VOLUME 6 SURVEILLANCE

CHAPTER 2 PART 121, 135, AND 91 SUBPART K INSPECTIONS

Section 7 Safety Assurance System: Inspect Aircraft Used for Air Ambulance

6-320 REPORTING SYSTEM(S).


B. Safety Assurance System (SAS). For 14 CFR part 135, use SAS guidance. Select the appropriate random inspection (RI) activity code.

6-321 OBJECTIVE. This section provides guidance for inspecting 14 CFR parts 91 and 135 aircraft used for air ambulance airplanes, air ambulance helicopters, and Helicopter Hospital Emergency Medical Evacuation (HEMES) services.

6-322 GENERAL.

A. Background. Transportation by aircraft of ill or injured persons may have originated during World War I, when wounded were transported from battlefronts to field hospitals in an open cockpit biplane. Since that time, the transportation of patients needing medical attention has burgeoned into a significant industry, operating modern aircraft equipped with state-of-the-art medical equipment, carrying thousands of patients each year. The introduction of civil aircraft dedicated exclusively to air ambulance began around 1973. The majority of today’s air ambulance services are affiliated with specific hospitals and, consequently, many are stationed at sub-base type facilities. There are, however, many private, corporate, and on-demand air carrier operators providing nondedicated aircraft for use. The operators of these aircraft can provide patient care while en route from city to city or from remote sites to urgent care facilities.

B. Aviation Safety Inspector (ASI) Responsibilities.

1) It is important that the ASIs become familiar with the type of aircraft to be inspected before performing the inspection.

NOTE: Although the aircraft may appear clean and sanitary, the ASI should be aware that there may be contaminants aboard. The ASI should exercise good judgment and use caution to prevent the possibility of contracting an infectious disease.

2) Geographic units must coordinate with the certificate-holding district office (CHDO) to obtain knowledge of the operator’s maintenance procedures and any other items of concern that may surface during routine inspections. In addition, they must transmit all inspection results and necessary recommendations to the district office. The district office should report to the geographic unit regarding any changes implemented as a result of the unit’s recommendations.
NOTE: ASIs should not approach an aircraft while in motion or while the engine(s) is/are running.

3) This inspection should be performed before the loading or after the unloading of the patient.

NOTE: At all times, the ASI should be aware that the patient may be in a life-threatening condition.

4) Any discrepancy should be brought immediately to the attention of the pilot in command (PIC) or appropriate maintenance personnel.

C. Definitions.

1) Air Ambulance Airplane/Helicopter. An aircraft configured for transportation of ambulatory patients or other patients requiring special care, including, but not limited to, Basic Life Support (BLS) or Advance Life Support (ALS). An air ambulance aircraft is equipped with the medical equipment necessary to support these levels of care in flight with trained medical personnel.

2) Public Aircraft. An aircraft used only in the service of a government or political subdivision. This includes aircraft that are exclusively leased by a government agency for a period not less than 90 days. This definition does not include any government-owned aircraft engaged in carrying persons or property for commercial purposes.

3) Operator. The person, partnership, company, etc., who has direct responsibility for the operation of the aircraft.

4) Medical Equipment. Equipment and supplies used in patient care.

5) Dedicated Aircraft. Aircraft totally configured to air ambulance operations.

NOTE: Dedicated aircraft may be configured for periodic training. Surveillance should be performed on the aircraft’s removed equipment, and the appropriate maintenance records should reflect this change.

6) Nondedicated Aircraft. Aircraft temporarily configured to air ambulance configuration.

7) Scene Flight. Flight to unimproved remote locations, accident sites, or disaster areas for the pickup of patients in life-threatening situations requiring immediate medical care.

8) Transport Flight. Transport of a stabilized patient to an improved landing area.

9) Neonatal Flight. Transport of an infant, generally using isolettes (incubator), either in scene flights or transport flights.
10) Pediatric Flight. Transport of young children, either in scene flights or transport flights.

D. Types of Aircraft. Because air ambulance is such a varied field, there are many types of air ambulance aircraft, such as fixed wing or rotor wing, single or multiengine, reciprocating or turbine-powered, instrument flight rules (IFR)-equipped, etc.

1) Typical Aircraft Configuration. Typical air ambulance configurations may include the following items:

   a) Medical Oxygen (Gaseous and/or Liquid). Containers, lines, gauges, regulators, outlets, and other system components.

   b) Vacuum/Air Systems. Containers, pumps, regulators, lines, gauges, and outlets.

   c) Litter Systems. Stretchers, mounting bases, pedestals, platforms, and patient restraining devices and shoulder harnesses.

   d) Supplemental Lighting. Spots, floods, and emergency.

   e) Search Lights (Air Ambulance Helicopters, HEMES). Controlled by the pilot for night operations.

   f) Cabin Medical Supply Storage. Bins, compartments, pouches, underseat drawers, nets, and cabinets.

   g) Cabin-Mounted Medical Equipment. Intravenous bags, portable oxygen, racks, and brackets.

   h) Medical Equipment Power Outlets. Including 12 and 24 volts direct current, 115 volts alternating current, inverters, converters, and batteries. The ASI may find an additional external power receptacle, which is dedicated to alternating current power for the air ambulance equipment.

   i) Isolettes/Balloon Pumps. Mounting and securing systems.

   j) Specialized Air Ambulance Communication Equipment. Frequency modulation (FM) radios, medical dopplers, sirens, public address (PA) systems, Intercom Systems (ICS), and communication from aircraft to ground and/or emergency personnel.

   k) Attendant/Medical Personnel Seats. Forward- and aft-facing, side-facing, bench-type and individual, fold downs, pivoting seats, reversible seats, and lapbelts and harnesses.

2) Placards. Flight manuals and flight manual supplementals. There may be other placards required by the alteration data.
NOTE: Title 14 CFR requires that all equipment installed, including portable devices, must be appropriately secured. The supporting structure to which the equipment is to be attached must be designed to restrain all loads up to the ultimate inertia specified in the emergency provisions/emergency landing conditions required by the regulations.

6-323 COORDINATION REQUIREMENTS. This task may require coordination with the operator and the CHDO.

6-324 REFERENCES, FORMS, AND JOB AIDS.

A. References (current editions):

- Title 14 CFR Parts 1, 21, 23, 25, 27, 29, 39, 43, 65, and 145.
- Advisory Circular (AC) 20-42, Hand Fire Extinguishers for Use in Aircraft.
- AC 21-25, Approval of Modified Seats and Berths.
- AC 91-42, Hazards of Rotating Propeller and Helicopter Rotor Blades.
- AC 120-27, Aircraft Weight and Balance Control.
- AC 135-14, Emergency Medical Services/Helicopter (EMS/H).
- AC 135-15, Emergency Medical Service/Airplane (EMS/A).
- Department of Transportation (DOT) HS 806 703, Air Ambulance Guidelines.
- Title 49 of the Code of Federal Regulations (49 CFR), Part 173.

B. Forms. None.

C. Job Aids:

- Figure 6-18, Interior Inspection Guidelines (see Volume 6, Chapter 2, Section 4, Ramp Inspections for Part 91 Subpart K Operators and Part 121 and 135 Air Carriers).
- Figure 6-19, Exterior Inspection Guidelines (see Volume 6, Chapter 2, Section 4, Ramp Inspections for Part 91 Subpart K Operators and Part 121 and 135 Air Carriers).

6-325 PROCEDURES.

A. Initiate the Inspection. Initiate air ambulance ramp inspection in accordance with the district office work program.

B. Prepare for the Inspection.

1) Select an aircraft to be inspected that will be available for the scheduled inspection.
2) Determine if any recent problem areas have been identified for that type of aircraft, such as:

- Emergency Airworthiness Directives (EAD),
- Maintenance and airworthiness bulletins, or
- Out-of-office special requests for problem followup.

3) Determine if recent regulatory changes and Airworthiness Directive (AD) requirements affect the aircraft to be inspected.

C. **Introductions.** Introduce yourself to the PIC and/or appropriate maintenance personnel. Describe the purpose and scope of the inspection.

   NOTE: Perform the inspection before the loading or after the unloading of the patient.

D. **Conduct the Exterior Inspection, as Applicable.** Perform this inspection in accordance with Volume 6, Chapter 2, Section 4, Figure 6-19. The following items may be found specifically in air ambulance helicopters:

- External lighting,
- External oxygen storage containers and servicing points, and
- External public address components.

E. **Perform Interior Inspection, as Applicable.** Perform this inspection in accordance with Figure 6-18 with added emphasis placed on the following items, when applicable:

- Medical oxygen (gaseous and/or liquid),
- Vacuum/air systems,
- Litter systems,
- Supplemental lighting,
- Cabin medical supply storage,
- Cabin-mounted medical equipment,
- Medical equipment power outlets,
- Isolettes (incubators)/balloon pumps,
- Specialized air ambulance communication equipment,
- Attendant/medical personnel seats, and
- Placards.

   NOTE: Do not disturb or rearrange medical equipment or supplies. If such equipment blocks interior areas whose access is necessary to conduct interior inspection, request assistance from the operator’s assigned staff.

   NOTE: Title 14 CFR requires that all equipment installed, including portable devices, must be appropriately secured. The supporting structure to which the equipment is to be attached must be designed to restrain all loads up to the
ultimate inertia specified in the emergency provisions/emergency landing conditions required by the appropriate regulations.

F. Examine the Flight/Maintenance Record Entries.

1) Ensure that all open discrepancies from the previous flight are resolved, per the operator’s manual, prior to departure of the aircraft.

2) Review the flight/maintenance records to determine if repetitive maintenance problems exist that might indicate a trend.

3) Ensure that all minimum equipment list (MEL) items are deferred in accordance with the provisions of the operator’s approved MEL.
   a) Review the operator’s approved MEL to determine if the conditions, procedures, and placarding requirements were accomplished to correctly defer specific items.
   b) Note the date when item was first deferred to determine if the maximum allowed length of deferral was exceeded. This can be accomplished by examining the flight maintenance records, deferred maintenance list, deferred maintenance placards, or stickers.

4) Ensure that an airworthiness release, flight/maintenance record entry, or appropriate approval for return to service has been made after the completion of maintenance.

5) Ensure, when available, that the maintenance records contain, for each discrepancy, the following information:
   - A description of the work performed or reference to acceptable data;
   - Name or other positive identification of person approving the work; and
   - Name of person performing work if outside the organization.

6) Ensure that all modifications to the aircraft have been properly documented and accomplished in accordance with approved data, to include a Supplemental Type Certificate (STC), field approval, etc. Ensure that any required flight manual supplements are available to the flightcrew.

G. Debrief the Operator. Inform the PIC and/or appropriate maintenance personnel that the inspection has been completed. Discuss the discrepancies that were found during the inspection.

H. Examine the Maintenance Record Entries. Ensure that the operator has recorded all discrepancies noted during this inspection. If time is available, monitor the operator’s corrective actions.

I. Analyze Findings. Analyze each finding to determine if the discrepancies are the result of improper maintenance and/or inadequate maintenance/inspection procedures. For part 135, follow SAS guidance for Module 5, Analysis, Assessment, Action.
6-326 TASK OUTCOMES.

A. Complete the PTRS. For part 91.

B. SAS Guidance. For part 135, follow SAS guidance for Module 4, Data Collection, and Module 5, Analysis, Assessment, Action.

C. Complete the Task. Successful completion of this task may result in one of the following:

- Satisfactory inspection;
- Requirement for a followup inspection for a particular discrepancy;
- If the inspection was performed by the office having geographic responsibility, submitting of a report of any deficiencies to the CHDO; or
- Submitting of Enforcement Investigation Report (EIR), as applicable.

D. Document the Task. File all supporting paperwork in the operator’s office file.

6-327 FUTURE ACTIVITIES. Schedule followup inspection, if applicable. For part 135, follow SAS guidance.

RESERVED. Paragraphs 6-328 through 6-342.