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AEROSPACE STANDARD

AS 176B

LIMITS, TABLE OF LIMITS, AND LUBRICATION CHARTS

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1. PURPOSE: The Table of Limits and the corresponding Limits and Lubrication Charts covered by this specification are to be used in connection with inspection, repair and assembly operations of aircraft engines. Included are such items as fits, clearances, backlashes, spring loads, and the methods of tightening threaded parts such as torque, angle of turn, or bolt stretch. The Lubrication Charts, if furnished, are to be used for tracing the oil flow through the engine.

2. SCOPE: This specification covers the requirements for the preparation of Limits, Table of Limits and Lubrication Charts in published form for service and production use.

3. GENERAL REQUIREMENTS:

3.1 Units of measurement shall be in inches for fits, clearances, backlashes, and bolt stretch; in pounds for spring loads, in degrees for angles of turn; and in pound-inches (or pound-feet) for wrench torque.

3.2 Revisions shall be effected by the issuing of later editions or by the use of revised or additional pages.

4. DETAIL REQUIREMENTS:

4.1 Table of Limits: These shall be published on 8.5 × 11 inch pages (use of both sides permissible) with suitable margins to accommodate the type of binder or cover to be used. The text may be set in either one or two columns and the size of type shall not be smaller than eight point.

4.1.1 Title Page: When used, the title page shall include the engine manufacturer's name (and seal, if desired) and address, the title, designation number and the engine series (or models) covered. Although the composite table may apply to more than one engine model, the limits of each model shall be clearly identified in the Limits Charts and/or the Table of Limits.

4.1.2 Introduction: The introduction shall contain a comprehensive description of how the table shall be used, including an explanation of all terms, units of measurement, abbreviations, and symbols employed in the publication. Any company standards pertaining to the tightening of regular nuts and bolts, threaded connectors, plugs, etc., shall be included in this section.

4.1.3 Table: The first part of the table shall consist of a listing of all the diametral (or chordal) fits and clearances, and gear backlashes applicable to the engine or engines being covered by the table. In the case of large engines, it may be subdivided according to sections of the engine such as reduction gear section, power section, compressor section, combustion and turbine section, accessory section, etc. The second part of the table shall contain such items as methods of tightening threaded parts such as torque, angle of turn, or bolt stretch; spring loads with spring compressed to a specified height; bevel gear mounting distances and any other limiting dimensions for which a spacer is fitted at assembly, except as noted in par. 4.2.2.

4.1.4 The data specified in par. 4.1.3 should be arranged with reference numbers in numerical order as shown in Figure 1. The next column headed "Fig. No." refers to the applicable Limits Chart to be used with the table. The description column contains the item names of the parts to which the fit limits apply. The item description may be abbreviated as necessary to fit within the space available. The "dimensions for ref." columns refer to the maximum and minimum dimensions as shown on the applicable parts drawings. The limits columns show first minimum fit between the parts, the second column shows the maximum fit and the last column should show the fit under which the parts require replacement. For those fits in which there is a positive clearance between the parts, a suffix letter "L" may be used if desired. For those fits in which there is a negative clearance or an interference fit between the parts, a suffix letter "T" shall always be indicated. The "min" limit, as shown in Figure 1, indicates minimum positive clearance or maximum interference fit; while "max" limit indicates maximum positive clearance or minimum interference fit as applicable. Each page of the table shall indicate the engine manufacturer's name, and the engine or engines to which it is applicable. At the bottom of each page shall appear the latest revision date. Following the table shall appear the reduced size limits and lubrication charts (when required) as described under par. 4.2.