

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.

SIGARMS P232 PISTOL



SIG-Sauer's new, .380 ACP-cal. P232 pistol incorporates more than 60 changes designed to enhance ergonomics, reliability, functioning and serviceability

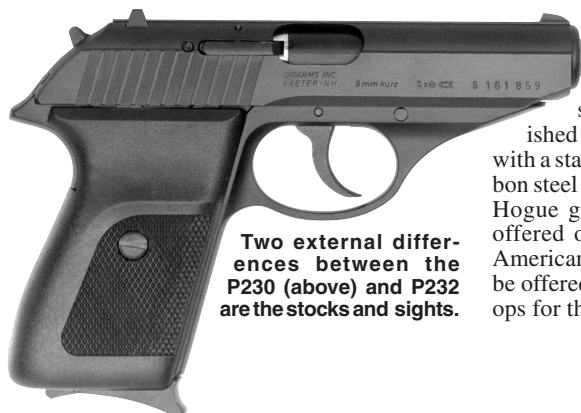
A side-by-side comparison of the P230 and P232 reveals that most of the changes are internal and not immediately obvious. Two key external differences, however, are the stocks and the sights. The P232's grip panels are fuller with a stippled surface in contrast to the flatter, smooth/checkered grips of the P230. While both are of black polymer, they are not interchangeable. The high-visibility, three-red-dot sights of the P232 are a big improvement over the simple post and notched blade of the P230. The rear sight of the P232 remains drift-adjustable for windage with a small Allen screw to hold it in place once adjustments are made. The flat top of the slide has 10 longitudinal grooves intended to reduce glare. Another distinctive external feature of the P232 is the set of seven, large grasping grooves cut into the rear of the slide in contrast to the 12 smaller grooves cut into the slide of the P230.

Functioning principle of the P232 remains straight blow-back with a fixed barrel. Frame and slide are constructed of forged chrome-nickel or stainless steel depending on the model. Single-column, seven round, stainless steel magazines have a finger rest on the lower front portion and a molded black-nylon follower. P230 and P232 magazines are interchangeable. A European-style magazine release lever on the bottom of the grip frame behind the magazine well will take some

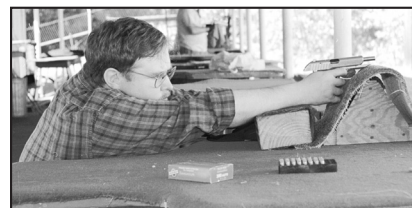
NORMALLY, SIG-Sauer incorporates improvements to its handguns immediately as running changes in production. This sound policy pays dividends to the customer in the form of continuously refined designs with improved ergonomics, functioning, reliability and serviceability. This policy was not applied, however, to the P230 pistol as production quantities were limited, thus reducing the possibility for immediate changes. As

improvements to the P230 were identified, they were saved for future production runs. When the Japanese National Police recently adopted the P230 in .32 ACP cal. as its standard-issue handgun, it identified changes it would like to have as well. The result was the new P232 pistol incorporating more than 60 improvements to the design that has now replaced the P230 in production.

Designed expressly for discreet carry, the P232 is offered in four models: a carbon steel model with a blued finish, a stainless steel model with a polished natural finish, a two-tone version with a stainless steel slide atop a blued, carbon steel frame, and a two-tone model with Hogue grips. Initially, the P232 will be offered only in .380 ACP caliber in the American market. A .32 ACP model may be offered later if sufficient demand develops for that caliber.



Two external differences between the P230 (above) and P232 are the stocks and sights.



Functioning with the P232 was flawless from the bench. Even when "limp-wristing" the P232, we could not induce a malfunction.

SIGARMS P232

MANUFACTURER: Sigarms, Inc. (Dept. AR), Corporate Park, Exeter, NH 03833

MECHANISM TYPE: straight blowback-operated semi-automatic pistol

CALIBER: .380 ACP

OVERALL LENGTH: 6 $\frac{1}{4}$ "

BARREL LENGTH: 3 $\frac{1}{4}$ "

RIFLING: six-groove, RH twist

WIDTH: 1 $\frac{1}{2}$ "

HEIGHT: 4 $\frac{3}{4}$ "

WEIGHT: 24 $\frac{1}{2}$ ozs

MAGAZINE CAPACITY: seven, single-column

TRIGGER: double-action: 5-lb. pull single-action, 12-lb. pull double-action

SIGHTS: blade front with red dot, drift-adjustable rear notch with two red dots

ACCESSORIES: extra magazine, Allen wrench for rear sight adjustments, lockable plastic case

STOCKS: two-piece, black, stippled synthetic

PRICE: \$485 (blue), \$505 (two-tone), \$525 (stainless)

getting used to by many American shooters.

Safety features include a disconnecter, an automatic firing pin safety, a decocking lever, an intercept notch on the sear that holds the hammer away from the firing pin, and a slide hold-open feature after the last round has been fired. The exposed hammer is partially shrouded, but the knurled spur is still accessible. Fire control is via a modern, double-action/single-action trigger unit. The P232 can be safely carried with the hammer down and a round in the chamber by inserting a loaded magazine, charging the pistol and depressing the decocking lever. This is critical as it assures that the hammer properly engages the intercept notch on the sear. The hammer should never be "thumbed" down!

Single-action trigger pull proved crisp with a moderate amount of take-up. Double-action trigger pull was heavy and long. All shooters noted a major difference in the trigger position between the two modes. While single-action seemed to center the trigger comfortably in the guard, double-action moved it considerably further forward which bothered shooters with small hands. SIG-Sauer may want to con-

sider shortening and lightening the double-action trigger pull of the P232.

A stainless model P232 received for testing proved to have notably comfortable stocks that were judged a big improvement over those of the previous P230. Not only did the full stippling on the two panels enable a better purchase, a Wundhammer-type swell in the center of the panels comfortably filled the hand, which in turn imparted a feeling of improved control. This proved especially helpful in double-action firing. The high-visibility, three-red-dot sights received high marks from everyone who fired the pistol. All controls such as the magazine release and decocking lever were easily reached, even by individuals with small hands.

A small lever on the front left side of the frame serves as a disassembly lever. When the lever is rotated 90 degrees downward, the slide can be quickly removed for cleaning or maintenance by pulling it fully back then tipping the rear end upward.

The lever need not be removed, which prevents loss. Although the external frame rails holding the slide are very short, this is acceptable for a small pistol designed for discreet carry.

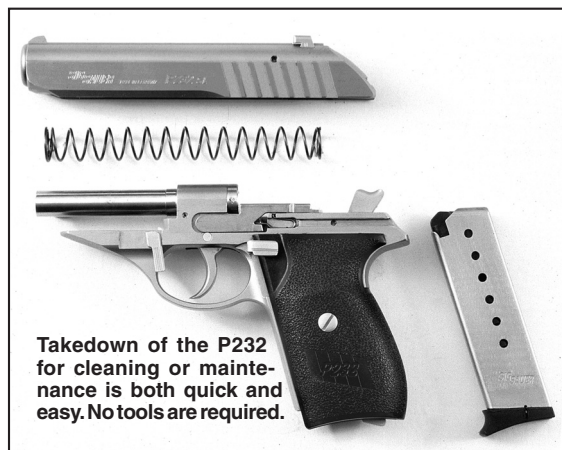
Fit and finish of the example P232 were up to the normal high standards shooters have come to expect from SIG-Sauer. All parts fit together smoothly with no rattles or looseness. Each pistol comes with a manual, factory test target, two magazines, and a lockable, black-plastic carry case fitted for the gun. Wood stocks, Hogue grips, night sights and a cleaning kit are optional at extra cost.

SIG-Sauer made a point of designing the P232 to reliably fire ammunition with hollow-point bullets. We put this claim to a hard test by firing several hundred rounds of a wide variety of hollow-point and full-metal-jacket ammunition in different ways, ranging from full magazines to partially filled magazines and even mixed brands and types in the same magazine. The result was flawless functioning despite the gun becoming quite dirty. We also tried firing the pistol using a "limp wristed" hold with the same results. A heavy magazine spring combined with the shortness of the .380 cartridges made the P232

SIG-Sauer designed the new P232 to function with hollow-point ammunition. We put this to a hard test by firing a wide variety of hollow-point factory loads. Pistol functioning was flawless.

magazines a thumbster to load. A magazine loading tool would be a welcome accessory.

Small, blowback-operated, .380 ACP-cal. pistols generally have a snappy recoil due to the system of operation. Perceived recoil can range from slightly annoying to unpleasant depending on loaded weight, height of bore axis, ammunition used, and grip configuration to mention only a few. The P232 is much like its brothers in this



way, with snappy, but not unpleasant, recoil. SIG-Sauer should use the occasion of the P232's introduction, however, to offer superior, recoil-absorbing grips that would place the P232 head and shoulders above the competition in this respect.

Although the P232 has excellent balance, the stainless model is four ounces heavier than the blued model and many of its competitors. While this is perfectly acceptable for a law enforcement duty pistol, it may be a drawback for everyday concealed carry. If weight is a concern, the blued model P232 is the lighter choice.

While SIG-Sauer pistols are not inexpensive, they are designed for reliable functioning and long service life. For the rigors of everyday discreet carry, the P232 offers peace of mind that comes from dependability should you ever need it. At such times, dependability is worth the asking price. *NRB*



ACCURACY RESULTS

.380 ACP Cartridge	Vel. @ 15' (f.p.s.)	Smallest (ins.)	Largest (ins.)	Average (ins.)
Win. 85-gr. JHP No. X380ASHP	828 Avg. 23 Sd	1.89	3.17	2.36
Sam. 95-gr. FMJ	727 Avg. 39 Sd	4.25	4.98	4.67
Rem. 88-gr. JHP No. R380A1	855 Avg. 28 Sd	2.56	3.91	2.99
Average Extreme Spread				3.34
Five consecutive five-shot groups at 25 yds. fired from Ransom Rest. Abbreviations: Sd (standard deviation), FMJ (full metal jacket), JHP (jacketed hollow point)				

AUSTIN & HALLECK MODEL 420



The muzzleloading Austin & Halleck Model 420 LR Classic rifle is available in standard, fancy or hand-select grades. The grades differ slightly in price and greatly in the degree of figure in the stock. The sample rifle we received for testing was a fancy grade with well-defined tiger stripes.

MUZZLELOADERS generally take one of two forms: a "traditional" look with brass or silver furniture, walnut or maple stock and outside-hammer ignition; or a "modern" look with black synthetic or camouflage stock, in-line ignition and provision for mounting a scope. A few manufacturers attempt to make a little of both, the result being typically an outside-hammer cap-lock with a synthetic stock.

Austin & Halleck has taken the opposite approach by putting a curly maple stock on

a muzzleloader that resembles a modern, center-fire, bolt-action rifle.

The Model 420 LR Classic is available with stocks in standard, fancy or hand-select grade maple, which differ slightly in price and greatly in the degree of figure. Standard grade has minimal figure. Fancy grades have at least 30 percent figure, though many will have more. The hand-select grade is reported to have end-to-end, high-contrast, curly figure. The sample we received for testing was fancy grade with well-defined tiger stripe on the right side of the buttstock and on the bottom and right side of the fore-end. The pattern on the left side of the buttstock has fainter tiger stripe overpowered by greater contrast of the growth rings.

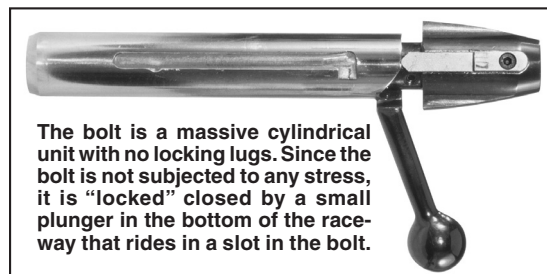
Stocks feature borderless, cut checkering of 18 lines per inch on the wrist and fore-end with fleur-de-lis accents. There is a black, 1" thick, solid-rubber buttpad; black-plastic grip cap and quick-detachable sling swivel studs. A single Allen-head bolt threaded into the receiver. This bolt is threaded into a massive recoil lug that is dovetailed into the bottom of the receiver.

A half-octagon/half-round barrel is threaded into the receiver and is equipped with a single, blued-steel thimble, adjustable rear and beaded post front sights. The sights are made of steel, the rear is a no-nonsense blade with windage and elevation click adjustments and graduation marks, while the front has a high-visibility orange dot. Since blackpowder loads and bullets vary dramatically, the clicks and graduations on the rear sight are for reference only.

The 26" chrome-moly steel barrel is imported from Spain where it is made by being extruded over a mandrel. The finished product has eight conventional grooves, .007" deep, with a 1:28" twist for optimal stabilization of long, heavy projectiles.



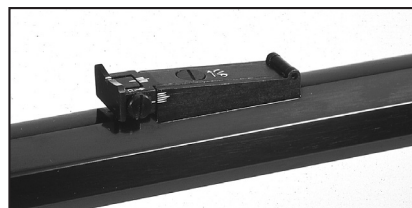
The generous opening of the priming port was a welcome feature. The opening was large enough that we could put a cap on the nipple by hand with a scope mounted.



The bolt is a massive cylindrical unit with no locking lugs. Since the bolt is not subjected to any stress, it is "locked" closed by a small plunger in the bottom of the raceway that rides in a slot in the bolt.

A fully adjustable, single-stage Timney trigger is employed, and the solid-aluminum ramrod comes with a concave loading jag for minimal bullet nose deformation when loading. The rifle also comes with a cleaning jag, plastic cleaning tube to keep solvent out of the action, weather shroud to protect the percussion cap during inclement weather and take-down tools.

The bolt is a massive, cylindrical, steel unit with no locking lugs. Since it is not subjected to any stress, the bolt is "locked" closed by a small plunger in the bottom of the raceway that rides in a slot cut in the bottom of the bolt. This button also serves as the bolt stop, and is engineered for no-tool bolt removal. Removing the bolt is simply a matter of lifting the bolt handle, and retracting it while applying slight downward pressure to the handle. The operator



The Austin & Halleck Model 420's sights are made of steel, and the rear sight is click-adjustable for windage and elevation.

AUSTIN & HALLECK

MANUFACTURER: Austin & Halleck, Inc. (Dept. AR), 1099 Welt, Weston, MO 64098

MECHANISM TYPE: bolt-action, percussion, in-line muzzleloading rifle

CALIBER: .50

OVERALL LENGTH: 47"

BARREL LENGTH: 26"

WEIGHT: 7 lbs., 2 ozs.

RIFLING: eight-groove, 1:28" RH twist

TRIGGER: Timney, fully adjustable, 4-lb. pull

SIGHTS: leaf rear click adjustable for windage and elevation, bead on ramp front

STOCK: curly maple; length of pull, 13½"; drop at heel, 1½"; drop at comb, 1¼"

ACCESSORIES: nipple/breech plug wrench, cleaning jag, weather shroud, nylon cleaning tube, 2 mm Allen wrench

SUGGESTED RETAIL PRICE: \$518

(Standard), \$619 (Fancy), \$729 (Hand-Select)

ACCURACY RESULTS

Load Cartridge	Vel. @15' (f.p.s.)	Smallest (ins.)	Largest (ins.)	Average (ins.)
Big Bore Express 405-gr. CFP, three Pyrodex Pellets, CCI No. 11 cap	1600 Avg. 58 Sd	3.16	3.92	3.51
C&D Harvester 355-gr. FP1576 Avg. 41 Sd		2.80	4.54	3.74
Barnes MZ 250-gr. HP, 100 grs.* Elephant FFg, CCI No. 11 cap	1376 Avg. 13 Sd	1.64	3.96	2.84
Average Extreme Spread				3.36
Five consecutive five-shot groups from 100 yds., fired from sandbags. Abbreviations: CFP (Copper-plated Flat Point), FP (Flat Point), HP (Hollow Point), Sd (standard deviation), * = by volume				

A fully adjustable Timney trigger unit is employed in the Model 420. Our sample rifle's trigger broke at a respectable 4 lbs.



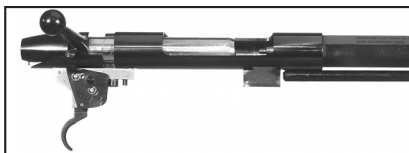
will feel the plunger cam into a ramp-out in the bolt slot. Once the plunger is cammed out, rotate the bolt handle down another 1/4" to fully free the bolt stop plunger from the slot and pull the bolt free from the action. The bolt can be completely disassembled with the supplied 2 mm Allen wrench and a coin. Detailed instructions are included in the owner's manual.

Another interesting feature of the bolt is striker depth adjustment. The striker can be turned into or out of the bolt body to differ-

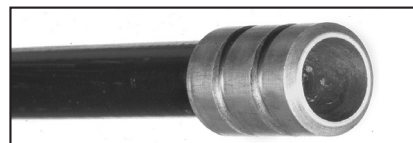
ent depths to provide more or less impact depth on the nipple for different brands of No. 11 percussion cap. Alternatively, this feature permits the striker to be adjusted for a top-hat-type musket cap nipple that is offered separately.

The Austin & Halleck 420 Classic muzzleloading rifle was fitted with a 3-9x40 Nikon Buckmaster scope and fired for accuracy at 100 yds. with the results shown in the accompanying table. Being of the "three pellet" genre, one of the loads used in the Model 420 used three 50.0-gr. equivalent Pyrodex pellets with a 405-gr. Big Bore Express Black Belt bullet. Function firing was with a variety of conical bullets and sabot bullets using blackpowder, Pyrodex, Black Canyon and Clean Shot blackpowder substitutes. There were no malfunctions of any kind.

The generous opening of the priming port was a welcome feature. Most in-lines have small ports that require the use of an in-line capper. The Austin & Halleck's opening was large enough that we could put a cap on the nipple by hand even with a scope installed.



A single Allen-head bolt through the fore-end secures the barreled action. The bolt is threaded into a massive recoil lug that is dovetailed into the bottom of the receiver.



The solid-aluminum ramrod comes with a concave loading jag for minimal bullet deformation when loading. Austin & Halleck also supplies a cleaning jag and tube, weather shroud and take-down tools.

Recoil is readily absorbed by the buttpad and distributed straight back with minimal muzzle rise. The straight stock with cheek piece fit all shooters well and aided in handling recoil. Experienced staff blackpowder shooters considered the perceived recoil to be less than expected.

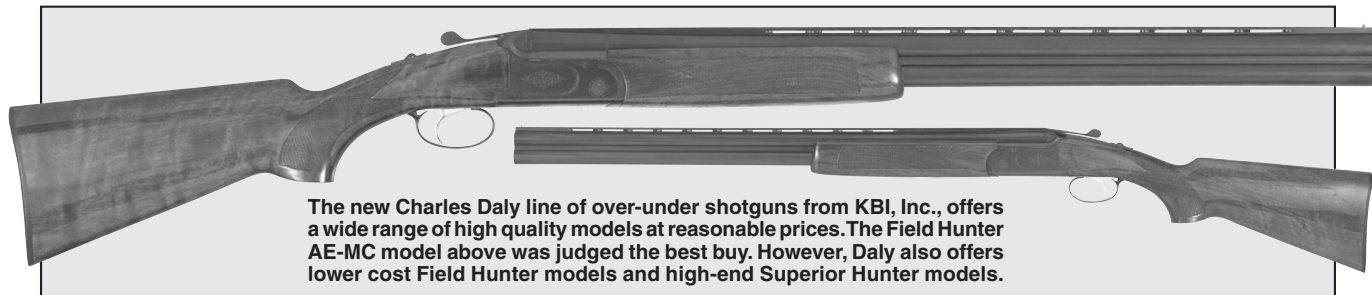
Accuracy was very good. There was a noticeable trend toward increased accuracy as the gun became dirty. Best groups were achieved after firing about three fouling shots, after which accuracy leveled off until the gun was too fouled to easily load. At the end of the shooting session, it was a simple matter of removing the bolt, followed by the nipple and breech plug with the supplied wrench for a thorough cleaning.

The only complaint we have with the Austin & Halleck Model 420 Classic is that the stock looks so nice, we wouldn't want to scar it up by taking it in the woods. In recognition of this problem, Austin & Halleck offers a synthetic stock that can be purchased separately for harsh use.

Overall, The Austin & Halleck Model 420 Classic is a great-looking and well-made muzzleloading rifle. The attention given to finishing the stock and bluing the steel is excellent. The suggested retail price is far less than would be expected for what some consider the "Rolls Royce" of bolt-action muzzleloaders.

NRB

CHARLES DALY FIELD HUNTER



The new Charles Daly line of over-under shotguns from KBI, Inc., offers a wide range of high quality models at reasonable prices. The Field Hunter AE-MC model above was judged the best buy. However, Daly also offers lower cost Field Hunter models and high-end Superior Hunter models.

YES, there really was a Charles Daly. In 1865, he and a man named Schoverling formed a partnership in New York City to import high-quality shotguns. In 1875, the firm began market-

ing shotguns made for them under the Charles Daly tradename. Over the years, manufacturers who made Daly shotguns, included: Schiller, Lindner, Heym, Sauer, Newmann, Miroku, Breda, Tolley and

Lefever. The new owners of Charles Daly, KBI, Inc., plan to continue this tradition by commissioning Sabatti of Italy to manufacture Charles Daly shotguns.

KBI's new Charles Daly product line

DOPE BAG



Barrels are bored from a single bar of chrome-moly steel, internally honed, chrome lined, and equipped with individual extractors and a full length, ventilated rib.

offers a wide selection of over-under shotguns, side-by-side shotguns and combination guns. We received two Charles Daly Field Hunter AE over-under shotguns for testing—one in 12-ga. and one in 28-ga.

The over-unders are offered in three grades: Field Hunter, AE and Superior. The base is the Field Hunter with fixed chokes and extractors. Next up is the AE with selective automatic ejectors and interchangeable choke tubes. The top-of-the-line Superior adds more engraving, a silver finish receiver and a semi-beavertail fore-end. The AE's receiver is blued with a tastefully modest amount of scroll engraving on the sides, floor and tang. The single, selective, gold-plated trigger allows barrel selection by pressing the sliding safety left or right.

The actions are conventional, boxlocks with a single lump and forged, chrome-nickel steel receivers with a top lever. Two frame sizes are offered: 12- and 20-ga., with 28-ga. and .410-bores made on the 20-ga. frame. Chambers are 3" except the 28-ga.

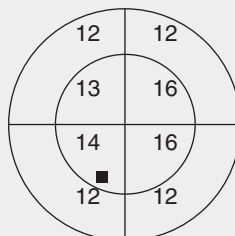
Barrels are bored from solid bars of chrome-moly steel, internally honed, chrome lined and fitted in a steel monobloc. In Field Hunter and AE grades, 26" or 28" vent rib barrels are offered. Forcing cones

are long and gradual in the European fashion, but the barrels are not back bored. The .275"-wide full length, ventilated top rib's upper surface is serrated to reduce glare and has a brass bead front sight.

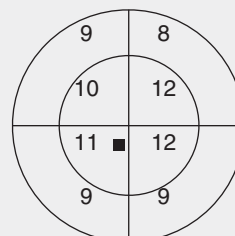
The AE models have interchangeable, 1½" length, blued steel, choke tubes supplied as a set of five in a fitted plastic case with a steel choke tube wrench. Constriction of each steel-shot compatible tube is indicated by a series of notches on the front edge of the tube: one

CHARLES DALY FIELD GRADE

AVERAGE OF 10 PATTERNS AT 40 YDS.



Improved Cylinder Choke



Cylinder Choke

■ = Point of Hold
Federal P128 Premium lead 2½"-1¼oz.-No. 6
Pellet count—253

Total Hits	107 (42%)	Total Hits	78 (31%)
21.2" Inner Circle	59 (23%)	21.2" Inner Circle	42 (17%)
30" Outer Ring	48 (19%)	30" Outer Ring	36 (14%)



The Charles Dalys offer inertial-blocked hammers and a single-selective, gold-plated trigger. The disconnecter device (arrow) disables the trigger when the action is open.

notch for full choke; two for improved modified; three for modified; four for improved cylinder; and five for cylinder.

The guns are stocked in European walnut with a high-gloss finish and 18 line-per-inch, cut, flat diamond pattern checkering on the pistol grip and fore-end. The buttplate is of checkered, black composite mounted without spacers.

The guns have an automatic safety, hammers with inertial blocks, spring retracted firing pins and a disconnecter device. This latter item functions to prevent operation of the trigger until the action is securely closed and locked. When the action is open, the trigger is disabled. When the action closes, the rear face of the barrels press a small button on top of the breech inward which enables the trigger.

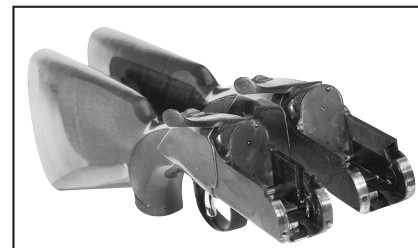
Fit and finish of both Daly AE models sent for review proved above average for shotguns in this price range. Wood to metal fit was judged especially good. The flat diamond checkering was crisp with few overruns. Better still, it proved comfortable despite being coarse. Most metal parts had a better than average polish with a pleasing deep blue finish and no blemishes or thin spots.

Operation proved satisfactory. The selective, automatic ejectors consistently tossed the empty shells about 6 ft. to the rear of the gun. Barrel selection was smooth and without stiffness. We found the trigger pulls a bit on the heavy side, but acceptable. Most shooters found the automatic safety a nuisance and would have preferred a manual safety. Both guns offered good balance and smooth handling, important factors when a gun must be carried for long periods. The smaller 28-ga. gun at 6½ lbs. rated especially high marks in this respect.

After firing several hundred rounds of 12-ga. shotshells in a variety of loads, perceived recoil was judged average for shotguns of the type. When firing target loads, light or heavy field loads and high velocity loads, moderate perceived recoil levels did not cause significant shooter fatigue.

What we have here is solid, middle-of-the-road value using entirely conventional, proven designs with features most shooters consider important. Shooters looking for the latest gadget or fad feature should look elsewhere. We particularly liked the small guns in 20-, 28-ga. and .410-bore. Their fast handling, high quality and reasonable price make them an excellent value.

NRD



We received two Daly Field Hunter AE-MC shotguns for testing—a 12-ga. (r.) and a 28-ga. There are two action sizes, and the 28-ga. guns are built on the 20-ga.'s frame.

CHARLES DALY

MANUFACTURER: Sabatti S.P.A., Via A. Volta No.90, I-25063 Gardone V.T. (Brescia), Italy

IMPORTER: KBI, Inc. (Dept. AR), P.O. Box 6625, Harrisburg, PA 17112

MECHANISM TYPE: hinge-action, box-lock, over-under shotgun

GAUGE: 12, 3" (tested), 20, 3", 28, 2¾", .410, 3"

OVERALL LENGTH: 45"

BARREL LENGTH: 26", 28" (tested), 30"

WEIGHT: 7 lbs., 4 ozs.

TRIGGER: single-selective: 6-lb. pull upper barrel, 7-lb. pull lower

STOCK: high-gloss walnut: length of pull 13¾", drop at heel 2¼", drop at comb 1⅞"

ACCESSORIES: five choke tubes, choke tube wrench, choke tube box

SUGGESTED RETAIL PRICE: \$899

(Field Hunter AE-MC with choke tubes), \$779 (Field Hunter 28-ga. with fixed chokes)

GAMO P23



Gamo's new Model P23 pistol is a CO₂-powered BB repeater/.177 cal. pellet single-shot that emulates SIG's Model P230 .380 ACP semi-automatic pistol in both name and appearance.

If imitation is the most sincere form of flattery, then Sigarms should be pleased by the new Gamo P23. The Gamo P23 is a CO₂-powered BB repeater/.177 cal. pellet single-shot pistol that emulates the SIG P230 semi-automatic pistol in both name and appearance. The similarity makes the Gamo P23 the ideal practice gun for someone who already owns and carries the SIG. Pellets and BBs are arguably less expensive to shoot than cartridges, and a safe airgun range is easily set up in many basements or hallways.

The P23 is made almost entirely of molded, flat-black polymer. The 4¼", rifled steel barrel is housed in a zinc alloy assembly that is tipped up to load. Pressing forward on a latch near the top of the barrel assembly releases the assembly that, when tipped up, reveals the fixed, 12-shot BB magazine. Loading the magazine begins with turning

the trigger-blocking safety lever to the "safe" position, then tipping the barrel assembly up. Next, press the red lever of the magazine feeder pin toward the muzzle until it flips up into its retaining slot. Up to 12 BBs, preferably lead, are inserted through the opening of the magazine. After loading, release the lever of the magazine feeder pin and close the P23's barrel assembly making sure it locks firmly into place.

Alternatively, the Gamo P23 can be used as a single-shot pellet pistol by inserting a single pellet into the rear of the barrel instead of loading the magazine with BBs.

Power is by way of a 12½ gram CO₂ cylinder within the grip. Access is through the left stock panel that is retained by barbed tabs that hook into the grip frame. The panel is easily removed by gently prying up on it from the slot at the base of the grip.

The trigger mechanism is double-action-only. Pulling the trigger draws the trigger bar forward and cams the partially concealed hammer back. When the hammer reaches its rearmost travel, it is released forward, and a nipple on the hammer face activates a valve to squirt a measured amount of CO₂ into the barrel.

Though plastic, the grip frame feels very solid, and its 17-oz.-heft aids a steady hold. The stock panels have molded-in checkering and thumb shelves, but the grip as a whole is narrow and has a blocky feel.



Lifting up the slide allows access to the 12-shot BB magazine for loading. The feeder pin is then moved up into its retaining slot.

Sights consist of a black-plastic, square-notch rear and blade front. The rear sight is dovetailed into the top of the pistol and secured with a set screw. The front is integral with the frame. The top of the pistol is serrated to reduce glare and grooved to accept a tip-off scope mount.

We fired the Gamo P23 for accuracy at 10 meters with the results shown in the accompanying table. Lead BBs and .177-cal. pellets were used with no malfunctions of any kind and we easily achieved the manufacturers 1¼" five-shot group accuracy level. CO₂ cylinders lasted an average of 40 to 50 shots before starting to run out.

The first 1/2" of trigger travel was smooth and light, but then escalated abruptly in pull weight. The trigger break was crisp, but jarring, and shook the gun terribly. These are really moot points, though, as the Gamo P23 is not intended as a target pistol. No, this airgun is a plinker and trainer, and in that capacity deserves consideration.

Gamo's P23 thus provides a relatively safe practice tool for practical exercises such as drawing from a holster and firing. At a suggested retail price of less than \$90, the Gamo P23 is no cheapie. The air pistol is well-made and appears durable. Given due care, it should soon pay for itself in savings realized from shooting pellets instead of cartridges.

NR

GAMO P23

MANUFACTURER: Industrias Gamo, Carretera de Calafell Km 10, Sant Boi de Llobregat, Barcelona, Spain

IMPORTER: Gamo USA Corp. (Dept. AR), 3911 SW 47th Ave., Suite 914, Ft. Lauderdale, FL 33314

MECHANISM TYPE: CO₂ repeating pistol

CALIBER: .177

OVERALL LENGTH: 7½"

BARREL LENGTH: 4¼"

WEIGHT: 17 ozs.

WIDTH: 1½"

HEIGHT: 5"

MAGAZINE CAPACITY: 12

RIFLING: 10-groove, RH twist

TRIGGER: double-action-only, 8-lb. pull

SIGHTS: drift-adjustable, black, plastic,

square notch rear, blade front

SUGGESTED RETAIL PRICE: \$89.95

ACCURACY RESULTS

.177 cal. BBs and pellets	Vel. @15' (f.p.s.)	Smallest (ins.)	Largest (ins.)	Average (ins.)
Gamo lead BBs	263 Avg. 17 Sd	1.04	1.54	1.24
Gamo Hunter Pellets	323 Avg. 7 Sd	0.77	1.06	0.81
Gamo Match Pellets	309 Avg. 10 Sd	0.63	1.09	0.83
Average Extreme Spread				0.96
Five consecutive five-shot groups from 10 meters., fired from sandbag rest with fresh CO ₂ cylinder installed between projectile types. Abbreviations: Sd (standard deviation)				