Vintage Aircraft Replacement Modification Article – VARMA

What steps does the ACO take in reviewing a VARMA request?

INTENDED TO BE AN INFORMAL PROCESS - EASY – PAINLESS refer to AC43-210A

1. Applicants are ENCOURAGED to contact the ACO first before submitting a proposal (847) 294-7357 or scott.fohrman@faa.gov
2. Applicant submits either draft log page write up or draft 337 to the ACO with a statement of compliance to AC or regulation that substantiates the installation. (if we need more, we will ask for it)
3. ACO spot checks statement about the unavailability of the part.
4. ACO checks with the geographic FSDO.
5. If ACO concurs with the request, a letter is issued to the applicant documenting that concurrence. (copy sent to geographic FSDO)
6. If ACO does not concur with the request, a letter is issued to the applicant documenting the reasons why concurrence could not be granted.

Summary of ACs discussed during VARMA presentation

AC 23-27 Parts and Materials Substitution for Vintage Aircraft
This advisory circular (AC) provides guidance for substantiating parts or materials substitutions to maintain the safety of old or out-of-production general aviation (GA) aircraft, or other GA aircraft where the parts or materials are either difficult or impossible to obtain. This AC also provides guidance about the data required to gain Federal Aviation Administration (FAA) approval for making these substitutions. This AC does not include specific approvals for installations. It provides guidelines to follow when collecting information needed for an FAA approval.
https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentid/1021446

AC 20-62 Eligibility, Quality, & Identification of Aeronautical Replacement Parts
This advisory circular (AC) provides information and guidance for use in determining the quality, eligibility and traceability of aeronautical parts and materials intended for installation on U.S. type-certificated (TC) products and articles, and to enable compliance with the applicable regulations.
https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentid/780198

AC 20-62 Fabrication of Aircraft parts by Maintenance Personnel
This advisory circular (AC) ensures that parts fabricated during maintenance and alteration have an equivalent level of safety as those parts produced under the original design holder's production certificate. This AC provides one means of complying with the requirements of Title 14 of the Code of Federal Regulations (14 CFR) parts 21 and 43 for the design and fabrication of parts by persons performing maintenance and alterations using methods, techniques, and practices acceptable to the Administrator. As required by regulations, such parts fabrication and their implementation must be accomplished "in such a manner...that the condition of the aircraft, airframe, aircraft engine, propeller, or appliance worked on will be at least equal to its original or properly altered condition."
https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentid/99860

Thanks to years of EAA's advocacy efforts, in March the FAA unveiled a new program for the use of certain off-the-shelf parts in type-certificated aircraft. This is the first approval granted under the new **Vintage Aircraft Replacement and Modification Article (VARMA) program**, the next big step in keeping vintage aircraft flying by making access to parts easier. So, what exactly does VARMA encompass? Here are answers to a number of the questions we've been receiving.

What does "VARMA" stand for?
Vintage Aircraft Replacement and Modification Article

What problem is VARMA trying to solve?
Parts availability in vintage aircraft has been a longstanding issue, especially in rarer models that lack manufacturer support. In many cases suitable parts indeed exist, but are manufactured outside of the traditional FAA design and production approval system. Such parts may be built for other applications and industries, or made for non-type certificated aircraft.

Is VARMA a new policy?
No. It is a program that ties together several existing policies into a more usable package. These policies include, in part, **AC 43-18** and **AC 23-27**. Essentially VARMA provides a streamlined process for an aircraft owner or mechanic to meet the requirements of the aforementioned documents. The only new FAA document created specifically for VARMA is a "Work Instruction" for FAA personnel.

If there's no new policy, what has actually changed?
While the aforementioned ACs and other policies have previously allowed substitutions with varying levels of approval depending on the type of part, in practice these approvals were difficult to obtain and even harder to document in a way that satisfied subsequent owners and maintenance personnel. To put it simply, VARMA optimizes these policies and makes them function as intended.

How does it work?
VARMA will initially be managed by the Chicago ACO. Call them at 847-294-7357 with any proposal and they will determine if and how it can be approved.

You wrote in your articles that aircraft must be "pre-1980" or "built before 1980." What do you mean?
AC 23-27 applies to small aircraft *type certificated* before 1980, which means that the type certificate was issued prior to that date (not necessarily the date of manufacture).

Will there be blanket approvals for parts?
No. All approvals are on an individual basis.

So it's a field approval?
No, depending on which AC an owner or mechanic proposes to utilize, installation could be as simple as a

logbook entry (back by a letter from the ACO) or possibly even a 337 with approved data, which is not the same thing as a field approval.

Can manufacturers advertise "VARMA-approved" parts?
No, and this is one of the key reasons why VARMA approvals must be on an individual basis. FAR 21.9(b) prohibits manufacturers from advertising parts for use in type-certificated aircraft absent a production approval (such as a PMA) or type certificate.

Is this an alternative to PMA?
No. If PMA parts are readily available and obtainable, VARMA does not apply. Under VARMA, all approvals are serial number specific, production and multiple use approvals are not authorized. The fundamental intent of VARMA is to facilitate the ability of maintenance personal to keep vintage aircraft in condition for safe operation by providing another avenue to authorize replacement parts for which certified versions cannot be obtained. For the purposes of VARMA, unobtainable is defined as a certified replacement part eligible for installation on the aircraft in question is currently offered for sale by either the OEM or by a third party under a PMA, with a lead time that does not exceed 12 months.

What sort of data will the FAA be requiring?
It will depend on what the part is and what it does. **AC 43-18** breaks down parts into criticality categories:
Category 1 Part: A fabricated part, the failure of which could prevent continued safe flight and landing; resulting consequences could reduce safety margins, degrade performance, or cause loss of capability to conduct certain flight operations.
Category 2 Part: A fabricated part, the failure of which would not prevent continued safe flight and landing, but would reduce the capability of the aircraft or the ability of the crew to cope with adverse operating conditions or subsequent failures.
Category 3 Part: A fabricated part, the failure of which would have no effect on the continued safe flight and landing of the aircraft.
EAA's trial approvals fell into Category 3 (starter solenoid) and Category 2 (alternator and voltage regulator, with the limitation that the aircraft was placarded VFR-only). The required data was simple and common sense, including a basic ops check and verification that the part was correctly installed. Data required in individual approvals may vary, but the goal is simplicity without detailed engineering analyses. The required data will be commensurate to the risk of the part.

What happened to the "Primary Non-Commercial" / "Vintage Category" / "Owner-Maintenance" rule proposal?
Over the years EAA has promoted creating a new category where vintage aircraft could be recertified and essentially regulated like a homebuilt. In exchange for a prohibition on carrying persons or property for compensation or hire, vintage aircraft could be maintained by their owners, use non-certified parts, and be modified in the same manner as a homebuilt. Our philosophy is that if an aircraft is only flown for personal use, as is true of homebuilt aircraft, it should not have to be maintained to the same level of certification as

an aircraft eligible for commercial operation. Under this rule, type-certificated aircraft would have access to the same cutting-edge parts and systems as amateur-built aircraft. The most recent attempt at this proposal was in early drafts of the forthcoming MOSAIC rule. Unfortunately, it quickly became apparent that greater consensus is needed in the aviation community before this proposal can be successful. EAA will continue to seek the right opportunity and circumstances to get this rule done in the future.

What's next for EAA?

VARMA is a positive step for vintage aircraft owners, but we are by no means satisfied with the current state of maintainability and modernization in the aging aircraft fleet. We will continue to work for low-cost STCs, simplified PMAs for new manufacturers, and other means of part and material substitutions consistent with safety. One of our recent points of emphasis has been to match manufacturers in the experimental world with the FAA offices needed to bring their parts into the certified world. Look for a future webinar on this subject, and call us if you have a specific project in mind. We will also look to expand VARMA to the greatest extent possible. The basic framework is very good, and we feel that it could serve as a model for future approvals of off-the-shelf parts in vintage aircraft.