

NATIONAL AIRCRAFT STANDARDS COMMITTEE

AIRCRAFT INDUSTRIES ASSOCIATION OF AMERICA, INC., 610 SHOREHAM BUILDING, WASHINGTON 5, D. C.

SPECIFICATION

AIRFRAME CASTINGS: CLASSIFICATION AND INSPECTION OF

1. SCOPE

- 1.1 This specification supplements the detail casting specifications and prescribes the requirements for the classification of ferrous and non-ferrous castings for purposes of inspection, and the resulting inspection requirements therefor.

2. APPLICABLE SPECIFICATIONS

- 2.1 General - The following specifications of the issue in effect on the date of the invitation for bids form a part of this specification, to the extent specified herein.

2.2 Specifications

FEDERAL SPECIFICATION

QQ-M-151 Metals, General Specifications for Inspection of

MILITARY

MIL-I-6865 Inspection; Radiographic

MIL-I-6866 Inspection; Fluorescent Penetrant Method of

MIL-I-6870 Inspection Requirements; Magnetic Particle

3. REQUIREMENTS

- 3.1 Classification - For the purpose of inspection, castings shall be divided into the following classes, based on their function and on their margins of safety for design loading conditions.

PREPARED JOINTLY BY THE AIRCRAFT RESEARCH & TESTING COMMITTEE
AND THE INSPECTION COMMITTEE

TITLE

AIRFRAME CASTINGS - SPECIFICATION
FOR CLASSIFICATION AND INSPECTION OF

Specification

NAS 507

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3.1.1 Class I - A Class I casting is defined as one, the single failure of which during any operating condition would cause loss of the aircraft, or one of its major components, loss of control, unintentional release of, or inability to, release any armament store, failure of gun installation components, or which may cause significant injury to occupants of the aircraft. This classification shall not include parts the failure of which would merely divert load into other capable structures, nor shall it include those parts the failure of which must be coupled with a further unusual sequence or combination of events before the safety of the personnel or the air worthiness of the aircraft is jeopardized. Class I castings shall be further classified as follows:

3.1.1.1 Class IA - A Class I casting having a margin of safety determined to be less than 200% or one in which the margin of safety was not determined. (See MIL-C-6021)

3.1.1.2 Class IB - All other Class I castings.

3.1.2 Class II - A Class II casting is defined as one not included in Class I. Class II castings shall be further classified as follows:

3.1.2.1 Class IIA - A Class II casting having a margin of safety determined to be less than 200%.

3.1.2.2 Class IIB - All other Class II castings.

3.2 The Classification established for each casting shall be indicated on the applicable casting drawing.

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