Federal Aviation Administration, DOT § 27.727 Reserve energy absorption drop test.

The reserve energy absorption drop test must be conducted as follows:

(a) The drop height must be 1.5 times that specified in § 27.725(a).

(b) Rotor lift, where considered in a manner similar to that prescribed in § 27.725(b), may not exceed 1.5 times the lift allowed under that paragraph.

(c) The landing gear must withstand this test without collapsing. Collapse of the landing gear occurs when a member of the nose, tail, or main gear will not support the rotorcraft in the proper attitude or allows the rotorcraft structure, other than the landing gear and external accessories, to impact the landing surface.

[Doc. No. 5074, 29 FR 15695, Nov. 24, 1964, as amended by Amdt. 27-26, 55 FR 8001, Mar. 6, 1990]

§ 27.729 Retracting mechanism.

For rotorcraft with retractable landing gear, the following apply:

(a) Loads. The landing gear, retracting mechanism, wheel-well doors, and supporting structure must be designed for—

(1) The loads occurring in any maneuvering condition with the gear retracted;

(2) The combined friction, inertia, and air loads occurring during retraction and extension at any airspeed up to the design maximum landing gear operating speed; and

(3) The flight loads, including those in yawed flight, occurring with the gear extended at any airspeed up to the design maximum landing gear extended speed.

(b) Landing gear lock. A positive means must be provided to keep the gear extended.

(c) Emergency operation. When other than manual power is used to operate the gear, emergency means must be provided for extending the gear in the event of—

(1) Any reasonably probable failure in the normal retraction system; or

(2) The failure of any single source of hydraulic, electric, or equivalent energy.

(d) Operation tests. The proper functioning of the retracting mechanism must be shown by operation tests.