881	23.1301, 23.1309, 25.1301, 25.1309, 23.1351-23.1367, 25.1351-25.1363, 25.1309, 25.1529, AC 43.13-1B, SFAR 88
12.2.7	JSSG 2009, Appendix H Paragraph 6.1	23.1351-23.1367, 25.1351-25.1363, 25.1309, 25.1529, SFAR 88
12.2.8	JSSG 2009, Appendix H Paragraph 6.1	23.1351-23.1367, 25.1351-25.1363, 25.1309, 25.1529, SFAR 88

Downloaded from http://www.everyspec.com

A.13. Electromagnetic Environmental Effects (E^3)

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
13. Electromagnetic Environmental Effects (E^3)	MIL-STD-464	
13.1 Component / subsystem E^3 qualification.		
13.1.1	MIL-STD-464: 5.6	RTCA DO-160
13.1.2	MIL-STD-464: 5.6, 5.3	RTCA DO-160
13.1.3	MIL-STD-464: 5.6, 5.4	RTCA DO-160
13.2 System-level E^3 qualification.		
13.2.1	MIL-STD-464: 5.2	23.1301, 23.1309, 25.1301, 25.1353, 25.1431
13.2.1.1	MIL-STD-464: 5.2	23.1301, 23.1309, 25.1301, 25.1353, 25.1431
13.2.1.2	MIL-STD-464: 5.2	23.1301, 23.1309, 25.1301, 25.1353, 25.1431
13.2.1.3	MIL-STD-464: 5.2	23.1301, 23.1309, 25.1301, 25.1353, 25.1431
13.2.2.	MIL-STD-464: 5.2	Refer to technical point of contact for this discipline (listed in section A.20).
13.2.2.1	MIL-STD-464: 5.2	Refer to technical point of contact for this discipline (listed in section A.20).
13.2.2.2	MIL-STD-464: 5.2	Refer to technical point of contact for this discipline (listed in section A.20).
13.2.3	MIL-STD-464: 5.4	23.867, 23.954, 23.1301, 25.581, 25.954, 25.1301, 25.1316
13.2.4	MIL-STD-464: 5.7	23.1301, 23.1309, 25.1301, 25.1309
13.2.5	MIL-STD-464: 5.10	23.1301, 23.1309, 25.1301, 25.1309

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
13.2.6	JSSG 2005, Section 3.3.3	Refer to technical point of contact for this discipline (listed in section A.20).
13.2.7	JSSG 2005, Section 3.3.3	Refer to technical point of contact for this discipline (listed in section A.20).
13.2.8	JSSG 2005, Section 3.3.3	Refer to technical point of contact for this discipline (listed in section A.20).

Downloaded from http://www.everyspec.com

A.14. Safety

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
14. Safety		
14.1 System safety program.		
14.1.1	MIL-STD-882C: 1.1, 4.1, 4.2, 4.3, 4.4, 4.5	Included in each specific FAR per section.
14.1.1.1.a	MIL-STD-882C: 1.1, 4.1, 4.2, 4.3, 4.4, 4.5	Included in each specific FAR per section.
14.1.1.1.b	MIL-STD-882C: 1.1, 4.1, 4.2, 4.3, 4.4, 4.5	Included in each specific FAR per section.
14.1.1.1.c	MIL-STD-882C: 1.1, 4.1, 4.2, 4.3, 4.4, 4.5	Included in each specific FAR per section.
14.1.1.1.d	MIL-STD-882C: 1.1, 4.1, 4.2, 4.3, 4.4, 4.5	Included in each specific FAR per section.
14.1.1.1.e	MIL-STD-882C: 1.1, 4.1, 4.2, 4.3, 4.4, 4.5	Included in each specific FAR per section.
14.1.1.1.f	MIL-STD-882C: 1.1, 4.1, 4.2, 4.3, 4.4, 4.5	Included in each specific FAR per section.
14.1.1.1.g	MIL-STD-882C: 1.1, 4.1, 4.2, 4.3, 4.4, 4.5	Included in each specific FAR per section.
14.1.1.1.h	MIL-STD-882C: 1.1, 4.1, 4.2, 4.3, 4.4, 4.5	Included in each specific FAR per section.
14.1.1.1.i	MIL-STD-882C: 1.1, 4.1, 4.2, 4.3, 4.4, 4.5	Included in each specific FAR per section.
14.1.1.1.j	MIL-STD-882C: 1.1, 4.1, 4.2, 4.3, 4.4, 4.5	Included in each specific FAR per section.
14.1.1.1.k	MIL-STD-882C: 1.1, 4.1, 4.2, 4.3, 4.4, 4.5	Included in each specific FAR per section.
14.1.1.1.l	MIL-STD-882C: 1.1, 4.1, 4.2, 4.3, 4.4, 4.5	Included in each specific FAR per section.
14.2 Safety requirements.		
14.2.1	MIL-STD-882C: 4.1, 4.2, 4.3, 4.4, 4.5, Appendix A	Included in each specific FAR per section.
14.2.2	MIL-STD-882C: 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, Appendix C	Included in each specific FAR per section.

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
14.2.2.1	MIL-STD-882C: 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, Appendix C	Included in each specific FAR per section.
14.2.3	MIL-STD-882C: 4.3	Included in each specific FAR per section.
14.2.4	MIL-STD-882C: 4.3	Included in each specific FAR per section.
14.2.5	MIL-STD-882C: 4.3	Included in each specific FAR per section.
14.2.6	MIL-STD-882C: 4.3	Included in each specific FAR per section.
14.2.7	MIL-STD-882C: 4.3	Included in each specific FAR per section.
14.2.8	MIL-STD-882C: 4.3	Included in each specific FAR per section.

Downloaded from http://www.everyspec.com

A.15. Computer Resources

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
15. Computer Resources		
15.1 Air vehicle processing architecture.		
15.1.1	JSSG-2008: 3.1.12, 3.3.1	AC 20-115B, RTCA DO-178B
15.1.2	JSSG-2008: 3.3	AC 20-115B, RTCA DO-178B
15.1.3	JSSG-2008: 3.1.16	AC 20-115B, RTCA DO-178B
15.1.4	JSSG-2008: 3.3.7	AC 20-115B, RTCA DO-178B
15.1.5	JSSG-2008: 3.3.1	AC 20-115B, RTCA DO-178B
15.1.6	JSSG-2008: 3.2.2.2.2, 3.3	AC 20-115B, RTCA DO-178B
15.1.7	JSSG-2008: 3.3.1	AC 20-115B, RTCA DO-178B
15.1.8	JSSG-2008: 3.1.7.1	AC 20-115B, RTCA DO-178B
15.1.9	JSSG-2008: 3.3.7	AC 20-115B, RTCA DO-178B
15.2 Functional design integration of processing elements.		
15.2.1	JSSG-2008: 3.3.6	AC 20-115B, RTCA DO-178B
15.2.2	JSSG-2008: 3.3.1	AC 20-115B, RTCA DO-178B
15.2.3	JSSG-2008: 3.3.1	AC 20-115B, RTCA DO-178B

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
15.3 Subsystem / processing element.		
15.3.1 Electronics		
15.3.1.1	JSSG-2008: 3.3.1	AC 20-115B, RTCA DO-178B
15.3.1.2	JSSG-2008: 3.3.1	AC 20-115B, RTCA DO-178B
15.3.2 Architecture mechanization.		
15.3.2.1	JSSG-2001: 3.3.3.1 JSSG-2008: 3.3.4	AC 20-115B, RTCA DO-178B
15.3.2.2	JSSG-2001: 3.3.3.1 JSSG-2008: 3.3	AC 20-115B, RTCA DO-178B
15.3.2.3	JSSG-2008: 3.3.1	AC 20-115B, RTCA DO-178B
15.3.2.4	JSSG-2008: 3.3.6	AC 20-115B, RTCA DO-178B
15.3.2.5	JSSG-2008: 3.3	AC 20-115B, RTCA DO-178B
15.3.2.6	JSSG-2008: 3.1.16	AC 20-115B, RTCA DO-178B
15.3.2.7	JSSG-2008: 3.3.6	AC 20-115B, RTCA DO-178B
15.3.2.8	JSSG-2008: 3.3.5	AC 20-115B, RTCA DO-178B
15.3.2.9	JSSG-2008: 3.3.6	AC 20-115B, RTCA DO-178B

Downloaded from http://www.everyspec.com

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
15.3.3 Processing architecture verification for SOF items.		
15.3.3.1	JSSG-2008: 3.3.6.2	AC 20-115B, RTCA DO-178B
15.3.3.2	JSSG-2008: 3.3.7	AC 20-115B, RTCA DO-178B
15.3.3.3	JSSG-2008: 3.1.16	AC 20-115B, RTCA DO-178B
15.3.3.4	JSSG-2008: 3.3.7	AC 20-115B, RTCA DO-178B

Downloaded from http://www.everyspec.com

A.16. Maintenance

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
16. Maintenance		
16.1 Maintenance manuals / checklists.		
16.1.1	JSSG-2000: 3.6.1, 3.6.2, JSSG-2001: 3.1.5, 3.4.4.2.1.4.3, 3.4.4.2.1.5	23.1501, 23.1529, 25.1501, 25.1503-25.1533, 25.1529, 25.1541, 25.1543, 25.1557, 25.1563,
16.1.2	JSSG-2000: 3.6.1, 3.6.2, JSSG-2001: 3.1.5, 3.4.4.2.1.4.3, 3.4.4.2.1.5	23.1501, 23.1529, 25.1501, 25.1503-25.1533, 25.1529, 25.1541, 25.1543, 25.1557, 25.1563,
16.1.3	JSSG-2000: 3.6.1, 3.6.2, JSSG-2001: 3.1.5, 3.4.4.2.1.4.3, 3.4.4.2.1.5	23.1501, 23.1529, 25.1501, 25.1503-25.1533, 25.1529, 25.1541, 25.1543, 25.1557, 25.1563,
16.1.4	JSSG-2000: 3.6.1, 3.6.2, JSSG-2001: 3.1.5, 3.4.4.2.1.4.3, 3.4.4.2.1.5	23.1501, 23.1529, 25.1501, 25.1503-25.1533, 25.1529, 25.1541, 25.1543, 25.1557, 25.1563,
16.2 Inspection requirements.		
16.2.1	JSSG-2000: 3.6.1, 3.6.2, JSSG-2001: 3.1.5, 3.4.4.2.1.4.3, 3.4.4.2.1.5	23.1501, 23.1529
16.2.2.a	JSSG-2000: 3.6.1, 3.6.2, JSSG-2001: 3.1.5, 3.4.4.2.1.4.3, 3.4.4.2.1.5	23.1501, 23.1529
16.2.2.b	JSSG-2000: 3.6.1, 3.6.2, JSSG-2001: 3.1.5, 3.4.4.2.1.4.3, 3.4.4.2.1.5	23.1501, 23.1529
16.2.2.c	JSSG-2000: 3.6.1, 3.6.2, JSSG-2001: 3.1.5, 3.4.4.2.1.4.3, 3.4.4.2.1.5	23.1501, 23.1529

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
16.2.2.d	JSSG-2000: 3.6.1, 3.6.2, JSSG-2001: 3.1.5, 3.4.4.2.1.4.3, 3.4.4.2.1.5	23.1501, 23.1529
16.2.2.e	JSSG-2000: 3.6.1, 3.6.2, JSSG-2001: 3.1.5, 3.4.4.2.1.4.3, 3.4.4.2.1.5	23.1501, 23.1529
16.2.2.f	JSSG-2000: 3.6.1, 3.6.2, JSSG-2001: 3.1.5, 3.4.4.2.1.4.3, 3.4.4.2.1.5	23.1501, 23.1529
16.2.2.g	JSSG-2000: 3.6.1, 3.6.2, JSSG-2001: 3.1.5, 3.4.4.2.1.4.3, 3.4.4.2.1.5	23.1501, 23.1529
16.2.2.h	JSSG-2000: 3.6.1, 3.6.2, JSSG-2001: 3.1.5, 3.4.4.2.1.4.3, 3.4.4.2.1.5	23.1501, 23.1529
16.2.2.i	JSSG-2000: 3.6.1, 3.6.2, JSSG-2001: 3.1.5, 3.4.4.2.1.4.3, 3.4.4.2.1.5	23.1501, 23.1529
16.2.2.j	JSSG-2000: 3.6.1, 3.6.2, JSSG-2001: 3.1.5, 3.4.4.2.1.4.3, 3.4.4.2.1.5	23.1501, 23.1529
16.2.2.k	JSSG-2000: 3.6.1, 3.6.2, JSSG-2001: 3.1.5, 3.4.4.2.1.4.3, 3.4.4.2.1.5	23.1501, 23.1529
16.2.2.1	JSSG-2000: 3.6.1, 3.6.2, JSSG-2001: 3.1.5, 3.4.4.2.1.4.3, 3.4.4.2.1.5	23.1501, 23.1529
16.2.2.2	JSSG-2000: 3.6.1, 3.6.2, JSSG-2001: 3.1.5, 3.4.4.2.1.4.3, 3.4.4.2.1.5	23.1501, 23.1529

Downloaded from http://www.everyspec.com

A.17. Armament/Store Integration

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
17. Armament/Stores Integration		
17.1 Gun integration and interface.		
17.1.1	MIL-HDBK-1763: Appendix A, page 109	No applicable reference available.
17.1.2	MIL-HDBK-1763: Appendix A, page 109	No applicable reference available.
17.1.3	MIL-HDBK-1763: Appendix A, page 109	No applicable reference available.
17.1.4	MIL-HDBK-1763: Appendix A, page 109	No applicable reference available.
17.2 Stores integration.		
17.2.1	MIL-HDBK-1763: Appendix A, page 54	No applicable reference available.
17.2.2	MIL-HDBK-1763: Appendix A, pages 59, 70, 82	No applicable reference available.
17.2.3	MIL-HDBK-1763: Appendix A, pages 59, 62, 64, 65, 70, 71, 75, 78	No applicable reference available.
17.2.4	MIL-HDBK-1760	No applicable reference available.
17.2.5	MIL-HDBK-1763: Appendix A, pages 62, 70, 71, 75, 89, 90, 93, 96, 99, 103	No applicable reference available.
17.2.6	JSSG-2001: 3.3.10.1.1, 3.4.2.1.5, 3.4.2.2	No applicable reference available.
17.2.7	MIL-HDBK-1763	No applicable reference available.

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
17.3 Laser integration and interface.		
17.3.1	ANSI Z136.1, MIL-STD-1425A	No applicable reference available.
17.3.2	ANSI Z136.1, MIL-STD-1425A	No applicable reference available.
17.3.3	ANSI Z136.1, MIL-STD-1425A	No applicable reference available.

Downloaded from http://www.everyspec.com

A.18. Passenger Safety

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
18. Passenger Safety		
18.1 Survivability of passengers		
18.1.1	JSSG-2010-7: 3.7.3.2.2	25.785, 23.2, 23.562, 23.785
18.1.2	JSSG-2010-7: 3.7.3.2.2	25.785, 23.2, 23.562, 23.785
18.1.3	No information available in current JSSG. Information to be included in next revision of JSSG.	25.561, 25.787, 25.789, 23.787
18.1.4	JSSG-2010-7: 3.7.3.7.3	25.787, 25.789, 23.787, 25.801, 25.1411, 25.561
18.1.5	JSSG 2010-7: 3.7.5.3.1	25.783
18.1.6	JSSG 2010-7: 3.7.5.3.1	25.813, 25.809, 23.807, 25.813
18.1.7	JSSG 2010-7: 3.7.5.3.2, JSSG 2010-13: 3.13.5 page 67, 68	25.810, 121.31a
18.1.8	JSSG 2010-13: 3.13.5 page 66	25.811
18.1.9	JSSG 2010-11: 7.3.3.3.5.3	No applicable reference available.
18.1.10	JSSG 2010-13: 3.13.5 page 62, 65	25.812, 23.812, 25.1351, 25.1353, 25.1355, 25.1357, 25.1363
18.1.11	JSSG 2010-13: 3.13.5 page 55	25.813, 23.813, 25 Appendix F, 25 Appendix J
18.1.12	JSSG 2010-13: 3.13.5 page 68	25.812, 23.812, 25.811
18.1.13	No information available in current JSSG. Information to be included in next revision of JSSG.	25.1423
18.1.14	No information available in current JSSG. Information to be included in next revision of JSSG.	25.1423

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
18.1.15	No information available in current JSSG. Information to be included in next revision of JSSG.	25.1423
18.1.16	JSSG 2010-7: 3.7.3.2.3	25.789, 25.1421
18.1.17	JSSG-2010-4	121.319
18.1.18	JSSG 2010-11: 3.11.7.3	25.1561, 23.1561, 23.1415
18.1.19	JSSG 2010-11: 3.11.7.3	25.1561, 23.1561, 23.1415
18.1.20	JSSG 2010-9: 3.11.7.3	25.1561, 23.1561, 23.1415, 121.339
18.1.21	No information available in current JSSG. Information to be included in next revision of JSSG.	25.1561, 23.1561, 23.1415, TSO C70a
18.1.22	JSSG 2010-13: 3.13.5 page 71	25.1411, 25.1415
18.1.23	JSSG 2010-13: 3.13.5 page 62, 65	25.812, 23.812, 25.1351, 25.1353, 25.1355, 25.1357, 25.1363
18.2 Fire detection, suppression, and resistance		
18.2.1	JSSG 2010-11	121.309, 121.310
18.2.2	2010-9: 3.9.3	25.851
18.2.3	No information available in current JSSG. Information to be included in next revision of JSSG.	25.787, 25.789, 23.787
18.2.4	JSSG 2010-7: 3.7.3.4	25.791, 23.853, 25.854, 25 Appendix F
18.2.5	JSSG 2010-7: 3.7.3.4	25.855, 25.857, 25.858, 25.859
18.2.6	JSSG 2010-7: 3.7.3.4, 3.10, 4.10	25.869
18.2.7	JSSG 2009-Appendix G: 3.4.7.9	25.854, 25.857

Downloaded from http://www.everyspec.com

APPENDIX

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
18.3 Physiology requirements of passengers		
18.3.1	JSSG 2009-Appendix D: 65	25.831, 25.832
18.3.2	JSSG 2010-10: 3.10.1, 4.10.1	25.1439, 23.1441, 23.1443, 23.1445, 25.1447, 23.1449, 23.1450, 25.1441, 25.1443, 25.1445, 25.1449, 25.1450, 25.1453
18.3.3	No information available in current JSSG. Information to be included in next revision of JSSG.	121.309, 121.339, 121.310

Downloaded from http://www.everyspec.com

A.19. Other

CERTIFICATION CRITERIA	SUPPORT DOCUMENTATION	FEDERAL AVIATION REGULATIONS
19. Other Considerations		
19.1 Mission/test equipment and cargo/payload safety.		
19.1. 1.a	Use JSSGs corresponding to the appropriate item and/or installations under consideration.	Use FAR sections corresponding to Structural and Installation requirements. Use all systems FARs as applicable, i.e., Electrical.
19.1. 1.b	Use JSSGs corresponding to the appropriate item and/or installations under consideration.	Use FAR sections corresponding to Structural and Installation requirements. Use all systems FARs as applicable, i.e., Electrical.
19.1. 1.c	Use JSSGs corresponding to the appropriate item and/or installations under consideration.	Use FAR sections corresponding to Structural and Installation requirements. Use all systems FARs as applicable, i.e., Electrical.
19.1.2	Use JSSGs corresponding to the appropriate item and/or installations under consideration.	Use FAR sections corresponding to Structural and Installation requirements. Use all systems FARs as applicable, i.e., Electrical.

Downloaded from http://www.everyspec.com

A.20. TECHNICAL POINTS OF CONTACT

POINT OF CONTACT INFORMATION				
Technical Discipline	**Office**	**POC**	**DSN**	**Commercial**
Systems Engineering	ASC/ENS	Tech Director	785-1780	(937) 255-1780
	NAVAIR 4.0P	Deputy Airworthiness Officer	342-0301	(301) 342-0301
Structures	ASC/ENFS	Tech Advisor	785-5485 785-5503	(937) 255-5485 (937) 255-5503
	NAVAIR 4.3.3	Division Head	342-9381	(301) 342-9381
Flight Technology	ASC/ENFT	Tech Advisor	785-8551 785-5503	(937) 255-8551 (937) 255-5503
	NAVAIR 4.3.2	Division Head	342-8550	(301) 342-8550
Propulsion	ASC/ENFP	Branch Chief	785-9595 785-8059	(937) 255-8553 (937) 255-8059
	NAVAIR 4.4.1	Division Head	757-0499	(301) 757-0499
Air Vehicle Subsystems	ASC/ENFA	Tech Advisor	785-9552 785-8059	(937) 255-9552 (937) 255-8059
	NAVAIR 4.3.5	Division Head	342-8505	(301) 342-8505
Hydraulics and Pneumatic Systems	ASC/ENFA	Tech Specialist	785-8509 785-8059	(937) 255-8509 (937) 255-8059
	NAVAIR 4.3.5.2	Division Head	757-2001	(301) 757-2001
Environmental Management System	ASC/ENFA	Tech Specialist	785-8514 785-8059	(937) 255-8514 (937) 255-8059
	NAVAIR 4.3.5.1	Division Head	757-2345	(301) 757-2345

Downloaded from http://www.everyspec.com

APPENDIX

POINT OF CONTACT INFORMATION				
Technical Discipline	**Office**	**POC**	**DSN**	**Commercial**
Fuel System	ASC/ENFA	Tech Expert	785-5908 785-8059	(937) 255-5908 (937) 255-8059
	NAVAIR 4.4.2	Division Head	757-0498	(301) 757-0498
Fire and Hazard Protection	ASC/ENFA	Tech Expert	785-5908 785-8059	(937) 255-5908 (937) 255-8059
	NAVAIR 4.6	Division Head	342-8429	(301) 342-8429
Landing Gear & Deceleration Systems	ASC/ENFA	Tech Specialist	785-8511 785-8059	(937) 255-8511 (937) 255-8059
	NAVAIR 4.3.5.2	Division Head	757-2001	(301) 757-2001
Auxiliary/Emergency Power Systems	ASC/ENFA	Tech Specialist	785-8506 785-8059	(937) 255-8506 (937) 255-8059
	NAVAIR 4.4.6	Division Head	342-0806	(301) 342-0806
Aerial Refueling System	ASC/ENFA	Tech Specialist	785-7267 785-8059	(937) 255-7267 (937) 255-8059
	NAVAIR 4.3.5	Division Head	342-9371	(301) 342-9371
Propulsion Installations	ASC/ENFA	Tech Specialist	785-8506 785-8059	(937) 255-8506 (937) 255-8059
	NAVAIR 4.4.1	Division Head	757-0499	(301) 757-0499
Crew Systems	ASC/ENFC	Tech Advisor	785-8608 785-8059	(937) 255-8608 (937) 255-8059
	NAVAIR 4.6	Division Head	342-8429	(301) 342-8429
Diagnostics Systems	ASC/ENS	Tech Director	785-1799	(937) 255-1799
Avionics	ASC/ENA	Tech Director	785-9299	(937) 255-9299
	NAVAIR 4.5.1.1	Division Head	342-9130	(301) 342-9130
Electrical Power	ASC/ENAE	Tech Expert	785-5078	(937) 255-5078
	NAVAIR 4.4.4	Division Head	342-0803	(301) 342-0803

Downloaded from http://www.everyspec.com

APPENDIX

POINT OF CONTACT INFORMATION				
Technical Discipline	**Office**	**POC**	**DSN**	**Commercial**
Electromagnetic Environmental Effects	ASC/ENAE	Tech Expert	785-5078	(937) 255-5078
	NAVAIR 4.1.7	Division Head	342-7967	(301) 342-7967
System Safety	ASC/ENSA	Tech Advisor	785-3838	(937) 255-3838
	NAVAIR	Division Head	342-2137	(301) 342-2137
Computer Resources	ASC/ENFT	Tech Expert	785-8552 785-5503	(937) 255-8552 (937) 255-5503
	ASC/ENAC	Branch Chief	785-3999	(937) 255-3999
	NAVAIR 4.1.11	Division Head	342-2102	(301) 342-2102
Maintenance	ASC/ENSS	Tech Expert	785-9541	(937) 255-9541
Armament/Stores Integration	ASC/ENSI	Tech Specialist	785-5882	(937) 255-5882
	NAVAIR 4.7.6	Division Head	437-7206	(760) 939-7206
	NAVAIR 4.11.2	Division Head	342-4390	(301) 342-4390
Passenger Safety	ASC/ENFC	Tech Advisor	785-8608 785-8059	(937) 255-8608 (937) 255-8059
	NAVAIR 4.6	Division Head	342-8429	(301) 342-8429
Other Considerations	ASC/ENS	Chief Systems Engineer	785-5874	(937) 255-5874

CONCLUDING MATERIAL

Custodians:
Navy – AS
Air Force – 11
Army – AV

Preparing Activity:
Air Force – 11

(Project: SESS-0029)

Downloaded from http://www.everyspec.com

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7, and send to preparing activity.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

I RECOMMEND A CHANGE:	1. DOCUMENT NUMBER MIL-HDBK-516	2. DOCUMENT DATE (YYYYMMDD) 20021001

3. DOCUMENT TITLE AIRWORTHINESS CERTIFICATION CRITERIA

4. NATURE OF CHANGE *(Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)*

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME *(Last, First, Middle Initial)*	b. ORGANIZATION	
c. ADDRESS *(Include Zip Code)*	d. TELEPHONE (Include Area Code) (1) Commercial (2) AUTOVON *(if applicable)*	**7.DATE SUBMITTED** (YYYYMMDD)

8. PREPARING ACTIVITY

a. NAME ASC/ENOI (AF-11)	b. TELEPHONE *Include Area Code)* (1) Commercial (937) 255-8710/-6282 (2) DSN 785-8710/-6282
c. ADDRESS *(Include Zip Code)* 2530 LOOP ROAD WEST WRIGHT-PATTERSON AFB, OH 45433-7101	**IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:** Defense Standardization Program Office (DLSC-LM) 8725 John J. Kingman road, Suite 2533, Ft. Belvoir, VA 22060-2533 Telephone (703) 767-6888 AUTOVON 427-6888

Downloaded from http://www.everyspec.com