

## SUBPART B – FLIGHT

## GENERAL

## CS 27.21 Proof of compliance

Each requirement of this Subpart must be met at each appropriate combination of weight and centre 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 centre of gravity if compliance cannot be reasonably inferred from combinations investigated.

## CS 27.25 Weight limits

(a) *Maximum weight.* The maximum weight, the highest weight at which compliance with each applicable requirement of this CS-27 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 weight, the highest weight at which compliance with each applicable structural loading condition of this CS-27 is shown; or

(iii) The highest weight at which compliance with each applicable flight requirement of this CS-27 is shown; and

(2) Not less than the sum of:

(i) The empty weight determined under CS 27.29;

(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 77 kg (170 lbs) or any lower weight for which certification is requested.

(b) *Minimum weight.* The minimum weight, the lowest weight at which compliance with each

applicable requirement of this CS-27 is shown, must be established so that it is:

(1) Not more than the sum of:

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

(ii) The weight of the minimum crew necessary to operate the rotorcraft, assuming for each crew member a weight no more than 77 kg (170 lbs), or any lower weight selected by the applicant or included in the loading instructions; and

(2) Not less than:

(i) The lowest weight selected by the applicant;

(ii) The design minimum weight, the lowest weight at which compliance with each applicable structural loading condition of this CS-27 is shown; or

(iii) The lowest weight at which compliance with each applicable flight requirement of this CS-27 is shown.

(c) *Total weight with jettisonable external load.* A total weight for the rotorcraft with a jettisonable external load attached that is greater than the maximum weight established under sub-paragraph (a) may be established for any rotorcraft-load combination if

(1) The rotorcraft-load combination does not include human external cargo,

(2) Structural component approval for external load operations under either CS 27.865, or under equivalent operational standards is obtained,

(3) The portion of the total weight that is greater than the maximum weight established under sub-paragraph (a) is made up only of the weight of all or part of the jettisonable external load,

(4) Structural components of the rotorcraft are shown to comply with the applicable structural requirements of this CS-27 under the increased loads and stresses caused by the weight increase over that established under sub-paragraph (a), and

(5) Operation of the rotorcraft at a total weight greater than the maximum certificated weight established under sub-paragraph (a) is limited by appropriate operating limitations under CS 27.865 (a) and (d).