

## § 27.1

## 14 CFR Ch. I (1–1–08 Edition)

27.1323 Airspeed indicating system.  
27.1325 Static pressure systems.  
27.1327 Magnetic direction indicator.  
27.1329 Automatic pilot system.  
27.1335 Flight director systems.  
27.1337 Powerplant instruments.

### ELECTRICAL SYSTEMS AND EQUIPMENT

27.1351 General.  
27.1353 Storage battery design and installation.  
27.1357 Circuit protective devices.  
27.1361 Master switch.  
27.1365 Electric cables.  
27.1367 Switches.

### LIGHTS

27.1381 Instrument lights.  
27.1383 Landing lights.  
27.1385 Position light system installation.  
27.1387 Position light system dihedral angles.  
27.1389 Position light distribution and intensities.  
27.1391 Minimum intensities in the horizontal plane of forward and rear position lights.  
27.1393 Minimum intensities in any vertical plane of forward and rear position lights.  
27.1395 Maximum intensities in overlapping beams of forward and rear position lights.  
27.1397 Color specifications.  
27.1399 Riding light.  
27.1401 Anticollision light system.

### SAFETY EQUIPMENT

27.1411 General.  
27.1413 Safety belts.  
27.1415 Ditching equipment.  
27.1419 Ice protection.  
27.1435 Hydraulic systems.  
27.1457 Cockpit voice recorders.  
27.1459 Flight recorders.  
27.1461 Equipment containing high energy rotors.

### Subpart G—Operating Limitations and Information

27.1501 General.

#### OPERATING LIMITATIONS

27.1503 Airspeed limitations: general.  
27.1505 Never-exceed speed.  
27.1509 Rotor speed.  
27.1519 Weight and center of gravity.  
27.1521 Powerplant limitations.  
27.1523 Minimum flight crew.  
27.1525 Kinds of operations.  
27.1527 Maximum operating altitude.  
27.1529 Instructions for Continued Airworthiness.

#### MARKINGS AND PLACARDS

27.1541 General.

27.1543 Instrument markings: general.  
27.1545 Airspeed indicator.  
27.1547 Magnetic direction indicator.  
27.1549 Powerplant instruments.  
27.1551 Oil quantity indicator.  
27.1553 Fuel quantity indicator.  
27.1555 Control markings.  
27.1557 Miscellaneous markings and placards.  
27.1559 Limitations placard.  
27.1561 Safety equipment.  
27.1565 Tail rotor.

#### ROTORCRAFT FLIGHT MANUAL AND APPROVED MANUAL MATERIAL

27.1581 General.  
27.1583 Operating limitations.  
27.1585 Operating procedures.  
27.1587 Performance information.  
27.1589 Loading information.

APPENDIX A TO PART 27—INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

APPENDIX B TO PART 27—AIRWORTHINESS CRITERIA FOR HELICOPTER INSTRUMENT FLIGHT

APPENDIX C TO PART 27—CRITERIA FOR CATEGORY A

APPENDIX D TO PART 27—HIRF ENVIRONMENTS AND EQUIPMENT HIRF TEST LEVELS

AUTHORITY: 49 U.S.C. 106(g), 40113, 44701–44702, 44704.

SOURCE: Docket No. 5074, 29 FR 15695, Nov. 24, 1964, unless otherwise noted.

## Subpart A—General

### § 27.1 Applicability.

(a) This part prescribes airworthiness standards for the issue of type certificates, and changes to those certificates, for normal category rotorcraft with maximum weights of 7,000 pounds or less and nine or less passenger seats.

(b) Each person who applies under Part 21 for such a certificate or change must show compliance with the applicable requirements of this part.

(c) Multiengine rotorcraft may be type certified as Category A provided the requirements referenced in appendix C of this part are met.

[Doc. No. 5074, 29 FR 15695, Nov. 24, 1964, as amended by Amdt. 27–33, 61 FR 21906, May 10, 1996; Amdt. 27–37, 64 FR 45094, Aug. 18, 1999]

### § 27.2 Special retroactive requirements.

(a) For each rotorcraft manufactured after September 16, 1992, each applicant must show that each occupant's seat is

equipped with a safety belt and shoulder harness that meets the requirements of paragraphs (a), (b), and (c) of this section.

(1) Each occupant's seat must have a combined safety belt and shoulder harness with a single-point release. Each pilot's combined safety belt and shoulder harness must allow each pilot, when seated with safety belt and shoulder harness fastened, to perform all functions necessary for flight operations. There must be a means to secure belts and harnesses, when not in use, to prevent interference with the operation of the rotorcraft and with rapid egress in an emergency.

(2) Each occupant must be protected from serious head injury by a safety belt plus a shoulder harness that will prevent the head from contacting any injurious object.

(3) The safety belt and shoulder harness must meet the static and dynamic strength requirements, if applicable, specified by the rotorcraft type certification basis.

(4) For purposes of this section, the date of manufacture is either—

(i) The date the inspection acceptance records, or equivalent, reflect that the rotorcraft is complete and meets the FAA-Approved Type Design Data; or

(ii) The date the foreign civil airworthiness authority certifies that the rotorcraft is complete and issues an original standard airworthiness certificate, or equivalent, in that country.

(b) For rotorcraft with a certification basis established prior to October 18, 1999—

(1) The maximum passenger seat capacity may be increased to eight or nine provided the applicant shows compliance with all the airworthiness requirements of this part in effect on October 18, 1999.

(2) The maximum weight may be increased to greater than 6,000 pounds provided—

(i) The number of passenger seats is not increased above the maximum number certificated on October 18, 1999, or

(ii) The applicant shows compliance with all of the airworthiness require-

ments of this part in effect on October 18, 1999.

[Doc. No. 26078, 56 FR 41051, Aug. 16, 1991, as amended by Amdt. 27-37, 64 FR 45094, Aug. 18, 1999]

## Subpart B—Flight

### GENERAL

#### § 27.21 Proof of compliance.

Each requirement of this subpart must be met at each appropriate combination of weight and center of gravity within the range of loading conditions for which certification is requested. This must be shown—

(a) By tests upon a rotorcraft of the type for which certification is requested, or by calculations based on, and equal in accuracy to, the results of testing; and

(b) By systematic investigation of each required combination of weight and center of gravity if compliance cannot be reasonably inferred from combinations investigated.

[Doc. No. 5074, 29 FR 15695, Nov. 24, 1964, as amended by Amdt. 27-21, 49 FR 44432, Nov. 6, 1984]

#### § 27.25 Weight limits.

(a) *Maximum weight.* The maximum weight (the highest weight at which compliance with each applicable requirement of this part is shown) must be established so that it is—

(1) Not more than—

(i) The highest weight selected by the applicant;

(ii) The design maximum (the highest weight at which compliance with each applicable structural loading condition of this part is shown); or

(iii) The highest weight at which compliance with each applicable flight requirement of this part is shown; and

(2) Not less than the sum of—

(i) The empty weight determined under § 27.29; and

(ii) The weight of usable fuel appropriate to the intended operation with full payload;

(iii) The weight of full oil capacity; and

(iv) For each seat, an occupant weight of 170 pounds or any lower weight for which certification is requested.