

## CHAPTER 1 INTRODUCTION TO AIRCRAFT AND EQUIPMENT

### Section 1 Background

#### 1. GENERAL.

The following Job Aids are provided as general guidelines for performing interior and exterior inspections. These guidelines are to be utilized when time permits and must

be adapted to the type aircraft being inspected. This requires a basic knowledge and familiarity of the type operation being inspected. These guidelines are not intended to be tasks unto themselves, but should be used as additional guidance while performing en route and ramp inspections, as applicable.

**FIGURE 1-1****INTERIOR INSPECTION GUIDELINES**

A. Examine airworthiness and registration certificates. Ensure the following:

- Airworthiness and registration certificates are current and valid
- Both certificates contain the same model, serial, and registration numbers
- Temporary registration is current
- Signatures are in permanent-type ink

B. *Flight deck inspection.* Inspect the following:

- (1) Instrument security and range markings
- (2) Windows (delamination, scratches, crazing, and general visibility)
- (3) Emergency equipment
- (4) Medical kit (if located on flight-deck)
- (5) Seat belts and shoulder harnesses (Technical Standard Order marking, metal to metal latching, and general condition)
- (6) Check the following if using cockpit jumpseat:
  - Jump seat oxygen system. Turn regulator on and select 100% oxygen.
  - Interphone system. Select Comm 1 and Comm 2 to ensure systems are working.
- (7) When the most forward jump seat is in the cabin, coordinate with the crew for connecting the headset and adapter cables.
- (8) Ensure that the jump seat is serviceable and that seat belt and shoulder harnesses are available.

C. *Inspect cabin to include the following:*

- (1) Lavatory. Ensure the following:
  - Fire extinguisher system is installed in sealed trash containers
  - Smoke detection system is installed

**FIGURE 1-1**  
(Continued)

**INTERIOR INSPECTION GUIDELINES**

- Trash containers are sealed according to applicable Airworthiness Directive(s)
- "No Smoking" placards are posted
- Ashtrays are available outside the lavatory

(2) *Flight attendant seats.*

- Pull the jump seat down to ensure seat retracts (those in path of exits)
- Inspect seat belts for Technical Standard Order marking, metal to metal latching and general condition

(3) *Cabin emergency equipment.* All equipment requiring periodic inspections should have an inspection date marked on it. Inspect the following:

- Flight attendant flashlight holder
- Slide containers to ensure containers are properly marked for content. Check pressure of slide inflation bottle, if visible.
- Medical kit (if not checked on flight deck)
- First aid kit
- Emergency oxygen (proper pressure and security)
- Megaphone(s) (security and general condition)
- Fire extinguishers (security, pressure, and seal)
- Life raft storage markings (if raft is required)
- Emergency briefing cards (random sample)
- General condition of emergency floor path lighting system
- Placement of all "Emergency Exit" signs
- Presence and legibility of "Emergency Exit" operation instructions
- Placarding for location of all emergency equipment

**FIGURE 1-1**  
(Continued)

**INTERIOR INSPECTION GUIDELINES**

- Life preservers (vests)

(4) *Passenger seats.* Ensure the following:

- Seats adjacent to emergency exits do not block exit path
- Seats are secure in seat track (random sample)
- Seat breakover pressure is in accordance with operator's maintenance program (random sample)
- "Fasten Seat Belt During Flight" placards are in view from all seats
- Seat belts have metal-to-metal latches and are in good general condition (random sample)

(5) *Galleys/service centers.* Inspect the following:

- Trash bin lids for fit
- Storage compartment restraints
- Stationary cart tie-downs
- Lower lobe equipment/restraints
- Lift operation
- Galley supply stowage

(6) *Overhead baggage compartments.* Check for weight restriction placards and the doors for proper latching, when applicable.

D. *Inspect cargo compartment.*

(1) Ensure the following:

- Cargo compartment fire protection is appropriate for its classification
- Cargo liner is free from tears and/or punctures. If these are noted, inspect structure behind liner for damage, e.g., stringers, circumferentials, etc. Ensure sealing tape is proper type and in good condition.
- Cargo door is free of fluid leaks and structural damage

**FIGURE 1-1**  
(Continued)

**EXTERIOR INSPECTION GUIDELINES**

- Fuselage door structure and sill is free of damage
  - Smoke detectors are in satisfactory condition
  - Lighting is operable and protective grills are installed
  - Cargo flooring is free from structural or other damage
  - Pallet positions/compartments are placarded for position identification and weight limitations
- (2) Inspect pallet system, if applicable. Ensure the following:
- Ball mats are serviceable, e.g., no broken or missing balls
  - Forward, aft, and side restraints are serviceable
  - Roller assemblies are secure and have no missing or broken rollers
- (3) Ensure the 9G forward restraint net is serviceable, if applicable
- (4) Ensure that cargo restraints for bulk loaded cargo are adequate, if applicable
- (5) Inspect cabin mounted equipment
- (6) Inspect fire extinguishers for inspection due dates and pressure
- (7) Inspect load manifest for Hazardous Material. If present, determine crew knowledge of the following:
- Location and labeling of hazardous materials
  - Special requirements, if required
  - If proper paperwork is on board
- (8) Ensure captain is aware of the following responsibilities:
- Inspection of cargo to ensure proper load distribution
  - Ensuring loads do not exceed compartment or position limits
  - Ensuring loads are being properly restrained

**FIGURE 1-2****EXTERIOR INSPECTION GUIDELINES**

E. Accompany a flight crewmember during the exterior inspection, if possible, and inspect the following, as applicable:

(1) Landing gear and wheel well areas. Check for the following:

- Any indication of wear, chafing lines, chafing wires, cracks, dents, or other damage
- Structural integrity of gear and doors (cracks, dents, or other damage)
- Hydraulic leaks (gear struts, actuators, steering valves, etc.)
- Tire condition
- Tire pressure (if pressure indicators are installed)
- Wheel installation and safety locking devices
- Wear, line security, leaks, and installation of brakes
- Corrosion

(2) *Fuselage and pylons.* Inspect the following:

- Structure for cracks, corrosion, dents, or other damage
- Fasteners (loose, improper, missing)
- Condition of radome
- Condition of pitot tubes
- Static ports (cleanliness and obstructions)
- Stall warning devices and other sensors
- Antennas (security and indications of corrosion)
- Stains or other indications of leaks
- Lavatory servicing areas (evidence of fresh blue water streaks)
- Cargo compartments for integrity of fire-protective liners (no holes or unapproved tape used for repairs)

**FIGURE 1-2**  
(Continued)

**EXTERIOR INSPECTION GUIDELINES**

- Emergency exit identification/markings
- Registration marking (legibility)
- All lights (general condition, broken lenses, etc.)

(3) *Wings and pylons.* Inspect the following:

- Structure for cracks, corrosion, dents, or other damage
- Leading edge (dents and/or damage in line with engine inlets)
- Leading edge devices (when open, actuator leaks, general condition of lines, wires, and plumbing)
- Evidence of fuel leaks (operator must prove leak is within established limits)
- All lights (general condition, broken lenses, etc.)
- Flaps (cracks, corrosion, dents, and delamination)
- Flap wells (general condition of lines, wires, and plumbing)
- Static eliminators (number missing)
- Ailerons and aileron tabs (cracks, corrosion, dents, delamination)
- Missing, loose, or improperly secured access door/inspection panels and blowout panels

(4) *Engines.* Inspect the following:

- Intake for fan blade damage and oil leaks
- Ring cowl for missing or loose fasteners
- Cowling doors for security and proper fit
- Lower cowling for evidence of fluid leaks
- Exhaust for turbine and tailpipe damage and evidence of fluids
- Reverser doors for stowage and security, and evidence of leaks

**FIGURE 1-2**  
(Continued)

**EXTERIOR INSPECTION GUIDELINES**

- Access doors for security

(5) *Propellers*. Inspect the following:

- Leading edge of propeller for cracks, dents, and other damage
- De-icer boots for signs of deterioration and security
- Spinners for security, cracks, and evidence of fluid leaks

(6) *Empennage*. Inspect the following:

- Leading edge for dents
- All lights (general condition, broken lenses, etc.)
- Missing static discharge eliminators
- Elevator, rudder, and tabs (cracks, corrosion, dents, and delamination)
- Evidence of elevator and rudder power unit hydraulic leaks

(7) *Ground safety*. Inspect the following:

(a) Positioning of support vehicles

(b) Fueling of aircraft to include the following:

- Refueling pressure
- Condition of refueling unit (leaks, filter change dates, exhaust system, etc.)
- Grounding
- Fire protection
- General fueling procedures

(c) General condition of ramp to include the following:

- Provisions for grounding

**FIGURE 1-2**  
(Continued)

**EXTERIOR INSPECTION GUIDELINES**

- Foreign objects on ramp
  - Fuel spills
  - General housekeeping/cleanliness
  - Passenger control
  - Fire protection
- (8) *Baggage*. Observe loading and unloading of baggage compartments to include the following:
- Baggage restraining system
  - Load distribution

**FIGURE 1-3  
CABIN EN ROUTE INSPECTION REFERENCE CHART**

ITEM	AIRCRAFT	CREWMEMBER	FLIGHT CONDUCT	OPERATIONS
Placards	Installation	Preflight		
Safety Briefing Cards	Conveniently Located/ Applicable to Aircraft	Knowledge (Presence & Location)	Preflight Check/ Replacement	Technically Correct
Sterile Cockpit	Signals	Knowledge of Procedures	Compliance	
Passenger Info/ Safety Briefing	PA or Video - Clarity	Demonstration/Verbal Briefing Content	Performed Prior To Takeoff	
Lavatories	Placards Trash Recepticle Smoke Detectors Ashtrays	Preflight Check/Knowledge of Operations	Responsive to Smoke Detector, if Activated	
Carry-on Baggage	Proper Restraints & Placards for Cargo Compartments	Knowledge of Approved Program	Properly Stowed/Ensure Com- pliance	Screened by Ground Personnel/Number/Size Allowance
F/A Crew Complement	Number of Pax Seats	Knowledge of Required Number of Crew-members	Evenly Distributed	Ground Personnel/FA Coordination Prior to Boarding
Megaphones	Correct Number Installed	Knowledge of Use and Removal From Bracket	Preflight Check	
Exit Row Seating	Brief Card on Each Affected Seat	Knowledge of Procedures/ Verify Occupants Eligibility	Compliance with operator's approved program	Ground Support
Fire Extinguishers	Number Installed/Type Inspection Date	Knowledge of Use	Preflight Check	
Portable Oxygen	Number Installed Stowed PSI	Knowledge of Use	Preflight Check Proper Use Execution of Administrative Procedures	

**FIGURE 1-3 (CONTINUED)**  
**CABIN EN ROUTE INSPECTION REFERENCE CHART**

<b>ITEM</b>	<b>AIRCRAFT</b>	<b>CREWMEMBER</b>	<b>FLIGHT CONDUCT</b>	<b>OPERATIONS</b>
First Aid Kits	Number Installed/Properly Secured	Knowledge of Location and Use	Proper Use	
Approved Infant/Child Restraint System	Placement/Approved Type	Knowledge of Location, Placement, and Approved Use	Proper Use/Placement	
PBE	Properly Installed Secured	Knowledge of Location and Procedures for Use	Preflight Check	
Evacuation Slides/Rafts	Proper PSI Condition of Floor Brackets	Knowledge of Location and Operation		
Fixed Oxygen System	Components Closed - No Extension of Red Tags	Knowledge of System and Locations of Additional Drop-Down Masks		
Service Carts	Condition Properly Secured	Knowledge of Use	Proper Use/Not Left Unattended Without Securing	
Jumpseats	Automatic Retract/Locking Harness/Seatbelt Condition of Seat Harness and Belt	Knowledge of Use	Use During Take-Off/Landing Preflight Checks	
Emergency Lights/Proximity Lighting	Condition	Knowledge of Activation		
Handicapped Passenger Briefing		Knowledge of Handicapped Briefing	Briefing Stowage of Assistance Devices	
Life Rafts (If Installed)	Proper Number and Location (Capacity to Accommodate All Pax)	Knowledge of Location, Operation, and Use of Accessory Kits		
Emergency Medical Kit	Proper Number Installed and Secured	Knowledge of Location and Authorized Use	Preflight Check	

**FIGURE 1-3 (CONTINUED)**  
**CABIN EN ROUTE INSPECTION REFERENCE CHART**

ITEM	AIRCRAFT	CREWMEMBER	FLIGHT CONDUCT	OPERATIONS
Galley Lifts	Safety Interlock Mechanism Operational	Knowledge of Operation	Proper Use, No More Than One Occupant	
Exits/Cabin Doors	General Condition (Seats, Handles, etc)	Knowledge of Normal and Emergency Use	Preflight Check/Doors Armed During Aircraft Movement	
Life Vests	Accessible to All Pax (If Installed)	Knowledge of Use and Location	Preflight Check	
Pax Seat Belts	Installed General Condition	Knowledge of Use	Preflight Check	Pax Seatbelt Discipline When Sign is Illuminated
Seatback/Tray Table	Latching Mechanism	Knowledge of Security Procedures	Check to Ensure Full Up-right Position During Take-off and Landing	
Manual	Includes Information Specific to Aircraft	Knowledge of Content	Accessible Current	
Flashlights	Number Equal to Number of Crewmembers	Knowledge of Location	Preflight (If Installed)	
Cockpit Key	Accessible to All Crewmembers	Knowledge of Location	Preflight Use of Key	