U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

ORDER 8110.56B

National Policy

07/19/2017

SUBJ: Restricted Category Type Certification

This order prescribes how to issue type certificates (TC), supplemental type certificates (STC), and other design approvals in restricted category pursuant to Title 14 of the Code of Federal Regulations (14 CFR). This order supplements the procedures in FAA Order 8110.4, *Type Certification*, and other orders such as those covering the changed product rule (CPR), certification project notification (CPN), issue papers, instructions for continued airworthiness (ICA), and compliance statements. Contact the Aircraft Certification Service (AIR) Design, Manufacturing, & Airworthiness Division (AIR-100) if you have any questions.

Susan J. M. Cabler
Manager, Design, Manufacturing, & Airworthiness Division
Aircraft Certification Service

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Chapter 1. General Information

1. Purpose of This Order. This order prescribes how the Federal Aviation Administration (FAA) issues aircraft type certificates (TC), supplemental type certificates (STC), their respective amendments, and other design approvals, in restricted category and details the responsibilities and procedures for type certification of restricted category aircraft pursuant to Title 14 of the Code of Federal Regulations (14 CFR) 21.25. The directives contained in this order are not intended to duplicate those in other FAA orders; rather, this order is intended to supplement the procedures in Order 8110.4, *Type Certification*, and other orders such as those covering the changed product rule (CPR), certification project notification (CPN), issue papers, instructions for continued airworthiness (ICA), and compliance statements. This order contains requirements specific to restricted category type certification. When differences in procedures or requirements for restricted category type certification arise between this order and another FAA order, follow this order. Contact the AIR Design Certification Section (AIR-111) if you have any questions.

2. Audience. This order applies to Aircraft Certification Service (AIR) personnel, Flight Standards Service (AFS) personnel, and other persons and organizations designated by the Administrator.

3. Where to Find This Order. You can find this order on the FAA's Regulatory and Guidance Library (RGL) at http://rgl.faa.gov/.

4. Cancellation. This order cancels Order 8110.56A, *Restricted Category Type Certification*, dated September 30, 2008. Advisory Circular (AC) 21-17, *Carriage of Cargo in Restricted Category Aircraft and Other Special Purpose Operations*, was cancelled on April 24, 2015.

5. Explanation of Changes. Major changes to this revision include:

a. New definitions were added to chapter 1, paragraph 9.

b. Chapter 2 was restructured to consolidate policy for 21.25(a)(1) aircraft in chapter 3, and for 21.25(a)(2) aircraft in chapter 4. Accordingly, paragraphs on certain topics (Safe for Its Intended Use, Type Certification Notes, Coordination with AIR-100, Public Aircraft, and Noise Compliance) were moved to chapter 3 and/or chapter 4, as appropriate. Also, detailed policy regarding special purpose operations was moved to chapter 5. A new paragraph 4, Unmanned Aircraft Systems (UAS), was added. In addition, the terms "civil-derived aircraft" and "military-derived aircraft" are no longer used and have been removed from the definitions section. Other policy contained in chapter 2 was revised for clarity and to provide additional guidance.

c. Chapter 3 was restructured to re-number paragraphs to align better with the type certification process. Policy contained in this chapter was revised for clarity and to provide additional guidance. The following new paragraphs were added: 3, Safe for Its Intended Use; 5, Type Certificate Data Sheet (TCDS); 9, Public Aircraft; and 11, UAS.

d. Chapter 4 was restructured to re-number paragraphs to align better with the type certification process. Policy contained in this chapter was revised for clarity and to provide additional guidance. The following new paragraphs were added: 4, Coordination with AIR-100; 9, Certification Basis; 10, Safe for Its Intended Use; 11, Aircraft Flight Manuals and Flight Manual Supplements; 13, Type Certificate Data Sheet; 19, Replacement Parts; 20, Adding Serial Numbers to a TC; 21, Switching Aircraft from One TC to Another; 22, Public Aircraft; 23, Validation of Foreign Type-Certificated Restricted Category Military Aircraft; and 24, UAS.

e. Major changes to chapter 5 include clarification of operations that are not eligible for restricted category due to their police, governmental, or military nature. Also, two special purpose operations were added, which have been previously approved and announced in the Federal Register: Alaskan Fuel Hauling (paragraph 10g) and Alaskan Fixed Wing External Loads (paragraph 10h).

f. A new chapter 6, Administrative Information, was added. Paragraphs in chapter 1 and the new appendix C were restructured in accordance with the latest guidance materials.

g. A new appendix C, Abbreviations & Acronyms, was added.

h. References to FAA orders and ACs were updated throughout.

i. Miscellaneous grammatical corrections and changes to language for clarity were made throughout the order.

Chapter 2. Type Certification in Restricted Category—General

1. General. The FAA issues TCs to restricted category aircraft pursuant to 14 CFR 21.25(a) for use only in those special purpose operations defined in 14 CFR 21.25(b). Restricted category aircraft include both 21.25(a)(1) and 21.25(a)(2) aircraft. Each aircraft must meet its respective restricted category requirements before the FAA issues the TC. The TC is issued for one or more special purpose operations, as identified on the type certificate data sheet (TCDS). An STC or amended TC is issued to approve additional special purpose operations. The type certification procedures in this document were derived from the basic procedures in Order 8110.4, *Type Certification*, which were modified for the specific requirements of restricted category. Restricted category aircraft are prohibited from carrying passengers.

Note: 14 CFR 91.313(d) states that all persons on board must be flight crewmembers, flight crewmember trainees, persons who perform an essential function in connection with the special purpose operation, or persons necessary to accomplish the work activity directly associated with the special purpose operation.

2. 21.25(a)(1) Aircraft. Section 21.25(a)(1) addresses aircraft that meet the airworthiness requirements of a standard category (i.e., normal, utility, acrobatic, commuter, or transport category) except those requirements that the FAA finds inappropriate for the special purpose operation for which the aircraft is to be used. See chapter 3 of this order for more details on type certification requirements and procedures for 21.25(a)(1) aircraft as well as guidance on determining whether a regulation is inappropriate for the special purpose operation.

3. 21.25(a)(2) Aircraft. Section 21.25(a)(2) addresses aircraft of a type that has been manufactured under the requirements of and accepted for use by an Armed Force of the United States. See chapter 4 of this order for more details on type certification requirements and procedures for 21.25(a)(2) aircraft and guidance on aircraft eligibility.

4. Unmanned Aircraft Systems (UAS). UAS can be type certificated in restricted category under 14 CFR 21.25 using the procedures in this order. See chapter 3, paragraph 11 or chapter 4, paragraph 24, as appropriate, for further details. Contact AIR-111 before accepting any applications for type certification of UAS in restricted category.

5. Special Purposes and Special Purpose Operations. An aircraft type certificated in restricted category may only perform the special purpose operations for which the aircraft has been approved. A special purpose operation includes both the specific mission and the special purpose under which it is approved. See chapter 5 of this order for detailed instructions on special purpose operations.

a. Before approving a special purpose operation on the TC or STC, that special purpose operation must have been approved under 14 CFR 21.25(b). See chapter 5 of this order for the special purpose operations that have been approved at the time of this revision. Contact AIR-111 for the current list of approved special purpose operations.

b. Do not approve an aircraft for a special purpose operation until the aircraft has been evaluated to ensure it is safe for its intended use in that special purpose operation.

c. When issuing an approval for a special purpose operation, verify that the applicable noise requirements are complied with (see chapter 5, paragraph 2d).

6. Level of Safety and Level of Certitude.

a. Level of Safety. The level of safety for restricted category aircraft may be lower than the level of safety for standard category aircraft (note that this policy does not eliminate any type certification procedural requirements, such as the need to comply with continued airworthiness requirements). However, an equivalent level of safety for the public is maintained by additional operating restrictions imposed via 14 CFR 91.313 (and part 133 or part 137, if applicable) and other limitations listed on the airworthiness certificate. Regulatory limitations include no operations over densely populated areas, in congested airways, or near busy airports where passenger transport operations are being conducted, as well as a prohibition from carrying passengers.

Note: 14 CFR 91.313(d) states that all persons on board must be flight crewmembers, flight crewmember trainees, persons who perform an essential function in connection with the special purpose operation, or persons necessary to accomplish the work activity directly associated with the special purpose operation.

b. Level of Certitude. For the purposes of this order, the level of certitude is the degree of certainty that the product complies with the applicable airworthiness standards. For restricted category aircraft, the level of certitude must be equivalent to the level of certitude for standard category aircraft. This requires that any TC or STC issued for restricted category be substantiated to the same level of rigor as a standard category certification (for the airworthiness regulations that have been determined applicable).

7. Safe for Its Intended Use. To comply with § 21.25(a), applicants are required to show that no feature or characteristic of the aircraft makes it unsafe when it is operated under the limitations prescribed for its intended use. Applicants must first define the operating environment of the special purpose operation for which they are seeking approval. See chapter 3, paragraph 3 or chapter 4, paragraph 10 for more details.

Chapter 3. Type Certification of 21.25(a)(1) Aircraft

1. Type Certification Requirements.

a. 14 CFR 21.25(a)(1) addresses aircraft that meet the airworthiness requirements of a standard category (i.e., normal, utility, acrobatic, commuter, or transport category) except those requirements that the FAA finds inappropriate for the special purpose operation for which the aircraft is to be used. The FAA can waive or modify the basic airworthiness requirements that are found inappropriate, provided the level of safety for the public is maintained through additional operating restrictions imposed via 14 CFR 91.313 (and part 133 or part 137, if applicable) and other limitations listed on the airworthiness certificate. Regulatory limitations include no operations over densely populated areas, in congested airways, or near busy airports where passenger transport operations are being conducted, as well as a prohibition against carrying passengers (see chapter 2, paragraph 1).

b. The certification basis for a 21.25(a)(1) aircraft includes 14 CFR 21.25(a) and 14 CFR 21.25(a)(1), the applicable airworthiness requirements from parts 23, 25, 27, or 29 (as appropriate), and the special purpose operation(s) for which it is being approved. The certification basis section must also identify the inappropriate regulations that were not complied with. See paragraph 4 for guidance on inappropriate regulations and paragraph 5 for documenting the certification basis on the TCDS.

c. Special Purpose Operations. See chapter 5 of this order for the special purpose operations that are approved. A special purpose operation includes both the special purpose and the specific mission.

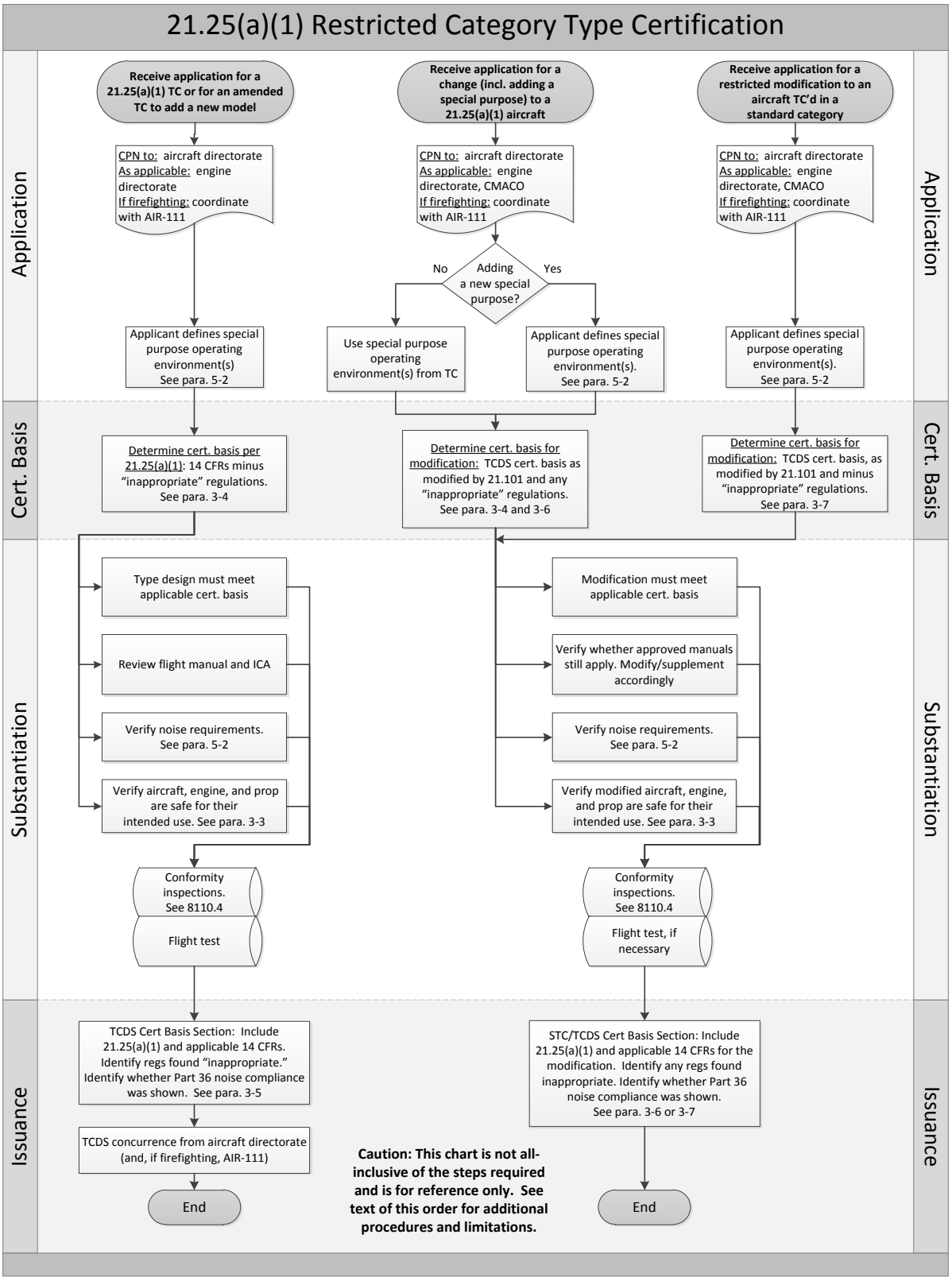
d. Special Conditions. Approval of the aircraft for a special purpose operation or approval of the special purpose equipment could require special conditions pursuant to 14 CFR 21.16. These conditions supplement the airworthiness requirements to maintain an appropriate level of safety.

e. Safe for Its Intended Use. See paragraph 3 for guidance on ensuring the aircraft is safe for its intended use.

f. Noise. Restricted category aircraft must comply with the applicable noise requirements of 14 CFR part 36. Note that the applicant need not show compliance with part 36 for a special purpose operation that is excepted in part 36. See Order 1050.1, *Environmental Impacts: Policies and Procedures,* and Order 8110.4, *Type Certification,* chapter 7, for noise policy and procedures.

g. Certification Procedures. See Order 8110.4, *Type Certification,* for general type certification procedures. This chapter provides additional policy for type certification of 21.25(a)(1) aircraft in restricted category.

Figure 3-1. 21.25(a)(1) Certification Process Flowchart



2. Civil Air Regulations, Part 8 (CAR 8). The FAA no longer uses CAR 8 and Civil Aeronautics Manual 8 (CAM 8) as airworthiness standards for new type certification programs. However, for aircraft originally certificated to CAR 8, STCs and other modifications can use CAR 8 as the starting point for the certification basis, adjusted in accordance with 14 CFR 21.101(f) and Order 8110.48, *How to Establish the Certification Basis for Changed Aeronautical Products*.

3. Safe for its Intended Use.

a. Initial TCs. To comply with § 21.25(a), applicants must show that no feature or characteristic of the aircraft (and its engine(s)) makes it unsafe when it is operated under the limitations prescribed for its intended use. *Intended use* means any operation that supports the approved special purpose operation. The applicant must complete an evaluation of the aircraft (and its engines and propellers) in the special purpose operating environment. This might require a simple determination or a detailed assessment, such as a fatigue and loads analysis of the aircraft (and its engines and propellers) in the special purpose operating environment to establish the limitations for safe operation, including life limits of fatigue-critical and fatigue-sensitive components.

Note: An evaluation of the engine and propeller in the special purpose operating environment is required even though the engine or propeller has already been type certificated under 14 CFR part 33 or part 35.

(1) Applicants must first define the operating environment of the special purpose operation for which they are seeking approval. The following operational factors are important for this evaluation:

(a) Areas and types of operation conducted;

(b) Surface conditions of the airports used (i.e. gravel, grass, or dirt runways);

(c) Nature of any cargo carried; and

(d) The special purpose operating environment, which includes the aircraft use, mission profile, and loads and fatigue spectrum.

Note: For example, for rotorcraft, high-frequency repeated heavy-lift operations (such as heli-logging and water-bucket operations) might adversely affect the fatigue lives of rotorcraft and engine components. Also, for airplanes, flight in low-altitude, high turbulence environments might adversely affect fatigue lives.

(2) Applicants must account for the effects of the special purpose operation on the following:

(a) Continued airworthiness of the aircraft (structure, components, systems, and their functions) and its engine(s);

(b) Life limits of critical parts of the aircraft and its engine(s) and propeller(s);

(c) Adequacy of airworthiness directives (AD);

(d) Any corrosion or prior structural damage to the aircraft; and

(e) Identification of parts not previously life-limited that become life-limited in the special purpose operation. For all such parts, assign new part numbers and mark the parts as required by 14 CFR 45.16.

(3) Applicants then develop airworthiness limitations, operating limitations, and continued airworthiness requirements for the special purpose operation.

b. STCs and Amended TCs.

(1) To comply with § 21.25(a), applicants must show that no feature or characteristic of the modified aircraft makes it unsafe when it is operated under the limitations prescribed for its intended use. *Intended use* means any operation that supports the approved special purpose operation. The applicant must complete an evaluation of the modified aircraft (and its engines and propellers) in the special purpose operating environment. This might require a simple determination or a detailed assessment, such as a fatigue and loads analysis of the modified aircraft (and its engines and propellers) in the special purpose operating environment to establish the limitations for safe operation, including life limits of fatigue-critical and fatigue-sensitive components.

Note: An evaluation of the engine and propeller in the special purpose operating environment is required even though the engine or propeller has already been type certificated under 14 CFR part 33 or part 35.

(2) The following are examples of when a more detailed assessment or analysis of "safe for its intended use" is necessary:

(a) A new engine or propeller;

(b) Adding a special purpose operation;

(c) A different special purpose operating environment;

(d) A change to the airworthiness limitations; and

(e) A change to the operating limitations.

(3) If an STC or amended TC triggers a re-evaluation of whether an aircraft is safe for its intended use, then a re-evaluation of the inappropriate regulations might also be needed (see paragraph 4).

4. Inappropriate Airworthiness Requirements.

a. The accountable directorate has the responsibility to make the final determination on which aircraft regulations (in 14 CFR part 23, part 25, part 27, or part 29) are inappropriate for the special purpose operation. Contact the accountable directorate for assistance in determining regulations that are inappropriate.

b. The requirement for a type-certificated engine in part 23, part 25, part 27, or part 29 cannot be declared as inappropriate. Accordingly, regulations within part 33 and part 35 cannot be declared as inappropriate (however equivalent levels of safety are allowed).

c. The maximum gross weight limits in part 23 and part 27 cannot be declared as inappropriate.

d. When waiving or modifying the basic airworthiness requirements, consider the following:

(1) Airworthiness requirements that are acceptable to be waived due to the nature of the special purpose operation;

(2) Airworthiness requirements that are inadequate, but not entirely inappropriate, and that must be modified; and

(3) The additional operating restrictions imposed on restricted category aircraft by 14 CFR 91.313 and 133.45.

e. Do not waive a rule solely because the applicant cannot show compliance.

f. The rationale for determining the inappropriateness of airworthiness requirements must be documented in the applicant's certification plan, or if applicable, on the G-1 issue paper.

g. List the regulations that were deemed inappropriate in the certification basis section on the TCDS or STC.

h. If an STC or amended TC triggers a re-evaluation of whether an aircraft is safe for its intended use (see paragraph 3b), then a re-evaluation of the inappropriate regulations might also be needed.

5. Type Certificate Data Sheet (TCDS). Include the following on the TCDS:

a. Certification Basis. Include in the certification basis section:

(1) 14 CFR 21.25(a)(1);

(2) The special purpose operation(s) for which it is being approved (include both the special purpose and the specific mission for each special purpose operation);

(3) The applicable airworthiness standard (i.e., parts 23, 25, 27, or 29, and the amendment level). Identify the inappropriate rules that were not complied with, as well as any equivalent levels of safety, special conditions, and exemptions; and

(4) The applicable requirements of part 36. Note that the applicant need not show compliance with part 36 for a special purpose operation that is excepted in part 36. Include a note in the TCDS certification basis section that the applicant showed compliance to part 36 or that noise compliance was not required.

b. Seats. Include the number of seats, followed by "No passengers are permitted." Repeat this limitation in the aircraft flight manual.

c. Notes Section. In addition to any other notes specified in Order 8110.4 or other FAA policy, include the following notes:

"**NOTE:** Restricted category aircraft may not be operated in a foreign country without the express written approval of that country."

"**NOTE:** This aircraft has not been shown to meet the requirements of the applicable comprehensive and detailed airworthiness code as provided by Annex 8 of the Convention on International Civil Aviation."

6. Aircraft Modifications. Modifications must be approved by an amended TC or STC (or for minor design changes, by any other manner approved by the FAA). An amended TC or STC can also be used to approve the aircraft to perform an additional special purpose operation. When modifying an aircraft, the modified aircraft (and its engine(s)) must be evaluated to ensure it is safe for its intended use (see paragraph 3). Note that the change might also require a re-evaluation of the regulations that were determined to be inappropriate (see paragraph 4).

a. Certification basis. Include in the certification basis section of the STC:

(1) 14 CFR 21.25(a)(1);

(2) The special purpose operation(s) for which the STC is being approved (include both the special purpose and the specific mission). Include the special purpose operation(s) on the STC in both the description and certification basis sections;

(3) The applicable airworthiness standards (i.e., parts 23, 25, 27, or 29 and the amendment level), as well as any equivalent levels of safety, special conditions, and exemptions. Also, identify any additional inappropriate rules that were not complied with. Note that some regulations that were deemed inappropriate for the special purpose operation on the TCDS might not be inappropriate for the new special purpose operation; and

(4) The applicable requirements of part 36. Note that the applicant need not show compliance with part 36 for a special purpose operation that is excepted in part 36. Include a note in the limitations & conditions section of the STC that the applicant showed compliance to part 36 or that noise compliance was not required.

b. Limitations. If these limitations are not included on the TCDS of the aircraft being modified, include them on the STC:

(1) "Restricted category aircraft may not be operated in a foreign country without the express written approval of that country."

(2) "This aircraft has not been shown to meet the requirements of the applicable comprehensive and detailed airworthiness code as provided by Annex 8 of the Convention on International Civil Aviation."

(3) "No passengers are permitted." Repeat this limitation in the aircraft flight manual or aircraft flight manual supplement.

7. Aircraft Previously Type Certificated in a Standard Category.

a. General. Aircraft previously type certificated in a standard category can be issued restricted category certification for a special purpose operation. Use of restricted category provides a basis for waiving or modifying the aircraft's original standard type certification requirements that the FAA finds inappropriate for the special purpose operation, as discussed in paragraph 4.

b. Equivalent Restricted Category TCs. To satisfy the regulatory requirement for a restricted category TC before issuing an airworthiness certificate under 14 CFR 21.185(b), the standard category TC together with the restricted STC are considered to be an equivalent restricted category TC. It is not necessary to issue a new restricted category TC.

(1) Incorporation of a restricted STC effectively moves a previously standard category aircraft into restricted category, and the aircraft can be issued a special/restricted airworthiness certificate.

(2) When the modification is not a major design change, other FAA-approved data may take the place of the restricted STC. In this case, an FAA aviation safety inspector (ASI) can issue the restricted category certification.

c. Special Purpose Operations. The special purpose operation being approved for an aircraft must have been approved under 14 CFR 21.25(b). See chapter 5 of this order for a list of approved special purpose operations that can be performed in restricted category. If an approved special purpose operation does not exist for the proposed mission, the applicant may petition the FAA to consider approving a new special purpose operation for restricted category (see chapter 5, paragraph 3).

d. Safe for its Intended Use. The applicant must show that the aircraft (and its engine(s)) is safe for its intended use in the special purpose operation (see paragraph 3). Consideration must be made for an operating environment more stringent than specified in the standard category type certification requirements.

e. Certification Basis. Refer to paragraph 6a for guidance.

f. Limitations. Include these limitations on the STC:

(1) "Restricted category aircraft may not be operated in a foreign country without the express written approval of that country."

(2) "This aircraft has not been shown to meet the requirements of the applicable comprehensive and detailed airworthiness code as provided by Annex 8 of the Convention on International Civil Aviation."

(3) "No passengers are permitted." Repeat this limitation in the aircraft flight manual or aircraft flight manual supplement.

g. No Overweight Operations. In the past, the FAA approved, in limited cases, the operation of small airplanes in restricted category at gross weights above their standard category weight limits, with no substantiation. The FAA no longer approves these kinds of overweight operations in restricted category (however, existing approvals remain valid).

Note: Aircraft type certificated under CAR 8 can continue to operate under the gross weight limitations of CAR 8/CAM 8.

h. Increased Gross Weights. Standard category aircraft can be approved to operate at higher gross weights in restricted category, but the operation at the higher gross weight must be shown to meet the airworthiness requirements of the aircraft and its engines and propellers. However, restricted category cannot be used to increase:

(1) A part 23 certificated airplane (i.e., one type certificated in normal, utility, acrobatic, or commuter category) to a maximum gross weight higher than the maximum weight permitted under part 23 (currently 19,000 pounds).

(2) A part 27 certificated rotorcraft to a maximum gross weight higher than the maximum weight permitted under part 27 (currently 7,000 pounds).

Note: In both of these cases, it is considered that increasing the gross weight above these limits would make the aircraft subject to a new set of regulations requiring a substantially complete re-investigation (which pursuant to 14 CFR 21.19, would require a new TC).

i. ICAs. When modifying an aircraft, verify that the ICAs are changed accordingly to ensure the aircraft (and its engines and propellers) continues to be safe for its intended use (see paragraph 3).

j. Noise Compliance. The applicant must show that the modified aircraft complies with the applicable requirements of part 36. Note that the applicant need not show compliance with part 36 for a special purpose operation that is excepted in part 36 (see chapter 5 of this order).

Include a note in the limitations & conditions section of the STC that the applicant showed compliance to part 36 or that noise compliance was not required.

8. Multiple Airworthiness Certificates.

a. Under 14 CFR 21.187, aircraft previously type certificated in a standard category can be issued multiple airworthiness certificates, in both a standard category and restricted category for a special purpose operation. These aircraft can operate in either category but must meet the requirements of the category in which they are operating at the time. The restricted category approval must be issued in accordance with paragraph 7.

b. A single STC can be issued that approves both the restricted category configuration and the configuration for the other category under a multiple airworthiness approval.

9. Public Aircraft. Many restricted category aircraft operate as public aircraft. A public aircraft is not required to have an FAA TC, although FAA-certificated aircraft can operate as public aircraft. The FAA encourages those who operate public aircraft to obtain the proper FAA certifications, if possible. See 49 U.S.C. 40102 and 40125; AC 00-1.1A, *Public Aircraft Operations*; and other FAA guidance on public aircraft and public aircraft operations.

10. Validation of Foreign Type-Certificated Restricted Category Aircraft. Because a foreign airworthiness authority's restricted category might be very different from the FAA's restricted category, an aircraft type certificated by a foreign authority in its restricted category is not automatically eligible for type validation in the FAA's restricted category pursuant to 14 CFR 21.29 and 21.25. Contact AIR-111 to verify the eligibility of foreign state-of-design restricted category aircraft.

Note: Importation of foreign state-of-design restricted category aircraft is also subject to the scope and provisions of the applicable bilateral agreement. In most cases, importation would require an FAA validation and a special arrangement for the aircraft's airworthiness certification. Contact the AIR International Division (AIR-400) for further details.

11. Unmanned Aircraft Systems (UAS).

a. UAS can be type certificated in restricted category under 14 CFR 21.25(a)(1) using the procedures in this order, if it meets the airworthiness requirements of a standard category (i.e., normal, utility, acrobatic, commuter, or transport category) except those requirements that the FAA finds inappropriate for the special purpose operation for which the aircraft is to be used.

b. Contact AIR-111 when accepting an application for type certification of a UAS in restricted category.

Chapter 4. Type Certification of 21.5(a)(2) Aircraft

1. General.

a. 14 CFR 21.25(a)(2) addresses aircraft of a type manufactured in accordance with the requirements of, and accepted for use by, the Armed Forces of the United States. The FAA issuance of a TC is based on continued operation and maintenance of the aircraft in a similar manner as the U.S. Armed Forces. The level of safety for the public is maintained through operating restrictions imposed via 14 CFR 91.313 (and part 133 or part 137, if applicable) and other limitations listed on the airworthiness certificate. Regulatory limitations include no operations over densely populated areas, in congested airways, or near busy airports where passenger transport operations are being conducted, as well as a prohibition against carrying passengers (see paragraph 2-1).

b. 21.25(a)(2) Aircraft are either (1) surplus aircraft of the U.S. Armed Forces, or (2) new-production aircraft manufactured under an FAA production approval by the original manufacturer to the U.S. Armed Forces. See paragraph 12 for more details.

c. Military Aircraft Designations. Military surplus aircraft are identified using their as-surplused military designation (i.e., a military aircraft's mission, design number, and series (MDS)). New-production 21.25(a)(2) aircraft are identified using the manufacturer's model designation (see paragraph 3).

d. Military Serial Numbers. For military surplus aircraft, use the military serial numbers. For new-production aircraft, use the manufacturer's serial numbers.

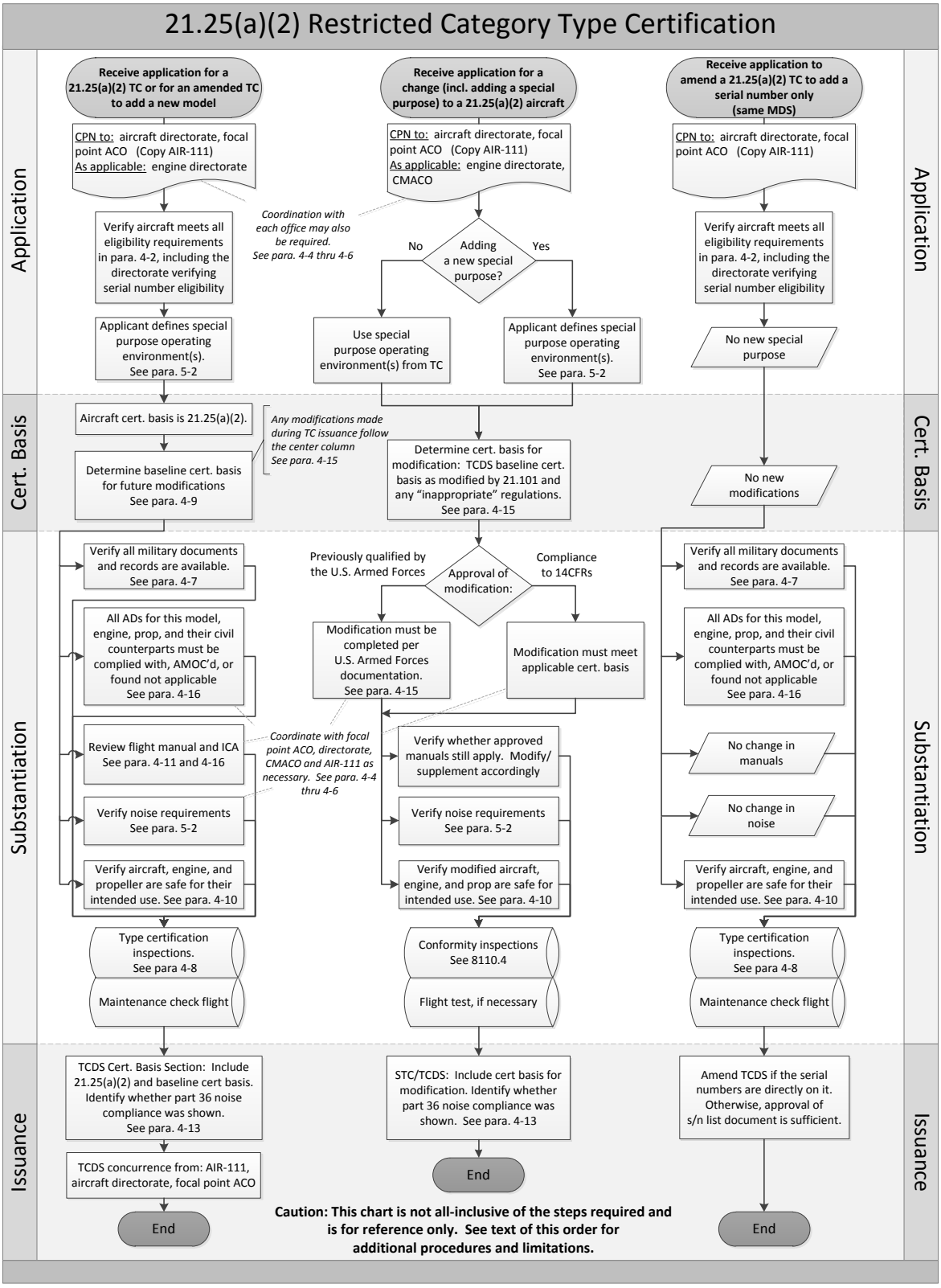
e. Multiple TCs. Pursuant to 14 CFR 21.25, any person, including the original manufacturer, who owns a military surplus aircraft, may apply for a restricted category TC for that aircraft type. As a result, there can be more than one TC issued for a particular military aircraft model (i.e., MDS). Each aircraft is issued its airworthiness certificate based on compliance with only one TC. The applicable TC is shown on the application for the airworthiness certificate and on the civil data plate (see paragraph 14)

f. Engines and Propellers. FAA type certification of a 21.25(a)(2) aircraft includes the airframe, engines, and propellers. Do not issue separate TCs for military engines or propellers.

g. Special Purpose Operations. See chapter 5 of this order for the special purpose operations that are approved for restricted category. A special purpose operation includes both the special purpose and the specific mission.

h. Safe For Its Intended Use. See paragraph 10 for guidance on ensuring the aircraft is safe for its intended use.

Figure 4-1. 21.25(a)(2) Certification Process Flowchart



i. Modifications can be made to a military surplus aircraft, provided they are FAA approved. The modifications can be made to accomplish the special purpose operation or for other reasons. See paragraph 15 for additional details.

j. Focal Point ACOs. For standardization and consistency purposes, focal point ACOs have been designated to coordinate certification projects taking place at different ACOs and continued operational safety, for a specific military model. See paragraph 5 and paragraph 6 for designated focal point ACOs and details on the required coordination.

k. Noise. Restricted category aircraft must comply with the applicable noise requirements of 14 CFR part 36. Note that the applicant need not show compliance with part 36 for a special purpose operation that is excepted in part 36. See Order 1050.1, *Policies and Procedures for Considering Environmental Impacts*, and Order 8110.4, *Type Certification*, chapter 7, for noise policy and procedures.

l. Certification Procedures. See Order 8110.4, *Type Certification*, for general type certification procedures. This chapter provides additional policy for type certification of 21.25(a)(2) aircraft in restricted category.

2. Aircraft Eligibility Requirements.

a. The aircraft type must have been manufactured in accordance with the requirements of and accepted for use by an Armed Force of the United States (see § 21.25(a)(2)).

b. Satisfactory Service History. A military aircraft type must have a satisfactory service history with the U.S. Armed Forces (as determined by AIR-100 in coordination with the accountable directorate) to be considered for restricted category certification. A minimum of 10 years in service with the U.S. Armed Forces (in regular operational service, not including developmental operations) is necessary for the aircraft type to show a satisfactory service history. However, for aircraft with an alternate MDS (see paragraph 3a(4)), consideration can be given to the service time for the similar MDS aircraft.

c. Combat Aircraft. Department of Defense (DOD) policy does not usually allow the sale of combat aircraft for civil use. However, what constitutes a combat aircraft is not well defined. The FAA does allow type certification of demilitarized combat aircraft on a case-by-case basis. Contact AIR-111 with any questions on the eligibility of specific aircraft models.

d. Location of Manufacture. U.S. Armed Forces aircraft manufactured in the United States or in a foreign country can be eligible for restricted category type certification if the aircraft type was manufactured in accordance with the requirements of and accepted for use by an Armed Force of the United States (see § 21.25(a)(2)).

e. Surplus of the U.S. Armed Forces. To be eligible for a restricted category airworthiness certificate, a military surplus aircraft must be surplus of the U.S. Armed Forces, as required by 14 CFR 21.185(b). An aircraft need not be surplused directly from the U.S. Armed Forces to the

applicant—it can be acquired from a third party (other than a foreign military or government) who acquired the aircraft from the U.S. Armed Forces.

f. Surplus of a Foreign Military or Government. An aircraft that is surplus of a foreign military, foreign government, or foreign paramilitary entity is not eligible for a restricted category certificate, unless:

(1) The aircraft was brought back into the U.S. Armed Forces inventory, and the U.S. Armed Forces operated and maintained it after its foreign service, or

(2) The aircraft was previously surplus of the U.S. Armed Forces and its original manufacturer inspects the aircraft and attests in writing that it conforms to applicable design requirements and is in a condition for safe operation.

g. DOD Category B. Military aircraft in DOD surplus category B (those aircraft not intended for further flight and those intended for scrap or ground use only) are not eligible for restricted category certification. For details on DOD surplus categories, refer to DOD Defense Materiel Disposition Manual (DOD 4160.21-M). Although aircraft transfer documents from the Government might not fully explain the condition of an aircraft, the intent of this restriction on category B aircraft is to prevent aircraft from entering the civil arena that, when surplused by the U.S. Armed Forces, were not intended for further flight.

h. Identification Plate. An aircraft without its U.S Armed Forces identification plate is not eligible for restricted category certification.

i. Aircraft Completeness. When applying for a restricted category TC or when adding additional aircraft to an existing TC, applicants must provide documentation that either identifies the aircraft as a "complete aircraft" when surplused, or identifies all major components that were missing when surplused. This provision is included to prohibit the certification of aircraft built from scrapped or spare and surplus parts, or aircraft test articles that were not intended for further flight. Transfer documentation from the U.S. Armed Forces showing the aircraft to be flyable when it was surplused could satisfy this requirement.

(1) For this order, a "complete aircraft" is one with no missing "major components." A "major component" is any component that might appreciably affect weight, balance, structural strength, performance, powerplant operation, flight characteristics, or other qualities that affect airworthiness.

(2) It is not unusual for military surplus aircraft to be used in public use operations by a local, State, or Federal government agency, during which time several major components could undergo replacement. Or, an aircraft could be placed in storage for several years during which time several major components could be removed and not replaced. Although these aircraft may have undergone extensive removal of parts and no longer represent their as-surplused conditions, they are still considered eligible for certification provided they show traceability to the U.S. Armed Forces. Contact the focal point ACO or accountable directorate for assistance in evaluating the list of missing components.

Note: Do not issue the TC, or add a serial number of a follow-on aircraft to an existing TCDS, until the applicant replaces all missing parts on the aircraft with acceptable replacement parts (see paragraph 19).

j. Type Certification Inspection. Each military surplus aircraft must conform to the data submitted with the TC application. See paragraph 8 for more details.

3. Military Aircraft Designations.

a. Mission, Design Number, and Series (MDS). Military aircraft are designated by their MDS. For example, in the designation "P-3A," the mission is "Patrol," the design number is "3," and the series is "A." Therefore, a TC is issued for a P-3A, not for a P-3; and for a C-130A, not for a C-130. For rotorcraft, an "H" is usually included after the mission identifier and MDS becomes MHDS (for example, "CH-53D").

(1) Military surplus aircraft are type certificated using the as-surplused MDS. The MDS is used as the aircraft model on the registration certificate, TC, civil data plate, TCDS or STC, and airworthiness certificate. Do not use the applicant's own model designation for military surplus aircraft.

(2) When appropriate, a deviation can be obtained. For example, if the removal of equipment by the U.S. Armed Forces results in an aircraft being reconfigured to an earlier configuration (i.e., MDS), the aircraft could be type certificated under the earlier MDS.

Note: Contact AIR-111 for a deviation in situations like this.

(3) If two aircraft of the same military mission and design number have differing design series (such as CH-53D and CH-53E), they can be approved on two separate TCs or as two separate configurations under the same TC number.

(4) Alternate Military Designations. Sometimes the military aircraft designation includes mission modifiers before the MDS, such as "K" for aerial refueling tanker variants (e.g., "KC-10A"), "V" for VIP transports (e.g., "VC-137A"), and "R" for reconnaissance variants (e.g., "RC-135A"). Or sometimes the armed forces used an alternate MDS for special missions (such as the HSS-2 variant of the SH-3A or the EH-1H variant of the UH-1H). In these situations, if the differences in the aircraft are minimal the aircraft can be placed on an existing TCDS with a deviation issued by AIR-100. Sometimes, however, the differences can be significant enough to require a separate TC or a separate configuration on an existing TC.

Note 1: Contact AIR-111 for a deviation in situations like this.

Note 2: Past service history of one variant might require additional substantiation, additional airworthiness limitations, and/or operating limitations, compared to the other variant.

(5) Contact AIR-111 or the accountable directorate for any other unusual cases.

b. New-Production Aircraft. New-production 21.25(a)(2) aircraft, manufactured under an FAA production approval, use the manufacturer's model designation. This distinguishes new-production aircraft from military surplus aircraft that have gone through the U.S. Armed Forces acquisition system. Include the manufacturer's model designation on the registration, TC, civil data plate, TCDS or STC, and airworthiness certificate.

Note: To reduce confusion, do not use the military model designation (i.e., MDS) to identify new-production aircraft. However, the MDS can be included in parentheses in the TCDS title block or configuration.

4. Coordination with AIR-100.

a. Provide AIR-100 with a copy of CPNs for all TCs, STCs, and their amendments.

b. Verify with AIR-111 the satisfactory service history of an aircraft type (if the FAA has not previously issued a TC for that military model).

c. Include AIR-111 in the review and concurrence on issue papers relating to part 21 or this order, or for issues such as aircraft eligibility and certification basis.

d. Request a policy deviation from AIR-100 if needed.

e. Provide a copy of the draft TCDS to AIR-111 for review before issuing any original-issue TCs.

5. Coordination with Focal Point ACOs and Other Offices. Focal point ACOs are designated for U.S. military aircraft to standardize the FAA's approach to technical issues in certification and continued operational safety (see paragraph 6 below). Before issuing a restricted category TC or STC, the project ACO must:

a. Include the focal point ACO on CPNs for all TC and STC projects (and their amendments).

b. Coordinate with the focal point ACO on reported safety issues, airworthiness limitations, AD applicability decisions, initial flight manuals, and significant technical issues.

Note: Involve the accountable directorate if there is a disagreement between the project ACO and the focal point ACO.

c. Coordinate with the Certificate Management ACO (CMACO) for the engine's civil counterpart if needed (for example, on issues relating to special purpose operations, airworthiness limitations, and AD applicability decisions). If no civil counterpart engine exists, coordinate with the CMACO for the engine manufacturer.

d. Coordinate with the CMACO for the propeller's civil counterpart if needed (for example, on issues relating to special purpose operations, airworthiness limitations, and AD applicability).

If no civil counterpart propeller exists, coordinate with the CMACO for the propeller manufacturer.

e. Coordinate with the engine and propeller directorate if needed for policy and guidance on technical issues related to engines or propellers.

6. Focal Point ACOs. Focal point ACOs are designated for U.S. military aircraft to standardize our approach to technical issues in certification and continued operational safety. If there is a standard category civil counterpart to the military aircraft, then the CMACO for the civil counterpart is usually chosen as the focal point ACO. If there is no standard category civil counterpart aircraft, AIR-100, in coordination with the accountable directorate, can designate a focal point ACO based on the type, category, and class of aircraft. The following list of focal point ACOs is current as of the date of this revision (contact AIR-111 for the latest list).

Note: Aircraft with alternate U.S. military designations have the same focal point ACO as the basic aircraft.

a. The following offices have been designated as focal point ACOs:

(1) Atlanta ACO for all C-130 (Lockheed Hercules) models.

(2) Boston ACO for all CH-53 (Sikorsky S-65) models.

(3) Boston ACO for all UH-60 and Sikorsky S-70 models.

(4) Boston ACO for all SH-3 (Sikorsky S-61) models.

(5) Fort Worth Delegation Systems Certification Office for all UH-1 (Bell 204/205) models.

(6) Fort Worth ACO for all CH-54 (Erickson/Sikorsky S-64) models.

(7) Los Angeles ACO for all OH-6 (Hughes/MDH 369, also known as the Hughes “500”) models.

(8) Los Angeles ACO for all P2V/P-2 (Lockheed Neptune) models.

(9) Los Angeles ACO for all P-3 (Lockheed Orion) models.

(10) New York ACO for all C-123 (Fairchild Provider) models.

(11) Seattle ACO for all CH-46 (Columbia/Boeing-Vertol 107) models.

(12) Seattle ACO for all CH-47 (Columbia/Boeing-Vertol 234) models.

(13) Wichita ACO for all U-21/C-12/T-44/VC-6 (Beechcraft King Air and Super King Air) models.

(14) Rotorcraft Directorate has been delegated as the focal point office for all OH-58/ TH-57 (Bell 206 Jet Ranger) models.

b. If a civil counterpart to the military engine or propeller exists, coordinate with the CMACO for the civil counterpart engine or propeller. Otherwise coordinate with the CMACO for the engine and propeller manufacturers. For example:

(1) For GE engines, contact the Engine Certification Office (ECO).

(2) For Pratt & Whitney engines, contact the ECO.

(3) For Honeywell engines, contact the Los Angeles ACO propulsion branch.

(4) For Rolls Royce engines, contact the Chicago ACO propulsion branch.

(5) For Continental engines, contact the Atlanta ACO propulsion branch.

7. Required Data for Military Surplus Aircraft.

a. For military surplus aircraft, the FAA requires the applicant to present the following data and information:

(1) Data that shows a satisfactory service life of the military aircraft MDS with the U.S. Armed Forces. This is required only for the first FAA TC for a particular military aircraft MDS.

(2) The U.S. Armed Forces bill of sale.

(3) Transfer documentation from the U.S. Government showing the U.S. Armed Forces intended the aircraft for further flight and not for scrap or ground use only (refer to DOD 4160.21-M). Aircraft designated by the DOD as surplus category B are not eligible for restricted category type certification.

(4) Historical and modification records from the U.S. Armed Forces for the individual aircraft (and its engine(s)), in its configuration as-surplused by the U.S. Armed Forces. These records must include hours or cycles, or both, on all life-limited components installed on the aircraft or engine(s). These records should also include any major damage or mishap the aircraft experienced. For example, if the aircraft experienced a gear-up landing or structural overload, records must be presented demonstrating the aircraft as airworthy and any related limitations and/or components replaced as a result. The FAA does not require records for components or modifications that were removed from the aircraft or engine(s) before surplus. Records are also not required for components that the applicant removes before certification.

(5) U.S. military flight manuals.

(6) U.S. military technical orders, maintenance manuals (including airworthiness limitations), overhaul manuals, structural repair manuals, illustrated parts catalogs, and a list of applicable ADs or their military equivalents.

(7) If necessary, as determined by the assessment required in paragraph 10, all test and analysis data used to evaluate and substantiate the safety of the aircraft operating in its intended use (i.e, the special purpose operating environment). This might include:

(a) An analysis of fatigue and loads, and life limits of critical components; and

(b) Data necessary to establish a baseline fatigue state for the aircraft using engineering assessments with detailed inspections, including teardown inspections as necessary.

Applicants may develop their own substantiation data or may use data obtained from the U.S. Armed Forces, the original manufacturer, or other sources.

(8) All design, test, and analysis data required to substantiate any modifications made to the aircraft by the applicant, including detail and installation drawings as appropriate.

b. The aircraft designation (i.e., the MDS) on all documents and manuals must match the military aircraft MDS on the TCDS and other FAA documentation.

8. Type Certification Inspections for Military Surplus Aircraft.

a. Aircraft Eligibility. Before issuing the TC (or before adding a serial number to an existing TC), the ACO must verify the aircraft complies with the type certification requirements identified in this order. This includes verifying that the individual aircraft is eligible for type certification.

b. Type Certification Inspection. The type certification inspection consists of two parts and can be completed together or separately. In the first part of the inspection, evaluate the aircraft in the condition as it was surplused by the U.S. Armed Forces, primarily to verify eligibility of the aircraft for type certification. This also documents the aircraft in its as-surplused configuration. In the second part, evaluate the aircraft after it has been modified, repaired, and prepared for airworthiness certification.

c. Inspection Requests. Prepare the inspection requests following the procedures in Order 8110.4. The sample procedures in appendices A and B can be used as aids in creating inspection requests to verify that the requirements in this order are met.

Note: The inspection checklists provided in the appendices are for guidance only and should be modified as needed for a specific project.

9. Certification Basis.

a. The certification basis for the aircraft includes 14 CFR 21.25(a) and 14 CFR 21.25(a)(2), and the special purpose operation(s) for which it is being approved. The special purpose operation includes both the special purpose and the specific mission. See paragraph 13 for guidance on writing the certification basis on the TCDS.

b. The baseline certification basis for modifications is the 14 CFR regulations applicable to the aircraft (i.e., part 23, part 25, part 27, part 29, or CARs, as appropriate) that were in effect on the date that the first aircraft of the particular military model (i.e., MDS) was accepted for operational use by the U.S. Armed Forces. Also, include parts 33 and 35, if appropriate.

c. If modifications are made to the aircraft that are approved as part of the initial TC, include the certification basis for the modifications on the TCDS (see paragraph 15).

d. The certification basis includes the applicable requirements of part 36. Note that the applicant need not show compliance with part 36 for a special purpose operation that is excepted in part 36.

10. Safe for its Intended Use.

a. Initial TCs. To comply with § 21.25(a), applicants must show that no feature or characteristic of the aircraft makes it unsafe when it is operated under the limitations prescribed for its intended use. *Intended use* means any operation that supports the approved special purpose operation. The applicant must complete an evaluation of the aircraft (and its engines and propellers) in the special purpose operating environment. This might require a simple determination or a detailed assessment, such as a fatigue and loads analysis of the aircraft (and its engines and propellers) in the special purpose operating environment to establish the limitations for safe operation, including life limits of fatigue-critical and fatigue-sensitive components.

(1) Applicants must first define the operating environment of the special purpose operation for which they are seeking approval. The following operational factors are important for this evaluation:

(a) Areas and types of operation conducted;

(b) Surface conditions of the airports used (i.e. gravel, grass or dirt runways);

(c) Nature of any cargo carried; and

(d) The special purpose operating environment, which includes the aircraft use, mission profile, and loads and fatigue spectrum.

For example, for rotorcraft, high-frequency repeated heavy-lift operations (such as heli-logging and water-bucket operations) might adversely affect the fatigue lives of rotorcraft

and engine components. Also, for airplanes, flight in low-altitude, high turbulence environments might adversely affect fatigue lives.

(2) Applicants must account for the effects of the special purpose operation on the following:

(a) Continued airworthiness of the aircraft (structure, components, systems, and their functions) and its engine(s);

(b) Life limits of critical parts of the aircraft and its engine(s) and propeller(s);

(c) Adequacy of ADs;

(d) Any corrosion or prior structural damage to the aircraft; and

(e) Identification of parts not previously life-limited that become life-limited in the special purpose operation. For all such parts, assign new part numbers and mark the parts as required by 14 CFR 45.16.

(3) Applicants then develop airworthiness limitations, operating limitations, and continued airworthiness requirements for the special purpose operation.

(4) Applicants can base their fatigue and loads assessment for 21.25(a)(2) aircraft on a comparison of the proposed special purpose operating environment with the aircraft's previous military operating environment. This assessment might result in additional airworthiness inspection requirements and/or operating limitations that are more restrictive than those used by the U.S. Armed Forces. The aircraft still must comply with any other requirements necessary to ensure it is safe for its intended use.

Note: Applicants must maintain all airworthiness and operating limitations used by the military, unless otherwise substantiated.

(5) The FAA requires applicants to consider past service history of an individual aircraft in their assessment of whether an aircraft is safe for its intended use. For example, the FAA can certificate in restricted category an aircraft that was used as a public aircraft or an aircraft that conducted special Armed Forces missions (perhaps under an alternate MDS). However, certification might require additional substantiation, additional airworthiness limitations, and/or additional operating limitations before the TC is issued (or before its serial number is added to an existing TC).

b. STCs and Amended TCs.

(1) To comply with § 21.25(a), applicants must show that no feature or characteristic of the modified aircraft makes it unsafe when it is operated under the limitations prescribed for its intended use. *Intended use* means any operation that supports the approved special purpose

operation. The applicant must complete an evaluation of the modified aircraft (and its engines and propellers) in the special purpose operating environment. This might require a simple determination or a detailed assessment, such as a fatigue and loads analysis of the modified aircraft (and its engines and propellers) in the special purpose operating environment to establish the limitations for safe operation, including life limits of fatigue-critical and fatigue-sensitive components.

(2) The following are examples of when a more detailed assessment or analysis of "safe for its intended use" is necessary:

(a) A new military aircraft model (i.e., MDS);

(b) A new engine or propeller model;

(c) Adding a special purpose operation;

(d) A different special purpose operating environment;

(e) A change to the airworthiness limitations; and

(f) A change to the operating limitations.

11. Aircraft Flight Manuals and Flight Manual Supplements.

a. Applicants can use the U.S. military flight manual and existing format, provided that (1) it includes any additional procedures or limitations needed for the special purpose operation, and (2) portions related to military-specific equipment are deleted or struck out. Alternatively, applicants can develop their own flight manual for FAA acceptance and approval, based on the operating procedures and limitations in the U.S. military flight manual. Flight manual supplements can be developed by the applicant in either format.

b. The flight manual (or flight manual supplement) must include the procedures and limitations (1) developed for the modification, (2) needed to ensure the aircraft is safe for its intended use in the special purpose operating environment, and (3) from any applicable ADs.

c. The flight manual (or flight manual supplement) must maintain all operating procedures and limitations used by the U.S. military, unless otherwise substantiated by the applicant and approved by the FAA.

d. Military-specific operational information for military systems that have been removed from the aircraft (such as when demilitarized), must not be included in the flight manual (or flight manual supplement). It is acceptable to delete or strike out the military-specific information.

e. For new TCs or new models, all flight manuals and supplements must be coordinated with the focal point ACO.

12. Aircraft Production Limitations.

a. Military Surplus Aircraft. Applicants for a restricted category TC for military surplus aircraft are not required to have the full type design (see 14 CFR 21.31) and therefore the TC holder is not eligible for a PC, except as permitted in paragraph 12b. This does not prohibit someone from producing parts under another FAA approval, such as owner-produced parts (i.e., "owner/operator parts") or parts produced under a parts manufacturer approval (PMA).

b. New-Production Aircraft. A restricted category TC holder that is also the original manufacturer of that aircraft type for the U.S. Armed Forces can apply to have the production limitation removed from the TCDS, to allow for a production approval. The TC holder must possess the full type design data specified in 14 CFR 21.31 to be eligible to apply for a PC (for the production of new aircraft and/or new replacement parts). To comply with 49 U.S.C. 44704(a)(3), production of new 21.25(a)(2) aircraft is limited to the original manufacturer of the aircraft type for the U.S. Armed Forces. (Note: Transfer of a TC does not provide aircraft production rights for 21.25(a)(2) aircraft.) For TCs issued for new-production 21.25(a)(2) aircraft, include in the TCDS production basis section the associated FAA production approval number (such as the PC number). New-production 21.25(a)(2) aircraft that are type certificated in restricted category and produced under an FAA production approval are directly eligible for civil airworthiness certification in restricted category without passing through the U.S. Armed Forces acquisition system. TC holders must also provide all manuals and information required for safe operation of the aircraft.

13. Type Certificate Data Sheet (TCDS). Include the following on the TCDS:

a. Certification Basis. Include in the certification basis section:

(1) 14 CFR 21.25(a)(2).

(2) The special purpose operation(s) for which it is being approved (include both the special purpose and the specific mission for each special purpose operation).

(3) The applicable regulations used for any modifications made at the time of the initial TC.

(4) The applicable requirements of part 36. Include a note in the TCDS certification basis section that the applicant showed compliance to part 36 or that noise compliance was not required.

b. Production Basis. For military surplus aircraft, include "None. No aircraft or parts may be manufactured under this approval." For new-production aircraft, include the FAA production approval number (PC number).

c. Serial Numbers. For military surplus aircraft, use the military serial numbers. For new-production aircraft, use the manufacturer's serial numbers.

(1) List Approved Serial Numbers on the TCDS. The TCDS format for military surplus aircraft includes approved serial numbers instead of the eligible serial numbers typically used for aircraft manufactured under a production approval. The applicant may include the list of approved serial numbers in the TCDS itself, or in a separate FAA-approved report referenced in the TCDS. This serial number report contains only approved serial numbers.

(2) Old TCs Show Eligible Serial Numbers. In the past, eligible serial numbers were listed on the TCDS for military surplus aircraft. Sometimes the list of eligible serial numbers included all aircraft produced or an extensive list of serial numbers of aircraft. This sometimes resulted in aircraft listed in a configuration in which they no longer existed. In other cases, an aircraft might be listed as eligible on one or more TCDS, even though the airworthiness certificate was based on compliance with only one TC. The applicable TC is shown on the application for the airworthiness certificate and on the civil data plate (see paragraph 14).

d. Seats. Include the number of seats, followed by "No passengers permitted." Repeat this limitation in the flight manual or flight manual supplement**.**

e. Notes Section. In addition to any other notes specified in Order 8110.4 or other FAA policy, include the following notes:

"**NOTE:** Restricted category aircraft may not be operated in a foreign country without the express written approval of that country."

"**NOTE:** This aircraft has not been shown to meet the requirements of the applicable comprehensive and detailed airworthiness code as provided by Annex 8 of the Convention on International Civil Aviation."

14. Civil Data Plates for Military Surplus Aircraft. Each aircraft must have a civil data plate installed on the aircraft (located near the military identification plate). The civil data plate and military identification plate may only be removed or altered in accordance with 14 CFR part 43 or part 45. The civil data plate must include the information below (in addition to any other information required by part 45):

a. TC holder's name.

b. Military aircraft MDS.

c. Military serial number.

d. Engine and propeller models (if appropriate).

e. TC number.

f. Date the TC is issued (for follow-on aircraft, use the date that aircraft serial number is added to the TCDS).

15. Modifications to Military Configurations.

a. Modifications. Modifications can be approved as part of the original TC, by amended TC, by STC (or for minor design changes, by any other manner approved by the FAA). There are two methods for substantiating a modification. The modification must either:

(1) Comply with the applicable 14 CFR airworthiness requirements (refer to paragraph 15b); or

(2) Have been previously qualified by the U.S. Armed Forces (refer to paragraph 15e).

b. Establishing a Certification Basis for Modifications. Start with the baseline certification basis (see paragraph 9b). Refer to 14 CFR 21.101(f) and Order 8110.48, *How to Establish the Certification Basis for Changed Aeronautical Products*, for details on determining the certification basis for a specific modification. Include the certification basis on the STC. Note that the applicant must also ensure the aircraft as modified is still safe for its intended use (see paragraph 10).

c. Certification Basis. Include in the certification basis section of the STC:

(1) 14 CFR 21.25(a)(1).

(2) The special purpose operation(s) for which the STC is being approved. Include the special purpose operation (i.e., both the special purpose and the specific mission) on the STC in both the description and certification basis sections.

(3) The applicable airworthiness standards (i.e., parts 23, 25, 27, or 29 and the amendment level), as well as any equivalent levels of safety, special conditions, and exemptions. Also, identify any inappropriate rules that were not complied with.

(4) The applicable requirements of part 36. Note that the applicant need not show compliance with part 36 for a special purpose operation that is excepted in part 36. Include a note in the limitations & conditions section of the STC that the applicant showed compliance to part 36 or that noise compliance was not required.

d. Limitations on STC. If these limitations are not included on the TCDS of the aircraft being modified, include them on the STC:

"Restricted category aircraft may not be operated in a foreign country without the express written approval of that country."

"This aircraft has not been shown to meet the requirements of the applicable comprehensive and detailed airworthiness code as provided by Annex 8 of the Convention on International Civil Aviation."

"No passengers are permitted." Repeat this limitation in the aircraft flight manual or aircraft flight manual supplement.

e. Modifications Previously Qualified by the U.S. Armed Forces. A modification that has been previously qualified for use by the U.S. Armed Forces (and has an acceptable service history in the U.S. military) on the same military aircraft model (i.e., MDS) does not have to be shown to meet the 14 CFR airworthiness regulations in paragraph 4-15b, provided that:

(1) An STC or amended TC is issued to approve the modifications;

(2) The U.S. military modification instructions are used to accomplish the installation;

Note: On the STC or amended TC, include a note that references this paragraph 15e of Order 8110.56B, to explain the rationale for approving the modification, and references the military modification instructions that were used to accomplish the installation.

(3) Any additional operating and maintenance limitations used by the U.S. Armed Forces are included in the ICAs;

(4) An evaluation is completed to ensure the modified aircraft is still safe for its intended use;

(5) Compliance with the applicable noise requirements is shown;

(6) The ACO receives written concurrence from both AIR-100 and the accountable directorate; and

(7) If the modification involves a change to the engine model and/or propeller model, the additional provisions of paragraph 15f, must be adhered to.

f. Engine or Propeller Model Changes.

(1) All modifications involving the installation of a different engine or propeller model can be approved as part of the initial TC or, subsequent to the TC, by either an STC or amendment to the TC.

(2) The new engine or propeller model must be evaluated in the special purpose operating environment, including any effects on the airworthiness limitations.

(3) If the modification installs a turbine engine of a model different from the model removed, the replacement turbine engine must be an FAA type-certificated engine.

(4) The requirement above for a type-certificated engine can be waived, provided that the replacement engine is of a model that has been previously qualified for use by the U.S. armed forces on the same military aircraft model, and the provisions of paragraph 15e are adhered to.

Note: Do not list alternate engines on a TCDS until the steps in paragraph 15e have been completed.

g. Engine and Propeller Design Changes. Coordinate as needed with the Engine and Propeller Directorate on design changes to engines or propellers.

16. Instructions for Continued Airworthiness (ICA).

a. Expect the applicant to provide the ICA in accordance with 14 CFR 21.50. See FAA Order 8110.54, *Instructions for Continued Airworthiness Responsibilities, Requirements, and Contents,* for additional details.

b. The ICA are based on continuing the maintenance and inspections previously performed by the U.S. Armed Forces. In the ICA, the applicant incorporates any other maintenance and inspections determined to be necessary for the modification or the special purpose operating environment, including the limitations for its intended use and any applicable ADs. Coordinate the ICA with the focal point ACO and the appropriate Aircraft Evaluation Group (AEG).

c. When modifying an aircraft, verify the ICAs are changed accordingly to ensure the aircraft (and its engine(s)) continues to be safe for its intended use (see paragraph 10).

d. Airworthiness Directives (AD). The applicant must list all applicable ADs and all equivalent U.S. military documents on a master document identified on the TCDS. Applicable ADs include those issued for a civil counterpart aircraft, engine, or propeller that are determined to be applicable, and those issued for other TCs for the same or similar military aircraft MDS. Applicants determine the list of applicable ADs, subject to FAA concurrence. The ACO must coordinate this list with the focal point ACO and the accountable directorate for concurrence. Applicable ADs include those issued for parts that are common to a civil counterpart aircraft and determined to be applicable. The focal point ACO maintains a master list of these ADs and documents. See Order 8040.1, *Airworthiness Directives,* for additional details.

e. Airworthiness Limitations. Applicants must determine and include all life limits and mandatory inspections in the FAA-approved airworthiness limitations section of the ICA. The project ACO must coordinate the airworthiness limitations with the focal point ACO.

(1) The applicant can use existing U.S. military limitations associated with the military use if they show that the special purpose operation is equivalent to the military use of the aircraft.

(2) If the aircraft or aircraft engine load and fatigue spectrum in the special purpose operating environment is more severe than in U.S. military operation, applicants must substantiate the life limits and inspection intervals. When this happens, the FAA might require applicants to develop fatigue or damage tolerance methods.

(3) The applicant must account for previous service history of the aircraft, such as accumulated fatigue damage for each individual life-limited component, when determining fatigue lives, inspection requirements, or any other limitation for the special purpose operation.

(4) Appropriate data may include data from the U.S. Armed Forces, the original manufacturer, and other sources.

(5) See paragraph 10 for more details on the requirement that an aircraft must be safe for its intended use.

f. U.S. Military Documents. Applicants may use U.S. military documents, where appropriate, and ICA developed for the civil counterpart aircraft as a basis for developing their ICA.

17. TC Holder Responsibilities.

a. The holder of a TC for a military surplus aircraft issued under 14 CFR 21.25(a)(2) has the responsibilities of a manufacturer. These responsibilities include, but are not necessarily limited to, the following:

(1) Overseeing the continued operational safety of the aircraft, including maintaining the ICA;

(2) Complying with the reporting requirements pursuant to 14 CFR 21.3 for failures, malfunctions, and defects; and

(3) Responding to required design changes pursuant to 14 CFR 21.99.

b. TC holders are responsible for the entire aircraft, not just for the modifications they make.

c. TC holders are responsible for all aircraft issued an airworthiness certificate based on their TC, regardless of ownership of the aircraft.

d. After completing certification, insert the TC holder's name on the type, airworthiness, and registration certificates in place of the manufacturer's name or builder's name, as appropriate.

Note: The initial registration (before airworthiness certification) might be made under the name of the original manufacturer of the aircraft. However, after completing certification, the applicant (now the TC holder) updates the registration to include their name in place of the manufacturer.

18. Continued Operational Safety.

a. The CMACO must coordinate reported safety issues with the focal point ACO. Additionally the CMACO must invite the focal point ACO to coordinate with the corrective action

review board. If the safety issue affects other TCs, the CMACO and focal point ACO coordinate with the accountable directorate. The accountable directorate decides which office leads the preparation of the AD.

b. When issuing ADs for a 21.25(a)(2) aircraft, include in the applicability section other aircraft affected by the safety issue, such as any civil counterpart aircraft and any other TCs of the same or similar military aircraft model. The lead office notifies the other CMACOs about AD activity.

c. Encourage TC holders and operators to evaluate military safety of flight messages, service bulletins, and maintenance instructions (for that model aircraft) that are published after the TC is issued, and take appropriate action.

19. Replacement Parts.

a. 14 CFR 21.9*, Replacement and Modification Articles*. Acceptable replacement parts must satisfy the requirements of 14 CFR 21.9 to be eligible for installation on a military surplus aircraft type certificated in restricted category. For additional guidance on replacement parts, refer to AC 20-62, *Eligibility, Quality, and Identification of Aeronautical Replacement Parts*, and AC 20-142, *Eligibility and Evaluation of U.S. Military Surplus Flight Safety Critical Aircraft parts, Engines, and Propellers*.

b. Replacement Engine or Propeller. A replacement engine or propeller must have its data plate or equivalent markings installed and its historical records available.

c. Dual-Use Parts. Certain 21.25(a)(2) aircraft have parts with the same part numbers as their civil counterpart models. Replacement parts that are produced for a civil counterpart model under an FAA production approval are eligible for use on a 21.25(a)(2) counterpart that uses the same part number.

d. Adjustment of Remaining Part Life. If a replacement life-limited part is used, the applicant might need to adjust the remaining life based on the airworthiness limitation sections. The methodology for the adjustment must be approved by the FAA.

e. Use of Newer Part Numbers. Design improvements by the aircraft manufacturer might have led to replacement parts for the civil counterpart that have newer-version part numbers, and the manufacturer might have discontinued production of the older-version part numbers. In many of these instances, the aircraft manufacturer obtained FAA approval of the newer-version part numbers for the civil counterpart model but did not substantiate the design of the newer-version part numbers for the military model. Alternatively, the U.S. Armed Forces might have approved newer-version part numbers for certain aircraft parts. The installation of the newer-version part numbers is not permitted on the restricted category military surplus model unless the newer-version part numbers are shown to be acceptable replacement parts, either by amending the TC or STC (or for minor design changes, by any other manner approved by the FAA).

20. Adding Serial Numbers to a TC. An amended TC project is used to add additional aircraft serial numbers to a TC (either to the TCDS or to the approved serial number report). An aircraft must have completed its type certification inspection (see paragraph 8) before its serial number is added.

21. Switching Aircraft from One TC to Another.

a. An aircraft can be switched from one TC to another when the FAA, the aircraft owner, and the holder of the second TC agree. Before its serial number is added to the second TC, the aircraft must comply with the type certification requirements of the second TCDS and have completed the type certification inspection (see paragraph 8). Once added to the second TC, the aircraft's serial number can be removed from the first TCDS. The FAA informs the first TC holder of the serial number switch, although the first TC holder's agreement is not required for the switch to take place. After switching TCs, the aircraft owner applies for a new airworthiness certificate under the second TC. The owner must also install a new civil data plate (with the new TC information and dates of approval) near the civil data plate for the first TC.

b. Do not remove serial numbers from the list of serial numbers unless there are special circumstances (such as a destroyed aircraft) or unless removed in accordance with paragraph 21a. Before removing serial numbers from a TCDS, confer with the accountable directorate.

22. Public Aircraft. Many restricted category aircraft operate as public aircraft. A public aircraft is not required to have an FAA TC, although FAA-certificated aircraft can operate as public aircraft. The FAA encourages those who operate public aircraft to obtain the proper FAA certifications, if possible. See 49 U.S.C. 40102 and 40125; AC 00-1.1A, *Public Aircraft Operations*; and other FAA guidance on public aircraft and public aircraft operations.

Note: Do not reduce the level of safety (or relax any airworthiness certification requirements) during the certification of an aircraft because of its intended use as a public aircraft.

23. Validation of Foreign Type-Certificated Restricted Category Military Aircraft. Foreign military aircraft with a foreign restricted category type-certificate are not usually eligible for type certification through validation. Contact AIR-111 to verify the eligibility of the aircraft or the aircraft type.

24. Unmanned Aircraft Systems (UAS).

a. Military surplus UAS can be type certificated in restricted category under 14 CFR 21.25(a)(2) using the procedures in this chapter. To be eligible, the UAS must meet the requirements of 14 CFR 21.25 and the provisions contained in this order.

b. Certain documentation might be different for a UAS compared to what is provided with a typical military surplus aircraft. Accordingly, the requirements for transfer documentation, flight manuals, maintenance manuals, and other manuals, can be adjusted as needed to satisfy the intent of the requirement to ensure safe operation of the UAS in the civil environment.

Note: A UAS includes both the unmanned aircraft and its ground control station.

c. Contact AIR-111 when accepting an application for type certification of a UAS in restricted category

Chapter 5. Special Purpose Operations

1. General. An aircraft certificated in restricted category may be used only for the special purpose operations for which it is approved.

2. Special Purposes and Special Purpose Operations.

a. The following special purposes and special purpose operations have been approved for restricted category (contact AIR-111 for a current list). More details on each of these are provided in paragraphs 4 through 10 below.

(1) **Agricultural Use** (includes crop spraying, dusting, and seeding; livestock and predatory animal control; insect control; dust control; and protection of crops).

(2) **Forest and Wildlife Conservation** (includes aerial dispensing of liquids, heli-logging, fish spotting, wild animal survey, and oil spill response).

(3) **Aerial Surveying** (includes photography, mapping, oil and mineral exploration, atmospheric survey and research, geophysical and electromagnetic survey, oceanic survey, and airborne measurement of navigation signals).

(4) **Patrolling** (includes patrolling pipelines, power lines, and canals).

(5) **Weather Control** (includes cloud seeding).

(6) **Aerial Advertising** (includes skywriting, banner towing, airborne signs, and public address systems).

(7) **Rotorcraft External Load Operations.**

(8) **Carriage of Cargo (Incidental).**

(9) **Target Towing.**

(10) **Search and Rescue (Non-Transport).**

(11) **Space Vehicle Launch.**

(12) **Glider Towing.**

(13) **Alaskan Fuel Hauling.**

(14) **Alaskan Fixed-Wing External Loads.**

b. Before approving a special purpose operation on the TCDS or STC, that special purpose operation must have been approved for restricted category.

Note: The TC or STC approves the aircraft for the specific function but does not approve the performing of the operation itself. For example, in general, aerial fire fighting operations that are performed under the authority of a Federal, State, or other government agency, are the responsibility of that government agency.

c. Do not approve an aircraft for a special purpose operation until the applicant has assessed the safety of the aircraft operating in the new special purpose operating environment, as detailed in chapter 3, paragraph 3 or chapter 4, paragraph 10, as appropriate, to ensure that the aircraft is safe for its intended use.

d. Noise Requirements. Approval of a special purpose operation requires compliance with the applicable noise requirements in 14 CFR part 36. Note that the applicant need not show compliance with part 36 for a special purpose operation that is excepted in part 36. See Order 1050.1, *Environmental Impacts: Policies and Procedures,* and Order 8110.4, *Type Certification,* chapter 7, for noise policy and procedures.

e. No Passengers. Restricted category aircraft are prohibited from carrying passengers.

Note: 14 CFR 91.313(d) states that all persons on board must be flight crewmembers, flight crewmember trainees, persons who perform an essential function in connection with the special purpose operation, or persons necessary to accomplish the work activity directly associated with the special purpose operation.

3. Proposing New Special Purpose Operations.

a. Applicants may petition the FAA to consider new restricted category special purpose operations under § 21.25(b)(7). The applicant sends a proposal to the ACO containing information, views, and arguments to support the proposed special purpose operation. The ACO then includes its comments and arguments about the proposal and sends them to AIR-100. AIR-100 then:

(1) Evaluates the proposal (in coordination with the accountable directorate(s) and AFS, if needed).

(2) Seeks public comments by publishing a notice in the Federal Register.

(3) Makes a determination on the proposed special purpose operation.

(4) Coordinates with Office of Environment and Energy (AEE) as needed, to determine if the aircraft must comply with 14 CFR part 36 noise requirements for the new special purpose operation.

(5) Notifies the ACO, the accountable directorate(s), and AFS of the decision.

b. Operations Not Approved. AIR-100 has evaluated the following missions and determined that they are not eligible as restricted category special purpose operations:

(1) Law enforcement, police aerial surveillance, and other police activities.

(2) Medical evacuation (Medevac) and emergency medical services (EMS) operations (these activities can be performed by aircraft type certificated in a standard category).

(3) Aerial refueling (provisions for aerial refueling can be approved by STC, but aerial refueling is not an approved special purpose operation).

(4) Aerial photography or air-to-air photography (these operations can be performed under an experimental certificate).

(5) TV or motion picture filming (these operations can be performed under an experimental certificate).

4. Agricultural Use, 14 CFR 21.25(b)(1).

a. The special purpose of agricultural use includes the following special purpose operations: crop spraying, dusting, and seeding; livestock and predatory animal control; insect control; dust control; and protection of crops (frost control, fruit drying). Many, but not all, of these operations can be performed under a part 137 agricultural aircraft operations certificate.

(1) For dust control, the FAA has approved the use of a liquid solution of magnesium chloride. Other liquid solutions are acceptable without further approval if they are equally benign to the aircraft and its engine(s).

(2) Frost control and fruit drying involve the use of a rotorcraft or fixed-wing aircraft to circulate air over a field or orchard to prevent frost from forming on the crops or to dry the fruit on the orchard trees.

b. Noise Requirements. Small propeller-driven airplanes and rotorcraft performing certain agricultural aircraft operations (specifically, those defined in 14 CFR 137.3) are excepted from part 36 noise requirements. However, aircraft approved for other agricultural uses must comply with the applicable requirements of part 36.

5. Forest and Wildlife Conservation, 14 CFR 21.25(b)(2).

a. The special purpose of forest and wildlife conservation includes the following special purpose operations: aerial dispensing of liquids, heli-logging, fish spotting, wild animal survey, and oil spill response.

b. Use “aerial dispensing of liquids” as the special purpose operation for fire fighting aircraft.

(1) Do not use terms such as "fire fighting" as the mission or special purpose. The use of the term "aerial dispensing of liquids" is intended to avoid confusion over who approves fire fighting operations. The U.S. Forest Service, Bureau of Land Management, and state forestry agencies approve fire fighting operations, and each has the final responsibility for its own fire fighting activities.

(2) All type certification projects for aerial dispensing of liquids should be considered as significant in accordance with Order 8110.4C and in coordination with the accountable directorate.

c. Noise Requirements. Small propeller-driven airplanes and rotorcraft dispensing fire fighting materials are excepted from part 36 noise requirements. However, aircraft approved for other forest and wildlife conservation uses must comply with the applicable requirements of part 36.

6. Aerial Surveying, 14 CFR 21.25(b)(3).

a. The special purpose of aerial surveying includes the following special purpose operations: photography, mapping, oil and mineral exploration; atmospheric survey and research; geophysical and electromagnetic survey; oceanic survey; and airborne measurement of navigation signals.

b. A key component in aerial surveying is the requirement for specialized airborne sensing or measuring equipment on the aircraft to perform the surveying operation.

c. Aerial surveying does not include air-to-air photography, aerial photography (other than for aerial surveying purposes), patrolling, police surveillance activities, or law enforcement purposes.

d. Noise Requirements. Aircraft approved for aerial surveying must comply with the applicable requirements of part 36.

7. Patrolling, 14 CFR 21.25(b)(4).

a. The special purpose of patrolling includes the special purpose operations of patrolling pipelines, power lines, and canals.

b. Noise Requirements. Aircraft approved for patrolling must comply with the applicable requirements of part 36.

8. Weather Control, 14 CFR 21.25(b)(5).

a. The special purpose of weather control includes the special purpose operation of cloud seeding.

b. Noise Requirements. Aircraft approved for weather control must comply with the applicable requirements of part 36.

9. Aerial Advertising, 14 CFR 21.25(b)(6).

a. The special purpose of aerial advertising includes the special purpose operations of skywriting, banner towing, airborne signs, and public address systems.

b. Noise Requirements. Aircraft approved for aerial advertising must comply with the applicable requirements of part 36.

10. Other Special Purpose Operations, 14 CFR 21.25(b)(7). The following are also approved as restricted category special purpose operations:

a. Rotorcraft External Load Operations.

(1) An external load operation is the carriage of loads external to the fuselage.

(2) External load operations include low-frequency operations (such as tower construction or installing air conditioning units) and high-frequency operations (such as heli-logging, carrying water buckets, and oil rig construction). High-frequency, repeated heavy lift operations result in additional wear on rotorcraft and engine components that needs to be accounted for.

(3) See 14 CFR part 133, *Rotorcraft External-Load Operations*, for more details.

(4) Noise Requirements. Rotorcraft operated in part 133 external load operations are excepted from compliance with part 36 noise requirements.

b. Carriage of Cargo (Incidental).

(1) This approval is only for the carriage of cargo incidental to the operator's business. "Incidental to the operator's business" means the cargo is not being carried for compensation or hire (for example, the cargo is the property of the operator or a crewmember).

(2) Internal Cargo Only. This approval is for cargo carried internally on the aircraft. It is not necessary for the cargo to be "outsize" cargo. Nor is it necessary for a standard category aircraft to be unavailable to carry the cargo.

(3) Noise Requirements. Aircraft approved for carriage of cargo must comply with the applicable requirements of part 36.

c. Target Towing. Aircraft approved for target towing must comply with the applicable requirements of part 36 noise requirements.

d. Search and Rescue (Non-Transport).

(1) This approval is for search and rescue for non-transport purposes only. For example, under this special purpose operation, aircraft can be used to search for lost persons or aircraft and to provide aid, but are not permitted to carry passengers (see paragraph 2e).

(2) Noise Requirements. Aircraft approved for search and rescue must comply with the applicable requirements of part 36.

e. Space Vehicle Launch. Aircraft approved for space vehicle launch must comply with the applicable requirements of part 36, unless waived by the FAA.

f. Glider Towing.

(1) **21.25(a)(1) Aircraft Only**. This operation is approved only for 21.25(a)(1) aircraft and aircraft issued an equivalent restricted category TC (see chapter 3, paragraph 7). Do not approve this operation for 21.25(a)(2) aircraft.

(2) **Noise Requirements**. Aircraft approved for glider towing must comply with the applicable requirements of part 36.

g. Alaskan Fuel Hauling.

(1) 21.25(a)(1) Aircraft Only. This operation is approved only for 21.25(a)(1) aircraft and aircraft issued an equivalent restricted category TC (see paragraph 3-7). Do not approve this operation for 21.25(a)(2) aircraft.

(2) The allowance for transportation of flammable liquids by aircraft when other means of transportation are impractical is specified in 49 CFR 175.310.

(3) Within the State of Alaska Only. This operation is limited to operations within the State of Alaska only. Alaska has a unique dependence on aviation for delivery of essential supplies to remote villages that are not serviced by roads or rail. The remoteness and limited transportation infrastructure means that air transportation is the only method to deliver fuel to these areas during many times of the year.

(4) Noise Requirements. Aircraft approved for Alaskan fuel hauling must comply with the applicable requirements of part 36.

h. Alaskan Fixed Wing External Loads (FWEL). Alaskan FWEL is the carriage of external loads temporarily attached to small, fixed-wing aircraft operating within the State of Alaska.

(1) Small Airplanes Only. This operation is approved only for small propeller-driven airplanes with a maximum gross weight of 12,500 pounds or less, type-certificated in accordance

with 14 CFR part 23 (or its predecessor regulations) in the normal, utility, or acrobatic category, and have a valid airworthiness certificate in that category.

(2) 21.25(a)(1) Aircraft Only. This operation is approved only for 21.25(a)(1) aircraft and aircraft issued an equivalent restricted category TC (see paragraph 3-7). Do not approve this operation for 21.25(a)(2) aircraft.

(3) Within the State of Alaska Only**.** This approval is limited to operations within the State of Alaska only. Alaska has a unique dependence on aviation for delivery of essential supplies to remote villages that are not serviced by roads or rail. The remoteness and limited transportation infrastructure means that air transportation is the only method to deliver supplies to these areas during many times of the year.

(4) Operations under this special purpose operation must be performed in conjunction with the procedures contained in FAA Notice N8900.314 (or its successor policy).

(5) The airworthiness limitations issued with the airworthiness certificate must include a requirement for training in the carriage of FWEL. The pilot must have sufficient knowledge of (i) external load attaching methods, (ii) the airplane operating limitations issued for the external load operation, and (iii) how the external load may affect the flight characteristics of the airplane.

Note: Airplane Handling and Flight Characteristics. When carrying external loads, aerodynamic forces and the weight of an external load change an airplane's handling and flight characteristics. These forces can negatively affect airplane performance (takeoff, climb, cruise, and landing), airplane stability, flight control effectiveness, vibration, fuel consumption, and engine cooling, among other characteristics. The operator must take care when selecting and mounting an external load, and must also exercise prudence to avoid operation outside the airplane's weight and balance envelope and avoid aerodynamic effects that make operations unsafe.

(6) The aircraft must be operated in accordance with the gross weight and flight envelope limitations when in restricted category.

(7) Noise Requirements. Aircraft approved for Alaskan fixed-wing external loads must comply with applicable requirements of part 36 (this means the basic aircraft without an external load attached).

Chapter 6. Administrative Information

1. Distribution. Distribute this order to the branch levels of the Aircraft Certification Service Divisions, Directorates, and ACOs, and to the manufacturing inspection offices, and to the Aircraft Flight Standards headquarters and field offices.

2. Background on Certification Procedures.

a. Title 49 of the United States Code (49 U.S.C.). Section 44701 of 49 U.S.C. requires the Administrator to promote the safe flight of civil aircraft in air commerce. To do this, the FAA prescribes minimum standards on the design, material, construction, quality of work, and performance of aircraft, aircraft engines, and propellers. Pursuant to § 44704, the Administrator issues type certificates (including TCs, STCs, and their respective amendments), production certificates (PCs), and airworthiness certificates when a product or appliance is properly designed and manufactured, and meets the regulations and minimum standards prescribed pursuant to § 44701(a).

b. Title 14 of the Code of Federal Regulations (14 CFR). Part 21 of 14 CFR provides general certification procedures for products (aircraft, aircraft engines, and propellers) and parts. For restricted category aircraft, § 21.25 provides for issuing TCs, STCs, their respective amendments, and other design approvals. Section 21.185 of 14 CFR provides for issuing airworthiness certificates for restricted category aircraft. Also, 14 CFR 91.313 and 133.45 contain the operating limitations for restricted category aircraft and for rotorcraft performing external load operations, respectively.

c. Aircraft Certification Policy. General policy on certification of aircraft, aircraft engines, and propellers is found in the latest revisions of Order 8110.4, *Type Certification*; Order 8120.22, *Production Approval Procedures*; and Order 8130.2, *Airworthiness Certification of Products and Articles*.

3. Deviations. Adherence to the procedures in this order is essential for uniform administration of this directive material. All deviations from this directive must be approved by AIR-100. To request a deviation, the Aircraft Certification Office (ACO) submits a deviation request to AIR-100, containing the arguments and recommendation of the submitting office. AIR-100 coordinates and dispositions the request. If a deviation is approved, the ACO includes the deviation request and approval memorandums in the certification project files.

4. Office of Primary Responsibility and Authority to Change This Order. The office of primary responsibility for this order is AIR-100, which has the authority to issue, revise or cancel any or all of the content of this order.

5. Definitions. For the purposes of this order, the following definitions apply. Appendix D contains a list of abbreviations and acronyms used in this order.

a. Baseline Certification Basis: Applicable to 21.25(a)(2) aircraft, the baseline certification basis is the starting point used to determine the certification basis for modifications under 14 CFR 21.101 and Order 8110.48, *How to Establish the Certification Basis for Changed Aeronautical Products*. This is defined as the airworthiness standards (i.e., part 23, part 25, part 27, part 29, part 33, part 35, or CARs, as appropriate) that were in effect on the date that the first aircraft of the particular military model (i.e., MDS) was accepted for operational use by the U.S. Armed Forces.

b. Civil Counterpart: A civil counterpart aircraft is an aircraft that has been type certificated in a standard category (see definition below) and that is the same as, or similar to, a military aircraft model. A civil counterpart engine is one that is type certificated in part 33 and is the same as, or similar to, a military engine model. A civil counterpart propeller is one that is type certificated in part 35 and is the same as, or similar to, a military propeller model.

c. Equivalent Restricted Category TC: Consists of a standard category TC along with a restricted STC (see definition below).

d. Focal Point ACO: The ACO designated for a particular military aircraft model for standardization and consistency of certification projects.

e. Restricted STC: An STC that uses 14 CFR 21.25 as the foundation for its certification basis. If a restricted STC is issued for an aircraft type certificated in a standard category, it effectively moves the aircraft into restricted category.

f. Standard Category: A standard category is one of the normal, utility, acrobatic, commuter, or transport categories. Aircraft type certificated in a standard category are eligible to receive standard airworthiness certificates pursuant to 14 CFR 21.183.

6. Suggestions for Improvement. If you find deficiencies, need clarification or want to suggest improvements to this order, send FAA Form 1320-19, *Directive Feedback Information*, to the AIR Directives Management Officer, at 9-AWA-AVS-AIR-DMO@faa.gov. Or you can send forward your request by using the automated Directive Feedback System on the web at https:\\ksn2.faa.gov/avs/dfs/Pages/Home.aspx If you require an immediate interpretation, please contact AIR-100 at (202) 267-1575; however, you should also complete Form 1320-19 as a follow-up.

7. Records Management. Refer to Order 0000.1, *FAA Standard Subject Classification System*; and Order 1350.14, *Records Management*; or to your office Records Management Officer or Directives Management Officer for guidance regarding retention or disposition of records.

Appendix A. Sample Checklist for TC Inspection of Military Surplus Aircraft, Part 1—Configuration as Surplused (Evaluation of Aircraft as Received From the U.S. Armed Forces)

NOTE: These inspection checklists are FOR GUIDANCE ONLY, and should be modified as needed for a specific project.

Use the following procedure for part 1 of the type certification inspection of a U.S. military surplus aircraft. Perform this procedure for both applications for new aircraft TCs and applications to add aircraft to an existing TC. The steps below provide the FAA certification engineer with the inspection requirements to verify the as-surplused configuration of the aircraft. The steps listed here may not be all-inclusive. Add any items that are particular to an individual aircraft serial number or aircraft type as needed. The ACO sends the completed request to the local manufacturing inspection office, as prescribed in Order 8110.4.

Note: The manufacturing inspection office sends the inspection results documented on FAA Form 8100-1 with other relevant inspection documentation to the ACO for retention in the ACO project file as prescribed in Order 8110.4.

1. Review the original U.S. Armed Forces bill of sale and transfer documentation. (The ACOs begin coordination with the accountable directorate to ensure that the aircraft is eligible for restricted category certification. The ACO may be able to obtain the transfer documents from the applicant if not available in the FAA registry.)

2. Verify the bill of sale is for the aircraft presented for certification. (This is done during the inspection of the aircraft to ensure the bill of sale is in agreement with the U.S. military aircraft data plate and aircraft records.)

3. Verify the transfer documentation identifies the aircraft as a complete aircraft or identifies all major components that are missing. A "complete aircraft" is one that is not missing any major components. A "major component" is any component that might appreciably affect weight, balance, structural strength, performance, powerplant operation, flight characteristics, or other qualities affecting airworthiness. If such documentation is not available, ask the ACO or accountable directorate to verify the aircraft's eligibility. (This typically applies to aircraft that were surplused by the U.S. Government Services Administration (GSA) as donated aircraft in a non-flyable status. This information is normally provided to the aircraft by the GSA on a Standard Form (SF) 120, Report of Excess Personal Property, and is retained with the aircraft records.)

4. Verify that DOD did not classify the aircraft in surplus category B (see DOD 4160.21-M for aircraft surplus categories). If the aircraft is a combat aircraft, contact AIR-111 to determine its eligibility.

5. Verify the aircraft, engines, or propellers do not have any history of ownership or operation by a foreign government entity (such as a foreign armed force, foreign government, or foreign paramilitary entity). If there is any such history, ask the ACO or accountable directorate to verify the aircraft's eligibility. (This verification is necessary to ensure the aircraft and engine(s) were surplused by the U.S. military and not by a foreign armed force, foreign government, or foreign

paramilitary entity. This differs from item 5 in appendix B to this order in that it applies to the aircraft before any replacement parts have been installed on the aircraft.)

6. Verify the U.S. military identification plate is installed. Record all information contained on the identification plate. (This is the aircraft data plate that was installed by the aircraft manufacturer before the delivery of the aircraft to the U.S. military customer.)

7. Verify the historical records of the aircraft are complete and current. Figure A-1 below lists examples of the U.S. Armed Forces forms that make up the military historical records. These are the U.S. military aircraft records that were provided with the aircraft at the time of surplus and reflect the following:

a. The total time in service on the aircraft and engine;

b. The identification and status of the life-limited components on the aircraft and engine;

c. The identification and time since the last overhaul of all items installed on the aircraft that are required to be overhauled on a specified time basis;

d. The inspection status of the aircraft at the time of surplus to include the time since the last inspection;

e. The military modifications made to the aircraft;

f. A listing of any major components that were removed from the aircraft; and

g. Evidence of compliance with all applicable safety of flight (SOF) messages.

8. Verify the components for the aircraft are the components described in the aircraft records. All parts installed on the aircraft must be either traceable back to the aircraft at the time of surplus, or replacement parts for those parts identified as missing at the time of surplus. If the aircraft has life-limited parts with no time remaining, the applicant replaces those parts with acceptable replacements before part 2 of the type certification inspection. The DOD usually notes the missing components, if any, on the Disposal Turn-In Document form (DD Form 1348-1A or DD Form 1348-2). Sometimes for Federal and donation screening, the missing components are listed on the SF 120, Report of Excess Personal Property. (This inspection is necessary to ensure the condition of the aircraft as-surplused represents a complete aircraft as opposed to an aircraft built from spare and surplus parts. The inspection applies to the aircraft before any FAA approved parts or U.S. military replacement parts have been installed subsequent to the aircraft being surplused.)

Note 1: Coordination and disposition of any unsatisfactory conformity inspection results with the ACO is required before proceeding with the inspection items in part 2.

Note 2: After satisfactory completion of the inspections in this appendix, the applicant proceeds with the aircraft modifications and configures the aircraft into an airworthy condition.

Figure A-1. Examples of U.S. Armed Forces Historical Records Forms

U.S. Armed Forces Service	Form Numbers and Titles
U.S. Army forms	DA Form 2408-5, Equipment Modification DA Form 2408-13, Flight Log DA Form 2408-15, Aircraft Historical Records DA Form 2408-16, Aircraft Component Historical Records DA Form 2408-19, Engine Records
U.S. Air Force forms	AFTO 781A, Maintenance Records AFTO 781K, Aircraft Scheduled Maintenance & TCTOs AFTO 95, Engine Historical Records AFTON 95, Equipment Mods, Comp. Historical Records AFTO 781J, Engine Operating Time CEMS, Comprehensive Engine Management System
U.S. Navy forms: (or Marines)	OPNAV 4790/19, Aircraft Logbook (Binder) OPNAV 4790/22A, Inspection Record OPNAV 4790/23A, Repair/Rework Record OPNAV 4790/24A, Technical Directives OPNAV 4790/25A, Miscellaneous / History OPNAV 4790/26A, Installed Explosive Device Record OPNAV 4790/27A, Inventory Record OPNAV 4790/28A, Scheduled Removal Component Card OPNAV 4790/29, Aeronautical Equipment Service Record OPNAV 4790/31A, Equipment Operating Record OPNAV 4790/104, Aircraft Inventory Record OPNAV 4790/106A, Assembly Service Record OPNAV 4790/111, Aircraft Inventory Record OPNAV 4790/113, Equipment History Record (EHR) OPNAV 4790/135, Module Service Record OPNAV 4790/136A, Preservation/Depreservation Record OPNAV 4790/142, Structural Life Limits

Note: For surplus aircraft from the U.S. Coast Guard, the Aviation Computerized Maintenance System (ACMS) reports contain either U.S. Navy or Air Force forms, depending on the type of aircraft. Refer to COMDTINST M13020.1F, Aeronautical Engineering Maintenance Management Manual, for a list of specific form numbers.

Appendix B. Sample Checklist for TC Inspection of Military Surplus Aircraft, Part 2—Configuration as Modified (Evaluation of Aircraft as Presented for Airworthiness Certification)

NOTE: These inspection checklists are FOR GUIDANCE ONLY, and should be modified as needed for a specific project.

Use the following procedure for part 2 of the type certification inspection of a U.S. military surplus aircraft. These steps may be performed separately from or concurrently with the conformity inspection of modifications made by the applicant (see appendix C to this order). The ACO sends the completed request to the local manufacturing inspection office, as prescribed in Order 8110.4.

Note: The manufacturing inspection office sends the inspection results documented on FAA Forms 8130-9 and 8100-1 with other relevant inspection documentation to the ACO for retention in the ACO project file as prescribed in Order 8110.4.

1. Obtain a completed statement of conformity (FAA Form 8130-9) from the applicant, under 14 CFR 21.53. In the statement of conformity, applicants state they completed the requirements of 14 CFR 21.33(a). (This is necessary to ensure the applicant has performed the necessary inspections and tests to determine that the aircraft as modified conforms to and satisfies the requirements of the TCDS.)

2. Verify the records required by 14 CFR 91.417(b)(2) (such as maintenance records of overhauls and inspections) are complete. (These records must reflect the current configuration and maintenance status of the aircraft, including the identification of replacement parts installed on the aircraft and any modifications and major repairs made to the aircraft.)

3. Verify the applicant has modified the aircraft for the special purpose operations approved in the TCDS or on an installed STC. Record and identify all modifications installed on the aircraft, including equipment installed by the U.S. Armed Forces. (Certain special purpose operations may not require a modification to the aircraft. FAA-approved major aircraft modifications are documented on FAA Form 337.)

4. Verify the aircraft conforms to the TCDS. (A draft version of the TCDS will only be available for the initial TC application.)

5. Review the records and determine if there is any history of foreign armed forces, foreign government, or foreign paramilitary time-in-service for the engines, propellers, or any parts replaced after part 1 of the type certification inspection. If there is any such history, ask the ACO or accountable directorate to verify eligibility of the parts. (This verification is necessary to ensure that no replacement parts were installed on the aircraft that were from a foreign government or foreign military organization. Only aircraft parts that are surplused by the U.S. military or that are FAA-approved are eligible for installation. Refer to the applicable U.S. military aircraft model illustrated parts catalogue to determine part eligibility.)

6. Verify the basic aircraft parts installed are specified in the appropriate U.S. military illustrated parts catalog, in other acceptable U.S. military documents, in FAA documents approved for this aircraft, or in the certification documents. (Foreign military parts are not eligible for installation on restricted category aircraft unless they comply with AC 20-62 or AC 20-142. You can also refer to the applicable U.S. military aircraft model illustrated parts catalogue to determine part eligibility.)

7. Verify and record that the aircraft complies with all applicable ADs. (Only FAA-licensed persons are authorized to perform aircraft inspections and maintenance actions required by an AD.)

8. Record any U.S. military safety of flight (SOF) messages whose requirements have been completed for the aircraft, engines, or propellers. (The applicant must provide this information.)

9. Verify installations of military modifications or modification work orders. See figure A-1 in appendix A to this order for the appropriate forms used by the U.S. military to document military modifications.

10. Verify all placards in the TCDS are installed and displayed in their proper locations. (Refer to the applicable U.S. military flight manual to determine placard locations and limitations.)

11. Verify all modifications made after sale of the aircraft by the U.S. Armed Forces have been FAA-approved. Note that the aircraft might have been transferred directly from the Armed Forces to various U.S. Government agencies, and operated as public aircraft. Modifications or repairs installed on these aircraft might not have been FAA-approved. The FAA cannot complete certification until it approves the modifications and repairs. (Major repairs or modifications must be accomplished using FAA-approved data.)

12. Verify the ACO flight test pilot has approved the aircraft flight manual and any flight manual supplements. (This is not required for subsequent aircraft provided the flight manual and any flight manual supplements have already been FAA-approved for that model aircraft.)

13. Verify the aircraft ICA is the most current version and the AEG has accepted it. Also, verify that a copy of the ICA is with the aircraft. Review the requirements in the ICA and verify the component names, part numbers, and serial numbers are correct and that the overhaul or retirement hours and calendar times have not been exceeded. Also, verify all the relevant documents have the correct titles, numbers, dates, change levels, and change dates. Verify these documents are with the aircraft. (The ICA must be developed by the applicant and submitted to the accountable AEG office for FAA acceptance before the type certification of the aircraft.)

14. Witness or verify the applicant has a current aircraft weight and balance report. Include a copy of the weight and balance report in the inspection records, including the make and model of the weighing scales and their calibration status. (Only FAA-licensed persons are authorized to perform the aircraft weight and balance.)

15. Verify the pitot static system has been checked for leaks, following the procedures in 14 CFR part 43, appendix E, and the transponders are certified pursuant to 14 CFR part 43, appendix F.

(Only FAA-licensed persons are authorized to perform the pitot static system and transponder maintenance functions.)

16. Verify the baseline-level inspection zonal analysis was performed in the areas of principal structural elements following the data submitted for certification, if applicable. (This only applies to large fixed-wing airplanes.)

17. Verify that a complete flight controls rigging has been performed and complies with the applicable U.S. military maintenance manual, the applicant's ICA, or approved drawings. Document the compliance and list the drawings and documents, revisions, and dates of the data used for compliance. (Only FAA-licensed persons are authorized to perform the flight controls rigging of the aircraft.)

18. Inspect and verify all cockpit systems, including navigation instruments, work properly. (Indicating instruments must be marked as shown in the operational limitations section of the applicable FAA approved flight manual.)

19. Ensure the applicant's maintenance flight checks, such as engine power assurance runs, have been completed satisfactorily as described in the ICA or other data. Note that any flight testing required under this step also requires the aircraft be issued an appropriate experimental airworthiness certificate. (This maintenance flight check is accomplished using the applicable U.S. military aircraft maintenance release flight test procedure.)

20. Conduct any other inspections or tests deemed necessary.

21. Verify the AEG's evaluation is completed as necessary. (Consult AEG to determine if a flight training and/or a maintenance and inspection program must be developed and approved for the special purpose operation of the aircraft.)

22. If the civil data plate is installed, record the information on the civil data plate and verify that it matches the TCDS. (The data plate might not be installed if the TC has not been issued). If installed, verify that it is located near the military data plate and contains the required information (see chapter 4, paragraph 14 of this order).

Appendix C. Abbreviations & Acronyms

14 CFR	Title 14 of the Code of Federal Regulations
49 U.S.C.	Title 49 of the United States Code
AC	Advisory Circular
ACO	Aircraft Certification Office
AD	Airworthiness Directive
AEG	Aircraft Evaluation Group
AFS	Flight Standards Service
AIR	Aircraft Certification Service
AIR-100	Design, Manufacturing, & Airworthiness Division
AIR-111	Design Certification Section
ASI	Aviation Safety Inspector
CAM 8	Civil Aeronautics Manual 8
CAR 8	Civil Air Regulations, Part 8
CMACO	Certificate Management ACO
CPN	Certification Project Notification
CPR	Changed Product Rule (i.e., 14 CFR 21.101)
DOD	Department of Defense
ECO	Engine Certification Office
FAA	Federal Aviation Administration
FWEL	Fixed Wing External Loads
GSA	Government Services Administration
ICA	Instructions for Continued Airworthiness
MCO	Military Certification Office
MHDS	Mission (Helicopter), Design Number, and Series
MDS	Mission, Design Number, and Series (U.S. Military Aircraft Type)
PC	Production Certificate
SOF	Safety of Flight
STC	Supplemental Type Certificate
TC	Type Certificate
TCDS	Type Certificate Data Sheet
UAS	Unmanned Aircraft System

Appendix D. FAA Form 1320-19, Directive Feedback Information

Directive Feedback Information

Please submit any written comments or recommendations for improving this directive, or suggest new items or subjects to be added to it. Also, if you find an error, please tell us about it.

Subject: Order 8110.56B

To: 9-AWA-AVS-AIR-DMO@faa.gov
or complete the form online at https://ksn2.faa.gov/avs/dfs/Pages/Home.aspx

(Please check all appropriate line items)

☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.

☐ Recommend paragraph _____ on page _____ be changed as follows:

(attach separate sheet if necessary)

☐ In a future change to this directive, please cover the following subject
(briefly describe what you want added):

☐ Other comments:

☐ I would like to discuss the above. Please contact me.

Submitted by: _____ Date: _____

FAA Form 1320-19 (10-98)