

(c) The equipment, systems, and installations must be designed to prevent hazards to the balloon in the event of a probable malfunction or failure.

[Amdt. 31-4, 45 FR 60180, Sept. 11, 1980]

### Subpart F—Operating Limitations and Information

#### §31.81 General.

(a) The following information must be established:

(1) Each operating limitation, including the maximum weight determined under §31.14.

(2) The normal and emergency procedures.

(3) Other information necessary for safe operation, including—

(i) The empty weight determined under §31.16;

(ii) The rate of climb determined under §31.17, and the procedures and conditions used to determine performance;

(iii) The maximum vertical velocity, the altitude drop required to attain that velocity, and altitude drop required to recover from a descent at that velocity, determined under §31.19, and the procedures and conditions used to determine performance; and

(iv) Pertinent information peculiar to the balloon's operating characteristics.

(b) The information established in compliance with paragraph (a) of this section must be furnished by means of—

(1) A Balloon Flight Manual; or

(2) A placard on the balloon that is clearly visible to the pilot.

[Amdt. 31-4, 45 FR 60180, Sept. 11, 1980]

#### §31.82 Instructions for Continued Airworthiness.

The applicant must prepare Instructions for Continued Airworthiness in accordance with appendix A to this part that are acceptable to the Administrator. The instructions may be incomplete at type certification if a program exists to ensure their completion prior to delivery of the first balloon or issuance of a standard certificate of airworthiness, whichever occurs later.

[Amdt. 31-4, 45 FR 60180, Sept. 11, 1980]

#### §31.83 Conspicuity.

The exterior surface of the envelope must be of a contrasting color or colors so that it will be conspicuous during operation. However, multicolored banners or streamers are acceptable if it can be shown that they are large enough, and there are enough of them of contrasting color, to make the balloon conspicuous during flight.

#### §31.85 Required basic equipment.

In addition to any equipment required by this subchapter for a specific kind of operation, the following equipment is required:

(a) For all balloons:

(1) [Reserved]

(2) An altimeter.

(3) A rate of climb indicator.

(b) For hot air balloons:

(1) A fuel quantity gauge. If fuel cells are used, means must be incorporated to indicate to the crew the quantity of fuel in each cell during flight. The means must be calibrated in appropriate units or in percent of fuel cell capacity.

(2) An envelope temperature indicator.

(c) For captive gas balloons, a compass.

[Amdt. 31-2, 30 FR 3377, Mar. 13, 1965, as amended by Amdt. 31-3, 41 FR 55474, Dec. 20, 1976; Amdt. 31-4, 45 FR 60180, Sept. 11, 1980]

#### APPENDIX A TO PART 31—INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

##### A31.1 GENERAL

(a) This appendix specifies requirements for the preparation of Instructions for Continued Airworthiness as required by §31.82.

(b) The Instructions for Continued Airworthiness for each balloon must include the Instructions for Continued Airworthiness for all balloon parts required by this chapter and any required information relating to the interface of those parts with the balloon. If Instructions for Continued Airworthiness are not supplied by the part manufacturer for a balloon part, the Instructions for Continued Airworthiness for the balloon must include the information essential to the continued airworthiness of the balloon.

(c) The applicant must submit to the FAA a program to show how changes to the Instructions for Continued Airworthiness made by the applicant or by the manufacturers of balloon parts will be distributed.