

U. S. DEPARTMENT OF COMMERCE  
CIVIL AERONAUTICS ADMINISTRATION

Form approved.  
Budget Bureau No. 41-R052.4

W 254

MAJOR REPAIR AND ALTERATION FORM (AIRFRAME, POWERPLANT, PROPELLER OR APPLIANCE)

1. AIRCRAFT	MAKE <b>Republic</b>	MODEL <b>RC 3</b>	SERIAL NO. <b>384</b>	NATIONALITY AND REGISTRATION MARK <b>6193K 6193W</b>		
2. OWNER	NAME (First, middle, last) <b>James A Whitworth</b>		ADDRESS (Street and number, city, zone and State) <b>Lewiston Heights Lewiston, New York.</b>			
3. COMPLETE ONLY FOR UNIT REPAIRED AND/OR ALTERED. DESCRIBE WORK ACCOMPLISHED ON REVERSE IN ACCORDANCE WITH CIVIL AERONAUTICS MANUAL 18.						
	UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (Check)	
					MAJOR REPAIR	MAJOR ALTERATION
a. AIRFRAME	***** (As described in Item 1 above) *****					X
b. POWERPLANT	ALTERATION The <del>unit</del> identified herein complies with applicable airworthiness requirements and is approved only for the above-described aircraft subject to conformity inspection by a person authorized in CAR 18.11(b).					
c. PROPELLER						
d. APPLIANCE	TYPE AND MANUFACTURER		APPROVING INSPECTOR <i>P. Ladice</i>			
			DATE <b>FEB 24 1959</b>			
4. AIRCRAFT WEIGHT AND BALANCE DATA					This item must be completed by repair or alteration agency. However, in the case of a spare component, it will not be completed until such component is installed in an aircraft. At this time, it will be completed by the installing agency, if applicable.	
*AFTER the repairs and/or alterations described below were made.						
	CATEGORY	EMPTY WEIGHT (Pounds)*	EMPTY CENTER OF GRAVITY (Inches from datum)*		USEFUL LOAD (Pounds)*	
	Standard	2284.2	+ 120.7		865.8 Normal	
5. CONFORMITY STATEMENT (Complete and check)						
a. AGENCY'S NAME AND ADDRESS			b. KIND OF AGENCY		c. CERTIFICATE NO.	
James B Whitmarsh 42 Colonial Drive Lewiston, New York			<input checked="" type="checkbox"/> U. S. Certificated Mechanic. <input type="checkbox"/> Foreign Certificated Mechanic. <input type="checkbox"/> Certificated Repair Station. <input type="checkbox"/> Manufacturer. <input type="checkbox"/> (Check if repair or alteration was made under delegation option procedures.)		A&P 1250939	
d. I certify that the repair and/or alteration made to the unit(s) identified under item 3 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 18 of the U. S. Civil Air Regulations and that the information furnished herein is true and correct to the best of my knowledge.						
Jan 2, 1959 (Date repair and/or alteration completed)			<i>James B Whitmarsh</i> (Signature of authorized individual)		James B Whitmarsh	
6. APPROVAL FOR RETURN TO SERVICE (Check and complete appropriate items)						
Pursuant to the authority specified below the unit identified in item 3 was inspected in the manner prescribed by the Administrator and is						
<input checked="" type="checkbox"/> APPROVED } BY { <input type="checkbox"/> CAA Designee <input type="checkbox"/> Manufacturer <input type="checkbox"/> Canadian Department of Transport Inspector of Aircraft <input type="checkbox"/> REJECTED } <input checked="" type="checkbox"/> CAA Aviation Safety Agent <input type="checkbox"/> Repair Station <input type="checkbox"/> Other (Specify)						
FEB 24 1959 (Date of approval or rejection)			<i>P. Ladice NY 257-17</i> (Signature of authorized individual; title or identification number)			
7. TO BE COMPLETED ONLY BY CAA PERSONNEL						
a. <input type="checkbox"/> Forwarded for engineering comment <input type="checkbox"/> See attached memorandum						
b. <input type="checkbox"/> Accepted _____ (Date) <input type="checkbox"/> Reinspected _____ (Date) <input type="checkbox"/> Spot Checked _____ (Date)						
_____ (CAA designation number)			Reg. 1 NY ASDO 17		<i>(2.0 M)</i> (Signature Aviation Safety Agent)	

RM 7-8-9

MC

## INSTRUCTIONS

This form must be completed in duplicate each time a major repair and/or alteration is made of an aircraft, airframe, power-plant, propeller or appliance. After the repair and/or alteration has been inspected and item 6 completed, the original copy of this form will be made available to the aircraft owner for retention as part of the aircraft records. The duplicate copy is retained by the CAA for administrative purposes.

See CAM 18 for detailed instructions concerning the information to be furnished with this form and instructions concerning its preparation.

## 8. DESCRIPTION OF WORK ACCOMPLISHED.\*

The Following items were installed: See attached sheet for new weight and balance and arm location of installation.

1. Power Supply \* Lear Model 2214A - Installed on floor, left side; forward of rudder pedals, using factory bracket with four AN 3A-4 bolts and four 10/32 elastic stop nuts.
2. Localizer Receiver - Model VCA-2 - Installed on existing bracket that was used for factory installed Hallicrafter which was removed. Installed by using four AN 3A-4 bolts and four 10/32 elastic stop nuts.
3. LTRA-6 - Mounted on same bracket as above in front of Localizer Receiver using four AN 3A-4 bolts and four 10/32 elastic stop nuts.
4. Coarse Selector Left and Right was mounted on instrument panel with four 8-32 brass screws through the instrument.
5. Narco Rec. Antenna - Installed on top of vertical fin. Vertical fin was reinforced prior to installation with .054 24ST Alclad with 6 rivets on each side. Installed antenna with two AN 3A-3 bolts on top of reinforced area.
6. Trans. Antenna - Installed on top of fuselage as per factory instructions.
7. Directional Gyro, Artificial Gyro and Rate of Climb was installed in the instrument panel.
8. Installed two 4-inch Venturis on top of fuselage. Bottom, of top skin of fuselage was reinforced with .054 - 24ST Alclad prior to installation. Venturis were bolted down with eight AN 3A-6 bolts and eight elastic stop nuts.

Removed Hallicrafter CA 2 receiver - transmitter.

All factory furnished harnesses were used for installations. Lead in wire used for power supply was connected to existing circuit breakers which were previously installed for the Hallicrafter which was removed. Circuit breakers are 20 AMP.

The Coaxial cable for receiving antenna was run from the vertical fin to the receiver paralleled to the navigation lights wiring. Grommets already in hull were used. Three additional Adel Clamps were used to secure wire.

All work done in accordance with CAM 18.

## Electrical Load Chart

Radio	4.4	
Navigation lights (continuous)	4.3	35 Amp 12 Volt Generator
Pannel lights (Continuous)	3.0	12.8 Total load.
Gages ( Fuel & Oil Pressure)	1.1	
	12.8	

\*If additional space is needed attach additional sheets bearing aircraft nationality and registration mark and date work completed.

Check blank if additional sheets are attached.

CONTINUATION OF FORM 337 DATED JAN. 2, 1959.

REPUBLIC RC 3 - SERIAL NO. 384

Registration No. N 6193K.

Item	Weight	Arm	Moment
Airplane	2275.	120.9	275047.5
Installed:			
Power Supply	10.	12.5	125.
Localizer Receiver	6.5	31.5	204.75
LTRA-6	6.8	37.5	255.
Coarse Selector and L&R	1.2	40.0	48.
Hec. Antenna	.5	318.	159.
Trans. Antenna	.5	29.	14.5
Directional Gyro	4.5	40.	180.
Artificial Gyro	4.5	40.	180.
Rate of Climb	1.	40.	40.
2-Venturis @ 1/2 lb. each	1.	88.5	88.5
Removed: Hallicrafter CA2		-9.8	
	2301.7	119.9	275999.25
			-343.

WEIGHT AND BALANCE EXTREMES

NORMAL CATEGORY.

Item	Weight	Arm	Moment
<u>Forward</u>			
Aircraft	2301.7	119.9	275973.83
Pilot	170.0	62.0	10540.00
Pass. Front	170.0	62.0	10540.00
Two Pass. Rear	340.0	96.0	32640.00
Oil	22.5	136.0	3060.00
Fuel Min. 17.9 Gal.	107.4	116.0	12458.40
	3111.6	110.9	345212.23
<u>Aft</u>			
Aircraft	2301.7	119.9	275973.83
Pilot	170.0	62.0	10540.00
Oil	22.5	136.0	3060.00
Fuel Min. 17.9 Gal	107.4	116.0	12458.4
Wheels up Diff.			2900.00
Added Ballast	50.0	62.0	3100.00
	2651.6	116.1	308032.23

Approved Forward C.G. Limit + 111.5" aft datum

Approved Aft C.G. Limit + 117.0" aft datum

Forward extreme exceeded by .6" Ballast computation for correction of exceeded condition. Removed from lead permanent ballast at + 45" location.

.6" x 3111.6# = 17.5 lbs. to be removed from permanent ballast at 4.5 location  
107" Ballast placarded for new weight.

52.0 lbs Perm. Ballast previous

17.5 lbs Removed

34.5 lbs. Permanent Ballast placarded

New C.G. less permanent Ballast

Item	Weight	Arm	Moment
Aircraft	2301.7	119.9	275973.83
Less Ballast	-17.5	4.5	-78.75
	2284.2	120.7	275895.08

New E.C.G. is + 120.7" aft datum

New E. weight is 2284.2 lbs.

FORWARD EXTREME BALLAST REMOVED

Aircraft loaded	3111.6	110.9	345212.23
	-17.5	4.5	-78.75
	3094.1	111.5	345133.48

Forward Extreme is at +111.5 aft datum and falls within approved range.

AFT EXTREME LESS BALLAST

Aircraft loaded	2651.6	116.1	308032.23
	-17.5	4.5	-78.75
	2634.1	116.9	307953.48

Aft extreme is at + 116.9 aft of datum and falls within the approved C.G. limits of + 111.5 to + 117.0 as per Miller Flying Service Supplement to A-769 in accordance with S.T.C. SA3-30 and Utility Category not approved. This supersedes 337 dated

Sept. 11, 1958.

Reg. 1 NY  
ASDO 17