Front Aperture Selection - Millimeters - DRAFT - Subject to revision.

These are **minimum** starting sizes for the front aperture.
Using a size that is 0.1 to 0.5 larger (or more) is perfectly fine,
based on athlete preference. Aperture size is in millimeters.
Using a size that is only 0.1 too small is fraught with peril.
Doing so usually causes insidious problems in shot delivery.

Eye Dist. in.	ISSF Air 10m	ISSF SB 50m	USAS SB 50ft	USNRA SB A-36 50ft	USNRA SB A-17 50ft	USNRA SB A-7 50ft
28	3.5	2.9	2.8	2.7	3.0	3.1
29	3.6	3.0	2.9	2.8	3.1	3.2
30	3.7	3.1	3.0	2.9	3.2	3.3
31	3.8	3.2	3.1	3.0	3.3	3.4
32	3.9	3.3	3.2	3.1	3.4	3.5
33	4.0	3.4	3.3	3.2	3.5	3.6/3.7
34	4.1/4.2	3.5	3.4	3.3	3.6/3.7	3.7/3.8
35	4.3	3.6	3.5	3.4	3.7/3.8	3.9
36	4.4	3.7	3.6	3.5	3.9	4.0
37	4.5	3.8	3.7	3.6	4.0	4.1
38	4.6/4.7	3.9	3.8	3.7	4.1	4.2
39	4.7/4.8	4.0	3.9	3.8	4.2	4.3
40	4.9	4.1	4.0	3.9	4.3	4.4
41	5.0	4.2	4.1	4.0	4.4	4.5
42		4.3	4.2	4.1	4.5	4.6/4.7
43		4.4	4.3	4.2	4.6	4.7/4.8
44		4.5	4.4	4.3	4.7	4.9
45		4.6	4.5	4.4	4.8	5.0
46		4.7	4.6	4.5	4.9	
47		4.8	4.7	4.6	5.0	
48		4.9	4.8	4.7		

Apertures are often selected with only "visual precision" in mind, and are smaller than optimal as a result. This chart takes into account factors that are far more important; primarily the athlete's psychological state resulting from the differing visual inputs as the aperture size varies. Apertures that are too small often cause the athlete to hold too long, have "flutter finger" (indecision), poor triggering, and poor follow through.

Athletes who are taken through an experiment protocol that allows them to experience many different sizes (from absurdly small to absurdly large, and everything in between) generally choose an aperture that exactly matches this chart. Interestingly, the chart was constructed based on theoretical research, yet is validated by extensive field work. Results may vary in some cases and additional study is needed for those cases.

This chart is not a magic solution. It is only one critical component in a much broader program that allows an athlete to reliably and repeatedly reach ultimate performance levels. Despite being only one piece of the larger puzzle, this is a critical component. Do not use an aperture that is smaller than this chart!

Please send your comments and observations.

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