

U. S. DEPARTMENT OF COMMERCE

Henry A. Wallace, *Secretary*

CIVIL AERONAUTICS ADMINISTRATION

T. P. Wright, *Administrator*

Civil Aeronautics Manual 02
PRODUCTION CERTIFICATES



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PRODUCTION CERTIFICATES

02.00 Definition. The term "product" as used in this Part shall mean:

- a. An aircraft,
- b. An aircraft engine,
- c. A propeller, or
- d. Any appliance specified in the Civil Air Regulations as eligible for a type or production certificate.

02.2 PRODUCTION CERTIFICATES

A production certificate is a document issued by the Administrator to a manufacturer certifying that certain manufacturing facilities in a particular location have been inspected by a representative of the Administrator and are considered adequate for the production of duplicates of the product for which a type certificate has been issued.

02.20 Application. The application for a production certificate shall be made upon a form prescribed and furnished by the Administrator and shall specify only a product for which a type certificate has been issued. The application shall be accompanied by a report which will include at least the following:

- a. A description of the manufacturing lay-out and production flow,
- b. A listing and description of any special processes required by the design of the product to be manufactured,
- c. A description of the established quality control organization, its functions and responsibilities, and
- d. If the application is for the manufacture of an aircraft, a description of the flight test procedure established by the manufacturer for the testing of production aircraft and a copy of the flight test check list to be used.

Application for a Production Certificate, Form ACA-332, should be submitted in duplicate by the applicant to the appropriate regional office of the Aircraft and Components Branch of the Civil Aeronautics Administration. Attached thereto in duplicate should be a complete report outlining the preparation which has been made by the applicant to produce and maintain the conformity and quality of products for which the production certificate is requested, including:

- a. A general description of the manufacturer's lay-out and production flow. (Manufacturer's lay-out and production flow charts will be accepted provided they indicate the major operations involved.)
- b. A listing and description of any special processes required by the design of the product to be produced. The term "special processes" is intended to include any processes requiring specific approval; such as, brazing, electric welding, soldering, gluing, etc. (Manufacturer's prepared process specification may be submitted in lieu of the description.)
- c. A description of the established quality control organization, its functions and responsibilities, together with an organizational chart indicating line of authority for quality control and inspection responsibilities. The report should also contain an outline of the applicant's established methods for purchasing, receiving inspection, storage, inspection procedures, salvage, production flight procedure, including check list or production operational test, and any other pertinent information which may contribute to a complete understanding of the applicant's facilities.

Upon receipt of a properly executed application for a production certificate with the

supporting data, the Aircraft and Components Branch will examine these data, and if considered satisfactory, issue a Factory Inspection Authorization, Form ACA-313, authorizing an inspection of the applicant's facilities to determine their adequacy for the production of reasonable duplicates of the products. If the application and supporting data submitted are not considered satisfactory, the Aircraft and Components Branch will so notify the applicant, and request supplemental information prior to issuing the factory inspection authorization. Upon issuance of the factory inspection authorization, an inspector will be assigned to conduct the required inspection and report thereon.

The Aircraft and Components Branch, upon receipt of a satisfactory Factory Inspection Report, Form ACA-314, will issue the Production Certificate, Form ACA-333, together with a Production Limitation Record, Form ACA-333a. The original of the production certificate and the original of the production limitation record will be forwarded to the manufacturer. One copy of each will be transmitted to the Washington office of the Manufacturing Inspection Division, and one copy of each will be retained in the files of the Aircraft and Components Branch. (See Appendix for location and addresses of branch offices.)

02.21 Requirements for Issuance. The applicant shall hold a currently effective type certificate for the product to be manufactured, or shall hold a current right to the benefits of such certificate under a licensing arrangement.

Upon receipt of the application with supporting information, and after an inspection of the applicant's organization and production facilities, the Administrator shall issue a production certificate if he finds that the applicant is adequately prepared to manufacture the product and to control its quality to the extent that each article will conform with the design provisions of the pertinent type certificate.

The following provisions are considered a minimum which must be met in order that a satisfactory showing be made that the applicant is adequately prepared to manufacture the product and to control its quality in conformity with the type design data on which the type certificate was issued as stated above.

1. **MATERIALS AND PARTS.** The manufacturer should have a reliable source for obtaining materials and parts which are uniform in quality and suitable for aircraft construction.

2. **PURCHASING.** The manufacturer's method of purchasing should be such as to provide a check on the suitability of the materials received. Therefore, recognized specifications should, in general, be used on purchase orders. The manufacturer should receive, with certain materials, reports of test made on a sample of the specific material, showing compliance with the purchase specification. The specification should be sufficiently detailed and comprehensive to insure procurement of material of a uniformly high grade, equaling or exceeding the minimum strength properties assumed in the structural data approved by the Aircraft and Components Service of the Civil Aeronautics Administration.

Deviations from the procedure outlined above may be made under the following conditions:

- a. The manufacturer may use materials, subassemblies, and essential components obtained from a supply source specializing in the manufacture of aircraft material and parts. In this case, he will ascertain that the supply source is following the procedures outlined in the foregoing paragraphs and should require copies of the applicable verified test and inspection reports with his purchases.
- b. Manufacturers may establish their own specifications, provided these data are submitted to the appropriate CAA Engineering Division regional office for approval. (See Appendix for addresses of branch offices.)

3. **RECORDS OF PURCHASES.** The manufacturer should maintain complete records of all purchases and the dispositions of such purchases for a reasonable period to enable him to check back on any particular lot of material in which defects may later be found.

4. **RECORDS OF INSPECTION.** The manufacturer should have an established procedure for the inspection of all purchases before placing them in the stockroom. Records of all incoming

inspections should be maintained at all times. They should include information concerning source, source inspection, incoming inspection, quantity (both accepted and rejected), vendor's affidavits, or reports indicating conformity with recognized aircraft standards and disposition of materials handled.

5. STOCKROOM. The manufacturer should maintain a clean, orderly, and carefully managed stockroom and have:

- a. An adequate number of shelves, bins, and cupboards properly marked;
- b. A place for keeping records;
- c. Boundaries defined by partitions or railings with a designated opening through which all stock is issued in order to prevent access to the stock by unauthorized personnel;
- d. A responsible person in charge of all entries, storing, withdrawals and an appropriate system for recording them;
- e. No stock on the floor or in other undesignated places except temporarily during sorting and inspection;
- f. No material or parts stocked which are known to be defective or damaged, even though they may be so marked.

There is no objection to combining toolroom with stockroom.

6. IDENTIFICATION OF STOCK. All stock items in the stockroom should be so stored and identified that there can be no possibility of inadvertently issuing the wrong material. Particular attention should be given to the segregation of items of similar appearance but with different physical characteristics.

7. PROTECTION OF STOCK. Adequate protection should be provided for materials subject to damage from sunlight, moisture, grease, or corrosion.

8. PRODUCTION. The majority of firms manufacturing aircraft or aircraft components have adopted a production control system which is recognized as being conducive to production of reliable articles. Under the guidance of Production Control or Production Planning, procedures should be established to insure proper routing of materials and parts for fabrication and inspection. Adequate containers, or other suitable means, should be provided for handling such parts as they progress through the factory. Upon issuance of materials or parts to production for processing, a routing or job card should be initiated, which will establish the sequence of each operation and record all pertinent information. This card follows the material through all stages of manufacture and a continuous record of all materials or parts is thus maintained.

It is realized that equivalent procedures may be employed and are acceptable provided the control is adequate to preclude unfinished, inferior, or damaged parts being installed in the completed products.

9. FACILITIES. The manufacturer's facilities should be adequate to produce units in conformity with technical data upon which the type certificate is granted.

Accommodations should be provided which will adequately protect both the facilities and the product during manufacture. Provisions should be made to isolate processes which adversely affect or may be affected by other operations.

The amount and type of equipment required will depend upon the complexity of the product and the rate and volume of production.

10. PROCESSES. Production manufacturing processes such as woodwork, gluing, welding, heat treatment, metalwork, etc., employed by the applicant, should be so controlled as to produce parts and assemblies that are equivalent to the original approved product.

In addition to controlling manufacturing processes, a definite procedure should be established and followed in connection with each process employed so that conformity of material, workmanship, and standards are maintained.

(a) *Woodwork.*—Provisions should be made to maintain the moisture content of wood within approved limits during manufacture. (Ref. ANC 19. Wood Aircraft Inspection and Fabrication.)

(b) *Gluing.*—Gluing operations should be accomplished in accordance with specifications approved by the Aircraft and Components Service.

(c) *Welding.*—Gas welding is approved for aircraft fabrication. The use of arc and resistance welding in the primary structure must be specifically approved by the Aircraft and Components Service of the Civil Aeronautics Administration. Particular attention should be given to the problems of alignment, expansion and contraction of parts during fabrication by welding.

(d) *Heat Treatment.*—Under the category of heat treatment comes all processes for the conditioning of metals by heat; such as hardening, tempering, annealing, normalizing, etc., of both ferrous and nonferrous metals. Rigid procedures should be established to control heat-treat operations in order to assure that desired values are obtained. In the event parts are heat-treated by an outside agency, it is the responsibility of the production certificate holder to determine the adequacy of such agency, and the acceptability of the results.

(e) *Metal Work.*—The fabrication of metal parts by various forming and machining operations should be controlled by the observance of approved standards to attain the surface finishes which are indicated on approved drawings, regular contours, etc., required in metal structures.

11. **INSPECTION SYSTEM.** The activities of the aircraft industry are of such number and variety that it is impracticable, within the scope of this manual, to give more than a general outline of the manner in which an approved inspection organization should operate.

The inspection organization should be controlled by a chief inspector who, in turn, should be directly responsible to the management of the firm so that his decisions are not influenced by considerations other than the quality of the work for which he is responsible. It is also essential that the chief inspector should control inspection through all departments of the firm. If such an arrangement is not possible by reason of the fact that certain departments are engaged in specialized work, these departments should operate under a separate inspection system. However, their activities should be coordinated under the general supervision of a quality control organization. The same procedure should apply in the case of dispersed or branch facilities of a main organization when inspection activity is divided.

The inspection system should be so organized that all parts and materials will receive routine inspection while in an inspectable condition.

The Inspection Department should be provided with tools and equipment necessary to conduct all phases and types of inspection and tests essential to the continued production of reasonable duplicate products. Master templates, precision tools, and gauges should be readily available and used by the Inspection Department. The tools used by the Production Department in constructing the part should never be used by Inspection, since it is obvious that if the fabrication tools and fixtures become damaged, or otherwise altered, the possibility of detecting errors is minimized.

Clearly defined areas for inspection of large units on the production floor and cages or booths for smaller items should be provided in order that the inspectors may operate efficiently and without interference.

Definite procedures should be established for delivering parts to the inspection booths and for removing and storing inspected parts in order that installation of uninspected parts will be prevented.

After the manufacturer's facilities are approved for a production certificate, detailed inspection by the CAA of each part or component during fabrication will not normally be neces-

with respect to the type certificate or certificates set forth in the currently effective production limitation record, prescribed and issued by the Administrator, which shall constitute a part of the production certificate.

The production limitation record is actually page 2 of the production certificate. Therefore, the Production Certificate, Form ACA-333, and the Production Limitation Record, Form ACA-333a, should always be displayed together. Type certificate number(s) covering products fabricated in conformity with the type design data, and approved for production under the terms of the production certificate are reflected only on the production limitation record. Revisions to the production certificate concerning the addition or the deletion of a type certificate is accomplished by only revising the production limitation record.

02.22 Duration. A production certificate shall remain in effect until such time as it is canceled, suspended, revoked, a termination date is fixed by the Board, or the location of the manufacturing facilities is changed.

Where production under the terms of a production certificate has been indefinitely or permanently discontinued, the manufacturer should return the production certificate with a request for cancellation to the appropriate Aircraft and Components Branch office. When the cancellation is properly noted in the branch office file, the canceled production certificate with the manufacturer's request for cancellation should be forwarded to the Washington office of the Manufacturing Inspection Division.

A production certificate may be suspended by the Administrator of the Civil Aeronautics Administration. In case of an emergency; that is, if it appears that a dangerous condition may develop as a result of continued production of a product being manufactured under a production certificate by reason of unsatisfactory conditions noted, the production certificate may be immediately suspended in whole or in part for a period not in excess of 30 days without regard to any requirements as to notice or hearing. For further information concerning this subject, see "Explanatory Statement Concerning Suspension and Revocation of Certificates Issued Under This Part," contained on page 9 herein.

02.220 Changes. The holder of a production certificate shall immediately notify the Administrator in writing of changes in the basic organization, methods, procedures, facilities, or location of the facilities which may affect the conformity or quality control of the product manufactured.

The supporting data submitted to the Aircraft and Components Branch with the original application for production certificate should be kept current at all times by revision pages or a supplemental report covering changes to the basic facilities, methods, or procedures which may affect the conformity or quality control of the product being manufactured. Likewise, any basic changes to the quality control organization, such as ratio of inspection personnel to production personnel, line of authority, functions, or responsibilities as approved, should be promptly reported to the appropriate Aircraft and Components Branch office.

02.23 Transferability. A production certificate is not transferable.

A production certificate is not transferable and becomes invalid if a transfer is made of the controlling interest of the concern or upon movement of the manufacturing facilities from one location to another. In the event the controlling interest of an organization holding a production certificate is transferred, or the manufacturing facilities are physically moved from the location as noted on the production certificate, the production certificate should be returned immediately to the appropriate Aircraft and Components Branch office for cancellation. Simultaneously with the return of the production certificate, application may be made for a production certificate to cover future products manufactured under either or both of the conditions outlined in the foregoing.

02.24 Amendments. The holder of a production certificate desiring the addition of another type certificate to the production certificate shall submit an application on a form provided by the Administrator for that purpose.

The application shall be accompanied by a report describing clearly all additional facilities, methods, or

processes required by the particular design of the product to be manufactured under the type certificate to be added.

When, on the basis of the procedure specified in § 02.21, the Administrator finds the facilities, methods, and processes adequate he shall include the additional type certificate in the production limitation record.

Application to amend a production certificate should be submitted on Form ACA-332, Application for Production Certificate.

Before a type certificate will be added to a production certificate, it will be necessary that:

- a. The manufacturer submit, in duplicate, an application with two copies of a report concerning any special processes, not previously reported, which are pertinent to production under the new type certificate.
- b. A factory inspection be authorized by the appropriate Aircraft and Components Branch office.
- c. A Factory Inspection Report, Form ACA-314, be prepared with respect to the product covered by the new type certificate.

Upon receipt of a satisfactory application from the manufacturer, and an approved factory inspection report, a superseding production limitation record which includes the new type certificate number will be issued by the Aircraft and Components Branch. The production limitation record will then be forwarded to the manufacturer with a request that the superseded production limitation record be immediately returned for cancellation and file. A copy of the revised limitation record will be forwarded to the Washington office of the Manufacturing Inspection Division, and a copy will be retained in the files of the Aircraft and Components Branch office.

If a request is received from a manufacturer for the deletion of one or more type certificates covered by the production certificate, a revised production limitation record reflecting the change will be issued by the Aircraft and Components Branch office and forwarded to the manufacturer with a request that the superseded production limitation record be immediately returned for cancellation and file. A copy of the superseding production limitation record will be forwarded to the Washington office of the Manufacturing Inspection Division, and a copy will be retained in the branch office files.

In general, revision of a production certificate concerning the addition or deletion of a type certificate is accomplished by only revising the production limitation record. A copy of any change to a production certificate made by the Aircraft and Components Branch office should be forwarded to the Washington office of the Manufacturing Inspection Division.

02.3 TYPE AND PRODUCTION CERTIFICATE RULES

02.30 Display. Type certificates shall be made available for examination by representatives of the Administrator or the Board. Production certificates shall be prominently displayed in the main office of the factory.

The purpose of this Regulation is to make the certificates available to the representatives of the Administrator in order that they may at any time see that the certificates are current and in order. To facilitate such examination as may be involved, it is recommended that type certificates be readily available, and that the production certificate be posted in a conspicuous place in the office of the factory.

02.31 Cancellation. Type and production certificates may be canceled upon the written request of the holder thereof.

The production certificate should be returned for cancellation when any changes are made in the organization or facilities which would make the firm ineligible for original issuance of a production certificate.

02.32 Surrender. Upon the cancellation, suspension, revocation, or termination of a type or production

certificate, the holder thereof shall, upon request, surrender such certificate to an authorized representative of the Administrator.

02.33 Inspection. A product manufactured under a type certificate only shall, and a product manufactured under both type and production certificates may, be required to undergo inspection by a representative of, or a person designated by the Administrator, to determine, whether individual products conform with the provisions of the pertinent type certificate.

A representative of the Administrator shall be permitted to make such inspections as may be necessary to determine compliance with the requirements of this Part of the Civil Air Regulations.

In order that purchasers and CAA representatives concerned may be informed regarding the status of products, except aircraft, manufactured under a type certificate only, the CAA representative at the manufacturer's plant will prepare and attach to each such product, by means of a lead seal, an Approval Tag, Form ACA-186. This tag will show the make and model of the product tagged, will indicate that the product has been inspected and approved, and will be signed by the CAA representative. Aircraft manufactured under a type certificate only; i. e., without benefit of a production certificate, may be shipped unassembled provided: (1) The aircraft is assembled and flight tested by the manufacturer prior to shipment; (2) the aircraft is inspected for conformity and airworthiness by a CAA representative at the manufacturer's plant; and (3) approval Tags, Form ACA-186, are attached to all major assemblies, components, and boxes of parts. These tags will be signed by the CAA representative at the manufacturer's plant, and will indicate the model and serial number of the aircraft. Likewise, any component parts manufactured under a type certificate only will be inspected for conformity and airworthiness by a CAA representative at the manufacturer's plant. All such major assemblies or components will be tagged with Approval Tag, Form ACA-186, which indicates the model and serial number of the aircraft, and the CAA representative's signature.

Manufacturers holding a current production certificate may produce and ship their products without detail inspection by CAA representatives. This procedure is predicated upon the manufacturer's ability to maintain standards whereby conformity, interchangeability, and quality are assured. Major assemblies, components, and boxes of parts will be properly identified by the manufacturer prior to shipment. Manufacturers holding a production certificate may obtain the appointment of individuals in his employ as designated manufacturing inspection representatives. These representatives will be authorized to represent the Civil Aeronautics Administration in determining the compliance of the product with the requirements of the Civil Air Regulations, and issue documents pertinent to registration and certification of such products.

A duly authorized CAA representative will conduct periodic inspections to ascertain that each manufacturer holding a production certificate continuously complies with regulations pertaining thereto, the terms of the certificate, and of the currently effective production limitation record issued therewith; and that the facilities, equipment, and organization are such that the holder of the production certificate is adequately prepared to produce reasonable duplicates of the product or products to which type certificate(s) listed on the production limitation record were issued; these facilities, equipment, etc., to be at least the equivalent of those upon which was based eligibility for the original issuance of the production certificate.

02.34 Statement of Conformity. The holder of a type certificate or of a current right to the benefits of a type certificate under a licensing arrangement, upon the initial transfer by him of the ownership of any aircraft manufactured under such type certificate, shall furnish to a duly authorized representative of the Administrator a statement of conformity for such aircraft on a form prescribed and furnished by the Administrator, except that a statement of conformity shall not be required if the aircraft is manufactured for United States registry under the terms of a production certificate.

The manufacturer will present to a representative of the Administrator a certified statement of conformity, upon a form to be supplied by the Administrator, in which the manu-

facturer's chief engineer, or other responsible technical representative should certify that the completed product submitted for type inspection or certification has been manufactured in accordance with the latest technical data submitted to and approved by the Administrator (including all revisions and additions required by the Administrator in connection with authorization of the type inspection), except for any deviations therefrom which should be listed and described on Form ACA-317.

A statement of conformity is not required for products manufactured under the terms of a production certificate, except that a statement of conformity must be submitted for all products to be exported, whether manufactured under the terms of a type certificate or production certificate.

02.35 Production Reports. On the first day of January and July of each year, and at such other times as the Administrator may require, every holder of a production certificate, a type certificate, or a current right to the benefits of a type certificate under a licensing arrangement, shall transmit to the Administrator a detailed production report on a form prescribed and furnished by the Administrator. Such reports shall be transmitted whether or not any product had been manufactured during the period covered by the report.

Semiannual Production Report, Form ACA-503, should be submitted in triplicate by all holders of a type certificate, of a production certificate, or of a current right to the benefits of a type certificate under a licensing arrangement (except aircraft), regardless of whether any products were manufactured during the period of report. Space is provided on the form for requesting cancellation of any type certificate that should be deleted from the production certificate.

The explanatory notes contained on the form are considered adequate to facilitate the preparation of the report without reference to other interpretative material.

In the future, statistics concerning the production of aircraft will be obtained by the Census Bureau.

02.36 Identification. Each article manufactured under the terms of a type or production certificate shall display permanently such data as may be required to show its identity. Such data shall include at least the following items where applicable:

- a. Manufacturer's name.
- b. Type certificate number.
- c. Production certificate number.
- d. Model designation.
- e. Manufacturer's serial number when article is serially numbered, or the date of manufacture, except where both are specifically required.
- f. Capacity or rating.

The identification data required by the foregoing are substantially the same as those presently required by the various applicable Parts of the Civil Air Regulations concerning type certification of specific products, except that the production certificate number is required when applicable. The primary purpose of identification data is to furnish information which will indicate the approval status of the product to which such identification is attached.

The "capacity or rating" should be included on products such as engines, wheels, skis, floats, and other products for which definite ratings or capacities are established. The display of "ratings" on propellers is not considered necessary. For complete aircraft, the production certificate number, when obtained, *should be added to the identification data specified in CAR 03.7 and CAR 04.7*, and no other information is required on the identification plate.

Explanatory Statement Concerning Suspension and Revocation of Certificates Issued Under This Part

The Civil Aeronautics Board is authorized under section 609 of the Civil Aeronautics Act of 1938 to suspend or revoke type and production certificates. The Administrator, under the same section of the Act, is authorized in cases of emergency to suspend such certificates in whole or in part for a limited period. In so

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doing he is required to notify immediately the holder and file a complaint with the Board, in which proceeding the holder is entitled to a hearing.

Certificates may be suspended if the interest of the public so requires, or may be revoked for any cause which at the time of revocation would justify the Administrator in refusing to issue to the holder a like certificate. Any deliberate misrepresentation in the application or in the submission of any information accompanying the application, or in any statement or report required of a certificate holder under these regulations, may be grounds for the suspension or revocation of a certificate.

In addition to the above grounds, production certificates may be suspended or revoked for any of the following reasons:

1. Willful violation on the part of the manufacturer of any portion of the Civil Aeronautics Act or any regulation promulgated thereunder relating to the production of articles authorized by the production certificate.

2. Demonstration of incompetency, carelessness or negligence, or the willful use of inferior or improper materials in the manufacture of articles covered by the certificate.

3. Failure of the manufacturer to maintain adequate facilities and personnel to assure the airworthiness and conformity of articles produced.

4. Refusal of the manufacturer to submit to inspection upon proper demand by a representative of the Administrator, or to render any reasonable assistance in connection therewith.

APPENDIX

Figure 1. Regions and Regional Offices of the Civil Aeronautics Administration

<i>Forms</i>	<i>Title</i>
ACA-332	Application for Production Certificate
ACA-313	Manufacturing Inspection Authorization
ACA-314	Manufacturing Inspection Report
ACA-317	Statement of Conformity
ACA-333	Production Certificate
ACA-333a	Production Limitation Record
ACA-503	Semiannual Production Report

ADDRESSES OF AIRCRAFT AND COMPONENTS SERVICE BRANCH OFFICES

385 Madison Avenue
New York 17, N. Y.

84 Marietta Street, N.W.
Atlanta 3, Ga.

608 S. Dearborn Street
Chicago 5, Ill.

Ninth Floor, City Hall Bldg.
Kansas City 6, Mo.

1500 Fourth Street
Santa Monica, Calif.

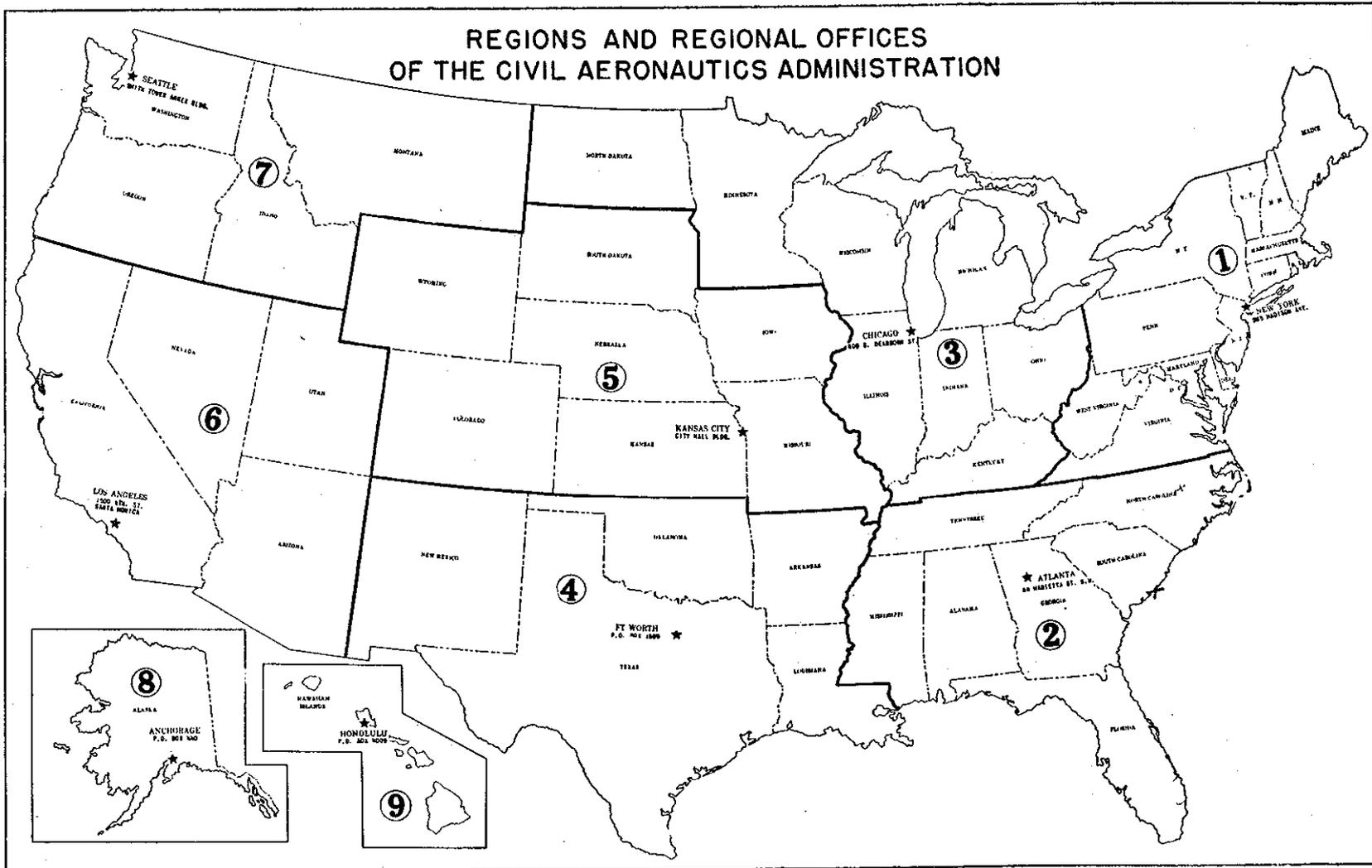


Figure 1

DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION
WASHINGTON

APPLICATION FOR PRODUCTION CERTIFICATE

To the CIVIL AERONAUTICS ADMINISTRATION:

1. NAME OF MANUFACTURER JOHN A. DOE AIRCRAFT COMPANY	
2. BUSINESS ADDRESS 4515 HIGHLAND AVENUE, NEW YORK CITY	
3. FACTORY ADDRESS 4515 HIGHLAND AVENUE, NEW YORK CITY	
4. KIND OF APPLICATION FOR WHICH THIS IS SUBMITTED (CHECK APPLICABLE BOX) <input checked="" type="checkbox"/> ORIGINAL ISSUANCE OF A PRODUCTION CERTIFICATE <input type="checkbox"/> ADDITION OF A TYPE CERTIFICATE TO PRODUCTION CERTIFICATE NO. _____	
5. ARTICLE TO BE PRODUCED (SPECIFY AIRCRAFT, AIR-CRAFT ENGINE, PROPELLER, OR APPLIANCE) AIRCRAFT	6. TYPE CERTIFICATE(S) NO. 745, 746 and 966

The undersigned, on his own behalf or having been duly authorized by the manufacturer, states that he is familiar with current Civil Air Regulations applicable to the certificate applied for, and that the applicant assumes full responsibility for the conformity and quality of articles produced under the terms of the Type Certificate(s) listed above.

I CERTIFY that the above statements are true.

JOHN A. DOE AIRCRAFT COMPANY
(Manufacturer)

By John A. Doe
(Signature)

August 1, 1946
(Date)

President
(Title)

INSTRUCTIONS FOR USE OF FORM

WHEN APPLYING FOR ORIGINAL ISSUANCE OF A PRODUCTION CERTIFICATE.—Submit this form in duplicate and attach two (2) copies of a complete report outlining the preparation which has been made by the applicant to produce and maintain the conformity and quality of articles for which the Production Certificate is requested, including:

- (a) A general description of the manufacturing layout and production flow (manufacturer's layout and production-flow charts will be accepted provided they indicate the major operations involved).
- (b) A listing and description of any special processes required by the design of the articles to be produced (manufacturer's prepared process specifications may be submitted in lieu of this description).
- (c) A description of the established quality control organization, its functions and responsibilities, together with an organizational chart indicating line of authority for quality control and inspection responsibility.

When applying for the addition of a type certificate to a production certificate, submit this form in duplicate and attach two (2) copies of a report concerning any special processes, not previously reported, which are pertinent to production under the new type certificate.

FORM ACA-313 (2-25-46)		DEPARTMENT OF COMMERCE CIVIL AERONAUTICS ADMINISTRATION		DATE August 1, 1946
MANUFACTURING INSPECTION AUTHORIZATION				REQUEST NUMBER F -1-201
INSTRUCTIONS- This form will be prepared in quadruplicate (4) and forwarded as follows: Original to the Factory Inspector concerned, one copy to the Manufacturer with a transmittal letter, one copy to the Manufacturing Inspection Division, Washington, D.C., and one copy retained for the Regional files.				
TO: SENIOR AIRCRAFT FACTORY INSPECTOR			ATTENTION: J. D. Brown	
ADDRESS 102 Allen Road, New York City, N.Y.				
AN APPLICATION FOR A PRODUCTION CERTIFICATE HAS BEEN RECEIVED FROM THE COMPANY NOTED BELOW FOR THE MANUFACTURE OF Aircraft SPECIFY AIRCRAFT, ENGINE, PROPELLER, OR KIND OF APPLIANCE PERTINENT UNDER THE FOLLOWING LISTED TYPE CERTIFICATES: 745, 746 and 966				
MANUFACTURER John A. Doe Aircraft Company			ADDRESS (Street, City, Zone, and State) 4515 Highland Avenue, New York 1, New York	
PLEASE CONDUCT THE REQUIRED INSPECTION AND PREPARE FORM ACA-314, MANUFACTURING INSPECTION REPORT				
<i>John A. Smith</i> CHIEF, MANUFACTURING INSPECTION DIVISION			One REGION NUMBER	

21544

Form ACA-314 (11-45)		DEPARTMENT OF COMMERCE CIVIL AERONAUTICS ADMINISTRATION	
MANUFACTURING INSPECTION REPORT			
Complete this form in duplicate, sign and forward to the Chief, Manufacturing Inspection Division (Regional)		Date July 28, 1946	Authorization No. F-1-201
Name of Company John A. Doe Aircraft Co.		Region No. One	
Location (City and State) New York, New York			
Producing (Specify aircraft, aircraft engine, propeller, or appliance) Aircraft	Type Certificate(s) No(s). 745, 746 and 966		
RECOMMENDATION FOR PRODUCTION CERTIFICATE			
(v)	TYPE CERTIFICATE(S) NO(S). (Insert below)		
X	Approved 745, 746 and 966		
	Unapproved		
INSPECTION OF FACTORY FACILITIES, SHOP PRACTICES, QUALITY CONTROL, AND PERSONNEL			
Check one. For each unsatisfactory item give details on reverse side numbered to correspond to item in question.			
No.	Yes	No	No
PURCHASING			
1. Are sources of supply satisfactory?	X		
2. Are materials and parts purchased on detailed specif.?	X		
3. Are records of purchases and specifications kept?	X		
4. Are purchased parts inspected before stocking?	X		
STORAGE FACILITIES			
5. Is general arrangement orderly?	X		
6. Are materials and parts segregated and marked?	X		
7. Is adequate protection provided for materials subject to damage from sunlight, moisture, grease, or corrosion?	X		
MATERIALS			
8. Does random inspection of the following materials in stock and the applicable purchase specifications used indicate that they conform with the general requirements for aircraft materials?			
	None	Yes	No
a. Wood		X	
b. Bolts, nuts, and rivets	X		
c. Glue		X	
d. Steel tubing and sheet		X	
e. Aluminum alloy tubing and sheet		X	
f. Tiersds & cables, incl. terminals & turnbuckles		X	
g. Castings, Fittings		X	
h. Fabric		X	
Other (specify)			
i.			
j.			
k.			
9. Is general arrangement conducive to accurate, orderly work?	X		
10. Is the machinery installed adequate for the processes attempted by the manufacturer?	X		
11. Are sufficient jigs and fixtures used to guarantee accurate work reasonably free from defects?	X		
12. Is general equipment, other than 10 and 11, suitable for processes employed?	X		
EQUIPMENT			
13. Is precision and care used on all details?	X		
14. Are the following processes performed in accordance with accepted good practices?			
a. Welding	None	Yes	No
b. Brazing and soldering	X		
c. Gluing			X
d. Woodwork			X
e. Metal cutting and forming			X
f. Heat Treatment		X	
g. Fabric covering			X
h. Corrosion prevention		X	
i. General practices		X	
j. Finishing		X	
k. Assembly		X	
15. Are the special processes listed in the manufacturer's application and report performed in accordance with the description furnished?			X
16. Are the results of 15 satisfactory?			X
INSPECTION SYSTEM			
17. Is the inspection dept. organized under one responsible head as set forth in the mfr's. application and report?			X
18. Are the inspectors provided with sufficient precision instruments, space, and other facilities for careful work?			X
19. Are reports and records kept and parts marked to show definitely which parts have been inspected?			X
20. Does system for 19 show which inspector handled each case?			X
21. Are sufficient inspectors employed to insure that all parts will be inspected?			X
22. Does inspection system function satisfactorily? (Determine from inspection of passed parts and from observation.)			X
PERSONNEL			
23. Does management of this company exercise adequate control over the airworthiness of the products manufactured by:			X
a. Personal close contact with work?			X
b. Delegation of subordinate responsibility to suitable persons for each department?			X
c. Strict insistence upon rules, policies, and supervisory action in keeping with absolute reliability and freedom from defects?			X
GENERAL			
24. Does the manufacturer as a final check test each assembled article for proper operation?			X
25. After test are suitable steps taken to correct any defects?			X
26. Are the facilities, procedures and organization of this manufacturer established in accordance with the manufacturer's application and report?			X
27. Is the sealed drawing list available?			X
28. If the answer to 27 is "no", is other evidence of approval of drawings or data available?			

Continued on reverse

MANUFACTURING INSPECTION REPORT (Continued)

No.	Continued	Yes	No	No.	Yes	No
29.	Are adequate bench and shop drawings, specifications and other technical information available to:	<input checked="" type="checkbox"/> <input type="checkbox"/>		31. Are procedures for segregation and disposition of rejections and salvage material established and adequately controlled?	<input checked="" type="checkbox"/>	
	a. Inspection personnel?	<input checked="" type="checkbox"/>				
	b. Production personnel?	<input checked="" type="checkbox"/>		32. Are methods for processing and controlling deviations satisfactory?	<input checked="" type="checkbox"/>	
30.	Is distribution of the information in 29 prompt, systematic and properly controlled?	<input checked="" type="checkbox"/>				
33. REMARKS concerning items not covered in items 1 through 32. (Do not write beyond right-hand binding margin.)						
34. Explanation of Unsatisfactory Items						
Signed <u>J. D. Brown</u> <small>(Manufacturing Inspection Representative)</small> J. D. Brown						
The manufacturer has been furnished with full information in writing, copy attached, concerning all of the unsatisfactory items noted in this report (if any) and has been advised to communicate with this office when he feels that suitable corrective measures have been instituted.						
August 1, 1946 <small>(date)</small>				Approved <u>John A. Smith</u> <small>Chief, Manufacturing Inspection Division (Regional)</small>		

UNITED STATES OF AMERICA
DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION
WASHINGTON

STATEMENT OF CONFORMITY

To the CIVIL AERONAUTICS ADMINISTRATION:

I, having been authorized for this purpose by JOHN A. DOE AIRCRAFT COMPANY,
(Manufacturer)
certify that the aircraft DOE AIRCRAFT ABC-1,
(Make) (Model)
114, has been manufactured in conformity with the data forming the basis for
(Serial number)
Type Certificate No. 746 and any revision or modification thereof approved by the
Administration as of August 1, 1946, with the exception of the following deviations:
(Date)

Radio Receiver installation in accordance
with Drawing No. 8-123

Quick Release Door mechanism in accordance
with Drawing No. 9-456

DATE August 1, 1946

C. C. Burns
C. C. Burns (Signature)

Chief Engineer
(Title)

This form to be executed by manufacturer for each aircraft exported, and for each aircraft produced without the benefit of a production certificate.

United States of America
Department of Commerce
Civil Aeronautics Administration
Washington

Production Certificate

No. 100

This certificate, issued to
JOHN A. DOE AIRCRAFT COMPANY
whose business address is

4515 HIGHLAND AVENUE, NEW YORK CITY

and whose manufacturing facilities are located at

4515 HIGHLAND AVENUE, NEW YORK CITY

authorizes the production, at the facilities listed above, of duplicates of
AIRCRAFT
which are manufactured in conformity with authenticated data, in-
cluding drawings, for which Type Certificates specified in the perti-
ment 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 du-
plicates on date of JULY 28, 1946

Duration

This certificate is of 60 days' duration and, unless the holder hereof
is otherwise notified by the Administrator within such period, shall
continue in effect indefinitely thereafter for such time as the manu-
facturer continuously complies with the requirements for original
issuance of the certificate, or until the certificate is canceled, sus-
pended, or revoked.

AUGUST 5, 1946
DATE OF ISSUANCE



BY DIRECTION OF THE ADMINISTRATOR

Charles F. Dycer
DIRECTOR, AIRCRAFT AND COMPONENTS SERVICE

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 Civil Aeronautics Administration.

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

United States of America
Department of Commerce
Civil Aeronautics Administration
Washington

Production Limitation Record

*The holder of
Production Certificate No. 100
may receive the benefits incidental to the
possession of such certificate with respect to*

AIRCRAFT

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

745 (Issued November 1, 1943)

746 (Issued June 16, 1944)

966 (Issued October 23, 1944)

AUGUST 5, 1946
DATE OF ISSUANCE

BY DIRECTION OF THE ADMINISTRATOR.

Charles F. Lycer
DIRECTOR, AIRCRAFT AND COMPONENTS SERVICE

FORM ACA-503 (5-46)		DEPARTMENT OF COMMERCE CIVIL AERONAUTICS ADMINISTRATION WASHINGTON		BUDGET BUREAU NO. 41-R082.2 APPROVAL EXPIRES SEPTEMBER 1, 1946				
SEMI-ANNUAL PRODUCTION REPORT				MANUFACTURER ABC Aircraft Engine Co.				
INSTRUCTIONS - Each holder of a type certificate, of a production certificate, or of a current right to the benefits of a type certificate under a licensing arrangement, except aircraft, will submit this form in triplicate (3) on January 1 and July 1 of each year, regardless of whether any articles were manufactured during the period being reported, through the appropriate Civil Aeronautics Administration Office, Aircraft and Components Branch. (See Part 02 of Civil Air Regulations.) A separate report is required for each type manufactured.				ADDRESS 1621 Fitzgerald Lane Alexandria, Virginia				
NAME OF ARTICLE Engine		PRODUCTION CERTIFICATE NO. 110	DATES OF REPORT FROM July 1, 1946, TO Dec. 31, 1946					
SUMMARY REPORT OF ALL ARTICLES MANUFACTURED UNDER THE TERMS OF, AND IN CONFORMITY WITH, TYPE CERTIFICATES LISTED BELOW.								
TYPE CERTIFICATE NO. 1	MODEL 2	UNITS PRODUCED 2						TOTAL
		JAN. JULY	FEB. AUG.	MARCH SEPT.	APRIL OCT.	MAY NOV.	JUNE DEC.	
478	CW-2	4	6	8	10	14	0	42
565	2-W2	0	2	3	4	5	6	20
375	1-W1	0	0	0	0	0	0	0
<p>¹List all type certificates currently in effect. Also list all models approved for each type certificate.</p> <p>²If production reported includes both civil and military, list separately and indicate military listing by an asterisk. If no production during the period reported, indicate by the word "none".</p>								
IT IS REQUESTED THAT THE FOLLOWING LISTED TYPE AND/OR PRODUCTION CERTIFICATES BE CANCELLED DUE TO THE FACT THAT NO FURTHER PRODUCTION IS CONTEMPLATED. IT IS UNDERSTOOD THAT SUCH CANCELLATION CONCERNS FUTURE PRODUCTION ONLY AND HAS NO EFFECT UPON EXISTING ARTICLES OF THE MODELS CONCERNED.								
TYPE AND/OR PRODUCTION CERTIFICATE NUMBERS TO BE CANCELLED Type certificate No. 375, dated 1-2-40								
I CERTIFY THAT THE ABOVE STATEMENTS ARE TRUE AND CORRECT								
SIGNATURE <i>A. B. Crosby</i>				TITLE President				