The Care & Feeding of the Auto-Mag

BY J. D. JONES
HANDGUN EDITOR

AMP – Auto Mag Pistol – synonymous with power, accuracy, quality workmanship and prestige.

Harry Sanford, a long time handgun enthusiast with a score or more design innovations to his credit, fathered the Auto Mag as strictly an advanced handgun hunter's sporting arm. Harry created it out of stainless steel for openers; every part of the AMP, except the grips, is crafted from stainless.

Design-wise, the AMP is a semiautomatic, short recoil operated, rotary bolt, magazine fed handgun. No conventional slotted head screws are used in its construction. Few screws are used and those present are hex head and require 3/32" and 5/64" hex head wrenches to remove or reinstall. Those wrenches shipped with each AMP are also made of stainless steel.

Operational sequence of the AMP is as follows:

With a loaded magazine in place, the bolt travels forward between the lips. The lower edge of the bolt strips a loaded round from the magazine, pushing it forward up the feed ramp and into the chamber. The round is fully chambered when the bolt has completed its forward motion relative to the barrel and extension assembly. The cocking piece, affixed to the rear of the bolt, contacts the rear of the barrel extension.

The bolt and cocking piece, in conjunction with the barrel and extension assembly, move forward as a group. During the last part of forward motion, the internal camming surface of the bolt contacts the bolt rotation pin. Assisted by the bolt rotation spring, the bolt rotates until its six locking lugs are fully







From top left: L.E.I. Model 100 .357 Auto Mag #005 as shipped in the Gun House case. Note the laminated grips. Field stripped, the AMP reveals its major component parts. Ordinary cleaning does not require further disassembly.

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engaged in their recesses in the barrel and extension assembly. The forward motion of all parts is stopped by the barrel latch. All of the above must be completed before the pistol will fire. If the bolt is not fully forward and locked in the breech, the bolt safety tappet will not be in proper position and the pistol will not fire.

Pulling the trigger releases the hammer, which in turn strikes the inertia type firing pin, causing it to strike the primer. The firing pin spring expands and withdraws the tip of the firing pin into the bolt.

Firing the cartridge produces gas pressure on the base of the bullet to propel it forward. The reaction to this forward motion is recoil. The barrel and extension assembly, bolt and cocking piece weigh much more than the bullet; therefore, their inertia and the resistance of the recoil springs must be overcome before they start moving rearward. The bullet leaves the barrel before unlocking begins. Unlocking is accomplished by engagement of a camming surface of the bolt with the bolt rotation pin. The unlocked bolt and cocking piece travel a short distance further in conjunction with the barrel and extension assembly. An accelerator then contacts a special locking lug of the bolt and cocking piece assembly and thrusts them sharply rearward. The rearward motion of the barrel and assembly is then stopped. The extractor pulls the case free of the chamber, and rearward until it is aligned with the ejection port. A spring loaded plunger strikes the case opposite the extractor claw and the extractor claw becomes a pivot point. The empty case is ejected through the ejection port. As the bolt and cocking piece move rearward in recoil, the hammer is cocked. After rearward motion of the entire assembly is completed, the recoil springs expand causing the feeding and locking cycle to occur again.

Understanding the basic function of the AMP is essential to having a long and happy association with it.

Ammo For The AMP

The AMP was originally introduced in .44 AMP caliber. Necking the .44 AMP case to accept .355-357 bullets was a logical next step. Original cases were made from .308 head size cartridges and were strictly a wildcat proposition. The work required to convert rifle cases to handgun cases is considerable and requires extreme dedication on the part of the handloader to stick with it long enough to obtain a worthwhile supply of cases. In addition, the internal capacity of .308-.30-06 cases vary greatly and loading data is certainly not interchangeable from case lot to lot.

C.D.M. (Remington of Mexico, I understand) came to the rescue with a considerable amount of loaded .44 AMP ammo and *mucho* brass. I've never fired a round of C.D.M. ammo, but reports from several sources have been uniformly critical of its quality. Rims of the brass vary considerably – to the extent I've discarded using the .308-06 shell holder since I found that shell holders for the .41 Magnum case work much better. Forming .357 AMP brass from .44 AMP brass is as simple as any full length sizing operation. Trimming to a length of 1.295" is required after forming. R.C.B.S. makes dies of superior quality for AMP calibers. Actually loading the ammunition is no more difficult than loading for any other cartridge. As only a limited amount of loading data is available and each AMP is practically a hand crafted item, a certain degree of caution must be exercised if everything is to work properly.

For example, hammer fall is not heavy enough to reliably ignite rifle primers so magnum pistol primers are recommended. The .357 AMP headspaces on its shoulder – and locking of the bolt occurs with the round fully enclosed by the bolt and chamber. Cartridges must be sized enough to prevent binding or failures to close will result. If your shellholder-die combination will not resize the case enough to allow reliable locking, it may be necessary to face off the shellholder or die .005" at a time until the case is properly resized. Case headspace should be adjusted so the bolt snaps shut briskly. Manufacturing tolerances exist in chambers, shellholders and dies. A combination that will not permit reliable functioning will require tuning. Excessive resizing will result in excessive pressure indications and lousy accuracy. This same situation exists in reloading for semi-automatic rifles. Case length of the .44 AMP should be controlled as the .44 headspaces off the end of the case as does the .45 A.C.P. and too long a case will not allow complete locking of the mechanism and malfunction will result.

The AMP locking system would handle much higher pressures in a bolt action (and be perfectly happy with them) than it will take in the semi-auto system. The range of permissable pressures and recoil impulse is critical for proper functioning.

Ammo/Action Balance

A precise balance must be maintained between ammunition and action. I know of no way to load an 80 grain bullet in the .357 AMP that will generate a recoil impulse to function the gun semi-automatically, although velocities approaching 3,000 feet per second can be attained with the 10" barrel length. In the three .357 AMP's that I use, 110 grain bullets are marginal for 100% reliability; 125 through 140 grainers work O.K., while 158 grain bullets require excessively deep seating but work O.K. Overall length of the loaded round is critical. The Speer 140 grain jacketed soft point round nose will work through the magazine at an overall length of 1.600". Many bullets with a flat nose configuration must be seated to a maximum overall length of 1.500" or the squared nose of the bullet will drag inside the magazine.

Generally, the action will not open if the load is too light, but as the powder charge is increased to optimum, proper functioning occurs. Further increasing the powder charge results in the action slowing down as the case does not have time to spring back from the chamber walls as gas pressure drops. Malfunctions then occur again. Increasing the powder charge simply increases the problem. When the action attempts to extract the fired case from the chamber while the case is still pressed against the chamber wall by excessive residual gas pressure, the extractor merely rips a section of the rim off leaving the case firmly lodged in the chamber.

Bullets must be securely seated in the case neck to prevent them from receeding inside the case as they strike the feed ramp in loading and to provide slightly better ignition of slow burning powders than could be achieved with relatively loose fitting bullets. In the .357 AMP, the expander plug should be ground down to .352-3" diameter. Bul-

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lets from .335-.357" can be used and still provide proper neck tension.

Like most auto-pistols, the AMP operates best with what is normally considered a full service load. Mid-Range loads can be used, but require manual functioning of the pistol. Normally, heavy magnum loads generate much more pressure in revolvers than the average autoloader can take. The maximum pressure generated by commerical .45 ACP ammo runs around 17,000-20,000 C.U.P. (copper units of pressure). Maximum allowable pressures for the 9MM and .38 Super rounds are in the low thirties. Modern rifle rounds' maximum average pressure are around 55,000 C.U.P. The Auto-Mag has a rifle type action and the .357 AMP operates properly with medium weight bullets at pressures from around 45,000-49,000 C.U.P. This pressure range with medium weight bullets and relatively slow burning powders such as WW296 and H110 seem to provide an optimum recoil impulse and the most reliability.

Velocities with the 137 grain Super Vel and 140 grain Speer run around 1900-1950 fps from a 6½" barrel. These lighter bullets can be driven somewhat faster and provide a more effective varmint round than the heavier bullets. The 125 grain Super Vel H.P. is good if you only load a couple of rounds in the magazine because the recoil of several shots reduces the nose of this bullet, when in the magazine, to an unsatisfactory condition. Switching to Sierra's 115 grain 9MM H.P. eliminates the nose deformity problem. Speer's 125 grain soft point seems to hold together a bit better at impact than other bullets in this weight range, and would probably do a much better job on deer than the other lightweights.

Accuracy Tops

Accuracy-wise, the AMP in either caliber is in a class by itself. Long range shooting is the true test of any handgun and ammo combination and the AMP is second to none. Kent Lomont (Lomont Precision Bullets, 4421 S. Wayne Ave., Fort Wayne, IN 46807) has probably done more shooting with the AMP than any man alive. Kent has worked out a way to mount the Leupold M8-2X on the AMP and reports accuracy of under 3" at 100 yards using both calibers with proper loads – and I don't mean mid-range loads either. Kent says the Leupold will hang in there for about 100 rounds of .357 AMP ammo before the reticle shoots loose. Kent mounts the scope to the rib and barrel extension assembly, which causes it to move rear-

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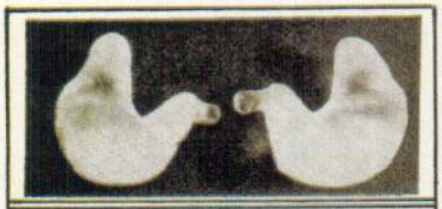


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ward in recoil almost a half inch and then come to a sudden positive stop. Hence, the short life of a scope that will take 20-30,000 rounds from a .44 magnum revolver. As the recoil of the .44 AMP is almost twice that of the .357 AMP, Kent doesn't recommend scoping the .44.

The LEJ Series

The AMP has only been around about three years and less than 10,000 guns have been manufactured. The more interesting ones to come along are those Lee Jurras, president of Super Vel had made up. One hundred each of this special model, the Custom 100, LEJ were made in .357 and .44 AMP. Custom finished, custom laminated grips, Mag-Na-Ported, packed in a Gun-Ho case, numbered LEJ001 through 100 in .357 AMP and LEJ1X through 100X in .44 AMP, they offer the ultimate to a serious handgunner. Originally selling early in 1974 for about five bills a copy, collectors are offering in excess of a grand a piece and are still not able to buy many of them. LEJ005, as shown in some of the photos, just isn't for sale!

Jurras' personal interest in the AMP and the complete Super Vel lab to test guns and ammo, led to the LEJ series and the Club de Auto Mag Internationale, Inc. Open to any Auto Mag owner or enthusiast, the club publishes a monthly newsletter dealing specifically with the AMP. For additional information, write AM, P.O. Box 400, Shelbyville, IN 46176.

Jurras plans to introduce AMP ammo under the Super Vel label, which should sell a lot of Auto-Mags to non-handloaders.

The gun itself is big and heavy and shooting it one handed with any degree of accuracy is difficult. Shooting with two hands changes the situation drastically. The weight then becomes an asset for steady holding. The trigger is adjustable and a satisfactory trigger pull is easily obtained. The sights are fully adjustable with the right hex head wrench and are also made of stainless. Blackening the sights in bright sunlight eliminates any glare. Recoil of the .357 AMP, particularly a Mag-Na-Ported LEJ, is relatively mild. The short recoil rotating bolt action soaks up some of the apparent recoil and any experienced shooter shouldn't have any trouble with it. Carol Yaich, shown shooting the .357 AMP, has fairly small hands, as the photo shows, and isn't bothered by its recoil. The .44 AMP is considerably rougher, particularly with 240 grain bullets. The .357 is a much better choice for anyone who is sensitive to recoil.

Muzzle blast is rough from either caliber. Burning 25+ grains of powder in a .357 results in a flash visable in bright sunlight and a sharp, loud report . . . I have no desire to shoot it without ear protection. The report of the .44 isn't as sharp as the .357, but certainly is loud enough.

The .357 is a better long range gun than the .44. Jurras killed an antelope in New Mexico at slightly over 200 yards with the .357 AMP, and backed it up with a moose in Alaska. Col. Bob Brown, president of Paladin Press, recently took a large wart hog in Mozambique at 65 yards with the .357. Jurras and Col. George Nonte have made an Auto-Mag Safari to Africa to pave the way for a Handgunner's Safari in the summer of '75, for anyone who might be interested. – No beginners please!

There was a time when the future of the Auto-Mag seemed doubtful and production of this intricate specialized handgun will never be simple and mass production in the sense of mass producing automobiles will *never* be achieved; but, Harry Sanford and T.D.E. Corp. are turning them out as fast as possible without sacrificing quality. They are still difficult to obtain, but that situation is getting better. I personally feel the future of the Auto-Mag is going to result in a lot of wheelgun magnums gathering dust. Not too many innovations are cropping up in the old magnum series of cartridges to interest the handloaders and experimenters, while the Auto-Mag offers a fertile field for innovations and experimentation. Advanced over the wheelguns as it is, it's just a first step, as there will also be a .41 AMP around before too long.

So have a go at it, guys!

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