Savarypère1-O-Renard-Wg1-WB-DNM

	A	B	C	D	E	F	G
1	**I. Bocal**		Original bocal; Savpere1 seems to be original; could use logic with bocal 0				
2	dia reed end	4.2	inside diameter of reed end of bocal				
3	bocal string length (0, 1)	40	length of bocal inserted into receiver				
4	metal bocal length top (0, 1)	342	meas. along top of bocal				
5	metal bocal length bot (0, 1)	318	meas. along bottom of bocal				
6	dia wj end	9.4	inside diameter of bocal				
7							
8	bocal logic	2	if bocal logic=0=> bocal is choke; if bocal logic = 1 =>choke in wing joint calc; if bocal logic = 2 => no bocal				
9							
10							
11							
12							
13	**II. Wing Joint Lengths**		bocal receiver: Savpere1 yes; choke is very far into the bore				
14	choke bore dia.	10.3	logic 1; bore diameter of choke; logic 0;diameter bocal bottom, beginning of bore or receiver				
15	receiver length (1, 0) (formally choke length)	64	logic 1; length of choke from top of wing joint; logic 0; length of receiver (same as string length)				
16	wing joint length	523	total wing joint length, including tenon and socket				
17	tenon length	38.7	tenon length				
18							
19	wj f2	222	dist top of wing to where tone hole enters bore [not at the center of the tone hole]				
20	wj e	296					
21	wj d	337					
22							
23	Bore dia. Bottom of wing joint	16.2	Need to Average, usally oval; Savpere1 yes this is average				
24	Bore dia. top of boot joint small side	16	Need to Average, usally oval; Savpere1 yes this is average of 15.5 and 16.5 mm				
25	Bore dia. top of boot joint large side	23	This is an average, see below at 25mm bore measurement, bore is oblong				
26							
27	**III. Boot Lengths**						
28	bj logic	1	logic=> if bj logic = 0 => plug removed; if bj logic = 1 => plug cannot be removed				
29	bj c	92	dist from top of boot to where topmost tone hole enter bore [not at center of tone hole]				
30	bj b	151					
31	bj a	189					
32							
33	bjstotal [Needed for both boot logics]	425	total length of boot, include socket, along the small bore side				
34	bjltotal [Needed for both boot logics]	425	total length of boot, include socket, along large bore side				
35	plug small [Need for logic 0 only]	0	plug thickness, large bore side				
36	plug large [Need for logic 0 only]	0	plug thickness, small bore side				
37							
38	boots [Needed for both boot logics]	385	hook length along s bore => bjs-septum length = boot - septum <= calc the septum				
39	bootl [Needed for both boot logics]	385	hook length along l bore => bjl-septum length = boot - septum <= calc the septum				
40							
41	boots bottom [Needed for both boot logics]	17	use hook, dist of bore [dist on stick plus 7mm, diff between hook and bot of stick] 7 + 10 =17				
42	bootl bottom [Needed for both boot logics]	17	use hook, dist of bore [same as boots bot except tenon depth will be different]				
43							
44	extreme bore [Needed for logic 1 only]	35.4	Outside dia of plug [measured] = small bore dia + large bore dia + the septum width				
45							
46	septum length exp [Need for logic 0 only]	0	dist. from very bottom of boot to septum [point between the large and small bore]				
47	septum length calc - do not imput value	40	dist. From very bottom of boot to spetum [bjl - bootl]	do not imput value			
48	septum length - do not imput value	40	if bj logic = 0 => septum = septum exp; if bj logic = 1 => septum = septum calc	do not imput value			
49							
50	sbore dia sep* [Needed for both boot logics]	18.1	septum small bore dia [assume = lbore dia sep]				
51	lbore dia sep* [Needed for both boot logics]	19	septum large bore dia [assume = sbore dia sep] [mesure if cork can be removed; for Logic 0]				
52	sep width exp [Need for logic 0 only]	0	septum width; direct measurement if remove plug				
53	sep width calc - do not imput value	-1.7	septum width; calc. => extreme bore - sbore - lbore	do not imput value			
54	sep width - do not imput value	-1.7	if bj logic = 0 => sep width = sep width exp; if bj logic = 1 => sep width = sep width ca	do not imput value			
55							
56	bj g	332	dist from top of boot (socket) to where G hole enters bore [not at cent of tone hole]				
57	bj f1	132	dist from top of boot (socket) to where F1 hole enters bore [not at cent of tone hole]				
58							
59							
60							
61							
62							
63	**IV. Tone Hole Diameters**						
64	f2	5.1					
65	e	5.8					
66	d	5.6					
67							
68	c	7.4					
69	b	6.9					
70	a	6.1					
71	g	9.3					
72	f1	9					
73							
74	e1	12.4	e1 tone hole dia, on long joint [need to average NS and EW dias, NS usually greater]				
75	d1	8.5	d1 tone hole dia, on long joint [need to average NS and EW dias, NS usually greater]				
76	c1	13	Savpere1 12.6 x 13.2; c1 tone hole dia, on long joint [need to average NS and EW dias, NS usually greater]				
77							
78							
79							
80							
81							
82	**V. Tone Hole Depths**						
83	f2	38.5	Savpere1 wide wing and drilled at extreme angle				
84	e	27.7					
85	d	27.7	D tone holes drilled at fairly extreme angle				
86							
87	c	25.3					
88	b	24.8					
89	a	24.2					
90	g	15.3	meas along bot tone hole wall [north wall, toward reed,tone hole usually at angle]				
91	f1	23	meas along east side tone hole wall [north wall, toward reed,t hole usually at angle]				
92							
93	e1	9	e1 tone hole depth;meas east/west with deapth gauge [at center, or shortest dist]				

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	A	B	C	D	E	F	G
94	d1	10.4	d1 tone hole depth; meas east/west with deapth gauge [at center, or shortest dist]				
95	c1	10.6	c1 tone hole depth; meas east/west with deapth gauge [at center, or shortest dist]				
96							
97							
98							
99							
100							
101	**VI. Long Joint**		Savpere1 There is a table along long joint				
102	lg_length	599	total length of long joint				
103	lg_tenon_bot	42.7	length bottom tenon on long joint [tenon going into boot joint]				
104	lj_bot_bore	24.9	long joint bottom tenon bore diameter [tenon going into boot joint]				
105	lj_top_bore	30.8	long joint top tenon bore diameter [tenon going into bell]				
106	lg_tenon_top	39.4	length top tenon on long joint [tenon going into bell]				
107	e1 distance	54	dist long joint tenon to e1 [from bot of tenon to where tone hole enters bore]				
108	d1 distance	255	dist long joint tenon to d1 [from bot of tenon to where tone hole enters bore]				
109	c1 distance	484	dist long joint tenon to c1 [from bot of tenon to where tone hole enters bore]				
110							
111							
112							
113							
114							
115	**VII. Bore diameters at Tone Holes**						
116	f2	12.1					
117	e	12.8					
118	d	13.4					
119							
120	c	16.1					
121	b	16.9					
122	a	17.4					
123	g	19.2					
124	f1	22.5					
125							
126	e1	24.8	e1 tone hole bore diameter on long joint				
127	d1	26.6	d1 tone hole bore diameter on long joint				
128	c1	29.6	c1 tone hole bore diameter on long joint				
129							
130							
131							
132							
133							
134	**VIII. Bell**		Savpere1 There is not a tone hole in the bell				
135	bell logic	0	If bell_logic=0=>normal conical bore;if bell_logic=1=>inverted concial bore; if bell_logic=2=>bell expansion				
136	bell_length (0, 1, 2)	311	total length of bell [lines 141 + 144 = line 136]				
137	bell_bot_bore (0, 1, 2)	30.3	dia bore at the bottom of bell [end with socket]				
138	bell_top_bore 0, (1, 0, 2)	30.7	dia bore at the top of bell [where low Bb exits]				
139	bell_center_bore (only for logic 2)		dia bore at max center of expansion				
140	bell_wall (only for logic 2)		bell wall thickness, Just for David				
141	bell_bot_bore_expansion (only for logic 2)		dist of bottom to maxium of expansion [including bell socket length,if bell logic=0 =>100]				
142	Outside diameter of wood at expansion		Just for David				
143	bell_tenon (0, 1, 0, 2)	40	bell socket length				
144	bell_expansion_length (only for logic 2)		distance of maxium expansion to top of bell [where Bb exits]				
145							
146							
147							
148	**IX. PITCH**						
149	pitch	430	input the historical pitch of the bassoon, must input value, best guess				
150	freq_init	380	Initial frequency range variable				
151	Delta frequency	2	frequency increment parameter				
152	Number of frequencies	60	number of frequencies to scan for min chi sq				
153	Frequency adjust	1.05	frequency adjustment parameter				
154	**X. Title**						
155	title		Bassoon Calculation: Savarypère1-O-Renard-Wg1-WB-DNM				
156							
157			Notes on long joint bore: Savpere1 OOR in places				
158			Notes on boot joint bore: Savpere1 small side very OOR				
159	**XI. Bore Diameter Locations**		Notes on wing join bore: Savpere1 normal				
160		19	Number of diameters				
161		10.3	Initial bore diameter				
162		0	dist1; measured from the bottom of the wing joint- 10mm				1
163		483	dist2; measured from the bottom of the wing joint- 11mm;				1
164		295	dist3; measured from the bottom of the wing joint- 12mm				1
165		199	dist4; measured from the bottom of the wing joint- 13mm				1
166		120	dist5; measured from the bottom of the wing joint- 14mm				1
167		60	Savpere1 very oblong an average, bar 15 goes 15 to 105 dist6; measured from the bott	Bottom wing	16.2		1
168		49	dist7; measured from the bottom of the wing joint- 16mm	top boot sma	16		1
169		167	dist8; measured from the top of the bootjoint - small bore side- 17mm	top boot larg	23		2
170		363	dist9; measured from the top of the bootjoint - small bore side- 18mm				2
171		375	dist10; measured from the top of the bootjoint - large bore side- 19mm	sbore dia sep	18.1		3
172		275	Savpere1 260 to 290; dist11; measured from the top of the bootjoint - large bore side-	lbore dia sep	19		3
173		230	Savpere1 220 to 240; dist12; measured from the top of the bootjoint - large bore side- 21mm				3
174		188	Savpere1 155 to 220; dist13; measured from the top of the bootjoint - large bore side- 22mm				3
175		92	dist14; measured from the top of the bootjoint - large bore side- 23mm				3
176		0	dist15; measured from the top of the boot joint- large bore side- 24mm	lj_bot_bore	24.9		3
177		493	dist16; measured from the top of the long joint- 25mm				4
178		370	dist17; measured from the top of the long joint- 26mm				4
179		309	dist18; measured from the top of the long joint- 27mm				4
180		278	dist19; measured from the top of the long joint- 28mm				4
181		245	dist20; measured from the top of the long joint- 29mm				4
182		87	dist21; measured from the top of the long joint- 30mm				4
183		0	dist22; measured from the top of the long joint- 31mm				4
184		0	dist23; measured from the top of the long joint- 32mm	lj_top_bore	30.8		4