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Maintenance

**MAINTAINING COMMERCIAL DERIVATIVE
AIRCRAFT**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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(MSgt Michael I. Cook)
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This instruction implements AFR 21-1, *Managing Aerospace Equipment Maintenance*, and AFR 62-4, *Civil Airworthiness Standards for Transport Aircraft*. It directs special requirements for maintaining commercial derivative aircraft. See **Attachment 1** for a glossary of references, abbreviations, and acronyms.

SUMMARY OF REVISIONS

This is the initial publication of AFI 21-107. It updates, clarifies, and reorganizes previous guidance on maintaining all types of commercial derivative aircraft, not just special air mission (SAM) aircraft. This instruction changes references to HQ AFLC, HQ AFSC, and other organizations because of title changes resulting from reorganizations. Also, it realigns the allocation of responsibilities to various organizations and individuals because of functional changes resulting from restructuring. Finally, it updates the references and procedures used to modify commercial derivative aircraft.

1. Background Information and Objective. The Air Force procures commercial derivative aircraft for various missions. These aircraft conform to Federal Aviation Administration (FAA) standards and designs. The Air Force maintains these aircraft according to civil airworthiness standards using Air Force maintenance systems and procedures. It must meet FAA requirements when modifying these aircraft to maintain configuration control and ensure flight safety.

2. Responsibilities:

2.1. HQ USAF/LGM:

- Approves deviations from this instruction.
- Coordinates relevant policies and procedures with the SAF/AQ and the FAA.

2.2. HQ Air Force Materiel Command (HQ AFMC):

- Revises the Dash-6 inspection requirement manuals according to paragraphs 4.
- Issues time compliance technical orders (TCTO).
- Ensures that only FAA-certified repair stations or the original manufacturer perform contractual depot maintenance.
- Obtains a completed FAA Form 337, **Major Repair and Alteration Form**, or a "maintenance release" from maintenance contractors for work performed on type-certificated aircraft and components.
- Coordinates with the FAA for approval of modifications that affect commercial derivative aircraft configuration.
- Reviews evaluations from the major commands (MAJCOM) concerning airworthiness directives (AD), service bulletins (SB), customer bulletins (CB), all operator letters (AOL), and aircraft service changes (ASC). Determines extensions for each as required.

2.3. The MAJCOM Headquarters:

- Helps the supporting air logistics center (ALC) determine inspection and component time-change requirements and intervals.
- Reviews evaluations from their field units on ADs, SBs, CBs, AOLs, or ASCs and makes recommendations to the aircraft's system program director (SPD).

2.4. The Field Units:

- Evaluate ADs, SBs, CBs, AOLs, or ASCs and make recommendations to their MAJCOM headquarters.
- Help their MAJCOM headquarters and the SPD determine inspection intervals and requirements.
- Replace removed time-change items with new, completely overhauled, serviceable items.
- Use only serviceable items for which the time since the last overhaul is known.
- Send requests for an extension of the manufacturer's recommended overhaul interval, if warranted, to the SPD through MAJCOM headquarters for evaluation.

3. Certification Requirements. Maintain FAA certificate specifications for commercial derivative aircraft acquired for Air Force use according to AFPD 62-4. Maintain commercial derivative aircraft as close as possible to airworthiness certificate requirements. Use only FAA-certified commercial contractors for contract maintenance of commercial derivative aircraft. Air Force maintenance technicians and activities do not require FAA certification.

4. Inspection Requirements. The Air Force and aircraft manufacturer must jointly develop inspection requirements for commercial derivative aircraft. These inspection requirements:

- Must not be less strict than FAA requirements.
- Must not allow inspection intervals longer than FAA intervals.

4.1. Deviations From Inspection Requirements. When deviation from these requirements or intervals is justified, field units send proposed changes to the SPD through MAJCOM headquarters for evaluation.

5. Component Overhaul and Time Change Intervals. Use the manufacturer's component overhaul and time-change intervals for commercial derivative aircraft and its installed equipment. Do not exceed the FAA approved intervals.

6. Airframe Overhaul. Overhaul commercial derivative aircraft according to FAA requirements during programmed depot maintenance (PDM). The SPD determines PDM cycle intervals and related work requirements according to Technical Order 00-25-4 and the aircraft Dash-6 inspection manual. General requirements and related time intervals include all major elements of the aircraft.

7. Aircraft and Component Modifications. The FAA issues a supplemental type certificate (STC) for a change to a type design. For Air Force-designed modifications to commercial derivative aircraft and components, obtain Air Force approval according to DoD Instruction 5000.2, *Defense Acquisition Management Policies and Procedures*, February 23, 1991, with Change 1, and Air Force Supplement 1, *Acquisition Management Policies and Procedures*, August 31 1993, with Change 1. Obtain FAA certification by sending FAA Form 8110-12, **Application for Type Certificate**, with engineering data attached, to the FAA regional office. After approving the engineering prototype installation (and flight test, if required) the FAA issues the certification or STC. The SPD receives the FAA certification, or STC, for an Air Force-designed modification. Have contractors obtain the FAA certification or STC for a contractor-designed modification.

7.1. Time Compliance Technical Orders. The SPD issues TCTOs to implement ADs and SBs. Reference in each TCTO:

- The airworthiness directive and service bulletin involved.
- The STC number.
- Other FAA approval.

8. Form Prescribed. FAA Form 8110-12, **Application for Type Certificate**.

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Attachment 1

GLOSSARY OF REFERENCES, ABBREVIATIONS, AND ACRONYMS

References

DoD Instruction 5000.2, *Defense Acquisition Management Policies and Procedures*, February 23, 1991, with Change 1, and Air Force Supplement 1, *Acquisition Management Policies and Procedures*, August 31 1993, with Change 1

AFPD 21-1, *Managing Aerospace Equipment Maintenance*

AFPD 62-4, *Civil Airworthiness Standards for Transport Aircraft*

Abbreviations and Acronyms

AD—Airworthiness Directive

ALC—Air Logistics Center

AOL—All Operator Letter

ASC—Aircraft Service Change

CB—Customer Bulletin

FAA—Federal Aviation Administration

HQ AFMC—Headquarters Air Force Materiel Command

MAJCOM—Major Command

PDM—Programmed Depot Maintenance

SAM—Special Air Mission

SB—Service Bulletin

SPD—System Program Director

STC—Supplemental Type Certificate

TCTO—Time Compliance Technical Order