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STAINLESS STEEL— MODERN GUNMETAL



*Satiny finish
and ease of
maintenance make
stainless steel
today's first
choice!*

The list of gun manufacturers who have added stainless models to their lines seems to grow almost daily, yet it was only a little over a decade ago that the first of the stainless types hit the market in production quantities. There must be a reason for the sudden widespread use of a metal that has been around for a long time. Stainless steels have been known for almost a hundred years and have been available to industry since World War I. Improved and more efficient machine tools account for some of the increased use of stainless in new products, but the principal reason for the recent proliferation of stainless steel handguns is a foundry process known as investment

casting, which reduces the finishing required by cast parts to an absolute minimum. It is largely because of the expensive difficulty in machining stainless steel that this material has not been widely used in firearms in times past.

Stainless steel is an alloy of iron with other elements that impart properties such as corrosion resistance and hardness. All stainless alloys contain rather large amounts of chromium. This is the element that provides most of the rust-resisting quality of stainless steel. Carbon, of course, is an ingredient of all steel. Some of the other elements that commonly may be found in stainless alloys are nickel, vanadium, molybdenum, copper, and sulfur.

In spite of their name, stainless steels are not entirely resistant to corrosion, but they do resist destructive rust and corrosion pitting to an extent unknown in ordinary steels. Examination of the front of the cylinder of a stainless steel revolver after firing a few rounds will disclose the sort of discoloration that may be expected when stainless steel is exposed to highly corrosive substances like hot powder gasses. In general, however, any discoloration will be found only on the surface of the metal and will in no way affect the dimensions or the strength of the part involved.

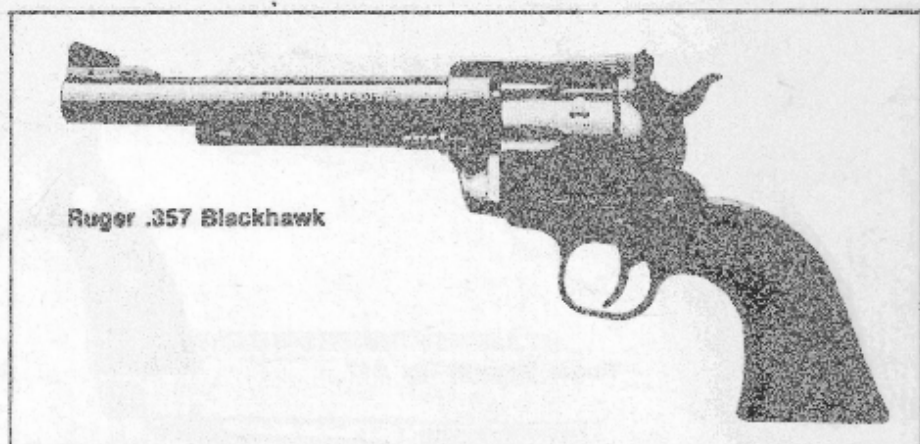
Some of the difficulty encountered in machining stainless steel is due to the "stringiness" of many of these alloys that makes the metal tend to "pile-up" on cutting tools. This causes it to work-harden, which dulls the tools, causes them to chatter and results in deep galling or scratching of the work surface. Even though modern machining techniques have managed to cope with some of these problems, working with stainless steel is still an expensive proposition when compared with the cost of working less exotic steel alloys.

The investment casting process that makes the use of stainless steels competitive with conventional carbon steel alloys is by no means new. It is a method that has been used for literally thou-

sands of years in the manufacture of jewelry, where it is known as the lost-wax process. A model of the article to be cast is rendered in wax in a master mould which may be used to produce any number of wax models. The wax model is then coated with a ceramic substance. After curing, the ceramic mould is fired and hardened. Firing burns out the wax and leaves a near-perfect impression of the model in the ceramic mould. Molten metal is then poured into the mould and allowed to cool. When the ceramic material is chipped away, the casting that remains will need only a bare minimum of finish machining to produce a perfect part. Investment casting may be used in the production of all the parts required to make a pistol. However, in actual practice, it is customary to make barrels and cylinders from bar stock in the old-fashioned way because the strength requirements of these parts are better satisfied through the use of forged steel.

The very qualities that make steel "stainless" also make it difficult to color. While it is impossible to "blue" stainless steel in the conventional ways, there are means by which the surface may be blackened if desired. Black chrome plating may be used, but plating adds to the dimensions of a part and must be done with great care. Certain organic dyes will darken the metal to some extent, but will in no way provide a traditional blued appearance. The gun may be finished with a material such as epoxy or Teflon, but this sort of finish is often easily scratched and soon loses whatever "beauty" it once may have had. The most complex and expensive method of bluing consists of plating with copper, then plating the copper with iron. The iron is subsequently blued in the normal manner. So why bother—there is probably only one thing to do with the finish on a stainless steel pistol, and that is to leave it alone. The only parts of a handgun that definitely should be black are the sights, and black sights are now available on many stainless steel models. Ironically, the black sights that are now in use on many stainless guns are made of ordinary steel (some have aluminum alloy bases), and are subject to just the sort of corrosion that a stainless steel gun is designed to avoid.

There are some disadvantages to be found in the use of stainless steel in firearms. For one, it tends to scratch and dent a bit more easily than a traditional blued surface. However, this is offset by the fact that a scratch or "ding" may be polished out by a little judicious use of crocus cloth or a buffing wheel. Refinishing in this manner is a lot less expensive than re-bluing the entire piece, which would be necessary in refinishing a blued gun that had been marred in the same way. Internal parts made of stainless do not have the



Ruger .357 Blackhawk



Ruger Single-Six Convertible



Freedom Arms Mini-Derringer

Stainless steel SA revolvers range from Ruger's Blackhawk (top), through the Ruger Single-Six Stainless, to the tiny, 4 oz. Freedom Arms Mini-Derringer in .22 LR. Most SA's are field guns, and stainless is tops there.

same smooth hardness as carbon steels. The sear-hammer engagement in a stainless pistol seldom seems to have the crisp, clean break that is expected with hardened carbon steel. Some shooters are bothered by the reflections coming from the shiny stainless surfaces, although this problem is more imagined than real.

The advantages of stainless steel far outweigh the disadvantages in most cases. Stainless steel is the ideal material for a gun to be carried on a boat in salty air or in a fishing tackle box. For police use as a hideout gun that is carried where it may come in contact with perspiration, stainless is a must. A pistol that is subject to lengthy storage, particularly in a humid environment should definitely be made of stainless steel.

The first production revolver to be made entirely from stainless steel was the Smith & Wesson Model 60 Chief's Special. Introduced in 1965, it took a couple of years for enough to be manufactured to achieve any sort of general distribution. Because of its corrosion resistance, the stainless Model 60 was instantly in great demand for use in Viet-

nam where jungle heat and humidity ruined many a good firearm made from regular steel. From this first single offering, Smith & Wesson has greatly expanded their line of stainless revolvers to include Models 63, 64, 65, 66, and 67. Models 60, 64, and 67 are made only in .38 Special caliber. Models 65 and 66 are produced in .357 Magnum.

The latest, and most exciting addition to the S&W stainless line is a stainless version of the highly sought-after Model 29 in .44 Magnum. The M29 is probably the premier hunting revolver around, and the addition of stainless steel should make it an even better bet for field use.

The Smith & Wesson Model 60 is a small frame 5-shot revolver with a 2-inch barrel, rounded butt, and fixed sights. It is intended to be carried concealed in shoulder holster, belt, or pocket. Meant to be a safety feature, the Model 60 comes from the factory with an extremely heavy trigger pull that makes this short 19-ounce gun a bit difficult to shoot accurately at the small target ranges. However, since it is designed to be used strictly as a close



Ruger Security-Six .357



Ruger Service-Six .38



S&W Model 66 .357



S&W Model 629
.44 Magnum

DA revolvers—particularly service guns—have really benefitted from the stainless steel boom. The two Rugers fill a moderate-price duty gun niche, while the new S&W M629 makes a first class hunting tool.

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range defense gun, target shooting qualities are essentially academic.

The Model 63 stainless Kit Gun is also a new addition, and, in .22 Long Rifle, appears to be a first rate small-game getter for campers and hunters. It comes with fine adjustable sights, a 4-inch barrel, and weighs a scant 24½ ounces.

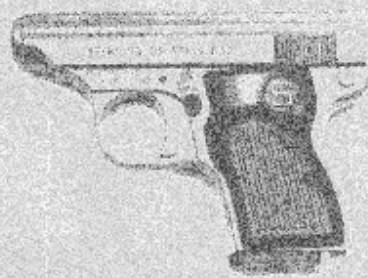
The Model 64 is a service type revolver with fixed sights. Made only in .38 Special caliber, the Model 64 may be had with either a 2-inch barrel with a round butt, or a 4-inch barrel with a square butt.

The Model 65 revolver comes with a 4-inch heavy barrel in .357 Magnum caliber, but it will also handle .38 Special as well. The Model 65 is an up-dated version of the venerable Military and Police model that Smith & Wesson has produced since the turn of the century. Like the original M&P, the Model 65 has fixed sights.

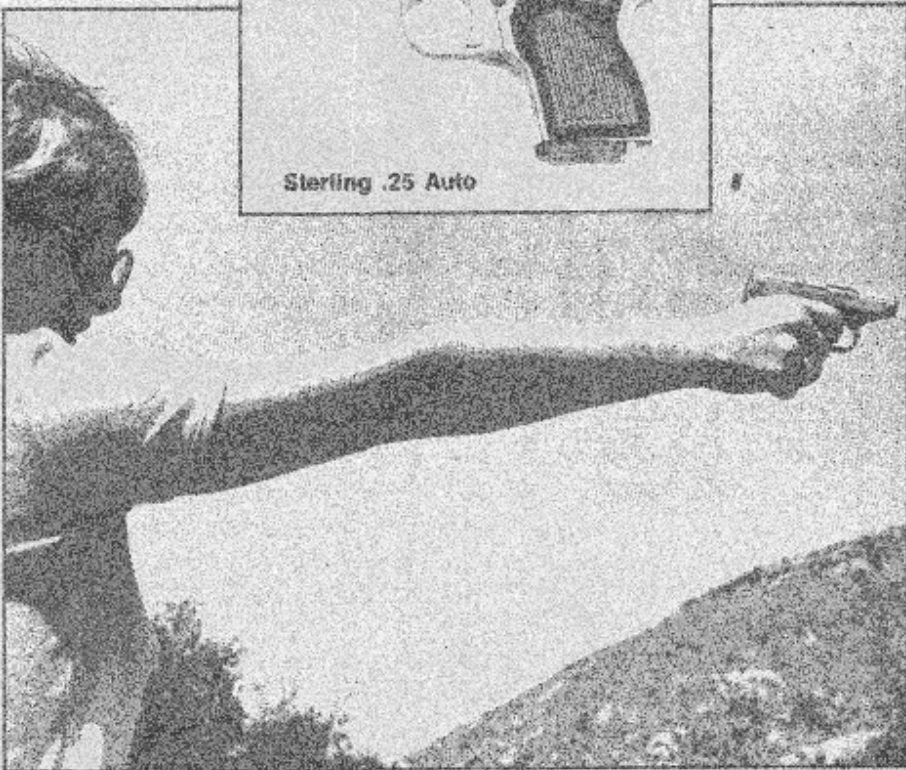
The Model 66 Combat Magnum is a .357 wheelgun that is available in three versions, a 2½-inch barrel with a round butt, a 4-inch barrel with a square butt, and a new 6-inch offering with a square butt. The front sight is a serrated ramp with a red insert.

Smith & Wesson's Model 67 Combat Masterpiece is the stainless steel counterpart of the Model 15. Made only with a 4-inch barrel, the Model 67 has a ramp front and an adjustable rear sight. Sights are made of stainless steel

Sterling's Stainless .25 Auto (inset), is a tiny but reliable pocket pistol in that caliber—but the same gun in .22 RF would prove to be more economical—and would show no real decrease in power from the .25 ACP.



Sterling .25 Auto



that has been blackened. The Model 67 is available only in .38 Special caliber.

Sturm, Ruger & Co. was the next to adopt stainless steel in its revolver line. Ruger currently produces the Speed-Six, Security-Six, and Service-Six double action revolvers in stainless steel. These may be had in several combinations of barrel length and in .357 Magnum and .38 Special calibers. Ruger single-action stainless steel revolvers include the Super Single-Six in .22 rimfire and .22 WMR, the New Model Blackhawk in .357 Magnum, and the "Old Army" Model .44 caliber black powder percussion revolver. Although the "Old Army" is designated a .44, it actually fires a .457-inch diameter ball.

While doing research for this article, we thoroughly tested at least one example of each of the Ruger offerings. In all cases, workmanship was found to be superior, the finish excellent, and the functioning perfect. All of the guns tested were every bit as accurate as their regular steel versions. With Federal factory ammo, all of the test guns turned out target groups that were more than satisfactory.

The Ruger that was far and away the most fun to test is the "Old Army". This is a very large revolver and, with a full load of black powder, has considerable—although certainly controllable—recoil. When carefully loaded with 25 grains of FFFg behind a Lee 220-grain conical bullet, groups under three inches at 25 yards were readily achieved. This degree of accuracy undoubtedly could be improved upon with practice. The "Old Army" has blued sights, with the rear sight fully adjustable for windage and elevation. Stainless steel is by all means the choice metal for a black powder gun if the shooter is not totally bound by tradition. While it should be cleaned after each firing, stainless steel will not corrode on the trip home from the range as will many guns made of blued steel.

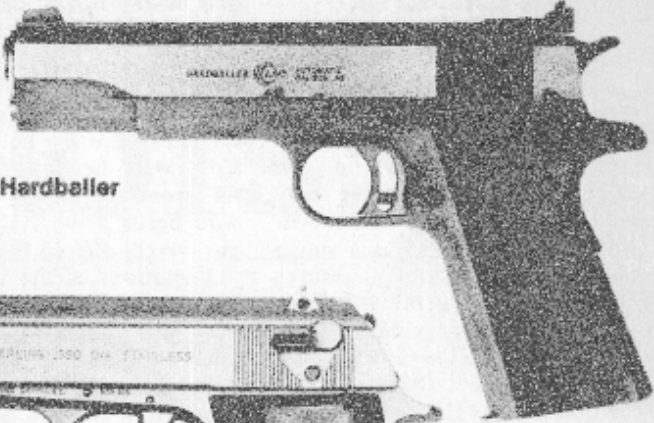
For the more traditional black powder shooter, Navy Arms offers a reproduction of the 1858 Remington Army .44 in stainless. Navy's replica offers the shooter the advantages of modern construction in a nostalgic package.

The Ruger Speed-Six comes in either .38 Special or .357 Magnum calibers with 2½ or 4-inch barrels. It has fixed sights and a semi-rounded butt.


The Security-Six is chambered for the .357 Magnum cartridge, has a square-butt frame, and may be had with 2½, 4, or 6-inch barrels. The rear sight is adjustable, and both sights are black.

Available in .38 Special or .357 Magnum calibers, the Service-Six has fixed sights, a square butt, and comes with either a 2½ or 4-inch barrel.


The single action .22 caliber Ruger is dubbed the Super Single-Six. Available with 4½, 5½, or 6½-inch barrels, the Single-Six comes with two cylinders,



AMT .45 Hardballer




Sterling Model 400 .380



Mossberg Military
Combat .45

Stainless autopistols are beginning to cover the range of available calibers. The AMT Hardballer comes in .45 ACP. Sterling's 400 Stainless is in .380, while the Mossberg Military Combat .45 includes many competition features. The Navy Arms Mamba (below) testifies to the continuing popularity of the 9 mm Parabellum.



Navy Arms 9 mm Mamba

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one for standard .22 rimfire cartridges, and the other for .22WMR. Sights are black, with the rear being fully adjustable for windage and elevation.

The New Model Blackhawk in .357 Magnum has a click adjustable rear sight and magazine had with 4% or 6% inch barrels. The Blackhawk is a single action and features a safety hammer that will only fire when the trigger is pulled all the way back. A blow to the hammer—as might occur if the gun were dropped—cannot fire it. The Single-Six also shares this feature.

United Sporting Arms Inc.'s El Dorado is a massive stainless steel single-action available in .357 or .44 Magnum. It features an adjustable rear sight, and ramped front with a red insert. Choices in barrel length range from 4 1/2 to 9 1/2 inches. It should provide some viable competition for Ruger's popular .44 Magnum Super Blackhawk—which is not, as yet, offered in stainless steel.

Smallest of the stainless steel wheel-guns, and one of the smallest guns made of anything, is the Freedom Arms Mini-revolver. Chambered in .22 Long Rifle, it's single action only, and is fitted with a sheath trigger. The barrel is a mere 1-inch long, and the weight is 4 ounces! The recoil of this little pip-squeak may give you new respect for the .22 rimfire.

Semi-automatic pistols, with their intricately curved frames and slides, are especially adaptable to the investment casting process and to the use of stainless steel. Several pocket autos have been made in stainless steel in the last few years, but unfortunately most of them have not been successful in the marketplace. The departure of these guns from the scene had nothing to do with their being made from stainless, but came about because of economic pressures apart from the quality of the product. While none of the "big" arms manufacturers has chosen to produce a semi-auto from stainless steel, there are several good designs currently available from some of the smaller factories.

One .45 semi-auto pistol now in production in stainless steel comes from AMT and is known as the "Hardballer". The "Hardballer" is a fairly faithful copy of the Browning-designed Colt Model 1911 "Gold Cup", and is made only in caliber .45 ACP. Although designed primarily for police service use, the "Hardballer" purports to have target-type adjustable sights. The sights on our test gun were not good enough for target use, however. The front sight is made from sandblasted stainless steel, too light in color to be quickly and accurately aligned, and with rounded edges that make precision sighting difficult. The rear sight blade is poorly finished and is so loosely mounted in

the sight base that it slants to one side and moves around so much that it was not practical to test fire the gun for accuracy. The functioning of the "Hardballer" was flawless, the trigger acceptably crisp, and the general handling qualities were the equal of the original Colt. With better sights the "Hardballer" would be a good choice for anyone who needs a .45 ACP with all of the advantages offered by stainless steel.

Variations of the Hardballer theme include the Skipper, a shortened and lightened version, and the 7-inch barreled Long Slide.

The "Back Up" from AMT is an extremely small .380 ACP-caliber semi-automatic pistol. Actually little larger than a typical .25 auto, the "Back Up" has proved to be very popular with police officers who carry it as a second hideout or back-up gun. The "Back Up" is a trifle over five inches long overall and has a 2 1/2-inch barrel. The magazine holds six rounds which, with one in the chamber, provides two more rounds than the small five-shot revolver designed for the same duty. The "Back Up" has an internal hammer (with no locking indicator or loaded-chamber indicator) and a grip safety. Sights are fixed and well protected. The front sight is not likely to catch on a pocket or holster. A characteristic the author found objectionable—although others may not find it so—is that the slide does not slide back after the last shot has been fired. The "Back Up" exhibits good workmanship and is nicely finished. It definitely should prove to be a reliable handgun for the type of service for which it is intended. Stainless steel is the ideal material for a pistol in this category; the stainless will be subjected to the corrosion.

Bauer Firearms produces a small Browning-type stainless steel pocket auto in caliber .25 ACP. The design is more or less standard for this class of pistols and presents no remarkable features. It is reasonably well made and finished and, in our tests, proved to be reliable and as accurate as can be expected of any tiny pocket pistol.

Sterling Arms Corp. makes a six-shot pocket auto from stainless steel which is available in either .22 LR or .25 ACP. This is another simple blowback-type hammerless semi-auto. The overall construction is of good quality, and it is accurate within the normal limitations of such a small pistol having fixed sights and a very short sight radius. We did not have an opportunity to test the .22 version due to lack of time, but the .25 ACP model functioned with complete reliability in all our tests. If the .22 model is as good, it should find many takers who prefer the lower price and ballistics of the .22 LR cartridge. Since it is made in stainless, this would make a neat little companion to carry in a tackle box.

Sterling Arms also makes the Model 400, a double-action semi-automatic in .380 ACP. The Model 400 is a bit larger than most .380s, but the added weight and hand-filling grip make it more comfortable to shoot than some of the smaller guns. Sights are rudimentary. The front sight is indistinct and the rear is adjustable for windage only. Magazine capacity is stated to be seven rounds, but our test gun held eight.

All three Sterling pistols have many parts that are not made of stainless steel. Some are plain carbon steel, and some are chrome plated. As mentioned before, this would seem to defeat the purpose of using stainless steel at all.

Besides the Hardballer, the only other .45 auto in stainless steel is the new Mossberg Military-Combat .45. It features many of the combat modifications heretofore only available on custom guns, such as an extended slide release, beveled magazine, hooked trigger guard, and ambidextrous safety.

With the burgeoning popularity of the 9 mm, it was only a matter of time before someone decided to bring stainless steel into the Parabellum picture. Navy Arms is now distributing the South African-made Mamba—a 14-shot stainless DA auto. This item features fixed sights, a comb-squared trigger guard, and a 38 oz. weight.

The Norton (formerly Budischowsky) TR-70 is back in production again. This .25 caliber stainless steel pocket pistol has earned high marks for reliability and workmanship, and features a 12 1/2 lb. weight, exposed hammer, and a double action firing mode. It may be one of the best examples of its type.

The handguns we have covered in this article were the only ones being made from stainless steel at the time of writing, as far as we could determine.

Undoubtedly, stainless steel will be with us for a long time to come as a material for gun making. Many new pistols in stainless steel will soon be in production and there is every indication that tomorrow the majority of handguns will be made of this alloy.

As we have seen, there are certain uses for which "regular" steels cannot compete. In selecting a pistol for his particular purpose, the purchaser must determine if his use is best served by a gun made from stainless, or whether the traditional appearance—and often lower price—of blued common carbon steel is more important to him. The ever increasing sales of stainless steel pistols certainly would seem to indicate that more and more shooters are leaning toward the rust-free guns as their first choice for general use as well as for special purposes. The minimum maintenance required by stainless steel guns apparently offsets their less than traditional gleam in the eyes of a great many gun owners.