

NEPALESE CIVIL AIRWORTHINESS REQUIREMENTS

SECTION B

AIRWORTHINESS CERTIFICATION

CHAPTER B.6

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REQUIREMENTS FOR MANUFACTURE, REGISTRATION AND AIRWORTHINESS CONTROL OF HOT AIR BALLOONS

1. APPLICABILITY

This part lays down the requirements for manufacture, registration, issue/ renewal of Certificate of Airworthiness and continuous maintenance of manned free balloons. The persons engaged in maintenance / overhaul / inspection / repair of the balloons and the balloon components shall be licensed/approved by the Director General.

2. MANUFACTURE OF HOT AIR BALLOONS

- 2.1 The standards prescribed in FAR Part 31 for the design shall be the minimum requirements for Airworthiness of the hot air balloons.
- 2.2 The suitability and durability of all materials must be established on the basis of experience or tests. It will be ensured that they have the strength and other properties assumed in the design.
- 2.3 Persons/firms desirous to take up design and manufacture of hot air balloons will advise the Director General of their intention and apply for necessary approval as required under Nepalese Civil Airworthiness Requirements. Where balloons are of an unusual shape special considerations will need to be taken into account prior to Type Certification.
- 2.4 A hot air balloon used for personal flying by the pilot(s) need not have a Type Certificate. All other balloons should have a Type Certificate issued or revalidated by the Director General before undertaking the manufactures.
- 2.5 The manufacturer will be responsible for the quality assurance of his products and will issue a certificate of compliance to Airworthiness standards, except where the balloon is certified in experimental category.
- 2.6 The manufacturer shall keep a complete record of all hot air balloons manufactured and full particulars of those to whom sold and should produce this record to the Director General when required.
- 2.7 The manufacturer shall prepare the necessary documents regarding maintenance and operation and submit for approval of the Director General in accordance with Nepalese Civil Airworthiness Requirements except for the experimental category balloons.

- 2.8 The manufacturer shall develop satisfactory Maintenance Schedule to ensure continued airworthiness of the hot air balloon and should deliver the same with every balloon produced. The manufacturer should also specify the overhaul life of the burner/instruments/ gas pipelines and advise the operators regarding organizations which should be approached for the overhaul or other major maintenance. He will be responsible for issuance of any modifications to the hot air balloon to improve safety of operations after the approval of the Director General. For this purpose the manufacturer may provide kits or drawings or suggest alternate methods so that the operators can carry out the modifications.
- 2.9 Components of balloon/spare parts and materials used on a balloon shall be :-
- (i) covered by a Release Note, or equivalent document issued by an approved firm which is acceptable to Director General.
 - (ii) manufactured or repair/overhauled, inspected and certified as airworthy by an approved organization or persons appropriately licensed or approved by the Director General.

3. REGISTRATION AND MARKINGS OF BALLOONS

- 3.1 All manned free balloons are required to be registered before any flight is undertaken and registration markings must be affixed thereon in manner prescribed in Nepalese Civil Airworthiness Requirements Chapter B.5.
- 3.2 The application for registration should be made on the prescribed Form B.6.1 as shown in Appendix-1 of this Chapter B.6 and should include the prescribed fee.
- 3.3 The Certificate of Registration, when issued, shall include information on the type of Hot Air Balloon, manufacture's serial number, nationality, registration markings assigned, the number and date of registration. A copy of this Certificate of Registration shall be kept on board during flight.
- 3.4 Every hot air balloon shall carry an identification plate showing the registration markings, constructor's name, the balloon serial number and the name and address of the owner of the balloon.

4. CONDITIONS FOR FLIGHT OF A BALLOON

- 4.1 No hot air balloon shall be flown unless it possesses a valid Certificate of Airworthiness.
- 4.2 Hot air balloons engaged in commercial operations possessing a Type Certificate issued or validated by the Director General or export Certificate of Airworthiness of A issued by a country whose Airworthiness standards are equivalent and acceptable to the Director General may be granted Certificate of Airworthiness in its usual Category subject to compliance of these requirements and such other conditions as may be prescribed.

- 4.3 Hot air balloons used for personal flying by pilot(s) themselves, even if they carry sponsor's banners, need not to have a Type Certificate. Such balloons shall be issued Certificate of Airworthiness in Special Category, for experimental purpose.
- 4.4 The Certificate of Airworthiness may remain valid for a period not exceeding 12 months unless withdrawn or suspended earlier by the Director General if he is satisfied that reasonable doubt exists as to safety of the balloon in question:
- (i) if the balloon is not inspected and certified by approved/licensed personnel at intervals prescribed in the approved Quality and Maintenance Control Manual;
 - (ii) if mandatory modifications/inspections as required by the Director General are not carried out;
 - (iii) if modifications/repairs affecting Airworthiness of the balloon and not approved by the manufacturer or by the Director General, are carried out; and
 - (iv) if a balloon suffers major damage or reveals any major defect which may render the machine unsafe for flight and shall remain suspended till such time the above deficiencies are removed.
- 4.5 Application for the issue of Certificate of Airworthiness shall be made to the Airworthiness Division, Civil Aviation Authority of Nepal on the proper form, together with prescribed fee.
- 4.6 The Director General may renew the Certificate of Airworthiness in respect of a balloon for a maximum period of 12 months, after such inspection and subject to such conditions as may be prescribed.

5. CERTIFICATION

- 5.1 No balloon shall be flown unless during 24 hours preceding the Lift off, it has been inspected in accordance with an approved schedule and the Flight Release issued, in the Form B.6.2 as shown in Appendix-2 to this Chapter B.6 by a person, licensed/approved by the Director General.
- 5.2 After issue of the Flight Release, the preflight inspection shall have to be carried out before the first flight of the day by an appropriately licensed pilot, in accordance with a duly approved schedule. The pilot may also carry out the next higher inspections of 25 hrs in accordance with duly approved schedules.
- 5.3 The higher than 25 hrs. inspection schedule and overhaul of the balloon and its components shall be carried out by holders of AMT license, endorsed for a particular type of balloon, or persons specially approved or authorised to inspect/repair/modify and certify the Airworthiness to the extent and scope of their license/approval permits.
- 5.4 The Certificate of Flight Release shall be made in duplicate, one copy of which shall be handed over to the pilot and the other shall be retained by the operator for a period of one month unless directed otherwise by the Director General.

- 5.5 The Director General may require the balloon to be weighed at the time of renewal of Certificate of Airworthiness or at any other time considered necessary.

6. FLIGHT MANUAL

The operating limitations, normal and emergency procedures and other pertinent information, particular to balloon operating characteristics are provided in the Flight Manual, furnished with each balloon or by a placard in the balloon, that is clearly visible to the pilot. The cockpit and emergency checklist in laminated form shall be carried on board, unless they form a part of the Flight Manual. The Flight Manual where applicable, shall always be carried on board.

7. SERVICE DOCUMENTS, MANUALS, REPAIR SCHEMES etc.

- 7.1 Operators/organizations shall not undertake maintenance/overhaul of balloons unless they possess the manufacturers' maintenance/overhaul manuals and have an arrangement for receiving amendments thereto.
- 7.2 Repairs, modifications and overhaul of balloons and balloon components shall be performed in accordance with approved drawing/repair schemes and overhaul instructions issued by the manufactures. In certain cases, the Director General may accept repairs carried out conforming to standard aeronautical practices.
- 7.3 Compliance of service bulletins or instructions, mandatory inspections/modifications issued by the manufacturer's or the Director General will be governed by these Requirements.

8. LOG BOOKS

- 8.1 A Journey or Technical (or Flight) Log shall be maintained in respect of each balloon. It shall indicate details of every flight, including the date of flight, lift off time, total flight time, the places of departure and arrival. The entries in the log book shall be certified by the pilot undertaking the flight.
- 8.2 A balloon Technical (or Flight) Log book shall be maintained by every operator for the purposes of recording the flight time, modification and other repair work carried out on the balloon.
- 8.3 Maintenance/Overhaul Records
Records of inspection, overhaul, replacements, repairs, modifications and flight times shall be maintained in appropriate balloon Technical (or Flight) Log book. These entries in the log book shall be certified by a licensed/approved person.
- 8.4 The records shall be preserved for the following periods :
- (i) Balloon Log Book : Where the balloon is permanently withdrawn and its Certificate of Airworthiness is cancelled by the Director General or where the balloon is involved in an accident resulting in damage beyond economical

repairs, it shall be preserved for one year (or after the accident or for such period as required by the authority investigating the accident).

- (ii) Procedure/Worksheet pertinent to balloon : For at least five years after the completion of work.
- (iii) Records/Worksheet pertaining to lifed components : One year after the component is permanently withdrawn from use.

9. MANUAL REQUIREMENTS

All balloon operators (including private operators) are required to prepare Quality Control-cum-Maintenance Procedure Manual which will cover the following aspects :

- (i) all approved Maintenance Schedules and if they are too bulky then only the nomenclature of the approved Maintenance Schedules along with reference number and date of approval be quoted in the manual and approved schedules be stocked separately.
- (ii) safety requirements to be followed during balloon handling on the ground or at the time of refueling/defueling, or while being housed inside a hangar.
- (iii) procedure for keeping balloon log books/work sheets up-to-date and preservation of the same and individuals authorised to certify these documents.
- (iv) procedure of recording/reporting of all defects observed during inspection or during flight and recording or rectification work undertaken.
- (v) occasions when test flights would be carried out.
- (vi) procedure of embodying mandatory modifications/inspections.

Note:- Such manuals are to be submitted to the Airworthiness Division for the scrutiny. The manuals prepared by operators, other than private operators, shall be according to the Nepalese Civil Airworthiness Requirements.

10 DOCUMENTS TO BE CARRIED ON BOARD IN FLIGHT

- (1) Journey or Technical (or Flight) Log Book
- (2) Radio Mobile License.
- (3) Certificate of Airworthiness.
- (4) Certificate of Registration.
- (5) Appropriate license for the crew.
- (6) Cockpit and Emergency Check List in laminated form or Flight Manual (if applicable).
- (7) Weight Schedule, duly approved and to be displayed at a prominent place.

Note:- All defects observed on ground and during flight shall be recorded in a register against which the rectification action taken, shall also be appended by a licensed/approved person and signed and dated.

11. INSTRUMENTS AND EQUIPMENT TO BE CARRIED BY BALLOONS IN FLIGHT

- (1) Hand fire extinguisher of an approved type, in the main compartment carrying personnel.
- (2) Safety harness for each personnel on board. The harness for each person need not be provided for gondola or basket type of balloons.
- (3) A compass
- (4) An altimeter
- (5) A rate of climb indicator
- (6) First Aid Kit
- (7) A fuel quantity gauge
- (8) An envelope temperature indicator
- (9) Burner relighter
- (10) Two way R/T communication equipment
- (11) A global positioning system airborne equipment (Where the balloon flight is for long distance habitat area)

12. FLIGHT TESTS

The Flight Tests shall be carried out in accordance with the requirements of NCAR. The operation of the balloon flights will only be undertaken during day time under V.F.R. conditions.

Civil Aviation Authority of Nepal.