



APPLICATION FOR 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 an attachment. For special flight permits complete Sections II and VI or VII as applicable.

I. AIRCRAFT DESCRIPTION	1. REGISTRATION MARK N460 DB	2. AIRCRAFT BUILDER'S NAME (Make) DAVID A. BAILE	3. AIRCRAFT MODEL DESIGNATION PULSAR	4. YR MFR 1992	FAA CODING 05618 FJ
	5. AIRCRAFT SERIAL NO 180	6. ENGINE BUILDER'S NAME (Make) ROTAX	7. ENGINE MODEL DESIGNATION 582		
	8. NUMBER OF ENGINES 1	9. PROPELLER BUILDER'S NAME (Make) Peery	10. PROPELLER MODEL DESIGNATION Experimental	11. AIRCRAFT IS (Check if applicable) <input checked="" type="checkbox"/> IMPORT N/A	

II. CERTIFICATION REQUESTED	APPLICATION IS HEREBY MADE FOR: (Check applicable items)											
	A	1	STANDARD AIRWORTHINESS CERTIFICATE (Indicate category)				NORMAL	UTILITY	ACROBATIC	TRANSPORT	GLIDER	BALLOON
	B	<input checked="" type="checkbox"/>	SPECIAL AIRWORTHINESS CERTIFICATE (Check appropriate items)									
		2	LIMITED									
		5	PROVISIONAL (Indicate class)				1	CLASS I				
		3	RESTRICTED (Indicate operation(s) to be conducted)				2	CLASS II				
		4	<input checked="" type="checkbox"/> EXPERIMENTAL (Indicate operation(s) to be conducted)				1	AGRICULTURE AND PEST CONTROL				
							2	AERIAL SURVEYING				
							3	AERIAL ADVERTISING				
							4	FOREST (Wildlife conservation)				
						5	PATROLLING					
						6	WEATHER CONTROL					
						7	CARRIAGE OF CARGO					
						0	OTHER (Specify)					
						1	RESEARCH AND DEVELOPMENT					
						2	<input checked="" type="checkbox"/> AMATEUR BUILT					
						3	EXHIBITION					
						4	RACING					
						5	CREW TRAINING					
							MKT. SURVEY					
						0	TO SHOW COMPLIANCE WITH FAR					
						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 EXPORT					
						5	PRODUCTION FLIGHT TESTING					
						6	CUSTOMER DEMONSTRATION FLIGHTS					
C	6	MULTIPLE AIRWORTHINESS CERTIFICATE (Check ABOVE "Restricted Operation" and "Standard" or "Limited," as applicable.)										

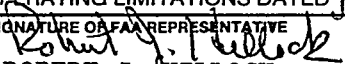
III. OWNER'S CERTIFICATION	A. REGISTERED OWNER (As shown on certificate of aircraft registration)		IF DEALER, CHECK HERE <input type="checkbox"/>	
	NAME DAVID A. BAILE		ADDRESS RR #1 - Box 183-F, Chanton, IA 50049	
	B. AIRCRAFT CERTIFICATION BASIS (Check applicable blocks and complete items as indicated)			
	AIRCRAFT SPECIFICATION OR TYPE CERTIFICATE DATA SHEET (Give No. and Revision No.) N/A		AIRWORTHINESS DIRECTIVES (Check if all applicable AD's complied with and give latest AD No.) N/A	
	AIRCRAFT LISTING (Give page number(s)) N/A		SUPPLEMENTAL TYPE CERTIFICATE (List number of each STC incorporated) N/A	
	C. AIRCRAFT OPERATION AND MAINTENANCE RECORDS			
	<input checked="" type="checkbox"/> CHECK IF RECORDS IN COMPLIANCE WITH FAR 91.173	TOTAL AIRFRAME HOURS 0.0	3	EXPERIMENTAL ONLY (Enter hours flown since last certificate issued or renewed) 0.0
	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 Section 501 of the Federal Aviation Act of 1958, 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 06-15-92		NAME AND TITLE (Print or type) David A. Baile owner	
			SIGNATURE David A. Baile	

IV. INSPECTION AGENCY VERIFICATION	A. THE AIRCRAFT DESCRIBED ABOVE HAS BEEN INSPECTED AND FOUND AIRWORTHY BY (Complete this section only if FAR 21.183(d) applies)			
	2	FAR PART 121 OR 127 CERTIFICATE HOLDER (Give Certificate No.)	3	CERTIFICATED MECHANIC (Give Certificate No.)
	6	CERTIFICATED REPAIR STATION (Give Certificate No.)		
	5	AIRCRAFT MANUFACTURER (Give name of firm)		
	DATE	TITLE	SIGNATURE	

V. FAA REPRESENTATIVE CERTIFICATION	(Check ALL applicable blocks in items A and B)		<input checked="" type="checkbox"/>	THE CERTIFICATE REQUESTED	
	A. I find that the aircraft described in Section I or VII meets requirements for		4	AMENDMENT OR MODIFICATION OF CURRENT AIRWORTHINESS CERTIFICATE	
	B. Inspection for a special flight permit under Section VII was conducted by:		<input checked="" type="checkbox"/>	FAA INSPECTOR	
				FAA DESIGNEE	
				CERTIFICATE HOLDER UNDER:	
	DATE 6-18-92	DISTRICT OFFICE CE-DM-FSDO	4	DESIGNEE'S SIGNATURE AND NO.	FAA INSPECTOR'S SIGNATURE Robert J. Helle

VII. SPECIAL FLIGHT PERMIT PURPOSES OTHER THAN PRODUCTION FLIGHT TEST		VIII. AIRWORTHINESS DOCUMENTATION <small>(FAA use only)</small>													
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C. GIVE QUANTITY OF CERTIFICATES REQUIRED FOR OPERATING NEEDS		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">APPROVED PRODUCTION INSPECTION SYSTEM</td> <td style="width:50%;">TYPE CERTIFICATE ONLY</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td colspan="2">PRODUCTION BASIS (Check applicable item)</td> </tr> <tr> <td colspan="2"></td> </tr> </table>		APPROVED PRODUCTION INSPECTION SYSTEM	TYPE CERTIFICATE ONLY			PRODUCTION BASIS (Check applicable item)							
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UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION
SPECIAL AIRWORTHINESS CERTIFICATE

A	CATEGORY/DESIGNATION EXPERIMENTAL	
	PURPOSE OPERATING AMATEUR-BUILT AIRCRAFT	
B	MANU-FACTURER	NAME N/A
		ADDRESS N/A
C	FLIGHT	FROM N/A
		TO N/A
D	N— 410DB	SERIAL NO. 180
	BUILDER DAVID A. BAILIE	MODEL PULSAR
E	DATE OF ISSUANCE JUN 18 1992	EXPIRY UNLIMITED
	OPERATING LIMITATIONS DATED JUN 18 1992 ARE A PART OF THIS CERTIFICATE	
	SIGNATURE OF FAA REPRESENTATIVE  ROBERT J. HILLOCK	DESIGNATION OR OFFICE NO. ACE-DSM-FSDO-01

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 FEDERAL AVIATION REGULATIONS.

A	This airworthiness certificate is issued under the authority of the Federal Aviation Act of 1958 and the Federal Aviation Regulations (FAR).
B	This airworthiness certificate authorizes the manufacturer named on the reverse side to conduct production flight tests, and only production flight tests, of aircraft registered in his name. No person may conduct production flight tests under this certificate: (1) Carrying persons or property for compensation or hire; and/or (2) Carrying persons not essential to the purpose of the flight.
C	This airworthiness certificate authorizes the flight specified on the reverse side for the purpose shown in Block A.
D	This airworthiness certificate certifies that, as of the date of issuance, the aircraft to which issued has been inspected and found to meet the requirements of the applicable FAR. The aircraft does not meet the requirements of the applicable comprehensive and detailed airworthiness code as provided by Annex 8 to the Convention On International Civil Aviation. No person may operate the aircraft described on the reverse side: (1) except in accordance with the applicable FAR and in accordance with conditions and limitations which may be prescribed by the Administrator as part of this certificate; (2) over any foreign country without the special permission of that country.
E	Unless sooner surrendered, suspended, or revoked, this airworthiness certificate is effective for the duration and under the conditions prescribed in FAR Part 21, Section 21.181 or 21.217.



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) David A. Bailie

Address(es) RR #1 Box 183-F Chariton IA 50049
No. & Street City State Zip

Telephone No.(s) (515) 774-8485 (515) 774-7600
Residence Business

II. AIRCRAFT INFORMATION

Model Aero Designs - Pulsar Engine(s) Make ROTAX 582

Assigned Serial No. 180 Engine(s) Serial No.(s) 4015216

Registration No. N 410 DB Prop./Rotor(s) Make Peery Experimental

Aircraft Fabricated: Plan ☐ Kit ☒ Prop./Rotor(s) Serial No.(s) NONE

III. MAJOR PORTION ELIGIBILITY STATEMENT OF APPLICANT

I certify the aircraft identified in Section II above was fabricated and assembled by DAVID A. BAILIE

Name of Person(s) (Please Print)

for my (their) education or recreation. I (we) have records to support this statement and will make them available to the FAA upon request.

— NOTICE —

Whoever in any matter within the jurisdiction of any department or agency 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 false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than 5 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 (In Ink) David A. Bailie Date 06-15-92

IV. NOTARIZATION STATEMENT

STATE OF IOWA)
COUNTY OF LUCAS) ss.:

On this 15th day of June, A.D. 1992, before me, the undersigned, a Notary Public in and for the State of Iowa, personally appeared David A. Bailie, to me known to be the person named in and who executed the foregoing instrument, and acknowledged that he executed the same as his voluntary act and deed.



MATINA D. ANDERSON
MY COMMISSION EXPIRES
2/15/93

Matina D. Anderson
Notary Public in and for said State.



EXPERIMENTAL AIRCRAFT OPERATING LIMITATIONS

AMATEUR-BUILT

MAKE: DAVID A. BAILIE

SERIAL NO. 180

MODEL: AERO DESIGNS-PULSAR

REGISTRATION NO. 410DB

These limitations are to be carried in the aircraft and are a part of the Special Airworthiness Certificate, "Experimental - Operating Amateur-built Aircraft," dated JUN 18 1992.

No person may operate this aircraft for other than the purpose of operating Amateur-Built aircraft to accomplish the flights outlined in the applicant's program letter dated 06-15-92, describing compliance with FAR 21.193(d) and made available to the pilot in the aircraft. Additionally, this aircraft shall be operated in accordance with applicable air traffic and general operating rules of FAR 91, and all additional limitations herein prescribed under the provisions of FAR 91.319(e). All Phase II Operating Limitations are applicable for flights during and after completion of Phase I assigned flight test area operations.

Phase I Assigned Flight Test Area

1. All flights shall be conducted within the geographical area described below, for at least 40 flight hours, and until such time the registered owner makes a log book entry, stating, "the aircraft is shown to be controllable throughout its normal range of speeds and all maneuvers to be executed, and that it has displayed no hazardous operating characteristics or design features. [FAR 91.319 (b)(1)and(2)]".

2. No person may be carried in the aircraft during flight test unless that person is a required flight crew member and/or person(s) required to record flight test data that cannot be practicably recorded by a required flight crewmember.

3. Assigned flight test area: WITHIN A 25-STATUTE MILE RADIUS OF CHARITON, IOWA.

4. I certify this aircraft has met the requirements of Phase I Operating Limitations, and acknowledge that the flight test area restriction no longer apply.

Date _____

Registered Owner _____


Signature _____

(Continued on Reverse)

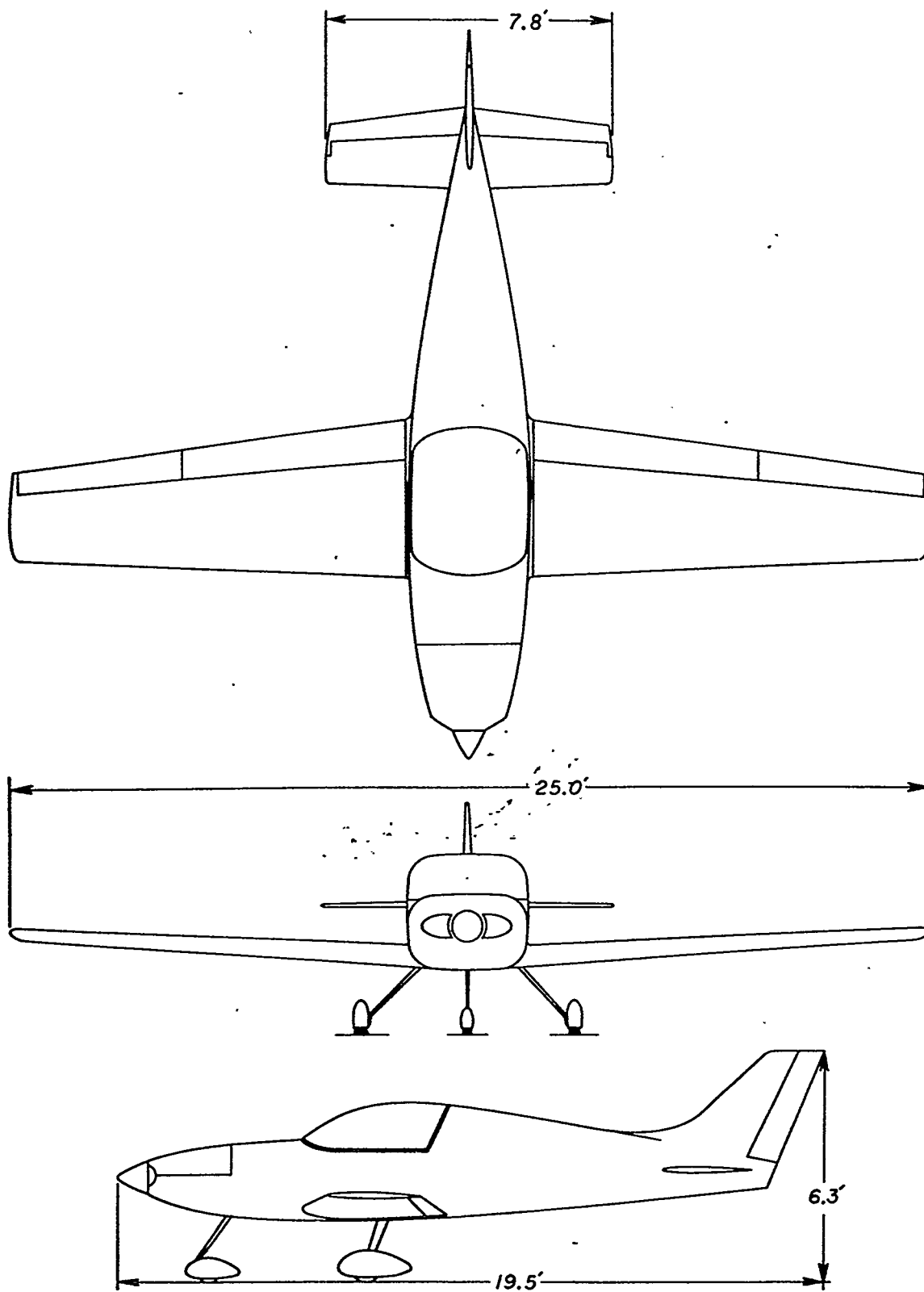
Phase II Operating Limitation

1. No operations shall be conducted over densely populated areas or in congested airways, except for takeoffs and landings.
2. No person may operate this aircraft for carrying persons or property for compensation or hire.
3. Unless appropriately equipped for night and/or instrument flight in accordance with FAR 91.205, this aircraft must be operated Day VFR only.
4. This aircraft shall contain the placards, markings, etc., required by FAR 91.9.
5. Acrobatic flight (that is, an intentional maneuver involving an abrupt change in the aircraft's attitude, an abnormal attitude, or abnormal acceleration not necessary for normal flight), is prohibited unless those acrobatics/maneuvers have been satisfactorily executed during the flight test period and documented in the aircraft Log Book before leaving the assigned test area.
6. The cognizant FAA Flight Standards District Office must be notified and their response received in writing prior to flying this aircraft after incorporating a major change as defined by FAR Part 43, Appendix A.
7. This aircraft shall not be operated for glider towing or parachute jumping operations.
8. No person shall operate this aircraft unless within the preceding 12 calendar months it has had a condition inspection performed in accordance with FAR Part 43, Appendix D and was found to be in a condition for safe operation. Additionally, this inspection shall be recorded in accordance with Limitation 10 listed below.
9. Experimental aircraft builder DAVID A. BAILIE, when certificated as repairman, FAA-certificated mechanics holding an Airframe and Powerplant rating, or appropriately-rated repair stations may perform condition inspections in accordance with FAR Part 43, Appendix D.
10. Condition inspections shall be recorded in the aircraft maintenance records showing the following or a similarly worded statement: "I certify that this aircraft has been inspected on (INSERT DATE) in accordance with the scope and detail of FAR Part 43, Appendix D and found to be in a condition for safe operation." The entry will include the aircraft total time-in-service, the name, signature, and certificate type and number of the person performing the inspection.
11. The above operating limitations may be amended by application for and issuance of a new special airworthiness certificate.
12. Additional Operations Limitations: NONE

JUN 18 1992
Date of Issue


ROBERT J. HILLOCK
FAA Representative

ACE-DSM-FSDO-01
Designation/Office No.



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WEIGHT AND BALANCE

The importance of a proper center of gravity (c.g.) cannot be over emphasized. An airplane loaded or built out of its c.g. limits will be uncontrollable at some point. Therefore, pay close attention to the steps in this section and double check everything. The scales you use should have a 200 lb capacity and be accurate within 1 lb. Most airports have a shop which maintains a set of certified scales. You could either take your Pulsar to the scales or use them to calibrate your own scales.

- ① The first step in weighing your Pulsar should be to make sure you have everything in the airplane that will be in it when you fly except fuel and the pilot. The airplane should be fully painted, all the upholstery and seat cushion should be in place and all instruments and radios installed.
- ② The Pulsar must be weighed in a level position. Use a carpenter's level on the canopy side rail. Use shims as necessary to level the airplane.
- ③ The airplane must be maintained level while the weighing is done, so use three scales all the same thickness or one scale and two blocks all the same thickness and move the scale from wheel to wheel until all three wheels are weighed.

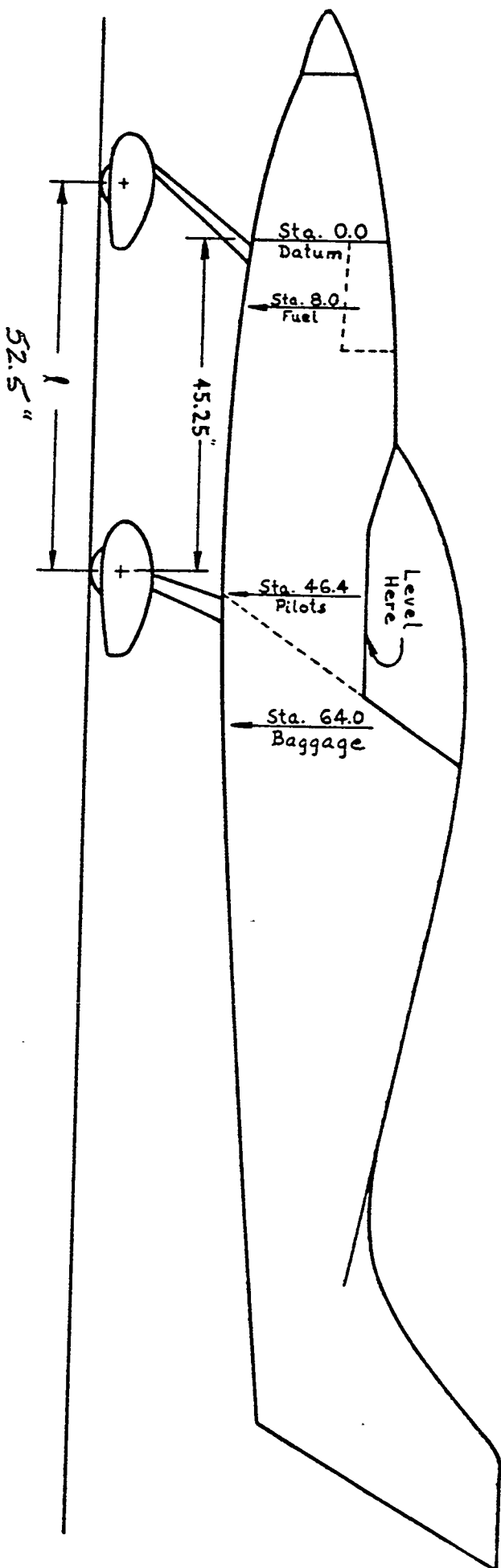
④ $W_{\text{nose}} = \underline{103} \text{ lbs}$

$W_{\text{R. Main}} = \underline{198} \text{ lbs}$

$W_{\text{L. Main}} = \underline{199} \text{ lbs}$

$W_{\text{Total}} = \underline{500} \text{ lbs (Empty Airframe)}$

PIUSAR WEIGHT AND BALANCE



$$\begin{aligned} \text{Empty Airframe Moment Arm} &= 45.25 - \frac{W_{\text{Nose}} \times 1}{W_{\text{Total}}} = \frac{103 \times 52.5}{500} = \frac{5407.5}{500} = 10.82 \\ &= \underline{34.43} \end{aligned}$$

PULSAR WEIGHT AND BALANCE

To determine if a particular load combination falls within the c.g. limits presented in the operating limitations complete the following table and calculation.

Type of Load	*Moment Arm	Weight	Moment
Pilot & Passenger	46.4	170	7888
Fuel	8.0	60	480
Baggage	64.0	0	0
Empty Airframe	34.43	500	17215
TOTALS		730	25,583

*Moment arm is measured horizontally from the firewall. For the empty airframe use the arm computed on page

$$\text{Loaded C.G.} = \frac{\text{Total Moment}}{\text{Total Weight}} = \underline{35.05}$$

Forward C.G. Limit = 31.25

Aft C.G. Limit = 39.10

PULSAR WEIGHT AND BALANCE

To determine if a particular load combination falls within the c.g. limits presented in the operating limitations complete the following table and calculation.

Type of Load	*Moment Arm	Weight		Moment	
		A	B	A	B
Pilot & Passenger	46.4	130	420	6032	19,488
Fuel	8.0	96	30	768	240
Baggage	64.0	0	0	0	0
Empty Airframe	34.43	500	500	17,215	17,215
TOTALS		726	950	24,015	36,943

*Moment arm is measured horizontally from the firewall. For the empty airframe use the arm computed on page

$$\text{Loaded C.G.} = \frac{\text{Total Moment}}{\text{Total Weight}} = \frac{\text{A } 33.08}{\text{B } 38.89}$$

Forward C.G. Limit = 31.25

Aft C.G. Limit = 39.10

1000

1000

1000

1000

1000

1000

1000

SUPPLEMENTAL DATA LETTER

Federal Aviation Administration
Flight Standards District Office No. 61
3021 Army Post Road
Des Moines, IA 50321

ATTN: Supervising Airworthiness Inspector

Dear Sir:

I hereby request an airworthiness inspection for the purpose of airworthiness certification of the amateur-built aircraft described as follows:
(PLEASE TYPE OR PRINT CLEARLY).

Registration Mark:	N <u>410 DB</u>	Builder's Name:	<u>DAVID A. BAILIE</u>
Model Designation:	<u>Aero Designs- Pulsar</u>	Year of Mfg.:	<u>1992</u>
Aircraft Serial No.:	<u>180</u>	Registered Owner:	<u>DAVID A. BAILIE</u>
Engine Make & Model:	<u>Rotax 582</u>	Address:	<u>RR#1, Box 183-F, Chariton, IA. 50049</u>
Number of Engines:	<u>1</u>	Telephone:	<u>515-774-8485</u>
Propeller Make & Model:	<u>Peery Experimental</u>	Aircraft Located at:	<u>Chariton Airport</u>
Number of Seats:	<u>2</u>		<u>Hiway 34 West, Chariton, IA. 50049</u>

The aircraft has been permanently assembled and the following have been accomplished:

Yes No

- ☒ ☐ I am able to produce invoices or shipping documents to substantiate that the major portion of the aircraft was fabricated by me or other individuals solely for educational or recreational purposes as provided for in Federal Aviation Regulation (FAR) Part 21, Section 21.191(g).
- ☒ ☐ Records of inspections, tests, and related findings and photographs identifying the areas and components inspected have been maintained in the aircraft log.
- ☒ ☐ I possess AC Form 8050-3, Certificate of Aircraft Registration, as evidence that I have complied with the registration requirements of FAR Part 47.
- ☒ ☐ The marking requirements of FAR Part 45 have been complied with, which includes permanent attachment of an aircraft identification (data) plate, permanent application of appropriate registration marks, and the word "EXPERIMENTAL" near each entrance.
- ☒ ☐ The following placard has been displayed in the cockpit in full view of all occupants:

"PASSENGER WARNING - THIS AIRCRAFT IS AMATEUR-BUILT AND DOES NOT COMPLY WITH FEDERAL SAFETY REGULATIONS FOR STANDARD AIRCRAFT."

Yes No

☒ ☐ Enclosed are the following documents:

1. Completed FAA Form 8130-6, Application for Airworthiness.
2. Three-view drawing or photographs of aircraft showing dimensions (span, height, length, etc.).
3. Weight and balance report.
4. Aircraft logbook and associated photos showing states of construction.
5. Completed Supplemental Data letter.
6. Completed FAA Form 8130-12, notarized.

☒ ☐ The instruments and equipment listed in FAR Part 91, Section 91.33 have been installed, appropriate to the operations which I intend to conduct.

☒ ☐ Instrument range markings and other applicable operating limitations have been installed as required by FAR Part 91, Section 91.31.

☐ ☒ An emergency locator transmitter has been installed if required by FAR Part 91, Section 91.52.

☒ ☐ The aircraft has been weighed in accordance with established weight and balance procedures to determine that the most forward and aft center of gravity positions are within the established limits. The weight and balance report is available in the aircraft as required by FAR Part 91, Section 91.31.

☒ ☐ The powerplant installation has undergone at least one hour of ground operation at various speeds from idle to full power to determine and ensure that all systems are operating properly.

The aircraft will be available for inspection at this location, and directions are as follows:

*Chariton Airport
Highway 34 West
Chariton, IA. 50049*

I understand that contact will be made within 10 days of receipt of this letter.

The telephone where I may be reached on weekdays is: *515-774-7600*

My residence phone is: *515-774-8485*

I prefer that the operating limitations be issued to permit me to operate the aircraft within a 25-mile radius of: *Chariton Airport*

I have thoroughly inspected the aircraft and consider that it is eligible for issuance of an Experimental Airworthiness Certificate for the purpose of operating amateur-built aircraft under the provisions of FAR 21, Section 21.191.

Signed: *D. J. A. Bailor*

Owner

06-15-92
Date

