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PROVISIONAL ACCEPTABLE MEANS OF COMPLIANCE

GUST CRITERIA

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PROVISIONAL ACCEPTABLE MEANS OF COMPLIANCE

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FOREWORD

1. The Standards in Annex 8, Airworthiness of Aircraft, are of the nature of broad specifications stating objectives rather than methods of realizing those objectives. In order to indicate by example the level of airworthiness intended by the Standards of that Annex, some specifications of a more detailed and quantitative nature have been included in the same volume under the title "Acceptable Means of Compliance". The Foreword of Annex 8 indicates the obligation under the Convention, resulting from the introduction of Acceptable Means of Compliance.

2. When the Annex was adopted on 13 June 1957, the Standards on the subjects Aeroplane Performance, Strength under Flight Loads, Reciprocating Engines, Turbine Engines, Propellers, and Navigation Lights were supplemented by Acceptable Means of Compliance. The absence of provisions of that type pertaining to other subjects was considered either as recognition by the Council that the Standards in themselves defined a sufficiently accurate level of airworthiness, or as recognition by the Council that, due to the technical developments going on in a subject at the time of adoption of the Annex, it had not yet been possible to establish a more precise technical specification than that in the Standards themselves.

3. It is the essence of the Acceptable Means of Compliance that they permit variations in overall methods as well as in detailed application. Therefore, Contracting States, in establishing national codes that will ensure compliance with the Standards, will sometimes need guidance as to the departures from Acceptable Means of Compliance that are suitable for the certification of aircraft other than those specified in their Range of Validity, and also as to the use of methods developed too recently to have behind them the suitable background of experience deemed necessary for introduction of an Acceptable Means of Compliance.

4. The guidance material is established by ICAO as "Provisional Acceptable Means of Compliance", a class of specification that does not impose any obligation under the Convention. The Provisional Acceptable Means of Compliance are not, like the Standards or the full-fledged Acceptable Means of Compliance, established by agreement between Contracting States; instead, they reflect an agreement reached by an international body of experts to the effect that a specification is worthy of trial.

5. Trial application of Provisional Acceptable Means of Compliance in national regulations or practices is intended to build up the amount of experience that, eventually, could lead to the introduction of an Acceptable Means of Compliance on the same subject.

6. The Provisional Acceptable Means of Compliance presented in this Circular was developed by the Airworthiness Committee, a body of experts authorized by the Council and functioning under the Air Navigation Commission. The Airworthiness Committee recommended the issuance of this Provisional Acceptable Means of Compliance in its report of the Seventh Meeting which was held from 22 November to 15 December 1966. The Air Navigation Commission, after satisfying itself that this Provisional Acceptable Means of Compliance was properly co-ordinated with the ICAO Standards and related material and that the policies of the Organization had been followed, authorized issue of this Provisional Acceptable Means of Compliance at the Fourth Meeting of its Fifty-Fourth Session on 31 January 1967. It is to be noted that in so doing the Air Navigation Commission did not pass judgement on, or endorse, the technical contents recommended by the Airworthiness Committee.

7. This Provisional Acceptable Means of Compliance contains specifications to provide for a level of safety equivalent to that intended by the provisions of paragraph 3.3.2 of Part III of Annex 8 to the Convention, when applied to aeroplanes falling within the Applicability set out herein. They may also be applied to other aeroplanes at the discretion of the States concerned.

8. The Airworthiness Committee based this Provisional Acceptable Means of Compliance on the current practices in the major aircraft-manufacturing States. The requirements are based on the discrete gust method assuming the aeroplane to be a rigid body. An acceptable method is given for taking account of the flexibility effects and the attention of the certification authorities is directed to the need of investigation of critical parts of the structure using the continuous turbulence technique. The Committee is undertaking studies on the application of power spectral approach methods in the calculation of response of currently operating transport aeroplanes to continuous turbulence in order to help develop an appropriate criterion at a later date.

9. States are invited to use these specifications and to notify ICAO of the extent to which they are being applied. Should any State find it desirable or necessary to adopt any significant variations from the specifications, that State is invited to notify the Organization of such differences.