

AC NO: AC 21-8

DATE: 5-21-69



ADVISORY CIRCULAR

DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

SUBJECT: AIRCRAFT AIRWORTHINESS; RESTRICTED CATEGORY: CERTIFICATION OF AIRCRAFT WITH UNCERTIFICATED OR ALTERED ENGINES OR PROPELLERS

1. **PURPOSE.** This circular sets forth acceptable means of substantiating that uncertificated or altered engines and propellers have no unsafe features for type certification of aircraft in the restricted category.
2. **CANCELLATION.** AC No. 20-14, effective October 25, 1963, is cancelled.
3. **CHANGES.** Update from CAM 8.10 to FAR 21.25 and add propellers.
4. **REFERENCE.** FAR 21.25.
5. **BACKGROUND.** It is permissible to use uncertificated engines and propellers in aircraft eligible for type certification in the restricted category when the Administrator finds 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 parts, it is obvious that such alterations may seriously affect the integrity of the engine or propeller and cannot be assessed by simple inspection. The altered engine or propeller should, therefore, be evaluated or have acquired suitable operating experience before it can be found to meet the required level of safety.
6. **PROCEDURES.** To assist the Administrator in making the finding required by Section 21.25 of the Federal Aviation Regulations and to assure uniformity in the type certification of aircraft with uncertificated or altered engines or propellers, 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 substantiating tests with the actual engine, propeller, or altered parts.

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- c. Satisfactory operating history of similar engines, propellers, or of similarly altered parts.
- d. Data showing that the altered or added parts are of sufficient strength for the purpose intended.

When an application involves the use of an uncertificated or altered engine or propeller, 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 21.25 of the Federal Aviation 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.


acting Director,
Flight Standards Service