

GrenserA7-O-Michaelstein-Wg1-WOB-DNM

	A	B	C	D	E	F	G
1	I. Bocal		Original bocal; GrenserA7 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: GrenserA 7 there is no receiver;				
14	choke bore dia.	10.9	GrenserA7 vrfd large; logic 1; diameter of choke; logic 0; either diameter bocal bottom, beginning at bottom or receiver				
15	receiver length (1, 0) (formally choke length)	55	logic 1; length of choke from top of wing joint; logic 0; length of receiver (same as string length)				
16	wing joint length	518	total wing joint length, including tenon and socket;				
17	tenon length	40	tenon length				
18							
19	wj f2	221	dist top of wing to where tone hole enters bore [not at the center of the tone hole]				
20	wj e	288	these are a bit short, verified				
21	wj d	330					
22							
23	Bore dia. Bottom of wing joint	15.2	Need to Average, usally oval; GrenserA7 no				
24	Bore dia. top of boot joint small side	16.8					
25	Bore dia. top of boot joint large side	24.6					
26							
27	III. Boot Lengths		GrenserA7; Two whole design				
28	bj logic	1	logic=> if bj logic = 0 => plug removed; if bj logic = 1 => plug cannot be removed				
29	bj c	85	dist from top of boot to where topmost tone hole enter bore [not at center of tone hole]				
30	bj b	142					
31	bj a	184					
32							
33	bjtotal [Needed for both boot logics]	420	total length of boot, include socket, along the small bore side				
34	bltotal [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]	382	hook length along s bore => bjs-septum length = boot - septum <= calc the septum				
39	bootl [Needed for both boot logics]	382	hook length along l bore => bjl-septum length = boot - septum <= calc the septum				
40							
41	boots bottom [Needed for both boot logics]	22	use hook, dist of bore [dist on stick plus 7mm, diff between hook and bot of stick]; 18+7=22				
42	bootl bottom [Needed for both boot logics]	22	use hook, dist of bore [same as boots bot except tenon depth will be different]				
43							
44	extreme bore [Needed for logic 1 only]	39.1	Outside dia of plug [measured] = small bore dia + large bore dia + the septum width				
45							
46	septum length exp [Need for logic 0 only]	44	dist. from very bottom of boot to septum [point between the large and small bore]				
47	septum length calc - do not imput value	38	dist. From very bottom of boot to spetum [bjl - boot!]		do not imput value		
48	septum length - do not imput value	38	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]	17.8	septum small bore dia [assume = lbore dia sep]				
51	lbore dia sep* [Needed for both boot logics]	18.1	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	3.2	septum width; calc. => extreme bore - sbore - lbore		do not imput value		
54	sep width - do not imput value	3.2	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	326	dist from top of boot (socket) to where G hole enters bore [not at cent of tone hole]				
57	bj f1	118	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	4.9					
65	e	5.4					
66	d	4.9					
67							
68	c	6.2					
69	b	6.2					
70	a	5.5					
71	g	7.5					
72	f1	7.5					
73							
74	e1	9.5	GrenserA7 Oblong 8.9 x 10.0; e1 tone hole dia, on long joint [need to average NS and EW dias]				
75	d1	7.6	GrenserA7 Oblong 7.3 x 7.9; small d tone hole; d1 tone hole dia, on long joint				
76	c1	8.2	GrenserA7 Oblong 8.4 x 8.0; c1 tone hole dia, on long joint [need to average NS, EW dias, NS usually greater]				
77							
78							
79							
80							
81							
82	V. Tone Hole Depths						
83	f2	24					
84	e	24.8					
85	d	27.8					
86							
87	c	20.5					
88	b	22.3					
89	a	21.8					
90	g	13.1	meas along bot tone hole wall [north wall, toward reed,tone hole usually at angle]				
91	f1	19.5	meas along east side tone hole wall [north wall, toward reed,t hole usually at angle]				
92							
93	e1	7.4	e1 tone hole depth;meas east/west with deapth gauge [at center, or shortest dist] y				
94	d1	7.9	d1 tone hole depth; meas east/west with deapth gauge [at center, or shortest dist]				
95	c1	7	c1 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
96			GreenserA7, tone hole surface flattened				
97							
98							
99							
100							
101	VI. Long Joint		There is a table along long joint; GreenserA7; yes a table along long joint				
102	lq_length	590	total length of long joint; yes 600 mm				
103	lq_tenon_bot	42.6	length bottom tenon on long joint [tenon going into boot joint]				
104	lj_bot_bore	23.8	long joint bottom tenon bore diameter [tenon going into boot joint]				
105	lj_top_bore	31.2	long joint top tenon bore diameter [tenon going into bell]				
106	lq_tenon_top	32.1	length top tenon on long joint [tenon going into bell]				
107	e1_distance	57	dist long joint tenon to e1 [from bot of tenon to where tone hole enters bore]				
108	d1_distance	256	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	11.8					
117	e	12.5					
118	d	13.3					
119							
120	c	16.8					
121	b	17.5					
122	a	17.6					
123	g	19.7					
124	f1	23.6					
125							
126	e1	24.7	e1 tone hole bore diameter on long joint				
127	d1	27.1	d1 tone hole bore diameter on long joint				
128	c1	30.5	c1 tone hole bore diameter on long joint				
129							
130							
131							
132							
133							
134	VIII. Bell		GreenserA7; There is a tone hole in the bell:				
135	bell_logic	1	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)	302	total length of bell [lines 141 + 144 = line 136]				
137	bell_bot_bore (0, 1, 2)	31.7	dia bore at the bottom of bell [end with socket]				
138	bell_top_bore 0, (1, 0, 2)	31.5	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 maximum 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)	31.5	bell socket length				
144	bell_expansion_length (only for logic 2)		distance of maximum expansion to top of bell [where Bb exits]				
145	bellfg	46.5	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		dated 1788				
155	title		Bassoon Calculation: GreenserA7-O-Michaelstein-Wg1-WOB-DNM				
156							
157			Notes on long joint bore: GreenserA7 normal				
158			Notes on boot joint bore: GreenserA7 small side very cylindrical				
159	XI. Bore Diameter Locations		Notes on wing joint bore: GreenserA7 top near bocal receiver worn??				
160		17	Number of diameters				
161		10.9	Initial bore diameter [do not include in line 160 counting]				
162		0	GreenserA7 there is an insert in top of bore, makes a choke, no meas. 10 mm dist1- 10mm				1
163		335	GreenserA7 OOR 310 x 360; dist2; measured from the bottom of the wing joint- 11mm				1
164		265	GreenserA7 OOR 255 x 275; dist3; measured from the bottom of the wing joint- 12mm				1
165		204	dist4; measured from the bottom of the wing joint- 13mm				1
166		118	dist5; measured from the bottom of the wing joint- 14mm				1
167		0	dist6; measured from the bottom of the wing joint- 15mm	Bottom wing jt	15.2		1
168		0	dist7; measured from the top of the bootjoint - small bore side- 16mm	top boot small	16.8		2
169		97	dist8; measured from the top of the bootjoint - small bore side- 17mm	top boot large	24.6		2
170		0	dist9; measured from the top of the bootjoint - small bore side- 18mm				2
171		348	dist10; measured from the top of the bootjoint - large bore side- 19mm	sbore dia sep	17.8		3
172		315	dist11; measured from the top of the bootjoint - large bore side- 20mm	lbore dia sep	18.1		3
173		262	dist12; measured from the top of the bootjoint - large bore side- 21mm	Hook Length	382		3
174		218	dist13; measured from the top of the bootjoint - large bore side- 22mm				3
175		170	dist14; measured from the top of the bootjoint - large bore side- 23mm				3
176		554	dist15; measured from the top of the long joint- 24mm	lj_bot_bore	23.8		4
177		520	dist16; measured from the top of the long joint- 25mm				4
178		440	GreenserA7 OOR 420 x 460; dist17; measured from the top of the long joint- 26mm				4
179		350	GreenserA7 OOR 320 x 380; dist18; measured from the top of the long joint- 27mm				4
180		253	dist19; measured from the top of the long joint- 28mm				4
181		198	dist20; measured from the top of the long joint- 29mm				4
182		152	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	31.2		4