Reference Only

Re: CAM-13

DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION
WASHINGTON

024923

November 23, 1944

SAFETY REGULATION INSTRUCTION NO. 189

SUBJECT: Eligibility of Military Engines for which a Type Certificate Will Not Be Requested

PREPARED BY: Aircraft Engineering and Air Carrier Divisions

Purpose. The purpose of this instruction is to outline the procedure that will be followed in establishing the eligibility of surplus military engines which the manufacturer does not wish to have certificated.

Special Type Approval. In order to facilitate the type approval of such military engines, it has been decided to set up a Group 5 classification under which will be included all such engines which have been found to be eligible for type approval. For all intents and purposes, the engines included in this Group 5 category will have been found to be as airworthy as any other engines for which type certificates are issued. Compliance with the pertinent requirements outlined in Part 13 of the Civil Air Regulations will constitute the basis for approval of any engine model that is to be included under Group 5.

At the present time, it is known that Pratt and Whitney does not desire to have included under their type certificates any military Pratt and Whitney engines manufactured by themselves or by military licensees. Therefore, it can be expected that any Pratt and Whitney engine with a military designation will be processed for approval under Group 5 as soon as it is known that the particular engine model is to be used in a certificated aircraft. All engines included under Group 5 will be identified by their military designations; consequently, it will not be necessary to change name-plates on the engines.

Specifications. As in the case of type certificated engines, specifications will be issued for the engines included in Group 5. These specifications will indicate to type certificate holder, but will either include all necessary data or refer to another specification for such data. Such specifications will be appropriately included under the listing in the Inspection Handbook, Chapter XIX, "Aircraft Engines."

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The eligibility for installation of a Group 5 approved engine on a particular airplane model will be shown by including the military model designation on the pertinent aircraft specification. In all cases, the aircraft specification will also indicate any special limitations that are applicable to the particular engine installation. Of course, where the Group 5 approved engine is identical to an eligible type certificated model, the same pertinent operating limitations will be shown on the aircraft specification. Both the usual "E" series aircraft engine specifications and the "5E" (Group 5) specifications will be cross-referenced for information relating to similar engines.

Determination of Eligibility for Installation in Aircraft. After it has been established that the specific military engine model has been approved (type certificated or approved under Group 5) and that the model involved is eligible for installation in the airplane in question, the following procedure will be observed to determine that the individual engine is sufficiently airworthy for such initial installation:

(1) For Air Carrier Applications.

Follow the procedure outlined in Safety Regulation Instruction No. 177 and in items (2)(a) and (2)(b) below. These instructions will therefore supersede the preliminary instructions contained in the Air Carrier Division's memorandum to All Regional Managers, dated July 10, 1944.

(2) For Non-Air Carrier Applications.

(a) If the engine is new and has not been in storage for an extended period of time, it may be installed immediately without inspection.

(b) If the engine is new but has been in storage for an extended period of time, it should be ascertained prior to installation that the engine has not been affected by corrosion. If detrimental corrosion is found, suitable corrections should be made to render the engine airworthy for installation.

(c) If the engine has been used by the military services and its operating time since the last overhaul is known, the engine may be installed without inspection provided the time since the last overhaul does not approach too closely the normal overhaul period of the engine model involved.

(d) If the past operating history of the engine is unknown, the engine should be overhauled prior to installation.

Irrespective of which of the above procedures is followed in effecting the initial installation of an approved military engine, each airplane thus involved shall be subjected to a brief flight check.

(5) Approval of Military Engine Installations which Have Not Yet Been Substantiated for Inclusion in the Aircraft Specifications.

As in the case of the installation of any new engine model, such requests for approvals should be referred in the usual manner to the Aircraft Engineering Division who will handle the matter with the Flight Engineering and Factory Inspection Division.

Replacement Parts for Group 5 Approved Engines.

(1) Replacement parts purchased from the company responsible for the design of the specific engine involved are approved for use in such engines.

(2) Replacement parts purchased as surplus material from the military services may be approved for use in those approved engine models for which such parts were purchased by the military services. However, the purchaser should be able to show proof that such parts have been accepted by the Army or Navy for use in the particular model engine in which it is desired to eventually install the parts.

Military Engine Approvals Already Completed. The Aircraft Engineering Division has already completed the processing of the approvals for the military engines listed below. The Group 5 specifications for these engines will be issued soon.

Military Model (Group 5)	Equivalent T.C. Model
Wright R-760-2, -8	R-760-E2
P & W R-985-15	Wasp Jr. SB
P & W R-985-17	Wasp Jr. T1B3
P & W R-1340-22	None
P & W R-1535-96	Twin Wasp S3H-G
P & W R-1830-45, -67, & -92	Twin Wasp S1C3G
P & W R-1830-900	Twin Wasp S4C4G
P & W R-2800-51	Double Wasp A3G

In addition, all Pratt and Whitney military models now shown on the E specifications will soon be included entirely in Group 5 in accordance with the policy recently established with this manufacturer.

Future Approvals. As additional military engines are approved, the Aircraft Engineering Division will forward immediately to all regions preliminary information indicating the nature and latitude of such approvals. In order that the approval of any military engine destined for installation in certificated aircraft may be processed as soon as possible, field personnel who become aware of an installation of a milita engine which has not yet been approved should notify the nearest Aircraft Engineering Branch office of the proposed installation. It is desired to process the approval of only those military engines that are to be instal in certificated aircraft or in aircraft to be certificated.

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