ORDER

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DESIGNATED ENGINEERING REPRESENTATIVE (DER) HANDBOOK

August 10, 2006

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

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RECORD OF CHANGES **DIRECTIVE NO.** 8110.37D

CHANGE TO BASIC	SUPPLEMENTS			OPTIONAL	CHANGE TO BASIC	SUPPLEMENTS			OPTIONAL

FAA Form 1320-5 (6-80) USE PREVIOUS EDITION

FOREWORD

This order is a handbook of procedures, technical guidelines, limitations of authority, and tools and resources for Designated Engineering Representatives (DER). We wrote it for all DERs and the aircraft certification office (ACO) staffs that manage them. We designed this handbook to give ACOs and DERs a better understanding of their individual and mutual responsibilities.

All users of this order shall familiarize themselves with its contents and comply with the instructions and guidance contained herein.

If you find any deficiencies, need clarification, or want to suggest improvements on this order, submit your comments using Federal Aviation Administration (FAA) Form 1320-19, Directive Feedback Information (written or electronically), to the Aircraft Certification Service, Planning and Financial Resources Management Branch, AIR-530, Attention: Directives Management Officer. Form 1320-19 is included as the last page of this order. You may also send a copy to the Aircraft Engineering Division, AIR-100, Attention: Comments to Order 8110.37. If you urgently need an interpretation, contact AIR-140 at 405-954-7066. Always use Form 1320-19 to follow up each verbal conversation.

David Hempe
Manager, Aircraft Engineering Division
Federal Aviation Administration

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CHAPTER 1. PURPOSE AND ORDER ADMINISTRATION

1-1. Purpose. This order prescribes the working procedures to be used by aircraft certification office staffs and the Designated Engineering Representatives (DER) they appoint to represent the FAA Administrator. You will find guidance on selecting, appointing, training, and managing DERs in FAA Order 8100.8, *Designee Management Handbook.*

1-2. Distribution. This order is distributed to Washington headquarters branch levels of the Aircraft Certification Service and Flight Standards Service, to the branch levels of the aircraft certification directorates and regional flight standards divisions, to all aircraft certification offices, to the Aircraft Certification International Policy office, to all flight standards district offices, and to all DERs.

1-3. Cancellation. This order cancels Order 8110.37C, *Designated Engineering Representatives (DER) Guidance Handbook,* dated September 30, 1998, Order 8110.45 *Use Of Data Approved By Designated Engineering Representatives To Support Major Alterations,* and Order 8110.47, *DER Data Approvals Related to Repair and Alteration of Foreign Registered Aircraft,* dated 9/30/02.

1-4. Explanation of Major Changes. This revision removes all DER selection, appointment, oversight, and termination processes. Those processes are included in FAA Order 8100.8. This revision also incorporates policy related to proper and improper use of DERs, use of software DERs in the TSOA process, DER approval of flammability data, and DER approval of an alternative method of compliance with an airworthiness directive. Finally, the language has been edited per plain language principles.

1-5. Definitions/Acronyms. See appendix 4.

1-6. Deviations. Adherence to procedures in this order is necessary for uniform administration of the DER program. 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. A copy of the deviation must be submitted to AIR-100 for review and concurrence.

CHAPTER 2. DER AUTHORITY AND LIMITATIONS

2-1. Authority for DER.

a. Title 49 United States Code, Section 44704 (49 USC 44704) empowers the Administrator to issue type certificates for aircraft, aircraft engines, and propellers, and to specify regulations as applicable to the type certification function. Section 44702(d) authorizes the Administrator to delegate to a qualified private person, or to an employee under the supervision of that person, a matter related to the examination, testing, and inspection necessary to the issuance of such certificates. Delegations are limited in scope: all requirements, policy, direction, and interpretations remain with the Administrator.

b. Title 14 of the Code of Federal Regulations (14 CFR) part 183, Representatives of the Administrator, prescribes the requirements for designating private persons to act as representatives of the Administrator in the examining, inspecting, and testing of persons and aircraft for the purpose of issuing airman and aircraft certificates. Part 183, Subpart B empowers the manager of an aircraft certification office, or the manager's designee, to select DERs from qualified persons who apply. Designation of a private person as a DER is a privilege granted by the Administrator. It is not the right of every qualified applicant to receive a DER designation. 14 CFR § 183.29 defines the privilege for appointments in the following technical fields:

(1) Structural Engineering

(2) Powerplant Engineering

(3) Systems and Equipment Engineering

(4) Radio Engineering

(5) Engine Engineering

(6) Propeller Engineering

(7) Flight Analyst

(8) Flight Test Pilot

(9) Acoustical Engineering.

2-2. DER System. The DER system enables the FAA to use qualified technical people to perform certain examinations, testing, and inspections necessary to determine compliance with applicable airworthiness standards. A DER must follow the procedures of FAA Order 8110.4, *Type Certification*. A DER offers technical expertise with state-of-the-art knowledge. An FAA specialist understands the framework of critical regulations that allow technology to be applied

safely. The DER and the FAA are both responsible to assure the DER system is properly administered. We will decide when to get directly involved in a project and the nature of that involvement. The DER will accept increased involvement as a necessary way of doing business and obtaining certifications. Our interaction with DERs is highly interdependent, building on the mutual interests we, manufacturers, and operators have in achieving the highest level of safety.

2-3. DER Authority. A DER may approve or recommend approval of engineering technical data within the limits of their authority by means of FAA Form 8110-3, Statement of Compliance with the Federal Aviation Regulations. An ACO may also authorize a DER to witness FAA compliance tests and perform compliance inspections. Specific roles, authorized areas, and responsibilities of a DER are established by an agreement between the ACO and the DER at the initial appointment of a DER, and when required, for FAA approved specific projects.

> **NOTE:** Management and administrative DERs have no authority to approve or recommend approval of data. Their functions are administrative.

2-4. DER Categories.

a. Company DER. An ACO may appoint an individual to act as a company DER for his employer. A company DER may only approve, or recommend approval of technical data for the company. If a company DER is assigned to work in a consortium, business arrangement (such as using other company's DERs), partnership or licensing agreement, the DER's managing office will define the limits of the DER's authority.

b. Consultant DER. An ACO may appoint an individual to act as an independent (self-employed) consultant DER to approve, or recommend approval of technical data for a client.

c. Dual Appointments. An ACO may appoint an individual to act both as a company DER and consultant DER. In such a case, an ACO makes two separate appointments and issues separate certificates of designation. The ACO will advise the DER that the employer should be informed of the dual appointment. An ACO may authorize the consultant DER delegation for areas different from the company DER delegation, depending on the individual's experience and the limitations the ACO places on the DER. Each of these appointments should be managed by the same ACO. If the company DER delegation and the consulting DER delegation are in the geographic area of responsibility of two different ACOs, the two ACOs will determine which ACO will manage the dual delegation.

d. DER Candidate. If an applicant meets all the requirements for a DER designation but lacks significant experience in a direct working relationship with the FAA, the ACO may identify the applicant as a DER candidate. Candidates don't have the authority to approve or recommend approval of data on FAA Form 8110-3, but must review and submit data to the FAA to prove their ability to function as a DER. After demonstrating this capability, a DER candidate will be delegated authority as a DER providing the ACO has a need for the DER and the ACO has the ability to manage the DER .

2-5. DER Designations.

a. Structural DERs may prepare and/or approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

(1) Engineering reports,

(2) Drawings,

(3) Material and process specifications used in structural applications, and

(4) Other data relating to structural considerations.

b. Powerplant DERs may prepare and/or approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

(1) Engineering reports,

(2) Drawings, and

(3) Other data relating to powerplant installations, including all systems and equipment necessary for the proper operation of a powerplant.

c. Systems and Equipment DERs may prepare and/or approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

(1) Engineering reports,

(2) Drawings, and

(3) Other data relating to aircraft systems and equipment design not covered by structural or powerplant representatives.

d. Radio DERs may prepare and/or approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

(1) Engineering reports,

(2) Drawings,

(3) Tests, and

(4) Other data relating to the design and operating characteristics of radio equipment being manufactured and/or modified.

e. Engine DER may prepare and/or approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

(1) Engineering reports,

(2) Drawings, and

(3) Other data relating to durability, materials, and processes employed in engine design, operation, and maintenance.

f. Propeller DERs may prepare and/or approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

(1) Engineering reports,

(2) Drawings, and

(3) Other data relating to propeller blade and hub design, pitch control, propeller governing, and maintenance, provided these items comply with the applicable regulation(s).

g. Flight Analyst DERs may prepare and/or approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

(1) Aircraft performance flight test data,

(2) Aircraft quantitative operating data, and

(3) Flight characteristics data.

h. Flight Test Pilot DERs may conduct flight tests and prepare and approve flight test information, within the limits of their appointment.

i. Acoustical DERs may witness and approve within the limits of their appointment:

(1) Noise certification tests conducted in accordance with an FAA approved test plan,

(2) Noise data,

(3) Noise analyses, and

(4) Test results that were measured and evaluated as prescribed in 14 CFR part 36, subparts A through J, or by an equivalent procedure previously approved by the FAA Office of Environment and Energy (AEE).

NOTE: Acoustical DERs may only recommend approval of test plans and final noise certification compliance reports.

2-6. DER Special Delegations/Authorizations.

a. A DER may be appointed to approve technical data not specifically listed in the charts of appendix 2. Each chart has an authorized area called "Special," with delegated functions to cover this contingency. When we authorize a special delegation, we list the “special” authorized area and specifically define the function. A DER must have significant experience in the appropriate area in order to be given a special delegation. The following “Special” delegations may be authorized; use of any other “Special delegations” must be coordinated with the Delegation and Airworthiness Programs Branch, AIR-140:

(1) Administrative/Management DERs. A qualified person may be appointed as an administrative coordinator or manager of an applicant's certification program. We assign this person the authorized designation of administrative DER or management DER. These special designations are not associated with a particular chart for DER authority. It must be recognized that the management DER and administrative DER are not actually DER types with authority prescribed by 14 CFR part 183, but rather special authorizations that were introduced by FAA policy. These authorizations were established to recognize certain individual’s capability to provide assistance to the ACO in administrative and project management aspects of certification. In performing this role, an administrative/management DER does not use FAA Form 8110-3.

(a) Administrative DERs act as a focal point for FAA coordination activity including organizing technical DER activity, correspondence, schedules, meetings, conformity inspections, and FAA participation in official tests. Administrative DERs perform administrative tasks only and therefore are not required to be appointed under one of the delegations listed in 14 CFR § 183.29.

(b) Management DERs perform FAA certification project management duties for us, acting like an FAA project manager. They organize the applicant’s certification program, directing, overseeing, and managing the task of technical assessments and findings of compliance. The management DER ensures that all technical data required to show compliance is reviewed and approved by the appropriate technical DER, except those items reserved by the FAA for approval. In order to establish his capability as an FAA project manager, we must first appoint a management DER under one of the delegations listed in 14 CFR § 183.29.

(2) Major Repairs and Major Alterations. A DER requires specific authorization to examine and approve data for major alterations and/or major repairs. We may assign a DER the authorized area of “Special-Major Repairs” and/or “Special-Major Alterations,” which will be related to the DER’s basic delegations. A DER only needs this delegation if his FAA Form 8110-3 will be referenced as the approved data for a specific major repair or major alteration. The three specific authorizations are:

(a) Special -Major Repairs

(b) Special- Major Alterations

(c) Special-Major Repairs and Major Alterations

NOTE: Service documents and overhaul manuals produced by the original design/production approval holder are not considered major repair or major alteration data that require this specific authorization.

(3) PMA Identicality. A DER requires specific authorization to examine and make findings of identicality to obtain a Parts Manufacturer Approval (PMA). This is only appropriate where a DER has access to the original design approval holder's data, allowing them to make a direct comparison of design data.

NOTE: We authorize test and computation findings within the scope of the DER's basic delegation.

(4) Technical Standard Order (TSO) Software. A DER requires specific authorization to examine data and make findings of compliance to airborne software requirements in support of an application for technical standard order authorization (TSOA). A DER is not authorized to find compliance to any other TSO requirement unless provided for by FAA policy.

(5) Alternative Methods of Compliance (AMOC) with Airworthiness Directives (AD). We may give a design approval holder's company structural DER the authority to approve AMOCs for specific structural ADs where the intent of the AD was to restore the airplane to its type certification basis or other known, defined, and published standards (see paragraph 4-8 for details of this process).

b. Special Authorizations. The level of data approval and/or the delegation we grant a DER may vary from project to project depending on the complexity of the project. A project ACO manager or manager's representative may issue a special authorization, in writing, permitting a DER to approve data normally reserved to us (i.e. witness tests, approve test plans) within the DER's scope of authorization. The special authorization must be specific in delegation, time-limited, and is valid only at the ACO which issued the authorization. Verbal authorization from the ACO is permitted in some cases, such as witnessing tests, if the DER documents it on the subsequent FAA Form 8110-3 or other acceptable method. See an example of a special authorization request/approval in appendix 3, figure 5.

NOTE: ACOs may have their own specific requirements for submitting a request for special delegation.

2-7. DER Limitations. A DER can only find compliance in the delegated functions and authorized areas for which they were appointed. A delegated function applies to the technical areas involved in determining compliance with applicable airworthiness regulations. An

authorized area applies to the specific portion or system of an aircraft or the type of engine or propeller or specialized area to which a delegated function is applicable.

a. Predecessor Regulations or Other Acceptable Airworthiness Requirements. Authority for a specific 14 CFR part also includes authority for predecessor and other applicable regulations, unless specifically excluded:

(1) Examples of Predecessor Regulations. Authority for 14 CFR part 25 includes Civil Air Regulation (CAR) part 4b; authority for 14 CFR part 23 includes CAR part 3, and so forth.

(2) Example of Acceptable Airworthiness Requirements. We have adopted other authorities' requirements for some of the products we certify, such as the Joint Aviation Requirements for Very Light Airplanes (JAR/VLA) and the airworthiness standards accepted for primary category airplanes.

b. Items Requiring FAA Approval. The FAA retains authority and responsibility for establishing the certification basis and issuing any special conditions, exemptions, equivalent level of safety findings, TCs, PMAs, and TSOAs. This limits the data that a DER can approve. Appendix 1, Limitations on DER Functions, paragraph 1, lists items that must be approved or issued by FAA employees. In addition, some interpretations and decisions may only be made by FAA employees as described below:

(1) Interpreting 14 CFR. When a DER has questions about the interpretation of a 14 CFR part, including the use of new or unconventional materials and processes, he must consult with the ACO staff. A DER is not authorized to interpret regulations. A DER must be guided by existing polices, procedures, specifications, processes and standards. A DER must consult with the ACO before departing from existing procedures in making findings of compliance.

(2) Determining if Type Design Changes are Major or Minor. The design approval holder decides whether a type design change is major or minor, as defined in 14 CFR § 21.93. The FAA retains final approval of that decision.

(3) Determining if Type Design Changes are Acoustic or Emission Changes. The FAA has the final responsibility to determine whether a design change is or is not an acoustic or emission change.

(4) Impact of Major Changes on Certification Programs. A DER must consult with the ACO regarding the extent and effect of a major change to determine if original design requirements (airworthiness regulations, basic load criteria, and test results) still apply, if the original application for type certificate will be affected, and if additional analyses, flight tests, ground tests, or ground inspections are necessary.

c. Items Likely to be Reserved for FAA Approval. Our decision to delegate is influenced by the extent of our own knowledge and expertise, and that of the proposed DER. We must also consider the impact of the delegated task on safety, and the political sensitivity of the task. With this in mind we generally reserve for ourselves the approval of items listed in appendix 1, Limitations on DER Functions, paragraph 2. If we do delegate, we should do it carefully, and consistently as follows:

(1) Test Plans. A DER may approve test plans only when specifically delegated by the ACO. This delegation can be documented in the DER's certificate of authorization or granted on a case by case basis. If not delegated this function, a DER may only recommend approval in his submittal to the ACO. Acoustical DERs are only authorized to recommend approval of test plans and final noise certification compliance reports.

(2) AFM Data. A DER requires specific authorization to examine and approve data on loading schedules or devices, weight and balance reports, equipment lists, flight manual revisions and related reports.

(3) Service Documents Related to Airworthiness Directives. A properly authorized DER can approve engineering aspects of service documents (e.g. the associated design change) and revisions. However, if the FAA finds an unsafe condition exists; a DER must coordinate with the project ACO and obtain concurrence prior to the DER approving any AD-related service document. We may reserve the approval of AD-related service documents and revision.

(4) PMA Design Approvals. A DER may make findings of identicality or findings of compliance to the airworthiness requirements by test and computation that contribute to PMA design approvals, within the scope of delegation from the project ACO. A DER must be specifically authorized to make a finding of identicality by his managing ACO.

(5) TSO Authorizations. The TSO process, described in 14 CFR part 21, Subpart O, is significantly different than the other type certification processes. For the TSO process, a DER may help ACOs in these three ways:

- Prepare and submit data or conduct tests on behalf of a TSO applicant but not use an FAA Form 8110-3 to approve data.

- With software authority and delegation for the specific project, review and either approve or recommend for approval those software-related documents that must be FAA approved prior to TSO design approval (see paragraph 4-14 for details of this process). Authorizing a DER to approve or recommend approval of TSO software will expedite the TSO process and relieve the ACO engineer's workload. The Aircraft Engineering Division, AIR-100, must issue additional policy in order for DER authority to be used for any other TSO requirement.

- When authorized, approve type design data for equipment that may eventually get a TSOA. This is common when the equipment is used on prototype aircraft in a type certification project concurrent with a TSOA project.

(6) Approval of AMOC to an AD. An ACO that initiates an AD may either approve an AMOC related to that AD or in certain cases delegate AMOC approval to a DER (see paragraph 4-8 for details of this process). The delegation must be only for the defined deviations to ADs for repairs, modifications or alterations to a *single* aircraft. A company DER must not approve the same AMOC for multiple aircraft. An AMOC related to the following items may *not* be delegated: adjustments to compliance times or inspection intervals, changes to airworthiness or operating limitations, alternate inspection methods, continued operation with unrepaired damage, and discretionary judgments of acceptability. For an AMOC that involves a temporary repair, the temporary repair must:

- Meet the certification basis of the aircraft;

- The durability of the most critical detail of the temporary repair must be greater than 18 months (based on projected aircraft use); and

- Be replaced by a permanent repair or terminating action within 24 months. Further, we require the temporary repair to be designed so its inspection threshold is greater than its replacement period. In other words, there should not be a need to inspect the temporary repair while it remains installed.

CHAPTER 3. DER ADMINISTRATION

3-1. FAA Expectations for DERs.

a. Training. Training requirements for DERs are listed in FAA Order 8100.8 and may be supplemented by a managing ACO. Many different types of training are available. We offer standardization and recurrent DER seminars. A DER can also attend FAA training courses, workshops, and interactive video teletraining programs, based on availability. There are links to these training programs through the FAA Designee web site.

b. DER Independence. A DER must have the ability to maintain the highest degree of objectivity, adequate time to perform his assigned duties, and adequately represent the Administrator.

c. DER Indemnification Status. A DER, when acting under a DER appointment, represents the Administrator. A DER is not an employee of the FAA, nor of the United States government, and is not federally protected for the work he does or the decisions he makes as a DER. As private individuals, a DER is subject to general tort law. A company DER should consult his employer for company policy regarding indemnification. We cannot shelter or protect a DER from the consequences of his findings.

d. Good Practices. A DER needs general knowledge of the overall DER system and FAA certification procedures so that he and the ACO can work together as a team. We expect a DER, while acting for us, to be guided by "good practice" principles. "Good practice" is developed through experience and know-how over the years, and carries with it a high degree of confidence. Good practice exemplifies what has shown to be reliable and satisfactory. An ACO detecting DER methods or procedures inconsistent with, or departing from, good practice must bring this to the DER's attention. The ACO will then monitor the DER for compliance with good practice, and can consider further deviations as misconduct, and grounds for termination of the DER authorization.

e. Changes. A DER must notify his managing ACO of any change of status, such as a change in base of operation or leaving the employer who requested the DER appointment. It is a DER's responsibility to ensure that ACO records (contact information including address and phone) are current. A company DER's authorization is terminated when he leaves the company that requested the DER appointment. If a DER also holds a separate appointment as a consultant DER, that authorization is not terminated when the DER leaves the company.

f. Operating outside ACO area.

(1) A company DER may function in any geographic area in which the company conducts business.

(2) A consultant DER may function in any geographic area.

(3) When a DER works on a project managed by an ACO other than his managing ACO the DER must follow the project ACO's plans for submittal of an original FAA Form 8110-3 with related technical data. The DER must also submit copies of completed FAA Form 8110-3 to his managing ACO in order to document his activities. Failure to submit the form(s) may result in termination of an appointment.

g. DER Responsibility when using other engineers. We allow DERs to use as many experienced engineers as needed to completely evaluate engineering technical data; however, the DER accepts the responsibility for approving the technical data when signing an FAA Form 8110-3. A DER may decline to approve any or all portions of the technical data, and may send such data to us for approval. When this happens, we expect the DER to specify reasons for not approving the data.

h. Using DOT/FAA Logos. No DER is authorized to use the DOT or FAA logo on business cards, letterheads, facsimile covers, document covers, or any other business forms. A DER is not a government employee. Use of a logo may result in termination of a DER appointment.

i. Using DER Numbers. We don't permit a DER to use his DER identification number when signing company or personal reports, drawings, service documents, or letters. A DER's signature does not constitute FAA approval. However, we encourage DERs to review and coordinate on certification documents submitted to us, such as certification plans. In this case, a DER may use his DER number and title to indicate that he reviewed the documents as an FAA representative.

j. Separation of Duties. A DAS, DOA, or SFAR 36 organization may identify individuals who are DERs as authorized representatives for the organization. Likewise, an organization designation authorization (ODA) may identify individuals who are DERs as unit members. A DER should be aware that the functions he performs as an authorized representative of these organizations are separate and distinct from the delegated functions he performs as a DER. A DER does not issue FAA Form 8110-3 in support of DAS, DOA, SFAR 36 or ODA projects.

k. Coercion. No one should force a DER to approve technical data that he hasn't had enough time to review, or doesn't find to comply with the applicable airworthiness requirements. A DER must report any coercion to the project ACO.

3-2. FAA Form 8110-3, Statement of Compliance with the Federal Aviation Regulations.

a. Using FAA Form 8110-3. A completed FAA Form 8110-3 is the DER's only means of approving technical data. We permit FAA Form 8110-3 to be computer-generated, but a computer-generated form must be so identical to the stock FAA-printed form such that there is no doubt about what the form is and how it is being used. A computer-generated form must be the same size; have the same general layout and configuration; use the same sequencing, numbering and arrangement of information and use the identical wording of the stock form.

Computer-generated and stock FAA printed forms may be used interchangeably. A DER must ensure the accuracy of the information on the form. A sample FAA Form 8110-3 is shown in appendix 3, figure 2. Appendix 3, figure 4 prescribes specific requirements and instructions for correctly preparing FAA Form 8110-3.

b. Distribution of FAA Form 8110-3.

(1) Certification Activities. A DER must send all original FAA Form(s) 8110-3 to the project ACO except for data approvals supporting a major repair/alteration. The DER sends copies of all forms to his managing ACO, if the managing ACO is not also the project ACO.

> **NOTE:** A project ACO may have more specific requirements for submitting FAA Form 8110-3.

(2) Major Repair and Major Alterations. A DER must submit the original FAA Form 8110-3 to his managing ACO. A DER submits a copy of FAA Form 8110-3 supporting a major repair or a major alteration to the owner/operator or repair station who requested the approval.

(3) In support of Foreign CAA requirements. A DER must provide the original FAA Form 8110-3 and substantiating data to the project ACO for review and concurrence. The project ACO will transmit FAA approval to the foreign CAA.

c. Maintaining File. A consultant DER is responsible for maintaining a file with copies of each FAA Form 8110-3 he signed and any associated data. For a company DER, the company is responsible for maintaining this file. A DER must provide copies of FAA Form 8110-3 and associated data when we request it.

d. Omissions and Errors. Careful preparation and use of FAA Form 8110-3 is important. A DER should be aware that omissions and errors in approvals can delay certification programs and could ultimately result in a reduction or termination of his authority. Some common mistakes are failing to:

(1) Sign the form;

(2) Include full titles and revision levels or dates for documents, reports, etc., listed;

(3) Include each complete drawing number or a drawing list, with revision levels or dates and titles;

(4) Specify those portions of the data that are approved, and those portions of the data that the FAA must evaluate;

(5) Check the "recommend" or "approve" box;

(6) Submit the original FAA Form 8110-3 to the project ACO;

(7) Reference specific section(s) in the regulations in the "Applicable Requirements" block, including amendment levels;

(8) State the project number in the "Purpose of Data" space;

(9) Approve data only within the DER's delegated functions and authorized areas; or

(10) Properly identify the aircraft make as it relates to the existing TC holder; for example, for restricted category aircraft, the DER shouldn't list the original manufacturer's name.

e. A DER candidate may use FAA Form 8110-3 or the DER Candidate form shown in appendix 3, figure 2. This form may not be stocked by the local ACO. It can be copied and enlarged to standard size. It is recommended that colored paper, other than white, be used to differentiate between this form and the FAA Form 8110-3. One of the following procedures may be used:

(1) A DER candidate completes and submits the DER Candidate Form and accompanying data directly to the ACO for their review and approval. The DER Candidate Form is not an FAA Form 8110-3 and does not have a certification statement.

(2) A DER candidate completes and submits the DER Candidate Form and accompanying data to a DER having approval authority. Under this procedure, both the DER and the ACO will audit the candidate's progress during the candidacy period. A DER reviews and, if all compliance items are satisfactorily addressed, approves the candidate's work on an FAA Form 8110-3 and submits both forms and the accompanying data to the ACO.

(3) A DER candidate prepares the FAA Form 8110-3 and enters the following note in the title box of the form: "The above data has been reviewed by DER candidate" followed by the printed name and written signature of the candidate, see sample shown in appendix 3, figure 3. The form and data are submitted to an authorized DER who, when satisfied with the data submittal, approves the submittal by checking the "Approve these data" block, signing in the signature block of the FAA Form 8110-3, and submitting the form and accompanying data to the ACO.

3-3. Administrative DER Functions. An Administrative DER performs the following functions:

a. Acts as focal point of contact and coordination for FAA certification activities.

b. Ensures that all data submitted are properly organized, identified, coordinated, and if appropriate, approved by an appropriately rated technical DER.

c. Ensures that all data are forwarded to us as agreed in the certification plan.

d. Ensures that each FAA Form 8110-3 is correctly completed (including the list of applicable regulations and appropriate signatures). If a DER finds discrepancies, he returns the data to the originator for evaluation and correction.

e. Gives us regular status reports on all open projects, including schedules, conformity requirements, upcoming tests (Company or FAA), technical problems/issues, and so forth. He informs us as soon as possible of any project or priority changes that may affect the certification effort.

f. Establishes a certification plan/compliance checklist early in the program, coordinate it with the technical DERs, updates it periodically, and submits it to us for acceptance.

g. Supports and coordinates FAA requests for information on accidents and service difficulties with the appropriate disciplines, and provides follow-up information.

3-4. Management DER Functions. A Management DER performs the following functions:

a. FAA certification project management duties for us, including those identified in paragraph 3-3. A management DER will use other DERs to accomplish the design compliance reviews and make the specific technical findings. A management DER must ensure that the other DERs are properly authorized, competent, and reliable when they accomplish the certification compliance review work.

b. Ensures that the applicant creates a certification plan (if appropriate) early in the program. This plan will show all necessary steps and milestones for the certification project arranged in their proper and logical order. The DER coordinates the plan with the applicant and FAA program manager.

c. Advises us of any design features that might require special conditions, exemptions, equivalent safety findings, or any unsafe features or characteristics.

d. Determines that the technical DERs accomplished all necessary findings of compliance with applicable regulations.

e. When requested, prepares the minutes of FAA and applicant meetings, coordinates them with the appropriate DERs and specialists, and submits to us for concurrence. When appropriate, prepares conformity requests and type inspection authorization (TIA), coordinates with the authorized DERs and specialists, and submits to us for review and issuance.

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3-5. Management/Administrative DER Submittals to the FAA. Neither administrative nor management DERs are authorized to sign an FAA Form 8110-3. The role of these DERs is non-technical. The only use of the FAA Form 8110-3 is for a DER authorized to make a technical finding of compliance to airworthiness regulations and other requirements as described in

paragraphs 2-6 a(3)and (4) of this order. Documents such as certification plans, compliance checklists, conformity plans, project schedules, and a proposed certification basis are all valued by the FAA for their contribution to effective project management. However, none of them is appropriate for approval by a DER via FAA Form 8110-3 indicating they are compliant with 14 CFR regulations. It is acceptable and often desirable for an appropriately authorized DER, such as an administrative or management DER, to submit these documents via letter, signed cover page, or a locally created form. These documents indicate that a DER has reviewed the submittal and has found it to be acceptable for the FAA project. The letter, cover page or other form may not indicate approval of the referenced data or findings of compliance to 14 CFR. A DER can be authorized to use his DER number and title to indicate that his review was performed as an FAA representative.

3-6. Releasability of Data. Under the Freedom of Information Act (FOIA), we will determine public availability of DER information in accordance with Title 5, United States Code Section 552.

CHAPTER 4. CERTIFICATION ACTIVITIES OF A DER

4-1. Type Certification Projects. We require a DER to obtain authorization from us before exercising his authority on any certification project, including a new or amended type certificate (TC), a major type design change, a new or amended supplemental type certificate (STC), a TSOA, or a PMA based on test and computation. Typically, our documented concurrence with an applicant's certification plan is evidence of authorization. A DER must follow FAA policy in determining compliance with pertinent regulations. Approval of the engineering technical data on FAA Form 8110-3 means that, within the limits of the DER's authority, the DER has determined that the data complies with FAA airworthiness requirements. These requirements include, but are not limited to, Federal Aviation Regulations, Special Federal Aviation Regulations (SFAR), special conditions, exemptions, other requirements that have been adopted or accepted by the FAA such as the Joint Aviation Requirements for very light aircraft (JAR-VLA), and specific foreign requirements that have been delegated on a project-by-project basis. The project ACO must establish the specific role, authorized area, and responsibility a DER has in performing these functions. The project ACO must be aware of a DER's limitations. More than one DER may be needed to cover the entire project. The ACO determines the extent of our involvement after the applicant proposes how each aspect of the project is to be approved.

a. Certification Application. After receiving an application for a TC, STC, major change to an approved type design, or PMA design approval, project ACO representatives will discuss necessary procedures, requirements for compliance inspections, and conformity requirements with the applicant and DER. The DER or the ACO subsequently arrange, as necessary, periodic meetings to discuss problems, project status, and methods for reporting progress. These meetings also permit the ACO to advise the DER on particular policies, standards, and procedures that apply to the project.

b. Certification Plan. Applicants should submit a certification plan early in the project. Certification plans are required for TC and STC projects per FAA Order 8110.4. As a minimum, the certification plan should contain the following:

(1) Identity of the applicant, application date, model designation.

(2) A general description of the concept or system, including sketches and schematics.

(3) The certification basis, including: applicable 14 CFR sections and sub-sections including amendment levels, exemptions, and special conditions.

(4) How compliance will be shown (by ground test, flight test, analysis, similarity, equivalent means of compliance), and what will be submitted to show compliance.

(5) Project schedule, including major milestones, preliminary hazard analysis submittal, detail submittals, when conformity and testing are required, and when final certification is expected.

(6) Identity of all proposed DERs, their specialties, the functions they will perform, and if a DER will approve the data or recommend approval.

NOTE: Documents such as certification plans, compliance checklists, conformity plans, project schedules, and a proposed certification basis are all valued by the FAA for their contribution to effective project management. However, none of these documents is appropriate for approval by a DER via FAA Form 8110-3 indicating they are compliant with the 14 CFR regulations.

c. Data Approval. We limit DERs to engineering data approval. Data approvals support an eventual design approval we issue after compliance with all applicable airworthiness regulations is found. Approval of the engineering technical data on FAA Form 8110-3 means that, within the limits of the DER's authority, the DER has determined that the data complies with FAA airworthiness requirements. A DER must advise the project ACO of relevant data that he didn't approve in order to ensure a complete investigation of compliance with all pertinent requirements. A DER sends the original FAA Form 8110-3, together with referenced approved reports and drawings, to the project ACO as agreed to in the certification plan to meet agreed upon certification schedules.

d. Flight Tests. When a DER is authorized to conduct an FAA flight test, the DER must coordinate the flight test with the appropriate FAA flight test representatives. Flight test pilot and flight analyst DERs must use the flight test risk management process described in FAA Order 4040.26, *Aircraft Certification Service Flight Safety Program.*

e. Flight Manuals. Generally, an ACO or ACO authorized representative approves aircraft flight manuals (AFM) and supplements or major revisions to AFMs. A DER should *recommend* approval, unless specifically authorized in writing to approve AFM revisions or supplements.

f. Type Certification Boards. We encourage DERs to participate as our advisors in type certification board meetings on projects in which they are involved.

g. Data Retention. The applicant is responsible for maintaining a file of all copies of FAA Form 8110-3 submitted to the FAA and any associated data.

h. Request for FAA Conformity Inspection. The project ACO may authorize a DER to initiate FAA Form 8120-10, Request for Conformity. This form should not be "approved" using an FAA Form 8110-3. FAA Order 8110.44, *Conformity Inspection Notification Process*, has procedures for type certification conformity inspection notifications between the applicant's DER and their designated inspection representative when the inspections are to take place in the United States.

i. DER Disposition of Unsatisfactory Items. The project ACO may authorize a DER to disposition unsatisfactory items identified during an FAA conformity inspection or to approve a later revision of design data that eliminates or prevents a discrepancy. We must identify this

authority on FAA Form 8120-10, Request for Conformity, or as part of a conformity plan or other agreement between the ACO and applicant. When so authorized, a DER should:

(1) Document the disposition of an unsatisfactory condition on FAA Form 8100-1, Conformity Inspection Record or as agreed to with the project ACO. FAA Form 8110-3 must not be used to disposition unsatisfactory conditions since there is no finding of compliance by the DER.

(2) Use FAA Form 8110-3 to document his approval of later revisions to design data within his authorized area. This may eliminate the need for a DER to disposition a discrepancy on FAA Form 8100-1, Conformity Inspection Record, as the later approved data should correct the unsatisfactory items.

4-2. Acoustical DER. We authorize acoustical DERs to review and recommend approval for AFM/AFMS/SFM pages or other media related to compliance with 14 CFR § 36.1581 and § 36.1583. Acoustical DERs should review pertinent aircraft noise level data included in all new flight manuals, revisions to existing flight manuals, and placards and markings, before submitting them for our approval. An acoustical DER may execute FAA Form 8110-3 with the specific paragraphs of 14 CFR part 36, Subpart O, listed in the requirements section.

4-3. Test Plans. An ACO may delegate test plan approval for tests that do not involve novel or unique methods or technology. Project ACOs must identify who will be responsible for approval of test plans as early as possible in the program. When an ACO will approve a test plan, the DER may be requested to recommend approval first.

4-4. Test Witnessing. DERs must receive specific authorization from the project ACOs before witnessing a test or approving any test data on our behalf. The DER must coordinate with the project ACO to determine if we wish to participate in witnessing all or part of a test. Before witnessing the test, the DER must verify that the necessary FAA conformity inspections have been accomplished, that the test article is in conformity, or that all unsatisfactory conditions have been dispositioned. A DER is not required to witness an entire test to approve the test data. However, the DER must coordinate with the ACO to determine which conditions are critical and must be witnessed in order to ensure that all the data are valid. When a DER approves test data, the DER indicates that he witnessed those portions of the test dealing with critical conditions, the test was conducted in accordance with the FAA approved test plan, and the data are official test results that satisfy the test criteria for compliance.

4-5. Flight Test Pilot DER. We require a flight test pilot DER to perform all tests on which he intends to approve or recommend approval of the data. The extent and conduct of the overall flight test plan must be coordinated with the project ACO. When a flight test pilot DER approves test data, the DER is indicating that he performed the tests, the tests were conducted in accordance with the approved test plan, and the data are official test results that comply with the applicable requirements. A Type Inspection Authorization (TIA) is required for conducting official FAA tests.

4-6. Changes in Type Design. 14 CFR § 21.93 classifies changes in type design as minor or major. Major changes require an FAA project that will include specific DER authorization for the project. We may approve minor changes in type design under a method acceptable to the Administrator, per 14 CFR § 21.95. This method may include approval by a DER without prior authorization by the ACO. The decision as to whether a change and/or modification is major or minor should be reviewed with the ACO if the decision is controversial or if the DER needs guidance.

a. Acoustic and Emission Changes. 14 CFR § 21.93(b) and (c) requires any voluntary change in type design (in addition to being a "Major" or Minor" change) be evaluated to determine whether it is an acoustic or emission change. Acoustical DERs are prohibited from making these determinations (either as Approve or Recommend Approval) as specified in 14 CFR § 183.29(i). However, acoustical DER involvement is beneficial to both us and the applicant in providing appropriate substantiation data in support of a determination.

4-7. Material Review Board Actions.

a. Engineering Representative. Members of the MRB are manufacturer's personnel acting for the manufacturer. If the manufacturer's engineering representative is also a DER, he does not act as a DER for the FAA during any MRB action.

b. Approval of Revised Data. When an MRB action results in a major change in type design, a manufacturer must follow the major design change process in paragraph 4-6.

4-8. Approval of an Alternative Method of Compliance (AMOC) to an Airworthiness Directive.

a. Approval Process. A structural DER with a special delegation to approve an AMOC must execute the AMOC approval on FAA Form 8110-3. The approval must at least specify:

(1) The affected aircraft model, serial number, and owner/operator;

(2) The AD number and paragraph(s) to which the AMOC applies;

(3) A complete and detailed description of the AMOC proposal, including part names, numbers, and serial numbers (if applicable). A description of damage, modifications, alterations, repairs; and any inspections, inspection intervals, and other necessary descriptive information;

(4) Any restrictions on the AMOC, such as special processes or time limitations;

(5) Reference(s) to substantiating data;

(6) Reference to the FAA letter (and date) granting AMOC approval authority to that particular DER (see appendix 3, figure 4);

(7) That the approval meets the applicable sections of the aircraft type certification basis or other defined airworthiness standards for that AD. Specific 14 CFR paragraphs must be listed; and

(8) DER signature and date.

b. Temporary Repairs. If a DER is approving data for a temporary repair as part of an AMOC, then the following additional actions are required by the design approval holder:

(1) Notify the owner/operator of the terms of the DER-approved temporary repair for the particular AD. Include a copy of FAA Form 8110-3 indicating DER approval and stating that the approval is time-limited and will have to be removed on or before a specific date (or cycle limit, or flight time limit).

(2) Keep all records (telexes, stress and life analyses, and letters) for the same time as normal continuing airworthiness record keeping requirements, not less than one year after the removal of said temporary repair from the aircraft.

(3) Have available the necessary paper work to support any audits that the ACO or directorate deems necessary to oversee the system.

4-9. Approval of Service Documents.

a. Engineering Aspects. Design approval holders may identify changes to type design incorporated after original manufacture in service documents. The engineering aspects of service documents require our approval. The ACO may delegate these approvals to a qualified DER. Service documents developed to transmit information on items such as maintenance tips, do not need FAA approval. FAA approval of engineering data in service documents must clearly indicate those aspects of the document that we approved. FAA Form 8110-3 submittals should list (in the "applicable requirements" block) the airworthiness requirements the DER found compliance with. AC 20-114, *Manufacturer's Service Documents*, suggests acceptable methods by which design approval holders may indicate our approval of recommended actions prescribed in them.

b. Service Documents and Revisions in an AD. Project ACOs and DERs must coordinate on service documents and revisions that are made a part of an airworthiness directive, or referenced in them.

4-10. DER International Operating Procedures. In FAA Order 8100.8, you will find guidance for DERs working on original certification projects (TC, ATC, STC) involving compliance findings outside the United States, foreign registered aircraft, and findings of compliance to FAA-accepted foreign requirements. For DERs working on repair and alterations, see paragraph 4-12. For guidance when working with EASA refer to Order 8100.14, *Interim Procedures for Working with the European Community on Airworthiness Certification and Continued Airworthiness.*

4-11. PMA Identicality Procedures. We require a DER to follow the provisions of Order 8110.42, *Parts Manufacturer Approval Procedures*, when conducting PMA activities. See an example of FAA Form 8110-3 with identicality notations in appendix 3, figure 4. A DER with special authority for PMA identicality may sign and submit FAA Form 8110-3 to the project ACO without a certification plan or specific prior consent from us. The project ACO must issue a letter of design approval even in the case when a DER is involved in making a finding of identicality.

a. Authority. A DER must be specifically authorized by his managing ACO to make PMA identicality findings. The DER and the PMA applicant should verify the DER's authority and limitations before proceeding with the finding of identicality. The DER must have access to the original design approval holder's data, allowing him to make a direct comparison of design data.

b. Critical Parts. For critical and life-limited parts, authorized DERs may only sign FAA Form 8110-3 as "recommend approval".

c. Other Parts. For other parts, authorized DERs may sign FAA Form 8110-3 as "approved," indicating identicality to the TC, STC, TSOA or letter of TSO design approval holder's data listed, i.e. the data that define the part covered under a TC, STC or TSO approved article, eligible for installation on a type certificated product. The requested eligibility for the applicable product model(s) must be indicated. The DER sends the TC, STC, TSOA or letter of TSO design approval holder's data to the project ACO with FAA Form 8110-3 and the PMA data.

d. Findings of Identicality. If a DER checks the approved block on FAA Form 8110-3, it does not mean that the PMA or any engineering aspects of the data are approved. It means the DER is indicating his finding that the PMA applicant's design is identical to the TC, STC, TSOA, or letter of TSO design approval holder's design. The DER must append a note on the "List of Data" section, stating, "FAA approval of the design is contingent upon FAA engineering verification of the type design data (or STC or TSOA data) listed."

> **NOTE:** In the "Purpose of Data" block on FAA Form 8110-3, the DER states "Identicality only approval under 14 CFR § 21.303." In the "Applicable Requirements" block, the DER states "14 CFR § 21.303(c)(4)." A DER making the finding must hold delegated authority in the authorized area.

e. FAA Actions. We will verify that the listed TC, STC, TSOA, or letter of TSO design approval holder's data is approved type design data for the product models indicated and the stated eligibility is valid. We also verify that there are no mandatory corrective actions to be implemented and no serious unresolved service difficulties that make the part ineligible. The applicant's design need not conform to the latest revision level of the TC, STC, TSOA, or letter of TSO design approval holder's drawing if we determine that the previously approved parts are still eligible for installation on the listed product models. After verifying that all requirements

are met, the ACO will continue processing the application in accordance with FAA Order 8110.42.

4-12. Repairs and Alterations. A *repair* is the restoration of a damaged airframe, powerplant, propeller, or appliance accomplished in such a manner and using material of such quality that its restored condition will be at least equal to its original or properly altered condition (with regard to aerodynamic function, structural strength, resistance to vibration and deterioration, and other qualities affecting airworthiness). The damage can be due to deterioration or to external causes. An *alteration* is the modification of an aircraft from one sound state to another sound state; the aircraft meets the applicable airworthiness specifications and standards both before and after the modification.

a. Major Repairs and Major Alterations. Major alterations and major repairs must be accomplished in accordance with technical data approved by the Administrator. A DER may approve design and substantiation data, if specifically authorized, to support a major repair or major alteration. However, this DER approved data may not be adequate to cover every aspect of the repair or alteration. Repairs or alterations involving flight manual supplements, airworthiness limitations, ground and flight test plans, ground and flight tests, compliance inspections, modifications to critical structure or life limited parts, instructions for continued airworthiness, special conditions, and equivalent level of safety findings may require data that a DER is not normally authorized to approve. If the repair or alteration requires approval of data beyond the DER's authority, then additional approval, such as an FAA field approval or ACO approval, is required.

b. Minor Repairs and Minor Alterations. Minor repairs and minor alterations do not require FAA engineering approval. As such, DER approval is not appropriate.

c. Authorization. A DER must obtain authorization from the managing ACO before he initiates data approvals for major repairs or major alterations. The ACO's authorization may be verbal and confirmed in writing or by an authorization letter. See a sample authorization letter in appendix 3, figure 6. A DER to whom we grant this special authorization may approve technical data for major repairs and major alterations without first notifying the project ACO, except when the part is critical or life limited, or if the work will be done outside the country. For guidance concerning operating outside the United States, see Order 8100.8. For critical or life limited parts, the DER must contact the project ACO for guidance.

(1) Aircraft Repairs and Alterations. Authorization for major repairs or major alterations applicable to aircraft, and engines and propellers installed on aircraft, are limited to the approval of a specific repair or alteration to specific serial number aircraft. A DER must coordinate with his managing ACO for authorization to approve data for multiple use repairs without specific aircraft serial number effectivity.

(2) Component Repairs and Alterations. A DER authorized to work on major repairs or major alterations of parts, components, engines, or propellers not installed on aircraft is limited to approving data for a specific repair or alteration to specific serial number parts,

components, engines, or propellers, or to a specific work order for parts or components that are not serialized. A DER must coordinate with his managing ACO for authorization to approve data for multiple use repairs, repair schemes, or establishment of repair limits for multiple use repairs to components.

d. Compliance Inspections. Approval of a major alteration may require a compliance inspection. Information regarding compliance inspections is contained in FAA Order 8110.4. If a DER is not delegated this function, he must add the following note to the body of the FAA Form 8110-3.

"_____compliance inspection is not included in this approval and requires ACO approval."

e. Repair and Alteration Design Data. We presume that basic design information will be available to DERs working in a design/production approval holder's organization. A DER outside the organization must make every effort to obtain the necessary information. A DER must determine that the technical data covering the repair or alteration contains clear reference and appropriate consideration of all fundamental design information pertinent to the repair or alteration. A DER must develop, or obtain, the technical data necessary to substantiate the repair or alteration according to the following guidance:

(1) Compliance Data. The applicant is responsible for showing compliance with applicable airworthiness requirements established by 14 CFR §§ 21.101 or 21.115. Normally, these rules and amendment levels are listed on the type certificate data sheet for the product.

(2) Standards. The technical data developed and used for a major repair or major alteration must show that the condition of the repaired or altered product will be at least equal to its original or properly altered condition. To accomplish this, the data must show compliance with the applicable airworthiness standards.

(3) Performance. The applicant must develop both the design data and substantiating data to show how the repaired or altered product meets all the requirements of the applicable regulations. When operated within the approved flight envelope of the certificated aircraft and maintained in accordance with FAA-approved or accepted manuals or an FAA-approved continuous airworthiness maintenance program, that the product will function reliably throughout its established inspection interval.

f. Data Submittal. The DER must submit a copy of the FAA Form 8110-3 and the approved data to the owner/operator or repair station that requested the approval. The DER must send the original FAA Form 8110-3 to their managing ACO and, if specifically requested by the ACO, a copy of the approved data. These submittals are used by the ACO to perform DER oversight. The transmittal of the FAA Forms 8110-3 to the ACO should contain a reference to the owner/operator or repair station involved and where the aircraft is located, if available. The DER must include the following notations in the "Purpose of Data" block on the FAA Form 8110-3, as applicable (see example in appendix 3, figure 4)

(1) The purpose is to support a major repair or major alteration.

(2) The approval is engineering data approval only.

(3) The serial number of the aircraft for a major repair or major alteration of an aircraft, or an engine, propeller or component installed on an aircraft. For major repair or major alteration of an engine, propeller or component not installed on an aircraft, the DER must either reference the serial number of the item, or the work order for the repair or alteration.

g. Coordination with Flight Standards. A DER must coordinate with FSDOs responsible for the geographic area, domestic or foreign, where the repair or alteration activity will occur. The purpose is to identify the DER's role in the repair or alteration activity and determine whether the FSDO will require additional approvals.

h. Major Repairs and Major Alterations may need Field Approval. A field approval is one of the means used by the FAA to approve technical data used to accomplish a major repair or major alteration. It is an FAA approval, by an authorized Aviation Safety Inspector, of technical data and/or installations used to accomplish a major repair or major alteration. We don't authorize DERs to grant "field approvals", to sign off an FAA Form 337, Major Repair and Alteration; to grant data approval by signing log books, or other like documents. See FAA Order 8300.10, *Airworthiness Inspector's Handbook*, for more guidance on field approvals of major repairs and major alterations. A DER supporting a major alteration or major repair by furnishing approved data should indicate whether the data does, or does not, constitute all the data necessary to substantiate compliance of the repair or alteration with all applicable airworthiness regulations. A DER unsure of the extent of his approval authority or authorization to approve all the data required to support a major repair or major alteration should contact his managing ACO. In order to help the installer and FSDO involved, a DER must add the following note to the FAA Form 8110-3:

> "This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as "Applicable Requirements." (Also, indicate if compliance with additional regulations not listed here may be required). This form does (or does not) constitute FAA approval of all the engineering data necessary for substantiation of compliance to necessary requirements for the entire alteration/repair."

i. Process Specifications. When being requested to approve the engineering aspects of a repair process specification, the DER must remind the repair station(s) that they are responsible for coordinating with the FSDO to obtain the approval. Repair stations are responsible because the process specification will be part of their operating specification or inspection procedure manual. A DER may help the repair station develop the process specification for a particular repair. However, the DER may only approve the test results and compliance substantiation necessary to show that the repair, done in accordance with the process specification, meets all the applicable airworthiness standards. A DER cannot approve generic process specifications,

for example process specifications that are not applicable to a specific repair or alteration for an aircraft, engine, propeller or component. Many generic processes may have been accepted by industry, or be listed as an acceptable method, technique, or practice in AC 43.13-1, *Acceptable Methods, Techniques, and Practices Aircraft Inspection and Repair*, or AC 43.13-2, *Acceptable Methods, Techniques, and Practices Aircraft Alterations*. Finally, the DER should not approve parts inventory, receiving, handling, inspecting or cleaning, since these shop practices do not require our engineering review/approval.

j. Interim Repairs. A DER must contact his managing ACO for appropriate policy and guidance for anything other than a complete repair such as an "interim/time limited" structural repair. Without prior coordination with the ACO, a DER is not authorized to approve extensions of established limits.

k. DER Data Approvals for Repair and Alteration of Foreign Registered Aircraft. The DER system supports data approval for aircraft major repairs and major alterations. For U.S.-registered aircraft, these repairs and alterations may be accomplished under 14 CFR part 43 using DER-approved data as FAA approved data. However, for foreign-registered aircraft, the Civil Aviation Authority (CAA) of the state of registry is responsible for approving repair or alteration data. We permit a DER to approve data for foreign-registered aircraft in accordance with the following criteria:

(1) The DER must have the authority to approve data for major repairs and/or major alterations.

(2) The data must concern a U.S. state of design aircraft, engine, propeller, or supplemental type certificate unless it is for an aircraft operated by a U.S. operator under 14 CFR §§ 121.153(c) or 135.25(d). (“U.S. state of design” means the type certificate holder is located in the United States)

(3) The DER must include this disclaimer in the "Purpose of Data" block on the FAA Form 8110-3 except as defined in (4) and (5) below:

> This FAA approval is provided for a foreign-registered aircraft. Acceptance is at the discretion of the civil aviation authority of the State of registry. The installer must determine compatibility of this data with the aircraft configuration.

(4) DER-approved major repair data applicable to Canadian registered aircraft will be accepted by Transport Canada Civil Aviation (TCCA) without the disclaimer per FAA Order 8110.53 *Reciprocal Acceptance of Repair Design Data Approvals Between FAA and TCCA*. A DER will approve the data as compliant with the applicable FAA requirements unless TCCA requests specific findings to the Canadian Aviation Regulations (CAR) through the DER’s managing ACO. The ACO will then determine if the DER has the knowledge and experience necessary to make findings to the CAR and may delegate these finding to the DER on a case-by-case basis.

(5) A DER may approve major repair and major alteration data intended for use on foreign-registered aircraft operated by U.S. operators under 14 CFR parts 121 and 135 in the same manner that he approves data for U.S.-registered aircraft on his certificate without using the above disclaimer

(6) A DER must identify the aircraft by serial number on the FAA Form 8110-3 per paragraph 4-12f.

l. Engine, Propeller and Component Activity. A DER approving data for a repair or alteration of an engine, propeller or component not installed on an aircraft cannot always know where or when the item will be installed. Therefore, they may not know the registry of the aircraft the item will be installed on. A DER working within his authority when performing these approvals need not be concerned about the registry of the aircraft.

m. Instructions for Continued Airworthiness (ICA). The applicant prepares ICA in accordance with 14 CFR § xx.1529, § 33.4 or § 35.4 when applicable and submits them to the FSDO for acceptance. A DER may be involved in ICA development, but we at the FAA review and determine ICA acceptability. See FAA Order 8110.54, *Instructions for Continued Airworthiness Information Responsibilities, Requirements, and Contents*, for more guidance on ICA.

4-13. Flammability Testing of Interior Materials. A DER with authority to witness flammability tests on our behalf must know how the material or part will be installed on an end product and must identify that use on the FAA Form 8110-3. For certification projects, a DER makes this finding of compliance per an approved test plan and using a conformed test article that represents the final configuration. For a specific repair or alteration, a DER makes this finding of compliance per an acceptable method as agreed by his managing ACO, which will include a defined test process and means to ensure test article conformity. The FAA Form 8110-3 may not be used by a DER to attest to compliance with 14 CFR § XX.853 or other material flammability test to support lot or quality control testing or in support of TSO Authorizations.

4-14. Technical Standard Order Authorization (TSOA) Procedures. FAA Order 8150.1, *Technical Standard Order Program*, covers procedures for issuing TSOAs. While we do not permit a DER to issue TSOAs, in special cases they may make findings of compliance to support an applicant’s statement of conformance.

a. Authority. For an ACO to use a DER in the TSOA process, we must first grant the DER the special delegation to make findings of compliance in support of 14 CFR § 21.601(b)(2). This special delegation will be identified in the DER's authority as "TSO Software". An ACO grants this special delegation as part of the DER letter of authorization.

b. FAA Actions. The project ACO decides whether to use DERs to approve software data on behalf of a TSO applicant. If an applicant desires to use a DER to approve data, they should identify the DER early in the project so that the ACO can decide if they will accept DER-approved data. The ACO will also determine the suitability of the proposed DER, and

identify the specific data that the DER may approve for the project, and data that is reserved for ACO approval.

c. Finding. We limit the DER's data approval capability in support of TSOA to findings of compliance to RTCA document RTCA/DO-178, *Software Considerations in Airborne Systems and Equipment Certification,* when software is incorporated in the article concerned. A DER shows compliance with RTCA/DO-178 on FAA Form 8110-3. The “Purpose of Data” block will state "In support of TSO CXXX authorization". In the “Applicable Requirements” block, DERs will include the statement, "In support of 14 CFR § 21.601(b)(2) and RTCA DO-178". The authorized DER will also add "TSO software" to the “Classification(s)” block in addition to their DER type. See example in appendix 3, figure 4.

d. Installation Issues. Applicants for TC, STC or amended TC still need to address installation concerns for any TSO'd article. However, under most circumstances, the DO-178 data will not require re-evaluation unless there is some installation-specific issue to be addressed by the DO-178 data.

CHAPTER 5. DER GUIDANCE MATERIAL

5-1. DER Guidance Material.

a. DER Guidance Material consists of the airworthiness standards and FAA directives and advisory circulars that the DER needs to effectively carry out their responsibilities as representatives of the Administrator. Each DER is responsible for maintaining the required material.

b. Electronic DER Guidance Material. DER guidance material is available from the FAA web site in accordance with paragraph 5-1d. A DER needs to be familiar with the regulations, orders, and advisory circulars appropriate to the work he is doing.

c. Other Guidance Material and Forms. Managing or project ACOs provide all necessary forms, instructions, and other material not available through the FAA web site.

d. FAA Web Site. The primary source for DER guidance material is the FAA web site, www.faa.gov. The FAA web site offers access to an electronically accessible information database that contains many current FAA publications such as safety data, airworthiness regulations, orders, notices, advisory circulars, and airworthiness directives. A DER may obtain other related regulations and policy through the managing ACO, the U.S. Government Printing Office, or U.S. government bookstores.

APPENDIX 1. LIMITATIONS ON DER FUNCTIONS

1. The following items are approved or issued only by the FAA.

   a. Departures from specific policy and guidance.

   b. Use of new/unproven technologies.

   c. Equivalent level of safety findings.

   d. Special conditions.

   e. Exemptions.

   f. Establishment of a product certification basis.

   g. TCs, PMAs and TSOAs.

   h. Determination of an unsafe condition.

   i. Airworthiness directives.

2. We may delegate any examination, inspection, and test necessary for issuing a certificate. The decision to delegate is influenced by many factors. Some critical factors include the knowledge and expertise of FAA personnel and the potential delegated personnel; the impact of the delegated task on safety; and the political sensitivity of the task. Accordingly, for any particular certification program**, we would generally reserve for ourselves the approval of the following items:**

   a. STRUCTURAL

      (1) Approval of test plans.
      (2) Basic load reports.
      (3) Material and fastener allowables, including fatigue allowables.
      (4) Approval of life limits.
      (5) Previously unapproved crashworthiness matters.
      (6) Emergency evacuation test plans and analysis.
      (7) Damage tolerance evaluation methodologies.
      (8) Airworthiness limitations section of the instructions for continued airworthiness.
      (9) Approval of probability conclusions.
      (10) Interior compliance inspection.

   b. POWERPLANT

      (1) Approval of test plans.
      (2) Flight test results.
      (3) Operational procedures and limitations.
      (4) Safety analyses activities for new engine installations. (see note)
      (5) Rotorburst analyses for new engine installations
      (6) Fire safety hazard analyses.

(7) Powerplant drainage test witnessing.

APPENDIX 1. LIMITATIONS ON DER FUNCTIONS (CONTINUED)

(8) Induction system ice protection and installed engine characteristics in icing conditions for new engine installations.
(9) Flammable fluid fire protection compliance inspection.
(10) Fire detector and extinguishing systems and installations.
(11) Software verification and validation.
(12) Engine performance methodology.

c. SYSTEMS & EQUIPMENT

(1) Approval of test plans.
(2) New concepts of system/equipment design.
(3) Software:
(a) Plan for software aspects of certification.
(b) Configuration index.
(c) Accomplishment summary.
(4) Unconventional applications of systems/equipment.
(5) Safety analyses activities. (see note)
(6) Control systems compliance inspection.
(7) Previously unapproved crashworthiness matters.
(8) Interior compliance inspection.
(9) Emergency evacuation test plans and analyses.

d. RADIO

(1) Approval of test plans.
(2) New concepts of system/equipment design.
(3) Safety analyses activities. (see note)

e. ENGINE

(1) Approval of test plans.
(2) Operational procedures and limitations.
(3) Critical rotating parts lifing methodologies.
(4) Installation instructions.
(5) Airworthiness limitation sections.
(6) Repairs to critical engine parts.
(7) Software verification and validation.
(8) Engine emissions.

f. PROPELLER

(1) Approval of test plans.
(2) Operational limits.

APPENDIX 1. LIMITATIONS ON DER FUNCTIONS (CONTINUED)

(3) Vibration analysis methods.
(4) Airworthiness limitation sections.
(5) Fatigue allowables and fatigue life.
(6) Loads reports, particularly vehicle usage spectra.

g. FLIGHT ANALYST

(1) Approval of test plans.
(2) Overall flight and ground test plans limitations, operating procedures, or sequences.
(3) New methods or principles of testing or presentation of results.
(4) Unusual aircraft flying qualities and aircraft performance.
(5) Aircraft flight manuals or revisions, and flight manual supplements.
(6) Flight advances technical design features.
(7) New operational procedures.
(8) Evaluation of several STCs on one aircraft.
(9) Spot check of certification flight test results.
(10) Reference profiles calculated in support of 14 CFR part 36

h. FLIGHT TEST PILOT

(1) Approval of test plans.
(2) Overall flight and ground test plan limitations, operating procedures, or sequences.
(3) New methods or principles of testing or presentation of results.
(4) Unusual aircraft flying qualities and aircraft performance.
(5) Aircraft flight manuals or revisions and flight manual supplements.
(6) Flight advances technical design features.
(7) New operational procedures.
(8) Evaluation of several STCs on one aircraft.
(9) Spot check of certification flight test results.

i. ACOUSTICAL

(1) Test witnessing (in accordance with an approved test plan).
(2) Aircraft reference profiles (when based on approved aircraft performance).
(3) Operating limitations.
(4) Final aircraft noise certification levels compliance report approval.
(5) Noise test site conditions
(6) Conformity deviation affect to noise testing
(7) Ambient weather conditions during testing (e.g., anomalous conditions)
(8) Equipment calibration methods and/or intervals if different from or not clarified in the rules

APPENDIX 1. LIMITATIONS ON DER FUNCTIONS (CONTINUED)

NOTE: "Safety Analysis" may include but is not limited to the following:

- Functional hazard analysis (FHA)
- Preliminary system safety assessments (PSSA)
- Failure modes and effects analysis (FMEA)
- Fault tree analysis (FTA)
- Markov analysis (MA)
- System safety assessments (SSA)
- Zonal analysis (ZA)
- Common mode analysis (CMA)
- Particular risk analyses (PRA), and
- Evaluation of the need for warning information in response to unsafe operating conditions

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (10 PAGES)

FIGURE 1. CHART A, DESIGNATED ENGINEERING REPRESENTATIVE STRUCTURAL

Functions and areas that *can* be authorized are defined by *white squares*. Each DER's authority may be different, and is identified in their letter of appointment.

	AUTHORIZED AREAS	Structural-General (1)	Structural-Wing Group	Structural-Fuselage Group	Structural-Empennage Group	Structural-Landing Gear	Structural-Flight Controls	Structural-Rotor	Loading Control Documents	Metallic Materials (2)	Nonmetallic Materials (3)	Interior Arrangements	Interior Materials	Fire Protection	Evacuation Systems	Door Systems	Special (Specify)
	DELEGATED FUNCTIONS	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**
1	STATIC ANALYSIS								■	■	■	■	■	■	■	■	
2	DYNAMIC ANALYSIS		■	■	■		■		■	■	■	■	■	■	■	■	
3	FATIGUE ANALYSIS						■		■	■	■	■	■	■	■	■	
4	DESIGN AND CONSTRUCTION								■	■	■						
5	FLUTTER/GROUND VIBRATION		■	■	■	■	■		■	■	■	■	■	■	■	■	
6	SAFETY ANALYSIS		■	■	■			■	■	■	■	■	■				
7	FLOTATION & DITCHING ANALYSIS		■	■	■	■	■	■	■	■	■	■	■	■	■	■	
8	STRUCTURAL LOADING LIMITATIONS	■	■	■	■	■	■	■		■	■	■	■	■	■	■	
9	SERVICE DOCUMENTS								■	■	■						
10	MATERIAL & PROCESS SPEC.	■	■	■	■	■	■	■	■			■	■	■	■	■	
11	FLAMMABILITY	■	■	■	■	■	■	■	■	■	■	■			■	■	
12	DAMAGE TOLERANCE EVALUATIONS		■	■	■	■	■		■	■	■	■	■	■	■	■	

NOTE (1): Includes all airframe components: wing, fuselage, empennage, landing gear, flight controls, engine mounts, and special components. Does not apply to rotors.

NOTES (2) and (3): Select Specialty by Note number and sub-letter from lists below. General applies to all processes listed.

(2) Metallic Materials/Processes
- A - Materials & Processes - General
- B - Non-Destructive Inspection/Testing
- C - Metallurgy
- D - Metal Joining Processes
- E - Structural Adhesives
- F - Mechanical Fasteners
- G - Surface Treatment/Coatings
- H - Bearings

(3) Nonmetallic Materials/Processes
- A - Material & Processes - General
- B - Transparent (Glazed) Material
- C - Polymeric Materials
- D - Structural Adhesives
- E - Mechanical Fasteners
- F - Composites
- G - Non-Destructive Inspection/Testing
- H - Surface Treatment & Coatings
- I - Structural Joining Methods

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (CONTINUED)

FIGURE 2. CHART B, DESIGNATED ENGINEERING REPRESENTATIVE POWERPLANT INSTALLATIONS

Functions and areas that *can* be authorized are defined by *white squares*. Each DER's authority may be different, and is identified in their letter of appointment.

	DELEGATED FUNCTIONS	AUTHORIZED AREAS: Airplane Turbine Engine (A)	Airplane Piston Engine (B)	Rotorcraft Turbine Engine (C)	Rotorcraft Piston Engine (D)	Auxiliary Power Unit (APU) (E)	Special (Specify) (F)
1	ENGINE INSTALLATION						
2	FUEL & OIL						
3	INDUCTION/EXHAUST SYSTEMS						
4	THRUST REVERSERS			■	■	■	
5	FIRE PROTECTION						
6	ICE PROTECTION						
7	COOLING						
8	ENGINE PERFORMANCE/OPERATIONS						
9	INDICATING SYSTEMS						
10	LIGHTNING/HIRF PROTECTION						
11	SOFTWARE						
12	CONTROL SYSTEM - ELECTRONIC						
13	CONTROL SYSTEM - MECHANICAL						
14	EMISSIONS					■	
15	VIBRATION - ENGINE, PROPELLER, OR DRIVE SYSTEM					■	
16	PROPELLER			■	■	■	
17	DRIVE SYSTEM					■	
18	TRANSMISSIONS	■	■			■	
19	SAFETY ANALYSIS						
20	SERVICE DOCUMENTS						

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (CONTINUED)

FIGURE 3. CHART C1, DESIGNATED ENGINEERING REPRESENTATIVE SYSTEMS AND EQUIPMENT (MECHANICAL EQUIPMENT)

Functions and areas that *can* be authorized are defined by *white squares*. Each DER's authority may be different, and is identified in their letter of appointment.

	AUTHORIZED AREAS	Air Conditioning	Hydraulic	Ice Protection	Rain Protection	Oxygen	Pneumatics	Wheels, Tires, and Brakes	Interior Arrangements	Interior Materials	Pressurization	Fire Protection	Water System, Potable and Waste	Evacuation Systems	Special (Specify)
	DELEGATED FUNCTIONS	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**
1	DETAIL DESIGN AND INSTALLATION														
2	EQUIPMENT QUALIFICATION TESTS														
3	SOFTWARE														
4	SAFETY ANALYSIS														
5	FLAMMABILITY														
6	LIGHTNING/HIRF PROTECTION														
7	SERVICE DOCUMENTS														

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (CONTINUED)

FIGURE 4. CHART C2, DESIGNATED ENGINEERING REPRESENTATIVE SYSTEMS AND EQUIPMENT (ELECTRICAL EQUIPMENT)

Functions and areas that *can* be authorized are defined by *white squares*. Each DER's authority may be different, and is identified in their letter of appointment.

	AUTHORIZED AREAS	Electrical Equipment/Systems	Electronic Equipment/Systems	Communications Systems/Antennas	Automatic Flight Controls/Augmentation	Instruments	Navigation Systems/Antennas	Air Data/Pitot Static	Warning Systems	Interior/Exterior Lighting	Flight Data/Voice Recording	Passenger Address/Entertainment	Special (Specify)
	DELEGATED FUNCTIONS	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**
1	DETAIL DESIGN AND INSTALLATION												
2	EQUIPMENT QUALIFICATION TESTS												
3	SOFTWARE												
4	SERVICE DOCUMENTS												
5	ELECTRICAL LOAD ANALYSIS												
6	SAFETY ANALYSIS												
7	LIGHTNING/HIRF PROTECTION												

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (CONTINUED)

FIGURE 5. CHART D, DESIGNATED ENGINEERING REPRESENTATIVE RADIO

Functions and areas that *can* be authorized are defined by *white squares*. Each DER's authority may be different, and is identified in their letter of appointment.

	AUTHORIZED AREAS	Radio Design	Operating Characteristics	Antenna Design	Radio Installation	Special (Specify)
DELEGATED FUNCTIONS		**A**	**B**	**C**	**D**	**E**
1	ANALYTICAL SUBSTANTIATION					
2	DETAIL DESIGN					
3	SAFETY ANALYSIS					
4	SERVICE DOCUMENTS					

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (CONTINUED)

FIGURE 6. CHART E, DESIGNATED ENGINEERING REPRESENTATIVE ENGINES

Functions and areas that *can* be authorized are defined by *white squares*. Each DER's authority may be different, and is identified in their letter of appointment.

		AUTHORIZED AREAS		
		Turbine Engines	Piston Engines	Special (Specify)
DELEGATED FUNCTIONS		**A**	**B**	**C**
1	DETAIL DESIGN			
2	BLOCK TESTS			
3	PERFORMANCE CHARACTERISTICS			
4	VIBRATION ANALYSIS			
5	OPERATION MANUALS			
6	OVERHAUL MANUALS			
7	SERVICE DOCUMENTS			
8	EXHAUST EMISSIONS EVALUATION			
9	SOFTWARE			
10	SAFETY ANALYSIS			
11	LIGHTNING/HIRF PROTECTION			

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (CONTINUED)

FIGURE 7. CHART F, DESIGNATED ENGINEERING REPRESENTATIVE PROPELLERS

Functions and areas that *can* be authorized are defined by *white squares*. Each DER's authority may be different, and is identified in their letter of appointment.

		AUTHORIZED AREAS	Controllable-Pitch Propellers	Fixed Pitch Propellers	Special (Specify)
	DELEGATED FUNCTIONS		**A**	**B**	**C**
1	DETAIL DESIGN				
2	BLOCK TESTS				
3	PERFORMANCE CHARACTERISTICS				
4	VIBRATION ANALYSIS				
5	OPERATION MANUALS				
6	OVERHAUL MANUALS				
7	SERVICE DOCUMENTS				
8	SOFTWARE				
9	SAFETY ANALYSIS				
10	LIGHTNING/HIRF PROTECTION				

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (CONTINUED)

FIGURE 8. CHART G, DESIGNATED ENGINEERING REPRESENTATIVE FLIGHT ANALYST

Functions and areas that *can* be authorized are defined by *white squares*. Each DER's authority may be different, and is identified in their letter of appointment.

	AUTHORIZED AREAS	Aircraft Performance	Aerodynamics	Flight Characteristics	Sys. Calib. (Air Spd., Alt., Air Temp.)	Propulsion Sys. & Related Components	Elec./Electronic Sys.-Related Components	Mech. & Hyd. Sys.-Related Components	Pressure & Air Conditioning Systems	Auto Control Systems	Ice Protection System	Special (Specify)	Part 36 Reference Conditions (1)
	DELEGATED FUNCTIONS	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**
1	REVIEW FLIGHT TEST PLANS												
2	REVIEW FLIGHT TEST INSTRUMENTATION												
3	WEIGHT AND BALANCE SURVEILLANCE												
4	FLIGHT TEST DATA RECORDING												
5	FLIGHT TEST DATA REDUCTION/ANALYSIS												
6	FLIGHT TEST DATA EXPANSION (ALTITUDE/TEMPERATURE/WEIGHT)												
7	COMPILE FLIGHT TEST REPORTS												
8	COMPILE PERFORMANCE SUBSTANTIATION REPORTS												
9	COMPLETE PORTIONS OF TYPE INSPECTION REPORTS												
10	REVIEW AIRCRAFT FLIGHT MANUAL AND RECOMMEND APPROVAL (2)												
11	COMPILE PART 36 REFERENCE PROFILES												

NOTE (1) : Part 36 reference profiles and conditions may be controlled by identifying the specific appendix to part 36 (e.g., Appendix B, Appendix G, Appendix H, Appendix J) or by the 14 CFR Part (e.g., Part 23, Part, 25, Part 27, Part 29) identified in the DER's certificate of authority. Identify limitations as necessary.

NOTE (2): Although the chart authority limits a DER to recommending approval, the FAA may authorize a DER with this delegated function to approve AFM revisions or supplements. DERs should recommend approval, unless specifically authorized to approve AFM revisions or supplements.

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (CONTINUED)

FIGURE 9. CHART H, DESIGNATED ENGINEERING REPRESENTATIVE FLIGHT TEST PILOT

Functions and areas that *can* be authorized are defined by *white squares*. Each DER's authority may be different, and is identified in their letter of appointment.

	AUTHORIZED AREAS	Aircraft Performance	Flight Characteristics	Propulsion Systems	Hyd., Elec., & Pneu. Systems	Pressurization and A/C Systems	Flight Instruments & Systems	Auto Control Systems	Ice Protection Systems	Operating Limitations/Procedures	H/V (Rotorcraft)	Special (Specify)
	DELEGATED FUNCTIONS	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**
1	RECOMMEND APPROVAL OF FLIGHT TEST PLANS (1)											
2	CONDUCT GROUND TESTS AND EVALUATIONS		■								■	
3	CONDUCT FLIGHT TESTS AND EVALUATIONS											
4	COMPILE TEST REPORTS	■		■	■	■						
5	COMPLETE PORTIONS OF AND APPROVE THE TYPE INSPECTION REPORT											
6	RECOMMEND APPROVAL OF AIRCRAFT FLIGHT MANUAL (2)											

NOTE (1) : Although the chart authority limits a DER to recommending approval, the FAA may authorize a DER with this delegated function to approve flight test plans. DERs should recommend approval of test plans, unless specifically authorized to approve them.

NOTE (2): Although the chart authority limits a DER to recommending approval, the FAA may authorize a DER with this delegated function to approve AFM revisions or supplements. DERs should recommend approval, unless specifically authorized to approve AFM revisions or supplements.

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (CONTINUED)

FIGURE 10. CHART I, DESIGNATED ENGINEERING REPRESENTATIVE ACOUSTICAL

Functions and areas that *can* be authorized are defined by *white squares*. Each DER's authority may be different, and is identified in their letter of appointment.

		AUTHORIZED AREAS		
			Acoustical	Special (Specify)
DELEGATED FUNCTIONS			**A**	**B**
1	MEASUREMENT LOCATIONS			
2	RECORDING EQUIPMENT			
3	ANALYSIS EQUIPMENT			
4	ENVIRONMENTAL CONDITIONS			
5	CALCULATION PROCEDURE			

NOTE: Acoustical DERs may only recommend approval of test plans and final noise certification compliance reports. Acoustical DERs may also recommend approval for AFM/AFMS/SFM pages or other media related to compliance with 14 CFR § 36.1581 and § 36.1583.

APPENDIX 3. SAMPLES, FORMS, AND LETTERS

FIGURE 1. SAMPLE FAA Form 8110-3, STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION **STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS**			DATE
AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION			
MAKE	MODEL NO.	TYPE (*Airplane, Radio, Helicopter, etc.*)	NAME OF APPLICANT
LIST OF DATA			
IDENTIFICATION	TITLE		
PURPOSE OF DATA			
APPLICABLE REQUIREMENTS *(List specific sections)*			

CERTIFICATION - Under authority vested by direction of the Administrator and in accordance with conditions and limitations of appointment under Part 183 of the Federal Aviation Regulations, data listed above and on attached sheets numbered _____ have been examined in accordance with established procedures and found to comply with applicable requirements of the Federal Aviation Regulations.

I (We) Therefore
- ☐ Recommend approval of these data
- ☐ Approve these data

SIGNATURE(S) OF DESIGNATED ENGINEERING REPRESENTATIVE(S)	DESIGNATION NUMBER(S)	CLASSIFICATION(S)

FAA Form 8110-3 (11-70) SUPERSEDES PREVIOUS EDITION (REPRESENTATION)

(Sample FAA Form 8110-3 reduced to approximately 80% actual size)

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (CONTINUED)

FIGURE 2. SAMPLE DER CANDIDATE FORM

DER CANDIDATE STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS			DATE
AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATIONS			
MAKE	MODEL NO.	TYPE (*Airplane, Radio, Helicopter, etc.)*	NAME OF APPLICANT
IDENTIFICATION	TITLE		
PURPOSE OF DATA			
APPLICABLE REQUIREMENTS *(List specific sections)*			
I (We) Therefore ☐ Recommend approval of these data			
SIGNATURE(S) OF DESIGNATED ENGINEERING REPRESENTATIVE CANDIDATE(S)			CLASSIFICATION(S)

(Sample reduced to approximately 80% actual size)

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (CONTINUED)

FIGURE 3. SAMPLE FAA Form 8110-3, STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS, WITH DER CANDIDATE REVIEW NOTE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION **STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS**	DATE

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

MAKE	MODEL NO.	TYPE (*Airplane, Radio, Helicopter, etc.*)	NAME OF APPLICANT

LIST OF DATA

IDENTIFICATION	TITLE
	THE ABOVE DATA HAS BEEN REVIEWED BY DER CANDIDATE **NAME: _____ DATE_____**

PURPOSE OF DATA

APPLICABLE REQUIREMENTS *(List specific sections)*

CERTIFICATION - Under authority vested by direction of the Administrator and in accordance with conditions and limitations of appointment under Part 183 of the Federal Aviation Regulations, data listed above and on attached sheets numbered 1 have been examined in accordance with established procedures and found to comply with applicable requirements of the Federal Aviation Regulations.

I (We) Therefore ☐ Recommend approval of these data ☐ Approve these data **EITHER - AS APPROPRIATE**

SIGNATURE(S) OF DESIGNATED ENGINEERING REPRESENTATIVE(S)	DESIGNATION NUMBER(S)	CLASSIFICATION(S)

FAA Form 8110-3 (11-70) SUPERSEDES PREVIOUS EDITION (REPRESENTATION)

(Sample FAA Form 8110-3 reduced to approximately 80% actual size)

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (CONTINUED)

FIGURE 4. FAA Form 8110-3, INSTRUCTIONS FOR PREPARATION

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION **STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS**	DATE ①

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

MAKE	MODEL NO.	TYPE (*Airplane, Radio, Helicopter, etc.*)	NAME OF APPLICANT
②	③	④	⑤

LIST OF DATA

IDENTIFICATION	TITLE
⑥	⑦

PURPOSE OF DATA

⑧

APPLICABLE REQUIREMENTS *(List specific sections)*

⑨

CERTIFICATION - Under authority vested by direction of the Administrator and in accordance with conditions and limitations of appointment under Part 183 of the Federal Aviation Regulations, data listed above and on attached sheets numbered N/A have been examined in accordance with established procedures and found to comply with applicable requirements of the Federal Aviation Regulations.

I (We) Therefore ☐ Recommend approval of these data ☐ Approve these data ⑩

SIGNATURE(S) OF DESIGNATED ENGINEERING REPRESENTATIVE(S)	DESIGNATION NUMBER(S)	CLASSIFICATION(S)

FAA Form 8110-3 (11-70) SUPERSEDES PREVIOUS EDITION (REPRESENTATION)(Sample reduced to approximately 80% actual size)

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (CONTINUED)

FIGURE 4. SAMPLE FAA Form 8110-3, INSTRUCTIONS FOR PREPARATION

① **Date –** Enter the date the DER signs the form, making the finding(s) that the listed data complied with the applicable requirements. If more than one DER signs the same form, the date should be the date the last finding was made.

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

② **Make** – Enter the make as listed on the product's type certificate data sheet OR if the approval is for a part or component, separate from a type certification project, such as a repair or PMA, enter the manufacturer of the component.

③ **Model No. –** Enter either the aircraft model series or the specific aircraft model number, as appropriate and as listed on the product's type certificate data sheet. If the approval is applicable to multiple models, list them separately. If the approval is for a part or component, separate from a type certification project, such as a repair or PMA, enter the model number of the part or component.

④ **Type –** Enter the type of product as listed on the product's type certificate data sheet, or describe the part or component.

⑤ **Name of Applicant –** For a TC, STC, design change, PMA, or TSO project this is the name of the applicant for the approval or authorization. For a major repair or alteration, this is the name of the person or organization who arranged for the DER to approve the data.

Example: TC, ATC, Major Change, or STC

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION			
MAKE	MODEL NO.	TYPE (*Airplane, Radio, Helicopter, etc.*)	NAME OF APPLICANT
Boeing	787	Airplane	Boeing

Example: STC, PMA, Major Repair or Major Alteration

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION			
MAKE	MODEL NO.	TYPE (*Airplane, Radio, Helicopter, etc.*)	NAME OF APPLICANT
General Electric	CF6-50	Engine	Delta Airlines

Example: PMA, Major Repair or Major Alteration

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION			
MAKE	MODEL NO.	TYPE (*Airplane, Radio, Helicopter, etc.*)	NAME OF APPLICANT
Parker	2HX	Actuator	Ralph's Accessory Repairs

LIST OF DATA

⑥ **Identification –** Enter the report, drawing, analysis, or document number, date, and revision level.

⑦ **Title –** Enter the title of the report, drawing, analysis, or document. Below this enter the exact extent of the approval. For instance, if the data is type design only and the compliance

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (CONTINUED)

FIGURE 4. SAMPLE FAA Form 8110-3, INSTRUCTIONS FOR PREPARATION

substantiating data will follow, the DER would annotate this block with "*Type design data approval only. Substantiating data approval pending.*" A DER must reference all data covered by the approval: drawing numbers with change letters, report numbers with revision levels dates, and so forth.

> **NOTE:** A DER must indicate any data that he cannot or chooses not to approve by a separate list with the notation: "*FAA APPROVAL REQUIRED*." If this list is very long, the DER should write a statement clearly indicating which data he approves or doesn't approve. An example would be "*Structural Aspects Approved Only - No Approval of Electrical Data*" or similar statements.

Example:

LIST OF DATA	
IDENTIFICATION	TITLE
ABC Manual 1234 Dated 10/20/03	Converter Regulatory Installation Manual
1000047 Revision A	Drawing - Converter Regulator Cooling Mod.
1000048 Revision C	Drawing - Scoop Assy. - Converter Regulator Cooling
	NOTE: This approval covers electrical details only

In addition, for a major repair or major alteration enter the statement: "*This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as Applicable Requirements. (Compliance with additional regulations not listed here may be required). This form does not constitute FAA approval of all the engineering data necessary for substantiation of compliance to necessary requirements for the entire alteration/repair*" and list the remaining requirements generally ("interior compliance inspection required", or "structural aspects approved, electrical aspects are not included"). See paragraph 4-12h of this order.

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (CONTINUED)

FIGURE 4. SAMPLE FAA Form 8110-3, INSTRUCTIONS FOR PREPARATION

Example:

LIST OF DATA	
IDENTIFICATION	TITLE
Report No. SR 88-25, N.C. Dated 6-69-88 Sketch Dwg. 88 Dated 6-29-88	Stress Report, "Cabinet Installation, Bell Model 222 Helicopter S/N 12345". Sketch Package, Cabinet Installation, Pages 1, 2, & 3. Notes: 1) The structural aspects only of the above listed data are approved herein. This approval is only for the engineering data. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as "Applicable Requirements." 2) This form does not constitute FAA approval of all the engineering data necessary for substantiation of compliance to necessary requirements for the entire alteration. The requirements of 14 CFR 29.853 are not included in this approval and require separate approval. 3) Aircraft interior compliance inspection is not included in this approval and requires separate approval.

If no additional compliance is required enter "*This form constitutes FAA approval of all the engineering data necessary for substantiation of compliance to necessary requirements for the entire alteration/repair.*" See paragraph 4-12h of this order.

Example:

LIST OF DATA	
IDENTIFICATION	TITLE
Report No. SR 88-25, N.C. Dated 6-69-88 Sketch Dwg. 88 Dated 6-29-88	Stress Report, "Cabinet Installation, Bell Model 222 Helicopter S/N 12345". Sketch Package, Cabinet Installation, Pages 1, 2, & 3. Notes: 1) All engineering aspects of the above listed data are approved herein. This approval is only for the engineering data. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as "Applicable Requirements." 2) This form constitutes FAA approval of all the engineering data necessary for substantiation of compliance to necessary requirements for the entire alteration.

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (CONTINUED)

FIGURE 4. SAMPLE FAA Form 8110-3, INSTRUCTIONS FOR PREPARATION

For PMA Identicality enter "*FAA approval of the design is contingent upon FAA Engineering verification of the type design data listed*." See FAA Order 8110.42.

Example:

LIST OF DATA	
IDENTIFICATION	TITLE
A12345X Rev. D 04/01/2001	Oil Pump Shaft Drawing
RPT-2468 Rev. B 04/12/2001	Certification and compliance report Note: FAA approval of the design is contingent upon FAA Engineering verification of the type design data listed.

For AMOC, the DER must indicate the AMOC proposal, FAA letter (and date) granting AMOC approval authority to him, and that the approval meets the applicable sections of the aircraft type certification basis or other defined airworthiness standards to the AD. An AMOC for a temporary repair must indicate that the approval is time-limited and will have to be removed on or before a specific date (or cycle limit or flight time limit). See paragraph 4-8 of this order.

Example:

LIST OF DATA	
IDENTIFICATION	TITLE
FR12345 Rev. C, 2/12/2001	Skin Panel Repair Repair – 1 larger ext dblr, 1 int finger dblr, internal structure spliced per SRM, solid fasteners, 10 by 34 inch cutout for corrosion and cracks, SRM practices, thicker than SRM repair. Notes: 1. Delegation of AMOC authority for AD 2000-01-01 was granted to John Doe by the Seattle ACO letter of delegation, dated January 4, 2000. 2. This deviation has been approved as an Alternate Method of Compliance (AMOC) to paragraph (c)(3) of AD 2000-01-01 and has been found to meet the Type Certification Basis of this airplane. 3. These requirements must be coordinated with the cognizant Flight Standard District Office. 4. This approval is for a temporary repair that must be removed on or before 6000 landings, not to exceed 24 months from the date of this approval.

⑧ **Purpose of Data –** Enter the type of project (i.e., original STC, etc.) and associated project number. If the data approval is in support of an aircraft major alteration or major repair, enter the serial number of the aircraft in lieu of the project number. For major repairs or major alterations of parts, components, engines, or propellers not installed on aircraft, the specific serial number of the parts, components, engines, or propellers, or a specific work order for parts or components that are not serialized must be used in lieu of the project number. For multiple use alterations, repairs, repair schemes, or establishment of repair limits for multiple use repairs without specific serial

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (CONTINUED)

FIGURE 4. SAMPLE FAA Form 8110-3, INSTRUCTIONS FOR PREPARATION

number or work order effectivity, a DER must coordinate with their managing ACO for authorization to approve data and will enter "*Multiple use repair procedure data approval as authorized by [managing ACO]*." See paragraph 4-12c of this order.

Examples:

PURPOSE OF DATA
In support of type certification of the fuel system for the Smithson 401 Aircraft.
Project No. SA-00146-AC.

PURPOSE OF DATA
Identicality only under 14 CFR § 21.303

PURPOSE OF DATA
In support of a major repair for S/N 12345.

PURPOSE OF DATA
In support of a major repair of Parker actuator 2HX by Ralph's Accessory Repair Station for part number 1234 repaired under work order 5678 dated 2/2/06.

PURPOSE OF DATA
In support of TSO C129 authorization.

PURPOSE OF DATA
In support of AMOC for S/N 1357.

⑨ **List of Applicable Requirements.** Enter the exact regulation(s) paragraphs, subparagraphs, or other appropriate airworthiness requirements with which the data comply. This includes applicable amendment levels. If the list is too long, attach additional sheets. It is not sufficient for the DER to merely indicate "structural regulations" or other generalizations. The DER may enter non-14-CFR requirements that are FAA adopted or accepted or that are specifically delegated to the DER.

NOTE: The only time 14 CFR part 21 sections can be listed in the "Applicable Requirements" block is for PMA identicality findings (14 CFR § 21.303(c)(4)) and for software approval in support of a TSOA application (14 CFR § 21.605).

Examples:

APPLICABLE REQUIREMENTS *(List specific sections)*
14 CFR 25.1301(all), 25.1309(a), 25.1359(d)(3)

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (CONTINUED)

FIGURE 4. SAMPLE FAA Form 8110-3, INSTRUCTIONS FOR PREPARATION

APPLICABLE REQUIREMENTS *(List specific sections)*
JAR-VLA 955(a)(1), (b), (d); 957; 963(a) (JAR-VLA standards dated 26 April, 1990)

APPLICABLE REQUIREMENTS *(List specific sections)*
CAR 6.200; .201; .202(a),(b); .260; .300; .301; .302; .303; .304(a),(b);
.305; .306;, .307(d); .730(b),(c).

APPLICABLE REQUIREMENTS *(List specific sections)*
In support of 14 CFR § 21.601(b)(2)and RTCA DO-178B

APPLICABLE REQUIREMENTS *(List specific sections)*
CAR 4b.202(a),(b),(d)
AD 97-03-05, paragraphs (c)(3) and (d)

⑩ **Certification.** Enter the number of additional sheets or enter N/A if there are none. Check the "Approve these data" block if the DER is approving the data or the "Recommend approval of these data" if the DER is recommending that the FAA approves the data.

> **NOTE:** "Recommend approval" can only be used on the FAA Form 8110-3 for those delegated functions identified on the DER's certificate of authority or related document. When a DER has the authority to "approve" but only "recommends approval," they must explain, in writing, why they didn't approve the data.

Enter the DER's typed or printed name(s) in the signature block, their identification number(s) in the designation number block, and their discipline(s) in the classification block. A DER's signature constitutes approval or recommendation for approval of the technical data as indicated on the form.

Example:

CERTIFICATION - Under authority vested by direction of the Administrator and in accordance with conditions and limitations of appointment under Part 183 of the Federal Aviation Regulations, data listed above and on attached sheets numbered N/A have been examined in accordance with established procedures and found to comply with applicable requirements of the Federal Aviation Regulations.

I (We) Therefore ☐ Recommend approval of these data ☒ Approve these data

SIGNATURE(S) OF DESIGNATED ENGINEERING REPRESENTATIVE(S)	DESIGNATION NUMBER(S)	CLASSIFICATION(S)
James Bullock James Bullock	DERY-123456-NM	SYSTEMS & EQUIPMENT, Special - TSO Software

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (CONTINUED)

FIGURE 5. SAMPLE REQUEST/APPROVAL FOR DELEGATION

Federal Aviation Administration

(Aircraft Certification Office Name)
(Aircraft Certification Office Branch)

FAX TRANSMITTAL	
To	From
Dept/Agency	Phone #
Fax #	Fax #

REQUEST FOR SPECIAL AUTHORIZATION

Use this form to request a one-time only delegation authorization for such activities as witnessing certification tests, performing software verification activities, or approving certification data.

1a) FAA Project #:
1b) Aircraft Model:
1c) Person(s) Seeking Designation: *(who is to witness test, verify software, or approve data?)*
1d) Requested Delegation: *(describe what you seek authority to accomplish. e.g.: for test witnessing provide title and number of test plan, for data approval provide type of data, certification plan, applicable regulations, guidance material, etc.)*
1e) If witnessing is proposed to be less than 100%, describe or reference agreement with ACO:
1f) Additional Information: *(Location/duration/schedule, etc.)*
1g) Special Authorization Approval: *(FAA ACO signature and date)*

2) CERTIFICATION TEST PRETEST CHECKLIST *(To be verified by witness before test start)*	**WITNESS' INITIALS**
2a) TEST PLAN *(Confirm the test plan has been FAA APPROVED)*	
2b) TEST ARTICLE *(Confirm the test article has been FAA CONFORMED)*	
2c) TEST ARTICLE ACCEPTABILITY *(Confirm the test article is in CONFORMITY and all UNSATS have been ACCEPTABLY DISPOSITIONED.*	
2d) TEST SETUP *(Confirm the test setup has been FAA CONFORMED)*	
2e) TEST SETUP ACCEPTABILITY *(Confirm the test setup is in CONFORMITY and all UNSATS have been ACCEPTABLY DISPOSITIONED.*	

ONE COPY OF COMPLETED FORM TO BE INCLUDED IN TEST REPORT OR WITH FAA Form 8110-3

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (CONTINUED)

FIGURE 6. SAMPLE LETTER AUTHORIZING DATA APPROVAL FOR REPAIRS AND ALTERATIONS

(DER Name)
Designated Engineering Representative
(Address)
(City), (State) (ZIP Code)

Dear Ms./Mr.:

You are authorized to approve data for major repairs and major alterations within the scope of your authority as defined on your letter of authorization. However, you must obtain prior aircraft certification office (ACO) approval when the work involves critical or life-limited parts or if you will be working outside the United States (reference FAA Order 8110.37, paragraph 4-12c.

This authorization will remain in effect until surrendered, suspended, revoked, or otherwise terminated, but is only valid in conjunction with your DER authorization. Should you have any questions, contact (ACO Advisor) at telephone number (number).

Sincerely;

(Manager)
Manager, _____ Certification Office,
Aircraft Certification Service

APPENDIX 4. DEFINITIONS AND ACRONYMS

ACO - Aircraft Certification Office

AD - Airworthiness Directive

AFM - Airplane Flight Manual or Rotorcraft Flight Manual

AFMS - Airplane Flight Manual or Rotorcraft Flight Manual Supplement

AMOC - Alternative Method of Compliance

Applicant – any person (individual, company, aircraft owner, aircraft operator or certificated repair station, and so forth) applying for an FAA approval or authorization who has not yet gained approval, authorization, or has not yet been denied.

ATC - Amended Type Certificate

CAA - Civil Aviation Authority

Compliance Inspection - Physical inspections performed by the ACO engineer or the DER, when authorized. This inspection includes reviewing an installation and its relationship to other installations on a product to determine compliance with 14 CFR requirements that cannot be determined adequately by evaluating the technical data.

14 CFR - Title 14 of the Code of Federal Regulations (current revision level)

DAS - Designated Alteration Station

DOA - Delegation Option Authorization

EASA - European Aviation Safety Agency

Field Approval - Signature approval in block 3 of FAA Form 337, Major Repair and Alteration (Airframe, Powerplant, Propeller, or Appliance) by a flight standards district office airworthiness inspector signifying that the data identified on the FAA Form 337 complies with applicable airworthiness requirements and is approved for the described application subject to conformity inspection by a person authorized in 14 CFR§ 43.7.

FOIA - Freedom of Information Act

FSDO - Flight Standards District Office

JAR - Joint Aviation Requirements

Managing ACO - Office responsible for supervising, monitoring, training, tracking, and recommending renewal of a designee.

MOA - Memorandum of Agreement

MOU - Memorandum of Understanding

MRB - Materials Review Board

ODA - Organization Designation Authorization

PMA - Parts Manufacturer Approval

APPENDIX 4. DEFINITIONS AND ACRONYMS (CONTINUED)

Product - Aircraft, aircraft engine, or propeller

Project ACO - Geographic ACO with whom the DER coordinates when verifying compliance with regulations on certification projects for products and parts.

PSP - Partnership for Safety Plan

SFAR-36 - Special Federal Aviation Regulation 36

SFM - Supplemental Flight Manual

STC - Supplemental Type Certificate

TC - Type Certificate

TIA - Type Inspection Authorization

TSO - Technical Standard Order

TSOA - Technical Standard Order Authorization

VLA – Very Light Aircraft

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: Order 8110.37D

To: Directive Management Officer, AIR-530

(*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 (8-89)(Representation)