



U.S. Department of Transportation
Federal Aviation Administration

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 attachment. For special flight permits complete Sections II, VI, and VII as applicable.

I. AIRCRAFT DESCRIPTION	1. REGISTRATION MARK N945D	2. AIRCRAFT BUILDER'S NAME (Make) DUFFY	3. AIRCRAFT MODEL DESIGNATION VANS RV9A	4. YR. MFR. 2002	FAA CODING
	5. AIRCRAFT SERIAL NO. 90011	6. ENGINE BUILDER'S NAME (Make) LYCOMING	7. ENGINE MODEL DESIGNATION O-320-D2A		
	8. NUMBER OF ENGINES 1	9. PROPELLER BUILDER'S NAME (Make) SENSENICH	10. PROPELLER MODEL DESIGNATION 70CM759-79		11. AIRCRAFT IS (Check if applicable) <input type="checkbox"/> EXPORT <input checked="" type="checkbox"/> IMPORT

APPLICATION IS HEREBY MADE FOR: (Check applicable items)

A	<input type="checkbox"/> STANDARD AIRWORTHINESS CERTIFICATE (Indicate category)	<input type="checkbox"/> NORMAL	<input type="checkbox"/> UTILITY	<input type="checkbox"/> ACROBATIC	<input type="checkbox"/> TRANSPORT	<input type="checkbox"/> COMMUTER	<input type="checkbox"/> BALLOON	<input type="checkbox"/> OTHER
B	<input checked="" type="checkbox"/> SPECIAL AIRWORTHINESS CERTIFICATE (Check appropriate items)							
II. CERTIFICATION REQUESTED	<input type="checkbox"/> PRIMARY							
	<input type="checkbox"/> LIMITED							
	<input type="checkbox"/> PROVISIONAL (Indicate class)	<input type="checkbox"/> CLASS I						
		<input type="checkbox"/> CLASS II						
	<input type="checkbox"/> RESTRICTED (Indicate operation(s) to be conducted)	<input type="checkbox"/> AGRICULTURE AND PEST CONTROL		<input type="checkbox"/> AERIAL SURVEYING		<input type="checkbox"/> AERIAL ADVERTISING		
		<input type="checkbox"/> FOREST (Wildlife conservation)		<input type="checkbox"/> PATROLLING		<input type="checkbox"/> WEATHER CONTROL		
		<input type="checkbox"/> OTHER (Specify)						
	<input checked="" type="checkbox"/> EXPERIMENTAL (Indicate operation(s) to be conducted)	<input type="checkbox"/> RESEARCH AND DEVELOPMENT			<input checked="" type="checkbox"/> AMATEUR BUILT		<input type="checkbox"/> EXHIBITION	
		<input type="checkbox"/> AIR RACING			<input type="checkbox"/> CREW TRAINING		<input type="checkbox"/> MARKET SURVEY	
		<input type="checkbox"/> TO SHOW COMPLIANCE WITH THE REGULATIONS			<input type="checkbox"/> OPERATING (Primary Category) KIT BUILT AIRCRAFT			
<input type="checkbox"/> SPECIAL FLIGHT PERMIT (Indicate operation to be conducted, then complete Section VI or VII as applicable on reverse side)	<input type="checkbox"/> FERRY FLIGHT FOR REPAIRS, ALTERATIONS, MAINTENANCE, OR STORAGE							
	<input type="checkbox"/> EVACUATE FROM AREA OF IMPENDING DANGER							
	<input type="checkbox"/> OPERATION IN EXCESS OF MAXIMUM CERTIFICATED TAKE-OFF WEIGHT							
	<input type="checkbox"/> DELIVERING OR EXPORTING				<input type="checkbox"/> PRODUCTION FLIGHT TESTING			
	<input type="checkbox"/> CUSTOMER DEMONSTRATION FLIGHTS							
C	<input type="checkbox"/> MULTIPLE AIRWORTHINESS CERTIFICATE (Check ABOVE "Restricted Operation" and "Standard" or "Limited" as applicable.)							

A. REGISTERED OWNER (As shown on certificate of aircraft registration) IF DEALER, CHECK HERE

NAME WILLIAM J. DUFFY	ADDRESS 3180 SPRINGDALE ROAD, CINCINNATI, OHIO 45251
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B. AIRCRAFT CERTIFICATION BASIS (Check applicable blocks and complete items as indicated)

AIRCRAFT SPECIFICATION OR TYPE CERTIFICATE DATA SHEET (Give No. and Revision No.)	AIRWORTHINESS DIRECTIVES (Check if all applicable AD's complied with and give latest Biweekly Supplement)
AIRCRAFT LISTING (Give page number(s))	SUPPLEMENTAL TYPE CERTIFICATE (List number of each STC incorporated)

C. AIRCRAFT OPERATION AND MAINTENANCE RECORDS

<input checked="" type="checkbox"/> CHECK IF RECORDS IN COMPLIANCE WITH 14 CFR section 91.417	TOTAL AIRFRAME HOURS 0	<input type="checkbox"/> EXPERIMENTAL ONLY (Enter hours flown since last certificate issued or renewed) 0
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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 07/01/2002	NAME AND TITLE (Print or type) WILLIAM J. DUFFY OWNER	SIGNATURE <i>William J. Duffy</i>
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A. THE AIRCRAFT DESCRIBED ABOVE HAS BEEN INSPECTED AND FOUND AIRWORTHY BY: (Complete this section only if 14 CFR part 21.183(d) applies).

14 CFR part 121 CERTIFICATE HOLDER (Give Certificate No.)	CERTIFICATED MECHANIC (Give Certificate No.)	CERTIFICATED REPAIR STATION (Give Certificate No.)
AIRCRAFT MANUFACTURER (Give name or firm)		
DATE	TITLE	SIGNATURE

(Check ALL applicable blocks in items A and B)

A. I find that the aircraft described in Section I or VII meets requirements for

B. Inspection for a special flight permit under Section VII was conducted by:

<input checked="" type="checkbox"/> THE CERTIFICATE REQUESTED			
<input type="checkbox"/> 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 07/09/2002	DISTRICT OFFICE CVG FSDO	DESIGNEE'S SIGNATURE AND NO.	FAA INSPECTOR'S SIGNATURE <i>Stanley P. Faske</i> STANLEY P. FASKE

VI. PRODUCTION FLIGHT TESTING	A. MANUFACTURER		
	NAME		ADDRESS
	B. PRODUCTION BASIS (Check applicable item)		
	PRODUCTION CERTIFICATE (Give production certificate number)		
	TYPE CERTIFICATE ONLY		
APPROVED PRODUCTION INSPECTION SYSTEM			
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		
	PILOT	CO-PILOT	FLIGHT ENGINEER
	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 airworthy for the flight described.			
DATE	NAME AND TITLE (Print or type)	SIGNATURE	

VIII. AIRWORTHINESS DOCUMENTATION (FAA/DESIGNEE use only)	<input checked="" type="checkbox"/>	A. Operating Limitations and Markings in Compliance with 14 CFR section 91.9, as Applicable	<input type="checkbox"/>	G. Statement of Conformity, FAA Form 8130-9 (Attach when required)
	<input checked="" type="checkbox"/>	B. Current Operating Limitations Attached	<input type="checkbox"/>	H. Foreign Airworthiness Certification for Import Aircraft (Attach when required)
	<input checked="" type="checkbox"/>	C. Data, Drawings, Photographs; etc. (Attach when required)	<input type="checkbox"/>	I. Previous Airworthiness Certificate Issued in Accordance with
	<input checked="" type="checkbox"/>	D. Current Weight and Balance Information Available in Aircraft	<input type="checkbox"/>	14 CFR Section _____ CAR. _____ (Original Attached)
	<input checked="" type="checkbox"/>	E. Major Repair and Alteration, FAA Form 337 (Attach when required)	<input checked="" type="checkbox"/>	J. Current Airworthiness Certificate Issued in Accordance with
	<input checked="" type="checkbox"/>	F. This inspection Recorded in Aircraft Records	<input checked="" type="checkbox"/>	14 CFR Section 21.191(g) (Copy attached)



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) William J Duffy

Address(es) 3180 Springdale Rd. Cincinnati Ohio 45251
No. & Street City State Zip

Telephone No.(s) 513 825-5775 513 825-8036
Residence Business

II. AIRCRAFT INFORMATION

Model Vans RV9A Engine(s) Make Lycoming

Assigned Serial No. 90011 Engine(s) Serial No.(s) 0320 U 3529

Registration No. N 9450 Prop./Rotor(s) Make Sensenich

Aircraft Fabricated: Plan Kit Prop./Rotor(s) Serial No.(s) 34753K

III. MAJOR PORTION ELIGIBILITY STATEMENT OF APPLICANT

I certify the aircraft identified in Section II above was fabricated and assembled by William J. Duffy
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)

William J Duffy

Date

July 1st 2002

IV. NOTARIZATION STATEMENT

LORETTA DUFFY
Notary Public, State of Ohio
My Commission Expires June 22, 2003

Loretta Duffy

LORETTA ELLI
County Public Defender
2005 12 14 10:00 AM



WEIGHT & BALANCE DATA for RV-9A:

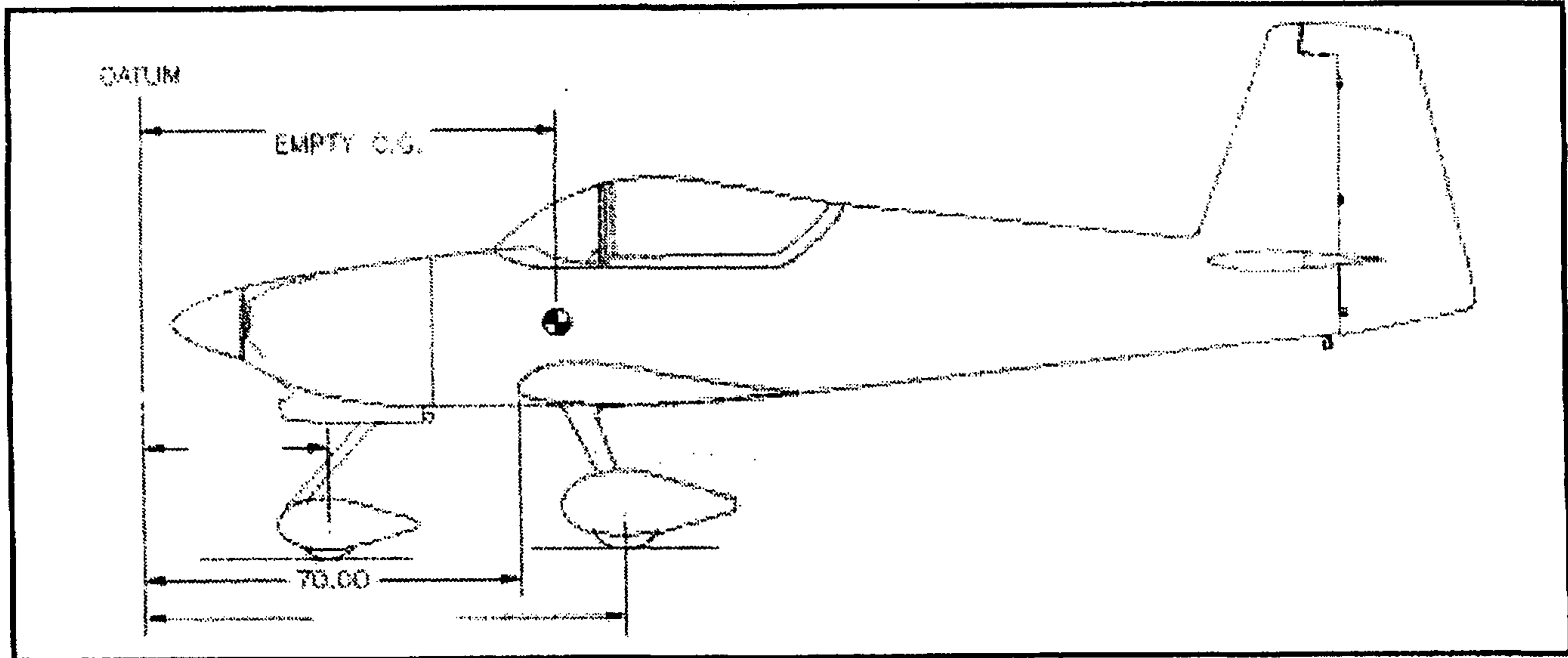
MAKE: Vans
REGISTRATION N945D

MODEL: RV9A

SERIAL 90011

Datum 70 inches forward of wing leading edge. (L.E.)
Design C.G. Range 15%-28% of wing chord, or 7.95-14.84 inches from L.E., or 77.95-84.84 inches aft of Datum.
Wing L.E. 70 inches aft of datum.
Fuel 76.75" aft of datum
Pilot & Passenger 92.7" aft of datum
Baggage 122" aft of datum

Aircraft Weighed empty in level flight attitude. Includes 8 qts. of oil, no fuel)



Main wheel, right 91.88 in. aft of datum.
Main wheel, left 91.88 in. aft of datum.
Nose wheel 34.5 in. aft of datum.

DETERMINING EMPTY CG

	Weight	Arm	Moment
Right Wheel	<u>402</u>	<u>91.88</u>	<u>36935.7</u>
Left Wheel	<u>431</u>	<u>91.88</u>	<u>39600.2</u>
Nose Wheel	<u>266</u>	<u>34.5</u>	<u>9177.</u>
Total:	<u>1099</u>		<u>85712.9</u>

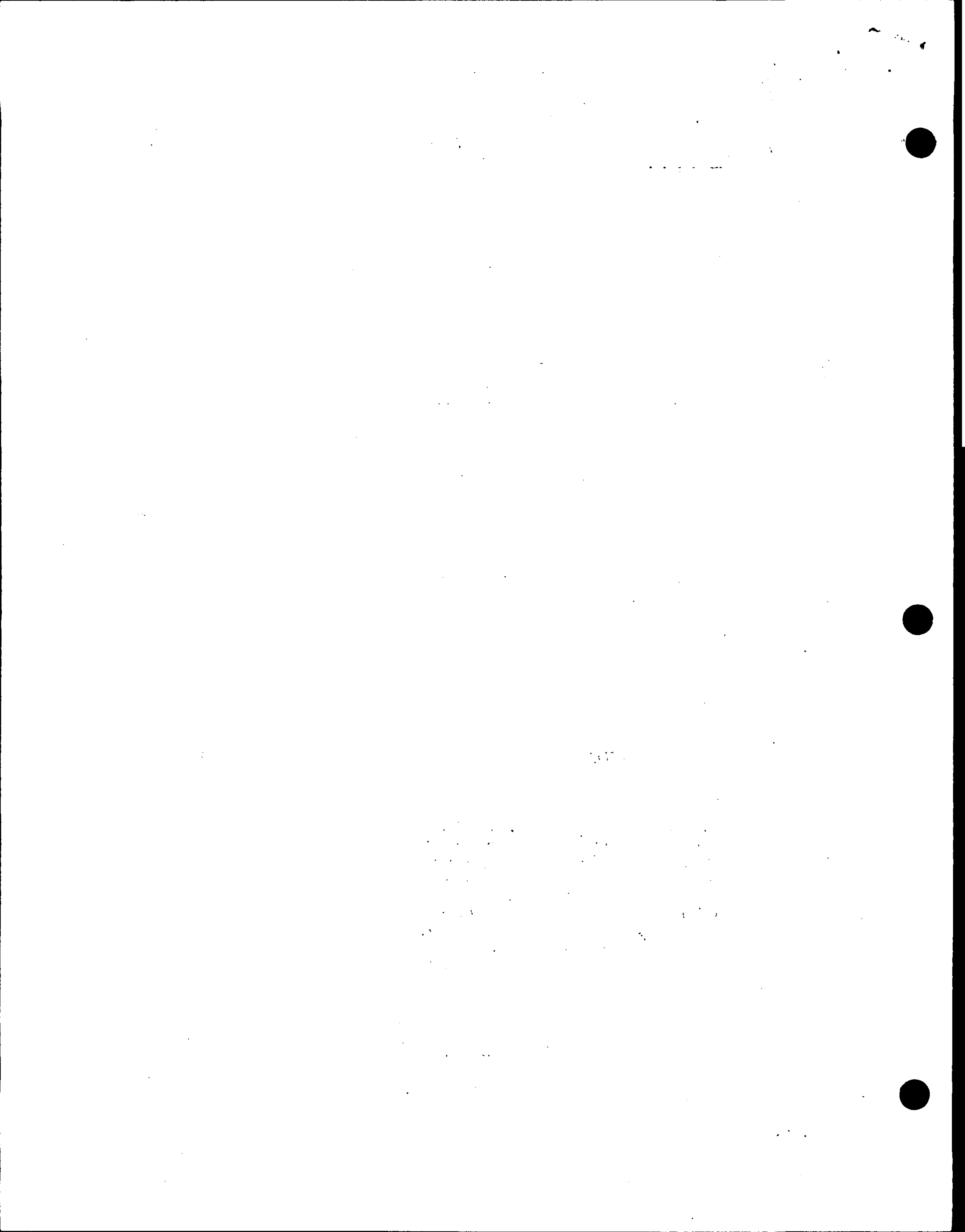
EMPTY AIRCRAFT C.G. = $\frac{85712.9}{1099} = 77.99$ inches aft of datum.

$$\frac{m}{w} = A$$

Gross 1750 lbs

Seales model S/S
Intercomp AC11 10185
Cal. DATE 1-15-01

[Signature] 1644268 A+P
July 1, 2002



SITUATION 1: GROSS WEIGHT CG

	Weight	Arm	Moment
Aircraft	1099	77.99	85712.9
Fuel (36 Gal.)	216	76.75	16578
Pilot	205	92.70	19003.5
Passenger	186	92.70	17238.6
Baggage	75	122	9150
Total:	1750		132113

C.G. = $132113 / 1750 = 75.49$ in. aft of datum.

SITUATION 2: MOST AFT CG (GROSS WEIGHT, MINIMUM FUEL)

	Weight	Arm	Moment
Aircraft	1099	77.99	85712.9
Fuel (5 Gal.)	30	76.75	2302.5
Pilot	260	92.7	24102
Passenger	260	92.7	24102
Baggage	100	122	12200
Total:	1749		148419

C.G. = $148419 / 1749 = 84.85$ in. aft of datum.

SITUATION 3: MOST FORWARD C.G. (STD PILOT WT.)

	Weight	Arm	Moment
Aircraft	1099	77.99	85712.9
Fuel (36 Gal.)	216	76.75	16578
Pilot	180	92.7	16686
Total:	1495		118976

C.G. = $118976 / 1495 = 79.58$ in. aft of datum.

SITUATION 4: MOST FORWARD C.G. (MIN. PILOT WT.)

	Weight	Arm	Moment
Aircraft	1099	77.99	85711
Fuel (36 Gal.)	216	76.75	16578
Pilot	120	92.7	1124
Total:	1435		113413

C.G. = $113413 / 1435 = 78.83$ in. aft of datum.

SITUATION 5: GROSS WEIGHT (HEAVY PILOT & BAGGAGE, REDUCED FUEL)

	Weight	Arm	Moment
Aircraft	1099	77.99	85711
Fuel [] Gal	216	76.75	16578
Pilot	210	92.70	19467
Passenger	120	92.70	1124
Baggage	100	122	12200
Total:	1745		130113

C.G. = $130113 / 1745 = 74.56$ in. aft of datum.

SITUATION 6: AS ABOVE, BUT WITH MINIMUM FUEL

	Weight	Arm	Moment
Aircraft	1099	77.99	85711
Fuel (5 Gal.)	30	76.75	2302.5
Pilot	210	92.7	19467
Passenger	120	92.7	1124
Baggage	100	122	12200
Total:	1559		13084

C.G. = $13084 / 1559 = 83.92$ in. aft of datum.

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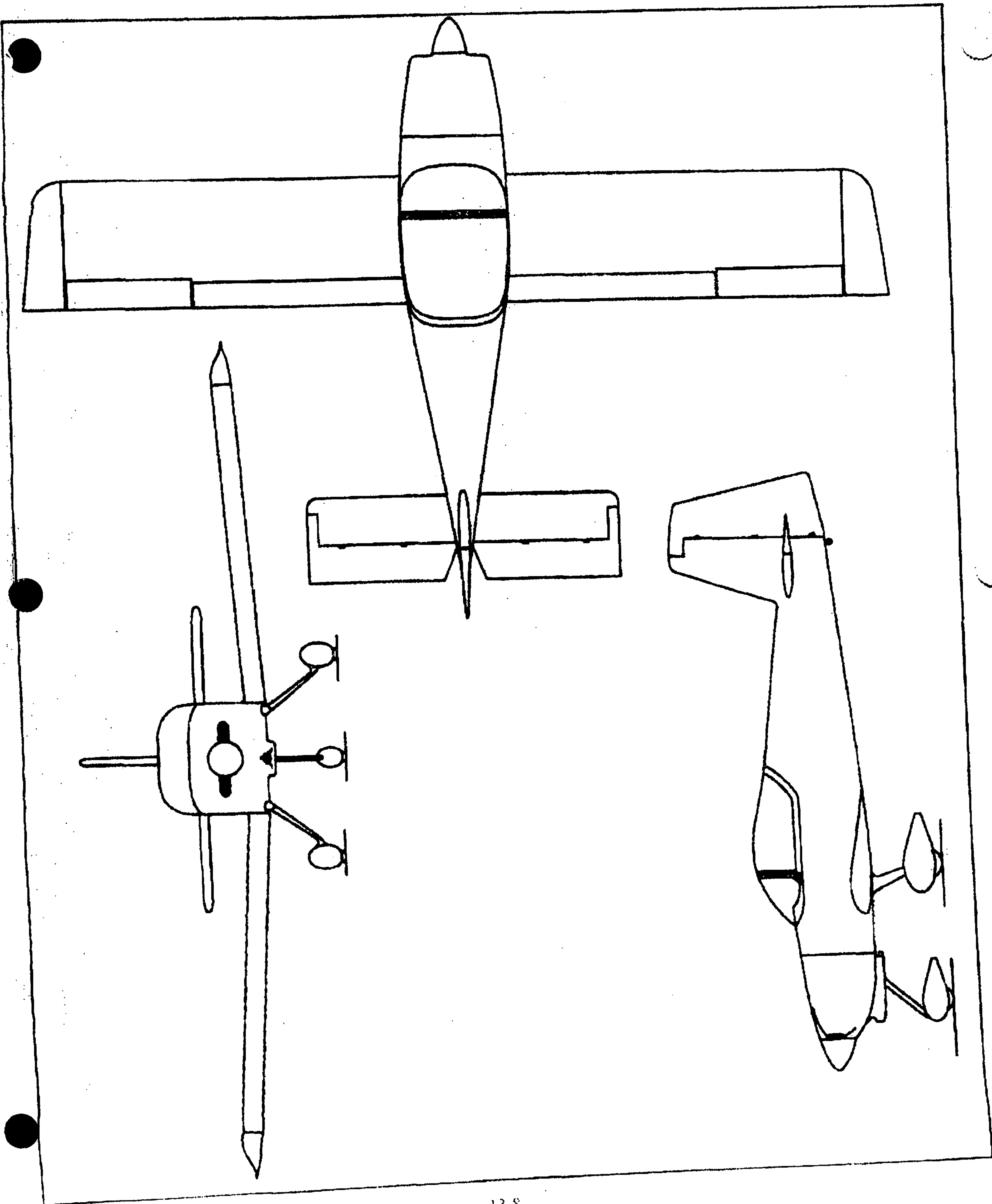
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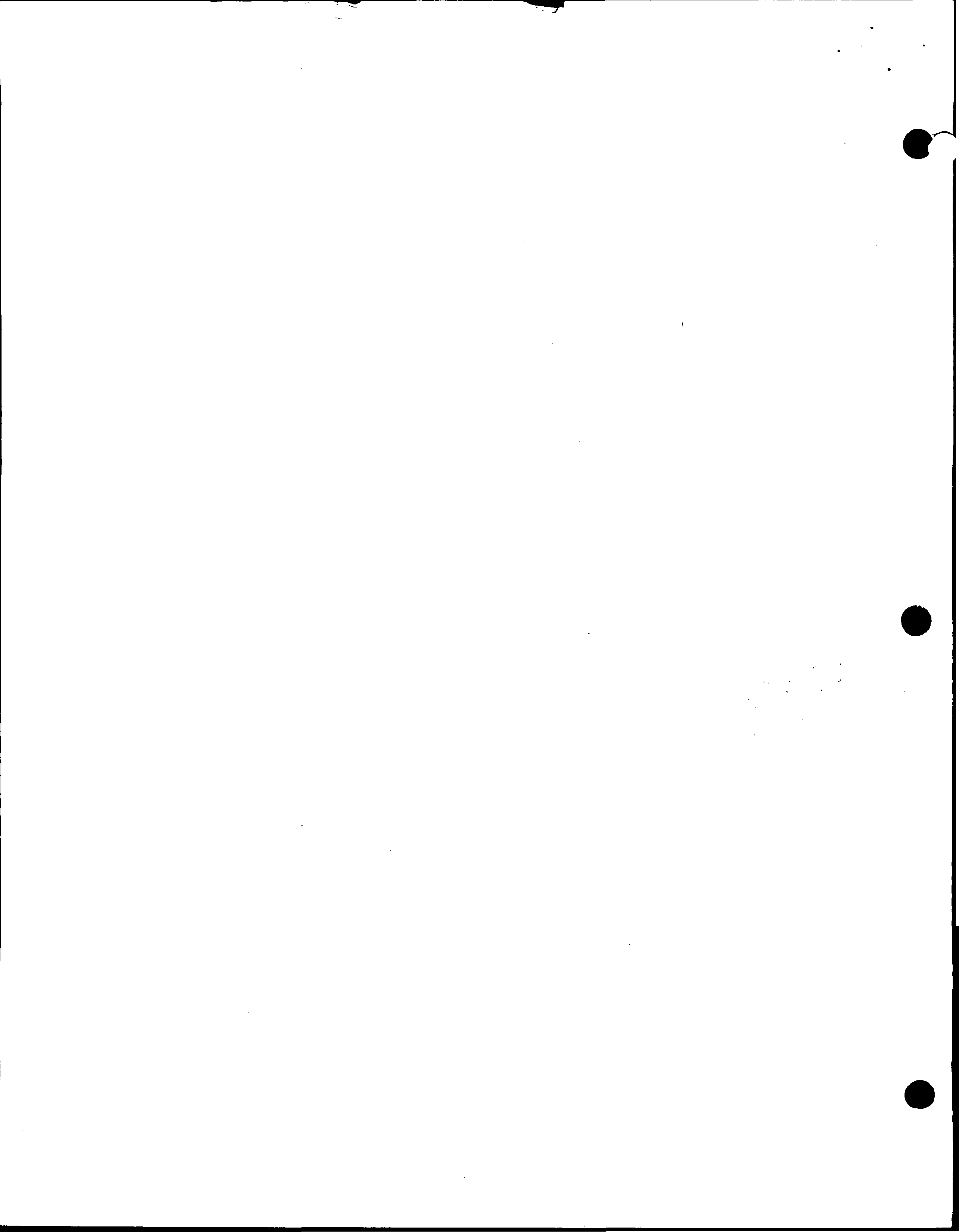
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UNITED STATES OF AMERICA
 DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION
SPECIAL AIRWORTHINESS CERTIFICATE

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- 945D	SERIAL NO.	90011
	BUILDER DUFFY	MODEL	VANS RV9A
E	DATE OF ISSUANCE	7/9/2002	EXPIRY UNLIMITED
	OPERATING LIMITATIONS DATED	7/9/2002	ARE A PART OF THIS CERTIFICATE.
	SIGNATURE OF FAA REPRESENTATIVE  STANLEY P. FASKE	DESIGNATION OR OFFICE NO. CVG FSDO	

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.



U.S. Department
of Transportation
**Federal Aviation
Administration**

Cincinnati FSDO
4240 Airport Road
CINCINNATI, OHIO 45226
513-533-8429, Fax: 513-533-8420

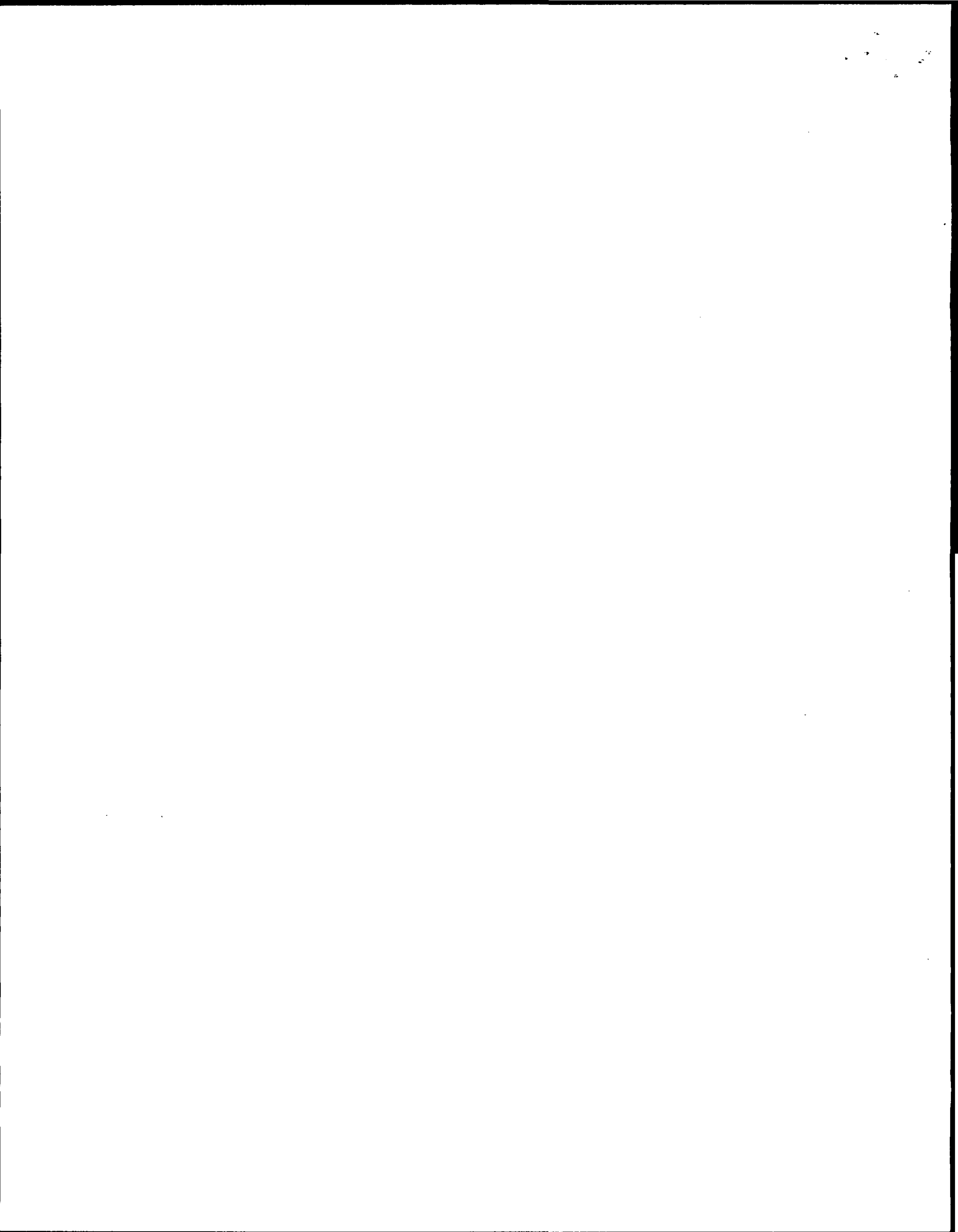
July 9, 2002

**EXPERIMENTAL OPERATING LIMITATIONS
OPERATING AMATEUR-BUILT AIRCRAFT**

MAKE: DUFFY
MODEL: VANS RV9A

REGISTRATION NO: N945D
SERIAL NO: 90011

- (1) No person may operate this aircraft for other than the purpose of meeting the requirements of FAR Part 91.319(b) during phase I flight testing, and for recreation and education after meeting these requirements as stated in William Duffy's program letter dated 7/1/2002 for this aircraft. In addition, this aircraft shall be operated in accordance with the applicable air traffic and general operating rules of FAR Part 91 and all additional limitations herein prescribed under the provisions of FAR Part 91.319(e). These operating limitations are a part of the FAA Form 8130-7, special airworthiness certificate, and are to be carried in the aircraft at all times for availability to the pilot in command of the aircraft.
- (2) During phase I flight testing to meet the requirements of FAR Part 91.319(b) all flights shall be conducted within the geographical area of a 75 nautical mile radius of Hamilton Airport, Ohio (HAO), within the State of Ohio, over open water or sparsely populated areas having light air traffic. The size of the area shall be that required to safely conduct the type of anticipated maneuvers and tests, as appropriate.
- (3) This aircraft shall be operated for at least 25 hours in the above flight test geographic area.
- (4) All test flights as a minimum shall be conducted day VFR to the scope and detail of 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 shall certify in the records that the aircraft has been shown to comply with FAR Part 91.319(b). Compliance with FAR Part 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.**



- (5) Except for takeoffs and landings, this aircraft may not be operated over densely populated areas or in congested airways.
- (6) This aircraft is prohibited from operating in congested airways or over densely populated areas unless directed by Air Traffic Control, or unless sufficient altitude is maintained to effect a safe emergency landing in the event of a power unit failure, without hazard to persons or property on the surface.

NOTE: This limitation is applicable to the aircraft after it has satisfactorily completed all requirements for phase I flight testing, has the appropriate endorsement in the aircraft logbook, and is operating in phase II.

- (7) This aircraft is to be operated under Visual Flight Rules (VFR), day only.
- (8) After completion of phase I flight testing, unless appropriately equipped for night and/or instrument flight in accordance with FAR Part 91.205, this aircraft is to be operated under day only VFR.
- (9) Aircraft instruments and equipment installed and used under FAR Part 91.205 must be inspected and maintained in accordance with FAR Part 91. Any maintenance or inspection of this equipment must be recorded in the aircraft maintenance records.
- (10) During the flight testing phase, no person may be carried in this aircraft during flight unless that person is essential to the purpose of the flight.
- (11) No person may operate this aircraft for carrying persons or property for compensation or hire.
- (12) The pilot in command of this aircraft shall advise each person carried of the experimental nature of this aircraft, and explain that it does not meet the certification requirements of a standard certificated aircraft.
- (13) This aircraft shall contain the placards, markings, ect. As required by FAR Part 91.9.
- (14) This aircraft must display the word EXPERIMENTAL in accordance with FAR Part 45.23(b).
- (15) This aircraft is prohibited from aerobatic flight; i.e., an intentional maneuver involving an abrupt change in the aircraft's attitude, an abnormal attitude, or abnormal acceleration not necessary for normal flight.
- (16) The pilot in command of this aircraft shall hold a category/class rating, or an authorized instructor's logbook endorsement. The pilot in command must meet the requirements of FAR Part 61.31(e), (f), (g), (h), and (l) as appropriate.

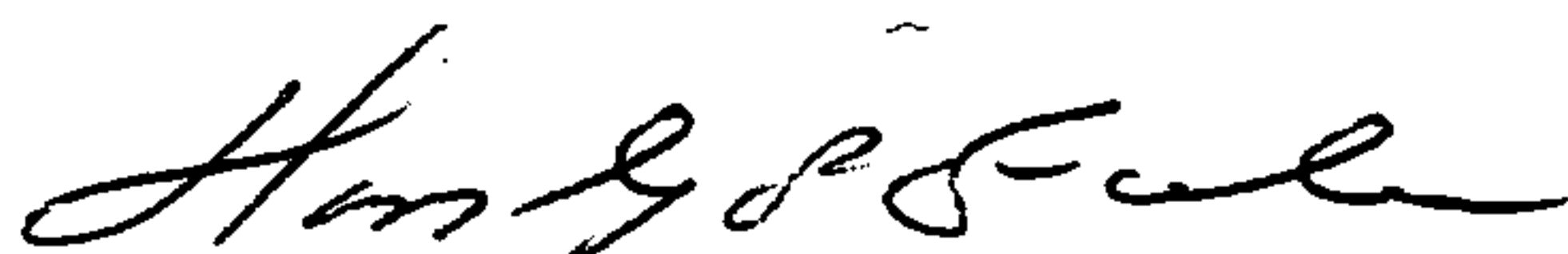
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- (17) After incorporating a major change as described in FAR Part 21.93, the aircraft owner is required to re-establish compliance with FAR Part 91.319(b). All operations will be conducted day VFR in a sparsely populated area. The aircraft must remain in the flight test for a minimum of 5 hours. Persons non-essential to the flight shall not be carried. The aircraft owner shall make a detailed log book entry describing the change prior to the test flight. Following satisfactory completion of the required number of flight hours in the flight test area, the pilot shall certify in the records that the aircraft has been shown to comply with FAR Part 91.319(b). Compliance with FAR Part 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: V_{so} _____, V_x _____, and V_y _____, and the weight _____, and CG location _____ at which they were obtained.**
- (18) This aircraft shall not be used for glider towing, banner towing, or intentional parachute jumping.
- (19) This aircraft does not meet the requirements of the applicable, comprehensive, and detailed airworthiness code as provided by Annex 8 of the International Civil Aviation Organization (ICAO). The owner/operator of this aircraft must obtain written permission from another country's Civil Aviation Authority (CAA) prior to operating this aircraft in or over that country. That written permission must be carried aboard the aircraft together with the U.S. airworthiness certificate and, upon request, be made available to an FAA inspector or the CAA in the country of operation.
- (20) No person shall operate this aircraft unless within the preceding 12 calendar months it has had a condition inspection performed in accordance with the scope and detail of appendix "D" to FAR Part 43, or other FAA-approved programs, and found to be in a condition for safe operation. This inspection will be recorded in the aircraft maintenance records.
- (21) 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 appendix "D" to FAR Part 43 and found to be in a condition for safe operation."** The entry will include the aircraft total time in service, and the name, signature, certificate number, and type of certificate held by the person performing the inspection.
- (22) An experimental aircraft builder, certificated as a Repairman for this aircraft under FAR Part 65.104, or an appropriately rated FAA certificated mechanic, may perform the condition inspection required by these operating limitations.

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(23) Application must be made to the geographically responsible FSDO or MIDO for any revisions to these operating limitations.

(24) The pilot in command of this aircraft shall notify air traffic control of the experimental nature of this aircraft when operating into or out of airports with an operational control tower. When filing IFR the experimental nature of this aircraft shall be listed in the remarks section of the flight plan.



STANLEY P. FASKE
PRINCIPAL MAINTENANCE INSPECTOR

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