AMT's .40 S&W REPORTS FOR DUTY

Innovative Double-Action-Only Breaks Stainless-Steel Tradition

By Eric Kincel

GUN WORLD's Eric Kincel, left, confers with AMT's Larry Grossman on details of the On Duty prototype. Kincel suggested several changes that will be added to production versions of the new pistol designed for law enforcement applications.

FOR YEARS, AMT — officially known as Arcadia Machine & Tool — has produced large-caliber auto pistols and small-bore rifles. During twenty-some years in the firearms manufacturing business, all AMT pistols have been produced in single-action mode. The makers believed old-style single-actions had a sound place in history and its superior accuracy and reliability were tough to beat. Now AMT has produced its first double-action-only pistol.

Over the years, a number of European and American firearm manufacturers have devoted a lot of time to developing double-action auto pistols. Some of their efforts have been excellent; others were mistakes. In 1929, Carl Walther of Germany developed the successful PP series, which had a comfortable double-action trigger. Walther also tried to incorporate a similar DA trigger assembly into a 9mm military sidearm — the P-38. Unfortunately, the trigger pull proved to be the worst feature of the pistol. Like many shooters, I would prefer the P-38 as a single-action-only auto, doing away with the terrible trigger pull.

Other countries, including communist-bloc nations, also came up with winners and losers. Probably one of the best for a DA/SA auto pistol is the Czechoslovakian CZ-75. The trigger pull is excellent and the pistol is respected by many as the best combat pistol in the world.

A few established U.S. firearm companies developed DA auto pistols of their own. From the Model 39 to the new 4006, Smith & Wesson has been one of the leaders in the American development of double-action pistols. Colt Industries' new DA auto in .45 ACP and 10mm was a long time coming.

Within the past year, a new concept in the development of auto-loading pistols took place: double-action only. The new action is similar in design to the DA mode of certain revolvers. However, felt recoil and quick-sight recovery of DAO are much easier than a revolver. The DAO is ideal for law enforcement officers who want a somewhat recoiless, twelve to sixteen shot revolver in an auto-pistol design.

The first manufacturers to meet the law enforcement demand were Beretta USA and Smith & Wesson. Beretta calls their pistol the 92D, styled after the military M9 or 92SB. Smith & Wesson has a num-

The slide stop goes through the camming cut of the lug at the lower rear of the barrel and controls the locking and unlocking of the action, as discussed in the text on page 52. It is removed in disassembly, replaced at the time of reassembly.

ber of DA-only models. For the 9mm Luger load, S&W built the new 6944 compact auto. In the new .40 S&W load, there's the 4046, with its revolver-like trigger action.

That brings us to AMT and their new double-action-only, auto-loading pistol. In August 1990, while visiting Brian Maynard, the service manager for AMT, I found Larry Grossman hard at work in his office. Grossman is the general manager of AMT/IAI and is responsible for the development of all their firearms, including the Automag series.

I asked whether he had any new ideas for his organization and was handed a slab of metal resembling an auto pistol frame. Extremely lightweight 6061 aluminum, Grossman explained. I noticed the magazine well was rather large and learned the magazine would hold thirteen rounds of .40 S&W. In the machined block of aluminum was a makeshift trigger assembly. There were only three moving parts: the trigger, hammer and trigger bar disconnector in double-action-only mode.

Grossman explained that the pistol was designed primarily for law enforcement. This was the first time in the history of AMT/IAI that aluminum has been a major part of a pistol.

Aluminum was considered for the Automag II, but the company decided to stick with stainless steel, which had become a trademark of sorts. Today, however, law enforcement agencies want a lighter pistol. The Beretta 92 series, Smith & Wesson auto series and most of the SIG-Sauer family have hardened aluminum alloy frames in their law enforcement-style firearms.

The other reason for using aluminum instead of stainless steel, Grossman explained, was the skyrocketing cost of the investment casting process. They planned to use a hard anodizing process on the aluminum frame. Hard-anodized aluminum is one of the hardest surfaces to cut; probably as hard as heat-treated steel. Such a finish, however, provides long surface and strength life. The frame was to be anodized in a black finish, another first for AMT/IAI.

In mid-November, I again visited the factory, where the new pistol was in its finishing stages. The prototype, serial number A00001, was still "in the white." With no exterior finish, it resembled a pistol from the SIG or Smith & Wesson family. But, with a closer look, it was obvious the design and styling were totally new.

The slide boasted smooth lines and a flat top, making it easy to machine. The streamlined styling makes the design ideal for rapid draw from a holster. The ejection port was large enough to handle handloads or factory ammo of virtually any logical length.

At the muzzle end of the slide were two openings. The largest was for the barrel; the other for the recoil rod. The slide also was hollow; no bolt face or extraction system. Grossman told me a block of 174 stainless steel would be pinned into the slide. This block was, in fact, the bolt — firing pin, the firing pin block assembly and the extraction system — machined out of a solid piece of 174 stainless steel and touched off with a black finish.

The sights on the prototype were simple. The rear sight was the standard notched type, adjustable for windage in a dovetail cut. The rear sight also had two white dots, matched to the front sight blade's white dot to complete the three-dot system. The front sight on the prototype was held in place by two posts that were crimped into the slide. Larry Grossman admitted the mounting probably would give him problems if used in the production model. I suggested using a dovetail-mounted front sight. The sight could be adjusted for windage and removed easily for replacement or upgrading.

Another recommendation I made was

The recoil spring rides on a full-length recoil spring guide rod and consists of two wires in rope-like format and coiled to produce the finished unit, visible here.

The cartridge at the top of the magazine is closely aligned with the chamber, as can be seen here. This helps to assure smooth, reliable feeding and you'll note a small feed ramp at the upper front of the magazine well for further improvement.

to put a set of serrated cuts on the forward portion of the slide. When I cycle most autos, I usually grasp the forward section of the slide, as do many other shooters. Almost all custom auto handguns used in international practical shooting-style competitions have serrations on the forward portion of the slide, as well as the rear portion. Some custom combat autos have the serrations only in the front. The day I picked the pistol up for testing, the forward serrations had been added.

The firing pin block hadn't been installed in the prototype received from AMT, but Larry Grossman assured me, "all the production models will have one to insure maximum safety for the shooter."

With the block, the firing pin is in a locked position until pressure is applied to the trigger. When there's enough pressure, the firing pin is free to travel, but the instant a shooter releases the trigger, the firing pin again is placed in a safe or locked position.

The pistol also features another safety, located on the frame just above the grip. On the XP (experimental) model, the thumb-activated safety is located only on the left side. Originally, the pistol wasn't going to have a manual safety, but Harry Sanford, president of AMT/IAI, thought it was needed.

The barrel is machined from 416 stainless steel. The rifling is done on a broaching machine and features a one-in-twelve-inch left-hand twist, six-grooved .40 caliber bore. The chambering block is big enough to withstand hot loads. The feed pattern of the .40 S&W load is directly into the chamber, so there's little to no need for a feed ramp. However, to ensure perfect feed, a small ramp has been machined into the frame.

Machined to the underside of the chambering block is the barrel's camming block. The camming cut in the block determines when the barrel unlocks from the slide during cycling. The slide stop — the pin through the camming cut — controls the barrel's unlocking or locking. As the slide cycles to the rear, the barrel starts its downward motion to an unlocked position. The slide then can cycle freely to the rear, extracting the spent case and loading a fresh round into the chamber.

The pistol's recoil system is an achievement in basic design. The recoil rod is positioned just under the barrel, but within the slide. The recoil spring isn't the standard type used in most autos. It actually is two springs in one. Two wires are woven together, then coiled to produce one main spring.

It must be a great idea, because a number of firearm companies are using this type of recoil spring. The first time I saw

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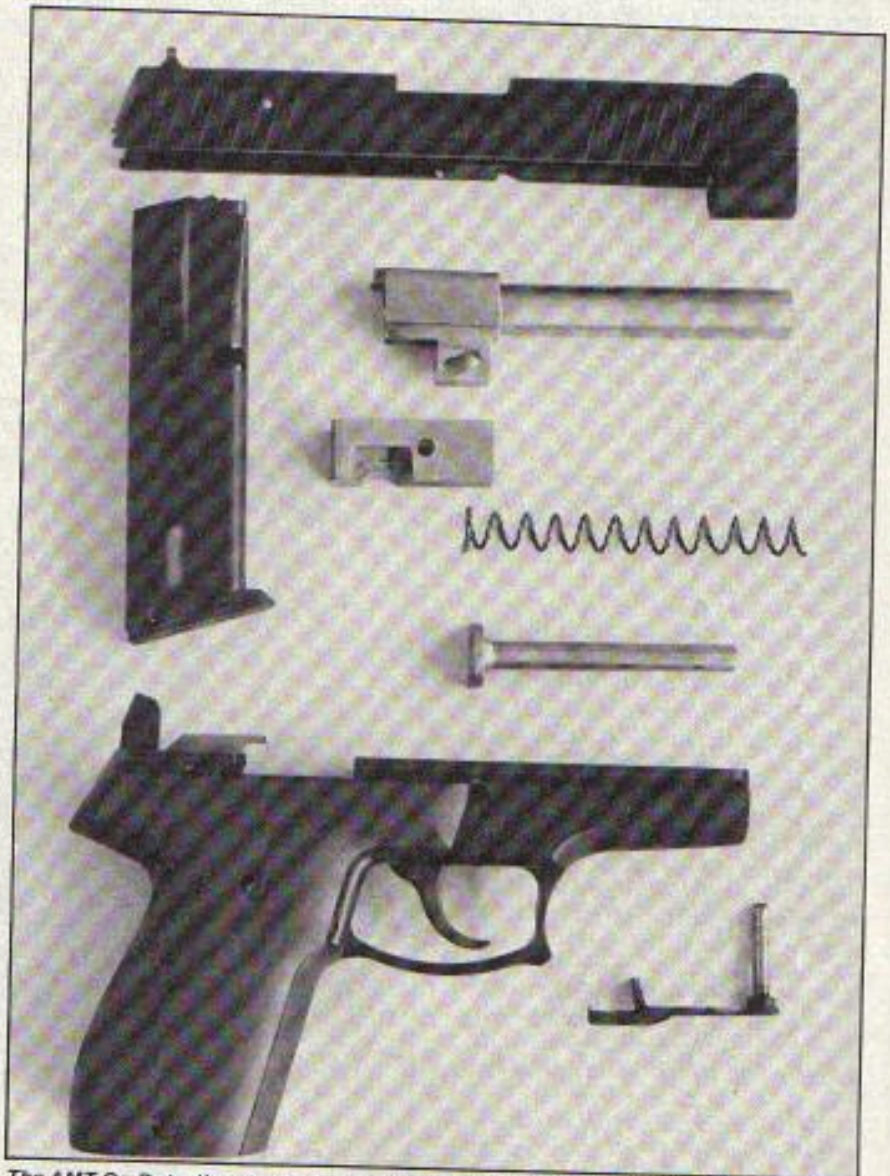

The AMT On Duty disassembles into these eight component parts, with the ejector integrally pinned to the grip frame. The small part to the right of the magazine is the breech block and it also incorporates the extractor, as discussed in the text.

The barrel, slide and recoil spring constitute a basic assembly which is installed on the mating rails of the frame and held in place by the slide stop, as Kincel demonstrates here.

this spring in use was in the trigger assembly of an AK-47. Since then, I have seen the spring in SIG-Sauer handguns, Desert Eagle magnum pistols and the Valmet rifle series. Larry Grossman is extremely pleased with the performance of the spring system and plans to use it in the production piece. In testing the pistol, Dean Grennell compared the diminutive kick of this .40 S&W tack driver to a Colt Commander in 9mmP.

The recoil rod is a standard straight rod with a somewhat rounded head. The head sits flush against the front side of the barrel's camming block. The other end exits the slide just below the muzzle of the barrel. Between the slide and the camming block, the rod and spring slows travel of the slide during firing.

As the barrel cycles to the rear, the slide stop doesn't actually stop the rearward motion of the barrel. This is done by a block in the upper part of the frame. The block's main purpose is to relieve pressure and shock to the frame when the pistol is fired. The slide stop pin sandwiches the barrel camming lug between the two walls of the block. This is meant to afford the pistol longer life without mechanical difficulties. Grossman even designed the block for easy removal when field stripping and cleaning.

The frame will have few if any changes in the final production pieces. However, in examining a blueprint of the planned production piece, I noticed the trigger guard was drawn differently from that of the XP model. The XP had a slight tang on the front of the trigger guard, resembling the styling of an S&W auto. The trigger guard on the blueprint, however, resembles that of the Automag III. The style shown on the blueprint would give the production pistol smoother styling.

Located just in front of the grip, right behind the trigger guard, is an easy-to-use magazine release. Grossman still is working on final design and the pistol may be ambidextrous, depending upon demand. Checkering or serrations on the trigger guard and the front strap of the grip are being considered for maximum gripping.

The SIG-Sauer P-226, fresh out of the box, had a trigger pull of eleven pounds. The Taurus model PT-99 9mmP auto's DA trigger pull is just under 10½ pounds. The AMT auto we tested had a trigger pull of a surprisingly low 7½ pounds — and the production version may have even less trigger pull than the XP!

Like most shooters, I dislike a pistol that slips around in my hand while shooting. I asked Grossman about the design of the grips. He said the production grip would be made of a carbon fiber material — better known as unbreakable plastic. A two-piece system will wrap around the back portion of the frame and will have partial checkering. The grip should feel great in any shooter's hand, big or small.

The first time I saw the pistol, I asked about its name. At the time, that hadn't been decided. The day I picked the pistol up for GUN WORLD testing, there was a name engraved on the slide: *ON DUTY.* At first, I questioned the name, but the more I thought about it, the more I liked it. The pistol is designed for law enforcement and capable of pulling its weight in any likely situation. It also will be produced in 9mmP load and, perhaps, chambered for the 10mm. GW