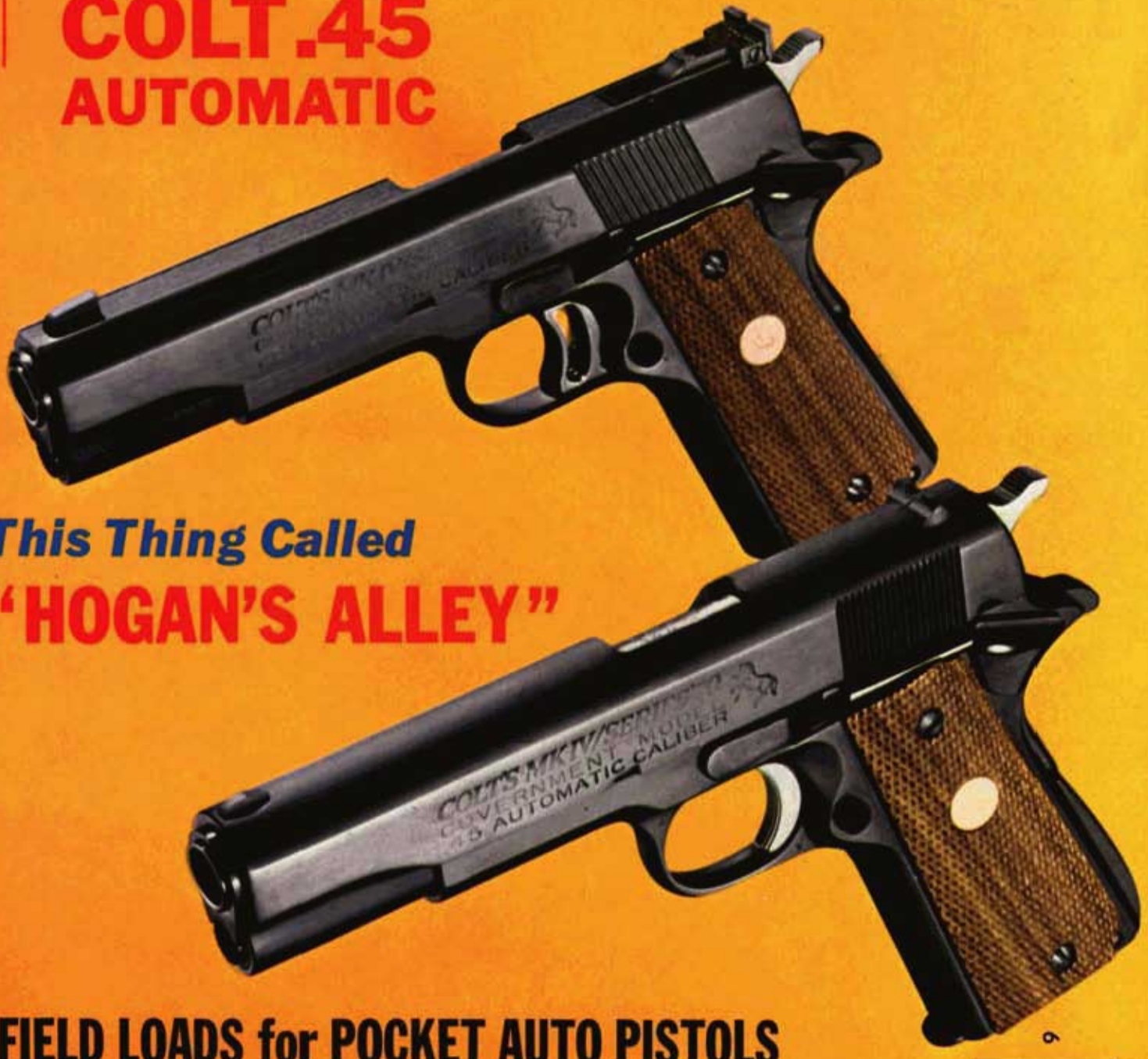
HANDGUNNER

THE AMERICAN HANDGUNNER

SEPTEMBER/OCTOBER 1977 $1.50

67522 T&E

HANDGUN PROFILE:
COLT .45 AUTOMATIC



This Thing Called "HOGAN'S ALLEY"

FIELD LOADS for POCKET AUTO PISTOLS

How NOT to Run a Pistol Match

A Look at the COLT COMMANDERS

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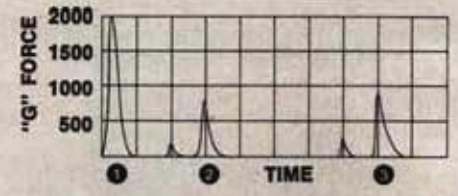
Leupold scopes pass "Krentz Test" ...more than 5,000 times

William F. Krentz of Allen Park, Michigan has developed a fascinating new test for scopes, although that is not what he intended to do.

Bill has been a very active competitive pistol shooter for 25 years or more. As an example, his meticulous records show that just since he began using a scope sight on handguns in November 1970, he has fired at least 38,000 rounds of .22 LR and 21,700 of .45 caliber. However, when he scoped the .45 automatic he began having trouble with his mounts. So, he wrote us, asking what we thought about mounting a scope on the slide itself. After thinking it over carefully, we decided the only answer we could give was, "We simply can't recommend it." *(Bill told us he switched to a Leupold M8-2X scope during this period because the lens system in three models of one brand had previously broken down after 600, 800 and 400 rounds of .22 LR—and the reticle in another brand tore out after 265 rounds of .45 ACP.)*

Then, one day in the summer of '75, Bill showed up at our plant with a Leupold M8-2X mounted on the slide of his .45 ACP. He casually mentioned that he'd fired about 5,000 rounds, using Leupold scopes on several slide-mounted .45s—without a single scope failure. That gave our people something to think about! Like, what kind of stress does this put on the scope? So, we decided to rig one up and find out. (That's really ours in the picture. If you want to see Bill's original, look on page 38 of the May, 1976 *American Rifleman.)*

Well, the results of the accelerometer tests were fascinating, too. We discovered that every shot subjected the scope to three separate stiff jolts—varying from 750 to a staggering 2,000 G's. The simplified graph is from the actual oscilloscope reading.



(1) ACP firing develops 2,000 G's. (2) Slide stopped in full open position creates 750 G's. (3) Slide stopped in closed position produces final 800 G's. (The other two minor peaks are caused by ejection of the empty case and picking up of a round from the magazine.) In case you don't know, one "G" is the measure of the pull of gravity at sea level, normally shown as 32 ft./sec.². To fully appreciate the figures, you should realize that 2,000 G's is roughly the same as the deceleration of a car going 135 mph when it hits an immovable wall.

Bill tells us that since he started using Leupold scopes he's fired at least 21,000 rounds of .45 and 36,000 rounds of .22 LR —without a single scope failure. And, in case you're wondering, the Leupold scopes Bill used were not specially selected for him. Except for a prototype he tested in late 1975, all came off a dealer's shelf. Which makes his following statement all the more important: "Once they are sighted in, I have never had a Leupold *(scope)* lose its zero."

Naturally we're pretty proud that Leupold scopes can take this amount of punishment. *Certainly, performance like this has to start on the inside . . .* with the right design, materials and careful craftsmanship.

You can enjoy a Leupold "Golden Ring®" scope performance, too. There's one to satisfy every shooting or hunting need.

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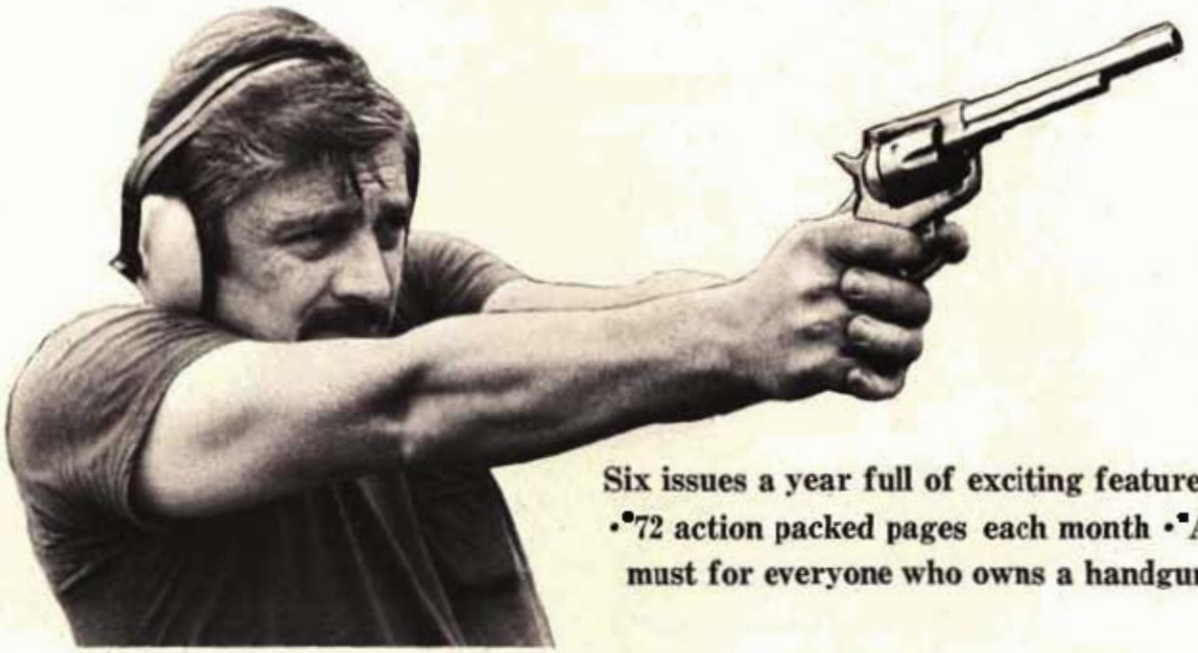

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HANDGUNNER

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George E. von Rosen
Publisher

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FEATURES

THE COLT .45

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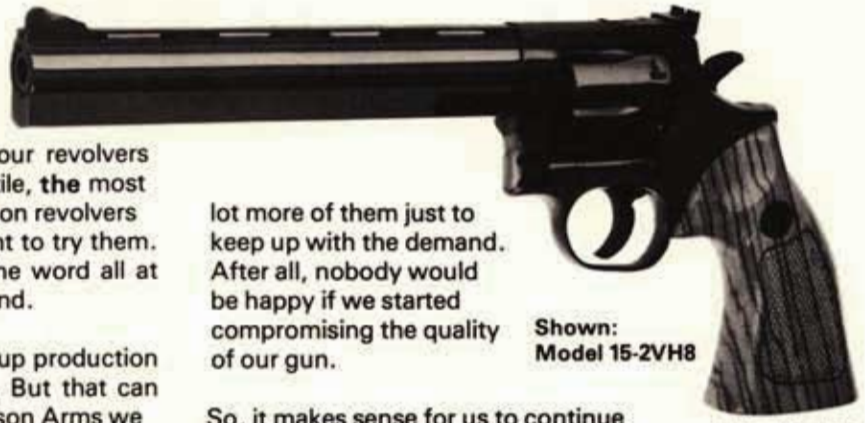

A lot of people have been writing us, asking where they can get one of our guns. They've heard from other shooters that what we've been saying about our revolvers being **the** most accurate, **the** most versatile, **the** most dependable .38/.357 magnum double-action revolvers on the market is really true. Now they want to try them. Trouble is, so many people are getting the word all at once that we can't keep up with the demand.

Now, some maufacturers might just step up production fast to keep up with a growing demand. But that can lead to a drop in quality. Here at Dan Wesson Arms we do things differently.

It's true that we're increasing production---but **very slowly. We make guns slow because we want to make them right.** And we won't cut corners to make a lot more of them just to keep up with the demand. After all, nobody would be happy if we started compromising the quality of our gun.

Shown: Model 15-2VH8

Patent Pending

So, it makes sense for us to continue turning out firearms slowly and keeping the quality high, even if our customers have to wait a little while to feel the heft of our finely-crafted revolvers.

In this day and age, isn't quality worth waiting for?

Here are some of the features that make Dan Wesson revolvers unique

The Dan Wesson Arms PISTOL PAC
To begin, choose an 8" Dan Wesson revolver in the Series of your choice. Then add three more interchangeable QUICK*SHIFT* barrel assemblies (2½", 4", 6"), an extra interchangeable grip, four additional colored front sight blades (2 yellow and 2 white) and a Dan Wesson Arms belt buckle and emblem. Place them in a handsome carrying case and you have the Dan Wesson Arms Pistol Pac. . .a proud possession.

Unique, exclusive QUICK-*SHIFT* interchangeable barrel assemblies are available in 2½", 4", 6" and 8" lengths as well as new 10", 12" and 15" lengths and, for target revolvers, in 4 styles of barrel shrouds (regular, regular with ventilated rib, heavy, heavy with ventilated rib).

Unique placement of the cylinder latch close to the barrel-cylinder gap stabilizes the cylinder in its alignment to the barrel, aiding accuracy.

A white outline on the rear sight is standard equipment on all target models, offering shooters a finer sight picture.

Exclusive interchangeable QUICK*SHIFT* front sight blades with red inserts are standard on target models, offering the shooter even greater opportunity for increased accuracy. (Yellow and white are also available.)

Beautifully grained walnut and zebrawood grips are interchangeable on any Dan Wesson revolver. Choose from four styles: Oversize target (smooth or checkered walnut or zebrawood), Combat (smooth walnut), or Sacramento (smooth walnut). Also available, a walnut blank inletted to fit the gun, for those who wish to carve their own grip.

And now, to accommodate long range handgun hunting and metallic silhouette shooting enthusiasts, Dan Wesson introduces 10", 12", and 15" interchangeable barrel assemblies for all target models.

For more information write Dept. 16U

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HANDGUN INDUSTRY INSIDER

NEWS FROM MANUFACTURERS

By MASSAD F. AYOOB

SMITH & WESSON's Commemorative Anniversary Gun will be a Model 25 (.45 Target) chambered for .45 Long Colt instead of .45 ACP. This much you probably know already. What you may *not* know is that the resurgence of interest in the .45 Colt round over the past few years had brought Smith so many requests for wheelguns in that caliber that one reason the Anniversary Gun was designated for this chambering was to expedite the creation of the proper manufacturing equipment for a *standard* .45 LC Smith & Wesson.

Don't look for a gun of this caliber in the S&W catalog until the Anniversary guns are sold out. Later, a deluxe revolver on the heavy N frame, comparable to the Models 29, 27, and 57 (.44, .357, and .41 Mag) will probably become available in the big .45 chambering. Top-line finish, Goncala Alves grips, and adjustable sights will be standard, as will the traditional presentation box. Over the years, a small number of 1955's in .45 Long Colt caliber have been produced on special order, though the best-known variation on this caliber occurred in the 1950 Model.

The possibility exists that the Model 58 (four inch barrel, fixed sight, .41 Military and Police) will be produced in .45 Colt caliber also, but it's a remote chance. The people who want the .45s aren't cops, but gun buffs, and S&W figures, perhaps rightly, that these individuals will be mostly handloaders and will want the adjustable sights along with a classier-looking piece. Look for a barrel/cylinder conversion unit in .45 Colt to precede the introduction of a gun in that caliber in the S&W catalog, and don't look for any of it too soon.

FEDERAL CARTRIDGE is thinking about introducing a nice Keith semi-wadcutter load in .45 Long Colt, and they may not wait for the introduction of the S&W revolver. Interest in rechambering big-frame, mid-bore guns to that caliber has skyrocketed, and Ruger's .45 ACP/.45 Long Colt single action Blackhawks have sold well enough to create a small but definite market. That market is made still smaller for the ammo makers by virtue of the fact that the people who acquire the big .45 sixguns are usually reloaders, and don't feel any great need for expensive factory fodder. Nevertheless, Federal is looking at it, and their .45 Long Colt round may come along with the high-performance .44 Special load, designed for the Charter Arms Bulldog, that they were almost going to introduce this year but backed off on. . . . Federal is a company that doesn't generally go into small markets, but their leadership in products like 10-gauge shotshells and 3" magnum 12-gauge buckshot loads makes us think they've got the stones to take the risk.

Sales of .41 Magnum revolver seem to be picking up in the police sector. Bob Switzer, top honcho at the HKS Speedloader Company, tells us that in some regions like Texas, orders for loaders in that size have suddenly gone up. Unabated demands by police patrolmens' unions for service guns with more stopping power, coupled with continuing but low-profile work by ACLU and similar groups to ban hollowpoint bullets for cops, may be the underlying reason. Oddly enough, while ACLU thinks hollowpoint .38s are inhumane, they actually recommend the .41.

A North Carolina ammo maker, HI-PER, (Cranford-McCall, 133 Blue Bell Rd., Greensboro 27406) is challenging 3-D and STAR for dominance in the police practice and duty ammo trade. In some recent bids, they've undersold those established makers substantially on "remanufactured" .38 wadcutters, and they have a decent line of virgin high-performance ammo in various .38, .357, and 9 mm. loadings. Federal cases are used, and our samples performed quite well.

IT WAS PERHAPS NEVER MEANT TO BE DEPARTMENT: Rumors in the Northeastern Gun Valley are that STERLING ARMS almost merged with SECURITY INDUSTRIES. Combining the two New York/New Jersey plants would have made for a low-price line of autos (Sterling) and revolvers (Security) that might have had the gunmakers farther north biting their nails a little. Insiders say the principals just couldn't get together, though, and what might have been another success story of Charter Arms magnitude just dissolved.

Both companies still have some exciting news, though. STERLING's double action .45 auto was the handgun hit at the NSGA (National Sporting Goods Association) show in Chicago. The gun, admittedly a hand-built prototype with an "experimental-designation" serial number, was butter-smooth and handled well. If production guns even come close, STERLING will start competing with Browning's SIG-Sauer double action auto and S&W's model 39, toe to toe.

Meanwhile, SECURITY INDUSTRIES has just about got their big-frame stainless steel revolvers off the drawing board; look for '78-79 introduction. Though they're looking initially for a .357 to compete with both the Charter Police Bulldog and the Smith & Wesson Combat Magnum Model 66, the blueprints are still flexible; they want to come out eventually with a .44 Magnum, and this writer wouldn't be surprised to see the service size Security come out the size of a Colt Trooper Mk. III or a little bigger. They're going easy on the Mag, though; it will be the smallest gun of that caliber ever introduced, and Security Industries is taking extra care to make certain that the mid-size .44 (if that's what they're really working on) will be able to handle .44 Magnum pressures even if some turkey uses monster overloads.

COLT'S custom gunshop is functional . . . kind of. They're doing primarily wheelguns and engraving jobs right now; the ambidextrous safeties on the big autos and other things that had been talked

about won't be available 'til late '77, soonest. Ted Tedford, one of the top four Python customizers in the country, is supposed to be building all the Custom Shop Pythons himself, but an underling at Colt's told us that Ted has been put in charge of the repair shop.

When the Custom Shop goes into automatics, modifications should be strictly in the area of non-catalog stuff: ambidextrous safeties, built-up slide releases, etc.

Speaking of .45 autos, AMC is selling their stainless steel Hardballer faster than they can be made, though we hope they'll reduce that brutal 7-pound trigger pull. The same firm is going great guns (no pun intended) with the itty-bitty OMC Backup .380 auto in stainless, but they're going to drop their Auto-Mag series, making it available later, according to scuttlebutt, on a semi-custom basis at a substantially higher price.

Talk is cheap when it comes to S&W's .45 double action auto, but there are a couple of hopeful voices at the factory. Top execs are finally admitting that the delayed intro wasn't just because they had their hands full with other guns, but because the prototype .45 auto designs didn't really work out that well. Still, there's an outside chance you could see one by 1980, if only because some very influential people inside the firm are still carrying the ball.

HANDGUN Handloading

TECHNIQUES FOR THE .45ACP

By DAN COTTERMAN

If the reloader is to create ammunition that is capable of matching the inherent design reliability of the .45 autoloading pistol, he must first acknowledge the need for catering to certain peculiarities of the gun. It will, for example, display bad manners if fed on other than the hardball military ammo for which it was originally designed. That is, unless careful attention is given to bullet selection, seating depth and case length.

The problems are exemplified in the fact that the slide will cycle forward with spring-loaded intensity to slam the carefully concocted reload out of the magazine and up the sharply inclined feed ramp to a point where it will strike the upper barrel extension and pivot violently into the chamber. With the round chambered, the slide will have closed and locked in battery position, ready for firing. If you have done your part and the rim of the case is correctly headspaced against the circumferential step within the chamber, the round should function according to plan. Thereafter, its contents having been consumed, the empty hull is spat out to whatever fate it may encounter.

The anomalies of reloading for the .45 auto, though numerous, are easily circumvented. Listing some of the major problems, along with suggestions for their cure, provides a foundation upon which the reloader can build function-free ammunition.

1) FEEDING DIFFICULTIES: The round-nosed design, such as the cast Lyman No. 452374 with a nominal weight of about 225 grains seems to offer jam-free feeding. However, with this one we're back to a bullet that offers little more in the way of effectiveness than the GI hardball. A better choice is found in the Lyman 452460, a truncated, semi-wadcutter that is both accurate and fairly effective in terms of stopping power. If you choose a ready-made bullet, Speer's .452-inch, 200-grain semi-wadcutter or their .451-inch, 200-grain with a deep, wide cavity in the nose offer good performance. Meanwhile, home-swaged bullets, using copper cups, provide maximum versatility as regards both weight and shape, along with good feeding characteristics.

Seating depth, in the case of semi-wadcutters is more critical because there is limited space ahead of the chamber. The full-diameter part of the seated bullet therefore shouldn't extend more than the barest fraction of an inch beyond the mouth of the case. Compliance with chamber length is obviously less critical when using bullets whose profiles do not involve long, parallel sides, such as ogival 200-grain cavity-nose by Speer.

Some bullet deformation is bound to be encountered as its nose first hits the feed ramp, then the barrel extension above. This fault can be minimized by carefully changing the angle of feed in both the

ramp and the cut-away in the barrel. However, it also is important to adjust the ears on the feeding end of the magazine so as to assure an optimum angle of approach as the slide moves the round from the magazine to the feed ramp. Deformation, and, to some extent, bullet feeding difficulties, can be minimized through meticulous polishing of the ramp area. It should be noted, however, that major modifications of rample angle or barrel cut-away angle and width should be done by an experienced pistolsmith.

2) CHAMBERING: It has been noted that the .45 auto finds its correct headspace as the slide indexes the round into the chamber so that the case mouth abuts the step. Case length for the .45 is listed as .898-inch with a trim length of .895-inch, consistency of length being more important than actual measurement. If, however, excessive crimp is applied the round will be allowed to move too far into the chamber. In the foregoing circumstance the round will not fire because, instead of detonating the primer, the firing pin will merely shove the entire cartridge forward in the chamber. A more severe condition might find the extractor gripping the rim of the case just enough to allow the firing pin to do its job while, up front, the crimped section of the case would have been jammed into the smaller diameter represented by the step. Thus restricted the crimp wouldn't open as readily as it would in a properly chambered round and excessive pressure would result.

In years past there were strong admonitions against introducing a crimp of any description when seating .45 auto bullets. However, experiment and discovery, along with more refined reloading dies, has brought to light the advantages of using a slight amount of taper crimp. Special dies for taper crimping are made by RCBS, Bonanza and others and sell for less than $10. If used correctly with cases of sufficient length, taper-crimp dies will not adversely affect headspace while providing better reloads.

The woes of sticky chambering can further be avoided through the simple expedient of removing the barrel from your .45 autoloader and carefully checking samples of different reloads for ease of entry. If all is as it should be the reload will enter the chamber with minimum resistance. This pre-check will also give you an opportunity to determine whether the bullet in a particular load is seated to correct depth and, for that matter, whether the round is dropping too far into the chamber.

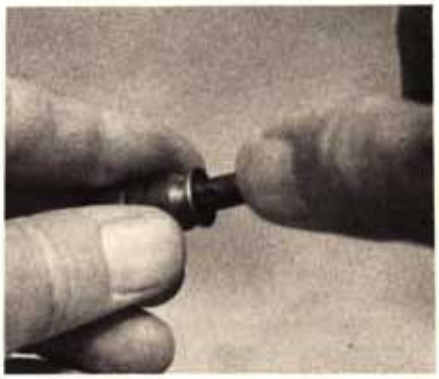
3) CASE CULTURE: It is possible to be confronted with balky feeding as well as poor reload performance if brass is not sufficiently clean, both at the time of reloading and during the firing cycle. Cases should be full-length resized and thereafter cleaned thoroughly so as to be entirely free of lubricant that might pick up particles of grit when the empty hulls hit the ground. Whether you wish to tumble or otherwise polish your empties is immaterial. It is, however, of practical importance that they be at least wiped clean and lubricated before they enter a sizing die and again wiped clean before they are fed into the magazine of your gun.

Adjust your expander so that the mouth of the case is opened up just enough to accept the bullet without shaving lead or, in the case of jacketed or half-jacketed bullets, just enough to allow the bullet to be seated without hanging up on the case mouth. Allowing the die to expand the neck excessively will overwork the brass and result in premature splitting.

Cases variously mangled around the mouth as a result of ejection and consequent trampling or other hazards can be salvaged through careful introduction into the expander die before moving them on to the full-length resizing operation. If this precaution is not taken it is possible that the force of resizing will cause folding of the case wall.

Wall thickness of cases will vary from one brand to another and, in fact, from one lot to another. It is therefore a good idea to separate empties according to brand or lot number. Thicker case walls raise chamber pressure and spoil accuracy.

After decapping once-fired GI ammo check the primer pocket to determine evidence of stamp crimping. If there is any overhang of brass it can be cut away with a



pocket reamer. It also is possible to salvage old FA cases by hand-reaming their undersize primer pockets.

4) FORM-TO-FUNCTION RELOADS: Regardless of bullet profile, an overall cartridge length not to exceed 1.275 inches is best for ideal performance. Maximum overall length is not a matter of absolute dogma and may, in some instances, be stretched slightly; however, over-length loads should be checked in the magazine for proper fit and feeding.

Top form in reloaded ammo for the .45 and other autoloaders is best achieved with a four-die set that includes a sizer die, expander die with both an expander and decapping assembly, a bullet seating die and a separate die for setting the desired taper crimp. Of importance in the four-die set is the decided advantage of being able to seat the bullet to the correct depth while reserving the crimping as a final step.

5) POWDER SELECTION: Of the dozen or so powders commonly used for reloading the .45 auto I tend to rely mainly on the old stand-bys, Bullseye and Unique. The former is preferred for reasons of economy in assembling target loads, the latter for its versatility in all areas of handgun reloading. For example, a charge of 3.5 grains of Bullseye has been a standard for many years when it comes to 185-grain semi-wadcutter target reloads. Recoil is mild—an important factor in long sessions of target shooting—while the 3.5-grain charge has been determined to be about the minimum for reliable slide functioning with 185-grain bullets.

Unique, on the other hand, has application in the use of heavier bullets, such as might be chosen for hunting or self-defense. Velocities from the .45 auto's five-inch barrel can range from a fairly mild 900 fps to a more effective 1000 fps with recommended charges of Unique behind bullets varying in weight from 185 to around 230 grains.

One of my .45 autoloaders, an unrefined GI model, purchased through the NRA some years ago, responds beautifully to loads of 7.0 grains of Unique be-

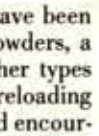
hind 200-grain swaged, half-jacketed, cavity-nosed bullets. Velocity averages 930 fps with muzzle energy calculating at about 385 foot pounds. I experienced few problems with feeding and enjoy the benefit of less recoil than is present with heavier bullets.

Target loads with another .45 auto, an early Gold Cup, have included the previously mentioned 3.5/Bullseye/185-grain semi-wadcutter which feeds well. The same is true of 5.5 grains of Unique behind the same bullet. Both loads are with CC1-300 primers.

Regardless of the fact that I have been conservative in my choice of powders, a bounty of good reloads with other types will be found in the several reloading manuals. I have, for example, had encouraging experiences with the three colored dot powders: Red, Green and Blue. I have marked Blue Dot for future reference as a good replacement for Unique in the assembly of heavier loads. Chronographing, with a thought to comparison of results with both standard and magnum primers, seems justified.

Regardless of the powder type and bullet weight you select it is best to use caution in approaching maximum—even near-maximum—charge weights. Reloaders of long experience (perhaps because they become over confident) have been known to run into trouble because they picked up a reloading manual and started with a maximum charge. Every reloader, regardless of his journeyman status, should remember that the loads shown in manuals, though listed with caution and good conscience, apply to the gun or guns used in the experiment. Those charges listed as maximum or near-maximum may be dangerous in your gun, be it brand new or in beautiful used condition.

I have long been of the opinion that the .45 autoloader has yet to meet its match in all-around value for self-defense. Its potential is, however, dependent upon the use of effective bullets in free-functioning reloads.



Note: While the characters mentioned in these "letters" really exist, and the incidents really did happen, the names have been changed—to save the author and the editor the embarrassment of looking down a gun barrel. If you should recognize yourself, remember, it's all in fun, and we'll never tell.—Editor

Dear J. T.

Riding back from the Lakewood gun show last week with Bob Barton, you might've read after winning his 6th pistol championship at Perry last year, he went to work for Smith & Wesson as a salesman. We were coming back home through that lonesome stretch of Green Swamp and we saw this deputy's patrol car pulled off the road. Didn't think much about it myself.

Soon's we went round the curve, Bob said "You see that?" what I said. "That fellow in uniform standing outside his car and those two fellows in prison overalls standing beside him, bet that deputy's in trouble." Bob likes policemen, he'd made a good officer, too.

Bob turns that Oldsmobile of his round and we tear back to across the road from where that car is. Did look kinda suspicious, one deputy and them other two guys standin back by the trunk.

Bob reached under the front seat and got his revolver, opens the car door and in one jump, he's around the car and facing them three fellows.

"Freeze!" Bob yells. Now, J. T., you know Bob was one of the greatest bullseye shooters every pulled a trigger, but combat trained he's not, cepting having some of Slim Jenkins holsters, belts and readin his book. While he can look at them front and rear sights like they set in concrete, point shootin from the hip, he knows ain't his game. So he figgers he's gotta tell em who he is.

"I'm Bob Barton, 6 times National Pistol Champion, 3 times World Champion, I'm Jenkins trained and equipped, don't move and let that deputy go." What he lacked in know how, he made up for starin and hollerin at em, though he's talkin fast.

"Mr. Barton," said the deputy real slow and he and the prisoners didn't move a muscle, "Appreciate your help, but these two trustees gonna change the tire for me when you let em. I was taken them back to town from the stockade, they've finished their time." Bob could see then the tire off the road was flat.

He kinda eased back across the road straightenin up out of that crouch position. Told the deputy he didn't mean to interfere none. "OK, any time Mr. Barton, recognized you from your pictures, read alot about you, but never had a chance to meet you before, pleasure meetin you."

Bob didn't say too much rest the way back to lettin me off at my house. No cause to be embarrassed I told him, not enough people want to get involved and help these law enforcement boys out when they get in trouble. But he might want to think about getting Jenkins to teach him to crouch better and not point the gun at the ground.

Nat

HANDGUNNER LEATHER

MILT SPARKS LEATHERGOODS

By EVAN P. MARSHALL

AS a Police Sergeant in one of America's highest crime rate cities, I'm not overly concerned about the latest West or East Coast police fad. What I am overly concerned about is going home after each and every tour of duty.

I've found from bitter experience that many of the so-called experts have never fired their weapon at anything more menacing than a target. They cheerfully recommend equipment that was never meant to work at ten below zero or built to withstand the rigors of an extended brawl with a psycho.

Holsters are an especially touchy subject with me. On two separate occasions, I had my .44 Magnum banged up when it fell out of expensive holsters that were supposed to provide weapon and officer security. A third holster of the same type almost got me killed when I couldn't get the gun out while fighting a drunk armed with a knife.

Because of the above mentioned experiences, you can bet that I take holster claims with a rather large grain of salt. Recently, however, I came across a line of leathergoods that offer truly outstanding quality and performance.

Milt Sparks (Box T, Idaho City, Idaho 83631) operates what is essentially a one man operation, but offers a wide variety of holsters and related items. If there's anyone who does better work, I certainly haven't seen it. Before putting a particular item on the market, he wears and uses it until he's satisfied that it does what it was intended for.

It would be impossible to cover all his models in the space alloted, so it's essential that interested readers write for a brochure. Milt has realized that one holster cannot be used for all purposes, so he offers an extensive variety of models.

Of all of Milt's designs, however, the Model # 55BNHN crossdraw holster is my personal favorite. My .45 Auto rides comfortably and can be drawn easily even when seated. The holster has a strap that rides between the hammer and slide for extra protection when carrying the auto cocked and locked. The strap is only attached on one end, so it does not hamper a rapid draw.

Top: Model 55BNHN crossdraw rig is author's favorite for plainclothes use with the .45. Below: Milt's 120 combat rig may not be cheap, but it's one of the best available for the purpose intended.

Milt's # 1 Gold Label rig is a complete unit for off-duty or plain clothes wear. The holster, clip pouch, and belt are designed to go together and compliment each other. Both the holster and belt are velcro lined to assure the holster doesn't move from its intended position.

The Model 2 Hardy-Cooper shoulder holster is designed for proper carry of the .45 Auto. It's fully adjustable to distribute the weight of the weapon between the shoulder and belt. It allows the big auto to be both concealable and instantly accessible.

For those interested in an excellent field rig, Milt offers a fully-lined flap holster and a special clip pouch that holds six magazines. This holster offers complete protection for the weapon, without making it awkward to draw.

The Model # 2R shoulder holster is designed for both single and double action revolvers of all barrel lengths. It's fully-lined with two sets of belt slots; one for hunting and one that holds the belt close for concealment.

The # 120 combat rig is Milt's top of the line rig for combat competition. He informs me, however, that the rig is so reliable that several sheriffs departments use it for a duty rig. While it's not cheap, its quality is self-evident. It's available in either plain or basketweave with or without a leg strap.

Regardless of your intended handgunning purpose, Milt Sparks has a top quality holster that will give you years of carefree use.

HANDGUN HUNTING

By GEORGE BREDSTEN

GET THE LEAD OUT!

IT IS somewhat disturbing to note that a few handgunners are willing to, and quite often do, flaunt 'high water marks' of obstreperous conceit. This is in reference to those handgunners who will *not*, under any circumstances, admit that others are entitled to their opinions, or that in some cases the differing opinion just might be more appropriate—the result of more experience and/or better logic. Instead, it is alluded that persons having different views are suspect and must be shunned—lest some sort of heresy be witnessed! An example of such clouded mentality is demonstrated by the handgunner who vehemently disclaims the worth of and need for hearing protectors. His comment usually is: "Hearing protectors are for sissies—eh, what's that you say?" A large degree of mental ossification is also evinced by those who opine: "Mag-na-porting a handgun can not make any real difference in the actual or felt recoil."

The foregoing examples serve to illustrate topics where obvious faulty reasoning prevails. There are other topics which can not be as easily or as precisely delineated. One such topic, causing perhaps the greatest rift among handgun hunters, concerns the effectiveness and usefulness of cast bullets. Many handgun hunters have used and continue to use cast bullets with excellent results. Just as many, if not more, handgun hunters wail and gnash their teeth at the mere memory of past experience with cast bullets. Why? In a work—LEADING. In this age of technological accomplishment, specialization and expertise, it is odd and it appears inconsistent that the problem of leading should continue to plague so many shooters.

That this problem can be extremely vexing and apparently beyond the acumen of even some renown handgunners is fact. For example, one prominent author of combat handgunning articles wrote: "Leading in revolvers is just one of those things we have to learn to live with, unfortunately." Now, just why a person must learn to live with leading in revolvers and not other types of handguns was not explained. Of course, that author considers revolvers to be an obsolescent handgun concept and personal predilection undoubtedly is responsible for the obvious bias. Other scribes insist cast bullets can not give good results, except when used at low (subsonic) velocities. This is a bit strange, since cast rifle bullets are usually loaded to deliver higher velocities than most handgun bullets (cast or jacketed); yet riflemen, who use cast bullets, seldom express dissatisfaction regarding the field performance of these bullets. Therefore, while velocity is an important factor, it is not the only one which determines whether or not leading occurs. It is regrettable that many persons stoically accept leading as the inevitable consequence of using cast bullets; hopefully it is an atypical attitude of the majority of handgun hunters.

While space limitation precludes a detailed discourse, one program used to effectively resolve leading will be mentioned. It is not implied nor should it be inferred that the panacea for all leading problems is known; instead, leading, if not eliminated, should be reduced to the degree that it causes the handgunner no greater inconvenience than that resulting from the use of jacketed bullets.

Begin by forgetting the conventional solvent/wire brush/flannel patch technique; it is not only inefficient and laborious, it also is quite often an exasperating endeavour. Some persons might even consider it to be an exercise in futility! From your sporting goods dealer or from L.E.M. Gun Specialities (P.O. Box 31—College Mark, Georgia 30337) buy a

Lewis Lead Remover Kit. The proper use of this kit will result in the quick and easy removal of all visible leading; i.e., from the cylinder chambers, forcing cone and barrel if a revolver or from the integral chamber and barrel if a pistol, like the Colt Government Model. At this time, it becomes very important that you determine the condition of the barrel (bore). If the barrel resembles the surface of a street worked on by a pneumatic hammer, it is likely that leading will occur in that barrel regardless of the remedial action. About the only practical recourse would be to use jacketed bullets or replace that barrel with another. However, should the barrel appear to be relatively free of gross machine/tool marks and pitting, you can then undertake the most important step of this pre-shooting program to prevent leading.

Purchase a Rice Gun Products (RGP) Kit from Rice Gun Products (1521 43rd Street—West Palm Beach, Florida 33407), and then use the contents *exactly* as directed. The typical result is a barrel that does not lead. The use of RGP will prevent leading even in the 357 Magnum using full-power cast bullet loads—a handgun cartridge notorious for its propensity to lead. This is one commercial product that does what is claimed, and the manufacturer deserves the approbation and support of all cast bullet users.

When compared with untreated handguns, RGP treated handguns can be used to fire somewhat softer cast bullets at higher velocities without the deleterious effect of leading. This is especially helpful to the handgunner who uses a small caliber (35 and under) in that cast bullets can thus be made which give definite expansion in game. For without expansion, the field performance of small caliber handgun bullets is, with some exceptions, poor. When expansion is both positive and significant, bullet penetration often is inadequate to reach the vitals except where conditions are more or less ideal. The foregoing is true whether the bullets used are cast or jacketed. To balance adequate bullet penetration with positive and significant bullet expansion is a quandary of the small bore enthusiast not easily resolved.

Although the material most often used or recommended for cast bullets is linotype, the fact is that other bullet metal composition can be used to give equal or even superior results. For example, bullets made of the following material give consistently fine field performance, when used within the indicated velocity bracket. (Note: All weights in pounds, making up a 10 pound unit. L-Pure lead; WW- wheelweights; BS- 50/50 (lead-tin) bar solder.)

ALLOY	VELOCITY BRACKET
1) 5-L; 4-WW; 1-BS	1350-1500 fps
2) 5½-L; 3½-WW; 1-BS	1200-1350 fps
3) 6-L; 3-WW; 1-BS	1050-1200 fps
4) 6½-L; 2½-WW; 1-BS	950-1050 fps

Naturally, some overlap exists between these alloys and velocities; the actual degree of overlap being dependent upon factors such as barrel length, barrel smoothness, bullet design, caliber, type and amount of powder used. Nonetheless, these particular alloys and their indicated velocity brackets do not accept much overlap without a serious reduction in bullet performance. Next, one should consider the sizing and lubrication aspect of cast bullets. To adequately describe even the basics of this subject warrants more space than is available; however, the essential considerations require the handgunner to conduct extensive experimentation to determine whether exact groove diameter, over-sized or under-sized bullets perform best in his handgun(s). Bullet lubrication should be viewed as a separate variable, since the type/brand and amount of lubricant used affects performance.

Some handgunners are not willing to exert neither the time nor the effort to fully develop effective cast bullet hunting loads. Other handgunners appear to be mesmerized by sheer velocity and because they usually hunt nothing larger than small game and/or varmints, the light weight, frangible, jacketed HP or SP is deemed best. One should recognize that cast bullets are not the best choice for every handgun hunting situation, but then neither are jacketed bullets. With the problem of leading resolved, more and more handgun hunters will realize that most of the cast bullet detractor's criticism is aberrant and erroneous!

TAKING AIM

HANDGUN RELIABILITY—IV ACCESSORIES

EARLY last summer I happened to be at Quantico where the Marines are good enough to let me use their ranges. While there I watched a group of Marine officers firing their annual requalification with the .45. At the command "Commence—Firing!!" I happened to be looking at a young lieutenant who, as he fired his first shot, had the base plate come off his magazine dumping the remaining six rounds on the ground. The look on his face was worth the trip down!

Enjoying his misfortune, and the razzing he was getting from his friends, I remembered that the same thing happened to me at Fort Benning back in 1948. Sobering thought—I'm sure glad it happened to both of us on a range and not when the pistol was needed for business. He had no trouble removing what was left of that magazine. It turned out to be one of those World War II items of unknown origin. Like the one that did it to me, the base plate was held in place only by two crude spot welds on each side. This incident, I think, points up well the role support equipment can have in handgun reliability.

The first thing that comes to mind when I think of handgun "support equipment" is leather—holsters, belts and other accessories. Probably over the years handguns have been carried in every possible way: in the hair, in hats, taped to various parts of the body, in the waist band, in the pockets, shoes, boots, separate bags and briefcases and on saddles, in glove compartments, under seats . . . you name it. But for everyday carry, day in and day out, at least the larger ones demand a holster of some sort just for simple comfort and convenience, and an adequate belt of sufficient weight and stiffness to distribute the weight and anchor the holster when the gun is drawn.

For me, holsters are all of two kinds, depending upon the priorities of the man who designed them and, hopefully, the needs of the user. Good open holsters are made to facilitate getting the gun into action fast. That's the main idea, or ought to be, as far as I am concerned, no matter what other interesting features they may have. If getting the gun into action quickly isn't important, then the user ought to be carrying a holster which does the other prime holster job well; gun protection, from the elements and from physical damage. I suppose many might make a pretty good case for a third class of holsters, those made with concealment in mind.

Whatever its main purpose, a good holster ought to offer protection against loss of the gun while running or in a fall, and protection against having someone else take it away from you in a scuffle is mighty good too, but harder to accomplish.

Some holsters cause problems if your gun has adjustable sights. Not so the Safariland Sight Track models which have a special groove made in the front to accomodate and protect the front sight (Safariland, 1941 S. Walker, Monrovia, CA 91016).

It's a good thing to remember that holsters can make a negative as well as a positive contribution to handgun reliability. In an earlier article I have already mentioned the unfortunate tendency of leather to attract and hold moisture causing rust. This long ago cured me of ever leaving a gun in a holster when it wasn't actually being worn.

More serious is the recent case of a West Coast law officer who, confronted by a felon armed with a knife, drew his Smith & Wesson Model 39 only to find it jammed. He was cut as a result, though fortunately not fatally. Later, officials of his department reconstructed what had probably happened, and concluded that he must have pressed his gun down hard in a tight holster which pushed the slide back just far enough so that the side of the holster, pressing against the end of the slide latch pin, pushed the slide latch into the dismounting cut in the slide, locking the slide part way back. They managed to duplicate this with his equipment. Since then I am told that Smith & Wesson has

modified the slide latches of their 39s and 59s to be smaller and protrude less from the right side of the gun.

I had an interesting experience in Korea many years ago with a .45 and a brand new cowhide issue flap holster. I carried that gun all my first day as the brand new Assistant S-3 of a Field Artillery battalion before discovering that when I pushed the gun down in that tight holster the thumb safety was disengaged. It would do it every time. And that wasn't all; the tight flap pressed down firmly on the hammer and grip safety depressing both when the gun was carried cocked and locked as I habitually do! True, the hammer was held back pretty firmly by the flap but I felt a lot better after trading in that holster on an old, old one.

For most of us who keep handguns for home or office defense, carrying equipment is of less interest than storage items. I know of some high risk business where the employees have to go armed, but this is rare and businessmen rightly recognize that the public is disconcerted by the sight of guns in most cases. Handguns tend to be kept in convenient places out of sight rather than carried.

The original box isn't a bad choice as a place of storage. It isn't made for getting at the gun quickly, however, and has its main value as a protection from dust and hard knocks. (Incidentally, some of the

original boxes eventually become collectors' items so it might be better to take care of them rather than use them!) A better bet for my money is the gun rug, a small leather or fabric case closed with a zipper and heavily lined on the inside. These offer excellent protection and the gun can be made more accessible by leaving the zipper partly open. They do have one drawback ... like the holster they tend to attract and hold moisture so that the gun needs to be checked frequently to prevent rust and remove the accumulation of fine fiber lent from the lining. To me the main thing about storage equipment is that none of it, no matter how good, should ever become the excuse to leave a gun forgotten and uncared for.

Maintenance equipment generally makes a positive contribution to reliability provided that you keep in mind the earlier discussion about what cleaning and preservative materials can do to the ammunition—and guns too—if used to excess. Excellent rods, brushes and complete cleaning kits are available. I think the key point here is moderation in the use of lubes and preservatives and keeping them away from ammunition. I find my guns all seem to work best when clean and very nearly dry. In cold weather I go to graphite and stay away from grease. I have known traffic officers—and who else is as exposed to the elements as they are—who never used grease as an external rust preventive but swore by regular old Johnson's floor wax! It worked for them, too. One more word of caution. I think I have mentioned this before in this series on handgun reliability, but it is worth saying again. If you have nickle guns, be sure to get all the Hoppe's Number 9 solvent off before putting them into storage. Hoppe's is made to remove metal deposits from steel and it will do that job on your nickle if you let it!

I am sure some readers will disagree, but it has been my experience that you can *over*maintain guns as well as neglect them. I've known people fascinated with a fine new revolver who've actually damaged it by too much opening, cleaning and handling it. That can slightly spring the crane and roughen the action. In like manner, fine, tight pistols are not helped by excessive—though loving—care.

But let's get to the nitty gritty—the using equipment. Here's the really important stuff, in my view anyway. First there are the custom grips. Believe it or not, I think the factories do a pretty outstanding job these days of making grips . . . and they're doing better now than ever before . . . better than we give them credit for. But, there are those of us who have real (or imagined) problems and feel the need of grips better suited to our particular hands. Properly shaped, such custom grips can make a real contribution to fast and accurate gun handling. When they're bad, though, they are really bad. If, like me, you are somewhat less than an expert in such matters, it would be wise to visit your local dealer before making an investment, and try various styles of grips for your gun.

Custom grips vary in size all the way from near factory size which merely change the angle of your hand slightly, or provide a more secure grip, to those which fairly engulf your hand and offer above support, below support and everything in between. These elaborate target types may be fine for their intended purpose but they will not fit into any holster that I have ever seen. Worse, they limit use to either your right or your left hand, and usually hamper reloading—something you don't want on a defense gun. Grip adaptors and trigger shoes are similar equipment but smaller and more specialized in nature. Some holsters cannot be used with trigger shoes, and there are those who consider them dangerous in certain situations.

By all odds the most important support equipment for handguns is loading equipment. This takes two basic forms: quick loaders for revolvers, and spare magazines for pistols. These are very similar in some ways yet in others very different.

Quick loaders for revolvers are real new-boys-on-the-block. I don't believe that any of them have been around for more than ten, maybe at most twelve, years.

Revolver quick loaders in some six or eight makes are currently offered for sale. Most are cylindrical in shape and made to position six cartridges in line with the chambers after which gravity takes over and they are released to drop into place. To my knowledge, only the Second Six loader (Box 215, South Laguna, CA 92677) is designed so that you push the rounds into the chambers regardless of the position of the gun and loader. There are those, however, who feel the Second Six a bit fragile and likely to lose rounds if dropped. It seems that the most popular loader with law officers these days is the HKS Tool Products Company's Six Second loader (132 Fifth Avenue, Dayton, KY 41074).

Bianchi makes a linear "speed strip" loader with which you position one or two cartridges at a time for loading. Probably a little slower than the circular types, its flat shape makes it much more comfortable and convenient to carry. And that brings up an interesting point, for all the loaders share—the cylindrical ones at least—one bad feature: they are very bulky and uncomfortable to carry on a belt, in a pocket or anywhere else that I have tried. Their shape just about makes it impossible for them to be otherwise, I guess.

In my limited experience, all of these loaders with possibly the exception of the Bianchi type, are hard to line up with the empty chambers of the revolver. The blunter the type of bullet you use the greater this difficulty becomes until with wadcutters you've really got a problem.

Inspite of the negative aspects, which I perhaps overemphasize, all of these loaders work and make the job of reloading go faster. They make another contribution to reliability also: ammunition carried in them is invariably better protected and in better condition than that in open belt loops.

Quick loaders for revolvers require that the individual who is going to use them train himself in their use. Somehow, I get the feeling about them that they are still in an experimental stage, and that a better solution for quick reloading of revolvers is just around the corner. One thing about them, though, is certain. They are not *essential* to the use of the revolver. We got along for many years without them.

The same thing certainly cannot be said for spare magazines for auto pistols. If ever there were an *essential* piece of handgun equipment, this is it. Without a spare—at least one—a pistol becomes even slower to reload than a revolver, though perhaps not quite as unhandy. Magazines, once loaded, differ from the quick loaders in that they do *not* require any special training or dexterity by the user. "Once loaded" here, of course, is the key phrase. I remember one old Army shooter who used to love to say that it sure was too bad that World War I wasn't a pistol war; for if it had been the Kaiser's men would have been on the run after only a few days—just as soon as they got to the point where they had to stop and reload their Luger magazines! Having loaded a few myself I am inclined to agree with him.

Isn't it strange that the handgun manufacturers, by and large, do not furnish an adequate number of extra magazines at the time you buy the gun? Often, as with the .45 you get none at all. With a Model 59 Smith & Wesson you get one the same as you get with the new Mauser Parabellum. I don't know of a pistol that comes with two spares and that's what I consider the minimum needed. The serious pistol owner who wants to take advantage of the

firepower his gun offers must get spares on his own, and often they are not available from the original maker of the gun. Spares made by others tend to vary widely in quality and reliability; my experience has taught me that you simply must test fire not only spares but the original magazine as well with the ammunition you plan to use before you can have any confidence in the proper functioning of an auto pistol. As a result you may have to change your ammunition or group magazines for use with certain types. I have one friend who keeps a drawer full of nothing but magazines for the .45, which he shoots a great deal, and all of them are tagged to remind him which ammunition they work with and which they balk at!

Last summer I had occasion to do a rather extensive test of a group of spare pistol magazines obtained from various sources. Under my ground rules, all had to come from someplace other than the original maker of the gun. Some were of unknown World War II surplus origin. As part of the test, I tried some of the large, extra capacity magazines to see both how reliable they might be and practical to use. Some very interesting things surfaced:

First, I noted that spare magazines generally tend to be much lighter in weight than the originals, and made of thinner metal. I came upon some as much as 400 grains lighter. It's hard to put your finger on one thing as the most common weakness. Some had very poor base plates made of folded over metal and very insecurly attached (One 25 round magazine for the .45 ACP came to pieces in my hands the first time I picked it up!). Some base plates worked loose in firing, and two of these jammed a P-38 which latches against the base plate. In a number of cases, holes stamped in the side walls to show how many cartridges have been loaded bent the metal in slightly causing friction against springs and followers. This problem was made worse by the frequent use of poorly designed springs and very crude followers.

We've all heard of the problems caused by magazine lips; well, that was certainly reconfirmed for me last summer. Among the 26 spare magazines I tested I found lips of every possible length and shape,

and some of these seemed to work about equally well, while others that looked good were real flops. The usual problem seemed to be lips of unequal length, or curvature, which tossed the cartridge out to one side or the other instead of straight ahead, and those which were too short and let the round go too soon. Both types resulted in a beautiful variety of jams (including one in which a Model 39 Smith & Wesson ended up with a loaded round completely reversed—bullet to the rear—sitting on top of the magazine and holding the action open!)

There are two critical things about magazines: the distance from the top of the top cartridge to the latch cut (or the base plate for P-38s and others which latch there), and the shape of the latch cut. If these are not *exactly* correct the top cartridge won't be held just where it must be to feed reliably. I found one Luger spare—brand new—which was a full .010 inches off, and which would *only* feed with a two hand hold, my lower hand pushing the magazine up into the grip! Hardness of the metal used is also important. If wear occurs too rapidly the magazine soon won't hold that top cartridge up there where it belongs.

Spring tension and the angle of the follower are also critical. I found that a minimum of 16 ounces tension is needed to hold and control the last cartridge in a magazine no matter what caliber or type gun was involved. Magazines varied very widely in spring tension, but all had more than the minimum needed. Interestingly, the Luger magazines have by far the greatest tension and seem to hold and

control cartridges most positively. This probably explains their ability to make the cartridge leap across all that open gap to the chamber successfully—sometimes!

My work with the extra capacity magazines was disappointing. Of the six I tested only two performed satisfactorily. Of these two only one would meet my standards of being practical for field use. The makers just did not seem to be able to design their oversize magazines so that they could control cartridges well all the way from the first to the last. Followers were not well aligned and shifted in moving up the tube. Spring tension varied widely from first to last shot. The result was a frustrating series of "stovepipes" and "plungers" until the magazines were rejected as useless.

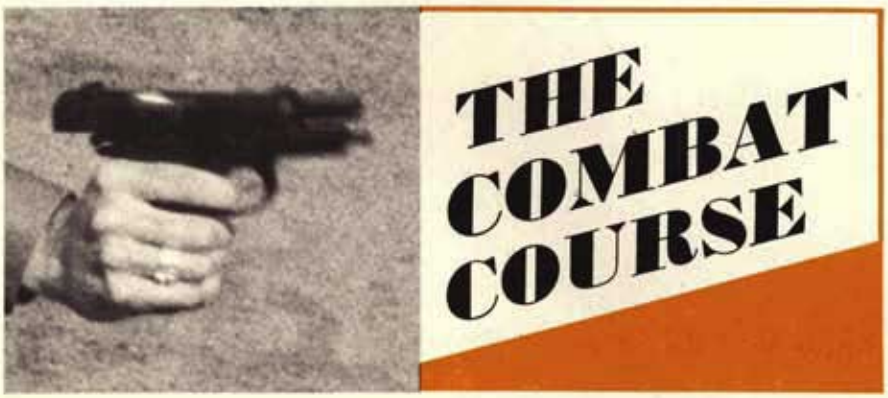
I admit that my test was pretty severe. I demanded that, to pass, each magazine had to feed and function properly all the way through its capacity *the first time*. Anything less was a failure, and I think you can understand my reasoning. I felt that if I were going to bet my life on that magazine, nothing less would do. This may in part explain why, of the 26 magazines tested, only 14 passed—a sobering 54%. Some of those which didn't make it, I suspect, could probably be salvaged by trying various types of ammunition in them until one that was reliable was found. On the other hand, I tried to be quite liberal where gun related failures occurred. I didn't blame the magazine, for example, when my old Model 39-1 Smith refused to digest a short, stubby 9 mm P JSP of recent manufacture!

A question that plagues many pistol owners is: how long can a magazine be left loaded without damaging it or decreasing its reliability? Strange as it seems, although I have seen this question surface time after time over the years, I have yet to see a definitive answer given. There seem to be two schools of thought on this: those who believe magazines are essentially indestructible and can be left loaded indefinitely, and those who feel they ought to be rotated and unloaded frequently. I admit to belonging to the second group, for over thirty-three years of Army service I have from time to time come across .45 ACP magazines—usually assigned to the Guard—which had lost all of their spring tension and were quite useless. I had no way of telling how long they had been left loaded by sergeant after sergeant of the guard. Remembering this last summer, I decided to add an element to my magazine test and load all the magazines which passed and leave them so loaded for a period of time to see what I might be able to learn. That was exactly six months ago, so I pulled out the fourteen magazines, took them off to the range at Quantico and shot them to see what, if anything, six months had done. While I was at it, I also measured their remaining spring tension to see if that had changed. A group of four GI surplus .45 clips showed an average loss of tension of 5 oz. Two new replacement .45 clips lost an average of 10 oz. A group of five 9 mm clips lost an average of 5 oz of tension. Original tension of all the springs tested ran from 32 oz up to 80 oz; average tension for all magazines tested was 52.4 oz.

I suppose I have to say that this test was interesting, if not very definitive, in the matter of what happens to magazines left loaded over a period of time. I learned once again about the business of ammunition preferences, and I think that it was significant that in all but one case there was a loss in spring tension resulting from the first six months' test. I reloaded all the magazines for another six months' torture and look forward to seeing what changes that may bring.

If my discussion of auto pistol magazines has done nothing else, I hope that it has emphasized the need to shoot test every magazine you plan to bet your life upon, and those that pass ought to get the kind of tender, loving care reserved for those upon whom you depend. Thus far I have seen nothing to change my position: I'm betting that it is wise to rotate magazines regularly, allowing those you keep "on guard" to spend time frequently "at rest."

This winds up my discussion of handgun reliability. It has been far from complete or very definitive, I know. I hope that it may have been half as interesting for you as it has been educational for me!



THE COMBAT COURSE

SHOULD WE CHANGE THE PPC?—PART I

By MASSAD F. AYOOB

It's in vogue these days for gun writers to damn the PPC (Practical Police Course) as little more than a game, something totally impractical as preparation for street shootouts and which gives its participants a false illusion of deadlines. Nonte and Marshall practically spit on the PPC; Cooper has no use for it; Jordan and Askins respect the concept but feel it's gone astray.

I'm not totally in love with the PPC, myself, and I've been actively shooting them and running them for five years. But there are a few good things to be said for the concept.

First, a recap of the typical course of fire, which is now largely the NRA 1500-point format. The mark is the B-27 Prehle, a modified Colt silhouette superimposed with the tight scoring rings of the Olympic rapid fire target. The X-ring is in the diaphragm; the lowest value ring is a seven that elliptically outlines the torso. Head, groin, or arm hits are considered misses.

The National Police Course is your early 60-shot FBI style PPC: 12 shots in 25 seconds from seven yards; six each kneeling and left and right barricade at 25 yards, in 90 seconds; six each sitting, prone, left and right barricades in 2¾ minutes from fifty; and six standing without support at 25, in 12 seconds. All time limits include reloading, and you start with the loaded revolver in its holster. Two-hand hold is used throughout, as is eye-level sight picture; single action shooting is permitted at fifty yards only. This is usually match five of the NRA course, the previous four being expanded versions of each stage in the National Police Course, and all are added to make match six, the grand aggregate.

The beefs are many. Jordan was perhaps the first to note that by changing the early rules of hipshooting to permit eye-level sighting even at seven yards, the switch from combat training to target shooting became complete; that observation is perhaps also the most telling indictment of PPC. The competitor of today uses speed-loaders, and has a stopwatch on the inside of his left wrist, and is under little if any pressure time-wise. Putting them all in the "X" at seven yards is candy. Close-range speed is eliminated as a factor. Most top shooters unhurriedly take a good hold as they draw, and don't get their shots off until three to five seconds

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after the whistle. On the street, of course, an animated version of the Prehle would have emptied its gun into you by that time.

Statistics indicate that most police shootouts go down at a range of *less* than seven yards, and very few anywhere near fifty. Yet a third of your NRA 1500-point aggregate is fired from 50 yards, and none closer than seven.

All weak hand shooting is done with support, yet street research indicates that a cop in deadly danger will keep the gun in his strong hand even when shooting around a left corner; he will use the weak hand only when the strong one is shot away, making the supported weak-hand positions a joke.

Finally, PPC matches are won with heavy, 6" Douglas-barrel guns with Bo-Mar sight ribs that usually require special holsters. Actions are lightened to the point that they'll often misfire with anything but mild wadcutters. The light loads are encouraged; in fact, except in the Distinguished or "hardball" match, most tournament sponsors allow only wadcutter or light semiwadcutter to make for easier scoring and to prevent loud blasts from jarring the competitor next to you. As I've stated elsewhere, a full-house PPC gun bears as much resemblance to a service revolver as a Petty racing Plymouth does to a squad car.

There are other complaints, but those are the main ones. Now let's look for a moment at some of the *good* points of the PPC.

First, it beats hell out of bullseye for practicality, and that's not as antiquated an argument as many might think. A lot of departments in this country are terribly backward in their firearms programs, especially in the midwest. (Last I knew, the Iowa State Patrol was still qualifying on bullseyes, and had just begun a PPC-style course at their Academy. I watched the first class go through this "combat" course; the director of the academy was ecstatic when they averaged a little better than 300 out of 600 points.)

Second, PPC strikes a good compromise between basic marksmanship technique and proper gunfighting habits. Offhand bullseye shows you whether you're heeling or canting or flinching or jerking, but it also teaches you a form of pistolry that you would almost never use in defense of your life. PPC shooting teaches the principle of area-aiming on a torso instead of six o'clock on a black circle, yet permits enough steady grouping for the instructor to be able to diagnose and correct bad shooting habits. On fast Cooper style course or the ATS system, by contrast, you don't know if that miss was because the recruit flinched, or heeled the shot, or just was trying so hard to keep up with the fast-flipping targets that he didn't watch the sights or failed to get the proper hold on his weapon. Advanced systems

like ATS and the Cooper format are excellent for trained shooters, but are a bit over the heads of raw recruits. The PPC, to my way of thinking, strikes a happy medium at that level.

Whether the match should be shot at closer ranges or from the hip at the seven yard line is arguable. Definitions of hip shooting vary from punching the gun out from your belt, to bringing it chest-high and watching the barrel in your lower peripheral vision. If somebody cheats and brings it all the way up, it's hard to prove—one reason eye-level shooting was Ok-d in the first place. Closer than seven yards, the targets will be X-ed out anyway, even as they are now. The rational PPC competitor knows he's playing a gunfight-oriented game, not undergoing realistic training; he likes to make every hit count, and might boycott matches that required hip-shooting. Besides, there is a large body of evidence indicating that even at point blank range, the officer may be bet-

ARKANSAS COMBAT LEAGUE

Until recently, the Arkansan who was interested in combat pistol training and competition had to leave the state to participate or read about it in assorted magazines, but with the formation of the Arkansas Combat Pistol League, they can compete throughout the year.

Emphasis is on heavy caliber weapons and practical holsters and all training and competition is done from the leather on silhouette targets. Competition rules closely parallel IPSC rules.

Goals of the newly formed organization are to gain new members for the practical pistol fraternity, train newcomers to the field and allow police officers and other advanced shooters to participate in more realistic training and competition than normal programs allow.

Meetings will be held monthly throughout the state and membership is open to residents of Arkansas and contiguous states who meet certain membership requirements.

Officers include: Richard Knox, president; Larry Mougeot, Vice-president; Bill Wilson, Secretary; Nola Huber, Treasurer.

Further information on club membership may be obtained from: Richard Knox, 1504 West 6th Avenue, Pine Bluff, Arkansas 71601; Mike Martin, 715 East Broadway, North Little Rock, Arkansas 72119; Bill Wilson, 101-103 Public Square, Berryville, Arkansas 72616.

ter off bringing his weapon to eye level: the time difference is little if any, and the concentration of fire into the opponent's "instant stop" area is vastly greater.

An editor of POLICE MARKSMAN (the magazine published strictly for PPC shooters, 200 South Hull St., Montgomery, Ala. 36104), wrote recently to the effect of "look, guys, it's all a game. We know there are faster and more realistic courses, but in terms of training time and tournament management, this is the optimum."

I think he's right. As he says, PPC-ers are in the vanguard of the free-style combat shooters in many parts of the country. The logistical advantages of the PPC are also inarguable. A 2700-point bullseye match takes you one exhausting day, or sometimes a day and a half to complete; you can finish your relay at most PPC matches in an hour and a half or so. The mostly one-at-a-time stages of free-style combat shooting, by contrast, take so much time as to limit participation in two ways. First, it cuts down the number of rounds each man can shoot; the Arizona Combat League's matches, which I've attended briefly, often require only twenty rounds or so. A lot of people are reluctant to travel a distance and kill a day to fire only twenty shots. Second, plant capacity for competitors is limited. My group recently hosted the Northeastern US Sectional tryouts for Jeff Cooper's world combat pistol championships; in two nine-to-dusk days, we were barely able to squeeze in eighty shooters. With the same facilities, we could have run perhaps 200 through a 1500-point PPC in the same time. Translate that to a department qualifying its entire sworn personnel complement on paid time or overtime, and you can see why the PPC, being the shortest available format with plenty of shooting, is going to be with us for a long time as a primary training tool as well as the fastest growing pistol sport in America.

Sure, I'd like to see changes. Jeff Cooper's approach makes the most sense to me: keep most of the existing course, revert to the Colt target, and cut the times down, by as much as half in some stages. Lucy Chambliss's Winter Haven regional is famous for its 12 shots in 15 seconds from the seven yard line. If you're going to stay with light-kicking bull barrel guns and speed loaders, I think that's the way to go. And I'd like to see it *all* opened to civilians, as we've done in New Hampshire.

A lot of others think that by changing the gun rules alone—cutting out speedloaders, restricting the officer to the gun he carries on duty or to a weapon that doesn't have the heavy barrel or the special ribs—will be enough to make the difference. There's a lot more to that than meets the eye, and we'll discuss it in this spot, next issue.

A Hide-Out 45

A MODIFICATION THAT YOU CAN DO WITH SIMPLE TOOLS!

By BERT STRINGFELLOW

The last few years have brought about a great deal of interest in the development of a compact concealable .45 Auto. While working as a consultant, to Harry Sanford on his Stainless Steel .45 ACP program, I was approached by some friends at a Southwest Pistol League Combat match. These fellows wanted to know if I thought it was possible to make a really good, serviceable, pocket pistol from a Government model auto in .45 caliber. From time to time, as I was finishing up the job for Harry, I thought about the problems which would have to be overcome to meet my shooting companions requirements in a pocket pistol. After I had finished up for Harry I spent some time designing a cut down GI 1911-A1.

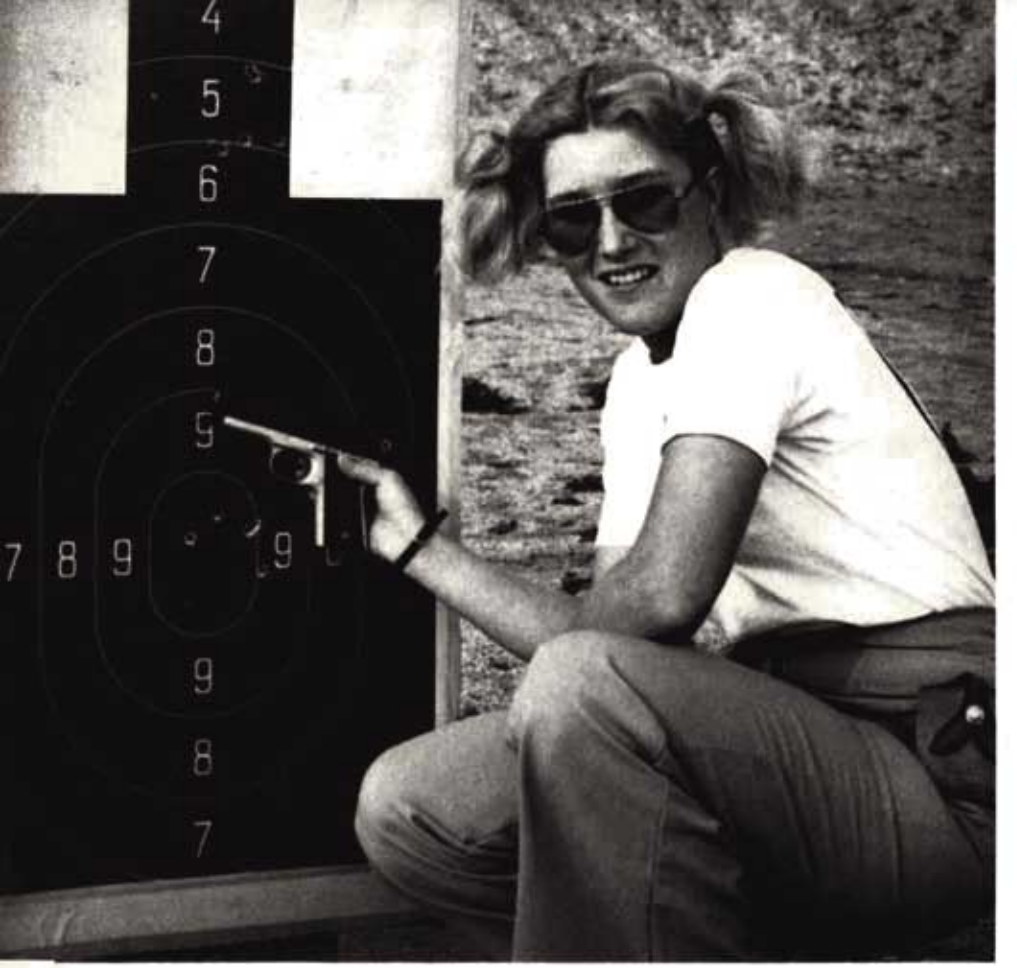
The first model was, what I considered, a failure and I destroyed it and started again. When I discovered that my first attempt was a failure, I really became serious about the project. Up until the functional failures of the first model I had considered this a relatively simple problem, just cut everything off and start shooting. Well, it didn't work that way.

The second model was a slight modification on the Pachmayr system and it functioned well, as do all the Pachmayr jobs.

After I had completed a "shorty" that functioned properly and demonstrated satisfactory accuracy, my confidence was restored and I started working on a design to reduce the amount of work involved in converting a 1911-A1 type auto into a pocket pistol. My selection of a design for the third model was based on the A & R alloy frame made in South El Monte, California. There were a couple of good reasons for using the A & R frame:

1) Good GI frames are getting hard to come by.
2) The A & R frame could be shortened without having to weld stock bushing plates into the grip area.

The compact .45 is compared to the author's AMT .45.



Janice shows off a fine five shot group from the compact, lightened .45 ACP conversion.

and sighting, prior to bluing. The slide stop notch may be machined per the slide drawing if it was required that the slide lock open on the last shot; however, I did not have a 1/16 inch diameter end mill for this operation available at the time the slide work was being done so the Model three shorty does not lock open on the last shot.

A lathe was required to perform the modifications on the barrel as all the machine cuts were in relation to the center line of the bore. Four machine cuts are required on the shorty barrel.

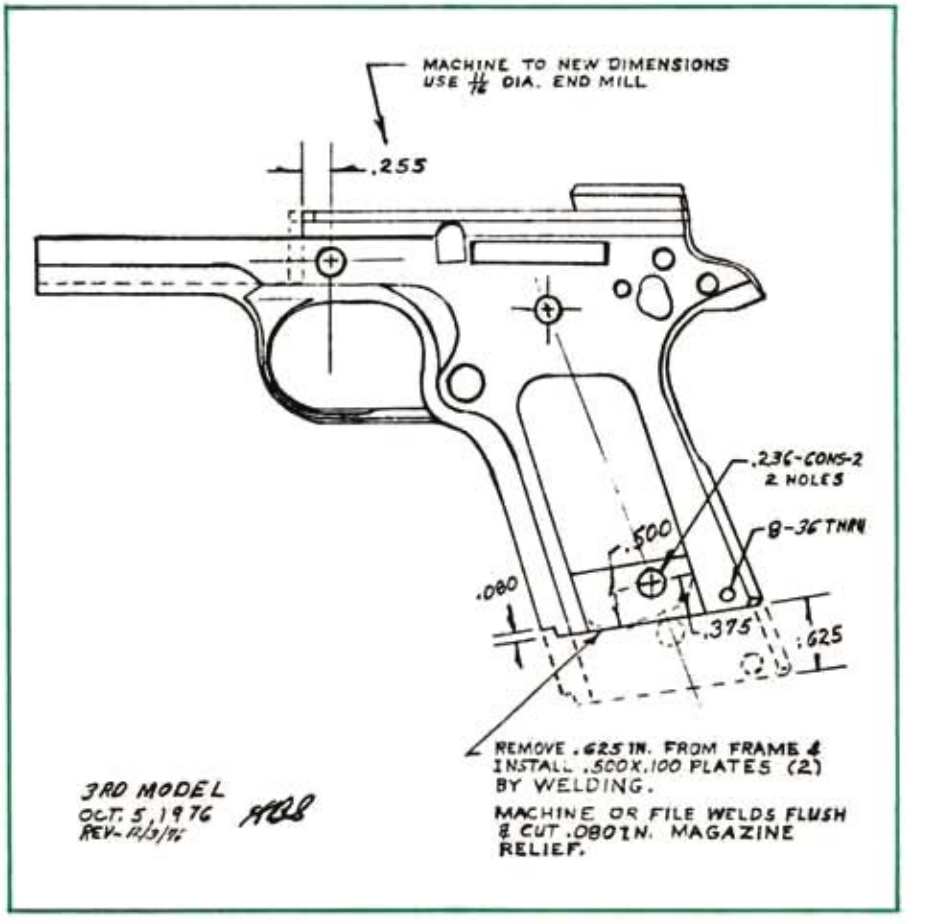
1) I started a lathe cut 3/16 of an inch measured from the location of the new muzzle end of the barrel and turned the barrel body to .564 inch diameter. I continued this diameter to 1.750 inches from the hood of the barrel.

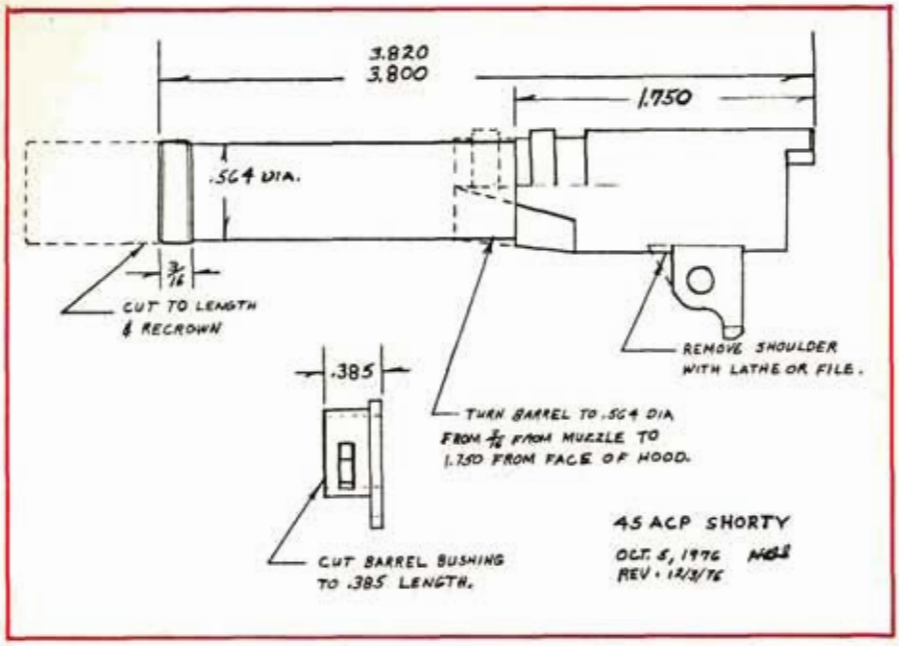
   NOTE:—This cut removed one barrel lug, a practice which has received a great deal of criticism and analysis. I personally feel that this practice is acceptable if it is performed by a competent gunsmith and if the machining is done on a

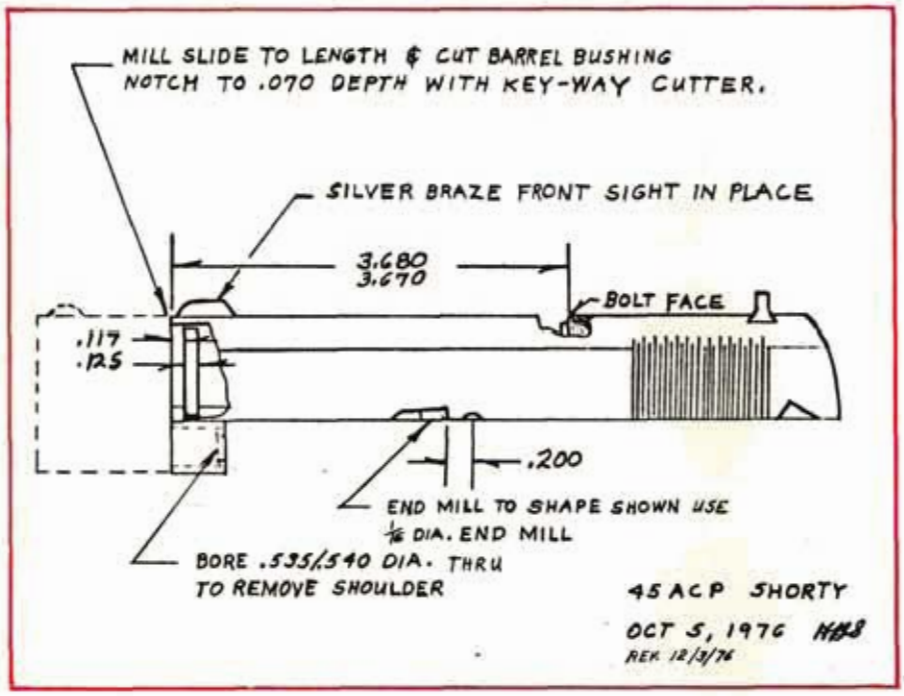
3) The machining on the softer alloy can be performed with a drill press, whereas, a steel frame must be machined in a mill set up.
4) The alloy frame made up into a very light, easy to carry pocket pistol; however, it does produce a bit of recoil.

With the frame selected and modified per the frame drawing, the next part to be modified was the slide. The slide selected for modification was an Ithaca G.I. I think that G.I. parts, when they are in good shape, are as good or better than any of the contemporary components now available. Although I used a G.I. slide, any slide that fit the frame to be used would have been satisfactory.

The modifications to the slide were performed on a small vertical mill and all the work was done in about half an hour. Shortening the slide was the first operation and it was done by hacksawing the slide to rough length and then milling it to finish length, as measured from the face of the bolt. The barrel bushing notch and the spring plunger bore were machined in the same setup by merely changing to the appropriate cutting tools. To install the front sight I cut a front sight blank from a 1/16 in. thick steel plate and silver brazed the blank to the slide. The front sight blank was left 3/16 of an inch high and then filed to the proper height during test firing







barrel that has been examined for cracks or other flaws in the area of the lugs. Many gunsmiths remove one of the lugs in their various conversions and I have yet to see one of their barrels which has failed.

2) I cut the shoulders of the lower barrel lugs back until they conformed to the barrel drawing. This operation could have been done with a hand file, but it is clean and fast when done on a lathe.
3) I then cut the barrel to length as shown on the drawing.
4) Crowning of the muzzle of the barrel was the last operation.

All the machine operations were completed on the barrel in less than 15 minutes, after the lathe set up had been accomplished.

Next on the agenda was the barrel bushing. The barrel bushing was cut off with a hacksaw while it was being held in a vise. To bring the barrel bushing to its finished length I used a belt sander although this operation could have been done in a vise using a hand file.

A layout done by me after the functional failure of Model No. 1 demonstrated that the "shorty" must have a minimum of 1¾ inches of slide travel in order to function properly. The dimensions shown on the drawing of the barrel and bushing allowed the slide to travel the required 1¾" plus a healthy clearance.

The recoil spring plunger was the one item which removed the welding requirements from the slide. When the slide was shortened the cut-off muzzle was saved as the spring plunger cowl was trimmed to .370 inches long and then it was silver brazed to the spring plunger which had been cut a length of .850 inches, shoulder to end. It should be noted that the slide must be assembled by installing the barrel and bushing first and then installing the recoil spring assembly from the rear.

A steel frame shorty could have been built with any style main spring housing cut to 1.30 inches with the main spring hole closed by silver brazing a plug into position. This procedure would have left the piece with a functional grip safety. However, alloy frames are not as strong as steel frames and they have a tendency to break out at the main spring housing retainer pin holes. Therefore, I built a one piece back strap which incorporates a grip safety and flat main spring housing welded together and then filed and ground to shape. To retain the one piece back strap I fit it into the frame and then, with the top

The author's daughter, Janice (past Woman Champion of the Southwest Pistol League) fires the shortened .45 with ease. Janice turned in excellent 25 yard groups with the modified Stringfellow .45 conversion.

The shorty .45 is shown duty-stripped. Fourteen components were modified.

of the assembly held in place by the thumb safety pin, the bottom of the frame backstrap assembly was drilled through and tapped for an 8-32 set screw. The set screw is easily removed for take down. The main spring was cut to a length of 1.2 inches and the main spring housing pin detent was removed as it was no longer required. The sear spring was shortened to achieve proper engagement with the sear and disconnector and then a notch was cut into the frame to assure that the spring would remain in its proper location. The stocks were fitted and drilled for the new, lower stock screw bushing locations and then they were cut and trimmed to length.

Any standard U.S. .45 Auto magazine will function in the shortened .45, but to retain the small size throughout I shortened a standard G.I. magazine. The magazine was cut to length to match the shortened frame. The bottom plate was removed from the cut off bottom stub of the magazine and then it was silver brazed into the bottom of the shortened magazine housing. The bottom plate was installed ⅛ of an inch forward of its original position. This installation allows the cartridge follower in the magazine to protrude through the bottom of the magazine when the magazine is loaded and installed, forming a loaded magazine indicator. The magazine spring was cut off to eleven coils and the magazine was reassembled.

The finishes I selected were hard chrome for the aluminum alloy frame and frame parts and black phosphatize for the slide and slide components.

Dick Holmquist, a long time friend and fellow shooter, my daughter Janice and I took the "Shorty" and some other hand guns to the Fresno Rifle and Pistol Club for a range and photo session. When we arrived at the club range the weather wasn't too good, it was foggy and overcast. A number of shooters including some from the Central California Pistol League and a few Clovis Police Officers on the range were invited to shoot the shorty .45. We received many comments on the little gun from, "it's the answer" to, "I don't care for it". The police officers from the Clovis Police Department use the .45 ACP in the Colt Government Model as a duty weapon. Most of the officers felt that a piece like the "shorty" would make a good back-up or detective's weapon as magazines and ammo are available and interchangeable. It could best be carried with the shortened magazine installed while carrying a couple of full size magazines for a quick reload, should the occasion arise. Also, the shortened magazine with its base plate set forward forms a rest for the little finger and keeps your pinkie from slipping off the bottom of the frame during rapid fire.

Janice, past Woman Champion of the Southwest Pistol League, fired the little weapon and managed a very presentable 25 yard free style group. Her comments sounded a great deal like something Uncle Jeff Cooper would have said, "Well it's a lot better than a .38 revolver, but if I had my choice I'd carry the full house combat Government Model that Jim Hoag built for me."

Janice's comments are acceptable because the shorty was not designed to be a first line weapon, it was designed to challenge and replace .380 autos and the .38 revolvers as hideout guns. I think a small .45 would serve best as an off duty piece for police officers, for it must be remembered that this type of small pistol carries with it the fight stopping capabilities of its full size parent.

Janice, Dick and I shot every kind of bullet we could find in testing the piece

(Continued on page 68)

How NOT To Run A Pistol Match

STEP RIGHT UP AND LET OL' UNCLE MAS' POINT OUT THE PITFALLS AND PRATFALLS OF RUNNING A SHOOT!

By MASSAD F. AYOOB

WHAT'S THAT ya' say, Bunkie? Ya' wanna run a pistol match? Ya' wanna get some money for your club, or maybe some money to *start* a club? Ya' wanna get a reputation for yourself as a shooting entrepreneur? Ya' wanna make some *money*?

Well step right up, son. Old Uncle Mas' is gonna tell ya' just how to do it. All ya' gotta do is absorb these few easy lessons . . .

YOU DON'T HAVE TO BE A COMPETITION SHOOTER TO RUN A MATCH. Hell, no. Sure, just about everybody who comes will be a competitive shooter who's been to matches run by professionals. But does that mean he'll expect anything? Na-a-ah! The only reason he's paying you an entry fee of as much as thirty or forty dollars is that he's a little soft upstairs and loves to shell out money to shoot in a match. He could shoot for little or nothing at his own range, but he's a competition junkie and if you give him a chance to shoot against somebody else for peanuts in prizes, why he's just gonna jump at the chance.

RUN IT ON HOLIDAYS. That's always fun. So what if the guy has a wife and kids who are counting on a family outing on the Fourth of July or Labor Day. What the hell. They're just gonna say, "Sure, Pop, you just go right ahead and have fun. We'll all stay home and watch the game on TV, and maybe make a long distance call to Grandma's and ask how the family reunion is going."

SEND OUT THE TROPHIES SEVEN MONTHS TO A YEAR AFTER THE SHOOT. That way, they'll have forgotten about your match, and they'll just be tickled pink to get a trophy out of the blue. Many's the time I've gotten a year old trophy and wondered who the hell sent it. I'd check my records and not recognize the name of the sponsors. "I remember now, dear," my wife would say after a while. "I think it's from that gun club you put on your crap list because they never sent your awards."

DON'T LET THE SHOOTERS LOOK AT THEIR OWN TARGETS AFTER THEY'VE GONE TO THE SCORING ROOM. They'll just carp and bitch about how this or that hole looks like it's touching the higher-scoring line. Who needs all that hassle?

WIN YOUR OWN MATCH, PREFERABLY WHEN NONE OF THE PAYING CUSTOMERS ARE WATCHING. That way, you establish yourself as a shooter of legendary skill. After all, who's going to

Be scrupulous in the verification and witnessing of all scoring. To be sure, not all competitors will agree with the calls, but they should have the right of challenge.

come to a match run by some turkey who isn't good enough to win it himself?

CHARGE AN EXORBITANT ENTRY FEE. Nobody wants to win something cheap!

DON'T BOTHER SENDING OUT ANY BULLETINS ABOUT WHO SCORED WHERE. The winners know they won, and the losers know they lost. Why should a winner care how big a margin he won by? Why should a loser care if he came within a point or an X of taking a trophy? Why should anyone doubt your judgment, anyway, just because they don't know you from Sam'l Colt?

SEND OUT THE PROGRAMS FOR YOUR SHOOT A WEEK OR TWO BEFORE IT'S GOING TO TAKE PLACE. That gives the shooter a sense of urgency that will make them say, "Golly gee, I gotta sign up for this one before it's too late." So what if he has plans for that particular weekend? If he's a serious, committed gun buff, he's gonna tell his wife to go to her own birthday party by herself cause he has to shoot.

IGNORE THE STATE RIFLE AND PISTOL ASSOCIATION. What do those turkeys know about real shooters, anyway? So what if their ranks are made up largely of experienced competitive shooters? So what if most of them have experience running matches? What can elitists like that tell a good ol' boy like yourself about running a pistol match?

DON'T ASK ESTABLISHED MATCH PROMOTERS FOR ADVICE. After all, they're competition, and they'll just give you bad leads to screw you up. Since they're getting fat and rich on tournaments, why should they let little you cut in on their profitable pie?

Yes, there are lots of ways to run a rotten shooting match. I've been running pistol matches several times a year sine 1970, and when I tell you what makes a lousy shoot, you'd better listen, 'cause I've promoted a few. You learn with each one. After a while, you get a reputation for putting on a decent match, and you get a good following. My group and I have finally been able to do that. If you're thinking of starting from scratch, let's go back over some of those great rules of how *not* to run a pistol match.

You gotta know what you're doing. If you are planning to run a 2700 bullseye pistol match and have never stood on a competition firing line in your life, you're going to screw up royally. You have to have been there a few times to know how the relays run and how the targets are properly scored and how to manage a staff of scorers, range officers, and target changers. You have to have been in it long enough to know how to react to a challenge on a score, and how to plug or overlay a target fairly and precisely. You may be sure that at least some and probably most of your paying guests will know how it's done, and if you don't do it that way, the word is going to go out on the grapevine that this new shoot in Smallville, USA is run by a bunch of amateurs.

A lot of naive first-timers key their matches to holiday weekends, on the theory that people will have lots more free time to attend. Actually, holiday weekends are the worst possible time to schedule a shoot. Families make their recreation plans months in advance, keyed around those dates, and asking one member of the family go give that all up and ruin everybody else's holiday is going to add up to a lot of unanswered mailouts. This is especially true if you're running police matches, since holiday weekends usually require a high turnout of cops in their local district to handle traffic, and getting time off for recreational purposes is virtually impossible.

Trophies are tricky. The damn things are expensive, and if you buy a hundred and wind up with seventeen registered competitors, you're gonna be in the red for a long time, and your club's fledgling competition shooting program can go out the window with a crash. If this is your first match, don't buy any trophies beforehand but the one for the open winner.

In the various categories, the rule of thumb is one award for every ten shooters in a class. That means that if there are ten shooters in Sharpshooter, there's a first place Sharpshooter; if there are 19, you give first and second place trophies in that category, etc. If you only have four Sharpshooters, then you wind up combining them with another group, giving trophies for Expert/Sharpshooter or Sharpshooter/Marksman.

The best rule of thumb is to allocate half your gross income to trophies. That way, you may only break even, but you

Fancy facilities aren't always necessary. In 1974, the author's team ran the state championship combat shoot in this borrowed sandpit. A few moments' dozer work created an adequate backstop. Mobile homes were utilized for scoring rooms and as areas to display merchandise and tournament prizes.

can't get burned even after you pay off your expenses for targets and program mailouts. You can go higher than this if you're running the shoots for fun, but most tournaments are promoted to generate revenue for a gun club or shooting team, and there has to be some profit in it somewhere.

But get those trophies out fast. I know my group has developed a reputation of being late with trophies, and it's hurt us. The thing of it is that we run matches with three or four guys and our wives, and that much work is exhausting; by the time you've got the preliminaries done, and gotten through the one or two demanding days of the shoot itself, there's a tendency to get up Monday morning and say, "Oh, the damn thing is over; I'll take care of the paperwork and the trophies later."

Don't do it. The match ends when *everything* is done, and that means trophies bought and mailed out, and bulletins with final score tallies printed up and mailed to all competitors.

If, after a few years, you have developed a following and know you can count on X number of shooters, you may be safe in buying the trophies in advance and giving them out as soon as the shooting concludes. This will save you a lot in mailing costs, and the competitors like to have something to take right home with them, so it helps your image with the customers somewhat. But if it's a first-time match, it's too easy to overbuy on trophies and take a financial bath.

Get the bulletins out immediately. A *bulletin* is a results sheet, as opposed to the *program*, which is the "ad" for the match. The people who come to your shoot have invested a lot of time and money, and they've probably only been on the line for a short time: they expect that bulletin to let them know how they made out all around. Don't just list the winners: put down everybody's score in every event. It only costs a little more to put the names in order of score on the printed sheet, and it makes it easier for the shooter to determine where he stood.

The Wilson Hill Pistol Club of Manchester, New Hampshire exemplifies the well-run look of a smoothly operating scoring room. Here, officials examine and score the competitors' targets at the last state championship.

Always let the shooters examine their own targets and challenge the scores if they disagree with the final count. NRA requires a $1 challenge fee, which is refunded if the shooter gets the higher point. That's a good way of running it, since it keeps people from challenging at random instead of when they really believe they earned the higher score. I went to one match recently where the competitors were told flatly, "The evaluation of the judges is final." We weren't allowed to even see our targets once they went in to Scoring. A lot of us didn't agree with the scores that were posted, and a lot of us aren't going back.

Winning your own match can be another tight thing. My group has run the New Hampshire Police Combat Pistol Championships since its inception in 1972, and since that time, either my partner Dick Brown or I have won the State Champion title each year. We get no beefs on this, because we shoot in front of the customers, and other shooters from other departments witness our shooting and score our targets. But there are a couple of other matches we've been to where the promoter, known to be a lousy shot, won his events. The Saturday shooters would leave at dusk, when he hadn't shot yet, and on Sunday morning would return to find his perfect tally listed on the scoreboard. It became kind of an unfunny joke, and the real shooters blacklisted this match. Eventually, this individual knocked it off and started shooting with the rest of us, and I'll admit that took some brass ones since he was still a lousy shot and even a fake reputation is hard to lose, but that promoter still has yet to gain

(Continued on page 60)

Outdoor shoots are not usually called because of weather. The competitors and officials alike should provide adequate rain gear to avoid getting soaked!

Custom Shop PROFILE

Where our readers and writers tell us of a custom gunsmith you should know.

RICHARD HEINE

WE learned of the custom work of Richard Heine from two different sources. Mr. Jon R. Poler, President of True Value Hardware & Lumber of Havana, Ill. (Heine does gunsmithing for his firm) first contacted us, praising the quality of workmanship demonstrated not only in his custom jobs, but also in the everyday gunsmithing chores he handles.

Shortly thereafter, we received a letter from Leland F. Keith, Deputy Sheriff of Mason County, Ill. He wrote:

"I would like to acquaint you with the work of a pistolsmith, Richard Heine, for whom I have the highest regard. Dick has done action jobs on two guns that I own and a complete combat conversion on a Colt Commander .45.

"In my duties as a Deputy Sheriff I carry a S&W Model 57, and in my opinion that action job Dick did on this gun is superb. Dick has done action and repair work for many central Illinois police officers and IBI agents.

"I carry the Commander as my off duty sidearm and am extremely pleased with it. It has a S&W "K" rear sight, white inset ramp front sight, speed safety, recoil spring guide, long trigger, flat mainspring housing, long tang, custom grips and throating and tightening.

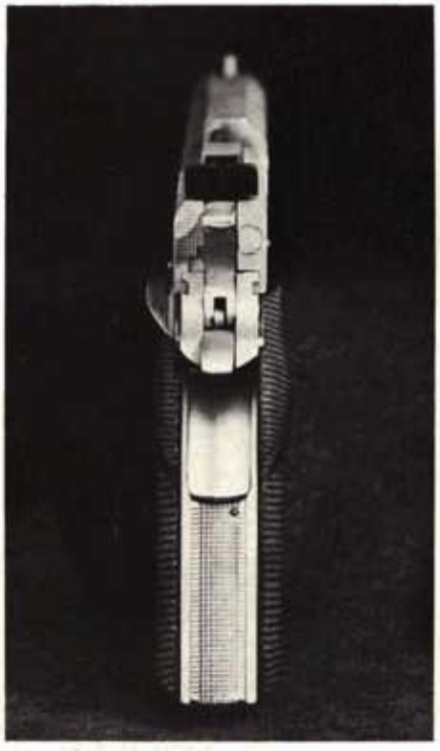
"The combat version of the Colt Government Model are Dick's forte; several of the deputies in our department carry them. He will do just about anything to one that should be done. In addition to what I described on my Commander, he checkers the mainspring housing and front strap, stipples the top of the slide, skeletonizes the trigger, etc. He is also using Bar-Sto barrels and accuracy collets. All of his conversions function flawlessly."

After receiving that letter, we asked Mr. Heine for some photos of his work and asked about some of his preferences. He mentioned that most of his work involves the .45, though he has done some Hi-Powers. He's trying to get started building PPC revolvers, but his work load is such that he hasn't found the time to get one completed. He mentioned: "I don't like to get too deeply involved in converting revolvers to larger calibers, or in single action work, because I think the Colt Auto is the finest defense gun available and I enjoy shooting it and working on it more than any other handgun."

Prices charged by Dick Heine are comparable to others we've seen throughout the country. Here is a sampling of some of the work done and current (subject to change, of course) prices:

Accurize (.45, .38 Super, 9mm)	$80.00
Hand matte top of slide	20.00
Square and checker trigger guard (alloy, $10 more)	35.00
Throat bbl. and polish ramp	10.00
Combat safety	18.00

Dick Heine will be happy to send a current price list and discuss complete combat conversion jobs or special services such as special barrels, ribs, etc. Please send a self addressed stamped envelope. Write: Richard Heine, Dept AH, 821 E. Adams, Havana, Ill. 62644.



Target Discrimination Under Stress—that's the function of this unique course

By IRA A. GREENBERG

Photos by Ray Chapman and by the author

THE cruise car eased silently into the alley, and when the officer noticed the open door at the back of Thompson's Gun Shop, he brought the car to a stop, radioed his location and the situation, and then slipped out of the car. He cautiously approached the doorway, his service revolver drawn, his body tense, and his breathing light. There was a sudden movement, and the officer saw the man pop up from behind the counter, armed and ugly, and seemingly as big as a door. The officer fired twice, and the man fell to the floor. The officer let out his breath, and out of the corner of his eye he saw another man in the dim light, with a flash of metal in his hands. "Freeze!" the officer yelled, stiffening his arms in the two-handed Weaver combat stance. He had the suspect covered, and his finger tightened on the trigger.

By this time other help had arrived, and the officer could breathe easier, though he still held his revolver on the man in the shop. He might also have shot this second suspect, but his training had caused him to hold off, and it was good that he had. The second suspect turned out to be an employee of the gun shop whose wrists were manacled. The officer then rejoined his sergeant and other members of his team, ignoring those in the shop. It was time to critique the sequence of events and how he had handled them. The gun shop itself could be ignored because it was merely a representation rather than the reality. The reality of that situation is that it is one of a number of special ranges that are often referred to as "Hogan's Alley," but not by everyone.

I first learned of this remarkable alley while lunching at the Los Angeles Police Academy with psychologist Martin Reiser, head of the Department's Behavioral Sciences Section, with Dr. Reiser's assistant, and with an FBI agent when the agent expressed approval of the Academy's Hogan's Alley. This sounded intriguing, and I checked it out at the first opportunity, thinking there might be a story in it. After all, "Hogan's Alley" certainly has a special ring to it, and so when I phoned Captain Clyde L. Cronkhite, training division commander, a few days later and commented on this well-designed Hogan's Alley training facility, I could almost hear his wince as he replied:

"Well, we're trying to get away from that name. We like to refer to it as the 'Practical Combat Range.' As a matter-of-fact, I was at the FBI Academy a couple of weeks ago, and even some of the officials there are trying to get away from it."

"Why so?" I wondered, for I'd already learned that Hogan's Alley had come to the FBI in its early days and had been popularized at its Quantico, Va., Academy. I then contacted George A. Zeiss, supervisory special agent in charge of firearms training at Quantico, and he said that the Surprise Target Course, otherwise known as Hogan's Alley, had been a part of the FBI training scene for as long as he could remember. Zeiss, who joined the Bureau in 1942 and served in Birmingham and New Haven field offices for 12 years before being assigned to the Academy, did not appear in favor of dropping the course's colorful nickname for the more prosaic designation. He thereupon referred me to Ted Busch, vice-president of Caswell Equipment Company, Inc. (1215 Second Ave., North, Minneapolis, Minn. 55405), considered the world's leading authority on shooting range lore, theory, design, equipment, and construction.
construction.

"Hogan's Alley," Busch explained, "represents a narrow, dark, and dangerous walk-way in whose shadows thugs were known to lurk. As its name implied, the idea of this type of environment emerged during the period of the great Irish immigration, which reached a crescendo in the late 19th century. The immigrants were known to work hard, drink hard, and fight hard, and at the turn of the century a newspaper cartoonist did a series on a street he called, 'Hogan's Alley,' and thus we have it today."

The name quickly caught on with law enforcement officers, and a number of Hogan's Alley courses were set up periodically at Camp Perry and at other training facilities, and after the FBI Academy was established, the Hogan's Alley type situations were incorporated into the training program. The name also caught on in competition shooting, and the Southwest Pistol League (SWPL), headquartered near Los Angeles, has its own version of Hogan's Alley.

Bill French, immediate past director of SWPL, said the course was invented by Jeff Cooper and some friends, and that he, French, ran it under Cooper's officiating in 1961. French, a recently retired Burbank, Calif., police officer, described the SWPL Hogan's Alley as being laid out along a clearly marked trail 40 to 60 yards long with 10 silhouette targets visible from certain points of the trail. These targets extend from five to 50 yards from the trail.

This Thing

At the starter's whistle, the contestant draws his handgun, fires at two targets and moves down the trail as quickly as possible, firing a minimum of two shots at each target; should he fire more, only the best two shots are counted. On completing the course, the contestant raises a red flag to stop the clock. Maximum time is computed on the basis of one second for each target and for each yard of the course, meaning max-time will range from 50 to 70 seconds, depending on course length. Scoring is done on hits first, and, to break hit ties, on time second and on V's third (with the V representing the small target center area), with penalties subtracted from the total score.

"It's a challenging competition," French said, "and one I've enjoyed shoot-

Over-all view of the "Alley" and the standard 25-yard range below. This set-up best utilizes space.

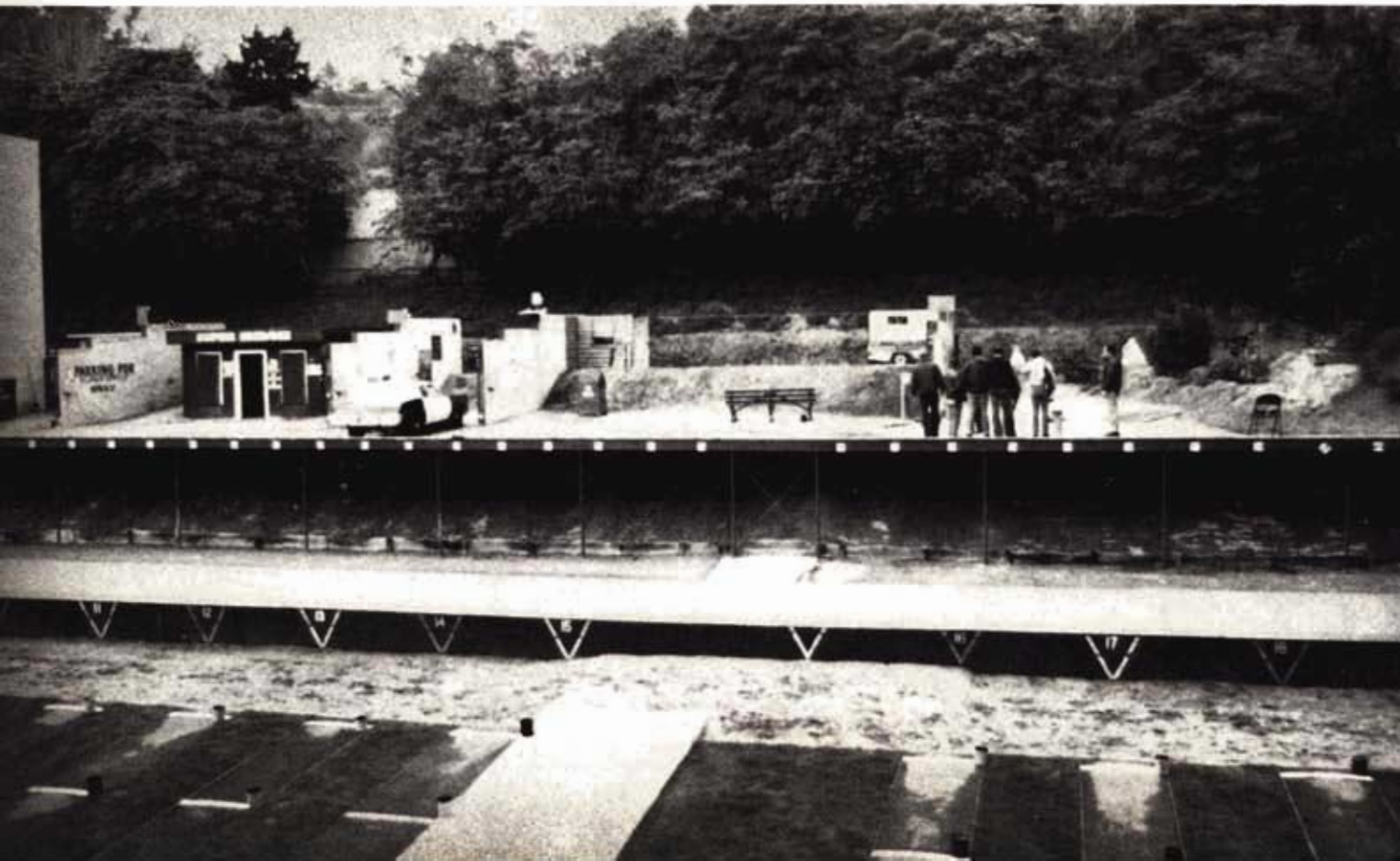
ing, but it hasn't been standardized the way other SWPL courses have, as each trail is different because of differing terrain."

Another fault, according to French, is that because there are 10 targets, rather than nine, and a shooter must fire a minimum of two shots per target, the wheelgunner is at a disadvantage in that he must reload three times to the pistol shooter's two reloadings. Crediting the influence of Cooper's Marine Corps background, French sees this Hogan's Alley as primarily a military assault course, rather than a police combat course.

Busch, whose company designs and builds shooting ranges throughout the world, agrees in part with French's criticism, stating that the Hogan's Alley ranges "are not accurately repeatable and the results not adequately measurable. His own company's thrust is in developing and building ranges so that each person runs exactly the same course, and "from this

Officer Joe Apodoca, who is just about to investigate the gun shop's open door, takes cover and fires when suspect appears with a shotgun.

Called "Hogan's Alley"



The range is most effective at night. Here, officers of Venice Division of LAPD plan the problems their men will run through later that night.

we are getting quantitatively useful ways of dealing with the results," and being able to obtain a score quickly and easily through use of templates.

Busch stated that the purpose of the Crime-Scene Simulation Range, as developed by the FBI involves the IEE concepts of the late Henry "Hank" L. Sloan, director of FBI training for 32 years who died in 1973, a year following his retirement. The IEE concepts, as fostered by Sloan, are Identify, Evaluate, Effectuate, and this also is what occurs at the LAPD Academy range.

Police Sgt. Dick Newell, to whom Capt. Cronkhite directed me, explained that the Practical Combat Range, which he and other officers built in 1972, is for the purpose of providing recruits, as well as officers in the field, with the opportunity for "target discrimination training under stress," which means training the officers in quick, life-and-death decision making. Like Capt. Cronkhite, Newell tends to shy away from the Hogan's Alley name and the spectacular scenes it calls to mind for one more down to earth.

The Practical Combat Range is one of four firing ranges all Los Angeles Police Department recruits must achieve in during their five-month training program and one in which Academy graduates must qualify on periodically. The other ranges are the 25-yard Firing Range, where basics of shooting are taught; the shotgun range in which various ways of employing the riot shotgun in fire-fight situations are practiced, and the Combat Range, in which officers learn to fire left and right-handed, from behind barricades, and in various crouch and other positions.

Sgt Phillip Cox begins the 115 yard run that will take him to the park, where help has been requested.

From these ranges the officers then graduate to the Practical Combat Range, which consists of five parts, each designed to duplicate a practical field situation where the officer might be involved in a shooting confrontation. These sections consist of (1) the rear door and parking area of a gunshop that an officer might investigate on finding the door suspiciously ajar at night, (2) a small hotdog and hamburger joint, (3) an alley in which the officer might be prepared to issue a parking violation citation, (4) an open area in which there are running targets, and (5) a park setting, peaceful seeming, where pop-up and running targets might appear.

Each of these situations challenges the officer to decide whether or not to shoot, because among the many painted mannikins available for use are a variety of types which might be either "hostiles" ready to gun the officer down or "friendlies" going about their business, often oblivious to the danger soon to explode about them; or, they may be "friendlies" being held hostage. And often the friendlies and hostiles can resemble each other alarmingly, such as the sweet-looking girl with a handgun hidden among the flowers she is carrying or a tough-looking man whose flashing cig-

arette lighter might appear to the nervous officer as a gun being waved.

"Thus," said Newell, "the emphasis at the Practical Combat Range is on *when* to shoot, as opposed to *how* to shoot. We think we have a pretty good *how to* program at the Academy, and now we want to put more emphasis into *when to*."

The *when to* shoot aspect of training or testing through use of target discrimination situations under stressful conditions is to Newell and the Academy faculty a form of quality control.

"We try to learn what the officers understand about shooting under stress," said Newell, "and then try to find out whether they really put these skills into use."

The skills, of course, are the basic skills of shooting: sight-picture, trigger-squeeze, and breath-control, as well as such tactical requirements of shooting from cover and/or concealment and the gaining of better access to the target, should such be called for.

Newell, who has served 20 years with LAPD, had been on freeway motor patrol and in the Human Relations Training Program, which he had helped develop, before being assigned to the Police Academy on 90-day loan in 1968. Following completion of his initial task in the human relations field, he was assigned as a regular member of the Academy staff in the Development and Education of Firearms Training Unit (DEFT).

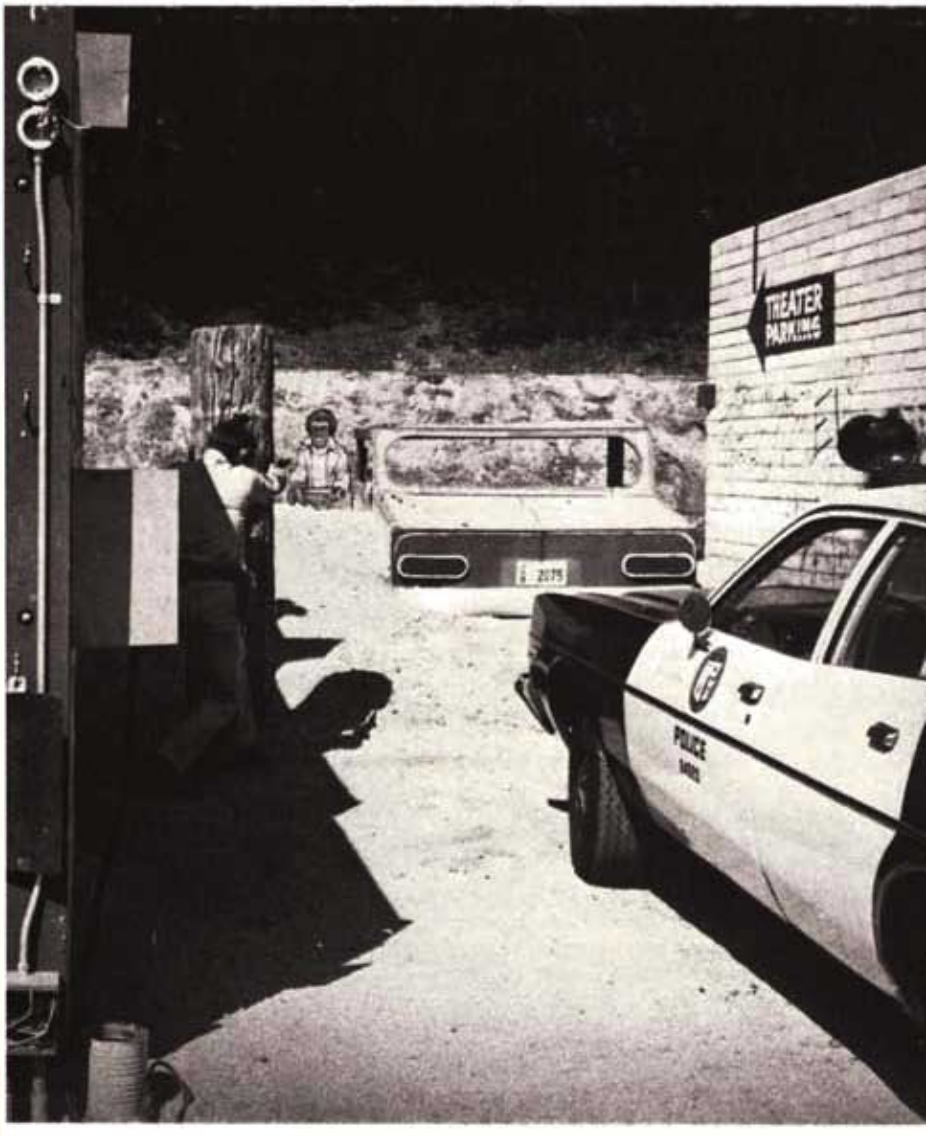
His present title is officer in charge of the DEFT Unit, and he is assisted by Officer Jim Kelley, rangemaster of the Practical Combat Range. Newell holds a Master of Public Administration degree which he earned from Pepperdine University in 1973 on acceptance of his thesis, *Police Firearms, an Evaluation of Training and Usage*, which is based in part on his work at the Police Academy. He is also an instructor in management systems for the California State University at Los Angeles' Department of Criminal Justice.

With quiet pride, Newell points out that though each of the specific situations in the Practical Combat Range include pop-up targets of specific individuals or types that are purchased commercially, the remainder of the range is almost entirely "homemade." When and how the targets pop-up or appear from around a point of concealment is controlled by the rangemaster as an officer, using his own revolver and issue ammunition, goes through the range.

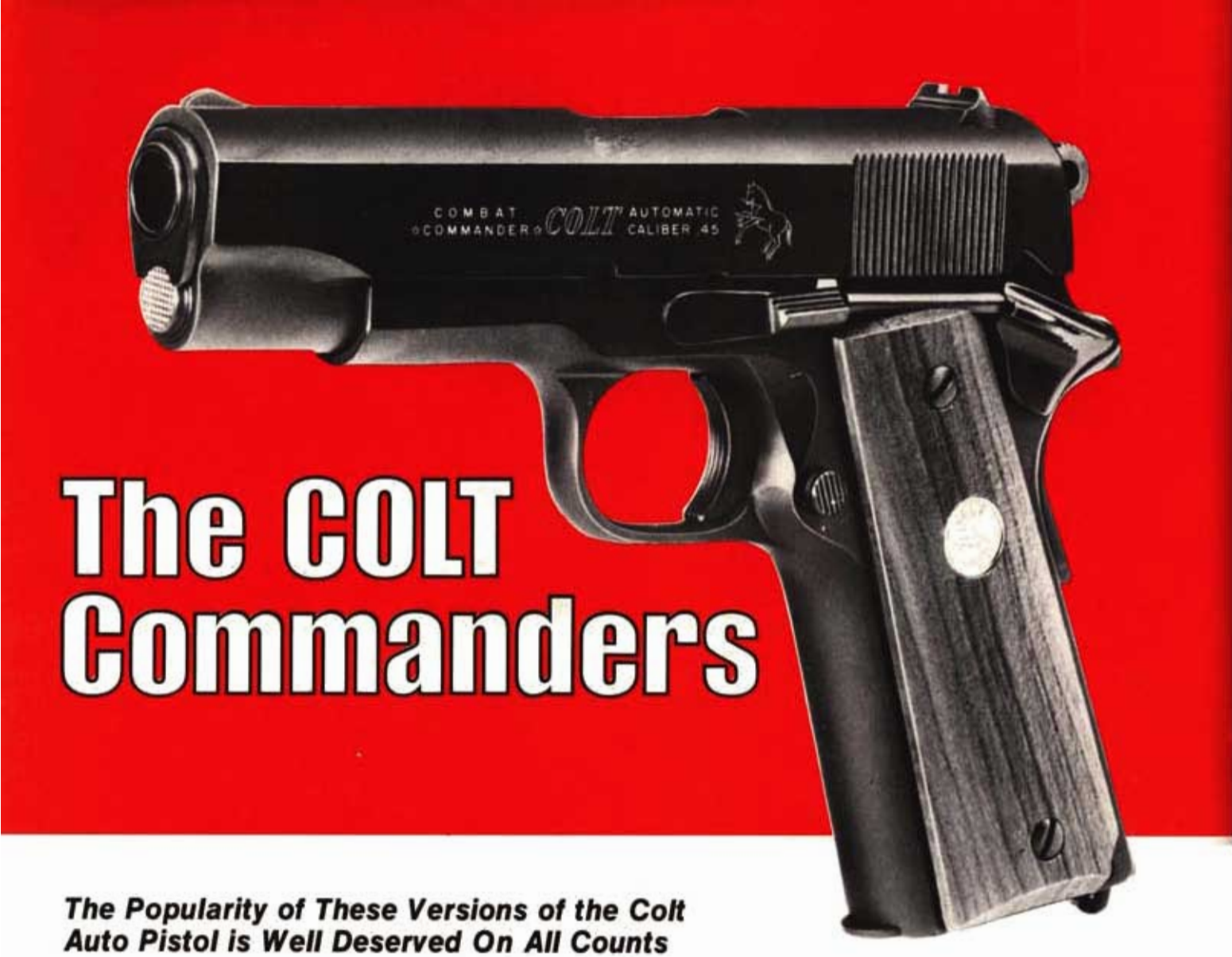
From a small panel control board, the rangemaster can simulate shots being fired at the officer by means of electric sparks igniting released acyteline gas, and this very realistically provides both the flash and the blasting sound of fired shots. Also, the target-mannikins can "talk" through the use of tape recorders and in two of the situations they can be made to

(Continued on page 65)

Sgt Dick Newell operated the remote controls while Range Officer Jim Kelley begins the parked vehicle problem. As he approaches . . .



the parked car, an armed hostile target appears and Officer Kelley takes a barricade position, recognizes the target and takes action.



The COLT Commanders

The Popularity of These Versions of the Colt Auto Pistol is Well Deserved On All Counts

By MASSAD F. AYOOB

COLT'S Commander is a milestone in handgun engineering that remains, after almost thirty years, a highly suitable choice for the tasks it was designed for.

No one is sure who built the first prototype, or indeed, who came up with the idea for what was to be the first aluminum-frame, high power handgun. No one even remembers who coined the name "Commander." A rumor persists that one-time chief Colt engineer Forrest "Sturdy" Sturdivant picked the name, but when I contacted the now-retired gunmaker at his home in suburban Connecticut, he told me that wasn't the case, and that he wasn't even around when the first Commander came off the production line in 1949.

Why was the gun built? Many believe, erroneously, that the Commander was created for the military, turned down, and later put out to the shooting public. While this may have been the case with Smith & Wesson's aluminum framed Model 39, it was not so with the Commander. The Air Force had mentioned to Colt in passing the possibility of a super-light Model 0 (the factory designation for large bore automatics), but the real thrust of USAF's interest was toward featherweight snub .38s.

According to informed speculations, and the memories of Colt veterans like Don Tedford, the Commander was a natural evolution of the big automatics into a lighter, more convenient gun for the same non-military people who were buying the steel version. The period of research is also hard to pin down; some say it went from theory to completion in six months, while others recall a testing and development period that stretched between 18 and 24 months. It is likely that testing was conducted for at least a year, if only because Colt's was breaking new ground metallurgically, and because fear of too-weak frames and ensuing product liability suits would have been too great to permit a rush job.

Fewer than a hundred guns were built in 1949; according to one source, that year's Commander production was from serial 001 to 0065, and the gun was not listed in the Colt catalog until the 1950 edition. The first Commander to come off the line is said to have been in 9 mm Parabellum, making it also the first gun offered by Colt in that chambering.

In addition to the 9 mm., the .38 Super and .45 ACP were standard chamberings from the first, and remained so. While Colt records do not readily permit breakdown of sales by caliber, it is safe to assume that .45 leads the list without challenge, with 9 mm. in second place by a surprisingly large margin.

The only other caliber the guns have been produced in is .30 Luger, for export to Italy. Some 505 of these 7.63 lightweight Commanders were built near the time of the gun's inception. According to one source, another 500 were assembled some time around 1970.

An excellent choice for the .38 Super, which still hasn't fully realized its tremendous potential as the ten-shot .357 Magnum among automatics, the Commander also makes sense in 9 mm. Many experts have argued that the Commanders are the poorest choice in that caliber, having neither the double action feature of the S&W 39 and 59, nor the tremendous magazine capacity of the latter gun and the Browning Hi-Power. Yet an extraordinary number of Commanders continue to be sold in the Parabellum chambering. The reason is that it is, of all the service size Nines, the only one really adaptable to small hands, and that it is every bit as concealable as the model 39 while having a better trigger and a greater cartridge capacity (ten over eight). High capacity 9 mms with staggered double column magazines need a big hand for a good hold, which is the main reason S&W is still selling two 39s for every three of their theoretically superior 59s. For someone who is happy with the 9 mm. Luger cartridge, doesn't need double action, places a premium on reliability, and wants the lightest and most compact service auto around, one or the other Commander is the logical choice, and this is reflected in the substantial sales of both models in nine millimeter.

The Commander's function was to deliver big-auto performance with light weight and compact size. Barrel was shortened from five inches to four and a quarter; slide and the front of the receiver were also chopped to bring overall length down from 8½" to 7⅞". That and the aluminum frame cut weight from 39 ounces empty to 26, a saving of exactly one-third.

The lightweight Commander's frame is identical to the Government Model's in every respect but length and metallurgical composition. The gun has no lightening cuts as on the older Gold Cup, and no stress-relief cuts as on the recent Star PD, an even smaller alloy-framed .45. The receiver and arched mainspring housing on the Commander are forged from Coltalloy. This appears to be the kind of high-strength, high-tensile aluminum designated "T-6"; Alcoa was the first supplier of the substance, and that giant aluminum company has provided either all or most of this raw Commander material in succeeding years, though one source at Colt's told us that Reynolds aluminum in the same alloy was used in Commander frames on at least one production run.

The Commander has always come from the factory with a short grip safety resembling that of the early 1911 military pistol, and with a burr hammer of European styling. With the burr hammer, "biting" or pinching of the web of the shooter's hand between grip safety and hammer all but disappeared; many shooters have put Commander hammers on their bigger Colt autos. Virtually all internal parts are interchangeable with those of the Government Models in the same calibers.

Enter the Combat Commander

Within months of the introduction of the Series '70 Mark IV Government Model and Gold Cup autos, Colt introduced the Combat Commander. It was identical to the original Commander save for its all-steel construction, its wooden grips, flat instead of arched mainspring housing, and availability in handsomely rough satin nickel finish.

The history of the Combat Commander's 1970 introduction is easier to dig out. Ralph Kennedy, who was then at Colt's, told us that the original Combat Commanders were prototypes for a 9 mm. General Officers Pistol, to replace the long-discontinued Colt Pocket Model .380s autos that had been traditionally carried by senior soldiers as personal weapons. The Army turned down the Colt design, opting instead to do much the same thing at their own Rock Island Arsenal. The General Officers Pistol that emerged was, like the Combat Commander, a shortened and all-steel GI gun, but with deluxe finish and custom features, and in .45 ACP. The Colt prototypes, believed to be four in number, supposedly are still in the factory vaults.

The name Combat Commander is generally attributed to Don Mitchell, who later left Colt and has since headed up Ithacagun and, presently, SKB. Many people in the company, according to Tedford, were strongly urging the production of this short, chunky auto. They prevailed.

This, we must remember, was when the "Bobcatted" .45 autos—chopped and channelled and generally combat-customized 1911's and GM's—were skyrocketing in popularity. Nobody at Colt's believes that this new public desire for a short, all-steel .45 was the whole reason for the Combat Commander's intro, though one exec confided, "That ready-made market

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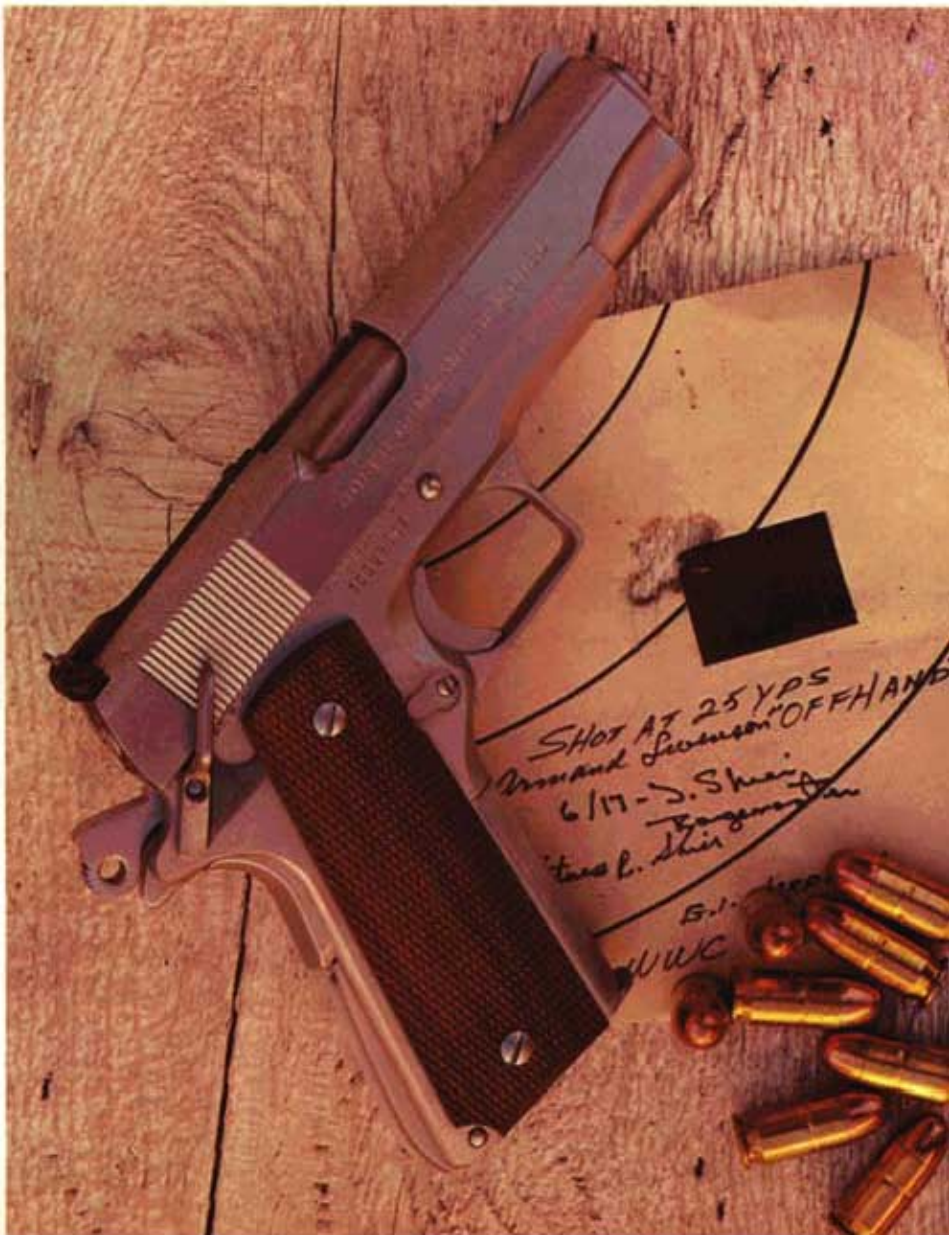


While many custom gunsmiths have worked on the Commanders, here is one version by Armand Swenson of California. It features his very popular ambidextrous combat safety.

HANDGUN PROFILE:

COLT 45 AUTOMATIC

The Single Action helped tame the West and the Colt .45 Automatic helped tame the world. The new Mk IV Series '70, shown here in Gold Cup and Government models, carries on the traditions of the Model 1911 and the early National Match target models. Photos of the .45's in this issue by John Hanusin.

The Ubiquitous
COLT .45 AUTO

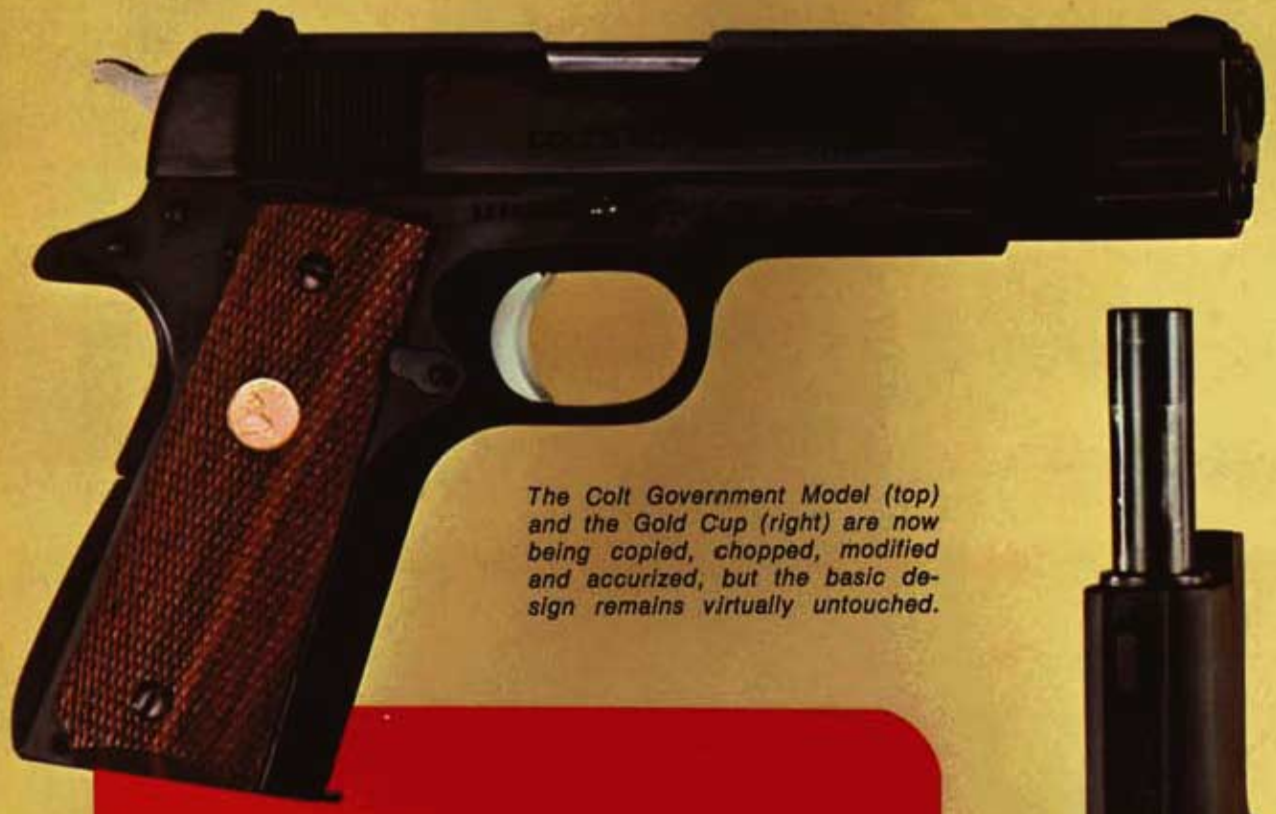
–By GEORGE NONTE

Disassembly of the
GOVERNMENT MODEL

–By DONALD B. SIMMONS

A Look at the
MARK IV SERIES '70

–By JAMES MASON



The Colt Government Model (top) and the Gold Cup (right) are now being copied, chopped, modified and accurized, but the basic design remains virtually untouched.

The Ubiquitous .45 AUTO

By GEORGE C. NONTE

THERE is no way of telling just how many men (and women as well) have been more-or-less forcibly indoctrinated at least briefly with the "U.S. Pistol, Automatic, Cal. .45 M1911A1." Considering the number of troops that have been trained in our military establishment from WWI onward, including various civilian components, and the typical small-arms training syllabus, it's probable that somewhere between 40 and 50 *million* people have received at least the so-called "familiarization" training, while a large percentage of that total received a fuller education in operation and maintenance of what is commonly called "Army .45 Automatic," or "Forty-Five Colt Automatic" or "Government Model Pistol" or "G.I. .45" or any one of several other names, some uncomplimentary, and some unprintable.

Sectional View, Colt Government Model Automatic Pistol - - Caliber .45

Evolution of the Colt .45 auto is shown in these guns. Bottom is the first gas-operated pistol, center is the hammerless recoil-operated .45 and top is the Model 1911. All are inventor's models.

Because of serial number overlaps and confusion, I doubt anyone can say *exactly* how many Colt/Browning .45 autoloading pistols have been manufactured since the design reached its definitive form in 1911. However, in his "The Book of Colt Firearms," Sutherland states that from 1912 thru 1957, 2,695,212 were manufactured in the military series, and by the beginning of 1970, 332,650 had been manufactured in the commercial series. Then, as a practical matter, we must add the virtually identical Colt .38 Super pistol, of which over 205,000 had been manufactured by 1970. And, from 1949 to 1970, somewhat over 71,000 of the shortened and lightened "Commander" model had been produced.

So, as a practical matter, some three and one-third million examples of this basic design, in variations listed, were produced from 1912 to 1970. Of course, lots of the military guns disappeared in various wars, and plenty of them were given away to our allies during those same conflicts. Nevertheless, the ubiquitous .45 auto remains far and away the most numerous of center-fire autoloading pistols in this country. As a matter of fact, during that entire period the only other big-bore center-fire autos manufactured in this country were the contemporary "Old Model" .38 ACP which was discontinued in the late 1920s', and the Smith & Wesson M39 which did not go into commercial production until the late 1950's.

But that isn't the end of .45 autos; Colt has produced lots of them in several variations since 1970, and continues to do so at a very substantial rate. In addition, since the late 1920s' the Spanish firm Gabilondo has manufactured an extremely close copy in .45 and other calibers.

Due to wartime losses of factory records nobody knows how many such pistols Gabilondo manufactured under the trade names Llama, Ruby, Tauler, and others; but certainly, the figure runs in the hundreds of thousands. A good many thousands of exact "copies" were also manufactured in Argentina before WWII, and lesser numbers of crude copies have been manufactured in Korea and other eastern countries. Thirty-three thousand or so were manufactured in Norway under license as the Model 1914.

And that doesn't even count the much-modified copies produced in the hundreds of thousands by Bonifacio Echeverria (Star) and HAFDASA in Argentina.

When we add it all up, as best we can with the information available, it becomes apparent that to date close to 3⅓ million of this design have been manufactured in the U.S., with a few hundred thousand more exact copies made abroad, and a few hundred thousand more modified copies also manufactured. The total must certainly exceed four million by a substantial margin, and may well approach five million.

Colt and the Spanish manufacturers actively promote foreign sales at this time, and not long ago I was in the Gabilondo plant where I watched quantities of pistols being prepared for shipment to Thailand and other eastern countries. While the venerable .45 auto is the most numerous in this country, it is also quite popular in Mexico and South America, not to mention South Africa and numerous countries where U.S. troops have spent any significant amount of time.

While it has been said in the past that the 9mm Luger (Parabellum) pistol was the most widely manufactured and distributed of military types, the 1911 Colt/-Browning design has obviously become the front runner in this respect. After all, only a few thousand commercial Lugers have been manufactured under the "Parabellum" name by Mauser since 1942, and during that period alone, well in excess of two million examples of the Colt/Browning M1911 have been manufactured on at least three continents.

What is it that's made the Colt/Browning .45 automatic such a durable design? What has kept it in production and in demand as both a military and sporting arm all over the western world for nearly seven decades? Of all of its contemporary big-bore, military-type sidearms, only it remains in production. The Luger, the Mauser, the Steyr, the Mannlicher, the Astra, the Webley-Scott, the Bergmann-Bayard, and others have all fallen by the wayside; none survived WWII, and several died on the vine even before then.

Excellence of design is, of course, the principal answer to those questions. John Browning did not design by theory or computer. He had the capacity for visualizing a mechanism in his mind, translating

it to a rough sketch, then to wood or cardboard patterns and single-dimension models to check it's feasibility, and then the ability to carve functional parts directly from blocks and bars of steel to make a working model. Without formal dimensioned drawings, without blueprints, Browning could literally sculpt a frame, a slide, a hammer, a trigger, or other part seen in his mind, from stock with hacksaw, hammer, chisel, drill press, and mill. He didn't calculate angles, force vectors, hoop strengths, moments of inertia, and all those other esoteric values upon which the modern-day arms designer seems to thrive. Instead, he visualized the function to be performed, then visualized the shape and size of parts necessary to perform those functions, then carved those parts from stock, assembled them, and determined empirically whether they would work. If they did not function to suit him, then he had the ability to see quickly why and how to visualize changes necessary to make them work.

If John M. Brownings' working models—of which several survive today—look extremely crude compared to those coming out of modern-day industry model shops, they may certainly be excused. After all, they cost far less in time and money, and were often more successful. As an example, a major U.S. manufacturer introduced a new autoloading shotgun and announced that its development cost something considerably in excess of five million dollars and nearly ten years. Browning turned out the world's most successful autoloading shotgun in only a couple years of part-time work at a cost of only his own labor, the price of a few pounds of steel, and a few thousand rounds of ammunition consumed in testing. That shotgun was contemporary with the Colt/Browning .45 auto pistol, and it, too, is still being manufactured after almost three-quarters of a century.

This is the type of background and design philosophy which resulted in the 1910 predecessor to the Government Model pistol having only 13 malfunctions in a 6,000 round endurance test; then, when the 1911 version went through the same tests, it exhibited *no malfunctions whatever* in 6,000 continuous firings, being only cleaned and oiled after each 1,000 rounds, and permitted to cool for five minutes after each 100 rounds. This author has tested several much more modern designs which came nowhere near this record of reliability and durability.

But, it is wrong to say or imply that John Browning alone designed the M1911 pistol. Browning designed and sold to Colt his famous "parallel ruler" design for a .38 caliber autoloading pistol incorporating his April 20th 1897 and September 9th 1902 patents. This design utilized swinging links at *both* the breech and muzzle of the barrel, so that in locking and unlocking the barrel rose and fell

Photo on facing page shows other-than-Colt .45 autos. Top, left is Argentine Model 1927; Top, right is new AMC Hardballer; bottom at right is recent Llama; bottom left is the Norwegian licensed copy, with modified slide stop, designated 11.25mm. Auto Pistol, Model 1914.

while remaining parallel to the frame. This design and caliber was in itself successful, and was manufactured by Colt until the late 1920s, at which time about 53,000 of all variations had been completed.

Colt developed its first .45 caliber autoloading pistols from the basic Browning design, retaining the dual barrel links, and manufactured a bit over 6,000 of the model 1905 between that year and 1911. Not until 1909 did the present system, with a single barrel link at the rear, appear, and it went through several developmental versions before reaching definitive form in the 1911 model which successfully passed U.S. army tests.

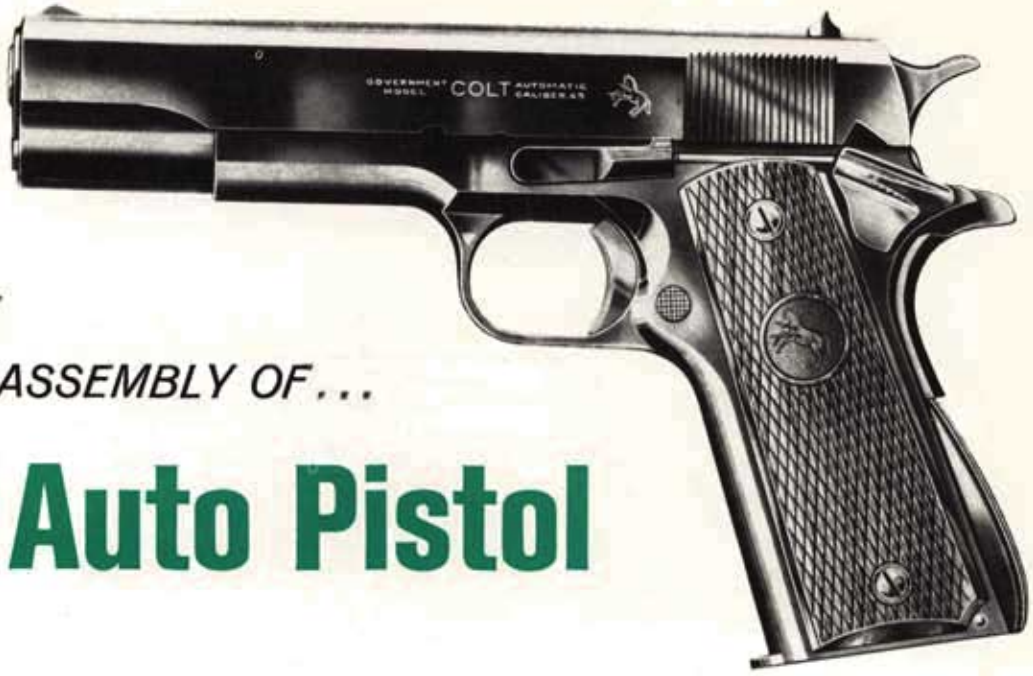
So, while Browning produced the basic designs, he went on to other things while Colt engineers accomplished the final development work that made the .45 Auto the superb mechanism that remains today. In my opinion, Browning is done a disservice when this pistol is referred to purely as a Colt—but, on the other hand, it would be a disservice to Colt to refer to it only as a Browning. I much prefer a more accurate term of "Colt/Browning" and have used it for many years. It took the efforts of both to produce a gun whose record for durability, reliability and longevity has not yet been surpassed in the western world by any other big-bore, center-fire, military autoloader; and it has only been approached in those respects by *another Browning design* which was the last from the Mormon arms genius's fertile mind and talented hands before his death in the late 1920s. And, if you're curious as to the identity of that gun, it is commonly known as the "Browning High-Power" and has been manufactured continuously under various names in Belgium and elsewhere since 1935.

All this is not to say that the .45 auto has been immune from criticisms. There has been criticism; oh, *but there has been criticism*, even from the very beginning. Even this author finds points of criticism, but they are subjective and personal, and not of the inherent durability and reliability that has been so well demonstrated. The most common complaints from the critics attack the gun's reliability, claiming "it jams," and its accuracy, claiming among other things "it would be easier to hit a man throwing the pistol than shooting at him with it."

In common with every other autoloading pistol I have ever encountered, the .45 auto *will* produce jams (feeding and chambering malfunctions) under certain conditions. It was designed specifically to function correctly with the military ball load utilizing a round-nose FMJ bullet. With this load, I have yet to encounter (among many thousands of examples that passed through my hands during years of service as a U.S. Army Ordinance Officer) any specimen that would not feed flawlessly if in good repair and used with *proper undamaged magazines*. Even then, it is more tolerant of ammunition variables and the dirt and abuse of field service than any of its contemporaries. Furthermore, with only very minor modifications or pistolsmithing, it can be made to function with complete reliability with a far wider range of ammunition than most other designs. In this respect, it puts the Luger and Walther P-38 to shame.

In respect to accuracy, in its basic form (both military and commercial), the .45 auto gives away accuracy for field-service, functional reliability. Yet, when compared directly to other military-type pistols of

(Continued on page 68)



PRACTICAL GUIDE
TO COMPLETE DISASSEMBLY OF . . .

The .45 Auto Pistol

By DONALD M. SIMMONS, JR.

THERE ARE THREE primary reasons why you should learn to take apart any firearm you own. The first is obvious, in order to clean and keep it in first-class working order. The second reason is that with the knowledge of how to take your gun apart, the knowledge of how it operates also comes, giving the user the ability to diagnose and repair ills in an emergency. The last reason is one that could only be given or understood by a certain kind of person. It's fun, just as taking apart a Chinese puzzle is fun. I feel too that this enjoyment is heightened if only the parts of the firearm are used in disassembly.

It is with all this in mind that I have delved into the complete stripping of the Colt Models 1911 and 1911A1, using only the pistol's own parts as tools. The only group that can't be disassembled in this manner is the mainspring housing, but since it is only one, it can be flushed repeatedly with oil until clean. In addition, the sights are left alone, since it serves no purpose to remove them. The time it takes me to do one of these tool-less stripping jobs is 4½ minutes for takedown and 6½ minutes to reassemble. The names and numbers of each part are taken from the exploded drawing supplied by Colt.

FIELD STRIPPING

Field stripping the Colt is the first step to full disassembly. Even though this procedure is generally understood, I will go through it in detail, since I follow a slightly different procedure than the GI method. The first move that is made in any gun handling is to be certain that the gun isn't loaded. This is done very quickly and positively with the Colt by retracting the SLIDE (1) and checking through the ejection port the MAGAZINE FOLLOWER (45) and the chamber in the BARREL (7). If no cartridge is seen, the pistol is clear. At this point, notice that the SLIDE STOP (19) is engaged in the slide stop notch. In the slide, the smaller notch about ½ inch toward the breech is the disassembly notch which we will be talking about later. Release the slide by pushing it back slightly while the thumb of the right hand pushes down on the slide stop. Don't let the slide slam closed; ease it forward with the left hand.

Looking at the muzzle, push in the PLUG (13) while at the same time you turn the BARREL BUSHING (10) clockwise 90 degrees. Ease the plug from the RECOIL SPRING (11) by turning it clockwise. Move the slide to the rear of the RECEIVER (46) until the SLIDE STOP (19) enters the disassembly notch in the slide and then remove the MAGAZINE (43).

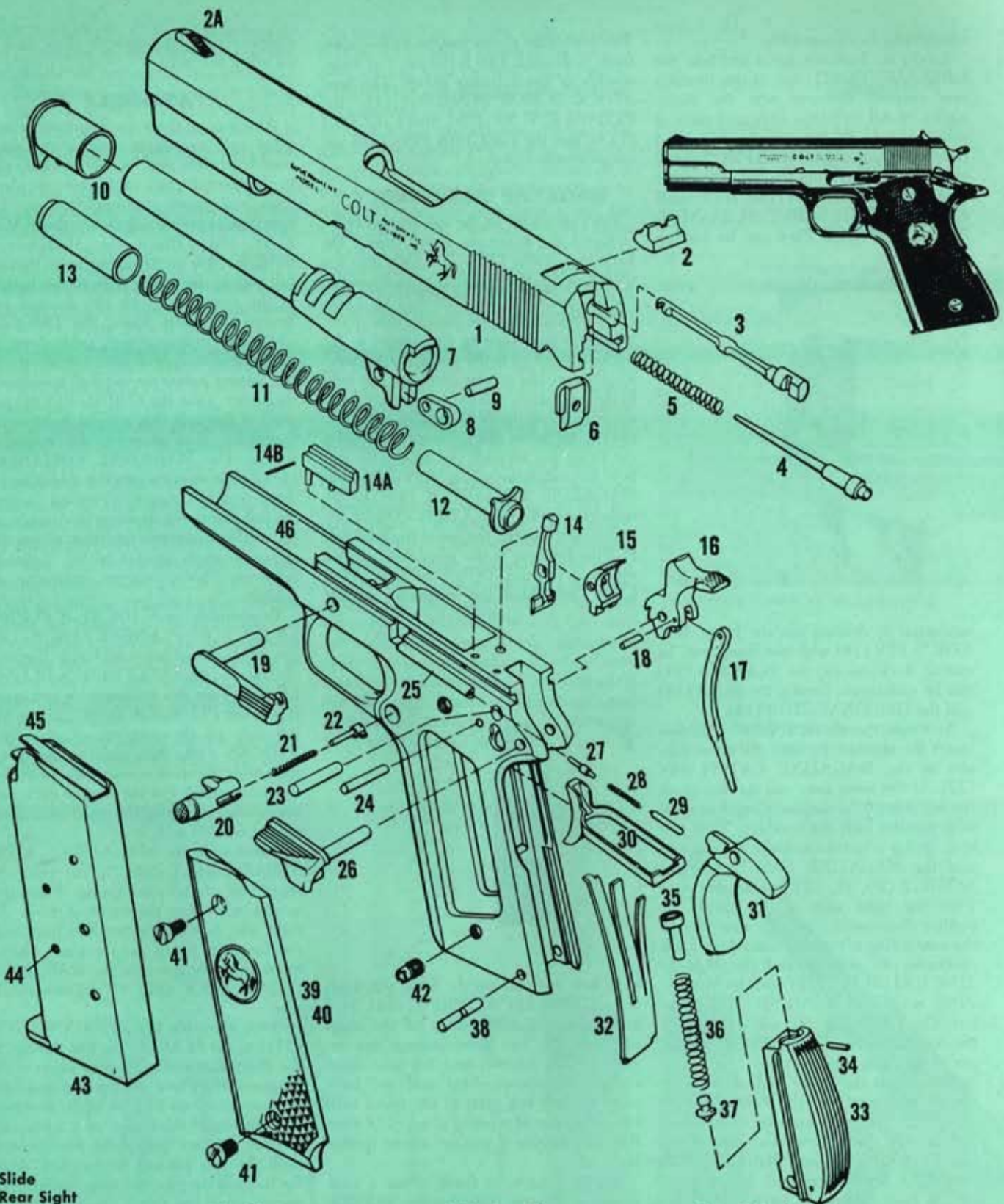
By pushing on the pin section of the SLIDE STOP (19) as it protrudes from the right side of the RECEIVER (46), the slide stop can be lifted from the left side of the pistol. This piece should be placed in a special pile which we will call "tools." Holding the pistol butt upward, draw the slide off the receiver toward the front. Withdraw the RECOIL SPRING and the RECOIL SPRING GUIDE SUBASSEMBLY (11, 12) out of the slide toward the rear, then pull the recoil spring from the recoil spring guide. Turn the BARREL BUSHING (13) counterclockwise as far as it will go and remove it from the slide by pulling it toward the muzzle. The BARREL SUBASSEMBLY (7, 8, 9) is removed from the slide by first pushing it up with a finger through the ejection port in the slide. Next make sure that the BARREL LINK (8) is swung as far as it will go toward the muzzle, then slide the barrel subassembly forward out of the slide. We have now completed what is usually called field stripping and we have broken the original pistol into three basic groups: the magazine, the slide, and the receiver. We can now start to further disassemble the pistol without the benefit of tools.

SLIDE DISASSEMBLY

With the hammer at full cock, pull the SAFETY LOCK (26 from the receiver's left side and turn to the slide group. Using the long pin-like section of the slide lock, push in on the FIRING PIN (4), so that it clears the FIRING PIN STOP (6) which can then be pushed downward, out of its slot in the slide. On some of the early pistols this pin section may be too large to fit into the hole in the firing pin stop. This can be remedied by drilling the stop out with a #22 drill so that the disassembly in the future will be easier. This will allow the FIRING PIN (4) and the FIRING PIN SPRING (5) to be removed. Separate these parts. Using the firing pin as a tool, pry the EXTRACTOR (3) out of the slide and place both in the tools pile. This completes disassembly of the slide.

RECEIVER DISASSEMBLY

Next lower the hammer. When the slide has been removed from the pistol never allow the hammer to fall freely as it will damage the thin section of the receiver. Place the forward tip of the firing pin into the cupped recess in the MAINSPRING HOUSING PIN (38) and with a block of wood hit the back end of the firing pin. A little force will drive the pin from the receiver from left to right. Recock the hammer and the MAINSPRING HOUSING SUBASSEMBLY (33, 34, 35, 36, 37) will partially slide down its grooves in the receiver grip section. Remove it completely,



1 Slide
2 Rear Sight
2A Front Sight
3 Extractor
4 Firing Pin
5 Firing Pin Spring
6 Firing Pin Stop
7 Barrel
8 Barrel Link
9 Barrel Link Pin
10 Barrel Bushing
11 Recoil Spring
12 Recoil Spring Guide
13 Plug
14 Disconnector
14A Ejector
14B Ejector Pin
15 Sear
16 Hammer
17 Hammer Strut
18 Hammer Strut Pin
19 Slide Stop
20 Magazine Catch
21 Magazine Catch Spring
22 Magazine Catch Lock
23 Hammer Pin
24 Sear Pin
25 Plunger Tube
26 Safety Lock
27 Slide Stop Plunger
28 Plunger Spring
29 Safety Lock Plunger
30 Trigger
31 Grip Safety
32 Sear Spring
33 Main Spring Housing
34 Main Spring Cap Pin
35 Main Spring Cap
36 Main Spring
37 Main Spring Housing Pin Retainer
38 Main Spring Housing Pin
39 Stock—Left Hand
40 Stock—Right Hand
41 Stock Screws (4)
42 Stock Screw Bushings (4)
43 Magazine Assembly
44 Magazine Spring
45 Magazine Follower
46 Receiver

completing its disassembly.

Lower the hammer again and take the GRIP SAFETY (31) out of the receiver rear section. Remove next the three-leafed SEAR SPRING (32) and place it with the tools. Pushing on the right hand protrusion of the HAMMER PIN (23) will allow its removal from the left side of the receiver. This releases the HAMMER AND HAMMER STRUT SUBASSEMBLY (16, 17, 18). They can be further

separated by drifting out the HAMMER STRUT PIN (18) with the firing pin. In exactly the same way the SEAR PIN (24) can be withdrawn, freeing the SEAR (15) and the DISCONNECTOR (14).

Now take the SEAR SPRING (32) and insert the shortest leg into the screw-like slot in the MAGAZINE CATCH PIN (22). At the same time you do this, push the left side of the magazine catch in until it is parallel with the receiver. Turn the sear spring counter-clockwise 90 degrees and the MAGAZINE CATCH SUBASSEMBLY (20, 21, 22) can be removed from the right side of the pistol. To further disassemble, use the same leaf of the sear spring to turn the slotted pin back clockwise 90 degrees and the MAGAZINE CATCH PIN (22) and the MAGAZINE CATCH SPRING (21) will come out. The TRIGGER (30) will slide out of the receiver's rear section. Place the trigger in the tools pile.

Next insert the lower end of the sear spring into each of the four STOCK SCREWS (41) and remove them completely from the receiver. This will let the LEFT-HAND (39) and RIGHT-HAND (40) STOCKS be removed. It is a good idea to keep each stock screw in the correct hole in the stocks. The tang of the sear spring is too wide to do the job quickly, but by grinding it down on both edges until it is a ¼ inch wide, a very effective screwdriver will be made for future disassembly with no weakening of the part. The SLIDE STOP PLUNGER, the PLUNGER PIN, and the SAFETY LOCK PLUNGER (27, 28, 29) may be slid from the PLUNGER TUBE (25). Use the firing pin to push these out from front to rear. The individual pieces may be pulled apart then, if desired. This is the limit of disassembly of the receiver group. The four STOCK SCREW BUSHINGS (42), the PLUNGER TUBE (25), the EJECTOR (14A), and the EJECTOR PIN (14B) are not normally removed.

MAGAZINE DISASSEMBLY

Let's turn now to the last section to be stripped, the magazine group. Insert the back end of the TRIGGER (30) into the mouth of the MAGAZINE (43). Press the trigger down on the MAGAZINE FOLLOWER (45) until the trigger rests on the magazine lips, keeping the trigger as far back as it will go in the magazine. Observing through the second from the top hole in the magazine, release tension until the second coil of the MAGAZINE SPRING (44) is just below this hole and then insert the firing pin through the hole. This will hold the magazine spring but will free the MAGAZINE FOLLOWER (45) to be withdrawn with the EXTRACTOR (3) by engaging the upper tongue of the follower. Pull the follower to the magazine lips and withdraw forward. DON'T SPRING THE LIPS! Now hold the magazine against

your belt and pull out the firing pin, freeing the MAGAZINE SPRING (44). This completes the disassembly of the magazine group. The floor plate is not removed. The entire pistol has now been completely disassembled and we have used nothing but parts of the pistol with the exception of a piece of wood (a shoe heel will do fine if you are above timber line).

We now have in front of us a neat grouping of parts. Note that the BARREL (7) is an assembly but there is no purpose in further stripping and with some guns this removal of the LINK (8) and the LINK PIN (9) can be beyond the owner's ability. If the urge to remove this pin becomes overpowering, then go about it in this way. Drift the LINK PIN (9) out with a conventional drift in an arbor or vice. Do this two or three times until the pin is loose enough that you can take the back end of the firing pin and push it out. Of course you can disassemble from then on by using the pin.

ASSEMBLY

At this point the worn-fingered reader is often told to simply reverse the disassembly process and he will be easily able to reassemble the multi-pierced pistol: This is a gross oversimplification. The first item to be put together is the MAGAZINE (43). Place the MAGAZINE SPRING (44) in the magazine so that the full coil of the spring goes to the bottom of the magazine, with the pointed end toward the front. Using the TRIGGER (30) as in disassembling, push down on the magazine spring until the short coil has passed below the second hole in the magazine. Take the FIRING PIN (4) and push it through this second hole in the magazine, thus securing the magazine spring. The MAGAZINE FOLLOWER (45) is then inserted into the magazine tail down and the trigger reinserted to push the follower down. Holding the trigger, remove the firing pin and this allows the spring to apply tension to the magazine follower. This completes magazine assembly.

Reassemble the SLIDE STOP PLUNGER (27) to the PLUNGER SPRING (28) (note that this spring is kinked in the middle), and to the SAFETY LOCK PLUNGER (29). Take this subassembly and insert it into the PLUNGER TUBE (25) on the left side of the receiver. Replace the STOCKS (39, 40) on the receiver, tightening the stock screws with the end of the sear spring. Put the trigger back into the receiver, keeping the short part of the trigger contact area up.

Reassemble the MAGAZINE CATCH SUBASSEMBLY (20, 21, 22) using the short leaf of the sear spring. Place this subassembly into the receiver from the right side, holding the left side flush with the receiver. Again use the short leaf of the sear spring and turn the MAGAZINE CATCH LOCK (22) 90 degrees clockwise.

Next, assemble the DISCONNECTOR (14) and the SEAR (15) so that the legs of the sear are against the cam section of the disconnector. Place the pin-section of the disconnector into its hole in the receiver. Use the end of the trigger as a temporary rest for the cam end of the disconnector until the sear pin can be inserted. Align the holes in the receiver, sear, and disconnector using the firing pin as a locator, then insert the SEAR PIN (24).

Assemble the HAMMER (16) and the HAMMER STRUT (17), using the HAMMER STRUT PIN (18), making sure that the strut angles in the proper direction. Place this subassembly into its place in the receiver and secure it with HAMMER PIN (23), which pushes in from left to right. With the hammer in its uncocked position, move the hammer strut up until it touches the cocking spur. Next place

the SEAR SPRING (32) so that its longest leaf presses on the left leg of the sear and the middle leaf presses the cam section of the disconnector. The sear spring is held in place by sliding the MAINSPRING HOUSING (33) into its grooves until it is about 3/8th inch from its assembled position.

Position the GRIP SAFETY (31), cock the hammer, and place the end of the hammer strut into the MAINSPRING CAP (35). Insert the SAFETY LOCK (26) in its "safe" position. The SAFETY LOCK PLUNGER (29) will resist complete insertion, so depress it with the firing pin as the safety lock is pressed home. Lower the hammer, push home the mainspring housing, and insert the MAINSPRING HOUSING PIN (38) with the indented end on the left of the receiver. Drift it home with the firing pin and a block of wood. This completes the assembly of the receiver group.

Insert the EXTRACTOR (3) into its position in the slide. Place the small diameter end of the FIRING PIN SPRING (5) onto the FIRING PIN (4). Push both into their hole in the slide with the right forefinger while pushing the FIRING PIN STOP (6) into its grooves so that it bears against the firing pin. The firing pin can be completely pressed into its hole with the slide stop as the firing pin stop is pressed home. This completes slide assembly and leaves the pistol in a field stripped condition.

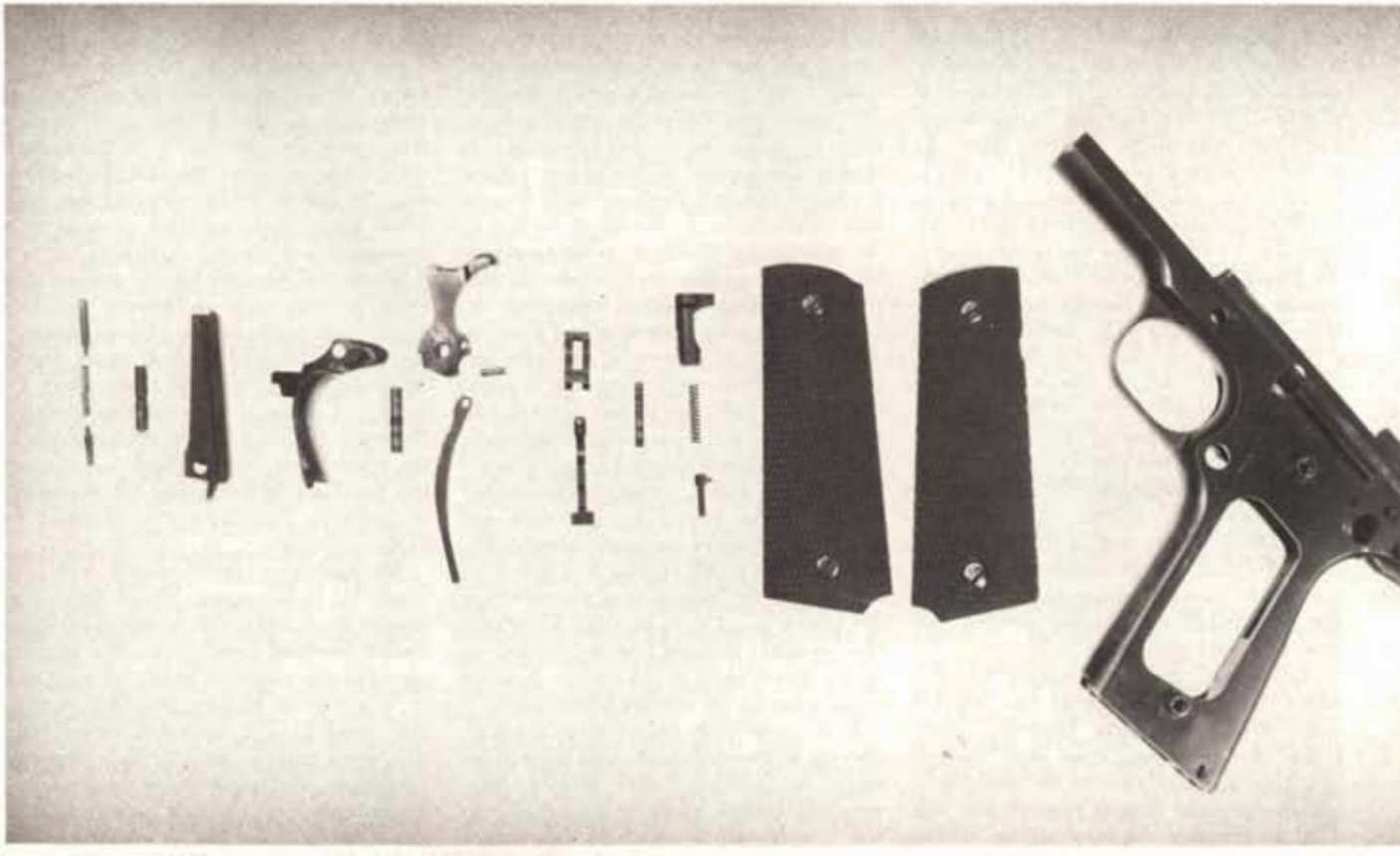
With the slide turned bottom up, slide the BARREL SUBASSEMBLY (7, 8, 9) into the end of the muzzle, making certain that the LINK (8) is swung as far forward as it will go. Slide the RECOIL SPRING GUIDE (12) into the RECOIL SPRING (11), making sure that the small end goes on first. Place this subassembly into the slide from the breech end so that the spring protrudes through the muzzle. Now place the BARREL BUSHING (10) in its place in the muzzle, starting it in with the small lug upward, then swinging the bushing clockwise as far as it will go. Cock the hammer, hold the slide upside down, and slide the receiver on from the rear. When the disassembly notch in the slide aligns with the disassembly hole in the frame, insert the slide stop. The slide stop plunger will resist complete insertion, so move the slide stop down and around the plunger, pressing in and up in the final movement.

Screw the PLUG (13) onto the still protruding recoil spring in a counterclockwise direction. Press the plug into the slide and swing the barrel bushing counterclockwise, so that it catches the plug. Insert the magazine, but DON'T slam it home! This completes reassembly.

If you find there are certain parts which do not come apart as easily as I have described, take them apart the first time using conventional tools. The next time they will move more freely. These instructions apply to the Colt Super 38, the Commander series, Norwegian Colts, and all of the Spanish Llamas. The Star and Ballister-Molina cannot be disassembled in this manner.

Slide shown with its components.

Below: Safety and sear group is shown with slide and grips.



COLT'S MARK IV SERIES '70

By JAMES D. MASON

MAJOR IMPROVEMENTS to existing arms are often as interesting as new gun designs. This surely is the case with the latest factory version of the venerable .45 ACP.

Colt's new Mark IV/Series '70 handguns incorporate a barrel bushing system designed to reduce group size remarkably, especially in the Government Model (commercial) autoloader. This innovation is made currently in the .45 caliber Gold Cup and the Government Model configurations (.45 and .38 Super), but not in the smaller Commander models because of dimensional limitations in the slide.

This test gun was one of the first regular production-run handguns, not one of the pilot production models used in early reviews of the barrel/bushing system. Of interest to collectors, Colt's original run of 850 barrel bushing (BB) models looked like the preceding versions. Their only outward distinguishing feature is the letters "BB" under the serial number on the right side of the frame. Because of the limited run of these guns for so significant a design change, they will undoubtedly increase in value over the years. The Series '70 guns have a new set of serial numbers making the original 850 unique.

One of the first mechanical impressions made after handling the gun was how well fitted were the functional parts. Evidence of this fitting quality came at the start of disassembly. The bushing flange would not rotate with finger pressure until the slide had been depressed about ¼ inch. Some people might want to use a wrench, but the operating principle of the Colt's bushing system makes this unnecessary. All through the steps of disassembly, unusually good parts mating was evident; barrel to slide, slide to frame fitting was all exceptional. This was no ordinary Commercial model by past standards! I have owned two good-to-excellent Commercial models and the best of them could not compare to this test gun for factory fit.

All steps in disassembly for the Mark IV follow the regular procedures, except that the bushing comes out of the slide with the barrel instead of separately. Inspection of the barrel-bushing group revealed the key design differences between the new and older parts.

Apparently, the new bushing has the same basic dimensions as the regular older production parts. However, additional manufacturing steps alter the appearance and function of the new bushing. An annular ring is pressed into the rear of the new bushing sleeve. Then, large (.245-inch) slots are blanked out at 12 and 6 o'clock, and more narrow slots (.120-inch) are opened at 3 and 9 o'clock. The result of this wide and narrow slotting is spring tempered fingers located roughly at 2, 4, 8, and 10 o'clock on the circumference of the bushing sleeve.

The new barrels are prepared in the same manner as regular parts, except that a final machining step reduces standard barrel exterior diameter by .015-inch between a point about .6-inch from the muzzle back to the breech section. This reduction results in a muzzle swell .580-inch in diameter on a nominal barrel diameter of .565-inch.

These small changes to the regular parts perform an interesting function that increases accuracy of the gun. The annular ring on the bushing sleeve fingers has an inside clearance of about .570-inch. It will slide freely on the .565-inch barrel diameter but engages the swell about .650-inch from the muzzle. The spring action of the sleeve fingers releases the bushing from the barrel by merely pulling the bushing forward smartly when the barrel is out of the slide.

However, when seated, the bushing fingers are supported by the inner slide wall surfaces and do not expand, but grip the barrel securely at the slope of the swell during the last ¼ inch of forward slide travel. Since the barrel is canted down at the breech end when the bushing intercepts the swell, the top two spring fingers contact the topside of the barrel, pulling the barrel forward. Bushing finger tension also builds on the underside of the barrel. As tolerances close, a collet-clamping force is built up that tends to raise the barrel into locking position, centering the barrel in the collet fingers of the bushing. As the barrel breech rises, the final forward movement (approximately ⅛ inch) of the slide pulls the barrel forward into battery, causing the barrel standing lugs to seat on the slide stop pin. (To get a better idea of this collet action, hold a pencil loosely by the ferrule using thumb and first three fingers grouped around the shaft. Make small sliding and pinching motions of the fingers and observe how the pencil point rises and fall.) Uniform tension of the bushing fingers on the slope of the barrel swell in the battery position centers the barrel relative to the slide.

From close observation of the Mark IV locking sequence, there is no discernible assist to forward barrel motion from standing breech surfaces until the very last few thousandths inch of slide travel. This last contact takes places as the standing lugs rise vertically on the slide stop pin; there is no contact involving the barrel shroud and the slide. Once seated, the barrel is quite rigidly held in position relative to the forward or backward play in the slide. This differs remarkably from the rather sloppy fit of GI and older commercial guns. Sideways motion at the breech of the Mark IV barrel is limited by the clamping action of the bushing. These conditions make it highly probably that the barrel will reseat itself in very nearly the same position relative to the slide after each shot.

There are a number of relationships that come to mind after examining this system. First, the collet-clamping forces in the locale of the bushing fingers and barrel swell must be rather heavy. Quality control of bushing heat treatment and hardness is a necessity so the system will not wear out, deform, or bind. Colt has given special attention to this production detail.

There is no doubt that the system provides a means for positive barrel positioning. Obviously, the barrel tends to be centered by the collet-effect of the sleeve fingers. However, accuracy in ACP's is developed principally from control of the barrel breech position. The lifting movement provided by the bushing must be rather weak, considering the mechanical advantage of the breech end (5-inch lever) over the bushing sleeve (.650-inch lever). The action of the link cooperates, but the system has to depend on well-fitted barrel standing lugs to achieve a consistent lock-up and accuracy.

The barrel standing lugs on the test gun were fitted superbly. In fact, the uniformity of touch marks on the lock-up cam surfaces indicates a fit as good as the finest accuracy job. A check of a new Mark IV inspected at a gun store counter revealed the same quality. Colt has evidently made the production commitment to maintain the kind of tolerances that are necessary to make the bushing system work at its best.

Machine rest performance with the Mark IV Government Model developed groups from 3½ to 4½ inches at 50 yards under the best conditions. This is compared to seven to nine inches for most older, unmodified, run-of-the-mill Commercial models. Performance varies with quality of ammunition, but any first-rate cartridges, whether target or hardball, can be expected to produce nearly match-grade results in the Mark IV Government.

Publishing machine rest grouping information can be misleading. Readers sometimes complain, saying, "... he said the Super Zapper would group in two inches; but I can't get mine to hit a washtub at 25 yards." Machine rest data shows what a gun is *capable* of doing. Even quite good results fired hand-held from mechanical rests give considerably larger groups.

For this reason, the Mark IV was test fired along with an older Commercial .45 ACP using factory fodder and sandbag rests. The Commercial handgun was unmodified except for the installation of the Group Gripper. Two kinds of ammunition were used; Remington Targetmaster loaded with jacketed 185 grain wadcutters; and GI hardball, head-stamped RA 63. Both lots of ammunition have been used by the author on several occasions and have given substantially good performance, but not necessarily top performance. The two kinds may be fairly representative of similar ammunition available to all shooters.

Triggers on both guns were straight from the factory; the Mark IV had about a six pound pull that was rather blunt and did not break clean. The commercial trigger was much smoother and slightly lighter, having been shot-in several hundred rounds. Sights were fixed and neither gun shot on the point of aim.

Firing was conducted at 25 yards due to a spanking crosswind. Five shot strings were fired alternately from each gun with groups measured immediately after firing. Neither test gun got even moderately hot. Averages of five groups were taken and recapped below:

Gun	*Ammunition*	
	Target	*Hardball*
Mark IV	3½"	6"
Commercial	4"	5½"

On the face of it, these groups look pretty poor compared to machine rest performance. The author is no champion pistol shot, but I can get my share of 10's with the .45. Subtending this 25 yard data, we find that the Mark IV shot at a rate of about 7 inches in 50 yards with good target loads. The Commercial model would group in about 8 inches at the same distance. Remember, these results are practical expectations with each gun *capable* of shooting about four and five inches respectively from the machine rest at 50 yards. For a general purpose big-bore handgun, this is good performance. The use of lead bullet handloads, balanced to perform in the individual guns, can reduce 50 yards group sizes by 1 to 2 inches.

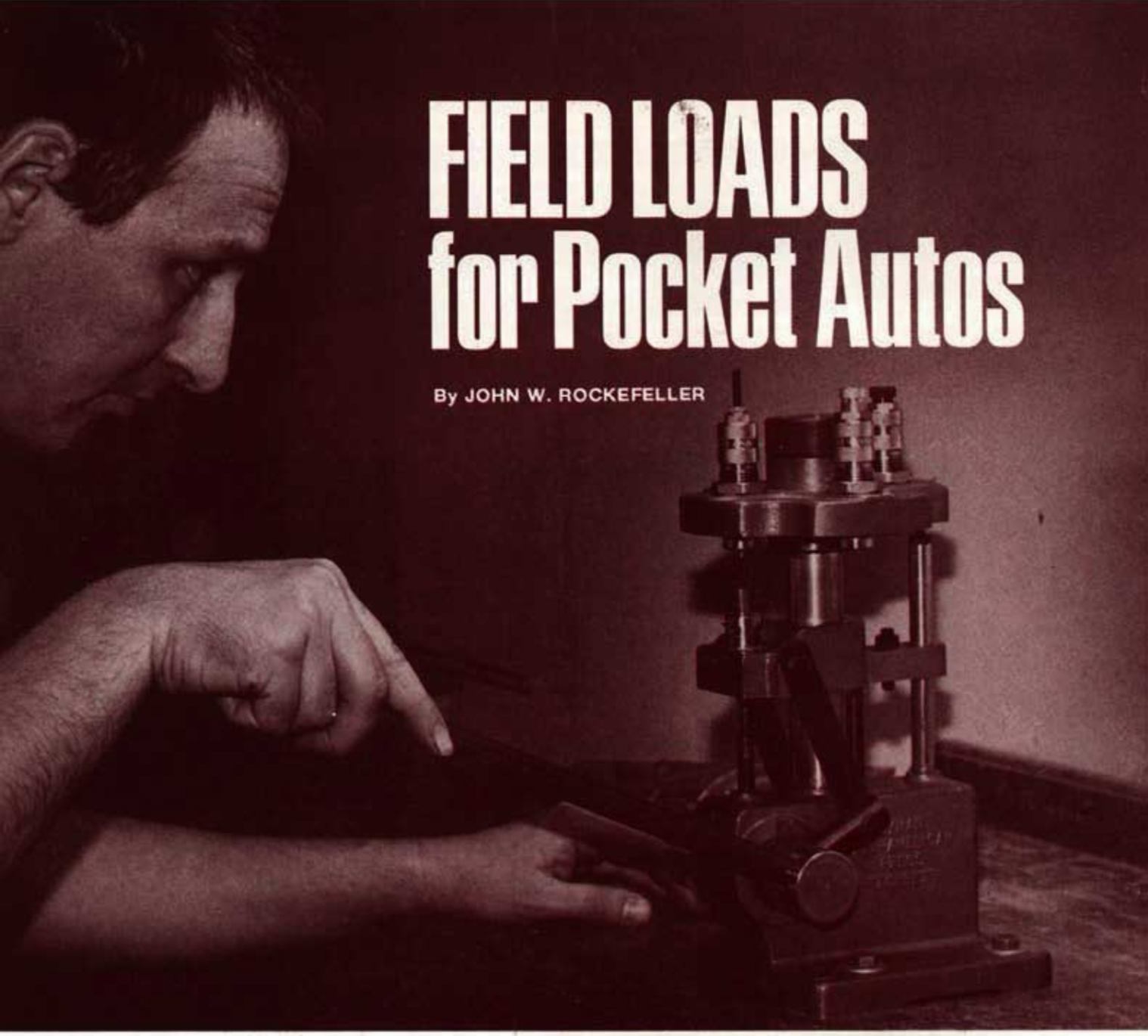
The same Mark IV bushing system is offered in the Series '70 Gold Cup National Match pistols. Analysis of data from responsible published sources indicates that there would not be any substantial degree of improvement in Gold Cup performance over the former models from using the bushing system. The Gold Cup always was a well-fitted handgun, capable of two to three inch machine rest groups at 50 yards.

Functioning during the firing cycle was flawless with the Mark IV test gun over a program of 200 rounds. Only one kind of feeding stoppage occurred with *both* test guns; the pushing of wadcutters into the roof of the chamber. This characteristic can be eliminated by polishing the ramp and slightly decreasing the angle of the incline at the bottom of the chamber. Both guns fed hardball rounds all day without incident.

The Colt Mark IV bushing system is the first major factory change of the .45 ACP design to effect improved accuracy. It is indicative of a company that cares about its products and its service to shooters. Purchasers of the new Series '70 guns will be getting a big boost in accuracy for no increase in price.

FIELD LOADS for Pocket Autos

By JOHN W. ROCKEFELLER



Long Thought of as Defense Guns, Pocket Autos can be loaded for plinking and small game.

THE pocket automatic seems to be the orphan stepchild of the handgun world, particularly when chambered for one of the center-fire cartridges. Of course, the revolver is the traditional choice of the outdoorsman whenever real power is required, while light, small-frame rimfire revolvers fill the bill nicely in the "kit gun" role. However, the small pocket automatics, particularly when chambered for the .22 Long Rifle cartridge, also work very well when a compact handgun is needed.

The fact remains that most of the small pocket automatics encountered will be chambered for one of the three small center-fire cartridges. Least of these is the .25 Automatic, which is factory loaded with a 50 grain Full Metal Case bullet to a mere 810 feet per second, producing only 73 foot pounds out of a typical two-inch barrel.

The .32 Automatic, or 7.65 mm. Browning, is a much more promising round. I confess to a weakness for this little cartridge, having owned four pistols in this caliber over the years, and having used one of them—a Colt—to take several bunnies and a jackrabbit, using Winchester factory ammunition. As factory loaded, the round uses a 71 grain Full Metal Case bullet at 905 fps, delivering 130 foot pounds of muzzle energy from a four-inch barrel. Since this is somewhat more than the .22 Long Rifle delivers with a six-inch barrel, I believe we may safely consider the .32 Automatic as adequate medicine for bunnies. However, a box of 50 .32 Automatics sells for no less than $8.95, or 18 cents a shot.

The .380 Automatic offers a little more variety, even when only factory loads are used. The .380 Auto, as loaded by both Winchester-Western and Remington-Peters, boasts a 95 grain Full Metal Case bullet at 955 fps, delivering 190 foot pounds from a 3¾" barrel. This makes the round, theoretically, a more potent cartridge than the .32 Automatic though,

in point of fact, it remains a load to be used on squirrels and rabbits, where not much power is needed, and where avoidance of meat loss is desirable. Price for Winchester-Western factory fodder is $9.15 per box of 50, or about 18½ cents a shot.

Some years back, the Super Vel Cartridge Corporation of Shelbyville, Indiana, brought out a loading of the .380 Automatic using an 88 grain Jacketed Hollow Point bullet at a nice, round 1,000 fps. These loads transformed the .380 Auto from more or less of an idle threat into something that would have to be reckoned with. However, Super Vel went out of business and, for some time, the ammo was not to be had.

Fortunately, Super Vel ammo is once again available, being loaded by H. & H. Cartridge Corporation of Greenburg, Indiana 47240. The new .380 Automatic ammunition seems to be "hotted up" a mite, being listed at 1,050 fps from a 3¾" barrel, though it tests out at 1,080 from a Mauser HSc, and 1,075 from a Llama Model IIIA. By the same token, Super Vel now has some competition, with Smith & Wesson offering a loading of an 84 grain Jacketed Hollow Point at 1,000 fps. CCI-Speer offers an 88 grain JHP at the same velocity, while Hornady's Frontier loads feature a 90 grain JHP at 975 fps.

However, none of this stuff is cheap, with the Super Vel .380 Automatic ammo going for no less than $11.95 per box of 50, or 22 cents a shot. It's good ammo, damn' good ammo. But cheap? Nope.

Okay, so the biggest obstacle to the widespread use of center-fire pocket pistols for sporting purposes is, simply stated, the high cost of factory ammo. Few of us care to lay out a buck for every five rounds we touch off, which is why the .22 Long Rifle rimfire round is the most popular of all pistol and revolver cartridges. It is also the reason that those of us who shoot center-fire handguns regularly are almost invariably handloaders. This is, obviously, the only real solution to our pocket pistol problem!

New for 1977 are these Durachrome dies in .380 from Pacific.

Handloading may not seem the ideal solution to some, who tend to think in terms of a heavy press, bolted to a sturdy workbench, and surrounded by all the paraphernalia of the real-gone handloader. Of course, for those of you who already possess a good bench-mounted press, it is obviously no big deal to add another set of dies and a shell holder and, if you also cast your own bullets, another set of mould blocks and a set of lubricator-sizer dies.

However, for the man who is not already a handloader, and who does not own a bench press, there is another way to go. Assuming that you need only a modest amount of ammunition for small-game hunting and plinking with the center-fire pistol, it is quite possible to get by with the Lee Loader, a simple little kit selling for a mere $10.98 which, with the addition of a plastic-headed hammer, permits one to turn out good pistol ammo without, as a prerequisite, either spending a mint on equipment, or being a mechanical genius.

Lee Loaders are economical, easy to store, easy to understand, and require no bench mounting to use. They do not turn out pistol ammo either rapidly or effortlessly, alas, requiring a strong arm and lots of hammering. However, they do turn out good ammunition, as I can testify, having used Lee Loaders in .32 Automatic and .380 Auto calibers—among others!—during a period of time when I was forced to get along without my bench presses.

Lee Loaders in .32 Automatic caliber are equipped with a "flaring tool" which is used to bell the case mouth slightly, so that cast bullets may be seated without "shaving" lead. This accessory is not in-

Llama .32 auto is shown here with Lee Loader kit that does a nice job with low initial cost.

Two pocket autos that rate high on author's list. The F.I. Model D (left) and the Astra Constable.

cluded with the Lee Loader in .380 Automatic caliber, however.

Measuring of powder is accomplished with a little plastic dipper included in the kit which, in both calibers, is Lee Powder Measure 020. A Charge Table is also included with each Lee Loader. Assuming that one can read and follow the instructions packed with the Lee Loader, and will follow the recommendations of the Charge Table, it is a simple matter to turn out good, safe pistol ammo with the Lee Loader. In addition to the loads listed on the Charge Table, however, there are also several other good, safe loads which may be turned out with the basic Lee Loader and Lee Powder Measure 020.

One accessory I recommend for use with the Lee Loader in pistol calibers, aside from the plastic-headed hammer, is the little Lee Priming Tool, which sells for $2.98 plus a buck-eighty for the appropriate shell holder. Pistol primers are pretty sensitive, and I have frequently had one "pop" when seating it with the plastic-headed hammer. While this is not dangerous, it is quite disconcerting—besides wasting good primers!—so I just prefer to prime my cases with the Lee Priming Tool.

New Hornady 90 gr. hollow point bullets for 9 mm. Diameter .355", sectional density is .102. Loads below from a .380 Walther PPK-S.

The purpose of this article was to work out several good, safe loads for the .32 Automatic and .380 Auto cartridges, using available jacketed bullets as well as various cast bullet designs. Loading was, for the most part, conducted on my Lyman All American turret press using Lyman pistol dies in .32 Automatic caliber, while Pacific Durachrome dies were used to load the .380 Automatic cartridge. Pacific had not previously offered dies in this caliber, but these are a "new item" for 1977.

In assembling test loads, I used a set of powder scales and a "micrometer" type powder measure, where necessary, though I preferred to use the Pacific Pistol Powder Measure whenever possible. This is a "fixed charge" pistol measure, using a sliding charge bar with interchangeable brass charge bushings. Bushings come in twenty-two different sizes, offering great versatility, though the one I used for "test loads" was the #3 powder bushing with a capacity which coincides with the Lee Powder Measure #020, throwing 3.0 grains of Bullseye, 2.2 grains of Red Dot, 3.0 grains Unique, 3.2 grains of Winchester 231 Ball Powder, or 4.9 grains of Winchester 630 Ball Powder. Price for the Pacific Powder Measure is $17.50, and $1.50 each for the charge bushings.

Factory ammunition, used for "control" purposes, was Winchester-Western

HORNADY LOADING DATA

	DuPont Hi-Skor	Hercules Bullseye	Winchester 231 Ball	DuPont SR 7625	Hercules Unique
800 f.p.s.	2.5	2.7	3.3	—	3.8
850 f.p.s.	2.6	3.0	3.5	—	4.0
900 f.p.s.	2.8	3.3	3.7	—	4.3
950 f.p.s.	2.9	3.5	3.8	3.9	4.5
1000 f.p.s.	3.1	3.8	4.0	4.0	4.8
1050 f.p.s.	3.3	—	—	—	—

This data was developed and furnished by HORNADY. For your free copy of loading data for the new 90 grain Hollow Point bullet, for either .380 Automatic or 9 mm. Luger cartridge, write to Hornady Manufacturing Co., P.O. Box 1848, Grand Island, Nebraska 68801. Tell 'em you read about it in The American Handgunner!

in both .32 Automatic and .380 Auto calibers and a couple of boxes of the new Super Vel loads in .380 Automatic caliber. Winchester-Western empty unprimed brass was used in both calibers, which I primed with W/W No. 1½-108 Small Pistol primers. Powder used was 231 Ball Powder, 630 Ball Powder, and Hercules Red Dot shotgun powder.

Jacketed bullets used in testing were provided by Hornady, Speer, and Winchester. I also cast up a generous supply of lead slugs, using an assortment of Lyman bullet moulds, which were then lubricated and sized using the kits made by Lee Precision. Lyman bullet lubricant was used, and bullets were sized to .311" for the .32 Automatic, and .356" diameter for the .380 Automatic. Those handloaders possessing mechanical lubricator-sizers may prefer to size bullets to .355" for the .380 Automatic, or even .354" in the event of a "tight" chamber. Bullets of .357" or larger should be avoided.

Two pistols were used in testing loads, and all loads listed were fired in one or the other of the two pistols, in other pistols as indicated—or both! For the .32 Automatic cartridge, I used a Llama Model XA, from Stoeger arms. For the .380 Automatic cartridge, I used an F.I. Model D from the Firearms International division of Garcia.

LOADING THE .380

Suitable bullets for the .380 Automatic are pretty much evenly divided between the jacketed and cast designs though, if you use the Lee Loader, you would be limited to jacketed pills. Highest velocities are obtained with the lightest bullets, including the 88 grain Speer Jacketed Hollow Point, the Hornady 90 grain Hollow Point and the 90 grain Sierra Jacketed Hollow Cavity bullet.

The Hornady 90 grain 9 mm. (.355") Hollow Point is a brand new design, and loading data for this bullet does not appear in the current (second edition) Hornady Handbook. However, the boys in the Hornady lab have been busy, and loading data for the new bullet, to be used either in the .380 Automatic or the 9 mm. Luger, may be obtained, free of charge, from Hornady, P.O. Box 1848, Grand Island, Nebraska 68801. In the meantime, permission has been granted by Joyce Hornady to reproduce test data for readers of The American Handgunner. (See chart.)

By the way, this new 90 grain Hollow Point is now offered in Hornady's Frontier factory ammo in both .380 Auto and 9 mm. Luger calibers. The .380 Auto round, loaded with the 90 grain Hollow Point, is loaded to give 945 fps when fired in a Walther PPK/S, giving 179 foot pounds of energy. The new ammo retails at $9.70 per box of fifty rounds.

Jumping a step up the ladder, we come to the 95 grain Metal Case, which should be selected only when it is necessary to minimize meat loss on edible small game animals. Not available from Winchester-Western, the 95 grain Metal Case is offered by Remington-Peters only on a "special order" basis.

Loading data for this bullet, using Hercules powders, is found in both the Lyman Reloading Handbook and the Hercules Smokeless Powder Guide. The Lyman "factory duplication" load, listed as maximum and intended to duplicate the Remington-Peters factory load, consists of 2.9 grains of Bullseye. Loading for a Star Super-SM .380 a few years back, and using a Lee Loader, I used to load 3.0 grains of Bullseye pistol powder with the 95 grain Metal Case, using Lee's #020 powder dipper. While my loads were 1/10th grain over maximum, supposedly, I found that Peters factory loads would not work the action of the locked-breech Star Super-SM pistol . . . and my handloads would!

The Winchester-Western booklet, Ball Powder Loading Data, lists a loading of 3.2 grains of 231 Ball Powder for the 95 grain bullet, for 860 fps and 15,000 pounds of copper unit pressure. I mention this because that's exactly the amount the Lee Powder Measure #020 will hold while piled heaping full, and struck off flush with a straight edge. However, I had no problems when using this particular powder charge with the slightly heavier 100 grain bullets in the F.I. Model D.

Incidentally, Winchester-Western is

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Ammo and components used in author's tests includes Winchester and Super-Vel ammo, Speer and Hornady bullets and Lyman mould blocks for casting.

If You've Had Trouble Mounting Scopes on Big Bore Handguns, You'll Be Interested In The . . .

MAXI-MOUNT

By J. D. JONES

A CONSIDERABLE amount of effort has gone into the design of scope mounts for handguns. Most of the mounts now on the market will perform satisfactorily on handguns that do not recoil more than a .357 Magnum. When the recoil level of a .357 magnum is repeatedly applied the mounts, and particularly the mounting screws, are subjected to enormous shock. As this shock is repeated thousands of times, screws stretch and finally break.

The Thompson/Center Contender is a superbly accurate and strong single shot handgun capable of handling all pistol and many rifle cartridges. It is, however, light in weight and unscoped, kicks like a mule in some calibers. Scoping them tames them quite a bit. Mag-Na-Porting helps a lot, too. The .30-.30, .357 Herrett and .44 magnum calibers are particularly bad offenders in this respect. They are among the best of the cartridges available for hunting, though. Up till now, keeping a score on them hasn't been an easy job. Simply buying a scope, mounts and putting it on according to directions usually has disastrous results somewhere along the line. Loc-tite, applied to the mounting screws on pistol mounts is not nearly as effective as it is on rifles. Most of the "miracle" adhesives look great in TV commercials but are not suited to and do not work effectively in an effort to "glue" scope mounts to pistols. The reasons they do not work are quite apparent if you obtain the manufacturers industrial literature and talk with some of the factory reps.

I've had screw loosening problems in practically all calibers, including .22 Long Rifle in the T/Cs. About five years ago, I discussed the problem of scoping the T/C in hard kickers with a mount manufacturer. He assured me there was no problem with his rig. I obtained one, applied it exactly in accord with his directions on a .30-.30 T/C. Eighteen shots later, the scope and mount came off. It obviously was turning end over end as it hit me three times as it went by before striking the window of my station wagon. It drew blood in two places and raised a lump on the third.

I gradually eliminated most of the methods used in mounting scopes for the reason they did not hold up over long periods of time.

The T/C mount has a recessed area in its base. By using a 5/32 inch drill and drilling three shallow interlocking holes in the T/C barrel and filling both the base recess and interlocking holes with "Duro" epoxy steel and tightening the screws to provide an effective clamp an efficient, but permanent, mounting system can be obtained. The Conetrol, Buehler and Leupold bases can also be drilled with three interlocking holes opposed to those drilled in the barrel and given the epoxy steel treatment to effectively hold them on the guns. The epoxy steel hardens to form a "bridge" between the barrel and base. I've never had one mounted this way come off but this method of mounting should be considered permanent. "Duro" brand epoxy steel has proved effective for me and I'm sure other brands do exist.

I've also run across some extremely

This Maxi-Mount is fitted to the Thompson/Center Contender, note fitted washers which clamp the mount to machined barrels.

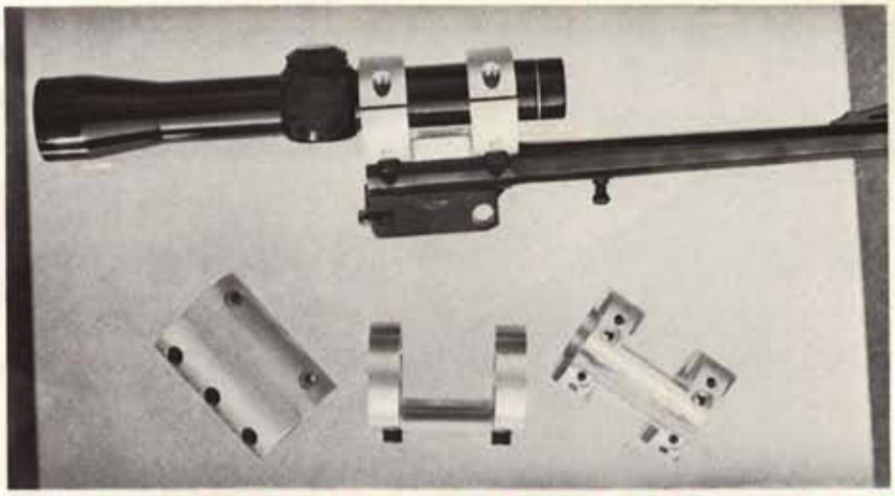
wild looking attempts to scope Auto Mags. Most of them were either so ugly or expensive that few individuals could afford or would want them.

About a year ago Jim Herringshaw and I discussed making up a few mounts for the Auto Mags for our personal use. A couple of weeks later Jim showed up with a prototype we both agreed left a lot to be desired. A month or so later Jim put mounts on a 10 inch .357 and a 10 inch .44 Auto Mag for me and we proceeded to test them. They worked, and worked well. The mounts stayed on the guns and the scopes (Leupold M-8-2X) didn't slide in the rings. The barrel assembly on the Auto Mags moves rearward at a considerable velocity and stops against the frame when the gun is fired. It's the toughest gun to scope there is.

Problems other than durability cropped up in that particular mounting system and it evolved into the current design Maxi-Mount for the Auto Mags.

Briefly, all Maxi-Mounts are made from high tensile strength aluminum alloys. The mount and rings are machined from one piece of stock.

In the case of the Auto Mag mount, the front ring is 1.0 inch wide, the rear .500 inch. The clamp screw holes through the rings are drilled and tapped before the rings are sawed in half. The rear ring utilizes two hex head industrial screws to clamp the rings together, the front utilizes four. Two holes are drilled through the bottom half of the ring-mount and are not visible when the scope is in the mount. The mount and top of the Auto Mag barrel assembly are precision bored and fitted to accept two bushings that "bridge" the mount and barrel assembly. A hex head industrial screw through the center of the bushings into the barrel assembly clamps them together. The bushings are approximately .370 inches in diameter and precision fitted so movement is impossible. The barrel assembly must be sent to Herringshaw for fitting. Price of the Auto Mag Maxi-Mount is $125 installed on the customer's gun.



Three experimental mounts are shown beneath the final version which is mounted atop a specially machined Thompson/Center Contender tube.

Throughout the development and testing of the Auto Mag Maxi-Mount I made constant comparisons to the problems encountered in scoping the T/Cs. I feel my past failures contributed significantly to the successes in the Maxi-Mount. After much discussion, Jim came up with a mounting system for the T/Cs that is positive, easily removed and changed to another barrel or for replacement of iron sights, provides adequate ring gripping surface on the scope tube to prevent slip-

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The top corners of the frame of the Contender must be polished into a rounded contour so hex screws will be clear.

One of the "Other" Magnums Gets a Workout and Comes up With an OK from the Author

Astra 357 Magnum

By MIKE BARACH

Handgun bluffs have, in the last few years, enjoyed an ever increasing selection of domestically made .357 Mag. revolvers. Because of this surge by American manufacturers to offer a wider variety of .357s that will fill all the needs of the handgunners, it comes as no surprise that foreighn versions of the highly popular wheelgun in .357 would enter into the U.S. market. The imported revolvers are vastly outnumbered and in some cases out-priced, but never the less do add to the selection of guns marketed. As most of us remember, there was a time when the word "import" was synonymous with cheaply made, poor quality handguns, or in other words junk. The European firms have, for the most part, realized the demand for quality by the American shooters. We are presently seeing the acknowledgment by the foreign gun companies through the rising quality of revolvers being offered on the U.S. market. Of these imports, the Astra, manufactured by the Spanish firm Astra-Uncerta y Compania, is one of the better revolvers offered to the American sportsman. This European company has been supplying an array of handguns to neighboring countries since its founding in 1908. It is one of the major arms manufacturing companies overseas, producing handguns for sporting, defense, military, & police use.

A good design feature of the Astra is the regulating ring seated in the bottom of the grip frame. By rotating the ring a four stage adjustment of spring tension is made, regulating double action pull.

Recoil from the Astra's 4-inch tube was moderate and accuracy was acceptable with ammo used.

The Astra revolver was first introduced on the American market in the early 70's. Since then there have been some changes made to the gun, but it's basically the same. It currently comes chambered for the .357 Mag. only and in appearance resembles the S&W Model 19. The looks are modified somewhat to give the gun its own distinctive styling.

The Astra is available in four barrel lengths: 3", 4", 6", & 8½" with integral rib and ejector shroud being standard on all. The regular finish on the Astra is a deep blue, but for those that desire a real good-looker a four-inch barreled chrome-plated version is available.

The four-inch and longer barreled guns have square butts with oversized grips, while the three-incher has a round butt and Magna-style grips for easier concealability.

Upon receiving the test model of the Astra and removing it from the carton I was pleased, for the most part, with its looks and styling. While looking over the gun I did find a few places where the polishing was poor, but the majority of the external surfaces were deeply blued and void of tooling marks. The feel and balance of the revolver was good. Bringing it up to aim felt natural with no awkwardness in its handling. I found only one dislike with its styling. The front portion of the trigger guard has a sweeping design that leaves no partially flat surface for the index-finger to anchor on when using a two-handed grip. I do ninety-five percent of my offhand shooting using a two-handed hold and the trigger guard, as is, isn't well suited for this type of grip. If I were to use the Astra for hunting or defense purposes, I would have the trigger guard modified by squaring it off. Other than this, I have no complaints with the gun's styling.

Fully adjustable sights are standard hardware on all Astras. The front is of the ramp type with a square notched, click adjustable rear. They are well made and should require no modifications.

The test gun came equipped with a four-inch tube and checkered oversize grips. I usually find all of the oversized stocks uncomfortable, but the Astra's felt good and seemed to fit my hand fairly well. The grips are decently made and attractive. Wood to metal fit along the back-

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Removing the side-plate reveals an American style action with a few European modifications. Inside finish is comparable to U.S. guns.

Walther PPK-S Rimfire

The PPK/S, as shown here in .380 is clean of line and a top notch plinker in .22 RF.

WHILE NOT INEXPENSIVE, THESE PISTOLS ARE TOP QUALITY

By CLAIR REES

THE Walther model PPK is one of the best known auto pistols in the world. It, together with a slightly longer version known as the model PP (Polizei Pistole), was used extensively by German officers during World War II, and Walthers have also seen extensive police service all around the globe.

Ian Fleming, the knowledgeable British novelist, saw fit to arm his famous superspy, James Bond, with a PPK as his weapon of choice. And a number of flesh and blood agents who like the compact portability of the little gun do carry one for emergency use. It's also the off-duty favorite of many policemen—again, chosen more for its light weight and handy size than for its stopping potential.

Although the Walther design is nearly fifty years old (the PP model was introduced in 1929, with the Kruz, or "short" version following two years later), it remains thoroughly modern in every respect. It can be fired either double action or single action, and the action incorporates a special hammer block that prevents the hammer from striking the firing pin until the trigger is actually pulled. Spring pressure holds the firing pin away from the cartridge face until a blow from the hammer drives it forward, so accidental discharge is less likely than with some other auto pistols.

Another feature that helps endear the Walther to many shooters is its single manual safety, which is both positive and easy to operate. The little gun has no grip safeties or magazine safeties to clutter up the works—just a lone, pivoting lever located on the left rear of the slide.

Incidentally, the pistol can't be cocked with the safety engaged. Even if you rack the slide, the hammer will merely fall forward onto the safety arm (that keeps the hammer from contacting the firing pin) until the safety is released. Similarly, if you rotate the safety lever downward to its "on safe" position with the action cocked, the hammer will come forward. The safety not only places a steel block between hammer and firing pin, but it also locks the sear to prevent the trigger from being pulled.

The PPK/S can be field stripped for cleaning in about 5 seconds. Clean design makes for simplified maintenance by the shooter/owner.

The Walther PP and PPK were both originally chambered for the 7.65 mm (.32 ACP) cartridge, but 6.35 mm (.25 ACP) and 9 mm Kruz (.380 ACP) versions were later manufactured. A .22 rimfire model was also made—and this is the one I personally find fascinating.

For people who carry small pocket pistols for serious social purposes, the .380 makes the logical choice in the Walther PPK/S (the S designates model PPK pistols equipped with magazine extensions to make the guns large enough to conform with current U.S. import regulations). While the .380 is no powerhouse, it's the most potent load the little Walthers are chambered for.

I have no use at all for the .32 or .25 ACP chamberings (although the .32 version was standard for German officers during the war). Neither qualifies as a potential man-stopper, and the little centerfires are a bother to reload and too expensive to plink with.

But the .22 rimfire has real appeal. In a pinch, a high-speed .22 LR round will put an opponent out of action as quickly as either the .25 or the .32 ACP loadings, and ammo is cheap enough to encourage lots of shooting. It goes without saying that you're bound to be more accurate (and therefore more deadly) with a gun you shoot a lot than one you fire only a few rounds through each year.

More important than its self-defense potential is the fact that the Walther rimfire makes one of the finest trail guns on the market. It's light (23 ounces), and small enough to be carried in a belt or holster all day without being a bother. While it's small enough to be carried in a pocket, you'd better make sure the butt, at least, protrudes unless you have a license to carry a concealed weapon. There are a number of lightweight holsters designed specifically to fit the Walther PPK/S, and these are a good idea for any sportsman.

One of the nicest features of the Walther PP series is that these pistols have an enviable reputation for reliability. A number of .22 self-loading handguns are prone to occasional jamming, while others sometimes give irregular ignition. Not so the Walther. I fired three hundred rounds of mixed LR ammunition through my PPK/S right after I received it, and it digested the lot with nary a bobble. I might add that the entire batch was triggered off rapid fire as quickly as I could reload the 10-round magazines.

Again, while some auto pistols require a short breaking in period before they'll give reliable performance, the Walther rimfire functioned perfectly right out of the box. Other Walther owners I've talked with have indicated that this kind of reliability is the norm, rather than the exception.

The Walther PPK/S has a barrel 3 3/16 inches long, and the gun measures 6 inches in overall length. With the magazine in place, the gun stands 4 3/4 inches tall. Grips

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The Walther PPK/S in .22 RF gave good accuracy at 25 yards. This five shot group measures out at 2" across.

The PPK/S is barely a handful. The weight is a mere 23 ounces empty and the gun measures 6 inches in length.

LOADING THE POCKET AUTOS

(Continued from page 51)

now offering the new "third edition" version of their Ball Powder Loading Data booklet. The booklet consists of 72 pages and is invaluable to the handloader who wishes to use the Winchester-Western ball powders. While it may be necessary to interpolate or "work up loads"—as I did for this article!—the booklet, at least, provides a valuable "starting point". For your free copy, write to: Mr. Edward A. Matunas, Winchester-Western, 275 Winchester Avenue, New Haven, Connecticut 06504.

There are three different 9 mm. bullets of 100 grains weight that are available to handloaders, and all may be used in the .380 Automatic, as desired. Best choice is Speer's 100 grain Jacketed Hollow Point. Winchester's soft point, dubbed the Power Point, which is intended for the 9 mm. Luger cartridge is unlikely to expand well at the lower velocities possible with the .380 Auto.

Finally, Hornady offers a 100 grain Full Metal Jacket bullet which, if you feel you need a metal case bullet, will at least be easier to obtain than the "special order" 95 grain Metal Case from Remington-Peters.

Two charges that work well with any of these 100 grain bullets are either 3.1 grains of Hercules Red Dot, or 3.2 grains of Winchester-Western 231 Ball Powder, though only the Ball Powder load can be thrown using the Lee #020 powder dipper.

The "standard" cast bullet for the .380 Automatic is Lyman's #358 242, which comes in two versions. There is a heavier, 121 grain version intended for use in the 9 mm. Luger and .38 Automatic, and the lighter 92 grain version intended for the .380 Automatic. When ordering mould blocks, be sure to specify that you want the lighter, 92 grain version, of this bullet.

This bullet duplicates the shape of the 95 grain Full Metal Case and, like the jacketed bullet, it cannot be counted upon to expand in flesh but, on the other hand, has an excellent chance of ricochet from ground, rocks, or other hard surfaces. For that reason, one should be careful when using these bullets in the field.

Best load tried with this bullet—and I didn't try many!—was 2.6 grains of Winchester 231 Ball Powder, a mild load, with which I managed three shots into one inch center-to-center at 20 feet. Using the #020 powder dipper full of the slower-burning Winchester 630 Ball Powder, 4.9 grains, I grouped five shots into 1½" at the same distance. Which is right fair shootin' for a pocket pistol.

A better bullet, and one I worked with more extensively, was Lyman's new #356 404 of 95 grains, a flat nose bullet. Loaded atop either 3.1 grains of Red Dot or 3.2 grains of 231 Ball Powder, this bullet makes into a pretty potent load. Using the latter loading, 3.2 grains of 231 Ball, I turned the F.I. Model D on an old Penney's catalog, 1¼" thick, and sent a 95 grain slug ripping through all 1,130 pages, tearing a ⅞" exit hole, to clang against my Detroit bullet trap.

Working from the other end, I found that 1.5 grains 231 Ball would work the action, producing a 1¼" groups. One-point-seven did worse and, then, I tried 2.0 grains 231 Ball. Bingo, a cloverleaf! Another group, same load, ran 1¼ inches. Two-point-six punched three shots into ⅝ inch at twenty feet.

Heavier bullets may also be used. The Hornady 115 grain Hollow Point is really too heavy a bullet for the .380 Automatic, though it is listed in the Hornady Handbook, Second Edition. Using Lee's #020 Powder Measure, you may use either 2.1 grains Red Dot or 3.0 grains of Unique, the latter listed in the Hornady Handbook as giving 800 fps—as does 2.2 grains Red Dot. We loaded up a few of the 115 grain H.P. pills with 2.1 grains Red Dot and fired them into dry catalogues but, as expected, they showed very little expansion.

A useful bullet, though not a spectacular one, was the Lyman 115 grain cast semi-wadcutter, #358 345. As a "standard" load, 2.1 grains of Red Dot, thrown by Lee Powder Measure #020, works very well. Also tried was 5.1 grains of Winchester 630 Ball Powder, but this proved too hot.

A rather accurate load with this bullet, the 115 grain cast semi-wadcutter, was 2.0 grains of Winchester 231 Ball. I fired seven rounds at 20 feet, a full magazine plus one in the chamber, punching five into 0.9 inch center to center, with two close "flyers" opening things up to 1.65 inch.

One should resist the temptation to try jazzing up the 115 grain bullet in the .380 Auto, as the bullet is really a bit heavy for the caliber. Use the semi-wadcutter and forget about high velocity. After all, it doesn't need to expand; with that flat point and wadcutting shoulder, it will "chop" a hole in flesh even when trundling along at 800 feet per second or less. Certainly it is adequate for small game!

.32 ACP LOADS

Lee Loaders for the .32 Automatic have a "flaring tool" which permits the use of cast bullets and this is just as well, because the selection of jacketed bullets usable in this caliber is quite limited. Remington offers the "standard" 71 grain Metal Case on "special order", while Norma offers a 77 grain bullet of the same type. Somewhat easier to come by are the 100 grain Speer "Plinkers" of soft point design—half jackets—but these are much too heavy for the caliber so, at the low velocities possible with the .32 Auto, you can forget about expansion!

There are few loads suitable for use with the Lee Loader, unless you'd care to invest in a set of powder scales and maybe an adjustable powder measure. Using the 71 grain Metal Case or its 77 grain cast equivalent, you may load 2.2 grains of Red Dot, 3.0 grains Unique, or 4.9 grains of Winchester 630 Ball with the #020 powder dipper, all of which approach maximum. Lyman lists, as maximum loads, either 2.2 grains of Bullseye—not usable with Powder Measure #020—2.5 grains of Red Dot, or 3.1 grains of Unique. Winchester lists, with the 71 grain F.M.C., either 2.5 grains of 231 Ball for 865 fps, or 5.2 grains 630 Ball for an even 900 fps, either load giving 14,000 pounds of copper unit pressure.

Four cast bullet designs were used in testing, including Lyman #311 227 (90 grains) and #311 252 (77 grains), both of which were round nose designs. A better choice was either the button-nose wadcutter, #313 492 weighing 92 grains, or the 95 grain semi-wadcutter, #313 445, both of which were intended for the .32 Smith & Wesson Long revolver cartridge. The seating die was set with the bullet seating screw just contacting the bullet of a Winchester factory cartridge, and this adjustment used to seat all four bullets which, of course, gives differing cartridge lengths depending on bullet nose shape.

The revolver bullets, contrary to what one might expect, fed flawlessly.

One-point-two grains of Winchester 231 Ball gave excellent functioning with all four bullets. Working upward, I found that I could use 1.8 grains of this powder with the 90 grain cast, #311 227, though 1.9 grains of 231 Ball is definitely *maximum*. Two-point-oh bulged cases a bit more than I'd consider healthy, while primers were also badly flattened. For that reason, I consider 1.7 to 1.8 grains to be a good working load with the 90 grain cast, while 1.6 to 1.7 grains of 231 Ball is a good load with either the 92 grain wadcutter or the 95 grain semi-wadcutter revolver bullets.

Personally, I prefer the slower-burning Winchester 630 Ball for use in the .32 Automatic or, if you prefer the Hercules brand, Unique pistol powder. I formerly used 3.0 grains of Unique with the 90 grain cast, #311 227, firing it in both my old Colt Model "M" pocket auto and in a friend's Mauser HSc. It worked nicely in both guns though, in the HSc, I found the load uncomfortable due to recoil driving the edge of the frame into the web of my hand. However, I didn't test this load in the Llama and, since it is probably over accepted maximums, I can only report the load without necessarily recommending it.

By the way, this load is compatible with the Lee Loader, as Lee's #020 powder dipper throws 3.0 grains of Unique. It also throws 4.9 grains of Winchester 630 Ball Powder which, with the 77 grain cast #311 252, is a good "working load" for the .32 Automatic. Best group with this particular load was .4" at twenty feet, with two others running 1⅛" and 1¼" for three shots. Five-point-oh approaches maximum, while five-point-one grains of this powder should definitely be considered a *maximum* load.

Best bullets for the .32 Automatic are the 92 grain wadcutter and the 95 grain semi-wadcutter, though both definitely require a reduction in powder charge. Three-point-six grains of 630 Ball seems to be the maximum load with either bullet, and 3.5 grains would probably be better for ordinary shooting. As to accuracy, using the 95 grain semi-wadcutter, #313 445, atop 3.6 grains of 630, I put five rounds into one inch, center to center, with four of these in a "shamrock" only ⅝" from outside-to-outside. Using the same powder charge, but with four 92 grain wadcutters, #313 492, plus one 95 grain semi-wadcutter, I put all five into a narrow, vertically-strung slot measuring .95" center to center, at twenty feet. This, by the way, was from a two-handed standing position.

When all is said and done, I am convinced that the better "pocket" automatics are not totally worthless, nor are they without "sporting significance." Stoked with proper handloads, they are quite accurate enough—and potent enough!—for the taking of small game animals in the hunting fields. They would also serve for the elimination of poisonous snakes, snapping turtles or small varmints and, assuming that one is a handloading enthusiast who doesn't mind "policing up brass" and casting and lubricating bullets, they make dandy plinkers, as well!

If you have a good pocket automatic gathering dust and rust in the dresser drawer, why not dig it out, and give it a try? With a good Lee Loader, a plastic-headed hammer, and a box of store-bought bullets you can get in a little shooting . . . without going broke in the process! And you just might have a little fun.

(Continued from page 28)

back the following he lost with his early antics.

Another buddy of mine, a superb pistol shot, ran a series of long range handgun matches. He disqualified himself from the first one, but shot in it anyway just for the hell of it. His score topped those of the winners. He was careful to scratch his name off the board, but the top placers had been made to feel that they'd won a hollow victory: few came back. If he'd just entered and shot, no one would have held it against him. The point is, if you're going to shoot, announce it, and do it under the same rules as everyone else, with the paying competitors tallying your score.

Entry fees? If you're a police department putting on a match for the heck of it, an entry fee of two to five dollars a head will pay for modest trophies, and you'll break even. If you're putting on the match to get revenue for the club or the team, the competitors understand that you're charging $8 to $20. Whatever kind of match you're running, key it to the concept of half of the receipts for trophies, half for gross profit with expenses taken out of the last slice, and you'll have a tournament that people will be willing to attend and that will net you a few bucks to carry on your own activities with. When you get up to $20 or more for entry fees, though, you'd better have a lot of supernice trophies or expensive merchandise prizes, or people will figure they're being ripped off.

This is another area where experience comes in. When my group ran the first NH Police Combat Championships in 1972, none of us had ever administered a combat tourney before, and we were playing by ear. Naively, we announced awards to winners in every stage of the match—including the seven yard phase, which at that time was fired on the Colt silhouette target. It is no trick to put 12 rounds into the cantaloupe-sized X-ring from seven yards in 25 seconds, and more people cleaned the first match than didn't.

We gave expensive trophies to the winners in every other stage but to do the same for everyone who had shot perfect on the first phase would have put us in the red. We tried to solve the problem by giving out handsomely embroidered blue and red ribbons to the top-shooting competitors in that stage. What happened was that almost everybody went home with a ribbon, at least. "Terrific," we thought, "everybody left with a prize." Not so. The word quickly spread, "Avoid that New Hampshire shoot: all they give away is ribbons." The first place winner's gun, and the handsome trophies, were forgotten. It took us years to overcome that unjust stigma.

Finally, the programs—the brochures explaining the nature of your shoot—should be sent out 30 to 60 days prior to the event. Any sooner, and the competitors will file 'em and forget 'em; any later, and you're fouling up weekend plans and losing would-be customers.

Be sure to outline the course of fire specifically in the program, and include a detailed set of instructions (preferably map-type) indicating how to get to the range. Give some incentive for early sign-up: you can get away with asking for full payment in advance if you knock a couple of bucks off the registration price to the early, paid signers.

Seriously, it's not that hard to run a decent pistol match. My group has given thousands of dollars worth of prizes and guns away at single shoots, but we've also run events that were every bit as successful even though we were just awarding trophies. Incidentally, another advantage of mailing the trophies out later is that the competitor gets a choice in awards. Have him mark his preference on his entry card, whether for figurine trophies, desk sets, or wall plaques. Newcomers like stand-up trophies, and medals, while experienced gunners have so many of those, and so many medals, that they'd prefer something they can put on their desk or wall at home or at the office. After-the-match trophies allow us to have the winners' names engraved on their awards, which makes them much more meaningful.

Set it up well ahead of time. It'd be nice to have a staff of twenty, but realistically, you know it's going to boil down to a handful of club members who'll be doing the actual work. If you dragoon your womenfolk into helping, buy them a terrific dinner the night the shoot wraps up, and

pay for it out of the proceeds. Give them some incentive to come back and keep it going the next time around. ("I wouldn't put in fifty hours on your shoot if I didn't like Chateaubriand," my wife has been known to comment. Considering what I'd have to pay somebody else to act as Executive or Statistical Officer, and do it as well as she does with her many years of match experience, chateaubriand figures out a damn sight cheaper than hamburger.)

Take advantage of your State Rifle and Pistol Association, your local arm of NRA. These people tend to be experienced competition shooters, who have a world of information and advice that they'll give you for no charge, just to promote shooting. Call or write NRA for a contact. Invite them to put up a display, or offer to give State Association membership applications to all your competitors. It doesn't cost you anything, and the sage wisdom their members can provide will be invaluable to the success of your shoot.

Some of the best advice a first-time match runner will get is from established tournament-promoting groups. These people have been in it enough to know that the more well-run tournaments there are around, the more shooters will be cultivated who'll enter their *own* matches. Tournaments aren't excluseive; nobody *arbitrarily* says, "I'll hit this one but not that one." Each match brings out local neophytes who get infected with the shooting bug, and therefore, the more shoots there are around, the better it is for everybody who runs tournaments. It keeps the new blood flowing. Far from fearing you, the tournament promoters who've been running matches for the past few years will bend over backwards to give you advice, and furnish you with mailing lists of would-be competitors. My team has been doing this for years, not because we're altruistic, but because we know that any local person who goes to that new shoot upstate is a potential candidate to come to our next shoot downstate. We don't want a monopoly; we want new groups to flourish so they can encourage more new competition shooters who'll support all of us.

I'd write a book about running pistol shoots, if I knew enough about it. I've been running several a year for the past few years, and I learn something each time. Maybe that's cause I screw something up each time. Well, at least I'm learning from my mistakes. If you can learn from somebody elses snafus, and run your match along the principles I've outlined above—paying particular attention to soliciting advice from State Association specialists and others who've run matches like the ones you're contemplating—the chances are great that you'll have a successful shoot that will be beneficial to your club, to the local shooters, and to sportshooting in general.

WALTHER PPK/S RIMFIRE

(Continued from page 57)

are of checkered black plastic, with a thumbrest molded into the left grip panel. The finish on my sample is generally excellent, although some tool marks are visible in the cut-out portion of the slide that accommodates the safety lever.

The magazine release button is large, and falls handily under the thumb (unless you're a southpaw shooter). Spring pressure pops the magazine part way clear when the button is pressed, and empties fall clear to make fast reloading possible in an emergency. Loading the magazine itself is simplified by a checkered follower button located on the right side of the clip—this enables you to tension the spring with one hand while feeding rounds with the other.

Takedown is also a simple matter. First apply the safety catch and remove the magazine. Then pull down on the trigger guard, and when it comes clear of the frame push it slightly to one side to prevent it from re-closing. Then pull the slide back as far as it will go, lift up, and allow it to run forward under pressure of the recoil spring. The slide can then be completely separated from the receiver. With only a little practice, the whole operation can be done in about five seconds.

The double-action trigger pull is fairly long and heavy (characteristic of nearly all DA autoloaders), but the single action pull is relatively crisp with only a slight amount of creep. Single action, the trigger on my PPK/S breaks at 5½ pounds.

The combat-type sights are of the fixed variety (although the rear sight can be tapped sideways in its dovetail for "windage" adjustments). However, the sights on my pistol were dead on to give center bull hits in a National Rifle Association slow fire pistol target at 25 yards, using a six-o'clock hold. Best results were with Remington match ammo, which produced 2-inch 5-shot groups from the 25 yard mark. Other brands of ammunition were also close on to the mark.

In addition to being properly set as they came from the factory, the sights on my Walther were sharp and easy to use. The shoulders on the rear sight are rounded to prevent a possible hangup on clothing during the draw, but the front blade is sharply squared and can be easily defined. There's more light around the front blade than some target shooters might like, but this makes it easy to pick up in a hurry. A recessed white dot appears on the face of the front blade, while the rear sight wears a white square in its center. This is an aid to shooting in poor light, as you only need to place the dot directly above the square to be sure the sights are aligned.

The Walther PPK/S is a compact little handgun that fits snugly in the palm of even a slightly built shooter's hand. It's extremely well made, accurate, and highly reliable.

While the .380 centerfire version is a better choice for personal defense, most shooters have no real need for such a hideaway weapon. And as far as I'm personally concerned, I'd prefer to opt for something a bit more potent if I honestly thought I needed this kind of life insurance.

But for plinking and potting small game for the pot, the rimfire Walther is a hard gun to beat. The only problem with buying a mdoel PP or PPK/S today is the fact that, like many quality imports, they don't come cheap. Interarms, of Alexandria, Virginia, is the sole importer of these excellent handguns, and at last look the centerfire Walthers sold for $235, while the rimfire versions cost $15 more.

Even though the Walther PPK/S and PP .22's are hard on the pocketbook, they certainly deserve consideration if you're looking for a top-quality pocket pistol. And as these guns are appreciating at a surprising rate each year, you could even look upon their purchase as a solid investment. Let's face it, they've got to give you more pleasure than a handful of stocks or bonds.

TEST REPORT: THE MAXI-MOUNT

(Continued from page 53)

page, is lightweight and good looking.

Prototype #1 was a bastardized combination of my ring suggestion and his mounting system. It did work, but was big and ugly.

Four versions later and the T/C Maxi-Mount was finalized. Like the Maxi-Mount for the Auto Mags, it is of one piece construction. It is machined from one piece of high tensile strength aluminum alloy. Each ring is .750 inches wide providing a fantastic hold on the scope without "glass-breaking" pressures on the scope tube.

The underside of the base is curved to fit the top of T/C barrels. Four hex head industrial screws with recesses for their washers angle into the mount from the bottom sides.

Four recesses (earlobes) are machined into the sides of the T/C barrel and match up with the mount itself. The mount is placed on top of the barrel and the hex head screws tightened. The four washers

engage their recesses in the mount and barrel firmly bridging and gripping both of them. Pressure of the screws pull the mount and barrel together and the washers lock them in place.

To remove, simply loosen the four screws and the mount comes off. To replace, set the mount on the barrel and tighten the screws. It goes right back into place and it is not necessary to sight in again. In fact, I found it possible to write down the scope settings on one barrel, transfer the scope to another, then back to the original, dial in the original settings and be right on target.

Obviously, some individuals will be concerned with weakening the T/C barrels by cutting the "earlobes" in them. The weakest point of the T/C barrel is its thinnest point. That is between the chamber wall and the bottom of the sight screw holes. This chamber wall thickness varies from caliber to caliber. Generally the holes run about .100 inches deep. The depth of the "earlobe" on my barrels runs about .080 inches deep. The chamber wall thickness of my .357 Herrett is .194 inches less .101 inches sight screw hole depth or minimum wall thickness of .093 inches. One of my Auto Mag barrels is drilled to within .030 over the chamber and has never given any trouble.

My personal, and most of the original, testing of the Maxi-Mounts have been in .357 and .44 Auto Mag, .22 K Hornet, .256 Winchester, .25-.35 Winchester, .30 Herrett, .30-.30 Winchester, .357 Herrett, .357/.44 and .44 magnum.

I would estimate at least 3500 rounds were fired before Jim decided to make the Maxi-Mount available to the public. In all of this testing, not one problem occurred with the final version of the mounts. I shot the .44 Auto Mag and .44 Magnum T/C until I was sure the scopes were going to come apart but they stayed together too.

The Maxi-Mount does have a couple of disadvantages. One, the barrel assembly or barrel must be sent to Herringshaw for installation. (No legal problems here—Don't send the frame.) He will sell mounts to individuals he thinks are qualified to install them but you are going to have to talk him into it. Two, in the case of the T/Cs the top corner on both sides of the frame must be filed off to give clearance to the mount screws so the gun will open properly. Anyone can do this with a file and it does not impair the gun in any way. (Round head hex head screws haven't proven satisfactory.)

Price of the T/C Maxi-Mount is $45.00 plus $15.00 per barrel installation. The installation fee is quite reasonable considering quite a few machine shops and gunsmiths charge 4-5 bucks just to drill and tap one hole.

Maxi-Mounts can be installed on practically any handgun. I suspect target shooters will find them invaluable but at present Jim will only consider making and mounting them on a custom basis for

other guns if time allows.

Scoped long range handguns are quite interesting and effective. They aren't quite as good as a machine rest for load development but they are much more effective for this purpose than iron sights. In the field, they excell on varmints and are certainly useful in open country deer hunting.

The accuracy of a good scoped gun with good ammo is astounding. In the last two years I've killed over two dozen groundhogs in excess of two hundred yards with scoped handguns. Under excellent conditions, many handguns will shoot one inch or less 100 yard groups from a bench rest. On the detrimental side, they are more difficult to find holsters for and carry in the field.

Powerwise, gun, ammo, and people combinations are available that under good conditions, would put a standing deer in a heap of trouble at 200-250 yards. These conditions don't occur in the field very often, but do crop up occasionally.

In any event, Jim Herringshaw's Maxi-Mount is the best way to mount a M-8-2X on an Auto Mag or T/C that I know of. They can be obtained from Maxi-Mount, 354 South Hambden, Chardon, Ohio 44024.

THE STORY OF COLT'S COMMANDERS

(Continued from page 35)

sure didn't dissuade any of us!"

The independent combat pistolsmiths themselves perceived the Combat Commander as a killing stroke to their efforts from the hands of big business. "I'm giving up my .45 auto work," one 'smith told me dismally in early '71. "The Combat Commander sells for the same as the basic Government Model before I even start to cut it down. How can I compete against that?"

Predictions of doom to the contrary, the auto-oriented pistolsmiths continued to flourish. Orders for safety, trigger, S&W sights, slide-release, and other custom changes, poured in even faster. The only difference was that now, many of the 'smiths found themselves starting out with a customer's Combat Commander instead of his Government Model or surplus 1911A1.

There are many .45 auto aficionadoes who scorn the Combat Commander. Their reasoning is that it has neither the light weight of the original Commander nor the accuracy of the Mk. IV. It comprises, they say, the worst of both worlds instead of the best.

I don't know about that. One of the appeals of the Commander, both in steel and in aluminum, has always been that it's a handsome gun, proportionate in its dimensions, and not over-long in the slide as many see the standard model. .45s will point low in many peoples' hands, and since the shorter gun's point of balance is more rearward, a number of shooters find its handling better and more instinctive than with the full-size Model O.

Where the Commander was a classic in terms of engineering and design, the Combat Commander was a contemporary triumph in handgun marketing, a great success among buyers because of its excellent balance in both feel and appearance.

In terms of concealment, the difference in length between Combat Commander and GM is insignificant. If you carry either gun in a shoulder holster or inside the belt, the GM won't bulge any more than the Commander; if you wear an outside the belt scabbard, a windbreaker won't completely cover either gun, and a sport jacket or suitcoat will conceal both. The real cause of bulge when you carry a full size auto is in the grip, and a Commander's handle has the exact same dimensions as a Government Model's, except that the plastic grips make it very slightly flatter.

Accuracy? Autos of this size are always accuracy-sensitive to barrel shortening, and the Commanders are no exception. They do, however, group at least as well, by and large, as GI-surplus .45 autos, and often equal pre-'70 commercial full size guns in this respect. They won't, however, approach the grouping ability of a Mark IV with its collet-type barrel bushing.

The question, of course, is whether you *need* that kind of accuracy. For most combat work, the Commander in steel *or* aluminum will deliver all the precision you'll need.

To couple Mark IV accuracy with Commander compactness, many readers speculate, couldn't the collet bushing be made standard on the latter gun? Colt experts at the factory give different answers. Harold Waterman, head of Product Engineering, sees no reason it couldn't be adapted; he simply doesn't think the buyer who opts for one of the Commanders is that concerned with accuracy. On the other hand, people like Ralph Kennedy, who left Colt's for High Standard after designing the Mark IV bushing, is convinced that it won't integrate with the shorter gun. Barrel oscillation patterns are slightly different from the stubbier auto, and Kennedy's extensive tests convinced him that the "fingers" of the bushing simply couldn't maintain a proper grip on a pistol with barrel less than 5" long.

The Combat Commander had been a part of the Series Seventy project, which involved nearly two years of research and test work on the collet bushing alone, and Kennedy, a senior project engineer, found that in the Commander configuration, the

bushing couldn't lock positively with the slide.

Bar-Sto makes a stainless steel collet bushing kit that is almost identical to the Mk. IV unit, and they have a version that goes on the Commander. Reports from the field are mixed; the general consensus seems to be that while the Bar-Sto bushing will often improve Commander accuracy somewhat, it doesn't bring the gun up to the performance of either a Bar-Sto-equipped full-size .45, or a stock Mk. IV.

Apparently, the gun buying public is happy with the Combat Commander; a lot of cops are going with this gun also, though departments that issue .45s usually select the Mk. IV since compactness is not a factor in the choice of a uniform duty gun. But whether or not the Combat Commander is a bastard with the worst of both breeds, it's got *something:* in the seven years it has been available, the all-steel combat version has sold more than four times as many units as the lightweight Commander has in its 27 years of existence. There were, as of February '77, 28,901 alloy Commanders out. By contrast, Combat Commanders with the BF (for blue finish) serial numbers are almost in the 53,000 serial number range, after starting with number 1,001. The sharp looking satin white Combats (with serial designation SC) are well over 50,000. Lightweight Commanders, incidentally, had the serial suffix LW from 1949 to '59 or '60, at which time the designation was changed to CLW. One may also note that while a typical Combat Commander serial number might include the letters 70SC, to denote the finish and the year of introduction, the legend "Series '70" is not printed on the slide as it is with the Government Model and Gold Cup Mark IV's.

Both Commanders have their places as superbly functional sidearms. The lightweight version suffers from an unfair reputation for vicious recoil; it is not that much sharper than the steel-frame guns, and certainly (in mid-caliber chamberings) no more violent than the light-framed model 39, about which there is no such image of uncontrollability. Like all aluminum-frame guns, the Commander tends to lose its bluing quickly in the frame area and is a bitch to re-finish and match to the steel parts. Jeff Cooper started the trend to simply polishing the frame white (since it's not going to rust out on your anyway, being aluminum). The result is a striking, attention-catching two-tone pistol.

Frame breakages have occasionally been reported in torture tests of the light Commander, though these involve many thousands of full power or stronger loads. This has led to the widespread belief that the aluminum gun won't stand up. While it won't take the continued battering an experimenting handloader or active free-style combat shooter might give it, the average policeman or civilian should be able to practice regularly with full power ammo and not beat the gun to death. Still, light-kicking ammo is a good idea, not only to save wear and tear on the pistol but to prevent magnified recoil due to the reduction in kick-absorbing weight. A 185-grain jacketed hollowpoint in the 900-950 FPS range is an excellent choice for the light Commander; anti-personnel and game shooting performance is extraordinary in this format, yet it makes a Commander LW kick about the same as a GM with 230-grain hardball. Available first from Remington, this superb load has recently been duplicated by Federal.

One should, however, avoid semiwadcutter midrange .45 target loads. These often won't generate enough power to cycle the action with standard mainspring, and because of the different length of the gun, a regular "softball" mainspring may still be too long. The spring will probably have to be cut to fit. In a gun like either of the Commanders—a piece built for serious work instead of formal target shooting—swapping hardball with softball springs is a bad idea. Leave the wrong one in when you're done practicing, and you can either beat the gun to death or set the stage for a malfunction when you use the opposite kind of ammo later. The Commanders are best fed on standard but not max loads.

The Colt Commanders, be they in steel or aluminum, are landmark weapons for both shooters and students of firearms engineering and design. Their popularity is well deserved on all counts.

They'll be with us for many more decades.

THIS THING CALLED HOGAN'S ALLEY

(Continued from page 33)

"run" in either direction at varying speeds, as determined by the rangemaster.

The moving mannikins obviously operate on an electric rail, and their speed and direction of movement is easily controlled with one hand by employment of a rheostat, while the rangemaster can use his other hand to operate the devices that control voices, sounds and flashes of shots fired, and the pop-up targets.

The pop-up targets weren't working well at first until Newell and a few other officers did some off-duty brainstorming and devised a two-part metal frame, each capable of holding a mannikin at right angles to the other, so that as one target was "shot down" another could appear in its place, or both could disappear, behind concealment points on the course.

The officers, none of whom were engi-

neers, carpenters or machinists, built the moving parts, the unseen mechanisms of the range, in their spare time, and Newell brags of this. "They were just working police officers, nothing more," he said, "but they built a pretty good range." And, using scrounged lumber and discarded electric motors, they built a range that some experts said might otherwise cost $80,000 for about one-tenth of that amount.

The Practical Combat Range can be a busy place at night, which is when it can be used most effectively, as the darkness duplicates, more than in daytime, the fire-fight situations in the field and also brings a sense of urgency and added realism because it better disguises the fact that this is a range rather than a field situation. Usually a field team from one of the police divisions (precincts) will use the range at night, and this training experience will last from three to five hours. Newell explained that a field team consists of a lieutenant, two or three sergeants, and 40 police officers, and that it takes about a half-hour to run five people individually through the range.

"Each part of the range is designed to illustrate a common problem," Newell said, "and all officers are trained and tested to deal with these problems."

But the beauty of this type range is in its versatility, specifically, its capability of being employed to explore new fire-fight problems and to test ways of responding to these problems.

"We can and often have duplicated street shootings within a day or two of their occurrence," Newell said, "in order to try to determine if there might have been better ways of having handled the situation. Whatever we learn, whether we come up with a better way or determine that the officer handled it in the best way or in one of the best ways, we pass it on for possible incorporation in Academy training or in ongoing training at the various division headquarters."

Thus, research and development are other areas in which the range serves, and operating in conjunction with it is an awesome electronics audio-visual simulation experience in which the officer is totally involved in a burglary situation. He enters a darkened room, facing a large, curved wall that serves as a tremendously oversized television screen.

Standing in place with revolver drawn, the officer experiences himself moving into a large warehouse some time at night, and this experience of movement and everything else setting the scene is accomplished by sound and by the visual effect on the screen. He gets some brief and hurried instructions from the officer who was first on the scene, and then he again is on his own. He hears the sound of traffic outside, other sounds inside the warehouse, and then he discerns a figure. . . .

The figure approaches, and it could be a suspect, and as it approaches he sees it is a suspect. There is a noise some distance behind the suspect, and the other officer appears. The suspect whirls and seems to have something in his hand. The officer wonders should he shoot or call out, and as he is thinking this, the other officer fires and the suspect falls.

Then the lights come on, and the officer is given a televised playback, only what he or she sees is not what was seen originally, but the officer sees himself in action, along with what else took place on the screen, and, if he had fired, sees whether or not he had hit his target. It is an overwhelming experience.

This writer went through the experience without a handgun, and though standing still, could feel his muscles reacting as if he were walking through the warehouse, and as if he were actually holding a weapon. The truth is, the writer was the "officer" described above and had felt somewhat chagrined in acknowledging that he would have been of no help whatsoever in protecting the other officer during that one or two-second event.

Newell said this electronic marvel was put together as a result of a Law Enforcement Assistance Act grant, and that he could use about $250,000 to develop other shooting simulation films, ideally, developing a variety of them from 1 to 10 of increasing complexity and four deep (different versions) on the 1 to 10 listing.

However, he expects funding from the City for a lesser amount and with it he hopes to produce another burglary situation, an armed robbery with multiple suspects, and a major family dispute.

In the last, the dispute is initially handled through the officer's negotiating between the spouses, and this develops into an arrest situation as one of the disputants becomes belligerant and threatening, and then into an even more difficult situation as the officer finds himself arresting one and fighting off the mate. Other films are

METALLIC SILHOUETTE

Throughout the summer, namely May 28-29, July 2-3 and August 13-14, a series of classification matches were held by the International Handgun Metallic Silhouette Association. These matches are the prelude to the 1977 Eastern Regional Championships to be held September 3-4, 1977.

These matches, sponsored by the Massachusetts Chapter of the American Big Game Handgunners Assoc., will be held at the Massachusetts National Guard Training Center in Reading, Mass.

For information as a spectator or shooter, contact: Massachusetts Magnum Chapter, P.O. Box 53, Medford, MA 02155.

in the planning stage, to be produced as funding becomes available.

Thus, what it all boils down to, the bottom line, if you must, is the training of officers to function effectively in stressful situations, and where a decision to fire has to be made, whether the officer is attempting to stop a suspect or seeking to save his own or his partner's life, the officer must be in as full control of himself as possible in order to make the correct decision and then carry it out.

The Practical Combat Range and the specially designed participation film experiences are ways in which officers can prepare themselves for those crucial moments of decision, and if they think in terms of going down Hogan's Alley, as one young police sergeant told me they do, rather than in terms of undergoing a training exercise, well, who can blame them.

THE ASTRA .357 MAGNUM

(Continued from page 55)

strap is good in comparison to others that I've seen.

The hammer is of the target-type with a fairly wide spur and a standard width, grooved trigger. The Astra also incorporates a spring-loaded, floating firing pin along with an internal safety bar for additional safety against discharge if accidently dropped. I removed the side-plate to see what made the gun tick, finding an action that is very American in design with European touches included.

The cylinder is recessed (counteredbored) to fully enclose the head of the cartridge. To some this may be unimportant, but I prefer to have the cylinder counterbored as the case is given that extra margin of support by its presence. The 40,000 c.u.p. working pressure of the .357 Mag. is nothing to sneeze at, and if a case were to let go, that extra bit of metal around the cartridge head just might save a person from excessive injury. I'm sure that some will disagree on this point, but in my opinion, it is a little safer.

It has become a routine or habit of mine to check any wheelgun I receive for testing for cylinder play in relation to lockup. I checked the Astra after first receiving it and again after firing approximately 300 rounds of hot handloads through it. In both instances it was within normal limits, with no signs of premature loosening.

Single action trigger pull broke at a rather heavy 80 ounces with no noticeable creep. Although I didn't measure double action pull, it too was heavy. This problem is present in a good many of the handguns, both foreign and domestic. There is no doubt a safety factor involved, but the problem could be improved to an extent by the manufacturers.

The most unique feature of the Astra revolver is a four-stage adjustment to control spring tension on the hammer. This is accomplished by means of a regulating ring having four recess depths around its circumference. The ring is positioned in the bottom of the frame, closest to the butt. It is retained by the hammer spring being seated in one of the recesses and compressed enough to seat itself on the lip of the hammer strut. The spring's tension holds the strut against the hammer and likewise holds the regulating ring in place. By merely rotating the ring to the desired recess depth and placing the spring in it the amount of tension on the hammer may be increased or decreased. Switch the ring from its most shallow recess to its deepest will noticeably decrease the speed & force with which the hammer falls.

After looking the gun over and becoming familiar with it, I packed it up along with the usual shooting accessories and headed for the shooting range. I zeroed the Astra in to strike at the point of aim and with this accomplished began to shoot for group. The first of those handloads tested was the load that I've used for groundhog hunting for a good many years. The Sierra 125 gr. jacketed hollow cavity backed with 21.5 grs. of WW-296 ball powder grouped at 1⅞" for five shots. Switching to the Speer 140 gr. bullet with 20.0 grs. of WW-296 yielded a 2" five-shot group. These loads are maximum and should be used with discretion. They are not for plinking or general target shooting. A steady diet will surely accelerate wear and tear of any .357 revolver. They are extremely accurate in most .357s and deliver the safest, highest velocity. I also used a 150 gr. semi-wadcutter bullet cast from a fairly hard alloy of lead and wheelweights along with a 13.0 gr. charge of WW-630. Four shots went into 2¼ inches with the fifth being called as a pull. If any of the above mentioned loads are used it would be wise to reduce the initial powder charge by 10-15% and work up to the maximum charges listed gradually. The Astra handled all loads mentioned with no signs of excessive pressure. As can be seen, the accuracy of the Astra,

with the handloads used, was fairly good. No doubt that my sighting error and squeeze influenced group size somewhat as did the 80 ounce S.A. trigger pull and rather short sighting plane of the four-inch barrel. Recoil with the loads used was moderately heavy with the 38 ounce gun, but in my opinion wouldn't affect accuracy to any great extent. A bit of experimenting with load combinations would most probably produce better accuracy from the revolver.

Summing it up, the Astra is a decently made handgun, suitable for a variety of uses. Retail at the time of writing is an even $200.00 and is available at or may be ordered from your local gunshop. The Astra is imported by Firearms International, a division of the Garcia Corporation. For more information on the Astra write: The Garcia Corp., 17801 Indian Head Highway, Accokeek, Maryland 20607.

THE COLT .45 AUTOS

(Continued from page 40)

comparable size and power, it delivers equal or better accuracy in straight production form. And, when subjected to the tender ministrations of an expert pistolsmith in the name of "accurizing," the .45 auto can be persuaded to deliver amazingly small 10-shot groups while still retaining a very high degree of functional reliability. Carefully-tuned .45 autos commonly produce accuracy on the order of 1 to 1½ inch groups at 50 yards while maintaining functional reliability and giving away not the tiniest bit of their durability. I have yet to see any of the big .45's contemporary designs (or more recent ones, for that matter) which can be mechanically persuaded to deliver that degree of accuracy and yet maintain even the most mediocre level of reliability. To be sure, the achievement of such performance levels require a very high order of skill on the part of the pistolsmith, and the expenditure of considerable time and money. Yet, if Colt and Browning had designed and developed less well (knowingly or otherwise) the potential for such performance simply would not exist and that performance could not be extracted. If anyone doubts these words, all he need do to make me eat them is to show me a Walther, Mauser, Astra, Parabellum, Radom, etc., which can match the accomplishments so many of us have seen in the Colt/Browning .45 Auto.

ONE MAN'S HIDE-OUT .45

(Continued from page 25)

for feed and function. The ammo used in testing included G.I. and Winchester hard ball, Speer 225 gr. Jacketed H.P. backed by a stiff load of 700X, the fine Adams 200 gr. lead bullet pushed by 4.7 gr. of 700X and the Hensley and Gibbs #68 200 gr. lead bullet backed by a variety of target loads of Bullseye and 700X. The little pistol functioned perfectly with all of the heavier loads, but it would not eject the cases of 3.4 gr. Bullseye target loads, an admittedly timid loading.

The pistol is quite controllable, using the two handed combat grip, even in rapid fire. One thing I noticed was that the short barrel on the small pistol gave what seemed to be a much louder muzzle blast than did the 5" barreled Government Model 45, especially when shooting the full charge hardball.

I have been asked a number of times what I plan to do with my design. Am I going into production, or will I gunsmith other people's 1911 autos? Neither, the design and modification of hand guns is a hobby for me and if I were to make a business of it, it would become work and no longer have the enjoyment it now has.

What I have described in these pages is my own solution to a hypothetical design problem and I had a ball doing the work, and you might, also!

Pencil points to loaded magazine indicator.

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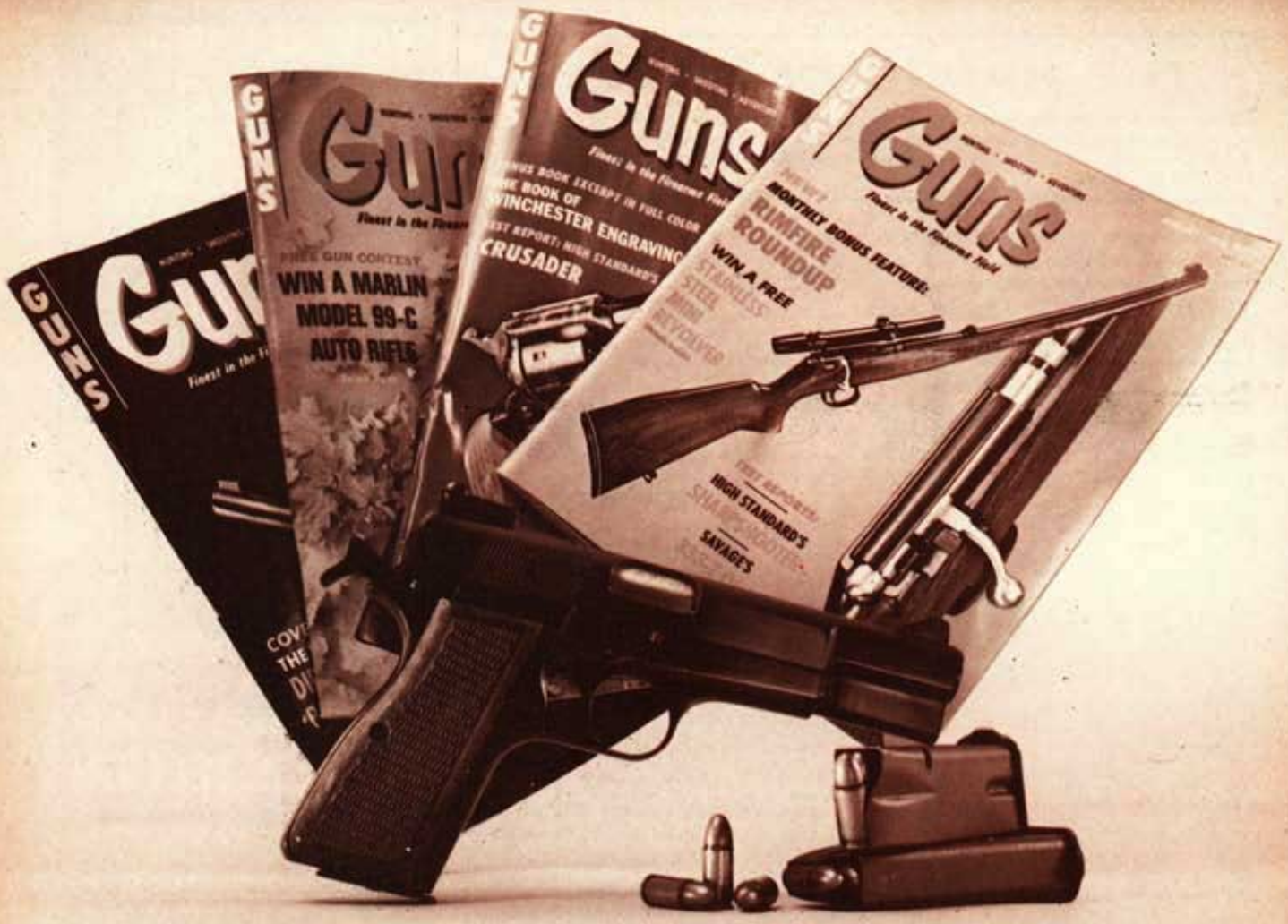

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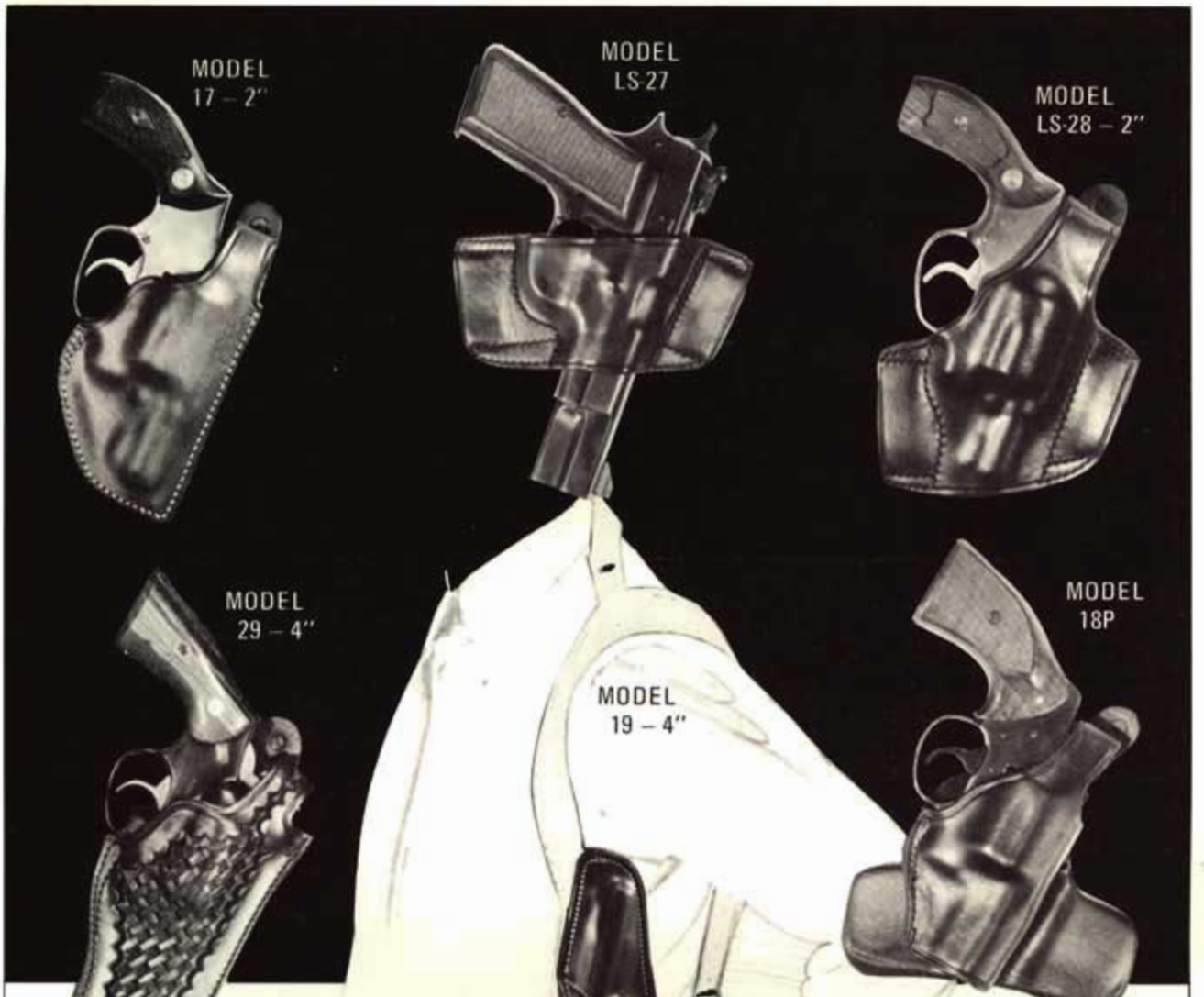

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