

## Stop Wasting Your Money Throwing Away Disposable Air Filters



**Make Your Move® to a K&N Reusable Air Filter that you only have to buy once.**

K&N Air Filters are also designed to increase horsepower. They are made from layers of woven cotton instead of paper, which allows your car to breathe easier - and you can take that to the bank.

Find yours today at  
[KNFILTERS.COM/AMERR](http://KNFILTERS.COM/AMERR)  
800-437-1304 Ext. 2066



**FACTORY REPLACEMENT  
MILLION MILE AIR FILTERS**

© 2013 K&N Engineering, Inc.

## TECHNICAL LOADING BENCH

# Drawing Down Jacketed Bullets For Obsolete



Several years ago I received an invitation to hunt moose in Sweden as a guest of Norma, and decided to take an Ultra Light Arms rifle in .358 Norma Mag. I also wanted to load the cartridge with Norma bullets and, while a box was on hand, they were 9.3 mm. Using a draw die, I reduced their diameter from 0.365" to 0.358". Doing so obviously had no adverse affect on accuracy as the modified bullets punched out smaller groups from the .358 Norma Mag. than when shot at their original diameter from my Sako rifle in 9.3x62 mm Mauser. Several weeks later one of them accounted for the best bull taken by the host hunting club members and their guests during that year.

As Dave Corbin of Corbin Mfg. pointed out to me, bullet-reducing (or drawing) is just the opposite of bullet swaging. Swaging a bullet requires the application of pressure to a lead core placed inside a jacket. The core expands and pushes the wall of the jacket hard

against the wall of the die, thereby increasing diameter. When pressure is relieved, the bullet springs back a bit, releasing its grip on the wall of the die so the bullet can be removed.

The drawing process entails pushing a finished jacketed bullet through an annular die. To compensate for springback, the interior of the die is hand-reamed and polished a few millionths of an inch smaller than the desired bullet diameter.

The amount of springback varies for different types of jacketed bullets, but is usually less than 0.0015". If a die is reamed to reduce the diameter of the Sierra MatchKing, it may work equally well with other thin-jacketed target bullets of the same caliber made by Berger, Hornady, Lapua and others. It probably won't be exactly correct for thicker-jacketed bullets such as the Nosler Partition and Swift Scirocco II, and the difference may or may not affect accuracy.

Plenty of good 0.358" bullets

Photos by author

# Cartridges

Mannlicher-Schoenauer rifles can vary greatly with regard to groove diameter. Depending on this dimension, bullets measuring 0.268" to 0.277" can be reduced in size for the proper fit.

BY LAYNE SIMPSON



were available when I hunted moose in Sweden so drawing the rounds was not a necessity, rather just a preference. Such is not the case for some cartridges. An example is an old wildcat called the .333 OKH, which was cooked up by Charles O'Neil, Elmer Keith and Don Hopkins. Before Fred Barnes and Vernon Speer started making bullets of that diameter during the early 1950s, they had to be imported from England where they were made for the .333 Jeffery. Today, owners of rifles chambered for the .333 OKH or its belted litter-mate, the .334 OKH, as well as the .333 Jeffery, are not likely to find the bullets they need on the shelves

of their local gun shop. But 0.338" bullets made for .338 Win. Mag. and others of its caliber are easily squeezed down to 0.333".

There are even more rifles out there in .318 Rimless Nitro Express or .318 Accelerated Express as its developer, Westley Richards, called it. Its 0.330" bullet can also be formed from those measuring 0.338".

For many years I have owned a Model 1903 Mannlicher-Schoenauer in 6.5x54 mm, and I find that groove diameter in those rifles varies considerably. My rifle measures 0.2652" and the Hornady 160-gr. round-nose bullet (No. 2640) measuring 0.264"

**continued on p. 56**

Popular NGC Certified 70 Grade  
**"PERFECT!"**

Only Available In This Set

## 2013 West Point American Eagle Two-Coin Silver Set



coin images not to scale

Only **\$295.00** per two-coin set  
 not sold separately

PLUS PRIORITY SHIPPING & INSURANCE

**\*\* 75TH ANNIVERSARY SET \*\***

(1) First-Ever Enhanced Finish Silver Eagle



(1) Reverse Proof Silver Eagle

SOLD OUT AT THE MINT

Certified by NGC, the Numismatic Guaranty Corporation

Limit (2) Sets per household

Your choice: Limited Edition Black Retro Holder or New West Point Label White Holder while supplies allow / no dealers please

**(800) 822-GOLD (4653)**

Vault Verification: UAMRFC0913 Offer Expires: 9/15/13

Price subject to change Availability not guaranteed

Please read important customer disclosures on our website or that accompany products purchased, including arbitration agreement. Texas residents add 8.25% sales tax to orders under \$1000.

To see the Near Perfect **TURN PAGE**  
 69 Silver Coin Set

Est. 1994  
**UNIVERSAL COIN & BULLION**

Board Member: **ICTA** **NGC** **PCGS**  
 Numismatic Guaranty Corporation Authorized Dealer

universalcoin.com

# MODEL 3G

The world's most versatile 3-gun competition rifle



\*shown with optional sights

Scan the QR code with your mobile device



**STAG ARMS**  
www.stagarms.com  
860-229-9994

## LOADING BENCH

continued from p. 55



averages 4" groups at 100 yds. Loaded to 2200 f.p.s., it shoots to point of aim with the open sights and since everything I have shot with that rifle has been inside 100 long paces, I am content with its accuracy.

A friend of mine is not so lucky. The groove diameter of his rifle is 0.2663" and it shoots all over the paper with the Hornady 0.264" bullet. But Hornady makes another 160-gr. round-nose bullet (No. 2645) for the 6.5x52 mm Carcano, and it measures 0.268". When drawn down to the proper diameter for his rifle, it averages 2" at 100 yds. I have heard of Mannlicher-Schoenauer rifles with groove diameters even closer to 0.270" and for those, bullets of 0.277" made for the .270 Win. could be squeezed down to size.

Sometime back I had a Marlin 1895 in .45-70 Gov't converted to .50 B&M Alaskan. Unlike the original .50 Alaskan which uses a bullet diameter of 0.510", the B&M version uses 0.500" bullets made for

the .500 S&W Mag. When the rifle cartridge is loaded to reach the higher end of its potential velocity, most of the bullets made for use in the S&W Model 500 revolver are too soft for anything bigger than deer, so I mostly use them for punching paper. For larger game, Swift makes a 0.509" A-Frame weighing 450 grs. and after being pushed through a 0.500" draw die and loaded to 1950 f.p.s., it shoots quite accurately in my rifle. I also have the option of using the 0.510", 500-gr. Weldcore bullet from Woodleigh.

Then we have vintage rifles in .22 Hornet, the barrels of which have a 0.223" groove diameter. Sierra and Hornady offer a 0.223" Hornet bullet, but having a die on hand for squeezing down 0.224" bullets gives the owner of an older firearm more options. I have a very handsome rifle in .22 Hornet built during the early 1930s by Adolph Niedner on a 1898 Krag action. It shoots the 0.223" bullets



from Sierra and Hornady okay, but it absolutely drives tacks with the Hornady 0.224", 35-gr. V-Max squeezed down to 0.223". And of course, we must not overlook drawing down 0.323" bullets commonly available for the 8x57 mm JS Mauser to 0.318" for the 8x57mm J Mauser.

Those who own vintage handguns can benefit as well. The Smith & Wesson Model 53 in .22 Jet uses a 0.222" bullet and while a 45-gr. flatnose is still available from Hornady, a draw die opens the door to other options for owners of that S&W revolver.

I could continue on with other examples but my point is made; anyone who owns a firearm chambered for a cartridge with an obsolete or difficult-to-find bullet diameter is a candidate.

There are limits on how much the diameter of various bullets can be reduced without affecting accuracy. As a rule, 0.006" is about maximum for those of small to medium calibers, and 0.008" to 0.010" for larger calibers. But there are exceptions with jacket hardness, thickness and ductility as well as core material density sometimes

*Reducing the diameter of tough bullets, such as Swift's 0.509" 450-gr. A-Frame (below), requires a specialty press, such as this one from Corbin Mfg. (r.). Other bullet reductions that the author has conducted are: from 0.365" to 0.358" (opposite r.); 0.323" to 0.318" (opposite l.); and 0.224" to 0.223" (opposite top).*



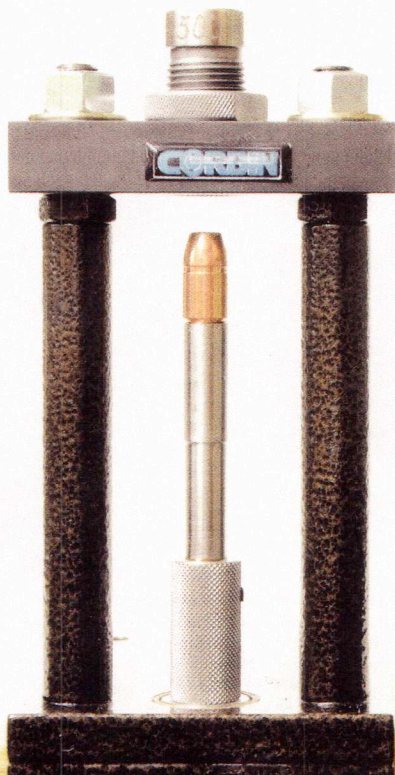
becoming greater factors than the amount of reduction involved.

If diameter is reduced more than the construction and material of a particular bullet can withstand, the fit between its jacket and core can become loose. This is not a problem with bullets that have the core bonded to the jacket or a plated bullet, such as the Speer DeepCurl.

Some bullets can be reduced with the die installed in a standard reloading press. Corbin's "S" die has the same 7/8-14 threads as a standard reloading die and screws into the top of the press. It comes with a punch used to push a bullet through the die. The opposite end of the punch is shaped like the bottom of a RCBS shell holder and snaps into the T-slot at the top of the ram of the press. Jobs requiring more power and leverage call for the greater mechanical advantage of a bullet-swaging press such as Corbin's CSP-1. That press takes a 7/8-14 die so it can also be used for reloading cartridges.

Whether or not a bullet can be reduced in a reloading press, or requires additional leverage, more

*continued on p. 58*



Popular NGC Certified 69 Grade  
"NEAR PERFECT!"

Only Available In This Set

## 2013 West Point American Eagle Two-Coin Silver Set



coin images not to scale

Only **\$185<sup>00</sup>** per two-coin set  
not sold separately

PLUS PRIORITY SHIPPING & INSURANCE

**\*\* 75TH ANNIVERSARY SET \*\***

(1) First-Ever Enhanced  
Finish Silver Eagle

BEAUTIFUL  
flag & details pop!

(1) Reverse Proof Silver Eagle

SOLD OUT AT THE MINT

Certified by NGC, the Numismatic  
Guaranty Corporation

Limit (2) Sets per household

Your choice: Limited Edition Black Retro  
Holder or New West Point Label White Holder  
while supplies allow / no dealers please

**(800) 822-GOLD**

(4653)

Vault Verification:

UAMRFCS0913

Check or  
Money Order

Offer Expires: 9/15/13

Price subject  
to change

Availability not  
guaranteed

Please read important customer disclosures on our website or that  
accompany products purchased, including arbitration agreement.  
Texas residents add 8.25% sales tax to orders under \$1000.

PREVIOUS  
PAGE

To see the Perfect 70  
Silver Coin Set

UNIVERSAL  
COIN & BULLION



NRA Business  
Alliance  
The Business of Freedom.

universalcoin.com

# Natchez

Shooters Supplies

1-800-251-7839

www.natchezss.com

**RCBS** Only \$289.95

**chargemaster**  
Dispenser and Scale Combo

There is no longer a need for timely re-weighing of powder. The new chargemaster dispenser is no longer a need for timely re-weighing of powder. Simply fill the 1 lb. capacity powder hopper with smokeless powder, enter the desired charge and press the dispense button. You can store up to 30 of your favorite loads in memory for fast easy recall.

chargemaster Dispenser & Scale Combo  
N09RC98923 .....\$347.45.....**\$289.95**



**Bushnell**

**MP Trophy Cam™ Trail Camera**

Captures 3, 5, 8 MP  
2 Infrared LED  
12 Color Images  
3.5" Text LCD Display  
Infrared Motion Sensor  
Extended Battery Life  
Compact Design • SD Card Slot  
Trigger Interval - 1 Sec. to 60 Min.

MP Trophy Cam™ Trail Camera Reg. Sale  
N09BH119435C .....\$249.00.....**\$79.95**  
MP Trophy Cam™ Trail Camera Bone Collector  
N09BH119445C .....\$259.00.....**\$89.95**




**PRIMOS** Best Priced Blackout Camera on the Market

**TRUTH Cam Ultimate Blackout™ 35**

Battery Life Tested beyond 30,000 photos  
Captures photos and high res videos

Simplest Blackout camera to use on the market! No Flash. No Glow. No Light. Designed to be UNDETECTABLE to Animals & Humans. • Built-In Protection: Rugged Case with security cable hole • Supports up to 32GB SD Card • LCD Screen Display • 1.2 Second Trigger Speed • 3 MP - Daytime, 1.3 MP - Nighttime

MP TRUTH Cam Ultimate Blackout Reg. Sale  
N09PY63037 .....\$159.99.....**\$89.99**



**REDFIELD**

**Revenge™ Riflescopes**

Pop-up resettable 1/4 MOA finger-click adjustments • Waterproof, fog proof, shock proof  
Superior durability, image quality, and field of view  
Fast focus eyepiece • Available with Accu-Ranger Ballistics System or 4-Plex System  
Redfield Lifetime Warranty

Power	Reticle	Item No.	Sale
7x34mm	4-Plex	N09RA115204	<b>\$139.99</b>
8x42mm	4-Plex	N09RA115208	<b>\$159.99</b>
8x42mm	ABS Hunter	N09RA115210	<b>\$179.99</b>
8x52mm	4-Plex	N09RA115212	<b>\$199.99</b>
12x42mm	4-Plex	N09RA115215	<b>\$199.99</b>
12x42mm	Accu-Range Hunter	N09RA115216	<b>\$219.99</b>
18x44mmAO	Fine-Plex	N09RA115218	<b>\$249.99</b>

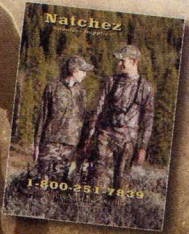


Call Now For a Free Catalog!

Find us on Facebook

Source code: **A1300579**

Prices subject to change due to manufacturers' price increases.



## LOADING BENCH

continued from p. 57

depends on its construction and hardness than its diameter. When drawing down the Woodleigh 500-gr., 0.510" bullet to 0.500" for my .50 B&M Alaskan, so little effort is required to push it through the die in my CSP-1 press, a standard reloading press would handle it quite easily. A reloading press would not have the leverage required for reducing the Swift 450-gr., 0.509" bullet by the same amount.

While those two bullets have bonded cores, they differ considerably in construction. The jacket of the Swift bullet is much thicker, and that along with its thick, mantel-like interior partition make it more resistant to being reduced in diameter. Since the amount of reduction required is such a small percentage of their diameter, both emerge from the die looking almost the same as they did prior to being pushed through it.

A bullet lengthens a bit when its diameter is decreased and the more it is squeezed down the longer it grows. The Swift 450-gr. bullet is 0.965" long at a diameter of 0.509" and 0.985" long at 0.500".

The 500-gr. Woodleigh is 0.995" before and 1.015" after. Although the distance from the cannelure to the nose on those bullets is increased, it does not affect overall cartridge length enough to matter in my Marlin 1895.

Samples of the bullet to be reduced have to be sent to Corbin in order to assure precise sizing of the die to compensate for springback. The customer is then informed whether it can be reduced in a standard reloading press or will require a bullet swaging press. When ordering my .50-cal. die I sent samples of the Swift A-Frame bullet because it is the one I will be using for most of my hunting with the .50 B&M Alaskan. Since the die was reamed specifically for it, I had assumed that due to differences in their construction, the Woodleigh bullet would emerge at a slightly different diameter. As it turned out, both measure precisely 0.500" after the reduction.

For more information on drawing down bullets contact: *Corbin's (Dept. AR), P.O. Box 2659, White City, OR 97503; (541) 826-5211; corbins.com.*

*For his .50 B&M Alaskan-chambered Marlin 1895, which uses 0.500"-diameter bullets, the author draws down 0.509" projectiles of stout construction to the correct width.*



**WARNING:** Technical data and information contained herein are intended to provide information based upon the limited experience of individuals under specific conditions and circumstances. They do not detail the comprehensive training, procedures, techniques and safety precautions that are absolutely necessary to properly carry on similar activity. READ THE NOTICE AND DISCLAIMER ON THE CONTENTS PAGE OF THIS MAGAZINE. ALWAYS CONSULT COMPREHENSIVE REFERENCE MANUALS AND BULLETINS OF PROPER TRAINING REQUIREMENTS, PROCEDURES, TECHNIQUES AND SAFETY PRECAUTIONS BEFORE ATTEMPTING ANY SIMILAR ACTIVITIES.