



BALLOON FLIGHT OVER POPULOUS AREAS

**Civil Aviation
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This publication is only advisory but it gives the CASA preferred method for complying with the Civil Aviation Regulations 1988 (CAR 1988).

It is not the only method, but experience has shown that if you follow this method you will comply with CAR 1988.

Always read this advice in conjunction with the appropriate regulations.

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References

- CAOs 95.53 and 95.54;
- regulations 157, 259 and 303 of CAR 1988;
- AIP ENR 5.5 paragraphs 3.1.1 and 3.1.2

Who this CAAP applies to

- manned balloon operators;
- organisers of ballooning events;
- commercial balloon pilots;
- private balloon pilots who have been given permission to fly over populous areas below 1000 feet in order to take-off and land, or to participate in aviation events.

Why this CAAP was written

The purpose of this CAAP is to provide guidance about the manner in which a balloon may be flown so as to comply with the conditions set out in CAOs 95.53 and 95.54 whilst in the course of taking off from or landing at a place which complies with regulation 92 of CAR 1988 and is situated within a populous area. In other words, it describes the extent to which it is acceptable to fly low over a populous area during the course of taking-off or approaching to land.

Status of this CAAP

This is the first issue of this CAAP.

For further information

Contact the CASA Area Office closest to you.

1. General

1.1 Balloons are exempted by CAOs 95.53 (commercial operations) and 95.54 (private operations) from regulation 157 of CAR 1988 in order to permit them to operate below 500 feet above ground level outside populous areas. Each of these exemptions is subject to the conditions set out in the relevant CAO. In the case of commercial operations in manned balloons, CAO 95.53 requires a permission from CASA under regulation 259 or 260 of CAR 1988. CASA has a standard format for these permissions.

1.2 During the course of private balloon flights, pilots must maintain 1000 feet above ground level whilst over any city, town or populous area, and carry sufficient fuel to maintain this height, unless CASA issues a permission to vary this requirement. Variations are routinely available to adequately trained pilots on application, and in general apply the same conditions as are applicable to commercial balloon operations.

1.3 Commercial balloon flights are permitted to take-off from and land at suitable locations within a populous area, and, except during take-off and landing, must not fly within a radius of 300 metres of any city, town or populous area below 1000 feet above ground level.

1.4 These requirements are similar to those of subregulation 157(3) and paragraph 157(4)(e) of CAR 1988 which do not apply to ballooning because of the exemptions in the CAOs.

1.5 CAAP 92-3 provides guidance about launch and landing areas for balloons.

2. Fuel reserves

Fuel reserves carried when overflying populous areas should be greater than for areas with a wider choice of landing areas, as a suitable landing area may not be available at the time a pilot has planned to land.

3. Take-off and climb

3.1 If the flight path of the balloon in the first few minutes after take-off will take it over any area of residential or occupied commercial buildings, the pilot should fly the balloon so as to maintain a positive rate of climb whilst over that area or approaching it within 300 metres.

3.2 In any event, the pilot should ensure that the balloon either reaches the prescribed 1000 ft minimum height within 5 minutes of taking-off, or clears the lateral boundaries of the populous area and a 300 metre buffer around it within that time.

4. Overflight of populous areas

If a landing is not planned within or close to a populous area, the pilot should not descend below 1000 feet until the balloon is clear of the populous area and a 300 metre buffer area surrounding it.

5. Descent and landing

5.1 If a landing is planned at a site which lies within a populous area and its surrounding 300 metres buffer area, descent to the landing site and manoeuvring to use wind currents below 1000 feet may commence over the populous area. However, to avoid undue disturbance to residents, the pilot should not descend below 300 feet above the highest point of any building or structure within a 300 metre radius of the balloon until either:

- the balloon is within 1000 metres of the intended landing point, or
- the pilot anticipates reaching the landing site within 5 minutes,

whichever will occur later.

5.2 On the landing approach, the pilot should not fly the balloon directly over a dwelling or an occupied building less than 100 feet above it, unless there is no suitable landing site available which can safely be reached without overflying such buildings below 100 feet.

5.3 In the event that an approach to a landing site in a populous area is aborted, the pilot should fly the balloon to at least 300 feet above obstacles unless an alternative landing site is immediately available. A pilot should avoid prolonged manoeuvring below 300 feet.

5.4 The pilot should not descend below the level of obstacles on the downwind side of a landing site if the landing is not assured unless EITHER:

- the approach can safely be aborted and the obstacles cleared by the distances prescribed for a suitable launch site, OR
- a competent ground crew is present to assist the pilot, for example by use of a ground handling line.

6. Flight over electricity transmission cables

Where a balloon is approaching an electricity transmission cable, the pilot should fly the balloon so as to maintain level or climbing flight whilst within 30 metres of the cable, and should cross the cable at a safe height having regard to the conditions and the voltage carried by the cable. The pilot should also consider the possibility of a wind reversal at very low level when landing after crossing an electricity cable.

**7. Relationship to
CAAP 92-3**

7.1 CAAP 92-3 was amended in 1996 to incorporate information about proximity to power transmission cables in assessing the suitability of landing sites for balloons. Because of their potential to endanger balloon occupants, a pilot should avoid such cables by increased margins compared to other obstacles.

7.2 A pilot should ensure that no obstacle, other than fences, small trees or soft vegetation is located on the approach (upwind) side of a balloon landing site within 1 balloon envelope diameter of the point at which the pilot intends the balloon to be landed.

7.3 A pilot should choose a landing site within a populous area carefully in order to ensure not only compliance with CAAP 92-3, but also to avoid a public perception of risk to balloon occupants and persons and property on the ground. It is rare that a residential street will fall within the guidelines given in the CAAP because of the proximity to houses and street lighting. Therefore it is not a satisfactory landing site other than in an emergency or as a precaution to avert a future emergency situation.

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