

GOVERNMENT OF INDIA
CIVIL AVIATION DEPARTMENT

CIVIL AVIATION REQUIREMENTS
SECTION 2 - AIRWORTHINESS
SERIES 'A' PART III
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Subject:- **Objectives and Targets of Airworthiness Directorate of Civil Aviation Department.**

1. BACKGROUND :

The smooth and effective functioning of an organisation is ensured only when its objectives are clearly understood by all concerned, particularly by the functionaries of the organisation.

2. OBJECTIVES :

The most obvious objective of an airworthiness authority is to ensure design levels of reliability and operating safety of civil registered aircraft through promulgation and enforcement of highest achievable standards of airworthiness.

3. DEFINITIONS :

3.1 Emergency Landing (E/L) :

It is an unintentional landing and effected on account of failure/malfunction of an aircraft component or system.

3.2 Hard-Time Maintenance :

"Hard-Time" maintenance is the primary maintenance process requiring assembly, inspection of aircraft and aircraft components at fixed periods.

3.3 On-Condition maintenance :

"On-condition" maintenance is the accomplishment of repetitive (1) visual inspections, or (2) physical measurement, or (3) Insitu/Bench test, etc. to determine the continued serviceability of aircraft and aircraft components without having to dismantle them completely and before such components reach a critical stage in their operation.

3.4 Condition Monitoring :

"Condition Monitoring" is the maintenance process for locating and resolving problem areas through analytical study of "malfunctions" or "Failure", not affecting safety of aircraft.

3.5 Preventive Maintenance :

It constitutes work performed at pre-determined intervals to maintain an aircraft, aircraft components or aircraft systems in an airworthy condition.

4. SCOPE :

4.1 To achieve the objective, it is not only necessary to lay down adequate norms and standards but it is also essential

that the operational results achieved are computed and are continuously subjected to meaningful comparative assessment for taking timely corrective action wherever and whenever due.

4.2 Defects, incidents resulting in Emergency Landings and accidents encountered during operation of aircraft can reflect on the adequacy of standards themselves as well as on the observance of standards by the concerned operators.

4.3 Keeping the target "achieving maximum measure of safety through observance of highest possible maintenance standards" in view, all operators (including private operators) are required to submit the following information periodically to the concerned Regional or Sub-regional Airworthiness Office:-

(a) Number of emergency landings effected during the period under review.

(b) Total number of hours flown on each type of aircraft in the fleet during the period.

Note:- (a) and (b) would provide a parameter called "emergency landings per 1000 hrs." for comparison.

(c) Number of notifiable accidents (vide Aircraft Rule 68) encountered during the period.

Note:- (b) and (c) would provide a parameter called "accidents per 1000 hrs.".

(d) Total number of engine hours flown for each type of engine in the fleet (number of engine hours = No. of airframe hours x number of engines installed on that type of aircraft) during the period.

(e) Total number of "In flight shut down" (IFSD) of engines experienced in respect of each type of engine in the fleet.

Note:- (d) and (e) would provide a parameter called IFSD rate (IFSD/1000 hrs.)

(f) Number of services scheduled during the period; and

(g) Number of services which were delayed for more than 15 minutes on account of engineering defects (including cancelled flights) during the period.

Note:-(f) and (g) when worked out on percentage basis would provide a parameter called "Dispatch Reliability".

4.4 All operators are required to report all major defects as and when encountered, vide CAR Series 'C' Part I. The parameter "Number of major defects/1000 hrs." for the period can be worked out from this information and that available from 4.3(b).

4.5 The above information in a consolidated manner (information concerning individual major defect/incident/accident shall continue to be furnished to DGCA as required elsewhere) shall be furnished by the undermentioned type of operators at the frequency shown against each type of operator:-

(a) Private operators would only furnish information called at 4.3 (a) to (e) every 6 months.

(b) Non-Scheduled operators, aerial work operators, training aircraft operators would furnish information only called at 4.3 (a) to (e) every 3 months.

(c) Scheduled operators would furnish information called at 4.3(a) to (g) every month.

Note:- Even if the information is 'NIL' the same shall be intimated.

5. The concerned Regional and Sub-regional Airworthiness Offices will record the parameters (obtained vide paras 4.3 and 4.4 above) in a graphical form and compare the data period-wise, either with the previous period's data of the same operator or with the similar data of other operators and would investigate all significant variations and furnish promptly a report to Headquarters periodically (commensurate with periods mentioned in para 4.5 above) along with the recommendations to check adverse "trends" if observed. The Airworthiness Offices would also similarly investigate the data/statistics prepared by scheduled operators in pursuance of the requirements contained in CAR Series 'C' Part V (maintenance control by reliability methods). The recommendations may be in the form of :-

- i. Suggesting additional preventive maintenance.
- ii. Proposing varying the frequency of existing preventive maintenance.
- iii. Proposing varying the process of maintenance, i.e. from "On Condition" to "Hard Time" or from "Condition Monitoring" to "On Condition/Hard Time".
- iv. Suggesting incorporation of modifications on mandatory

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- basis.
- v. Suggesting review of qualifications and experience requirements of certification personnel.
 - vi. Increasing the frequency of monitoring checks by Airworthiness officers.
6. The investigation undertaken as per paragraph 5 above, may require operators to furnish additional information as desired by the Investigating Officer.
7. The graphical form of monitoring parameters, as suggested in para 5 above, would provide a bird's eye view assessment of the performance of a particular operator, which should prompt the Officer-in- Charge, Airworthiness Office, as and when warranted, to probe deeper into the engineering activities of an operator, to determine precisely the cause of adverse "trend" and requiring (in writing) concerned operators to initiate corrective action, independently or with the help of manufacturers. Notwithstanding the efforts of Airworthiness Officers, an operator shall initiate corrective action on its own on observing the adverse "trends".

Sd/-
(V. N. Kapur)
Director of Airworthiness
for Director General of Civil Aviation