Federal Aviation Administration – Regulations and Policies
Aviation Rulemaking Advisory Committee

Air Carrier/General Aviation Maintenance Issue Area
Parts Approval Action Team—Phase 3 Working Group

Task 1 – Acceptability of Aircraft Parts

Task Assignment

Aviation Rulemaking Advisory Committee; Parts Approval Action Team—Phase 3 Working Group

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of establishment of Parts Approval Action Team—Phase 3 Working Group.

SUMMARY: Notice is given of the establishment of the Parts Approval Action Team—Phase 3 Working Group of the Aviation Rulemaking Advisory Committee (ARAC). This notice informs the public of the activities of the ARAC on air carrier/general aviation maintenance issues.

FOR FURTHER INFORMATION CONTACT: Mr. Frederick J. Leonelli, Assistant Executive Director for Air Carrier/General Aviation Maintenance Issues, Aviation Rulemaking Advisory Committee, Flight Standards Service (AFS-300), 800 Independence Avenue SW., Washington, DC 20591, Telephone: (202) 267-3546; FAX: (202) 267-5230.

SUPPLEMENTARY INFORMATION: The Federal Aviation Administration (FAA) has established an Aviation Rulemaking Advisory Committee (ARAC) (56 FR 2190, January 22, 1991; and 58 FR 9230, February 19, 1993). One area the ARAC deals with is air carrier/general aviation maintenance issues. These issues involve mechanic certification and approved training schools outlined in parts 65 and 147 and the maintenance standards for parts 23, 25, 27, 29, 31, 33, and 35 aircraft, engines, propellers, and their component parts and parallel provisions in parts 21, 43, 91, 121, 125, 127, 129, 133, 135, and 137 of the Federal Aviation Regulations (FAR), which are the responsibility of the FAA Director, Flight Standards Service.

Specifically, the working group's task is the following: Develop a notice of proposed rulemaking which will embody interim policy to standardize the airworthiness determination for civil aircraft parts existing within the civil inventory and which lack acceptable documentation.

Reports

A. Recommend time line(s) for completion of the task, including rationale, for consideration at the meeting of the ARAC to consider air carrier/general aviation maintenance issues held following publication of this notice.

B. Give a detailed conceptual presentation on the task to the ARAC before proceeding with the work stated under item C below.

C. Draft for the ARAC a notice of proposed rulemaking for the task proposing new or revised requirements, a supporting economic analysis and other required analysis, advisory and guidance material, and any other collateral documents the working group determines to be needed.

D. Give a status report on the task at each meeting of the ARAC held to consider air carrier/general aviation maintenance issues.

The Parts Approval Action Team—Phase 3 Working Group will be comprised of experts from those organizations having an interest in the task assigned. A working group member need not necessarily be a representative of one of the member organizations of the ARAC. An individual who has expertise in the subject matter and wishes to become a member of the working group should write the person listed under the caption **FOR FURTHER INFORMATION CONTACT** expressing that desire, describing his or her interest in the task, and the expertise he or she would bring to the working group. The request will be reviewed with the Assistant Chair of the ARAC for air carrier/general aviation maintenance issues and the Chair of the Parts Approval Action Team—Phase 3 Working Group, and the individual will be advised whether or not the request can be accommodated.

The Secretary of Transportation has determined that the formation and use of the ARAC are necessary in the public interest in connection with the performance of duties imposed on the FAA by law. Meetings of the ARAC to consider air carrier/general aviation maintenance issues will be open to the public except as authorized by section 10(d) of the Federal Advisory Committee Act. Meetings of the Parts Approval Action Team—Phase 3 Working Group will not be open to the public, except to the extent that individuals with an interest and expertise are selected to participate. No public announcement of working group meetings will be made.

Issued in Washington, DC, on November 17, 1993.

Benjamin J. Burton, Jr.,

Acting Assistant Executive Director for Air Carrier/General Aviation Maintenance Issues, Aviation Rulemaking Advisory Committee.

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[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Aviation Rulemaking Advisory Committee; Parts Approval Action Team--Phase 3 Working Group

AGENCY: Federal Aviation Administration (FAA), DOT.

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Issued in Washington, DC, on November 17, 1993

/s/
Benjamin J. Burton, Jr.
Acting Assistant Executive Director for Air
Carrier/General Aviation Maintenance Issues
Aviation Rulemaking Advisory Committee

Recommendation Letter

Air Transport Association

February 8, 1995

Mr. Anthony J. Broderick
Associate Administrator, Regulation & Certification (AVR-1)
Federal Aviation Administration
800 Independence Avenue, S.W.
Washington, D.C. 20591

Dear Tony:

The Aviation Rulemaking Advisory Committee (ARAC) met on February 7 to consider a final recommendation from the Parts Approval Action Team (PAAT) - Phase III Working Group. ARAC failed to achieve consensus regarding the recommendation, with all manufacturing members voting "no" or abstaining. The actual vote was nine "yes," three "no," and three abstentions. A copy of the recommendation, which includes minority reports and rationale for the "no" votes, is attached. A copy of a letter from McDonnell Douglas Helicopters is also attached, which contains additional information about alternative solutions which was not provided to the working group.

Manufacturers indicated there is a good probability that they could achieve consensus if the FAA were to provide additional information about an overall approach to parts issues, including surplus parts, enforcement of existing rules, new regulatory requirements and special or particular rules for rotorcraft. I understand that work may already be underway within the Agency to define such an approach.

On behalf of ARAC, I would like to invite principal members of the Flight Standards and Aircraft Certification Services to discuss the parts issue with ARAC when it next meets to address maintenance issues, on April 27, 1995, here at ATA. A later meeting of ARAC could also be employed for this purpose if an Agency position has not been fully developed by April. Please let me know how you would like to proceed.

ARAC has chosen to address this issue itself, to facilitate discussions with FAA principals. At the same time, ARAC voted today to disband the PAAT Phase III Working Group, because its work is complete. ARAC expressed sincere appreciation to the working group members, and particularly to the chair, Howard Aylesworth of AIA, for a commendable effort to develop a "fast track" recommendation.

Air Transport Association of America
1301 Pennsylvania Ave., NW – Suite 1100 Washington, DC 20004-1707
(202) 626-4000

I look forward to hearing from you on this matter in the days ahead.

Sincerely,

Steven R. Erickson

Steven R. Erickson
Assistant ARAC Chair
Air Carrier/General Aviation
Maintenance Issues

Attachments

cc: Jim Casey, ATA
Howard Aylesworth, AIA
Fred Leonelli, FAA (AFS-300)
Al Michaels, FAA (AFS-330)
Barbara Herber, FAA (ARM-205)

Recommendation

Parts Approval Action Team Phase 3 Working Group

Report Accompanying the Final Recommendations

Submitted February 7, 1995 to the

Aircarrier/General Aviation Maintenance ARAC for

Approval and Transmittal to FAA for Disposition

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Draft AC No: 21-XX (10 pages)
PAAT3 Recommendations to FAA (1 page)

Each section of this Report is augmented and clarified by the other sections, and for purposes of interpreting the accompanying recommendations, all sections of this Report constitute a consolidated commentary, interpretation and deliberation of the Parts Approval Action Team Phase 3 Working Group's final recommendation. As examples of the meaning of this statement: discussion of the term "commercial parts" is presented on pages 5, 7, 13, and 21, while the concept of "existing inventory" is presented on pages 3, 6, 8, and 20; and a complete understanding of the Working Group's opinions, interpretations, intended purposes, determinations, and findings can be made only by considering all references to a subject inclusively as a single, unified and complete statement, and this is equally true for the Working Group's execution of the tasking assignment as a whole.

INTRODUCTION AND TASKING STATEMENT

The Air Carrier/General Aviation Maintenance Issues ARAC (AC/GAM) accepted the FAA tasking assignment of dispositioning undocumented aircraft parts currently in civil inventories and established the Parts Approval Action Team Phase 3 Working Group (PAAT3 WG) in November 1993 for this purpose. PAAT3 WG met in nine working sessions on November 22 and December 17, 1993, and February 17, March 24, May 5-6, June 14-15, July 21-22, August 29-30, and October 13-14, 1994. The working group had a balanced membership of operators, maintenance and repair stations, distributors, personnel, and manufacturers, excepting general aviation owners. Prior to February 1994 a PAAT3 WG delegation met with a general aviation owners association to solicit their participation, yet to no practical avail. FAA was represented by Flight Standards, Aircraft Certification and General Council.

FAA ranked the issue as top priority and requested fast track procedures be instituted by ARAC to achieve the goal. A revised task statement was issued June 8, 1994 in the *Federal Register, Vol. 59, No. 109* (pp. 29657-8), reading in part:

> Develop an interim plan for evaluating the acceptability of aircraft parts existing within present civil inventories that lack acceptable documentation. Develop such advisory circulars, notices, NPRM's, or other documents, as deemed appropriate, to accomplish this task. Develop a plan to ensure that in the future aircraft parts are properly documented. ... [PAAT3 WG] should make recommendations to the ARAC in the following manner. ... (c) If considered appropriate, develop NPRM(s) proposing the revised rules for undocumented parts with supporting economic and other required analyses, advisory and guidance material, and any other collateral documents the working group determines to be needed.

The working group elected to accomplish its task through promulgation of an advisory circular (AC) and to advise FAA on necessary rulemaking and enforcement actions. Existing Federal Aviation Regulations (FARs) allow for proper dispositioning of undocumented parts in current inventory, yet certain areas need greater rigor and comprehensiveness. PAAT3 WG recommends that FAA issue the advisory circular immediately and pursue enforcement and rulemaking on an expedited basis.

PAAT3 WG made specific interpretations of the task statement as follows:

1. "*Develop an interim plan for evaluating the acceptability of aircraft parts existing within present civil inventories that lack acceptable documentation*"

This means the plan developed by PAAT3 WG is for an intervening time,

implying that FAA contemplates future plans and further actions on the subject being tasked. The FAA tasking statement is mute on whether this is the only interim plan, and is specific that any supplementary and/or future plans and actions are outside of the scope of PAAT3 WG activities unless specifically tasked to do so.

2. "*Existing inventory*"

PAAT3 WG held that existing inventory must be defined by the individual certificate holder and non-certificate holder at the time they enter the program outlined in the advisory material, and, as a condition for entering the program, the individual holder of such inventory must adopt procedures to prohibit further induction of undocumented parts into their inventories except as allowed by regulation. A determination was made that it was onerous, impractical and beyond the authority of an advisory circular to either set a universally applicable date for all undocumented parts in current inventory to be cataloged and/or establish a single date for all such inventory to be cleared under the program.

3. "*Develop a plan to ensure that in the future aircraft parts are properly documented*"

The proper documentation of aircraft parts, which is a larger question than that of undocumented parts, lies outside the scope of PAAT3 WG and is tasked under other ARAC working groups. The Parts Approval Action Team Phase 3 Working Group limited its attention to: (1) documentation of undocumented parts that have been determined to conform to FAA approved design under the procedures outlined in the advisory material, and (2) establishing procedures for dispositioning parts that have failed such a determination. The working group remanded the larger, global question of parts documentation to FAA and ARAC.

PAAT3 WG TASK IN RELATION TO UNAPPROVED PARTS

Civil aviation is among the safest modes of transportation available, yet the existence of unapproved parts is a demanding problem. The FAA has determined that individual unapproved parts may pose a potential threat to safety of flight, but that unapproved parts do not threaten the system as a whole. Industry held general agreement with this statement, although there are varying degrees of interpretation, and that the industry standard must be zero tolerance for unapproved parts.

Numerous problems have arisen regarding unapproved parts. In outline the sources and nature of the unapproved parts problem can be categorized as:

<u>Enforcement and Certification</u>

- Counterfeit and fraudulently manufactured, remanufactured, repaired and/or overhauled parts sold as FAA approved parts.

- Military surplus parts that are not FAA approved.
- Rejected and scrap parts sold as, or later attested to be approved parts.
- Parts from salvaged, stolen and/or counterfeit aircraft which are not airworthy, and salvaged and/or stolen parts which are not airworthy, yet are sold as approved and/or without service history.
- Parts manufactured by a non-certificate holder sold as approved, including production overruns and owner/operator produced parts sold to a third party.
- A permissive regulatory and business environment that tolerates cutting corners, one-time exceptions, and acceptance of parts and work performed on personal reasonableness or faith, and arbitrary and inconsistent application of FAA regulations and procedures.

Documentation

- Lack of proper documentation of parts from the original producer, operators, maintenance and repair facilities, and distributors, including parts in inventory that lack proper documentation.
- Obscure documentation statements concerning the approval basis, airworthiness and installation eligibility of parts.
- Lack of standardized documentation.

For industry and the authorities the areas of gravest concern are military surplus and counterfeit parts. These are parts which are not produced under, or intended to meet the rigorous airworthiness standards which are the hallmark of U.S. civil aviation. Undocumented parts in existing inventory cannot be held to threaten public safety unless they are installed on an aircraft without first being determined to be airworthy and in condition for safe operation, or unless they are sold as airworthy without first being determined to be so. FAA stated greater concern over new undocumented parts than over parts removed from registered or previously registered aircraft, regardless of the airworthiness condition of the aircraft.

PAAT3 WORKING GROUP RECOMMENDATION -- ADVISORY CIRCULAR

The objective of the AC is to develop procedures whereby a FAA certificate holder may determine the undocumented part(s) conformity to approved design, the first of two conditions necessary to make an airworthiness determination, with the degree of confidence necessary to maintain airworthiness of the aircraft, engine or propeller. It is specifically stated that the procedures developed in this document are not establishing an alternate means of compliance with FAR 21.303. PAAT3 WG sought FAA legal opinion on the validity of this statement.

The working group requested that the FAA general council PAAT3 WG representative (PAAT3 AGC) provide a written analysis of the rules and regulatory basis for the PAAT3 effort on February 17, 1994. Three specific questions were asked: (1) Can a part that has been manufactured

outside the scope of FAR Part 21 be installed on a type certificated product if the part has no documentation; and, if so, (2) what is the regulatory basis (3) and what type of FAA oversight, if any, is required during the manufacture of such a part.

PAAT3 AGC provided the working group an oral response on June 14th stating: FAR Part 43 does not require parts manufactured under Part 21; operators and repair stations can determine substitute parts; and, it is a violation of FAR 21.303 for a manufacturer to produce a part for sale and installation on an aircraft without holding a production approval. The statement:

> *It is possible for a manufacturer to make a part that conforms to type design and is airworthy; it is a violation of FAR 21.303 to do so without a production approval.*

was accepted as the legal reasoning for determining the acceptability of undocumented parts, and as assurance that the advisory material would not become an alternative means of compliance to FAR 21.303, given rigorous enforcement.

The aim of the AC is to maximize the viability of undocumented parts in current inventory while maintaining the existing level of safety for all classes of aeronautical products. PAAT3 WG has made every attempt to minimize the number of undocumented parts that are subject to the determination process while maintaining safety of flight. Undocumented "standard parts" and "owner/operator produced parts" and parts which do not affect the airworthiness of the aircraft in any manner are exempted from the process outlined in the AC. The working group determined that this latter category of "commercial parts" could be excluded fr having to go through a showing of conformity to approved design on the basis of their absolutely benign effect on airworthiness, and that this could be accomplished without rulemaking.

The AC establishes a process whereby certificate and non-certificate holders develop a plan for making a determination of conformity to approved design for undocumented parts. The plan must be accepted by the FAA prior to implementation. The definition of approved design includes FAR 21.31 requirements and other design data approved by or acceptable to the Administrator. Parts which have exceeded their shelf or service life, and those which fail the procedures outlined in the AC are to be permanently scrapped in conformity with FAA guidance material. This process is given in Section 8.

Rigorous incoming inspection procedures to eliminate further induction of undocumented parts are given in Section 7, and these must be adopted by the certificate or non-certificate holder applicant as an integral and permanent procedure as a condition for FAA acceptance of the plan to disposition undocumented parts in existing inventory. This treatment guarantees that the applicant's undocumented inventory, the "existing inventory", will be isolated for dispositioning and will not

be further increased. If an applicant had established an incoming inspection system that met all the requirements under Section 7 prior to approval of the plan developed under the AC, then that portion of the applicant's inventory which could positively be identified as having been inducted under that system would have been documented and, for purposes of the AC, would not be subject to further analysis under Section 8. This treatment also would guarantee that the applicant's undocumented "existing inventory" will be isolated for dispositioning and will not be further increased. Each applicant must then determine what items within their existing inventory have proper documentation to whatever extent possible. Without first making a positive finding under Section 8, installation of any portion of the undocumented parts in the applicant's existing inventory would be an infraction of the FARs, as would sale of any portion of the inventory as "approved", "conforms to approved/type design", "in condition for safe operation", and/or similar language that explicitly or implicitly states the part(s) in question conforms to FAA-approved design in any fashion. The only manner in which such existing inventory may be treated in any manner what-so-ever is as "undocumented" unless conclusively shown to be otherwise.

PAAT3 WG initially envisioned that the AC would address the particularities of "for hire", general aviation and helicopter operators in three separate sections. Rotorcraft, after having developed an independent section, elected to be included in the "for hire" section outlined above. Procedures for out-of-production and owner/operators, accounting for the particular needs and methods of operation of the smaller user, are contained in Sections 7.c and 8.c.

While any party holding undocumented parts in current inventory may develop a plan for acceptance by FAA under the AC, only an FAA inspector or designee, or a certificated entity may make a finding of conformity to approved design. The method for establishing conformity to approved design is determined by the "criticality" of the part. A criticality determination is made by the certificate holder based on the effect on the aircraft of a failure of the next higher assembly in which it is installed. Criticality must be determined at the highest use a part is subject to. By so doing, PAAT3 WG established a procedure whereby the certificate holder could make a judgement independent of the design holder. A category of "rotorcraft critical parts" was developed to account for the specific conditions of this segment of the industry. Statistical sampling is allowed for the category of "minor" criticality to allow for the clearing of homogeneous part lots.

Documentation of previously undocumented parts and rigorous incoming inspection procedures will help ensure that the civil aviation system will be purged of all undocumented parts at a future date. PAAT3 WG has determined that the exclusive use of the FAA 8130-3 form is the only means to document the conformity determination. Completion of the FAA Form 8130-3 will be made by an FAA inspector or appropriate FAA designee. Direct installation of the part requires no further documentation.

PAAT3 WORKING GROUP RECOMMENDATION -- ENFORCEMENT AND RULEMAKING

In order to eliminate future occurrences of undocumented parts, the PAAT3 Working Group urges the FAA to establish a process which will assure that all parts for installation on FAA certificated products are manufactured or maintained in accordance with the Federal Aviation Regulations. Rule changes may be necessary in order to insure enforcement of some of these issues. The PAAT3 Working Group proposes that each of the following four issues be dispositioned by FAA in full:

1. The Working Group believes that the problems associated with unapproved parts cannot ultimately be solved without strong enforcement of rules governing production of civil aviation parts and assemblies. It is recommended that the FAA develop procedures and devote the necessary resources to strengthen enforcement of existing production rules. FAA enforcement should give appropriate consideration to the time and expense required to achieve and maintain substantial compliance throughout industry, and adopt procedures to ensure that producers obtain FAA approvals where required.

PAAT3 WG is concerned that procedures established under the advisory circular not become an alternative means of compliance to FAR Part 21. Although there is confidence in present regulations, the working group determined that FAA must establish greater rigor in the enforcement of FAR 21.303 and must eliminate arbitrary and inconsistent application of FAA regulations and procedures. Further, FAA must assume leadership in working with industry to establish a regulatory and business environment that is intolerant to cutting corners, one-time exceptions and acceptance of parts and work performed on personal reasonableness or faith.

2. FAA adopt a policy to certificate distributors and suppliers.

Industry has worked with FAA to establish a program for the voluntary registration of a distributors's quality assurance procedures. This program serves as a "demonstrator project" for determining the viability of using third party registration for regulatory purposes, and addresses FAA personnel issues.

3. FAA establish a means for documenting the regulatory status of parts and assemblies.

Several documentation regulatory projects are currently being undertaken through ARAC. FAA must insure that these projects address documentation of materials, parts, components and assemblies in a comprehensive manner and that all projects are completed in a timely manner.

4. FAA adopt a definition of "Commercial Parts".

There is great need within the aviation industry to establish a separate

class of parts termed "commercial parts". These parts are not standard parts by definition, nor do they require production approval authority due to the fact that they do not affect airworthiness in any manner what-so-ever. Although the working group determined that "commercial parts" could be included in the AC without rulemaking, PAAT3 WG determined that it is advisable for enforcement purposes to have such a definition specifically appear in the FARs . PAAT3 WG believes that the Aircraft Certification Procedures Issues ARAC is the appropriate vehicle for accomplishing this task.

FAA COMMENTS ON THE ADVISORY CIRCULAR

FAA AGC submitted a written summary of the comments they made during PAAT3 WG meetings to the Chairman on November 21, 1994. This and other FAA comments and concerns were disposed in the following manner:

A. Section 1.

1. Include "*This AC provides one means, but not the only means, for determining whether an undocumented aircraft part is eligible for installation in a type certificated product.*"

The working group accepts in principle that such language is required of an advisory circular. However, the working group believes that the suggested language is overly broad and exceeds the tasking statement from FAA. The following language is acceptable: "*This AC provides one means, but not the only means, for determining whether an undocumented part in existing inventory conforms to approved design for a type certificated product.*"

2. Use of the term "existing inventory" is problematic. FAA cannot give guidance on the disposition of existing inventory only, and disallow the same procedures for later-acquired inventory without rulemaking.

PAAT3 WG is extremely concerned with the existence of undocumented parts. The AC specifies that in order to qualify for the procedures outlined in Section 8, applicants must institute incoming inspection procedures under Section 7. This guarantees that the entity making application will no longer perpetuate the undocumented parts problem. The working group believes only through industry adoption of the AC, proper rulemaking and FAA enforcement action, will the existence of undocumented parts in civil aviation inventories cease. The working group believes that if FAA and industry were to allow undocumented parts to remain an accepted practice, the integrity of the regulatory system would be undermined. The comment was rejected and the concern addressed by imploring FAA to assume rigorous enforcement of FAR 21.303 and to pursue rulemaking to insure that documentation is complete, continuous and comprehensive.

3. The AC states undocumented parts must be found to "conform to FAA-approved design". I have no legal objection to limiting the advice in this AC to this determination, but the AC alone cannot serve to require that all determinations on undocumented parts be made to the type certificate. As such, the AC does not begin to address how to prove the airworthiness of parts for which approved data does not already exist or to which the part owner does not have access.

The AC defines "FAA-approved data" to include both type design and data acceptable to the Administrator. This language was specifically used to account for use of data developed by other than type certificate holders. The existence or non-existence of data, and the unavailability of data cannot be made the standard for making a determination of conformity to approved data. The question the working group focused on was that of "By what existing FAA standard may a 'conformity to design' determination be made in order to demonstrate that an undocumented, and therefore unknown part meets the requirements of the FARs." Although it is possible that an undocumented part is an aircraft part, it cannot be presumed, and must be shown to be so. By regulation, all new parts must be produced according to FAR 21.303, and all used parts must be treated in accordance with the FARs. Ideally, all parts would be properly documented. The problem before PAAT3 WG is not the availability of data, but the proper documentation of undocumented, and therefore unknown parts. Undocumented parts must be found to meet the requirements of the FARs in order to documented. "Conform to approved design", the first of two conditions that must be met in order for a part to be determined "airworthy", was deemed the most expeditious, rigorous, legal and fair means for solving the problem of lack of proper documentation.

4. What is the meaning of the term "previously determined to be airworthy by an appropriately rated certificate holder"?

Industry generally handles parts under three cases: new parts, used parts which have been overhauled or repaired, and used parts needing service. The working group determined that documentation must be sufficient to show that: in the case of new parts, they were manufactured under the requirements of FAR 21.303; in the case of used parts that have been overhauled or repaired, they were previously determined to be airworthy and, due to use in service needed overhaul or repair, and were overhauled or repaired by a FAA certificated entity in accordance with the FARs; and, in the case of used parts needing service, they were previously determined to be airworthy, but due to use in service, were no longer so. Absent such findings, parts would be questionable as to their "conformity to approved design" and/or "in a condition for safe operation", and would have to be presumed to be ineligible for use in civil aviation.

5. Add at the end of the first full paragraph after " ... elimination from the civil aviation inventory those parts which will not satisfy FAR requirements", the following: "*unless the use of the part can otherwise be shown to return an aircraft to at least its original*

or properly altered condition."

The working group disagrees. A part that has documentation to show that it will "return an aircraft to at least its original or properly altered condition" must either have been determined to be airworthy by an appropriately rated certificate holder or have been manufactured in compliance with FAR Part 21, and not be an undocumented part. The operative principle is that only certificate holders, whether an FAA inspector, FAA designee, or entity certificated under the FARs, may document airworthiness. While the working group agrees there are alternative ways in which to make such a determination, regulations clearly state that only certificate holders may document such a finding. Any airworthiness finding(s) which are made must be documented. The AC allows for two cases: for parts which are installed on an aircraft no further documentation is required; and, for parts which are placed back in the inventory holder's inventory or sold, a FAA Form 8130-3 should be attached.

6. A technical drafting note stated there exist several hanging paragraphs in the advisory circular.

It was the understanding of the working group that all necessary format and stylistic changes to the AC would be made by FAA drafting support.

B. Section 5.

7. When describing what a statute or regulation state, the exact words should be used to the extent possible.

Accepted by the working group.

C. Section 6.

8. Sec. 6.a indicates that "conformity" means an "assessment", when actually conformity is a matter of fact, and the assessment is determining whether that fact exists. The subparagraph also refers to whether the part is "consistent" with design data. This is too vague a term. It is not clear why this definition is needed; it seems that conformity is self explanatory.

The working group held that "conformity to FAA-approved data" should be defined for its use in the advisory material. In a separate comment, Flight Standards suggested substitution of "*identical*" for ""consistent". This was not disallowed. For purposes of the AC, the statement means that, under the procedures established in Section 8, a finding has been made that the part, material or product in fact meets all requirements of approved design; or, when the phrase is modified by terms such as "determine", the phase means that using the procedures established in Section 8 the part must be shown in fact to meet all requirements of approved design.

9. Sec. 6.b, first paragraph, should refer to items that were approved by FAA. In general we cannot go beyond what is in the rules now (eg. FAR 21.31, 31.41) and suggest that the actual words be used. In Sec 6.c(3) some processes may be included in design data, but it is probably beyond the scope and ability of this AC to define when. "Approved" is clearly defined in FAR Part 1 as being approved by the Administrator, while "acceptable" may include items not specifically approved, and does not belong in a definition of "approved".

Accepted in spirit by PAAT3 WG. The working group determined it necessary to demonstrate that "FAA-approved data" was not strictly limited to type certificate data, and an expansive definition was developed in order to provide guidance to applicants as to what was, and what was not, "approved data". Operators, and maintenance and repair stations develop their own data for regulatory purposes. It was the intent of the working group to allow this data to be used for "conformity" findings. The term "data acceptable to the Administrator" appears in FAA material, and the working group determined use of the term in the AC was consistent.

10. Sec. 6.c includes parts that have an inspection interval. Every aircraft is "life limited" under this definition in that it must have an annual or 100-hour inspection. For purposes of this AC, the critical aspect of "life limited" is that if you do not have sufficient documentation to establish its current time in service or shelf life, the part cannot be used. However, if the part only has an inspection interval and it can otherwise be identified as a FAR Part 21 part, any lack of documentation on the last inspection can be cured with a current inspection. Therefore, I recommend that "inspection interval" be removed from the definition.

PAAT3 WG determined that "inspection interval" should be an inclusive, not an exclusive, aspect of life limited parts, and that its inclusion was necessary for a robust definition of this category of parts. FAA concerns, however, are considerable, yet there do exist life limited parts for which an inspection interval is the primary determining factor as to their airworthiness, not the replacement schedule or other related factor. Clearly, the working group did not intend to include in this category of part those for which an inspection interval was a normal aspect of preventive maintenance and for which there was no expected operational limitation. The working group determined that life limited parts, regardless of the criteria which mandated the limitation, must be thoroughly documented, and the service history and all other necessary life limitation service characteristics must be known.

11. What is the justification for defining "Owner/Operator-Produced Part"?

PAAT3 WG desired to call attention to this category of part since there is considerable confusion within the industry regarding the use and

sale of these parts.

12. Sec. 6.g(1) goes beyond the description in FAR 21.303(b)(4) to include specifications established by manufacturers. FAA cannot expand the definition by advisory material.

The working group voted to disregard FAA AGC, Flight Standards and Aircraft Certification counsel, and instead deferred to FAA to make a determination on the acceptability of this definition.

D. Section 7.

13. In Sec. 7.a, what does "may rely on" mean?. If "may rely on" means if parts were introduced into inventory under this system the carrier need not keep the underlying documentation, FAA AGC sees significant difficulties to FAA and applicant in making a determination after the fact that the acceptance was performed properly. This would make the system, for the most part, not checkable and unenforceable. This also raises the question of parts now in inventory which may have been accepted under a program that has some of these features, but not all.

The working group determined that, in order to prevent further induction of undocumented parts into inventory, an applicant's incoming inspection system must establish and implement minimum standards for documentation, part identification and marking, physical inspection, segregation of parts requiring evaluation, and disposition of scrap parts. Present industry practice does not meet such minimum incoming inspection standards in all cases, and if this were so the PAAT3 WG tasking would most probably not be necessary. In this manner, the working group used the term "may relay on" in the proactive sense. Since the procedures in Section 7 are "one means, but not the only means" for establishing an incoming inspection system which disallows induction of undocumented parts into inventory, the term "may" was chosen rather than "must". However, the working group emphasized that all functional elements in Section 7.a -- documentation, packaging, part identification and marking, physical inspection, segregation of parts requiring evaluation, and disposition of scrap parts -- are obligatory in establishing an incoming inspection system which will disallow induction of undocumented parts into inventory.

In the retroactive sense, PAAT3 WG determined that if an applicant had in fact established an incoming inspection system that met all the requirements under Section 7, then that portion of "existing inventory" which was inducted into the applicant's inventory under that system, and could be identified as having been inducted under that system, would have been documented and, for purposes of the AC, was not subject to further scrutiny. PAAT3 WG did not address the practicality of establishing the status of a part, rather it addressed the possibility that such a determination could be made. Since many operators, and repair and maintenance stations do not retain the underlying

documentation once a part has been inducted into their inventory, this condition has substantial meaning for the purposes of determining which parts in inventory are undocumented. It is contemplated that applicants which do not retain underlying documentation will establish procedures for retaining certain information on the approval status of parts if they intend to offer all or part of their inventory for sale in the future.

14. Sec. 7.a(3), third sentence is a completely separate thought than the first two sentences and should be split off. It should refer to meeting Sec. 7.a(2) and 7.a(3) in addition to 7.a(1).

Although not specifically discussed by the working group, the intent of Sec. 7.a(3) was discussed as a continuation of the process established in Sec. 7.a(1) and 7.a(2). Therefore, FAA AGC's suggestion appears to be consistent and acceptable.

15. Sec. 7.b language of "minimum standards" looks like a rule.

Elements outlined in Sec. 7.a(1) through 7.a(6) were discussed by PAAT3 WG as "standards". The meaning was clearly defined as "requirements" or "criteria" to indicate that all the functional elements in Sec. 7.a --documentation, packaging, part identification and marking, physical inspection, segregation of parts requiring evaluation, and disposition of scrap parts -- are obligatory. These elements are based upon existing industry standards such as ISO 9004, SAE Specifications AS 7103 and AS 7104, ATA Spec. 106, and an Airline Suppliers Association specification now under development, and upon operator incoming inspection procedures.

E. Section 8.

16. Should the phrase "undocumented parts which were not inspected ... in Section 7 above" not apply to all undocumented parts?

PAAT3 WG anticipates this will become the industry standard, however, AC material is not mandatory and establishes one means, but not the only means for complying with the regulations. For the purposes of the AC, Section 8 establishes procedures for making a finding that a part in existing inventory lacking documentation sufficient to established that it conforms to approved design, does or does not in fact conform to approved design and, as appropriate, is documented as such or scrapped. It is the intent of PAAT3 WG that all entities holding undocumented parts in current inventory will voluntarily develop and execute a plan under the AC, although it is not a foregone conclusion that they will do so. Sec. 8.a was developed in order to provide instruction to the applicant on what parts in existing inventory are subject to the provisions developed in the Section, and allows for those parts which are shown in fact to have been, or are currently documented to be excluded from further scrutiny.

17. Sec. 8.a(1)(c) is an attempt by AC to permit the use of "commercial

parts". There is no regulatory basis for this, and just about every part has a safety standard attached to it, even curtain rings and ash trays.

FAA representatives were not of a common opinion on this matter. Flight Standards held it was permissible to place this definition into the AC, and the working group determined "commercial parts" could be included without rulemaking. "Not affecting airworthiness" is different than "a safety standard". "Commercial parts" are generally well known and are significantly different from type certificated products and industry standard parts. The working group intended for the definition to be restrictive rather than permissive, and to include functional parts such as lavatory light bulbs, curtain ties, curtain rings, etcetera, which, although perhaps having inherent safety qualities which might meet a safety standard, are manufactured to non-aviation industry standards outside the specification and control of the FAA regulatory system. Such parts can be readily replaced by like parts which have the same inherent characteristics without affecting airworthiness. For example, a curtain tie could be replaced with a shoe lace since the objective is to restrain the curtain so as to allow for clear view by flight attendants, although it was recommended that this not be done.

18. Sec. 8.a(2) reference to "FAA-approved sources" is not correct; FAA does not approve sources.

The working group thinks the meaning of this phrase is non-controversial in the context of the AC. However, if FAA finds the phrase to have no regulatory meaning, substitute "*a manufacturer certificated under Part 21 or previous determination of airworthiness by an appropriately rated certificate holder*".

19. Sec. 8.a(4) appears to be overly-broad in categorically stating that DoD parts cannot be used on civil aircraft. For past-acquired parts, isn't the guidance in this AC sufficient, i.e., if no marks or other evidence that the part is approved, do not use it? Delete reference to military parts.

The majority of military parts are produced to military, not civil aviation standards, and are manufactured outside the FAA regulatory system. The Department of Defense (DoD) may purchase parts which do not conform to military specification or FAA-approved design, either on an exception basis or as standard practice. DoD has the prerogative to purchase parts which do not meet military specifications as it deems necessary and expedient. Military incoming inspection and inventory control procedures are significantly different from those practiced in civil aviation, as are military operational, maintenance, overhaul and repair procedures. The working group determined that the burden of proof for establishing production, inventory, operational, maintenance, repair and overhaul histories rested with the military and those who purchased military surplus parts. Although DoD might purchase new parts from manufacturers certificated under FAR Part 21, absent an unambiguous

statement that such parts were produced under that quality system and to FAA type design, it cannot be presumed *a priori* that such parts are airworthy, even when in the original package. Further, without a determination of the inventory control to which new military parts are subject, an *a priori* airworthiness determination cannot be made even though it may be established that they were produced under the FARs. In cases of used parts the requirements for determining airworthiness become more exacting, incorporating: service history, especially exposure to extreme operating conditions; maintenance history, including requirements and allowable exceptions where different from the FARs; and, overhaul and repair history, including procedures, data and allowable exception where different from civil requirements. Rather than overly-broad, Sec. 8.a(4) is constructed narrowly and perhaps should specify inclusion of inventory control and service (operational, maintenance, overhaul and repair) histories. FAA and industry have determined that counterfeit and military surplus parts constitute the gravest danger to civil aviation, and the working group, by insisting that Sec. 8.a(4) *en toto* and the term "military" in Sec. 8.a(5) be included in the AC, has adopted measures to insure that proper weight is given to this threat and that proper action is taken to eliminate any real or potential threat.

The AC does not state, imply nor provide guidance to the effect that "if no marks or other evidence that the part is approved, do not use it". The AC does set forth procedures to make a finding that the part, given available yet incomplete documentation, conforms to FAA-approved design.

20. Sec. 8.a(5) is constructed around "an FAA-accepted plan". Does this presume that in each case, for each part number, a plan would be submitted to the FAA for acceptance?

The working group contemplated that each applicant would develop a single plan for dispositioning undocumented parts in existing inventory. If in the execution of the plan FAA assistance was deemed necessary, PAAT3 WG determined this would proceed according to current practice. Flight Standards stated the plan should be "FAA accepted". FAA acceptance is preferable to the working group, although there were questions whether this could be effected. The determination on "*FAA approved*" was placed with FAA.

21. Sec. 8.a(5)(b) requires comparison with "FAA-approved design data". This circumvents the tough issue of how design data is acquired, and whether there is any way to use the part if it cannot be. On the other hand, Sec. 8.a(5)(c)(ii) refers to "PAH drawings and specifications" implying that a comparison can be made without it. Which is true?

As stated in response to FAA Comment #3 (page 9 above), the existence or non-existence of data, and the unavailability of data cannot be made the standard for making a determination of conformity to approved data. Sec. 8.a(5)(b) states that once all available documentation relating to an undocumented parts has been assembled, a comparison of the

part with FAA-approved design data must be made. The meaning of "FAA-approved design data" is conditioned by the nature of the part and an analysis of its intended use. The terms "nature of the part and an analysis of its intended use" are what has been referred to as "criticality" which is the effect on the aircraft of a failure of the next higher assembly in which the part is installed. The amount of FAA-approved design data is thus conditioned by Sec. 8.a(5)(c), of which sub-sub-sub-subsections (i), (ii) and (iii) provide specific guidance on what "FAA-approved design data" is necessary in order to make a finding of "conformity to FAA-approved design". The working group is confident that no ambiguity exists -- one use of "FAA-approved data" is universal, the other conditioned.

22. The AC does not clearly state the object of the analysis: Do you have a reasonable basis to determine that the part is what it appears to be? The lack of detail in the draft as to how this analysis will be done makes it impossible to determine whether this will be accomplished. Intended use analysis in Sec. 8.a(5)(c) can be extremely difficult to do. What level of analysis is intended? The use of "minor", "major" and "catastrophic" is problematic, in that the terms are used in other contexts with different meanings and consequences. Sec. 8.a(5)(c)(i), the term "allowed" in "Sampling plans that permit the acceptance of defectives should not be allowed" should be changed to "*used*".

The working group determined that, given the heterogenous composition of potential applicants, development of a standard, universal testing procedure would be onerous. A large operator of a 375 airplane fleet has capabilities that are sufficiently different from a smaller operator; a large maintenance facility has differing competencies than a smaller repair station. The AC outlines the requirements that an applicant's intended use analysis must address which are the most practical, complete guidance the working group determined it could provide. The level of intended use analysis must be sufficient to demonstrate in fact that an unknown or partially unknown part conforms to FAA-approved design. This is dependent upon the "criticality" of the part. PAAT3 WG found this to be unambiguous. How the part is determined to conform to FAA-approved design, the object of the analysis, is contingent upon the individual certificate holder's privileges, limitation and eligibilities, and is the basis for fashioning the applicant's plan for dispositioning undocumented parts in current inventory, which is the objective of the analysis. Any accomplishment of the intended use analysis is a product of the plan and the thoroughness with which it is executed, and depends entirely upon the competence of the applicant. Whether the intended use analysis is easy or difficult in not germane to the task before the working group, although preference was always given to the least difficult means for meeting the objectives of the tasking statement.

The terms "minor", "major" and "catastrophic" and intended use analysis were fashioned on AC 25.1309, however, no consideration was

given to using the Part 25 fail-safe design concept or testing requirements as a basis for establishing a "conformity to approved design" determination under this AC. While a logical "blood-line" between AC 25.1309 and this AC's Section 8 does exist, the connection is remote. The working group did not discuss the need for the terminology, rather it used the terms out of habit. It would be consistent to substitute other terms such as "*group A*", "*group B*" and "*group C*" as appropriate. Neither was there discussion on the term "allowed" except that such sampling tests should not be permitted. "*Used*" is an appropriate substitute when modified by the phrase "cannot be".

23. Sec. 8.a(5)(d) is not clear on who may be authorized to make conformity determinations.

PAAT3 WG found there to exist adequate advisory and regulatory material to ascertain unambiguously what certificate and qualifications an individual must posses in order to make a conformity determination. The working group left the specification the individual(s) under the Section to the applicant's discretion in order to allow for specific needs and particular circumstances as discussed in FAA Comment #22 above. Thus, it was envisioned that each applicant would specify in the plan they would submit for FAA approval the individuals who would make this determination.

F. Section 9.

24. Regarding the statement to be entered on FAA Form 8130-3, I do not think we should be calling anything a "catastrophic installation".

Agree. Change "(minor)(major)(catastrophic)(all)" to "*group (A)(B)(C)*" to indicate the intended use testing requirements under which the part has been "determined to conform to FAA-approved design data".

PAAT3 WG MINORITY OPINION ON THE RECOMMENDATIONS

Four members of the working group held a minority position and asked they be formally named. PAAT3 WG members representing the minority are: Allied-Signal Aerospace Company, Allison Engine Company, Bell Helicopter Textron, and Douglas Aircraft Company. The minority opinion was formed over a period of time during the course of developing material to address the tasking assignment. Each question and the total view was well articulated in PAAT3 WG meetings. The majority thoroughly and patiently addressed each objection voiced by the minority with the objective of reaching a consensus position.

Draft minority comments were submitted to the Chairman October 28, 1994. The minority submitted their formal opinion for the record (see Attachment 1 titled ***Minority Opinion on Unapproved Parts Draft Advisory Circular, dated 10/14/94*** dated December 12, 1994, and hereafter cited as Minority Opinion) by a letter dated December 15, 1994 (see Attachment 2

titled ***PAAT3 WG Recommendations for ARAC Approval***), and gave specific instructions to the effect that, "the Minority Opinion is the document provided you [dated December 12, 1994] and is what we want you to go forward with to the [AC/GAM ARAC] Issues Group - not the October 28, 1994 draft." The Minority Opinion was submitted after a draft of this Report had been circulated (memorandum cited in next paragraph), and responds in part to the presentation made in that draft report. However, the draft comments and Minority Opinion do not differ substantively.

Via ARAC Memorandum number PAAT-3 #R02 dated December 7, 1994, I requested working group comments and criticisms on the draft Report. The instructions given in the memorandum specifically requested that responders: (1) "reflect the consensus position or, where appropriate..., the minority opinion, **and not your own person opinion**", (2) "give comment and direction as to the content of discussion leading to minority/majority opinions and the framework of the majority/minority conclusions themselves", and (3) "if you violate the above I will have little reason to give consideration to [your response]". I received three written and one telephone responses stating the draft report was accurate as presented. The minority submitted 20 comments on the draft report (see Attachment 2 "Attachment to 94FAA-C1-E00-7262" and instruction on page 2 of the cover letter). Of these comments, only three, namely #5, #10 and #15, meet the conditions stated in the instructions. Position #10 appears before the working group for the first time in this document. The minority comments are:

25. The sentence "Rotorcraft, after having developed an independent section, elected to be included in the 'for hire' section outlined above." is called into question.

Minutes of the meetings up to and including June 14-15, 1994 address and include a four-track system, later reduced to a three-track system, to account for the specific requirements of "for hire", rotorcraft and general aviation. Beginning with the draft AC dated July 11, 1994 all reference to the three-track approach is dropped in favor of the two-track approach presented in the AC which accompanies this Report. There is no reference in the minutes of the meetings to any stated objection to this change in approach, and, minutes of the August 29-30, 1994 meeting explicitly state: "[The] approach, as embodied in the draft AC dated July 28, 1994, received 100 percent approval by the working group." Present at that meeting were representatives of Allison, Bell Helicopter and Douglas. These minutes were approved at the October 13-14, 1994 meeting which was attended by Allison, Allied-Signal, Bell Helicopter, and Douglas.

26. Comments to Item 4 (see page 9) states, "We agree: then by reference to p.4 of draft AC; definition of Undocumented parts need a revision to para. 6.h.(2) to add 'used parts only'."

The Working group determined in that undocumented parts would include all parts in "existing inventory", not just certain parts.

27. In Item 25 [draft Report, 28 final Report] (below), sentence reading "Giving due consideration to the concern raised by the minority, and agreeing that the issue of proper documentation of all civil aviation parts was a unified PAAT3 WG concern, the working group remanded the larger, global question of parts documentation to FAA and the ARAC (see recommendation 3, page 7 above) in order to properly and speedily disposition the issue." the comment states, "Not aware that this happened."

    No comment.

Minority Opinion comments and concerns were dispositioned by the working group at PAAT3 WG meetings in the following manner:

28. The AC is not an interim plan and does not define existing inventory, in that it does not place any time constraints on the problem. The enforcement and rulemaking recommendations do not set forth a plan for ensuring that all future parts will be documented.

The minority does not clearly state what they consider to constitute an "interim plan" in contrast to what the working group has developed. The working group is confident that it has developed advisory material which provides proper guidance to an applicant for developing a plan to disposition undocumented parts in their existing inventory. The word "interim" means "done, made, or occurring for an interval; an intervening time". PAAT3 WG determined that it was the responsibility of FAA for the "whole plan" and of the working group for the "interim plan". As such, any plan developed by the working group was for an interval.

The working group determined that the documentation of all future parts was a larger issue than the tasking statement allowed, and limited its attention to: (1) documentation of undocumented parts that have been determined to conform to FAA approved design data under the procedures outlined in the AC, and (2) establishing procedures for dispositioning parts that have failed such a determination. This is consistent with the request by FAA for the ARAC to develop fast track procedures to achieve the tasking assignment. The minority held that rulemaking should be pursued to the effect that only approved parts could be sold. PAAT3 WG determined that discussion of this issue was secondary to the tasking assignment and the issue could be best be dispositioned through other ARAC working groups. Giving due consideration to the concern raised by the minority, and agreeing that the issue of proper documentation of all civil aviation parts was a unified PAAT3 WG concern, the working group remanded the larger, global question of parts documentation to FAA and ARAC in order to properly and speedily disposition the issue.

29. The tasking from the FAA instructed the working group to evaluate the acceptability of aircraft parts existing in present civil inventories. This has been interpreted to mean that the retroactive approval of these parts was limited to parts that were presently held in an entities inventory, not parts that would be inducted in

the future. Our intent from the beginning was to "build a dam and drain the swamp". The AC does neither. Without a time constraint, which would be established by defining what is meant by "existing inventory", the retroactive approval procedure established by this AC will exist forever, allowing undocumented and potentially unapproved parts to be found acceptable for use on certificated aircraft.

PAAT3 WG determined that establishing a requirement for the entire civil aviation inventory would require rulemaking, but on an individual basis a certificate and non-certificate holder could determine their "existing inventory", albeit through varying means. Thus, "the dam" would be built on an individual basis, and would be maintained through adoption of the incoming inspection system under Section 7 of the AC. "Draining the swamp" would then proceed on an entity-by-entity basis. This was determined to constitute an "interim plan", of which the larger issue of the entire civil aviation inventory would come under the purview of the FAA. Allison and McDonnell Douglas presented a motion on October 14th to incorporate the following definition in the AC:

> "Existing Inventory -- Aeronautical inventory that is in the entities possession, in transit, or on order at the time of FAA-acceptance of the test and evaluation plan (Section 8 of this AC). Any parts received after acceptance of the test and evaluation plan shall not be eligible for consideration under this draft AC."

The working group found the procedures in the AC to accomplish the stated objective of prohibiting further induction of undocumented parts into an entities inventory. PAAT3 WG found that absent an established means to determine what "[parts were] in transit or on order", this proposal was onerous and unenforceable.

30. The receiving inspection procedures remain open-ended and will simply identify undocumented parts as such (paragraph 7.a.5), and allow them to pass into inventory via the evaluation process in Section 8. Present FAR's do not require that parts be approved or documented when bought, sold, or transferred. Part 21 does not specifically require a manufacturer to provide documentation beyond shipping documents or invoices. PMA holders actually have more documentation requirements than Type Certificate holders. It is argued that the AC now establishes a new method to find unapproved, undocumented parts acceptable for installation.

Section 7.a(5) follows 7.a(1) which begins "Documentation should be sufficient to establish that the part(s) were manufactured under FAR Part 21, or were previously determined to be airworthy by an appropriately rated certificate holder." The working group determined that failing this test, parts would not be further inducted. Section 7.a(5) would then logically apply to parts which failed Sections 7.a(2) through and including (4).

The majority agrees that the minority has shown why it is necessary for FAA to insure that documentation of materials, parts, components and assemblies is addressed in a comprehensive manner and is completed in a timely manner; and has found that the minority argument demonstrates that indeed the AC is only an interim plan. The majority disagrees that the AC establishes "a new method to find unapproved, undocumented parts acceptable for installation." The AC is based on methodologies that are currently practiced within the civil aviation industry for making a determination or finding in fact that a part conforms to approved design. The AC clearly states undocumented parts may not be assumed to be approved *a priori*, and by definition they are not, but must be shown to be so. It further establishes procedural guidelines for eliminating both undocumented and unapproved parts from an entity's inventory.

31. The issue within the PAAT3 WG is that there is not regulatory basis for "commercial parts", and hence, there is no basis for their inclusion in an AC. Since the working group was informed that the FAA policy-level reviewers would not accept the term in the AC, it chose to retain the concept without labelling them as such. This is a superficial attempt to include "commercial parts" with the hope that it will survive FAA review.

This is discussed thoroughly in FAA Comment #17 (page 13 above), and the minority is of the same opinion as FAA AGC. This, however, was not a unified opinion as reflected in the vote during the October meeting. Douglas Aircraft voted "for" inclusion of "commercial parts" if it were to appear in Sec. 8.a(5)(c)(i) and "against" inclusion of "commercial parts" as currently appears, arguing a determination of "it does not affect airworthiness" could not be made without the intended use analysis. The working group found such parts to be well known in fact and practice, and that such determinations are well established.

32. The minority has tried on several occasions to have all military surplus parts completely excluded from consideration under this AC with no success. The wording which they were able to insert was arrived at via compromise, as there was no intent to restrict "warbird collectors" and other operators from using parts for military aircraft. Our intent was to restrict the use of military surplus parts, especially breakout parts that were produced by non-PMA sources, from being used on type certificated products. Breakout parts are produced contrary to FAR Part 21.303 and should not be used on type certificated products.

This is discussed thoroughly in FAA Comment #19 (page 14 above). Further, PAAT3 WG found the lack of airworthiness to be the only basis upon which to restrict the use of military surplus parts under the FARs. Potential problems in establishing airworthiness given that the FAA and military regulatory systems are sufficiently different with respect to mission, objectives and regulation, were entirely agreed to and accounted for by the working group.

33. Task Team B was formed to evaluate and recommend proposed regulatory changes that compliment the AC. At the August meeting the task team recommended that the FAA revise FAR Parts 21 and 43 to require the parts be approved and properly documented to be bought, sold, transferred, or installed on a type certificated product. These regulatory changes were recommended to be accomplished concurrent with the publishing of the AC via an SFAR. The recommendations were, for the most part, rejected by vote of the working group on August 30.

Upon the advise of FAA AGC that promulgation of an SFAR was essentially the same as any other NPRM, the working group determined that existing ARAC working groups could accomplish rulemaking in a shorter time period since their work on documentation issues was currently in process and well advanced. Specifically, PAAT3 WG counselled those desiring such a rule to immediately present their recommendations to the Aircraft Certification Procedures and Aircarrier/General Aviation Maintenance Issues ARACs working groups. In this way, PAAT3 WG is confident that the recommendations will be acted upon in the most efficient and timely manner. There was discussion as to the viability of regulatory proposals to the effect that only approved parts could be bought, sold or transferred, as this would limit privileges currently held by certain certificate holders. PAAT3 WG determined that further discussion of this issue was secondary to the task of developing an interim plan.

34. The minority recommends the parent ARAC direct the PAAT3 WG to: Resolve all minority opinion issues; and, Comply with the tasking by developing changes to FARs 21.303 and 43.13 consistent with the concepts and objective presented by the minority (see Minority Opinion, Section 2).

The minority holds there to be no consensus based upon there being (1) "opposition to the draft AC" and (2) "opposition to the whole objective of PAAT Phase 3 not being done concurrently with rulemaking". The working group held that the first point is a difference over the meaning of the term "consensus". The PAAT3 WG majority rejected the minority recommendation and found that a consensus exists under the following ARAC guidelines: The working group attempted to reach compromise positions for a document that all members are willing to support without further comment if published; meaning all parties are satisfied with the resolution of the issue, whether or not they agree with it in total. Since it was not possible to reach complete unanimity, thus giving rise to majority and minority positions, PAAT3 WG proceeded with the majority position under the following conditions: The minority position was (1) understood by the majority; (2) fully defined and discussed; and, (3) discussed in the recommendation showing that the minority opinion was considered and why these positions were rejected. The second point is a difference in opinion which has been properly dispositioned by the majority.

RESOLUTION OF THE PAAT3 WORKING GROUP

Whereas Having found it has conscientiously and faithfully fulfilled the tasking assignment with which it is charged, and

Whereas Having found it has adhered to the policies and procedures of the FAA Aviation Rulemaking Advisory Committee,

Therefore The Parts Approval Action Team Phase 3 Working Group recommends the advisory circular and the recommendations to the FAA for enforcement and rulemaking which accompany this Report be adopted by the Aircarrier/General Aviation Maintenance ARAC without change and submitted to FAA for adoption.

Howard Aylesworth, Chairman
Parts Approval Action Team Phase 3 Working Group
December 16, 1994

Attachment 1

MCDONNELL DOUGLAS

Douglas Aircraft Company

94FAA-C1-E00-7169
December 12, 1994

Mr. Howard Aylesworth
Aerospace Industries Association of America, Inc.
1250 Eye Street, Suite 1200
Washington, DC 20005

Subject **Minority Opinion on Unapproved Parts Draft Advisory Circular, dated 10/14/94**

Attached is the subject document that the signatories request you carry forward to the next ARAC Certification Procedures Issue Group along with the subject draft AC.

These are two primary reasons for this Minority Opinion:

1. **There is still opposition to the draft AC,**

2. **There is opposition to the whole objective of PAAT Phase 3 not being done concurrently with rulemaking.**

The representatives of the Minority Opinion recommend that this Minority Opinion document not be distributed to the Working Group members prior to submittal to the ARAC Issues Group and that for effectiveness, they present their position at the Issues Group meeting.

Sincerely,

K. L. Peterson, General Manager
Technical and Government Affairs
Douglas Aircraft Company

Copy: Allison, Bell, Allied Signal

The Parts Approval Action Team Phase 3 Working Group
Minority Opinion for the
ARAC Certification Procedures Issues Group

Introduction

The Parts Approval Action Team Phase 3 Working Group (PAAT 3 WG) was formed by the FAA ARAC Issues Group to specifically address the problem of undocumented parts that were being found in existing inventories in the civil aviation community. The revised tasking, published in the Federal Register of June 8, 1994, is as follows:

> "Develop an interim plan for evaluating the acceptability of aircraft parts existing within present civil inventories that lack acceptable documentation. Develop such advisory circulars, notices, NPRM's, or other documents, as deemed appropriate, to accomplish this task. Develop a plan to ensure that in the future aircraft parts are properly documented".

The PAAT 3 WG developed a plan that resulted in an objective to "drain the swamp" (assess and document the undocumented parts in existing inventories) and "build a dam" (prevent the continuation of the existing state of undocumented, hence, unapproved parts from entering into service). The product of the WG was a draft Advisory Circular (AC), dated 10/14/94, that the WG voted to send to the parent Issues Group for acceptance. As part of that activity, there were four manufacturers as members of the WG who had dissenting, minority opinions to the draft AC acceptance and voted not to accept the draft AC. The basis for their non-acceptance was that the draft AC is not enforceable standing alone and does not satisfy the tasking given to the WG by the parent ARAC Issue Group.

Executive Summary

Background

The PAAT 3 WG developed a draft AC which was revised and accepted by the WG on October 14, 1994 (Appendix 1). There were four dissenting minority opinions to the draft AC acceptance. Four manufacturers; Allison, Bell, McDonnell Douglas, and Allied Signal voted not to accept the draft AC. The Minority Opinion strongly believes that the draft AC is not enforceable standing alone and thus does not satisfy the tasking given the WG by the ARAC. The draft AC is not an interim plan and does not define existing inventory, in that it does not place any time constraints on the problem. Further, the current tasking implemented by this draft AC does nothing more than to encourage and perpetuate the problem of unapproved parts. In addition, the recommendations to be forwarded to the FAA do not set forth a plan for ensuring that all future parts will be documented. Since the WG could not reach consensus, the majority position was accepted, and the draft AC is to be forwarded to the ARAC Issues Group as part of the ARAC process.

Conclusions

The following concerns, discussed in further detail in Section 1 of this document, outlines the Minority Opinion's non-acceptance of the draft AC:

1. **Existing Inventory. The manufacturers (Allison, Bell Helicopter, McDonnell Douglas, and Allied Signal) have consistently tried to place some kind of a time constraint or "fence" around this process. The manufacturers' position is that the draft AC has no time constraints, and essentially establishes an alternative method to Section 21.303 for approving parts without the regulatory changes required. Even though the Purpose paragraph of the draft AC (Section 1) is that it is not an alternate means of establishing compliance with FAR 21.303, there is no pressure on the producer to obtain PMA's for parts, as they can retroactively be documented and found acceptable through this draft AC, once published. This process will be in place forever and is not enforceable!**

2. **Inspection and Acceptance. As proposed, the vast majority of parts are accepted based on visual examination or maintenance manual criteria. Visual examination will not detect material substitutions or many significant non-conformances to the type design. Criteria for acceptance of the most important parts, failure of which would be considered catastrophic, is not included in the draft AC.**

3. **Commercial Parts and Manufacturers' Standard Parts. The way that the draft AC defines "undocumented parts" as stated above, creates an enormous loophole. This loophole not only exempts commercial parts from the review/assessment process, but is exacerbated by the definition of "standard parts" now including as standards those established as such by the manufacturer (i.e. manufacturer's standard parts). This subtle change is far reaching and would thus remove them from FAA oversight. Neither of these changes have a regulatory basis. The PAAT 3 WG, as well as other ARAC WG's have been struggling to arrive at a definition of "commercial parts" for several years. The draft AC proposed to exempt commercial parts from the documentation process, as they should "theoretically" be exempt from Part 21 and not require documentation.**

   The term "commercial part" has no basis in the FAR's and therefore should not be used in this draft AC for the purposes of exempting entire classes of parts from documentation requirements. It is also the understanding of the WG chair that the FAA would not consider a "carte blanche" definition of commercial parts. The message was that commercial parts would not survive the FAA's review of the draft AC.

   The WG drafted a new treatment of commercial parts which basically used the definition from the 9/9/94 draft AC without the commercial parts label. The manufacturers all objected to their and manufacturer's standard parts inclusion in the draft AC due to the lack of regulatory basis and the placement of the commercial parts exclusion in Section 8 of the draft AC prior to the intended use analysis.

4. Documentation. As noted, the draft AC provides guidance for making and documenting the determination that previously undocumented parts conform to existing FAA approved design data. The draft excludes those previously determined to be airworthy by an appropriately rated certificate holder thus fostering a "laundry" environment for parts. Even after the minimal examination prescribed by the draft, anyone can create the documentation acceptable for installation with the FAA Form 8130-3 not being required unless that part is offered for sale or transfer. This concern can be expanded on a global basis with parts being manufactured overseas with little or no FAA oversight. Such parts would be inducted into inventories retroactively approved by the provisions of this draft AC.

5. Military Surplus Parts. This issue has gained importance with the increase in the Department of Defense's surplus parts auctions. Military surplus parts could become the largest source of undocumented parts in the civil inventory. It is the manufacturers' concern that the AC would provide a means to document and make acceptable a significant number of surplus parts. The Minority Opinion recommends that these parts be expressly excluded from the coverage of the AC.

6. Concurrent Regulatory Change. It has been the consistent opinion of the manufacturers that the content of the AC be in the form of a document which is enforceable and that it be accompanied with a concurrent regulatory change to close the door once and for all on undocumented and unapproved parts by tightening and clarifying existing regulatory requirements. The recommendation to accomplish regulatory change, concurrent with publication of the AC, through the issuance of an SFAR, was rejected by vote of the WG on August 30, 1994.

   The WG approved the recommendations to the FAA that were published with the September 9th draft of the AC. The Minority Opinion group objected to the approval of the recommendations due to the lack of a requirement for concurrent regulatory change. The basis for regulatory change is further described in Section 2 of this document.

Recommendation

The signatories to this Minority Opinion recommend that the ARAC Aircraft Certification Procedures Issues Group:

1. Not accept the proposed final WG draft AC - PAAT Phase 3 dated 10/14/94. Instead, the ARAC Aircraft Certification Procedures Issues Group direct the PAAT 3 WG to:

   a. Resolve the draft AC issues presented in Section 1 of the Minority Opinion and,

   b. Direct the PAAT Phase 3 WG to comply with the tasking by the concurrent development of regulatory change material considering the concepts and objectives in Section 2 of the Minority Opinion.

This document constitutes the Minority Opinion of the following Parts (PAAT 3) WG representatives:

Allison Engine Company:

Scott A. Blind, Manager
Customer Support,
Washington Zone Office

Allied Signal Inc.:

Earl Major, Director
Quality Assurance

Bell Helicopter TEXTRON:

Frank Schoenthal, Manager
Quality Systems Management

McDonnell Douglas Corporation:

Kenneth L. Peterson, General Manager
Technical & Government Affairs
Douglas Aircraft Company

Section 1

The following are detailed discussions of the Minority Opinion's concerns regarding the draft AC.

1. Concept of "Existing Inventory"

There has been a continuing debate in the PAAT 3 WG concerning the concept of existing inventory. The tasking from the ARAC Issues Group and FAA instructed the WG to evaluate the acceptability of aircraft parts existing in present civil inventories. The manufacturers have interpreted this to mean that the retroactive approval of these parts was limited to parts that were presently held in an entities inventory, not parts that would be inducted in the future. Our intent from the beginning was to "build a dam and drain the swamp". The draft AC, in its present form, does neither. The WG has established a method to "drain the swamp", but there has been no provision for stopping the flow of undocumented parts into the system. Without a time constraint, (which would be established by defining what is meant by "existing inventory"), inventories of undocumented parts will continue to grow and the retroactive approval procedure established by this AC will exist forever, allowing undocumented and potentially unapproved parts to be found acceptable for use on certificated aircraft.

Allison and McDonnell Douglas presented a motion at the October 14, 1994 meeting to adopt a definition of "existing inventory". The motion was defeated by vote of the WG. The manufacturers proposed that the following definition be adopted:

"Existing Inventory--Aeronautical inventory that is in the entities possession, in transit, or on order at the time this AC is issued. Any parts received after the issuance of this AC shall not be eligible for consideration under this draft AC".

Our intent was to limit the scope of this draft AC to "present civil inventory" that is being held or is on order. The second sentence specifically prohibits induction of parts after the AC is issued. Implicit in the proper use of Sections 7 and 8 of the draft AC is the establishment of a receiving inspection process that would not allow undocumented parts to enter inventories. Without limiting the scope of the draft AC, the receiving inspection procedure remains open-ended and will simply identify undocumented parts as such (paragraph 7.a.5), and allow them to pass into inventory via the evaluation process in Section 8.

Present FAR's do not expressly require that parts be approved or documented when bought, sold, or transferred. Part 21 does not specifically require a manufacturer to provide documentation beyond shipping documents or invoices. Part 21.303 does specify that no person shall make a replacement part for a type certificated product without proper production approval from the FAA. Further, the definition of "undocumented" parts in the draft AC does nothing more than to exempt the majority of what we believe are "unapproved" parts from the requirements of establishing and documenting conformity to FAA approved type design data. This now places such parts in the same category of FAA approved parts without the necessity of expensive test and qualification. While many

1. Continued

of these parts may be acceptable, they should not be automatically excluded from FAR requirements just because an installer believes the parts are acceptable and is willing to sign a return to service tag.

It has been the manufacturers argument that this draft AC now establishes a new method to find those unapproved, undocumented parts acceptable for installation.

2. Inspection and Acceptance

The purpose of the draft AC is to establish guidance for ensuring that undocumented parts in existing inventory conform to FAA approved design data. To that end, the draft AC sets up a procedure by which "undocumented parts" as defined in the draft AC can be cleared for ultimate use in FAA certificated aircraft. However, part of the proposed definition of "undocumented parts", to wit: "(2) the part was previously determined to be airworthy by an appropriately rated certificate holder (including FAA designees)", defeats this very purpose and potentially removes a vast number of critical parts from the draft AC's coverage.

While "an appropriately rated certificate holder (including FAA designees)" can certainly make a visual examination of a part or otherwise determine that a part appears to comply with a maintenance manual, their expertise is significantly limited when it comes to making a conformity determination for critical parts of unknown origin. This is especially important when it comes to rotorcraft parts which may be highly susceptible to failure in contrast to those of a fixed wing aircraft unless conformity is assured. Further, a visual examination or comparison to a maintenance manual or undefined industry or other standards, both in the case of parts which have a major and catastrophic impact on a product, will not disclose material defects or other nonconformances to the type design. Manufacturers maintenance manuals are directed toward determining wear and are specifically excluded from use for making conformity determinations by FAA Order 8130.2C.

The parts approval process described in the draft AC should have inspection and tests commensurate with the importance of the part to the aircraft. The current draft separates parts into categories of catastrophic, major and minor via an intended use analysis. While this may have initially been a valid concept, this concept has now been so watered down along with the enormous loophole created by the way in which the draft AC defines "undocumented parts", as noted above, that the intended use analysis no longer satisfies the purpose of the draft AC of ensuring conformity. Parts in the minor category can now be accepted by a visual comparison to a known good part; parts in the major category may be accepted using criteria from maintenance manuals; and catastrophic-type parts may be accepted by FAA-approved inspection and tests to some undefined criteria. We must return to the basic premise that to be airworthy, parts must conform to the FAA-approved type design data and be in a condition for safe operation.

2. continued

The Charter of the WG and the purpose of the AC can be fulfilled when individuals with the appropriate engineering expertise; review the materials, processes, specifications and FAA-approved type design data used to produce the parts and the FAA (or designee) documents the conformity of such parts prior to installation. A simple signing of a return to service tag, as many have been done in the past, will not solve the problem of undocumented and hence, unapproved parts.

3. Commercial Parts and Manufacturers Standard Parts

The issue of "commercial parts" has been discussed in several ARAC WG's and industry panels for several years. These parts are usually considered to be the "non-essential" hardware (such as curtain tiebacks, smoke alarms, light bulbs, etc.) that are used on an aircraft, but are not specifically designed or manufactured for aircraft. The intent is to define a class of parts that would be exempted from Part 21.303, and not require production approvals. There have been attempts to expand this definition to include a lot of other parts (electrical switches, circuit breakers, etc.) that are aircraft parts that should require production approvals. Several of the companies that have been selling parts without direct-ship authority or a PMA have been trying to have their products defined as commercial parts so that they do not have to apply for PMA's. The FAA has initiated enforcement actions against several of these suppliers.

The Production Certification and Parts Manufacturing WG's have been trying to address the lack of regulatory basis for these parts by revising Part 21 to define them and exempt them from PMA requirements.

The issue within the PAAT3 WG is that there is not a regulatory basis for commercial parts, and hence, there is no basis for their inclusion in an AC. Further, some members of the WG faced similar enforcement problems with the FAA and have tried to expand the definition of standard parts without the required regulatory changes to include "Manufacturers Standard Parts" within the exclusion provisions of the AC. This would thereby exempt these from PMA requirements or at least cause a significant barrier for future FAA enforcement.

Since the WG was informed that the FAA policy-level reviewers would not accept the term "commercial parts" in the draft AC, the WG chose to retain the concept of commercial parts and grant them an exemption from evaluation, without labeling them as such. This is a superficial attempt to include commercial parts and manufacturers standard parts in the draft AC that, it is hoped, will not survive FAA review.

The manufacturers objected to the option chosen by the WG because of the lack of regulatory basis, and for the placement of these parts in the evaluation process. These parts have been listed in Section 8.a.(1)(C), which grants them exemption from the evaluation process along with standard and owner/operator produced parts. Further, item (vi) which states "[the part]

3. continued

does not affect the airworthiness of the product" requires a determination that, in some cases, may seem obvious (i.e. a curtain tieback, light bulb, etc.), but in others, clearly is not (i.e. a bearing). Again, this interpretation should be made by an individual acceptable to the FAA as part of the "written plan" which would require FAA acceptance. The Minority Opinion was that if these parts were to be defined and exempted, it should be done as part of the intended use analysis, Section 8.a.(5)(C)(1), which would have someone acceptable to the FAA evaluate them and classify them as minor category parts and clear them through the evaluation process and document them as conforming parts. This position was not accepted by the WG.

4. Documentation

The draft AC does not require documentation of the conformity determination on an FAA Form 8130-3 unless the part is offered for sale or transfer. An undocumented part can therefore be installed on an aircraft without the conformity determination being documented on the required FAA form. This concern can be expanded on a global basis with parts being manufactured overseas with little or no FAA oversight. Such parts would be inducted into inventories retroactively approved by the provisions of this draft AC. While the draft AC does have a general statement that the conformity determination should be documented, we are concerned that a "laundry" type environment will be fostered whereby parts will be "installed" by a repair station as part of a return to service to avoid the requirements to document conformity on an FAA Form 8130-3. We believe the term "airworthy" to most installers fall within those determinations made when a product is returned to service and not any engineering determination required when dealing with undocumented and unapproved parts even if the origin can be eventually determined. Again, as stated above, generally people working in a repair station or maintenance environment do not have the engineering expertise or access to the FAA approved type design data to make a proper conformity determination nor are they authorized by the FAA to make such a determination. Other than in a large airline where engineering expertise exists, they will simply make a visual examination of the part, compare it to the requirements of the maintenance manual and perhaps do a dimensional check before returning a product to service. This is far short of a conformity determination on an FAA Form 8130-3.

5. Military Surplus Parts

The manufacturers have tried on several occasions to have military surplus parts expressly excluded from this draft AC with no success. The current wording was arrived at via compromise, as there is no intent on the manufacturers part to restrict the Experimental Aircraft Association (EAA) and other warbird collectors or operators from using parts for military aircraft. Our intent was to restrict the use of military surplus parts, especially breakout parts that were produced by non-FAA approved sources, from being used on type certificated products. Breakout parts are produced contrary to FAR Part 21.303 and should not be used on type certificated products. The Minority Opinion strongly recommends that military surplus parts be excluded from coverage of the AC.

6. **Concurrent Regulatory Change**

An AC is only advisory/guidance material and will tend to set up a defensive mechanism behind which one can hide rather than to allow for enforcement actions against manufacturers, installers, operators, etc. who choose to violate the applicable parts of the FAR. Thus, regulatory change must accompany this AC.

Task Team B was formed to evaluate and recommend proposed regulatory changes that compliment the draft AC. Members included manufacturers and operators (major airlines). At the August 29-30, 1994 meeting, the task team recommended that the FAA revise FAR Parts 21 and 43 to require that parts be approved, or otherwise within the provisions of FAR Part 21, and properly documented to be produced bought, sold, transferred, or installed on a type certificated product. These regulatory changes were recommended to be accomplished concurrent with the publishing of the AC via an SFAR. The Task Team's recommendations were, for the most part, rejected by vote of the WG at the August 30, 1994 meeting.

The WG drafted alternate recommendations to forward to the FAA along with the draft AC. These recommendations essentially called for the FAA to begin to enforce Part 21.303, to adopt a policy to certificate distributors and suppliers, establish a means for documenting the regulatory status of parts and assemblies, and adopt a definition of "commercial parts". They did not call for concurrent regulatory change, nor did they propose a process to ensure that future parts are approved, or otherwise within the requirements of FAR Part 21, and documented, other than calling on the FAA to vigorously enforce Part 21.303. The point could be made that if the FAA had been enforcing Part 21.303 all along, then there would not be an unapproved or undocumented parts problem.

With respect to the draft AC, Section 7 is intended to provide guidance to the reader on a system that will help "build the dam". However, since there is no expiration date on the draft AC, the "existing inventory" of undocumented parts will continue to grow and because it is guidance, not regulation, and thus not enforceable, we find the draft AC alone insufficient to "build the dam". We strongly believe that concurrent regulatory changes are required in order to achieve that end. We recognize current regulations exist to regulate parts manufacture, yet we feel they are not strong enough and that their use and installation needs to be better regulated. Simple changes to FAR 21 and 43 will achieve this result. We would strongly recommend regulatory changes be pursued concurrently with this AC and that the AC not be implemented until the FAA agrees to pursue such changes. To that end, Section 2 of this Minority Opinion provides a proposal for regulatory change.

Section 2

The following is a proposal for regulatory revision. While the detailed wording and rationale would require WG development, the objective need for such change is well endorsed by this Minority Opinion.

To ensure the future integrity of the FAA's continuing airworthiness priority with respect to replacement parts, FAR 21.303 and 43.13 require revision based on two fundamental objectives:

1. **FAR 21.303 requires revision to establish better defined criteria for the control of replacement parts for installation on aerospace products and,**

2. **FAR 43.13 requires revision to identify a criteria sufficient for the installer of a part to use in order to identify if the part is airworthy (i.e. has been properly produced, conforms to an approved type design and is approved, or otherwise within the requirements of FAR Part 21).**

Since the end user/owner is ultimately responsible for ensuring that the aircraft is airworthy (FAR 91.163), it is reasonable that the installer of parts will wish to limit exposure to possible FAA enforcement and request that all parts received have the proper documentation. Further, it is also realistic to expect that the operator wants the installer to use only those replacement parts and material which will leave his airworthiness certificate intact. It is expected that this method will be more successful than any scheme that simply places more burden of proof on the installer of the part. When it comes to the proper conformity of the part, there is no way anyone but the manufacturer or the production approval holder can really substantiate its true conformance with approved type design data. Once the installers begin to ask for the proper paperwork, the system will begin to deliver parts with it. That forces the responsibility for the determination of the approval status and eligibility for installation back to the source where it can more easily be made.

Attachment 2

MCDONNELL DOUGLAS

Douglas Aircraft Company

94FAA-C1-E00-7262
December 15, 1994

To: Aerospace Industries Association of America, Inc.
1250 Eye Street N.W., Suite 1200
Washington, DC 20005

Attention: Howard Aylesworth

Subject: PAAT 3 WG Recommendation for ARAC Approval

Reference: (1) AIA Release PAAT-3 #R02 dated December 7, 1994
(2) Minority Opinion on Unapproved Parts Draft Advisory Circular, Douglas Aircraft Co. letter 94FAA-C1-E00-7169 dated December 12, 1994

Dear Howard:

This letter is in response to your reference (1) request for comments to the "Final Recommendation for ARAC Approval-Air Carrier/General Aviation Maintenance Issues ARAC Parts Approval Action Team Phase 3 Work Group" (draft) dated February 7, 1995".

The AIA member companies that are signatories to the Minority Opinion, sent to you by reference (2); Allied- Signal, Allison, Bell and Douglas Aircraft collaborated and integrated our comments to reference 1 and our position is set forth in this letter. Following your protocol provisos these comments represent a consensed position among these signatory companies.

First, for the record, we would like to inform you that the Minority Opinion is the document provided you in reference 2, and is what we want you to go forward with to the Issues Group - not the October 28, 1994 draft.

Second, and related to our position as set forth in the Minority Opinion, there are four (4) critical issues that our member companies are unwilling to compromise associated with unapproved parts:

1. Need for a "fence" around the existing inventory,
2. Exclusion of Commercial and Manufacturers Standard Parts in the draft AC,
3. Exclusion of military surplus parts, in the draft AC, and
4. Need and commitment for concurrent rulemaking.

94FAA-C1-E00-7262
Page 2

Finally, and to meet with your objective, we do have constructive comments to your reference 1 document as attached. For simplification, we have, for the most part, categorized our comments into three categories:

Comment A: Ambiguous or unclear-will discuss further at 1/20/95 meeting

Comment B: Untrue or untrue based on the lack of a study or data to support this statement-will discuss further at 1/20/95 meeting

Comment C: A critical issue - refer to the Minority Opinion.

We agree that the AIA member companies should develop a unified position toward the unapproved parts dilemma and look forward to resolving the critical issues in the January 20, 1995 meeting.

Sincerely,

Gary Bartz, Manager
Industry and Regulatory Activities
Douglas Aircraft Company
3855 Lakewood Blvd., M/C 36-13
Long Beach, CA, 90846

Copy: Allied-Signal
Allison
Bell

Comments to "Final Recommendation...Working Group"
(draft paper dated February 7, 1995)

No.	Page	Para/Item/Sentence	Comment	Item
1	2	Item 3, 1st para, 1st sentence; "The proper documentation...groups"	B, C	This statement refutes the PAAT-3 WG Charter
2	3	1st para, 2nd sentence; "The FAA has determined...whole"	B	-
3	5	2nd para, 2nd sentence; "This will guarantee...increased".	A, B, C	Increase in existing inventory
4	5	2nd para, 4th sentence; "Installation of all...operation".	B	Increase in existing inventory
5	5	3rd para, 2nd sentence; "Rotorcraft, after...above".	B	Rotorcraft position
6	5	4th para, 1st sentence; "While any, parts...design".	B	-
7	6	1st para, 1st sentence; "Documentation of previously...date".	A, B	Undocumented parts will be purged at a later date.
8	7	Item 4	B,C	Commercial parts
9	7	Item I.A.2.	B,C	Existing inventory
10	8, 9	Item 4	-	We agree; then by reference to p.4 of draft AC; definition of Undocumented Parts-need a revision to para 6.h.(2) to add "used parts only".
11	10	Item 9, 2nd para, sentence 3 and 4; "Operators...findings".	A	-

12	13	Item 17, 2nd para; "Section 8.a(1)(c) is an attempt...not be done".	A, C	Commercial parts
13	15	Item 22, 2nd para, 1st sentence "The working group...onerous".	A	To compromise the conformity process as a function of experience is establishing a bad precedent.
14	17	Item 25, 2nd para, 3rd sentence "The minority held...sold".	A, B	Only parts made under Part 21 are ones eligible for installation on a certified product.
15	17	Item 25, 2nd para, last sentence "Giving...issue".	B	Not aware that this happened
16	18	Item 26, 1st para; "PAAT 3 WG...in the AC".	B, C	Existing inventory
17	18	Item 27, 1st para; "Section 7.a(5)...including (4)".	-	Conflicts, refer to our comment No. 10.
18	19	Item 27, last para, 3rd sentence, "The AC is based...design".	B, C	Need for concurrent rulemaking
19	19	Item 28, 2nd para, 4th sentence; The working group found...established".	B	-
20	19	Item 29, 2nd para; "This is discussed...working groups".	B, C	Exclusion of military surplus parts

U.S. Department
of Transportation
**Federal Aviation
Administration**

DRAFT

Advisory Circular

Subject: DETERMINING DISPOSITION OF OF UNDOCUMENTED PARTS

Date: **AC No: 21-XX**
Initiated by: AFS-340

1. PURPOSE. This advisory circular (AC) provides guidance for ensuring and documenting that aircraft parts in existing inventory conform to FAA-approved design data, when documentation is not sufficient to establish that the parts were:

a. manufactured in compliance with FAR Part 21; or

b. previously determined to be airworthy by an appropriately rated certificate holder.

If such a determination cannot be made, the part should be considered unairworthy and not acceptable for installation on type-certificated products. The process described in this AC should assist installers and other responsible certificate holders to identify for elimination from the civil aviation inventory those parts which will not satisfy FAR requirements.

A determination under the procedures described in this AC is not an alternative means of establishing compliance with FAR § 21.303. In particular, it does not affect in any respect the requirement to obtain Parts Manufacturer Approval (PMA) prescribed therein.

2. EFFECTIVE DATE. This AC is effective [on a date to be determined.

3. RELATED FAR SECTIONS.

a. Federal Aviation Administration (FAR), 14 Code of Federal Regulations (CFR) Part 21 Certification Procedures for Products and Parts.

b. FAR Part 43, Maintenance, Preventive Maintenance, Rebuilding, and Alteration.

c. FAR Part 45, Identification and Registration Marking.

d. FAR Part 91, General Operating and Flight Rules

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e. FAR Part 121, Certification and Operations: Domestic, Flag, and Supplemental Air Carriers and Commercial Operators of Large Aircraft

f. FAR Part 125, Certification and Operations: Airplanes Having a Seating Capacity of 20 Or More Passengers Or a Maximum Payload Capacity of 6,000 Pounds Or More

g. FAR Part 127, Certification and Operation of Scheduled Air Carriers With Helicopters

h. FAR Part 135, Air Taxi Operators and Commercial Operators

i. FAR Part 145, Repair Stations

4. RELATED READING MATERIAL.

a. AC 00-55, Announcement of Availability of Publications, as amended.

b. AC 20-62, Eligibility, Quality, and Identification of Approved Aeronautical Replacement Parts, as amended.

c. AC 21-20, Supplier Surveillance Procedures, as amended.

d. AC 21-29, Detecting and Reporting Suspected Unapproved Parts, as amended.

e. AC 21-38, Disposition of Unsalvageable Aeronautical Parts and Materials, as amended.

f. Notice 8110.45, Parts Approval Action Team, Phase I: Parts Manufacturer Approval under evidence of Licensing Agreement.

g. Notice 8110.51, Parts Approval Action Team, Phase II: Parts Manufacturer Approval By Identicality

h. Order 8120.10 Suspected Unapproved Parts Program

i. Order 8130.21A, Procedure for Completion and Use of FAA Form 8130, Airworthiness Approval Tag.

j. Order 8300.10 Airworthiness Inspectors Handbook.

k. 49 CFR. Part 7, Public Availability of Information.

l. Memorandum, Assistant Chief Counsel for Regulations (AGC-200) to Manager, General Aviation and Commercial Branch (AFS-340), dated August 5, 1993, SUBJECT: "Definition of

Owner Produced Part,' FAR Part 21.303(b)(2)"

5. BACKGROUND.

a. To be considered airworthy under the United States Code, Title 49, Section 44704(c), an aircraft must conform to its FAA-approved type design data and be in condition for safe operation. FAR Part 43 prescribes that each person maintaining, altering, or performing preventive maintenance, shall do that work in such a manner and use materials of such quality, 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. FAR § 21.303 requires Parts Manufacturer Approval (PMA) to manufacture replacement or modification parts, subject to certain enumerated exceptions.

b. The FAA has determined that the existing civil aviation inventory includes parts which were manufactured for sale for installation on type-certificated products without the approval required by FAR § 21.303 or which lack documentation sufficient to demonstrate that maintenance, repairs, overhaul or alterations have been performed in compliance with applicable FAR's. Such parts may include:

(1) Parts manufactured by a supplier to a Production Approval Holder (PAH) but sold directly to distributors or end users without complying with FAR § 21.303 may be identical in all respects to the parts the supplier provides to the PAH. On the other hand, such parts cannot be presumed to be identical. They may be nonconforming parts which would not be accepted by the PAH, or which would require material review board acceptance;

(2) Parts which have been salvaged, perhaps from products with a satisfactory service history but also possibly from products which were subjected to crash, fire, sudden failure or other unusual stresses;

(3) Parts manufactured for and used by the Department of Defense (DoD), or parts and materials removed from public use aircraft may not be usable because they have not been manufactured or maintained under the FAA's cognizance;

(4) Parts which have exceeded their shelf or service life;

(5) Owner/operator produced parts or parts produced for field repairs. Such parts may lack identifying markings or stamps, yet may not be unairworthy or fraudulently produced;

(6) Counterfeit and fraudulently manufactured, remanufactured, overhauled, or repaired parts;

6. DEFINITIONS. The following terms have been defined specifically for the purpose of this AC:

a. Conformity to FAA-Approved Design Data - Conformity to FAA-approved design data means

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an assessment of whether the material, part or product is consistent with the FAA-approved design data.

b. FAA-Approved Design Data - All drawings and specifications necessary to show the configuration of the part and all information on dimensions, tolerances, material, processes, and procedures necessary to define all characteristics of an airworthy product and every part therein. Specifically, FAA-approved design data. Data includes, but is not limited to:

(1) Drawings and specifications necessary to show the configuration of a part. These materials should address dimensions, materials and processes necessary to define the function, structural strength and all design characteristics. The information may include routing sheets, tooling requirements, process sheets, material handling/storage requirements and inspection criteria.

(2) Test procedures and results necessary to show the finished part or assembly conforms to approved design. These tests and inspections may be contained in applicable PAH drawings, Component Maintenance Manuals (CMM), Aircraft Maintenance Manuals (AMM), service bulletins (SB) and letters, Airworthiness Directives (AD), and Industry Standards.

(3) Airworthiness limitations as defined in the approved design. The Airworthiness Limitations section of the Instructions for Continued Airworthiness as required by FAR Parts 23, 25, 27, 29, 31, 33, and 35 are part of FAA-approved design data, along with any other data pertinent to the production and continued airworthiness of the part.

Actual manufacturing processes can be included in the FAA-approved design data information. Processes which are critical to making a reasonable evaluation of whether the use of the particular part would return the product to its proper condition would include those which are necessary to evaluate whether the part meets the applicable airworthiness requirements for the product.

For the purpose of this AC, FAA-approved design data includes other design data approved by (i.e., STC, PMA, TSOA, major repairs or alterations) or acceptable to (i.e. minor repairs or alterations) the Administrator.

c. Life-Limited Part - A part that has an established replacement criteria, inspection interval, or related procedure specified in the Airworthiness Limitations section of the Instructions for Continued Airworthiness under FAR Part 21.50, 23.1529, 25.1529, 27.1529, 29.1529, 31 .82, 33.4, and 35.4 or under a TSOA (as contained in the Airworthiness Limitations Section or chapter of the Manufacturers Maintenance Manual).

d. Owner/Operator-Produced Part - When the owner or operator participates in controlling the design, manufacture, or quality of the part.

e. Product - An aircraft, aircraft engine, or propeller.

f. Production Approval Holder (PAH) - The holder of a Production Certificate (PC), Approved Production Inspection System (APIS), Parts Manufacturer Approval (PMA), or Technical Standard Order Authorization (TSOA) with respect to a particular product or part thereof.

g. Standard Part - A part or material manufactured in conformity with a specification that:

(1) is established by a U.S. or foreign standards organization or manufacturer; and

(2) includes design, manufacturing, test and acceptance criteria and uniform identification requirements; and

(3) is made freely available by the establishing standards organization or manufacturer without proprietary limitation.

h. Undocumented Part - A part, appliance, or material that does not have sufficient documentation to establish the following:

(1) that the part was manufactured under FAR Part 21;

(2) that the part was previously determined to be airworthy by an appropriately rated certificate holder (including FAA designees);

(3) that in the case of a life-limited part, all required information regarding current status (i.e., accumulated hours/cycles and history) is known.

7. RECEIVING INSPECTION SYSTEM.

a. In order to prevent the installation of undocumented parts, a certificate holder under FAR Parts 121, 125, 127, 129, 135, and 145 may rely upon an established inspection system that includes all of the following standards:

(1) Documentation. Documentation should be sufficient to establish that the part(s) were manufactured under FAR Part 21, or were previously determined to be airworthy by an appropriately rated certificate holder. In the case of a life-limited part, documentation should ensure that all required information regarding current status (i.e. accumulated hours/cycles and history) is known. Appropriate documentation may include official documentation (i.e. Form 8130-3 or certificate of airworthiness for export issued for foreign-manufactured parts under FAR Part 21, Subpart N), commercial documentation (i.e. Material Certification (ATA Specification 106), invoice or shipping ticket or equivalent) or a combination of both. A maintenance record prepared in accordance with FAR § 43.9 should accompany all maintained or altered parts.

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(2) Packaging. The packaging, preservation and labeling of the part(s) should conform to contractual requirements or the standard practices of the supplier.

(3) Part Identification and Marking. The part(s) should be consistent in part number and quantity with the documentation provided by the source. Each part should be marked in accordance with the requirements of FAR Part 45, where applicable, and the standard practice of the manufacturer concerned. If documentation is sufficient with respect to the part(s) as discussed in 7a(1), and the packaging appears consistent with the documentation, a certificate holder's inspection system may induct the part(s) into inventory without breaking the packaging. However, suitable provision should be made to ensure that inspection of part identification and marking is accomplished prior to installation.

(4) Physical Inspection. The part(s) should be physically inspected prior to installation for visible signs of nonconformance to FAA-approved design data, wear, deterioration, or other indications that the part(s) are not airworthy.

(5) Segregation of Parts Requiring Evaluation. Parts which lack sufficient documentation as described in Paragraph 7a(1), or whose packaging, identification, marking or physical appearance are inconsistent with the documentation provided by the supplier, should be physically segregated for evaluation and disposition in accordance with Paragraph 8 below.

(6) Disposition of Scrap Parts. Parts determined to be scrap should be carefully dispostioned in accordance with AC 21-38.

b. All other certificate holders, Part 91 operators and other persons holding aeronautical inventory should either maintain a receiving inspection system which includes the minimum standards and criteria described in Paragraph 7a, or perform an inspection of each part to be installed on an aircraft which includes each element discussed in paragraph 7a(1)-(5) above, and the criteria therein. The results of inspection with respect to each element should be clearly and properly recorded.

8. EVALUATION OF UNDOCUMENTED PARTS

a. Certificate holders. Certificate holders under FAR Parts 121, 125, 127, 129, 135 and 145 who hold in inventory any undocumented parts which were not inspected prior to acceptance and induction under a receiving inspection system containing the minimum criteria and elements described in Section 7 above, should establish a system for making and documenting a conformity determination regarding those parts prior to installation on a type-certificated product in accordance with the following criteria:

(1) By part number, identify and clear for installation the following types of parts:

(a) Standard parts;

(b) Owner/Operator-produced parts;

(c) Parts or material which are included in an FAA-approved design, but:

(i) are manufactured to a specification which is proprietary to the manufacturer;

(ii) are marketed under the identification scheme of that manufacturer, and specified for use in the FAA-approved design data according to it;

(iii) are not specifically designed for use in aircraft applications;

(iv) are generally available for applications other than on aircraft;

(v) are subject only to the manufacturers' self-imposed internal quality control system, and

(vi) do not affect the airworthiness of the product.

The certificate holder shall maintain for FAA inspection, the records that identify each part number cleared for installation under the foregoing categories. Clearance for installation of part numbers in the foregoing categories under this paragraph 8a(1) is not intended to relieve the certificate holder of responsibility under applicable FAR's to ensure the part as installed will return the product to its original or properly altered condition.

(2) Even if the certificate holder has not inducted all inventory through a receiving inspection meeting Paragraph 7a(1)-(5), an entire inventory of particular part numbers may be traceable to FAA-approved sources through an examination of purchasing and inventory documents, supplemented where necessary by documentation furnished by sources in the chain of distribution from the manufacturer or source of overhaul, repair or alteration and the inventory holder. If such documentation can be assembled for the entire segregated population of the part number in question, the segregated population may be determined to be approved. Therefore, with respect to each such segregated population, the certificate holder should determine whether documentation may be assembled to establish the following:

(a) Each part was manufactured under FAR Part 21 or previously determined to airworthy by an appropriately rated certificate holder;

(b) In the case of life-limited parts, all required information regarding current status (i.e., accumulated hours/cycles and history) is known.

(3) If documentation satisfying the criteria described in Paragraph 8a(2) cannot be assembled

for a segregated population of life-limited parts, the certificate holder should determine the parts to be unairworthy and disposition them to scrap in accordance with AC 21-38.

(4) Parts and materials manufactured for or used by DoD, or parts and materials removed from public use aircraft may not be usable on aircraft, other than aircraft originally designed and constructed for the Armed Forces of the United States and subsequently FAA-type and/or airworthiness certificated, because they have not been manufactured or operated under the FAA's cognizance. Unless documentation or other means establish that such parts or materials were produced under a system meeting the criteria of FAR Part 21 at the time of manufacture, such parts and materials should be determined to be ineligible for other installations.

(5) If documentation satisfying the criteria described in Paragraph 8a(2) cannot be developed for a segregated population of non-life-limited (or non-military surplus/public use) parts, the certificate holder should conduct appropriate tests and inspections to determine whether the parts conform to FAA-approved design data. For each part number, tests and inspections should be conducted according to an FAA-accepted written plan having the following minimum sequential elements and criteria:

(a) Identification of the Part(s). The first step in determining the complexity of the evaluation necessary to determine that an undocumented part conforms to FAA-approved design data is to identify the part in question. This should include the size of the population and any known history, and all physical characteristics of each part or assembly, including but not limited to:

Part Nomenclature	Manufacturing Marks
Part Number	Identification Stamps
Serial Number	Etchings
Trademarks	Casting Codes
Symbols	Bar Codes

If the part markings are insufficient fully to identify the part, a description of the part needs to be documented, including dimensions and those physical characteristics that can be established from appearance, non destructive testing, and destructive testing of samples of an undocumented part population (if appropriate).

(b) Conformity to FAA-Approved Design Data. After identifying the part, a comparison to FAA-approved design data should be made. The amount of FAA-approved design data which must be available to make a reasonable determination of conformity will depend upon the nature of the part and an analysis of its intended Use.

(c) Intended Use Analysis. This analysis should include a full written description of the part, its relation to each higher assembly through the type certificated product, and the potential consequences of its nonconformance or failure thereon. In performing this analysis for populations of

parts, it is important to determine whether the part in question has other applications than the one presently intended which may warrant a more detailed review of conformity. If so, the more detailed analysis should be performed unless the part can be marked or identified in such a manner as to restrict it from the higher-level application. For the purpose of establishing the level of review necessary to make a reasonable determination of conformity the consequences of a part's failure may be categorized as minor, major or catastrophic, as follows:

(i) Minor. If the intended use of the segregated part indicates that the consequence of its failure would not be major or catastrophic, the part may be determined to conform to FAA-approved design data on the basis of visual comparison with FAA-approved design data or known approved samples of the part and satisfactory inspection for form, fit and function. Minor consequences of failure ordinarily imply no departure from use of the "Normal Operating Procedures" portion of the Flight Manual, aircraft placards, or type certificate data sheets, as applicable. Conformity of homogeneous lots of such parts may be determined through statistical inspection. If statistical inspection is utilized, sampling plans should be in accordance with MIL-STD-105, General Inspection Level II, using normal sampling table with zero (0) as acceptance criteria, or an FAA-accepted sampling plan. Sampling plans that permit the acceptance of defectives are not allowed. Statistical inspection should not be utilized for heterogeneous lots. The conformity determination should be properly documented.

(ii) Major. If the intended use of the part indicates that the consequence of its failure would not be catastrophic but would reduce the capability of the aircraft or the ability of the crew, such as through increases in workload, to cope with adverse operating conditions or subsequent failures, conformity to FAA-approved design data of the segregated part population should be determined by test and inspection of each part. Such conditions may require use of the "Abnormal Procedures Section" of the Flight Manual, aircraft placards, or type certificate data sheets, as applicable. Appropriate tests and inspections may be established by considering applicable PAH drawings and specifications (if available) and/or Industry Standards to determine at least the following information: (i) dimensions; (ii) material specifications; (iii) assembly design configurations, and (iv) test and/or inspection procedures. Component Maintenance Manuals (CMM), Aircraft Maintenance Manuals (AMM), Structural Repair Manuals (SRM), service bulletins (SB) and letters (SL), and Airworthiness Directives (AD) may also provide useful guidance. The conformity determination should be properly documented.

(iii) Catastrophic. If the intended use of the part indicates that the consequence of its failure may, considered separately and in relation to other systems, reduce safety margins, degrade performance, or cause loss of capability to conduct certain flight operations, so as to prevent the continued safe flight and landing of the aircraft, conformity of the segregated part population should be determined by an FAA-accepted test and inspection of each part. Such conditions may require use of the "Emergency Procedures" portion of the Flight Manual, aircraft placards, or type certificate data sheets, as applicable. The conformity determination should be properly documented.

For the purposes of this AC, it is presumed that the conformity of undocumented Rotorcraft parts and materials would be determined through such FAA-accepted test and inspection if the parts or materials are non-redundant and their failure would result in a condition that would inhibit or preclude an autorotational landing. Such parts and materials are identified in the Airworthiness Limitation Section of the Manufacturers Maintenance Manual in accordance with FAR Part 45.14.

(d) Authority To Determine Conformity. The level of educational training and experience which should be required of the individual making the determination will depend upon the nature of the part and an analysis of its intended use. The certificate under which the conformity determination will be made, and the qualifications of the individual(s) who will be authorized to make the conformity determination under the plan should be prescribed in the plan.

b. Part 91 operators and distributor/dealers may employ or otherwise engage the services of an appropriate certificate holder (including FAA designees) to implement FAA-accepted test plans, review and approve test and inspection reports as provided in the FAA-accepted plan, make conformity determinations and record them on Form 8130-3 as provided in Paragraph 9 below.

c. In the case of certain older products type certificated under CAR's 3, 4a, 8 and 9 and Bulletin 7a, full FAA-approved design data information may no longer be available. The amount of FAA-approved design data information which must be available to make a reasonable determination of conformity, as well as the level of education, training and experience which should be required of the individual making the determination, should depend upon the nature of the part and an analysis of its intended use in accordance with procedures acceptable to the Administrator.

9. DOCUMENTATION. If an undocumented part is determined to conform to FAA-approved design data under this AC and that part is offered for sale or transfer, complete an FAA Form 8130-3 (or other documentation accepted under the test plan to accompany the part), that contains the following statement (in Block 13, if an FAA Form 8130-3 is used):

"This part/component has been determined to conform to FAA-approved design data for (minor)(major)(catastrophic)(all) installations under AC XX-XX."

The 8130-3 or other documentation should contain the certificate holder's identification, and be signed by the official authorized to make the conformity determination under the FAA-accepted test plan.

FAA Action – Not Available