

**CHANGE**

**U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

ORDER  
8110.4C  
CHG 5

Effective Date:  
12/20/2011

National Policy

**SUBJ: Type Certification**

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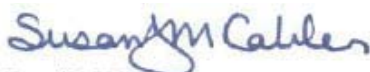
**1. Purpose.** This change transmits revised pages to Order 8110.4C, *Type Certification*. This change is issued to remove procedures and forms related to the notification process used when initiating type certification projects, for the determination of directorate involvement, and for aircraft certification office (ACO) to ACO coordination. The revised certification project notification (CPN), directorate involvement determination, and ACO to ACO coordination procedures are now published in Order 8110.115, *Certification Project Initiation and Certification Project Notification*. This change also introduces a requirement for ACOs to submit updated Type Certificate Data Sheets (TCDSs) for posting on the RGL website no later than 30 calendar days after TC transfer to a new TC holder. And finally this change also includes a corrected title for figures 1 and 7 of appendix 2.

**2. Who this change affects.** Washington headquarters branch level of the Aircraft Certification Service; branch levels of the aircraft certification directorates; and all certification field offices.

**3. Effective Date.** The provisions of this change for this directive become effective on the date of signature.

**4. Where to Find This Order.** You can find this order at MYFAA Employee website: [https://employees.faa.gov/tools\\_resources/orders\\_notices](https://employees.faa.gov/tools_resources/orders_notices) and on the Regulatory and Guidance Library (RGL) website: <http://rgl.faa.gov>.

**5. Disposition of Transmittal.** Retain this transmittal sheet until this directive is canceled by a new directive.



FOR David W. Hempe  
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**PAGE CHANGE CONTROL CHART**

<b>Remove Pages</b>	<b>Dated</b>	<b>Insert Pages</b>	<b>Dated</b>
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vi	03/24/11	vi	12/16/2011
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7	03/28/07	7	12/16/2011
23	10/26/05	23	12/16/2011
24	10/26/05	24	12/16/2011
25	10/26/05	25	12/16/2011
26	10/26/05	26 Blank page	12/16/2011
65	10/26/05	65	12/16/2011
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92	10/26/05	92	12/16/2011
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**d. Certification Process Improvement (CPI)** – an initiative to improve safety by fostering better communications, project management, and accountability between design approval applicants and the FAA, set forth by a job aid titled *The FAA and Industry Guide to Product Certification*.

**e. Certification Project Notification (CPN)** – the process (see Order 8110.115, *Certification Project Initiation and Certification Project Notification*) used by the project manager to notify the accountable directorate, AEG, and CMACO of a new certification or type validation project. The accountable directorate, AEG, and CMACO also uses a CPN process to provide comments to the ACO and to specify their level of involvement in the project.

**f. Certification Project Plan (CPP)** – a living document (see appendix 1, figure 7 of this order) used to coordinate schedules, responsibilities, and personnel resources between the accountable directorate and project ACO.

**g. Designees** – a non-FAA person appointed by the FAA in accordance with 14 CFR part 183, Subpart A. This person has been delegated the responsibilities of a FAA manufacturing inspector, engineer, or test pilot. Designees may be authorized to perform the functions listed in 14 CFR part 183, Subpart C.

**h. Field Approval** – a method by which FAA approves technical data used to accomplish a major repair or a major alteration on a single aircraft, provided the repair or alteration is not classified as a major change in type design. An FAA inspector's signature in Block 3 of an FAA Form 337, Major Repair and Alteration, approves the data referenced on the form.

**i. Flight Test** – for the purpose of this order, any ground or flight test performed on the product test article that is controlled or evaluated by FAA flight test personnel (or their designees), in support of appropriately authorized official testing.

**j. Partnership for Safety Plan (PSP)** – an agreement between a design approval applicant and the FAA describing how they will work together to certify and maintain integrity of the design approvals.

**k. Parts Manufacturer Approval (PMA)** – an FAA design and production approval to manufacture replacement and modification parts that comply with the regulations. See Order 8110.42, *Parts Manufacturer Approval Procedures*.

**l. Product** – for type certification, an aircraft, an aircraft engine, or a propeller. The word product has other meanings in different contexts, such as export airworthiness approvals (see 14 CFR 21.1(b)).

**m. Production Certificate (PC)** – an approval by the FAA to manufacture or alter a product after having shown compliance with an approved type design. The FAA issues a PC to a TC holder (this includes STC holders) or a license of a TC holder, who meets the requirements of

14 CFR §§ 21.135, 21.139, and 21.143.

**n. Project ACO (PACO)** – the ACO working a certification or validation project. The PACO may need to coordinate with the CMACO, if the project is a follow-up certification activity, such as an STC or PMA.

**o. Project Specific Certification Plan (PSCP)** – an integrated planning and project management tool combining the information from the applicant’s certification plan, the FAA’s CPP, and other information recommended in *The FAA and Industry Guide to Product Certification*.

**p. Provisional Type Certificate** – a time and operationally limited design approval that the FAA issues, upon request. Even though the FAA has not completed its findings of compliance to issue a TC, the FAA issues a provisional type certificate after the applicant has completed the necessary tests, analyses, and computations to show that the product complies with the applicable regulations. See 14 CFR part 21 Subpart C.

**q. Significant Change** – as defined in Order 8110.48, *How to Establish the Certification Basis for Changed Aeronautical Products*, a change to the TC is significant to the extent it changes one or more of the following: general configuration, principles of construction, or the assumptions used for certification. The change is not extensive enough to be considered a substantial change. See Order 8110.48 for more information.

**r. Supplemental Type Certificate (STC)** – a TC that the FAA issues to an applicant who alters a product by introducing a major change in type design (as defined by 14 CFR 21.93(a)). The STC process is essentially the same as the TC process; differences are discussed in chapter 4 below.

(1) **One-Only STC** – a special case of limiting the change to a specific serial numbered aircraft, the FAA does not require the STC data to be sufficient for accurate reproducibility.

(2) **Multiple STC** – any STC that is not “One-Only.”

(3) **Approved Model List (AML) STC** – a special case of multiple STC using an AML to control installation eligibility, such that adding new make and model products does not require amendment of the STC.

(4) **Non-Interference STC** – a special case of STC approving a product modification that provides a convenience or function that is not required by the applicable operating rules or airworthiness standards applicable to the aircraft’s intended operations.

**s. Type Certificate (TC)** – a design approval issued by the FAA when the applicant demonstrates that a product complies with the applicable regulations. As defined by 14 CFR 21.41, the TC includes the type design, the operating limitations, the TCDS, the applicable regulations, and other conditions or limitations prescribed by the Administrator. The TC is the foundation for other FAA approvals, including production and airworthiness approvals.

(a) When submitting a TC application for design approval of a new model aircraft (airplane, glider, rotorcraft, balloon, airship), aircraft engine, or propeller (see 14 CFR §§ 21.15 and 21.19), or for extensions of time according to 14 CFR 21.17(d).

(b) When submitting an amended TC application for approval of a change in model designation, for adding new models before original issuance of the TC, and for approving a follow-on model after the initial issuance of the TC (see 14 CFR §§ 21.91 through 21.101). The applicant must check Type Certificate in block 2, then, in block 4a, specify that the application is for an amendment and include the TC number. Applicants may apply for any other amendments to the TC by a letter or other written notification.

(c) When submitting an application for a provisional TC (class I or II) or changes to a provisional TC (class I or II) that is desired before the standard TC is issued (see 14 CFR §§ 21.75, 21.81, and 21.83).

(d) When submitting an application for a provisional amendment to a TC for a follow-on model (see 14 CFR 21.85).

(e) When submitting an application for a change in category to a type certificated model.

**(2) PC Application.** The applicant should complete blocks 1, 2, 3, 5, and 7 of FAA Form 8110-12 (see appendix 1 of this order) when applying for a PC. Application for a PC may be made at the same time application is made for a TC, an amended TC, STC, or an amended STC. However, the applicant cannot get a PC before a TC or STC is issued. The application for the PC is made to the geographic MIDO.

**b. Establishment of TC Project.** The ACO assigns a project number, a project manager, and specialists as required. For determination of directorate involvement, the accountable directorate assigns a project officer.

**(1) Project Number.** The ACO, or ODA holder, assigns a project number to each certification project. See appendix A of Order 8110.115 for numbering system details for FAA assigned project numbers. You must use the assigned project number in all correspondence, reports, and other documents pertaining to the project. If the project is either canceled or closed before completion, the ACO must close or cancel the assigned project number within 90 days.

**(2) Assignments and Duties of the Project Manager.**

(a) The project manager is the assigned focal point in the ACO who plans, reviews, evaluates, and coordinates all aspects of a certification project according to the CPP. When the project is small, generally involving a single ACO engineer, the duties of project manager may be filled by that engineer. In this case, the engineer is called project engineer. For the purpose of this order, the term project manager includes project engineer. The applicant should be instructed to direct all project correspondence to the project manager at the ACO where the application was submitted. See paragraph 2-4e of this order for further details on CPP development.

(b) The project manager initiates the CPP and coordinates with the project officer and CMACO, if necessary. The final CPP is not prepared until detailed roles and responsibilities are discussed with the applicant at the preliminary type certification board (preliminary TCB) meeting.

(c) The project manager will identify the data required for the CPN as discussed in Order 8110.115.

(d) The project manager establishes all projects requiring significant involvement by technical personnel. The project manager also coordinates with the appropriate ACO, MIDO, AEG, and directorate managers in selecting project team members. The project team normally consists of the following:

- 1 A project manager,
- 2 Engineers or technical specialists,
- 3 Flight test pilots and flight test engineers,
- 4 Manufacturing inspectors,
- 5 AEG operations and airworthiness inspectors, and
- 6 A project officer and other persons at the discretion of the accountable directorate.

**NOTE:** The certification project team is comprised of the individuals needed to conduct a certification project. A TCB is an FAA management team. The TCB is discussed further in paragraph 2-4d below.

(e) The project manager sends an acknowledgment letter to the applicant identifying the project number, project manager's name, office mailing address, telephone number, and electronic mail address.

**NOTE:** Responses to applications can be sent by an electronic mail message, as well as a written response, to an applicant. The FAA policy on electronic records is found in Order 1370.81, *Electronic Mail*, Order 8000.79, *Use of Electronic Technology and Storage of Data*, and AIR Manual IR-04-01, *Records Management Requirements Manual*.

**3) Assignments and Duties of Pilots and Engineers.** Engineers and pilots are signed to fill the technical needs of the particular project. The engineer or pilot evaluates the adequacy of the type design and substantiation data related to their assigned disciplines. They have discretion to review any of these data, such as critical material process specifications. Engineers or pilots maintain appropriate oversight of their designees. They use available resources, for example, peers, designees, technical specialists, Chief Scientific and Technical Advisors (CSTA), policy staff, and management, to make sound and timely technical decisions.



Engineers and pilots contribute to the preparation of Type Inspection Authorizations (TIA), request conformity inspection, and coordinate with FAA inspectors and their designees.

**(4) Assignments and Duties of the Project Officer.** The project officer is the focal point in the accountable directorate for policy and is assigned to monitor a significant certification project according to the CPN. The project officer is responsible for ensuring that the project team is using current policy and guidance. The project officer also provides project- specific rules (for example, special conditions and exemptions) and policy (for example, acceptable means of compliance, ELOS, and certification basis) to the project team. The project officer works with the project manager to develop the CPP.

**c. Certification Project Notification (CPN).** The PACO will notify electronically the accountable directorate, AEG, and CMACO of a certification project initiation for each project by transmitting the required CPN data as shown in figure 1 of Order 8110.115.

**d. Form the Certification Team (and TCB).** The FAA type certification team includes those FAA personnel needed to conduct the certification project and an FAA management team—the type certification board (TCB)—that oversees the project. A TCB is established only for projects of a certain magnitude. When a TCB is not necessary, the certification team manages the project and performs any functions of the TCB to the degree necessary.

**(1) Certification Team** members are assigned to a project by their respective managers. However, the project manager plays a critical role in the formation of the certification team by coordinating with the appropriate managers to ensure proper technical representation on

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## CHAPTER 3. TYPE CERTIFICATES

**3-1. GENERAL.** Chapter 3 provides procedures for preparing FAA Form 8110-9, Type Certificate, and the TCDS. The TCDS is a part of the TC, providing a concise definition of the configuration of a type-certificated product. Therefore, a standard format for the TCDS is necessary to enable any person to easily find information about a specific product.

### 3-2. TYPE CERTIFICATE.

#### a. Issuing a TC.

(1) The certifying ACO issues a TC when the applicant completes the 14 CFR airworthiness requirements. Appendix 2 of this order contains a sample FAA Form 8110-9.

(2) Only one name can be identified as the TC holder, consisting of an individual, a partnership, or a corporation. This ensures the FAA has a single point of contact responsible for continued airworthiness of the type certificated product.

**b. TC Numbers.** The certifying ACO assigns a TC number, reflecting the issuing ACO and the type of product. See appendix 1, figure 5, ACOS PROJECT, TC, and STC Numbering System, for details on the numbering system.

#### c. Amendment to a TC.

(1) A TC holder who wants to change a product's type design may apply for either an STC or an amendment of the original TC. Any other applicant must apply for an STC.

(2) Some design changes may not require alteration of the TC or TCDS. Use an FAA approval letter, DOA, or DER approval for these changes. For minor changes in type design, the TC or TCDS will not be affected (see 14 CFR §§ 21.93 and 21.95). Also, some major changes in type design may be indicated in the Airplane Flight Manual rather than on the TCDS, for example, different cockpit equipment configurations for the same model aircraft.

(3) To amend a TC, applicants should send an FAA Form 8110-12 to the appropriate ACO.

(4) The ACO sends the completed amendment to the applicant and publishes the revised TCDS, if required, as soon as possible.

**d. Notification of TC Approval.** The manager of the PACO is responsible for sending a notice to the accountable directorate after issuing, reissuing, or amending a TC. There is no standard form for this notification, a memorandum or email to the accountable directorate is acceptable. The manager of the PACO also sends a copy of the TC to the Aircraft Engineering Division, Attention: Delegation Procedures Branch, AIR-112.

**e. Record Requirements.** The issuing ACO keeps a copy of the TC or STC with an original signature for official record purposes.

### 3-3. TYPE CERTIFICATE DATA SHEET (TCDS).

**a. What is a TCDS?** The TCDS is the part of the TC documenting the conditions and limitations necessary to meet the certification airworthiness requirements of the regulations (14 CFR).

**b. Approving the TCDS.** The ACO manager approves the TC and the TCDS as required by 14 CFR 21.41, after it is prepared in Microsoft Word (or equivalent) format by the project manager. The approval may be a written notification or an electronic mail message to the applicant. The TCDS must also be electronically sent to AIR-140 for processing. All changes to the TCDS must be coordinated and approved by the ACO manager. The contents of the TCDS are described in this chapter.

**c. Completing the TCDS.** Complete the TCDS as soon as possible after approval of the engineering data. The TCDS can be partially completed when the TIA is issued. However, complete the TCDS by the time the TC is issued. Send an informational copy of the TCDS to the accountable directorate and AIR-140 within two weeks after issuance of the TC.

**d. Formatting the TCDS.** The format of the TCDS should be consistent for all type-certificated products, containing only the information applying to the particular product.

(1) Include the following information (in the order listed) in the TCDS title box in the upper right-hand corner of page 1:

- (a) The TCDS number (which is the same as the TC number),
- (b) The revision number,
- (c) The name of the TC holder, in abbreviated form (for military surplus aircraft, do not use the original manufacturer's name; use only the current TC holder's name.),
- (d) All approved models listed in alphabetical or numerical order for convenience in filing, and
- (e) The issue date.

(2) The ACO updates the TCDS to reflect the name of the new TC holder when a TC is transferred. The ACO changes the name in the title box and on the TCDS opposite the item "TC Holder." The ACO will transmit the updated TCDS to AIR-112 for posting on the RGL website within 30 calendar days of the transfer to the new TC holder.

(3) The title of the document appears in the center of the page as "TYPE CERTIFICATE DATA SHEET NO. XXX."

(4) Insert the applicant's name and address opposite the words "TC Holder." The name and address should be the same as shown on the application for TC.

(5) The paragraph titled "Type Certificate Holder Record" identifies the original holder and any subsequent holders of the TC. This is a cumulative record; each revision will

#### 4-12. COMPATIBILITY EXAMINATION.

a. A new design change should be compatible with previous design changes. This ensures that the changed product continues to comply with its certificated airworthiness requirements. The PACO should ensure the STC is specific in identifying the product configuration for which the change is approved. The PACO does this by ensuring the applicant determines previously approved modifications are compatible with the design change.

b. **Changes Requiring Coordination with the CMACO.** Appendix C of Order 8110.115 lists product changes requiring the PACO coordination with the CMACO during the project and to get concurrence from the CMACO before issuing the STC. See paragraph 4-18 of this order for information on establishing CMACO participation on the project. For PMA projects, see Order 8110.42 for information on coordination with the CMACO.

**NOTE:** The PACO will coordinate installation eligibility determination with the CMACO for projects making extensive structural or mechanical changes to the certification product.

c. **Changes Affecting Existing ADs.** Appendix C of Order 8110.115 requires the PACO to coordinate with the CMACO for proposed modifications involving any part affected by an AD. The applicant must evaluate the proposed design change's effect on compliance with ADs that apply to the product. If the design change affects AD compliance, applicants must get approval for alternative methods of compliance (AMOC), per the AD. The PACO should coordinate this with the CMACO to verify the applicant's review of applicable ADs is complete and accurate before issuing the STC. If an applicant must get approval for AMOCs, indicate on the STC a reference to the AMOC approval letter issued by the CMACO. Before concurring, the CMACO will issue the AMOC letter to the PACO. The PACO then issues the STC.

d. **Discretionary CMACO Project Participation.** Aside from the changes listed in appendix 1, figure 6 of this order, the PACO may request CMACO participation at the beginning of the project. The PACO may indicate this in the CPN data. Alternatively, the PACO may communicate informally with the CMACO on any project to explore whether the proposed modification may affect any specific design features requiring special consideration, tests, or analyses during the certification program. The accountable directorate may also be able to provide the PACO information on relevant experience from the product's original certification program. For projects not involving the changes listed in appendix C of Order 8110.115, the CMACO's concurrence is not required for issuance of the STC.

#### 4-13. APPROVED MODEL LIST (AML) STCs.

a. An AML STC process is appropriate to approve the installation of a change on more than one type-certificated product when the following happens:

(1) The installation instructions for the change on each type-certificated product are specific and objective, and

(2) The evaluation of the effect of the change applies to all type-certificated products addressed by the approval.

(b) The STC amendment introduces a new major change in type design as discussed in paragraph 4-2 above.

(c) The proposed change will revise the limitations and conditions section of the STC.

b. In addition to FAA Form 8110-12, the applicant must include a detailed description of the modification, the type of aeronautical product, information on the manufacturer and model number of the aeronautical product as specified on the TCDS involved, location of the modification to be conducted (design and installation), a letter outlining who will prepare the engineering data required to substantiate the change, and a schedule for completion of the project. The applicant should also submit a statement, if necessary, that a project initiation meeting is needed or desired.

**4-17. ESTABLISHING AN STC PROJECT.** The ACO establishes STC and amended STC projects using the same process for establishing TC and amended TC projects. See Order 8110.115 for detailed information on how to establish a certification project and how to transmit the CPN required data to the accountable directorate, the CMACO, and AEG. Also, direct the applicant to review FAA AC 21-40, Application Guide for Obtaining a Supplemental Type Certificate.

**4-18. ESTABLISHING ACO TO ACO COORDINATION.** Refer to Order 8110.115 for procedures to be followed by both the PACO and the CMACO. Refer to appendix C of Order 8110.115 for a list of types of projects that must be coordinated between the PACO and the CMACO.

## APPENDIX 1. FORMS AND GUIDANCE FOR CERTIFICATION PROJECTS (CONTINUED)

**FIGURE 3. EXAMPLE TYPE CERTIFICATION PROJECT PLAN**

- A. Project No. \_\_\_\_\_, Revision No. \_\_\_\_\_, Revision date \_\_\_\_\_
- B. Model designation: \_\_\_\_\_
- C. Applicant: \_\_\_\_\_
- D. Address: \_\_\_\_\_
- E. Date of application: \_\_\_\_\_
- F. Type of project: \_\_\_TC \_\_\_STC \_\_\_Amended.
- G. Certification office:
- H. Project Manager: \_\_\_\_\_; Telephone No. \_\_\_\_\_
- I. Accountable Directorate:
- J. Project Officer: \_\_\_\_\_; Telephone No. \_\_\_\_\_
- K. General description:
- L. Significant features:
- M. Proposed certification basis:
- N. Exemptions needed: \_\_\_\_\_yes; \_\_\_\_\_no.
- O. Special conditions needed: \_\_\_\_\_yes; \_\_\_\_\_no.
- P. Proposed schedule:
  - 1. Preliminary type board \_\_\_\_\_
  - 2. Preflight type board \_\_\_\_\_
  - 3. Other type boards \_\_\_\_\_
  - 4. TIA issuance \_\_\_\_\_
  - 5. Certificate issue/amend \_\_\_\_\_
- Q. Estimated employee/hours:
  - 1. Accountable directorate \_\_\_\_\_
  - 2. Certification office \_\_\_\_\_
  - 3. Other \_\_\_\_\_

**APPENDIX 1. FORMS AND GUIDANCE FOR  
CERTIFICATION PROJECTS (CONTINUED)**

**FIGURE 3. EXAMPLE TYPE CERTIFICATION PROJECT PLAN (CONTINUED)**

- R. Portions of certification basis where accountable directorate will:
  - 1. Find compliance:
  - 2. Witness tests:
- S. Coordination required (and means of indicating concurrence):
  - 1. TIA
  - 2. Issues book
  - 3. Certification Summary Report
- T. Reporting requirements:
  - 1. Recurrent
    - a.
    - b.
    - c.
  - 2. One-time
    - a.
    - b.
    - c.
- U. Documentation requirements:
  - 1. Issues book? \_\_\_\_\_yes, \_\_\_\_\_no.
  - 2. Certification Summary Report? \_\_\_\_\_yes, \_\_\_\_\_no.
  - 3. Federal Register notices? \_\_\_\_\_yes, \_\_\_\_\_no.
- V. Delegations by accountable directorate:
  - 1. Certification Summary Report signature? \_\_\_\_\_
  - 2. Certificate signature? \_\_\_\_\_
  - 3. Other? \_\_\_\_\_
- W. Approved on \_\_\_\_\_ by :

\_\_\_\_\_  
Manager, Accountable Directorate, XXX-XXXX



## APPENDIX 2. ISSUANCE OF CERTIFICATES

### FIGURE 1. INSTRUCTIONS FOR PREPARATION OF FORM 8110-9, TC

Area 1 – Enter the type of product, using CAPITAL LETTERS, that is, AIRCRAFT, ENGINE, or PROPELLER.

Area 2 – Enter “IMPORT” if the FAA issued the TC for a product per 14 CFR 21.29. Otherwise, leave blank.

Area 3 – Enter the TC number assigned by the accountable directorate.

Area 4 – Enter the applicant’s name. (This should be the same person on the application for the TC.)

Area 5 – Show the applicable 14 CFR part or section.

Area 6 – Enter the product type designation, that is, “Airplane Model 120.” If the applicant adds a second model later, the line would be “ Airplane Models 120 and 140.” If applicants add more models than will fit in this space, they can attach an extra page to the FAA Form 8110-9. They should also add this note: “See attached sheet for additional models.”

Area 7 – Enter the date of original application.

Area 8 – Enter the date the FAA issues the TC. Do not change the date when a TC is revised to issue it to a different holder or if a duplicate copy is requested. When applicants add models later, the TC will show the original issuance date with the new date under it, for example:

Date:     January 31, 1988  
           Model 140 approved June 10, 1990

Area 9 – Get the signature of the manager of the accountable directorate, or their designee. |

**APPENDIX 2. ISSUANCE OF CERTIFICATES (CONTINUED)**

**FIGURE 7. EXAMPLE TYPE CERTIFICATE DATA SHEET FIRST PAGE WITH PRODUCTS CODES (DESIGNATIONS)**

**Coded Entries**

Many aircraft and engine specifications and some type certificate data sheets carry coded information to describe the general characteristics of the product. These may be found in the model caption or on a separate line entry titled “Type” or “Designation.”

**Aircraft codes (Designations) are as follows:**

**Example: 2 PO-CLM**

	<b>2P</b>	<b>O-C</b>	<b>L</b>	<b>M</b>
(1) Number of seats (passenger and crew)	2			
(2) Cockpit/cabin design O = open C = closed O-C - convertible		O-C		
(3) Basic kind of aircraft L = landplane S = seaplane L-S = convertible Am = amphibian Fb = flying boat Ag = autogiro H = helicopter			L	
(4) Wing design M = monoplane B = biplane				M

**APPENDIX 2. ISSUANCE OF CERTIFICATES (CONTINUED)**

**FIGURE 7. EXAMPLE TYPE CERTIFICATE DATA SHEET FIRST PAGE WITH PRODUCTS CODES (DESIGNATIONS) (CONTINUED)**

**Engine codes (Type) are as follows:**

**Example: 4LIA (sometimes 4LAI)**

		<u>4</u>	LI	A
(1)	Number of cylinders			
(2)	Cylinder arrangement L = inline V = vee R = radial HO = horizontal opposed I = inverted			
(3)	Coolant A = air cooled W = liquid cooled			
(4)	Modified engines M = modified (rarely used)			

**APPENDIX 13. ADMINISTRATIVE INFORMATION**

- 1. Distribution.** Distribute this order to the branch level in Washington headquarters, branch levels of the Aircraft Certification Service; the branch levels of the regional aircraft certification directorates; branch level of International Policy Office; all aircraft certification offices (ACO); aircraft evaluation groups, and chief scientific and technical advisors.
- 2. Authority to change This Order.** The issuance, revision, or cancellation of the material in this order is the responsibility of the Certification Procedures Office (AIR-110).
- 3. Suggestions for Improvement.** If you find deficiencies, need clarification or want to suggest improvements to this order, send FAA Form 1320-19, Directive Feedback Information, (written or electronically) to the Aircraft Certification Service, Administrative Services Branch, AIR-510, Attention: Directives Management Officer. You can also send a copy to the Aircraft Engineering Division, AIR-100, Attention: Comments to Order 8110.115. If you urgently need an interpretation, contact the Engineering Procedures Office, AIR-110, at 202-385-6312. Always use Form 1320-19, in appendix F to follow up each verbal conversation.
- 4. Records Management.** Refer to Orders 0000.1, FAA Standard Subject Classification System; 1350.14, Records Management; and 1350.15, Records, Organization, Transfer, and Destruction Standards; or your office Records Management Officer or Directives Management Officer for guidance regarding retention or disposition of records.



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 that should be added to it. Also, if you find an error, please tell us about it.

Subject: Order \_\_\_\_\_ 8110.4C, Change 5 \_\_\_\_\_

To: Directive Management Officer, 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: \_\_\_\_\_