

**SCIENCE INSTRUMENT  
AIRWORTHINESS AND CERTIFICATION PROCEDURES  
MANUAL  
Section Appendix III:  
Aircraft Certification Process**

### **Certification: General Aircraft Process**

Normal FAA certification pertains to aircraft safety, and that process can be written as a series of specific steps that an aircraft design would have to follow. The steps listed below are an example of what is involved in an aircraft certification. In this case the applicant is the company or person applying for the STC (Supplemental Type Certificate). Note that the following list applies to the aircraft and not to the science instruments.

This list is not intended to be all-inclusive, but to serve as a guide for the proper conduct of any certification process regarding flow of information and responsibilities of the applicant and the FAA. General adherence to these steps will prevent unnecessary delays by promoting a general understanding of the respective responsibilities of the participants. Key to success is communication throughout the entire project.

1. The first step in aircraft certification is to make an application to the FAA to establish a project.
2. FAA will establish a project and acknowledge the application.
3. FAA and the applicant will meet to determine the scope of the project and to initiate a compliance checklist.
4. The applicant will submit test plans, reports, and drawings that address each aspect of the project.
5. The FAA or a designate (DER, for example) will review all reports, test plans, and drawings.
6. The FAA will conduct conformities prior to component tests to include newer prototype parts.
7. FAA or designate will witness component tests.
8. FAA to assure completion of all appropriate component testing before flight testing is initiated.
9. Applicant will complete all ground and flight tests prior to FAA flight tests.
10. FAA to conduct necessary compliance evaluations.
11. Applicant to submit proposed flight manual supplement and company flight test report containing the results of company testing (that is, by the applicant).
12. FAA will determine what engineering data will be used to conform the aircraft.
13. FAA to review applicant's data and compliance checklist to determine what FAA evaluators will be required on the Type Inspection Authorization (TIA).
14. FAA to issue a TIA for required FAA conformities and evaluations of the flight test aircraft.

15. FAA to conduct conformities prior to flight tests.
16. FAA to conduct TIA testing.
17. FAA to review and approve flight manual and supplements.
18. FAA to review conformity and flight test results to determine if TC/STC issuance is appropriate.
19. FAA to prepare Type Inspection Report (TIR).
20. FAA to issue a Type Certificate (TC) or a multiple Supplemental Type Certificate as appropriate.