

A Member Asked

By Sarah MacLeod, ARSA Executive Director

Q: *Subject:* FAA AC 43-18 Fabrication of Aircraft Parts by Maintenance Personnel.

Category 3 (Parts): A fabricated part, the failure of which would have no effect on the continued safe flight and landing of the aircraft.

Questions:

1. Do we as a certificated 145 repair station have the authority to manufacture (AC 43-18) a piece part (Category 3) of an assembly and then consume that manufactured piece part in a repair or overhaul of the higher assembly?
2. If we do have the authority to manufacture piece parts (Category 3), do we also have to obtain approval from our local FAA for the manufacture of the piece parts?
3. What are the requirements for notifying our customer that a piece part (Category 3) was manufactured and installed during the repair or overhaul of the assembly? Is customer approval required? Are we required to record this in Block 13 of the FAA 8130-3 Form?

Any assistance or guidance that you could provide on this subject would be greatly appreciated.

A: I have responded to each of your questions, below:

1. Do we as a certificated 145 repair station have the authority to manufacture (AC 43-18) a piece part (Category 3) of an assembly and then consume that manufactured piece part in a repair or overhaul of the higher assembly?

While there is no specific regulation that "authorizes" the fabrication of articles during maintenance, it is not prohibited, indeed, when the new part 21 changes become effective on April 16, 2011, section 21.9(a)(6) will specifically recognize parts fabricated for consumption during repairs, by adding an exception to the general rule replacement or modification articles produced and installed on a product or article under Part 43:

§ 21.9 Replacement and modification articles.

(a) If a person knows, or should know, that a replacement or modification article is reasonably likely to be installed on a type-certificated product, the person may not produce that article unless it is... (6) Fabricated by an appropriately rated certificate holder with a quality system, and consumed in the repair or alteration of a product or article in accordance with part 43 of this chapter.

In the meantime, it is a recognized practice as provided in FAA Advisory Circular (AC) 43-18.

2. If we do have the authority to manufacture piece parts (Category 3), do we also have to obtain approval from our local FAA for the manufacture of the piece parts?

It depends. If the "maintenance" (i.e., the replacement of the part) results in a major repair, then the engineering data substantiating the replacement would have to be approved:

§ 145.201(c) A certificated repair station may not approve for return to service... (2) Any article after a major repair or major alteration unless the major repair or major alteration was performed in accordance with applicable approved technical data...

3. What are the requirements for notifying our customer that a piece part (Category 3) was manufactured and installed during the repair or overhaul of the assembly? Is customer approval required?

Again, it depends. Section 145.205(a) requires "a certificated repair station that performs maintenance, preventive maintenance, or alterations for an air carrier or commercial operator that has a continuous airworthiness maintenance program under part 121 or part 135 [to] follow the air carrier's or commercial operator's program and applicable sections of its maintenance manual."

So, if your customer is an air carrier, you must perform maintenance in accordance with the air carrier customer requirements. If you are working for brokers and non-air carriers, then you don't need "approval".

Are we required to record this in Block 13 of the FAA 8130-3 Form?

Only if it results in a major repair:

§ 43.9(d) In addition to the entry required by paragraph (a) of this section, major repairs and major alterations shall be entered on a form, and the form disposed of, in the manner prescribed in appendix B, by the person performing the work.

The fact that parts were replaced/fabricated must be in the maintenance record (section 43.9) and should be made available to the customer in some form but, under the regulations, it doesn't necessarily have to be provided on an approval for return to service document:

Appendix B to Part 43—Recording of Major Repairs and Major Alterations: (a) Except as provided in paragraphs (b), (c), and (d) of this appendix, each person performing a major repair or major alteration shall... execute FAA Form 337... (b) For major repairs made in accordance with a manual or specifications acceptable to the Administrator, a certificated repair station may, in place of the requirements of paragraph (a)— (1) Use the customer's **work order upon which the repair is recorded**; (2) Give the aircraft owner a signed copy of the work order... (3) Give the aircraft owner a maintenance release signed by an authorized representative of the repair station ... and (4) Include the following or a similarly worded statement—"The aircraft, airframe, aircraft engine, propeller, or appliance identified above was repaired and inspected in accordance with current Regulations of the Federal Aviation Agency and is approved for return to service....

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- regularize contact with industry media and general media reporters covering the aviation industry to encourage favorable coverage;
- monitor and more aggressively respond to media stories about maintenance;
- prepare and distribute editorials and press releases sounding positive themes about the contract maintenance industry;
- coordinate industry crisis communications planning.
- develop a media presence in local markets where the aviation maintenance industry has a significant economic footprint; and
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U.S. Department
of Transportation
**Federal Aviation
Administration**

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Mr. Craig L. Fabian
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Aeronautical Repair Station Association (ARSA)
121 North Henry Street
Alexandria, VA 22314-2903

Dear Mr. Fabian:

This letter is in response to your letter dated March 8, 2011, on maintenance fabrication. Your understanding on the act of fabrication is correct. It is not considered maintenance. Title 14 of the Code of Federal Regulations (CFR) Section 1.1 defines maintenance as "inspection, overhaul, repair, preservation, and replacement of parts, but excludes preventive maintenance".

For the purpose of Title 14 CFR section 145.217(a) or (b), a certificated repair station may contract a *maintenance* function pertaining to an article. Persons who are fabricating a part for the purpose of consuming the part into the next higher assembly are not performing a maintenance function. They are producing a part, and therefore would not be required to be listed as a contract maintenance provider. The Federal Aviation Administration has determined that there is no substantive difference in the fabrication of a part by a subcontractor under the quality controls specified in Advisory Circular 43-18 or by a part produced by an Original Equipment Manufacturer under the requirements specified in Title 14 CFR Part 21.

Therefore, the fabrication of the part is not considered maintenance; rather it is the repair performed by a certificate holder that consumes the fabricated part that falls under the definition of maintenance. Additionally, it is the certificate holder who is ultimately responsible for the airworthiness of the part.

On April 16, 2011, the second compliance date for the revised Title 14 CFR Part 21 rule will become effective. Section 21.9(a) (6) has been added to address part fabrication by an appropriately rated certificate holder with a quality system, and then consumed in the repair or alteration of a product or article in accordance with Part 43.

I hope that this regulatory response addresses your concerns and provides a basis for understanding the performance requirements of Title 14 CFR part 43 and the manufacturing requirements of part 21. If you have any other questions, please contact Tony Janco, Technical Advisor, AFS-304 at (781) 238-7229.

Sincerely,

Carol E. Giles
Manager, Aircraft Maintenance Division