



GOVERNMENT OF INDIA

**OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION**  
TECHNICAL CENTRE, OPP SAFDURJUNG AIRPORT, NEW DELHI

CIVIL AVIATION REQUIREMENTS  
SECTION-5 AIR SAFETY  
SERIES 'F' PART III  
ISSUE I, DATED 13<sup>th</sup> November 2009

EFFECTIVE: FORTHWITH

**SUBJECT: PROCEDURE FOR MEDICAL EXAMINATION OF CREW FOR ALCOHOL CONSUMPTION**

**1 INTRODUCTION**

- 1.1 It is known that even when the blood alcohol levels are zero, there could be some effects of hangover, which are mainly due to congeners. These congeners may take 15 to 18 hours to get dissipated and may produce ill effects for up to 36 hours depending upon the amount of alcohol consumed. Even 12 hours after a bout of drinking, when blood alcohol level was zero, there was decrement in task performance.

Therefore, in the present state of our knowledge the level of blood alcohol compatible with safe flying is 'Zero'. ICAO has also recommended the same. It is equally important to intensify the educational programme for aircrew regarding the inherent dangers of flying after consumption of alcohol. **Alcohol even in small quantities jeopardizes flight safety on several counts and is likely to adversely affect an Aviator well into the "Hangover" period.**

Two ounces of whiskey will raise the alcohol level to 50 mg. The amount of alcohol in a can of beer is approx. the same as in a single mixed drink. Wine, champagne, ale and other alcoholic beverages have same effects as liquor, though the concentration of alcohol varies from one beverage to the other and more volume is required to obtain same amount of alcohol in blood stream.

**Alcohol interferes with the enzymatic cellular process or oxidation; consequently it causes hypoxia and reduces the individual tolerance to altitude.** It is known that a low alcohol blood level between 30 mg% to 50 mg% disturbs the sensor-motor, visual and cortical reaction. There is significant deterioration in psychomotor performance even at relatively low blood alcohol concentrations.

Alcohol is a depressant drug. **Low levels of alcohol in the blood stream cause the drinker to be unable to accurately assess his performance. It decreases the amount of mental capacity available to deal with the many essential secondary tasks involved in safe flight. Should an emergency occur, the crew who has alcohol in his system is just that much less capable of dealing with the problem.**

## 1.2 Definitions

Crew Member: means a person assigned by an operator to duty on an aircraft during a flight duty period.

Flight crew member: means a licensed crewmember charged with duties essential to the operation of an aircraft during a flight duty period.

Cabin crew member: means a crewmember other than a flight crewmember.

1.3 The Civil Aviation Requirement lays down the procedure to be followed for the routine medical examination of the “crew members” for the consumption of the alcohol and actions to be taken by the operators. It also dwells on the procedure to be followed by the authorities concerned in the event of accident.

1.4 This CAR is issued under the provisions of Rule 24 read with Rule 133A of the Aircraft Rules, 1937 for information, guidance and compliance by the concerned agencies.

## 2 APPLICABILITY

All Indian operators engaged in scheduled air transport services for carriage of passengers, mail or cargo shall comply with the requirements of this CAR. These safety requirements are equally applicable to the Non-Scheduled/Air Taxi operators, State Government Aircraft operations and private category aircraft operations.

## 3 SAFETY REGULATION

3.1 As per the provision of Rule 24 of the Aircraft Rules, “No person acting as, or carried in aircraft for the purpose of acting as pilot, Commander, Navigator, Engineer, Cabin Crew or the other operating member of the crew thereof, shall have taken or used any alcoholic drink, sedative, narcotic, or stimulant drug preparation within 12 hours of the commencement of the flight or taken or use any such preparation in the course of the flight, and no such person shall, while so acting or carried, be in state of intoxication or have detectable blood alcohol whatsoever in his breath, urine or blood alcohol analysis or in a state in which by reason of his having taken any alcoholic, sedative, narcotic

or stimulant drug or preparation his capacity so to act is impaired, and no other person while in a state of intoxication shall enter or be in aircraft.”

- 3.2 The holders of licence shall not exercise the privileges of their licenses and related ratings while under the influence of any psychoactive substance which might render them unable to safely and properly exercise the privileges of the licenses and ratings.
- 3.3 The operator is obliged to ensure no willful contravention of Rule 24 by subjecting “Crew Members” to a random check for all operations in India as well as outside India.
- 3.4.1 For flight originating in India at least 40% of “Flight Crew Member” and 20% of “Cabin Crew Member” shall be subjected to Pre flight Medical Check for alcohol consumption herein after referred as ‘PFMC’. For scheduled operators this percentage shall be on daily basis and for operators other than scheduled the percentage shall be worked out on fifteen-calendar days basis.
- 3.4.2 For flight destination out side India, stations where more than ten crew changes takes place in a calendar week, ‘PFMC’ shall be carried out at least once in a month. At all other foreign destinations ‘PFMC’ shall be done at least once in a period of two months.
- 3.4.3 At foreign destinations complete set of “Flight Crew Member” and “Cabin Crew Member” shall be subjected to ‘PFMC’.
- 3.4.4 For private operators where the necessary infrastructure exists, ‘PFMC’ shall be carried out on random basis subject to percentage of coverage of “crew member” as specified in Para 3.4.1. However where infrastructure does not exist, private/Helicopter operators can use post flight medical check for alcohol consumption in place for ‘PFMC’.
- 3.4.5 Save as provided, representative of Air Safety Directorate/DMS(CA) of DGCA at his discretion may order a breath analyzer check of any of the crew members prior to or on completion of a flight.

#### **4. EQUIPMENT TO BE USED**

At all times operators shall make available at least two serviceable breath analyzer equipment capable of meeting the requirements of the rule 24 and giving accurate digital record of observation. Operators other than the Scheduled may comply with the requirement of instrument by pooling their resources. Scheduled operators at places other than their main base may also pool their resources. At least one of the instruments shall be attachable to printer and at least one serviceable printer for the breath analyzer equipment shall be available at all times. Operator shall maintain sufficient stock of the tubes used for blowing. The equipment shall be calibrated frequently, at least once in a year or as per the manufacturer’s requirements. The date of the last calibration of Breath analyser units shall be appended on the instrument, which could be checked as and when required. Before each

test, the doctor shall run an Air Blank on the instrument and obtain a reading of 0.000.

## 5. PROCEDURE FOR PRE-FLIGHT MEDICAL EXAMINATION

Scheduled operators at base station shall use the Doctor (at least MBBS degree holder) in the fulltime employment of the company to conduct the test in maximum possible privacy at a designated pre-flight room. Scheduled operators at places other than their main base and operators other than the scheduled may meet this requirement by having doctor (at least MBBS degree holder) on contract or pooling their resources.

After reporting to the medical officer for PFMC the crew member shall sign the undertaking in the pre-flight examination book for alcohol that "I confirm that I am not under the influence of alcohol". Date and time must also be recorded. Once a crewmember signs this undertaking the doctor will carry out the pre-flight medical examination as selected on random basis. The pages of preflight medical book shall be serial numbered and in a bound volume. First check may be conducted with Alco sensor-III type or equivalent equipment.

If the Alco test is positive, the reading shall be recorded and print out taken. A repeat test shall be carried out after a gap of 15 minutes. During this time the subject crew may be permitted to wash his face, rinse his mouth if desired. **Before a second test is carried out a control test must be taken to verify the serviceability and correctness of the breath analyser.** The reading so obtained shall be recorded and print out taken. For Scheduled Operators the second test shall be carried out in the presence of a witness who could be the Duty officer Flight dispatch and/or higher officer in the organization and result so obtained shall be recorded and a print out taken. At outstations where flight dispatch/operation office set up is not available the Airport Manager/Duty Officer will act as witness. For other category of operators Station Manager or a designated person shall act as witness for the second test. In case of flights originating from stations where no facilities are in existence, operators other than scheduled operators, the pilot-in-command will record a certificate in pre-flight medical record book to the effect that no flight crew member including himself is under the influence of alcohol as required in this CAR. However, this will not be applicable to stations where the operator has base or is regularly operating from.

However in cases, where the first test has been performed with a equipment not attachable with the printer and it is positive, the digital reading of the breath analyzer shall be recorded by the doctor and countersigned by the crew testing positive. The second test shall in this case be performed with equipment attached with the serviceable printer and in the event the second test is also positive then the print out of the data in the memory of the breath analyzer with which first test was performed shall also be taken wherever possible.

If the second test is satisfactory, the crew may be cleared for flight. If the crew refuses to undergo second test, **it shall be recorded and the concerned crew shall not operate the flight.** The make, serial number and calibration of the instrument shall be recorded in the event of a positive test. **Under no circumstances third test is to be done.** Also no blood samples are to be taken. All the positive cases shall be promptly reported **but not later than 24 hours of occurrence** to the Concerned Regional Air safety Offices of the DGCA and Director of Air safety (HQ) and the Air safety office at the base of the operator to which crew belong along with all documents and printout.

## 6. CARRIAGE OF VIP AND OUT STATION FLYING

Whenever a designated VIP is to be carried on board for the purpose of flying, breath analyzer check on the crew to conduct such flight shall be carried out.

During the period of increased commitment for operators other than Scheduled operators at out station, such as election flying, the breath analyzer check shall be carried on random basis with at least equipment with memory or capable of storing test data. In the event a crew is tested positive, the digital reading of the breath analyzer shall be recorded by the doctor and countersigned by the crew testing positive. The repeat test shall also be carried out as per the procedure in Para 5 and in the event the second test is also positive the print out of the data recorded in the memory containing the record of these two test shall be taken.

## 7. ACTION ON POSITIVE TEST

Any crewmember that tests positive **or refusing to undergo the pre-flight Medical Examination/Breath Analyzer Test** shall be kept off flying duty for at least 4 weeks and the company shall initiate disciplinary proceedings. Any crewmember attempting to evade the test procedure by leaving the airport premises before undergoing the complete test procedure will be considered to have a positive test result. An Instructor/Examiner/Check crew detected positive during the pre-flight medical examination will loose such ratings **for at least 2 years.**

Cases of Alcohol abuse should be treated as a medical disability, rather than an isolated disciplinary problem. Alcohol Abuse is defined as a pattern of drinking that result in one or more of the following situations within a 12-month period: failure to fulfill major work, school, or home responsibilities, drinking in situations that are physically dangerous. Research has shown that compassionate and empathetic counseling is more effective in recovery from alcohol abuse. In most cases, relapse rates are high & therefore the need for constant & regular checks to ensure compliance with instructions for quick & effective recovery. All alcohol abuse cases therefore, need to be followed up by the AMA / Medical Services Department of the concerned airline and in consonance with the Operations Department to ensure rehabilitation of the

aircrew in a safe flying environment. Suggested action plan for such cases is presented in Appendix-III

Action taken shall be reported to Air Safety Directorate. However DGCA, if considers necessary may alter the recommended action after a detailed examination of matter.

## 8. POST- FLIGHT MEDICAL EXAMINATION

Post flight medical examination shall be carried out in privacy, in aircraft after disembarkation of all the passengers and within the stipulated duty hours. Information regarding the Breath Analyzer test on the assigned flight will be passed by the Commercial Duty Officer/Flight Dispatch to the Commander of the aircraft, who in turn will brief the “crew members”.

**Any “crew member” who tests positive in a post flight medical test will also be construed to have acted in contravention of Rule 24, Aircraft rules 1937.** The detail of their post flight medical check, licenses, ratings, and approvals shall be immediately intimated to the Director of Air Safety (HQ) and the concerned crew member shall not be rostered for further flying without the permission of DGCA.

Post flight medical check will not be done as a matter of routine and shall be ordered by representatives of Air Safety Directorate/DMS(CA) of DGCA and Chief of flight Safety of concerned airlines.

Operators in private category however may carry out post flight medical examination in lieu of ‘PFMC’.

## 9. MEDICAL EXAMINATION AFTER ACCIDENT

In the event of an accident at an airport or in its near vicinity, the officer In charge of Aerodrome shall ensure that the Captain and the Co-pilot are immediately subjected to medical check up for the consumption of alcohol. The doctor carrying out such a medical check up may take samples of blood, urine etc. required for detailed chemical analysis. In the event of accident at an Airport, Breath Analyzer test, samples of blood, urine shall be taken at the Airport Medical centre wherever available.

In other cases where medical centers are not available at the airports or when the condition of crew members require immediate hospitalization, Aerodrome officer In charge shall ensure that the sample of the blood, urine etc are taken at the nearest hospital. These checks should be expeditiously carried out without any loss of time.

In case, where accident is at location far away from the airports and the police authorities are able to reach the crash site before the aerodrome authorities and crew member are alive, the procedure of blood/urine collection shall be performed by the police at the nearest hospital. Sample be preserved as given below.

For the purpose of the analysis 5.0 ml of blood and 30 ml. of the urine from the mid-stream must be taken and sent in air-tight/sealed glass vials/bottles. The samples must be drawn and sealed in presence of a witness and handed over to Head of Regional Air Safety Office for the detailed laboratory examination.

The most commonly used preservative is a combination of fluorides & oxalates and the composition is, 10 mg. of sodium or potassium fluoride and 3mg of potassium oxalate per ml of the blood. The mixture is to be thoroughly shaken. Likewise the urine sample can be preserved by adding 10 mg. Sodium or potassium Fluoride to each ml. of urine.

For the purpose of the chemical analysis sample is to be forwarded to Director, L.N.J.N National Institute of Criminology & Forensic Science, Rohini, Delhi along with the performa given in Annexure-I

#### **10. PRESERVATION OF THE RECORDS**

Separate records of PFMC and Post Flight Medical check shall be maintained for the Cockpit Crew and the Cabin Crew. All the relevant records must be preserved for period of six months.

Sd/-  
(A.K. CHOPRA)  
Joint Director General  
for Director General of Civil Aviation

**APPENDIX – I**

**NAME OF EXAMINATION REQUIRED**

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Memo No \_\_\_\_\_/New Delhi.

Dt \_\_\_\_\_

Forwarded to the Director LNJN NICFS (MHA), Institutional Area, Rohini, Sector – 3, New Delhi-110085.

Date \_\_\_\_\_

Signature of Forwarding Officer  
With Designation and Official Stamp

Specimen Seal impression on sealing wax

**CERTIFICATE**

Certificate to be signed by a competent forwarding authority and forwarded to the Director, LNJN NICFS, Rohini, Sector-3, Delhi-110085.

Certificate that the Asstt. Director LNJN NICFS, Rohini, Sector-3, Delhi-110085 has the authority to examine the exhibits sent to him in connection with the accident to aircraft Regn. No.....on (date) .....at....., and if necessary consume it for the purpose of the said examination.

Date:

Signature and Designation and  
Official stamp of Forwarding Officer

Place:

**APPENDIX – II**

(Name of the Organization)  
**Pre-Flight Medical Examination for Alcohol**

Sr.No. \_\_\_\_\_

To be filled by Cockpit/Cabin Crew (in Capital letters)

Name..... Flight No.....

Place..... Date.....Time.....Hrs.

I confirm that I am not under the influence of Alcohol

.....Signature

To be filled up by the Medical Officer

1) CLINICAL EXAMINATION

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2 a) **Breath Analyzer Result** Negative/Positive

b) If found positive .....%BAC

3) Result of 2<sup>nd</sup> Test at.....hrs  
.....%BAC

Remarks: He/ She is Not Under/ Under the influence of Alcohol at present.

Signature of Witness

Signature of Medical Officer

Time.....

Time.....

Name and Designation

Name of Medical Officer



**APPENDIX -III**

**Action Plan for rehabilitation of Alcohol Abuse Cases**

Following is the suggested action plan for detection and rehabilitation of the crew for alcohol abuse.

- (i) A crewmember detected positive for the first time **shall not be rostered for flying duties for a period of at least 4 weeks** and be referred to the Medical Department of the concerned airline / authorised medical attendant to undergo biochemical tests (Liver Function tests), ultrasound of the abdomen & any other test deemed necessary to determine the severity of alcohol abuse. In case no alcohol dependence is present, the aircrew will be counselled by the authorised medical attendant & Chief of Flight Safety/Chief of Operation on the ill effects of alcohol abuse. If a crew after undergoing above procedure is again detected alcohol positive, he/she shall be considered to be alcohol dependent. **In case of Instructor/Examiner/Check Pilot/Check Cabin crew who is considered alcohol dependent will lose such ratings permanently.**
- (ii) In case, alcohol dependence syndrome is diagnosed the aircrew will be unfit flying duties for a period of at least **8 weeks** for detoxification & rehabilitation, under intimation to DGCA. This would include hospitalisation (if required) for detoxification & counselling, biochemical investigations like LFT including GGT levels (to ensure complete abstinence), USG Liver & associated investigations considered essential by the treating physician. On complete abstinence & subject to his being medically fit the **flight crew member** be reviewed at IAM / AFCME & permitted restricted flying (Fit to fly with qualified pilot) and gradual return to full flying status. In case of cabin crew and other crew member the review shall be done by DMS (CA).
- (iii) Any relapses after undergoing the procedure as prescribed in para (ii) above, shall entail permanent grounding and suitable disciplinary proceedings against the individual.
- (iv) For the aircrew in general aviation detected positive during pre-flight medical examination the matter would be referred to Director Air Safety Hqrs. and DMS(CA) for the above procedures.