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THE BRIEFING

Election time is rapidly approaching and there is no better time than now to find out how your candidates feel about the Second Amendment and the rights of law-abiding gun owners. Let the candidates know how you feel; however, don't stop there. Write your local paper and try to get a letter to the editor published explaining your feelings, thereby making many people aware of your stance. A grassroots effort such as this can defeat the politicians who would disarm us and turn the streets over to the two-legged predators who walk them.

(continued on page 82)

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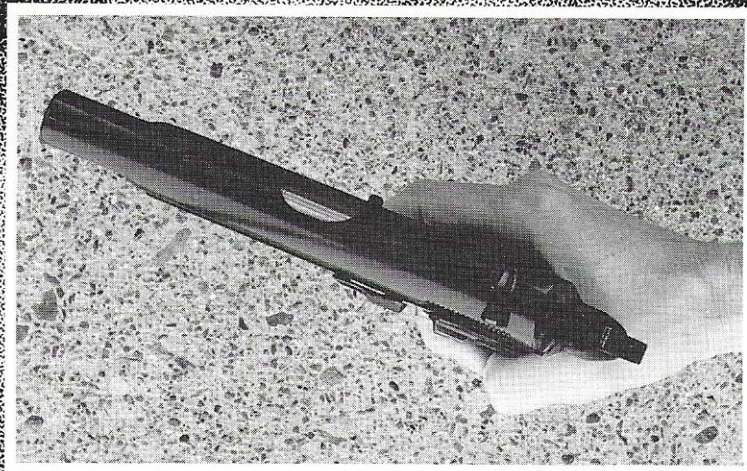
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HAND VS. GUN VS. Cartridge Capacity



Large magazine capacity can be a problem for some shooters. Notice how this small-handed shooter is forced to "monkey grip" a CZ-75 in order to reach the trigger.

Part II: Cartridge Size Vs. Weapon Capacity

by Paul Berkowitz

● In the last issue of *S.W.A.T.*® we discussed how the handgun must fit the hand. Now we enter into the waters of controversy and the never-ending issue of cartridge performance. However, I am going to try to dodge the classic arguments over which cartridge is, itself, "the best." Instead, I'm going to attempt to pursue the question obliquely, targeting what I feel are often overlooked elements of this issue.

It's interesting to listen to the various arguments made in the battle over terminal ballistics, particularly when balanced with the craze for ammunition capacity. Are 15 rounds of 9mm better than nine rounds of .45 ACP? How about 12 rounds of .40 S&W?

In an effort to add a new twist to this argument, I thought it might be interesting to see what kind of fig-

ures would result from the calculation of the actual cross-sectional frontal area available (i.e., total cylindrical surface area) offered by the same weapon's "system," in their respective calibers. I thought this latter series of calculations would be particularly interesting in light of many findings showing that typical handgun bullets, including hollowpoint and other frangible designs, frequently fail to expand in

human targets by a margin as large as 50% or more. When this occurs, original bullet diameter becomes an even more significant factor in imparting damage to tissue (other factors being depth of penetration and bullet "yaw" or tumble).

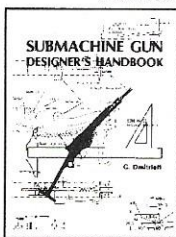
My calculations ($\pi \times \text{radius squared}$) revealed the following:

A .45 ACP (11mm) bullet presents a cross-sectional area of 0.15975 square inches.

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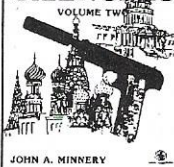
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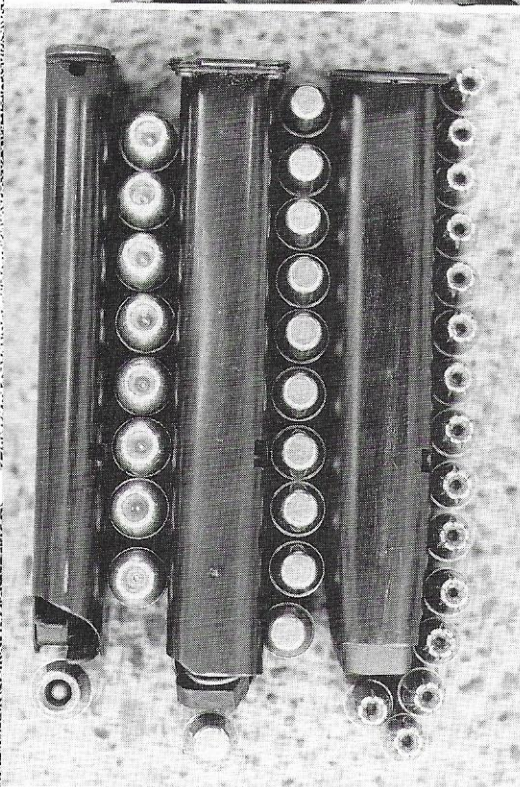
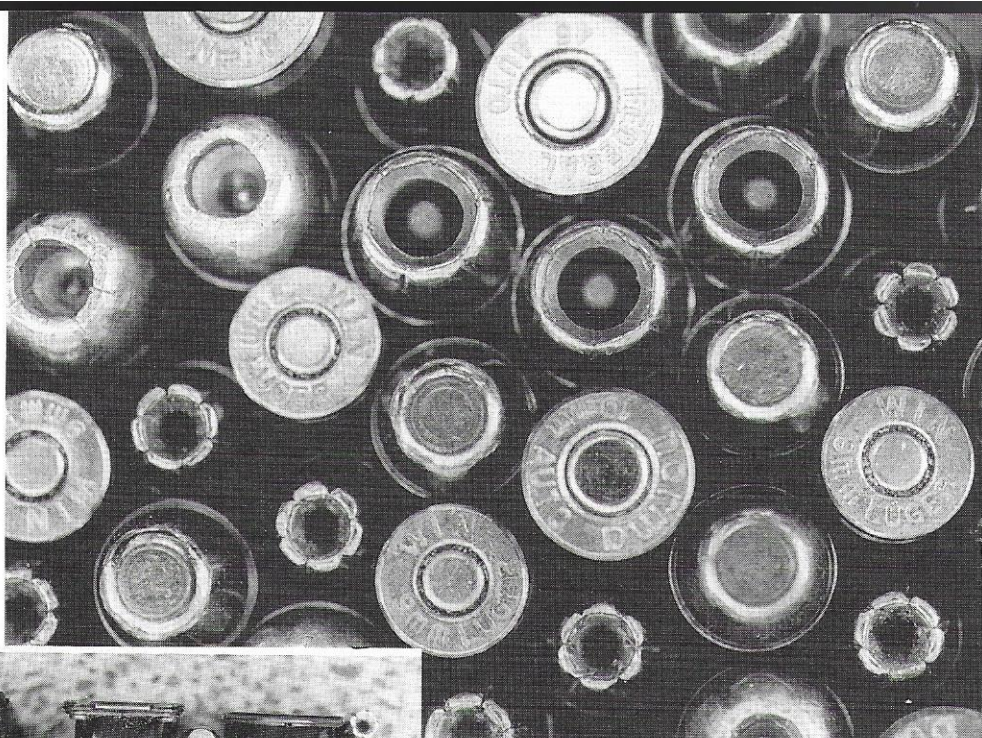
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Above: Select your caliber as if you were going to have to carry it in a single-shot handgun. **Left:** Which is best, 15 rounds of 9mm, 12 rounds of .40/10mm, or nine rounds of .45 ACP? Based on the cross-sectional area of the bullets, if the total number of rounds from each caliber gun are fired, the total permanent tissue damage may be about the same. However, shot for shot, the larger calibers are more effective.

of the caliber ladder, and it adds an entirely new perspective in the argument over which handgun calibers offer the most potential for effectiveness through permanent tissue damage.

Back to the argument over which is better: 15 rounds of 9mm, 12 rounds of .40/10mm, or nine rounds of .45 ACP. Well, based upon the above figures and typical police semiautomatic handguns, (Smith & Wesson models 4506, 4046, and 5906) the following relationships exist:

Nine rounds of .45 ACP translates into a total cross-sectional area of 1.43775 square inches.

12-rounds of .40 cal/10mm translates into a total cross-sectional area of 1.50792.

15-rounds of 9mm translates into a total cross-sectional area of 1.48455 square inches.

All other factors being the same, the potential for tissue damage presented in a typical .45 ACP handgun

is nearly the same as that of typical equivalent 9mm or .40 caliber weapons. The difference between any of these figures is less than 4%. But again, shot for shot, the potential for tissue damage is far greater with the larger diameter bullet(s).

I was recently discussing the issue of cartridge selection with one of the people who is heading up my agency's task force on the selection of a new service semiautomatic sidearm. We had gone over the 9mm vs. .40 S&W vs.

.45 ACP debate, without reaching any particular agreement. I outlined in brief the twentieth-century history of ballistics theory, recounting the works of Thompson and LeGarde, and presented a condensed explanation of Dr. Fackler's research, contrasting it with the 1970s L.E.A.A. "temporary cavitation theory." I was disappointed to learn that "the powers that be" had already ruled against the .45 ACP as an option for consideration. My attempts at seeking consideration for an "11mm" were not received with any greater enthusiasm.

In response to my various arguments supporting my preference in caliber, he understandably countered with a concern that our officers be issued weapons that carried as many rounds as possible. Issues like the need to reload often, versus keeping count of rounds fired, were bantered back and forth. I pointed out that the mega-round magazines were typically the ones to "run dry," (spray and pray) while a part of the training for weapons with seven- to nine-round magazines was to reflexively reload after every shooting string and to make each round count. This results in more hits, and a weapon truly maintained in a constant ready and fully-charged state. I also presented all of the points addressed in Part I of this article. Virtually every argument typically made on one side and the other was

A .40 cal (10mm) bullet presents a cross-sectional area of 0.12566 square inches.

A 9mm (.355 cal.) bullet presents a cross-sectional area of 0.09897 square inches.

Round for round, the following relationships in cross-sectional area exist:

The .45 caliber bullet is approximately 62% larger than the 9mm.

The .45 caliber bullet is approximately 27% larger than the .40.

The .40 cal./10mm bullet is about 27% larger than the 9mm.

That "silly millimeter" difference really amounts to something much more when we move up each step

exchanged.

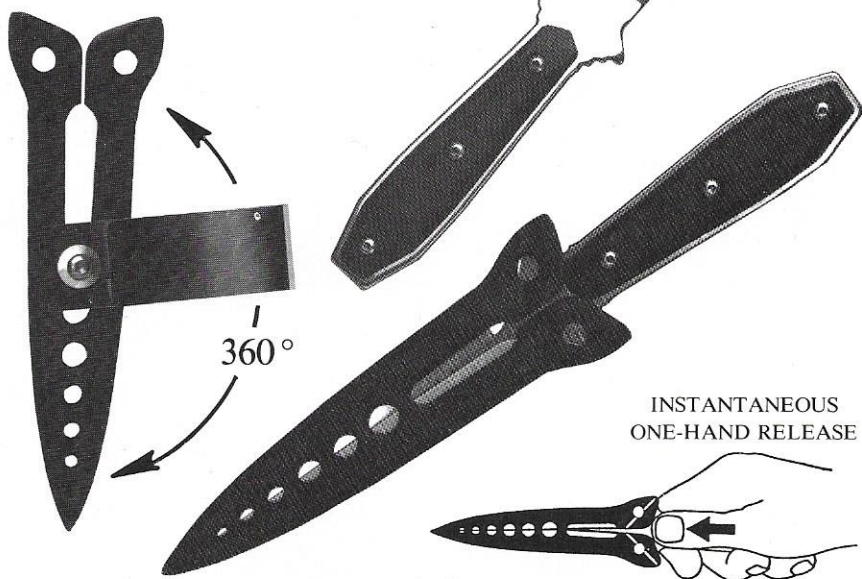
When all was said and done, we agreed that there were difficult decisions to be made and that we both hoped an objective decision would be reached. As we concluded the discussion, he very respectfully asked me if I thought it would be a real mistake if we ended up with one of the large capacity 9mm's. I responded something like this: "If you truly believe that the 9mm is, round for round, as effective as any other cartridge, then by all means go for a 'wonder-nine.' But if you choose a 9mm as a compromise, trying to reach a balance between large magazine capacity and only adequate or marginal stopping potential, then I believe you will be making a grave error. Carrying lots of rounds in your handgun provides you with no guarantee that you will ever get the chance to use them all in a gunfight. Gunfights are typically two-way affairs. The bad guys are shooting at you (or knifing or beating you) at the same time that you're trying to shoot back at them. If they strike you a fatal or incapacitating blow before your bullet(s) drop them, all the ammunition in the world isn't going to do you any good. You could have a sidearm that carries a hundred rounds, but if you only get the chance to fire off one or two rounds before the bad guy hits you, you had better be sure the rounds you are using are positively, round for round, the most effective you can carry. I'd rather carry six rounds or nine rounds of effective ammo, in a good revolver or a proven single column self-loader, than 14 to 18 rounds of marginal performance ammo in a large-capacity semiautomatic."

Select your cartridge (caliber) as if you were going to have to carry it in a single-shot weapon. Make sure that every round you shoot is the most potent round available. Don't be lulled into a sense of comfort in the belief that you'll be able to make up for marginal individual-round effectiveness with multiple-round capability. ●

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