

# 30-06 SPRINGFIELD ACKLEY IMPROVED

## Test Specifications:

Firearm Used: Savage 116

Barrel Length: 26"

Twist: 1 x 10"

## Components:

Case: Federal

Trim-to Length: 2.480"

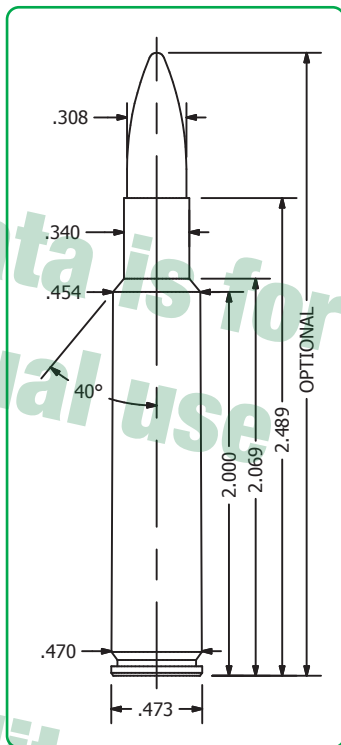
Primer: Remington 9 1/2

## Remarks:




Since the end of the Second World War, the 30-06 Improved has been called the most cussed and discussed cartridge ever made. Following the war, budding gunsmiths found a hungry market of new shooters in returning servicemen. Coupled with a huge influx of surplus rifles, this combination created what might be called the golden age of wildcatting. One of the simplest (and most popular) conversions involved the rechambering of a standard 30-06 Springfield to an Improved format. P.O. Ackley was one of the leading proponents of this cartridge, having done a great many of them. His version (the one we used) uses the same 40 degree shoulder angle common to most of the conversions that bear his name. Body taper (relatively minor on the standard 30-06 case) was changed very little, leaving the difference in the shoulder as the primary area of capacity increase. This, frankly, doesn't amount to much. Like several other Improved configuration cartridges, the reduction in taper may serve to mask pressure signs, which can lead to these guns being drastically overloaded. This is actually where most of the perceived improvement in performance originated.

Opinions varied on the effectiveness of such a conversion, depending on who was promoting it. With the scarcity of chronographs at that time, many exaggerated claims were made about the Improved version's performance. This set off some fairly pointed debates about the merits of each in print, on the ranges and around campfires everywhere.

Today, chronographs are about as common as cleaning rods. While this may take some of the fun out of the old debates, it sure answers all the questions about how much more velocity the Improved has over the original case. With only about a two percent increase in useable capacity over the original design, there's not much to be gained here. Velocity improvement at the same pressure levels amounts to only 40-50 fps in most instances. This isn't enough to be noticed in the field, making this a questionable conversion at best.






**30-06 Springfield Ackley Improved**

	Bullet	Caliber	Weight	Type	C.O.A.L.			
	#2100	.308"	110gr.	RN	3.000"			
	#2105	.308"	110gr.	FMJ	3.000"			
	#2110	.308"	110gr.	HP	3.100"			
Powder	Velocity	3100	3200	3300	3400	3450	3500	3550
TAC			50.1	52.1	54.1	55.1	56.1	57.1
A 2495		49.5	52.0	54.5	57.0			
IMR 4895		52.2	53.7	55.2	56.7			
Varget		52.6	53.9	55.2	56.5	57.2	57.8	
IMR 4064		52.8	54.2	55.6	57.0	57.7	58.4	
RE 15		52.1	53.7	55.3	56.9	57.7	58.5	
760		56.5	58.5	60.5	62.5	63.5	64.5	
Viht N150		53.3	55.2	57.1	59.0	60.0	60.9	
<b>Energy Ft. lbs</b>		<b>2347</b>	<b>2501</b>	<b>2659</b>	<b>2823</b>	<b>2907</b>	<b>2992</b>	<b>3078</b>
Special Load	Powder	Grains	Velocity fps	Energy Ft. lb				
<b>Accuracy Load</b>	RE 15	56.9	3400	2823				
<b>Hunting Load</b>	RE 15	58.5	3500	2992				

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# 30-06 SPRINGFIELD ACKLEY IMPROVED

Bullet	Caliber	Weight	Type	C.O.A.L.
	#2120	.308"	125gr. SPT	3.150"
	#2121	.308"	125gr. HP Match	3.330"
	#7725	.308"	125gr. TMK Match	3.330"



  

Powder ▾	Velocity >	3000	3100	3200	3300	3350	3400
BL C(2)		51.3	53.7	56.1	58.5	59.7	
TAC		50.6	52.2	53.8	55.4	56.2	57.0
A 2495		50.4	52.6	54.8	57.0		
IMR 4895		51.6	53.2	54.8	56.4	57.2	
Varget		51.2	53.0	54.8	56.6	57.5	58.4
IMR 4064		51.3	52.9	54.5	56.1	56.9	57.7
BigGame		53.5	55.6	57.7	59.8	60.9	
RE 15		51.2	52.9	54.6	56.3	57.2	58.0
760		56.8	58.6	60.4	62.2	63.1	64.0
Viht N150		52.4	54.5	56.6	58.7	59.8	60.8
<b>Energy Ft. lbs</b>		<b>2498</b>	<b>2667</b>	<b>2842</b>	<b>3022</b>	<b>3114</b>	<b>3208</b>

Special Load	Powder	Grains	Velocity fps	Energy Ft. lb
<b>Accuracy Load</b>	RE 15	57.2	3350	3114
<b>Hunting Load</b>	RE 15	58.0	3400	3208

**30-06 SPRINGFIELD ACKLEY IMPROVED**

	Bullet	Caliber	Weight	Type	C.O.A.L.
	#7350	.308"	135gr.	SPT SSP	3.200"
	#2124	.308"	135gr.	HP	3.200"








  

Powder ∨	Velocity >	2800	2900	3000	3100	3200	3250	3300	3350
A 2495		44.6	47.4	50.2	53.0	55.8			
IMR 4895		48.3	50.0	51.7	53.4	55.1	56.0		
Varget		48.5	50.3	52.1	53.9	55.7	56.6	57.5	
IMR 4064		49.1	50.7	52.3	53.9	55.5	56.3	57.1	57.9
BigGame		48.7	51.3	53.9	56.5	59.1	60.4		
RE 15		48.7	50.5	52.3	54.1	55.9	56.8	57.7	
760		52.2	54.3	56.4	58.5	60.6	61.7	62.7	
Viht N150		48.6	50.5	52.4	54.3	56.2	57.2	58.1	59.1
IMR 4350		55.9	57.7	59.5	61.3	63.1			
RE 19		59.0	60.7	62.4	64.1	65.8	66.7		
<b>Energy Ft. lbs</b>		<b>2350</b>	<b>2521</b>	<b>2697</b>	<b>2880</b>	<b>3069</b>	<b>3166</b>	<b>3264</b>	<b>3363</b>

Special Load	Powder	Grains	Velocity fps	Energy Ft. lb
<b>Accuracy Load</b>	IMR 4064	55.5	3200	3069
<b>Hunting Load</b>	IMR 4064	57.1	3300	3264

# 30-06 SPRINGFIELD ACKLEY IMPROVED

	Bullet	Caliber	Weight	Type	C.O.A.L.
	#2115	.308"	150gr.	FMJBT	3.250"
	#2125	.308"	150gr.	SBT	3.200"
	#2130	.308"	150gr.	SPT	3.200"
	#2135	.308"	150gr.	RN	3.000"
	#2190	.308"	150gr.	HPBT MatchKing	3.225"
	#2155	.308"	155gr.	HPBT Palma MatchKing	3.225"
	#7755	.308"	155gr.	TMK	3.225"




  

Powder	Velocity	2700	2800	2900	3000	3050	3100
A 2495		46.5	49.0	51.5	54.0		
IMR 4895		46.0	48.0	50.0	52.0	53.0	54.0
Varget		46.2	48.6	51.0	53.4	54.6	
IMR 4064		46.6	48.6	50.6	52.6	53.6	54.6
RE 15		48.0	49.8	51.6	53.4	54.3	55.2
760		53.0	55.0	57.0	59.0	60.0	61.0
Viht N150		44.8	47.6	50.4	53.2	54.6	56.0
IMR 4350		54.6	56.2	57.8	59.4	60.2	61.0
RE 19		56.0	58.0	60.0	62.0	63.0	64.0
<b>Energy Ft. lbs</b>		<b>2428</b>	<b>2611</b>	<b>2801</b>	<b>2997</b>	<b>3098</b>	<b>3200</b>



  

Special Load	Powder	Grains	Velocity fps	Energy Ft. lb
<b>Accuracy Load</b>	IMR 4350	60.2	3050	3098
<b>Hunting Load</b>	760	61.0	3100	3200

**30-06 SPRINGFIELD ACKLEY IMPROVED**

	Bullet	Caliber	Weight	Type	C.O.A.L.			
	#2140	.308"	165gr.	HPBT	3.300"			
	#2145	.308"	165gr.	SBT	3.340"			
	#4665	.308"	165gr.	TGK	3.340"			
Powder	Velocity	2600	2700	2800	2850	2900	2950	3000
A 2460		44.8	46.8	48.8	49.8			
IMR 4064		46.0	47.8	49.6	50.5	51.4		
BigGame		48.6	50.6	52.6	53.6	54.6		
760		49.0	51.3	53.6	54.7	55.9	57.0	58.2
Viht N550		48.4	50.4	52.4	53.4	54.4	55.4	56.4
IMR 4350		50.8	52.7	54.6	55.5	56.5	57.4	58.4
H4350		51.0	53.2	55.4	56.5	57.6	58.7	59.8
RE 19		52.9	54.9	56.9	57.9	58.9	59.9	60.9
H4831 SC		55.2	57.4	59.6	60.7	61.8	62.9	64.0
<b>Energy Ft. lbs</b>		<b>2476</b>	<b>2670</b>	<b>2872</b>	<b>2975</b>	<b>3081</b>	<b>3188</b>	<b>3297</b>
Special Load	Powder	Grains	Velocity fps	Energy Ft. lb				
<b>Accuracy Load</b>	IMR 4350	56.5	2900	3081				
<b>Hunting Load</b>	H4831 SC	64.0	3000	3297				

# 30-06 SPRINGFIELD ACKLEY IMPROVED

	Bullet	Caliber	Weight	Type	C.O.A.L.
	#2200	.308"	168gr.	HPBT MatchKing	3.340"
	#7768	.308"	168gr.	TMK	3.340"

Powder	Velocity	2500	2600	2700	2800	2900	2950	3000
IMR 4064		44.3	46.3	48.3	50.3	52.3		
A 2520		43.9	45.8	47.7	49.6	51.5		
BigGame		46.1	48.4	50.7	53.0	55.3		
760		48.5	50.6	52.7	54.8	56.9	58.0	59.0
Viht N550		48.0	49.8	51.6	53.4	55.2	56.1	57.0
IMR 4350		50.5	52.3	54.1	55.9	57.7	58.6	59.5
RE 19		53.0	54.9	56.8	58.7	60.6	61.6	
H4831 SC		54.0	56.1	58.2	60.3	62.4	63.5	64.5
<b>Energy Ft. lbs</b>		<b>2331</b>	<b>2521</b>	<b>2719</b>	<b>2924</b>	<b>3137</b>	<b>3246</b>	<b>3357</b>







  

Special Load	Powder	Grains	Velocity fps	Energy Ft. lb
<b>Accuracy Load</b>	Viht N550	55.2	2900	3137

*Sierra does not recommend MatchKing bullets for hunting applications.*

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# 30-06 SPRINGFIELD ACKLEY IMPROVED

	Bullet	Caliber	Weight	Type	C.O.A.L.
	#2275	.308"	175gr.	HPBT MatchKing	3.340"
	#7775	.308"	175gr.	TMK	3.340"
	#2150	.308"	180gr.	SPT	3.340"
	#2160	.308"	180gr.	SBT	3.340"
	#2170	.308"	180gr.	RN	3.200"
	#2220	.308"	180gr.	HPBT MatchKing	3.340"


Powder ▾	Velocity >	2500	2600	2700	2800	2850	2900
760		49.2	51.6	54.0	56.4		
Viht N550		48.3	50.5	52.7	54.9		
IMR 4350		50.4	52.3	54.2	56.1	57.1	58.0
H4350		50.3	52.6	54.9	57.2		
RE 19		52.4	54.6	56.8	59.0	60.1	61.2
IMR 4831		53.0	55.0	57.0	59.0	60.0	61.0
A 3100		55.2	57.3	59.4	61.5		
H4831 SC		54.2	56.4	58.6	60.8	61.9	63.0
MagPro		59.0	62.0	65.0	68.0		
RE 22		54.0	56.0	58.0	60.0	61.0	62.0
<b>Energy Ft. lbs</b>		<b>2428</b>	<b>2626</b>	<b>2832</b>	<b>3046</b>	<b>3156</b>	<b>3267</b>



  

Special Load	Powder	Grains	Velocity fps	Energy Ft. lb
<b>Accuracy Load</b>	IMR 4350	56.1	2800	3046
<b>Hunting Load</b>	IMR 4350	58.0	2900	3267





# 30-06 SPRINGFIELD ACKLEY IMPROVED

		Bullet	Caliber	Weight	Type	C.O.A.L.			
		#2210	.308"	190gr.	HPBT MatchKing	3.340"			
Powder	Velocity	2500	2600	2700	2750	2800	2850	2900	
760		49.9	52.1	54.3	55.4	56.5			
Viht N550		48.8	50.7	52.6	53.6	54.5			
IMR 4350		50.7	52.6	54.5	55.5	56.4	57.4		
RE 19		52.7	54.8	56.9	58.0	59.0	60.1		
IMR 4831		53.2	55.1	57.0	58.0	58.9			
A 3100		54.3	56.3	58.3	59.3	60.3			
H4831 SC		54.7	56.8	58.9	59.9	61.0			
MagPro		58.4	60.8	63.2	64.4	65.6	66.8		
RE 22		52.9	54.8	56.7	57.6	58.6	59.5	60.5	
H1000		58.1	60.4	62.7	63.8	65.0			
<b>Energy Ft. lbs</b>		<b>2636</b>	<b>2851</b>	<b>3075</b>	<b>3190</b>	<b>3307</b>	<b>3426</b>	<b>3547</b>	
Special Load	Powder	Grains	Velocity fps	Energy Ft. lb					
<b>Accuracy Load</b>	IMR 4350	56.4	2800	3307					
<i>Sierra does not recommend MatchKing bullets for hunting applications.</i>									

		Bullet	Caliber	Weight	Type	C.O.A.L.			
		#2165	.308"	200gr.	SBT	3.340"			
		#2230	.308"	200gr.	HPBT MatchKing	3.340"			
Powder	Velocity	2300	2400	2500	2600	2700	2750	2800	
760		45.2	47.6	50.0	52.4	54.8			
Viht N550		44.6	46.7	48.8	50.9	53.0			
IMR 4350		46.5	48.5	50.5	52.5	54.5	55.5	56.5	
RE 19		47.9	50.1	52.3	54.5	56.7	57.8	58.9	
IMR 4831		48.8	50.8	52.8	54.8	56.8	57.8	58.8	
A 3100		51.0	53.0	55.0	57.0	59.0			
H4831 SC		50.2	52.5	54.8	57.1	59.4			
MagPro		53.1	55.7	58.3	60.9	63.5	64.8	66.1	
RE 22		49.5	51.4	53.3	55.2	57.1	58.0		
H1000		53.7	56.0	58.3	60.6				
<b>Energy Ft. lbs</b>		<b>2349</b>	<b>2558</b>	<b>2775</b>	<b>3002</b>	<b>3237</b>	<b>3358</b>	<b>3481</b>	
Special Load	Powder	Grains	Velocity fps	Energy Ft. lb					
<b>Accuracy Load</b>	H4831 SC	59.4	2700	3237					
<b>Hunting Load</b>	IMR 4350	55.5	2750	3358					

**30-06 SPRINGFIELD ACKLEY IMPROVED**

Bullet	Caliber	Weight	Type	C.O.A.L.					
	#2180	.308"	220gr. RN	3.300"					
	#2240	.308"	220gr. HPBT MatchKing	3.340"*					
*requires 1 x 10" twist or faster twist									
Powder	Velocity	2200	2300	2400	2500	2550	2600	2650	2700
760		44.4	46.8	49.2	51.6	52.8	54.0		
IMR 4350		46.0	48.0	50.0	52.0	53.0	54.0		
RE 19		47.2	49.4	51.6	53.8	54.9	56.0	57.1	58.2
IMR 4831		47.3	49.6	51.9	54.2	55.4	56.5		
A 3100		49.5	51.6	53.7	55.8	56.9	57.9	59.0	
H4831 SC		48.0	50.5	53.0	55.5	56.8	58.0		
MagPro		52.5	55.1	57.7	60.3	61.6	62.9	64.2	65.5
RE 22		50.3	51.9	53.5	55.1	55.9	56.7	57.5	
<b>Energy Ft. lbs</b>		<b>2364</b>	<b>2584</b>	<b>2813</b>	<b>3053</b>	<b>3176</b>	<b>3302</b>	<b>3430</b>	<b>3561</b>
Special Load	Powder	Grains	Velocity fps	Energy Ft. lb					
<b>Accuracy Load</b>	RE 22	55.9	2550	3176					
<b>Hunting Load</b>	MagPro	62.9	2600	3302					

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