U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
National Policy

ORDER 8120.22A

Effective Date:
01/11/2016

SUBJ: Production Approval Procedures

This order provides guidance for Aircraft Certification Service (AIR) personnel to accomplish certain agency responsibilities. These include the evaluation and approval of production activities of manufacturers and their suppliers producing products or articles in accordance with Title 14, Code of Federal Regulations (14 CFR).

The guidance in this order relates to the following three types of production approvals issued by the Federal Aviation Administration:

1. Production Certificate.
2. Parts Manufacturer Approval.
3. Technical Standard Order authorization.

This order details procedures for the evaluation and issuance of a production approval.

Susan J.M. Cabler
Acting Manager, Design, Manufacturing, &
Airworthiness Division
Aircraft Certification Service

Table of Contents

Paragraph *Page*

Chapter 1. Introduction

1-1. Purpose of This Order 1-1
1-2. Audience 1-1
1-3. Where Can I Find This Order 1-1
1-4. Cancellation 1-1
1-5. Effective Dates 1-1
1-6. Explanation of Policy Changes 1-1
1-7. Additional Changes 1-2

Chapter 2. Production Under a Type Certificate (Part 21, Subpart F)

Section 1. General Information

2-1. Applicability 2-1
2-2. Privileges 2-1
2-3. Advising the Applicant 2-1
2-4. Reserved 2-2

Section 2. FAA Actions During the Six-Month Period

2-5. FAA Conformity Determinations 2-3
2-6. Assessing the Applicant's Progress 2-3
2-7. Extension of Six-Month Period 2-3
2-8. PC Not Established Within Six-Month Period 2-3
Figure 2-1. Sample FAA Form 8100-1, Conformity Inspection Record 2-4
Figure 2-2. Sample Letter of Authorization for Extension of § 21.123(g) Six-Month Limitation 2-6
Figure 2-3. Sample FAA Form 8110-12, Application for Type Certificate, Production Certificate, or Supplemental Type Certificate 2-7
2-9. Review of Production Quality System Data 2-8
2-10. Provisional Approval Procedures 2-8
2-11. Preliminary MIDO Audit 2-8
2-12. Production Certification Board 2-9

Table of Contents (Continued)

Paragraph *Page*

Chapter 3. Production Certificate (Part 21, Subpart G)

Section 1. General Information

3-1. Applicability 3-1
3-2. Privileges....3-2
3-3. Advising the Applicant 3-2
3-4. Reserved....3-7

Section 2. Processing an Application for a PC

3-5. Application....3-7
3-6. Preliminary MIDO Audit....3-8
3-7. Reserved....3-8
Figure 3-1. Sample PC Application Acknowledgement Letter 3-9

Section 3. Production Certification Board

3-8. General PCB Information 3-10
3-9. PCB Member Responsibilities....3-10
3-10. Conduct of the PCB 3-11
3-11. PCB Minutes....3-13
3-12. PCB Adjournment....3-13
3-13. Reserved....3-13

Section 4. Issuance of Production Certificate and Production Limitation Record

3-14. Preparation and Delivery of PC and PLR....3-13
Figure 3-2. Sample FAA Form 8120-4, Production Certificate 3-14
Figure 3-3. Sample FAA Form 8120-3, Production Limitation Record....3-15
Figure 3-4. Sample PC Transmittal Letter....3-16
3-15. Initial Risk-Based Resource Targeting Assessment 3-19

Table of Contents (Continued)

Paragraph *Page*

Chapter 4. Parts Manufacturer Approval (Part 21, Subpart K)

Section 1. General Information

4-1. Applicability 4-1
4-2. Privileges....4-2
4-3. Advising the Applicant 4-2
4-4. Reserved....4-7

Section 2. Processing an Application for a PMA

4-5. Applicant Responsibilities 4-7
Figure 4-1. Sample PMA Letter of Application 4-9
4-6. MIDO/CMO Responsibility 4-10
Figure 4-2. Sample PMA Supplement for Licensing Agreement and STC....4-11
Figure 4-3. Sample PMA Letter....4-12
Figure 4-4. Sample TC, STC, or TSO Authorization Holder's PMA Assist Letter 4-16
4-7 Reserved....4-17

Section 3. Issuance of a PMA

4-8. Assignment of the PMA Number 4-17
4-9. PMA Letter 4-17
4-10. Initial Risk-Based Resource Targeting Assessment 4-17
4-11. Reserved....4-17
Figure 4-5. Sample Transmittal Letter of Subsequent PMA Supplement 4-18

Section 4. Post-PMA Activities

4-12. Transferability....4-19
4-13. Reuse of PMA Design Data....4-19
4-14. Changes to the Quality System....4-19
4-15. Revising/Amending the PMA Supplement....4-19
4-16. Export Considerations....4-20

Chapter 5. Technical Standard Order Authorization (Part 21, Subpart O)

Section 1. General Information

5-1. Applicability 5-1
5-2. Privileges....5-1
5-3. Advising the Applicant 5-1
5-4. Reserved....5-5

Table of Contents (Continued)

Paragraph *Page*

Section 2. Processing an Application for a TSO Authorization

5-5. Application....5-5
5-6. Design Approval....5-6
5-7. Preliminary MIDO Audit....5-6
5-8. Reserved....5-6

Section 3. Issuance of a TSO Authorization or Letter of TSO Design Approval

5-9. TSO Letter of Authorization....5-6
5-10. Letter of TSO Design Approval....5-7
5-11. Transferability....5-7
5-12. Processes TSO Authorization/LODA Transfers....5-7
5-13. Initial Risk-Based Resource Targeting Assessment....5-8

Chapter 6. Extension of a Production Approval (Domestic Only)

Section 1. General Information

6-1. Applicability....6-1
6-2. Privileges....6-1
6-3. Advising the Original PAH and the Associate Facility....6-1
6-4. Reserved....6-2

Section 2. Processing a Request for Extension of a Production Approval

6-5. Request for Extension of a Production Approval....6-2
6-6. Evaluating the Request....6-2
6-7. Coordination with the Geographic MIDO....6-3
6-8. Reserved....6-3
Figure 6-1. Sample Hand-Off Memo for Requesting a MIDO Audit and CM....6-4

Section 3. Approval of the Request for Extension of a Production Approval

6-9. Approval of the Request....6-7
6-10. Geographic MIDO/CMO Responsibility After Approval of the Request for Extension....6-7
6-11. Nontraditional Associate Facilities....6-7

Table of Contents (Continued)

Paragraph *Page*

Chapter 7. Non-U.S. Manufacturing Facilities—Determination of Undue Burden and No Undue Burden

7-1. Undue Burden and No Undue Burden 7-1
7-2. Reserved 7-1

Chapter 8. Work Performed on New Products or Articles After Leaving a U.S. PAH/Supplier's Quality System

8-1. New Products or Articles Remaining Within Part 21 8-1
8-2. New Products or Articles No Longer Within Part 21 8-1

Appendix A. Evaluation of a PAH's Quality System A-1

Appendix B. Adding Interface Components to the PLR B-1

Appendix C. Acronyms C-1

Appendix D. Definitions D-1

Appendix E. Forms Listing E-1

Appendix F. Administrative Information F-1

Appendix G. FAA Form 1320-19, Directive Feedback Information G-1

Chapter 1. Introduction

1-1. Purpose of This Order. This order contains guidance related to the issuance of a production approval. The following chapters provide specific guidance for each of the production approval types, including extension of a production approval within the United States. In general, each chapter describes the applicability of the production approval, the privileges of the approval, the advice that the Federal Aviation Administration (FAA) should be providing to the applicant, processing the application, and issuing the production approval.

1-2. Audience. All FAA employees who provide oversight of the production approval process.

1-3. Where Can I Find This Order. You can find this order on the Directives Management System website at http://www.faa.gov/tools_resources/orders_notices/. This order is available to the public at http://www.faa.gov/regulations_policies/orders_notices/. This order is also available on the Regulatory and Guidance Library at http://rgl.faa.gov/.

1-4. Cancellation. This revision cancels FAA Order 8120.22, dated February 25, 2013. The deviation memorandum dated September 12, 2012 which allows the Manufacturing Inspection Office (MIO) to delegate the application for or an amendment to a Production Certificate (PC) is also cancelled.

1-5. Effective Dates.

a. All policy changes are effective January 4, 2016 except regulatory requirements § 21.135, § 21.305, and § 21.605 located in paragraph 1-6d which require that production approval holders (PAHs) identify an accountable manager, and regulatory requirements in § 21.137(c) located in paragraph 1-6e, which requires that PAHs ensure that supplier-provided products, articles, or services conform to PAH requirements and that the PAH establish a supplier-reporting process for nonconforming products, articles, or services released from, or provided by, a supplier. The requirements are effective March 29, 2016.

b. The earlier date of January 4, 2016 is for those sections of the amendment that are either relieving or optional to the PAH (the sections are listed in paragraph 1-6a-c, f, g, and also paragraph 1-7a-d).

1-6. Explanation of Policy Changes. This revision reflects regulatory changes that—

a. Allow PAHs to issue authorized release documents for aircraft engines, propellers, and articles;

b. Permit production certificate (PC) holders to manufacture and install interface components (IC);

c. Clarify that fixed-pitch wooden propellers are excluded from the requirement to use an approved method of fireproof marking;

d. Require PAHs to identify an accountable manager;

e. Require PAHs to ensure supplier-provided products, articles, or services conform to the PAH's requirements and establish a supplier-reporting process for nonconforming products, articles, or services released from, or provided by, a supplier;

f. Define the terms "accountable manager," "airworthiness approval," "authorized release document," "interface component," and "supplier;"

g. Change the designations that indicate compliance with the applicable exhaust emissions provisions in accordance with the new language in 14 CFR 45.13(a); and

1-7. Additional Changes. The revisions listed below are two IDEA HUB suggestions; a deviation memorandum issue incorporated into the Order, and the replacement of the Certification Management Information System (CMIS) to the Aircraft Certification Audit Information System (ACAIS).

a. Simplify the process of reissuing parts manufacturer approval (PMA) letters when companies move; and use same language as Order 8110.42D when revising/amending a PMA supplement.

b. Applicant or approval holder establishes a procedure to use electronic technology or other creative method of storing certification production and related information to satisfy information requirements for activities pursuant to 14 CFR part 21; this information must be shared with Manufacturing Inspection District Offices (MIDOs)/Certification Management Offices (CMO).

c. The MIO may delegate the application for, or amendment to, a PC to the MIDO/CMO; and

d. Replace the CMIS terminology with the ACAIS terminology.

Note: All forms that appear in Order 8120.22A are only samples, therefore forms that were changed to accommodate revisions may still be used until replacements are available.

Chapter 2. Production Under a Type Certificate (Part 21, Subpart F)

Section 1. General Information

2-1. Applicability. 14 CFR part 21, subpart F, applies to a manufacturer of a product or article(s) produced under a type certificate (TC) with no other production approval in place.

2-2. Privileges. A manufacturer of a product or article(s) in accordance with part 21, subpart F, is not granted any privileges. However, a manufacturer of a product or article(s) produced under a TC may be authorized by part 183 to apply for and obtain an Organization Designation Authorization (ODA). FAA Orders 8100.8, *Designee Management Handbook*, and 8100.15, *Organization Designation Authorization Procedures*, contain procedures for the administration of ODAs.

2-3. Advising the Applicant. When production under the provisions of part 21, subpart F, is indicated, a TC applicant should be advised (during the preliminary TC Board) of the following:

a. Advisory Circular (AC) 21-43, *Production Under 14 CFR Part 21, Subparts F, G, K, and O*, describes an acceptable means of complying with part 21, subpart F. The FAA may approve alternative methods and procedures when the applicant can show that the proposed methods or procedures will achieve compliance with part 21, subpart F.

b. The applicant should establish and submit a plan to the FAA to schedule inspections and evaluations. The applicant must allow the FAA to inspect or test, including at a supplier facility, to show compliance with § 21.123(d).

c. FAA inspectors or authorized designees will conduct inspections and issue all of the necessary airworthiness certificates and approvals for a maximum period of six months, except as otherwise authorized after the date of issue of the TC. The applicant should also be advised that FAA personnel resources are limited and that delays may occur during the six-month period depending on the number of inspections and hours that may be necessary.

d. For continued manufacturing of a product or article, the applicant must obtain a PC, in accordance with part 21, subpart G, for that product or article within 6 months after the date of issuance of the TC. Application for a PC is made on FAA Form 8110-12. Refer to figure 2-3 for a sample form.

e. For any products or articles that are manufactured and made available for use after the deadline date without FAA authorization, enforcement actions may result as defined in FAA Order 2150.3, *FAA Compliance and Enforcement Program*.

f. The TC holder or licensee who produces a completed product under part 21, subpart F, must flight test and/or functional test that product in accordance with the requirements of § 21.127, § 21.128, or § 21.129, as applicable.

(1) Aircraft. Each aircraft, both prior to and subsequent to the issuance of a PC, must be flight tested in accordance with an approved production flight test procedure and flight checklist form as required by § 21.127.

(2) Aircraft Engines and Propellers. Each aircraft engine or propeller, both prior to and subsequent to the issuance of a PC, must be subjected to an acceptable test run or functional test in accordance with the requirements of § 21.128 or § 21.129, as appropriate.

g. The applicant cannot use manufacturing facilities located outside the United States unless the FAA has determined that the location of the facilities places no undue burden on the FAA, as specified in § 21.122(a).

h. TC Holder's Responsibility.

(1) Prior to the issuance of a PC, a TC holder or licensee who produces a product is responsible for complying with part 21, subpart F, as appropriate for the particular product or article involved.

(2) Aircraft, aircraft engines, and propellers must be marked in accordance with the requirements of 14 CFR 45.11 and 45.13(a) through (c), as applicable.

> **Note:** The holder of a Dealer's Aircraft Registration Certificate is responsible for complying with the requirements of 14 CFR part 47, Aircraft Registration, regarding the use of temporary registration numbers. Specifically, the temporary registration number must be removed from the aircraft no later than the date on which either title or possession passes to another person.

(3) A TC holder or licensee is also responsible for reporting any failures, malfunctions, and defects as required by § 21.3.

(4) Section 21.135 requires a PC applicant producing under a TC to provide to the FAA a document describing how its organization will ensure compliance to subpart G, and describes the requirements for this document. The document must identify a single point of contact who is knowledgeable of, and accountable for, maintaining the organization's FAA-approved operations. In addition, the document must describe the accountable manager's assigned responsibilities, delegated authorities, and the functional relationship of those responsible for quality.

2-4. Reserved.

Section 2. FAA Actions During the Six-Month Period

2-5. FAA Conformity Determinations. Subsequent to the date of issuance of the TC and prior to the issuance of a PC, the Manufacturing Inspection District Office (MIDO)/Certification Management Office (CMO) is fully responsible for determining whether the product or article(s) conform to the type design and are in a condition for safe operation. The MIDO/CMO is responsible for performing inspections of incoming materials (at the source, if necessary), installations, and the completed products. The MIDO/CMO is responsible for documenting each inspection on FAA Form 8100-1, Conformity Inspection Record, so that each product or article(s) inspected has a complete inspection record. Refer to figure 2-1 for a sample form.

2-6. Assessing the Applicant's Progress. The MIDO/CMO should periodically assess the applicant's progress in complying with the regulations for obtaining approval of a PC. If it appears that the applicant is delaying this action or may not be eligible for a PC by the deadline date, the applicant should be advised in writing of all known deficiencies. Also, the applicant should be cautioned that after the deadline date, the FAA will not issue any airworthiness certificates or any other approvals unless an extension of the time period is authorized by the directorate manager. The MIDO/CMO should keep the directorate office apprised of the applicant's progress.

2-7. Extension of Six-Month Period. The FAA may grant an extension when there are unusual or extenuating circumstances that preclude the establishment of a PC within the six-month limitation. The FAA should not grant an extension of the six-month period without giving due consideration to the impact the extension would have on FAA personnel resources and safety. In all instances, the FAA should consider an extension only when the applicant can substantiate the reasons for requesting such an extension. The authorization for extension must be issued to the applicant in writing. Refer to figure 2-2 for a sample extension letter.

2-8. PC Not Established Within Six-Month Period. When an applicant fails to establish a PC by the end of the six-month period (except when extended), the FAA will no longer make conformity determinations and will discontinue the issuance of all airworthiness certifications and approvals. However, the FAA should continue to counsel and advise the applicant to the extent necessary to assist in obtaining a PC as soon as practicable.

Figure 2-1. Sample FAA Form 8100-1, Conformity Inspection Record (Front)

Conformity Inspection Record		1. Project Number, TIA/Request Date:			2. SHEET of Sheets
3. Applicant/Manufacturer:			4. Beginning Date:		5. Ending Date:
6. Model:			7. Inspected By:		
8. Item No.	9. Nomenclature of Item Inspected	10. Drawing, Document, Specification, etc.	11. Revision and Date	12. No. of Items Determined SAT.	UNSAT.	13. Comments

FAA Form 8100-1 (1-16) Supersedes Previous Edition **(Instruction on page 2)**

Figure 2-1. Sample FAA Form 8100-1, Conformity Inspection Record (Back)

INSTRUCTIONS

1. List the FAA assigned number along with the date of TIA or Request for Conformity, as applicable.
2. Self-explanatory.
3. List the applicant or the manufacturer, or both. (The manufacturer may be the party producing or responsible for the product).
4. List the date the inspection began.
5. List the date the inspection ended.
6. If inspecting an aircraft, list the make, model, N-number, and serial number. For an engine or propeller, list the make, model, and serial number.
7. Aviation Safety Inspectors must type or print name, sign, and enter office identification. Designees must type or print name, sign, and list their designee identification number. If using ACAIS, the user cannot provide a traditional signature. Populating Block 7 with the required information will demonstrate completion of form.
8. Assign consecutive numbers for each item inspected.
9. List the name or description of the part, appliance, assembly, drawing, document, specification, or name of the process being evaluated.
10. List the technical data that describes the item listed in Block 9. Ic., drawing number, document number, or name of the process specification number, etc.
11. List the revision level and date of the technical data described in Block 10.
12. List the number of items that were determined satisfactorily or unsatisfactorily. Do not record individual characteristics. ***NOTE:*** (an item is a single article containing one or more dimensional characteristics or features).
13. Enter comments in this block that will support any information given in Blocks 8 through 12. i.e., unsatisfactory conditions, corrective actions taken, reference to other item numbers listed, serial numbers, type of inspection accomplished, destination of exported products, buyer finished equipment, parts processed through manufacturer's maintenance facility part or newly overhauled, condition of part or assembly, etc.
14. To be used for supplementing items 1-13.

NOTE: Unsatisfactory conditions are corrected in one of two ways:

Method 1: If action is presented to correct unsatisfactory condition, the action is entered in Block 13 and the number in the UNSAT column of Block 12 is lined through and initialed. The number of items now determined satisfactory is entered in the SAT column next to the corrective action entry.

Method 2: If corrective action is not presented, the inspector may continue the inspection by entering the next item inspected. When corrective action to the unsatisfactory condition is eventually presented, assigned the item a new number and record the number in Block 8. Complete Blocks 9 and 10, enter a new revision and date if data has changed, and enter the number of items determined satisfactory in Block 12. Record both the corrective action taken and the item number of the unsatisfactory condition in Block 13. Place the item number in parenthesis. Next, line through and initial the number in the UNSAT column located next to Block 13 containing the unsatisfactory condition. Record the corrective action entry item number along with the unsatisfactory condition statement and place the number in parenthesis.

14.Continuation Block

FAA Form 8100-1 (Backer) (1-16)

Figure 2-2. Sample Letter of Authorization for Extension of § 21.123(g) Six-Month Limitation

U.S. Department
of Transportation
Federal Aviation Administration

2601 Meacham Blvd.
Fort Worth, TX 76137-4298

May 10, 2009

Mr. Nelson P. Norman, Vice President
Johnson Aircraft Corporation
119 Standards Street
Benbrook, Texas 12345

Authorization for Extension of Production Under Type Certificate,
Title 14, Code of Federal Regulations (14 CFR)
Part 21, Certification Procedures for Products and Parts (part 21), Section 21.123(g).

Dear Mr. Norman:

Your request, dated April 28, 2009, to extend the period of time products and articles may be manufactured under a type certificate without obtaining a production certificate is hereby granted. You are now authorized to manufacture products and articles under a type certificate until October 1, 2009.

This extension of time is based on the fact that you were unable to obtain a production certificate within the six-month period as required by Section 21.123(g) due to the four-month labor strike at your facility which ended April 15, 2009. Aircraft produced under the provisions of this authorization will continue to require inspection by FAA personnel at various stages of fabrication, processing, and assembly where detailed inspections can be conducted.

Johnson Aircraft Corporation must also continue to comply with part 21, subpart F, as applicable, including the requirements for a FAA Form 8130-9, Statement of Conformity, with each application for an airworthiness certificate.

Sincerely,

Jason P. Hope
Directorate Manager

Figure 2-3. Sample FAA Form 8110-12, Application for Type Certificate, Production Certificate, or Supplemental Type Certificate

No certificate may be issued unless a completed application form has been received (14 C.F.R. 21)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

APPLICATION FOR TYPE CERTIFICATE, PRODUCTION CERTIFICATE, OR SUPPLEMENTAL TYPE CERTIFICATE

FORM APPROVED
O.M.B. No. 2120-0018
09/30/2007

1. **Name and address of applicant:**
ABC Aircraft Company
4954 Airport Drive
Detroit, Michigan

2. **Application made for:**
☐ Type Certificate
☒ Production Certificate
☐ Supplemental Type Certificate

3. **Product Involved:**
☒ Aircraft
☐ Engine
☐ Propeller

4. **TYPE CERTIFICATE** (Complete item 4a below)

a. **Model designation (s)** *(All models listed are to be completely described in the required technical data, including drawings representing the design, material, specifications, construction, and performance of the aircraft, aircraft engine, propeller which is the subject of this application.)*

5. **PRODUCTION CERTIFICATE:** (*Complete items 5a-c below. Submit with this form, in manual form, one copy of quality control data or changes thereto covering new products, as required by applicable FAR.)*

a. **Factory address:** (*if different from above*)

b. **Application is for:**
☒ New production certificate
☐ Additions to production Certificate *(Give P.C. No.)*

P.C. No.

c. **Applicant is holder of or a licensee under a Type Certificate or a Supplemental Type Certificate:**
(Attach evidence of licensing agreement and give certificate number) →

T.C./S.T.C. No.
1A26

6. **SUPPLEMENTAL TYPE CERTIFICATE:** (*Complete items 6a-d below)*

a. **Make and model designation of product to be modified:**

b. **Description of modification:**

c. **Will data be available for sale or release to other persons?**
☐ Yes ☐ No

d. **Will parts be manufactured for sale?**
☐ Yes ☐ No

7. **CERTIFICATION - I certify that the above statements are true.**

Signature of Certifying Official	**Title**	**Date**
John J. Smith *John J. Smith*	Director, Quality Assurance	May 10, 2004

FAA Form 8110-12 (1-12) Supersedes Previous Edition

2-9. Review of Production Quality System Data. When a PC applicant producing under a TC submits quality system data as evidence of compliance with part 21, subpart F, the cognizant MIDO/CMO will evaluate these data in accordance with the criteria contained in appendix A to this order. Any inadequacies in the data submitted must be identified to the applicant for corrective action. After the data have been reviewed, and any applicable corrective actions taken, the MIDO/CMO will approve the quality system data submitted by the applicant.

2-10. Provisional Approval Procedures. The MIDO/CMO should accomplish evaluation of the applicant's quality system, concurrent with conducting conformity inspections and making those airworthiness determinations required of the FAA prior to the issuance of a PC. It is, therefore, to the advantage of the FAA to evaluate and provisionally approve the quality system on a progressive basis. As portions of the quality system are determined to meet the regulatory requirements, the MIDO/CMO should—

a. Maintain a record of those portions of the system considered satisfactory.

b. Reduce conformity inspections to a spot-check basis for articles covered by the provisionally approved portion of the quality system.

c. Place increased emphasis on securing corrective actions on the portions of the quality system where procedural discrepancies have been found or where the quality system has been found to be inadequate.

2-11. Preliminary MIDO Audit. When the MIDO/CMO has determined that the PC applicant can comply with § 21.137, the MIDO/CMO will conduct a MIDO audit as follows:

a. The MIDO audit evaluates the applicant's production facilities in accordance with the pertinent 14 CFR, the FAA-approved design data, and the quality system data referenced in paragraph 2-9 of this order. The cognizant MIDO/CMO manager will select a team to conduct this audit. The team may consist of the cognizant principal inspector (PI) and at least one other manufacturing inspector or the MIDO/CMO manager. It is also recommended that an engineer be selected for the team when deemed necessary by the type and complexity of processes and procedures being used at the facility. The standardized evaluation criteria may be used as an aid to evaluate compliance. Team members should be advised, however, that some of the evaluation criteria contained therein may not be related to 14 CFR, and therefore may only be evaluated as a best practice. This audit is not considered a Quality System Audit (QSA). Document noncompliances on FAA Form 8100-6, Noncompliance Record.

b. Notifying the Applicant. Upon completion of the MIDO audit, the MIDO/CMO will formally notify the applicant as to any corrective actions necessary to comply with § 21.137. The MIDO/CMO should advise the applicant that a production certification board (PCB) will be scheduled that could result in a request for additional actions.

c. Reporting. The MIDO/CMO will prepare FAA Form 8120-14, Production Approval/Certificate Management Activity Report, upon completion of the MIDO audit, and provisional approval of the applicant's quality system when applicable. The MIDO/CMO will provide notification to the directorate office that the FAA Form 8120-14 may be viewed in the Aircraft Certification Audit Information System (ACAIS). In addition, the MIDO will provide information to the directorate office concerning the applicant's ability to comply with § 21.137.

2-12. Production Certification Board. Upon receipt of FAA Form 8120-14 and notification by the MIDO/CMO that the applicant is in a position to comply with § 21.137, the directorate office should schedule a PCB in accordance with chapter 3, section 3 of this order.

Chapter 3. Production Certificate (Part 21, Subpart G)

Section 1. General Information

3-1. Applicability.

a. Part 21, subpart G, applies to any of the following persons who desire to manufacture a complete product and article(s) with benefit of a PC:

(1) The holder/licensee of a § 21.21 TC.

(2) The U.S. holder/licensee of a § 21.29 TC, if the licensing agreement clearly provides for the TC holder's and its Civil Aviation Authority's (CAA) control over any design changes by the licensee. A working arrangement, associated with the respective bilateral agreement, must also be in place between the CAA and the FAA defining their respective responsibilities as State of Design and State of Manufacture.

(3) The holder of a supplemental type certificate (STC) when—

(a) The STC will be incorporated prior to the issuance of an original airworthiness certificate (OAC) to the aircraft; or

(b) The STC will be incorporated after the issuance of an OAC to the aircraft. In this case, the PC would authorize the manufacturing of associated STC articles in accordance with part 21. However, installation of the STC and return to service of the product is accomplished under the provisions of 14 CFR part 43.

(4) The holder/licensee of a § 21.25 TC, provided the TC was issued based on FAA approval of the type design data. The data must have been submitted by the applicant or the licensor, and must meet the requirements of § 21.31.

(5) The holder/licensee of a § 21.27 TC, provided that duplicates produced always originate as an aircraft that was designed and constructed in the United States, was accepted for operational use, and was declared surplus by the military. The holder/licensee of a § 21.27 TC also must demonstrate that it has established a quality system that meets the requirements of §§ 21.137 and 21.138 at the product level.

b. A PC may not be issued to the holder of a TC issued under part 21, subpart C (provisional).

c. A PC may not be issued if the manufacturing facilities are located outside the United States, unless it has been determined, in accordance with § 21.139, that such location(s) would place no undue burden on the FAA.

d. PCs are intended to be issued for the manufacturing of duplicate products (aircraft, aircraft engine, and propeller) only. There may be instances when it is appropriate to issue a PC for something less than a "product." In those instances, the directorates must coordinate with AIR-100 to determine if a PC is acceptable prior to the issuance of the PC.

3-2. Privileges. A PC holder has the privileges specified in § 21.145. In addition, a PC holder is eligible to have a qualified employee(s) designated as a designated manufacturing inspection representative (DMIR) in accordance with the provisions of part 183. The PC holder may also be authorized by part 183 to apply for and obtain an ODA. FAA Orders 8000.95, *Designee Management Policy*, and 8100.15 contain procedures for the administration of DMIRs and ODAs, respectively.

3-3. Advising the Applicant. The applicant should be advised that—

a. AC 21-43 describes an acceptable means of complying with part 21, subpart G. Alternative methods and procedures may be approved when the applicant can show that the proposed methods and procedures will achieve compliance with part 21, subpart G.

b. The applicant must establish a quality system in accordance with § 21.137 and provide a quality manual describing its quality system to the FAA in accordance with § 21.138. The manual must include descriptive material that adequately covers each applicable paragraph of § 21.137. The manual may vary in length depending upon the scale of the quality system, size of the manufacturing facilities, and complexity of the product. For further guidance, refer to AC 21-43.

c. The PC holder who produces a completed product under part 21, subpart G, must flight test and/or functional test that product in accordance with the requirements of § 21.137(e).

(1) Aircraft. All aircraft must pass an approved production flight test as part of the inspection procedure required for issuance of an airworthiness certificate. A Special Airworthiness Certificate, FAA Form 8130-7, issued for such purposes provides authorization for production flight testing (reference FAA Order 8130.2, *Airworthiness Certification of Aircraft and Related Approvals*). The exception is an aircraft manufactured under a PC and being exported without assembly or flight test under the provisions of § 21.137(e). The intent of this rule is to permit shipment of aircraft without assembly or flight test when the extent of disassembly is the same as an aircraft that has been disassembled for shipment purposes. In these instances, the manufacturer must provide FAA-approved assembly and flight test procedures as a condition of shipment.

(2) Periodic FAA Production Flight Tests. FAA production flight tests will be conducted periodically at the PC holder's facility to ensure continued compliance with all parameters as specified in pertinent type certificate data with respect to performance, flight characteristics, operation qualities, equipment operations, etc. The PI, in coordination with the FAA flight test personnel from the appropriate Aircraft Certification office (ACO), may arrange these flight tests. In addition, a determination should be made in coordination with FAA flight test personnel that the manufacturer's approved production test pilots are using approved procedures and that the approved procedures remain adequate.

(3) Aircraft Engines and Propellers. Aircraft engines and propellers must pass a functional test in accordance with type design requirements as part of the quality system required by § 21.137(e)(2).

d. PC Holder's Responsibility.

(1) Organization. Section 21.135 requires a PC holder to provide to the FAA a document describing how its organization will ensure compliance to § 21.135, and sets out the requirements for this document. The document must identify a single point of contact who is knowledgeable of, and accountable for, maintaining the organization's FAA-approved operations. In addition, the document must describe the accountable manager's assigned responsibilities, delegated authorities, and the functional relationship of those responsible for quality. The accountable manager serves as the PAH's primary contact with the FAA, and is responsible for, and has authority over, a PAH's production operations.

(2) Reporting Failures, Malfunctions, and Defects. The PC holder must report any failure, malfunction, or defect in any product or article as required by § 21.3. The PC holder should establish a procedure for such reporting as a part of its quality system. This reporting requirement applies to failures, malfunctions, or defects that may result in or have resulted in one of the occurrences listed in § 21.3(c).

(3) Quality System. The PC holder must establish and describe in writing a quality system that complies with § 21.137. The PC holder is responsible for maintaining the quality system in conformity with the data and procedures approved for the PC. The PC holder is also responsible for determining that each completed product and article submitted for airworthiness certification or approval conforms to the TC or STC and is in a condition for safe operation.

(4) Supplier Control. A supplier is a person at any tier in the supply chain who provides a product, article, or service that is used or consumed in the design or manufacture of, or installed on, a product or article. Section 21.137(c) requires procedures for ensuring each supplier-furnished product, article, or service conforms to the PAH's requirements. This section also requires the PAH to establish a supplier-reporting process for products, articles, or services that have been released from the supplier and subsequently found not to conform to the PAH's requirements.

(5) Issuing Authorized Release Documents for Aircraft Engines, Propellers, and Articles. Section 21.137(o) requires procedures for issuing authorized release documents (using FAA Form 8130-3, Airworthiness Approval Tag) if the PAH intends to issue those documents. These procedures must provide for the selection, appointment, training, management, and removal of individuals authorized by the PAH to issue authorized release documents (refer to AC 21-43).

(a) Procedures established pursuant to § 21.137(o) should ensure that only qualified personnel issue authorized release documents. A PAH's evaluation of these individuals' qualifications should include an assessment of their knowledge, background, experience, and training. Qualifications should be commensurate with the complexity and type of product or article for which the PAH issues an authorized release document. These procedures should

also include requirements for completing FAA Form 8130-3 that meet chapters 1, 2, and 4 of FAA Order 8130.21, *Procedures for Completion and Use of the Authorized Release Certificate, FAA Form 8130-3, Airworthiness Approval Tag*.

(b) These documents may be issued for new aircraft engines, propellers, and articles manufactured by the PAH, and for used aircraft engines, propellers, and articles rebuilt or altered pursuant to § 43.3(j). When an authorized release document is used for export, § 21.137(o) requires a PAH to comply with the applicable § 21.335 requirements for the export of new and used aircraft engines, propellers, and articles. (Refer to FAA Order 8130.21 to ensure the PAH is in compliance with § 21.335.)

(6) Change to the Quality System. Each change to a quality system is subject to review by the FAA pursuant to § 21.150(a). A PC holder must immediately notify the appropriate MIDO/CMO in writing of any changes that may affect the inspection, conformity, or airworthiness of its product or article pursuant to § 21.150(b). These changes would include, but are not limited to, the following:

(a) Resumption of production after being discontinued for an extended period of time for other than normal periods of time, such as vacation periods;

(b) Significant curtailment or resumption of production operations;

(c) Significant reduction or reassignment of quality system personnel; and

(d) Changes or revisions to quality system data and related procedures.

(7) Changes to Manufacturing Facilities. The PC holder must immediately notify the MIDO/CMO in writing of any changes to its manufacturing facilities that may affect the inspection, conformity, or airworthiness of its product or article in accordance with § 21.139(c). The PC holder must obtain FAA approval before making any changes to the location of its manufacturing facilities in accordance with § 21.139(b).

(a) A PC holder's manufacturing complex would normally consist of a principal facility and all associate facilities using the same quality system approved by the FAA, for the particular type certificated product(s). Associate facilities are discussed in chapter 6 of this order.

(b) The PC is issued to the principal manufacturing facility that controls the design and quality of the product(s) for which the approval was granted. The principal facility address will be listed under the "business address" and all associate facility addresses will be listed under "manufacturing facilities" on FAA Form 8120-4, Production Certificate. A postal address is not acceptable for a facility since the actual location must be identified. Such addresses, however, may be used as supplemental to the actual address when desired for such uses as corresponding to and from FAA offices.

(c) A PC holder may not transfer a PC. Refer to § 21.144. If the PC holder wants a PC for a new location, the PC holder must reapply in accordance with § 21.133.

(d) When the PC holder seeks FAA approval to move an associate facility or add a new production facility, the FAA may, if deemed necessary, conduct a preliminary MIDO audit at the new production facility or moved facility. If a MIDO audit is deemed necessary, a satisfactory audit result must be obtained before the facility can be approved for production. The PC also must be amended to reflect this change.

(8) A PC holder must ensure that each article and completed product presented for airworthiness certification or approval conforms to its approved design and is in condition for safe operation. This includes primary category aircraft assembled under a PC by another person from a kit provided by the PC holder.

(9) A PC holder must obtain an airworthiness certificate or approval for each aircraft, aircraft engine, and propeller produced under that PC that conforms to its approved design and is in a condition for safe operation. If the PC holder issued the original airworthiness certificate or approval as an export airworthiness approval under part 21, subpart L, that export airworthiness approval would also satisfy the requirement for an airworthiness approval under this subpart.

(10) A PC holder must maintain complete and current design data for each product and article produced under its production approval.

(11) A PC holder must retain its PC and make it available to the FAA upon request.

(12) A PC holder must make available to the FAA information regarding all delegation of authority to suppliers.

(13) Aircraft, aircraft engines, and propellers, except for a fixed-pitch wooden propeller, must be marked using an approved fireproof method pursuant to the requirements of §§ 45.11 and 45.13(a), as applicable.

> **Note:** The holder of a Dealer's Aircraft Registration Certificate is responsible for complying with the requirements of part 47 regarding the use of temporary registration numbers. Specifically, the temporary registration number must be removed from the aircraft no later than the date on which either title or possession passes to another person.

(14) Identification Plate Requirements for Aircraft, Aircraft Engines, or Propellers Produced Under a Design Data Licensing Agreement Program.

(a) Pursuant to § 45.13, an identification plate for an aircraft, aircraft engine, or propeller produced under a design data licensing program must include the following information (as applicable):

1 The builder's name is the specific name of the licensee as shown on the licensee's PC.

2 The model designation is that model identified on the associated type certificate data sheet (TCDS).

3 The builder's serial number is the serial number(s) dedicated for the use of the licensee as assigned by the TC holder on the associated TCDS.

4 The TC number is the number identified on the associated TCDS and upon which conformity to type design requirements is determined.

5 The PC number is the number that is listed on the licensee's PC.

6 For aircraft engines, the established rating as shown on the TCDS.

7 For aircraft engines manufactured after January 1, 1984, the following information must also be included:

(aa) The date of manufacture as defined in 14 CFR 34.1.

(bb) The status of compliance to applicable exhaust emission provisions, as approved by the FAA (for example, COMPLY, EXEMPT NEW, EXCEPTED SPARE, or NON-U.S., as appropriate).

(b) As prescribed under the provisions of § 45.13(a)(8), the FAA will normally deem it appropriate and necessary to include the following information on the identification plates of products manufactured under a design data licensing agreement between an FAA TC and PC holder: "Manufactured by *(insert the PC holder's name)* under a licensing agreement with *(insert the TC holder's name).*"

(c) The FAA requires that only the information in paragraph 3-3d(14)(a) and (b) of this order be included on the identification plates for all products manufactured under a licensing agreement program. However, the FAA would permit a company/corporate logo or registered trademark to be included (after review and approval by the FAA) on the identification plates, if desired by the manufacturer. Aircraft, aircraft engine, and propeller identification plates should be included as part of the product's approved design data and are usually defined in an engineering drawing describing material, size, required information entries, mounting location, etc.

(15) Marking and Identification of Articles Produced by a PC Holder.

(a) Section 21.146(d) requires that articles produced by a PC holder for which a certificate or approval has been issued must be marked in accordance with part 45. However, part 45 does not address specific marking requirements for articles produced by a PC holder that appear on its production limitation record (PLR). In such cases, those articles must be marked in accordance with the approved design. As a minimum, the article must be identified with the PC holder's part number and name, trademark, symbol, or other FAA approved PC holder's identification.

(b) Subassemblies and component parts of products or articles do not have to be identified unless they leave the PC holder's facility as a separate article. In such cases, in accordance with § 21.146(e), they must be identified with the manufacturer's part number and name, trademark, symbol, or other FAA-approved PC holder's identification. The PC holder may choose any method to meet this requirement. Methods include, but are not limited to, the following:

1 Marking the article,

2 Attaching a tag to the article with the required information,

3 Placing the article in a container with the required information, or

4 Providing a document with the article with the required information.

(c) If the article is too small or otherwise impractical to mark with the required information, the PC holder must attach that information to article, or its container.

(d) Suppliers to PC holders may mark or identify articles, provided that the PC holder adequately controls those suppliers as part of its quality system. Suppliers that mark or identify articles should be treated the same as any other supplier furnishing articles or services, using supplier control procedures as part of the quality system. The MIDO/CMO may require that specific article marking controls be included in these procedures, along with any additional conditions that may be necessary for suppliers with direct-ship authorization.

(e) Each PC holder who manufactures an article for which a replacement time, inspection interval, or related procedure is specified in the Airworthiness Limitations section of the PC holder's maintenance manual or Instructions for Continued Airworthiness must permanently and legibly mark that article. Those markings must include a serial number (or equivalent) unique to that article, in addition to other required markings.

3-4. Reserved.

Section 2. Processing an Application for a PC

3-5. Application. Application for a PC is made on FAA Form 8110-12. Refer to figure 2-3 for a sample form. The applicant must submit the application, accompanied by a document describing the organization in accordance with § 21.135 and one copy of the quality manual showing compliance with § 21.137. These documents must be submitted to the Manager, MIO, of the directorate in which the applicant's principal manufacturing facility is located. Upon receipt of a properly executed FAA Form 8110-12, the MIO manager will forward a copy to the MIDO/CMO. The MIDO/CMO will prepare a letter of acknowledgement, advising the applicant that the MIDO/CMO has been authorized to initiate a MIDO audit to determine compliance with applicable regulations. A copy of the letter should be forwarded to the MIO. Refer to figure 3-1 for a sample letter.

Note: The MIO may delegate the application for, or amendment to, a PC to the MIDO/CMO. If this occurs, PC holders will be notified that when submitting FAA Form 8110-12 for an amendment to a PLR, they should send the form directly to the PC holder's geographic MIDO/CMO instead of their MIO.

3-6. Preliminary MIDO Audit. The MIDO/CMO should make arrangements to conduct a MIDO audit within 30 days after acknowledging the PC application. This audit will be conducted as follows:

a. Evaluate the applicant's quality manual for compliance with § 21.137. Additional guidance is provided in AC 21-43. Any inadequacies in the quality manual submitted must be identified to the applicant for corrective action. After the quality manual has been reviewed, and any applicable corrective actions taken, the MIDO/CMO will approve the quality manual submitted by the applicant. The approved quality manual may be retained in the MIDO/CMO files.

b. Evaluate the applicant's production facilities in accordance with the pertinent 14 CFR, the FAA-approved design data, and the quality manual approved in paragraph 3-6a of this order. The cognizant MIDO/CMO manager will select a team to conduct this audit. The team may consist of the cognizant PI and at least one other manufacturing inspector or the MIDO/CMO manager. It is also recommended that an engineer be selected for the team when deemed necessary by the type and complexity of processes and procedures being used at the facility. The standardized evaluation criteria may be used as an aid to evaluate compliance. Team members should be advised, however, that some of the evaluation criteria contained therein may not be related to 14 CFR, and therefore may only be evaluated as a best practice. This audit is not considered to be a QSA. Noncompliances will be documented on FAA Form 8100-6.

c. Notifying the Applicant. Upon completion of the MIDO audit, the MIDO/CMO will formally notify the applicant as to any corrective actions needed to comply with § 21.137. The applicant should be further advised that these items represent only the result of the FAA's preliminary MIDO audit. Additional requests for corrective actions can be anticipated as a result of subsequent noncompliances, which may be noted during the PCB evaluation activity, as detailed in section 3 of this chapter.

d. Reporting. The MIDO/CMO will provide notification to the MIO that the FAA Form(s) 8100-6 may be viewed in ACAIS. FAA Form(s) 8100-6 should identify any unresolved items requiring corrective action. In addition, letters issued to the applicant requesting corrective action also may be viewed in the ACAIS project folder.

3-7. Reserved.

Figure 3-1. Sample PC Application Acknowledgement Letter

U.S. Department
of Transportation
Federal Aviation Administration

1601 Lind Avenue SW.
Renton, WA 98055-4056

June 10, 2009

Mr. Michael D. Beall, Vice President
ABC Aircraft Company
4954 Airport Drive
Renton, Washington 12345

Production Certification Application Acknowledgement

Dear Mr. Beall:

This letter will acknowledge receipt of your application dated May 30, 2009, for a Production Certificate. This office has been authorized to initiate a preliminary evaluation of your manufacturing operations, quality system, and testing procedures. The quality manual, required by Title 14, Code of Federal Regulations (14 CFR) part 21, Certification Procedures for Products and Parts (part 21), section 21.138, and submitted with your application, was forwarded to this office for our utilization in determining compliance with applicable regulations.

Accordingly, your quality system and manufacturing facilities (including any supplier facilities, as appropriate) will be evaluated by this office to determine compliance with part 21, subpart G. To preclude any misunderstandings, please notify your suppliers as soon as possible that they are subject to FAA evaluations. We will contact you in the near future to advise you of our evaluation schedule.

Subsequent to our preliminary evaluation, a Production Certification Board will be established to make a final determination as to eligibility for issuance of a Production Certificate. This will be accomplished as soon as practicable following our recommendations to the Manager, Manufacturing Inspection Office, Transport Airplane Directorate. You will be given adequate notice so that a date for convening the Production Certification Board at your principal facility can be mutually agreed upon.

Sincerely,

Roger C. Moore
Manager, ANM-108S

Section 3. Production Certification Board

3-8. General PCB Information. The PCB is a high-level FAA evaluation function based directly upon the responsibilities established in Title 49 of the United States Code (49 U.S.C.) 44701, 44702, 44704, and 44709.

a. Purpose. The purpose of the PCB is to evaluate the eligibility of the applicant for issuance of a PC based upon the preliminary findings and recommendations of the MIDO/CMO and the PCB's review of the applicant's facilities and quality system.

b. Applicability. The PCB should be convened only for initial production approvals, or when entire facilities have been relocated or are added to the PC. The PCB should not be convened for the addition of new models to the PLR or relocation of a portion of the facility. In these instances, the procedures contained in paragraph 3-14b(3) of this order should be followed.

c. PCB Members. PCB members should consist of a group of qualified specialists from airframe, systems & equipment, propulsion, manufacturing, and flight test functions, as appropriate. These members will assist in evaluating the applicant's production, engineering, flight test procedures, and other related functions. Representatives from Washington, DC, the Aeronautical Center, and/or other directorates may also participate in a PCB, when deemed desirable or necessary.

d. PCB Chairman. The MIO or CMO manager of the directorate where the manufacturing facility to be evaluated is located will act as the Chairman of the Board. When necessary, the MIO or CMO manager may delegate the chairmanship to the MIDO manager or other qualified directorate office personnel.

3-9. PCB Member Responsibilities. Specific PCB member responsibilities are as follows:

a. PCB Chairman. The PCB chairman is responsible for—

(1) Selecting and assigning PCB members, as deemed appropriate for the particular product, and notifying the members of the PCB in sufficient time to permit adequate planning and preparation.

(2) Notifying the applicant of the PCB schedule and identifying members and their assignments.

(3) Selecting a representative number of the applicant's supplier facilities for evaluation to determine whether or not the applicant's quality system provides for satisfactory supplier control.

(4) Conducting pre/post PCB meetings with the PCB and/or the applicant.

(5) Reviewing and analyzing the PCB findings and ensuring that appropriate corrective actions have or will be taken.

(6) Completing, signing, and distributing the PCB minutes.

b. Principal Inspector. The PI, in coordination with the MIDO/CMO having certificate management (CM) responsibility, and the PCB chairman, is primarily responsible for establishing schedules, making arrangements for meeting rooms, obtaining sufficient copies of the quality manual, and making all other arrangements necessary for convening and conducting the PCB in the most expeditious manner. The PI is further responsible for ensuring that the applicant has taken all agreed upon corrective actions, for preparing the minutes of the PCB, and for initiating and completing any enforcement actions, when applicable.

c. Propulsion Section/Branch. The propulsion section/branch or its equivalent is responsible for the evaluation and approval of the applicant's production engine/propeller test procedures, as required by § 21.137(e). This effort will be coordinated with the responsible MIDO/CMO. Upon determining that the procedures are acceptable, a letter of approval will be prepared and forwarded to the applicant when a PC is issued. A copy of this approval letter will be included in the PCB minutes.

d. Flight Test Section/Branch. The flight test section/branch or its equivalent is responsible for the evaluation and approval of the applicant's flight test procedures and checklists as required by § 21.137(e). This effort will be coordinated with the responsible MIDO/CMO. Upon determining that the procedures and checklists are acceptable, a letter of approval will be prepared and forwarded to the applicant when a PC is issued. The letter will also include the names of those company pilots designated and authorized by the applicant to conduct production flight tests. A copy of this letter will be included in the PCB minutes.

e. Other PCB Members. Airframe and equipment engineering representatives and all other PCB members are responsible for ensuring that the applicant is in compliance with § 21.137, as appropriate to their particular assignment. Representatives from Washington, DC, the Aeronautical Center, and/or other directorates are responsible for acting in an advisory capacity and/or for the completion of any PCB activity assigned by the PCB chairman.

3-10. Conduct of the PCB. A PCB is generally conducted in the following basic phases:

a. Initial FAA Personnel Meeting. Prior to arranging a Pre-Production Board meeting, FAA personnel will hold a meeting to review the results of the MIDO audit, MIDO/CMO recommendations, and related correspondence between the FAA and the applicant. This meeting will also serve to plan the PCB audit, schedule subsequent meetings, and establish agenda items for the Pre-Production Board meetings.

b. Pre-Production Board. A Pre-Production Board meeting with the applicant's representatives should be considered upon receipt of the PC application. This meeting should include the PCB chairman, MIDO/CMO manager, the PI, and others as necessary. The purpose of this meeting is to advise the applicant as to the purpose of the PCB and of the FAA's evaluation plans. It should be made clear to the applicant that the PCB is a fact-finding body convened to determine whether or not the applicant is in compliance with §§ 21.135 and 21.137. The applicant should also be advised that the PCB is responsible for making a thorough evaluation of the applicant's quality system, quality manual, organization,

production facilities, and if deemed necessary, supplier facilities. Also, a determination should be made at this time that the location of the applicant's facilities will pose no undue burden on the FAA as specified in § 21.139.

c. PCB Audit. Following the Pre-Production Board meeting with the applicant, the PCB should evaluate the applicant's quality manual and perform an on-site evaluation of the applicant's quality system, organization, production facility, and any suppliers, as deemed appropriate. Refer to paragraph 3-6 of this order for audit procedures.

d. Internal FAA PCB Meetings. PCB meetings, attended by all PCB participants, will be conducted as needed to discuss and evaluate each unsatisfactory condition submitted by each member.

e. Reporting. The PCB will prepare FAA Form 8120-14 upon completion of the PCB. All unsatisfactory conditions will be recorded on FAA Form(s) 8100-6 and 8120-14.

f. Final PCB Meeting. A final meeting, attended by all PCB members and representatives of the applicant, will be held to advise the applicant of the PCB findings. Each unsatisfactory condition should be presented and discussed briefly.

(1) Corrective Action. In those instances where a product is being produced under a TC, prior to the issuance of any production approval, the PC applicant must be requested to commence immediate corrective action on those items that directly involve the product and related quality system practices. A reasonable time may be allowed for correcting deficiencies in the quality manual. However, the applicant must be advised that the PCB cannot recommend that a PC be issued unless all applicable regulations are complied with and until the MIDO/CMO has evaluated all corrective actions and found them to be satisfactory.

(2) Formal Confirmation. The applicant must also be advised that an official letter will be sent confirming the verbal presentation of the list of unsatisfactory conditions. This formal notification should be prepared by the PI for the signature of the Chairman of the Board, within ten working days following the final meeting with the manufacturer.

(3) Violations. If the PC applicant is manufacturing a product/article under a TC, and any of the unsatisfactory conditions are determined to be violations to part 21, subpart F, appropriate enforcement actions should be initiated by the MIDO/CMO in accordance with FAA Order 2150.3.

g. Final Phase of PCB. The final phase of a PCB is the evaluation by the MIDO/CMO of the corrective action taken by the applicant. The results of the re-inspection should be reported to the Chairman of the Board using FAA Form 8120-14.

`h. PCB Conclusion. The MIDO/CMO will formally advise the applicant in writing, as soon as practicable, that a PC will be issued based on a showing of compliance to §§ 21.135 and 21.137, or that a PC will not be issued if there is failure to show compliance with §§ 21.135 and 21.137. The MIDO/CMO will provide notification to the MIO that the letter has been issued and may be viewed in the ACAIS project folder.

3-11. PCB Minutes. The MIDO/CMO will prepare the PCB minutes for the signature of the Chairman. The minutes should encompass a concise record of the entire PCB proceedings, including the names and titles of all participants.

a. All correspondence relating to the PCB, including letters to the applicant, replies, etc., are considered to be part of the minutes and should be attached as appendixes.

b. All FAA Form(s) 8100-6 and 8120-14, or printed copy of electronic equivalent, should also be attached to the PCB minutes as a separate appendix.

c. Distribution of PCB Minutes. The PCB minutes should be distributed as follows:

(1) Original to the directorate office involved. In accordance with Manual FAA-IR-04-01B, Aircraft Certification Service Records Management Requirements Manual, destruction of the original is not authorized.

(2) One copy to the cognizant MIDO/CMO that participated in the PCB.

3-12. PCB Adjournment. The PCB will be adjourned when the PCB minutes are accepted by the Chairman and distributed to the PCB members.

3-13. Reserved.

Section 4. Issuance of Production Certificate and Production Limitation Record

3-14. Preparation and Delivery of PC and PLR. Upon a finding by the PCB that the PC applicant's quality manual, quality system, organization, and facilities comply with § 21.135, § 21.137, and § 21.138, the MIDO/CMO will prepare FAA Form 8120-4, Production Certificate, and FAA Form 8120-3, Production Limitation Record, for the signature of the MIO Manager or delegate. Refer to figures 3-2 and 3-3 for sample forms. Signature authority for the PC and PLR may be delegated to the PCB Chairman. Electronic signature is not permitted. Delivery of the PC and PLR should be in person by the PI; however, if this procedure will result in an undue delay, the PC and PLR may be sent to the PC holder by certified mail. Whichever method of delivery is used, it is essential that the PC holder be advised by a letter of a PC holder's responsibilities and of the requirement to retain its PC and make it available to the FAA upon request. Refer to figure 3-4 for a sample letter.

a. PC. The PC will be consecutively numbered within each directorate; for example, PC-6CE would indicate that the PC was the sixth one issued by the Small Airplane Directorate. Each directorate should establish and maintain a summary of PCs issued and a listing of changes made thereto.

> **Note:** When a PC is issued based on a licensing agreement that is for a specific period of time, it must be indicated on FAA Form 8120-4 under "Duration."

Figure 3-2. Sample FAA Form 8120-4, Production Certificate

This form is a representation of the original form and not to be construed as the original certificate.

NOT FOR OFFICIAL USE

U.S. Department of Transportation
Federal Aviation Administration

The United States of America
Department of Transportation
Federal Aviation Administration
Washington D.C.

No._____

Production Certificate

This certificate, issued to:

whose business address is:

and whose manufacturing facilities are located at:

authorizes the production, at the facilities listed above, of reasonable duplicates of which are manufactured in conformity with authenticated data, including, drawings, for which Type Certificates specified in the pertinent and currently effective Production Limitation Record were issued. The facilities, methods, and procedures of this manufacturer were demonstrated as being adequate for the production of such duplicates on date of .

Duration:
This certificate shall continue in effect indefinitely, provided, the manufacturer continuously complies with the requirements for original issuance of certificate, or until the certificate is canceled, suspended, or revoked.

Date issued: **By direction of the Administrator**

_____ _____
Manager, Manufacturing Inspection Office

This Certificate is not Transferable, AND ANY MAJOR CHANGE IN THE BASIC FACILITIES, OR IN THE LOCATION THEREOF, SHALL BE IMMEDIATELY REPORTED TO THE APPROPRIATE REGIONAL OFFICE OF THE FEDERAL AVIATION ADMINISTRATION

Any alteration of this certificate is punishable by a fine of not exceeding $1,000, or imprisonment not exceeding 3 years or both

FAA FORM 8120-4 (09-12) SUPERSEDES PREVIOUS EDITION *HQ-O19007.indd*

Figure 3-3. Sample FAA Form 8120-3, Production Limitation Record

This form is a representation of the original form and not to be construed as the original certificate.

NOT FOR OFFICIAL USE

U.S. Department of Transportation
Federal Aviation Administration

The United States of America
Department of Transportation

Federal Aviation Administration

Production Limitation Record

The holder of
Production Certificate No. **6CE**
may receive the benefits incidental to the possession of such certificate with respect to

AIRCRAFT
(OR AIRCRAFT PROPELLERS, AIRCRAFT ENGINES, AS APPLICABLE)

manufactured in accordance with the data forming the basis for the following Type Certificate(s) No.

Type Certificate	Model	IC	Date Production Authorized
5A25	ABC 258D		January 4, 2016

(**Note:** Any number of columns may be used provided the material is neat and legible. Additional PLRs may be used when necessary. Additional PLRs must be numbered "1 of 2," "2 of 2," as appropriate to the number of pages involved.)

LIMITATIONS:

(if any)

January 4, 2016
Date of issuance

By Direction of the Administrator
J. J. Jones
J. J. Jones
Manager, Manufacturing Inspection Office

FAA FORM 8120-3 (1-16)

Figure 3-4. Sample PC Transmittal Letter

U.S. Department
of Transportation
Federal Aviation Administration

901 Locust Street
Kansas City, MO 64106

August 12, 2009

Ms. Sandra L. King, Vice President
ABC Aircraft Company
4954 Airport Drive
Kansas City, Missouri 12345

Production Certificate Transmittal

Dear Ms. King:

We are pleased to forward Production Certificate No. 6CE, dated August 10, 2009, together with its Production Limitation Record listing Type Certificate No. 5A25. These documents must be made available to the FAA upon request, as required by Title 14, Code of Federal Regulations (14 CFR) part 21, Certification Procedures for Products and Parts (part 21), Section 21.146.

A Production Certificate authorizes the production of duplicates of specific type-certificated products and articles. The Production Certificate entitles the holder to certain privileges; including the option to obtain the appointment of a Designated Manufacturing Inspection Representative to issue airworthiness certificates and other related approvals. The Production Certificate holder may also be authorized to apply for and obtain an Organization Designation Authorization (ODA). It should be noted that the issuance of a Production Certificate also places basic responsibilities upon the holder, as prescribed by 49 United States Code, Sections 44702(a) and 44704(b). The related rules are contained in part 21 and 14 CFR part 45, Identification and Registration Marking. We suggest that copies of the aforementioned be made available to the appropriate personnel in your organization.

If at any time you have questions concerning your privileges or responsibilities relative to your Production Certificate, please contact either this office or our Manufacturing Inspection District Office (number and address).

Sincerely,

James C. Grace
Manager, Manufacturing Inspection
Office, ACE-180

(**Note:** When the PC and PLR are delivered in person, this letter should be suitably revised to reflect such delivery.)

b. PLR. The FAA issues a PLR as part of a PC. A PLR will include the TC, model number, and production authorization date for each product, and identify each interface component (IC) the PC holder is authorized to manufacture and install. After the FAA issues a PLR, the PAH should ensure the PLR accurately reflects each product and IC the PAH intends to manufacture.

> **Note:** When a PC is issued for an STC, the PLR will include the STC number, the model number of each product on which the STC is eligible, and the date that production was authorized.

(1) Amendment of PCs/PLR. Section 21.147 requires a PC holder to apply for an amendment to a PC in a form and manner prescribed by the FAA. A PAH should apply by submitting to the FAA a properly executed FAA Form 8110-12. It is not normally necessary to establish a PCB. Instead, the MIDO/CMO should conduct an audit using the guidelines in paragraph 3-6 of this order, as appropriate, to determine whether the quality system is adequate or has been appropriately changed to ensure positive control of the product to be added to the PLR. When changes to the quality system are substantial, the PI may elect to request a nonscheduled QSA to make this determination. The MIDO/CMO with CM responsibility may issue revisions to the PLR to include new products or models, when authorized. The amendment of PCs requires the following:

(a) The applicant for an amendment to a PC to add a TC, model, or both must comply with the applicable §§ 21.137, 21.138, and 21.150 requirements.

(b) The applicant for an amendment to a PC may have its PLR amended to allow the manufacture and installation of an IC, provided—

1 The design and installation data for the IC is owned by, or licensed to, the applicant and made available to the FAA on request;

2 The applicant manufactures the IC;

3 The applicant's product conforms to its approved type design, and the IC conforms to its approved type design data;

4 The assembled product, with the installed IC, is in a condition for safe operation; and

5 The applicant complies with any other conditions and limitations the FAA considers necessary.

(2) IC Amendment to the PLR. Section 21.147 authorizes a PC holder to apply to amend its PLR to permit the manufacture and installation of ICs. An IC is an article that serves as a functional interface between an aircraft and aircraft engine, an aircraft engine and a propeller, or an aircraft and a propeller. The PLR identifies each IC that the PC holder is authorized to manufacture and install. The following process must be followed before a PC holder may manufacture and install ICs:

(a) The PC holder submits a request to the MIDO/CMO to add ICs (previously identified by the ACO) to the PLR.

(b) The MIDO/CMO coordinates with the ACO for applications to add ICs to the PLR when no prior conformation is available to prove the articles meet the requirements to be identified as ICs.

(c) The MIDO/CMO evaluates whether the PAH has the capability to manufacture and install the ICs.

(d) If the MIDO/CMO determines the PAH is capable, the MIDO/CMO adds the ICs to the PLR.

(e) The MIDO/CMO communicates its decision to the PC holder.

Note: Refer to appendix B to this order for more detailed information on adding ICs to the PLR.

(3) Other Additions to the PLR. If a PC holder desires to add a new TC or new model under an existing TC to the PLR, the PC holder must make application in the same manner as for the original issuance. In this instance, it is not normally necessary to establish a PCB. In place of the PCB, the MIDO/CMO should conduct an audit using the guidelines in paragraph 3-6 of this order, as appropriate, to determine whether the quality system is adequate or has been appropriately changed to ensure positive control of the product to be added to the PLR. When changes to the quality system are substantial, the PI may elect to request a nonscheduled QSA to make this determination. The MIDO/CMO having CM responsibility may issue revisions to the PLR to include new products or models, when authorized.

(4) Deletions from the PLR. Where production of a type-certificated product has been discontinued, and more than one TC is listed on the PLR, the following applies:

(a) If neither the complete product nor spare articles are being produced, the discontinued product or model should be deleted from the PLR. Upon issuance of the revised PLR, the MIDO/CMO will request that the PC holder return the superseded PLR, which will be marked “Superseded” and retained in the files. If no other products, models, or spare articles are covered by the PC, the PC holder will be requested to return both the PC and PLR for cancellation. The MIDO/CMO will retain the canceled PC and PLR.

(b) If production of the complete product has ceased, but spare articles are still being produced, the PLR should be revised to reflect this. The MIDO/CMO should ensure that the PC holder remains in compliance with part 21, subpart G, and will continue to advise the FAA of any changes in its organization, systems, procedures, or processes.

(5) STC Modifications Incorporated by a TC/PC Holder.

(a) When the holder of the TC seeks and obtains its own STC, or is licensed to use another person’s STC data, the TC holder may amend the TC to incorporate the STC approval by reference. Another party’s STC that is incorporated during production and is referenced in and becomes a part of the TC need not be shown on the PLR. When a TC is amended to incorporate data approved under an STC, only the TC should continue to be shown on the PLR.

(b) When the PC holder of a TC obtains an STC, or related licensing agreement, but does not make the STC an integral part of the TC, the PC holder may incorporate the STC in production products prior to OAC approval, provided that—

1 The PC holder makes application to the FAA to add the STC to its PLR,

2 The quality system data are revised as necessary, and

3 The engineering data submitted for the STC approval provide all the details necessary for manufacture and for making conformity determinations.

(c) When a PC holder elects to use neither of the foregoing methods, the TC holder may incorporate an STC modification into production products only after OAC, in accordance with the provisions of part 43.

3-15. Initial Risk-Based Resource Targeting Assessment. Subsequent to the issuance of the PC, the MIDO/CMO will conduct a risked-based resource targeting (RBRT) assessment of the PC holder. The results will determine the initial basis for conducting ongoing CM responsibilities, as summarized in FAA Order 8120.23.

Chapter 4. Parts Manufacturer Approval (Part 21, Subpart K)

Section 1. General Information

4-1. Applicability.

a. Part 21, subpart K, is applicable to any person who desires to manufacture an article under a PMA. The PMA is both a design and production approval issued to an applicant who has demonstrated the capability to design and manufacture to specific FAA requirements. The FAA does not separate the State of Design from the State of Manufacture.

b. A PMA may be obtained for replacement articles for technical standard order (TSO) articles that are approved as part of a product type design, provided that installation eligibility to that product can be shown. However, approval of an article that would constitute a major design change to the TSO article cannot be done under a PMA and would require a new TSO authorization. An applicant's design that could meet the identicality provisions of § 21.303 would normally not be considered a major design change.

c. A PMA may not be issued if the manufacturing facilities for the article are located outside the United States, unless it has been determined, in accordance with § 21.309, that such location(s) would place no undue burden on the FAA.

d. Exceptions. A PMA is required except as described below:

(1) Manufacturing inspection procedures, materials, and/or special processes, such as hardening, plating, or shot-peening are not in and of themselves eligible for PMA. However, if a person participates in controlling the design, manufacture, or quality of an article by performing such procedures or processes and does so with the intent that the article be sold for installation on a type-certificated product, that person must do so as an approved supplier to another's FAA-approved quality system.

(2) A PMA cannot be issued on the basis of a "one-time-only" STC or FAA Form 337, Major Repair and Alteration, approval. The applicant would have to reapply for a new STC, which constitutes a "multiple approval," before a PMA could be considered.

(3) Other PAHs (TC, PC, or TSO authorization) may produce replacement articles for their products or articles under their existing design and production approvals. A supplier to a PAH may not produce replacement or modification articles for sale for installation on a type-certificated product, unless that supplier has a PMA for the replacement or modification articles. However, a PAH may authorize major inspection and grant direct-ship authority (with FAA approval) to a supplier.

(4) An aircraft owner or operator may produce articles for installation on their own product without a PMA. The installation of those articles must comply with part 43 and other applicable airworthiness standards.

(5) An air carrier, operating under 14 CFR part 121, Operating Requirements: Domestic, Flag, and Supplemental Operations, or 14 CFR part 135, Operating Requirements: Commuter and On Demand Operations and Rules Governing Persons On Board Such Aircraft, may produce articles for installation on its own product without a PMA, provided the installation of those articles is approved in accordance with part 43 and complies with the air carrier's accepted maintenance procedures manual and instructions.

(6) An FAA-certificated repair station may produce an article for installation on a type-certificated product for current and anticipated in-house repairs or modifications. Further guidance may be found in AC 43-18, *Fabrication of Aircraft Parts by Maintenance Personnel*.

(7) The FAA does not require a PMA for production of commercial or standard parts produced for sale for installation on a type-certificated product. A PAH may purchase commercial or standard parts and subject them to more restrictive inspection criteria prior to approval for installation. When a question arises as to whether a part is a commercial or standard part, the certificating MIDO/CMO should be contacted to determine whether the design of the part meets the criteria for a commercial or standard part.

(8) In accordance with § 21.502, replacement or modification articles produced and imported to the United States under the provisions of an agreement with a foreign country do not require a PMA. The scope of the agreement must specifically include acceptance of replacement and modification articles. Acceptable replacement and modification articles may include:

(a) Articles produced under the provisions of a bilateral agreement by the foreign holder of an FAA TC issued in accordance with § 21.21 or § 21.29, an STC, or a letter of TSO design approval; or

(b) Articles produced by a foreign manufacturer and approved by their local CAA as specified in a bilateral agreement. (Depending on the scope of the bilateral agreement, such articles may include those designed as replacements for U.S. State of Design products.)

> **Note:** In both of these cases, the articles are accepted for import under § 21.502, only when accompanied by an appropriate export airworthiness approval.

4-2. Privileges. A PMA holder has the privileges specified within the PMA letter and supplement. In addition, a PMA holder is eligible to have a qualified employee(s) designated as a DMIR in accordance with the provisions of part 183. The PMA holder may also be authorized by part 183 to apply for and obtain an ODA. FAA Orders 8000.95 and 8100.15 contain procedures for the administration of DMIRs and ODAs, respectively.

4-3. Advising the Applicant. The applicant should be advised that—

a. AC 21-43 sets forth an acceptable means of complying with part 21, subpart K. Alternative methods and procedures may be approved when the applicant can show that the proposed methods and procedures will achieve compliance with part 21, subpart K.

b. The applicant must establish a quality system in accordance with § 21.307 and provide a quality manual describing its quality system to the FAA in accordance with § 21.308. The manual must include descriptive material that adequately covers each applicable paragraph of § 21.137. The manual may vary in length depending upon the scale of the quality system, size of the manufacturing facilities, and complexity of the article. For further guidance, refer to AC 21-43.

c. Approval of an application for PMA requires an approval of the design by the ACO and a quality system approval by the MIDO/CMO.

d. PMA Holder's Responsibility.

(1) Organization. Section 21.305 requires a PMA holder to provide to the FAA a document describing how its organization will ensure compliance to subpart K, and sets out the requirements for this document. The document must identify a single point of contact who is knowledgeable of, and accountable for, maintaining the organization's FAA-approved operations. In addition, the document must describe the accountable manager's assigned responsibilities, delegated authorities, and the functional relationship of those responsible for quality. The PMA holder must amend the document as necessary to reflect changes in the organization required by §§ 21.305 and 21.316(a).

(2) Reporting Failures, Malfunctions, and Defects. The PMA holder must report any failure, malfunction, or defect in any article as required by § 21.3. The PMA holder should be encouraged to establish a procedure for such reporting as a part of its quality system. This reporting requirement applies to failures, malfunctions, or defects that may result in or have resulted in one of the occurrences listed in § 21.3(c).

(3) Quality System. The PMA holder must establish and describe in writing a quality system that complies with § 21.307. The PMA holder is responsible for maintaining the quality system in compliance with the data and procedures approved for the PMA, and for determining that each completed article produced conforms to the PMA and any terms or conditions prescribed in the approval.

(4) Supplier Control. A supplier is a person at any tier in the supply chain who provides a product, article, or service that is used or consumed in the design or manufacture of, or installed on, a product or article. Section 21.137(c) requires procedures for ensuring each supplier-furnished product, article, or service conforms to the PAH's requirements. This section also requires the PAH to establish a supplier-reporting process for products, articles, or services that have been released from the supplier and subsequently found not to conform to the PAH's requirements.

(5) Issuing Authorized Release Documents for Articles. Section 21.137(o) requires procedures for issuing authorized release documents (using FAA Form 8130-3, Airworthiness Approval Tag) if the PAH intends to issue those documents. These procedures must provide for the selection, appointment, training, management, and removal of individuals authorized by the PAH to issue authorized release documents (refer to AC 21-43).

(a) Procedures established pursuant to § 21.137(o) should ensure that only qualified personnel issue authorized release documents. A PAH's evaluation of these individuals' qualifications should include an assessment of their knowledge, background, experience, and training. Qualifications should be commensurate with the complexity and type of product or article for which the PAH issues an authorized release document. These procedures should also include requirements for completing FAA Form 8130-3 that meet chapters 1, 2, and 4 of FAA Order 8130.21.

(b) These documents may be issued for new aircraft engines, propellers, and articles manufactured by the PAH, and for used aircraft engines, propellers, and articles rebuilt or altered pursuant to § 43.3(j). When an authorized release document used for export, § 21.137(o) requires a PAH to comply with the applicable § 21.335 requirements for the export of new and used aircraft engines, propellers, and articles. (Refer to FAA Order 8130.21 to ensure the PAH is in compliance with § 21.335.)

(6) Change to the Quality System. Each change to a quality system is subject to review by the FAA in accordance with § 21.320(a). A PMA holder must immediately notify the appropriate MIDO/CMO in writing of any changes that may affect the inspection, conformity, or airworthiness of its article in accordance with § 21.309(c). These changes would include, but are not limited to, the following:

(a) Resumption of production after being discontinued for an extended period of time for other than normal periods of time, such as vacation periods;

(b) Significant curtailment or resumption of production operations;

(c) Significant reduction or reassignment of quality system personnel; and

(d) Changes or revisions to quality system data and related procedures.

(7) Changes to Manufacturing Facilities. The PMA holder must immediately notify the MIDO/CMO in writing of any changes to its manufacturing facilities that may affect the inspection, conformity, or airworthiness of its article in accordance with § 21.309(c). The PMA holder must obtain FAA approval prior to making any changes to the location of its facilities in accordance with § 21.309(b).

(a) A PMA holder's manufacturing complex would normally consist of a principal facility and all associate facilities using the same quality system approved by the FAA, for the particular article(s). Associate facilities are discussed in chapter 6 of this order.

(b) The PMA is issued to the principal manufacturing facility that controls the design and quality of the article(s) for which the approval was granted. A postal address is not acceptable for a facility since the actual location must be identified. Such addresses, however, may be used as supplemental to the actual address when desired for such uses as corresponding to and from FAA offices.

(c) When the PMA holder seeks FAA approval to move an associate facility or add a new production facility, the FAA may, if deemed necessary, conduct a preliminary MIDO audit at the new production facility or moved facility. If a MIDO audit is deemed necessary, a satisfactory audit result must be obtained before the facility can be approved for production.

(8) Additional Article Approvals. If a PMA holder wishes to produce additional articles under the existing approved quality system, an application must be made and the holder must show compliance with § 21.307. The MIDO/CMO will then issue a PMA supplement that adds the new articles to the original approval. If the new articles' production constitutes a significant change in the operation or capabilities of the PMA holder, the MIDO/CMO will conduct a review of the holder's production and quality systems.

(9) Relationship Changes. The PMA holder may not produce articles if any change, in its relationship to the design approval holder (licensor) or otherwise, prevents it from meeting its PMA responsibilities.

e. PMA Article Marking Requirements. Section 45.15 specifies the marking requirements for PMA articles produced for installation on TC products, STC products, and TSO articles. In accordance with § 45.15, articles produced under a PMA must be permanently and legibly marked in a manner that will enable persons to identify that it is a PMA article the manufacturer, and the part number. The issuance of the PMA letter authorizes and requires the holder to mark articles as prescribed in § 45.15.

(1) Marking Critical PMA Articles. In addition to the marking requirements of § 45.15(a), a PMA article with a critical characteristic(s), as described in § 45.15(c), must be permanently and legibly marked with a serial number. The FAA must confirm that the marking location and the associated process will not affect airworthiness.

(2) Marking Detail Parts of PMA Assemblies. PMA article markings required by § 45.15 are applied to the top-level assembly of the approved replacement or modification article. Marking subassemblies or individual detail parts is not required. For example, if the PMA were approved for a hydraulic pump, the PMA marking would be affixed to the completed assembly. It is not required that each individual subassembly or detail part within the assembly be marked with "FAA-PMA," unless it is being produced under its own PMA. If a PMA is granted for an assembly, individual detail parts of the assembly sold separately, except those produced under their own PMA, must be accompanied by a shipping document containing the information required by § 45.15(a) and must identify the detail part as a subcomponent of a PMA assembly. The article marking requirements for detail parts that are sold by the original PMA holder for installation into its related PMA assemblies may be found within the applicable design data for the assembly. This provides traceability of the individual detail parts to their related PMA assemblies.

> **Note:** There is no need to reissue previously issued PMA letters that require detail parts of an assembly sold separately to be marked in accordance with § 45.15.

(3) Part Numbering. Except as provided in paragraph 4-3e(3)(a) and (b) of this order, the applicant's article should be numbered such that it is distinguishable from the corresponding TC holder's part number. The TC holder's part number with a prefix or suffix is sufficient for this purpose, as long as use of such a prefix or suffix will not cause confusion with the part marking practices of the TC holder. The requirement of § 45.15(a)(1) (to mark with the name, trademark, or symbol of the applicant) may be satisfied by the use of a prefix or suffix, if the prefix or suffix is consistent across the applicant's product line. Each article also must be marked with "FAA-PMA" to meet the requirement of § 45.15(a)(2).

(a) Supplier Part Number. Some applicants are suppliers to PAHs. Often these PAHs use the supplier part numbers in their approved designs. When these suppliers later apply for PMA, they may continue to use their original part numbers, provided they also meet the requirements of § 45.15.

> **Note**: PAHs and suppliers should be advised that when articles are marked only with PAH part numbers, the PAH is responsible for the design and quality of the article and any compliance and enforcement actions. Likewise, when the supplier is manufacturing under its PMA and has marked its article in accordance with § 45.15, they are responsible for the design and quality of the article(s) and any compliance and enforcement actions.

(b) Articles Manufactured Under License. When the PMA is based on the applicant showing evidence of a licensing agreement, the PMA article may have the same number as the type-certificated article, provided the applicant also meets the requirements of § 45.15.

(4) Articles Impractical to Mark. If the FAA finds the article too small or impractical (because of characteristics) to mark all (or any) of the information on the article, the information not marked on the article must be attached to the article or its container in accordance with § 45.15(d).

(5) Supplier Marking of PMA Articles. Suppliers to PMA holders may identify articles with PMA markings provided the PMA approval holder adequately controls those suppliers as part of its quality system. Suppliers that mark articles should be treated the same as any other supplier furnishing articles or services, using supplier control procedures as part of the quality system. MIDOs/CMOs may require that specific article marking controls be included in these procedures, along with any additional conditions that may be necessary for suppliers with direct-ship authorization.

(6) Identification Marking of Replacement and Modification Articles Produced Pursuant to the Enhanced Enforcement Program (EEP) as Published in Federal Register Notice of February 27, 1995. Section 45.15(a) states that the manufacturer of a PMA article must permanently and legibly mark the article. Articles produced without a PMA, such as articles produced under the EEP, were not produced under part 21, subpart K and therefore are not eligible for marking in accordance with § 45.15. Although articles produced under the authority of the EEP are not eligible for part marking, these articles are considered acceptable for

sale/installation under the provisions of § 21.8(d). Section 21.8(d) allows articles to be approved in any manner approved by the FAA. Articles produced under the authority of the EEP continue to be acceptable subsequent to the expiration of the EEP.

4-4. Reserved.

Section 2. Processing an Application for a PMA

4-5. Applicant Responsibilities.

a. Application Letter. The applicant must submit a letter of application to an ACO or MIDO/CMO, depending on the design approval basis. If the applicant is applying on the basis of an STC or identicality by licensing agreement, the application will be submitted to the MIDO/CMO having geographical responsibility for the area in which the applicant's manufacturing facility is located. Refer to figure 4-1 for a sample letter of application. If the design approval basis is other than an STC or identicality by licensing agreement, the application will be submitted to the ACO having geographical responsibility for the area in which the applicant's manufacturing facility is located. The application must include the following information:

(1) The names and addresses of the manufacturing facilities where the articles will be manufactured.

(2) The identity of the article for which PMA application is being made, including—

(a) The type-certificated product identified by make, model, series, and if appropriate, serial number, on which the article is to be installed.

(b) The TC holder's part number and if known, the drawing number and revision level that the PMA article would replace or modify.

(3) A description of the quality system in the detail specified in § 21.307.

(4) A brief description of the method by which design approval will be sought:

(a) Identicality by Showing Evidence of a Licensing Agreement. The applicant should submit an appropriate document from the TC, STC, or TSO authorization holder authorizing use of its FAA-approved data. Evidence of a licensing agreement is not a separate approval method, but merely a way to show identicality. The evidence of a licensing agreement is used by the applicant to show that the data submitted are FAA-approved and are therefore identical. For FAA purposes, the licensing agreement, in whatever form it takes, need only to authorize the applicant to use the type design data specified. The current industry practice of TC holders preparing "assist letters" for applicants to submit to the FAA sufficiently meets the requirements of showing evidence of a licensing agreement under § 21.303(a)(4). The MIDO/CMO should ensure the "PMA assist letter" includes the information specified in paragraph 4-6f(1) of this order.

(b) Identicality Without a Licensing Agreement. The applicant should submit a statement certifying that the design is identical in all respects to the design of the article covered under an approved design (for example, TC, STC, or TSO authorization). In addition, the applicant should summarize the data that support the identicality assertion. Identicality to another PMA is unacceptable.

(c) Test and Computation. The applicant should submit a data package that includes a statement that all design, materials, processes, test specifications, system compatibility, and interchangeability are supported by an appropriate test and substantiation plan for FAA review and approval.

(d) STC. The applicant should stipulate use of the approved data from the STC and reference the STC number.

Figure 4-1. Sample PMA Letter of Application

The ABC Tool Company
3000 Hill St.
Randolph, MA 02368
(781) 555-1212

FAA - New England Region
12 New England Executive Park
Burlington, MA 01803
(781) 238-7199

Attention: Mr. Mark Steale
Manager, Boston Manufacturing Inspection
District Office, ANE-MIDO-42

Subject: Request for New FAA-PMA Approval

Mr. Steale:

The ABC Tool Company is submitting an application for Parts Manufacturer Approval for our part number (P/N) ABC 13579. We request your review of the enclosed data being submitted in support of this application. Part number ABC 13579 is a bushing assembly eligible on PS PT9D-1, -7, -9 series engines. Approval is requested based on (STC #/Licensing Agreement #, dated) under 14 CFR § 21.303(a)(4). Part number ABC 13579 replaces PS bushing assembly P/N 13579, drawing no. 13579, revision level C.

The article will be manufactured at ABC Tool Company, 3000 Hill Street, Randolph, MA 02368. Enclosed is a description of our quality system in accordance with 14 CFR § 21.307. The article listed above will be manufactured in accordance with our quality system.

Your efforts in support of this request are most appreciated.

Very truly yours,

PMA Administrator,
ABC Tool Company

Enclosures:
1 copy STC or PMA Assist Letter
1 copy Unnumbered PMA Supplement
1 copy Quality System Manual

b. Unnumbered PMA Supplement. The applicant must prepare an unnumbered PMA supplement. Refer to figure 4-2 for a sample PMA supplement. Because some PMA supplements are quite long, an electronic copy on a disk or an e-mail will expedite processing.

4-6. MIDO/CMO Responsibility. The MIDO/CMO confirms that the applicant has the capability to produce the proposed article in accordance with the approved design. The MIDO/CMO will conduct the production approval process upon receipt of the PMA supplement evidencing approval of the design by the ACO, or upon receipt of an application based on identicality by licensing agreement or STC. The production approval process includes the following:

a. Conformity Inspections. The MIDO/CMO will perform or delegate conformity inspections at the request of the ACO or other MIDOs/CMOs.

b. Quality System Description. The MIDO/CMO will ensure that the applicant has submitted a description of the quality system in the detail specified in § 21.307. Data submitted as evidence of compliance with part 21, subpart K should be evaluated in accordance with the criteria contained in appendix A to this order. The ACO should be involved in evaluating technical data such as design data control, software control, and material review board (MRB). When the data have been found to be acceptable, an additional statement, similar to the following, must be included in the initial PMA letter: "(*Applicant name*) must produce all articles in accordance with (*Applicant name*), Quality Manual, Revision (*manual's revision*), dated (*manual's date*) or a later FAA-approved revision." Refer to figure 4-3, condition 13, of this order.

c. Preliminary MIDO Audit. Prior to the original issuance of a PMA, the MIDO/CMO will conduct a MIDO audit of the applicant's facility, including supplier facilities, as appropriate, to determine whether the applicant is in compliance with part 21, subpart K. The MIDO/CMO should decide whether to perform a conformity inspection (1) within 30 days of receiving the PMA supplement from the ACO or (2) prior to issuing a PMA based on an STC or identicality by licensing agreement. This determination should be made based on article criticality, the history of the applicant, article complexity, supplier control issues, etc. When applicable, the MIDO/CMO will verify the applicant's manufacturing critical processes required to achieve the approved design characteristics.

d. Principal Inspector. When deemed necessary, the PI should conduct or make arrangements for an article conformity or a MIDO audit when additional articles are approved by a supplement to the original PMA approval letter, or when the manufacturer expands or relocates its facility.

Figure 4-2. Sample PMA Supplement for Licensing Agreement and STC

U.S. Department of Transportation
Federal Aviation Administration

FEDERAL AVIATION ADMINISTRATION - PARTS MANUFACTURER APPROVAL

Smith Engineering Corporation
10 Main Street
Los Angeles, CA 90012

PMA NO._____
SUPPLEMENT NO._____
DATE_____

Article Name	Part Number	Approved Replacement for Part Number	Approval Basis and Approved Design Data	Make Eligibility	Model Eligibility
Galley	SE101001-101	101001-101	Identicality per 14 CFR, § 21.303, licensing agreement between Smith Engineering Corp. and Ace Aircraft, File No. 5-1034-89-RMS 769, dated 9/12/89 DWG No: AA 25207 Rev: None Date: 3/31/88 or later FAA-approved revisions	Ace Aircraft	A-700, -710
Wing Kit	MDL 660	Modification Part	STC SA1234NM DWG No: MDL 660 Rev: None Date: 3/31/88 or later FAA-approved revisions	General Air	CP6-6, -30

----------End of Listing----------

Note: The procedures that have been accepted by the type certificate or TSO authorization holder and its cognizant FAA Aircraft Certification Office, for minor changes to original articles used on type-certificated products, are also acceptable for incorporating the same minor changes on identical PMA replacement articles. The PMA holder must be able to show traceability relating to the TC, STC, or TSO authorization holder on all minor changes incorporated by this procedure. When these procedures are no longer applicable because of completion of the production contract, or termination of the licensing agreement or business relationship, all subsequent minor design changes to the PMA articles must be submitted in a manner as determined by the ACO. Major design changes (reference 14 CFR §§ 21.319 and 21.619) to drawings and specifications are to be handled in the same manner as that for an original PMA.

_____
Manager, Manufacturing
Inspection District Office

Figure 4-3. Sample PMA Letter

U.S. Department
of Transportation
Federal Aviation Administration

901 Locust Street
Kansas City, MO 64106

February 12, 2009

Mr. Jeffrey L. Smith, President
Aero-Parts, Inc.
3212 Newton Street
St. Louis, Missouri 63044

FEDERAL AVIATION ADMINISTRATION - PARTS MANUFACTURER APPROVAL

Dear Mr. Smith:

In accordance with Title14, Code of Federal Regulations (14 CFR) part 21, Certification Procedures for Products and Parts, subpart K, the FAA has found that the design data, as submitted by Aero-Parts, Inc., (hereinafter referred to as "the Manufacturer") on September 16, 2008, meet the airworthiness requirements of 14 CFR applicable to the product(s) on which the article(s) is to be installed. Additionally, the FAA has determined that the Manufacturer has established the quality system required by § 21.307 at 3212 Newton Street, St. Louis, Missouri 63044. Accordingly, Parts Manufacturer Approval (PMA) is hereby granted to the Manufacturer to produce the replacement articles (or modification articles, as applicable) listed in the enclosed supplement(s) in conformity with the FAA-approved design data. Subsequent changes to these design data must be approved in a manner acceptable to the FAA.

The following terms and conditions apply to this approval:

1. The Manufacturer's quality system, methods, procedures, and manufacturing facilities, including suppliers, are subject to FAA surveillance and investigations. Accordingly, the Manufacturer must advise its suppliers that their facilities are also subject to FAA surveillance and investigations.

2. The Manufacturer must obtain approval from the Kansas City Manufacturing Inspection District Office (MIDO), prior to relocating or expanding manufacturing facilities at which articles are produced. This includes the addition of associate facilities. Additionally, this requirement applies to the Manufacturer's suppliers with major inspection authorization, and those suppliers who furnish articles or related services where a determination of safety and conformance to the approved design cannot or will not be made upon receipt at the approved receiving facility.

Figure 4-3. Sample PMA Letter (Continued)

3. Upon request, the Manufacturer must make available to the FAA any pertinent information concerning its suppliers who furnish parts/services. This includes:

a. A description of the part or service;

b. Where and by whom the part or service will undergo inspection;

c. Any delegation of inspection duties;

d. Any delegation of materials review authority;

e. The name and title of the FAA contact at the supplier facility;

f. The inspection procedures required to be implemented;

g. Any direct-shipment authority;

h. Results of the Manufacturer's evaluation, audit, and/or surveillance of its suppliers;

i. The purchase/work order number (or equivalent); and

j. Any feedback relative to service difficulties originating at the Manufacturer's suppliers.

4. Parts, appliances, or manufacturing services furnished by any suppliers located in a foreign country may not be used in the production of any article or listed in the enclosed supplement unless:

a. That part or service can and will be completely inspected for conformity at the Manufacturer's U.S. facility; or

b. The FAA has determined that the location of the foreign supplier facility places no undue burden on the FAA in administering applicable airworthiness requirements. The Manufacturer must advise the FAA at least ten working days in advance when the use of such foreign suppliers is contemplated. This will allow the FAA time to make this determination.

5. Articles produced under the terms of this approval must be permanently marked with the identification information as required by 14 CFR part 45, Identification and Registration Marking, § 45.15. Use the letters "FAA-PMA," the name, trademark, or symbol of the company, and the part number. If the FAA finds the article is too small or impractical to mark, the manufacturer must attach the information required by § 45.15 to the article or its container.

Figure 4-3. Sample PMA Letter (Continued)

6. This approval is not transferable and it may be withdrawn for any reason that precludes its issuance or whenever the FAA finds that the quality system is not being maintained. A withdrawal may occur if unsafe or nonconforming articles are accepted under the quality system.

7. The Kansas City MIDO must approve any changes to the address shown in this approval.

8. The Manufacturer must maintain its quality system in continuous compliance with the requirements of § 21.307. The Manufacturer also must ensure that each article conforms to the approved design data and is safe for installation on type-certificated products.

9. A PMA holder has the privileges specified within the PMA letter and supplement. In addition, a PMA holder is eligible for the appointment of qualified individuals in its employ to represent the FAA as Designated Manufacturing Inspection Representatives (DMIRs), in accordance with the provisions of part 183. DMIRs may issue export airworthiness approvals for articles. The PMA holder may also be authorized to apply for and obtain an Organization Designation Authorization (ODA). FAA Orders 8000.95 and 8100.15 contain procedures for the administration of DMIRs and ODAs, respectively.

10. The Manufacturer must report in a timely manner, to the Kansas City MIDO, information concerning service difficulties on any article produced under this approval. The Manufacturer also must report any failures, malfunctions, and defects that are required to be reported in accordance with § 21.3

11. All technical data required by § 21.303(a)(3), for the articles to be produced in accordance with this approval, must be readily available to the FAA at the facility where the articles are being produced.

12. The Manufacturer must notify the Kansas City MIDO immediately in writing of any changes to the quality system that may affect the inspection, conformity, or airworthiness of the articles approved by this letter.

13. The Manufacturer must produce all articles in accordance with Aero-Parts, Inc., Quality Assurance Manual, Revision B, dated August 7, 2008, that has been presented as evidence of compliance with § 21.307. Accordingly, any revisions to these data must be submitted to the Kansas City MIDO for approval prior to implementation.

Sincerely,

G Jones

G. Jones
Manager, Kansas City Manufacturing
Inspection District Office

Enclosure:
Parts Manufacturer Approval Listing
Supplement No. 1

e. Design Change Issues. The MIDO/CMO should ensure that the applicant has the proper authority and/or quality system processes to implement minor design changes and MRB dispositions. The MIDO/CMO should coordinate with the ACO to evaluate the quality system controls that detail the design change and MRB disposition processes.

f. PMA Assist Letter. The evidence of a licensing agreement from the TC, STC, or TSO authorization holder must include written permission for the applicant to use the design data to apply for a PMA. A "PMA assist letter" or similar evidence authorized by the TC, STC, or TSO authorization holder is sufficient for showing evidence of a licensing agreement. Refer to figure 4-4 for a sample "PMA assist letter." A licensing agreement alone is insufficient to issue a PMA. The applicant must meet all the requirements of § 21.303.

(1) The "PMA assist letter" must include the following information:

(a) Product model, name, and TC/STC/TSO number.

(b) A statement that the PMA applicant is authorized to use the design data as identified by article name and drawing number.

(c) Information describing the authority of the PMA applicant to use the TC or STC holder's part number and other article marking information, if applicable.

(d) Information on the article's eligibility for installation (product make, series, model, and if appropriate, the serial number per the TCDS).

(2) Applicants must provide sufficient data to support discretionary conformity inspections in their application letters. Holders of the TC, STC, or TSO authorization may add this information to their assist letters. These data include—

(a) The revision level of the article's drawing to baseline the design for future approved changes.

(b) A statement as to whether design changes to the article and disposition of nonconforming articles will be controlled through the TC, STC, or TSO authorization holder's quality system. The statement also should describe how design change information will flow to the applicant, and consequently, to the FAA.

(c) Information that establishes the life limits or airworthiness limitations of the article.

g. Identicality Finding. Based on the review of the "PMA assist letter" that contains the information specified in paragraph 4-5a(4)(a) of this order, the MIDO/CMO will make a finding of identicality by showing evidence of a licensing agreement. The MIDO/CMO also will review the PMA supplement prepared by the applicant. Refer to figure 4-2 for a sample PMA supplement for licensing agreement and STC.

Figure 4-4. Sample TC, STC, or TSO Authorization Holder's PMA Assist Letter

SUPPORTING DATA
PARTS MANUFACTURER APPROVAL

Smith Engineering Corporation
10 Main Street
Los Angeles, CA 90012 FILE
NO._____

(1) Manufacturer Part Name and Part No.	(2) Approved Replacement For	(3) TC/STC/TSO Approval and Design Data	(4) Model Eligibility
Part Name: Spring P/N: SE24689	General Air P/N: 24689	TC: E9NM DWG. No: GA25206 Rev: None Date: 3/31/88	General Air CP6-6, -30
Part Name: Pin P/N: SE24695	General Air P/N: 24695	TC: E9NM DWG. No: GA25207 Rev: None Date: 3/31/88	General Air CP6-6, -30

It is hereby certified that the components listed herein are included as a part of the type design/ approved design data for General Air models as specified in the fourth column herein.

Approved:
General Air Corp.

_____
J. Doe, Manager Date
(Engineering Manager, Q. A. Manager, Corporate Officer, or FAA Liaison)

The above-named manufacturer is hereby authorized to use the approved (type design) data noted in the third column herein to manufacture replacement components noted in column 1. This certification may be used as part of the application for PMA (14 CFR § 21.303).

PAGE 1 OF 1

h. Life-Limited Articles. The MIDO/CMO will forward PMA applications for life-limited articles to the certificating ACO to verify completeness of design data. The MIDO/CMO should ensure that the application includes a continued operational safety plan.

4-7. Reserved.

Section 3. Issuance of a PMA

4-8. Assignment of the PMA Number. The MIDO/CMO will assign a PMA number to each original PMA letter in accordance with the existing project assignment number procedures. The PMA number should be unique to each PMA holder and be carried forth on subsequent approved supplements to that PMA. The MIDO/CMO will sign the PMA supplements affirming production approval after completing validation of the quality system.

4-9. PMA Letter.

a. The MIDO/CMO will prepare the following PMA documents:

(1) A PMA letter for the initial issuance of a PMA. Refer to figure 4-3 for a sample PMA letter.

(2) A transmittal letter for all subsequent issuances of PMA, including all supplements. Refer to figure 4-5 for a sample transmittal letter.

b. When an applicant or approval holder asks to use electronic technology to satisfy information requirements for part 21 activities or asks to use an alternative method of storing certification, production, and related information, the applicant or approval holder establishes a procedure to do so and shares the required information with the MIDO/CMO. The MIDO/CMO decides whether it will maintain a hard or electronic copy of the required information. For additional information, refer to FAA Order 8000.79, *Use of Electronic Technology and Storage of Data,* and FAA Order 1350.14, *Records Management*, which allow for electronic records.

c. The original(s) should be presented to the manufacturer, and the MIDO/CMO should retain one copy (hard copy or electronic format). The information on the PMA supplement will be forwarded to the Continued Operational Safety Policy Section, AIR-141.

4-10. Initial Risk-Based Resource Targeting Assessment. Subsequent to the issuance of the PMA, the MIDO/CMO will conduct an RBRT assessment of the PMA holder. The results will determine the initial basis for conducting ongoing CM responsibilities, as summarized in FAA Order 8120.23.

4-11. Reserved.

Figure 4-5. Sample Transmittal Letter of Subsequent PMA Supplement

U.S. Department of Transportation
Federal Aviation Administration

901 Locust Street
Kansas City, MO 64106

February 28, 2009

Ms. Frances Hunter, President
Aero-Parts, Inc.
3212 Newton Street
St. Louis, Missouri 63044

FEDERAL AVIATION ADMINISTRATION - PARTS MANUFACTURER APPROVAL

Dear Ms. Hunter:

In accordance with the provisions of Title 14, Code of Federal Regulations (14 CFR), part 21, Certification Procedures for Products, Articles, and Parts, subpart K, the FAA has found that the design data, based on a licensing agreement submitted by Jet Parts Engineering, Inc., with your letter dated September 30, 2008, meet the airworthiness requirements of the regulations applicable to the products on which the articles are to be installed. Additionally, the FAA has determined that Aero-Parts, Inc., has established the quality system required by § 21.307 at 3212 Newton Street, St. Louis, Missouri 63044. Accordingly, Parts Manufacturer Approval (PMA) is hereby granted for production of the replacement articles listed in the enclosed Supplement No. 2.

You are reminded that the provisions of 14 CFR, parts 21 and 45, noted in our PMA letter of approval dated September 22, 2007, also apply to the enclosed PMA Listing-Supplement No. 2. The enclosed supplement should be retained with the original PMA letter as evidence of approval to produce the articles concerned.

Sincerely,

G Jones

G. Jones
Manager, Kansas City Manufacturing
Inspection District Office

Enclosure:
PMA Listing-Supplement No. 2

Section 4. Post-PMA Activities

4-12. Transferability.

a. A PMA is not transferable to another person, company, or location. The regulations do not preclude revising approval letters to show a change in name only if the holder provides evidence there is no change in the quality system, management, ownership, or location of the principal facility. However, the design portion of a PMA based on an STC may be sold, licensed, or otherwise transferred. If the STC holder or a licensee intends to manufacture articles, it must apply for a new PMA.

b. In the event a PMA holder is acquired by another company, with no resulting change in the legal status of the PMA holder, the acquiring company will not be required to apply for a new PMA. However, the PMA holder must—

(1) Retain possession of the production approval,

(2) Retain the same quality system, and

(3) Continue to operate at the same location with the same core management officials.

c. The PI should conduct an on-site visit to ensure that the PMA holder has complied with the requirements in paragraph 4-12b of this order. In addition, the acquiring company should provide a letter to the MIDO/CMO indicating its status as the new owner of the PMA holder and any future plans affecting the status of the PMA holder. The PI should update the project files to include documentation indicating the acquisition.

d. In the event that the status of the PMA changes (for example, the PMA holder is disbanded or absorbed into the acquiring company) or the PMA holder transfers or relinquishes its production approval, the ACO or MIDO/CMO will ensure that a new application for PMA is submitted for processing by the FAA.

4-13. Reuse of PMA Design Data. Although a PMA itself is not transferable, the design and substantiating data approved under a PMA may be used by another person to apply for a new PMA. The applicant must show compliance with the regulations and may submit previously approved substantiating data to meet (partially or fully) this requirement.

4-14. Changes to the Quality System. Whenever a PMA applicant has submitted data as evidence of compliance with part 21, subpart K, and the MIDO/CMO has approved the data, any subsequent revisions to these data should be approved by the PI prior to implementation. Revisions that affect the design (for example, MRB, design data control, service difficulty reporting) should be coordinated with the ACO. The MIDO/CMO should notify the PMA holder in writing as to the approval of the data submitted.

4-15. Revising/Amending the PMA Supplement. When a PMA approval letter is reissued, the first paragraph in the letter should be revised to include the previous supplement numbers. This will eliminate the practice of attaching additional pages of PMA supplements.

Often an existing supplement needs correcting for typographical errors or to update contacts. While each ACO or MIDO/CMO sets an appropriate method to correct or update the supplement, they must maintain original signatures from each office (ACO and MIDO) on all altered supplements in the event of a revision. Some offices issue a revised supplement with corrections. The revised supplement is sent to the PMA holder along with a request to return the original incorrect supplement. An applicant may send an amended supplement request and supporting data to expand installation eligibility; however, while this is an acceptable practice, it is preferred that the applicant generate a new supplement instead. The applicant will submit to the ACO an updated supplement in Microsoft Word table format with a note stating the specific ACO and/or MIDO/CMO action requested (for example, correction, revision, amendment, superseding, cancellation, or change of address).

4-16. Export Considerations. Many countries have additional requirements regarding their acceptance of PMA articles. In particular, the European Union member states require special statements on FAA Form 8130-3 regarding whether an article is critical or non-critical. For more information refer to FAA Order 8130.21.

Chapter 5. Technical Standard Order Authorization (Part 21, Subpart O)

Section 1. General Information

5-1. Applicability. Part 21, subpart O, is applicable to a person who desires to manufacture an article that meets a specific TSO. The TSO authorization system does not apply to articles produced under a PMA, TC, or PC. The TSO authorization is both an FAA design and production approval issued to an applicant who has demonstrated the capability to design and manufacture a specific TSO. The FAA does not separate the State of Design from the State of Manufacture.

5-2. Privileges. A TSO authorization holder has the privileges specified in subpart O and within the letter of TSO authorization. In addition, a TSO authorization holder is eligible to have a qualified employee(s) designated as a DMIR in accordance with the provisions of part 183. The TSO authorization holder may also be authorized by part 183 to apply for and obtain an ODA. FAA Orders 8000.95 and 8100.15 contain procedures for the administration of DMIRs and ODAs, respectively.

5-3. Advising the Applicant. The applicant will be advised that—

a. AC 21-43 sets forth an acceptable means of complying with part 21, subpart O. Alternative methods and procedures may be approved when the applicant can show that the proposed methods and procedures will achieve compliance with part 21, subpart O.

b. The applicant must establish a quality system in accordance with § 21.607 and provide a quality manual describing its quality system to the FAA in accordance with § 21.608. The manual must include descriptive material that adequately covers each applicable paragraph of § 21.137. The manual may vary in length depending upon the scale of the quality system, size of the manufacturing facilities, and complexity of the article. For further guidance, refer to AC 21-43.

c. A TSO authorization holder is a manufacturer who controls the design and quality of an article produced under the TSO system. The TSO authorization holder's control extends to all related articles, processes, or services, including all related articles, processes, or services procured from outside sources.

d. A TSO design approval can be obtained only for the applicable TSO that is in effect on the date of application for that article.

e. A TSO authorization does not imply installation eligibility on a type-certificated product.

f. TSO Authorization Holder's Responsibility.

(1) Organization. Section 21.605 requires a TSO authorization holder to provide to the FAA a document describing how its organization will ensure compliance to subpart O, and sets out the requirements for this document. The document must identify a single point of contact who is knowledgeable of, and accountable for, maintaining the organization's FAA-approved

operations. In addition, the document must describe the accountable manager's assigned responsibilities, delegated authorities, and the functional relationship of those responsible for quality. The TSO authorization holder must amend the document as necessary to reflect changes in the organization required by §§ 21.605 and 21.616(a).

(2) Reporting Failures, Malfunctions, and Defects. The TSO authorization holder must report any failure, malfunction, or defect in any article as required by § 21.3. The TSO authorization holder should be encouraged to establish a procedure for such reporting as a part of its quality system. This reporting requirement applies to failures, malfunctions, or defects that may result in or have resulted in one of the occurrences listed in § 21.3(c)

(3) Quality System. The TSO authorization holder must establish and describe in writing a quality system that complies with § 21.607. The TSO authorization holder is responsible for maintaining the quality system in conformity with the data and procedures approved for the TSO authorization and for determining that each article conforms to the TSO and any terms or conditions prescribed in the TSO letter of authorization. The TSO authorization holder must provide to the FAA a document describing how its organization will ensure compliance to § 21.607. This document must identify a single point of contact who is knowledgeable of, and accountable for, maintaining the organization's FAA-approved operations. In addition, the document must describe the accountable manager's assigned responsibilities, delegated authorities, and the functional relationship of those responsible for quality.

(4) Supplier Control. A supplier is a person at any tier of the supply chain who provides a product, article, or service that is used or consumed in the design or manufacture of, or installed on, a product or article. Section 21.137(c) requires procedures for ensuring each supplier-furnished product, article, or service conforms to the PAH's requirements. This section also requires the PAH to establish a supplier-reporting process for products, articles, or services that have been released from the supplier and subsequently found not to conform to the PAH's requirements.

(5) Issuing Authorized Release Documents for Articles. Section 21.137(o) requires procedures for issuing authorized release documents (using FAA Form 8130-3, Airworthiness Approval Tag) if the PAH intends to issue those documents. These procedures must provide for the selection, appointment, training, management, and removal of individuals authorized by the PAH to issue authorized release documents (refer to AC 21-43).

(a) Procedures established pursuant to § 21.137(o) should ensure that only qualified personnel issue authorized release documents. A PAH's evaluation of these individuals' qualifications should include an assessment of their knowledge, background, experience, and training. Qualifications should be commensurate with the complexity and type of product or article for which the PAH issues an authorized release document. These procedures should also include requirements for completing FAA Form 8130-3 that meet chapters 1, 2, and 4 of FAA Order 8130.21.

(b) These documents may be issued for new aircraft engines, propellers, and articles manufactured by the PAH, and for used aircraft engines, propellers, and articles rebuilt or altered

pursuant to § 43.3(j). When an authorized release document is used for export, § 21.137(o) requires a PAH to comply with the applicable § 21.335 requirements for the export of new and used aircraft engines, propellers, and articles. (Refer to FAA Order 8130.21 to ensure the PAH is in compliance with § 21.335.)

(6) Change to the Quality System. Each change to a quality system is subject to review by the FAA in accordance with § 21.620(a). A holder of a TSO authorization must notify the appropriate MIDO/CMO in writing prior to any changes that may affect the inspection, conformity, or airworthiness of the article. These changes would include, but are not limited to, the following:

(a) Resumption of production after being discontinued for an extended period of time for other than normal periods of time, such as vacation periods;

(b) Significant curtailment or resumption of production operations;

(c) Significant reduction or reassignment of quality system personnel; and

(d) Changes or revisions to quality system data and related procedures.

(7) Changes to Manufacturing Facilities. The TSO authorization holder must immediately notify the MIDO/CMO in writing of any changes to its manufacturing facilities that may affect the inspection, conformity, or airworthiness of its article in accordance with § 21.609(c). The TSO authorization holder must obtain FAA approval prior to making any changes to the location of its manufacturing facilities in accordance with § 21.609(b).

(a) A TSO authorization holder's manufacturing complex would normally consist of a principal facility and all associate facilities using the same quality system approved by the FAA, for the particular TSO article(s). Associate facilities are discussed in chapter 6 of this order.

(b) The TSO authorization is issued to the principal manufacturing facility that controls the design and quality of the article(s) for which the approval was granted. A postal address is not acceptable for a facility since the actual location must be identified. Such addresses, however, may be used as supplemental to the actual address when desired for such uses as corresponding to and from FAA offices.

(c) When a TSO authorization holder moves the principal manufacturing facility to a new location, the TSO authorization is no longer effective. In accordance with FAA Order 8150.1, *Technical Standard Order Procedures*, the responsible MIDO/CMO will evaluate the TSO holder's quality system to determine the TSO holder's ability to comply with § 21.607. If the MIDO/CMO finds no change to the TSO holder's ability to comply with § 21.607, the TSO holder may be eligible for the reissuance of its TSO authorization(s). The ACO must notify the TSO holder that no new articles may be shipped from its new facility until the TSO authorization has been reissued.

(d) When the TSO authorization holder seeks FAA approval to move an associate facility or add a new production facility, the FAA may, if deemed necessary, conduct a preliminary MIDO audit at the new production facility or moved facility. If a MIDO audit is deemed necessary, a satisfactory audit result must be obtained before the facility can be approved for production.

(8) Identification Marking. A TSO authorization holder is responsible for ensuring that only those articles that meet the applicable TSO performance standards are identified as required by § 45.15.

(a) Supplier Marking. Suppliers to TSO authorization holders can identify articles with TSO markings provided the TSO approval holder adequately controls those suppliers as part of its quality system. Suppliers that mark articles should be treated the same as any other supplier furnishing articles or services, using supplier control procedures as part of the quality system. MIDOs/CMOs may require that specific article marking controls be included in these procedures, along with any additional conditions that may be necessary for suppliers with direct-ship authorization.

(b) Detail Parts and Invoice Identification. When detail parts are produced for installation in a TSO article, individual detail parts of the TSO article sold separately must be accompanied by a shipping document containing the information required by § 45.15(d) and must identify the detail part as a subcomponent of a TSO article.

(c) Detail Parts and Design Data Identification. TSO article markings required by § 45.15 are applied to the top-level assembly for which the original TSO authorization was granted, not subassemblies or individual detail parts. It is not required that each individual subassembly or detail part within the TSO article be marked. The TSO marking requirements for detail parts, which are sold by the original TSO authorization holder for installation into its related TSO articles, may be found within the applicable design data for the TSO article. This provides traceability of the individual detail parts to their related TSO articles.

(9) Reidentifying Marking. Sections 21.616(d) and 21.616(e) do not prohibit a certificated person, authorized under § 43.3, from modifying or replacing the original TSO identification marking in accordance with the TSO authorization holder's instructions (for example, service letters, service bulletins, or airworthiness directives) resulting from an FAA-approved design change. The following guidance applies to the incorporation of design changes to TSO articles that have left the manufacturer's quality system that require reidentifying of the TSO articles.

(a) There are instances when the holder of a TSO authorization, or a letter of TSO design approval, changes a design and provides data so that these changes may be incorporated into articles in service, through alteration. Service bulletins, service letters, and airworthiness directives are common nomenclature for these types of data, but the data may be transmitted in any appropriate form. Regardless of whether the change is major or minor, as defined in § 21.619, it may be necessary and/or appropriate to reidentify the article.

(b) The reidentification procedure indicated in paragraph 5-3f(9) of this order must be part of the FAA-approved data for the entire alteration. The identification markings must comply with the requirements of § 21.616 and the applicable TSO. Some of the reidentification methods expected include the following: making additional marks; making new marks and obliterating the old; installing a new data plate or label provided by the TSO authorization holder; or a combination these methods. Consideration should be given to minimizing confusion as to the status of the article and maximizing traceability to the maintenance and alteration records.

(c) Design changes introduced by persons other than the TSO authorization holder are permissible under § 21.619(c). FAA Order 8150.1 addresses the identification/ marking requirements of TSO articles that are modified by persons other than the TSO manufacturer.

(10) Identification Marking of Replacement and Modification Articles Produced Pursuant to the Enhanced Enforcement Program (EEP) as Published in Federal Register Notice of February 27, 1995. Articles produced under the EEP that subsequently were issued TSO authorizations were not eligible at the time of production and are ineligible for marking in accordance with § 21.616(d). Although articles produced under the authority of the EEP are not eligible for article marking, these articles were considered acceptable for sale/installation under the provisions of § 21.8(d). Section 21.8(d) allows articles to be approved in any manner approved by the FAA. Articles produced under the authority of the EEP continue to be acceptable subsequent to the expiration of the EEP.

5-4. Reserved.

Section 2. Processing an Application for a TSO Authorization

5-5. Application.

a. A U.S. applicant (or an applicant's authorized agent) must submit an application for a TSO authorization by letter to the Manager of the ACO having geographical responsibility for the area in which the applicant's principal manufacturing facility is located. The applicant must submit, along with the application, those documents required by § 21.603, which include—

(1) A statement of conformance.

(2) A copy of the technical data.

(3) A manual describing the quality system in the detail specified in § 21.607.

b. A foreign manufacturer who desires to obtain a TSO letter of design approval (as provided for in § 21.621) must submit an application through its CAA to the ACO (or equivalent) that has cognizance over the geographical area in which the foreign manufacturer is located. A foreign manufacturer located in a member state of the European Union who desires to obtain a TSO letter of design approval must submit an application through the European Aviation Safety Agency to the Boston ACO.

5-6. Design Approval. The regulations and requirements concerning TSO design approval methods are contained in part 21, subpart O, and the applicable TSO. Policy covering TSO design approval methods is contained in FAA Order 8150.1.

5-7. Preliminary MIDO Audit. At the request of the ACO, the MIDO/CMO should make arrangements to conduct a MIDO audit, within the deadline established by the ACO. This audit will be conducted as follows:

a. Evaluate the applicant's quality manual for compliance with § 21.607. Additional guidance is provided in AC 21-43. The manual must include an acceptable test procedure to which each production article will be tested. Any inadequacies in the quality manual submitted must be identified to the applicant for corrective action. After the quality manual has been reviewed, and any applicable corrective actions taken, the MIDO/CMO will approve the quality manual submitted by the applicant. The approved quality manual may be retained in the MIDO/CMO files.

b. Evaluate the applicant's production facilities in accordance with the pertinent 14 CFR, the FAA-approved design data, and the quality manual approved in paragraph 5-7a of this order. The cognizant MIDO/CMO manager will select either an individual or a team to conduct this audit. The team may consist of the cognizant PI and at least one other manufacturing inspector or the MIDO/CMO manager. It is also recommended that an engineer be selected for the team when deemed necessary by the type and complexity of processes and procedures being used at the facility. The standardized evaluation criteria may be used as an aid to evaluate compliance, as discussed in FAA Order 8120.23. Team members should be advised, however, that some of the evaluation criteria contained therein may not be related to 14 CFR, and therefore may only be evaluated as a best practice. This audit is not considered to be a QSA. Record all noncompliances on FAA Form(s) 8100-6 and 8120-14.

c. Reporting. The MIDO/CMO will advise the ACO concerning the results of the MIDO audit. Any unresolved items requiring corrective action should be identified and copies of letters to the applicant requesting corrective action will be provided.

5-8. Reserved.

Section 3. Issuance of a TSO Authorization or Letter of TSO Design Approval

5-9. TSO Letter of Authorization. Upon a showing of compliance with part 21, subpart O, the cognizant ACO will issue a letter in accordance with established procedures. Electronic signature is not permitted. This letter should be amended, as appropriate, to reflect subsequent additions to a manufacturer's original TSO authorization, after appropriate coordination between the ACO and MIDO/CMO in determining the need for a MIDO audit (refer to FAA Order 8150.1).

5-10. Letter of TSO Design Approval. The cognizant ACO may issue a letter of TSO design approval for an import article to a foreign manufacturer located in a country with which the United States has an agreement that provides for the reciprocal acceptance of articles, provided the following criteria are met (refer to FAA Order 8150.1).

a. The CAA of the country in which the article will be manufactured certifies to the FAA that the design of the particular article meets the pertinent design requirements of the specific TSO.

b. The CAA is advised that each article produced under the provisions of the TSO design approval and exported to the United States must be accompanied by a certificate of airworthiness for export as specified in § 21.502.

5-11. Transferability.

a. A TSO authorization is not transferable. However, a TSO authorization holder undergoing a name change is not considered a transfer. A sale of ownership resulting in a change in the legal status of the TSO authorization holder or the sale of TSO design rights is considered a transfer and will require the new owners to submit an application for exemption to retain the TSO authorization.

b. In the event that a TSO authorization holder is acquired by another company, with no resulting change in the legal status of the TSO authorization holder, the acquiring company will not be required to apply for a new TSO authorization. However, the TSO authorization holder must—

(1) Retain possession of the production approval,

(2) Retain the same quality system, and

(3) Continue to operate at the same location with the same core management officials.

c. The PI should conduct an on-site visit to ensure that the TSO authorization holder has complied with the requirements in paragraph 5-11b of this order. In addition, the acquiring company should provide a letter to the MIDO/CMO indicating its status as the new owner of the TSO authorization holder and any future plans affecting the status of the TSO authorization holder. The PI should update the project files to include documentation indicating the acquisition.

d. In the event the status of the TSO authorization changes (for example, the TSO authorization holder is disbanded or absorbed into the acquiring company) or the TSO authorization holder transfers or relinquishes its production approval, the ACO will ensure that a new application for TSO authorization is submitted for processing by the FAA.

5-12. Processes TSO Authorization/LODA Transfers. Transfers may not be made by the TSO authorization holder, but can be requested and approved by the FAA. All requests for transfers must be submitted to the holder's geographic ACO and include the appropriate justification. Refer to Order 8150.1 for additional information.

5-13. Initial Risk-Based Resource Targeting Assessment. Subsequent to the issuance of the TSO authorization, the MIDO/CMO will conduct an RBRT assessment of the TSO authorization holder. The results will determine the initial basis for conducting ongoing CM responsibilities, as summarized in that order.

Chapter 6. Extension of a Production Approval (Domestic Only)

Section 1. General Information

6-1. Applicability. The procedures in this chapter are applicable to a PAH who desires to extend its production approval to another facility, referred to herein as an associate facility.

6-2. Privileges. An associate facility has the same privileges as the original PAH, unless the original PAH or the FAA withholds specific privileges. If authorized by the original PAH, the associate facility can request from its MIDO/CMO the appointment of DMIRs. In addition, if authorized by the original PAH, the associate facility may apply for and obtain an ODA. FAA Orders 8000.95 and 8100.15 contain procedures for the administration of DMIRs and ODAs, respectively.

6-3. Advising the Original PAH and the Associate Facility.

a. A PAH can request the FAA to extend its production approval to an associate facility. To be approved, the associate facility must—

(1) Be located within the United States,

(2) Be owned and controlled by the original PAH that controls the design and quality of the product or article(s), except for companies participating in joint-production and/or co-production business agreements,

(3) Use a quality system that has been approved by the original PAH, and

(4) For a PMA or TSO authorization holder, produce the same article and to the same extent as the original PAH.

b. When the associate facility produces the complete product or article(s) and meets 14 CFR eligibility requirements for the type of production approval, it should be encouraged to obtain a separate production approval. The PAH would benefit from a separate approval because the FAA offices would not need to coordinate production approval extensions.

c. All FAA correspondence intended for the original PAH will be from or routed through the MIDO/CMO that has CM of the original PAH.

d. Original PAH's Responsibilities.

(1) The original PAH must implement its quality system at the associate facility or approve the quality system used by the associate facility.

(2) If the original PAH retains the approval or acceptance of changes, the associate facility should be required to submit all proposed changes to the originally approved quality manual to the PAH for acceptance or approval. The FAA must be immediately notified of all changes that may affect the inspection, conformity, or airworthiness of its product or articles.

e. Associate Facility's Responsibilities.

(1) The associate facility will communicate with the MIDO/CMO having geographical responsibility of the area in which the associate facility is located.

(2) The associate facility will comply with the quality system of the original PAH or the quality system approved by the original PAH.

(3) If the approval of changes to the quality manual is retained by the original PAH, the associate facility will submit proposed changes to the original PAH for approval.

(4) If the approval of changes to the quality system data is delegated to the associate facility, the associate facility should submit changes to its geographic MIDO/CMO.

(5) The quality manual should identify an accountable manager for the associate facility.

6-4. Reserved.

Section 2. Processing a Request for Extension of a Production Approval

6-5. Request for Extension of a Production Approval. The original PAH can request an extension of its production approval to an associate facility. The extension application will be submitted to the original PAH's MIDO/CMO. The request must contain the following information:

a. The location of the associate facility.

b. The type and extent of activities to be performed at the associate facility.

c. Any special conditions of the request, such as the delegation or withholding of delegation of MRB authority or designee privileges.

d. A point of contact at the associate facility.

6-6. Evaluating the Request. The MIDO/CMO of the original PAH will evaluate the request for extension and determine if—

a. The location of the associate facility is adequately described.

b. The PAH's quality system is adequate to control the design and quality of the products and articles produced at the associate facility, or the original PAH has reviewed and approved the associate facility's quality system.

c. The request states explicitly the type and extent of production to be accomplished at the associate facility.

d. Any special conditions of the extension apply (for example, delegation or nondelegations of MRB authority).

6-7. Coordination with the Geographic MIDO. Following the evaluation of the request from the original PAH, the MIDO/CMO will contact the MIDO having geographical responsibility of the area in which the associate facility is located. The MIDO/CMO will—

a. Submit a hand-off memorandum to the geographic MIDO informing it of the request, a copy of the extension request, and the evaluation results. Refer to figure 6-1 for a sample memorandum.

b. Request the geographic MIDO to perform a MIDO audit.

c. At a minimum, arrange for the following to be addressed:

(1) Reporting of MIDO audit findings.

(2) Reviewing changes to quality manual.

(3) Compliance and enforcement actions.

(4) Submittal of correspondence.

6-8. Reserved.

Figure 6-1. Sample Hand-Off Memo for Requesting a MIDO Audit and CM

Federal Aviation Administration

Memorandum

Date: December 18, 2007

To: Manager, Fort Worth Manufacturing Inspection District Office, SW-MIDO-42

From: Duke E. Season, Manager, Cleveland Manufacturing Inspection District Office, CE47

Prepared by: Amanda Dickens

Subject: **ACTION:** Request for MIDO Audit and Certificate Management at ABC Company

This office has received a letter from Airplane Aircraft Company, dated December 6, 2007 (attached), requesting an extension of its production approval to the ABC Company.

In accordance with FAA Order 8120.22, paragraph 6-6, we have evaluated Airplane Aircraft Company's request for extension and concur with its request. Since ABC Company is located in your geographic area, we are requesting your office conduct a MIDO audit at ABC Company, utilizing the following information:

Facility Name/Address:
ABC Company
2500 West Canyon Road
Fort Worth, TX, USA 91355

Point of Contact for ABC Company:
Mr. Jim Blender, Director of Quality Assurance
Phone: (817) 555-1222

Point of Contact for Airplane Aircraft Company:
Mr. Scott Clemons, Airplane Aircraft QA Director
Phone: (216) 333-1212

Quality System. Procedures Applicable to this Associate Facility:
Airplane Aircraft Company's Quality Manual, Revision C

Figure 6-1. Sample Hand-Off Memo for Requesting a MIDO Audit and CM (Continued)

Part Name and/or Part Number: Flight Deck LRU's, Warning Electronics, Cabin Entertainment LRU's Black Box Avionics

MRB Delegation/Authorization: Yes

Design Approval and/or Change Authorization: Yes

DER Authorization: Yes

Direct-ship Authorization: Yes

DMIR Authorization: Yes

We request the following activities be conducted by your office:

Pre-Approval

A. MIDO Audit
- ☒ Respond to Requesting MIDO/CMO Acknowledging Receipt of Request
- ☒ Review and Evaluate the Capability of Associate Facility Utilizing QSA Criteria
- ☒ Verify Supplier Approval Process
- ☒ Review and Report Any Compliance and Enforcement Actions
- ☒ Record and Report the Results of the MIDO Audit to the Requesting MIDO/CMO

Post-Approval

A. Certificate Management
- ☒ Establish Project Number
- ☒ Special Evaluation when requested
- ☒ RBRT Assessment
- ☒ Corrective Action Follow-Up
- ☐ QSAs
- ☒ PI Evaluation (Including Any Quality Processes and Special Manufacturing Processes to Approved PAH Requirements)
- ☒ Review and Evaluate Changes to Quality Manual
- ☒ Product Audits
- ☐ Supplier Control Audits

B. Designee Management (FAA Order 8000.95)
- ☐ Monitor Activity
- ☐ Perform Annual Review
- ☐ Maintain Designee File
- ☐ Conduct Supervision and Record Results in the Designee Management System (DMS)
- ☐ Delegate DMIR(s) to Perform Authorized Functions

C. ☐ Other/Remarks

Figure 6-1. Sample Hand-Off Memo for Requesting a MIDO Audit and CM (Continued)

Document Certificate Management Activity in ACAIS

After your satisfactory completion of the MIDO audit, this office will notify Airplane Aircraft Company that its request to add ABC Company as an associate facility has been approved. In addition, we will amend or have its production approval(s) (that is, PC, PMA, or TSO authorization) amended to reflect the addition of this associate facility. A copy will be forwarded to your office.

After the extension is granted and you receive a copy of the amended production approval, we request that your office conduct certificate management activities in accordance with FAA Order 8120.23. Please coordinate your certificate management visits with this office, so that we can provide you with applicable information/data needed for corrective action follow-up, special evaluations, etc. We would also like to have copies of all noncompliances, service difficulties, concerns, or items of interest identified during the conduct of certificate management activities.

Attachment
Letter from Airplane Aircraft Company

Section 3. Approval of the Request for Extension of a Production Approval

6-9. Approval of the Request. After satisfactory completion of the MIDO audit and any applicable corrective actions taken, the MIDO/CMO will approve the request. The MIDO/CMO will ensure the original PAH provides the MIDO of the associate facility with a copy of the quality system data to be used if not available at the associate facility. The MIDO/CMO will issue to the original PAH an amended PC, or an amended PMA approval letter. For a TSO authorization holder, the MIDO/CMO will request that the ACO issue a revised TSO authorization letter. The amended production approval authorization letter will list the associate facility as a manufacturing location. A copy of the amended production approval authorization letter will be sent to the MIDO of the associate facility.

6-10. Geographic MIDO/CMO Responsibility After Approval of the Request for Extension. The geographic MIDO/CMO will perform CM at the associate facility.

6-11. Nontraditional Associate Facilities. Some PAH extensions do not fit within the traditional concept of an associate facility. For example, a corporation holding many production approvals in different locations throughout the United States may decide to consolidate its approvals and manage them from one location. These former PAHs may then be converted to associate facilities. In such cases, the FAA managing MIDO/CMO of the PAH must coordinate a proposal for the nontraditional associate facility activity with both cognizant MIO managers and AIR-100. The MIO managers, cognizant directorate managers, and AIR-100 must concur with the proposal before proceeding with the nontraditional associate facility activity. The proposal must include a memorandum of understanding (MOU) between the affected MIOs to address the following issues:

a. Rationale for use of a nontraditional CM plan,

b. CM roles and responsibilities,

c. Handoff requirements,

d. Control and maintenance of records,

e. Transition activities,

f. Use of additional CM tools, and

g. Any other applicable issues.

Chapter 7. Non-U.S. Manufacturing Facilities—Determination of Undue Burden and No Undue Burden

7-1. Undue Burden and No Undue Burden. The FAA does not issue TCs or production approvals if the manufacturing facilities are located outside the United States, unless the FAA finds the location of the manufacturer's facilities places no undue burden on the FAA.

a. For the FAA to ensure resources will be available to perform regulatory oversight of associate facilities and suppliers outside the United States, a determination of no undue burden will be made as early in the certification process as possible. Therefore, the certification project plan must include a list of proposed associate facilities and suppliers, including any known subtier suppliers of critical parts, processes, or materials, located outside the United States.

b. When an initial production approval application involving non-U.S. manufacturing facilities is reviewed by the FAA, an "undue burden or no undue burden" determination must be made. The FAA is required to prepare a decision paper in accordance with FAA Order 8100.11C, *Decision Paper Requirements for Undue Burden and No Undue Burden Determinations Under 14 CFR Part 21 for Production and Export Airworthiness*.

c. If a new or existing PAH proposes to use non-U.S. suppliers, the criteria for supplier selection must be applied to determine whether the supplier would likely be selected for a supplier control audit. If the supplier would not be selected, there is no burden. If the supplier could be selected, the FAA is required to prepare a decision paper in accordance with FAA Order 8100.11.

d. Any subsequent changes to an approval holder's manufacturing programs involving non-U.S. facilities will cause the initial undue burden or no undue burden decision to be reevaluated by the FAA.

e. FAA Order 8100.11 provides general instructions on what to consider during decision paper development. It also contains the general content requirements of decision papers that include a specific list of required decision paper elements.

7-2. Reserved.

Chapter 8. Work Performed on New Products or Articles After Leaving a U.S. PAH/Supplier's Quality System

8-1. New Products or Articles Remaining Within Part 21. New products or articles that have left the control of a U.S. PAH or their approved supplier's quality system and are acquired by another PAH must have subsequent work performed in accordance with the part 21 quality system.

a. The three options for new products or articles are as follows:

(1) The product or article may be returned to original PAH and processed.

(2) The work may be performed by the original PAH personnel at the location of the receiving PAH.

(3) The work may be performed by the receiving PAH.

b. Conditions for accomplishing work under part 21 by the receiving PAH are as follows:

(1) The receiving PAH must have the appropriate design data, approved procedures, and processes to determine conformity of the product or article, as well as qualified and authorized personnel to work on the product or article.

(2) The PAH has a defined process for accomplishing and documenting any work performed in order to ensure that the product or article continues to conform to the design data.

8-2. New Products or Articles No Longer Within Part 21. New products or articles that have left the U.S. PAH or their approved supplier's quality system and are received by an airline, repair station, distributor, etc., are (1) completed aircraft with an airworthiness certificate, or (2) spare, replacement, or modification articles or products intended for installation on a higher level product or article that has already met the applicability requirements of part 43. Therefore, the receiving airline, repair station, or distributor is responsible for ensuring that any maintenance, preventive maintenance, rebuilding, altering, etc., on such products or articles will be performed by persons authorized under part 43.

Appendix A. Evaluation of a PAH's Quality System

1. Purpose. This appendix, in conjunction with the applicable 14 CFR requirements, provides guidance to review all data submitted by a PAH that describe the quality system required for the applicable production approval. These data will include a quality manual describing the PAH's quality system in accordance with § 21.137. Any inadequacies in the data submitted must be identified to the PAH for corrective action. After the data have been reviewed, and any applicable corrective actions taken, the MIDO/CMO will approve the data, as applicable.

2. Data Review. All quality system data submitted to the cognizant MIDO/CMO must be reviewed to ensure that—

a. The described quality system will adequately provide for the consistent acceptance of only those products or articles which are in conformity with the approved design data and in a condition for safe operation.

b. The quality system is adequately described, meets the intent of the pertinent rules, and can be realistically implemented. Be cautious of data that are overly descriptive, since such data may often be difficult to implement.

c. The data are identified by title, revision, and date, and contain the signature of the appropriately authorized person in the PAH's organization.

d. The data are well organized, unambiguous, and not subject to misinterpretation.

e. Inspection procedures are well organized and easy to understand and implement.

f. The quality system adequately defines when a product or article has officially left the control of the quality system.

g. The quality system adequately describes the process of re-introducing, back into the quality system, new products or articles that have left a PAH's quality system. The process must ensure the following criteria are met:

(1) The products or articles are traceable to the PAH that manufactured them.

(2) The products or articles meet the type design and are in a condition for safe operation.

> **Note:** Depending on their complexity, a visual inspection may be adequate for determining that the products or articles meet their type design. When a determination cannot be made by a visual inspection, the products or articles must be re-introduced to the quality system at a point where functional testing is possible.

h. New products and articles that leave the control of a PAH and fail on initial installation and/or testing are considered to be nonconforming. Those nonconforming products and articles that are returned to the PAH must be processed utilizing the PAH's quality system.

i. Statistical sampling plans are clearly documented. The aviation safety inspector (ASI) must ensure that sampling plans based on valid consensus standards do in fact comply with those standards (for example, MIL-HDBK-683, Statistical Process Control (SPC) Implementation and Evaluation Aid; MIL-HDBK-1916, Companion Document to MIL-STD-1916; "Zero Acceptance Number Sampling Plans," by Nicholas Squeglia, ASQ Quality Press). Sampling plans that are not based on valid consensus standards should be closely examined to determine their statistical validity (Juran & Gryna, *Quality Control Handbook*, may be used as an aid in determining this validity). Regardless of the basis of the sampling plans used, the PAH is responsible for ensuring that all products or articles conform to the approved design data. Therefore, the ASI should ensure that the acceptance/rejection criteria will not allow for acceptance of nonconforming product or articles. If specific experience or expertise is required to review sampling plans, the PI should advise the MIDO/CMO manager. Additional information is available from AC 21-43, paragraph 2-7. The following should be considered when reviewing sampling plans:

(1) Controlled process. Prior to implementing a sampling plan, objective evidence must exist that demonstrates and ensures that the process(es) used to manufacture sampled characteristics are documented, controlled, repeatable, and consistent.

(2) Characteristics classified. Each characteristic that will be part of the sample plan must be identified, evaluated, and properly classified. Characteristics are classified based upon the effect they may have on safety or usability of the product or article.

(3) Proper and reasonable sample sizes. Specific sample sizes should be chosen based upon the lot/batch size, the characteristic classification and criticality, the design tolerances being measured, and the probability of accepting nonconforming products or articles.

(4) Unbiased sample selection. The plan should fully describe how samples are selected. The sample method must be unbiased; that is, the sample selection method does not unfairly weight a particular timeframe, production sequence, tooling configuration, operator(s), batch, etc. To ensure an unbiased representative sample, the lot, batch, or group should be homogeneous (that is, consisting of the same characteristics, type, grade, class, composition, and manufactured under the same data and conditions, and manufactured at approximately the same time).

(5) Samples controlled. When sampling is used, the results of the selected sample apply to the entire lot, batch, or grouping. The lot, batch, or group should be clearly identified and segregated throughout the entire sampling, inspection, and possible disposition process. In the event that any characteristics are found to be nonconforming in the sample, the entire lot, batch, or grouping must be withheld pending additional analysis, ensuring that there are no other nonconforming articles. Should this analysis indicate the possible existence of additional nonconforming articles, the entire lot, batch or grouping must be dispositioned in accordance with the PAH's approved material review procedures. In all cases, the PAH is responsible for ensuring that all products and articles conform to the approved design data.

3. Data Approval/Acceptance Standards for a PC, PMA, or TSO Authorization Holder. The cognizant MIDO/CMO will determine the adequacy of the data reviewed in accordance with paragraph 2 of this appendix. Any inadequacies in the data submitted must be identified to the PAH for corrective action. After the data have been reviewed, and any applicable corrective actions taken, the MIDO/CMO will prepare a letter approving the PAH's quality system data and forward it to the PAH. The cognizant MIDO/CMO also should send a copy of the approval letter to the cognizant ACO. These data, 14 CFR, and the FAA-approved design data comprise the standards with which the PAH must show continued compliance.

4. Supplier Control. A PAH should establish procedures allowing it to accept products, articles, or services from its suppliers that do not meet the approved design, yet conform to the PAH's requirements. Section 21.137(c) requires a PAH to—

a. Ensure each supplier-provided product, article, or service conforms to the PAH's requirements; and

b. Establish a supplier-reporting process for products, articles, or services that have been released from the supplier and subsequently found not to conform to the PAH's requirements.

Appendix B. Adding Interface Components to the PLR

1. Purpose. This appendix provides guidance regarding the geographic ACO's responsibilities to designate an article as an interface component (IC). Before October 1, 2015 amendment, 14 CFR part 21 authorized an amendment to a PC holder's PLR only when the PC holder needed to add a type-certificated product or article. Today, pursuant to § 21.147, a PC holder may also apply to amend its PLR to permit the manufacture and installation of ICs. ACOs are instructed to support the PLR amendment process to add ICs through the verification and documentation of articles identified by the TC or STC holder.

2. Process. A PC holder seeking to add an IC or ICs to its PLR should submit a request to its MIDO/CMO. The MIDO/CMO will coordinate with the ACO to confirm that the articles are eligible to be identified as ICs, and evaluates whether the PAH has the capability to manufacture and install the ICs. If the MIDO/CMO determines that the PAH is capable, the MIDO/CMO will add the article to the PLR. The MIDO/CMO then informs the PC holder of its determination.

3. Designation Request. A geographic ACO for a TC or STC holder seeking to designate an article as an IC should obtain the following:

a. A list of the articles the TC/STC holder seeks to designate as ICs,

b. A list of the approved type design data for the articles, including but not limited to the drawings and specifications, and

c. Documentation describing the functional interface between the aircraft and the aircraft engine, the aircraft engine and the propeller, or the aircraft and the propeller.

4. ACO Responsibilities. Upon review of the information, the ACO should perform the following actions:

a. Verify the interface functionality. Section 21.1 defines an IC as an article that is, among other things, designated by the TC or STC holder that controls the approved design data for that article. However, the ACO responsible for oversight of the design approval holder should concur with the designation. The ACO should also coordinate its interpretation with the product directorate to encourage standardization.

b. If an applicant proposes to produce ICs under a licensing agreement, verify that any listed type design data is sufficiently complete to allow manufacture or installation. Note that type design data is already approved. Further, the MIDO/CMO overseeing the PAH that will add the ICs to the PLR performs analysis to determine if the PAH is capable of manufacturing and installing ICs. The ACO is therefore not expected to conduct a technical evaluation of the data. However, any changes to the approved type design that are proposed to facilitate manufacture of the ICs must be substantiated and approved by the FAA as required by part 21, subpart D.

c. Provide documentation to the TC or STC holder acknowledging the articles and type design data identified as ICs. The documentation should include the signature of the ACO manager or appropriately delegated manager.

Appendix C. Acronyms

14 CFR	Title 14 of the Code of Federal Regulations
AC	Advisory Circular
ACAIS	Aircraft Certification Audit Information System
ACO	Aircraft Certification Office
ASI	Aviation Safety Inspector
CAA	Civil Aviation Authority
CM	Certificate Management
CMO	Certificate Management Office
DMIR	Designated Manufacturing Inspection Representative
EEP	Enhanced Enforcement Program
FAA	Federal Aviation Administration
IC	Interface Component
LODA	Letter of Design Approval
MIDO	Manufacturing Inspection District Office
MIO	Manufacturing Inspection Office
MOU	Memorandum of Understanding
MRB	Material Review Board
OAC	Original Airworthiness Certificate
ODA	Organization Designation Authorization
PAH	Production Approval Holder
PC	Production Certificate
PCB	Production Certification Board
PI	Principal Inspector
PLR	Production Limitation Record
PMA	Parts Manufacturer Approval
QSA	Quality System Audit
RBRT	Risk-Based Resource Targeting
SDR	Service Difficulty Report
STC	Supplemental Type Certificate
SUP	Suspected Unapproved Part
TC	Type Certificate
TCDS	Type Certificate Data Sheet
TSO	Technical Standard Order

Appendix D. Definitions

For the purpose of this order, the following definitions apply:

a. Accountable Manager. A representative of the applicant, or the holder of a production approval, who serves as the primary contact with the FAA. The accountable manager is responsible for, and has the authority over, all production operations that are conducted pursuant to 14 CFR part 21.

b. Airworthiness Approval. A document issued by the FAA or an FAA designee for an aircraft, aircraft engine, propeller, or article that certifies the aircraft, aircraft engine, propeller, or article conforms to its approved design, unless otherwise specified, and is in a condition for safe operation.

c. Approved. Unless used with reference to another person, means approved by the FAA or any person to whom the FAA has delegated its authority in the matter concerned, or approved under the provisions of a bilateral agreement between the United States and a foreign country or jurisdiction.

d. Article. A material, part, component, process, or appliance. Articles may include sealants, modified standard parts, brake assemblies, etc.

e. Associate Facility. A facility that has been approved as an extension to an original PAH. This facility is owned and operated by the same corporate management as the original PAH that controls the design and quality of the product or article(s), except for companies participating in joint-production and/or co-production business agreements. The associate facility must be listed as a manufacturing facility on the PC or the letter of authorization for other production approvals, for example, PMA or TSO authorization.

f. Authorized Release Document. A certifying statement by a PAH that a given aircraft engine, propeller, or article (1) conforms to its approved design data or properly altered condition, and (2) is in a condition for safe operation at the time of examination and release of the document.

g. Audit. A systematic and independent examination to determine compliance of an established supplier system, inspected product or article(s), or processes with purchase order requirements, technical data, or specifications.

h. Certificate. A document (that is, a certificate or approval) issued by the FAA that recognizes an applicant's or PAH's established quality system and allows for the production of products or articles in accordance with an FAA-approved design.

i. Certificate Management. The method by which the FAA ensures that a PAH remains in compliance with those pertinent regulations that govern the manufacturing of its particular products or articles.

j. Commercial Part. A part not specifically designed or produced for applications on the aircraft. For the purpose of 14 CFR part 21, a design approval holder may designate an article as a "commercial part" if the FAA finds the part—

(1) Is not specifically designed or produced for applications on aircraft, and

(2) Is produced only under the commercial part manufacturer's specification and marked only with the commercial part manufacturer's markings.

k. Corrective Action. The measures taken to resolve unsatisfactory conditions and to prevent reoccurrence.

l. Days. A reference to calendar days, unless otherwise specified.

m. Distributor. Any person engaged in the sale or transfer of products and articles for installation in type-certificated aircraft, aircraft engines, or propellers, and that conducts no manufacturing activities.

n. Foreign Manufacturer. A person other than an FAA PAH who causes a product or article(s) to be produced outside the United States.

o. Interface Component. An article that serves as a functional interface between an aircraft and an aircraft engine, an aircraft engine and a propeller, or an aircraft and a propeller. An IC is designated by the TC or STC holder who controls the approved design data for that article. Examples of ICs include articles such as engine mounts; various electrical, hydraulic, and drain brackets; and environmental control system and anti-ice ducts, with associated hardware.

p. Internal Procedure. A PAH's or associate facility's procedures that are not included as part of the FAA-approved data.

q. Licensing Agreement. A commercial agreement between a TC or STC holder and a PAH (or applicant) formalizing the rights and duties of both partners to use the design data for the purpose of manufacturing the product or article.

r. Manufacturer. A person, as defined by 14 CFR part 1, who causes a product or article(s) to be produced. A manufacturer may be a PAH or a supplier to a PAH.

s. Noncompliance. A PAH's or associate facility's operating practice that is found to be inconsistent with 14 CFR, FAA-approved data, or internal procedures. A supplier's operating practice found to be inconsistent with a PAH's or associate facility's purchase order requirements is considered to be a noncompliance by the PAH or associate facility.

t. Ongoing Certificate Management. The performance of CM requirements based on an RBRT assessment that may be accomplished on a continuing basis.

u. Principal Inspector. A manufacturing inspector who has been assigned CM responsibility of a particular PAH or associate facility.

v. Produce. To manufacture, or cause to be manufactured, a product or article(s).

w. Product. An aircraft, aircraft engine, or propeller.

x. Production Approval. A document issued by the FAA to a person that allows the production of a product or article in accordance with its approved design and approved quality system, and can take the form of a PC, a PMA, or a TSO authorization.

y. Production Approval Holder. The holder of a PC, PMA, or TSO authorization who controls the design and quality of a product or article(s). A person who has been issued a production approval by the FAA.

z. Production Certification Board. An FAA evaluation function consisting of a selected group of FAA specialists acting under the direction of the PCB chairperson for the purpose of determining eligibility of the holder of a TC or a STC, or a licensee, for the issuance of a PC.

aa. Quality System. A documented organizational structure containing responsibilities, procedures, processes, and resources that implement a management function to determine and enforce quality principles.

bb. Quality System Data. Data that provide a description of the quality system required by part 21 for a PAH. These data would encompass the methods, procedures, processes, inspections, tests, specifications, charts, lists, forms, etc., which the PAH employs to produce products or articles.

cc. Risk-Based Resource Targeting. A structured process designed to support AIR management in determining risk, assigning resources based on that risk, and prioritizing multiple projects.

dd. Specialist. As related to the facility audit function of PCBs, FAA manufacturing inspectors/supervisors or flight test, structures, systems, and/or equipment engineering personnel.

ee. Supplier. Any person, as defined by 14 CFR part 1, that provides a product, article, or service, at any tier in the supply chain, that is used or consumed in the design or manufacture of, or installed on, a product or article.

Appendix E. Forms Listing

1. Purpose. This appendix lists the forms referenced in this order and their sources. The forms listed in figure E-1 are available from the FAA Logistics Center, AML-1000, through normal supply channels. The forms listed in figure E-2 are available in an electronic format within ACAIS.

Figure E-1. Forms Available from FAA Logistics Center

Form Number	Title	NSN	Unit of Issue
FAA Form 8100-1	Conformity Inspection Record	0052-00-039-3001	Package
FAA Form 8110-12	Application for Type Certificate, Production Certificate, or Supplemental Type Certificate	0052-00-025-0001	Sheet
FAA Form 8120-3	Production Limitation Record	0052-00-025-7001	Sheet
FAA Form 8120-4	Production Certificate	0052-00-025-6001	Package
FAA Form 8130-3	Airworthiness Approval Tag	0052-00-012-9005	Pad
FAA Form 8130-9	Statement of Conformity	0052-00-847-2000	Sheet

Figure E-2. Forms Available Within ACAIS

Form Number	Title
FAA Form 8100-1	Conformity Inspection Record
FAA Form 8100-6	Noncompliance Record
FAA Form 8120-3	Production Limitation Record
FAA Form 8120-4	Production Certificate
FAA Form 8120-14	Production Approval/Certificate Management Activity Report

Appendix F. Administrative Information

1. Distribution. This order is distributed to Washington Headquarters division levels of the Flight Standards Service, to the branch levels of the Aircraft Certification Service, to the branch levels in the regional Flight Standards Divisions and Aircraft Certification Directorates, to all Flight Standards District Offices, to all Aircraft Certification Offices, to all Aircraft Certification field offices, to all Manufacturing Inspection District and Satellite Offices, to the Aircraft Certification and Airworthiness Branches at the Federal Aviation Administration Academy, and to the Flight Standards Service Regulatory Support Division.

2. Delegation of Authority. AIR-100 is responsible for issuing, revising, or canceling the material in this order.

3. Forms. This order identifies several forms used for the evaluation, approval, and CM of production activities. Some of the forms are provided by AIR-100 in electronic format. Appendix D to this order provides a listing of the forms and their sources.

4. Deviations. Adherence to the procedures in this order is necessary for uniform administration of this directive material. Any deviations from this guidance material must be coordinated and approved by AIR-100. If a deviation becomes necessary, the FAA employee involved should ensure the deviations are substantiated, documented, and concurred with by the appropriate supervisor. The deviation must be submitted to AIR-100 for review and approval. The limits of federal protection for FAA employees are defined by Title 28 U.S.C. 2679.

5. Related Publications. Orders referenced in this directive list only the basic order number. It is the responsibility of the user to establish that the latest revision/amendments are being used.

6. Requests for Information. All public requests for information regarding production approval or CM activities will be processed in accordance with the Freedom of Information Act. Refer to FAA Order 1270.1, *Freedom of Information Act Program*.

7. Electronic Signature. The use of an electronic signature for the issuance of a PC and a production limitation record, or a production approval letter (that is, PMA, or TSO authorization) is not permitted.

8. Suggestions for Improvement. Please forward all comments on deficiencies, clarifications, or improvements regarding this order to:

Aircraft Certification Service
Planning and Program Management Division, AIR-500
ATTN: Directives Management Officer
800 Independence Avenue, SW
Washington, DC 20591

FAA Form 1320-19, Directive Feedback Information, is located as appendix F to this order for your convenience. If you require an immediate interpretation, please contact AIR-100 at (202) 267-1575; however, you should also complete FAA Form 1320-19 as a follow-up to the conversation.

9. Records Management. Refer to FAA Order 0000.1, *FAA Standard Subject Classification System*; FAA Order 1350.14, *Records Management*; or your office Records Management Officer (RMO)/Directives Management Officer (DMO) for guidance regarding retention or disposition of records.

Appendix G. FAA Form 1320-19, Directive Feedback Information

U.S. Department of Transportation
Federal Aviation Administration

Directive Feedback Information

Please submit any written comments or recommendations for improving this directive, or suggest new items or subjects to be added to it. Also, if you find an error, please tell us about it.

Subject: FAA Order 8120.22A

To: Administrative Services Branch, AIR-510

(Please check all appropriate line items)

☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.

☐ Recommend paragraph _____ on page _____ be changed as follows:
(attach separate sheet if necessary)

☐ In a future change to this directive, please include coverage on the following subject *(briefly describe what you want added):*

☐ Other comments:

☐ I would like to discuss the above. Please contact me.

Submitted by: _____ Date: _____

FTS Telephone Number: _____ Routing Symbol: _____

FAA Form 1320-19 (10-98)