



**CAMEROON CIVIL AVIATION AUTHORITY – DIRECTION OF AVIATION SAFETY**

MANUAL	REF	DSA.AOC.MAN.001
AIR OPERATOR CERTIFICATION AND SURVEILLANCE MANUAL	ED	02 DU 01/04/2015
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## CHAPTER 13 IN-FLIGHT COCKPIT INSPECTION



**DSA.AOC.CHL.088**

### 13.1 BACKGROUND AND OBJECTIVES

**13.1.1** The primary objective of inflight cockpit inspections is to observe and evaluate the in-flight operations of a certificate holder within the total operational environment of the air transportation system. Inflight inspections are an effective method of accomplishing air transportation surveillance objectives and responsibilities. These inspections provide the CCAA with an opportunity to assess elements of the aviation system that are both internal and external to an operator.

**13.1.2** Elements of the aviation system which are internal to the operator and can be observed during inflight cockpit inspection include:

- performance of crew members;
- operator manuals and checklists;
- use of MELs and CDLs;
- operational control functions (dispatch and flight-following);
- use of checklists, approved procedures and safe operating practices;
- crew coordination/cockpit resource management;
- cabin safety;
- aircraft condition and servicing; and
- training programme effectiveness .

**13.1.3** Elements of the aviation system which are external to the operator and can be observed during in-flight inspections include:

- airport surface areas;
- ramp/gate activities;
- airport condition and construction;
- aircraft and vehicle movements;
- ATC and airway facilities;



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- ATC and airspace procedures;
- instrument approach procedures (IAPs), SIDs and STARs;
- navigational aids; and
- communications.

## 13.2 GENERAL IN-FLIGHT COCKPIT INSPECTION PRACTICES AND PROCEDURES

**13.2.1** When planning in-flight inspections, inspectors shall become familiar with the operating procedures and facilities used by the operator. This includes, but is not limited to:

- reviewing pertinent sections of the operator's manuals;
- obtaining briefings from other inspectors who are acquainted with the operator's procedures and facilities; and
- through training and briefing by the operator. Inspector observations, both negative and positive, shall be recorded on the Air Operator In-flight Cockpit Inspection Checklist DSA.AOC.CHKL.088 and inspectors shall provide a verbal debrief to the flight crew following the completion of the flight or series of flights.

**13.2.2** CCAA regulations require that inspectors have free uninterrupted access to the cockpit observer's seat (jump seat) when allowed by the regulations of the State being overflown and operators shall have established procedures to be used by inspectors for scheduling cockpit inspections (i.e., access to the jump seat). Inspectors should make jump seat arrangements as far in advance as possible. Nevertheless, inspections without prior notice to the operator are part of the CCAA safety oversight system and operator's procedures shall accommodate use of an available jump seat on short notice.

**13.2.3** Inspectors should plan in-flight cockpit inspections in a manner that will avoid unnecessary disruption of operator-scheduled check flights. Should an inspector arrive for a flight and find a line check or other type of check in progress, he must determine whether or not it is essential that the cockpit in-flight inspection be conducted on that flight. If it is essential, the operator should be so advised and shall make the jump seat available to the inspector. If the in-flight inspection can be rescheduled and the objectives of the inspection can still be met, the inspector shall make arrangements to conduct the inspection on another flight.



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**13.2.4** An inspector should begin an in-flight inspection by reporting at the operations area when the flight crew would normally report for duty. He should complete any necessary jumpseat paperwork for inclusion in the operator's passenger manifest and weight and balance documents. After the inspector introduces himself to the flight crew, including presentation of official credentials, he should inform the PIC of his intention to conduct an in-flight cockpit inspection. The inspector should review documentation with the flight crew prior to boarding the aircraft, including:

- crew licensing and qualification;
- operational flight plan;
- weather documents;
- NOTAMs;
- planned route of flight;
- flight dispatch procedures; and
- information concerning the airworthiness of the aircraft.

**13.2.5** When it is not possible to meet and inform the PIC of the intention to conduct an in-flight inspection before boarding the aircraft, the inspector shall, as soon as possible after boarding the aircraft, introduce himself to the PIC, present his credentials, and inform the flight crew of his intention to conduct an in-flight cockpit inspection. An inspector should be prepared to present his identification and any applicable jump seat paperwork to the flight attendant before entering the cockpit.

**13.2.6** When boarding the aircraft, an inspector should also avoid impeding passenger flow or interrupting flight attendants during the performance of their duties. During this time an inspector may be able to observe and evaluate the operator's carry-on baggage procedures and the gate agent's or flight attendant's actions concerning oversized items. Once inside the cockpit, the inspector should request an inspection of the documentation noted in section.

**13.2.4** Above if not already done. In conducting document inspection in the cockpit the inspector must avoid interfering with crew duties.



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**13.2.7** The inspector must wear a headset during the flight. During in-flight inspections, inspectors must try to avoid diverting the attention of flight crew members performing their duties during “critical phases of flight”. Inspectors must be alert and point out to the flight crew any apparent hazards such as conflicting traffic. If during an in-flight inspection, an inspector becomes aware that the flight crew is violating a regulation, or an ATC clearance, the inspector should immediately inform the PIC of the situation.

### **13.3 SPECIFIC IN-FLIGHT COCKPIT INSPECTION PROCEDURES**

**13.3.1** Once situated in the cockpit, the PIC or a designated crew member should offer to give the inspector a safety briefing. If the PIC does not make such an offer, the inspector should request a briefing. The inspector shall check the jump seat oxygen and emergency equipment (if applicable) and connect the headset to the appropriate interphone system. It is important that the inspector monitor all radio frequencies being used by the flight crew to properly evaluate ATC procedures, flight crew compliance, transmission clarity, and radio phraseology. The monitoring of these frequencies also ensures that the inspector does not inadvertently interfere with any flight crew communications.

**13.3.2** The inspection is divided into four categories. Inspectors should consider all inspection areas, both internal and external to the operator, to be of equal importance:

- crew members;
- flight conduct;
- airport; and
- ATC/airspace.

**13.3.2.1** Crew members. This inspection area applies primarily to flight crew members, but cabin crew members may also be observed in certain areas such as coordination with the flight crew. Inspectors should evaluate such items as flight crew member knowledge, ability and proficiency by directly observing crew members performing their duties and functions. The checklist/report form provides a list of items which should be observed in the crew member inspection area.



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**Note.**—The list provided on the checklist/report form is not all-inclusive but is representative of the types of items which are common to several phases of flight and which inspectors should evaluate during a typical cockpit in-flight inspection. Inspectors may also include other items that they observe.

a) Licences – valid as follows:

- proper ratings and endorsements for the positions occupied; and
- medical assessment appropriate and current.

b) Knowledge – demonstrated knowledge in the following specific areas:

- AOM – Specific aircraft limits, systems, equipment, procedures, and flight profiles;
- OM or equivalent - General company policy and procedures related to crew conduct and type of operation;
- CCAA regulations appropriate to the type of operation conducted;
- route and aerodrome manual – Interpretation and application of approach plates, STARS, SIDS, airport and line station information, communications, etc.;
- MEL/CDL – Familiarization to the extent that specific items can be expeditiously located and information properly interpreted and applied;
- checklists – Cockpit flow and responses to challenges in normal checklists, knowledge of where to locate and an understanding of the philosophy behind abnormal and emergency procedures; and
- general – body of aviation knowledge commensurate with assigned crew member position and experience: ATC, weather, aerodynamics, engines, etc.

c) Proficiency – skill in applying the above knowledge to specific phases of flight and in manipulating aircraft controls and systems at the assigned crew member position.

d) Situational awareness – related to proficiency but refers to apparent or demonstrated awareness (particularly in critical phases of flight) of such factors as traffic flow, weather, position and configuration of airplane, airspeed, altitude, rate of descent, etc.

e) Conformity – to provisions of AOM, OM, other company bulletins and instructions, CCAA regulations, ATC practices and specific instructions, MEL/CDL, and route and aerodrome manual. Attention should be given to:

- Remaining at duty stations per regulatory guidance



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- Use of seatbelts and safety harnesses
  - Use of oxygen
  - Use of corrective lenses (glasses) when required by the medical assessment
- f) Manuals – available, current, and adequate (information regarding latest changes can be obtained from the operator prior to the inspection).
- g) Coordination – between cockpit crew members and between cockpit and cabin crew members (crew resource management).
- h) Use of checklists – prompt and consistent use of required checklists during appropriate phase of flight
- i) Required equipment – flashlight, cockpit key, additional pair of correcting lenses or spectacles as applicable and other such personal items which may be required by Cameroon regulations or company policy.

**13.3.2.2 Flight conduct.** This inspection area is the largest and most complex. It relates to specific phases of flight which can be observed during an in-flight inspection. The checklist/report form contains a list of the items that should be evaluated by inspectors during these phases of flight. These items are not all-inclusive and in some cases may not be applicable to the flight conducted. Inspectors are, however, encouraged to observe, evaluate, and report on as many of these items as possible. In all cases the inspector must be alert to assess the actions against the operator's SOPs.

a) Pre-flight. Inspectors should determine that the flight crew has all the necessary flight information including the appropriate weather, flight dispatch information, operational flight plan, NOTAM's and weight and balance information. Aircraft defects should be resolved in accordance with the operator's MEL and appropriate maintenance procedures. If possible, the inspector should observe the flight crew performing appropriate exterior and interior pre-flight duties in accordance with the operator's procedures.



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b) Pre-departure. Inspectors should observe the flight crew accomplishing all pre-departure checklists, take-off performance calculations and required ATC communications. If a flight management system (FMS) is installed, setup and data entry should be observed. Flight crew should verify fuel quantity indications against amount delivered. The flight crew should use coordinated communications (via hand signals or the aircraft interphone) with ground personnel. Crew should properly monitor engine starts.

c) Taxi. The following areas should be observed during taxi:

- adherence to taxi clearances;
- control of taxi speed and direction;
- observance of taxiway signs and markings;
- cockpit setup;
- conduct of a pre-take-off briefing in accordance with the operator's procedures;
- awareness of other ground movement (aircraft and vehicles); and
- use of appropriate checklists.

When weight and balance information is transmitted to the aircraft by company radio or ACAR during the outbound taxi, the flight crew should follow the operator's procedures specifying which crew member receives the information and completes the final take-off performance calculations and which crew member monitors the ATC frequency.

d) Take-off. Inspectors should observe and evaluate the following items or activities during the take-off phase:

- aircraft centerline alignment;
- application of power to all engines;
- take-off power settings;
- use of crosswind control techniques, as applicable;
- flight crew call-outs and coordination;
- adherence to appropriate take-off speeds;
- rate and degree of initial rotation;
- use of flight director, autopilot and auto-throttles (FMS if applicable);
- gear and flap retraction schedules and limiting airspeeds; and
- use of radar and weather avoidance if applicable.



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e) Climb. Inspectors should observe and evaluate the following items and activities during the climb phase of flight:

- compliance with the ATC departure clearance or with the appropriate published departure;
- adherence to proper climb profile;
- airspeed/Mach control;
- navigational tracking/heading control;
- engine control;
- use of radar and weather avoidance, if applicable;
- use of auto-flight systems;
- pressurization procedures, if applicable;
- sterile cockpit procedures;
- cockpit vigilance and traffic awareness; and
- after-take-off checklist.

f) Cruise. Inspectors should observe and evaluate the following areas during the cruise phase of flight:

- adherence to RVSM procedures;
- cruise Mach/airspeed control;
- navigational tracking/heading control;
- use of radar, if applicable, and weather monitoring;



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- turbulent air procedures, if applicable;
- monitoring operational flight plan (in-flight fuel management and flight time);
- awareness of Mach buffet and maximum performance ceilings;
- coordination with cabin crew;
- compliance with oxygen requirements, if applicable;
- vigilance – proper visual lookout and crew members at stations except to attend to physiological or operational needs; and
- compliance with ATC clearances and instructions.

g) Descent. Inspectors should observe and evaluate the following areas before and during the descent phase of flight:

- descent planning;
- weather/ATIS check;
- crossing restriction requirements;
- navigational tracking/heading control;
- use of radar, if applicable;
- Mach/airspeed control;
- awareness of Vmo/Mmo speeds and other speed restrictions;
- compliance with ATC clearance and instructions;
- use of auto-flight systems including FMS as applicable;



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- pressurization control, if applicable;
- weather considerations;
- altimeter settings;
- approach briefings;
- coordination with cabin crew;
- sterile cockpit procedures;
- vigilance; and
- descent checklist.

h) Approach . Inspectors should observe and evaluate the following areas during the approach phase of flight:

- approach checklist(s);
- approach briefing revisions, as appropriate;
- compliance with ATC clearances and instructions;
- navigational tracking/heading and pitch control;
- airspeed control, Vref speeds;
- flap and gear configuration schedule;
- use of flight director, autopilot, auto-throttles and FMS if installed;
- compliance with approach procedure;
- stabilized approach in the full landing configuration;



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- sink rates;
- flight crew call-outs and coordination; and
- transition to visual segment, if applicable.

i) Landing. Inspectors should observe and evaluate the following areas during the landing phase of flight:

- before-landing checklist;
- engine control and engine spool-up considerations;
- threshold crossing height (TCH);
- aircraft centerline alignment;
- Use of crosswind control techniques, as applicable;
- sink rates to touchdown;
- touchdown and rollout;
- thrust reversing and speedbrake procedures;
- use of autobrakes, if applicable;
- use of nosewheel steering;
- braking techniques;
- diverting attention inside the cockpit while still on the runway; and
- after-landing checklist.



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j) Arrival. Inspectors should evaluate crew use of visual parking aids and/or parking directors, parking speed and accomplishment of after-landing checklists, engine shut-down and associated checklist, ground crew parking and passenger deplaning procedures.

k) Post-arrival. Inspectors should observe and evaluate the flight crew complete post-flight duties such as post-flight checks, aircraft logbook entries and flight trip paperwork completion and disposition.

**13.3.2.3 Airports.** This inspection area pertains to the various elements of airports which may be observed during flights such as runways, taxiways, ramps and aircraft ground movements. Findings should be reported to the State of the aerodrome and the operator's related mitigating procedures should be evaluated. Inspectors should observe and evaluate as many of these elements as possible:

- a) condition of surface areas such as ramp and gate areas, runways, and taxiways (cracks, depressions, weeds, overgrowth, etc.);
- b) lighting of runways, taxiways, ramp and other traffic areas;
- c) taxiway signs, markers, sterile areas and hold lines;
- d) ramp vehicles, equipment, movement control;
- e) aircraft servicing, parking and taxi operations;
- f) obstructions, construction and surface contaminants (such as ice, slush, snow, fuel spills, rubber deposits);
- g) foreign object (FO);
- h) snow control, if applicable;
- i) security and public safety; and



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j) nav aids, approach lighting and communications.

**13.3.2.4 ATC/Airspace.** The ATC/airspace inspection area pertains to the various elements of air traffic control and national or international airspace systems. These elements should be observed and evaluated by inspectors during in-flight inspections. From an operational standpoint, these evaluations are a valuable information source which can be used not only to enhance safety with respect to air traffic control and the airspace system, but also to enhance the effectiveness of in-flight and terminal facilities and procedures. During cockpit in-flight inspections, inspectors have the opportunity to observe and evaluate ATC operations and airspace procedures from the vantage point of the aircraft cockpit. Findings should be reported to the State providing the ATS. Inspectors may observe and evaluate the following areas from the cockpit:

- a) radio frequency congestion, overlap or blackout areas;
- b) controller phraseology, clarity and transmission rate;
- c) ATIS validity, clarity, etc.;
- d) departure and approach instructions;
- e) clearance deliveries for responsiveness and acceptable, safe clearances;
- f) aircraft separation standards; and
- g) controller situational awareness – traffic flow, conflicts, aircraft flight characteristics, priorities, etc.

**13.3.3** Although these four general inspection areas (13.3.2.1 to 4) cover a wide range of items, they are not the only areas that can be observed and evaluated during cockpit in-flight inspections. Inspectors may have the opportunity to evaluate many other areas, such as line station operations and flight control procedures. Such functions can often be observed before a flight begins, at in-flight stops, or at the termination of a flight. Inspectors should include any remarks regarding such areas in the comments section of the checklist.



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**13.3.4** Inspectors will advise the company chief pilot of the results of the in-flight cockpit inspection and follow-up to ensure that the corrective action is taken to rectify any of the findings from the inspection. For possible findings external to the air operator such as possible ATC and/or aerodrome deficiencies, the inspector will pass these to the appropriate CCAA inspectors for review and follow-up.

Attachment CCAA AIR OPERATOR IN-FLIGHT COCKPIT INSPECTION CHECKLIST/REPORT