

TEST AND MEASUREMENT LAB TEST RESULTS

REQUESTER: F.E. MARTIN TESTER: J. SELAN DATE: 3/27/89
 REPORT NO.: 890411 WORK ORDER NO.: 481009
 WRITTEN BY: J. SELAN
 TEST TYPE: DEVELOPMENTAL

FIREARM STAT'S : MODEL: M-700 ALTERED CAL or GAUGE: 300W.M.-243
 BARREL TYPE: SNIPER/SPORTER PROOFED: YES ☒ NO ☐

REASON FOR TEST :

ACCURACY IN THE M-700 ALTERED VERSION IN 243 SPORTER,
 308 & 300 WIN. MAG. SNIPER. AND TO CHECK FOR P.O.I. SHIFT.

EQUIPMENT REQUIRED :

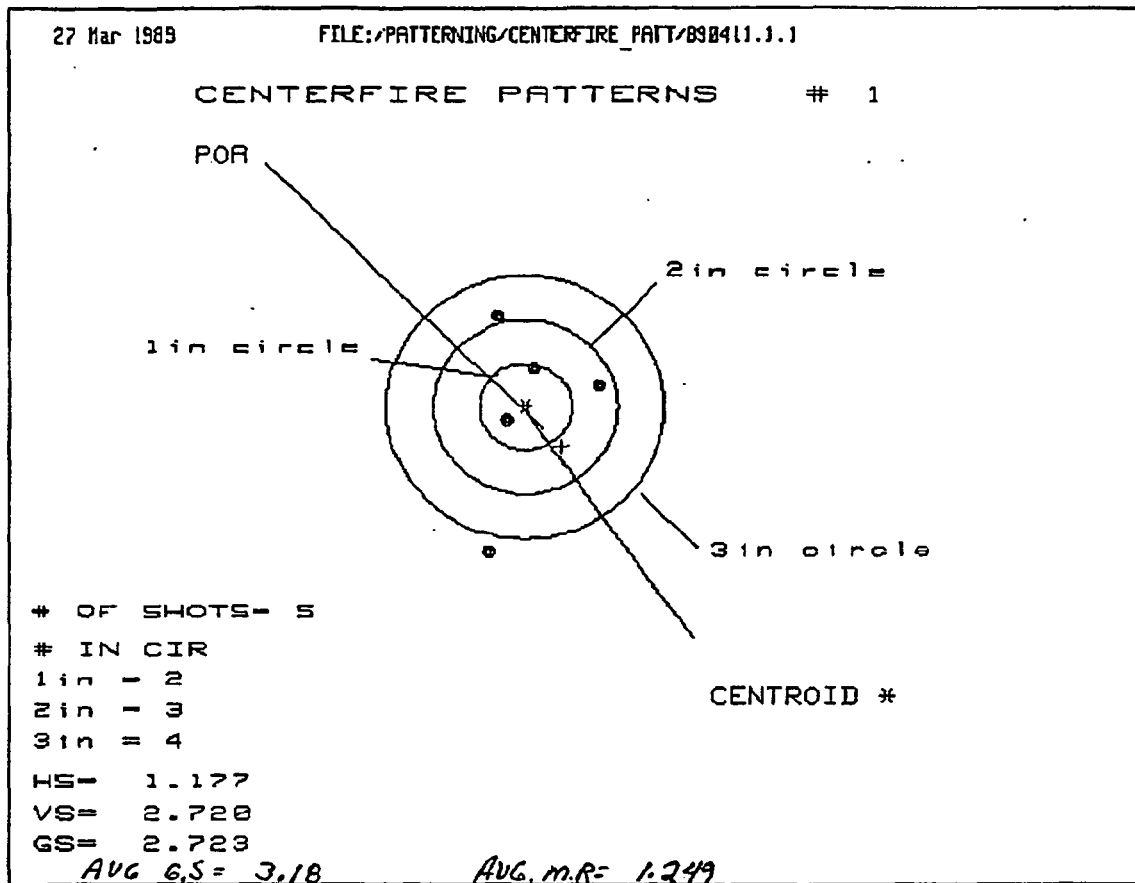
100 & 200 YD. RANGE.
 2 ALTERED RIFLES. (243 WIN. SER. # C6229202) 300-300 WIN. MAG SER. # C62472.
 REM. AMMO: 300 W. MAG. 180 GR. RSP. "CORE-LOKT" R-300W2 LOT # 5170C6823
 308 WIN. MATCH-168 GR BTNR. R-308W7 LOT # 1
 243 WIN. 80 GR. "POWER-LOKT" H.P. R-243W2 KIDMD2622
 2X LYMAN ALL AMERICAN SCOPE. / MISC. CLEANING EQUIPMENT.
 DIGITIZING TABLET. H.P. 9000 COMPUTER. CAL COMP. 9000

TEST PROCEDURE :

- PROOF ALL VERSIONS.
- SHOOT 5-5 SHOT GROUPS, 100 YDS. - REMOVE BBL AND REPLACE SHOOT FOR P.O.I. SH.
- SHOOT 308 & 300 W. MAG. AT 200 YDS. (5-5 SHOT GROUPS) - AGAIN REMOVE BBL ON BOTH VERSIONS AND SHOOT LAST GROUP FOR P.O.I. - SHIFT.
- SHOOT ALL VERSIONS FROM SHOULDER.

TEST RESULTS :

- ORIGINAL BOLTS. ON 243 AND 308 WIN. - BOLT SHROUDS BLEW AT PROOF. REPLACED AND REPROOFED - OK.
- 243 BBL. REMOVED VERY HARD AFTER SHOOTING - FOUR GROUPS.
- AFTER BBL. REMOVED - ALL VERSIONS. SHOWED AN IMPACT SHIFT AND HORIZONTAL SPREAD.
- TARGETS INCLUDED - ON FOLLOWING SHEETS.

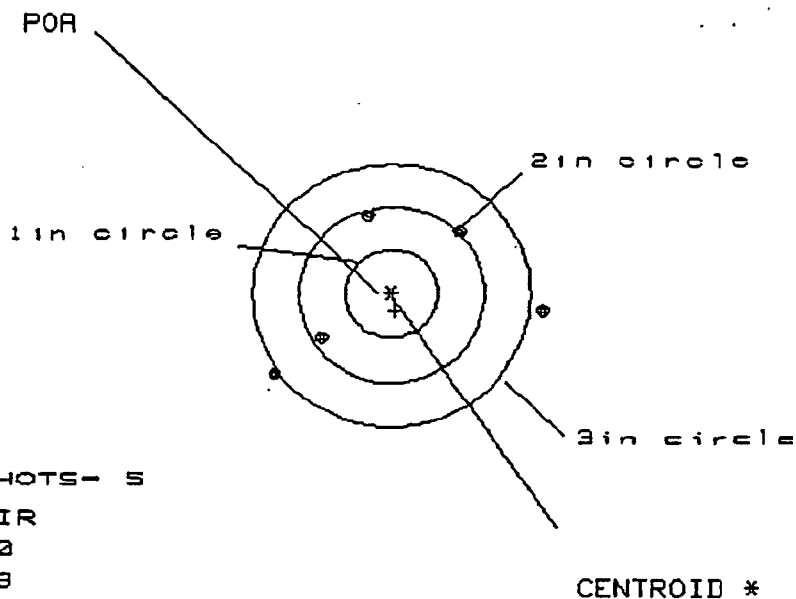


PATTERN #	:	1			300 WIN. MAG. VARIANT
SHOTS (BEST OF)	:	5	4	3	<u>Ammo:</u>
MAXIMUM X	:	.788	.691	.568	180 GR. PSP "CORE-LOKT"
MINIMUM X	:	-.389	-.369	-.412	R-300W2
MAXIMUM Y	:	1.090	.683	.269	LOT- EMDOC 6823
MINIMUM Y	:	-1.630	-.567	-.339	
CENTROID X	:	-.400	-.303	-.180	
CENTROID Y	:	.454	.861	.633	<u>SCOPE:</u>
POR TO CENTROID in.	:	.605	.913	.658	LYMAN ALL AMERICAN
MIN RADIUS	:	.250	.052	.310	20X
MEAN RADIUS	:	.866	.543	.472	
MAX RADIUS	:	1.675	.776	.572	
HORIZONTAL SPREAD	:	1.177	1.060	.980	BENCH REST 200 YDS.
VERTICAL SPREAD	:	2.720	1.250	.608	
EXTREME SPREAD	:	2.723	1.352	1.062	
NUMBER IN ONE INCH CIRCLE	=		2		
NUMBER IN TWO INCH CIRCLE	=		3		
NUMBER IN THREE INCH CIRCLE	=		4		

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CENTERFIRE PATTERNS # 2



OF SHOTS- 5

IN CIR

1 in = 0

2 in = 3

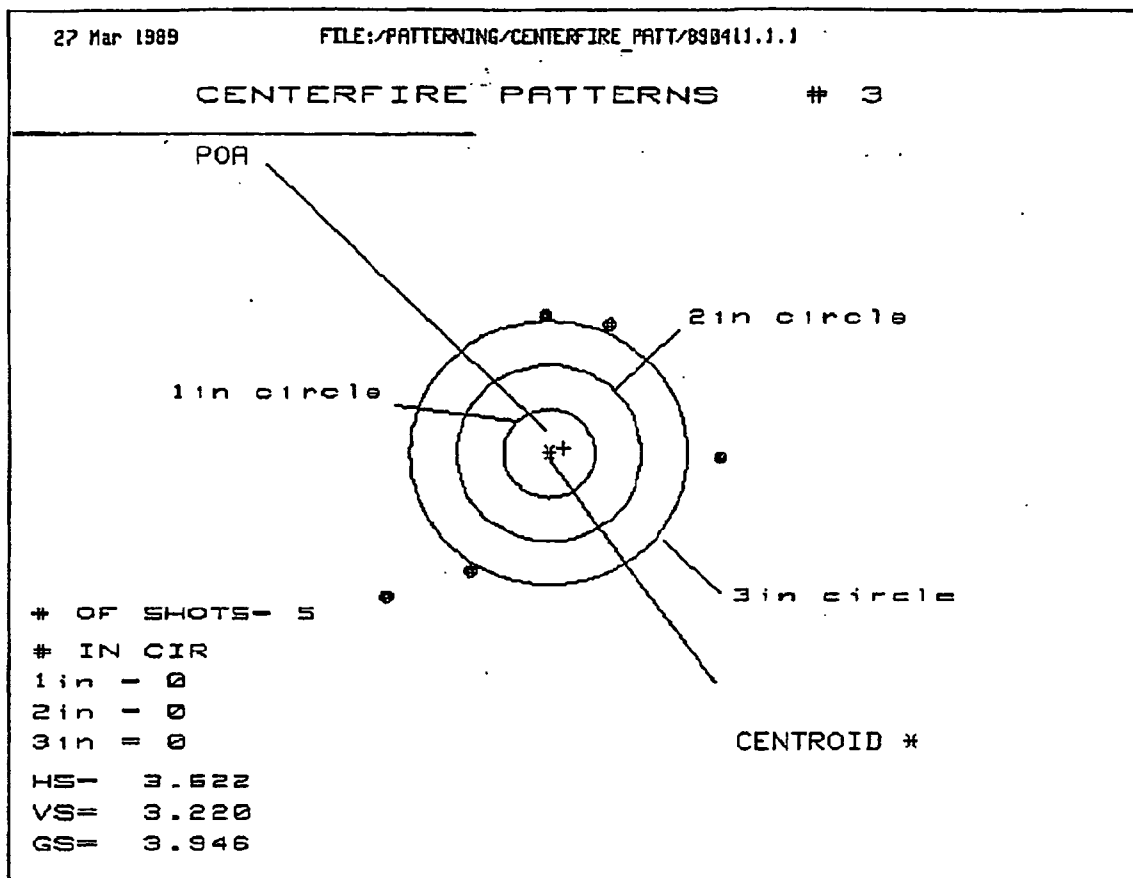
3 in = 3

HS= 2.928

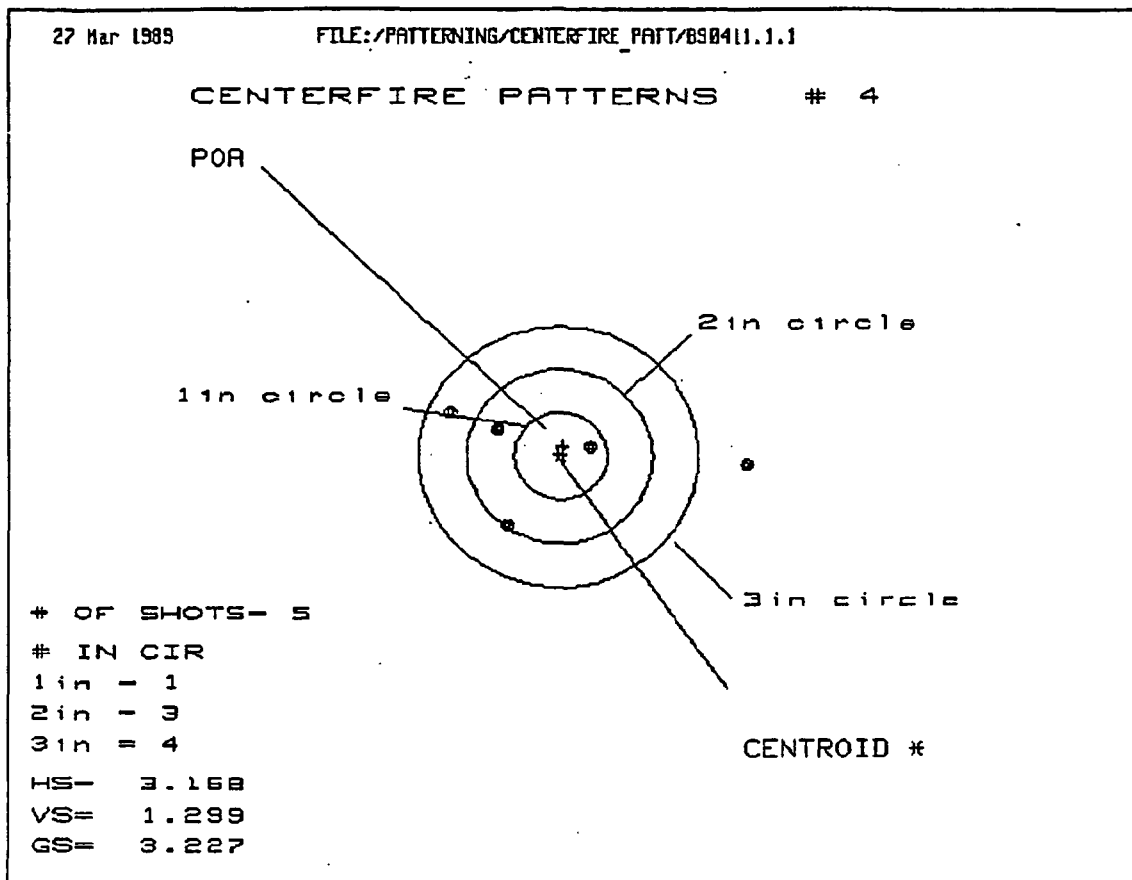
VS= 1.793

GS= 3.002

PATTERN #	2	4	3
SHOTS (BEST OF)	5	4	3
MAXIMUM X	1.635	1.126	.831
MINIMUM X	-1.293	-.885	-.679
MAXIMUM Y	.916	.863	.553
MINIMUM Y	-.877	-.930	-.850
CENTROID X	-.042	-.450	-.155
CENTROID Y	.193	.246	.556
POA TO CENTROID in.	.197	.513	.577
MIN RADIUS	.930	.662	.574
MEAN RADIUS	1.214	1.025	.848
MAX RADIUS	1.648	1.283	1.087
HORIZONTAL SPREAD	2.928	2.011	1.510
VERTICAL SPREAD	1.793	1.793	1.403
EXTREME SPREAD	3.002	2.530	1.896
NUMBER IN ONE INCH CIRCLE	=	0	
NUMBER IN TWO INCH CIRCLE	=	3	
NUMBER IN THREE INCH CIRCLE	=	3	



PATTERN #	3	4	3
SHOTS (BEST OF)	5	4	3
MAXIMUM X	1.902	1.472	.762
MINIMUM X	-1.720	-1.284	-.794
MAXIMUM Y	1.599	1.194	1.041
MINIMUM Y	-1.621	-1.759	-1.912
CENTROID X	-.154	.276	-.215
CENTROID Y	-.061	.344	.497
POA TO CENTROID in.	.166	.441	.542
MIN RADIUS	1.593	1.060	1.041
MEAN RADIUS	1.812	1.515	1.423
MAX RADIUS	2.363	2.178	2.070
HORIZONTAL SPREAD	3.622	2.757	1.556
VERTICAL SPREAD	3.220	2.953	2.953
EXTREME SPREAD	3.946	3.189	3.189
NUMBER IN ONE INCH CIRCLE	= 0		
NUMBER IN TWO INCH CIRCLE	= 0		
NUMBER IN THREE INCH CIRCLE	= 0		



PATTERN #	4	4	3
SHOTS (BEST OF)	5	4	3
MAXIMUM X	2.016	.822	.606
MINIMUM X	-1.152	-.648	-.344
MAXIMUM Y	.486	.454	.442
MINIMUM Y	-.813	-.845	-.694
CENTROID X	-.027	-.531	-.315
CENTROID Y	-.109	-.077	-.228
POA TO CENTROID in.	.112	.536	.389
MIN RADIUS	.344	.318	.561
MEAN RADIUS	1.061	.696	.653
MAX RADIUS	2.020	.846	.741
HORIZONTAL SPREAD	3.168	1.470	.950
VERTICAL SPREAD	1.299	1.299	1.136
EXTREME SPREAD	3.227	1.512	1.282
NUMBER IN ONE INCH CIRCLE	= 1		
NUMBER IN TWO INCH CIRCLE	= 3		
NUMBER IN THREE INCH CIRCLE	= 4		

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CENTERFIRE PATTERNS # 5

POA

1in circle +

2in circle

3in circle

CENTROID *

OF SHOTS- 5

IN CIR

1in = 1

2in = 2

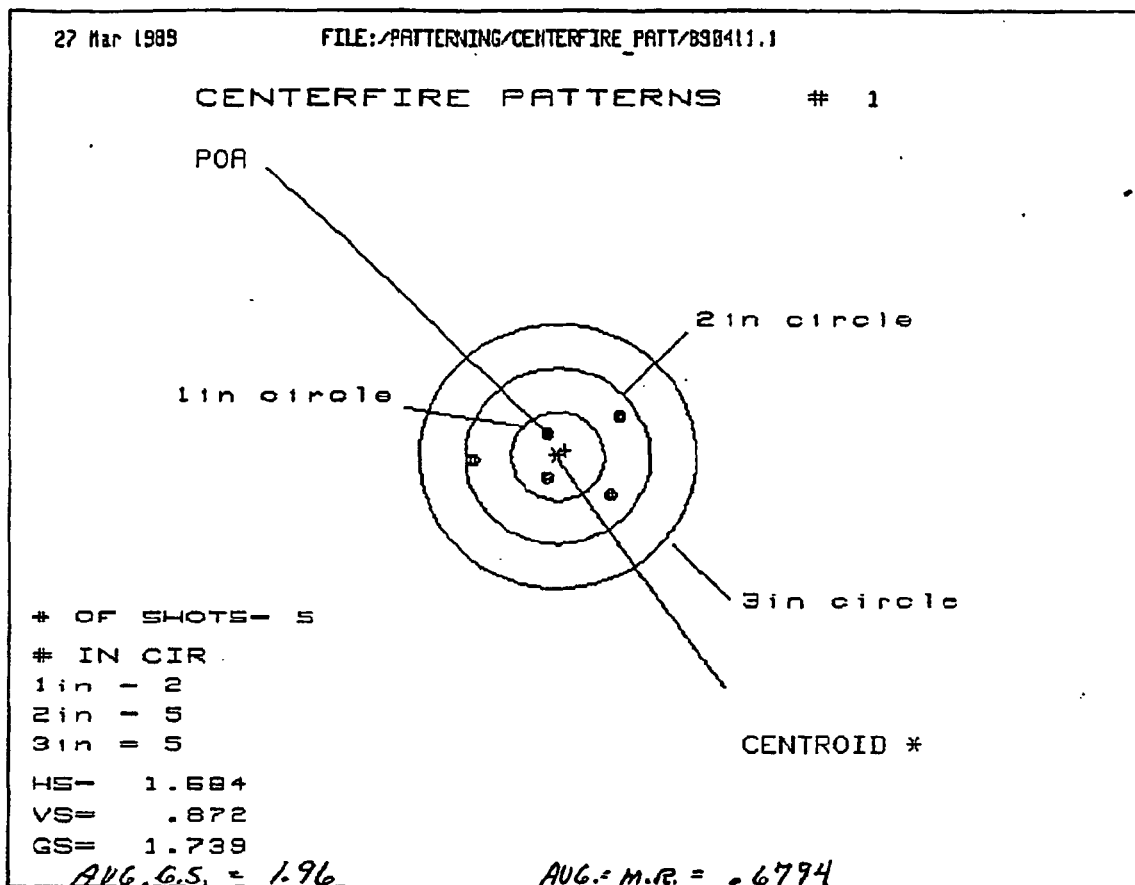
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HS= 2.917

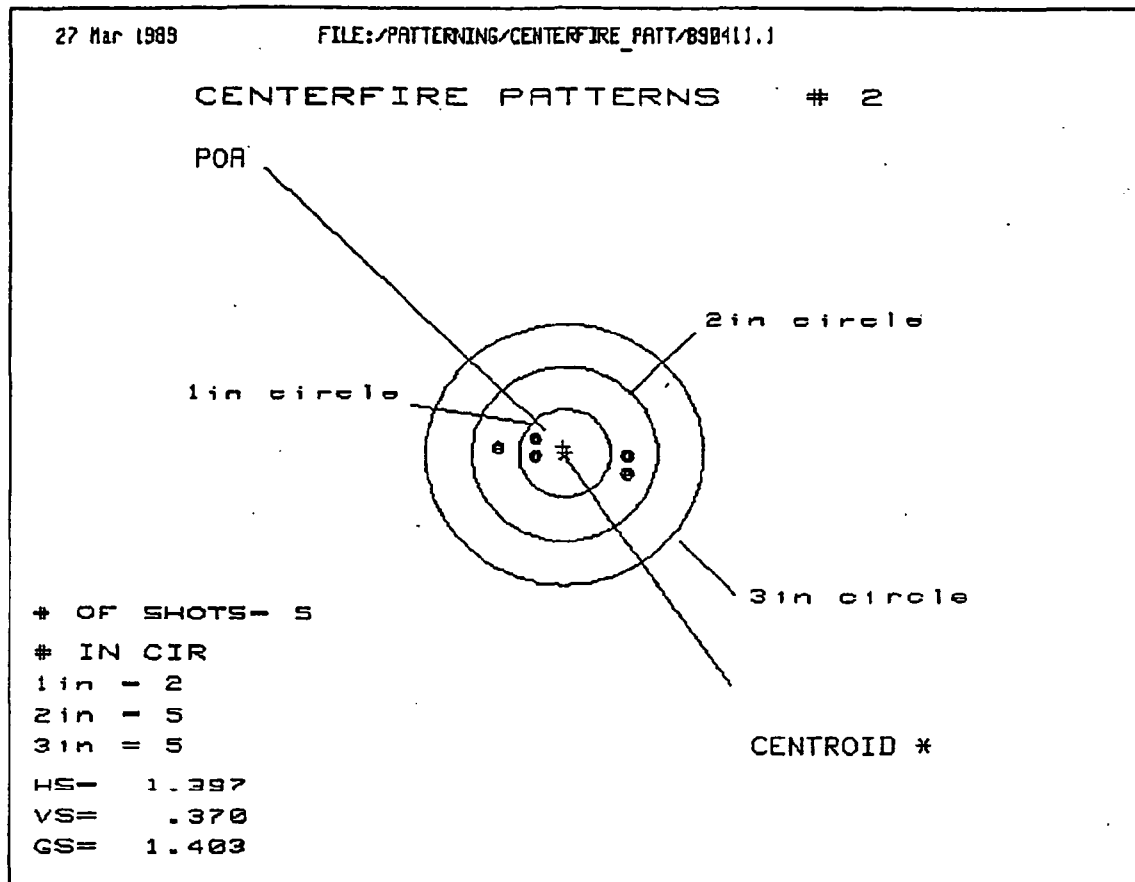
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GS= 3.006

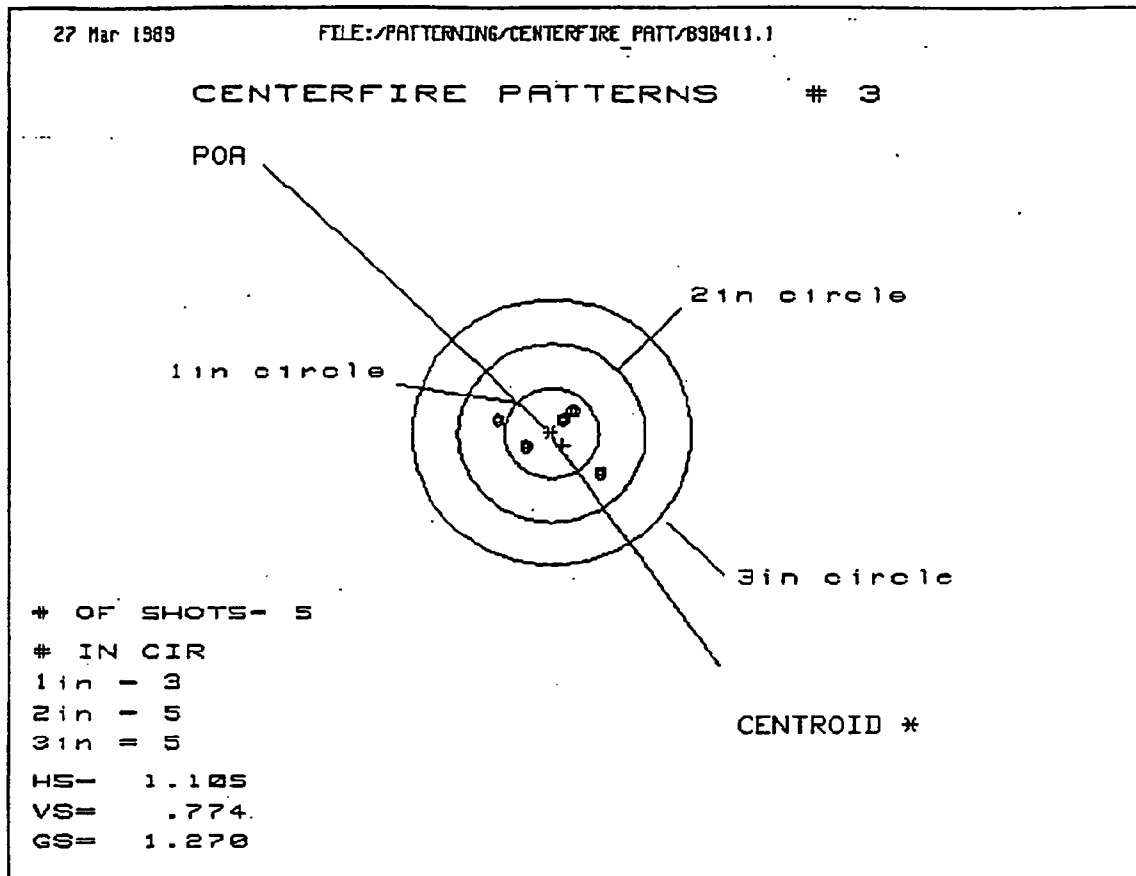
PATTERN #	5	4	3
SHOTS (BEST OF)	5	4	3
MAXIMUM X	1.560	1.514	.926
MINIMUM X	-1.357	-1.403	-.898
MAXIMUM Y	1.898	.569	.585
MINIMUM Y	-.870	-.395	-.379
CENTROID X	1.468	1.514	1.009
CENTROID Y	-.771	-1.246	-1.262
POA TO CENTROID in.	1.658	1.960	1.616
MIN RADIUS	.496	.477	.586
MEAN RADIUS	1.294	1.057	.836
MAX RADIUS	1.907	1.515	.975
HORIZONTAL SPREAD	2.917	2.917	1.824
VERTICAL SPREAD	2.768	.964	.964
EXTREME SPREAD	3.006	2.951	1.832
NUMBER IN ONE INCH CIRCLE =		1	
NUMBER IN TWO INCH CIRCLE =		2	
NUMBER IN THREE INCH CIRCLE =		2	



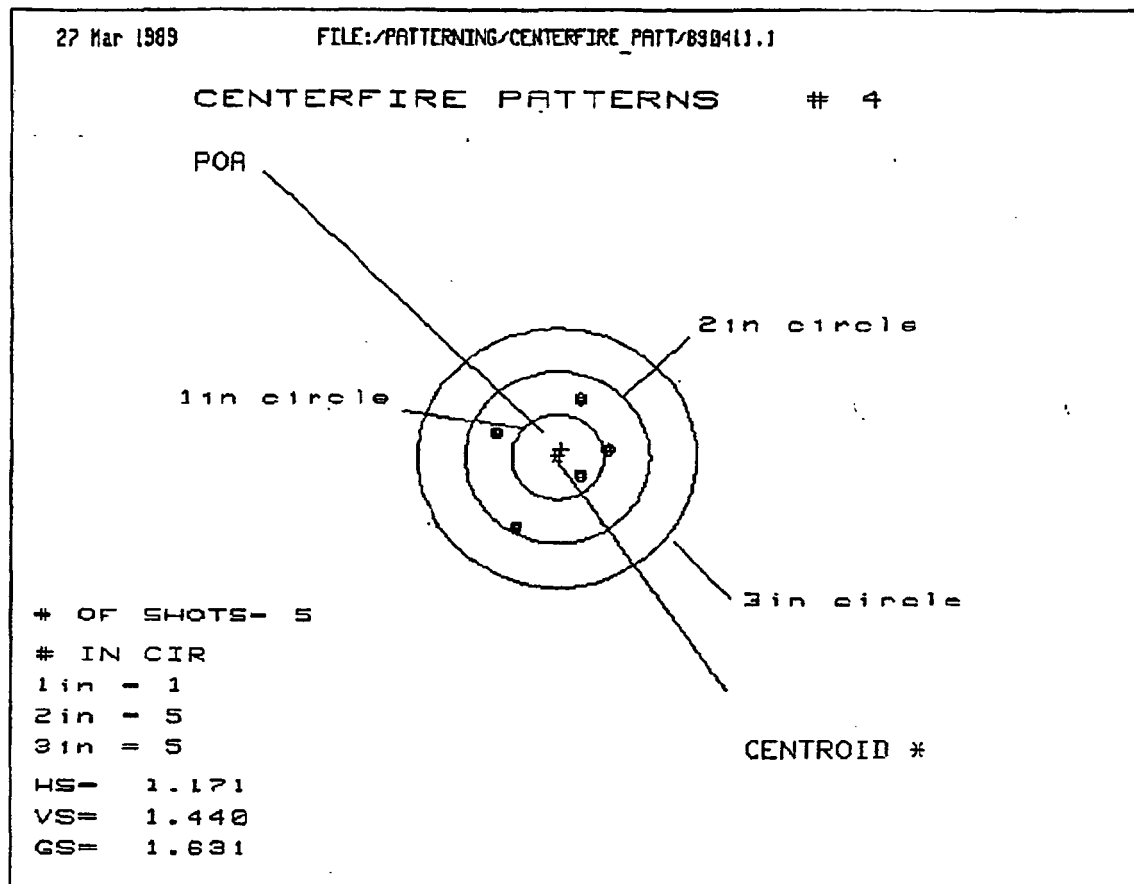
PATTERN #	1				.368 WIN. SNIPER VARIANT.
SHOTS (BEST OF)	5	4	3		<u>Ammo:</u>
MAXIMUM X	.721	.481	.458		MATCH. 168GR. BT. H.P.
MINIMUM X	-.963	-.406	-.246		R 308W?
MAXIMUM Y	.429	.427	.358		LOT. "L"
MINIMUM Y	-.443	-.445	-.302		
CENTROID X	-.076	.164	.004		
CENTROID Y	-.066	-.065	-.207		<u>SCOPE.</u>
POR TO CENTROID in.	.101	.176	.207		LYMAN. ALL AMERICAN
MIN RADIUS	.237	.422	.219		20X.
MEAN RADIUS	.602	.515	.401		
MAX RADIUS	.963	.643	.549		
HORIZONTAL SPREAD	1.684	.887	.704		BENCH REST. 200 YDS.
VERTICAL SPREAD	.872	.872	.660		
EXTREME SPREAD	1.739	1.058	.965		
NUMBER IN ONE INCH CIRCLE	=	2			
NUMBER IN TWO INCH CIRCLE	=	5			
NUMBER IN THREE INCH CIRCLE	=	5			



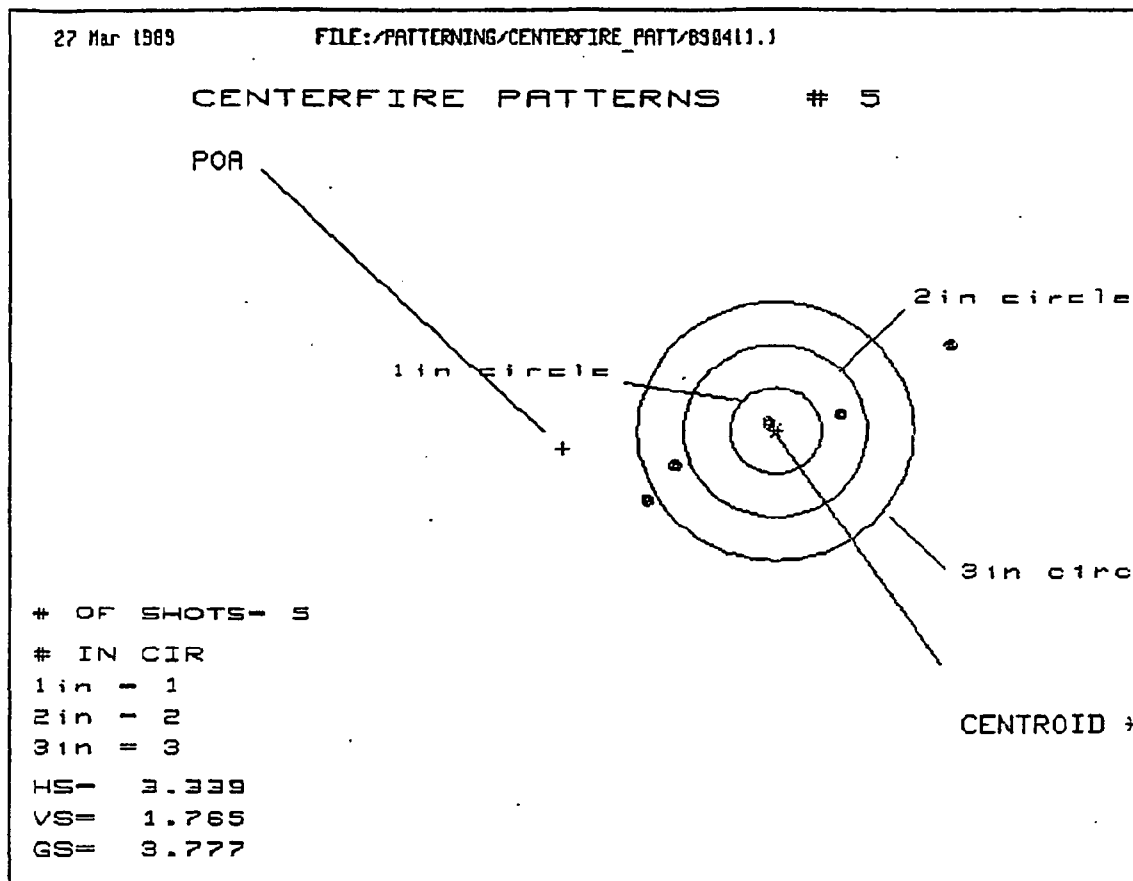
PATTERN #	2	4	3
SHOTS (BEST OF)	5	4	3
MAXIMUM X	.701	.527	.665
MINIMUM X	-.696	-.540	-.365
MAXIMUM Y	.147	.171	.168
MINIMUM Y	-.223	-.199	-.202
CENTROID X	.020	.194	.018
CENTROID Y	-.071	-.095	-.092
POA TO CENTROID in.	.073	.216	.094
MIN RADIUS	.336	.506	.345
MEAN RADIUS	.562	.526	.469
MAX RADIUS	.702	.542	.695
HORIZONTAL SPREAD	1.397	1.068	1.030
VERTICAL SPREAD	.370	.370	.370
EXTREME SPREAD	1.403	1.069	1.056
NUMBER IN ONE INCH CIRCLE =	2		
NUMBER IN TWO INCH CIRCLE =	5		
NUMBER IN THREE INCH CIRCLE =	5		



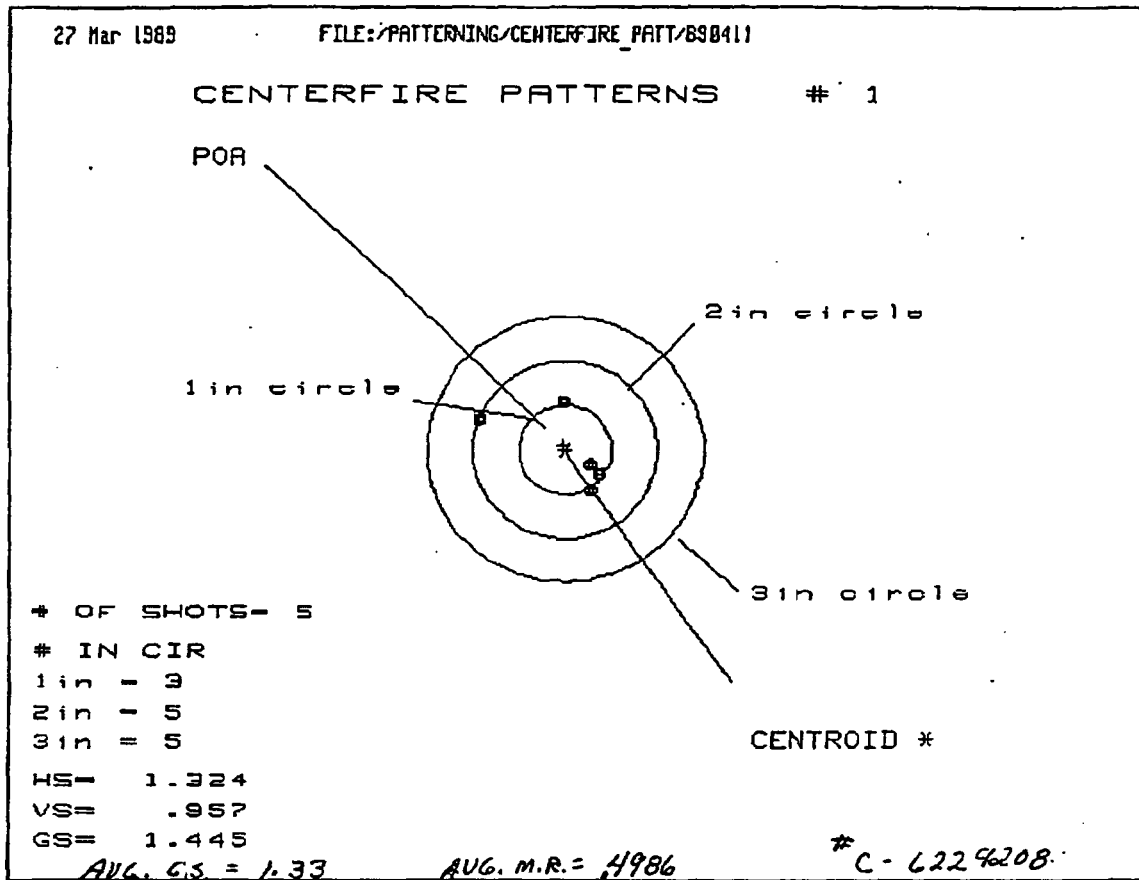
PATTERN #	3	4	3
SHOTS (BEST OF)	5	4	3
MAXIMUM X	.565	.319	.186
MINIMUM X	-.548	-.398	-.289
MAXIMUM Y	.305	.188	.201
MINIMUM Y	-.469	-.275	-.262
CENTROID X	-.123	-.265	-.132
CENTROID Y	.141	.258	.245
POA TO CENTROID in.	.187	.370	.279
MIN RADIUS	.191	.241	.120
MEAN RADIUS	.435	.332	.261
MAX RADIUS	.735	.400	.390
HORIZONTAL SPREAD	1.105	.717	.475
VERTICAL SPREAD	.774	.463	.463
EXTREME SPREAD	1.270	.732	.663
NUMBER IN ONE INCH CIRCLE =		3	
NUMBER IN TWO INCH CIRCLE =		5	
NUMBER IN THREE INCH CIRCLE =		5	



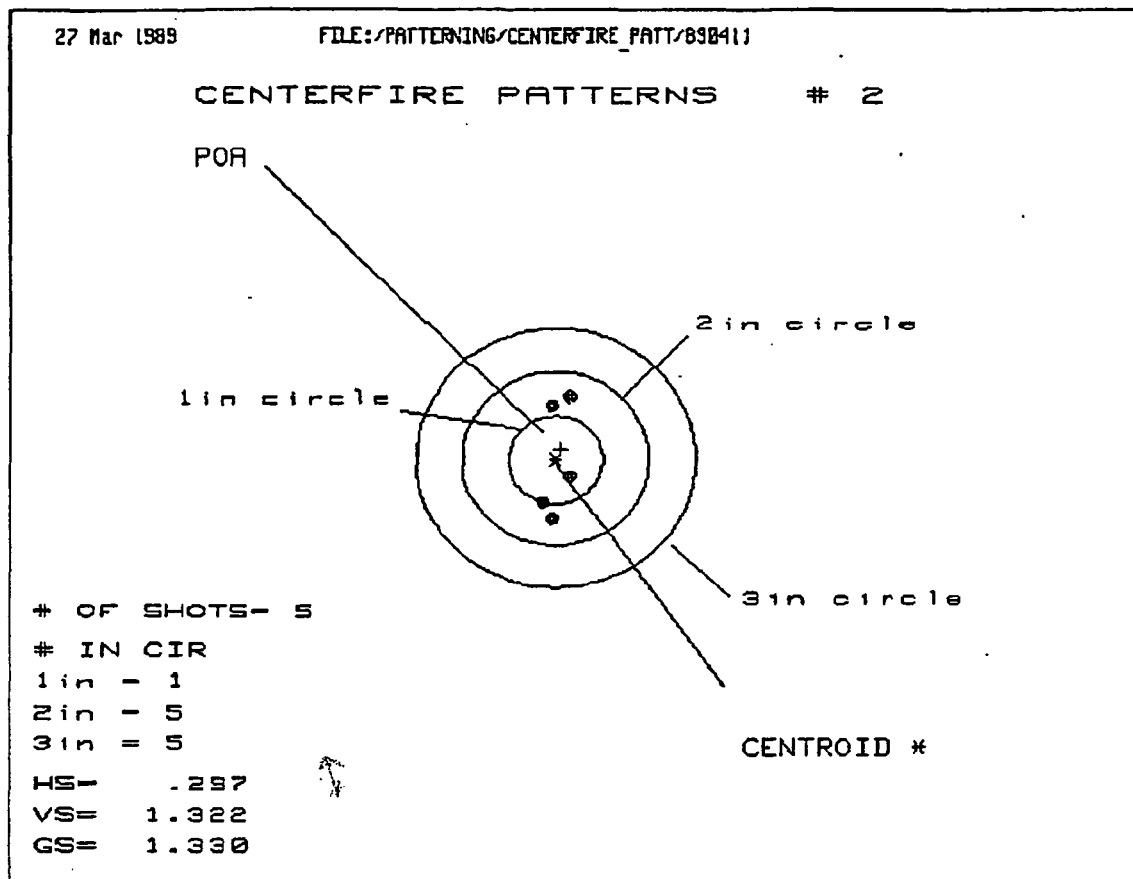
PATTERN #	:	4		
SHOTS (BEST OF)	:	5	4	3
MAXIMUM X	:	.555	.433	.486
MINIMUM X	:	-.616	-.738	-.685
MAXIMUM Y	:	.667	.473	.214
MINIMUM Y	:	-.773	-.379	-.221
CENTROID X	:	-.047	.074	.022
CENTROID Y	:	-.087	.106	-.051
POA TO CENTROID in.	:	.099	.130	.056
MIN RADIUS	:	.327	.406	.298
MEAN RADIUS	:	.637	.526	.500
MAX RADIUS	:	.914	.740	.718
HORIZONTAL SPREAD	:	1.171	1.171	1.171
VERTICAL SPREAD	:	1.440	.852	.435
EXTREME SPREAD	:	1.631	1.189	1.189
NUMBER IN ONE INCH CIRCLE	=		1	
NUMBER IN TWO INCH CIRCLE	=		5	
NUMBER IN THREE INCH CIRCLE	=		5	



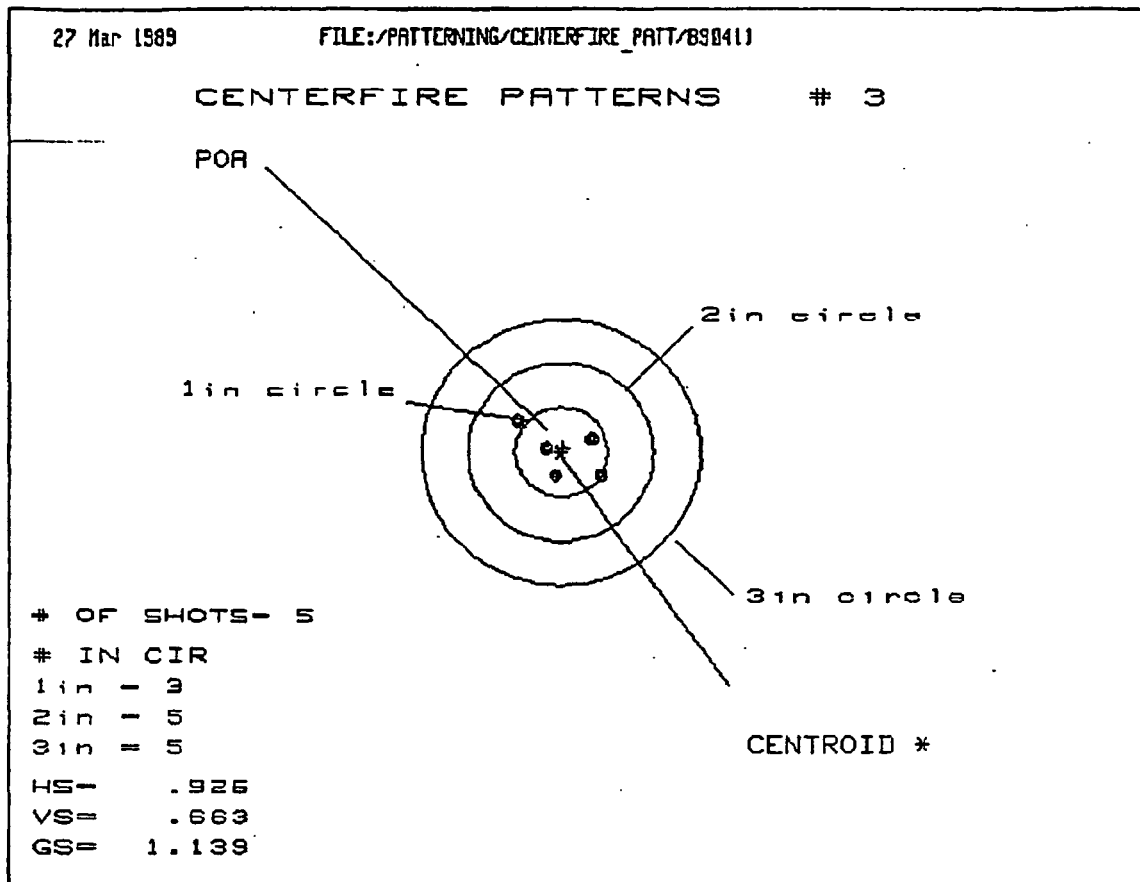
PATTERN #	:	5	BBL. REMOVED - REMOUNTED.	
SHOTS (BEST OF)	:	5	4	3
MAXIMUM X	:	1.985	1.198	.879
MINIMUM X	:	-1.434	-.958	-.928
MAXIMUM Y	:	.973	.396	.213
MINIMUM Y	:	-.792	-.549	-.346
CENTROID X	:	2.293	1.817	2.136
CENTROID Y	:	.202	-.041	.142
POA TO CENTROID in.	:	2.302	1.817	2.141
MIN RADIUS	:	.130	.485	.141
MEAN RADIUS	:	1.161	.870	.679
MAX RADIUS	:	2.139	1.262	.990
HORIZONTAL SPREAD	:	3.339	2.156	1.807
VERTICAL SPREAD	:	1.765	.945	.559
EXTREME SPREAD	:	3.777	2.354	1.891
NUMBER IN ONE INCH CIRCLE	=		1	
NUMBER IN TWO INCH CIRCLE	=		2	
NUMBER IN THREE INCH CIRCLE	=		3	



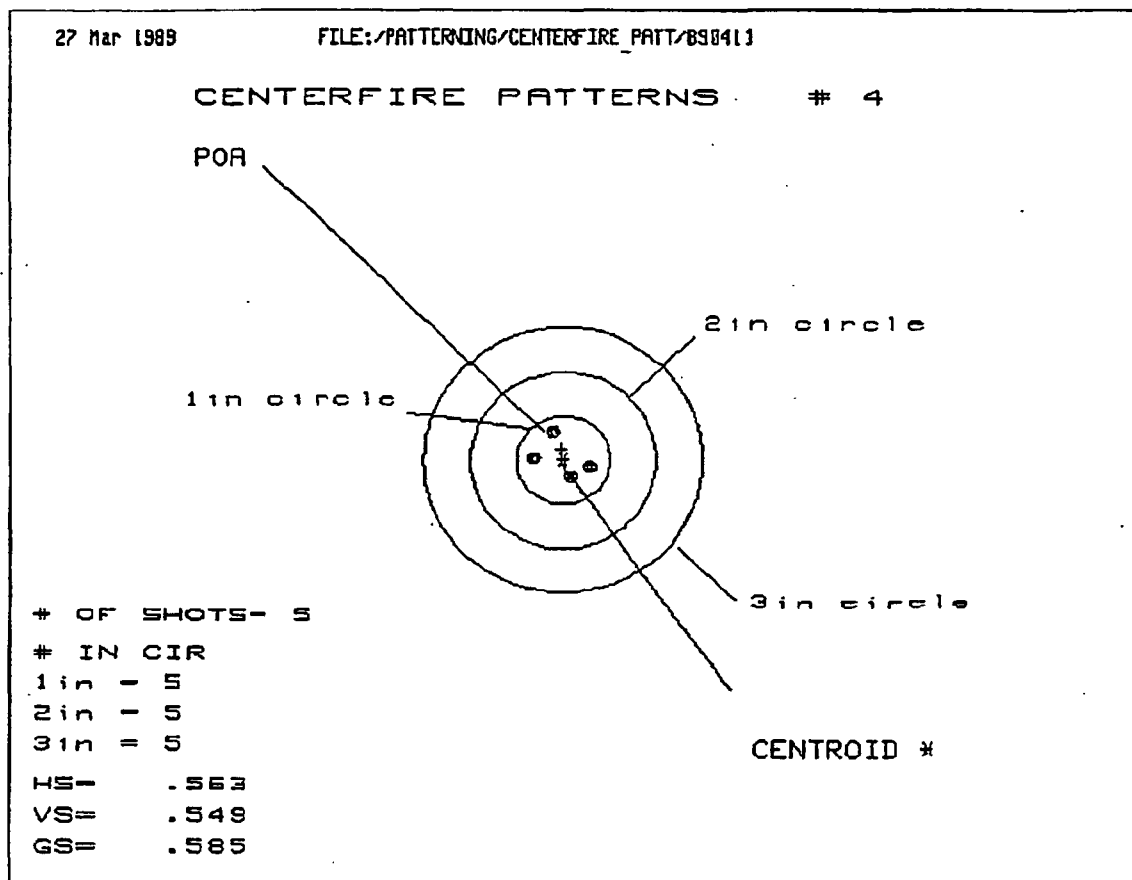
PATTERN #	:	1			.243 WIN. SPORTER VARIANT
SHOTS (BEST OF)	:	5	4	3	<u>Ammo:</u>
MAXIMUM X	:	.412	.184	.198	REM. 80GR. "POWER-LOK" HP.
MINIMUM X	:	-.912	-.267	-.253	R. 243W2
MAXIMUM Y	:	.498	.588	.454	LOT- KID MD2622.
MINIMUM Y	:	-.459	-.377	-.297	
CENTROID X	:	.028	.256	.242	<u>SCOPE:</u>
CENTROID Y	:	-.048	-.130	-.004	LYMAN ALL AMERICAN
POA TO CENTROID in.	:	.056	.287	.242	20x.
MIN RADIUS	:	.292	.052	.166	
MEAN RADIUS	:	.555	.330	.348	BENCH REST 100YDS.
MAX RADIUS	:	.968	.638	.528	
HORIZONTAL SPREAD	:	1.324	.451	.451	
VERTICAL SPREAD	:	.957	.957	.751	
EXTREME SPREAD	:	1.445	1.005	.875	
NUMBER IN ONE INCH CIRCLE	=		3		
NUMBER IN TWO INCH CIRCLE	=		5		
NUMBER IN THREE INCH CIRCLE	=		5		



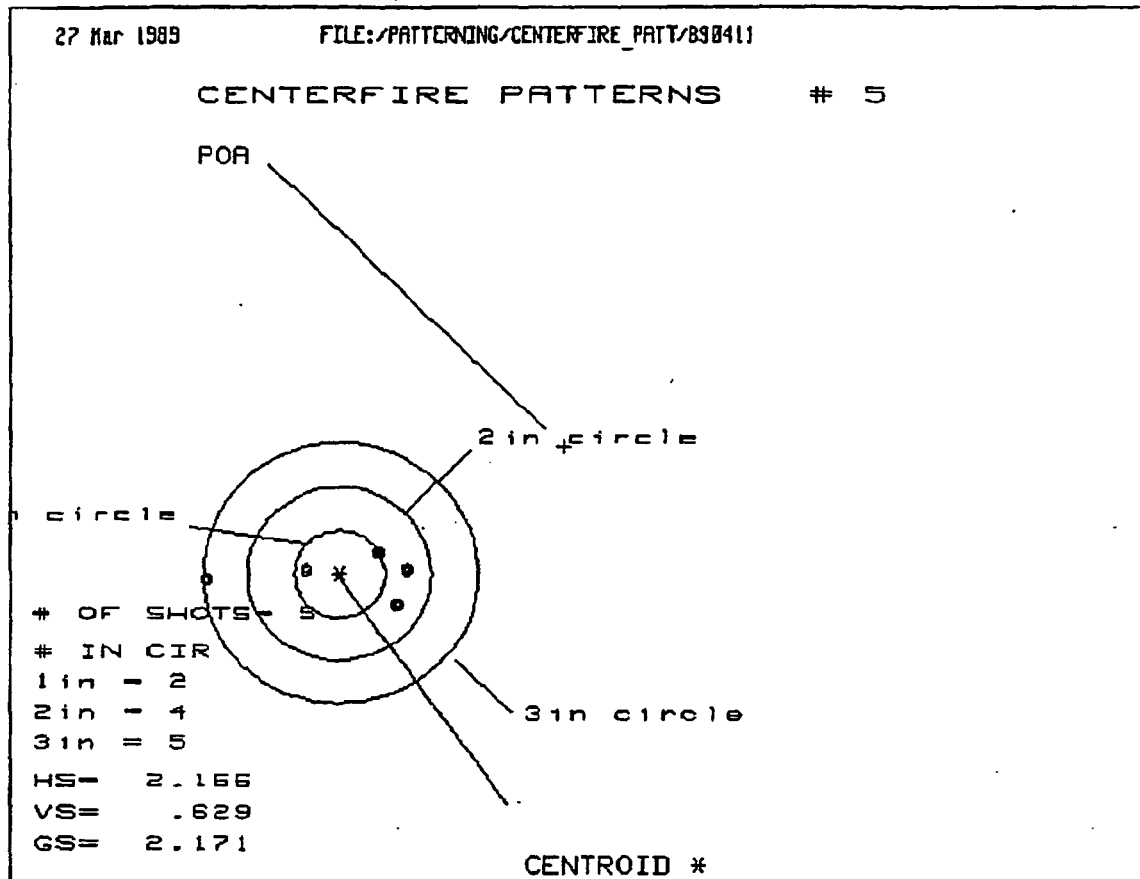
PATTERN #	2	4	3
SHOTS (BEST OF)	5	4	3
MAXIMUM X	.126	.136	.134
MINIMUM X	-.171	-.140	-.142
MAXIMUM Y	.682	.831	.248
MINIMUM Y	-.640	-.470	-.193
CENTROID X	-.053	-.084	-.082
CENTROID Y	-.118	-.280	-.565
POA TO CENTROID in.	.129	.300	.571
MIN RADIUS	.225	.139	.153
MEAN RADIUS	.550	.450	.209
MAX RADIUS	.693	.831	.282
HORIZONTAL SPREAD	.297	.276	.276
VERTICAL SPREAD	1.322	1.301	.441
EXTREME SPREAD	1.330	1.301	.459
NUMBER IN ONE INCH CIRCLE	=	1	
NUMBER IN TWO INCH CIRCLE	=	5	
NUMBER IN THREE INCH CIRCLE	=	5	



PATTERN #	3	4	3
SHOTS (BEST OF)	5	4	3
MAXIMUM X	.448	.328	.290
MINIMUM X	-.478	-.312	-.203
MAXIMUM Y	.379	.221	.158
MINIMUM Y	-.284	-.189	-.226
CENTROID X	-.028	.092	-.017
CENTROID Y	-.049	-.144	-.081
POR TO CENTROID in.	.056	.171	.083
MIN RADIUS	.196	.256	.214
MEAN RADIUS	.386	.315	.262
MAX RADIUS	.610	.379	.331
HORIZONTAL SPREAD	.926	.640	.493
VERTICAL SPREAD	.663	.410	.384
EXTREME SPREAD	1.139	.716	.539
NUMBER IN ONE INCH CIRCLE =		3	
NUMBER IN TWO INCH CIRCLE =		5	
NUMBER IN THREE INCH CIRCLE =		5	



PATTERN #	4	4	3
SHOTS (BEST OF)	5	4	3
MAXIMUM X	.238	.220	.105
MINIMUM X	-.325	-.343	-.099
MAXIMUM Y	.373	.096	.052
MINIMUM Y	-.176	-.083	-.051
CENTROID X	.021	.040	.154
CENTROID Y	-.127	-.220	-.252
POA TO CENTROID in.	.120	.223	.295
MIN RADIUS	.130	.036	.052
MEAN RADIUS	.260	.187	.089
MAX RADIUS	.380	.357	.117
HORIZONTAL SPREAD	.563	.563	.204
VERTICAL SPREAD	.549	.179	.103
EXTREME SPREAD	.585	.568	.211
NUMBER IN ONE INCH CIRCLE	= 5		
NUMBER IN TWO INCH CIRCLE	= 5		
NUMBER IN THREE INCH CIRCLE	= 5		



PATTERN #	5	4	3
SHOTS (BEST OF)	5	4	3
MAXIMUM X	.735	.377	.393
MINIMUM X	-1.431	-.683	-.557
MAXIMUM Y	.252	.239	.262
MINIMUM Y	-.377	-.390	-.367
CENTROID X	-2.429	-2.071	-2.197
CENTROID Y	-1.450	-1.437	-1.460
POA TO CENTROID in.	2.829	2.521	2.638
MIN RADIUS	.338	.242	.309
MEAN RADIUS	.742	.447	.471
MAX RADIUS	1.432	.687	.567
HORIZONTAL SPREAD	2.166	1.060	.950
VERTICAL SPREAD	.629	.629	.629
EXTREME SPREAD	2.171	1.060	1.060
NUMBER IN ONE INCH CIRCLE =		2	
NUMBER IN TWO INCH CIRCLE =		4	
NUMBER IN THREE INCH CIRCLE =		5	

BBL. REMOVED & REMOUNTED.
FOR POL. SHIFT.