The EH 0.0/9.0

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The EH 0.0/9.0 is another in a series of sections designed by John Yost; it has no camber and is 9% thick. As a symmetrical section it has a pitching moment of zero and a relatively limited maximum lift coefficient. For enthusiasts of tailless planforms, however, the EH 0.0/9.0 has at least two useful functions. The EH 0.0/9.0 can be used as the section of choice for vertical stabilizers, whether as "winglets" or as a single central fin. It can also be used in a more fundamental role as a thickness distribution in conjunction with a predetermined camber line.

As a vertical surface section, the EH 0.0/9.0 may be considered by some to be somewhat thick. However, as other of the EH sections have been thinned successfully, there should be no major concern over thinning this section as well. Such thinning should be done in moderation; 7% should be the minimum thickness considered.

If the EH 0.0/9.0 is used to place a thickness distribution around a camber line, we would highly recommend using the algebraic rather than the trigonometric method. The trigonometric method involves adding the thickness distribution along an artificial axis which is perpendicular to the local camber line, while the algebraic method always adds the thickness distribution parallel to the Y axis. The algebraic method is far easier to accomplish and gives a leading edge shape which seems to provide better stall characteristics.

For those of you who wish to use camber lines appropriate for plank planforms, see "On the 'Wing…," *RC Soaring Digest*, June 1990. That column provides the formulae for camber lines with various crossover points. If you do not have that specific back issue of *RCSD*, the column is reprinted in "On the 'Wing… the book," published by our own B²Streamlines. The reprint also includes a computer program which calculates various reflexed camber lines and then imposes a chosen thickness distribution.

EH 0.0/9.0

X	Y	X	Y
100.000	0.000	0.099	-0.289
99.901	0.004	0.394	-0.623
99.606	0.018	0.886	-0.984
99.114	0.046	1.571	-1.350
98.429	0.092	2.447	-1.726
97.553	0.158	3.511	-2.094
96.489	0.243	4.759	-2.445
95.241	0.345	6.185	-2.778
93.815	0.463	7.784	-3.087
92.216	0.597	9.549	-3.370
90.451	0.748	11.474	-3.624
88.526	0.916	13.552	-3.847
86.448	1.100	15.733	-4.039
84.227	1.297	18.129	-4.198
81.871	1.505	20.611	-4.323
79.389	1.724	23.209	-4.415
76.791	1.950	25.912	-4.474
74.088	2.181	28.711	-4.500
71.289	2.415	31.594	-4.495
68.406	2.648	34.549	-4.460
62.435	3.104	37.565	-4.396
59.369	3.320	40.631	-4.306
56.267	3.526	43.733	-4.191
53.139	3.716	46.961	-4.054
50.000	3.895	50.000	-3.895
46.961	4.054	53.139	-3.716
43.733	4.191	56.267	-3.526
40.631	4.306	59.369	-3.320
37.565	4.396	62.435	-3.104
34.549	4.460	68.406	-2.648
31.594	4.495	71.289	-2.415
28.711	4.500	74.088	-2.181
25.912	4.474	76.791	-1.950
23.209	4.415	79.389	-1.724
20.611	4.323	81.871	-1.505
18.129	4.198	84.227	-1.297
15.733	4.039	86.448	-1.100
13.552	3.847	88.526	-0.916
11.474	3.624	90.451	-0.748
9.549	3.370	92.216	-0.597
7.784	3.087	93.815	-0.463
6.185	2.778	95.241	-0.345
4.759	2.445	96.489	-0.243
3.511	2.094	97.553	-0.158
2.447	1.726	98.429	-0.092
1.571	1.350	99.114	-0.046
0.886	0.984	99.606	-0.018
0.394	0.623	99.901	-0.004
0.099	0.289	100.000	0.000
0.000	0.000		