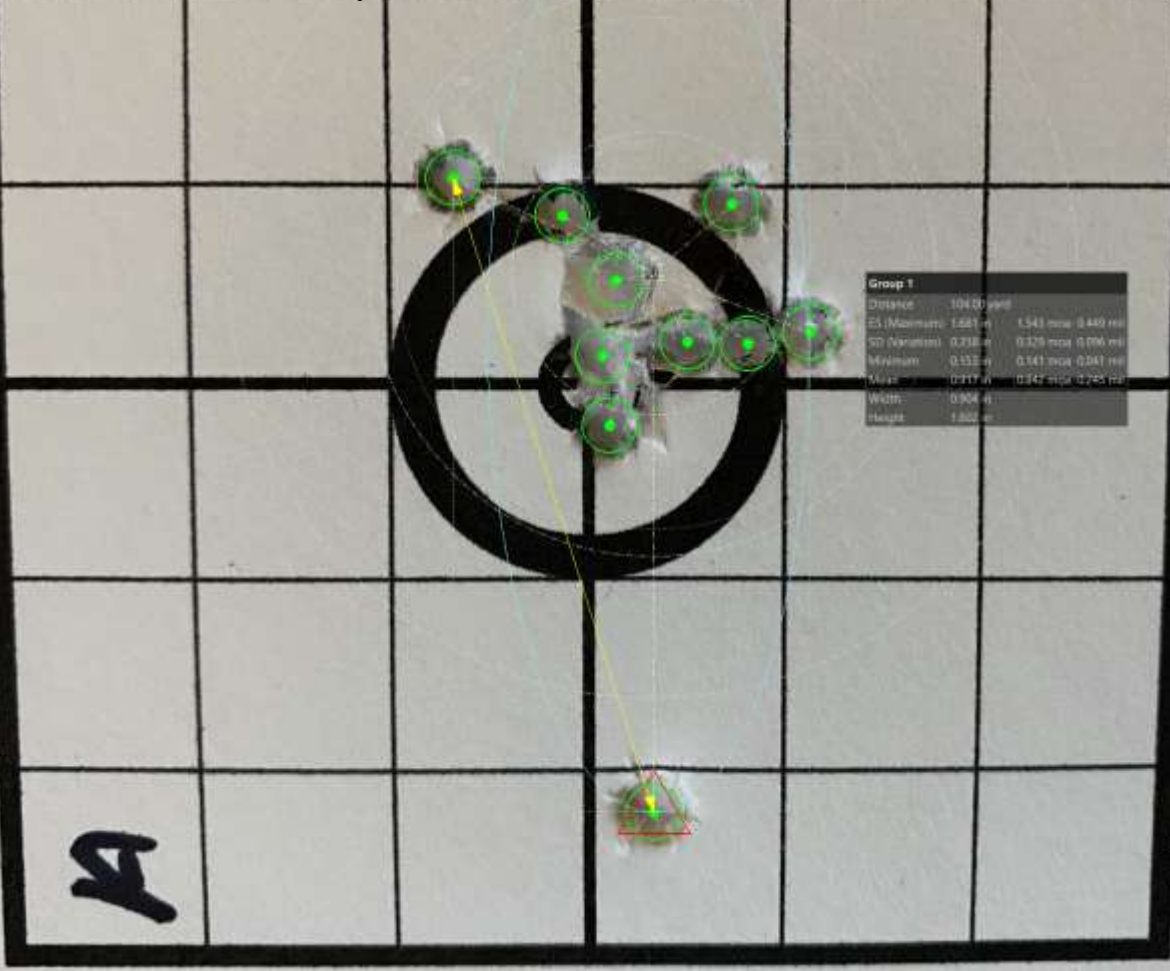


- Notes:
 - Object of range session was to determine which lot to purchase, not to be a highly scientific investigation of MV vs POI, Mach # vs dispersion, or similar.
 - I had 50 and 100 yd “wind flags” (surveyor's tape) near the flight path and did my best to shoot with <2.5mph wind (based on “calibrated” tape angle via Kestrel). The firing point is covered with berms on sides (range is ~40’ wide).
 - Targets are presented in order shot
 - All groups are 10 shots on target and shot from full mags (Vudoo V-22)
 - Notes are as written in my range log, or from chrono data. Nothing is presented with the targets from memory, hindsight, etc.
 - Intent was to shoot a group with lot 02, 54, 91 and repeat 5x to minimize environmental and shooter influences, then remove muzzle brake.
 - Pattern of first round fliers recognized after 10 groups, coupled with overall poor performance, led to exploration. Back to back groups from same lot, muzzle brake on vs off, hold 1st round of mag in chamber for ~ minute.
 - I purchased a case of 357X55/504391, based on “it looks like it’s trying to group” (and mean radius, SD, group size excluding 1st shot) and shooting better than the 3 lots of Polar Biathlon I tested the previous day under similar conditions. I’ll reserve it for days with a high below +10°C.

Note: Clean Barrel
 9:40 am, 0-2mph switch, 24.4°C, 74.5% RH, 1000.0mBar
 1st Shot Vel 1127fps



Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Group Mean	Target	Space 2	Min	Max	Avg	S-D	ES
Biathlon	357X55/					1.54	0.32	0.84	BX				1095	13.3	
54 Xtreme	504502	Yes	10			3	9	202	A		1081	1127	.6	766	46

Note: N/A
 1st Shot Vel 1101fps



Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Group Mean	Target	Space 2	Min	Max	Avg	S-D	ES
Biathlon	357X54/					1.36	0.27	0.70	BX				1098	6.11	
55 Xtreme	500354	Yes	10			7	4	454	A		1089	1110	.4	3737	21

Note: N/A
1st Shot Vel 1101fps



Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Mean	Target	Space 2	Min	Max	Avg	S-D	ES
Biathlon 56 Xtreme	357X55/504391	Yes	10			1.23	0.24	0.66	BX 591 A		1082	1101	1089	0101	19

Note: N/A
1st Shot Vel 1114fps



Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Mean	Target	Space 2	Min	Max	Avg	S-D	ES
Biathlon 57 Xtreme	357X55/504502	Yes	10			0.78	0.13	0.42	BX 602 B		1091	1114	1098	8148	23

Note: N/A
1st Shot Vel 1110fps



Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Group Mean	Target	Space 2	Min	Max	Avg	S-D	ES
	Biathlon	357X54/							BX				1108.6	7.85	
58 Xtreme	500354	Yes	10			0.884	0.142	0.463	54 B		1094	1118	4	606	24

Note: N/A
1st Shot Vel 1111fps



Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Group Mean	Target	Space 2	Min	Max	Avg	S-D	ES
	Biathlon	357X55/							BX					7.086	
59 Xtreme	504391	Yes	10			1.512	0.347	0.813	91 B		1085	1111	1097	764	26

Note: N/A
1st Shot Vel 1102fps



Group 1
Distance: 104.00 yard
ES (Maximum): 1.232 in 0.132 mm 0.126 mil
SD (Minimum): 0.176 in 0.142 mm 0.047 mil
Minimum: 0.077 in 0.071 mm 0.021 mil
Mean: 0.640 in 0.586 mm 0.173 mil
Width: 1.033 in
Height: 0.050 in

Series	Ammo	Lot	Brake	Shots:	Space	Group					Space2	Min	Max	Avg	S-D	ES
						Group ES	Group SD	Mean	Target							
Biathlon 60 Xtreme	357X55/504502	Yes	10		1.122	0.16	0.59 BX 602 C			1084	1102	1096.5	5.56 2773	18		

Note: N/A
1st Shot Vel 1118fps



Group 1
Distance: 104.00 yard
ES (Maximum): 1.071 in 0.083 mm 0.206 mil
SD (Minimum): 0.164 in 0.130 mm 0.044 mil
Minimum: 0.210 in 0.193 mm 0.056 mil
Mean: 0.647 in 0.588 mm 0.171 mil
Width: 0.907 in
Height: 0.071 in

Series	Ammo	Lot	Brake	Shots	Space	Group					Space 2	Min	Max	Avg	S-D	ES
						Group ES	Group SD	Mean	Target							
Biathlon 61 Xtreme	357X54/500354	Yes	10			0.983	0.15	0.58 BX 854 C			1096	1118	1105.9	7.964505	22	

Note: N/A
1st Shot Vel 1109fps



Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Group Mean	Target	Space 2	Min	Max	Avg	S-D	ES
Biathlon 62 Xtreme	357X55/504391	Yes	10			1.127	0.269	0.593	BX 391 C		1095	1109	1101.4	8666	14

Note: N/A
1st Shot Vel 1108fps



Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Group Mean	Target	Space 2	Min	Max	Avg	S-D	ES
Biathlon 63 Xtreme	357X55/504391	Yes	10			2.011	0.496	1.052	BX 91 D		1094	1115	1101.6	859	21

Note: N/A
1st Shot Vel 1105fps



E

Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Group Mean	Target	Space 2	Min	Max	Avg	S-D	ES
Biathlon 64 Xtreme	357X55/504391	Yes	10			1.264	0.26	0.69	BX 191 E		1093	1115	1105	5.65	22

Note: N/A
1st Shot Vel 1101fps



D

Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Group Mean	Target	Space 2	Min	Max	Avg	S-D	ES
Biathlon 66 Xtreme	357X55/504502	Yes	10			0.96	0.13	0.50	BX 702 D		1097	1118	1107	6.88	21

Note: N/A
1st Shot Vel 1112fps



Series	Ammo	Lot	Brake	Shots	Group Space	Group ES	Group SD	Group Mean	Target	Space 2	Min	Max	Avg	S-D	ES
Biathlon	357X55/5								BX 02				1105.	6.967	
67 Xtreme	04502	Yes	10		2.083	0.324	1.151	E		1096	1115	9	384	19	

Note: N/A
1st Shot Vel 1112fps



Series	Ammo	Lot	Brake	Shots	Group Space	Group ES	Group SD	Group Mean	Target	Space 2	Min	Max	Avg	S-D	ES
Biathlon	357X54/5								BX 02				1114	6.48	
68 Xtreme	500354	Yes	10		0.86	0.15	0.45	D		1109	1131	.9	8451	22	

Note: N/A
1st Shot Vel 1115fps



Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group		Target	Space 2	Min	Max	Avg	S-D	ES
							Mean	SD							
	Biathlon 69 Xtreme	357X54/500354	Yes	10		1.18	0.20	0.66	BX 454 E		1098	1126	1112	7.09	28

Note: 11:10am, 0-3mph switching, 27.5°C, 72% RH, 1000.5 mBar
1st Shot Vel 1115fps



Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group		Target	Space 2	Min	Max	Avg	S-D	ES
							Mean	SD							
	Biathlon 70 Xtreme	357X55/504391	No	10		1.504	0.281	0.824	BX 91 G		1093	1120	1102	9.510	27

Note: N/A
1st Shot Vel 1121fps



Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Group Mean	Target	Space 2	Min	Max	Avg	S-D	ES
71	Biathlon Xtreme	357X55/504391	No	10	1.432	0.282	0.76	0.91	BX	91	1091	1121	1102.3	10.4142	30

Note: N/A
1st Shot Vel 1114fps



Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Group Mean	Target	Space 2	Min	Max	Avg	S-D	ES
72	Biathlon Xtreme	357X55/504391	No	10	0.74	0.38	0.91	0.91	BX	91	1093	1114	1103.4	7.026932	21

Note: N/A
1st Shot Vel 1106fps



Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Group Mean	Target	Space 2	Min	Max	Avg	S-D	ES
	Biathlon 73 Xtreme	357X55/504391	No	10		1.261	0.193	0.726	BX 91 J		1093	1113	1103.8	5.633	20

Note: N/A
1st Shot Vel 1103fps



Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Group Mean	Target	Space 2	Min	Max	Avg	S-D	ES
	Biathlon 74 Xtreme	357X55/504391	No	10		1.32	0.25	0.719	BX 91 K		1090	1113	1101.9	6.98	23

Note: First shot low, unknown reason
1st Shot Vel 1099fps



G

Note: First shot low, unknown reason
1st Shot Vel 1132fps



H

Ammo: Rifle:

Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Group Mean	Target	Space 2	Min	Max	Avg	S-D	ES
Biathlon 75 Xtreme	357X55/504502	No	10	1.8	6	0.34	0.94	BX 102 G			1090	1111	.5	1609	21

Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Group Mean	Target	Space 2	Min	Max	Avg	S-D	ES
Biathlon 76 Xtreme	357X55/504502	No	10	1.978	0.428	1.03	H	BX 02			1098	1132	1110	342	34

Note: First shot low, unknown reason
1st Shot Vel 1128fps



Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Mean	Target	Space 2	Min	Max	Avg	S-D	ES
Biathlon 77Xtreme	357X55/504502	No	10			1.746	0.337	0.9102	BX		1102	1128	.48881	7.98	26

Note: First shot low, unknown reason
1st Shot Vel 1130fps



Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Mean	Target	Space 2	Min	Max	Avg	S-D	ES
Biathlon 78Xtreme	357X55/504502	Yes	10			2.2	0.47	1.16	BX		1100	1130	.95955	8.30	30

Note: Held first shot in chamber
1st Shot Vel 1111fps



K

Series	Ammo	Lot	Brake	Shots	Spac	Group ES	Group SD	Group Mean	Target	Spac e2	Min	Max	Avg	S-D	ES
Biathlon	357X55/					1.12	0.20	0.59	BX				1106	4.77	
79 Xtreme	504502	Yes	10			5	3	202	K		1100	1115	.8	9586	15

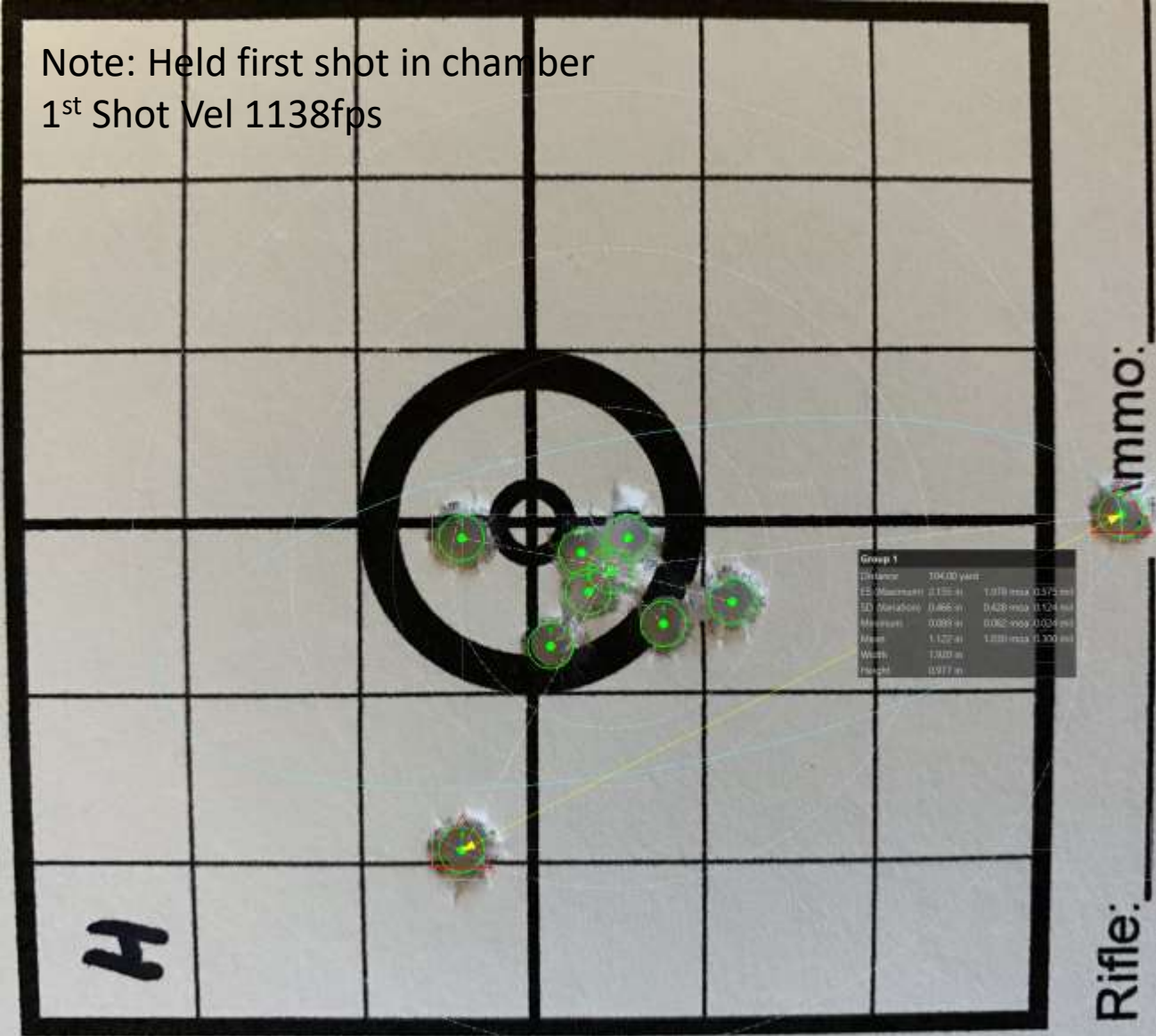
Note: First shot low
1st Shot Vel 1139fps



G

Series	Ammo	Lot	Brake	Shots	Spac	Group ES	Group SD	Group Mean	Target	Spac e2	Min	Max	Avg	S-D	ES
Biathlon	357X54/5					1.949	0.423	0.993	BX 54				1121.	8.113	
80 Xtreme	00354	No	10						G		1111	1139	5	774	28

Note: Held first shot in chamber
1st Shot Vel 1138fps



Series	Ammo	Lot	Brake	Shots	Group Space	Group ES	Group SD	Group Mean	Target Space	Min	Max	Avg	S-D	ES
Biathlon 81 Xtreme	357X54/500354	No		10	1.885	0.512	0.982	BX 54 H		1099	1138	1116.9	11.89257	39

Note: N/A
1st Shot Vel 1127fps



Series	Ammo	Lot	Brake	Shots	Group Space	Group ES	Group SD	Group Mean	Target Space	Min	Max	Avg	S-D	ES
Biathlon 82 Xtreme	357X54/500354	Yes		10	2.305	0.427	1.22754	BX 54 I		1099	1127	1114.8	9.07445	28

Note: N/A
1st Shot Vel 1135fps



Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Group Mean	Target	Space 2	Min	Max	Avg	S-D	ES
83	Biathlon Xtreme	357X54/500354	Yes	10		2.082	0.3	1.10	BX 354 J		1108	1135	1118.5	8.872554	27

Note: N/A
1st Shot Vel No Reading



Series	Ammo	Lot	Brake	Shots	Space	Group ES	Group SD	Group Mean	Target	Space 2	Min	Max	Avg	S-D	ES
84	Biathlon Xtreme	357X54/500354	Yes	9		2.859	0.772	1.468	BX 54 K		1111	1138	1124.111	7.94425	27