



US Department of Transportation
Federal Aviation Administration

MAJOR REPAIR AND ALTERATION (Airframe, Powerplant, Propeller, or Appliance)

Form Approved
OMB No. 2120-0020

For FAA Use Only

Office Identification

SEA F500 *[Signature]*

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. 1421). Failure to report can result in a civil penalty not to exceed \$1,000 for each such violation (Section 901 Federal Aviation Act of 1958).

1. Aircraft	Make Republic	Model RC-3 Seabee
	Serial No. 387	Nationality and Registration Mark 398CM
2. Owner	Name (As shown on registration certificate) Charliemax Corp.	
	Address (As shown on registration certificate) 1830 Lindberg Lane, Daytona Beach, FL 32124	

3. For FAA Use Only

The data 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 F.A.R. 43.7 (b) & (c)

3/25/98 *Rahel W. Wallace* **SEA F500**
DATE SIGNATURE

4. Unit Identification

Unit	Make	Model	Serial No.	5. Type	
				Repair	Alteration
AIRFRAME	~~~~~ (As described in Item 1 above) ~~~~~				X
POWERPLANT					
PROPELLER					
APPLIANCE	Type				
	Manufacturer				

RECEIVED
APR 27 1998
SEATTLE FSDO-AW

6. Conformity Statement

A. Agency's Name and Address Don Wallace dba W.E. Aerotech Services Inc. 171 W Sanderson Way, Shelton WA	B. Kind of Agency <input checked="" type="checkbox"/> U.S. Certificated Mechanic <input type="checkbox"/> Foreign Certificated Mechanic <input type="checkbox"/> Certificated Repair Station <input type="checkbox"/> Manufacturer	C. Certificate No. 552-76-1362
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D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Date 2-20-98	Signature of Authorized Individual <i>D Wallace</i>
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7. Approval for Return To Service

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED

BY	FAA Fit. Standards Inspector	Manufacturer	<input checked="" type="checkbox"/>	Inspection Authorization	Other (Specify)
	FAA Designee	Repair Station		Person Approved by Transport Canada Airworthiness Group	

Date of Approval or Rejection 4-22-98	Certificate or Designation No. 552-76-1362	Signature of Authorized Individual <i>D Wallace</i>
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NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. DESCRIPTION OF WORK ACCOMPLISHED (If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

Installed Simuflight fuselage strut fittings in accordance with STC SA1261NW and Simuflight drawing SP-3000

Upper lift strut end fittings and lower lift strut end fittings were fabricated identical to originals per Republic Dwgs. 17W22002 and 1722003 with the exception of substituting 2024 T351 Plate for 24ST extrusion. All loads in the original extruded strut fittings were in the transverse grain direction. All critical allowable load strengths for 2024 T351 plate (QQ-A-250/5) are in excess of those for 2024 ST extrusion (QQ-A-200/3) in the transverse grain direction ref. MIL HDBK-5C, tables 3.2.3.0(j) and 3.2.3.0(e1) (see attached). Strut end fitting installation similar to N9507U Ser. # 017 (see attached form 337 dated 7-20-97).

I have determined that this data is appropriate to the product being altered, is directly applicable to the alteration and is not contrary to the manufacturers data. This alteration does not require any change to the approved maintenance and inspection procedures for this aircraft.

Weighed aircraft prepared weight and balance report (see weight and balance and equipment list dated 2-20-98)

END

ADDITIONAL SHEETS ARE ATTACHED



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Office Identification

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. 1421). Failure to report can result in a civil penalty not to exceed \$1,000 for each such violation (Section 901 Federal Aviation Act of 1958).

1. Aircraft	Make <p style="text-align: center;">Stol</p>	Model <p style="text-align: center;">UC1</p>
	Serial No. <p style="text-align: center;">017</p>	Nationality and Registration Mark <p style="text-align: center;">N9507U</p>
2. Owner	Name (As shown on registration certificate) <p style="text-align: center;">The La Placa Trust La Placa-Joseph, La Placa-Jean</p>	Address (As shown on registration certificate) <p style="text-align: center;">2945 Maricopa Ave. Lake Havasu AZ 86406</p>

~~THE DATA ALTERATION IDENTIFIED HEREIN~~
~~COMPLIES WITH APPLICABLE AIRWORTHINESS~~
~~REQUIREMENTS AND IS APPROVED ONLY FOR~~
~~THE ABOVE DESCRIBED AIRCRAFT SUBJECT TO~~
~~CONFORMITY INSPECTION BY A PERSON AUTHO-~~
~~RIZED IN FAR 43.7 SEA F500~~

3. For FAA Use Only

Unit	Date	FAA Inspector Make	District Office	Unit Identification Model	Serial No.	5. Type	
						Repair	Alteration
AIRFRAME				~~~~~ (As described in Item 1 above) ~~~~~			X
POWERPLANT							
PROPELLER							
APPLIANCE	Type						
	Manufacturer						

RECEIVED
APR 27 1998
SEATTLE FSDO-AW

6. Conformity Statement

A. Agency's Name and Address Don Wallace dba W.E. Aerotech Services Inc. W 171 Sanderson Way, Shelton WA	B. Kind of Agency <input checked="" type="checkbox"/> U.S. Certificated Mechanic <input type="checkbox"/> Foreign Certificated Mechanic <input type="checkbox"/> Certificated Repair Station <input type="checkbox"/> Manufacturer	C. Certificate No. <p style="text-align: center; font-size: 1.2em;">552-76-1362</p>
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D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Date <p style="text-align: center;">7-20-97</p>	Signature of Authorized Individual
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7. Approval for Return To Service

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED

BY	FAA Ft. Standards Inspector	Manufacturer	<input checked="" type="checkbox"/>	Inspection Authorization	Other (Specify)
	FAA Designee	Repair Station		Person Approved by Transport Canada Airworthiness Group	
Date of Approval or Rejection <p style="text-align: center;">8-1-97</p>		Certificate or Designation No. <p style="text-align: center;">552-76-1362</p>	Signature of Authorized Individual 		

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

B. Description of Work Accomplished

(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

Fabricated equivalent strength lift struts from 6061 T4 aluminum sheet and aged to T6 condition. Cross section of these struts is equivalent to the Republic RC-3 Seabee lift strut PN 17W22001 with the exception that .125 sheet was used. Original UC-1 Twin Bee lift struts were fabricated from 6061 T6 streamlined tube extrusion (see UCS Report 67-S-201 pg. 246 attached) .106 wall thickness.

Area of material at cross section for replacement strut is 1.97 inches.
Area of material at cross section for original strut is 1.59 inches.
Wall thickness of replacement strut is .125 inches.
Wall thickness of original strut is .106

Original lift strut lower end fittings and new upper end fittings were attached same as original strut assembly.

Strength in tension of replacement strut assembly is equivalent to or greater than original due to increased material thickness and increased cross section material.

Strength in compression was demonstrated by load test.

An identical test strut was load tested in compression to 110% of ultimate compressive load for the UC1 Twin Bee (see test description titled "Substantiation of Wing Lift Strut in Compression..." attached) No permanent deformations or significant deflections were noted. Test article was destroyed after tests were completed.

Upper lift strut end fittings and fuselage lift strut fittings were fabricated identical to originals per Republic Dwgs. 17W22002 and 17F11013 with the exception of substituting 2024 T351 Plate for 24ST extrusion. All loads in the original extruded strut fittings were in the transverse grain direction. All critical allowable load strengths for 2024 T351 plate (QQ-A-250/5) are in excess of those for 2024 ST extrusion (QQ-A-200/3) in the transverse grain direction ref. MIL HDBK-5C, tables 3.2.3.0(j) and 3.2.3.0(e1) (see attached).

Aircraft weight was increased by 18 LBS at Station 103.

END

Additional Sheets Are Attached

TABLE 3.2.3.0(j). Design Mechanical and Physical Properties of 2024 Aluminum Alloy (Extrusions)

Specification Form Temper	Extruded bars, rods, and shapes																						
	T4, T3510 and T3511a						T42d																
	0.250-0.499		0.500-0.749		0.750-1.499		1.500-2.999		3.000-4.499		1.500-2.999		3.000-4.499		0.050-0.249		0.250-1.499		1.500-4.500				
Thickness, in.	<0.249		0.250-0.499		0.500-0.749		0.750-1.499		1.500-2.999		3.000-4.499		1.500-2.999		3.000-4.499		0.050-0.249		0.250-1.499		1.500-4.500		
Cross-sectional area, in. ²	<25		<25		<25		<25		<25		>25, <32		>25, <32		<32		<20		<32		<32		
Mechanical properties:	A		B		A		B		A		B		A		B		A		B		S		
F_{tu} , ksi:	57	61	60	62	60	62	65	70	70	74	70	74	74	70	74	68	68	64	64	57	57	66	66
L	54	58	56	57	54	56	56	60	55	58	54	57	54	58	53	52	53	64	64	50	50	61	61
F_{ty} , ksi:	42	47	44	47	44	47	46	54	52	54	52	54	52	54	48	48	56	58	58	38	38	58	58
L	37	41	38	40	37	39	37	43	39	41	39	41	39	41	36	36	55	57	36	36	57	57	
F_{cy} , ksi:	34	38	37	39	38	40	41	48	49	50	49	51	49	51	45	45	57	59	38	38	59	59	
L	41	45	41	44	40	43	40	47	42	44	41	43	41	43	39	38	57	59	38	38	59	59	
F_{su} , ksi	29	31	31	32	30	31	33	35	34	36	33	35	33	35	33	32	35	36	35	30	30	36	36
F_{bru} , ksi:	84	90	78	81	78	80	84	90	88	93	86	91	86	91	86	84	84	94	96	85	85	92	92
(e/D=1.5)	08	114	98	01	97	01	05	13	11	18	09	15	108	108	106	123	123	123	108	108	117	117	
(e/D=2.0)	61	68	55	59	55	59	57	67	63	66	62	65	66	62	65	57	57	79	79	53	53	82	82
F_{bry} , ksi:	71	79	67	71	67	71	69	81	77	80	75	78	71	77	71	69	93	96	61	61	96	96	
(e/D=1.5)	12	...	12	...	12	...	10	...	10	...	10	...	10	...	8	8	4	4	c	c	5	5	
(e/D=2.0)	5	...	2	...	2	...	2
e, percent:
L
LT
E , 10 ³ ksi:	10.8																						
E_G , 10 ³ ksi:	11.0																						
G , 10 ³ ksi:	4.1																						
μ :	0.33																						
ω , lb/in. ³ :	0.100																						
C, K and α :	See Figure 3.2.3.0																						

^aBearing values are "dry pin" values per Section 1.4.7.1.
^bNot applicable to sections less than 3/8 inch in thickness.
^cUp to 0.749, incl. —12; 0.750 to 1.499, incl. —10; 1.500 and over, up to 25 sq. in., incl. —10; 1.500 and over, over 25 to 32 sq. in., incl. —8.
^dThese allowables apply when samples of material supplied in the O or F temper are heat treated to demonstrate response to heat treatment. Properties obtained by the user however, may be lower than those listed if the material has been formed or otherwise cold or hot worked, particularly in the annealed temper, prior to solution heat treatment.

TABLE 3.2.3.0(e1). Design Mechanical and Physical Properties of Clad 2024 Aluminum Alloy (Sheet and Plate)

Specification Form Temper	QQ-A-250/5																			
	T3										T351									
	Flat sheet and plate										Flat sheet and plate									
	0.008-0.009		0.010-0.062		0.063-0.128		0.129-0.249		0.250-0.499		0.500-1.000 ^a		1.001-1.500 ^a		1.501-2.000 ^a		2.001-3.000 ^a		3.001-4.000 ^a	
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	
Thickness, in.	59	60	61	62 ^d	63	64	62	62	64	61	63	60	60	62	60	58	60	55	57	
Basis	58	59	60	61 ^d	62	63	62	63	64	61	63	60	60	62	60	58	60	55	57	
Mechanical properties:																				
F_{tu} , ksi:																				
L	44	45	44	45	47	47	45	47	45	45	47	45	45	47	45	45	47	44	46	
LT	39	40	39	40	40	42	40	42	40	40	42	40	40	42	40	40	42	39	41	
F_{ty} , ksi:																				
L	36	37	36	37	37	39	37	39	38	37	39	37	37	39	36	38	34	36		
LT	42	43	42	43	45	45	43	45	43	43	45	43	43	45	42	44	40	42		
F_{su} , ksi	37	37	37	38 ^d	39	40	37	38	37	37	38	36	36	37	36	35	36	33	34	
F_{brt}^b , ksi:																				
(e/D=1.5)	96	97	99	101	102	104	94	97	92	92	95	91	91	94	91	88	91	83	86	
(e/D=2.0)	119	121	123	125 ^d	127	129	115	119	113	113	117	111	111	115	111	108	111	102	106	
F_{brt}^b , ksi:																				
(e/D=1.5)	68	70	70	73	73	70	69	73	69	73	73	69	69	73	69	69	73	68	71	
(e/D=2.0)	82	84	82	84	88	88	83	87	83	83	87	83	83	87	83	83	87	81	85	
ϵ , percent:																				
LT	10	...	c	15	...	15	12	...	8	...	7	...	6	...	4	...	4	
E , 10 ³ ksi																				
Primary	10.5										10.7									
Secondary	9.5										10.0									
E_c , 10 ³ ksi																				
Primary	10.7										10.9									
Secondary	9.7										10.4									
G , 10 ³ ksi																				
μ	0.33																			
Physical properties:																				
ω , lb/in. ³	0.100																			
C, Btu/(lb)(F)	...																			
K, Btu/(hr)(ft. ²)(F)/ft]	...																			
α , 10 ⁻⁶ in./in./F	...																			

^aThese values have been adjusted to represent the average properties across the whole section, including the 2-1/2 percent nominal cladding thickness.
^bSee Table 3.1.2.1.1. Bearing values are "dry pin" values per Section 1.4.7.1.
^cSee Table 3.2.3.0(f).
^dThese values were decreased in Change Notice 3 to MIL-HDBK-5B due to a process change. The previous higher values may be used only on existing designs.