Federal Aviation Administration, DOT

§ 23.1589 Loading information.

The following loading information must be furnished:

(a) The weight and location of each item of equipment that can be easily removed, relocated, or replaced and that is installed when the airplane was weighed under the requirement of § 23.25.

(b) Appropriate loading instructions for each possible loading condition between the maximum and minimum weights established under § 23.25, to facilitate the center of gravity remaining within the limits established under § 23.23.

[Doc. No. 27807, 61 FR 5194, Feb. 9, 1996]

APPENDIX A TO PART 23—SIMPLIFIED DESIGN LOAD CRITERIA

A23.1 General.

(a) The design load criteria in this appendix are an approved equivalent of those in §§ 23.321 through 23.459 of this subchapter for an airplane having a maximum weight of 6,000 pounds or less and the following configuration:

(1) A single engine excluding turbine powerplants;

(2) A main wing located closer to the airplane’s center of gravity than to the aft, fuselage-mounted, empennage;

(3) A main wing that contains a quarter-chord sweep angle of not more than 15 degrees fore or aft;

(4) A main wing that is equipped with trailing-edge controls (ailerons or flaps, or both);

(5) A main wing aspect ratio not greater than 7;

(6) A horizontal tail aspect ratio not greater than 4;

(7) A horizontal tail volume coefficient not less than 0.34;

(8) A vertical tail aspect ratio not greater than 2;

(9) A vertical tail platform area not greater than 10 percent of the wing platform area; and

(10) Symmetrical airfoils must be used in both the horizontal and vertical tail designs.

(b) Appendix A criteria may not be used on any airplane configuration that contains any of the following design features:

(1) Canard, tandem-wing, close-coupled, or tailless arrangements of the lifting surfaces;

(2) Biplane or multiplane wing arrangements;

(3) T-tail, V-tail, or cruciform-tail (+) arrangements;

(4) Highly-swept wing platform (more than 15-degrees of sweep at the quarter-chord), delta planforms, or slatted lifting surfaces; or

(5) Winglets or other wing tip devices, or outboard fins.

A23.3 Special symbols.

n1 = Airplane Positive Maneuvering Limit Load Factor.

n2 = Airplane Negative Maneuvering Limit Load Factor.

nG = Airplane Positive Gust Limit Load Factor at VC.

nG = Airplane Negative Gust Limit Load Factor at VC.

nF = Airplane Positive Limit Load Factor With Flaps Fully Extended at VF.

VF = Minimum Design Load Speed = 11.0 \sqrt{W/S} [kts]

V = Minimum Design Maneuvering Load Speed = 15.0 \sqrt{W/S} [kts]

VC = Minimum Design Cruise Load Speed = 17.0 \sqrt{W/S} [kts]

VD = Minimum Design Dive Load Speed = 24.0 \sqrt{W/S} [kts]