

DOPE BAG

The *American Rifleman* has used the phrase "Dope Bag" at least since 1921, when Col. Townsend Whelen first titled his column with it. Even then, it had been in use for years, referring to a sack used by target shooters to hold ammunition and accessories on the firing line. "Sight dope" also was a traditional marksman's term for sight adjustment information, while judging wind speed and direction was called "doping the wind."

CAUTION: Technical data and information contained herein are intended to provide information based on the limited experience of individuals under specific conditions and circumstances. They do not detail the comprehensive training procedures, techniques and safety precautions absolutely necessary to properly carry on similar activity. Read the notice and disclaimer on the contents page. Always consult comprehensive reference manuals and bulletins for details of proper training requirements, procedures, techniques and safety precautions before attempting any similar activity.

SIG ARMS P245 COMPACT PISTOL



SIG Arms' new P245 Compact pistol in .45 ACP is approximately 1/2" shorter in both length and height than its parent gun, the P220. The P245 pistol displays accuracy and quality workmanship fully in keeping with the company's tradi-



The P245 pistol mirrors the basic design of the proven P220. The frame is aluminum alloy and the slide is carbon steel.

To .45 ACP shooters, the Sig-Sauer P220 pistol has become a modern icon epitomizing many of the latest features in a large-bore pistol. Accuracy of most P220 pistols is exceptionally good as is handling and balance. The P220 is well-known also for its durability and quality workmanship. It is no surprise, then, that the P220 has become a favorite duty gun for law enforcement officers who carry .45 ACP pistols. But, for all these good things, the P220 remains a large, service pistol ill-suited, due to its size, for discreet carry. There was a real need for a compact pistol in .45 ACP with all the modern features and durability of the P220. SIG Arms now offers such a model—the P245 Compact.

The new P245 Compact is approximately 1/2" shorter in length, more than 1/2" shorter in height and 2 ozs. lighter than the full-size P220. Although substantially smaller, the P245's single-column magazine still holds six rounds (the P220's holds seven). The P245's magazine has a polymer base with a recurved finger rest on the front lip and a polished steel body with five 1/4" holes on each side showing the number of cartridges remaining. Another plus is a well-designed, polymer follower that assists smooth feeding. Pressing the magazine release button allows the magazine to instantly fall free.

Operation of the P245 mirrors the P220. The pistol is recoil-operated with a linkless, cam surface on the barrel lug that moves the barrel upward to lock and downward to unlock. There is no barrel bushing. Fire control is double-action/single-action with a decocking lever on the left side of the frame. Pressing the decocking lever down drops the hammer into a notch in the sear that holds the hammer away from the back of the slide for safety. This is backed up by an automatic firing pin safety that locks the firing pin in place until the trigger has been pulled. There is also a disconnecter. Location and function of all levers on the P245 are identical to those of the P220.

Disassembly and assembly of the P245 follow the same procedures as for the

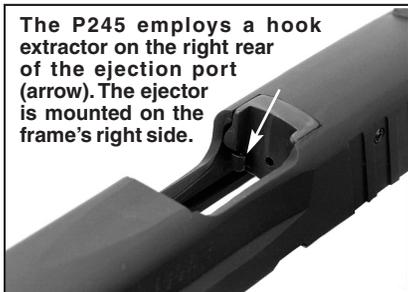


Like the P220, all operating levers on the new P245 Compact in .45 ACP are located on the left side of the frame. Sights are a notch rear adjustable for windage with a vertical white indicator line and a front post with a white dot.

SHOOTING RESULTS

.45 ACP Cartridge	Vel. @ 15' (f.p.s.)	Energy (ft.-lbs.)	Recoil (ft.-lbs.)	Smallest (ins.)	Largest (ins.)	Average (ins.)
Winchester 230-gr. FMJ No. Q4170	772 Avg. 7 Sd	304	7.2	2.61	3.70	3.39
Remington 185-gr. JHP +P No. GS45APC	1051 Avg. 14 Sd	454	9.6	2.16	4.21	2.96
Speer 230-gr. JHP No. 23966	767 Avg. 12 Sd	300	7.2	1.54	3.14	2.24
Average Extreme Spread:						2.86
Measured average velocity for 10 rounds from a 3.9" barrel. Range temperature: 59° F. Humidity: 70% Accuracy for five consecutive, five-shot groups at 25 yds. fired from sandbag rest. Abbreviations: Sd (standard deviation), FMJ (full metal jacket), JHP (jacketed hollow point).						

The P245 employs a hook extractor on the right rear of the ejection port (arrow). The ejector is mounted on the frame's right side.



P220, and is easily accomplished for routine maintenance and cleaning without special tools.

The P220's checkered, composite grip panels are comfortable and attractive, and are considered by many to be one of the pistol's best features. On the P245, these have been exchanged for a pair of composite panels with a pebbled surface texture on both the sides and the backstrap. Many shooters who fired the P245 opined that the new grip panels felt too thick and the pull too long, resulting in grips that were not as comfortable as the old model. Suggested improvements included thinner side panels, a shorter pull length and old-style checkering.

Workmanship, fit and finish of the P245 are consistent with the high standards shooters have come to expect



We particularly liked the feed ramp (arrow), the polymer magazine follower and the low cartridge lift, all of which contribute to the reliability of SIG Arms' new P245 Compact pistol.



The frame of the new SIG Arms P245 compact pistol is made of aluminum alloy with a black anodized finish. Magazine capacity with the shortened frame is six cartridges.

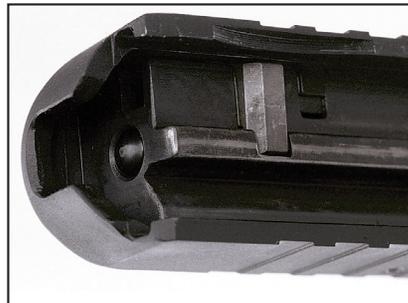
which help grip purchase, which becomes important on large bore, compact pistols. In keeping with its intended purpose, the P245 has been dehorned on the front edges of the slide and frame, but several sharp edges remain. Some testers also thought SIG Arms should eliminate the pointed lower edge on the recurved trigger bow.

At 26 ozs. empty, the P245 is no lightweight. There are compact, large-bore pistols on the market today that weigh considerably less (approximately 22 ozs. for example). While the lighter weight of such pistols may aggravate perceived recoil, pistols in this class are generally not fired much, so recoil will be preferable to added weight for some owners.

from SIG Arms. This is immediately apparent when one picks up the pistol. It also feels solid and hefts well. Operation was smooth, but could be smoother with a small amount of detail hand work. Unlike the P220, however, the unloaded P245 is slightly muzzle heavy. Some shooters found this annoying while others did not. With the magazine fully loaded with six rounds, this condition all but disappears.

The slide is finished with a matte-black polymer coating that substantially reduces glare on the sighting plan. This eliminates the need for serrating the top of the slide. The aluminum frame has a matte-black, anodized finish that closely matches that on the slide and should prove quite durable. On the P245, the 3.9" barrel also sports a blued finish except for the flat top surface of the chamber, which has been polished with a natural finish. The P245 barrel is stamped ".45 Auto" on the right side of the chamber.

Fine horizontal grooves have been cut into the front strap, and the rear of the grip panels have a pebbled surface—both of



A passive firing pin safety locks the firing pin in place until moved out of engagement when the trigger is pulled, allowing firing.

Controllability and perceived recoil become significant factors in compact, large-bore pistols. In this regard, the P245 is no exception—recoil with service and +P loads is heavy. A buffer in the recoil spring guide rod would help controllability when firing +P ammunition. Grip panels made of Santoprene or similar recoil attenuating material would help tame recoil as well, though such material tends to "grab" on fabric when carried under clothing.

P220 pistols are famous for their out-of-the-box accuracy, and the P245 upholds that tradition. We found accuracy exceptional—see the accompanying table for a summary of the results. Our test P245 pistol was fired with no problems whatsoever through several hundred rounds of .45 ACP having both FMJ and JHP bullets in weights from 165- to 230-grs. The pistol also handled +P ammunition without complaint, although recoil was increased as would be expected. We must comment favorably on SIG's design of the feed ramp, polymer magazine follower and minimal cartridge lift, which all contribute to jam-free, reliable feeding. Nonetheless, we found the magazines difficult to load with five rounds and a real thumb buster to load with six. A magazine loading tool would make for a welcome accessory.

We also particularly liked the P245's sights. These low-profile, high-visibility units consist of a wide, front blade with a large white dot and a drift-adjustable rear with a suitably large notch highlighted by a white indicator line on the bottom. They proved simple, robust and effective. The front post is available in different heights to match ammunition selection. A SIG rear sight pusher tool (available at extra cost) will ease drifting the rear sight if required.

The P245 is an excellent combination of advanced safety features, reliability, accuracy and high-quality workmanship that are easily worth the price. We could not find a brand or load of ammunition it did not accept. Furthermore, SIG Arms backs each P245 with a one-year warranty on parts and labor against defects in materials or workmanship.



SIGARMS P245

MANUFACTURER: SIG-Sauer GmbH, Sauerstrasse 2-6, D-24340 Eckernforde, Germany

IMPORTER: SIG Arms, Inc. (Dept. AR), Corporate Park, Exeter, NH 03833; (603) 772-2302

CALIBER: .45 ACP

ACTION TYPE: Recoil-operated, semi-automatic pistol

CONSTRUCTION: aluminum alloy frame, carbon steel slide

FINISH: blue standard; two-tone or K-Kote optional

MAGAZINE CAPACITY: six, single-column

OVERALL LENGTH: 7 1/8"

WIDTH: 1 3/8"

HEIGHT: 5"

BARREL: 3.9" length, hammer forged, carbon steel

RIFLING: six-grooves, 1:16" RH twist

SIGHTS: white dot front, white indicator notch rear, drift adjustable for windage; Siglite tritium night sights optional

TRIGGER: double-action: single action, 5-lb. pull; double-action, 10 1/2-lb. pull

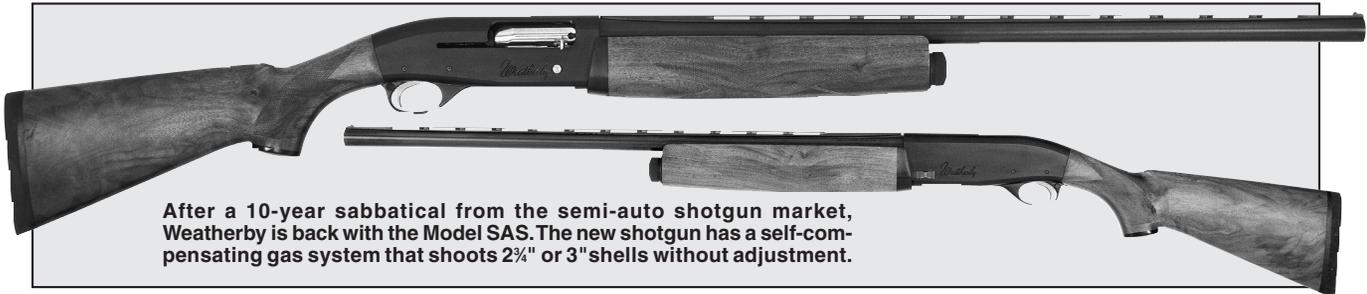
STOCKS: two-piece, pebbled, black composite

WEIGHT EMPTY: 26 ozs.

ACCESSORIES: extra magazine, lockable plastic carry case, trigger lock

SUGGESTED RETAIL PRICE: \$750

WEATHERBY SAS SHOTGUN



After a 10-year sabbatical from the semi-auto shotgun market, Weatherby is back with the Model SAS. The new shotgun has a self-compensating gas system that shoots 2 3/4" or 3" shells without adjustment.

SEMI-AUTOMATIC shotguns have been offered in the past by Weatherby, Inc. The first reviewed in these pages was the Centurion (Nov. 1972, p. 66), which was designed by Fred Jennie and produced in Japan. At that time, this shotgun was remarkable for its ability to fire either standard or magnum 2 3/4" 12-ga. shells without



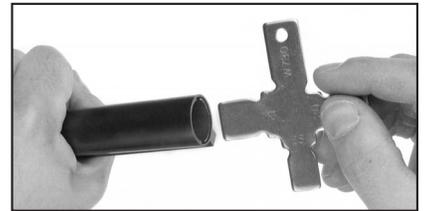
The bolt release must be depressed to load shells into the tubular magazine. This proved to be something of a nuisance when we took the Weatherby SAS goose hunting.

adjustment. As times change, so do shooter expectations and gun design. These changes manifested themselves as the Weatherby Centurion II with a 3" chamber, then the Model 82 semi-automatic (July 1982, p. 54). New to this model were Weatherby's Multi-Choke changeable choke tubes. This short-lived gun was cataloged until 1989.

After a decade-long sabbatical from the semi-automatic shotgun market, Weatherby gave in to customer demands this year with the introduction of the new Model SAS. The Weatherby SAS is a version of the SKB XL semi-auto (April 1979, p. 66), which had a separate barrel for 2 3/4" shells and one for 3" shells. We were first introduced to the new shotgun at a writer's seminar in November 1998. There we had the opportunity to fire pre-production, advanced prototypes on skeet and five-stand clays. An early Weatherby Model SAS was recently received by the NRA Technical Staff to be tested and evaluated.

The stock is satin oil-finished, grade III, American claro walnut with black, plastic pistol grip and rear fore-end caps. Cut checkering of 18 lines per inch wraps around the fore-end and is found on both pistol grip panels. A 1/2"-thick, solid, brown rubber recoil pad with black, plastic spacer completes the stock.

An aluminum alloy receiver finished in satin black has a somewhat shadbelly profile and is tastefully adorned with the Weatherby name on each side. A magazine cut-off is on the left of the receiver, while the bolt release is on the right. The cut-off is used to prevent shells from feeding from the tubular magazine. This feature makes it



Five stainless steel Integral Multi-Choke (IMC) tubes come standard with the Weatherby SAS shotgun. The tubes are made by Briley and are certified for steel shot through modified choke constriction.

easy for a different shell or shot size to be single-loaded as needed—a situation often encountered when waterfowling. The bolt release, aside from serving its obvious function, must be depressed to release the carrier so shells can be loaded into the four-round-capacity magazine tube. If need be, magazine capacity can be limited to two rounds by inserting the supplied plastic plug into the front of the magazine tube. The plug is simply inserted and retained by the magazine cap and does not have to be under the magazine spring retaining ring like on most other shotguns.

Production Weatherby SAS shotguns have a self-compensating gas system that handles all 2 3/4" and 3" shells without adjustment. Like on the production SKB XL, early Weatherby SAS prototype guns had a manual adjustment valve. Production guns do not have this valve and rely instead on one size gas ports to admit the correct amount of gas needed to work the action.

When the gun is fired, powder gas enter-

Gas enters the SAS's gas system through two ports in the underside of the barrel. When the shotgun is fired, this gas thrusts the piston and slide assembly rearward. The excess gas is exhausted out the top of the fore-end on either side of the barrel.



WEATHERBY SAS

MANUFACTURER: New SKB Arms Co.,
C.P.O. Box 141 Tokyo, Japan

IMPORTER: Weatherby, Inc. (Dept. AR),
3100 El Camino Real, Atascadero, CA
93422; (805) 466-1767

GAUGE: 12, 3"

ACTION TYPE: gas-operated, semi-automatic shotgun

RECEIVER: aluminum alloy

FINISH: satin black receiver, blued barrel

OVERALL LENGTH: 48 1/2"

BARREL: 28" (tested), 30"

WEIGHT: 7 lbs., 6 ozs.

MAGAZINE: four-round-capacity tubular

TRIGGER: single-stage, 4 1/2"-lb. pull

STOCK: oil-finished, grade III, American

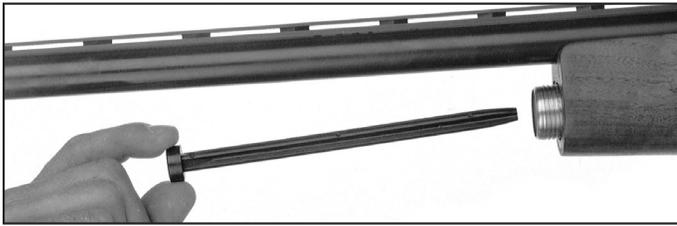
claro walnut: length of pull, 14 1/2"; drop

at heel, 2 1/2"; drop at comb, 1 1/2"

CHOKE SYSTEM: screw-in Multi-Choke System by Briley, compatible with steel shot through modified

ACCESSORIES: skeet, improved cylinder, modified, improved modified and full Briley choke tubes; choke tube key, magazine plug

SUGGESTED RETAIL PRICE: \$749



Four shells fit in the tubular magazine. Where certain laws apply—especially when hunting waterfowl—capacity is limited by installing the supplied, plastic magazine plug. The plug is secured by the fore-end cap, and need not be secured under the follower spring's retaining ring.

ing the gas cylinder through two barrel ports thrusts the piston and slide assembly rearward. After approximately 5/16" travel, a carrier on the slide assembly pivots the locking block in the breechbolt downward out of engagement with the barrel extension. The piston and slide assembly continue rearward until the fired shell is extracted and ejected. As the bolt moves rearward, an operating rod at its rear compresses a buttstock-housed coil spring that thrusts the bolt forward again at the end of its rearward travel. Gas is exhausted out the top of the fore-end on either side of the barrel.

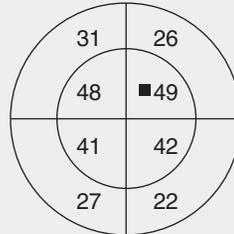
Extraction is by way of a conventional, single hook on the right side of the bolt, and ejection occurs when the shell rim hits a small semi-circular stud in the barrel extension. The reversible safety is a trig-

ger-blocking crossbolt in the rear of the trigger guard behind the non-adjustable, gold-plated trigger.

Our sample's 28", vent rib barrel is equipped with a single gold bead and is heavily swamped to reduce weight and provide enough metal near the muzzle to accommodate Weatherby's screw-in Integral Multi-Choke (IMC) system. Five stainless steel, interchangeable choke tubes—skeet, improved cylinder, modified, improved modified and full—made for Weatherby by Briley come with the gun.

WEATHERBY MODEL SAS

AVERAGE OF 10 PATTERNS AT 40 YDS.



Modified Choke

■ = Point of Hold

Winchester XX Magnum
Extra Long Range
12-ga., 3"-1 1/4 oz.- No. 6 lead
Pellet count—395
Measured vel. @ 3': 1124 f.p.s.
Remaining Energy Per Pellet
@ 40 yds.: 2.82 ft.-lbs.

Total Hits	286 (72%)
21.2" Inner Circle	180 (46%)
30" Outer Ring	106 (27%)

Tubes are certified for steel shot through modified choke constriction.

The Weatherby Model SAS was patterned with the results shown in the accompanying table, and function fired with a variety of lead and steel shotshell loads. There were no malfunctions of any kind, and the gas system did a credible job of reducing felt recoil. Patterns from the modified tube were more like those from a full choke. Depressing the bolt release when loading shells into the magazine proved to be something of a nuisance, especially when we took the Weatherby SAS goose hunting. We recommend Weatherby consider eliminating this feature. The gun handles well though, and points naturally.

Weatherby's Model SAS is a good design and a well-made shotgun on which to base Weatherby's re-entry into the semi-automatic shotgun market. The gun functions well, is aesthetically appealing and competitively priced. (RR)

REMINGTON 597 MAGNUM



Remington has added the Model 597 Magnum chambered for the .22 WMR cartridge to its new rimfire autoloading rifle line. The added power of the .22 WMR makes the 597 Magnum versatile

In 1998, Remington introduced a new family of autoloading rimfire rifles designated the 597 series. Four models are offered in .22 Long Rifle: a black synthetic-stocked, blued, Model 597; a wooden-stocked, blued, Model 597 Sporter; a



brown-laminated-stocked, stainless .22 Long Rifle Model 597 LSS and a black synthetic-stocked, stainless Model 597 SS. In addition to the .22 LR chambering, Remington now offers the 597 Magnum series, which follows the general lines of the 597 (April 1998, p. 54), but is chambered for the more powerful .22 Winchester Magnum Rimfire (WMR). It is offered in two versions: the blued, laminated-stocked Model 597 Magnum LS; and the black synthetic-stocked, blued Model 597 Magnum,

The magazine release is at the front of the trigger guard. Pulling the release to the rear frees the eight-round box magazine.

which we received for testing.

The one-piece, black synthetic stock is well thought out. Though mostly hollow, it feels solid; having a modest beaver-tail fore-end, straight buttstock and generous pistol grip. The upper contour of the stock's wrist matches that of the top of the receiver, which creates a pleasing blending effect. A 1/4"-thick, black plastic buttplate is press-fit into the stock, as is the black plastic grip cap. Both are embellished with Remington logos—one of the old style on the butt and the new script "R" on the grip cap.

The magazine housing and trigger guard is one piece of plastic connected by a solid web of plastic. The trigger assem-

bly is a simple arrangement consisting of the trigger itself, two-piece trigger bar, sear, skeletonized hammer and hammer spring. The rear piece of the trigger bar has an upward extension that functions as a disconnecter when depressed by the bolt's most rearward travel. The manual warns against pulling the trigger while the gun is disassembled. This action may upset the sear position and require the attention of a gunsmith for correction.

The magazine release is in the front half of the trigger assembly, and is pulled straight back to release the magazine by way of an extension of the release button in the right of the stock. Though the release is positioned with right-handed shooters in mind, left-handed staff members found it convenient to operate.

A small spring-loaded bar atop the magazine well acts as a bolt hold-open device. When an empty magazine is inserted or the magazine runs empty when firing, an extension on the left of the red, plastic magazine follower lifts the bolt hold open into the bolt's path. Cartridges in the magazine position the follower too low to engage the hold open. The magazine itself is a detachable, black plastic box with a capacity of eight rounds.

The barrel is attached to the receiver by means of a clamp. A block at the chamber end of the barrel slides into a cutout on the receiver. The barrel clamp rests in a recess at the front of the rifle's receiver and is connected to the barrel block by an Allen-head screw. Tightening the screw draws the barrel forward to clamp it securely between the receiver front and the barrel clamp itself. This arrangement makes the barrel easy to remove and hints at the possible availability of heavier target barrels in the near future.

597 MAGNUM

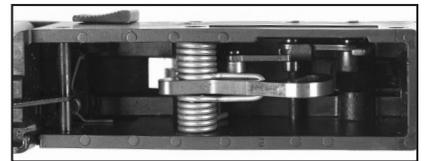
MANUFACTURER: Remington Arms Co. (Dept AR), 870 Remington Drive, Madison, NC 27025; (800) 243-9700
CALIBER: .22 Winchester Magnum Rimfire (WMR)
ACTION TYPE: blow-back operated, semi-automatic rifle
RECEIVER: Aluminum alloy
OVERALL LENGTH: 40"
BARREL LENGTH: 20"
WEIGHT: 5½ lbs
RIFLING: six-groove, 1:16" RH twist
MAGAZINE: eight round, staggered-column detachable, black plastic magazine
SIGHTS: Rear notch adjustable for windage and elevation, fixed ramped post front. Receiver grooved for tip-off mounts. Tapped for Weaver-style bases
TRIGGER: single-stage, 6½ lb.-pull
STOCK: grey synthetic stock with fixed sling swivel studs: length of pull, 14"; drop at heel, 2¼"; drop at comb, 1¼"
ACCESSORIES: none
SUGGESTED RETAIL PRICE: \$292

SHOOTING RESULTS

.22 WMR Cartridge	Vel. @ 15' (f.p.s.)	Energy (ft.-lbs)	Recoil (ft.-lbs)	Smallest (ins.)	Largest (ins.)	Average (ins.)
Federal No. P765 30-gr. JHP	2153 Avg. 36 Sd	309	0.5	0.65	0.85	0.74
Remington No. R22M1 40-gr. JHP	1717 Avg. 22 Sd	262	0.5	0.65	1.09	0.87
Winchester No. X22MH 40-gr. JHP	1809 Avg. 33 Sd	291	0.5	0.63	1.02	0.82
Average Extreme Spread:						0.81
Measured average velocity for 10 rounds from a 16" barrel. Range temperature: 50° F. Humidity: 35%. Accuracy for five consecutive 10-shot groups at 50 yds. from a sandbag rest. Abbreviations: Sd (standard deviation), JHP (jacketed hollow-point)						

The 597 Magnum is equipped with satin-blued, steel metallic sights consisting of a fixed, ramped front blade with white bead and square notch rear, screw-adjustable for windage and elevation. To accommodate optical sights, the tubular receiver is provided with a dovetail rail for tip off scope mounts. It is also drilled and tapped for a one-piece scope mount sold separately. The one-piece mount takes full-size Weaver-type rings for use with 1" or 30 mm scopes.

All of these internal and external features are very similar to the standard 597. In order to see what sets the 597 Magnum apart from its .22 LR counterpart, you have to take a look inside the tubular alloy receiver. Like



The fire control arrangement is straightforward and the rear of the trigger bar has an extension that acts as a disconnecter.

The 597 Magnum we tested was equipped with a Bausch & Lomb Elite 4000 6-24X scope and fired for accuracy with the results shown in the accompanying table. Although .22 WMR is not known as a tackdriver, the 597 Magnum proved surprisingly accurate. Function firing was with CCI, RWS, Remington, Winchester and Federal ammunition. There were no failures of any kind. As with most rimfire semi-automatics, shooters must pay attention while loading magazines to avoid rim-over-rim jams. At 6½ lbs pull, the trigger was on the heavy side, but crisp.

Although perceived recoil is negligible, shooters found the 597 Magnum to have more muzzle lift in comparison with the .22 LR model. Also .22 WMR is much noisier than .22 LR. Most would say that these quibbles are a small price to pay for the increased velocity, range and energy provided by .22 WMR.

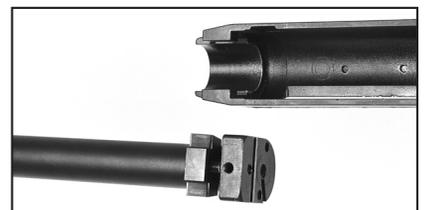
Chambered for the .22 WMR, the most potent smallbore rimfire cartridge currently available, the Remington 597 Magnum provides more than enough range and energy for small game as well as many predators and varmints. As the 597 product line continues to expand, Remington stands poised to challenge other makers in the .22 rimfire autoloading rifle marketplace. 



The Model 597 Magnum proved to be surprisingly accurate. Recoil was negligible, though some shooters reported more muzzle lift than with the .22 LR Model 597.

the standard .22 LR 597, the Magnum's bolt rides on dual action rails, but where the .22 LR model has only a single recoil spring on each rail, the Magnum utilizes compound recoil springs to absorb the greater energy of the .22 WMR round. Though the 597 Magnum's bolt has a configuration similar to that of its .22 L.R. stablemate—with a single extractor claw on its right side and the firing pin striking at the 12 o'clock position. To counter the .22 WMR's stouter recoil, however, it is machined from a tungsten-based alloy, which weighs more than a comparably sized steel bolt. In addition, the 597 Magnum has a longer buffer to match the different recoil stroke of the Magnum bolt.

A block at the chamber end of the 597's barrel slides into a cutout on the front of the receiver, and is retained by a barrel clamp connected to the block by an allen screw.



CIENER BERETTA 92/96 .22 LR



The Ciener .22 Long Rifle conversion for the Beretta Model 92/96 consists of a replacement 7075 T6 aluminum slide, 4140 steel barrel, recoil spring with guide rod and buffer, and 10-round-capacity maga-



CIENER units for converting M1911-type pistols to shoot .22 Long Rifle ammunition should be familiar to *American Rifleman* readers. Perhaps not as well known are Ciener's conversions for other semi-automatic firearms including the M16/AR-15 and Ruger Mini 14 rifles, Beretta 92/96 and Taurus PT92/96 pistols.

The conversion unit for the Beretta 92/96 we recently received for testing consists of a slide, barrel, recoil spring, guide rod with buffer and a 10-round magazine in a hard, fitted, plastic case. It is designed to fit all current production generation full size Beretta 92/96 pistols in either 9x19 mm or .40 S&W caliber.

Slide material is 7075 T6 aluminum alloy, available in gloss or matte blue or silver finish and differs slightly in design from the Beretta Model 92FS slide. Comparing the two, we find that the front sights are similar, though the white dot is omitted from the Ciener unit. Also omitted are the manual, slide-mounted safety levers, though a passive firing pin safety block is incorporated into the conversion unit and does not protrude through the top of the slide like that

of the Beretta. A single hook extractor is pinned in place, and the rear sight is drift-adjustable. The dovetail slot in the slide for the rear sight is the same size as the standard M1911A1 slot, so any adjustable rear sight for the M1911A1 will fit.

Lock up of the blow-back operated Ciener rimfire unit is very different from that of the recoil-operated, center-fire Beretta. The tilting block of the center-fire pistol is entirely omitted. In its place is a large, single lug welded to the bottom of the barrel locked in place by the take-down latch. This, in effect, creates a fixed barrel that many believe contributes to greater accuracy.

The 5½" long barrel is made by E.R. Shaw of 4140 steel, and has a long hook ejector extending back from the left side of the barrel. There is also a

small feed ramp integral with the barrel that lines up with a ramp at the front of the magazine to facilitate reliable feeding.

Installation is simply a matter of field stripping the Beretta pistol as for cleaning by removing the slide/barrel/recoil spring upper assembly. The Ciener conversion unit slides onto the frame and secures in place with the take-down latch.

We fitted the Ciener conversion unit on a Beretta Model 92FS and test fired it with several brands of target, high- and hyper-velocity ammunition, both solid-point and hollow-point. As Ciener guarantees, there were no failures at all with high- or hyper-velocity ammunition. We also experienced no malfunctions with standard-velocity or target ammunition.

We have always been impressed with the accuracy of Ciener's conversion units as they typically shoot better than the gun does with its factory barrel and chambering. This unit was no exception, as can be seen by the results shown in the accompanying table.

Workmanship is excellent, and the unit easy to install. Tipping the scales at just less than one pound, the Ciener unit does not significantly change the balance or handling of



Lock up of the Ciener unit is different from that of the Beretta barrel as the tilting block is omitted. In its place is a large, single lug welded to the bottom of the barrel locked in place by the take-down latch.

the Beretta Model 92. Accuracy of our sample was exceptional, and the affordability of .22 rimfire ammunition is appealing. Owners of Beretta pistols who desire a companion gun would do well to take a hard look at the Ciener conversion instead.

Available from: *Jonathan Arthur Ciener, Inc. (Dept. AR), 8700 Commerce St., Cape Canaveral, FL 32920; (407) 868-2200. Suggested retail price: \$219.*



SHOOTING RESULTS

.22 Long Rifle Cartridge	Vel. @ 15' (f.p.s.)	Energy (ft.-lbs)	Recoil (ft.-lbs)	Smallest (ins.)	Largest (ins.)	Average (ins.)
CCI No. 0030 40 gr. SP	996 Avg. 11 Sd	88.0	0.3	0.63	1.39	1.08
Federal No. UM1 40 gr. SP	968 Avg. 15 Sd	83.0	0.3	0.54	1.23	0.92
Winchester No. X22LRPP 40 gr. HP	1023 Avg. 33 Sd	93.0	0.3	0.67	1.71	1.28
Average Extreme Spread:						1.09
Measured average velocity for 10 rounds from a 5½" barrel. Range temperature: 50° F. Humidity: 35%. Accuracy for five consecutive five-shot groups at 25 yds. from a Ransom Rest. Abbreviations: HP (hollow-point), Sd (standard deviation), SP (solid-point)						