



Designation: F3082/F3082M – 16

# Standard Specification for Flight for General Aviation Aeroplanes<sup>1</sup>

This standard is issued under the fixed designation F3082/F3082M; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This specification establishes the airworthiness design standards associated with aeroplane flight.

1.2 The applicant for a design approval shall seek the individual guidance of their respective civil aviation authority (CAA) body concerning the use of this specification as part of a certification plan. For information on which CAA regulatory bodies have accepted this specification (in whole or in part) as a means of compliance to their small aircraft airworthiness regulations (hereinafter referred to as “the Rules”), refer to ASTM Committee F44 webpage ([www.astm.org/COMMITTEE/F44.htm](http://www.astm.org/COMMITTEE/F44.htm)), which includes CAA website links.

1.3 *Units*—The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

## 2. Referenced Documents

2.1 *ASTM Standards:*<sup>2</sup>

[F3060 Terminology for Aircraft](#)

[F3063/F3063M Specification for Design and Integration of Fuel/Energy Storage and Delivery System Installations for Aeroplanes](#)

[F3174/F3174M Specification for Establishing Operating Limitations and Information for Aeroplanes](#)

## 3. Terminology

3.1 See Terminology [F3060](#) for definitions and abbreviations.

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee F44 on General Aviation Aircraft and is the direct responsibility of Subcommittee F44.20 on Flight. Current edition approved Feb. 1, 2016. Published March 2016. DOI: 10.1520/F3082\_F3082M-16.

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

## 4. General

4.1 *Proof of Compliance:*

4.1.1 Each criterion of this specification shall be met at each appropriate combination of weight and center of gravity within the range of loading conditions for which certification is requested. This shall be shown by:

4.1.1.1 Tests upon an aeroplane of the type for which certification is requested or by calculations based on, and equal in accuracy to, the results of testing.

4.1.1.2 Systematic investigation of each probable combination of weight and center of gravity, if compliance cannot be reasonably inferred from combinations investigated.

4.1.2 The general tolerances in [Table 1](#) are allowed during flight testing. However, greater tolerances may be allowed in particular tests, if properly justified.

4.2 *Load Distribution Limits:*

4.2.1 Ranges of weights and centers of gravity within which the aeroplane may be safely operated shall be established. If a weight and center of gravity combination is allowable only within certain lateral load distribution limits that could be inadvertently exceeded, these limits shall be established for the corresponding weight and center of gravity combinations.

4.2.2 The load distribution limits shall not exceed any of the following:

(1) The selected limits,

(2) The limits at which the structure is proven, or

(3) The limits at which compliance with each applicable flight requirement is shown.

4.3 *Weight Limits:*

4.3.1 *Maximum Weight*—The maximum weight is the highest weight at which compliance with each applicable requirement (other than those complied with at the design landing weight) is shown. The maximum weight shall be established so that it is:

4.3.1.1 Not more than the least of:

(1) The highest weight selected by the applicant;

(2) The design maximum weight, which is the highest weight at which compliance with each applicable structural loading condition (other than those complied with at the design landing weight) is shown;

(3) The highest weight at which compliance with each applicable flight requirement is shown.

4.3.1.2 Not less than the weight with: