

Registering an Amateur-Built Light Sport Kit Aircraft

A Senior Project
presented to
the Faculty of the Aerospace Department
California Polytechnic State University, San Luis Obispo

In Partial Fulfillment
of the Requirements for the Degree
of Bachelor of Science in Aerospace Engineering

by
Kevin Condron
June, 2012

Registering an Amateur-Built Light Sport Kit Aircraft

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The focus of this paper is to cover the process of registering the amateur-built light sport aircraft, Zenith CH-701 with the Federal Aviation Administration, FAA. Registering an amateur-built aircraft with the FAA requires specific steps to be followed in order to successfully register the aircraft and ensure it is legal to fly. The FAA requires a set of forms to be filled out, the aircraft must pass an inspection by an FAA Inspector or a Designated Inspector before an Airworthiness Certificate can be issued, and the builder must provide logs of when, where and how construction took place, along with supporting documents and photographs.

I. Introduction

AMATEUR-BUILT aircraft are defined by the FAA in Title 14, Code of Federal Regulations, part 21, section 21.191(g), as an aircraft in which “the major portion of which has been fabricated and assembled by person(s) who undertook the construction project solely for their own education or recreation.” Amateur-built aircraft, also known as homebuilt aircraft, have been growing in popularity and are being designed and built using many different materials and manufacturing techniques. As a result of the freedom builders have there is no set standard in the quality of work and flight restrictions are placed upon operating the aircraft.

The total number of registered homebuilt aircraft in the U.S. in 2011 was almost 33,000. The growth of amateur-built aircraft has been rising over the past 20 years and represents more than 15 percent of all U.S. single-engine, piston-powered aircraft. Amateur-built aircraft have been a concern of the FAA as the number of registered aircraft has doubled in the last 15 years. Flight hours of homebuilt aircraft have increased by 31 percent over the last 15 years; however, the actual number of fatal accidents annually has remained relatively constant, averaging fewer than 60 per year.¹ Registering, inspecting and flight testing are an important part of the process to prevent more accidents.

Amateur-built aircraft are built by individuals and licensed by the FAA as "Experimental." The experimental category was created more than five decades ago. Under FAA regulations, if an individual builds at least 51 percent of an aircraft, it can be registered as amateur-built. The Zenith CH-701 being registered for this project is a kit aircraft, which means some of the airplane is already fabricated. While the kit is being built the registration paperwork process is started with the FAA. This paperwork continues until after the aircraft is inspected and is deemed airworthy.

II. Registration Process

1. Obtain a US Identification Number

While the aircraft was still under construction, an US identification number was obtained from the FAA Aircraft Registry. The US identification number, also known as a tail number or “N-number”, is the registration number starting with an N. Regulations about N-numbers can be found in Title 14, Code of Federal Regulations, part 45. The FAA states that an N-number may have between one to five characters, must start with a digit other than zero, and cannot end in a run of more than two letters. In addition, N-numbers may not contain the letters *I* or *O*, due to their similarities with the numerals *1* and *0*.² This identification number is displayed on the airplane and is obtained from the FAA Aircraft Registry by requesting it either online or in writing. The N-number for the Zenith was obtained online by searching through the available choices until one was selected. It is important to note that the

N-number is only be reserved at this point and has not been applied to an aircraft. Once the FAA verifies that the N-number selected it is reserved for one year. The identification number selected for the Zenith CH-701 was N838CP. There is a \$10 processing fee when reserving an identification number. It is only once the registration papers, described in the next process, are processed is the N-number applied to an aircraft.

2. Register the Aircraft

Once the US identification number was reserved, the registration paper work was started. It is important to note that reserving an N-number is only required if one wishes to select a specific tail number. If one is not reserved the FAA will assign one to the aircraft being registered. The first registration form that must be filled out is the FAA Form 8050-1, seen in Appendix A. This form is the application for registration and can be obtained from a local FAA Flight Standards District Office (FSDO) or by purchasing a registration kit from the Experimental Aircraft Association (EAA). All of the registration forms for the Zenith were obtained through a registration kit from the EAA but many of them can be downloaded for free from the FAA's website. The second form to be filled out is the Affidavit of Ownership, AC Form 8050-88A seen in Appendix B. This form is specific to light sport aircraft and can be seen in Appendix B. Once the form was completed it was notarized. It is also important to note that for amateur-built aircraft, the aircraft make is the name of the builder. These two forms were mailed to the FAA Registry in Oklahoma City along with the fee of \$5.00 after being completed. Once the paperwork was processed, the FAA mailed the aircraft owner AC Form 8050-3, Certificate of Aircraft Registry. This form must be kept in the aircraft at all times. A photo of the Zenith's aircraft's registration form can be seen in Fig. 1.

REGISTRATION NOT TRANSFERABLE			
UNITED STATES OF AMERICA DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION CERTIFICATE OF AIRCRAFT REGISTRATION			This certificate must be in aircraft when operated.
NATIONALITY AND REGISTRATION MARKS		N 12345	AIRCRAFT SERIAL NO. 6969
MANUFACTURER AND MANUFACTURER'S DESIGNATION OF AIRCRAFT CESSNA C-150L ICAO Aircraft Address Code:			
I S S U E D T O	ROBERT E. BARO 300 MOERKLE ST ANYTOWN, OHIO 12345		This certificate is issued for registration purposes only and is not a certificate of title. The Federal Aviation Administration does not determine rights of ownership as between private persons.
	It is certified that the above described aircraft has been entered on the register of the Federal Aviation Administration, United States of America, in accordance with the Convention on International Civil Aviation dated December 7, 1944, and with the Federal Aviation Act of 1958, and regulations issued thereunder.		
DATE OF ISSUE February 15, 1996		David Hinson ADMINISTRATOR	
U.S. Department of Transportation Federal Aviation Administration			
AC Form 8050-3(11/93) Supersedes previous editions			

Figure 1. 8050-3 Aircraft Registration form.³

3. Apply for the Airworthiness Certificate

Some paperwork needs to be completed after the aircraft is completed and before the airworthiness inspection. Although at the publication of this report, the completion of the aircraft is a few weeks away the paperwork that will need to be completed will also be discussed. The two forms still needing completion are, FAA Form 8130-6, Application for Airworthiness Certificate, and FAA Form 8130-12, Eligibility Statement-Amateur-Built Aircraft. Form 8130-6 can be difficult to fill out and instructions for fill out the form can be found in FAA Advisory Circular AC 21-12B and FAA Order 8130.2F Chapter 8, Paragraph 267. FAA Form 8130-12 requires notarization. These two forms can be seen in Appendix C.

4. Request an Airworthiness Inspection

Two different resources can be used for an airworthiness inspection. The first option to request an inspection is through an FAA inspector. When trying to schedule an inspection with the FAA for the Zenith, dozens of phone calls were never returned and an inspection was never successfully scheduled. Part of the reason it is so difficult to schedule an inspection with the FAA is the lack of funding and resources the FAA currently has. If an FAA inspector is contacted and an inspection is scheduled, the inspection is free of charge. It is recommended to give at least 90 days notice if trying to schedule an inspection with the FAA. The second resource that can be used for scheduling an airworthiness inspection is an FAA Designated Airworthiness Representative, or DAR. DAR's are independent contractors who do the inspection on behalf of the FAA. The average fee for using a DAR is about \$500 but scheduling is much easier and they are generally more helpful in trying to schedule the inspection. The Zenith's inspection will be conducted by a DAR.

5. Preparing for the Inspection

Once the aircraft is built and the inspection date has been set there are important steps to take to ensure a successful inspection. Part of registering and certifying the Zenith includes displaying the proper placards. There are many different placard that are required in the aircraft. These must be located properly and display the correct information. The N-number must be placed in two diametrically opposite positions on any fuselage structural member and must be at least 3 inches high and be in Roman letters. FAR 45.23, 45.25, 45.27, and 45.29 can be referenced for more instructions in placing the numbers. The word "EXPERIMENTAL" must be placed in the cockpit, and must be at least 2 inches high and no more than 6 inches. A passenger warning must also be installed in full view for



Figure 3. Required placards to pass airworthiness inspection.⁴

passengers and must state: "PASSENGER WARNING – THIS IS AN AMATEUR-BUILT AND DOES NOT COMPLY WITH FEDERAL SAFETY REGULATIONS FOR STANDARD AIRCRAFT." A fireproof plate with Builder, Model, and Serial Number marked on it by etching and be secured to the aircraft exterior so that someone on the ground can read it. FAR 45.11 and 45.13 can provide more information regarding the data plate. Form 8050-3 must also be displayed in the cockpit. Pictures of these items can be seen in Fig. 2.

6. Operating Limitations for Experimental Aircraft

Once the Zenith passes inspection, the aircraft will be considered airworthy. The inspector will issue FAA Form 8130-7, Special Airworthiness Certificate. This form must be displayed in view in the aircraft at all time. A blank 8130-7 can be seen in Fig. 3.

UNITED STATES OF AMERICA DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION SPECIAL AIRWORTHINESS CERTIFICATE		
A	CATEGORY/DESIGNATION	
	PURPOSE	
B	MANU-FACTURER	NAME
		ADDRESS
C	FLIGHT	FROM
		TO
D	N-BUILDER	SERIAL NO.
		MODEL
E	DATE OF ISSUANCE	
	EXPIRY	
	OPERATING LIMITATIONS DATED	
	ARE PART OF THIS CERTIFICATE	
	SIGNATURE OF FAA REPRESENTATIVE	DESIGNATION OR OFFICE NO.
<small>Any alteration, reproduction or misuse of this certificate may be punishable by a fine not exceeding \$1,000 or imprisonment not exceeding 3 years, or both. THIS CERTIFICATE MUST BE DISPLAYED IN THE AIRCRAFT IN ACCORDANCE WITH APPLICABLE TITLE 14, CODE OF FEDERAL REGULATIONS (CFR).</small>		
<small>FAA Form 8130-7 (07/04) SEE REVERSE SIDE NSN: 0052-00-680-4000</small>		

Figure 3. Blank 8130-7 Special Airworthiness Certificate.⁵

Along with the Special Airworthiness Certificate, the operating limitations must be kept on board the aircraft, seen in Appendix D. Once inspection is passed, the Zenith will enter into flight test. The aircraft will initially be flown in Phase I of the flight test program. This is done for typically 25 to 40 hours in an assigned area to prove the aircraft performs as expected. After phase one is completed, the aircraft moves into phase II of test flight, in which the aircraft may be flown within the operating limitations. The aircraft will stay in phase II for the rest of its life.

III. Conclusion

The FAA requires a trail of paperwork that must be completed prior to flying an amateur build aircraft in order to track and help ensure the safety of those who plan to fly in it. The FAA has made the process of registering and certifying a kit aircraft as streamlined and as efficient as possible. It is surprisingly simple to build and certify a kit aircraft. It takes some research, following instructions and attention to detail to make sure the process goes as smooth as possible. The experimental category was setup to allow aviation enthusiast the opportunity to build their own aircraft, such as the Zenith.

Appendix A
FAA Form 8050-1

FORM APPROVED
OMB No. 2120-0042

UNITED STATES OF AMERICA DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION-MIKE MONROEY AERONAUTICAL CENTER AIRCRAFT REGISTRATION APPLICATION		CERT. ISSUE DATE	
UNITED STATES REGISTRATION NUMBER N			
AIRCRAFT MANUFACTURER & MODEL			
AIRCRAFT SERIAL No.			
TYPE OF REGISTRATION (Check one box)		FOR FAA USE ONLY	
<input type="checkbox"/> 1. Individual <input type="checkbox"/> 2. Partnership <input type="checkbox"/> 3. Corporation <input type="checkbox"/> 4. Co-owner <input type="checkbox"/> 5. Gov't <input type="checkbox"/> 8. Non-Citizen Corporation			
NAME OF APPLICANT (Person(s) shown on evidence of ownership. If individual, give last name, first name, and middle initial.)			
TELEPHONE NUMBER: ()			
ADDRESS (Permanent mailing address for first applicant listed.) (If P.O. BOX is used, physical address must also be shown.)			
Number and street:			
Rural Route:	P.O. Box:	ZIP CODE	
CITY	STATE		
<div style="text-align: center;"><input type="checkbox"/> CHECK HERE IF YOU ARE ONLY REPORTING A CHANGE OF ADDRESS ATTENTION! Read the following statement before signing this application. This portion MUST be completed.</div> <p style="font-size: small;">A false or dishonest answer to any question in this application may be grounds for punishment by fine and / or imprisonment (U.S. Code, Title 18, Sec. 1001).</p> <div style="text-align: center;"><u>CERTIFICATION</u></div> <p>I/WE CERTIFY:</p> <p>(1) That the above aircraft is owned by the undersigned applicant, who is a citizen (including corporations) of the United States.</p> <p>(For voting trust, give name of trustee: _____), or:</p> <p>CHECK ONE AS APPROPRIATE:</p> <p>a. <input type="checkbox"/> A resident alien, with alien registration (Form 1-151 or Form 1-551) No. _____</p> <p>b. <input type="checkbox"/> A non-citizen corporation organized and doing business under the laws of (state) _____ and said aircraft is based and primarily used in the United States. Records or flight hours are available for inspection at _____</p> <p>(2) That the aircraft is not registered under the laws of any foreign country; and</p> <p>(3) That legal evidence of ownership is attached or has been filed with the Federal Aviation Administration.</p> <p style="text-align: center;">NOTE: If executed for co-ownership all applicants must sign. Use reverse side if necessary.</p>			
TYPE OR PRINT NAME BELOW SIGNATURE			
EACH PART OF THIS APPLICATION MUST BE SIGNED IN INK.	SIGNATURE	TITLE	DATE
	SIGNATURE	TITLE	DATE
	SIGNATURE	TITLE	DATE
NOTE Pending receipt of the Certificate of Aircraft Registration, the aircraft may be operated for a period not in excess of 90 days, during which time the PINK copy of this application must be carried in the aircraft.			

AC Form 8050-1 (5/03) (0052-00-628-9007)

Appendix B
AC Form 8050-88A

Paperwork Reduction Act Statement: The information collected on this form is necessary to ensure applicant eligibility. The information is used to determine that the applicant meets the necessary qualifications as owner of an amateur built aircraft. We estimate that it will take approximately 30 minutes to complete the form. The information collection is required to obtain a benefit. The information collected becomes part of the aircraft registration system. Please note that an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. OMB 2120-0042.

Comments covering the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at 800 Independence Avenue SW, Washington, DC 20591. ATTN: Information Collection Clearance Officer, AES-200.

AFFIDAVIT OF OWNERSHIP FOR AMATEUR-BUILT AND OTHER
NON-TYPE CERTIFICATED AIRCRAFT
(does not include light-sport)

U. S. Identification _____

Name of Amateur / Non TC'd builder _____

Model _____ Serial Number _____

Class (airplane, rotorcraft, glider, weight shift control, powered-parachute, etc.) _____

Type of Engine Installed (reciprocating, turboprop, 2 or 4 cycle, electric, etc.) _____

Manufacturer, Model and Serial Number of each Engine Installed _____

Number of Engines Installed _____

Built for Land or Sea Operation _____ Number of Seats _____

MUST CHECK ONE

☐ More than 50% of the above-described aircraft was built from miscellaneous parts and I am the owner. (This option is for aircraft eligible for amateur-built certification.)

☐ More than 50% of the above-described aircraft was built from a kit (prefabricated parts) and I am the owner. The bill of sale from the kit manufacturer is attached. (This option is for aircraft eligible for amateur-built certification.)

☐ I certify that the above-described aircraft is a newly built non-type certificated aircraft and is not currently registered in another country. (This option is for aircraft eligible for experimental certification other than amateur-built.)

☐ I certify that the above-described aircraft is a previously built (used) non-type certificated aircraft and is not currently registered in another country. (This option is for aircraft eligible for experimental certification other than amateur-built certification.)

☐ Evidence of ownership from the aircraft builder through any intervening owners is attached (chain of ownership).
☐ Unable to obtain complete chain of ownership. Statement as to ownership history and whereabouts of aircraft is attached.

Name of Owner: _____

Signature of Owner: _____ Title of Signer
(If Appropriate): _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____

Notary Public:

State of: _____ County of: _____

Subscribed and sworn to before me this _____ day of _____, _____

My Commission Expires: _____

(Signature of Notary Public)

Appendix C
AC Form 8131-12 and AC Form 8130-6

Form Approved
OMB NO. 2120-0018
Exp. 12/31/2010

 US Department of Transportation Federal Aviation Administration	ELIGIBILITY STATEMENT AMATEUR-BUILT AIRCRAFT		Instructions: Print or type all information except signature. Submit original to an authorized FAA representative. Applicant completes Section I thru III. Notary Public Completes Section IV.	
	I. REGISTERED OWNER INFORMATION			
Name(s) _____				
Address(es) _____				
<div style="display: flex; justify-content: space-between;"><div>No. & Street</div><div>City</div><div>State</div><div>Zip</div></div>				
Telephone No.(s) () _____ () _____				
<div style="display: flex; justify-content: space-between;"><div>Residence</div><div>Business</div></div>				
II. AIRCRAFT INFORMATION				
Model _____ Engine(s) Make _____				
Assigned Serial No. _____ Engine(s) Serial No. _____				
Registration No. _____ Prop./Rotor(s) Make _____				
Aircraft Fabricated: Plan <input type="checkbox"/> Kit <input type="checkbox"/> Prop./Rotor(s) Serial No.(s) _____				
III. MAJOR PORTION ELIGIBILITY STATEMENT OF APPLICANT				
I certify that the major portion of this aircraft (identified in Section II above) was fabricated and assembled by _____				
Names of all builders (Please Print) _____				
solely for my (our) education or recreation, in accordance with 14 CFR part 21, Certification Procedures for Products and Parts, § 21.191(g), Operating amateur-built aircraft. I have records to support this statement and will make them available to the FAA upon request.				
During the fabrication and assembly of this project, I/ we used the following commercial assistance (mark N/A if no commercial assistance was used):				
<div style="display: flex; justify-content: space-between;"><div>Name of company or individual(s) _____</div><div>City & State _____</div><div>Phone _____</div></div>				
<div style="display: flex; justify-content: space-between;"><div>Name of company or individual(s) _____</div><div>City & State _____</div><div>Phone _____</div></div>				
-NOTICE-				
Whoever in any matter within the jurisdiction of the executive, legislative, or judicial branch of the Government of the United States, knowingly and willfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or who makes any materially false, fictitious or fraudulent statement or representation, or makes or uses any false writing or document knowing the same to contain any materially false, fictitious or fraudulent statement or entry, shall be fined under this title, imprisoned not more than 5 years or, if the offense involves international or domestic terrorism, imprisoned not more than 8 years, or both. (U.S. Code, Title 18, Sec. 1001)				
APPLICANT'S DECLARATION				
I hereby certify that all statements and answers provided by me in this statement form are complete and true to the best of my knowledge, and I agree that they are to be considered part of the basis for issuance of any FAA certificate to me. I have also read and understand the Privacy Act statement that accompanies this form.				
Signature of Applicant (<i>In Ink</i>) _____				Date _____
IV. NOTARIZATION STATEMENT				

Form Approved O.M.B. No. 2120-0018
Expiration Date 02/28/2013

 U.S. Department of Transportation Federal Aviation Administration		APPLICATION FOR U.S. AIRWORTHINESS CERTIFICATE		INSTRUCTIONS - Print or type. Do not write in shaded areas; these are for FAA use only. Submit original only to an authorized FAA Representative. If additional space is required, use attachment. For special flight permits complete Sections II, VI, and VII as applicable.																					
I. AIRCRAFT DESCRIPTION	1. REGISTRATION MARK	2. AIRCRAFT BUILDER'S NAME (Make)	3. AIRCRAFT MODEL DESIGNATION	4. YR. MFR.	FAA CODING																				
	5. AIRCRAFT SERIAL NO.	6. ENGINE BUILDER'S NAME (Make)	7. ENGINE MODEL DESIGNATION																						
	8. NUMBER OF ENGINES	9. PROPELLER BUILDER'S NAME (Make)	10. PROPELLER MODEL DESIGNATION	11. AIRCRAFT IS (Check if applicable) IMPORT																					
APPLICATION IS HEREBY MADE FOR: (Check applicable items)																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">A</td> <td style="width: 5%;">1</td> <td style="width: 40%;">STANDARD AIRWORTHINESS CERTIFICATE (Indicate category)</td> <td style="width: 10%;">NORMAL</td> <td style="width: 10%;">UTILITY</td> <td style="width: 10%;">ACROBATIC</td> <td style="width: 10%;">TRANSPORT</td> <td style="width: 10%;">COMMUTER</td> <td style="width: 10%;">BALLOON</td> <td style="width: 10%;">OTHER</td> </tr> <tr> <td>B</td> <td></td> <td>SPECIAL AIRWORTHINESS CERTIFICATE (Check appropriate items)</td> <td colspan="7"></td> </tr> </table>						A	1	STANDARD AIRWORTHINESS CERTIFICATE (Indicate category)	NORMAL	UTILITY	ACROBATIC	TRANSPORT	COMMUTER	BALLOON	OTHER	B		SPECIAL AIRWORTHINESS CERTIFICATE (Check appropriate items)							
A	1	STANDARD AIRWORTHINESS CERTIFICATE (Indicate category)	NORMAL	UTILITY	ACROBATIC	TRANSPORT	COMMUTER	BALLOON	OTHER																
B		SPECIAL AIRWORTHINESS CERTIFICATE (Check appropriate items)																							
II. CERTIFICATION REQUESTED	7	PRIMARY																							
	9	LIGHT-SPORT (Indicate Class)	Airplane	Power-Parachute	Weight-Shift-Control	Glider	Lighter than Air																		
	2	LIMITED																							
	5	PROVISIONAL (Indicate class)	1	CLASS I																					
			2	CLASS II																					
	3	RESTRICTED (Indicate operation(s) to be conducted)	1	AGRICULTURE AND PEST CONTROL	2	AERIAL SURVEY	3	AERIAL ADVERTISING																	
			4	FOREST (Wildlife conservation)	5	PATROLLING	6	WEATHER CONTROL																	
			0	OTHER (Specify)																					
	4	EXPERIMENTAL (Indicate operation(s) to be conducted)	1	RESEARCH AND DEVELOPMENT	2	AMATEUR BUILT	3	EXHIBITION																	
			4	AIR RACING	5	CREW TRAINING	6	MARKET SURVEY																	
			0	TO SHOW COMPLIANCE WITH THE CFR	7	OPERATING (Primary Category) KIT BUILT AIRCRAFT																			
			8	OPERATING LIGHT-SPORT	8A	Existing aircraft without an airworthiness certificate & do not meet § 103.1																			
					8B	Operating Light-Sport Kit-built																			
					8C	Operating light-sport previously issued special light-sport category airworthiness certificate under § 21.190																			
			9	UNMANNED AIRCRAFT	9A	RESEARCH AND DEVELOPMENT	9C	CREW TRAINING																	
				9B	MARKET SURVEY																				
	8	SPECIAL FLIGHT PERMIT (Indicate operation to be conducted, then complete Section VI or VII as applicable on reverse side)	1	FERRY FLIGHT FOR REPAIRS, ALTERATIONS, MAINTENANCE, OR STORAGE																					
			2	EVACUATE FROM AREA OF IMPENDING DANGER																					
			3	OPERATION IN EXCESS OF MAXIMUM CERTIFICATED TAKE-OFF WEIGHT																					
			4	DELIVERING OR EXPORTING	5	PRODUCTION FLIGHT TESTING																			
			6	CUSTOMER DEMONSTRATION FLIGHTS																					
C 6 MULTIPLE AIRWORTHINESS CERTIFICATE (Check ABOVE "Restricted Operation" and "Standard" "Limited" as applicable)																									
III. OWNER'S CERTIFICATION	A. REGISTERED OWNER (As shown on certificate of aircraft registration)																								
	NAME		ADDRESS																						
	B. AIRCRAFT CERTIFICATION BASIS (Check applicable blocks and complete items as indicated)																								
	AIRCRAFT SPECIFICATION OR TYPE CERTIFICATE DATA (Check Section I, II, III, and Revision No.)		AIRWORTHINESS DIRECTIVES (Check if all applicable ADs are complied with and give the number of the last AD SUPPLEMENT available in the biweekly series as of the date of application)																						
	AIRCRAFT LISTING (Give page number(s))		SUPPLEMENTAL TYPE CERTIFICATE (List number of each STC incorporated)																						
	C. AIRCRAFT OPERATION AND MAINTENANCE RECORDS																								
	CHECK IF RECORDS IN COMPLIANCE WITH 14 CFR section 91.417	TOTAL AIRFRAME HOURS	3	EXPERIMENTAL ONLY (Enter hours flown since last certificate issued or renewed)																					
	D. CERTIFICATION - I hereby certify that I am the registered owner (or his agent) of the aircraft described above, that the aircraft is registered with the Federal Aviation Administration in accordance with Title 49 of the United States Code 44101 et seq. and applicable Federal Aviation Regulations, and that the aircraft has been inspected and is airworthy and eligible for the airworthiness certificate requested.																								
	DATE OF APPLICATION		NAME AND TITLE (Print or type)		SIGNATURE																				
IV. INSPECTION AGENCY VERIFICATION	A. THE AIRCRAFT DESCRIBED ABOVE HAS BEEN INSPECTED AND FOUND AIRWORTHY BY: (Complete the section only if 14 CFR part 21.183(d) applies)																								
	2	14 CFR part 121 CERTIFICATE HOLDER (Give Certificate No.)	3	CERTIFICATED MECHANIC (Give Certificate No.)	6	CERTIFICATED REPAIR STATION (Give Certificate No.)																			
	5	AIRCRAFT MANUFACTURER (Give name or firm)																							
	DATE		TITLE		SIGNATURE																				
V. FAA REPRESENTATIVE CERTIFICATION	(Check ALL applicable block items A and B)																								
	A. I find that the aircraft described in Section I or VII meets requirements for																								
			4	THE CERTIFICATE REQUESTED																					
	B. Inspection for a special flight permit under Section VII was conducted by:		AMENDMENT OR MODIFICATION OF CURRENT AIRWORTHINESS CERTIFICATE																						
			FAA INSPECTOR	FAA DESIGNEE																					
		CERTIFICATE HOLDER UNDER	14 CFR part 65	14 CFR part 121 OR 135	14 CFR part 145																				
DATE		MIDO/FSDO OFFICE	4	FAA INSPECTOR'S SIGNATURE OR DESIGNEE'S SIGNATURE AND NO.																					
			1	FAA INSPECTOR'S CERTIFICATION FILE REVIEW SIGNATURE																					

VI. PRODUCTION FLIGHT TESTING	A. MANUFACTURER				
	NAME		ADDRESS		
	B. PRODUCTION BASIS (Check applicable item)				
	<input type="checkbox"/> PRODUCTION CERTIFICATE (Give production certificate number) _____ <input type="checkbox"/> TYPE CERTIFICATE _____ <input type="checkbox"/> OTHER: _____				
	C. GIVE QUANTITY OF CERTIFICATES REQUIRED FOR OPERATING NEEDS				
DATE OF APPLICATION		NAME AND TITLE (Print or type)		SIGNATURE	
VII. SPECIAL FLIGHT PERMIT PURPOSES OTHER THAN PRODUCTION FLIGHT TEST	A. DESCRIPTION OF AIRCRAFT		REGISTERED OWNER		ADDRESS
	BUILDER (Make)		MODEL		
	SERIAL NUMBER		REGISTRATION MARK		
	B. DESCRIPTION OF FLIGHT		CUSTOMER DEMONSTRATION FLIGHTS <input type="checkbox"/> (Check if applicable)		
	FROM		TO		
	VIA		DEPARTURE DATE	DURATION	
	C. CREW REQUIRED TO OPERATE THE AIRCRAFT AND ITS EQUIPMENT				
	<input type="checkbox"/> PILOT		<input type="checkbox"/> CO-PILOT	<input type="checkbox"/> FLIGHT ENGINEER	<input type="checkbox"/> OTHER (Specify)
	D. THE AIRCRAFT DOES NOT MEET THE APPLICABLE AIRWORTHINESS REQUIREMENTS AS FOLLOWS:				
	E. THE FOLLOWING RESTRICTIONS ARE CONSIDERED NECESSARY FOR SAFE OPERATION: (Use attachment if necessary)				
	F. CERTIFICATION - I hereby certify that I am the registered owner (or his agent) of the aircraft described above; that the aircraft is registered with the Federal Aviation Administration in accordance with Title 49 of the United States Code 44101 et seq. and applicable Federal Aviation Regulations; and that the aircraft has been inspected and is safe for the flight described.				
	DATE		NAME AND TITLE (Print or type)		SIGNATURE
VIII. AIRWORTHINESS DOCUMENTATION (FAA/DESIGNEE use only)	A. Operating Limitations and Markings in Compliance With 14 CFR Section 91.9, As Applicable		G. Statement of Conformity, FAA Form 8130-9 (Attach when required)		
	B. Current Operating Limitations Attached		H. Foreign Airworthiness Certification for Import Aircraft (Attach when required)		
	C. Data, Drawings, Photographs, etc. (Attach when required)		I. Previous Airworthiness Certificate Issued in Accordance With 14 CFR Section _____ CAR _____ (Original attached)		
	D. Current Weight and Balance Information Available in Aircraft		J. Current Airworthiness Certificate Issued in Accordance With 14 CFR Section _____ (Copy attached)		
	E. Major Repair and Alteration, FAA Form 337 (Attach when required)		K. Light-Sport Aircraft Statement of Compliance, FAA Form 8130-15 (Attach when required)		
	F. This inspection Recorded in Aircraft Records				

Appendix D

Copy of an example experimental aircraft operating limitations document.⁵

Page 1 of 4



U.S. Department
of Transportation
Federal Aviation
Administration

Small Airplane Directorate
Manufacturing Inspection District Office
6020 28th Avenue South, Room 103
Minneapolis, MN 55450-2700

EXPERIMENTAL - AMATEUR-BUILT AIRCRAFT OPERATING LIMITATIONS

MAKE:

MODEL:

S/N:

REGISTRATION NUMBER:

PHASE I-INITIAL FLIGHT TEST PERIOD IN RESTRICTED AREA:

1. No person may operate this aircraft for other than the purpose of meeting the requirements of § 91.319(b) during phase I flight testing, and for recreation and education after meeting these requirements as stated in the program letter (required by § 21.193) for this aircraft. In addition, this aircraft must be operated in accordance with applicable air traffic and general operating rules of Part 91 and all additional limitations herein prescribed under the provisions of Part 91.319(e). These operation limitations are a part of the FAA Form 8130-7, and are to be carried in the aircraft at all times and be available to the pilot in command of the aircraft.

2. During Phase I Flight Testing to meet the requirements of § 91.319(b) all flights shall be conducted within the geographical area described as follows:

[Describe Flight-Test Area]

3. This aircraft shall be operated for at least () hours in the assigned geographic area.

4. All test flights, at a minimum, must be conducted under Visual Flight Rules (VFR), day only. Guidance concerning the scope and detail of test flights can be found in Advisory Circular 90-89, Amateur-built Aircraft and Ultralight Flight Testing Handbook. Following satisfactory completion of the required number of flight hours in the flight test area, the pilot must certify in the records that the aircraft has been shown to comply with § 91.319(b). Compliance with § 91.319(b) shall be recorded in the aircraft records with the following or a similarly worded statement: "I certify that the prescribed flight test hours have been completed and the aircraft is controllable throughout its normal range of speeds and throughout all maneuvers to be executed, has no hazardous operating characteristics or design features, and is safe for operation. The following aircraft operating data has been demonstrated during the flight testing: speeds V_{so}_____, V_x_____, and V_y_____, and the weight_____ and CG location_____ at which they were obtained."

References

¹ Hightower, Rod, “2012 Report to homebuilders,” Experimental Aircraft Association, March 2012.

² “Electronic Code of Federal Regulations,” URL: <http://ecfr.gpoaccess.gov> [cited 20 May 2012].

³ “FAA Aircraft Registration.” URL: <http://www.faa-aircraft-certification.com/aircraft-registration.html>.

⁴ Joe Norris , “The Limits of Operating Limitations,” Experimental Aircraft Association, URL: http://www.eaa.org/experimenter/articles/2010-04_tales.asp

⁵ Joe Norris , “The Limits of Operating Limitations,” Experimental Aircraft Association, URL: http://www.eaa.org/experimenter/articles/2010-12_darside.asp [cited 20 May 2012].