

RCCB Submittal: https://www.faa.gov/regulations_policies/faa_regulations/rccb/
100% Replacement of Parts During Single Maintenance Visit

Personal information

I am a: Member of Aviation Community

Name: Sarah MacLeod

Company name/Association: Aeronautical Repair Station Association

Phone: 703.739.9543 X 114

Email address: sarah.macleod@arsa.org

Describe the issue:

Allowing 100% replacement of parts during maintenance of an article that is not an aircraft, aircraft engine, propeller, propeller hub, propeller blade or free man balloon.

The industry and the agency have been attempting to address this issue for years. Since last reviewed, the regulations in part [21](#) have changed and more information has been gathered and used by the agency and industry. However, clear direction on compliance does not exist.

The definition of maintenance contains the word "repair" as well as the phrase "replacement of parts". In the past, policies have indicated that "repair" would not allow 100% replacement; however, those documents did not take into account that section [1.1](#) plainly states a "repair" is a different action than "replacement of parts".

Furthermore, the regulations do not directly or indirectly prohibit the replacement of all parts in an article during a single maintenance visit. Nor is there any prohibition on using any combination of new parts from the original DAH/PAH, PMA parts, "serviceable" parts, owner-operator produced parts or maintenance fabricated articles during that maintenance action. Most maintenance manuals (instructions for continued airworthiness) from the design/production approval holder (DAH/PAH) provide direction on when parts need to be replaced and how to accomplish that action. There are no regulatory limits on the number of parts that can or should be replaced during maintenance. The only prohibition involves the reuse of section [45.11](#) identification plates (except during maintenance) without specific direction from the DAH/PAH or the agency.

Section [45.13\(d\)](#) prohibits the use of a required identification plate "on any aircraft, aircraft engine, propeller, propeller blade, or propeller hub other than the one from which it was removed." However, under [43.13\(a\)](#) maintenance providers are allowed to use "other methods, techniques and practices" – some of which are or must be based upon approved data – that provide instructions on when and how to replace some or all parts in a given article. There are no prohibitions to applying such methods, techniques and practices to aircraft, aircraft engines, propellers, propeller blades, or propeller hubs. Indeed, section [21.8\(d\)](#) allows an "article" (defined by section [21.1\(b\)\(2\)](#) to include a process) to be approved in any manner the agency deems appropriate. Thus, processes that set forth methods, techniques and practices to inspect and replace articles during maintenance that result in major repairs to aircraft, aircraft engines, propellers or free man balloons and on propeller hubs and blades can be, have been and are approved by the FAA.

Therefore, even in the case of those specified articles, if the maintenance documentation from the design/production approval holder (or which has been developed and approved under section [21.8\(d\)](#)) provides information on when and how to remove and replace every part or component, the language in section [45.13\(d\)](#) could be read to allow 100% replacement.

To ensure maintenance providers understand their duties and obligations under the regulations when using manufacturer maintenance information and/or other methods, techniques and practices to replace all the parts of an article, the agency's AIR and AFS Services need to provide clear direction on how compliance can be shown.

Guidance Documents

Other FAA Orders discussion:

Order [8300.16](#) Major Repair and Alteration Data Approval

Advisory Circulars (ACs) discussion:

AC [21-47](#) - Submittal of Data to an ACO, a DER or an ODA for a Major Repair or a Major Alteration

AC [33-9](#) - Developing Data for Major Repairs of Turbine Engine Parts

AC [43-18](#) - Fabrication of aircraft parts by maintenance personnel

AC [43-210](#) - Standardized Procedures for Obtaining Approval of Data Used in the Performance of Major Repairs and Major Alterations

Regulatory Documents

FAA Legal Interpretations discussion:

November 14, 2008 from Rebecca MacPherson to Greg Ross--[Request for Interpretation on Fabrication versus Manufacture Issue](#)--stating that whether a particular action was one or the other depended upon the facts of each situation.

The interpretation can be found here:

[https://www.faa.gov/about/office_org/headquarters_offices/agc/pol_adjudication/agc200/interpretations/data/interps/2008/ross-mexmilglobalservices%20-%20\(2008\)%20legal%20interpretation.pdf](https://www.faa.gov/about/office_org/headquarters_offices/agc/pol_adjudication/agc200/interpretations/data/interps/2008/ross-mexmilglobalservices%20-%20(2008)%20legal%20interpretation.pdf)

Regulations discussion:

Section [1.1](#) defines maintenance

Section [21.1\(b\)\(2\)](#) defines article to include a process

Section [21.8\(d\)](#)

Sections [21.9\(a\)\(5\)](#) and [\(6\)](#)

Section [43.13\(a\)](#)

Sections [45.11](#) and [45.13\(d\)](#) and [\(e\)](#)