



Springfield XD Sub-Compact

Springfield, Inc., has swiftly made good on its promise to offer its popular new XD line of pistols in a variety of configurations. The polymer frame double-action-only (DAO) gun is now available ported or unported, in black, olive green or a combination thereof, a long-barreled competition version and a sub-compact model for lawful concealed carry. We received one of these last for test and evaluation.

The XD gained immediate notoriety for its sheer variety of features. It is a rolling showcase of late 20th/early 21st Century design trends with a couple of classic elements thrown in for good measure. In addition to being made of high-strength polymer and having a DAO trigger,

the XD boasts dual recoil springs, snag-free sights, accessory-mounting rail, double-column magazine, ambidextrous magazine release, loaded chamber indicator and a firing pin status indicator. The classic influences stem from the M1911. The XD has a grip angle similar to that of "old slabsides" along with a grip safety. This particular grip safety locks the action, meaning the slide cannot be retracted without the grip safety being depressed.

The other laudable aspect of the XD is its apparent sturdiness. The steel parts are coated with a proprietary anti-corrosion treatment, the steel slide rails are thick and strong and the polymer frame is tough and resilient.

The XD Sub-Compact,

available in 9 mm Luger and .40 S&W, manages to incorporate all of the XD features despite its abbreviated dimensions. It is, in fact, the only gun in its class that incorporates a light rail. Its barrel, at 3 1/8", is 1" shorter than the standard model XD, while its 4 1/2" height repre-

sents a 1" reduction from the original. The XD Sub-Compact weighs 20 1/2 ozs. unloaded, just a bit less than the original.

Accordingly, the XD Sub-Compact handles a little quicker than the standard model, and balances well for a small pistol. The



The XD Sub-Compact's frame is made of polymer and is available in black or olive drab. Its steel slide rails are thick and strong. An integral accessory rail at the lower front allows for the mounting of a compact, high-intensity light.

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."

WARNING: 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.



a straight arm. The DAO trigger remains the biggest plus, with the long take-up and break feeling much lighter than its measured 6 lbs. Most recognize the trigger as double-action-only, but the Bureau of Alcohol, Tobacco, Firearms and Explosives has determined the XD to be a single-action and some shooting sports governing bodies are in agreement with the agency.

The only marginal aspect of the XD Sub-Compact was

SHOOTING RESULTS					
9 mm Luger Cartridge	Vel. @ 15' (f.p.s.)	Energy (ft.-lbs.)	Group Size In Inches		
			Smallest	Largest	Average
Black Hills 124-gr. JHP	1052 Avg.	305	3.00	4.13	3.55
Federal No. C9BP 115-gr. JHP H-S	1059 Avg.	287	4.25	5.75	5.03
Hornady No. 9025 115-gr. JHP XTP	1066 Avg.	291	4.38	7.25	5.45
Average Extreme Spread:			4.67		
Measured average velocity for 10 rounds from a 3 1/8" barrel. Range temperature 81°F. Humidity 85%. Accuracy for five consecutive, five-shot groups at 25 yds. from sandbags. Abbreviations: Sd (standard deviation), H-S (Hi-Shok), JHP (Jacketed hollow point), XTP (Extreme Terminal Performance).					

accuracy. Though adequate for close-range self defense (which, granted, is the little gun's intended role), the XD Sub-Compact produces fairly large groups at longer ranges. But, also like the larger XD, it functions flawlessly, feeding all bullet profiles without a hiccup.

With holster makers

already cranking out concealment leather and with Springfield offering a mini-gun-mounted light as well as optional tritium night sights, the XD Sub-Compact is already proving an attractive package for citizens in Right-To-Carry states and for plainclothes law enforcement personnel.

XD SUB-COMPACT

MANUFACTURER: HS Produkt, d.o.o., M. Bogovica 7, Karlovac, Croatia 47000
IMPORTER: Springfield, Inc. (Dept. AR), 420 W. Main St., Geneseo, IL 61254; (800) 680-6866; www.springfield-armory.com.

CALIBER: 9 mm Luger (tested), .40 S&W
ACTION TYPE: locked-breech, short-recoil semi-automatic pistol
FRAME: polymer
BARREL: 3 1/8"

RIFLING: six-groove conventional, 1:10" RH twist
MAGAZINE: detachable, double-column box, 10-round capacity (12-round capacity for law enforcement)

SIGHTS: dovetail post front, dovetail notch rear drift-adjustable for windage
TRIGGER: double-action-only, 6 lbs. pull

OVERALL LENGTH: 6 1/4"
WIDTH: 1 1/4"
HEIGHT: 4 1/2"
WEIGHT EMPTY: 20 1/2 ozs.
ACCESSORIES: plastic case, gun lock, spare magazine, reference fired cartridge case
SUGGESTED RETAIL PRICE: \$489



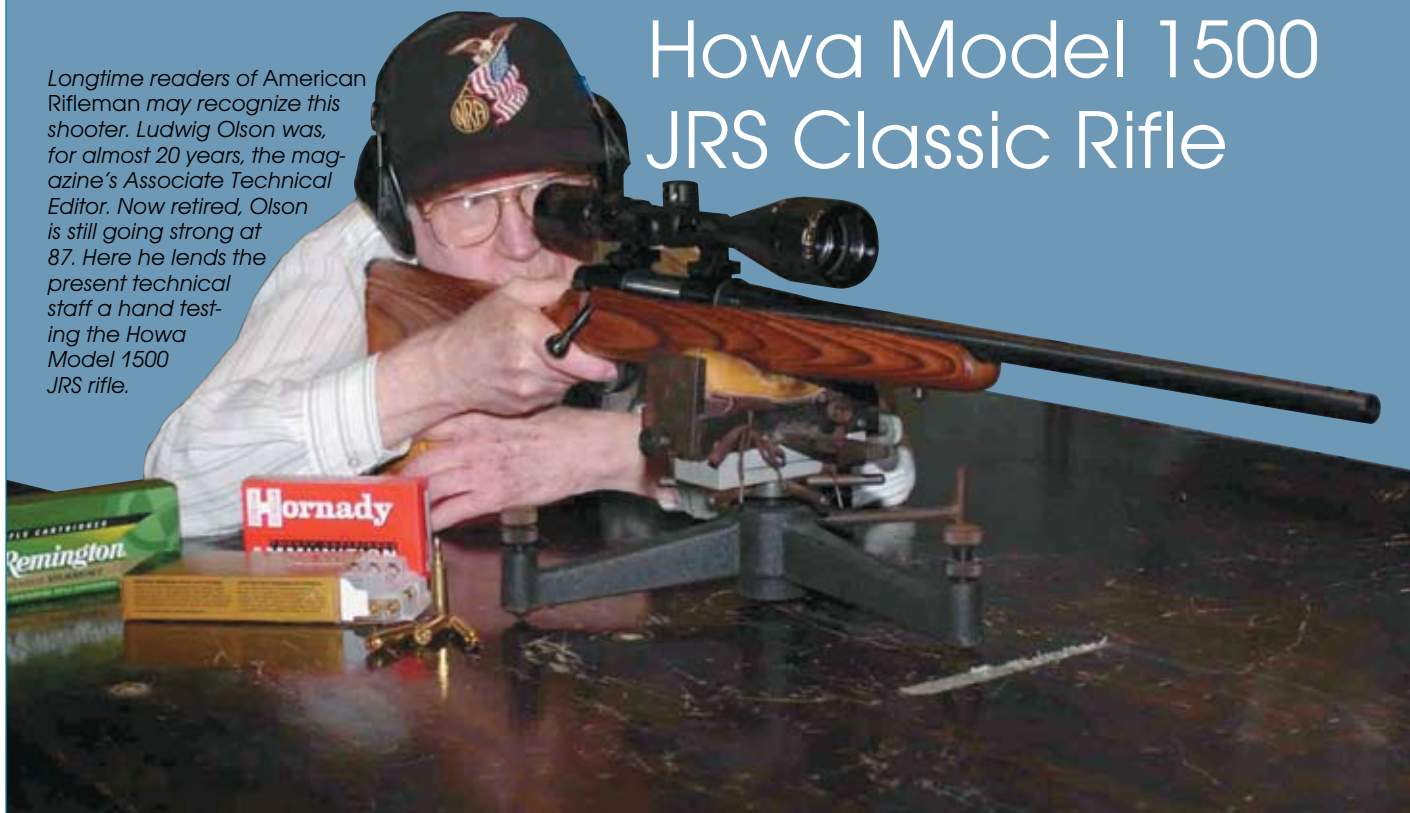
Dual "nested" recoil springs (above) allow powerful, progressive resistance in a small space, hence their popularity in small guns.

The XD's slide (above) is sturdily constructed of steel. The gun's steel components have a proprietary anti-corrosion coating.

The XD is an amalgam of popular features found on other pistol designs. For example, the grip safety and grip angle (l.) are similar to those of the M1911, while the safety lever within the trigger face (above) is evocative of Glock pistols.

Howa Model 1500 JRS Classic Rifle

Longtime readers of American Rifleman may recognize this shooter. Ludwig Olson was, for almost 20 years, the magazine's Associate Technical Editor. Now retired, Olson is still going strong at 87. Here he lends the present technical staff a hand testing the Howa Model 1500 JRS rifle.



Howa Machinery, Ltd., of Japan recently appointed Legacy Sports Int'l of Alexandria, Va., the importer of its Howa-branded Model 1500 rifles. When the two companies began planning new product strategy, they consulted Jon R. Sundra, a noted gun writer, experienced hunter and American Rifleman contributing editor to help develop a suitable stock design. The result is the Howa line of Model 1500 JRS Classic hunting rifles available in 10 classic center-fire calibers and three new Winchester Short Magnum calibers. We recently evaluated a Model 1500 JRS Classic in .22-250 Rem.

The NRA Technical Staff had tested the Howa Model 1500 Lightning (light-weight) rifle previously (April, 1998, p. 46). As the mechanical features of the Model 1500 JRS Classic rifle differ only in detail from the Lightning, this evaluation will focus on the

changes made to the JRS Classic with only a brief review of the Model 1500's basic mechanical design.

Howa Model 1500 JRS Classic rifles are based on a short or long length, turn-bolt, center-fire action in carbon or stainless steel, with laminated wood or black synthetic stock. Both barrel and receiver are hammer-forged, and the action features a short, 60 degree bolt throw, dual opposed front locking lugs and an internal extractor and ejector. The bolt-face is recessed so that when the bolt is locked, the cartridge case head is completely surrounded and supported.

The Model 1500 has an internal, double-column magazine with a hinged floor plate, two-position safety and single-stage trigger adjustable for sear engagement and let-off weight. A unique feature is the striker that cocks partially on opening and fully on closing to reduce bolt throw forces. Metal sights

are not provided or offered, however, the receiver is drilled and tapped for scope bases. Sporter contour barrels usually taper to 0.620" at the muzzle, depending on caliber.

Laminated wood with robust dimensions is substantially more stable and considerably stronger than regular wood stocks. Howa offers two stock colors: nutmeg (brown and natural layers) and pepper (gray and natural layers).

Both have a satin finish. In addition, the JRS Classic is offered with a molded black synthetic stock.

A quick review of the laminate JRS stock's dimensions indicates a 13 $\frac{3}{8}$ " pull length. This is shorter than many competitive rifle stocks, which typically measure about 14 $\frac{1}{2}$ ". Sundra feels the short pull reduces the chance of the rubber buttpad snagging on clothing. He also notes: "Most North American big



The Howa Model 1500 action has a modern bolt design with an internal extractor and ejector, short 60 degree bolt throw, dual opposed front locking lugs and three gas relief holes. To reduce bolt opening forces, the striker is partially cocked on opening and fully cocked on closing.



Howa's Model 1500 JRS rifle has a laminated wood or molded synthetic stock designed by gun writer and American Rifleman Contributing Editor Jon R. Sundra. The laminated JRS stock features a straight comb with cheek-piece, flat fore-end and open pistol grip with no checkering.

MODEL 1500 JRS

MANUFACTURER: Howa Machinery, Ltd., Sukaguchi, Shinkawa-cho, Nishikasugai-gun, Aichi-Ken, 452, Japan

IMPORTER: Legacy Sports Int'l (Dept. AR), 206 S. Union St., Alexandria, VA 22314; (703) 548-4837; www.legacysports.com

CALIBERS: .223 Rem., .22-250 Rem. (tested), .243 Win., 6.5x55 mm Swedish, .270 Win., .270 WSM, 7 mm WSM, 7 mm Rem. Mag., .308 Win., .30-06 Sprg., .300 WSM, .300 Win. Mag., .338 Win. Mag.

ACTION TYPE: bolt-action, repeating, center-fire rifle

RECEIVER: hammer-forged, blued carbon steel (tested) or satin stainless steel

BARREL: 22" (magnums 24") hammer-forged, blued or stainless steel

RIFLING: six-groove, conventional; 1:14" RH twist

MAGAZINE: internal, five-round capacity (magnum, three rounds)

SIGHTS: none, receiver drilled and tapped for scope mounts

TRIGGER: single-stage, adjustable, 4 $\frac{1}{2}$ lbs. pull

STOCK: nutmeg or pepper laminated wood, or synthetic; length of pull, 13 $\frac{3}{8}$ "; drop at heel, 1 $\frac{1}{8}$ "; drop at comb, 1 $\frac{1}{4}$ "

OVERALL LENGTH: 42 $\frac{1}{8}$ " (standard calibers), 44 $\frac{1}{8}$ " (magnums)

WEIGHT: 8 lbs.

ACCESSORIES: gun lock

SUGGESTED RETAIL PRICE: \$612 (blue); \$641 (stainless); \$714 (blue magnums); \$743 (stainless magnums)

game hunts are in the fall or early winter when hunters wear heavy coats. The 13 $\frac{3}{8}$ " pull length of the JRS stock compensates for this, yet remains comfortable in warm weather." Drop at the JRS comb is 1 $\frac{1}{4}$ ", and drop at the heel is 1 $\frac{1}{8}$ "—highlighting a straight comb height that aligns the eye in the scope's ocular (rear) lens.

Our test Model 1500 JRS Classic rifle functioned flawlessly with smooth feeding, reliable extraction and positive ejection. Bolt glide was noticeably good once lubricated properly. The light, 4 $\frac{1}{2}$ -lb. trigger pull was partially offset by a short, gritty take up. A careful inspection of fit and finish revealed excellent metal-to-metal fit; wood-to-metal fit was rated average. For example, the barrel should be



Both long- and short-action Howa 1500s are drilled and tapped for scope bases as iron sights are not offered. The rifles' trigger units are adjustable for both let-off weight and sear engagement.



The JRS stock's somewhat short length of pull prevents the rubber recoil pad from snagging on thick clothing.

SHOOTING RESULTS

.22-250 Rem. Cartridge	Vel. @ 15' (f.p.s.)	Energy (ft.-lbs.)	Group Size In Inches		
			Smallest	Largest	Average
Winchester No. SBS22250A 40 gr. BST	3843	Avg. 1,312	0.73	1.56	0.96
Hornady No. 8336 50 gr. V-Max	3636	Avg. 1,468	0.78	1.22	0.98
Federal No. P22250B 55 gr. BTHP	3506	Avg. 1,502	0.84	1.32	1.01
Average Extreme Spread:			0.98		

Measured average velocity for 10 rounds from a 22" barrel. Range temperature: 81 °F. Humidity: 50%. Accuracy for five consecutive, five-shot groups at 100 yds. from a sandbag. Abbreviations: Sd (standard deviation), BST (Ballistic Silvertip), BTHP (Boat Tail Hollow Point).

free-floating, however the fore-end did touch the barrel lightly on the right side. Steel parts were finished with a medium polish blue while aluminum parts had a remarkable high-polish, black-anodized finish.

We tested the JRS for accuracy using three different bullet weights and three different brands of ammunition—Winchester, Hornady and Federal. The average extreme spread was just under 1", which is well above average for a sporter barrel rifle and more than adequate for hunting predators and small game.

Shooters judged the rifle's ergonomics, perceived recoil and balance as being very good, while handling and stock dimensions were rated excellent.

The Howa Model 1500 JRS Classic hunting rifles combine quality, durability and features with superb handling, outstanding balance and excellent ergonomics. Wisdom comes from experience, and Legacy has successfully tapped into Jon Sundra's wealth of knowledge in building high perceived value into the JRS Classic rifle series.

EAA Baikal Drozd



Baikal's new Drozd (bumble bee) defies categorization. It is not suited for competition, hunting or personal defense, yet its attractiveness and fun factor are off the scale. Basically, the Drozd can be described as a CO₂-powered, selective-fire (yes, full-automatic capability) BB gun with an electronic fire control system. However that bland, technical description does not begin to adequately describe the innovative features of the Drozd.

The electronic fire control system of the Drozd is powered by six AA alkaline batteries held in a compartment in the nose of the stock. There are three sliding control switches on the receiver—one on the right side and two on the left. On the left side, the vertical on-off switch also serves as a safety. The left front switch is a three-position, firing mode selector offering semi-automatic, fully

automatic in three-shot bursts and fully automatic in six-shot bursts. On the right side is a sliding, three-position, firing rate control switch that regulates full-auto fire at 300, 450 or 600 "shots" per minute.

Propulsion power is provided by a single, 12.5-gram CO₂ cylinder held in the detachable, black, steel and polymer magazine. Gas is metered by a needle valve on the magazine lip. Inserting the magazine in the gun aligns the needle valve with the electrically powered striker. Pulling the trigger powers the striker to hit the needle valve, releasing a measured amount of CO₂ gas through the barrel. Air rifle shot is fed into an opening in the magazine top by spring pressure. Loaded magazines are inserted in the pistol grip of the Drozd, Uzi-style.

The compact, two-piece, polymer receiver is molded with a black upper and a yellow lower—a color

scheme selected to make the Drozd appear less menacing. The black polymer shoulder stock can be easily installed or removed by sliding it in or out of dual holes molded into the rear end of the upper receiver. Both the pistol grip and the fore-end have slots molded into their outer surfaces for better purchase.

Sights consist of a fixed-blade front and a spring-loaded rear notch-in-blade adjustable for elevation by means of a small screw. A replacement rear peep sight blade is supplied with the gun for those preferring that type of sight. After a few firings, the spring under the rear sight fell out and was lost. We fired our accuracy tests at 33 ft. and obtained an average extreme spread of 1.65"—not bad for a BB gun.

Drozd receivers need no scheduled maintenance and do not need to be disassembled. Routine maintenance consists of wiping

BAIKAL DROZD

MANUFACTURER: Izhevsky Mekhanichesky Zavod (Baikal), 9 Promyshlennaya St., Izhevsk 426063, Russia
IMPORTER: European American Armory Corp. (Dept. AR), P.O. Box 1299, Sharpes, FL 32959; (321) 639-4842; www.eaacorp.com
CALIBER: .177" for steel air rifle shot (BBs)
ACTION TYPE: electronically controlled, selective-fire, CO₂ powered
RECEIVER: molded yellow and black plastic
BARREL: rifled 7¼" steel with false muzzle, six grooves, RH twist 1:9"
MAGAZINE: detachable, 50-shot, with one 12.5-gram CO₂ cylinder
SIGHTS: fixed blade front, rear screw-adjustable for elevation
TRIGGER: electronically controlled, single-stage, 2 lbs. pull
STOCK: length of pull, 11¼"; drop at heel, 1½"; drop at comb, 1¼"
OVERALL LENGTH: 13¾"; 19¾" (with stock)
WEIGHT: 3 lbs., 5 ozs.
ACCESSORIES: shoulder stock, magazine loading device, spare O-rings, rear sight insert, steel air rifle shot (BBs)
SUGGESTED RETAIL PRICE: \$219



Baikal's new Drozd selective-fire airgun is a classic example of innovative, outside-the-box thinking and makes for a fun little airgun that defies categorization.

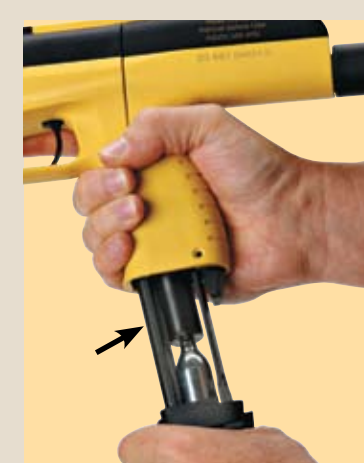
SHOOTING RESULTS

.175" Steel Air Rifle Shot	Vel. @ 15' (f.p.s.)	Group Size in Inches		
		Smallest	Largest	Average
Crosman 5-gr. Copperhead	482 Avg. 11 Sd	1.25	2.44	1.65
Average Extreme Spread:				1.65

Measured average velocity for 10 rounds from a 7¼" barrel. Range temperature: 81 °F. Humidity: 50%. Accuracy for five consecutive, five-shot groups at 33 ft. from a sandbag rest. Abbreviations: Sd (standard deviation).



A lever on the bottom of the magazine (arrow above) presses and holds the CO₂ cylinder upward against a yoke, piercing the seal and releasing the gas. Gas is metered by a needle valve (arrow, top r.) on the magazine. When the magazine is inserted in the gun, the needle valve stem is aligned with an internal, electrically powered striker. When the trigger is pulled, the striker hits the needle valve, releasing a measured amount of CO₂ gas.



The EAA Drozd magazine holds 50 BBs in a spring-loaded chute in the front (arrow), and a 12.5-gram CO₂ cylinder in the center.



The vertical on-off switch (arrow) serves as a safety as the gun will not fire with the switch in the "off" position. The left front switch is a three-position, firing mode selector allowing the choice of semi-automatic, single shots, full automatic in three-shot bursts and full automatic in six-shot bursts.



The spring-loaded notch in blade rear sight is adjustable for elevation by means of a screw.

the plastic surfaces off with a damp cloth and the metal magazine surfaces with an oily cloth. Rubber O-rings in the magazine seal the CO₂ gas and are replaceable. Several spare O-rings are included with each gun. We found an occasional drop of gun oil in the BB magazine and on the needle valve promoted smooth functioning. Otherwise, replacing the AA batteries was the only other maintenance required. During long periods of inactivity, the firing switch should not be left in the "on" position as this will drain the batteries.

When firing at longer-range targets, we noted that some air rifle shot flew nearly straight while

others followed a curved, right-hand trajectory. This was caused by the right-hand twist rifling in the barrel. The 0.175"-diameter steel air rifle shot are undersized for the .177"-diameter barrel. Lead diabolo air rifle pellets cannot be loaded in the Drozd.

Each CO₂ cylinder held enough gas to fire about 140-150 BBs with an average muzzle velocity of 482 f.p.s. We found more consistent velocity and gas pressures by stretching out magazine reloads to allow the CO₂ cylinder to warm up.

Firing the Drozd proved a popular event for shooters of all ages. We found the Drozd small enough for adolescents to fire

comfortably (under strict supervision, of course). As it makes very little noise, it will not annoy neighbors and no hearing protection is required. All switches and the rear sight elevation adjustments (with the spring in place) proved positive and simple to operate. Its purchase price will not strain most budgets, and steel air rifle shot and CO₂ cylinders are inexpensive and easy to find in quantity.

Steel air rifle shot easily ricochets and, although maximum travel distance is less than 100 yds., it is important to always be sure of your backstop and to wear safety glasses when firing the Drozd. For back-

yard plinking, we found cardboard boxes with circles marked on their side for aiming points and filled with wadded newspaper made perfect targets. Most BBs were completely spent after penetrating the cardboard and the newspaper absorbed and held the remainder. While air rifle shot fired from the Drozd are likely not lethal, they can cause serious personal injury; thus the Drozd must not be considered a toy.

Owning the selective-fire Drozd requires no Federal license as it is not a firearm. Rather it is a new type of air rifle with a high fun content and a fresh perspective on low-cost plinking.

Blue Wonder Gun Care Products

Blue Wonder Gun Blue did an excellent job of evenly covering the newly drilled gas ports on this shotgun barrel and blending them in with the original blue finish. Blue Wonder Gun Cleaner easily removed the accumulated rust from this metal plate with the help of a steel wool pad.

Remember when you cleaned guns with nitro solvent, an old T-shirt and elbow grease? To remove lead fouling, you used a Lewis lead remover. To remove copper fouling, you used JB bore paste. While these combinations worked (eventually), today, the process of cleaning and preserving firearms has benefitted immeasurably from new technologies. Modern gun care products offer superior performance for two reasons: Their chemistry is based on proven scientific principles, and products are differentiated for specific applications.

Novum Solutions recently introduced two new gun care products under the Blue Wonder brand name: Gun Cleaner and Gun Blue. Novum states both products are non-toxic, emit no harmful fumes and are biodegradable.

Unlike liquid gun cleaning products, Blue Wonder Gun Cleaner is a brownish gel with a low ammonia content that contains no acids. Novum recommends Blue Wonder Gun Cleaner

for two distinct uses: First, loosening rust and emulsifying dried lubricants on metal surfaces of firearms without damaging the finish, and, second, removing copper, lead, plastic and blackpowder fouling from bores using neutral pH micro-penetrants that attack the chemical bonds holding those deposits to steel. This enables Blue Wonder to quickly clean metals down to their pores.

We tested those claims by first using Gun Cleaner to remove the oxidation from a moderately rusted sheet of 0.035" thick steel. Blue Wonder easily removed the accumulated rust with help from a pad of steel wool. Next we used Gun Cleaner to remove copper fouling from the bore of a .22-250 Rem. rifle and lead fouling from the bore and action of a .22 rimfire rifle. In both cases, Gun Cleaner effectively removed nearly all fouling.

Blue Wonder Gun Blue is a two-part chemical system for touching up areas on blued steel firearm

surfaces. Gun Blue bonds only to ferrous metals and will not harm existing blue finishes. Additional coats of Gun Blue allow matching the depth or shade of the existing finish. Gun Blue can be used to reblue a complete gun with a polished, antique or even matte surface finish with wear resistance similar to normal blue finishes.

We tested Novum's Gun Blue on a Remington Model 870 shotgun barrel with gas ports drilled near the muzzle. The ports were bare metal and the area immediately around them full of nicks and scratches from the drilling and deburring operations. Both surfaces were coated with Blue Wonder Gun Cleaner gel, then heated to approximately 130° F. using a hair dryer. After wiping off the Gun Cleaner, we saturated the area with four coats of Gun Blue. Next, we applied a single coat of Developer and then set the barrel aside overnight. The next day, we cleaned and polished the blued surface lightly with steel wool and applied a coating of gun oil. Blue Wonder Gun Blue did an excellent job of rebluing the ports on the shotgun barrel and blending them in with the original finish.

Novum Blue Wonder Gun Cleaner and Gun Blue work as advertised. We found the small container sizes more than adequate as a little of both went a long way.

Available from: Novum Solutions, Inc. (Dept. AR), 1585 West Sam Houston Parkway North, Suite 200, Houston, TX 77043; (832) 204-0866; www.bluewonder.us; Gun Cleaner: 1 oz. tube \$5; Gun Blue kit: 1 oz. \$3.



We tested Blue Wonder Gun Cleaner by using it to clean the lead-fouled bore of this .22 rifle. It effectively removed the fouling on the first attempt.