

Charles E. Petty

KART EASY-FIT BARREL

**Match grade accuracy
for the 1911 with a
do-it-yourself barrel.**

The most accurate aftermarket 1911 barrel is made by Fred Kart, according to a lengthy .45 barrel test I conducted last year (Sept/Oct and Nov/Dec '98). Kart barrels have achieved an enviable reputation among people who build accurate pistols. Now in addition to his gunsmithing-required barrels, Kart has a new patented barrel design that simplifies the job of fitting.

My original barrel test showed that the skill of a gunsmith in fitting a barrel was a major factor in the ultimate accuracy of a pistol. With only one exception, the accuracy of any the completed gun in my test was significantly worse than that of the barrel alone, which was fired in a special test fixture.

Kart's barrel averaged 1.36" for five 10-shot groups at 50 yards when fired in the barrel test fixture, but when fitted to a pistol the average (with the same ammo) was 3.01". The table called this "accuracy loss."

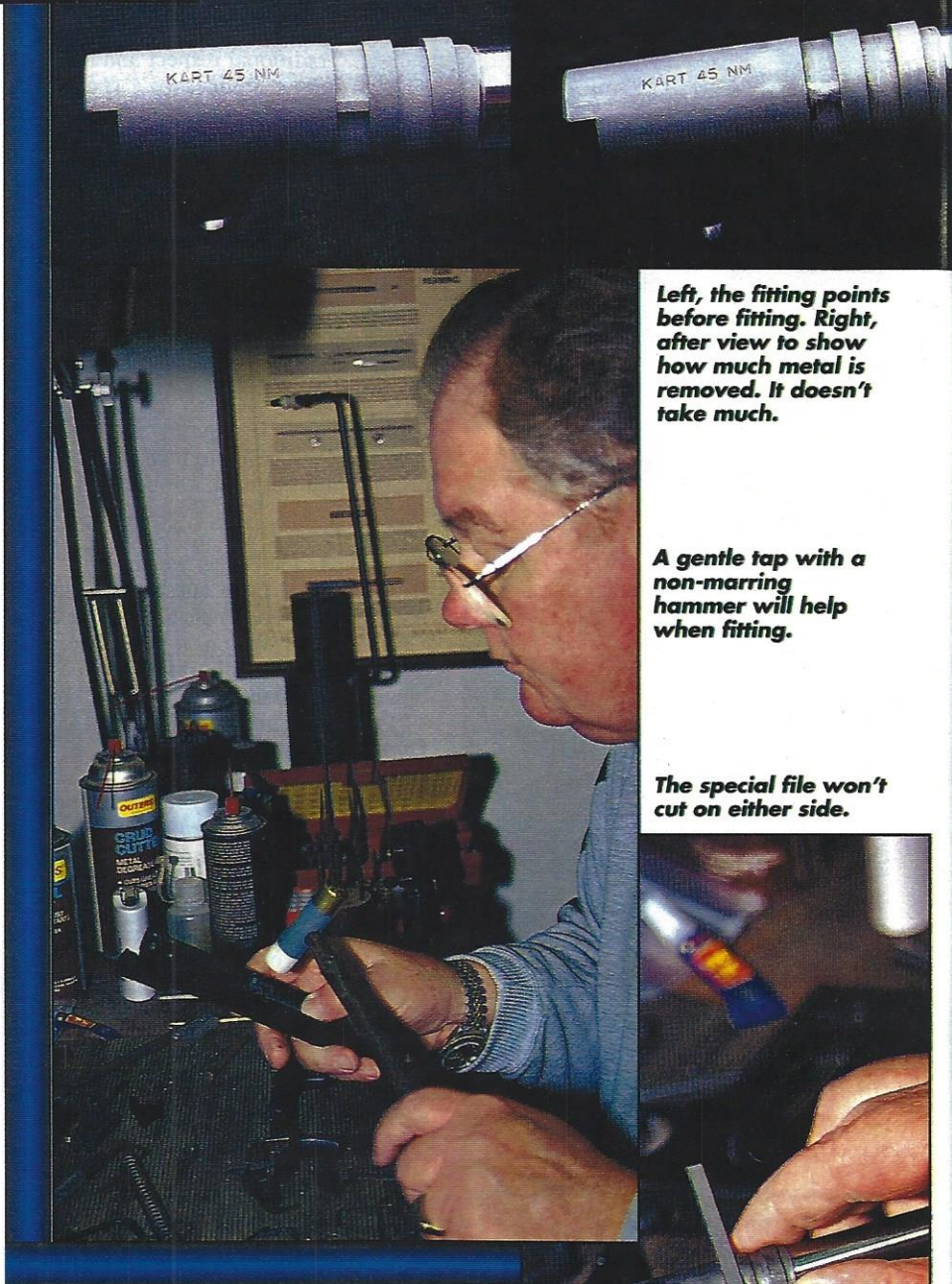
Kart criticized my use of the word "loss." I never thought of it that way and think my meaning was clear, because the only thing that had changed was that the barrel had been *fitted* into a pistol. But in case there's any doubt: careless or inept fitting can irrevocably screw up the best barrel in the world.

The most difficult part of the job is fitting the bottom lug or "footprint." The slide stop pin has to exert even pressure on both lugs because that's the only way the gun can lock up *exactly* the same way every time. If one lug hits harder

than the other, it will exert uneven pressure on one side. This will translate to a subtle stress and, in effect, warp the barrel just a little.

There is a certain element of luck—or maybe black art—in fitting barrels. Whenever I read that some gunsmith says he cuts X-thousandths off the lugs, I wonder about the wisdom of doing this sort of thing by a formula. Frankly, I have seen too many frames and slides with enough variation that would negate any fixed cutting of bottom lugs.

With the advent of modern CNC machining, the variations within frames and slides have surely been reduced, but



Left, the fitting points before fitting. Right, after view to show how much metal is removed. It doesn't take much.

A gentle tap with a non-marring hammer will help when fitting.

The special file won't cut on either side.



Nowlin Barrel

Ammunition	Velocity	Group 1	Group 2	Group 3	Average
Black Hills 200 gr. LSWC	876 fps	3.82"	3.80"	2.20"	3.27"
Federal Gold Medal 185 gr. SWC	797 fps	3.00"	3.16"	3.02"	3.06"
Remington Match 185 gr. SWC	797 fps	2.26"	2.50"	2.20"	2.32"
Average					2.88"

Kart Barrel (standard fit)

Ammunition	Velocity	Group 1	Group 2	Group 3	Average
Black Hills 200 gr. LSWC	886 fps	2.22"	3.37"	3.92"	3.17"
Federal Gold Medal 185 gr. SWC	821 fps	3.72"	2.52"	2.35"	.86"
Remington Match 185 gr. SWC	832 fps	2.69"	3.10"	2.72"	2.84"
Average					2.94"

Ed Brown Barrel

Ammunition	Velocity	Group 1	Group 2	Group 3	Average
Black Hills 200 gr. LSWC	851 fps	2.67"	3.08"	3.42"	3.06"
Federal Gold Medal 185 gr. SWC	776 fps	2.72"	2.89"	3.30"	2.97"
Remington Match 185 gr. SWC	788 fps	3.02"	3.57"	2.45"	3.01"
Average					3.01"

Storm Lake Barrel

Ammunition	Velocity	Group 1	Group 2	Group 3	Average
Black Hills 200 gr. LSWC	882 fps	3.21"	3.34"	3.00"	3.18"
Federal Gold Medal 185 gr. SWC	779 fps	2.40"	3.10"	3.01"	2.84"
Remington Match 185 gr. SWC	783 fps	2.46"	3.04"	2.74"	2.75"
Average					2.92"

Kart Barrel (Easy-Fit)

Ammunition	Velocity	Group 1	Group 2	Group 3	Average
Black Hills 200 gr. LSWC	895 fps	3.77"	2.69"	2.09"	2.85"
Federal Gold Medal 185 gr. SWC	826 fps	2.64"	1.95"	2.12"	2.34"
Remington Match 185 gr. SWC	840 fps	2.53"	2.82"	2.09"	2.48"
Average					2.56"

Note: Accuracy results are 10 shot groups at 50 yards. Velocity is the instrumental average of 30 shots at 10 feet as measured by a PACT Professional chronograph.



You can feel the slide begin to go into battery as the fitting progresses.

if you make barrels to fit in *any* pistol, some can be tight and others loose?

Kart's approach is different, so different that he has been granted a patent on his new barrel design.

John Browning's original intent was for the barrel to tilt up to engage the locking lugs in the top of the slide. When we begin accurizing a pistol, one of the first steps is to build up the bottom barrel lugs to force the barrel to go up higher into the slide. Browning really didn't care how far it went—as long as lockup was achieved—but accuracy required a tighter fit. However, the top lugs don't normally require much attention. Everything was done on the bottom.

Kart's approach changes all that. The barrel comes with the bottom lugs finished and a barrel link installed. You're not supposed to mess with it. Instead all you have to do is fit the headspace extension into the slide and then fit two contact points on the top barrel lug.

Kart offers some tools to make the job easier. Among these is a barrel locating block that helps guide the fitting of the headspace extension by making sure that the barrel isn't going to be tilted.

He's also got a work bushing that's a really handy addition to the workbench. It's oversized on the outside and scalloped so you can grasp it easily. Since you'll be taking the barrel in and out of the slide *a lot* during the fitting operation, this is a time saver.

Most important of all is a small .175" wide file that is "safe" on both edges. A safe edge on a file means that it has been ground smooth so it won't cut. The file is just wide enough to fit into the top lugs on the barrel.

The secret of the new design is two small bumps—called fitting points—found on either side of the front barrel lug. The idea is simple. After fitting the headspace extension, simply assemble the barrel in the slide, slip it on the frame without the recoil spring and insert the slide stop pin. Try to push the slide into battery. It won't go.

Then, using the special file, slowly remove equal amounts of metal from the two fitting points. The very best way to do this is to use some marking compound like layout blue to mark the fitting points.

Reassemble the gun and keep trying until the slide begins to go into battery. Only remove metal where the marking compound is rubbed off. The actual amount of metal that will have to be removed will vary from one gun to another but it really isn't very much.

Patience Is A Virtue

The most important skill needed for this job—and for almost any job requiring a file—is patience. Don't go making big bold swipes with the file. You will go too far and screw up the barrel!

Instead, take a small amount off of each side—just a couple of light file strokes—

coat the fitting points with marking color and try to assemble the gun. It will probably take several repetitions of this before the slide begins to close.

Gently tap on the back of the slide with a soft mallet and then disassemble. This is where patience pays off because you should be able to see where the fitting points are making contact. The marking color will be worn off on the points of contact. This will also show whether or not you're getting even contact on both sides. The main thing is to be sure to remove metal equally from both points.

As with any metal fitting operation, the best way to do it is let the parts themselves show you where to cut. I wish there were some way to describe what is so easily seen with the eye.

It will take a few dozen tries, but when you get the fit to the point where the slide will close fully with a good solid push, stop cutting and completely assemble the gun with the recoil spring. If the gun will cycle manually—even if it's a little tight—the very best thing to do is stop cutting and complete the assembly with the new match bushing provided. No fitting is required as far as the bushing and barrel are concerned, but the bushing is going to be tight in the slide.

You absolutely must have a bushing wrench and my suggestion is to first try the bushing alone in the slide. If it will slip into the slide and turn—with the wrench—then no further work is needed, but if it is simply too tight, gentle polishing of the outside diameter with emery cloth may be enough.

This is another of those areas where it's easy to go too far and impossible to go back. The bushing should be snug—to the point where a bushing wrench is needed—but nothing more is gained by making the bushing so tight in the slide that it is difficult to turn.

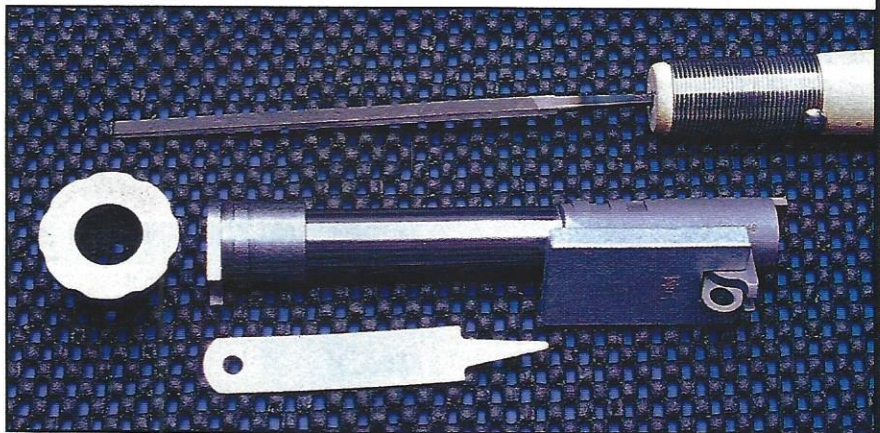
With the work done to the point where the bushing may still be a little too tight, the best thing to do is shoot it. Nothing accomplishes final, delicate, fitting chores like 50 rounds of hardball. Either the parts will wear in and need no further work, or the wear will mark them and tell you where you need to cut.

Kart's directions say that the job takes about an hour. I didn't time things when I did it, but that seems to be a reasonable estimate. It really isn't a difficult series of tasks. Patience, rather than great expertise, is probably the most important prerequisite.

Commercial Colt

I chose to install Kart's barrel on an old Colt commercial pistol that has been my backup bullseye gun for years. Even after firing a lot of rounds it had an extremely good slide-to-frame fit, but was not being shot anymore.

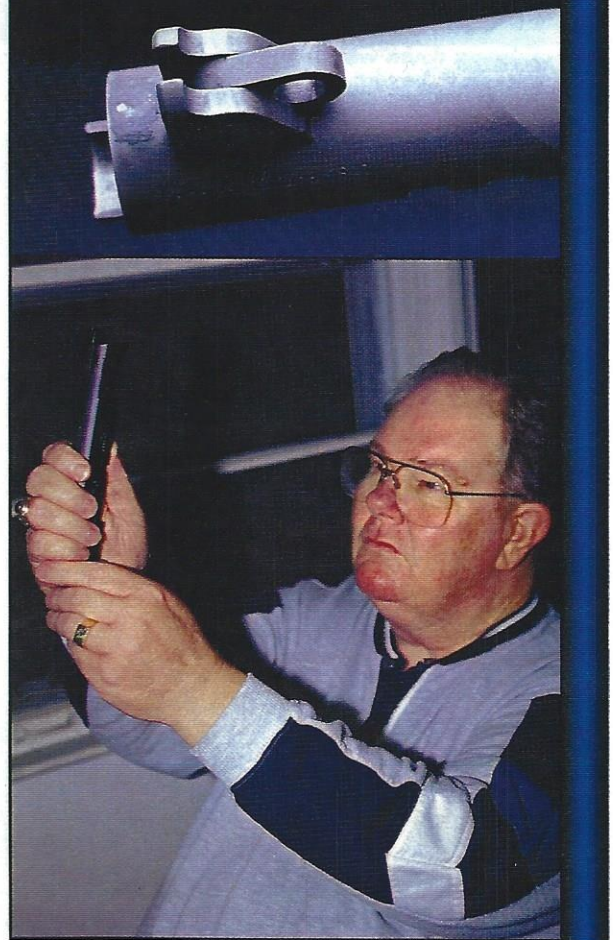
A word about slide-to-frame fit. When you have a barrel that locks up well, it eliminates quite a bit of the slide



The Kart barrel and fitting tools.

The bottom lugs after the barrel has been fitted. You can see where the slide stop pin is making contact.

You can see how close the headspace extension fits. There shouldn't be much light on the sides and none on the end.




play because the barrel actually pushes the slide up against the frame. As long as the slide, frame and barrel are locked together in the same position while the bullet is in the barrel, there's really no harm if it gets a little loose after the bullet is gone.

This doesn't mean that you can take a gun that shakes, rattles and rolls and turn it into a bullseye blaster, but you can make a significant leap.

Fitting the barrel—according to Kart's directions—really is easy and we already know that his standard barrels are capable of outstanding accuracy. So, the logical question is whether or not the different fitting method compromises accuracy.

As it turns out, I had four other pistols fitted with different barrels by different smiths. None were to be the subject of a feature article so it seemed like a good plan to shoot all of them with exactly the same ammo and see how things sorted themselves out. All five guns were fired from a Ransom Rest at 50 yards with target quality ammo. We'll identify the guns by barrel make only.

The conclusions of the test are shown in the accompanying chart. The first thought to come to mind is that Kart's new system works. Does it mean that I am more skillful than the guy who fitted the other barrel? Not a chance!

The most important tidbit within all this data is the variability of both gun and ammo. The data tells that, on that specific day and under those specific conditions, these results were obtained. We might very well find something different if the test was repeated, but it seems clear to me that Kart's new method works. 

For more information contact: Kart Precision Barrel Co., 3975 Garner St. SW, Dept. AH, Shalotte, NC 28470; phone: (910) 754-5212.

