

# Federal Aviation Agency



AC NO: AC 20-14

AIRCRAFT

EFFECTIVE:

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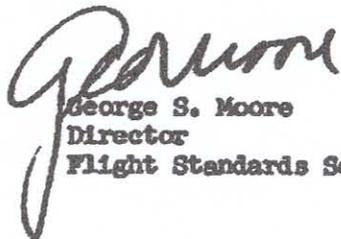
**SUBJECT :** AIRCRAFT AIRWORTHINESS; RESTRICTED CATEGORY: CERTIFICATION OF AIRCRAFT WITH UNCERTIFICATED ENGINES OR ENGINES TO WHICH MAJOR ALTERATIONS HAVE BEEN MADE

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1. **PURPOSE.** This circular sets forth the information needed by the Federal Aviation Agency for type certification of aircraft in the restricted category with uncertificated engines or engines to which major alterations have been made.
  2. **REFERENCE.** Civil Aeronautics Manual, Part 8.
  3. **BACKGROUND.** Under Part 8 of the Civil Air Regulations, it is permissible, and has been the practice in the past, to use uncertificated engines in aircraft eligible for type certification in the restricted category, under the provisions of CAR, Section 8.10, when the Administrator finds, among other things, that "no feature or characteristic of the aircraft renders it unsafe when operated in accordance with the limitations prescribed for its intended use." In the case of alterations to highly-stressed engine parts, it is obvious that such alterations may seriously affect the integrity of the engine and cannot be assessed by simple inspection. The altered engine must, therefore, be evaluated or have acquired suitable operating experience before it can be found to meet the required level of safety.
  4. **PROCEDURES.** To assist the Administrator in making the finding required by Section 8.10 of the Civil Air Regulations and to assure uniformity in the type certification, under Part 8, of aircraft with uncertificated engines or engines to which major alterations have been made, an applicant for type certification of such aircraft should submit the following additional information with his application:
    - a. Previously approved data.
    - b. Data derived from acceptable substantiating tests with the actual engine or altered parts.
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- c. Satisfactory operating history of similar engines or of similarly altered engines.
- d. Data showing that the altered or added part is unquestionably of sufficient strength for the purpose intended.

When an application involves the use of an uncertificated engine, or an engine to which major alterations have been made, and for which there is no previous service experience or previously approved data, the data submitted will be reviewed by an FAA Regional Engineering and Manufacturing Branch Office. That office will approve the data if it finds that the requirements of Section 8.10 of the Civil Air Regulations are met, or, if it does not so find, prescribe additional substantiation requirements, or deny the application. The local district office, as a convenience to the applicant, will arrange for this review.



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