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

Name(s)	Sport Performance Aviation, LLC (SPA)
Address:	1528 Virgils Way, Ste 8, Green Cove Springs, FL. 32043
Aircraft Model:	Panther
Date:	6/25/2019
Remarks:	See below-

NKET evaluation was accomplished using Panthers Build Manual v2.8.18 dated 4/01/2019

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 Mfr Kit/Part/ Component	B Commercial Assistance	C Am-Builder Assembly	D Am-Builder Fabrication
Task #	**Fuselage – 22 Listed Tasks**				
F1	Fabricate Longitudinal Members	0.8			0.2
F2	Fabricate Composite Cores or Shells, Skins	N/A			
F3	Fabricate Bulkheads or Cross members	0.8			0.2
F4	Fabricate Flt Control Push Pull Tubes/Cables	0.6			0.4
F5	Assemble Flt Control Push Pull Tubes/Cables	0		1.0	
F6	Assemble Fuselage Basic Structure	0.5		0.5	

FABRICATION AND ASSEMBLY TASKS		A	B	C	D
		Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
F7	Fabricate Brackets and Fittings	0.7			0.3
F8	Assemble Brackets and Fittings	0		1.0	
F9	Fabricate Wire, and Lines	0			1.0
F10	Assemble Wire, and Lines	0		1.0	
F11	Fabricate Fuselage Fuel System Components	0			1.0
F12	Assemble Fuselage Fuel System Components	0		1.0	
F13	Fabricate Fuselage Covering or Skin	0.8			0.2
F14	Assemble Fuselage Covering or Skin	0		1.0	
F15	Fabricate Windshield	1			0.0
F16	Assemble Windshield to Fuselage	0		1.0	
F17	Fabricate Windows	N/A			
F18	Assemble Windows to Fuselage	N/A			
F19	Fabricate Doors/Canopy	0.5			0.5
F20	Assemble Doors/Canopy to Fuselage	0		1.0	
F21	Fabricate Mast and Strut Assembly	N/A			
F22	Assemble Mast and Strut Assembly	N/A			
F23	Add Fab item:	N/A			
F24	Add Assy item:	N/A			
F25	Add Fab item:	N/A			
F26	Add Assy item:	N/A			
Total # of Fuselage Tasks	**Fuselage Subtotal**	Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
17	**Fuselage Total Points** ►	5.7	0.0	7.5	3.8

Task F17 and F18 No separate windows as part of the kit (Canopy). Task F21 and F22 are not applicable to this kit

FABRICATION AND ASSEMBLY TASKS		A	B	C	D
		Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
Task #	**Wings – 47 Listed Tasks**				
W1	Fabricate Right Wing Spars	0.8			0.20
W2	Fabricate Right Wing Ribs	0.7			0.30
W3	Assemble Wing Spars and Ribs to Form Right Wing Primary Structure	0		1.00	
W4	Fabricate Left Wing Spars	0.8			0.20
W5	Fabricate Left Wing Ribs	0.7			0.30
W6	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	Fabricate Wing Leading and Trailing Edges	0.8			0.20
W10	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	Fabricate Wing Brackets and Fittings	0.7			0.30
W14	Assemble Wing Brackets and Fittings to Wing	0		1.00	
W15	Fabricate Wing Tips	0.7			0.30
W16	Assemble Wing Tips to Wings	0		1.00	
W17	Fabricate Special Tools or Fixtures	N/A			
W18	Fabricate Aileron Spars	N/A			
W19	Fabricate Aileron Ribs or Cores	0.7			0.30
W20	Assemble Aileron Spars, Ribs and/or Cores to Form Aileron Primary Structure	0		1.00	
W21	Fabricate Aileron Brackets and Fittings	0.7			0.30
W22	Assemble Aileron Brackets & Fittings to Aileron	0		1.00	
W23	Fabricate Aileron Covering or Skin (Includes Leading and Trailing Edges)	0.8			0.20
W24	Assemble Aileron Covering or Skin to Aileron	0		1.00	
W25	Assemble Aileron to Wing	0		1.00	
W26	Fabricate Flap Spars	N/A			
W27	Fabricate Flap Ribs or Cores	0.7			0.30
W28	Assemble Flap Spars, Ribs or Cores to Form Flap Primary Structure	0		1.00	
W29	Fabricate Flap Bracket and Fittings	0.7			0.30
W30	Assemble Flap Brackets & Fittings to Flap	0		1.00	

	FABRICATION AND ASSEMBLY TASKS	A	B	C	D
		Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
W31	Fabricate Flap Covering or Skin (Includes Leading and Trailing Edges)	0.8			0.20
W32	Assemble Flap Covering or Skin to flap	0		1.00	
W33	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	Assemble Basic Wing Structure	0		1.00	
W37	Fabricate Wing Fuel System components	*			*
W38	Assemble Wing Fuel System Components to Wing	*		*	
W39	Fabricate Cables Wires and Lines	*			*
W40	Assemble Cables Wires and Lines to Wing	*		*	
W41	Fabricate Wing Covering or Skin	0.8			0.20
W42	Assemble Wing Covering or Skin to Wing	0		1.00	
W43	Fabricate Wing Struts/Wires	N/A			
W44	Assemble Wing Struts/Wires	N/A			
W45	Fabricate Fuel Tanks	0.8			0.20
W46	Assemble Fuel Tanks to Wing	0		1.00	
W47	Assemble Wings to Next Higher Structure	0		1.00	
W48	Add Fab item:	N/A			
W49	Add Assy item:	N/A			
W50	Add Fab item:	N/A			
W51	Add Assy item:	N/A			
Total # of Wing Tasks	**Wings Subtotal**	Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
32	**Wings Total Points ►**	11.2	0	17	3.8

Task W37, W38, W39, W40- Required for flight but not part of the kit due to different engine configurations. Task W7, W8, W11, W12, W17, W18, W26, W34, W35, W43, W44 are not applicable to this kit

E4, E5, E8, E9, are not applicable to this kit

FABRICATION AND ASSEMBLY TASKS		A	B	C	D
		Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
Task #	**Empennage – 42 Listed Tasks**				
E1	Fabricate Horizontal Stabilizer Spars	0.8			0.2
E2	Fabricate Horizantil Stabilizar Ribs or Cores	0.7			0.3
E3	Assemble Horizontal Stabilizer Ribs or Cores to Form Primary Horz-Stab Structure	0		1.0	
E4	Fabricate Horizontal Stabilizer Brackets & Fittings	N/A			
E5	Assemble Horizontal Stabilizer Brackets and Fittings to Stabilizer	N/A			
E6	Fabricate Horizontal Stabilizer Lead/Trailing Edges	0.8			0.2
E7	Assemble Horizontal Stabilizer Lead/Trailing Edges to Stabilizer	0		1.0	
E8	Fabricate Horizontal Stabilizer Cables, Wires and Lines	N/A			
E9	Assemble Horizontal Stabilizer Cables, Wires and Lines to stabilizer	N/A			
E10	Fabricate Horizontal Stabilizer Empennage Covering or Skin	0.8			0.2
E11	Assemble Horizontal Stabilizer Empennage Covering or Skin to Stabilizer	0		1.0	
E12	Assemble Horizontal Stabilizer Structure to Fuselage	0		1.0	
E13	Fabricate Elevator Spars	0.8			0.2
E14	Fabricate Elevator Ribs Cores	0.7			0.3
E15	Assemble Elevator Spars, Ribs or Cores to Form Primary Elevator Structure	0		1.0	
E16	Fabricate Elevator Brackets and Fittings	1			0.0
E17	Assemble Elevator Brackets and fittings to Elevator	0		1.0	
E18	Fabricate Elevator Covering or Skins (Includes Leading and Trailing Edges)	0.8			0.2
E19	Assemble Elevator Covering or Skins to Elevator	0		1.0	
E20	Fabricate Elevator trim Tab	0.5			0.5
E21	Assemble Elevator Trim Tab to Elevator	0		1.0	
E22	Assemble Elevator to Horizontal Stablizer	0		1.0	
E23	Fabricate Vertical Stabilizer Spars	0.8			0.2
E24	Fabricate Vertical Stabilizer Ribs Cores	0.7			0.3
E25	Assemble Spars, Ribs and/or Cores to Form Primary Vertical Stabilizer Structure	0		1.0	
E26	Fabricate Vertical Stabilizer Brackets and Fittings	N/A			
E27	Assemble Brackets and Fittings to Vertical Stabilizer	N/A			
E28	Fabricate Vertical Stabilizer Cables, Wires and Lines	N/A			
E29	Assemble Cables, Wires, Lines to Vertical Stabilizer	N/A			
E30	Fabricate Vertical Stabilizer Covering or Skin (Includes Leading and Trailing Edges)	0.8			0.2

	FABRICATION AND ASSEMBLY TASKS	A	B	C	D
		Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
E31	Assemble Vertical Stabilizer Covering or Skin to Vertical Stabilizer	0		1.0	
E32	Assemble Vertical Stabilizer to Next Higher Structure	0		1.0	
E33	Fabricate Rudder Spar	N/A			
E34	Fabricate Rudder Ribs or Cores	0.7			0.3
E35	Assemble Rudder Spars, Ribs and/or Cores to Form Primary Rudder Structure	0		1.0	
E36	Fabricate Rudder Brackets and Fittings	0.8			0.2
E37	Assemble Rudder Brackets and Fittings to Rudder	0		1.0	
E38	Fabricate Rudder Covering or Skin (Includes Leading and Trailing Edges)	0.8			0.2
E39	Assemble Rudder Covering or Skin to Rudder	0		1.0	
E40	Fabricate Rudder Trim Tab	N/A			
E41	Assemble Rudder Trim Tab to Rudder	N/A			
E42	Assemble Rudder to Vertical Stabilizer	0		1.0	
E43	Add Fab item:	N/A			
E44	Add Assy item:	N/A			
E45	Add Fab item:	N/A			
E46	Add Assy item:	N/A			
Total # of Empennage Tasks	**Empennage Subtotal**		Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
31	**Empennage Total Points ►**	11.5	0	16	3.5

Task E4 and E5 were evaluated under F7 and F8. Task E8, E9, E26 through E29, E33, E40 and E41 are not applicable to this kit.

FABRICATION AND ASSEMBLY TASKS		A	B	C	D
		Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
Task #	**Landing Gear – 14 Listed Tasks**				
LG1	Fabricate Landing Gear Struts or Major Components	1			0.0
LG2	Assemble Landing Gear Struts or Major Components to Form Primary Landing Gear Structure	0		1.0	
LG3	Assemble Landing Gear System Components Next Level Structure	0		1.0	
LG4	Fabricate Brake System Components	*			*
LG5	Assemble Brake System Components to Wheels/Gear	*		*	
LG6	Assemble Wheels and Tires to Landing Gear	*		*	
LG7	Fabricate Landing Gear Bracket and Fittings	0.9			0.1
LG8	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	Fabricate Landing Gear System Cables, Wires and Lines	N/A			
LG12	Assemble Landing Gear Cables, Wires and Lines to Next Level Structure	N/A			
LG13	Fabricate Landing Gear Fairings/Gear Doors	0.8			0.2
LG14	Assemble Landing Gear Fairings/Gear Doors to Next Level Structure	0		1.0	
LG15	Add Fab item:	N/A			
LG16	Add Assy item:	N/A			
Total # of Land Gear Tasks	**Landing Gear Subtotal**	Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
7	**Landing Gear Total Points ►**	2.7	0	4	0.3

Task LG4, LG5, and LG6 required for flight but not part of the kit. Builders have different options (not supplied in kit) for Task LG9 through LG12. Both conventional gear (tail dragger) and tricycle gear configurations were evaluated with no substantial differences.

FABRICATION AND ASSEMBLY TASKS		A	B	C	D
		Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder 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	*		*	
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)	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	Fabricate Firewall	0.7			0.3
P26	Assemble Firewall To Next Level Structure	0		1.0	
P27	Add Fab item:	N/A			
P28	Add Assy item:	N/A			
P29	Add Fab item:	N/A			
P30	Add Assy item:	N/A			
Total # of Propulsion Tasks	**Propulsion Subtotal**	Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
2	**Propulsion Total Points ►**	0.7	0	1	0.3

P1 through P4, P6 through P16 and P18 through P24 are required for flight but not included in the kit. Numerous engine configurations are available for the Panther airframe. Task P5 and P17 are not applicable to this kit.

FABRICATION AND ASSEMBLY TASKS		A	B	C	D
		Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
Task #	**Cockpit Interior – 23 Listed Tasks**				
C1	Fabricate Instrument Panel	0.6			0.4
C2	Fabricate Instrument Sub Panels, Brackets and Fittings	0			1.0
C3	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	Fabricate Seats	0.8			0.2
C6	Fabricate Seat Brackets and Fittings	0.8			0.2
C7	Assemble Seats and Brackets and Fittings to Cockpit	0		1.0	
C8	Fabricate Seat Belts and Shoulder Harness Fittings and Brackets	1			0.0
C9	Assemble Seat Belts and Shoulder Harness Gittings and Brackets to Structure	0		1.0	
C10	Fabricate Electrical Wiring, Controls and Switches	N/A			
C11	Assemble Electrical Systems Controls and Switches to Next Level Structure	N/A			
C12	Fabricate Control Yokes/Sticks	1			0.0
C13	Assemble Control Yokes/Sticks to Flight Control System	0		1.0	
C14	Fabricate All Flight Control Push Pull Tubes and/or Cables	N/A			
C15	Assemble Flight Control Push Pull Tubes and/or Cables to Next Higher Structure	N/A			
C16	Fabricate Rudder Pedals	1			0.0
C17	Assemble Rudder Pedals to Next Higher Structure	0		1.0	
C18	Fabricate Roll-Pitch and Yaw Trim Systems	1			0.0
C19	Assemble Roll-Pitch and Yaw Trim Systems to Next Higher	0		1.0	
C20	Fabricate Flap/Spoiler Controls	1			0.0
C21	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:	N/A			
C25	Add Assy item:	N/A			
Total # of Cockpit Tasks	**Cockpit Interior Subtotal**	Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
16	**Cockpit Interior Total Points ►**	7.2	0	7	1.8

Task C4, C10 and C11 are Builders options not included in the kit. Task C14 and C15 were evaluated under F4 and F5. C22 and C23 were evaluated under F13 and F14.

Total # of Aircraft Tasks	
105	**◄ SUM #1**

► 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)**		**105**	
2. Total Points for Each Category. (Note 2)	**39.0**	**0.0**	**52.5**	**13.5**
3. Total Points for Complete Aircraft Construction (SUM # 2 should equal SUM # 1 above). (Note3)	**(SUM #2) ►**		**105.0**	
4. Percentage of Each Category as Part of Total Aircraft Construction. (Note 4)	**37.14%**	**0.00%**	**50.00%**	**12.86%**
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)			**66.0**	
7. Total Builder Percentage – Add percentages in row 4, columns C and D only, together. (Note 7)			**62.86%**	

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 invidual 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 (±) deviation limited to ½ % (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.