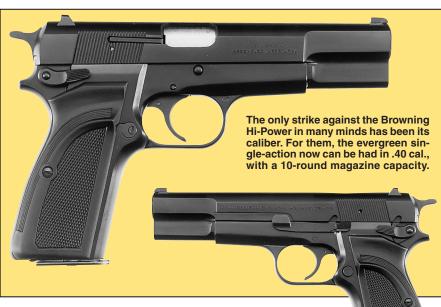
DOPE BAG

Dope Bag is compiled by Staff and Contributing Editors: David Andrews, Hugh C. Birnbaum, Bruce N. Canfield, Russ Carpenter, O. Reid Coffield, William C. Davis, Jr., Pete Dickey, Charles Fagg, Robert W. Hunnicutt, Mark A. Keefe, IV, Angus Laidlaw, Scott E. Mayer, Charles E. Petty, Robert B. Pomeranz, O.D., Charles R. Suydam and A.W.F. Taylerson.

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.

BROWNING .40 S&W HI-POWER



HOUGH it served as a basis for the NAACO .45 ACP Brigadier (October 1988, p. 82) and was tried with Action Arms'.41 AE conversion (December 1989, p. 55), the venerable Browning Hi-Power has spent most of its 60 year career in 9x19 mm. That was about to change when a Belgian-made Hi-Power chambered for the .40 S&W cartridge was announced at the 1993 SHOT Show. Would-be owners had to wait until August 1994 before any quantities were available. But shortly after the first

few had been delivered, the .40 S&W Hi-Power was recalled due to a potential problem with the chamber specifications. All of the

few delivered were recalled and delivery began in earnest in December 1994.

The pistol, like the current Mk 3 Hi-Power, comes in a black matte finish and is made in Belgium by FN, but is assembled in Portugal. For the benefit of those unfamiliar with the current generation of Hi-Powers, the Mark 3 iteration has the same basic operation as the original, but has extended ambidextrous safety levers (pressed up to engage) and thinner streamlined plastic stocks. The magazine safety has been retained and a passive firing pin block that is an extension of the sear lever pinned through the slide has been added.

The 10-round magazine, identical in appearance to that of the 9x19 mm save its "5" and "10" cartridge counter markings

BROWNING .40 S&W

MANUFACTURER: Browning S.A. Parc Industiel des Hauts Sarts, 3eme Ave., B-44000 Herstal, Belgium

IMPORTER: Browning Arms Co., Dept. AR, One Browning Place, Morgan, UT 84050 MECHANISM TYPE: recoil operated semi-

automatic pistol
CALIBER: 40 S&W
OVERALL LENGTH: 7%"
BARREL LENGTH: 4%"
WEIGHT: 35 ozs.
WIDTH: 11%"

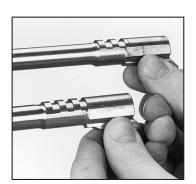
RIFLING: six-groove, RH twist MAGAZINE CAPACITY: 10 TRIGGER: single-stage, 8½ lbs pull SIGHTS: three-dot, drift adjustable for

windage

HEIGHT: 51/8"

ACCESSORIES: spare magazine

PRICE: \$524.95





The .40 cal. version has an extra recoil lug on its barrel and a matching recess inside a slide that is 1/4" longer than the original 9 mm Parabellum pistol's.

and slightly fatter front profile, is made in Italy. Inside, of course, the follower and spring have been modified for the wider .40 S&W cartridge. A mousetrap spring has been added that forcefully ejects the magazine when the non-reversible release on the left side of the frame behind the trigger is depressed.

The .40 S&W Hi-Power has the same width, barrel length and height as its 9 mm cousin, though its overall length is 1/4" greater. While the frame and most of the fire control parts appear little changed from the



Mk 3, the most notable feature is the beefed up slide assembly. The .40 S&W weighs 2 ozs. more than the 9 mm, thanks to a thicker slide and sturdier barrel. There are three .152" recoil lugs on the top of the barrel, as opposed to two for 9 mm. At its widest, the new gun's slide is .964" and tapers to .845" as opposed to .885" and .780", respectively for the 9 mm.

The .40 S&W'S fixed ejector is pinned to the left rear of the frame. It measures .083" thick vs. .053" on the 9mm and its groove in the bottom of the slide is widened accordingly. The pivoting ejector is not only thicker, but rounded as well. According to Browning's parts listing, the slide stop and recoil spring are necessarily different as well. Aftermarket stocks and other parts specific to the frame should be compatible with those intended for the Mk 3.

The low-profile sights have a three dot arrangement (actually three vertical rectangles) in white. The front sight blade's width is .134", while the rear has a .136" opening. Both are peculiar to the .40 S&W Hi-Power and are drift adjustable for windage.

Disassembly follows that of previous Hi-Powers. Depress the magazine release, remove the magazine then retract the slide fully and lock it in the open position by pressing the thumb safety up into its notch in the slide. Press the slide stop out from right to left; it may be necessary to lift up on the left rear of the stop to free it from the frame. While taking care to restrain the slide, lower the thumb safety. The slide may now move forward and off of the frame.

Invert the slide, then press forward on the recoil spring guide and lift up, allowing removal to the rear. The barrel is then free to be lifted up and out of the slide. Reassembly is in reverse order. We found the necessarily heavy recoil spring very difficult to replace when reassembling the pistol and warn potential owners that it takes a bit of time and elbow grease.

The Hi-Power was fired for accuracy



Recoil, while noticeably heavier than the 9 mm Hi-Power, is not excessive for most users, though some here suffered annoying bites from the .40's spur hammer.



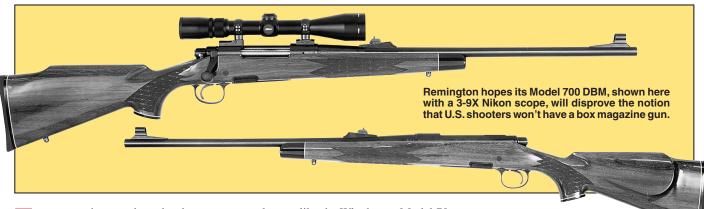
ACCURACY RESULTS

from a Ransom Rest with the results shown in the accompanying table. There were no failures of any kind.

Recoil was quite manageable, though some staffers experienced hammer bite when firing heavy loads with the supplied spurred-hammer model. Otherwise, performance was as expected.



REMINGTON MODEL 700 BDL DM



American hunters abhorred detachable magazines on bolt-action rifles, and they generally were restricted to peculiar-looking second-line guns like the Savage Model 340 or Remington Model 788 while top-

rank arms like the Winchester Model 70 or Weatherby Mark V retained the sleek look provided by an integral magazine rather than often cumbersome detachable designs.

There always have been pockets where they have been popular, and they have

been widely accepted in Europe for years, thanks to hunting traditions and laws that make quick loading and unloading an important feature in a hunting rifle.





Now that manufacturers have both the impetus and the ability profitably to manufacture smaller runs, they've overcome their reservations about the style, and some of the nation's most popular rifles have recently begun to appear with separate magazines.

U.S. Repeating Arms Co. was first out of the box with its Winchester Model 70 DBM (June 1993, p. 46), and now Remington has joined the fun with a series of detachable-magazine Model 700 rifles. This includes the 700 SS DM, with stainless barreled action and synthetic stock, the 700 Mountain Rifle DM, a lightweight version with traditional "clas-

sic" looks and our test rifle, the Model 700 BDL DM.

The BDL appearance package is everything abhorrent to the rifle taste police, but appeals to thousands of those who just know what they like.

The American walnut stock (our sample had a straight, but attractively contrasting, grain) has a heavy, shiny RK-W finish, white-

line spacers and contrasting grip cap and fore-end tip. Checkering is in a skip-line point pattern at 18 lines per inch. The Monte Carlo buttstock is capped with a thin black rubber recoil pad.

Iron sights are a hooded, ramped, removable bead front and an open rear sight adjustable for elevation.

U.S. Repeating Arms Co. clearly tried to conceal the magazine on the Model 70 DBM by making its latch a small lever almost hidden in the floorplate. Remington has taken the opposite tack by using dual latches in the magazine itself with large access cuts on either side of the stock.

ACCURACY RESULTS

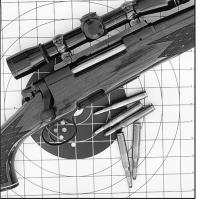
	.280 Rem. Cartridge	Vel. @15' (f.p.s.)	Smallest (ins.)	Largest (ins.)	Average (ins.)	
	Norma No. 17050 150-gr. SPBT	2948 Avg. 7 Sd	1.98	2.92	2.45	
	Rem. No. R280R3 140-gr. PSP	2856 Avg. 42 Sd	1.12	2.00	1.61	
	Rem. No. R280R2 165-gr. SP	2644 Avg. 40 Sd	1.71	3.30	2.61	
Average Extreme Spread					2.23	

Five Consecutive 5-Shot Groups at 100 Yds. Fired From Sandbags

Abbreviations: Sd (standard deviation), SPBT—semipointed boattail; PSP—pointed soft-point; SP—soft-point; Rem.(Remington).

The magazine box is easily detached by pinching in on the latches on either side. We were unable to induce an inadvertent drop, since both latches must be depressed for the box to fall. Operation was smooth and quiet, with little or no rattling of the magazine while handling.





REMINGTON 700 DM

MANUFACTURER: Remington Arms Co., Dept. AR, 1011 Centre Rd., Wilmington, DE 19805

MECHANISM TYPE: bolt-action rifle CALIBER: .280 Rem. (tested), .243 Win., 6 mm Rem., .25-'06, .270 Win., 7 mm-08 Rem., 7 mm Rem. Mag., .30-'06, .308 Win., .300 Win. Mag., .338 Win. Mag.

OVERALL LENGTH: 42½" BARREL LENGTH: 22" WEIGHT: 7½ lbs.

MAGAZINE CAPACITY: 4 (3 in magnum calibers)

TRIGGER: single-stage: 4½ lbs. pull
SIGHTS: hooded bead front, adjustable
open rear

STOCK: American walnut: length of pull, 13¼"; drop at heel, 2"; drop at comb, 1¼"

PRICE: \$603 (left-hand in .270 Win., 7 mm-08, 7 mm Rem. Mag., .30-'06 and .300 Win. Mag., \$629)

Removing the magazine requires the latches to be pinched between thumb and forefinger before the box can be pulled from its place. This should prove a secure system, since both latches must be depressed for the magazine to fall. At the same time, magazine removal should be easy, even with gloved hands.

The DM models have the usual and familiar cylindrical Model 700 receiver; only the floorplate and magazine are different. Removing the hex socket screws that retain the trigger guard assembly shows that it is higher than the standard 700's, providing a place for the latch notches.

The Model 700 BDL DM was fired for accuracy with results shown in the accompanying table, and function-fired with Norma and Remington ammunition. We did suffer a few failures to feed of the second round from the top of a full magazine, but the problem seemed to work itself out

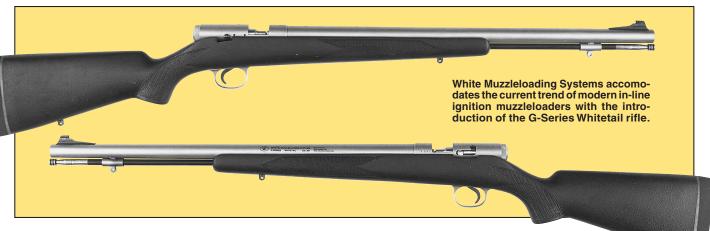
after 50 or 75 rounds during our test procedure.

We weren't wild about the looks of the newest version of the Model 700, but the detachable box was securely retained and didn't rattle a bit. It can be loaded either in or out of the rifle, and so was easy for those who don't like detachables to ignore.

While the BDL appearance package is derided by the rifle taste police, it appeals to thousands of buyers who just know the look they like.



WHITE G SERIES WHITETAIL



HILE high-capacity semi-auto pistols continue to dominate the attention of gun writers, muzzleloading firearms are quietly attracting the interest of a growing number of shooters. Special hunting seasons and more blackpowder shooting events have no doubt encouraged this growth.

Traditionally styled, outside-hammered guns remain popular, though many shooters brought up using bolt-action rifles will favor modern in-line ignition muzzleloaders, if for no other reason than the familiar look and feel.

White Muzzleloading Systems accommodates these shooters with the G-Series Whitetail and W-Series Super 91 rifles using White's Superslug bullets in what it refers to as the White "System." Instead of the traditional method of pre-engraving the rifling into an oversized bullet when loading, it uses a bullet more closely matched to the size of the bore. This slips easily down

The primary safety is the conventional slide type on the right side of the receiver. Pulling the thumb tab fully to the rear blocks the sear. The fully-adjustable trigger is by Bold.

the barrel, and, when fired, obturates from the force of the expanding gases so that its bearing surface engages the rifling.

The G Series Whitetail rifle has a 22" tapered, non-glare, stainless steel barrel screwed into the receiver after first passing through a spacer that extends down into the stock as the recoil lug.

One hex socket screw retains the barreled action in the black composite stock equipped with sling swivels, recoil pad and checkering on the grip and fore-end.

The nipple, an integral part of the breech plug, is screwed into the rear of the barrel and is accessible for priming through the action port, a half-section cut out of the receiver. In lieu of a conventional hammer, the Whitetail uses a round tapered bolt, powered by a coil hammer spring retained in the rear of the receiver. Cocking is by pulling back the cocking handle on the left side of the receiver.

Two safety fea-

tures are designed into the Whitetail that completely lock the sear and hammer. The primary safety is the conventional slide type on the right side of the receiver. Pulling the thumb tab fully to the rear blocks the sear. Pushing the cocking handle from the cocked position upward until it stops into a cutout on the receiver locks the hammer as the secondary safety. The trigger is by Bold, and is fully adjustable.

A single thimble on the barrel and flat spring in the ramrod channel retain the synthetic ramrod. The rod has brass tips on each end, one for bullet seating, the other a cleaning jag that when removed reveals a built-in bullet puller.

The Whitetail we received was equipped with Williams iron sights, adjustable for windage and elevation. Additionally, the receiver is drilled and tapped for scope bases

WHITE G WHITETAIL

MANUFACTURER: White Shooting Systems, Inc., Dept. AR, P.O. Box 277, 1099 East Hwy. 40, Roosevelt, UT 84066 MECHANISM TYPE: in-line ignition muzzleloading rifle

CALIBER: .41, .45 (tested), .50 OVERALL LENGTH: 40" BARREL LENGTH: 22" WEIGHT: 6 lbs., 14 ozs.

RIFLING: 6-groove, 1:20" RH twist TRIGGER: Bold single-stage adjustable,

3¾ lbs. pull SIGHTS: Willia

SIGHTS: Williams adjustable rear, bead front STOCK: black composite: length of pull, 14"; drop at heel, 2"; drop at comb, 1½" ACCESSORIES: ramrod, cleaning jag, bullet puller, 20 Superslugs, video PRICE: \$499 (stainless), \$399 (blued)

WHITE W SUPER 91

MANUFACTURER: White Shooting
Systems, Inc., Dept. AR, P.O. Box 277,
1099 East Hwy. 40, Roosevelt, UT 84066
MECHANISM TYPE: in-line ignition muzzleloading rifle

CALIBER: .41, .45, .50 OVERALL LENGTH: 45" BARREL LENGTH: 24" WEIGHT: 8 lbs., 3 ozs.

WEIGHT: 8 lbs., 3 ozs.
RIFLING: 6-groove, 1:20" RH twist
TRIGGER: Bold single-stage 4½ lbs. pull
SIGHTS: Williams adjustable rear, bead front
STOCK: black composite: length of pull,
14"; drop at heel, 2"; drop at comb, 1½"
ACCESSORIES: ramrod, cleaning jag, bullet
puller, Quicksling, 20 Superslugs, video
PRICE: \$599 (blued), \$699 (stainless)



or peep sights, both of which came with our test rifle.

To remove the hammer for cleaning, make sure the gun is not loaded, that there is no percussion cap on the nipple and that the rifle is uncocked. Then, turn out the knurled plug at the rear of the receiver.

The plug remains under tension from the hammer spring so care should be taken when removing. With the plug removed, the hammer spring and cocking handle retaining detent may be lifted from the rear of the receiver.

Next, remove the cocking handle by pulling it straight out of the hammer body. Finally, while pulling the trigger, push the hammer body backwards, out through the receiver. The nipple/breech plug can be removed using a White's Quickwrench, a 3/8" socket with extension or a 3/8" boxend wrench. Reassembly is in the reverse order, though nipple threads should be lightly greased, and finger tightened only.

The Super 91 has a 24" tapered stainless steel barrel with an under-rib. It is attached to the receiver in the same fashion as the

Whitetail. Attachment to the stock, though, is enhanced by an additional hex socket screw at the rear of the trigger guard.

The synthetic stock is the same as that of the Whitetail, though many users will prefer the front sling attachment point on the barrel under-rib rather than the one on the fore-end.

Next, cock the rifle and engage the secondary safety. Turn out the hammer-retaining detent screw from the left side of the receiver and withdraw the hammer to the rear.

Disassembly of the hammer is done by carefully turning the cocking handle counterclockwise from the secondary safety notch, and lowering it to the uncocked position. Next, unscrew the hammer counterclockwise from the front. As with the Whitetail, the hammer is under slight spring tension, so care should be taken when removing.

With the hammer removed, the spring may be lifted from the front of the hammer body, and the cocking handle from the rear. Removal of the

nipple/breech plug is identical to the Whitetail, and reassembly is again in reverse order.

The G Series Whitetail was fitted with a Leupold M8-6X Compact scope and fired for accuracy and function-fired using White .45 cal., 490-gr. Superslugs lubricated with



Pushing the cocking handle upward from the cocked position until it is held in place by the cutout

When first firing a White System rifle, it is important to follow a specific procedure. With a clean barrel, put a cleaning patch on the ramrod jag and push it all the way to the breech end of the barrel. Leaving the patched ramrod down the barrel, point the gun up in a safe direction and fire a percussion cap. Remove the ramrod and patch and confirm that the patch is charred, indicating

a clear nipple. Next, load a 30- to 40gr. squib load of powder only. Place a new cap on the nipple and fire. Load and fire as usual, though each time you clean the barrel, the procedure must be repeated.

Since the White's bullet slides easily down the barrel, it can also slide out just as easily. The fouling remaining after firing the powder-only squib load provides enough resistance to keep the bullet from shifting forward away from the powder charge. As with all muzzleloading rifles, should the bullet not be seated against the powder when firing, a barrel burst that could cause injury to the shooter or bystanders could possibly occur.

Our test gun clearly preferred the Pyrodex P to blackpowder. Additionally, the use of blackpowder required that the gun be cleaned after only three or four shots or it became impossible to seat a bullet. With

Pyrodex, we were able to get 10 to 12 shots off before it became necessary to clean. Even then, loading was easy, but accuracy was starting to drop off.

We found the quick takedown of the Whitetail a welcome feature not only when cleaning between shot strings, but especially when the rifle was taken back to the office for a thorough cleaning at the end of the shooting day.

The Whitetail should find acceptance with those looking for a modern, in-line blackpowder firearm.



Whitetail Series rifles use bullets more closely matched to the size of the bore that slip easily down the barrel, and, when fired, obturate to engage the rifling.

ACCURACY RESULTS

.45 Cal. Load	Vel. @15' (f.p.s.)	Smallest (ins.)	Largest (ins.)	Average (ins.)			
White .45 cal. 490-gr Superslug, 85 grs. Goex FFg blackpowd	38 Sd	. 1.19	2.87	2.21			
White .45 cal. 490-gr Superslug, 90 grs. Pyrodex P	r.1274 Avg 7 Sd	. 1.45	2.51	1.92			
Average Extreme Sp	read:			2.07			
Five consecutive 5-shot groups at 50 yds. fired from sand-							

The cocking handle consists of a knurled knob at the rear of the hammer body. Pulling it rearward cocks it. Turning it clockwise until it stops positions it in the hammerblocking, secondary safety notch.

bags. Abbreviations: Sd (standard deviation)

The primary safety is the same as that of the Whitetail, and the adjustable trigger is, of course, also by Bold.

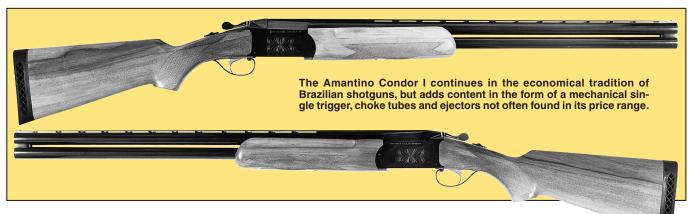
To remove the hammer of the Super 91 for cleaning, start by confirming that the gun is unloaded and the nipple is not capped. White's Superlube 2000. Goex FFg blackpowder and Pyrodex P

were used, with the results shown in the accompanying table. There were no malfunctions of any kind.

While any conical bullet, saboted pistol bullet or patched round ball can be used in the Whitetail rifle, the manufacturer naturally recommends its bullets for greater accuracy and easier loading. Powder weights here are expressed in grains measured in volume using an Ox-Yoke Originals brass powder measure.



AMANTINO CONDOR 1 SHOTG



R. Amantino & Cia is perhaps best known for its inexpensive single- and double-barrel top-breaks imported by Stoeger under the familiar names of Gaucha and IGA (Industria Gaucha de Armas). Now using the Amantino name, the Brazilian firm is offering an over-under shotgun at a price not much higher than many pumps.

While the Condor will win no prizes for ornamentation, it does have a mechanical single trigger, choke tubes and ejectors that are uncommon on a gun in this price class.

All metal parts, save the ejector assemblies, trigger, firing pins and hammer spring guide rods that are left in the white, are of blued steel. The sides of the box-lock action are spartanly engraved and decorated with the company name.

The plain figured blonde hardwood stock has 20 line-per-inch, hand-cut checkering in a bordered point pattern on the buttstock and fore-end with quite a few overruns. The stock has a 1" black rubber recoil

AMANTINO CONDOR 1

MANUFACTURER: E.R. Amantino & Cia., Ltd., Veranopolis, RS, Brazil IMPORTER: Stoeger Industries, Dept. AR, 5 Mansard Ct., Wayne, NJ 07606 MECHANISM TYPE: over-under shotgun **GAUGE: 12, 3"**

OVERALL LENGTH: 457/6" **BARREL LENGTH: 28"** WEIGHT: 8 lbs., 7 ozs.

TRIGGER: single non-selective, 8 lbs. pull for both barrels

STOCK: Brazilian hardwood: length of pull, 141/2"; drop at heel 21/2"; drop at comb, 11/2" ACCESSORIES: choke tubes, spanner

PRICE: \$600

pad fixed by two screws. We assumed ejection was selective, but we soon found that the top barrel kicks out its empty ahead of the lower and before the action is completely opened.

> When the action is closed, two .2" horizontally arranged pins on either side of bolt face engage in recesses in the back of the monobloc on either side of the upper chamber, much like the system used in the Beretta 686 series. Pushing the top lever to the right withdraws the pins back into the receiver, allowing the action to open. The lever must be moved all the way to the right until the pins are engaged by their catch in order for the monobloc to fully clear them. The top lever is crosshatched only on its left side.

> > The Condor, unusually

sive over-under, has a mechanical trigger. When the gun is opened, twin cocking rods that run through the bottom of the receiver cock the hammers. The dual sears, suspended from the tang, engage notches in the top of the hammers. When the single non-selective trigger, pinned to an L-shaped safety connector, is pulled, the connector lifts up on a projection at the rear of the sear, moving it out of engagement and allowing the coil-springpowered hammers to travel forward.

for an inexpen-

The tang-mounted safety is engaged by pushing its button rearward and is not automatic. This pulls the safety connector out of



Coil springs power the Condor's hammers, which are controlled by sears that are suspended from the top strap. The manual safe-

ty disengages trigger from the connector.

contact with the sears, disabling the trigger. The wavy line pattern barrel rib tapers from .371" to .362" at the muzzle, with a single brass .123" bead at the front. The barrels have no side ribs and are joined only at the monobloc and at the muzzle. Choke tubes and a spanner are supplied. Both bores measured .728", and the full choke tube in the upper barrel measured .696", while the

AMANTINO CONDOR 1 12-Ga. 19 18 20 16 29 31 30 32 30 30 26 33 16 **Modified Barrel** Full Barrel = Point of Hold Winchester Super-X Long Range 2¾-1¼-6 Pellet count-278 Average of 10 patterns at 40 yds. **Total Hits** 185 (66%) **Total Hits** 193 (69%) 21.2" Inner Circle 21.2" Inner Circle 117 (42%) 124 (45%)

30" Outer Ring

69 (24%)

68 (24%)

30" Outer Ring



modified one in the lower measured .708".

The Condor I was pattern tested, with results shown in the accompanying table, and function-fired at American trap and hand-thrown clays with Federal, Sovereign and Winchester ammunition. There were no failures of any kind.

The gun's action was quite stiff when we first received it, but loosened up a bit as firing proceeded. One annoyance was that the top latch catch sometimes slipped, allowing the latch to close with the barrels open.

We weren't expecting excellent shooting results from an over-under shotgun in this price range, but the Condor I surprised us, with consistent target breaking at all angles



The barrels are assembled on the monobloc system and are bolted to the action body by a Beretta-style locking piece. The top latch catch sometimes slipped with the gun open.

and ranges. Its hard to call a trigger pull of 8 lbs. good, but both pulls were smooth and crisp, and the weight didn't seem to bother us a bit when shooting. At just a bit less than 8½ lbs., the Condor I has plenty of recoilabsorbing bulk, and recoil was quite bearable, even with 3¾-dr. field loads.

Though not the prettiest over-under we have received recently, the Condor is an inexpensive but rugged and robust field gun that will appeal to those who prefer features to decoration.

SWAROVSKI AT 80 SCOPE

PHOOTERS, hunters and guides who demand and can afford the finest optical equipment and who are physically robust enough to manage a spotting scope that is 20.25" long with built-in lens shade extended and that weighs just an ounce under 4 lbs. will find much to admire in the Swarovski AT 80 spotter.

This imposing offering in the Austrian firm's *Habicht* (hawk) line of sporting optics has an 80 mm objective lens for very bright viewing, a hefty cast aluminum body that feels like a single solid piece and waterproof construction that allows dunking with impunity.

The scope tube measures 3.62" in diameter at the objective and tapers gently to a diameter of 2.96" at the mid-body focusing collar, which is covered in finely ribbed rubber to provide a nonslip grip. The rear portion of the AT 80 that accepts interchangeable eyepieces angled 45° with respect to the main lens axis, is vaguely box-shaped.

The mounting block located at the AT 80's balance point is threaded for both 1/4" and 3/8" tripod screws. It is ring-mounted to permit rotating the scope axi-

ally for optimal positioning of the eyepiece, and has 45°-interval click stops plus a clamp

Our sample AT 80 was equipped with a 20-60X variable-power eyepiece. A control ring on the ocular tube selects the power setting. We noted that if we focused the scope at the 60X setting, it was not necessary to refocus when changing to lower magnifications. It held focus perfectly. A soft, folddown rubber eyepiece provided comfortable viewing with or without eyeglasses. The AT 80 eyepiece mounts via a gasketed quick-change bayonet fitting. Other available eyepiece options include 22X and 32X

In field testing, the Swarovski AT 80 proved exceptional in all respects. The optics, enhanced by proprietary multiplelayer coating, delivered breathtakingly clear, contrasty, richly detailed images free of extraneous color casts. A minute trace of pincushion distortion was perceptible at 60X. At lower magnifications, the system was free of distortion.

wide-angle units.

The Swarovski AT 80 ranks at the very top of the spotting scope field. It's big, heavy and expensive, but offers unrivaled clarity and definition for the sort of user who needs the maximum in precision.

> Under a wide variety of indoor and outdoor lighting conditions, images were virtually free of flare and internal reflections. Precise focusing was easy thanks to the buttery smoothness of the internal focusing mechanism and the unambiguous visual snap that signaled best focus. Minimum focusing distance was just under 20 ft.

> Image quality held up across nearly the entire viewing field, with only minimal falloff at the extreme edge of the image circle.

Field of view at 100 yds. ranged from 5.3 ft. to 9.8 ft., depending upon magnification. Eyeglass wearers could not see the outer edge of the field.

During extended use, the Swarovski AT 80 survived considerable car-trunk travel unscathed. The finish proved tough as well as handsome. After a year of range trips the scope looked and felt new.

Swarovski states that the AT 80 is waterproof, so we subjected it to 10-minute submersion in a tub of water at 110°F. No tattletale bubbles emerged from the scope, and there was no trace of internal moisture or

fogging.

This test proved to be more of a hands-on experience than usual because we had to actually hold the AT 80 under the hot water. Surprisingly for such a heavyweight, it has positive buoyancy and kept bobbing to the surface unless forcibly restrained.

It's somehow reassuring to know that this pricy gem won't disappear beneath the waves if it ever goes overboard. Like Ivory soap, it floats.

The bottom line is that our sample Swarovski AT 80 was an

exquisite performer that delivered what it promised and will likely continue to do so during a long service life. According to the warranty, the Austrian manufacturer ". . . warrants this instrument during the life of and as long as it is owned by the original owner."

Available from: Swarovski Optik North America, Ltd., Dept. AR, One Wholesale Way, Cranston, Rhode Island 02920. Price with 20-60X ocular: \$1,400.