

	A	B	C	D	E	F	G
1	I. Bocal		Original bocal ProwseJ1 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: ProwseJ1, no bocal reciever				
14	choke bore dia.	10.4	logic 1; bore diameter of choke; logic 0;either dia. bocal bottom or beginning of bore at bottom or receiver				
15	receiver length (1, 0) (formally choke length)	48	logic 1; length of choke from top of wing joint; logic 0; length of receiver (same as string length)				
16	wing joint length	524	ProwseJ1, vrfd long ; total wing joint length, including tenon and socket;				
17	tenon length	44.4	tenon length				
18							
19	wj f2	225	dist from top of wing to where tone hole enters bore [not at the center of the tone hole]				
20	wj e	290					
21	wj d	328					
22							
23	Bore dia. Bottom of wing joint	16	Need to Average, usally oval; ProwseJ1 no				
24	Bore dia. top of boot joint small side	16.6					
25	Bore dia. top of boot joint large side	24	ProwseJ1 slightly OOR 24.1 x 23.8				
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	163					
31	bj a	200					
32							
33	bjstotal [Needed for both boot logics]	429	total length of boot, include socket, along the small bore side				
34	bjltotal [Needed for both boot logics]	429	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]	393	hook length along s bore => bjs-septum length = boot - septum <= calc the septum				
39	bootl [Needed for both boot logics]	393	hook length along l bore => bjl-septum length = boot - septum <= calc the septum				
40							
41	boots bottom [Needed for both boot logics]	13	use hook, dist of bore [dist on stick plus 7mm, diff between hook and bot of stick] 6 + 7 = 13				
42	bootl bottom [Needed for both boot logics]	13	use hook, dist of bore [same as boots bot except tenon depth will be different]				
43							
44	extreme bore [Needed for logic 1 only]	45.6	ProwseJ1 Vrfd large, thick boot ;Outside dia of plug=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	36	dist. From very bottom of boot to spetum [bjl - bootl]	do not imput value			
48	septum length - do not imput value	36	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]	19.1	septum small bore dia [assume = lbore dia sep]				
51	lbore dia sep* [Needed for both boot logics]	19.1	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	7.4	septum width; calc. => extreme bore - sbore - lbore	do not imput value			
54	sep width - do not imput value	7.4	if bj logic = 0 => sep width = sep width exp; if bj logic = 1 => sep width = sep width	do not imput value			
55							
56	bj g	361	dist from top of boot (socket) to where G hole enters bore [not at cent of tone hole]				
57	bj f1	150	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	ProwseJ1 vrfd wing finger holes small				
65	e	6					
66	d	4.3					
67							
68	c	6.6					
69	b	6.2					
70	a	4.8	ProwseJ1 vrfd boot finger holes small				
71	g	8.8					
72	f1	9.8					
73							
74	e1	11.8	e1 tone hole dia, on long joint [need to average NS and EW dias, NS usually greater]				
75	d1	10.5	d1 tone hole dia, on long joint [need to average NS and EW dias, NS usually greater]				
76	c1	13	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	24					
84	e	26.5					
85	d	24					
86							
87	c	25.5					
88	b	26.7					
89	a	23.8					
90	g	18	meas along bot tone hole wall [north wall, toward reed,tone hole usually at angle]				
91	f1	21.5	meas along east side tone hole wall [north wall, toward reed,t hole usually at angle]				
92			ProwseJ1 vrfd;wing finger holes small; Long Joint tone hole depths long since plateform is very thick				
93	e1	17.15	e1 tone hole depth;meas east/west with depth gauge [at center, or shortest dist]				

	A	B	C	D	E	F	G
94	d1	15.01	d1 tone hole depth; meas east/west with deapth gauge [at center, or shortest dist]				
95	c1	12.7	c1 tone hole depth; meas east/west with deapth gauge [at center, or shortest dist]				
96							
97							
98							
99							
100							
101	VI. Long Joint		ProwseJ1 There is a deep table along long joint				
102	lg_length	577	total length of long joint				
103	lg_tenon_bot	50.3	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	30.6	ProwseJ1 31.1 x 30.1; long joint top tenon bore diameter [tenon going into bell]				
106	lg_tenon_top	36.6	length top tenon on long joint [tenon going into bell]				
107	e1_distance	58	dist long joint tenon to e1 [from bot of tenon to where tone hole enters bore]				
108	d1_distance	247	dist long joint tenon to d1 [from bot of tenon to where tone hole enters bore]				
109	c1_distance	447	ProwseJ1 vrfd;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	13.1					
118	d	13.3					
119							
120	c	16.4					
121	b	17.1					
122	a	18.2					
123	g	19.8					
124	f1	23					
125							
126	e1	24.1	e1 tone hole bore diameter on long joint				
127	d1	27.2	d1 tone hole bore diameter on long joint				
128	c1	29	c1 tone hole bore diameter on long joint				
129							
130							
131							
132							
133							
134	VIII. Bell		ProwseJ1 There is not a Bell tone hole				
135	bell_logic	0	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)	314	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)	43	ProwseJ1 vrfd end of caliper jaws 37.2mm; 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)	37	bell socket length				
144	bell_expansion_length (only for logic 2)		distance of maxium expansion to top of bell [where Bb exits]				
145	Bellflg	57					
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							
155			Bassoon Calculation: ProwseJ1-O-Sigal1996.08-Wq1-WOB-DNM				
156							
157			Notes on long joint bore: ProwseJ1 normal				
158			Notes on boot joint bore: ProwseJ1 normal				
159	XI. Bore Diameter Locations		Notes on wing joint bore: ProwseJ1 normal				
160		19	Number of diameters				
161	Bell Bore	10.4	Initial bore diameter				
162	30.3mm dia. at socket	0	dist1; measured from the bottom of the wing joint- 10mm				1
163	30mm rod 110mm from socket	368	dist2; measured from the bottom of the wing joint- 11mm				1
164	29mm rod 227mm from socket	275	dist3; measured from the bottom of the wing joint- 12mm				1
165	28mm rod 200mm from socket	250	dist4; measured from the bottom of the wing joint- 13mm				1
166	29mm rod 50mm from bell top end	155	ProwseJ1 OOR; dist5; measured from the bottom of the wing joint- 14mm				1
167	30mm rod 43mm from bell top end	115	ProwseJ1 OOR; dist6; measured from the bottom of the wing joint- 15mm	Bottom wing	16		1
168	31mm rod 38mm from bell top end	0	dist7; measured from the top of the bootjoint - small bore side- 16mm	top boot sma	16.6		2
169	32mm rod 34mm from bell top end	115	dist8; measured from the top of the bootjoint - small bore side- 17mm	top boot larg	24		2
170	33mm rod 30mm from bell top end	170	dist9; measured from the top of the bootjoint - small bore side- 18mm;				2
171	34mm rod 25mm from bell top end	335	dist10; measured from the top of the bootjoint - small bore side- 19mm	sbore dia sep	19.1		2
172	43mm dia. at bell end	350	dist11; measured from the top of the bootjoint - large bore side- 20mm	lbore dia sep	19.1		3
173		288	dist12; measured from the top of the bootjoint - large bore side- 21mm	Hook Length	393		3
174		255	dist13; measured from the top of the bootjoint - large bore side- 22mm				3
175		167	dist14; measured from the top of the bootjoint - large bore side- 23mm				3
176		525	dist15; measured from the top of the long joint - 24mm	lj_bot_bore	24.9		4
177		477	dist16; measured from the top of the long joint- 25mm				4
178		365	dist17; measured from the top of the long joint- 26mm				4
179		336	dist18; measured from the top of the long joint- 27mm				4
180		220	dist19; measured from the top of the long joint- 28mm				4
181		180	dist20; measured from the top of the long joint- 29mm				4
182		80	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	30.6		4