

CAD 3-02

Fire Prevention Precautions in Hot Air Balloons

Effective: 10 July 2025

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1. Subject

This Civil Aviation Directive (CAD) provides Fire Prevention Precautions in Hot Air Balloons based on requirements of CAR 77.

2. Purpose

The Civil Aviation Directives, hereinafter referred to as Directives are a means of circulating safety critical requirements, or essential information of an administrative or technical nature to aviation participants within the Sultanate of Oman. The concerned entities mentioned in section (3) are required to ensure that the highest safety precautions related to fire hazards in hot air balloon operations are adopted, disseminated, and effectively implemented to maintain the highest level of trust. These measures shall also ensure that occupants, associated personnel, and the operating environment remain safe at all times.

3. Applicability

This Directive applies to all hot air balloon operators, and all involved maintenance organizations and personnel.

4. Objectives

This Directive aims to enhance operational safety by requiring the adoption of all necessary precautions to prevent hot air balloons from catching fire during operation and by mandating the implementation of measures to eliminate or mitigate the risk of fire occurrence.

5. Effective date

This CAD is effective from 10 July 2025.

CAD 3-02 – Fire Prevention Precautions in Hot Air Balloons

6. Definitions

For the purposes of this Directive the following definitions apply:

‘Unapproved Parts’ are parts that are not approved for installation in accordance with the applicable airworthiness requirements. This includes:

- Parts that do not conform to approved design data;
- Parts without acceptable certification or documentation;
- Parts that are counterfeit, improperly maintained, or modified without proper approval;
- Parts that are intentionally misrepresented or misidentified;
- Parts distributed through channels that bypass the approved supply chain.

7. Subject matter and scope

This Directive sets forth the essential requirements to be strictly adhered to, as outlined below:

- (a) All balloons are required to carry at least one Dry chemical (multi-purpose) fire extinguisher.
- (b) Burners are tested on ground before each flight to ensure ignition is reliable and flames are stable.
- (c) While considered a useful backup, reserve torches must be properly secured, inspected for leaks, and securely mounted or isolated in flame-resistant enclosures, especially in fuel-rich environments.
- (d) Soap tests or electronic sniffers are used to detect any gas leakage before flight.
- (e) Approaching the balloon during inflation or refuelling is strictly prohibited for all personnel and spectators, except for crew members specifically authorized and trained for such operations.
- (f) The burner shall only be ignited under supervision and after the crew has confirmed that no fuel vapours are present.
- (g) Burner units, fuel tanks, valves, and hoses shall be inspected for signs of wear, cracks, looseness, damage, or any other condition that could compromise safety prior to each flight and during scheduled maintenance checks. Special attention shall be given to the Pressure Relief Valve (PRV), and its replacement interval must be strictly observed.

CAD 3-02 – Fire Prevention Precautions in Hot Air Balloons

- (h) All balloon components must have up-to-date service records and compliance with national aviation authority requirements.
- (i) Under no circumstances shall unapproved parts be utilized.
- (j) It is strictly prohibited to connect two gas cylinders directly to each other through a single joint.
- (k) Propane tanks shall be pressure-tested at regular intervals through certified hydrostatic testing to verify structural integrity and compliance with safety standards. Testing shall be performed in accordance with the manufacturer's recommendations and applicable regulatory requirements.
- (l) The emergency response plan shall be regularly updated, and all crew members shall be trained in fire protection, suppression procedures, and emergency landing protocols to ensure preparedness for in-flight and ground emergencies.
- (m) All applicable Airworthiness Directives (ADs) or Alert Service Bulletins (ASBs) shall be tracked and complied with in a timely manner, if applicable.
- (n) The quality and fire-resistant properties of Nomex shall be maintained through regular inspection, proper storage, and adherence to manufacturer-recommended to ensure continued thermal protection in high-heat exposure areas.

8. Penalties

The CAA may take appropriate enforcement measures in accordance with the Civil Aviation Law (CAL), Chapter XIII, and Civil Aviation Regulation "CAR-12". These measures may include the imposition of operational limitations, suspension or revocation of certificates, licenses, approvals, or authorisations, and the application of financial penalties against any individual or entity that deliberately or negligently violates the requirements set forth herein or in any other relevant regulatory documents.



Rawya Nasser Al-Adawi

Acting, Director General of Civil Aviation Regulation

