

John Haviland

The .221 Fireball is a great little rifle cartridge that provides high velocity with a tightfisted amount of propellant, recoil so gentle it barely bumps the crosshairs off the target and all with marvelous accuracy. Somewhere along the line, however, it became lost in the shuffle when it made the switch to a rifle round from a cartridge originally intended for long-barreled handguns.

.221 Reming

A varmint hunter out for a walk is best served with a light rifle. The .221 fills that bill, yet the .22 Hornet still rules with light rifles.



A Small Cartridge That Could

ton Fireball

Most shooters shopping for a rifle cartridge for small game hunting and general shooting shrug their shoulders when they see the .221's mediocre velocities recorded from 10- to 14-inch barrels listed in most handloading manuals. Add 10 inches of barrel length, and the .221 is right on the heels of the .223 Remington.

Remington created the .221 Fireball in 1963 for its XP-100 bolt-action single-shot handgun. The Fireball cartridge was supposedly a shortened .222 Remington case, but it's really more of a .223 Remington abbreviated in the case body. The Fireball and the .223 have essentially the same neck length, while the .222 has a neck nearly half again longer. The maximum pressure of the .221 and the .223 are also the same, at 52,000 CUP, while the .222 is limited to 46,000 CUP.

The XP-100 was sort of a ray gun-looking handgun with its bolt hanging out behind the trigger, a ventilated rib on the barrel and white diamond shapes inlaid on the sides of the forearm of the brown or black Zytel plastic stock. It was chambered in .221 Fireball from 1963 to 1985. Eventually the gun was chambered in a bunch of cartridges from .223 and

The .221 Remington Fireball is small and holds only a couple more grains of powder than the .22 Hornet.



.221 Remington Fireball



Left, perhaps between the .22 Hornet (left) and the .223 Remington (right), there is no room for the .221 Remington Fireball (center).

Above, bullets used for load development include: (1) Berger 30-grain FB Varmint, (2) Nosler 35-grain Ballistic Tip Lead-Free, (3) Berger 40-grain FB Varmint, (4) Hornady 40-grain V-MAX, (5) Berger 50-grain FB Target, (6) Sierra 50-grain BlitzKing, (7) Sierra 55-grain BlitzKing and (8) Lyman 55-grain 225646.



.250 Savage to .308 Winchester and .35 Remington before it was discontinued in 1994.

The XP-100 never achieved much more than a splash of popularity. Over the years I've met a few prairie dog shooters armed with one chambered in the .223. One fellow who liked to sit in trees carried one in .221 mounted with a 4x scope as his white-tailed deer rig.

Remington tried to revive the .221 in 2002 as a rifle cartridge by chambering it in its limited edition Model 700 Classic. The .221 hung around for awhile in the Model 700, but a couple of years ago Remington quietly dropped it. Even so, a friend shoots the heck out of ground squirrels with his Classic .221. Shooting 40-grain bullets with 15.0 grains of Lil'Gun propellant, he easily mows over ground squirrels out to 300 yards. The barrel remains fairly cool during a

Remington created the .221 Fireball in 1963.

long string of shots, and the recoil is so mild he can see where the bullet hits if he misses, correct his aim and give the little grass-gnawers another round.

The only rifles currently chambered in .221 Remington Fireball by major manufacturers are the CZ 527 American and the Cooper Firearms Model 38. When I asked Texas rifle-builder Charlie Sisk about building a .221, he yawned like he was bored stiff by the mere mention of the cartridge. He finally warmed up to the idea, though, and started work. The .221's appeal is that it makes a light and handy rifle. Sisk figured that had been

Most shooters have a difficult time hitting prairie dogs at much over 300 yards. The .221 Remington Fireball makes those shots easily with its mild recoil and flat trajectory.





IMR-4227, Lil'Gun and VV-N130 worked best with most bullets.

done, so it was "go big" to see how accurately the .221 would shoot.

The result was a 17-pound rifle based on a Surgeon 591 short-action single shot. The majority of the rifle's weight comes from an unturned Lilja barrel (one-in-12-inch twist) that is 24 inches long and measures 1.25 inches in diameter at the muzzle. On the 591's full length Picatinny rail, I mounted a Nikon Titanium 5.5-16.5x scope. A McMillian Hunter Benchrest synthetic stock completed the rifle.

The first few times shooting the rifle I discovered I had an ingrained flinch, because the moment I pulled the trigger I jerked my head off the stock comb. No

doubt this hitch was left over from shooting a .300 magnum at the bench the previous week. That problem resolved itself after a few more shots made it clear the .221's recoil was as gentle as a flower waving in a summer breeze.

That lack of recoil also showed my bench technique was a bit stressed. Nudging the rifle with the thumb of my shooting hand or failing to pull the trigger straight back caused the scope crosshair



Exact propellant weights help keep velocities constant in the .221. One additional grain of IMR-4227 increased velocity of the Hornady 40-grain V-MAX by more than 200 fps.

to shift ever so slightly off the target. The result was a bullet hole right where the crosshair pointed and out of the group. The group sizes listed in the load table are mostly an indication of my shooting ability, and not the .221 or the Sisk rifle.



The Sisk Rifles .221 Fireball, based on a 17-pound Surgeon 591 short-action single shot with a full-size Lilja barrel, held steady in the wind while shooting prairie dogs at 300 yards.

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.221 Remington Fireball

The .221 Fireball is a small cartridge, and a little increase in propellant weight produces a large rise in bullet velocity. For instance, increasing the weight of IMR-4227 from 14.0 to 15.0 grains resulted in a boost of 211 fps to Hornady 40-grain V-MAX bullets. Velocity escalated another 155 fps by adding one more grain of powder.

All the propellant weights listed in the load table were weighed on a balance beam scale. Yet there was relatively high extreme velocity spreads with many loads. With heavier bullets, though, velocity spreads narrowed signifi-



Above left, this five-shot group was shot with Hornady 40-grain V-MAXes and VV-N130. Right, this group was shot with Berger 40-grain FB Varmints and H-110.

cantly. The Berger 30-grain Flat Base Varmint bullet had extreme spreads for five shots of up to 118 fps with H-4198 and 117 fps with Enforcer. The Nosler 35-grain Lead-Free Ballistic Tips had spreads of 218 fps with Reloder 7 and 178 fps with IMR-4227. With heavier 40-grain bullets, Lil'Gun and IMR-4227 turned in spreads as small as

46 and 27 fps. Velocity variation shrank with 50-grain bullets down to 10 fps with H-335 and 39 fps with Reloder 7. With 55-grain bullets, Vihtavuori N130 had a spread of 49 fps and 48 fps with Lil'Gun. Propellant amounts with the Lyman 55-grain cast bullet didn't fill the .221 Fireball case, yet velocity spreads were as uniform as 33 fps with Unique and as great as 71 fps with IMR-4198. Lil'Gun, IMR-4227 and VV-N130 provided the most uniform velocities across the board of jacketed bullets. They also mostly imparted the highest velocities to all bullets.

These three propellants also measured uniformly through a powder measure. That's important to a prairie dog shooter who wants to assemble uniform cartridges yet save time churning out several hundred rounds. Thrown from my old Ohaus measure, five charges of IMR-4227 varied .2 grain, Lil'Gun was right on and VV-N130 fluctuated .1 grain.

Starting on the light side of powder weight and working up .5 grain at a time is good advice for loading the small .221 Remington Fireball. About .5 grain below the maximum amount of Lil'Gun listed in loading manuals developed too much pressure. Those weights of Lil'Gun pushed 30-grain bullets 4,100 fps and 40-grain bullets over 3,600 fps, which are .223 Remington speeds. Backing off 1.0 grain, the 30-grain bullets still clocked



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.221 Remington Fireball Loads

bullet (grains)	powder	charge (grains)	velocity (fps)	group (inches)
30 Berger FB Varmint	H-4198	19.5	3,542	.71
	H-4227	16.0	3,540	.69
	Lil'Gun	15.0	3,872	.60
	VV-N130	19.0	3,454	.37
35 Nosler Ballistic Tip Lead-Free	Enforcer	14.0	3,440	.84
	IMR-4227	15.5	3,338	.82
	Lil'Gun	15.5	3,727	.75
	RL-7	19.0	3,539	.66
40 Berger FB Varmint	H-110	14.0	3,141	.41
	H-322	20.5	3,236	.84
	H-335	21.5	3,216	.51
	Lil'Gun	14.5	3,470	.60
40 Hornady V-MAX	H-4198	18.0	3,083	.45
	IMR-4227	14.0	2,918	.49*
		15.0	3,129	.35*
		16.0	3,284	.63
	Lil'Gun	14.5	3,514	.61
	VV-N130	18.6	3,284	.54
50 Berger FB Target	H-110	13.2	2,810	.61
	H-335	21.5	3,120	1.26
	IMR-4227	15.5	2,996	.82
	Lil'Gun	13.5	3,117	.51
50 Sierra BlitzKing	H-322	20.0	2,998	.73
	Lil'Gun	13.5	3,078	.71
	VV-N130	18.0	2,994	.52
	RL-7	17.5	3,020	.62
50 Remington Accu-Tip V boat-tail			2,845	.69**
55 Lyman 225646	IMR-4198	9.0	1,480	1.37
	IMR-4227	9.0	1,810	1.32
	Red Dot	6.0	1,924	3.19
	Unique	5.0	1,695	1.94
55 Sierra BlitzKing	H-322	19.0	2,930	.56
	Lil'Gun	12.5	2,812	1.25
	VV-N130	17.2	2,853	1.34
	Xterminator	20.2	3,005	1.04

* three-shot group

** This load was shot through a Remington Classic with a 24-inch barrel and is the average of three, five-shot groups.

Notes: All loads, except where noted above, were shot at 100 yards through a Sisk Rifles Inc. rifle comprised of a Surgeon 591 short-action single shot with a Lilja 24-inch barrel and a Nikon Titanium 5.5-16.5x scope, set on 16.5x. Remington cases were used with Winchester Small Rifle primers.

Be Alert – Publisher cannot accept responsibility for errors in published load data.

3,872 fps and 40-grain bullets one side or the other of 3,500 fps. That was still 100+ fps faster than the velocities Hodgdon states for 40-grain bullets.

The one-in-12-inch twist in the Lilja .221 barrel will stabilize bullets weighing up to about 60 grains. I shot bullets weighing from 30 to 55 grains with great accuracy.

The tiny Berger 30-grain bullet ripping along at 3,800 fps would make an excellent exterminator of ground squirrels infesting a farm field. It pained me deeply that the

ground squirrels had gone into hibernation by the time I got my hands on the Sisk rifle, but with the Berger bullets sighted one inch high at 100 yards it drops only one inch below aim at 200 yards and 10 inches at 300 yards.

The 40-grain bullets are what most .221 shooters chose for varmint shooting. At 3,400 fps, they shoot a smidgen flatter at 300 yards than lighter bullets. The 40s drop appreciably less at longer distances, about 10 inches less at 400 yards. My friend's Remington Classic .221

“Berger Bullets have worked very well for me!”

Sandra Mellon lives in Northern Alberta where she enjoys hunting with her husband. On one particularly good hunt she bagged a mule deer and two black bears. Sandra trusts her Berger Bullets 30 caliber 155 grain Premium Hunting VLD when she goes out on a hunt.

Sandra shoots a 308 Winchester and uses RL15 powder.

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.221 Remington Fireball

dots on Nosler 40-grain Ballistic Tips powered with 15.0 grains of Lil'Gun. With that load he shoots ground squirrels from 50 to 300 yards, and his .223 and .22-250 mostly remain home in the gun cabinet.

Heavier bullets start to fade because of the .221's modest powder

capacity. The 50- and 55-grain bullets lag 300 fps behind the 40-grain bullets and drop considerably more past 300 yards. If coyotes or foxes are coming to a call, the heavier bullets might be a better choice, but for long-range shooting, the 40-grain bullets are the best choice.

I shot Lyman 55-grain 225646 cast bullets in the .221 Remington Fireball, which shot okay out to 100 yards for plinking and varmint shooting. They are cheap to shoot, and a pound of powder will load nearly 800 cartridges loaded with 9.0 grains of powder, and a .221 cartridge loaded with a lead-alloy bullet duplicates the .17 and .22

magnum rimfires, at about a third the cost.

There is a place for a mild .22-caliber cartridge, and the .221 Fireball should occupy it. The rimless case has a minimum amount of body taper and a fairly sharp shoulder that makes it ideal for handloading and long case life. Its high pressure limit also produces maximum bullet speed from a small amount of powder.

A little increase in propellant weight produces a large rise in bullet velocity.

Instead, the old .22 Hornet prevails. The Hornet's sloping case and thin neck rim can make it a pain to handload. Its bulbous rim prevents the cartridge from feeding smoothly, and the short magazine of most Hornet rifles will not accept a cartridge loaded with a pointed bullet. There is no predicting shooters' affections and affinities.

The .223 Remington hasn't done the .221 Fireball any favors either. Other than the Cooper Firearms Model 38 mini bolt action scaled to fit the .221, other .221 rifles are nothing more than a .223-size action with a block in the magazine to accommodate the shorter cartridge. So why buy a rifle the same size as a .223 to shoot a cartridge that comes up short of the .223's velocities? Plus a .223 can duplicate the .221 by merely backing off powder charges 3.0 grains or so. The only additional cost of such .223 cartridges, compared to the .221, is 10.0 grains more of comparatively slower burning powder.

Handloaders can turn this neglected, yet impressive little rifle cartridge into a cheap-to-shoot cartridge for plinking, or turn up the heat to shoot about as far away as most of us can hit a tiny target. Perhaps someday shooters and hunters will appreciate all the .221 Remington Fireball offers.

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