Rottenburgh1-O-Leipzig1374-Wg1-WOB-DNM

	A	B	C	D	E	F	G
1	**I. Bocal**		Original bocal Rottenburgh-Stanley1 no				
2	dia reed end		inside diameter of reed end of bocal				
3	bocal string length (0, 1)		length of bocal inserted into receiver				
4	metal bocal length top (0, 1)		meas. along top of bocal				
5	metal bocal length bot (0, 1)		meas. along bottom of bocal				
6	dia wj end		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, Rottenburgh-Stanley1; No, a choke				
14	choke bore dia.	8.8	logic 1; bore diameter of choke; logic 0; either diameter bocal bottom or beginning of bore at bottom or receiver				
15	receiver length (1, 0) (formally choke length)	56	logic 1; length of choke from top of wing joint; logic 0; length of receiver (same as string length)				
16	wing joint length	513	Rottenburgh-Stanley1 vrfd short, total wing joint length, including tenon and socket				
17	tenon length	41.5	tenon length				
18							
19	wj f2	243	dist top of wing to where tone hole enters bore [not at the center of the tone hole]				
20	wj e	305	Rottenburgh-Stanley1; finger hole not drilled exactly into center of bore				
21	wj d	352	Rottenburgh-Stanley1; finger hole not drilled exactly into center of bore				
22							
23	Bore dia. Bottom of wing joint	15.4	Need to Average, usally oval; Rottenburgh Stanley1, no				
24	Bore dia. top of boot joint small side	18.4					
25	Bore dia. top of boot joint large side	23.9					
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	91	dist from top of boot to where topmost tone hole enter bore [not at center of tone hole]				
30	bj b	155					
31	bj a	196					
32							
33	bjstotal [Needed for both boot logics]	428	total length of boot, include socket, along the small bore side				
34	bjltotal [Needed for both boot logics]	428	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]	396	hook length along s bore => bjs-septum length = boot - septum <= calc the septum				
39	bootl [Needed for both boot logics]	396	hook length along l bore => bjl-septum length = boot - septum <= calc the septum				
40							
41	boots bottom [Needed for both boot logics]	23	use hook, dist of bore [dist on stick plus 7mm, diff between hook and bot of stick] 8+7=15, verified				
42	bootl bottom [Needed for both boot logics]	23	use hook, dist of bore [same as boots bot except tenon depth will be different]				
43			Rottenburgh Stanley1, No Two round plug design				
44	extreme bore [Needed for logic 1 only]	54.8	Outside dia of plug [measured] = small bore dia + large bore dia + the septum width				
45							
46	septum length exp [Need for logic 0 only]		dist. from very bottom of boot to septum [point between the large and small bore]				
47	septum length calc - do not imput value	32	dist. From very bottom of boot to spetum [bjl - bootl]	do not imput value			
48	septum length - do not imput value	32	if bj logic = 0 => septum = septum exp; if bj logic = 1 => septum = septum c	do not imput value			
49							
50	sbore dia sep* [Needed for both boot logics]	20.3	septum small bore dia [assume = lbore dia sep]				
51	lbore dia sep* [Needed for both boot logics]	19.4	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	15.1	septum width; calc. => extreme bore - sbore - lbore	do not imput value			
54	sep width - do not imput value	15.1	if bj logic = 0 => sep width = sep width exp; if bj logic = 1 => sep width = sep	do not imput value			
55							
56	bj g	351	dist from top of boot (socket) to where G hole enters bore [not at cent of tone hole]				
57	bj f1	126	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	5.6					
65	e	6.1					
66	d	5.6					
67							
68	c	6.6					
69	b	6.8					
70	a	5.8					
71	g	10.3					
72	f1	9.7					
73							
74	e1	11	Rottenburgh Stanley1, 10.7 x 11.2, e1 tone hole dia, on long joint [need to average NS and EW dias, NS usually greater]				
75	d1	12	Rottenburgh Stanley1, low d tone hole devided, dia, on long joint [need to average]				
76	c1	11.5	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	27.5	Rottenburgh Stanley1, Tone holes not drilled at extreme angles				
84	e	26.6					
85	d	27.5					
86							
87	c	25					
88	b	25.9					
89	a	25					
90	g	24	meas along bot tone hole wall [north wall, toward reed,tone hole usually at angle]				
91	f1	24.3	meas along east side tone hole wall [north wall, toward reed,t hole usually at angle]				
92			Rottenburgh-Stanley1, a table along long joint				
93	e1	11	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	11.2	d1 tone hole depth; meas east/west with deapth gauge [at center, or shortest dist]				
95	c1	11.6	c1 tone hole depth; meas east/west with deapth gauge [at center, or shortest dist]				
96							
97							
98							
99							
100							
101	**VI. Long Joint**						
102	lg_length	573	total length of long joint				
103	lg_tenon_bot	40.4	length bottom tenon on long joint [tenon going into boot joint]				
104	lj_bot_bore	23	long joint bottom tenon bore diameter [tenon going into boot joint]				
105	lj_top_bore	31.3	long joint top tenon bore diameter [tenon going into bell]				
106	lg_tenon_top	41.8	length top tenon on long joint [tenon going into bell]				
107	e1 distance	44	dist long joint tenon to e1 [from bot of tenon to where tone hole enters bore]				
108	d1 distance	235	dist long joint tenon to d1 [from bot of tenon to where tone hole enters bore]				
109	c1 distance	433	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					
117	e	12.7					
118	d	13.7					
119							
120	c	18.4					
121	b	18.5					
122	a	18.5	Rottenburgh-Stanley1 Boot down bore almost cylindrical At these three RH finerger holes				
123	g	19.6					
124	f1	23.3					
125							
126	e1	23.3	e1 tone hole bore diameter on long joint				
127	d1	25.5	d1 tone hole bore diameter on long joint				
128	c1	28.5	c1 tone hole bore diameter on long joint				
129							
130							
131							
132							
133							
134	**VIII. Bell**		Rottenburgh-Stanley1, There is a tone hole in the bell 6.6mm, 206 from top of bell				
135	bell logic	2	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)	300	total length of bell [lines 141 + 144 = line 136]				
137	bell_bot_bore (0, 1, 2)	30.8	dia bore at the bottom of bell [end with socket]				
138	bell_top_bore 0, (1, 0, 2)	25.5	dia bore at the top of bell [where low Bb exits]				
139	bell_center_bore (only for logic 2)	35	dia bore at max center of expansion				
140	bell_wall (only for logic 2)	11	bell wall thickness, Just for David				
141	bell_bot_bore_expansion (only for logic 2)	220	dist of bottom to maxium of expansion [including bell socket length,if bell logic=0 =>100]				
142	Outside diameter of wood at expansion	56.5	Just for David				
143	bell_tenon (0, 1, 0, 2)	42.3	bell socket length				
144	bell_expansion_length (only for logic 2)	75	distance of maxium expansion to top of bell [where Bb exits]				
145	belflg	51	Usually about 10mm more than line 138				
146							
147							
148	**IX. PITCH**						
149	pitch	415	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: Rottenburgh-C-Stanley1-Deitch-Wg1-WOB-DNM				
156							
157			Notes on long joint bore: Rottenburgh-Stanley1 good shape				
158			Notes on boot joint bore: Rottenburgh-Stanley1 good shape				
159	**XI. Bore Diameter Locations**		Notes on wing join boret: Rottenburgh-Stanley1 good shape				
160		18	Number of diameters				
161	**Bell Bore**	8.8	Initial bore diameter				
162	30.8mm dia. at socket	418	dist1; measured from the bottom of the wing joint- 10mm				1
163	30mm rod 70mm from socket	340	dist2; measured from the bottom of the wing joint- 11mm				1
164	29mm rod 98mm from socket	298	dist3; measured from the bottom of the wing joint- 12mm				1
165	28mm rod 125mm from socket	220	dist4; measured from the bottom of the wing joint- 13mm				1
166	27mm rod 195mm from socket	130	dist5; measured from the bottom of the wing joint- 14mm				1
167	26mm rod 288mm from socket	60	dist6; measured from the bottom of the wing joint- 15mm	Bottom wing jt	15.4		1
168	25.5mm dia. at bell end	0	dist7; measured from the bottom of the wing joint- 16mm	top boot small	18.4		1
169		0	dist8; measured from the bottom of the wing joint- 17mm	top boot large	23.9		1
170		0	dist9; measured from the top of the bootjoint - small bore side- 18mm				2
171		270	dist10; measured from the top of the bootjoint - small bore side- 19mm	sbore dia sep	20.3		2
172	330 rod 20mm boot up bore	310	dist11; measured from the top of the bootjoint - small bore side- 20mm	lbore dia sep	19.4		2
173		275	dist12; measured from the top of the bootjoint - large bore side- 21mm				3
174		250	dist13; measured from the top of the bootjoint - large bore side- 22mm				3
175		220	dist14; measured from the top of the bootjoint - large bore side- 23mm				3
176		420	dist15; measured from the top of the long joint- 24mm	lj_bot_bore	23		4
177		363	dist16; measured from the top of the long joint- 25mm				4
178		315	dist17; measured from the top of the long joint- 26mm;				4
179		272	dist18; measured from the top of the long joint- 27mm				4
180		180	dist19; measured from the top of the long joint- 28mm				4
181		105	dist20; measured from the top of the long joint- 29mm				4
182		35	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	31.3		4