

	A	B	C	D	E	F
1	I. Bocal		Original bocal; no bocal			
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 No: BuffetDenis1-O-Peebles			
14	choke bore dia.	9.1	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)	36	logic 1; length of choke from top of wing joint; logic 0; length of receiver (same as string length)			
16	wing joint length	511	total wing joint length, including tenon and socket			
17	tenon length	48.2	tenon length			
18						
19	wj f2	206	dist top of wing to where tone hole enters bore [not at the center of the tone hole]			
20	wj e	292				
21	wj d	347	vrfd; f and d tone holes at fairly steep angle			
22						
23	Bore dia. Bottom of wing joint	16.1	verified small; need to Average, usally oval; not BuffetDenis1-O-Peebles			
24	Bore dia. top of boot joint small side	16.6				
25	Bore dia. top of boot joint large side	25.7				
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	76	verified; dist from top of boot to where topmost tone hole enter bore [not at center of tone hole]			
30	bj b	157				
31	bj a	204				
32			meas. With boot cap removed			
33	bistotal [Needed for both boot logics]	420	total length of boot, include socket, along the small bore side,	Hook length check	41	
34	bjtotal [Needed for both boot logics]	420	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]	379	hook length along s bore => bjs-septum length = boot - septum <= calc the septum	Hook length check	41	
39	bootl [Needed for both boot logics]	379	hook length along l bore => bj-l-septum length = boot - septum <= calc the septum			
40						
41	boots bottom [Needed for both boot logics]	25	use hook, dist of bore [dist on stick plus 7mm, diff between hook and bot of stick]			
42	bootl bottom [Needed for both boot logics]	25	use hook, dist of bore [same as boots bot except tenon depth will be different] 18 + 7=25			
43						
44	extreme bore [Needed for logic 1 only]	43	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	41	dist. From very bottom of boot to spetum [bjl - bootl]	do not imput value		
48	septum length - do not imput value	41	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]	19.8	septum small bore dia [assume = lbore dia sep]			
51	lbore dia sep* [Needed for both boot logics]	20.1	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	3.1	septum width; calc. => extreme bore - sbore - lbore	do not imput value		
54	sep width - do not imput value	3.1	if bj logic = 0 => sep width = sep width exp; if bj logic = 1 => sep width = sep width calc	do not imput value		
55						
56	bj g	340	dist from top of boot (socket) to where G hole enters bore [not at cent of tone hole]			
57	bj f1	146	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	4.3				
65	e	5.4				
66	d	5				
67						
68	c	6.5				
69	b	7				
70	a	6.4				
71	g	7.8				
72	f1	7.5				
73			BuffetDenis1 large tone holes on long joint			
74	e1	15.3	e1 tone hole dia, on long joint [need to average NS and EW dias, NS usually greater]			
75	d1	11.1	10.1; d1 tone hole dia, on long joint [need to average NS and EW dias, NS usually greater]			
76	c1	16.4	15; 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	42.5	f and d tone holes drilled at extreme angle			
84	e	33.5				
85	d	39	f and d tone holes drilled at extreme angle			
86						
87	c	30	Buffet Not drilled into center of bore			
88	b	25.2				
89	a	28.5				
90	g	13.5	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	7.5	BuffetDenis1 could not remove key guard; e1 tone hole depth; meas east/west with depth gauge [at center, or shortest dist]			
94	d1	7.5	d1 tone hole depth; meas east/west with depth gauge [at center, or shortest dist]			
95	c1	7	c1 tone hole depth; meas east/west with deapth gauge [at center, or shortest dist]			
96						
97						
98						

	A	B	C	D	E	F
99						
100						
101	VI. Long Joint		BuffetDenis1 There is a table along long joint			
102	lg length; not including large tenon, broken	561	total length of long joint; need to add tenon length to this from socket length on extra meas.			
103	lg_tenon_bot	47.4	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; 33.1 dia at broken tenon	???	long joint top tenon bore diameter [tenon going into bell] 33.1mm at broken tenon			
106	lg_tenon_top	???	length top tenon on long joint [tenon going into bell]			
107	e1 distance	52	dist long joint tenon to e1 [from bot of tenon to where tone hole enters bore]			
108	d1 distance	257	dist long joint tenon to d1 [from bot of tenon to where tone hole enters bore]			
109	c1 distance	478	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	11.9				
117	e	13				
118	d	13.6				
119						
120	c	16.6				
121	b	16.8				
122	a	17.2				
123	g	20.5				
124	f1	24.1				
125						
126	e1	25.2	e1 tone hole bore diameter on long joint			
127	d1	28.6	d1 tone hole bore diameter on long joint			
128	c1	31.8	c1 tone hole bore diameter on long joint			
129						
130						
131						
132						
133						
134	VIII. Bell; No Bell		BuffetDenis1 There is no tone hole in the bell, no bell			
135	bell logic		If bell logic = 0 => normal conical bore; if bell logic = 1 => inverted conical bore; if bell logic = 2 => bell expansion			
136	bell_length (0, 1, 2)		total length of bell [lines 141 + 144 = line 136]			
137	bell_bot_bore (0, 1, 2)		dia bore at the bottom of bell [end with socket]			
138	bell_top_bore 0, (1, 0, 2)		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)		bell socket length			
144	bell_expansion_length (only for logic 2)		distance of maxium expansion to top of bell [where Bb exits]			
145	bellfig					
146						
147						
148	IX. PITCH					
149	pitch; Maybe 440	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: BuffetDenis1-O-Peebles-Wg1-WOB-DNM			
156						
157			Notes on long joint bore: not bad shape, OOR in some places			
158			Notes on boot joint bore: good shape			
159	XI. Bore Diameter Locations		Notes on wing joint bore:good shape			
160		21	Number of diameters			
161		9.1	Initial bore diameter [do not include in line 160 counting]			
162		420	dist1; measured from the bottom of the wing joint- 10mm ; OOR x			
163		350	dist2; measured from the bottom of the wing joint- 11mm; OOR x			
164		280	dist3; measured from the bottom of the wing joint- 12mm; OOR x			
165		230	dist4; measured from the bottom of the wing joint- 13mm; OOR x			
166		128	verified jump; dist5; measured from the bottom of the wing joint- 14mm; OOR x			
167		60	dist6; measured from the bottom of the wing joint- 15mm; OOR x	Bottom wing jt	16.1	
168		0	dist7; measured from the top of the bootjoint - small bore side- 16mm; OOR x	top boot small	16.6	
169		185	dist8; measured from the top of the bootjoint - small bore side- 17mm; OOR x	top boot large	25.7	
170		245	verified jump; dist9; measured from the top of the bootjoint - small bore side- 18mm; OOR x			
171		340	dist10; measured from the top of the bootjoint - large bore side- 19mm; OOR x	sbore dia sep	19.8	
172		0	dist11; measured from the top of the bootjoint - large bore side- 20mm; OOR x	lbore dia sep	20.1	
173		320	dist12; measured from the top of the bootjoint - large bore side- 21mm; OOR x	Hook Length	379	
174		280	dist13; measured from the top of the bootjoint - large bore side- 22mm; OOR x			
175		225	dist14; measured from the top of the bootjoint - large bore side- 23mm; OOR x			
176		160	dist15; measured from the top of the long joint- 24mm; OOR x	lj_bot_bore	24.9	
177	Large tenon broken; Meas. from bottom	45	dist16; measured from the top of the long joint- 25mm; OOR			
178	Large tenon broken; Meas. from bottom	93	dist17; measured from the top of the long joint- 26mm; OOR x			
179	Large tenon broken; Meas. from bottom	155	dist18; measured from the top of the long joint- 27mm; OOR x			
180	Large tenon broken; Meas. from bottom	235	dist19; measured from the top of the long joint- 28mm; OOR x			
181	Large tenon broken; Meas. from bottom	290	dist20; measured from the top of the long joint- 29mm; OOR x			
182	Large tenon broken; Meas. from bottom	365	dist21; measured from the top of the long joint- 30mm; OOR x			
183	Large tenon broken; Meas. from bottom	445	dist22; measured from the top of the long joint- 31mm; OOR x			
184	Large tenon broken; Meas. from bottom	520	dist23; measured from the top of the long joint- 32mm; OOR x	lj_top_bore	???	