

Manufacturing Inspection District Office
Capital City Airport
400 Airport Drive, Room 102
New Cumberland, PA 17070

EXPERIMENTAL OPERATING LIMITATIONS
OPERATING AMATEUR-BUILT AIRCRAFT

BUILDER: ROBERT E. CHAPMAN

MODEL: T-BIRD II

SERIAL NUMBER: 10119

REGISTRATION NUMBER: N204BC

DATE OF ISSUANCE: JULY 26, 2002

EXPIRATION DATE: none

Phase I Operating Limitations

During initial flight testing, and prior to compliance with operating limitation number 7, the following operating limitations shall apply:

1. No person may operate this aircraft for other than the purpose of meeting the requirements of 14 CFR §91.319(b) during phase I flight testing, as stated in the applicant's program letter (required by 14 CFR §21.193) dated JULY 15, 2002, for this aircraft. In addition, this aircraft shall be operated in accordance with applicable air traffic and general operating rules of 14 CFR part 91 and all additional limitations herein prescribed under the provisions of §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. This aircraft shall be flown a minimum of (40) satisfactory hours in order to accomplish phase I flight testing, and all flights shall be conducted within the geographical flight test area described as follows:
The base of operations will be Beaver Dam Airpark (Private Field), Elberton, Va. Phase I flight tests shall be conducted within a 25 nautical mile radius of the base of operations.
3. Takeoffs and landings from only the following airports within the assigned geographical flight test area are authorized:
Williamsburg-Jamestown (JGG) and Wakefield International (AKQ).

Note: Permission from the airport operator(s) must be obtained prior to conducting operations at any of these airports.

4. No operations, including takeoffs and landings, shall be conducted over densely populated areas or in congested airways.
5. This aircraft shall be operated under Visual Flight Rules (VFR), day only.
6. No person may be carried in this aircraft during flight unless that person is essential to the purpose of the flight.
7. 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 shall 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 this 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. speeds V_{so}_____, V_x_____, V_{ne}_____, and V_y_____, and the weight_____ and the CG location_____ at which they were obtained.”

8. During phase I flight testing, if the builder states the aircraft is capable of aerobatic flight, this aircraft may conduct aerobatic flight in accordance with the provisions of §91.303. Aerobatic flight shall not be attempted until sufficient flight experience has been gained to establish that the aircraft is satisfactorily controllable and in compliance with §91.319(b). Aerobatic maneuvers that have been satisfactorily accomplished during phase I flight testing shall be recorded in the aircraft records by use of the following or similarly worded statement:

“I certify that the following aerobatic maneuvers have been test flown and the aircraft is controllable throughout the maneuver’s normal range of speeds and is safe for operation. The flight tested aerobatic maneuvers are:_____, _____, and _____.”

9. Aircraft instruments and equipment installed and used under §91.205 must be inspected and maintained in accordance with the requirements of 14 CFR Part 91. Any maintenance or inspection of this equipment must be recorded in the aircraft maintenance records.
10. No person may operate this aircraft for carrying persons or property for compensation or hire.

11. 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.
12. The pilot in command shall notify the air traffic control tower of the experimental nature of this aircraft when flying into or out of airports with operating air traffic control towers.
13. This aircraft shall contain the placards, markings, etc., as required by §91.9.
14. This aircraft shall display the word **EXPERIMENTAL** in accordance with §45.23(b).
15. The following statement shall be displayed on a placard in the cockpit or cabin, in full view of all occupants:

“PASSENGER WARNING- This aircraft is amateur-built and does not comply with federal safety regulations for standard aircraft.”

16. The pilot in command of this aircraft shall, as applicable, hold an appropriate category/class rating, or an authorized instructor’s logbook endorsement. The pilot in command must meet the requirements of § 61.31(e), (f), (g), (h), (I), and (j), as appropriate.
17. This aircraft shall not be used for glider towing, banner towing, or intentional parachute jumping.
18. No person shall operate this aircraft unless within the preceding twelve (12) calendar months it has had a condition inspection performed in accordance with the scope and detail of 14 CFR Part 43 Appendix D, or other FAA approved programs, and found to be in a condition for safe operation. As part of the condition inspection, cockpit instruments must be marked appropriately and needed placards installed in accordance with 91.9. In addition, system essential controls must be in good condition, securely mounted, clearly marked, and provide for ease of operation. This condition inspection shall be recorded in the aircraft maintenance records.
19. 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 part 43 and was found to be in a condition for safe operation."

The entry shall include the aircraft total time in service, and the name, signature, certificate number, and type held by the person performing the inspection.

20. An experimental aircraft builder, certificated as a Repairman under §65.104, or an appropriately rated FAA certificated mechanic as authorized by §43.3 (Airframe and

Powerplant Mechanic) may perform the condition inspection required by these operating limitations.

21. Application must be made to the geographically responsible FAA Flight Standards District Office (FSDO), or Manufacturing Inspection District Office (MIDO), for any revision to these operating limitations.
22. All airworthiness directives applicable to this aircraft, or any part thereof, shall be complied with in accordance with the requirements of 14 CFR Part 39.

Phase II Operating Limitations

Subsequent to satisfactory completion of all Phase I flight testing requirements, and compliance with operating limitation number 7, the following operating limitations shall apply:

23. No person may operate this aircraft for other than the purpose of operating Amateur-Built Aircraft, while meeting the applicable requirements of 14 CFR §91.319, as stated in the applicant's program letter (required by 14 CFR §21.193) dated JULY 15, 2002, for this aircraft. In addition, this aircraft shall be operated in accordance with applicable air traffic and general operating rules of 14 CFR part 91 and all additional limitations herein prescribed under the provisions of §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.
24. The following Phase I operating limitations shall apply to Phase II: 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, and 22.
25. Except for takeoffs and landings, this aircraft is prohibited from operating in congested airways or over densely populated areas unless directed by Air Traffic Control. However, en route over-flight of densely populated areas is authorized provided that 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. This limitation shall not be construed as an authorization to loiter over densely populated areas.
26. Those aerobatic maneuvers, successfully accomplished and recorded in the aircraft records in accordance with the requirements of limitation number 8, are authorized. All such aerobatic maneuvers shall be performed in accordance with the provisions of §91.303.
27. Unless appropriately equipped for night and/or instrument flight in accordance with §91.205, this aircraft is to be operated under Visual Flight Rules (VFR), day only.

28. The pilot in command of this aircraft shall notify Air Traffic Control of the experimental nature of this aircraft when operating under IFR conditions. When filing IFR, the experimental nature of this aircraft shall be listed in the remarks section of the flight plan.
29. After incorporating a major change as described in §21.93, the aircraft owner is required to re-establish compliance with §91.319(b). All operations will be conducted day VFR in a sparsely populated area. The aircraft must remain in flight test for a minimum of 5 hours. Person 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 §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 _____, V_{ne} _____, and V_y _____, and the weight _____, and CG location _____ at which they were obtained."

30. 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.

Issued by: _____

Harry E. McClure DARF _____

AMATEUR-BUILT PROGRAM LETTER

(To be attached to FAA Form 8130-6)

TO: Harry E. McClure (DAR)
48 Galahad Ct.
Reedville, Va. 22539

Date 7/15/02

In accordance with section 21.193, I request a Special Airworthiness Certificate for my aircraft for the purpose of Amateur-Built operations. The aircraft description is as follows:

Builder: Robert E. Chapman Registration No.: N 204BC
Model T-Bird II Serial No.: 10119
No. of engines: 1 No. of Seats: 2
Design Criteria: My own design , Built from plans , Built from a kit X.

The aircraft is complete and the following items have been accomplished:

- ☒ Yes ☐ No I enclose FAA Form 8130-6 with sections I, II, and III complete.
- ☒ Yes ☐ No I enclose FAA Form 8130-12 with Sections I, II, and III complete and notarized in Section IV.
- ☒ Yes ☐ No I possess AC Form 8050-3. - copy of telegraph message on Hedrick
- ☒ Yes ☐ No I enclose a three-view drawing or photographs of the aircraft.
- ☒ Yes ☐ No I have weighed the aircraft to determine the most forward and aft center of gravity positions are within established limits. The weight and balance report is available at the aircraft, and a copy is submitted with this application.
- ☒ Yes ☐ No I have maintained a construction log for the project, including photographs showing methods of construction and workmanship during the construction. Log entries describe all inspection conducted during construction.
- ☒ Yes ☐ No The markings of Part 45 have been complied with, including permanent attachment of a fireproof identification (data) plate, permanent application of appropriate registration marks and the word "EXPERIMENTAL" displayed near each entrance to the cabin or cockpit.
- ☒ Yes ☐ No The following placard is displayed in the cockpit in full view of all occupants: (not required for single place aircraft)

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

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

Beaverdam Airpark - Route 626, Surry VA

RT 10 from Smithfield, left on Burwells Bay Road (RT 621)
5 miles (approx) right on Jones Road (RT 626) 1 mile (approx) to
Airpark sign - down dirt road (left at dirt lane intersection)
- Airpark is approx 1 mile down dirt lane

If coming via Jamestown ferry - I will provide alternate instructions.

I request a airworthiness certificate and operating limitations be issued permitting me to operate the aircraft within the following geographical area for flight testing. Initial flights will determine engine reliability and flight control characteristics. A flight test plan has been developed using the guidance in AC 90-89 and /or other comparable documents. After flight testing is completed, I plan to continue to operate the aircraft under Part 91 and either VFR or IFR conditions depending on how the aircraft is equipped.

Within 2.5 mile radius of Bessie Coleman Airport

My residence No. is: 

My daytime business No. is: 

Signature of (owner/builder)



U.S. Department
of Transportation
Federal Aviation
AdministrationAPPLICATION 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 N204BC	2. AIRCRAFT BUILDER'S NAME (Make) Robert E. Chapman	3. AIRCRAFT MODEL DESIGNATION T-Bird II	4. YR. MFR. 2002	FAA CODING								
	5. AIRCRAFT SERIAL NO. 10119	6. ENGINE BUILDER'S NAME (Make) Rotax	7. ENGINE MODEL DESIGNATION 582										
	8. NUMBER OF ENGINES 1	9. PROPELLER BUILDER'S NAME (Make) Warp Drive	10. PROPELLER MODEL DESIGNATION	11. AIRCRAFT IS (Check if applicable) ☐ EXPORT ☒ IMPORT									
II. CERTIFICATION REQUESTED	APPLICATION IS HEREBY MADE FOR: (Check applicable items)												
	A	1	STANDARD AIRWORTHINESS CERTIFICATE (Indicate category)			NORMAL	UTILITY	ACROBATIC	TRANSPORT	COMMUTER	BALLOON	OTHER	
	B	☒	SPECIAL AIRWORTHINESS CERTIFICATE (Check appropriate items)										
		7	PRIMARY										
		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		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	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" or "Limited" as applicable.)											
III. OWNER'S CERTIFICATION	A. REGISTERED OWNER (As shown on certificate of aircraft registration)					IF DEALER, CHECK HERE ☐							
	NAME Robert E. Chapman					ADDRESS [REDACTED]							
	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 the number of the last AD SUPPLEMENT available in the biweekly series as of the date of application) 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												
	CHECK IF RECORDS IN COMPLIANCE WITH 14 CFR section 91.417 ☒					TOTAL AIRFRAME HOURS 0					EXPERIMENTAL ONLY (Enter hours flown since last certificate issued or renewed) 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 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 7/3/02					NAME AND TITLE (Print or type) Robert E. Chapman, owner/builder					SIGNATURE [REDACTED]		
	IV. INSPECTION AGENCY VERIFICATION	A. THE AIRCRAFT DESCRIBED ABOVE HAS BEEN INSPECTED AND FOUND AIRWORTHY BY: (Complete this section only if 14 CFR part 121 or 135 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 blocks in items A and B)												
	A. I find that the aircraft described in Section I or VII meets requirements for												
	4 THE CERTIFICATE REQUESTED AMENDMENT OR MODIFICATION OF CURRENT AIRWORTHINESS CERTIFICATE												
	B. Inspection for a special flight permit under Section VII was conducted by:												
	FAA INSPECTOR CERTIFICATE HOLDER UNDER 14 CFR part 14 CFR part 121 OR 135 14 CFR part												
DATE		DISTRICT OFFICE		DESIGNEE'S SIGNATURE AND NO. 4				FAA INSPECTOR'S SIGNATURE 1					



US Department
of Transportation
Federal Aviation
Administration

ELIGIBILITY STATEMENT AMATEUR-BUILT AIRCRAFT

Form Approved
O.M.B. NO. 2120-0018

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) Robert E. Chapman
Address(es) [REDACTED] Newport News, VA 23606
Telephone No.(s) [REDACTED]

II. AIRCRAFT INFORMATION

Model T-Bird II Engine(s) Make Rotax 582
Assigned Serial No. 10119 Engine(s) Serial No.(s) 5438035
Registration No. N204 BC Prop./Rotor(s) Make Warp Drive
Aircraft Fabricated: Plan ☐ Kit ☒ Prop./Rotor(s) Serial No.(s) C11844

III. MAJOR PORTION ELIGIBILITY STATEMENT OF APPLICANT

I certify the aircraft identified in Section II above was fabricated and assembled by Robert E. Chapman

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) [REDACTED]

Date

7/3/02

IV. NOTARIZATION STATEMENT

Newport News
Virginia, 23601

7-3-02

18-31-02
[Signature]

TELEGRAPHIC MESSAGE

NAME OF AGENCY FEDERAL AVIATION ADMINISTRATION MM AERONAUTICAL CENTER OKLAHOMA CITY, OKLAHOMA 73125		PRECEDENCE ACTION: PRIORITY INFO:	SECURITY CLASSIFICATION UNCLASS
ACCOUNTING CLASSIFICATION	DATE PREPARED JULY 23, 2002		FILE
FOR INFORMATION CALL			
NAME SHARON MELLINGER	AFS-754	PHONE NUMBER [REDACTED]	TYPE OF MESSAGE ☐ SINGLE ☐ BOOK ☐ ADDRESS
THIS SPACE FOR USE OF COMMUNICATION UNIT			

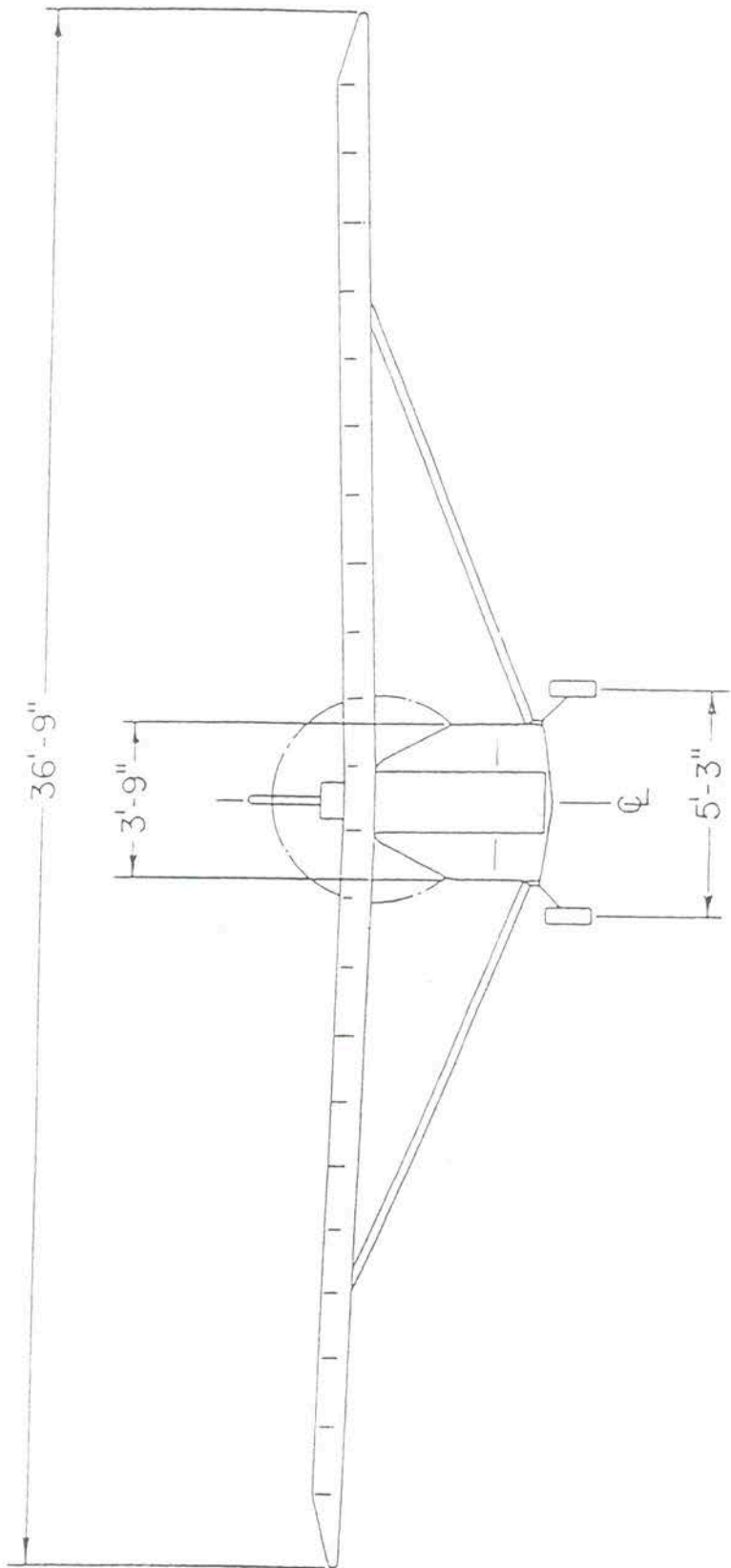
MESSAGE TO BE TRANSMITTED (Use double spacing and all capital letters)

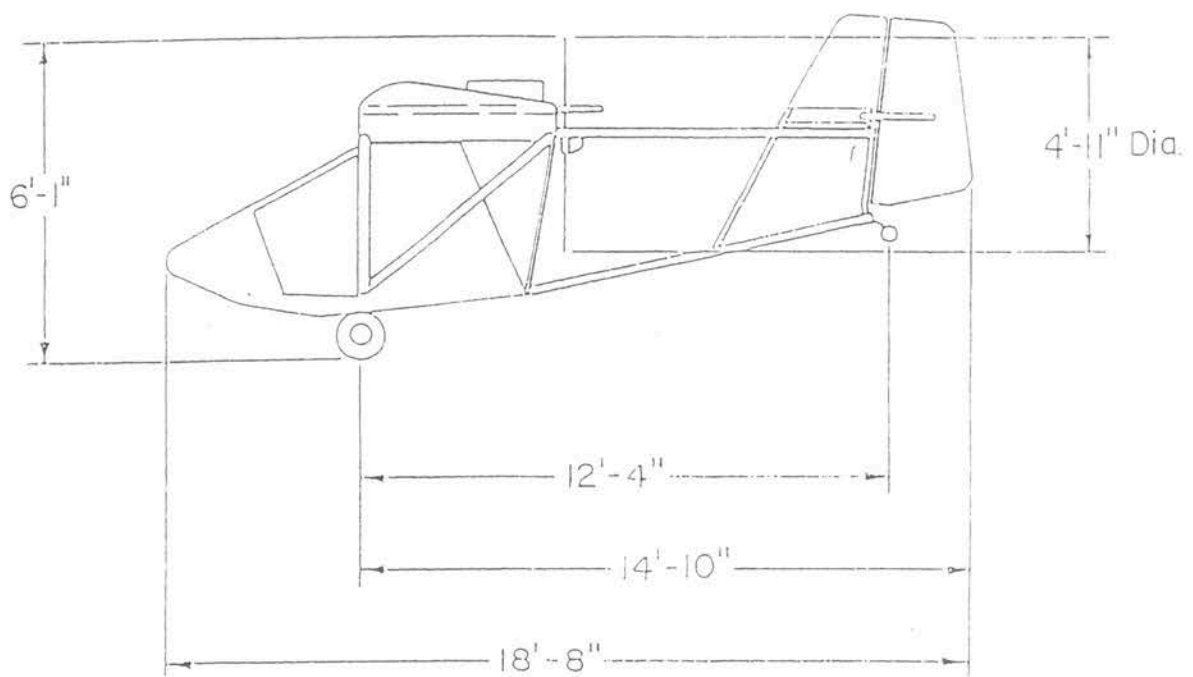
TO:
FAX: [REDACTED]
CHAPMAN ROBERT E
[REDACTED]
NEWPORT NEWS VA 23606-2808

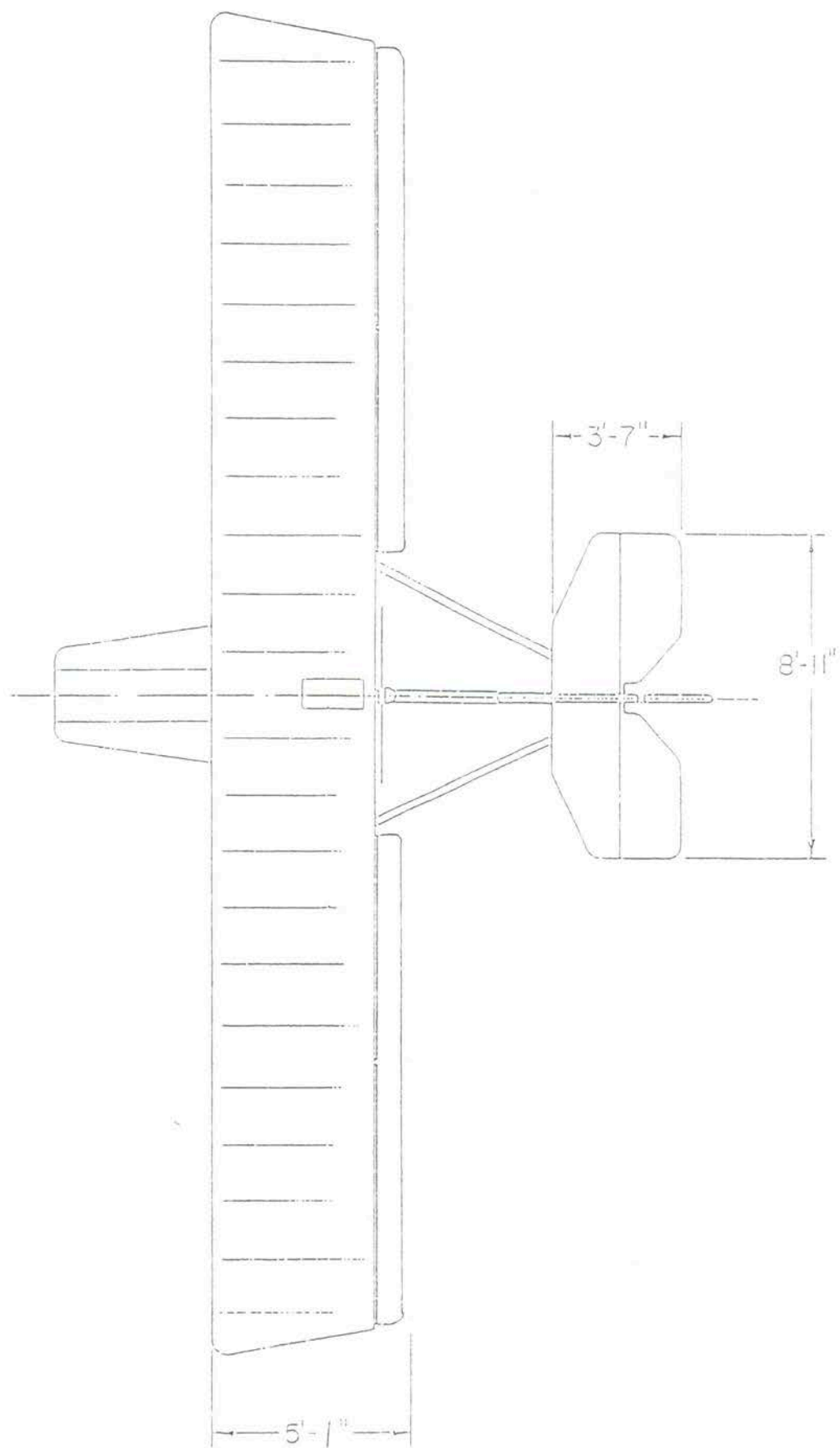
T024750 THIS TELEGRAM MUST BE CARRIED IN THE AIRCRAFT AS A TEMPORARY CERTIFICATE OF REGISTRATION FOR N204BC CHAPMAN ROBERT E T-BIRD II (TIERRA) SERIAL 10119 AND IS VALID UNTIL AUGUST 22, 2002. THIS IS NOT AN AIRWORTHINESS CERTIFICATE. FOR AIRWORTHINESS INFORMATION CONTACT THE NEAREST FEDERAL AVIATION ADMINISTRATION FLIGHT STANDARDS DISTRICT OFFICE.

[REDACTED] for
JULIE A. STANFORD
MANAGER, FAA AIRCRAFT REGISTRY AFS-750
FEDERAL AVIATION ADMINISTRATION

PAGE NO. 1		NO. OF PGS. 1	SECURITY CLASSIFICATION
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Weight and Balance Calculation for N204BC

Calculated by Robert E. Chapman for T-Bird II S/N 10119

Performed: 04-Jul-02

Designer Indicates CG range is **18.9 to 28.78** inches rearward of the datum line

Root tube level for all measurements

Datum line for horizontal is defined by designer as the Wing Leading Edge

Instrument panel equipped with Tach, ASI, Compass, Water Temp, CHT, EGT, ELT Annunciator
ELT installed

Empty CG = total moment/empty weight

Empty CG = 34.08 inches rearward of datum line

	Weight	Arm	Moment
Left Wheel	205.00	(1.50)	(307.50)
Right Wheel	224.00	(1.50)	(336.00)
Tail Wheel	126.00	(145.00)	(18,270.00)
	555.00	(34.08)	(18,913.50)

Most forward CG = 19.6 inches rearward of the datum line

Empty Weight	555.00	(34.08)	(18,913.50)
Pilot	285.00	(1.00)	(285.00)
Passenger	148.00	(1.00)	(148.00)
Fuel	12.00	(21.25)	(255.00)
	1,000.00	-19.6015	(19,601.50)

Most Rearward CG = 28.6 inches rearward of the datum line

Empty Weight	555.00	(34.08)	(18,913.50)
Pilot	90.00	(1.00)	(90.00)
Passenger	-	(1.00)	-
Fuel	72.00	(21.25)	(1,530.00)
	717.00	-28.6381	(20,533.50)

Typical Solo Load

Empty Weight	555.00	(21.25)	(18,913.50)
Pilot	285.00	(1.00)	(285.00)
Passenger	-	(1.00)	-
Fuel	72.00	(21.25)	(1,530.00)
	912.00	-22.7286	(20,728.50)

Center of CG Range is -23.84