



ALL OPERATORS LETTER (AOL 059)

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Date: 20th Dec., 2016
To: All Aircraft Operators
From: Directorate of Airworthiness Standards
Attn: Quality Assurance Manager/Director of Maintenance

SUBJECT: CONTINUED SERVICEABILITY AND INSPECTION OF FLIGHT RECORDER SYSTEMS

PREAMBLE

The Nigeria Civil Aviation Regulations (2015) became effective on 1st July, 2016 and one of the new requirements of these regulations is the requirement for aircraft operators to ensure continued serviceability of the Flight Recorder Systems installed on the aircraft by complying with certain inspections of the Flight Recorder Systems specified in the Nig. CARs Part 7.8.1.4.

Nig. CARs 2015 Part 7.8.1.4 stipulates that "*The operator shall conduct operational checks and evaluations of recordings from the flight recorder systems to ensure the continued serviceability of the recorders*" and the procedures for the inspections of the Flight Recorder Systems are given in IS 7.8.1.4 and are stated below:

- (a) *The operator shall, prior to the first flight of the day, monitor the built-in test features for the flight recorders and flight data acquisition unit (FDAU), when installed, by monitored by manual and/or automatic checks.*
- (b) *The operator shall carry out annual inspections as follows:*
 - (1) *An analysis of the recorded data from the flight recorders shall ensure that the recorder operates correctly for the nominal duration of the recording;*
 - (2) *The analysis of the FDR shall evaluate the quality of the recorded data to determine if the bit error rate (including those errors introduced by recorder, the acquisition unit, the source of the data on the aeroplane and by the tools used to extract the data from the recorder) is within acceptable limits and to determine the nature and distribution of the errors;*
 - (3) *A complete flight from the FDR shall be examined in engineering units to evaluate the validity of all recorded parameters. Particular attention shall be given to parameters from sensors dedicated to the FDR. Parameters taken from the aircraft's electrical bus system need not be checked if their serviceability can be detected by other aircraft systems;*
 - (4) *The readout facility shall have the necessary software to accurately convert the recorded values to engineering units and to determine the status of discrete signals;*
 - (5) *An annual examination of the recorded signal on the CVR shall be carried out by replay of the CVR recording. While installed in the aircraft, the CVR shall record test signals from each aircraft source and from relevant external sources to ensure that all required signals meet intelligibility standards;*

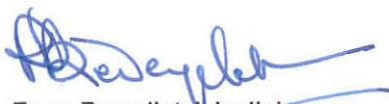
- (6) *Where practicable, during the annual examination, a sample of inflight recordings of the CVR shall be examined for evidence that the intelligibility of the signal is acceptable; and*
- (7) *An annual examination of the recorded images on the AIR shall be carried out by replay of the AIR recording. While installed in the aircraft, the AIR shall record test images from each aircraft source and from relevant external sources to ensure that all required images meet recording quality standards.*
- (c) *Flight recorder systems shall be considered unserviceable if there is a significant period of poor quality data, unintelligible signals, or if one or more of the mandatory parameters is not recorded correctly.*
- (d) *The operator shall make available a report of the annual inspection on request to [the regulatory authorities] for monitoring purposes:*
 - (1) *Calibration of the FDR system: for those parameters which have sensors dedicated only to the FDR and are not checked by other means, recalibration shall be carried out at least every five years or in accordance with the recommendations of the sensor manufacturer to determine any discrepancies in the engineering conversion routines for the mandatory parameters and to ensure that parameters are being recorded within the calibration tolerances; and*
 - (2) *When the parameters of altitude and airspeed are provided by sensors that are dedicated to the FDR system, there shall be a recalibration performed as recommended by the sensor manufacturer, or at least every two years.*

ACTION REQUIRED

These continued serviceability and inspection requirements are applicable to both commercial and general aviation aircraft operators in Nigeria and the following actions are hereby required:

1. All Nigerian aircraft operators with approved maintenance programme should amend the approved maintenance programme to contain the inspection requirements of IS 7.8.1.4 and submit such for the approval of the Authority;
2. All Nigerian general aviation aircraft operators without approved maintenance programme should insert these inspections requirements in the manufacturer maintenance planning document accepted by the Authority for the maintenance of the aircraft;
3. All foreign registered commercial and general aviation aircraft operators should insert these inspection requirements in the State of Registry approved / accepted maintenance programme.

Action is required to be complied within Two (2) months with effect from today, 1st January, 2017 as the annual report specified by these inspection requirements will be required during Certificate of Airworthiness (C of A) issue/renewal, Maintenance Clearance Certificate (MCC) issue/renewal and Pre-Importation Inspection for wet leased-in aircraft.


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For: Director General