

.223 Remington Ackley Improved

Test Specifications:

Firearm Used: Universal

Barrel Length: 24"

Twist: 1-10"

Components:

Case: Formed with Starline brass

Trim-to Length: 1.750"

Primer: WSR

Remarks:

The .223 Remington Ackley Improved - An interesting cartridge for the small game hunter. By Stan Trzoniec

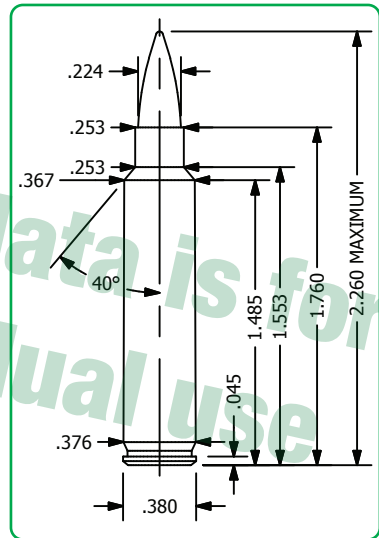
As a dedicated varmint hunter, I always have a soft spot for Ackley's Improved cartridges. While some are worth the effort, others are not, but with a recent purchase of a Contender barrel chambered for the .223 AI, the die was cast.

However, do you really need to improve the .223 Remington? First of all, there are those of us who love speed in our cartridges and will go to the ends to get it. Another good reason is that with the popularity of the .223 Remington, a lot of shooters I know have more than one rifle in that caliber and could be looking for a change and the .223 Remington AI might be the reason to do it. To make the transition easy, components are there for the taking. The .224" is one of the most used calibers around and aside from replacement barrels, bullets, powders, cases and primers are there with enough quantities of everything to make any .22 centerfire a lifetime of work.



The .40° shoulder on the AI case adds to the stability of the round, which then relates to less time at the case trimmer and at the end, you can expect to add roughly 2.0 to 2.5 extra grains of powder depending on the parent case and the burning rate of the propellant. Like all Ackley cartridges, case forming is easy. Place a .223 Remington into the Ackley chamber, fire the round and out comes your new improved cartridge ready for loading. Setting up the neck sizing die is easy, smoke the neck shoulder area with the soot from a candle or other marking method. Secure the sizing die, finish all the cases, clean them and prime. Charge the cases with powder and seat the bullet to the overall length from 2.150" for the lighter 40 grain bullets, about 2.260" for the 55 grain bullets.

Powders pretty much run the gamut from what you would use for the traditional .223 Remington and for the AI the most accurate in our testing was IMR 8208 XBR, Power Pro Varmint and Benchmark. Groups ran from an incredible .205" to .765" with Sierra's fine FMJBT bullet.

While the .223 Ackley Improved requires some work to get it just right for field duty, in the end it does offer extra velocity and good groups over the traditional .223 Remington for those long downrange shots.




223 REMINGTON ACKLEY IMPROVED

Bullet		Caliber	Weight	Type	C.O.A.L.				
	#1385	.224"	40gr.	HP	2.210"				
	#1440	.224"	40gr.	BlitzKing	2.280"				

Powder ▾	Velocity >	3300	3400	3500	3600	3700	3800	3900
RE 7		21.2	22.0	22.8	23.6	24.5	25.3	
H322		24.3	25.0	25.8	26.5	27.2	28.0	28.7
A 2015		24.5	25.3	26.0	26.6	27.2	27.7	
RE 10x		22.5	23.2	23.9	24.7	25.4	26.2	
N130		21.7	22.5	23.2	24.0	24.7		
Benchmark		24.9	25.7	26.5	27.2	28.0	28.7	
IMR 8208 XBR		24.9	25.6	26.3	27.1	27.8		
Exterminator		24.8	25.5	26.2	26.8	27.3	27.7	28.0
Power Pro Varmint		22.5	23.3	24.2	25.0	25.8	26.6	27.4
Energy Ft. Lbs		967	1027	1088	1151	1216	1282	1351





Special Load	Powder	Grains	Velocity fps	Energy Ft. lbs
Accuracy Load	Power Pro Varmint	27.4	3900	1351
Hunting Load	H322	28.7	3900	1351

223 REMINGTON ACKLEY IMPROVED

Bullet		Caliber	Weight	Type	C.O.A.L.			
	#1310	.224"	45gr.	SPT	2.260"			
Powder	Velocity	3200	3300	3400	3500	3600	3700	3800
RE 7		20.9	21.9	22.8	23.7	24.6		
H322		21.3	21.9	22.5	23.2	24.0	24.8	
A 2015		23.5	24.3	25.1	26.0	26.9		
RE 10x		22.7	23.4	24.3	25.1	26.0		
N130		21.3	22.2	23.1	23.9	24.7		
Benchmark		24.9	25.6	26.4	27.1	27.8		
H335			25.6	26.3	27.1	28.0	28.8	
IMR 8208 XBR			26.1	26.9	27.7	28.5	29.2	
TAC					27.9	29.1	30.0	30.7
Exterminator		23.7	24.7	25.7	26.5	27.2	27.7	
Power Pro Varmint					27.2	28.0	28.8	30.4
Win 748					27.9	28.6	29.4	30.3
AR Comp		24.2	25.1	26.0	26.9	27.8		
Energy Ft. Lbs		1023	1088	1155	1224	1295	1368	1443
Special Load	Powder	Grains		Velocity fps	Energy Ft. lbs			
Accuracy Load	IMR 8208 XBR	29.2		3700	1368			
Hunting Load	TAC	30.7		3800	1443			

Do not edit or redistribute.






7.23 REMINGTON ACKLEY IMPROVED

Bullet		Caliber	Weight	Type	C.O.A.L.			
	#1320	.224"	50gr.	SMP	2.230"			
	#1330	.224"	50gr.	SPT	2.260"			
	#1340	.224"	50gr.	Blitz	2.260"			
	#1450	.224"	50gr.	BlitzKing	2.275"			

Powder	Velocity	3000	3100	3200	3300	3400	3500	3600
H322				24.0	25.0	26.0	27.0	
A 2015			23.5	24.4	25.3	26.1		
RE 10x				22.2	23.8	24.9	25.7	
N130		20.3	21.2	22.1	23.0			
Benchmark				24.7	25.7	26.5	27.3	
H335				25.2	26.2	27.0	27.8	
IMR 8208 XBR				25.2	26.3	27.2	27.9	
TAC					26.0	26.9	27.9	28.9
A 2230				24.3	25.6	26.6	27.5	
Exterminator				23.9	25.0	25.9	26.7	
Power Pro Varmint					26.0	27.1	27.9	28.7
Win 748			25.6	26.5	27.3	28.0	28.7	
AR Comp				24.6	25.6	26.4	27.3	
Energy Ft. Lbs		999	1067	1137	1209	1283	1360	1439

Special Load	Powder	Grains	Velocity fps	Energy Ft. lbs
Accuracy Load	RE 10x	25.7	3500	1360
Hunting Load	TAC	28.9	3600	1439

223 REMINGTON ACKLEY IMPROVED




	Bullet	Caliber	Weight	Type	C.O.A.L.
	#1410	.224"	52gr.	HPBT Match	2.260"
	#1400	.224"	53gr.	HP Match	2.260"
	#1345	.224"	55gr.	Blitz	2.270"
	#1350	.224"	55gr.	SMP	2.250"
	#1355	.224"	55gr.	FMJBT	2.245"
	#1360	.224"	55gr.	SPT	2.265"
	#1365	.224"	55gr.	SBT	2.260"
	#1390	.224"	55gr.	HPBT	2.225"
	#1455	.224"	55gr.	BlitzKing	2.280"*

*55gr Blitzking requires a 1x12" or faster twist

Powder	Velocity	2900	3000	3100	3200	3300	3400	3500
RE 10x		20.8	21.7	22.5	23.4	24.2	25.0	
Benchmark		22.5	23.6	24.6	25.5	26.4	27.2	
IMR 8208 XBR		23.5	24.5	25.3	26.2	26.9	27.6	
TAC		23.7	24.4	25.3	26.3	27.3	28.5	
H4895		22.9	24.0	24.9	25.7	26.5		
IMR 4895		24.3	25.1	25.9	26.8	27.6		
IMR 4166 End.		24.0	24.9	25.8	26.6	27.4		
Power Pro Varmint		24.1	24.8	25.5	26.3	27.1	27.8	
RE 15		24.8	25.6	26.5	27.3	28.3		
Varget		25.1	25.9	26.7	27.5	28.2	28.9	
Win 748		24.8	25.6	26.3	27.0	27.7		
CFE 223			26.4	27.2	27.9	28.6	29.2	29.7
Power Pro 2000 MR				27.7	28.7	29.7	30.5	31.3
AR Comp		22.5	23.3	24.1	25.0	25.8	26.8	
Energy Ft. Lbs		971	1039	1109	1182	1257	1335	1414

Special Load	Powder	Grains	Velocity fps	Energy Ft. lbs
Accuracy Load	RE 10x	25.0	3400	1335
Hunting Load	CFE 223	29.7	3500	1414

223 REMINGTON ACKLEY IMPROVED




Bullet	Caliber	Weight	Type	C.O.A.L.
	#1375	.224"	60gr. HP	2.280"
	#9160	.224"	60gr. TMK	2.320"*
	#1370	.224"	63gr. SMP	2.265"

*60gr TMK requires a 1x10" or faster twist





Powder	Velocity	2700	2800	2900	3000	3100	3200	3300
Benchmark			22.0	23.0	24.0	24.9	25.8	
IMR 8208 XBR				23.6	24.5	25.4	26.3	
TAC				23.9	24.7	25.7	26.6	
H4895			22.7	23.5	24.3	25.1	25.9	
IMR 4895	23.0		24.1	25.0	25.8	26.5		
IMR 4166 End.			23.2	24.0	24.9	25.9		
Power Pro Varmint				23.7	24.5	25.4	26.4	
RE 15	22.9		23.8	24.7	25.6	26.5	27.4	
Varget			24.1	24.9	25.7	26.6	27.6	
Win 748				24.6	25.5	26.6	27.7	
CFE 223	23.0		24.2	25.3	26.3	27.3	28.1	28.8
AR Comp				22.6	23.6	24.6	25.7	
Energy Ft. Lbs		971	1044	1120	1199	1280	1364	1451

Special Load	Powder	Grains	Velocity fps	Energy Ft. lbs
Accuracy Load	IMR 8208 XBR	26.3	3200	1364
Hunting Load	CFE 223	28.8	3300	1451


223 REMINGTON ACKLEY IMPROVED

	Bullet	Caliber	Weight	Type	C.O.A.L.			
	#1395	.224"	65gr.	SBT	2.240"*			
	#1380	.224"	69gr.	HPBT Match	2.280"*			
	#7169	.224"	69gr.	TMK Match	2.320"*			
*requires a 1x10" or faster twist								
Powder	Velocity	2500	2600	2700	2800	2900	3000	3100
Benchmark		19.9	20.8	21.7	22.6	23.5	24.5	
IMR 8208 XBR		20.1	21.1	22.0	23.0	23.9	24.8	
TAC			21.6	22.3	23.2	24.1	25.1	26.2
H4895		20.1	21.1	21.9	22.8	23.7	24.5	
IMR 4895		21.0	22.0	22.9	23.9	24.8	25.8	26.7
A 4064				22.7	23.8	24.8	25.8	
Power Pro Varmint			21.0	22.3	23.5	24.5	25.4	
A 2520		21.3	22.2	23.1	24.0	24.9	25.7	
RE 15					23.5	24.4	25.4	26.4
Varget				22.8	23.8	24.8	25.7	
CFE 223				23.3	24.5	25.6	26.6	27.4
AR Comp					21.8	23.1	24.3	
Energy Ft. Lbs		902	975	1052	1131	1214	1299	1387
Special Load	Powder	Grains	Velocity fps	Energy Ft. lbs				
Accuracy Load	Varget	25.7	3000	1299				
Hunting Load	TAC	26.2	3100	1387				
<i>Sierra does not recommend MatchKing bullets for hunting applications.</i>								


223 REMINGTON ACKLEY IMPROVED

Bullet	Caliber	Weight	Type	C.O.A.L.				
	#9377	.224"	77gr. HPBT Match	2.265"*				
	#9377G	.224"	77gr. HPBT Match Cannelured	2.265"*				
	#7177	.224"	77gr. TMK Match	2.400"*				
	#9390	.224"	80gr. HPBT Match	2.460"*				
*requires a 1x8" or faster twist								
Powder	Velocity	2450	2550	2650	2750	2850	2950	3000
Benchmark			20.6	21.3	22.4	23.9		
IMR 8208 XBR			21.4	22.3	23.2	24.3		
TAC				22.9	24.2	25.2		
H4895			20.8	21.7	22.7	23.8		
IMR 4895	21.1		22.0	23.0	24.0			
A 4064			21.8	23.2	24.2	25.0		
Power Pro Varmint				22.5	23.6	24.5	25.4	
A 2520				23.4	24.5	25.4	26.3	
RE 15				22.8	23.9	24.9		
Varget			22.2	23.2	24.3	25.3		
CFE 223				23.8	24.9	25.9	26.8	27.2
Power Pro 2000 MR				24.8	25.7	26.7	27.7	28.2
N540	21.5		22.3	23.2	24.1	25.0		
AR Comp			20.1	21.2	22.4			
Energy Ft. Lbs		1026	1112	1200	1293	1389	1488	1539
Special Load	Powder	Grains	Velocity fps	Energy Ft. lbs				
Accuracy Load	AR Comp	22.4	2750	1293				
<i>Sierra does not recommend MatchKing bullets for hunting applications.</i>								

223 REMINGTON ACKLEY IMPROVED

		Bullet Caliber Weight Type							C.O.A.L.
		#9290	.224"	90gr.	HPBT Match				2.460"*
		*requires a 1x6.5" or faster twist **requires a 1x7" twist @2650fps and faster							
Powder v	Velocity >	2200	2300	2400	2500	2600	2700	2800	
TAC				20.6	21.8	22.9			
H4895		18.7	19.7	20.7	21.8				
IMR 4895		22.0	22.5	23.1	23.6	24.1			
A 4064				21.5	22.7	23.8			
Power Pro Varmint		19.3	20.4	21.4	22.5	23.6			
A 2520				22.0	23.1	24.2	25.1		
RE 15				21.8	22.7	23.8	24.8		
Varget				21.7	22.9	24.1			
CFE 223				22.5	23.5	24.5	25.5		
Power Pro 2000 MR					23.7	24.5	25.5	26.7	
Big Game					25.0	26.1	27.2	28.2	
N540			20.4	21.4	22.4	23.4			
RE 17					24.0	24.9	26.0	27.0	
AR Comp			19.3	20.3	21.5	22.7			
Energy Ft. Lbs		967	1057	1151	1249	1351	1457	1566	
Special Load	Powder	Grains	Velocity fps			Energy Ft. lbs			
Accuracy Load	A 4064	23.8	2600			1351			
<i>Sierra does not recommend MatchKing bullets for hunting applications.</i>									

223 REMINGTON ACKLEY IMPROVED

Bullet		Caliber	Weight	Type	C.O.A.L.			
	#1396	.224"	95gr.	HPBT Match	2.470"*			
*requires a 1x6.5" or faster twist								
Powder	Velocity	2150	2250	2350	2450	2550	2650	2700
TAC			19.5	20.8	22.1			
H4895			19.2	20.5	21.8			
A 4064			20.6	21.7	22.7	23.8		
Power Pro Varmint			20.3	21.3	22.3	23.1		
A 2520				21.6	22.8	24.0		
RE 15				21.7	22.8	23.8		
Varget				21.6	23.0	24.0		
CFE 223			21.1	22.0	23.0	24.1		
Power Pro 2000 MR					24.2	25.2	26.4	27.0
Big Game				24.7	26.0	27.1	27.9	28.3
N540			20.7	21.7	22.8	23.8		
RE 17				23.7	24.6	25.6	26.7	
AR Comp		18.2	19.1	20.2	21.3			
Energy Ft. Lbs		975	1068	1165	1266	1371	1481	1538
Special Load	Powder	Grains	Velocity fps	Energy Ft. lbs				
Accuracy Load	AR Comp	21.3	2450	1266				
<i>Sierra does not recommend MatchKing bullets for hunting applications.</i>								