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On the cover...

Ponsness-Warren’s Metallic M-II is a semi-progressive, single-stage reloading press. Mounted on its stationary die head, left to right, are the automatic priming tube, P-W’s Cal-Die, a universal seater, a Lee seating die, a Hornady Deluxe powder measure, and a Lee sizing die. Below, the shellholder is mounted on a pivoting arm which is attached to the indexing plate. The entire assembly is affixed to a movable platform which rides on vertical shafts on either side as it is raised and lowered. Photo by Gerald Hudson.
RELOADER’S PRESS  Dave Scovill

Lee Precision Sizing Kit

Dick Lee of Lee Precision, has gained a reputation for innovative ideas in reloading equipment. One of his latest is a cast bullet sizing kit that effectively guarantees a perfect bullet.

As most cast bullet shooters are aware, the standard lube-sizer arrangement relies on precision alignment between the nose punch and the sizing die. Unfortunately, the system isn’t perfect and most lube-sizers are not aligned with the kind of precision that is required for producing bullets that will shoot in one hole.

If a bullet is reduced by any more than .002 inch, there is a good chance it will become distorted, sized more on one side than the other, or bent. Bullets that are reduced by .004 inch or more are, for all intents and purposes, ruined. From tests I ran a couple of years ago, it was obvious that when bullets were reduced by .002 inch or more in conventional lube-sizers, accuracy suffered accordingly. The solution was to avoid sizing, or obtain a mould that was within .002 inch of the optimum diameter for the caliber.

The other option was to size bullets nose-first with the aid of a flattened punch that simply served to push the bullet through the die. If the bullet was lube first, by either the cookie cutter method, or smeared on by hand, the system worked and accuracy with good loads was routinely less than one MOA from off-the-shelf sporting rifles. Most designs could be pushed to jacketed bullet velocities with sub-two MOA accuracy—right up to 2,900 or 3,000 fps in high power rifles. That kind of performance simply wasn’t possible if bullets were sized in the conventional manner.

Once it was determined that lube-sizers were effectively ruining perfectly cast bullets, I contacted Dick Lee and suggested that a sizing die would do a better job if it utilized a floating base punch which allowed the bullet to self-center as it passed through the die. I experimented with a homemade die which screwed into a standard single stage reloading press and the base punch was mounted in place of the shellholder. The punch pushed the bullet up through the die, nose-first, and the finished bullet ejected out the top of the die. The only drawback was that the bullets should have been lubed first, separately. Even that, however, seemed a small price to pay for a first-class sizing job.

A year or so passed and the 1989 Lee Precision Catalog listed the revolutionary Lee Lube & Sizing Kit. It was in effect, an exact copy, albeit professionally finished and polished, of the homemade die that I had been using for several years.

The Lee kit also includes a four-ounce bottle of Lee Liquid Alox. The transparent red plastic packaging serves as a container to catch the bullets as they pop out the top of the sizing die.

Does it work? You bet. For the acid test, I ran a few 7mm bullets (285-inch) through a special order .278-inch die and the result was a perfectly sized bullet. Groups hovered around .7 inch, or less at 100 yards.
tests showed continued evidence of lead which OSHA requires removing in- 
dividuals from the source of exposure.

August 1989 had lead levels above the point at 
of lead poisoning.

Six weeks after training ended, blood 
tory loads that languished on dealer 
shelves. Prices are $15.70 for 20, 
unprimed .280 Basic, .401 Winchester, .401 Herters 
and some odd A-Square cases like the 
.375 cylindrical, etc.

Huntington also has acquired a 
limited supply of newly manufactured, 
unprimed .358 Norma cases. These 
have been unavailable for nearly 25 
years except for existing stocks of fac- 
tory loads that languished on dealer 
shelves. Prices are $15.70 for 20, 
$84.50 per 100. New unprimed 7x61 
Sharpe & Hart brass is in stock as well.

Huntington also has acquired the 
removing inventory of 
B.E.L.L. The following is available at 
this writing. Others may be available at a later date.

Twelve-gauge .600 Nitro Express 
brass case), .577 Nitro Basic, .500 
Nitro Basic, .475 No. 2 Basic, .470 Nitro 
Express, .460 No. 2 Basic, .450 Nitro 
Express Basic, .425 Westley-Richards, 
.404 Jeffrey Basic, 11mm Mauser 
Basic, .280 Ross Basic, .280 Flanged 
Basic, .401 Winchester, .401 Herters 
and some odd A-Square cases like the 
.375 cylindrical, etc.

Huntington Acquires B.E.L.L. 
Inventory

If you are in the market for discon- 
tinued or obsolete cases, Huntington 
Die Specialties (PO Box 991, 501 Oro 
Dam Blvd., Oroville CA 95965) has 
acquired the remaining inventory of 
B.E.L.L. The following is available at 
this writing. Others may be available at a later date.

Remington has introduced a multi-
ball .38 Special and .357 Magnum load. 
The payload is two 70-grain 000 
buckshot at 830 and 1,155 fps, respec-
tively, in four-inch barrels. Chrono-
graph readings were 918 fps for the .38 
Special load from a six-inch barrel.

More significantly, however, these 
loads are exceptionally accurate, 
duplicating point of impact for com-
parable factory loads with 158-grain 
bullets. Impact for the two balls is 
about two inches apart at 25 yards, 1.2 
and 1.1 inches at 18 yards. At 10 paces, five 
rounds put eight balls in one large hole, 
the other two balls hit 1.1 inches 
higher and a bit to the right. Remarkable consistency.

If you have been looking for a defense 
load or small game stopper, Rem-
ington's multi-ball loads should be just 
the ticket. Field tests suggest they are 
capable of hitting a jack rabbit-sized 
target out to 30 yards — twice. Brings 
a whole new meaning to the term, 
double-tap.

The price is more good news. Sugges-
ted retail is $14.98. All you need is the 
reloading press.

What to Look for in a Grip

Legendary strength, the ability to soak up felt recoil, a non-slip, positive grip surface, a variety of shapes and styles to fit your
personal needs... all the things that add up to MORE CON-
TROL WHEN SHOOTING. And better control means increased accuracy and con-
fidence. In a word, all you need to look for in a grip is this name: Pachmayr!

Send $1 for full-line color catalog.

Pachmayr
The Champion's Choice
1875 S. Mountain Ave., Dept. H-12
Monrovia, CA 91016 (818) 357-7771

--

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November-December 1989

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duplicating point of impact for com-
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and 1.1 inches at 18 yards. At 10 paces, five 
rounds put eight balls in one large hole, 
the other two balls hit 1.1 inches 
higher and a bit to the right. Remarkable consistency.

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load or small game stopper, Rem-
ington's multi-ball loads should be just 
the ticket. Field tests suggest they are 
capable of hitting a jack rabbit-sized 
target out to 30 yards — twice. Brings 
a whole new meaning to the term, 
double-tap.

The health effects of such exposure 
apparently remain unclear, however 
the most obvious symptom detected 
among participants was a chronic 
metallic taste reported by three 
trainees. But shooters at other ranges 
have exhibited neurological symptoms 
such as hand twitching.

Researchers say their concern is not 
for the occasional handgun user (in 
indoor ranges) but competitive pistol 
shooters and employees who are con-
tinually exposed to lead dust.

For those who regularly use indoor 
ranges, the solution may be in the use 
of jacketed bullets or those coated with 
nylon — Federal's Ny clad. Make no 
mistake, this can turn into serious 
business. Shooters may want to con-
sider an alternative to relatively inex-
pensive lead bullets in exchange for lit-
tle or no exposure to lead dust com-
monly found at indoor ranges.

Bullet casters are exposed to the 
same dust and fumes, possibly in a 
more concentrated form. Make sure the 
casting area is well-ventilated and 
wear a mask such as the one included 
in Lyman's Cast Bullet Safety Kit. 
Masks used by painters can be pur-
chased at most paint and hardware 
stores.

Keep in mind, lead poisoning is cum-
ulative. It doesn't just go away and 
repeated exposure adds up. There may 
be a time when face masks are issued 
with ear protection and shooting 
glasses at indoor ranges.

Remington Multi-ball Loads

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ball .38 Special and .357 Magnum load. 
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buckshot at 830 and 1,155 fps, respec-
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target out to 30 yards — twice. Brings 
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double-tap.
Although factory loads for Ken's 1886 .45-90 Winchester are out of print, handloads in modern cases keep the rifle active.

### Loading the "Old Ones"

**Ken Waters**

**Our Genial Editor** suggested I write this one and in view of the many letters we receive on the subject, I hope it will prove of interest to a fair number of readers. The title, incidentally, refers to old cartridges—not old handloaders—although the theme may strike a more responsive chord among those of us with longer memories.

In any event, the objective is to increase the reader's familiarity with rounds from the past, some well-known, others less so. In each case to touch at least briefly on the possibilities for handloading and actual use since many of the old rifles are still in existence.

A few of the old cartridges remain in factory production and they comprise the first category for consideration. New brass cases are available for a somewhat larger class of calibers that are no longer commercially loaded. They constitute the second group. The remainder includes discontinued rounds which require cases to be formed from existing brass with limited effort. Where they are available I'll include a few of the best loads known to me.

Since most of these loads were developed long before chronographs were available to handloaders, muzzle velocities aren't listed. All gave better-than-average accuracy in my rifles, however.

**Old Cartridges Still in Production**

**.25-20 Winchester**: Originally designed for the Model 1892 Winchester rifle but chambered in a number of other makes and models in years past, this excellent little varmint and small game cartridge should regain some popularity now that Marlin is chambering rifles for it again. Only flatnosed or blunt roundnosed bullets should be used in repeaters with tubular magazines, and pressures should be held to 31,000 CUP or below. My best .25-20 WCF loads have been:

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>Remington HP</td>
<td>10.0</td>
<td>2400</td>
</tr>
<tr>
<td>60</td>
<td>Winchester HP</td>
<td>8.5</td>
<td>H-110</td>
</tr>
<tr>
<td>65</td>
<td>Remington FNSP</td>
<td>12.0</td>
<td>N-200</td>
</tr>
<tr>
<td>65</td>
<td>Ohaus cast GC 25070F</td>
<td>9.0</td>
<td>IMR-4227</td>
</tr>
</tbody>
</table>

**.32-20 Winchester**: Using the same basic case as the .25-20 WCF and generally chambered in many rifles of the same make and model, including the new Marlin, the .32-20 is

---

The .25-36 Marlin and the .32-40 Marlin-Ballard are listed in the 1915 catalog for the 1893 Marlin rifle.
another fun cartridge that is totally enjoyable to shoot. While it doesn't have as flat a trajectory as its .25-caliber brother, it offers the advantage of being chambered in revolvers. Some of my best loads are:

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>65</td>
<td>Hornady JHP</td>
<td>6.0</td>
<td>Unique</td>
</tr>
<tr>
<td>65</td>
<td>Hornady JHP</td>
<td>12.0</td>
<td>W-680</td>
</tr>
<tr>
<td>50</td>
<td>Sierra JHC</td>
<td>15.0</td>
<td>AAC-1680</td>
</tr>
<tr>
<td>91</td>
<td>Lyman RN 313429</td>
<td>5.0</td>
<td>AAC-2</td>
</tr>
<tr>
<td>117</td>
<td>Lyman FN 3118</td>
<td>7.0</td>
<td>Blue Dot</td>
</tr>
</tbody>
</table>

.303 Savage: Although not quite as old as the .30-30 Winchester, the .303 Savage is included here because rifles are no longer chambered for it and only Winchester offers factory loads. Those shooters who are familiar with the .303 Savage, however, know its 190-grain Silvertip load is a better big game hunting round than the .30-30 WCF. Its odd size and difficult-to-duplicate case suggests that owners would be well-advised to stock up on ammunition in the event it might be discontinued. Standard .308 inch diameter bullets may be used.

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>Hornady RN</td>
<td>34.0</td>
<td>IMR-4064</td>
</tr>
<tr>
<td>160</td>
<td>Sierra RN</td>
<td>30.5</td>
<td>IMR-4320</td>
</tr>
<tr>
<td>160</td>
<td>Lyman 311291</td>
<td>17.0</td>
<td>IMR-4227</td>
</tr>
</tbody>
</table>

.38-55 WCF: An old-timer with a well-deserved record for superb accuracy, especially in single-shot rifles, it also earned a fine reputation as a dependable deer and black bear cartridge in lever action repeaters. Factory loads are moderate in deference to the older, weaker rifles but strong single-shot rifles such as the Winchester High Wall, Stevens No. 44%, Remington-Hepburn, rolling block and Bullard will handle higher pressure loads along with the Marlin Model 1893 and Winchester Model 1894 repeaters. Remember to use flat-nosed bullets in rifles with tubular magazines. Group I includes rifles with weaker actions such as Ballards and Stevens No. 44. Group II is for rifles with stronger actions.

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>243</td>
<td>Lyman FN 375248</td>
<td>21.0</td>
<td>IMR-4198</td>
</tr>
<tr>
<td>243</td>
<td>Lyman FN 375248</td>
<td>28.0</td>
<td>IMR-3031</td>
</tr>
</tbody>
</table>

.38-40 Winchester (rifles): Again we must separate rifles in this caliber into weaker and stronger groups. As with the .38-55 WCF, factory ammo has been kept sufficiently mild to be safe in the weaker actions. Group I weaker actions include Model 1873 Winchesters and Colt Lightning pump guns. Group II embraces Model 1892 Winchesters and Model 1894 Marlins. Once more, use only flat-nosed bullets in tubular magazines. Note: Group I loads can also be used in Group II rifles if Match loads are desired.

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>172</td>
<td>Lyman 40143</td>
<td>9.0</td>
<td>Herco</td>
</tr>
<tr>
<td>172</td>
<td>Lyman 40143</td>
<td>16.0</td>
<td>2400</td>
</tr>
<tr>
<td>172</td>
<td>Lyman 40143</td>
<td>17.0</td>
<td>IMR-4227</td>
</tr>
<tr>
<td>180</td>
<td>FNSP</td>
<td>10.0</td>
<td>Herco</td>
</tr>
</tbody>
</table>

.44-40 Winchester: Big brother of the .38-40 WCF and generally more popular, especially with modern replica rifles and revolvers being manufactured in this caliber, we'll split this one up into three groups according to relative gun strengths. Once more, pressures of factory rounds are held to moderate levels. Group I is for rifles with weaker actions; Group I includes Model 1873 Winchesters, Colt Lightnings, Ballards, Stevens No. 44, etc., plus all black powder .44-40 WCF revolvers and smokeless powder Colts produced prior to 1905. Group II is for rifles with stronger actions like Model 1894 Marlins, Model 1892 Winchesters and Model 14% Remington slide-action rifles. Group III is for stronger smokeless powder revolvers. Watch bullet diameter as bore sizes vary considerably in this caliber.

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>Lyman 42798 FN</td>
<td>9.0</td>
<td>Unique</td>
</tr>
<tr>
<td>200</td>
<td>Lyman 42798 FN</td>
<td>10.0</td>
<td>Herco</td>
</tr>
<tr>
<td>200</td>
<td>Lyman 42798 FN</td>
<td>18.0</td>
<td>IMR-4227</td>
</tr>
<tr>
<td>200</td>
<td>Speer JHP</td>
<td>17.0</td>
<td>2400 (max)</td>
</tr>
<tr>
<td>200</td>
<td>Hornady JHP</td>
<td>17.0</td>
<td>2400 (max)</td>
</tr>
<tr>
<td>200</td>
<td>Speer JHP</td>
<td>18.0</td>
<td>IMR-4227  (max)</td>
</tr>
<tr>
<td>200</td>
<td>Hornady JHP</td>
<td>18.0</td>
<td>IMR-4227  (max)</td>
</tr>
</tbody>
</table>

Left, .45-70 factory loads and unprimed brass have been manufactured for over 100 years. The .45-90 2.4-inch case (center) is available as a component. Right, the .45 basic case is intended for re-forming.
Older rifles, like the 1886 Winchester (top), Ballard single shot (center) and 1893 Marlin (bottom), were chambered for a variety of cartridges that were considered obsolete by the early 1900s.

.Group 1

200 Lyman 42796 FN 9.0 Herco
200 Lyman 42796 FN 10.0 Unique (best all-around)
200 Lyman 42796 FN 17.0 IMR-4227 (hazard)
200 Lyman 42796 FN 18.0 IMR-4227 (service)

.45-70: Apparently prompted by the availability of modern rifles for it, factory ammo for this grand old caliber has shown a vast improvement. Although the old standard load with its 405-grain softnosed bullet launched around 1,330 fps is still best for many of the older rifles, particularly those with weaker actions, the new factory loads with 300-grain jacketed hollowpoints that are rated around 1,800+ fps are tops in modern rifles. Rifles rank in three groups according to their strength. Group I, weaker action rifles, include Springfield Trap Doors, Sharps 1874s, Colt Lightnings, Marlin Model 1881s and Ballard single-shots. Also included are modern H&R replicas of the Springfield Trap Door. Group II includes rifles with moderately strong actions, like Winchester's Model 1886, original Marlin Model 1895s, Sharps-Borchardts, Remington-Hepburns, case-hardened Winchester High Walls, Remington-Lees, etc. Group III features rifles with strong actions, including the new Marlin Model 1895, Ruger Nos. 1 and 3 single shots, blued-receiver Winchester High Walls, Browning B-78s, Navy Arms Martinis, etc.

.Course 3

200 Lyman 42796 FN 17.0 IMR-4227 (service)

.33 Winchester: Cases made by Bertram Brass (made in Australia). Available from The Old Western Scrounger, 12924 Highway A-12, Montague CA 96064.
.35 Winchester: Cases made by Bertram Brass. Order from The Old Western Scrounger, 12924 Highway A-12, Montague CA 95604 or Huntington's, 601 Oro Dam Blvd., Orovile CA 95965.

.405 Winchester: Cases made by Bertram Brass. Order from either The Old Western Scrounger or Huntington's – or as basic brass made by Eldorado Cartridge Corp. The Old Western Scrounger lists Bertram brass .405 cases as Basic-3½-inch but the samples received were already trimmed to 2½ inches.

.40-82 Winchester: Cases made by Bertram Brass. Order from The Old Western Scrounger.

.45-90 Winchester: Cases from either Elderado Cartridge Corp. or Bertram Brass from The Old Western Scrounger.

.45-90-2.4-inch Sharps: Use same cases and loads as for 45-90 Winchester. Chambers of some original Sharps-Borchardts may be slightly small and will not accept these cases.

.45-75 Sharps 2.1 inch: Use standard .45-75 cases but limit loads to those listed for Group I. .45-70 (weaker actions), if used in original Model 1874 sidehammer Sharps. For Sharps-Borchardt rifles in this caliper, however, Group II .45-70 load data may be used.

.45-85 Marlin: Use standard .45-70 brass as-is and .45-70 reloading dies. Use load data from Group I .45-70 rifles with weaker actions.

.45-100 and .45-120-3¼-inch Sharps Straight: Cases available from Eldorado Cartridge Corp., in 3¼-inch length, identified as .45 RCBS ¾ inch.

.50-70 Government: Cases from Dixie Gun Works, Inc., PO Box 130, Union City TN 38261 or Bertram Brass from The Old Western Scrounger.

Calibers for which Cases Can Be Formed from Basic Brass

.22-300 & .22-250: Form cases from .22-250 Single Shot brass available in 1990 from Elderado Cartridge Corp. Leave full length and fireform.

.22 Savage High Power: Form cases from .25-35 Winchester (or .30-30 WCF) brass. Trim to 1.94 inches and resize full length. Do NOT use pointed or semi-pointed bullets in tabular magazines!

.25 Remington: Form cases from .30 Remington brass. Trim cases to 2.04 inches full length size and fireform.
Then fireform with case filler, without bullet.

2.42 inches maximum and form in .256 Newton forming die. Then fireform with case filler, without bullet.

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
<td>Sierra SP</td>
<td>42.0</td>
<td>IMR-3031</td>
</tr>
<tr>
<td>120</td>
<td>Sierra SP</td>
<td>49.0</td>
<td>IMR-4350</td>
</tr>
<tr>
<td>120</td>
<td>Nosler SB</td>
<td>43.0</td>
<td>RL-12</td>
</tr>
<tr>
<td>120</td>
<td>Nosler SB</td>
<td>43.0</td>
<td>IMR-4064</td>
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<tr>
<td>120</td>
<td>Nosler Part.</td>
<td>43.0</td>
<td>W-760</td>
</tr>
<tr>
<td>125</td>
<td>Hornady SP</td>
<td>48.0</td>
<td>IMR-4350</td>
</tr>
<tr>
<td>140</td>
<td>Hornady SP</td>
<td>42.0</td>
<td>IMR-4064</td>
</tr>
<tr>
<td>140</td>
<td>Sierra SPBT</td>
<td>42.0</td>
<td>RL-12</td>
</tr>
<tr>
<td>140</td>
<td>Speer SP</td>
<td>49.0</td>
<td>H-4831</td>
</tr>
<tr>
<td>140</td>
<td>Nosler Part.</td>
<td>47.0</td>
<td>IMR-4350</td>
</tr>
</tbody>
</table>

**.32 Ideal:** Form cases from .32-20 WCF brass. Leave cases full length. Use cast bullets weighing approximately 115 grains and sized .323 inch. Seat bullets out and fireform.

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>115</td>
<td>Lyman 32359</td>
<td>4.5</td>
<td>Unique</td>
</tr>
</tbody>
</table>

**.32-30 Remington:** Form cases from .357 Maximum brass. Leave cases full length. Full length size in a custom die, seat cast bullets weighing approximately 125 grains, size .313 inch and fireform.

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>125</td>
<td>Lyman 31356</td>
<td>9.0 to 10.0</td>
<td>SR-4759</td>
</tr>
</tbody>
</table>

**.32-40 Remington:** Form cases from .303 British brass. Trim cases to 2.12 inches, size them full length in a custom die, seat cast bullets weighing approximately 150 grains, size .308 to .309 inch and fireform. This was a .30-caliber rifle despite its designation. Note that it is a larger case than the .32-40 Ballard and Winchester.

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>Lyman 308156</td>
<td>15.0</td>
<td>IMR-4227</td>
</tr>
</tbody>
</table>

**.33 Winchester:** Form cases from .45-70 brass with a special form and trim die. Trim to 2.10 inches and fireform. Cast bullet diameter is .339 inch; jacketed bullets are .338 inch; use flattened bullets only!

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>205</td>
<td>Lyman 338320 FN</td>
<td>36.0</td>
<td>IMR-3031</td>
</tr>
<tr>
<td>200</td>
<td>Hornady FNSP</td>
<td>38.0 to 40.0</td>
<td>IMR-3031</td>
</tr>
</tbody>
</table>

**.38-40 Remington Straight and .38-45 Ballard:** Form cases from .303 British brass. Trim cases to 1.75 inches, size them full length in a custom die, seat cast bullets weighing approximately 250 grains, size .375 to .376 inch and fireform. For .38-45 Ballard use 190-grain Lyman 375164 with same loads.

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>252</td>
<td>Lyman 375165</td>
<td>9.2</td>
<td>Unique</td>
</tr>
<tr>
<td>252</td>
<td>Lyman 375165</td>
<td>10.8</td>
<td>SR-4759</td>
</tr>
</tbody>
</table>

**.38-56 Winchester:** Form cases from .45-70 brass using special form & trim die. Trim to 2.10 inches and fireform. Cast bullet diameters are .376 to .378 inch, .001 inch larger than groove diameter; jacketed bullet should be .376 inch. Use only flattened bullets in tubular magazines.

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>245</td>
<td>Lyman 375248</td>
<td>30.2</td>
<td>IMR-3031 (target load)</td>
</tr>
<tr>
<td>265</td>
<td>Lyman 375296 GC</td>
<td>36.0</td>
<td>IMR-3031 (game load)</td>
</tr>
<tr>
<td>255</td>
<td>Winchester FNSP</td>
<td>31.0</td>
<td>RL-7</td>
</tr>
<tr>
<td>255</td>
<td>Barnes FNSP</td>
<td>37.0</td>
<td>IMR-4895</td>
</tr>
<tr>
<td>220</td>
<td>Hornady FNSP</td>
<td>38.0</td>
<td>H-4895</td>
</tr>
<tr>
<td>220</td>
<td>Hornady FNSP</td>
<td>36.0</td>
<td>RL-7</td>
</tr>
</tbody>
</table>

**.38-70 Winchester:** Form cases from .45-90 Winchester brass using special form and trim die. Trim to 2.30 inches and fireform. Bullet diameters are the same as for .38-56 Winchester. Use only flattened bullets in tubular magazines. Use same load data as for .38-56 Winchester. Also, 265-grain Lyman 375296 GC with 39.0 grains of IMR-4895.

**.38-50 Remington Straight:** Form cases from .303 British brass. Leave cases full length (2.22 inches). Size them full length in a custom die, seat cast bullets weighing approximately 250 grains, sized .375 to .376 inch and fireform.

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>252</td>
<td>Lyman 375165</td>
<td>22.0</td>
<td>IMR-4198</td>
</tr>
</tbody>
</table>

**.38-72 Winchester:** Form cases from .405 Winchester brass. Leave cases full length (2.58 inches) and size them full length in a .38-72 sizer die. Turn case rims to .519 inch diameter. Cast bullet diameters are .378 inch. Jacketed bullets are .375 inch. Since Model 1895 Winchester has a box magazine, roundnosed and pointed bullets may be used.

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>250</td>
<td>Lyman 375160 RN</td>
<td>32.0</td>
<td>IMR-3031 (target load)</td>
</tr>
<tr>
<td>267</td>
<td>Lyman 375167 RN</td>
<td>32.0</td>
<td>IMR-4895 (game load)</td>
</tr>
<tr>
<td>220</td>
<td>Hornady FNSP</td>
<td>37.0</td>
<td>RL-7</td>
</tr>
<tr>
<td>235</td>
<td>Speer SP</td>
<td>35.0</td>
<td>IMR-4198</td>
</tr>
</tbody>
</table>

**.40-45 Remington Straight and .40-50 Sharps Straight:** Form cases from .303 British brass (or .30-40 Krag). Trim cases to 1.87 inches, size them full length in a custom die, seat .403 to .407 inch cast bullets weighing 260 grains. www inch larger than groove diameter and fireform.

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>260</td>
<td>Lyman 403169</td>
<td>31.0</td>
<td>IMR-3031</td>
</tr>
<tr>
<td>260</td>
<td>Lyman 403169</td>
<td>21.0</td>
<td>IMR-4198</td>
</tr>
<tr>
<td>260</td>
<td>Lyman 403169</td>
<td>18.5</td>
<td>SR-4759</td>
</tr>
</tbody>
</table>

**.40-50 Sharps BN (bottlenecked):** Form cases from .45-70 brass, using special form and trim die. Trim to 1.68 inches and fireform. Use same bullets and load data as for .40-50 Sharps Straight.

**.40-70 Sharps BN:** Form cases from .45-90 Winchester basic brass using special form and trim die. Trim to 2.25 inches and fireform. Size bullets .001 inch larger than barrel groove diameter.

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>330</td>
<td>Lyman 403149</td>
<td>34.0</td>
<td>IMR-3031</td>
</tr>
<tr>
<td>330</td>
<td>Lyman 403149</td>
<td>36.0</td>
<td>H-4895</td>
</tr>
</tbody>
</table>

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.40-70 Sharps Straight and .40-65 Remington Straight: Form cases from Bertram .405 Winchester cases. Size them full length in a custom die and trim to 2.50 inches or use .30-40 Krag brass. Expand to .40 caliber in a .40-70 S.S. die. This will produce a case that is slightly shorter than standard, requiring bullets to be seated out. Use same bullets and load data as for .40-70 Sharps BN.

.40-60 Winchester: Form cases from .45-70 brass using a form and trim die (regular full-length sizing die may prove adequate). Trim to 1.87 inches and fireform. Size cast bullets .406 to .408 inch, .001 inch larger than groove diameter. Use flatnosed bullets only!

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>210</td>
<td>Lyman 403168</td>
<td>15.5</td>
<td>SR-4759</td>
</tr>
<tr>
<td>210</td>
<td>Lyman 403169</td>
<td>20.0</td>
<td>2400</td>
</tr>
</tbody>
</table>

.40-65 Winchester and .40-60 Marlin: Form cases from .45-70 brass in a form and trim die (regular full-length sizing die may prove adequate). Leave cases full length (2.10 inches) and fireform. Size cast bullets .406 to .408 inch, .001 inch larger than groove diameter. Use flatnosed bullets only!

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>245</td>
<td>Lyman 403168</td>
<td>24.0</td>
<td>IMR-4198</td>
</tr>
<tr>
<td>245</td>
<td>Lyman 403169</td>
<td>34.0</td>
<td>IMR-3031</td>
</tr>
<tr>
<td>245</td>
<td>Lyman 403169</td>
<td>37.0</td>
<td>H-4895</td>
</tr>
</tbody>
</table>

.40-70 Winchester: Form cases from .45-90 Winchester basic brass using .40-70 WCF full-length sizing die. Leave cases full length (2.40 inches) and fireform. Size cast bullets only!

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>330</td>
<td>Lyman 403149</td>
<td>23.0</td>
<td>IMR-4198</td>
</tr>
<tr>
<td>330</td>
<td>Lyman 403149</td>
<td>34.0</td>
<td>IMR-3031</td>
</tr>
</tbody>
</table>

.40-72 Winchester: Form cases from .405 Winchester brass. Leave cases full length (2.58 inches) and size them full length in a .40-72 WCF die. This cartridge used roundnosed bullets. Some rifles may not require turning down case rims.

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>330</td>
<td>Lyman 406150 RN</td>
<td>38.0</td>
<td>IMR-3031</td>
</tr>
<tr>
<td>330</td>
<td>Lyman 406150 RN</td>
<td>42.0</td>
<td>H-4895</td>
</tr>
</tbody>
</table>

.40-82 Winchester: Form cases from .45-90 Winchester brass using .40-82 WCF full-length sizing die. Leave cases full length (2.40 inches), and fireform. Size cast bullets .408 inch. Flatnosed bullets only!

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>245</td>
<td>Lyman 403169 FN</td>
<td>26.0</td>
<td>IMR-4198</td>
</tr>
<tr>
<td>245</td>
<td>Lyman 403169 FN</td>
<td>36.0</td>
<td>IMR-3031</td>
</tr>
<tr>
<td>245</td>
<td>Lyman 403169 FN</td>
<td>40.0</td>
<td>H-4895</td>
</tr>
</tbody>
</table>

.44-77 Sharps & Remington BN: Form cases from Eldorado Cartridge Corp. basic Remington-Spanish cases using .44-77 form and trim die. Trim cases to 2.25 inches and fireform. Size cast bullets .446 inch. Check barrel groove closely. Some rifles had oversized bores. If groove diameter measures close to .450 inch, Lyman bullet 451112 can be used.

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td>Lyman 446187</td>
<td>27.0</td>
<td>IMR-4198</td>
</tr>
<tr>
<td>400</td>
<td>Lyman 446187</td>
<td>37.0</td>
<td>IMR-3031</td>
</tr>
<tr>
<td>400</td>
<td>Lyman 446187</td>
<td>41.0</td>
<td>H-4895</td>
</tr>
</tbody>
</table>

.45-60 Winchester: Form cases from .45-70 brass using .45-60 full-length sizing die. Trim cases to 1.87 inches and fireform. Size bullets .456 to .457 inch. Use flatnosed bullets only!

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>292</td>
<td>Lyman 457191</td>
<td>20.0 to 22.0</td>
<td>2400 (22 grains max)</td>
</tr>
<tr>
<td>292</td>
<td>Lyman 457191</td>
<td>24.0 to 25.0</td>
<td>IMR-4198</td>
</tr>
</tbody>
</table>

.45-75 Winchester: Form cases from .348 Winchester brass using special form and trim die. Trim cases to 1.87 inches and fireform. Size cast bullets .456 to .457 inch. Use flatnosed bullets only!

<table>
<thead>
<tr>
<th>weight (grains)</th>
<th>bullet</th>
<th>charge (grains)</th>
<th>powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>330</td>
<td>Lyman 457122 FNHP</td>
<td>22.0</td>
<td>2400</td>
</tr>
<tr>
<td>330</td>
<td>Lyman 457122 FNHP</td>
<td>25.0</td>
<td>IMR-4198</td>
</tr>
</tbody>
</table>

When cases require only a reduction in taper, as from .45 to .40 caliber, the regular full-length sizing die may be adequate.

Although I have listed specific Lyman moulds to indicate the proper bullet style and weight, similar moulds from other makers may be substituted. Many of the old Lyman moulds are no longer obtainable.

As these old rifles vary so greatly in condition and strength, as well as bore dimensions, neither the writer nor this publication can accept any responsibility for handloaded ammunition prepared by others. It is urged that extreme caution be exercised at all times and only good sound cases of modern manufacture be used.