

# AEROSPACE

## SHORT COURSES

# Introduction to FAA Airworthiness Approval Requirements (AERO0660)

Instructor: Travis L. Dahna

### Course Description

This course will provide an overall understanding of the 14 CFR Part 21 requirements necessary to obtain design, production and airworthiness approvals for civil aviation products and articles. Title 14, CFR Part 21 regulations are the backbone of the regulatory framework that enables Aircraft Certification Service (AIR) to conduct its certification responsibilities on products and articles. Under 14 CFR Part 21, §21.1, the FAA defines a product as an aircraft, engine or propeller, while an article means a material, part, component, process or appliance. In addition to 14 CFR Part 21, this course will delve into certain aspects of 14 CFR Part 43, outlining the requirements to receive approval for alterations/repairs for civil aviation products and articles. An overview is provided on FAA organizational structure, additional 14 CFR Parts, regulatory/guidance material, and rulemaking procedures. This is the first course in the following three-part FAA course series and serves as a prerequisite for subsequent FAA courses.

1. Introduction to FAA Airworthiness Approval Requirements
2. FAA Type Certification Process
3. FAA Type Certification Plan Development

### Who Should Attend?

Certification Engineers, Design Engineers, Engineering Management, Program Managers, Business Development Personnel, and Designated Engineering Representatives (DER)/Organization Designation Authorization Unit Members (ODA UM).

### Learning Objectives

- Understand the structure of the FAA associated with product or article certification and airworthiness.
- Understand the differences in FAA regulatory and guidance material and how to use it effectively in day-to-day situations.
- Gain a high-level understanding of the FAA type certification process to support new product or article development activities.

- Gain a high-level understanding of the FAA product approval process and how to adequately maintain the airworthiness aspects of your product or article.

## **Course Outline**

### **Day One**

- Formalities/Introductions
- Need for Aircraft Certification
- FAA Airworthiness Roles
- History of the FAA
- Regulation and Material Structure
- Directives and Guidance Material
- FAA AIR Transformation
- Representatives of the Administrator
- Dynamic Regulatory System

### **Day Two**

- Certification Procedures for Products and Articles
  - Applicability
  - Falsification of Records
  - Type Certificates
    - Phase of Certification
    - Methods of Compliance
  - Provisional Type Certificates
  - Changes to Type Certificates
    - Change product rule
    - Major/Minor discussion with examples
    - Designation of applicable regulations
      - Significant design changes

### **Day Three**

- Certification Procedures for Products and Articles
  - Supplemental Type Certificates
    - Types of STC
  - Airworthiness Certificates
    - Standard airworthiness certificate
    - Restricted airworthiness certificate
    - Multiple airworthiness certificate
    - Experimental airworthiness certificate
    - Special flight permits
  - Provisional Airworthiness Certificates

### **Day Four**

- Certification Procedures for Products and Articles

- Export Airworthiness Certificates
- Acceptance of Aircraft Engines, Propellers, and Articles for Import
- Production under Type Certificates
- Production Certificates
- Parts Manufacturer Approvals
- Technical Standard Order Approvals
- Maintenance, Preventive Maintenance, Rebuilding, and Alteration
  - Records
  - Major/Minor determination
- Continued Operational Safety
  - Requirements
  - Airworthiness Directives
- Use of Issue Papers
- Exemptions

### **Classroom hours / CEUs**

28 classroom hours

2.8 CEUs

### **Certificate Track**

Aerospace Compliance (AC)

### **Course Fees**

Early registration course fee: \$2,295 if you register and pay by the early registration deadline (45 days out).

Regular registration course fee: \$2,495 if you register and pay after the early registration deadline.

### **U.S. Federal Employee Discount**

This course is available to U.S. federal employees at 10% off the registration fee. To receive the federal employee discount, you must enter the code FGVT116 during the checkout process.

Please note that you must validate your eligibility to receive this discount by entering your U.S. government email address (ending in .gov or .mil) when creating your online registration profile. This discount is available for both the early registration and regular registration fees.

### **Instructor Bio**

Travis L. Dahna is the founder and principal engineer for TD Aerospace LLC, a service-disabled veteran owned small business. He started his career 30 years ago as an avionics technician and troubleshooter in the United States Navy, where he served with distinction and was honorably discharged.

As a Gulf War veteran, Mr. Dahna joined the civilian aviation sector where he has

worked on, designed, and certified a wide variety of new products and articles for the last 25 years. He has held positions as a senior electrical engineer for a large aircraft manufacturer and served as the certification coordinator for all the factory owned service/modification centers in the United States, providing required interface with the geographic FAA offices. Following his time at the aircraft manufacturer, he assisted in the development and management of multiple Supplemental Type Certification (STC) Organization Designation Authorizations (ODA), holding positions as Principal Certification Engineer, Director of Engineering, and ODA administrator.

He has been actively involved in several hundred certification projects, ranging from TC, STC, PMA, TSO, major alterations, and major repairs. In addition to duties as a consultant DER (14 CFR Part 23 and 25), he holds positions as a unit member on several TC and STC Organization Designation Authorizations (ODA). Mr. Dahna's combination of practical experience, analytical knowledge, and in-depth certification experience brings a unique and viable approach to aircraft certification in an uncomplicated yet thorough manner.

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