

Amateur-Built Fabrication and Assembly Checklist (2011) Fixed Wing

Name(s)	ICP North America
Address:	410 E. Chestnut, Freedom Field, Archer City, TX 76351
Aircraft Model:	Ventura
	1/31/2018
Remarks:	Field Lead Greg Rosenberg, Team Member: Chip Phillips
VENTURA packing list rev: 00 dated December 21, 2017 and VENTURA Construction Manual rev:00 dated June 26, 2017	

NOTE: This checklist is only applicable to fixed wing aircraft. Evaluation of other types of aircraft (i.e., rotorcraft, balloons, lighter than air) will not be accomplished with this form.

NOTE: This checklist is invalid for and will not be used to evaluate an altered or modified type certificated aircraft with the intent to issue an Experimental Amateur-built Airworthiness Certificate. Such action violates FAA policy and DOES NOT meet the intent of § 21.191(g).

Instructions For Using The Amateur-Built Fabrication and Assembly Checklist (2011):

A point (each task equals 1 point) can be divided over multiple categories (Manufacturer, Commercial Assistance, Amateur Builder Assembly and Amateur Builder Fabrication) into 1/10 fractions. A Manufacturer may be a kit manufacturer, a component manufacturer or a part(s) manufacturer. Commercial assistance (for hire or compensation) may include assistance provided by kit manufacturers, commercial assistance centers, individuals (e.g. A& P mechanics or avionics technicians).

For example, 0.5 (half point) can be assigned to the Manufacturer, 0.3 (3/10 - 3 tenths) as Commercial Assistance, 0.2 to the Amateur Builder as Fabrication, for a total of 1 point.

Enter "N/A" in any box where a listed task is not applicable to the particular aircraft being evaluated. Use the "Add item" boxes at the end of each section to add applicable unlisted tasks and award credit.

FABRICATION AND ASSEMBLY TASKS		A	B	C	D
		Mfr Kit/Part/	Commercial	Am-Builder	Am-Builder
		Component	Assistance	Assembly	Fabrication
Task #	Fuselage – 22 Listed Tasks				
F1	1 Fabricate Longitudinal Members	0.9			0.1
F2	Fabricate Composite Cores or Shells, Skins	N/A			
F3	1 Fabricate Bulkheads and Cross Members	0.9			0.1
F4	1 Fabricate Flt Control Push Pull Tubes	0.1			0.9
F5	1 Assemble Flt Control Push Pull Tubes	0		1.0	
F6	1 Assemble Fuselage Basic Structure	0		1.0	

FABRICATION AND ASSEMBLY TASKS			A	B	C	D
			Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
			F7	1	Fabricate Brackets and Fittings	0.8
F8	1	Assemble Brackets and Fittings	0		1.0	
F9	1	Fabricate Cables	0.1			0.9
F10	1	Assemble Cables	0		1.0	
F11	1	Fabricate Fuselage Fuel System Components	0.5			0.5
F12	1	Assemble Fuselage Fuel System Components	0.5		0.5	
F13	1	Fabricate Fuselage Skin	0.7			0.3
F14	1	Assemble Fuselage Skin	0		1.0	
F15	1	Fabricate Windshield	0.1			0.9
F16	1	Assemble Windshield to Fuselage	0		1.0	
F17	1	Fabricate Windows	0.1			0.9
F18	1	Assemble Windows to Fuselage	0		1.0	
F19	1	Fabricate Doors	0.7			0.3
F20	1	Assemble Doors	0		1.0	
F21		Fabricate Mast and Strut Assembly	N/A			
F22		Assemble Mast and Strut Assembly	N/A			
F23	1	Add Fab item: Fuselage Collector Fuel Tank	0.5			0.5
F24	1	Add Assy item: Fuselage Collector Fuel Tank	0		1.0	
F25		Add Fab item:				
F26		Add Assy item:				
Total # of Fuselage Tasks		<u>Fuselage Subtotal</u>	Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
21		<u>Fuselage Total Points</u> ▶	5.9	0.0	9.5	5.6

Fuselage Comments: F23 and F24: There is fabrication and assembly of a fuel tank in each wing for item W45 and W46.

FABRICATION AND ASSEMBLY TASKS		A	B	C	D
		Mfr Kit/Part/	Commercial	Am-Builder	Am-Builder
		Component	Assistance	Assembly	Fabrication
Task #	Wings – 47 Listed Tasks				
W1	1 Fabricate Right Wing Spars	0.3			0.70
W2	1 Fabricate Right Wing Ribs	0.8			0.20
W3	1 Assemble Wing Spars and Ribs to Form Right Wing Primary Structure	0		1.00	
W4	1 Fabricate Left Wing Spars	0.3			0.70
W5	1 Fabricate Left Wing Ribs	0.8			0.20
W6	1 Assemble Wing Spars and Ribs to Form Left Wing Primary Structure	0		1.00	
W7	Fabricate Composite Cores	N/A			
W8	Assemble Composite Cores to Wing	N/A			
W9	1 Fabricate Wing Leading and Trailing Edges	0.3			0.70
W10	1 Assemble Wing Leading & Trailing Edges to Wing	0		1.00	
W11	Fabricate Drag/Anti-drag Truss Members	N/A			
W12	Assemble Drag/Anti-drag Truss Members to Wing	N/A			
W13	1 Fabricate Wing Brackets and Fittings	0.8			0.20
W14	1 Assemble Wing Brackets and Fittings to Wing	0		1.00	
W15	1 Fabricate Wing Tips	0.7			0.30
W16	1 Assemble Wing Tips to Wings	0		1.00	
W17	1 Fabricate Special Wing Fixtures	0			1.00
W18	1 Fabricate Aileron Spars	0.8			0.20
W19	1 Fabricate Aileron Ribs	0.8			0.20
W20	1 Assemble Aileron Spars and Ribs to Aileron Primary Structure	0		1.00	
W21	1 Fabricate Aileron Brackets and Fittings	0.8			0.20
W22	1 Assemble Aileron Brackets & Fittings to Aileron	0		1.00	
W23	1 Fabricate Aileron Skin (Includes Leading and Trailing Edges)	0.6			0.40
W24	1 Assemble Aileron Skin to Aileron	0		1.00	
W25	1 Assemble Aileron to Wing	0		1.00	
W26	1 Fabricate Flap Spars	0.8			0.20
W27	1 Fabricate Flap Ribs	0.8			0.20
W28	1 Assemble Flap Spars and Ribs to form Flap Primary Structure	0		1.00	
W29	1 Fabricate Flap Bracket and Fittings	0.8			0.20
W30	1 Assemble Flap Brackets & Fittings to Flap	0		1.00	

FABRICATION AND ASSEMBLY TASKS		A	B	C	D	
		Mfr Kit/Part/	Commercial	Am-Builder	Am-Builder	
		Component	Assistance	Assembly	Fabrication	
W31	1	Fabricate Flap Skin (Includes Leading and Trailing Edges)	0.6			0.40
W32	1	Assemble Flap Skin to flap	0		1.00	
W33	1	Assemble Flaps to Wing	0		1.00	
W34		Fabricate Wing External Lighting Components	N/A			
W35		Assemble Wing Ext Lighting Components to Wing	N/A			
W36	1	Assemble Basic Wing Structure	0.1		0.90	
W37	1	Fabricate Wing Fuel System Components	0			1.00
W38	1	Assemble Wing Fuel System Components to Wing	0		1.00	
W39		Fabricate Cables Wires and Lines	N/A			
W40		Assemble Cables Wires and Lines to Wing	N/A			
W41	1	Fabricate Wing Skin	0.6			0.40
W42	1	Assemble Wing Skin to Wing	0		1.00	
W43	1	Fabricate Wing Struts	0.1			0.90
W44	1	Assemble Wing Struts	0		1.00	
W45	1	Fabricate Fuel Tanks	0.5			0.50
W46	1	Assemble Fuel Tanks to Wing	0.5		0.50	
W47	1	Assemble Wings to Next Higher Structure	0		1.00	
W48	1	Add Fab item: Vortex Generators	0.9			0.10
W49	1	Add Assy item: Vortex Generators	0		1.00	
W50		Add Fab item:				
W51		Add Assy item:				
Total # of Wing Tasks		<u>Wings Subtotal</u>	Mfr Kit/Part/Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
41		<u>Wings Total Points ▶</u>	12.7	0	19.4	8.9

Wing Comments: W17: requires builder to fabricate Wing Jigs. W39 and W40 are covered under F4 and F5.

FABRICATION AND ASSEMBLY TASKS			A	B	C	D
			Mfr Kit/Part/	Commercial	Am-Builder	Am-Builder
			Component	Assistance	Assembly	Fabrication
Task #	Empennage – 42 Listed Tasks					
E1	1	Fabricate Horizontal Stabilizer Spars	0.7			0.3
E2	1	Fabricate Horizontal Stabilizer Ribs	0.7			0.3
E3	1	Assemble Horizontal Stabilizer Ribs to Form Primary Horizontal Stabilizer Structure	0		1.0	
E4	1	Fabricate Horizontal Stabilizer Brackets & Fittings	0.7			0.3
E5	1	Assemble Horizontal Stabilizer Brackets and Fittings to Stabilizer	0		1.0	
E6	1	Fabricate Horizontal Stabilizer Lead/Trailing Edges	0.7			0.3
E7	1	Assemble Horizontal Stabilizer Lead/Trailing Edges to Stabilizer	0		1.0	
E8	1	Fabricate Horizontal Stabilizer Cables	0.1			0.9
E9	1	Assemble Horizontal Stabilizer Cables to Stabilizer	0		1.0	
E10	1	Fabricate Horizontal Stabilizer Empennage Skin	0.8			0.2
E11	1	Assemble Horizontal Stabilizer Empennage Skin to Stabilizer	0		1.0	
E12	1	Assemble Horizontal Stabilizer Structure to Fuselage	0		1.0	
E13	1	Fabricate Elevator Spars	0.7			0.3
E14	1	Fabricate Elevator Ribs	0.7			0.3
E15	1	Assemble Elevator Spars and Ribs to Form Primary Elevator Structure	0		1.0	
E16	1	Fabricate Elevator Brackets and Fittings	0.8			0.2
E17	1	Assemble Elevator Brackets and fittings to Elevator	0		1.0	
E18	1	Fabricate Elevator Skins (Includes Leading and Trailing Edges)	0.6			0.4
E19	1	Assemble Elevator Skins to Elevator	0		1.0	
E20	1	Fabricate Elevator trim Tab	0.6			0.4
E21	1	Assemble Elevator Trim Tab to Elevator	0		1.0	
E22	1	Assemble Elevator to Horizontal Stabilizer	0		1.0	
E23	1	Fabricate Vertical Stabilizer Spars	0.7			0.3
E24	1	Fabricate Vertical Stabilizer Ribs	0.7			0.3
E25	1	Assemble Spars and Ribs to Form Primary Vertical Stabilizer Structure	0		1.0	
E26	1	Fabricate Vertical Stabilizer Brackets and Fittings	0.7			0.3
E27	1	Assemble Brackets and Fittings to Vertical Stabilizer	0		1.0	
E28	1	Fabricate Vertical Stabilizer Cables	0.1			0.9
E29	1	Assemble Cables to Vertical Stabilizer	0		1.0	
E30	1	Fabricate Vertical Stabilizer Skin (Includes Leading and Trailing Edges)	0.8			0.2

FABRICATION AND ASSEMBLY TASKS		A	B	C	D	
		Mfr Kit/Part/	Commercial	Am-Builder	Am-Builder	
		Component	Assistance	Assembly	Fabrication	
E31	1	Assemble Vertical Stabilizer Skin to Vertical Stabilizer	0		1.0	
E32	1	Assemble Vertical Stabilizer to Next Higher Structure	0		1.0	
E33	1	Fabricate Rudder Spar	0.7			0.3
E34	1	Fabricate Rudder Ribs	0.7			0.3
E35	1	Assemble Rudder Spars and Ribs to Form Primary Rudder Structure	0		1.0	
E36	1	Fabricate Rudder Brackets and Fittings	0.7			0.3
E37	1	Assemble Rudder Brackets and Fittings to Rudder	0		1.0	
E38	1	Fabricate Rudder Skin (Includes Leading and Trailing Edges)	0.6			0.4
E39	1	Assemble Rudder Skin to Rudder	0		1.0	
E40	1	Fabricate Rudder Trim Tab	0.9			0.1
E41	1	Assemble Rudder Trim Tab to Rudder	0		1.0	
E42	1	Assemble Rudder to Vertical Stabilizer	0		1.0	
E43		Add Fab item: Anti-Collision Light	*			*
E44		Add Assy item: Anti-Collision Light	*		*	
E45		Add Fab item:				
E46		Add Assy item:				
Total # of Empennage Tasks		<u>Empennage Subtotal</u>		Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
42		<u>Empennage Total Points ►</u>	13.7	0	21	7.3

Empennage Comments: E43 and E44: Anti-collision light or stobes required by 91.205 but not supplied in kit.

FABRICATION AND ASSEMBLY TASKS		A	B	C	D
		Mfr Kit/Part/	Commercial	Am-Builder	Am-Builder
		Component	Assistance	Assembly	Fabrication
Task #	Landing Gear – 14 Listed Tasks				
LG1	1 Fabricate Landing Gear Struts and Major Components	1			0.0
LG2	1 Assemble Landing Gear Struts and Major Components to Form Primary Landing Gear Structure	0		1.0	
LG3	1 Assemble Landing Gear System Components Next Level Structure	0		1.0	
LG4	1 Fabricate Brake System Components	1			0.0
LG5	1 Assemble Brake System Components to Wheels/Gear	0		1.0	
LG6	1 Assemble Wheels and Tires to Landing Gear	1		0.0	
LG7	1 Fabricate Landing Gear Bracket and Fittings	0.8			0.2
LG8	1 Assemble Landing Gear Bracket and Fittings to Landing Gear	0		1.0	
LG9	Fabricate Landing Gear Actuation System Components	N/A			
LG10	Assemble Landing Gear Actuation System Components to Next Higher Structure	N/A			
LG11	1 Fabricate Landing Gear System Lines	0.1			0.9
LG12	1 Assemble Landing Gear Lines to Next Level Structure	0		1.0	
LG13	Fabricate Landing Gear Fairings/Gear Doors	N/A			
LG14	Assemble Landing Gear Fairings/Gear Doors to Next Level Structure	N/A			
LG15	Add Fab item:				
LG16	Add Assy item:				
Total # of Land Gear Tasks	<u>Landing Gear Subtotal</u>	Mfr Kit/Part/Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
10	<u>Landing Gear Total Points ►</u>	3.9	0	5	1.1

Landing Gear Comments: NONE

FABRICATION AND ASSEMBLY TASKS		A	B	C	D
		Mfr Kit/Part/	Commercial	Am-Builder	Am-Builder
		Component	Assistance	Assembly	Fabrication
Task #	Propulsion – 26 Listed Tasks				
P1	Fabricate Engine Mounts	*			*
P2	Assemble Engine Mounts to Next Level Structure	*		*	
P3	Fabricate Engine Cooling System/Baffles	*			*
P4	Assemble Engine Cooling System Baffles to Engine	*		*	
P5	Fabricate Engine Compartment Overheat/Fire Detection System	N/A			
P6	Assemble Engine Compartment Overheat/Fire Detection System to Engine Compartment	N/A			
P7	Fabricate Induction System	*			*
P8	Assemble Induction System to Engine	*		*	
P9	Fabricate Exhaust System	*			*
P10	Assemble Exhaust System to Engine	*		*	
P11	Fabricate Engine Control Installation Brackets	*			*
P12	Assemble Engine Controls to Next Level Structure	*		*	
P13	Fabricate Brackets and Fittings	*			*
P14	Assemble Brackets and Fittings to Next Level Structure	*		*	
P15	Fabricate Cables, Wires and Lines	*			*
P16	Assemble Cables, Wires and Lines to next Level Structure	*		*	
P17	Assemble Engine (Likely N/A)	*		*	
P18	Assemble Engine to Engine Mount	*		*	
P19	Fabricate Engine Propeller (Likely N/A)	*			*
P20	Fabricate Propeller Spinner Components	*			*
P21	Assemble Propeller and Spinner to Engine	*		*	
P22	Fabricate Engine Cowling	*			*
P23	Assemble Engine Cowling to Airframe	*		*	
P24	Assemble Engine Fuel System Components to Next Level Structure	*		*	
P25	1 Fabricate Firewall	0.8			0.2
P26	1 Assemble Firewall To Next Level Structure	0		1.0	
P27	Add Fab item:				
P28	Add Assy item:				
P29	Add Fab item:				
P30	Add Assy item:				
Total # of Propulsion Tasks	Propulsion Subtotal	Mfr Kit/Part/Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
2	Propulsion Total Points ►	0.8	0	1	0.2

Propulsion Comments: All astericks (P1 - P4 and P7 - P24) are required by flight but not supplied with kit.

FABRICATION AND ASSEMBLY TASKS		A	B	C	D	
		Mfr Kit/Part/	Commercial	Am-Builder	Am-Builder	
		Component	Assistance	Assembly	Fabrication	
Task #	Cockpit Interior – 23 Listed Tasks					
C1	1	Fabricate Instrument Panel	0.1			0.9
C2	1	Fabricate Instrument Sub Panels, Brackets and Fittings	0.1			0.9
C3	1	Assemble Instrument Panel, Sub Panels and Brackets and Fittings to Next Higher Structure	0		1.0	
C4		Assemble Avionics to Instrument Panel	N/A			
C5	1	Fabricate Seats	0.1			0.9
C6	1	Fabricate Seat Brackets and Fittings	0.1			0.9
C7	1	Assemble Seats and Brackets and Fittings to Cockpit	0		1.0	
C8	1	Fabricate Seat Belts and Shoulder Harness Fittings and Brackets	0.8			0.2
C9	1	Assemble Seat Belts and Shoulder Harness Fittings and Brackets to Structure	0		1.0	
C10		Fabricate Electrical Wiring, Controls and Switches	*			*
C11		Assemble Electrical Systems Controls and Switches to Next Level Structure	*		*	
C12	1	Fabricate Control Sticks	0.3			0.7
C13	1	Assemble Control Sticks to Flight Control System	0		1.0	
C14	1	Fabricate All Flight Control Push Pull Tubes and Cables	0.1			0.9
C15	1	Assemble Flight Control Push Pull Tubes and Cables to Next Higher Structure	0		1.0	
C16	1	Fabricate Rudder Pedals	0.5			0.5
C17	1	Assemble Rudder Pedals to Next Higher Structure	0		1.0	
C18		Fabricate Roll-Pitch and Yaw Trim Systems	N/A			
C19		Assemble Roll-Pitch and Yaw Trim Systems to Next Higher	N/A			
C20	1	Fabricate Flap/Spoiler Controls	0.7			0.3
C21	1	Assemble Flap/Spoiler Controls to Next Higher Structure	0		1.0	
C22		Fabricate Closeout Panels/Floor Panels	N/A			
C23		Assemble Closeout Panels/Floor Panels	N/A			
C24		Add Fab item:				
C25		Add Assy item:				
Total # of Cockpit Tasks	Cockpit Interior Subtotal		Mfr Kit/Part/Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
16	Cockpit Interior Total Points ►		2.8	0	7	6.2

Cockpit Comments: C10 and C11 required by flight but not supplied by kit. Note - no Pitot System components are supplied with kit.

Total # of Aircraft Tasks	◀ SUM #1
132	

▶ **TOTAL TASKS AND LINE ITEMS**



FABRICATION AND ASSEMBLY SUMMARY		A	B	C	D
		Mfr Kit/Part/ Component	Commercial Assistance	Am Builder Assembly	Am Builder Fabrication
1. Total Number of Aircraft Tasks	(Note 1)	(SUM#1)		132	
2. Total Points for Each Category.	(Note 2)	39.8	0.0	62.9	29.3
3. Total Points for Complete Aircraft Construction (SUM # 2 should equal SUM # 1 above).	(Note3)	(SUM #2) ▶			132.0
4. Percentage of Each Category as Part of Total Aircraft Construction. (Note 4)		30.15%	0.00%	47.65%	22.20%
5. Total Percentages for Complete Aircraft Construction (Add all percentages in row 4) Total should equal 100% (± .5%).	(Note 5)	100.0%			
6. Total Builder Points – Add points in row 2, column C and D only, together.	(Note 6)				92.2
7. Total Builder Percentage – Add percentages in row 4, columns C and D only, together.	(Note 7)				69.85%

NOTES: Instructions For Completing Fabrication and Assembly Checklist Summary

1. TOTAL NUMBER OF AIRCRAFT TASKS (Sum #1): To find the total points awarded for all tasks, add together the six individual “Total # of Tasks” blocks located at the bottom left of each aircraft tasks section.

2: TOTAL POINTS FOR EACH CATEGORY: [Columns A, B, C and D]. Each columns’ total points are tallied by adding the sum of the points awarded in each respective column for each of the tasks in the section (Fuselage, Wings, Empennage, Landing Gear, Propulsion and Cockpit). Include points assigned to ‘Additional Items’ at the end of each section. Boxes with a N/A (not applicable) or an asterisk, have zero points.

3: TOTAL POINTS FOR COMPLETE AIRCRAFT CONSTRUCTION: (SUM#2) In row 3 of the Summary section, add together the numbers in each block on row2, tallied from each of the four column category totals, (Columns A+B+C+D). Compare SUM #1 to SUM #2. SUM #1 should be equal to SUM #2, (Verify the two sums are equal within a deviation of ± 0.5). Total points will vary from aircraft to aircraft depending on number of add items and N/As (Not Applicable) applied. (e.g., 133 listed task points, plus 5 Add items, minus 22 N/As = 116 tasks)

4: PERCENTAGE OF EACH CATEGORY AS PART OF TOTAL AIRCRAFT CONSTRUCTION: To compute category percentages, divide the number in each individual block found on row 2 by Sum #2 on row 3. For example if the total points of Mfr Kit/Part/Component category (Column A) = 40 and Sum #2 = 120, then divide 40 by 120 to reach 33.3%. Do this for each individual block on row 4 for each column. Percentages may be rounded to the nearest tenth, (22.86% is rounded to 22.9%).

5: TOTAL PERCENTAGES FOR COMPLETE AIRCRAFT CONSTRUCTION: Add up the percentages of each of the four categories (Columns A+B+C+D) found on row 4. Total must be equal to 100% with a (\pm) deviation limited to $\frac{1}{2}$ % (0.5%). Example; a derived percentage between 99.5% and 100.5% is acceptable. If this computation falls outside the accepted deviation then an error has occurred in row 2, 3 or 4.

6: TOTAL BUILDER POINTS: Add together the two point tallies from row 2, Columns C and D blocks only. Total will vary from aircraft to aircraft depending on number of N/As applied.

7. TOTAL BUILDER PERCENTAGE: Add together the two percentage tallies from row 4 Columns C and D blocks only. Total must exceed 50% to be eligible for amateur built status and to meet major portion requirement under 14 CFR, Part 21.191(g) Operating amateur-built aircraft.

EXPLANATIONS AND EXAMPLES

► All Points are added at the end of the form in the Summary section under their respective categories. The point total is comprised of all the credits awarded for primary delineated tasks plus any credits given for 'Additional

► "Additional Items" may be assigned points the same as primary listed tasks if work or parts not reflected in the main entries need to be credited.

► The applicants completion of tasks can be documented in a number of ways and may include

- (1) Builder's logs.
- (2) Photographs/video/DVD.
- (3) Drawings.
- (4) Engineering data when necessary.
- (5) Relevant documentation (e.g., plans) and references (e.g., handbooks) used.
- (6) Documentation concerning any commercial assist
- (7) Documentation concerning any non-commercial assistance used.
- (8) Part inventories and histories.
- (9) Receipts, Catalogs.
- (10) Log book entries

In addition to using this checklist, the builder should document the entire fabrication and assembly process. To issue an airworthiness certificate the FAA must make a major portion determination (the major portion of an aircraft was fabricated and assembled by an amateur builder (s)). Making this finding requires sufficient, credible and adequate documentation.